TECHNICAL MEMORANDUM
SCREENING-LEVEL ECOLOGICAL AND HUMAN HEALTH RISK ASSESSMENT

HALACO SITE

OXNARD, CALIFORNIA

EPA CONTRACT NO. 68-W-98-225
EPA WORK ASSIGNMENT NO. 263-RIRI-09X6
CH2M HILL PROJECT NO. 358156

Prepared for
U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, California 94105

Prepared by
CH2M HILL
2485 Natomas Park Dr., Suite 600
Sacramento, California 95833

December 2008

Contents

Section **Page**

Acronyms and Abbreviations ..... **ix**

1 Introduction **1-1**
1.1 Summary 1-1
1.2 Background 1-3
1.3 Technical Approach 1-4
1.3.1 Screening-level Ecological Risk Assessment 1-4
1.3.2 Screening-level Human Health Risk Assessment 1-5
1.4 Report Organization 1-5

2 Site Setting and Chemical Data **2-1**
2.1 Site Setting 2-1
2.1.1 Demographics and Land Use 2-1
2.1.2 Physical Setting 2-2
2.1.3 Ecological Setting 2-4
2.2 Constituents of Potential Concern 2-8

3 Screening-level Ecological Risk Assessment **3-1**
3.1 Screening-level Problem Formulation 3-1
3.1.1 Conceptual Site Model 3-1
3.1.2 Assessment Endpoints 3-2
3.1.3 Measures of Exposure and Effects 3-3
3.2 Ecological Effects Evaluation 3-4
3.2.1 Chemical Effects in Aquatic Plants, Water-column Invertebrates, Amphibians, and Fish 3-5
3.2.2 Chemical Effects in Benthic Invertebrates 3-5
3.2.3 Chemical Effects in Terrestrial Plants and Soil Invertebrates 3-5
3.2.4 Chemical Effects in Birds and Mammals 3-5
3.2.5 Radionuclide Effects in Plants and Animals 3-6
3.3 Screening-level Exposure Estimates 3-6
3.3.1 Aquatic Plants and Invertebrates, Amphibians, and Fish 3-7
3.3.2 Chemical Exposures of Benthic Invertebrates 3-8
3.3.3 Chemical Exposures of Terrestrial Plants and Soil Invertebrates 3-8
3.3.4 Chemical Exposures of Birds and Mammals 3-8
3.3.5 Radionuclide Exposure 3-11
3.4 Screening-level Risk Characterization 3-12
3.4.1 Freshwater Aquatic Organisms 3-12
3.4.2 Benthic Invertebrates 3-13
3.4.3 Terrestrial Plants 3-15
3.4.4 Soil Invertebrates 3-16
3.4.5 Birds and Mammals 3-16

3.5 Screening-level Summary and Conclusions 3-20
3.5.1 Summary 3-20
3.5.2 Conclusions 3-20

4 Screening-level Human Health Risk Assessment 4-1
4.1 Conceptual Site Model 4-1
4.2 Comparison of Site Data to Screening Levels 4-2
4.3 Screening-level Summary and Conclusions 4-4
4.4 Critical Assumptions to Assess Risks 4-5

5 References 4-1

Appendixes

A Sample Location Figures
A.1 EPA Integrated Assessment (Weston, 2007)
A-1 Solid Matrix Sample Locations
A-2 Solid Matrix Sample Locations Near Site
A-3 Groundwater Sampling Locations
A-4 Surface Sampling Locations
A-5 Air Sampling Locations
A.2 EPA Southeast Smelter Investigation (Team 9, 2008)
A-6 Boring Locations
A.3 Ormond Beach Wetland Restoration Investigation (AMEC, 2006)
A-7 Soil and Surface Water Sampling Locations, East
A-8 Soil and Surface Water Sampling Locations, West

B Raw Data Set

C Box Plots
C.1 Soil/Waste and Sediment
C.2 Surface Water
C.3 Air

Tables

2-1 Summary Statistics and Results of Rank ANOVA of Metal (µg/L) and Radionuclide (pCi/L) Concentrations in Onsite and Potential Background Unfiltered Surface Water

2-2 Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite and Potential Background Sediments

2-3 Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide Concentrations (pCi/g) in Onsite, Potential Background, and Adjacent Soils

2-4 Summary Statistics and Results of Rank ANOVA of Metal (mg/kg) and Radionuclide (pCi/g) Concentrations Measured in Air Samples at Five Locations at the Halaco Site, June 20 to June 28, 2006

2-5 Summary Statistics of Concentrations of Metals (µg/L) and Radionuclides (pCi/g) in Onsite and Potential Background Groundwater

2-6 Raw and Summary Statistics for Metal (mg/kg ww) Concentrations in Whole Body Fish Tissue

3-1 Assessment Endpoints and Measures of Exposure and Effects

3-2 Screening-level Ecological Benchmarks for Chemical Contamination

3-3 Toxicity Reference Values for Birds and Mammals

3-4 Summary of Media Screening Values (Biota Concentration Guides [BCGs]) for Radionuclides

3-5 Exposure Parameters for Wildlife Receptors

3-6 Summary of Bioaccumulation Models for Uptake from Sediment to Benthic Invertebrates

3-7 Summary of Bioaccumulation Models for Uptake from Soil to Plants

3-8 Summary of Bioaccumulation Models for Uptake from Soil to Terrestrial Invertebrates

3-9 Summary of Bioaccumulation Models for Uptake from Soil to Small Mammals

3-10 Results of Screening Comparisons of Surface Water Concentrations to Freshwater Screening Values

3-11 Results of Screening Comparisons of Sediment Concentrations to Freshwater and Marine Screening Values

3-12 Results of Screening Comparisons of Soil Concentrations to Plant Screening Values

3-13 Results of Screening Comparisons of Metals (µg/L) and Radionuclides (pCi/L) in Groundwater to Plant Screening Values

3-14 Results of Screening Comparisons of Soil Concentrations to Invertebrate Screening Values

3-15 Results of Screening Comparisons of Soil Concentrations to Mammalian Screening Values

3-16 Results of Screening Comparisons of Soil Concentrations to Avian Screening Values

3-17 Hazard Quotients for the California Vole, Ornate Shrew, and Belding's Savannah Sparrow Exposed to Soils at the Site

3-18 Hazard Quotients for the Snowy Plover Exposed to Sediments at the Site

3-19 Hazard Quotients for the California Least Tern Based on Fish Tissue Data

3-20 Summary of Screening-level Ecological Risk Results by Receptor and Area

4-1 Human Health Screening Levels for Metals and Chlorinated Organic Compounds

4-2 Human Health Screening Levels for Radionuclides

4-3 Comparison of Human Health Screening Levels for Surface Water

4-4 Comparison of Human Health Screening Levels for Groundwater

4-5 Comparison of Human Health Screening Levels for Sediments

4-6 Comparison of Human Health Screening Levels for Soils

4-7 Comparison of Human Health Screening Levels for Air

4-8 Comparison of Human Health Screening Levels for Fish

4-9 Summary of Human Health Screening Level Comparisons by Media

Figures

1-1 Site Location and Site Areas

2-1 Land Use in the City of Oxnard 2020 General Plan
2-2 Aerial Photograph before EPA Removal Action—February 2007
2-3 Aerial Photograph after EPA Removal Action—April 2007
2-4 Topographic Map before EPA Removal Action—February 2007
2-5 Topographic Map after EPA Removal Action—May 2007
2-6 FCGMA and UWCD—Fall 2003
2-7 Groundwater Elevations in UAS and LAS—Fall 2003
2-8 Hydrographs for UAS and LAS and Saline Intrusion in Oxnard Aquifer

3-1 Ecological Conceptual Site Model Diagram

4-1 Human Health Conceptual Site Model Diagram

Acronyms and Abbreviations

95UCL	95 percent upper confidence limit
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
AMEC	AMEC Earth & Environmental, Inc.
ANOVA	analysis of variance
AUF	area use factor
BCG	Biota Concentration Guide
BERA	baseline ecological risk assessment
bgs	below ground surface
CDFG	California Department of Fish and Game
City	City of Oxnard
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CSM	conceptual site model
DPH	California Department of Public Health
DTSC	California Department of Toxic Substances Control
EcoSSL	Ecological Soil Screening Levels
EPA	U.S. Environmental Protection Agency
EPC	exposure point concentration
FCGMA	Fox Canyon Groundwater Management Agency
FIR	food ingestion rate
HQ	Hazard Quotient
HRS	Hazard Ranking System
ICRP	International Council for Radiological Protection
IRIS	Integrated Risk Information System database
LAS	Lower Aquifer System
LOAEL	lowest observed adverse effect level

LOEC	lowest observed effect concentration
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
mg/kg/day	milligrams per kilogram per day
mg/kg ww	milligrams per kilogram, wet weight
mg/L	milligrams per liter
NAWQC	National Ambient Water Quality Criteria
NCL	Nature Conservancy Land
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NPL	National Priorities List
OID	Oxnard Industrial Drain
ORNL	Oak Ridge National Laboratory
PCB	polychlorinated biphenyl
pCi/g	picocuries per gram
pCi/L	picocuries per liter
PEC	Probable Effects Concentrations
PRG	preliminary remediation goal
PWA	Philip Williams & Associates, Ltd.
rad/d	rads per day
RI	Remedial Investigation
SCV	Secondary Chronic Value
SL	screening level
SLERA	Screening-level Ecological Risk Assessment
TEC	Threshold Effects Concentrations
TM	Technical Memorandum
TNC	The Nature Conservancy
TPH	total petroleum hydrocarbons
TRV	toxicity reference value
UAS	Upper Aquifer System

USDOE	U.S. Department of Energy
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWCD	United Water Conservation District
VOC	volatile organic compounds
WA	Work Assignment
WDA	waste disposal area
WIR	water ingestion rate
WMU	waste management unit
WRA	WRA Environmental Consultants
XRF	X-ray fluorescence

SECTION 1

Introduction

CH2M HILL prepared this screening-level ecological and human health risk assessment Technical Memorandum (TM) to support Remedial Investigation (RI) activities on behalf of the U. S. Environmental Protection Agency (EPA) Region 9 for the former Halaco secondary metal smelting facility (Halaco Site, or Site). CH2M HILL prepared this TM as part of Work Assignment (WA) No. 263-RIRI-09X6 with EPA Region 9.

This TM provides the following for the Halaco Site, based on existing data:

- Identifies the major contaminants of potential concern.
- Identifies and characterizes environmental exposure pathways for ecological and human receptors.
- Identifies ecological receptors associated with the identified exposure pathways, indicator species, and endpoints; identifies preliminary ecotoxicity benchmarks for the Site's expected contaminants of concern and ecological receptors; and compares concentrations of the contaminants of potential ecological concern to preliminary ecotoxicity benchmarks.
- Identifies human populations in the exposure pathways, identifies human health risk-based and regulatory benchmarks for the Site's expected contaminants of concern, and compares the concentrations of the contaminants of potential concern to risk-based and regulatory benchmarks.
- Seeks to identify portions of the Site where contaminant levels are too low to pose an ecological or human health risk and no further testing or analysis is necessary.

This report provides the results of a "screening-level" assessment of ecological and human health risks at the Site. The assessment uses conservative estimates of exposure and potential ecological and human health effects to estimate risks. Its purpose is to identify areas of the site that ***may*** pose unacceptable risks to human health and/or the environment and ***may*** warrant remediation. EPA expects to make a final determination of the ecological and human health risks posed by contaminants at the Site, and identify areas where remediation may be needed, after additional testing and analysis are completed.

1.1 Summary

A large amount of regional and site-specific information exists that characterizes the physical characteristics, ecological habitat and wildlife, and the nature and extent of contamination at and in the vicinity of the Halaco Site. Data from the most recent investigations were used to perform this screening-level ecological and human health risk assessment. These data include the recent EPA investigations that characterize contaminants at the Halaco Site (Weston, 2007; Team 9, 2008) and the recent regional investigations performed to characterize the physical (Philip Williams & Associates, Ltd. [PWA], 2007),

ecological (WRA Environmental Consultants [WRA], 2007), and chemical (AMEC Earth & Environmental, Inc. [AMEC], 2006) conditions associated with the ongoing Ormond Beach Wetlands restoration efforts.

The recent sampling data show elevated concentrations of metals in air, soils, sediments, surface water, and groundwater as a consequence of Halaco's operations and waste disposal activities. Constituents found at elevated concentrations include aluminum, barium, beryllium, cadmium, chromium, copper, lead, magnesium, manganese, nickel, and zinc. Elevated concentrations of radioactive thorium (and decay products) are also present in some areas of the site. The historical sampling data also show that elevated concentrations of ammonia and petroleum hydrocarbons have been detected at the Site; these are believed to be a byproduct of Halaco's activities.

Conceptual site model (CSM) diagrams were developed for the screening-level risk assessment to identify the primary contaminant sources (smelter, stack emission, and waste disposal activities), transport mechanisms and exposure media (waste, soil, sediment, air, surface water, groundwater), and exposure routes (inhalation, ingestion, dermal contact) to potential ecological and human receptors. Measured concentrations of metals and radionuclides in the media for the identified exposure routes were compared to conservative ecological and human health risk-based screening benchmarks that would be protective of the ecological receptors and human health.

Statistical summaries and box plots were prepared to visually show the measured concentrations of metals and radionuclides compared to ecological and human health screening benchmarks in approximately 12 different study areas at and in the vicinity of the Halaco Site for solid media (waste/soil/sediment), surface water, and air. The box plots show impacts to soils, sediments, and air from Halaco's activities in relation to ecological and human health screening benchmarks.

The recent data evaluated in this screening-level risk assessment show the following:

- Metals and radionuclides exceed ecological and human health screening benchmarks in waste, soils, sediments, and groundwater that have been impacted by Halaco's activities. No study areas were screened out.
- Metals exceeded human health screening benchmarks for June 2006 downwind air samples impacted by Halaco's waste pile. These samples were collected before EPA completed its stabilization efforts in early 2007. (Radionuclides were not analyzed for these samples, and ecological screening levels do not exist or were not applicable for the air pathway.)
- Metals exceeded ecological and human health screening benchmarks in surface water, but it is unclear if the Halaco site is the cause of the exceedances. Additional discussion of this topic is included in a separate report that provides the results of a preliminary evaluation of the sources, nature, extent, and movement of contamination in surface water and groundwater at the Halaco site (CH2M HILL, 2008).

Volatile organic compounds (VOCs) were detected infrequently and at low concentrations in surface water and groundwater. In addition, only a limited number of soil samples were analyzed for VOCs. Consequently, VOCs were not compared to screening benchmarks.

Pesticides and other organic compounds were detected in regional offsite samples. No site-specific data for these organic compounds exist, and their occurrence may be a result of regional land use and not from Halaco's operations. Therefore, they were not compared to screening benchmarks.

1.2 Background

The Halaco Site is located in eastern Ventura County at 6200 Perkins Road in Oxnard, California (Figure 1-1). Halaco Engineering Company operated a secondary metal smelter at the Site from 1965 to 2004, processing aluminum- and magnesium-bearing materials, including radioactive magnesium-thorium alloy. The Site includes an 11-acre parcel containing the former smelter and an adjacent 26-acre area where wastes were deposited and managed.

During their 40 years of operation, Halaco produced a large quantity of solid and liquid wastes, which were largely inorganic. From about 1965 to about 1970, Halaco discharged much or all of its waste to the Oxnard Industrial Drain (OID) or a settling pond adjacent to the OID. From about 1970 to 2002, Halaco deposited a waste slurry made up of suspended solids, salts used in the smelting operation, and ferrous and non-ferrous metals to unlined earthen settling ponds east of the smelter. An estimated volume of more than 700,000 cubic yards of solids remain onsite. The bulk of the solids are in a waste pile that covers about 15 acres and rises up to 40 feet above grade.

Numerous federal, state, and local agencies regulated Halaco's operations, including the California Regional Water Quality Control Board (Los Angeles) (RWQCB), California Department of Toxic Substances Control (DTSC), California Department of Public Health (DPH) Radiologic Health Branch, Ventura County Air Pollution Control District, the EPA, and the U.S. Army Corps of Engineers.

In 2002, Halaco filed for Chapter 11 bankruptcy. Halaco ceased operations in 2004; then, in 2006, the bankruptcy was converted to a Chapter 7 (liquidation) bankruptcy. Future use of the property is uncertain.

In July 2006, EPA reached agreement with the Site owners to complete a limited removal at the Site. The removal included removal of drums and other hazardous substances, as well as installation of fencing, silt curtain, and straw wattles around the waste pile. A second, EPA-funded, removal began in February 2007 to stabilize and secure the Site and limit offsite migration of contaminated wastes. That removal work included regrading the waste pile to reduce the steepness of the slopes, placing matting on the slopes to reduce erosion and windblown material, stabilizing the banks along the lower portion of the OID, removing wastes from the smelter area, and removing some Halaco waste materials located in a wetland area adjacent to the Halaco property.

The Halaco Site was added to the NPL list in September 2007.

1.3 Technical Approach

The technical approach for conducting the ecological and human health screening-level risk assessments in this TM is as follows.

1.3.1 Screening-level Ecological Risk Assessment

The technical approach for conducting the Screening-level Ecological Risk Assessment (SLERA) in this TM follows EPA guidance. EPA's Ecological Risk Assessment Guidance (EPA, 1997) represents an eight-step process. The SLERA for the Halaco Site is limited to the first two of these eight steps. It includes the screening-level problem formulation and ecological effects evaluation (Step 1) and the screening-level exposure estimate and risk calculation (Step 2). The problem formulation describes the environmental setting; identifies the major contaminants of concern; identifies and characterizes environmental exposure pathways; identifies potential receptors, indicator species, and endpoints; and identifies preliminary toxicity benchmarks for the Site's expected contaminants of concern and receptors. These components are then used to perform a SLERA based on the existing data. The SLERA integrates conservative measures of exposure with conservative measures of effects to differentiate between analytes, receptors, and locations for which there are clearly no risks and those for which further evaluation is necessary.

The procedures followed for conducting the SLERA in this TM are consistent with those described in the following guidance provided by the EPA:

- *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final* (EPA, 1997)
- ECO Updates, Volume 1, Numbers 1 through 5 (EPA, 1991a; EPA, 1991b; EPA, 1992b; EPA, 1992c; EPA, 1992d)
- ECO Updates, Volume 2, Numbers 1 through 4 (EPA, 1994a; EPA, 1994b; EPA, 1994c; EPA, 1994d)
- ECO Updates, Volume 3, Numbers 1 and 2 (EPA, 1996a; EPA, 1996b)
- *Final Guidelines for Ecological Risk Assessment* (EPA, 1998)
- *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities* (EPA, 1999a)
- *Ecological Risk Assessment and Risk Management Principles for Superfund Sites* (EPA, 1999b)
- *The Role of Screening-Level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments* (EPA, 2001)

In accordance with these guidance documents, this assessment serves as a SLERA. The primary guidance utilized in completing the SLERA was the *Ecological Risk Assessment Guidance for Superfund* (EPA, 1997) and the *Final Guidelines for Ecological Risk Assessment* (EPA, 1998).

1.3.2 Screening-level Human Health Risk Assessment

The technical approach for conducting the screening-level human health risk assessment consists of the following steps:

- Existing information was compiled and evaluated to develop (1) a description of the site setting and (2) a chemical and radiological data set to use in the screening-level risk assessment. The site setting included information on demographics and land use, physical setting, and environmental setting.
- A CSM was developed for potential human health exposures.
- Chemical concentrations and radionuclide activities were compared to human health screening levels. Maximum concentrations and activities were compared to public health protective screening levels for soil, sediment, surface water, groundwater, and air to identify constituents and locations for which further site characterization and evaluation is necessary.

1.4 Report Organization

This TM is organized following the ecological risk assessment framework established by EPA (EPA, 1992a) and following Human Health Risk Assessment guidance developed by EPA (including EPA, 1989 and 2004). This report includes the following sections:

- Section 1: Introduction
- Section 2: Site Setting and Chemical Data
- Section 3: Screening-level Ecological Risk Assessment
- Section 4: Screening-level Human Health Risk Assessment
- Section 5: References

The following appendixes also are included:

- Appendix A: Sample Location Figures
- Appendix B: Raw Data Set
- Appendix C: Box Plots

SECTION 2

Site Setting and Chemical Data

This section provides a description of the site setting and chemical data used to screen for potential ecological and human health risks. This is the initial part of Step 1 of EPA's Ecological Risk Assessment Guidance (EPA, 1997).

2.1 Site Setting

2.1.1 Demographics and Land Use

Industrial and open space land uses surround the Halaco Site, which is located in the southern part of the City of Oxnard (City) (Figure 1-1). Oxnard is the largest city in Ventura County with a population of just under 190,000 (2006). This is approximately 23 percent of the county's population of just under 820,000 (California Department of Finance). The largest demographic group within the city is Hispanic (66.2 percent), followed by white (20.6 percent), Asian (7.4 percent), black (3.8 percent), and American Indian (1.3 percent), with less than one percent comprising the remainder (City County Population and Housing Estimates, 2002, Revised 2001, with 2000 Census Counts).

Industrial land uses occur to the north and northwest of the smelter parcel. The City's wastewater treatment plant is located to the northwest and an industrial paper recycling plant is located to the north of the Smelter parcel. Open space land uses occur in all other directions from the Site. Zoned land use within and surrounding the City is shown in the land use map from the City's 2020 General Plan (City of Oxnard, 2007). The City is currently updating its General Plan to look out to the year 2030, and a draft of the plan is scheduled to be available for public comment in early 2009.

The 2020 General Plan land use map is provided in Figure 2-1 and shows the Halaco Site. Land use within the city surrounding the site is zoned as Miscellaneous Open Space/Resource Protection and Industrial Coastal Dependent. Land use outside the city consists of agriculture to the east and the Point Mugu Naval Air Station to the southeast. A Reliant Energy (formerly Southern California Edison) electric power generating station is located next to the ocean between the Halaco Site and the Point Mugu Air Station.

The Halaco Site is located within the Ormond Beach area, which was once a vast region of tidal marsh lands extending from Point Mugu (to the south) northward to Port Hueneme before being drained many years ago in response to agricultural, urban, and industrial activities. The Nature Conservancy (TNC) is collaborating with the Coastal Conservancy, Ormond Beach Task Force, and other local partners in an effort to restore large areas of what were once tidal marsh lands. A significant level of characterization of the ecological and physical characteristics has been conducted to support these planned wetland restoration activities, as documented by Jones & Stokes (1998), AMEC Earth & Environmental, Inc. (AMEC) (2006), WRA (2007), and PWA (2007).

2.1.2 Physical Setting

The physical setting for the Halaco Site and vicinity has been well characterized because of ongoing efforts by various agencies to investigate the Halaco Site and to restore wetland habitat in the Ormond Beach area. The report by PWA (2007) summarizes the hydrologic and geomorphic conditions surrounding the Halaco Site within the Ormond Beach Wetland Restoration area to help identify restoration opportunities and constraints based on physical processes. The report documents the topography, geology and soils, surface water hydrology, groundwater, wave climate, longshore current/sediment transport, and beach conditions in the Ormond Beach area. Additionally, significant hydrogeologic studies have been performed to help manage the groundwater resources on the Oxnard Plain. These include studies by the U.S. Geological Survey (USGS) (2003), United Water Conservation District (UWCD) (2004), and Fox Canyon Groundwater Management Agency (FCGMA) (2007).

Surface Conditions

The Site is located on the Pacific Ocean shoreline, at the southern extent of the City. The Site is bisected by the OID, a surface water channel that drains upstream agricultural, commercial, and residential areas of the Oxnard Plain (Figure 1-1). Immediately to the north and east of the Site is a wetland area owned by TNC. To the south of the Site are a wetland area, a lagoon, and the Pacific Ocean. The wetlands are part of the larger Ormond Beach wetland area, which extends from Port Hueneme (to the northwest) southward to the Mugu lagoon (to the southeast). The Ormond Beach wetlands are home to several endangered or threatened species and are the focus of federal and state restoration efforts.

During the Site's 40 years of operation, Halaco produced a large quantity of solid and liquid wastes. The wastes were largely inorganic material that floated to the top or sank to the bottom during smelting (also known as dross or slag). From about 1965 until 1970, Halaco discharged much or all of its waste to the OID. From 1970 to 2002, Halaco deposited a waste slurry made up of suspended solids, salts used in the smelting operation, and ferrous and non-ferrous metals to unlined earthen settling ponds east of the smelter. An estimated volume of more than 700,000 cubic yards of solids remain onsite. The bulk of the waste solids are in a waste pile that covers about 15 acres and rises up to 40 feet above grade. Some of these waste solids also are buried on the southeast part of the smelter parcel where waste disposal occurred early during the operation of the facility.

The Site consists of two separate parcels on either side of the OID. The smelter is located on approximately 11 acres on the west side of the OID. The waste disposal area is located on approximately 26 acres on the east side of the OID. The Site has been divided into the following study areas (Weston, 2007) for site investigation purposes (Figure 1-1):

- Smelter area—West of the OID where smelting operations occurred
- Waste management unit (WMU)—East of the OID, which consists of slag from the smelter operations and former waste disposal/settling pond
- Waste disposal area (WDA)—East of the OID and north of the WMU where dried material from the WMU historically was spread
- Oxnard Industrial Drain (OID)—Bisects the Site

- TNC land (NCL)—East and north of the WMU/WDA; this land was not part of the Halaco operation but is included because of potential migration of contamination onto the property
- Wetlands area—Between the Site and the beach/Pacific Ocean

Figures 2-2 and 2-3 are aerial photos of the Site before (February 2007) and after (April 2007) the EPA removal work to regrade and place erosion matting on the waste pile. Figures 2-4 and 2-5 are topographic maps of the Site before (February 2007) and after (May 2007) this work. The study areas shown on Figure 1-1 are also shown on Figures 2-2 through 2-5.

Surface Water Conditions

The OID, J Street Drain, and Hueneme Drain discharge into the wetlands (lagoon) area between the Site and the ocean (Figure 1-1). These channels drain urbanized runoff from the Port Hueneme and Oxnard areas. The OID and J Street Drain discharge into the lagoon by gravity. Water from the Hueneme Drain requires pumping over a dam structure at the terminus of the J Street Drain before discharge into the J Street Drain and lagoon. This dam structure is in place to prevent reverse flow and inundation of the upstream, urbanized area.

The lagoon between the Site and the Pacific Ocean is maintained several feet higher than the Pacific Ocean by a naturally occurring beach berm. This berm breaches during winter rainfall events, allowing the lagoon level to drop to equalize with the ocean level. Ocean longshore sedimentation processes act to re-establish this berm. The lagoon re-establishes its higher level once this occurs. The longshore ocean current and sediment transport direction is from the northwest to southeast, roughly parallel to the coastline (Figure 3 in PWA, 2007).

The NCL to the east and north of the Site become partially inundated by surface water during high-water-level stages in the OID and lagoon. Figures 2-2 and 2-4 show the higher OID/lagoon water-level stage and inundation of surface water into the NCL lands east and north of the Site. Figures 2-3 and 2-5 show the lower OID/lagoon water stage and breached berm. Figures 2-3 and 2-5 also show less water in the NCL lands as this water dissipates in response to the lower water levels in the OID/lagoon.

EPA performed a detailed study to help assess surface water and groundwater flow conditions at the Halaco Site. The results of this study are documented in a technical memorandum by CH2M HILL (2008).

Groundwater Conditions

The Halaco Site overlies the Oxnard Plain Groundwater Basin, which is one of several groundwater sub-basins located within the coastal valleys and plains of the Santa Clara-Calleguas basin. The aquifer system underlying this basin is extensively used for potable water supply for agricultural, municipal, and industrial uses. Groundwater is present in three primary aquifer systems (from shallowest to deepest): the upper Semiperched Aquifer, Upper Aquifer System (UAS), and Lower Aquifer System (LAS). These aquifer systems are intermittently separated by silts and clays of low permeability.

- **Semiperched Aquifer.** The Semiperched Aquifer consists of localized discontinuous units of low-permeability materials (silts and sands), generally to a depth of between 50 to 100 feet below ground surface (bgs). The Semiperched Aquifer is regionally of low

yield and poor water quality across the Oxnard Plain. Consequently, the Semiperched Aquifer generally is not used as a water supply. The Semiperched Aquifer is underlain by an extensive clay deposit that separates it from the underlying regional aquifer system consisting of the UAS and LAS.

- **Regional Aquifer System.** The UAS and LAS each consist of aquifer units of high-permeability materials (sands and gravels), generally to a depth of more than 1,000 feet bgs. From shallowest to deepest, the UAS consists of the Oxnard and Mugu Aquifers, and the LAS consists of the Hueneme, Fox Canyon, and Grimes Canyon Aquifers. These regional aquifers yield significant amounts of water and contain good quality water across the Oxnard Plain, except in coastal areas that are affected by saline water intrusion caused by overdraft conditions. The Halaco Site is underlain by saline intrusion in both the UAS and LAS.

The Semiperched Aquifer, UAS, and LAS have each been assigned beneficial uses by the RWQCB for municipal and domestic water supply. However, Finding No. 145 of RWQCB Order 980-58 states, "Because of its very poor mineral quality, waters from the semi-perched aquifer are not used for domestic, agricultural, or industrial water supply in any significant quantity."

Groundwater extraction from the UAS and LAS historically has exceeded replenishment, leading to overdraft conditions. These overdraft conditions led to groundwater levels significantly below sea level within the UAS and the LAS, which has led to coastal seawater intrusion within the UAS and LAS. The FCGMA regulates groundwater use on the Oxnard Plain and other inland areas to help protect and ensure a sustainable water supply. The UWCD implements studies to help manage the local groundwater supply and implements projects to provide local and imported water to agricultural, municipal, and industrial customers. Figure 2-6 shows the boundaries of FCGMA and UWCD. USGS has performed studies and provided technical expertise to help regulate and manage the local supply.

Cutbacks in groundwater pumping mandated by the FCGMA, artificial recharge by UWCD, and other projects that these and other agencies have implemented have replenished UAS groundwater levels to mostly above sea level. Groundwater levels in the LAS are above sea level to the north but remain below sea level to the south. Figure 2-7 shows groundwater levels in the UAS and LAS for 2003. Figure 2-8 shows hydrographs for select wells in the UAS and LAS, and the extent of saline intrusion in the Oxnard Aquifer, the uppermost aquifer in the UAS.

Groundwater levels and flow in the Semiperched Aquifer are complex because they are influenced by the dynamic surface water elevations described above and potentially by the water level elevations in the underlying UAS. As noted above, EPA performed a detailed study to help assess surface water and groundwater flow conditions at the Halaco Site. The results of this study are documented in a technical memorandum by CH2M HILL (2008).

2.1.3 Ecological Setting

The ecological setting for the Halaco Site and vicinity has been well characterized because the Site is located within the area of the Ormond Beach Wetland Restoration project. A significant level of characterization of the ecological characteristics has been conducted to

support the planned wetland restoration activities, as documented by Jones & Stokes (1998) and WRA (2007).

Habitat Types

Sensitive habitats in the Site vicinity include coastal salt marshes, coastal freshwater/brackish wetlands, and the southern foredune. An extensive beach-dune complex runs along the southern boundary of the Site. The wetlands adjacent to the Site historically were part of a salt marsh and brackish water lagoon and dune system. These lagoons were located behind a narrow sandy barrier beach of low dunes and were fed by water from creeks and surface flow over the plain, and inundated by saltwater during high tides or storms. Periodically, the barrier beach was breached by discharge of meandering river flows or the action of winter storm waves. Some of the lagoons likely remained open to the ocean for a period after the breaching event.

Agricultural Land. Agricultural land is located to the east and north of NCL. This habitat comprises inactive and active agricultural land used for the sole purpose of cultivating sod. Tall fescue (*Festuca arundinacea*) is the dominant planted species in this community (WRA, 2007).

TNC Land. The wetland areas owned by TNC to the east and north of the Site represent the greatest expanse of historical salt marsh habitat within the Ormond Beach area. The salt marsh wetland area located in the eastern TNC parcel is bounded to the north by the terminus of McWane Boulevard, by the Halaco slag pile to west, by cultivated sod fields to the east, and by dunes to the south. The wetland area in the northern TNC parcel is bounded to the north by an agricultural field, by the Halaco slag pile and TNC parcel to the south, and by industrial areas to the west and east.

The northwestern portion of the eastern TNC parcel is impacted by numerous dirt roads and miscellaneous vehicular activity and is not designated as a wetland by the Oxnard Local Coastal Program. Additionally, the region directly to the south of the McWane Boulevard terminus contains a remnant concrete building pad and a large amount of debris (WRA, 2007). The remaining habitat to the south is dominated by perennial pickleweed (*Salicornia virginica*), jaumea (*Jaumea carnosa*), fat-hen spearscale (*Atriplex triangularis*), and numerous areas of seasonally flooded mineral (Sand) flats. The special-status plant species, Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) has also been documented in this region (Jones & Stokes, 1998; California Department of Fish and Game [CDFG], 2007).

The northern TNC parcel is much less disturbed than the eastern TNC parcel and retains most of the original physical characteristics (topography) visible in a 1855 U.S. Coastal Survey. The vegetation communities are a mix of perennial emergent freshwater wetlands in a band immediately adjacent to the OID and ruderal (weed-dominated) non-native grassland as distance from the OID increases.

Wetland Area—West. The wetland area located in the Hueneme Drain property, west of the Halaco Smelter, was not accessed by WRA biologists during the July 2004 Site visits. The Hueneme Drain property is the triangular piece of land immediately west of the Halaco Smelter, south of the Oxnard wastewater treatment plant, and north of the wetlands area (Figure 1-1). However, images and descriptions provided by Dr. Spencer MacNeil (formerly of Aspen Environmental Group) indicate that this area is primarily dominated by perennial

pickleweed and saltgrass. The area is situated in a closed depression that does not receive tidal influence; however, the current plant composition and review of the 1855 coast survey indicate that this area was historically subject to tidal inundation (WRA, 2007).

Wetland Area—South. The wetland area located near the mouth of the OID and the Halaco slag pile receives freshwater flows into the lagoon area from three drains: Hueneme Drain, J Street Drain, and OID. The water in the wetland area infiltrates into and through the beach sands or flows directly into the ocean through occasional breaches in the sand barrier. The lagoon receives ocean water through tidal influence during the winter months when the sand barrier is breached and at other times of the year over and through the sand berm during very high tides. Generally, low salinity and high water conditions occur during the summer when freshwater builds up in the lagoon behind the sand berm. Higher salinity and lower water levels are more characteristic during the winter months when the berm has been breached. Salts tend to accumulate in adjacent soils during saline conditions and then flush from the soils during freshwater conditions (Impact Sciences, 1996). This region contains a mix of habitat types including open water, southern foredunes, degraded dunes, and mixed transitional habitat. The wetland habitat occupies the central region of the lagoon and is dominated primarily by California tule (*Schoenoplectus californicus*), bulrush (*Bolboschoenus maritimus*), common cattail (*Typha latifolia*), and saltgrass. During the July 2004 Site visits, the central region of the wetland contained standing water. Transitional marsh-upland habitats are located along portions of the wetland perimeter. These areas contain a mix of wetland and upland species such as saltgrass, curly dock (*Rumex crispus*), western ragweed (*Ambrosia psilostachya*), iceplant (*Carpobrotus* sp.), and coyote bush (*Baccharis pilularis*). According to the 1855 coast survey, this area appears to have been an estuarine lagoon, associated wetlands, coastal grasslands, and dunes (WRA, 2007).

Dune Habitat. Most of the dune habitat within or adjacent to the Site has been developed or is severely degraded by perturbations caused by humans. This habitat is characteristic of the sand verbena-beach bursage series (Sawyer and Keeler-Wolf, 1995). Most of the beach dune complex is a sparse combination of perennial forbs and low shrubs that form a ground cover. Native plant species that are dominant in this habitat type include beach evening primrose (*Camissonia cheiranthifolia*), beach bur (*Ambrosia chamissonis*), and beach morning-glory (*Calystegia soldanella*). Sand verbena also was a dominant species and may have included the naturalized yellow sand verbena (*Abronia latifolia*) from northern California and the native *A. maritima* and *A. umbellata*, as well as hybrids of these species. Patches of invasive iceplant dominate regions of the southern foredune habitat. Other non-native plants that have invaded this habitat but do not appear to be problematic include sea rocket (*Cakile maritima*) and kikuyu grass (*Pennisetum clandestinum*) (WRA, 2007).

Special-status Species

Based on a review of literature and database searches for known occurrences of special-status species in the general vicinity of the Site, 50 special-status plant species have been documented (Appendix A in WRA, 2007). Wildlife and plant species observed during the July 2004 site assessment are provided in Appendix B in WRA (2007). Additional information concerning special-status species potentially resident at the Site were provided by Phillips (2007).

Two special-status plant species were observed within the Site: salt marsh bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*) and woolly seablite (*Suaeda taxifolia*). Woolly seablite is not mapped because it was not clearly differentiated from other *Suaeda* species during the time of the field surveys (Figure 6 in WRA, 2007). Additionally, red sand verbena (*Abronia maritima*) and Coulter's goldfields were documented within the Site (Jones & Stokes, 1998; CDFG, 2007; and Impact Sciences, 1996). Of the remaining 25 species with potential to occur within the Site, aphanisma (*Aphanisma blitoides*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), and white rabbit-tobacco (*Pseudognaphalium leucocephalum*) are the only special-status plant species with a low potential to occur. Thirteen of the special-status plant species have a moderate potential for occurrence on the Site: Braunton's milk-vetch (*Astragalus brauntonii*), Ventura marsh milk-vetch (*A. pycnostachyus* var. *lanosissimus*), South Coast saltscale (*Atriplex pacifica*), Davidson's saltscale (*A. serenana* var. *davidsonii*), Brewer's calandrinia (*Calandrinia breweri*), seaside calandrinia (*C. maritima*), Catalina mariposa lily (*Calochortus catalinae*), Santa Barbara morning-glory (*Calystegia sepium* ssp. *binghamiae*), dunedelion (*Malacothrix incana*), cliff malacothrix (*M. saxatilis* var. *saxatilis*), Mexican malacothrix (*M. similis*), rayless ragwort (*Senecio aphanactis*), and salt spring checkerbloom (*Sidalcea neomexicana*). Nine special-status plant species have a high potential for occurrence: southern tarplant (*Centromadia parryi* ssp. *australis*), Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*), dune larkspur (*Delphinium parryi* ssp. *blochmaniae*), beach spectaclepod (*Dithyrea maritima*), small spikerush (*Eleocharis parvula*), suffrutescent wallflower (*Erysimum insulare* ssp. *suffrutescens*), vernal barley (*Hordeum intercedens*), California spineflower (*Mucronea californica*), and estuary seablite (*Suaeda esteroa*) (WRA, 2007).

Six state and federally listed endangered and threatened species have been documented as being present or have a high potential to occur, in addition to the 23 other special-status species known to occur or having a high potential to occur at the Site (Appendix A in WRA, 2007). Additionally, more than 200 migratory bird species have been documented within the Ormond Beach and adjacent Mugu Lagoon wetland complex. More shorebird species are known from this area than any other site in Ventura County (Coastal Conservancy, 2003).

The federally and state-listed species are California brown pelican (*Pelecanus occidentalis californicus*), American peregrine falcon (*Falco peregrinus anatum*), western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarum browni*), Belding's Savannah sparrow (*Passerculus sandwichensis beldingi*), and tidewater goby (*Eucyclogovius newberryi*). Appendix C in WRA (2007) presents aerial photographs delineating potential breeding and foraging habitats for California least tern, Belding's Savannah sparrow, white-tailed kite (*Elanus leucurus*), western snowy plover, south coast garter snake (*Thamnophis sirtalis*), and wandering (saltmarsh) skipper (*Panoquina errans*), which are known to occur within the Site. The skipper is included because of its extreme rarity in California and dependence on coastal saltmarsh habitats such as those present in the Site. This species is considered globally imperiled by the World Conservation Union (WRA, 2007). The remaining federal and state species of concern and fully protected species are Southern California saltmarsh shrew (*Sorex ornatus salicornicus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), double-crested cormorant (*Phalacrocorax auritus*), American bittern (*Botaurus lentiginosus*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), black-crowned night-heron (*Nycticorax nycticorax*), white-faced ibis (*Plegadis chihi*), white-tailed kite, northern harrier (*Circus cyaneus*), merlin (*Falco*

columbarius), mountain plover (*Charadrius montanus*), long-billed curlew (*Numenius americanus*), western burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), California horned lark (*Eremophila alpestris actia*), tri-colored blackbird (*Agelaius tricolor*), south coast garter snake, sandy beach tiger beetle (*Cicindela hirticollis gravida*), tiger beetle (*C. sensilis frosti*), and globose dune beetle (*Coelus globosus*) (Appendix A in WRA, 2007).

2.2 Constituents of Potential Concern

Constituents of potential ecological concern (COPECs) are those constituents present at the Site (or Site vicinity from constituents that may have migrated from the Site) in concentrations that may exceed toxicity thresholds for ecological receptors. Similarly, constituents of potential concern (COPCs) are those constituents related to human health. The COPECs and COPCs for this screening-level risk assessment are identified from the following recent site-specific and regional investigations:

- **Site-specific Investigations**—The recent site-specific investigations consist of EPA's *Integrated Assessment* of the overall Site (Weston, 2007) and EPA's follow-up investigation of the southeast corner of the smelter area (Team 9, 2008).
- **Regional Investigation**—The recent regional investigation consists of the soil and surface water investigation conducted to support the ongoing efforts to restore wetland habitat in the Ormond Beach area (AMEC, 2006).

Although other historical data exist, the data from these most recent investigations are used in this screening-level risk assessment because these studies include maps displaying sample locations and raw data results. Additionally, many older studies did not report detection limits.

Halaco Site: Integrated Assessment

The largest volume of data used for this screening-level assessment is from an EPA study known as the *Integrated Assessment* (Weston, 2007). The purpose of this study was to provide data for the evaluation of the Site under the HRS to help determine whether the Site is eligible for placement on the NPL, and evaluate the need for short-term response actions.

Data for this study were collected in June 2006 and included lab analysis of about 115 soil, sediment, and solid waste samples; 10 unfiltered surface water samples; 14 unfiltered groundwater samples; 35 air samples; and 10 composite fish samples. Samples were analyzed for up to 25 metals, and except for air and fish samples, five radionuclides (Cs 137, K 40, Th 228, Th 230, and Th 232). Approximately 350 solid matrix (soil, sediment, and solid waste) samples were collected and, of these, approximately 337 were analyzed for metals in the field using X-ray fluorescence (XRF). The XRF data were primarily used in the determination of which samples to submit for definitive lab analysis. Only definitive lab data are used for this screening-level risk assessment.

Samples were collected from multiple onsite and offsite locations. Onsite locations included the Smelter area; WDA; WMU; the OID (the portion that passes between the smelter area and the waste disposal and WMU areas); and the wetland, beach, and marine habitats

immediately downgradient of the Site and the OID outfall. Offsite and locations considered to potentially represent background conditions included the adjacent TNC property east of the Site; nearby residential property; agricultural properties north and east of the Site; the OID upstream of the Site; and upgradient wetland, beach, and marine habitats. Figure 1-1 shows the general sampling areas. Sample location maps are provided in Appendix A (Figures A-1 through A-5). All fish samples were collected from the lower reach of the OID or in the adjacent lagoon at the mouth of the OID.

Halaco Site: Southeast Corner of Former Smelter

The second dataset used for this screening-level assessment consists of the additional characterization of the Smelter area, focusing on the southeast corner (Team 9, 2008). The purpose of the follow-up assessment of the southeast corner of the Smelter area was to evaluate the need for short-term response actions to mitigate risks in this area.

Data for this study were collected in June 2007 and include metals and radionuclide concentrations from 37 soil samples and radionuclide measurements from groundwater samples from nine boreholes. The groundwater samples were not included in this screening-level assessment because they were grab samples collected from boreholes and may not be representative of actual groundwater concentrations because of elevated sample turbidity. All but two soil samples were collected onsite within or immediately adjacent to the Smelter area. Two samples were identified as background. Although some samples were identified as sediment samples (based on sample identifiers), all samples from this investigation were identified as soil because the sample map indicated they were from upland locations. Future risk assessment work will re-categorize these samples as sediment, if appropriate. A map showing specific boring locations is provided in Appendix A (Figure A-6).

Ormond Beach: Wetland Restoration Project

The final dataset used for this screening-level assessment consists of soil, sediment, and surface water samples collected and analyzed as part of the Ormond Beach Wetland Restoration Project (AMEC, 2006). These data are a subset of a larger group of samples collected to characterize contamination within an area between Point Hueneme and Point Mugu. Of the 30 soil/sediment samples and 10 unfiltered surface water samples collected for the Ormond Beach Wetland Restoration Project, 16 soil/sediment and seven surface water samples were located in the immediate vicinity of the Halaco Site and were included in this assessment. These samples were analyzed for general chemistry, metals, polychlorinated biphenyls (PCBs) and organochlorine pesticides, and total petroleum hydrocarbons (TPH). Because TPH detections were limited, these observations were not used. Soil/sediment samples selected from the Ormond Beach Wetland Restoration Project for inclusion in the project database included one wetland sediment sample considered to potentially represent background, one soil sample considered to potentially represent background, four soil samples from the NCL east of the Site (NCL-east), four soil samples from NCL north of the Site (NCL-north), one soil sample from the agricultural area north of the Site (Ag-north), and five soil samples from the agricultural area east of the Site (Ag-east). The seven surface water samples selected included two samples from the wetland in the NCL-east area, one sample from the OID upstream of the Site, two onsite (mouth of the OID and Hueneme drain), and two from drains north of the Site. The OID and Hueneme drain

samples were categorized as onsite because of their proximity to the Site. Sample location maps for the samples used in this assessment are provided in Appendix A (Figures A-7 and A-8).

Combined Dataset and Summary Statistics

The combined dataset representing the above three data sets is provided in Appendix B. Summary statistics (number of detects, number of samples, mean, standard deviation, minimum, median, and maximum observation) were calculated for each analyte in each medium from each location on or near the Site. The summary statistics for surface water are summarized in Table 2-1, sediment in Table 2-2, soil in Table 2-3, air in Table 2-4, and groundwater in Table 2-5. Fish data are summarized in Table 2-6. The number of analytes considered in each media and across samples within media differed because data were compiled from multiple sources, each with different analytical suites.

Box plots displaying the distributions of analytes in Site media across different onsite and offsite locations, in comparison to both ecological and human health risk screening levels, are presented in Appendix C as follows:

- Appendix C.1—Soil/Waste and Sediment
- Appendix C.2—Surface Water
- Appendix C.3—Air

A key to the information shown in the box plots is provided in Appendix C. As shown in this key, both "detects" and "nondetects" (ND) are plotted along with applicable ecological and human health screening levels. ND values were included at the reported detection limit, except for data from AMEC (2006), which were included with values of "0" because non-detects were reported simply as "ND" without associated detection limits. ND values are plotted to help assess the adequacy of detection levels against the applicable screening levels. Non-parametric analyses of variance (ANOVA) of rank-transformed concentration data were performed to determine whether onsite concentrations differed statistically from samples considered to potentially represent background conditions and adjacent offsite samples. Differences were considered significant if $p<0.05$. Student-Neumann-Kuehls multiple range tests were conducted to identify which groups differed statistically when more than two groups were evaluated. Groups with the same letter notation were not statistically different as noted in Tables 2-1 through 2-6 and the box plots in Appendix C.

SECTION 3

Screening-level Ecological Risk Assessment

This section provides the SLERA, which is broken down into the following components:

- Screening-level problem formulation and ecological effects evaluation, Step 1 of EPA's Ecological Risk Assessment Guidance (EPA, 1997). This step integrates available information (environmental setting; contaminant sources, transport and fate, and ecotoxicity; and receptors) and serves to provide focus to the ecological risk assessment.
- Screening-level exposure estimates, the first part of Step 2 of EPA's Ecological Risk Assessment Guidance (EPA, 1997). The exposure estimates provide a description and quantification of the nature and magnitude of the interaction between COPECs in surface water, sediment, soil, or groundwater and ecological receptors. This section first summarizes the available chemical and radionuclide concentration data, and then estimates the level of exposure for plants, invertebrates, fish, birds, and other potential receptors. Although air data are summarized, exposure and effects data with which to evaluate ecological risks from metal inhalation are lacking. Consequently, ecological risks from airborne metals were not evaluated.
- Screening-level risk characterization, the second part of Step 2 of EPA's Ecological Risk Assessment Guidance (EPA, 1997). For the screening-level risk characterization, exposure data (from Step 1) and effects data (from the first part of Step 2) are integrated to draw conclusions concerning the presence, nature, and magnitude of effects that may exist at the Site. This section outlines the process by which exposure and effects data were integrated to estimate risk in the screening-level risk characterization and presents the results of the initial screening assessment.

3.1 Screening-level Problem Formulation

The screening level problem formulation includes a description of the Site setting, identification of COPCs, identification of the important aspects of the Site to be protected (referred to as "assessment endpoints"), the means by which the assessment endpoints were evaluated (measures of exposure and effects), and previous site investigations. The end product of the problem formulation is a CSM that describes the contaminant sources and transport mechanisms, evaluates potential exposure pathways, and identifies the representative species that were used to assess potential ecological risk to those and other similar species.

3.1.1 Conceptual Site Model

The CSM is a written and visual presentation of predicted relationships among stressors, exposure pathways, and assessment endpoints. It includes a description of the complete exposure pathways and outlines the potential routes of exposure for each assessment endpoint. A CSM diagram for ecological exposures was developed for the Site and is presented in Figure 3-1.

The primary sources are historical smelter and waste disposal activities. Primary release mechanisms include air emissions from the Smelter stack and other process locations, as well as solid wastes and wastewater associated with the processing of the scrap materials. Secondary sources of potential contaminants are air and surface soils (including Smelter wastes onsite, in the WDA, and in the WMU). Release mechanisms include aerial deposition of stack emissions, discharge/runoff from the waste piles and other areas containing waste to surrounding surface water/soil areas (OID, adjacent wetland, and adjacent soils), wind erosion, leaching to groundwater, and surface discharge from groundwater.

Complete exposure pathways from contaminated surface soil, sediment, surface water, biota, and groundwater to ecological receptors exist at the Site. Contaminants in soil may be directly bioaccumulated by terrestrial plants or soil invertebrates resident in Site soils. Additionally, terrestrial plants may be exposed by uptake from contaminated groundwater or surface water sources or by aerial deposition onto foliage. Aquatic plants are primarily exposed via contaminated sediment. Although benthic invertebrates, fish, and amphibians may be exposed to contaminants via surface water or sediment, benthic invertebrates are primarily exposed through sediment, and fish and amphibians are primarily exposed through surface water. Terrestrial and aquatic wildlife (e.g., herbivores, omnivores, invertivores, and carnivores), including reptiles, may be exposed directly to contaminants in surface water through ingestion and to contaminants in soil or sediment by incidental soil or sediment ingestion, by dermal contact, or by the inhalation of wind-borne particles. Terrestrial and aquatic invertebrates, fish, and wildlife (i.e., amphibians, reptiles, birds, and mammals) also may receive contaminant exposure through food-web transfer of chemicals from lower trophic levels (e.g., plants to herbivores, plants and prey animals to omnivores, and so forth).

3.1.2 Assessment Endpoints

Assessment endpoints are an expression of the important ecological values that should be protected at a site (Suter, 1990; Suter, 1993; EPA, 1998; and Suter et al., 2000). Assessment endpoints are developed based on known information concerning the contaminants present, the study area, the ecological CSM, and risk hypotheses. There are three components to each assessment endpoint: an *entity* (e.g., migratory birds), an *attribute* of that entity (e.g., individual survival), and a *measure* (e.g., a measurable value, such as an effect level). Measures are described following the general description of assessment endpoints (EPA, 1998; Suter et al., 2000).

The assessment endpoint entities for the Site were selected based on the following principal criteria:

- Ecological relevance
- Societal relevance
- Susceptibility (or high exposure) to known or potential stressors at the Site

The attributes selected for each entity consisted of growth, reproduction, or survival. Maximum acceptable adverse effect levels generally selected for all receptors at a screening level are no observed effect concentrations (NOECs) or no observed adverse effect levels (NOAELs). Higher levels of effect are only suitable for later assessment tiers (i.e., baseline ecological risk assessments [BERAs]).

Assessment endpoints for the Site include aquatic plants, water-column invertebrates, amphibians, fish, benthic invertebrates, and aquatic birds in the aquatic habitats and terrestrial plants, soil invertebrates, reptiles, and terrestrial birds and mammals in the terrestrial habitats. The four federally or state-listed species known to occur at or near the Site are included as representative receptors for their respective ecological groups. These species included the federally listed as endangered tidewater goby, western snowy plover, and California least tern, and the state-listed as endangered Belding's savannah sparrow.

Where appropriate, representative ecological receptors (i.e., specific species) were selected from aquatic and terrestrial communities to fulfill as many of the following criteria as possible:

- Species that are known to occur or are likely to occur at the Site
- Species that relate to the assessment endpoints selected
- Species that are likely to be maximally exposed to the site-related COPECs
- Sedentary species or species with a small home range
- Species with high reproductive rates
- Species that are known to play an integral role in the ecological community structure at the Site
- Species that are known or likely to be especially sensitive to the Site-related COPECs, and thus are an indication of ecological change
- Species that are representative of the foraging guild (i.e., a group of species with similar ecological resource requirements and foraging strategies and, therefore, similar roles in the ecosystem) or that serve as food items for higher trophic levels

Bird and mammal receptors include species representative of trophic levels and foraging guilds (e.g., herbivores, omnivores, invertivores, and carnivores), as well as special-status species known to occur at the Site. The representative receptors, in addition to the special-status species listed previously, included California vole (*Microtus califonicus*) and ornate shrew (*Sorex ornatus*). The assessment endpoints are outlined in Table 3-1.

3.1.3 Measures of Exposure and Effects

Measures (formerly referred to as measurement endpoints) are measurable attributes used to evaluate the risk hypotheses and are predictive of effects on the assessment endpoints (EPA, 1998). The three categories of measures include the following.

- Measures of exposure—used to evaluate levels at which exposures may be occurring
- Measures of effect—used to evaluate the response of the assessment endpoints when exposed to the stressors
- Measures of ecosystem and receptor characteristics—used to evaluate the ecosystem characteristics that influence the assessment endpoints, the distribution of stressors, and the characteristics of the assessment endpoints that may affect exposure or response to the stressor

For this assessment, only measures of exposure and effect were used.

Measures of Exposure

Measures of exposure can be an exposure point concentration (EPC) of a chemical in an environmental medium or food item, or a related dose estimate. In the initial screening assessment, maximum detected or non-detected (if all samples were non-detects) concentrations were used as the EPC for all receptors. If a refined screening assessment is determined to be necessary, a point-by-point evaluation of all analytes recommended to be retained from this initial screen, would be conducted as the next step for receptors with exposure expressed as a media concentration (e.g., fish, terrestrial plants, and benthic and soil invertebrates). For mobile receptors (i.e., birds and mammals), the EPC would be represented by the maximum media concentrations in the initial screen, with the 95 percent upper confidence limit of the mean (95UCL) for each retained analyte to be used as the EPC if a refined assessment is completed. Additionally, bird and mammal receptors, which were assumed to forage exclusively onsite in the initial screening evaluation, would have more biologically realistic exposure assumptions employed in a refined assessment.

Measures of Effect

Measures of effect include media-specific, ecotoxicity-based benchmarks and toxicity reference values (TRVs). As previously indicated, benchmarks and TRVs in the initial screen were represented by literature-based screening benchmarks, NOECs, or NOAELs. In the refined screen, NOECs and NOAELs, as well as lowest observed effect concentrations (LOECs) and lowest observed adverse effect levels (LOAELs) would be used. The exception would be for receptors assessed at the individual level (i.e., special-status species) for which exceedance of the NOAEL is considered unacceptable.

Only literature-based, single-chemical toxicity data were used. Ecological Soil Screening Levels (EcoSSLs) developed by EPA (EPA, 2005a) were used as available, as were other published screening data for plants, soil invertebrates, and soil microbial processes (Efroymson et al., 1997a; Efroymson et al., 1997b). For the aquatic environment, published screening levels for surface water (EPA, 2000a; EPA, 2006; Suter and Tsao, 1996) and sediment (MacDonald, et al. 2000) were also used. Avian and mammalian toxicity values were extracted from EFA West (1998), Sample et al. (1996), and published primary literature, as appropriate.

The measures of exposure and effects are provided, along with the assessment endpoints, in Table 3-1.

3.2 Ecological Effects Evaluation

The ecological effects evaluation summarizes available toxicity or other effects information that can be used to evaluate the exposures to COPECs and adverse effects in ecological receptors. Data that can be used include literature-derived or site-specific, single-chemical toxicity data; site-specific ambient-media toxicity tests; and site-specific field surveys (Suter et al., 2000). For the Site, single-chemical toxicity data from literature sources were the primary effects data.

3.2.1 Chemical Effects in Aquatic Plants, Water-column Invertebrates, Amphibians, and Fish

Aquatic toxicity values for aquatic plants and water-column invertebrates, amphibians, and fish were derived from the California Toxics Rule (EPA, 2000), National Water Quality Criteria (EPA, 2002) and the Oak Ridge National Laboratory (ORNL) freshwater aquatic organism benchmarks (Suter and Tsao, 1996). Screening values for freshwater aquatic organisms are presented in Table 3-2.

3.2.2 Chemical Effects in Benthic Invertebrates

Currently, there are no EPA criteria for sediment. In general, it is difficult to predict sediment concentrations at which toxicity occurs because the type and form of the sediment and the water chemistry of the overlying water affect bioavailability. However, sediment guidelines have been derived based on the relationship between the contaminant concentration in bulk sediment, the contaminant concentration in pore water, and measured biological effects (Ingersoll et al., 1996; Long and Morgan, 1990; Long et al., 1995; Persaud et al., 1993; and MacDonald et al., 2000). Additional summaries of sediment screening values are presented in Buchmann (1999). These sediment guidelines provide an initial benchmark for predicting the potential for adverse effects of elevated COPEC concentrations in sediment.

The freshwater sediment benchmarks were represented by the Threshold Effects Concentrations (TEC) and Probable Effects Concentrations (PEC) from MacDonald et al. (2000) as available. Benchmarks for marine sediments were represented by the T20 (20th percentile toxicity value) and T50 (median toxicity value) from Field et al. (2002). Additional, less conservative values (freshwater upper effect thresholds and marine apparent effect thresholds) were extracted from Buchmann (1999). Screening benchmarks for freshwater and marine benthic invertebrates are shown in Table 3-2.

3.2.3 Chemical Effects in Terrestrial Plants and Soil Invertebrates

Single-chemical, screening-level toxicity values for terrestrial plants and soil invertebrates have been developed for a limited number of analytes as part of the EPA EcoSSLs (EPA, 2007a). For analytes lacking EcoSSLs, additional data for terrestrial plants and soil invertebrates were obtained from the ORNL benchmark reports (Efroymson et al., 1997a; Efroymson et al., 1997b). Soil screening values for terrestrial plants and soil invertebrates are outlined in Table 3-2. Terrestrial plants were also screened against benchmarks for exposure to groundwater at the Site. These benchmarks are represented by the soil solution screening levels developed in Efroymson et al. (1997a) and are presented in Table 3-2.

3.2.4 Chemical Effects in Birds and Mammals

Wildlife EcoSSLs

Wildlife EcoSSLs were used for all analytes for which they were available. Wildlife EcoSSLs are presented in Table 3-2.

Oral Toxicity Data

Single-chemical toxicity data for birds and mammals consist of NOAEL and LOAEL TRVs. The NOAELs were used in the initial screening evaluation, and LOAELs would be used in the refined screening, as necessary. Appropriate toxicity studies were selected from published literature based on several criteria:

- Studies were of chronic exposures or exposures during a critical stage of life (e.g., reproduction).
- Exposure was oral through food to ensure data were representative of oral exposures expected for wildlife in the field.
- Emphasis was placed on studies of reproductive impacts to ensure relevancy to population-level effects.
- Studies presented adequate information to evaluate and determine the magnitude of exposure and effects (or no-effects concentrations).

Specifically, toxicity studies were selected to serve as the TRV if exposure was chronic or during reproduction (a critical lifestage), the dosing regime was sufficient to identify both a NOAEL and an LOAEL, and the study considered ecologically relevant effects (e.g., growth, reproduction, or survival). If multiple studies for a given COPEC meet these criteria, the study generating the lowest reliable toxicity value was selected to be the TRV. The bird and mammal TRVs are presented in Table 3-3.

3.2.5 Radionuclide Effects in Plants and Animals

Two radionuclide effect thresholds, as determined by consensus of international radiation regulatory agencies, form the basis for the multiple radionuclide-specific Biota Concentration Guides (BCGs) available for aquatic, riparian, and terrestrial animals, and for terrestrial plants. General guidance from the International Council for Radiological Protection (ICRP, 1991), the International Atomic Energy Agency (1992), and United Nations Scientific Committee on the Effects of Atomic Radiation (1996) concluded that radiological doses to aquatic animals (including vertebrates and invertebrates) and to terrestrial plants and terrestrial animals (invertebrates and vertebrates) should not exceed 1 and 0.1 rad/d, respectively. Provided that radiation exposure does not exceed these levels, the consensus opinion of the international radiological organizations is that ecological populations will be protected. The U.S. Department of Energy (USDOE) has adopted these effect thresholds and integrated them into the Graded Approach (USDOE, 2002). The BCGs presented in USDOE (2002) represent radionuclide concentrations in soil, water, or sediment that would produce a dose equal to the 1 or 0.1 rad/d threshold (depending on the type of biota). The BCGs for aquatic, riparian, and terrestrial animals, and for terrestrial plants exposed to radionuclides in water, sediment, or soil are summarized in Table 3-4.

3.3 Screening-level Exposure Estimates

This section presents the screening-level exposure estimates, the first part of Step 2 of EPA's Ecological Risk Assessment Guidance (EPA, 1997). The exposure estimates provide a description and quantification of the nature and magnitude of the interaction between

COPECs in surface water, sediment, soil, or groundwater and ecological receptors. This section first summarizes the available chemical and radionuclide concentration data, and then estimates the level of exposure for plants, invertebrates, fish, birds, and other potential receptors.

Air data were analyzed as part of the *Integrated Assessment* (Weston, 2007). Although air data are summarized, exposure and effects data with which to evaluate ecological risks of metal inhalation are lacking. Consequently, ecological risks from airborne metals were not evaluated.

VOCs were analyzed as part of the *Integrated Assessment* (Weston, 2007). However, VOCs were detected very infrequently or at relatively low concentrations and, therefore, are not specifically evaluated as part of this screening-level assessment. Other organic analytes, (semi-volatile, pesticides, PCBs, and dioxins) were not specifically evaluated because they were not analyzed as part of the *Integrated Assessment*.

Data for ammonia in surface water (the media in which ecological effects are most likely) were lacking from the data sets used in this evaluation. Consequently, this analyte was not evaluated in this assessment.

3.3.1 Aquatic Plants and Invertebrates, Amphibians, and Fish

Media-based Chemical Exposures

Aquatic plants, water-column invertebrates, amphibians, and fish at the Site experience exposure primarily through the medium in which they live. Although aquatic plants, water-column invertebrates, amphibians, and fish are exposed to COPECs in surface water and sediment, the primary exposure medium is surface water. For these receptors, exposure occurs as a consequence of living in a contaminated medium (i.e., receptors are directly exposed to COPECs). Although other exposure pathways (e.g., direct exposure to sediment or dietary exposure for invertebrates or fish) may contribute to total exposure for these receptors, exposure through surface water predominates. Consequently, estimates of exposure for aquatic plants and invertebrates, amphibians, and fish may be represented as the concentration of COPECs in surface water (micrograms per liter [µg/L]).

EPCs for the initial screening estimates are the maximum concentration (detected or non-detected) measured in surface water (Table 2-1). Although dissolved concentrations are generally used to evaluate exposure for aquatic biota, only total concentration data were available for the Site. These data provide a conservative measure of exposure for aquatic biota. COPECs that fail the initial screening assessment would be evaluated on a point-by-point basis (i.e., each sample evaluated individually), should a refined screen be performed.

Tissue-based Chemical Exposures

Concentrations of COPECs in tissues of receptor animals may exert adverse effects through various mechanisms, including toxicity to the target organ (e.g., liver or kidneys where metabolism and excretion occur) or release from tissue reserves during episodic events (e.g., mobilization of certain contaminants from fat during winter or spawning). Thus, body burden or tissue data provide a measure of exposure. Fish have been collected from the OID

and adjacent lagoon downstream of the Site and analyzed for metals; data for analyses of whole-body fish are summarized in Table 2-6.

3.3.2 Chemical Exposures of Benthic Invertebrates

As with aquatic biota, benthic invertebrates at the Site experience exposure primarily through the medium in which they live. Benthic invertebrates are exposed to COPECs in surface water and sediment; however, the primary exposure medium is sediment. Although other exposure pathways (e.g., direct exposure to water or dietary exposure for invertebrates) may contribute to total exposure for these receptors, exposure through sediment predominates. Consequently, estimates of exposure for benthic invertebrates may be represented as the concentration of COPECs in sediment (in milligrams per kilogram [mg/kg]).

Initial screening estimates were based on the maximum concentration (detected or non-detected) in sediment (Table 2-2). COPECs that fail the initial screening assessment would be evaluated on a point-by-point basis, should a refined screen be performed.

3.3.3 Chemical Exposures of Terrestrial Plants and Soil Invertebrates

Terrestrial plants and soil invertebrates experience exposure primarily through the soil in which they live. This exposure occurs as a consequence of living in a contaminated medium (i.e., receptors are directly exposed to COPECs). Although other exposure pathways (e.g., dietary exposure for invertebrates or foliar uptake) may contribute to total exposure for these receptors, exposure through the soil predominates. Consequently, estimates of exposure for terrestrial plants and soil invertebrates may be represented by the concentration of COPECs in the soil (mg/kg, picocuries per gram [pCi/g], or micrograms per kilogram [µg/kg]). Plants also may be exposed through root uptake from contaminated groundwater. Therefore, exposure to plants at the Site also may be represented by the concentration of COPECs in groundwater (µg/L).

As previously indicated, the EPCs for the initial screening were the maximum measured concentration (detected or non-detected) of the COPEC in soil (Table 2-3) or groundwater (Table 2-5). COPECs that fail the initial screening assessment would be evaluated on a point-by-point basis, should a refined screen be performed.

3.3.4 Chemical Exposures of Birds and Mammals

Wildlife EcoSSLs developed by the EPA were used for all analytes for which they were available. Wildlife EcoSSLs represent soil concentrations that would result in dietary doses that do not exceed a NOAEL. Conservative assumptions (i.e., 100 percent bioavailability, 100 percent diet composition, 100 percent site use, and so forth) are used for the dietary dose calculations integrated into the EcoSSLs.

Because EcoSSLs were not available for all analytes and they address only exposure in terrestrial systems, it was necessary to calculate exposures for some wildlife receptors. The exposure calculation process is described as follows.

Birds and mammals experience exposure through multiple pathways, including ingestion of abiotic media (surface water and sediment/soil) and biotic media (food), as well as inhalation and dermal contact. To address this multiple pathway exposure, modeling is

required. The end product, or exposure estimate, for birds and mammals is a dosage (amount of chemical in milligrams per kilogram receptor body weight per day [mg/kg/day]) rather than a media concentration, as is the case for the other receptors. This is a function of both the multiple pathway approach and the typical methods used in toxicity testing for birds and mammals.

The general form of the model used to estimate exposure of birds and mammals to COPECs in surface water, sediment/soil, and food items is as follows (Suter et al., 2000):

$$E_t = E_o + E_d + E_i$$

Where,

E_t	=	the total chemical exposure experienced by wildlife
E_o, E_d, and E_i	=	oral, dermal, and inhalation exposure, respectively

Oral exposure occurs through the consumption of contaminated food, water, or sediment/soil. Dermal exposure occurs when contaminants are absorbed directly through the skin, and inhalation exposure occurs when volatile compounds or fine particulates are inhaled into the lungs. Although methods are available for assessing dermal exposure to humans (EPA, 1992e), data necessary to estimate dermal exposure generally are not available for wildlife (EPA, 1993). Similarly, methods and data necessary to estimate wildlife inhalation exposures are poorly developed (EPA, 1993) or limited (i.e., some data are available through the EPA Integrated Risk Information System [IRIS] database). Additionally, a wildlife receptor's exposure to contaminants by inhalation and dermal contact usually contributes little to its overall exposure. Dermal exposure also is likely to be low, even in burrow-dwelling animals, because of the presence of protective dermal layers (e.g., feathers, fur, or scales). Therefore, for the purposes of this assessment, both dermal and inhalation exposure were assumed to be negligible.

Because dermal and inhalation exposures are excluded, total chemical exposure experienced by wildlife (E_t) is equal to oral exposure (E_o). By replacing E_o with a generalized exposure model modified from Suter et al. (2000), the previous equation was rewritten as follows:

$$E_t = \left[\left[\sum_{i=1}^{n} B_{ij} \times P_i \times FIR\right] + \left[Soil_j \times P_s \times FIR\right] + \left[Water_j \times WIR\right]\right] x\, AUF$$

Where:

E_t	=	total exposure (mg/kg/day)
$Soil_j$	=	chemical concentration in sediment/soil (mg/kg dry weight)
P_s	=	sediment/soil ingestion rate as proportion of diet (unitless)
FIR	=	food ingestion rate (kg food/kg body weight/d)

B_{ij}	=	chemical concentration in biota type (i) (mg/kg wet weight)
P_i	=	proportion of biota type (i) in diet (unitless)
$Water_j$	=	chemical concentration in water (mg/L)
WIR	=	water ingestion rate (L water/kg body weight/d)
AUF	=	area use factor (area of site/home range of receptor) (unitless)

Definition of Model Parameters

To apply the exposure model, appropriate model parameters must be defined. The model parameters are outlined as follows.

Exposure Point Concentrations. For the initial screen, the maximum media concentration (detected or non-detected) of each COPEC was used for the EPC. COPECs that fail the initial screening assessment would be evaluated based on 95UCLs, should a refined screen be performed. This is because wildlife are mobile, traveling and experiencing exposure over the range of habitats they occupy, so their exposure is best described by mean chemical concentrations in areas they inhabit (Suter et al., 2000). Therefore, 95UCLs provide a conservative measure of the mean.

Life History Parameters. The specific life history parameters required to estimate exposure of each receptor to COPECs include body weight, ingestion rates of food and water, dietary components and percentage of the overall diet represented by each major food type, and approximate amount of soil and/or sediment that may be incidentally ingested based on feeding habits. These parameters, as well as foraging or home range information, were obtained from the literature and are presented in Table 3-5.

Many wildlife species are highly mobile, covering large areas in search of food, water, and shelter. The exposure that individuals experience depends on the amount of time they spend at a contaminated site. Site use depends on the size of the site relative to the receptor's home range. As a conservative assumption, wildlife receptors initially were assumed to forage onsite 100 percent of the time. In the refined screening, home range size would generally be considered in the exposure estimate by application of an area use factor (AUF).

Bioaccumulation Models. Measurements of concentrations of COPECs in wildlife foods (e.g., aquatic invertebrates, fish, plants, soil invertebrates, and small mammals) are a critical component for the estimation of oral exposure of birds and mammals. However, these site-specific measured data are generally not available or used in a screening-level assessment. Instead, bioaccumulation models derived from the literature are applied to develop risk estimates. The literature-based bioaccumulation models that describe uptake from sediment-to-aquatic/ benthic invertebrates, soil-to-plants, soil-to-soil invertebrates, and soil-to–small-mammals are presented in Tables 3-6, 3-7, 3-8, and 3-9, respectively.

3.3.5 Radionuclide Exposure

Exposure to radionuclides was evaluated based on maximum concentrations of radionuclides in water, sediment, or soil. Consistent with the USDOE Graded Approach (USDOE, 2002), maximum concentrations were compared to radionuclide-specific BCGs. The BCGs represent the radionuclide concentration in water, sediment, or soil (in picocuries per liter [pCi/L] or pCi/g) that corresponds to a conservatively calculated radiation dose to exposed biota that is equal to the radiation effect threshold appropriate for the given receptor.

Briefly, regardless of whether they are plants or animals, aquatic or terrestrial, biota receive exposure to radionuclides through a combination of internal and external pathways. Internal exposure is a function of radiation emitted from radionuclides and then retained in tissues. External exposure is from radiation from radionuclides in soil, sediment, and water with which biota come into contact (or come near). No radionuclide exposure modeling specific to the Halaco Site was conducted. Rather radionuclide exposure was estimated based on the internal and external radiation exposure models integrated into the BCGs (USDOE, 2002). Guidance for the BCGs (USDOE, 2002) contains detailed descriptions of these radionuclide exposure models, including how they were developed and the nature of the assumptions employed. The initial BCGs use conservative assumptions for internal and external exposure.

External exposure assumptions include:

- The source medium is infinite in extent and contains uniform concentrations of radionuclides (i.e., there are no “hot spots”)
- The exposed organism is very small; consequently 100 percent of the radionuclide energies are absorbed
- Organisms exposed to soil or water are uniformly surrounded by the source medium
- Organisms exposed to sediment reside on top of and in contact with the surface sediment

Internal exposure assumptions include:

- The exposed organism is very large, such that all radionuclide decay energies are retained in tissue (100 percent of energies absorbed)
- Exposure for a given radionuclide includes all decay-chain progeny
- All radionuclides are uniformly distributed such that all target tissues may be affected

3.4 Screening-level Risk Characterization

Risks at the Site were evaluated based on the ratio of exposure concentrations or doses to TRVs, resulting in Hazard Quotients (HQs), and are described by the following equation:

$$HQ = C/TRV_{SL} \text{ or } ED/TRV_{NOAEL}$$

where:

HQ = Ecological hazard quotient (unitless)
C = Media concentration (µg/L for water and mg/kg for sediment/soil)
ED = Estimated chemical intake (dose) by wildlife receptor (mg/kg/day)
TRV_{SL} = Screening-level (SL) Toxicity Reference Value (µg/L, mg/kg, pCi/L, pCi/g)
TRV_{NOAEL} = NOAEL-based Toxicity Reference Value (mg/kg/day)

SL-based or NOAEL HQ values less than 1.0 indicate that adverse effects associated with exposure to a given analyte are unlikely (EPA, 1997). These analytes were not considered to present unacceptable risk and can be excluded from further evaluation. When the estimated exposure for any COPEC exceeds the TRV_{SL} or TRV_{NOAEL}, an HQ greater than 1.0 is obtained. An HQ equal to or greater than 1.0 indicates data are insufficient to exclude the potential for risk, but does not indicate that risks are actually present. COPECs with HQs equal to or greater than 1.0 were retained and are recommended for a more detailed evaluation in the refinement stage of the SLERA. COPECS for which appropriate toxicity data were unavailable or for which detection limits were insufficient were not further evaluated, but were retained as uncertainties.

The outcome of the initial screening is a list of COPECs for each media-receptor combination that were determined to present no unacceptable risk, retained for further evaluation in the refined screen, or retained as an uncertainty.

Calcium, iron, magnesium, potassium, and sodium were considered macronutrients and are not expected to adversely affect ecological receptors. Accordingly, these COPECs were dropped from further consideration.

Aluminum was not included in the evaluations for any receptor because bioavailability and toxicity are highly dependent on pH (EPA, 2003a). Although onsite soil pH data are lacking, it is likely greater than 5.5, the level above which aluminum is not bioavailable and thus has limited toxicity. Additionally, although offsite data were available for pesticides, no onsite data were collected. Consequently, evaluation of the offsite pesticide data would not indicate whether risks were site-related and, therefore, were not included in the screen.

3.4.1 Freshwater Aquatic Organisms

Maximum concentrations of COPECs in surface water from the Site were compared to the chronic state water quality standards for California (EPA, 2000a), National Ambient Water Quality Criteria (NAWQC), or the Tier II Secondary Chronic Value (SCV) from Suter and Tsao (1996). Radionuclides were compared to the lower of either the BCG for aquatic animals or riparian animals. HQ values for aquatic biota were calculated for onsite, potential background samples, and offsite samples (as data permitted) and are presented in Table 3-10.

Screening values were available for all 16 metals and five radionuclides in surface water. Four metals (arsenic, mercury, nickel, and selenium) and four radionuclides (Cs 137, Th 228, Th 230, Th 232) did not exceed screening values in any area. Because mercury and selenium were below detection limits in all samples, and detection limits were not reported, a definitive conclusion that these analytes do not present risks cannot be made. The remaining six analytes, however, present no unacceptable risk to aquatic biota.

- Chromium failed in offsite samples but not in onsite or potential background samples. Because concentrations of chromium in onsite samples did not exceed aquatic toxicity values, the offsite exceedances are unlikely to be site related; therefore, they were concluded to present no unacceptable risk to aquatic biota.
- Antimony, barium, cobalt, and manganese exceeded screening values in all areas (i.e., onsite, potential background, and offsite). However, because concentrations of each of these analytes were not significantly elevated in onsite samples relative to potential background or offsite (Table 2-1), these elevated concentrations likely represent regional concentrations and not site-associated contamination.
- Cadmium, lead, and silver failed the screen in onsite and potential background areas, but passed in offsite areas. These results suggest that these three analytes are not site associated. However, because these screening failures were largely caused by insufficiently low detection limits, cadmium, lead, and silver are retained for additional evaluation.
- Beryllium, copper, vanadium, zinc, and K 40 exceeded aquatic screening values in onsite samples (in addition to offsite for copper), but not in potential background samples. These analytes may present an unacceptable risk and are retained for additional evaluation.

The conclusion of the surface water screen is that 11 analytes present no unacceptable risk to aquatic biota in general, or to the endangered tidewater goby in particular, either because their onsite concentrations are not greater than the effect thresholds (arsenic, chromium, nickel, Cs 137, Th 228, Th 230, and Th 232) or their concentrations were not elevated relative to potential background (antimony, barium, cobalt, and manganese). Absence of risks to the tidewater goby is based on the assumption that available water quality screening values are protective of risks to gobies. Ten analytes (beryllium, copper, vanadium, zinc, and K 40 because of screening value exceedances; cadmium, lead, mercury, selenium, and silver due to detection limits) could not be excluded as potential risk drivers to the tidewater goby and other aquatic biota, and are retained for additional evaluation.

3.4.2 Benthic Invertebrates

The maximum concentration of each COPEC in freshwater (OID or wetland) and marine (beach or marine) sediment was compared to the corresponding sediment quality value. Calculated HQs for freshwater and marine sediments are presented in Table 3-11.

Sediment screening values were not available for beryllium or thallium, therefore these COPECs are retained as uncertainties for the freshwater and marine locations. Additionally, barium, cobalt, selenium, and vanadium are retained as uncertainties in freshwater sediments, as no freshwater sediment criteria were available.

Maximum concentrations of all five radionuclides were less than the most conservative sediment BCG in all four areas. Therefore, radionuclides present no unacceptable risk to benthic invertebrates.

- **OID**—Of the 11 analytes measured in the OID for which freshwater sediment quality criteria were available, six (arsenic, cadmium, chromium, copper, lead, and nickel) had maximum concentrations that failed in onsite samples but not in upgradient samples. Antimony and zinc failed in onsite and upgradient samples (onsite zinc concentrations also were significantly greater than upgradient [Table 2-2]), and manganese, mercury, and silver passed in onsite and upgradient samples. The conclusion for the OID, therefore, is that arsenic, cadmium, chromium, copper, lead, nickel, and zinc may present an unacceptable risk to benthic invertebrates but manganese, mercury, and silver do not.

- **Wetland Area**—In the wetland, maximum onsite concentrations of chromium, lead, manganese, mercury, and nickel exceeded sediment thresholds, but potential background concentrations did not. Antimony, cadmium, copper, and zinc exceeded sediment thresholds in onsite and potential background locations; all four analytes also had significantly higher concentrations onsite as compared to potential background (Table 2-2). Only arsenic and silver did not fail the screen. The conclusion for the wetland is that cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc may present an unacceptable risk to benthic invertebrates, but arsenic and silver do not.

- **Beach Area**—In the beach habitat, nine analytes (arsenic, chromium, cobalt, copper, lead, manganese, nickel, vanadium, and zinc) had maximum concentrations that did not exceed sediment quality criteria in either onsite or potential background locations. Although antimony, selenium, and silver failed for onsite and upgradient beach locations, exceedances were because of non-detects. Barium also exceeded sediment criteria in onsite and upgradient samples, but was detected in all samples. Only cadmium and mercury had maximum concentrations in excess of sediment criteria in onsite samples but not potential background samples. The conclusion for beach sediments is that arsenic, chromium, cobalt, copper, lead, manganese, nickel, vanadium, and zinc present no unacceptable risk. Barium may present a risk but does not appear to be site associated. Antimony, selenium, and silver are retained as uncertainties. Cadmium and mercury may present unacceptable risks to benthic invertebrates.

- **Marine Area**—Of the 15 analytes measured in the marine habitat for which sediment quality criteria were available, seven (arsenic, chromium, cobalt, copper, lead, vanadium, and zinc) had maximum onsite and upgradient concentrations that did not exceed sediment thresholds. Although upgradient manganese and nickel concentrations exceeded their screening values, onsite concentrations did not. Antimony, barium, cadmium, selenium, and silver exceeded sediment screening values in onsite and upgradient samples. Exceedances for antimony, selenium, and silver were driven by elevated detection limits. Only mercury exceeded sediment screening values in onsite samples but not in upgradient samples. Therefore, the conclusion for marine sediments is that arsenic, chromium, cobalt, copper, lead, nickel, vanadium, and zinc do not present unacceptable risks to benthic invertebrates, but antimony, mercury, selenium, and silver may. However, because there are no clear differences between upgradient

and downgradient metals concentrations, site-associated impacts are considered unlikely and further evaluation of marine sediments is not recommended.

No radionuclide risks from sediments were observed. Cadmium, chromium, copper, lead, nickel, and zinc may present risks in onsite OID and wetland sediments. Arsenic also may present risks in OID sediments, and manganese and mercury may present risks in wetland sediments, respectively. In contrast, arsenic, chromium, cobalt, copper, lead, nickel, vanadium, and zinc do not present risks to benthic invertebrates in either marine or beach sediments. These metals are therefore retained for further evaluation.

Although certain metals in marine sediments exceeded screening levels (antimony, silver, cadmium, selenium, and mercury) or had insufficient detection limits (antimony, selenium, and silver), there is no clear difference between upgradient and downgradient metals concentrations indicating site impacts. Therefore, it is not recommended that metals be retained for further evaluation in marine sediments.

3.4.3 Terrestrial Plants

Maximum concentrations of COPECs in soil were compared to either plant EcoSSL (EPA 2007a) or, if a plant EcoSSL was not available, plant soil screening benchmarks (Efroymson et al., 1997a) (Table 3-12). Radionuclides were compared to plant BCGs. Additionally, maximum concentrations of COPECs in groundwater were compared to plant soil solution screening benchmarks (Efroymson et al., 1997a) (Table 3-13).

Plant benchmarks were exceeded for a large number of metals at multiple locations. Among the 19 metals that were not macronutrients, maximum concentrations of three (chromium, thallium, and vanadium) exceeded benchmarks in all onsite, offsite, and potential background areas considered. The greatest frequency of exceedances was observed for Smelter soils (all 19 metals exceeded) and WMU wastes (16 metals exceeded). Wastes in the WDA (14 exceedances), Smelter wastes, potential background soils, and NCL-east soils (each with 12 exceedances) were intermediate. Soils from the residential area, Ag-north and Ag-east areas, and the NCL-north area had the lowest number of exceedances.

Among radionuclides, maximum concentrations did not exceed BCGs in any area for Cs 137, K 40, Radium 226, Th 230, or Th 232. BCGs were exceeded only in Smelter waste and only for Radium 228 and Th 228. With the exception of these two radionuclides in this single area, radionuclides do not present an unacceptable risk to plants.

Data were available for 14 metals and five radionuclides in groundwater (Table 3-13). Groundwater BCGs were unavailable for all five radionuclides. Soil solution plant benchmarks also were lacking for two metals (antimony and barium). Of the metals for which soil solution plant benchmarks were available, only beryllium did not exceed benchmarks in either onsite or potential background samples. Ten metals exceeded plant benchmarks in onsite samples but not in the single potential background sample. Arsenic exceeded plant benchmarks at onsite and potential background locations.

The risk conclusions for plants are that multiple metals in soil and groundwater may present unacceptable risks. Risks are greater in onsite soils, waste, and groundwater than in potential background and offsite areas. Additionally, with the exception of Radium 228 and Th 228 in Smelter waste soil, radionuclides do not present an unacceptable risk to plants.

3.4.4 Soil Invertebrates

Maximum concentrations of COPECs in soil were compared to either invertebrate EcoSSLs (EPA, 2007a) or, if an invertebrate EcoSSL was not available, invertebrate soil screening benchmarks (Efroymson et al., 1997a) (Table 3-14). COPECs that exceeded these screening or benchmark values are retained for further evaluation.

Soil invertebrate screening values were not available for boron, cobalt, molybdenum, silver, thallium, vanadium, and the radionuclides. These analytes are retained as uncertainties for further evaluation.

Of the 13 analytes for which soil invertebrate benchmarks were available, only the maximum concentration for cadmium did not exceed the invertebrate benchmark at any location. In contrast, maximum chromium concentrations exceeded the screening level at all onsite, offsite, and potential background areas. Barium, copper, manganese, and zinc followed with the next highest exceedance frequencies (six of 10 locations). With the exception of chromium (and mercury in the Ag-north area), no exceedances of soil invertebrate benchmarks occurred at the NCL-north area, both Ag areas, and the residential area. Antimony, arsenic, lead, and selenium exceeded their invertebrate screening levels only within Smelter soils. Smelter soils also had the highest number of exceedances, with 12 of 13 analytes (with available benchmarks) exceeding the invertebrate screening levels. The next most frequent exceedance areas were the WDA and the WMU wastes (with seven and eight exceedances, respectively). The NCL-north, Ag-north, Ag-east, and residential areas had the fewest metals with maximum concentrations in excess of the screening levels. All other metals failed the screen at one or more areas.

The risk conclusions for invertebrates are that multiple metals in soil may present unacceptable risks. Risks are greater within onsite areas than in potential background and offsite areas.

3.4.5 Birds and Mammals

Birds and mammals were evaluated to determine the potential for risk as a result of exposure to various media at the Halaco Site. Terrestrial birds and mammals (Belding's savannah sparrow, California vole, and ornate shrew) were screened by comparing the maximum soil concentration in a given area to the bird and mammals EcoSSLs, or the terrestrial animal BCGs (Tables 3-15 and 3-16). For chemical contaminants lacking EcoSSLs, site-specific exposure modeling, as described in Section 3.1 was conducted using the maximum detected soil concentrations in each area (Table 3-17). Because media-based wildlife screening values, such as the EcoSSLs, have not been derived for aquatic habitats, site-specific exposure modeling was conducted for all analytes using the maximum detected sediment concentration for each area (western snowy plover) or the measured fish tissue data for each analyte (California least tern) The results are provided in Tables 3-18 and Table 3-19, respectively.

Terrestrial Mammals

EcoSSLs for mammals were available for 13 metals. Of these, only cobalt and vanadium maximum concentrations did not exceed at any of the eight locations with data (no data were available for these metals from NCL-north and Ag-east) and therefore were considered

to pose no unacceptable risk to terrestrial mammals (Table 3-15). Arsenic passed the screen at all locations with the exception of Smelter soils. Similarly for radionuclides, no exceedances of BCGs were observed for any radionuclide in any area except for Radium 228 in Smelter soils. In contrast, cadmium failed the screen at all 10 locations, and antimony failed at eight out of 10 locations. All other inorganic analytes failed the screen at three or more locations and are retained for further evaluation because they are considered to potentially pose unacceptable risk to terrestrial mammals.

In general, risks are greatest within onsite soils or wastes. Eleven of 13 metals in Smelter soil and 10 of 13 metals each at the WDA and the WMU-w[1] area failed the screen. However, at NCL-east, eight of 13 metals also failed the screen. Based on this evaluation, all analytes other than cobalt and vanadium were considered to pose potentially unacceptable risk at one or more locations.

Site-specific exposure modeling was conducted to estimate risk to the California vole and ornate shrew from exposure to boron, mercury, molybdenum, selenium, thallium, and zinc (Table 3-17). Maximum detected soil concentrations were used to predict contaminant concentrations in prey and ultimately determine a total exposure dose for the receptor. The total dose was then compared to a NOAEL value to determine the resulting HQ.

Based on the results of this effort, thallium was the only analyte that passed the screen in all eight locations with data (no data were available for these metals from NCL-north and Ag-east) for the California vole while zinc and mercury passed at all but two locations. Boron and molybdenum were found to pose potentially unacceptable risk to the California vole at all locations with available data. Selenium failed the screen at six of 10 locations. Consequently, all analytes, with the exception of thallium, were considered to pose a potentially unacceptable risk at one or more locations and are retained for further evaluation.

For the ornate shrew, mercury and molybdenum failed the screen at all locations for which data were available. Boron, selenium, thallium, and zinc each failed the screen at three or more locations based on risk to the ornate shrew. Consequently, all six analytes pose potentially unacceptable risk to the ornate shrew at one or more locations and are retained for further evaluation.

Based on this screening, all six analytes are recommended for further investigation in a refined screening based on risk to one or more receptors at one or more locations. In general, risks were higher in onsite soils. In WMU wastes, all metals for the ornate shrew and four metals for the California vole were considered to pose potential risk. In Smelter soils, all six metals for the ornate shrew and five metals for the California vole failed the screen. Ag-east had only one metal (mercury) identified as failing the screen for the ornate shrew, while none failed for the California vole.

Terrestrial Birds

Ten metals and seven radionuclides had available EcoSSLs or BCGs and were included in the initial screen. Cobalt was the only inorganic analyte to pass the screen at all eight locations with available data, while arsenic passed at all but one location (Smelter soils)

[1] WMU-w represents wastes(w) from the Waste Management Unit (WMU).

(Table 3-16). In contrast, vanadium had the highest exceedance frequency and failed the screen at all eight locations with available data, with cadmium failing at all but two locations (Smelter wastes and NCL-north). The remaining inorganics (chromium, copper, lead, manganese, nickel, and silver) failed the screen at four or more locations and are considered to potentially pose unacceptable risk along with arsenic, cadmium, and vanadium. No exceedances of BCGs were observed for any radionuclide in any area except for Ra 228 in Smelter soils.

In general, the highest risks to terrestrial birds were from onsite soils. The highest magnitude of exceedances occurred for the Smelter soils (nine of 10 analytes) followed by the WDA (eight of 10 analytes), the WMU wastes (eight of 10 analytes), and the NCL-east (seven of 10 analytes). Cobalt and all but one radionuclide are the only COPECs that can be ruled out as posing a risk to terrestrial birds.

Because EcoSSLs were not available for barium, boron, mercury, molybdenum, selenium, thallium, and zinc, site-specific exposure modeling was conducted to estimate risk from these COPECs to the Belding's savannah sparrow. Because an avian screening level for thallium was not available, it is retained as an uncertainty. Maximum detected soil concentrations were used to predict contaminant concentrations in prey and ultimately estimate a total exposure dose for the receptor. The total dose was then compared to a NOAEL value to determine the resulting HQ (Table 3-17). Based on this screening, mercury and zinc had HQs above 1.0 and failed the screen at all 10 locations. All other analytes were considered to pose potentially unacceptable risk in at least three locations. Consequently, all analytes are retained for further evaluation at one or more locations.

In general, risks were greater and more frequent in onsite soils for the savannah sparrow. All six metals in Smelter soils and WMU waste, and five of six metals at the WDA, had HQs above 1.0 and failed the risk screening.

Semi-aquatic Birds

Media-based wildlife screening values such as EcoSSLs were not available for semi-aquatic birds. Consequently, site-specific exposure modeling was conducted for the two semi-aquatic bird species (western snowy plover and California least tern) known to occur in the vicinity of the Halaco Site. Results of the risk screening are presented as follows by receptor.

Western Snowy Plover. Concentrations in benthic invertebrates were calculated based on sediment concentrations. These estimates were used to determine a total exposure dose for the plovers. The total dose was then compared to a NOAEL value to determine the resulting HQ. The screening results for the western snowy plover are presented in Table 3-18. Screening levels for antimony, beryllium, silver, and thallium were not available, and they are retained as uncertainties.

Cobalt and nickel passed the screen in all habitats, while arsenic failed the screen only at OID in onsite sediments. Barium, cadmium, lead, mercury, and zinc failed the screen in all onsite habitats and risk cannot be ruled out.

Of the 17 analytes evaluated at the OID, eight analytes (barium, cadmium, copper, lead, manganese, mercury, selenium, and zinc) had HQs greater than 1.0 in onsite sediments and potential background sediments, although concentrations in onsite sediments for cadmium,

mercury, and selenium were not found to be significantly different than those in potential background sediments. This may suggest that contaminants are not site related. Three analytes (arsenic, chromium, and vanadium) had HQs greater than 1.0 only for onsite soils.

Within the beach habitat, two analytes (cadmium and mercury) had HQs above 1.0 for onsite and potential background sediments; although concentrations of cadmium in onsite sediments were not significantly different than those in potential background sediments. Barium, lead, and zinc failed the screen in onsite sediment but passed the screen based on potential background sediment and were found to potentially pose unacceptable risk to the snowy plover. Arsenic, chromium, cobalt, copper, manganese, nickel, selenium, and vanadium in onsite and potential background sediments were not found to pose an unacceptable risk to the snowy plover.

In onsite and upgradient marine sediments, barium, cadmium, lead, mercury, selenium, and zinc had HQs greater than 1.0; however, none of the onsite concentrations were found to be significantly different than those in upgradient sediment. Consequently, contaminant concentrations may not be site related. Arsenic, chromium, cobalt, copper, manganese, nickel, and vanadium were not found to pose an unacceptable risk in either onsite or upgradient marine sediments.

In wetland habitat, barium, cadmium, copper, lead, mercury, selenium, and zinc all exceeded an HQ of 1.0, in onsite and potential background sediments. It should be noted, however, that concentrations of mercury in onsite sediment were not statistically different from those concentrations in potential background sediments and may not be the result of site-related activities. Chromium, manganese, and vanadium failed the screen with HQs exceeding 1.0 in onsite sediment. Consequently, barium, cadmium, chromium, copper, lead, manganese, selenium, vanadium, and zinc are considered to pose potentially unacceptable risk to the snowy plover and are retained for further evaluation. Arsenic, cobalt, and nickel were not found to pose unacceptable risk in any sediments.

In general, most exceedances occurred at OID. The wetland habitat had the second-highest number of exceedances.

California Least Tern. Maximum detected contaminant concentrations in whole-body fish were used to predict the California least tern's exposure to COPECs. The total dose was then compared to a NOAEL value to determine the resulting HQ. The screening results for the California least tern are presented in Table 3-19. Screening levels for antimony, beryllium, silver, and thallium were not available, and they are retained as uncertainties.

Of the 12 analytes with fish tissue data and available screening levels, only two analytes (selenium and zinc) had HQs above 1.0. Consequently, selenium and zinc may pose an unacceptable risk to the California least tern. HQs for all other analytes were less than 1.0 and risk posed by these analytes was considered acceptable.

3.5 Screening-level Summary and Conclusions

3.5.1 Summary

The SLERA was performed in accordance with EPA guidance to evaluate the potential for adverse effects on resident biota from exposure to COPECs (metals and radionuclides) in surface water, sediment, soil and waste, groundwater, and fish at and adjacent to the Site. Datasets included the following for biological, physical, and chemical data inputs (Appendixes A and B):

- Regional Biological Data—Jones & Stokes (1998) and WRA (2007)
- Regional Physical and Chemical Data—AMEC (2006) and PWA (2007)
- Site Physical and Chemical Data—Weston (2007), Team 9 (2008)

Conservative exposure and effects assumptions (i.e., maximum concentrations and no-effect levels) were used to evaluate potential risks to aquatic biota (water-column invertebrates, amphibians, aquatic plants, and fish), benthic invertebrates, terrestrial plants, soil invertebrates, terrestrial birds and mammals (California vole, ornate shrew, and Belding's savannah sparrow), and semi-aquatic birds (western snowy plover and California least tern).

The SLERA analyzed data from multiple onsite, offsite, and potential background locations to allow a better understanding of the spatial distribution of contamination and potential risks. Statistical summaries were prepared and presented in tables. Box plots were prepared for each COPEC and each media and study area to help illustrate the spatial distribution of contamination and potential risks (Appendix C).

3.5.2 Conclusions

The SLERA results are summarized in Table 3-20 by media, receptor, and area for the COPECs, which include metals and measured radionuclides. Table 3-20 notes which analytes exceed ecological risk screening values. All the COPEC analytes exceed a screening benchmark for at least one receptor in at least one area, except for Cs 137, Radium 226, Th 230, and Th 232. Media-specific conclusions are summarized in the following sections.

Surface Water

Eleven analytes present no unacceptable risk to aquatic biota in general, or to the endangered tidewater goby in particular, either because their onsite concentrations are not greater than the effect thresholds (arsenic, chromium, nickel, Cs 137, Th 228, Th 230, and Th 232) or their concentrations were not elevated relative to potential background (antimony, barium, cobalt, and manganese). Ten analytes (beryllium, copper, vanadium, zinc, and K 40 because of screening value exceedances; cadmium, lead, mercury, selenium, and silver because of detection limits) could not be excluded as potential risk drivers to the tidewater goby and other aquatic biota, and are retained for additional evaluation.

Exposure of California least terns to contaminants measured in fish indicated that only two (selenium and zinc) of the 12 analytes with avian screening levels, had HQs above 1.0. Consequently, selenium and zinc may pose an unacceptable risk to the California least tern.

Sediment

No radionuclide risks were observed for freshwater or marine sediments. Antimony, cadmium, chromium, copper, lead, manganese, nickel, and zinc may present risks in onsite OID and wetland sediments. Arsenic and mercury also may present risks in OID and wetland sediments, respectively. However, arsenic, chromium, copper, lead, nickel, and zinc do not present risks to benthic invertebrates in either marine or beach sediments. Potential risk drivers in marine sediment consisted of antimony, barium, cadmium, mercury, selenium, and silver, with uncertainties related to antimony, mercury, selenium, and silver because of insufficient detection limits. However, there is no clear difference between upgradient and downgradient concentrations of these metals indicating site impacts. Nickel and manganese exceeded marine sediment benchmarks in upgradient marine samples but not in any onsite samples.

Cobalt and nickel passed the screen in all areas where western snowy plover may be exposed via sediment. Arsenic failed the screen only at OID in onsite sediments. Barium, cadmium, lead, mercury, and zinc failed the screen in all onsite habitats and risk cannot be ruled out. In general, most exceedances for the snowy plover occurred at OID. The wetland habitat had the second-highest number of exceedances for species.

Soils and Waste

Multiple metals in soil and waste may present unacceptable risks to terrestrial plants. Risks are greater in onsite soils and waste than in potential background and offsite areas. With the exception of Ra 228 and Th 228 in Smelter waste, radionuclides do not present an unacceptable risk to plants.

Multiple metals in soil and waste may present unacceptable risks to soil invertebrates. Risks are greater in onsite areas than in potential background and offsite areas.

For terrestrial mammals, risks are greatest in onsite soils or wastes. Eleven of 13 metals in Smelter soil and 10 of 13 metals each at the WDA and the WMU-w area failed the screen. However, at NCL-east, eight of 13 metals also failed the screen. Based on this evaluation, all analytes except cobalt and vanadium were considered to pose potentially unacceptable risk at one or more locations.

Risks to terrestrial birds mirrored those for mammals, with the highest risks from onsite soils. The highest magnitude of exceedances occurred for the Smelter soils (nine of 10 analytes) followed by the WDA (eight of 10 analytes), the WMU-w (eight of 10 analytes), and the NCL-east (seven of 10 analytes).

Groundwater

Multiple metals in groundwater may present unacceptable risks to terrestrial plants.

SECTION 4

Screening-level Human Health Risk Assessment

This section provides the screening-level human health risk assessment. This assessment provides a CSM for potential human health exposures and compares detected metals, pesticides, PCBs, and radionuclides from the three data sets described in Section 2 to human health screening levels.

4.1 Conceptual Site Model

A human health CSM diagram summarizes information about site-related contaminant sources, contaminant releases, and contaminant transport through the environment to potential human receptors in a narrative and schematic presentation (EPA, 1989). The CSM includes complete exposure pathways and summarizes the potential routes of exposure for potential future human receptors. A preliminary CSM diagram for human health exposures was developed for the Site and is presented in Figure 4-1.

The CSM starts with a presentation of contaminant sources, release mechanisms, and transport media at the Halaco site. The primary sources are historical activities at the smelter. Primary release mechanisms include air emissions from the smelter stack and other process locations, as well as solid wastes and wastewater associated with the processing of the scrap materials. Secondary sources of potential contaminants are surface soils (including Smelter wastes onsite, in the WDA, and in the WMU) and air. Release mechanisms include aerial deposition of stack emissions, discharge/runoff from the waste piles and other areas containing waste to surrounding surface water/soil areas (OID, adjacent wetland, adjacent soils), wind erosion, leaching to groundwater, and surface discharge from groundwater.

Potentially complete exposure pathways from contaminated air, surface soil, sediment, surface water, and groundwater to human receptors exist at the Site. Contaminants in air may be directly inhaled. Contaminants in sediment, soil, surface water, and groundwater may be ingested or inhaled or absorbed dermally through the skin.

Additionally, contaminants may be taken up by fish living in contaminated water or plants grown in contaminated soil. Consumption of these fish or plants represents a potentially complete exposure pathway, but likely not significant.

Potential future receptors are residents (adult and child) and industrial/commercial workers onsite and on adjacent properties. Critical exposure pathways (e.g., exposure of receptors to soils and ambient air, as well as to drinking water, surface water, and sediments) will be identified and analyzed during the development of the baseline human health risk assessment that will be conducted after data gaps are identified and addressed. The proximity of contaminants to exposure pathways and their potential to migrate into critical pathways will be assessed. This information will be used to update the preliminary CSM diagram for the Site, which will be used to help ensure that all relevant pathways,

receptors, and routes of exposure are considered in the future baseline human health risk assessment.

4.2 Comparison of Site Data to Screening Levels

Human health screening levels used for this evaluation for metals, chlorinated pesticides, and PCBs are provided in Table 4-1 and for radionuclides in Table 4-2. Human health screening levels used are EPA Region 9 preliminary remediation goals (PRGs) and drinking water maximum contaminant levels (MCLs), as follows:

- Region 9 PRGs are risk-based values for evaluating and cleaning up chemically contaminated sites. The EPA Region 9 PRG Table, dated October 2004, was the source of all chemical PRGs. PRGs are used for site "screening" and as initial cleanup goals, if applicable. They are human health risk-based concentrations that are intended to assist risk assessors and others in initial screening-level evaluations of site characterization data. The PRGs are generic; they are calculated without site-specific information (EPA, 2004).
- EPA Radionuclide PRGs for Superfund (2007d) are risk-based values for evaluating and cleaning up sites contaminated with radionuclides.
- EPA MCLs (2007c) are drinking water standards and are the highest level of a contaminant that is allowed in drinking water. Additionally, states may develop MCLs that are more stringent than federal MCLs. The California Department of Public Health (DPH) MCLs also are used in this TM, when available (DPH, 2007).

EPA updated the Region 9 PRG table in September 2008 (now called Regional Screening Level (RSL) table). The October 2004 version of the EPA Region 9 PRG table was used for this screening-level assessment because it was the current table of PRGs at the time this assessment was performed. The values in the new RSL table should be used for future assessments.

The following SLs are used for the various pathway exposure media and exposure routes for potential residential and industrial/commercial receptors.

- Chemical Contaminants
  - EPA Region 9 tap water PRGs and MCLs (EPA and DPH) are used for comparison to surface water and groundwater concentrations, based on exposure via ingestion of tap water.
  - EPA Region 9 PRGs are used for comparison to soil and sediment concentrations, based on exposure via ingestion, dermal contact, and inhalation under residential and industrial land use scenarios.
  - EPA Region 9 PRGs are used for comparison to air concentrations, based on exposure via inhalation.
  - EPA fish screening levels for metals (from EPA, 2000) are used for fish ingestion.

- Radionuclides
  - EPA Radionuclide PRGs (2007d) are used for comparison to surface water and groundwater data, based on exposure via ingestion.
  - EPA Radionuclide PRGs are used for comparison to soil and sediment data, based on exposure under residential and industrial land use scenarios (outdoor worker scenario).

Tables 4-3 through 4-8 provide the comparison of the human health screening levels to the chemical and radionuclide data described in Section 2 for surface water, groundwater, sediment, soil/waste, air, and fish. These tables provide the minimum, median, and maximum detected values in each of the media by study area and potential background conditions. The human health screening levels are then compared to the maximum concentration for each of the study areas and potential background conditions. The box plots in Appendix C provide an additional tool to help visualize these data by media across study area and human health screening levels.

Surface Water

Only select metals exceeded tap water PRGs and/or drinking water MCLs for surface water (Table 4-3). Antimony, arsenic, and manganese exceeded tap water PRGs onsite. Antimony and arsenic also exceeded potential background concentrations. Antimony exceeded MCLs for onsite and potential background conditions.

The radionuclides Cs 137, K 40, and Th 228 exceeded tap water PRGs onsite. These radionuclides also exceeded potential background concentrations.

Groundwater

Numerous metals and radionuclides exceeded tap water PRGs and/or drinking water MCLs for onsite groundwater (Table 4-4). These include aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, nickel, silver, vanadium, and zinc. Onsite concentrations of cobalt and magnesium greatly exceeded potential background concentrations. Even though some potential background concentrations also exceeded SLs for these metals, onsite metals concentrations were several orders of magnitude greater than potential background.

The radionuclides Cs 137, K 40, Th 228, Th 230, and Th 232 exceeded tap water PRGs onsite. These radionuclides also exceeded potential background concentrations.

Sediment

Several residential and industrial soil PRGs were exceeded by metals and radionuclides for sediment (Table 4-5). Metals that exceeded at least one soil PRG in at least one location included aluminum, arsenic, chromium, copper, iron, lead, manganese, thallium, and vanadium. Soil PRGs also were exceeded by radionuclides, including Cs 137, K 40, Th 228, and Th 232.

Arsenic, K 40, and Th 228 exceeded residential and industrial PRGs in onsite and potential background samples in all areas. Aluminum and chromium exceeded residential and industrial PRGs only in onsite wetland samples. Exceedances for copper, lead, manganese, thallium, and vanadium were limited to residential PRGs in the onsite wetlands area. Iron exceeded residential PRGs in the onsite OID area. Cs 137 exceeded residential PRGs in onsite and

potential background wetland areas. The onsite wetland was the source of most exceedances of metals and radionuclide PRGs. The box plots in Appendix C.2 illustrate that metals and radionuclides in sediments for site study areas are higher than potential background conditions for soil and sediment.

Additionally, organochlorine pesticides analyzed by AMEC (2006) to characterize regional conditions in the Ormond Beach restoration area exceeded residential and industrial soil PRGs. No onsite data for these analytes are available.

Soils/Waste

Numerous residential and industrial soil PRGs were exceeded by metals and radionuclides for soil and waste (Table 4-6). Metals that exceeded at least one soil PRG in at least one area included aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, thallium, and vanadium. Residential and industrial soil PRGs were exceeded by radionuclides Cs 137, K 40, Ra 266, Ra 228, Th 228, Th 230, and Th 232. Magnesium concentrations in smelter soils and waste materials greatly exceeded potential background concentrations.

Smelter soils and waste materials were the source of frequent exceedances of both metals and radionuclide PRGs. The box plots in Appendix C.2 illustrate that metals and radionuclides in soils for site study areas are higher than potential background conditions for soil and waste.

Additionally, organochlorine pesticides analyzed by AMEC (2006) to characterize regional conditions in the Ormond Beach restoration area exceeded residential and industrial PRGs. No onsite data for these analytes are available.

Air

Ambient air PRGs were exceeded for all metals with PRGs (aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, manganese, and nickel) (Table 4-7). The box plots in Appendix C.3 illustrate that metals in air at the waste pile (Air-2, Air-6) and immediately downwind (Air-3) of the Site are higher than potential background conditions upwind of the Site (Air-1). No air data are available for radionuclides.

Fish

EPA fish tissue screening levels were exceeded for arsenic (both noncancer and cancer screening levels) and cadmium (noncancer screening level). The fish also were analyzed for gross alpha and gamma radiation, which were not detected (Table 4-8).

4.3 Screening-level Summary and Conclusions

Table 4-9 provides a summary of the results of the human health screening level comparisons by analyte, media, and study area. Numerous metals and radionuclides in multiple media exceeded human health screening levels. PCBs and organochlorine pesticides are not shown in Table 4-9 because no onsite data exist for these analytes.

4.4 Critical Assumptions to Assess Risks

This section summarizes critical assumptions that should be considered when further assessing human health risks. These assumptions are based on the information reviewed to develop this TM and also observations made and discussions held during a visit to the Halaco Site conducted by EPA and CH2M HILL project team members on July 26, 2007.

Exposure Scenarios

The Halaco Site is zoned industrial land use, while adjacent land use is miscellaneous resource protection and park (City of Oxnard, 2007). It is assumed that this land use will continue for the Halaco Site (11-acre Smelter parcel and 26-acre waste pile parcel) in the future. Therefore, the most likely scenario for the Site is industrial and the commercial/industrial scenario will be evaluated to be consistent with expected future land use. Additionally, the residential scenario (adult and child) should be evaluated to provide risk managers baseline information assuming current onsite and offsite conditions.

The recreational use exposure scenario should be evaluated for offsite exposure because of the open space and recreational use that surrounds the Site. The exposure frequency for recreational use will be low because of limited access. The trespasser scenario should be evaluated for onsite exposure.

Exposure Media

The following environmental media should be quantitatively evaluated in the assessment of human health risks: soils, sediment, groundwater, surface water, and air. Assumed exposure depths for soils should be from ground surface to 10 feet bgs. However, data from deeper intervals may need to be evaluated based on historical site operations and waste disposal activities.

The ingestion of fish is considered a possibly complete exposure pathway but likely not significant in the CSM because of the limited accessibility of the OID, lagoon, and wetlands area. Additionally, the sizes of the fish present are relatively small and not likely to be used for significant human food consumption.

The ingestion of produce is considered a possibly complete exposure pathway, but likely not significant in the CSM because the current onsite land use is industrial, and adjacent properties are either industrial or natural areas.

SECTION 5

References

AMEC (AMEC Earth & Environmental, Inc.). 2006. Final Report, Ormond Beach Wetland Restoration Site-Wide Soil/Surface Water Investigation. Prepared for Aspen Environmental Group, Agoura Hills, CA. November 2006.

Anderson, D. W., J. R. Jehl, Jr., R. W. Risebrough, L. A. Woods, Jr., L. R. Deweese, and W. G. Edgecomb. 1975. Brown Pelicans: Improved Reproduction Off the Southern California Coast. *Science.* 190:806-808.

Aulerich, R. J., R. K. Ringer, and M. R. Bleavins. 1982. Effects of supplemental dietary copper on growth, reproductive performance and kit survival of standard dark mink and the acute toxicity of copper to mink. *J. Animal Sci*. 55: 337-343.

Baes, C. F., R. D. Sharp, A. L. Sjoreen, and R. W. Shor. 1984. *A Review and Analysis of Parameters for Assessing Transport of Environmentally Released Radionuclides Through Agriculture*. ORNL-5786. Oak Ridge National Laboratory.

Batzli, G.O. and F.R. Cole. 1979. Nutritional ecology of microtine rodents: digestibility of forage. *J. Mammal*. 60 (4): 740-750.

Batzli, George O. and Frank A. Pitelka. 1971. "Condition and Diet of Cycling Populations of the California Vole, *Microtus californicus." J. Mammal.* 52(1):141-163.

Bechtel Jacobs Company. 1998a. *Empirical Models for the Uptake of Inorganic Chemicals from Soil by Plants*. BJC/OR-133. Oak Ridge, TN: U.S. Department of Energy.

Bechtel Jacobs Company. 1998b. *Biota-Sediment Accumulation Factors for Invertebrates: Review and Recommendations for the Oak Ridge Reservation*. BJC/OR-112. Oak Ridge, TN: Oak Ridge National Laboratory.

Beyer, W. N., E. Conner, and S. Gerould. 1994. Estimates of soil ingestion by wildlife. *J. Wildl. Manage*. 58: 375-382.

Buchmann, M. F. 1999. NOAA Screening Quick Reference Tables. NOAA HAZMAT Report 99-1. Seattle, WA. Coastal Protection and Restoration Division. National Oceanic and Atmospheric Administration. 12 pp.

Cain, B. W. and E. A. Pafford. 1981. Effects of dietary nickel on survival and growth of Mallard ducklings. *Arch. Environm. Contam. Toxicol*. 10: 737-745.

Calder, W. A. and E. J. Braun. 1983. Scaling of osmotic regulation in mammals and birds. *Am J Physiol* 224:R601-R606.

Carriere, D., K. Fischer, D. Peakall, and P. Angehrn. 1986. "Effects of Dietary Aluminum in Combination with reduced Calcium and Phosphorus on the Ring Dove (*Streptopelia risoria*)." *Water, Air, and Soil Poll*. 30: 757-764.

California Department of Fish and Game. 2007. Natural Diversity Database, Wildlife and Habitat Data Analysis Branch. Sacramento, CA.

California Department of Public Health – Drinking Water Program. 2007. *Maximum Contaminant Levels and Regulatory Dates for Drinking Water, U.S. EPA vs. California*. September 20.

CH2M HILL. 2007. Revised Work Plan for Halaco Site Remedial Investigation, No. 263-RIRI-09X6. Prepared for the United States Environmental Protection Agency, Region IX, San Francisco, CA. July 2007.

CH2M HILL. 2008. Preliminary Evaluation of the Sources, Nature, Extent, and Movement of Contamination in Surface Water and Groundwater, Halaco Site, Oxnard, California. December. Prepared for EPA.

City of Oxnard. 2007. *General Plan 2020*. City of Oxnard Planning and Environmental Services. March.

Coastal Conservancy. 2003. Ormond Beach Acquisitions, Project Summary. File No. 90-048. October 23, 2003.

Cockburn, A. and W. Z. Lidicker, Jr. 1983. "Microhabitat Heterogeneity and Population Ecology of an Herbivorous Rodent, *Microtus califonicus*." *Oecologia*. 59:167-177. 7.

Domingo, J. L., J. L. Paternain, and J. Corbella. 1985. J. "Effects of Cobalt on Postnatal Development and Late Gestation in Rats Upon Oral Administration." *Revista Espanola de Fisiologia* 41:293-296, 1985.

Domingo, J. L., J. L. Paternain, J. M. Llobet, and J. Corbella. 1986. "Effects of Vanadium on Reproduction, Gestation, Parturition and Lactation in Rats upon Oral Administration." *Life Sci*. 39: 819-824.

Downs, W. L, J. K. Scott, and L. T. Steadman. 1960. "Acute and Sub-acute Toxicity Studies of Thallium Compounds." *Am Ind Hyg Assoc J.* 21: 399-406.

Edens, F. W. and J. D. Garlich. 1983. Lead-induced egg production decrease in leghorn and Japanese quail hens. *Poult Sci* 62: 1757-1763.

EFA West (Engineering Field Activity, West). 1998. Development of toxicity reference values for conducting ecological risk assessments at Naval facilities in California, Interim Final. EFA West, Naval Facilities Engineering Command. United States Navy. San Bruno, California.

Efroymson, R. A., M. E. Will, G. W. Suter, II, and A. C. Wooten. 1997a. *Toxicological benchmarks for screening contaminants of potential concern for effects on terrestrial plants*: 1997 Revision, ES/ER/TM-85/R3. Oak Ridge National Laboratory, Oak Ridge, TN.

Efroymson, R. A., M. E. Will, and G. W. Suter, II. 1997b. *Toxicological benchmarks for screening contaminants of potential concern for effects on soil and litter invertebrates and heterotrophic process*: 1997 Revision, ES/ER/TM-126/R2. Oak Ridge National Laboratory, Oak Ridge, TN.

EPA—See U.S. Environmental Protection Agency

Field, L. J., D. D. MacDonald, S. B. Norton, C. G. Ingersoll, C. G. Severn, D. Smorong, and R. Lindskoog. 2002. Predicting Amphipod Toxicity from Sediment Chemistry using Logistic Regression Models. *Environ. Toxicol. Chem*. 21(9): 1993-2005.

Fitzhugh, O. G. 1948. "Use of DDT Insecticides on Food Products." *Ind. Eng. Chem.* 40: 704-705.

Fox Canyon Groundwater Management Agency. 2007. *Groundwater Management Plan*.

Harris, J. 1990. Ornate shrew. *Sorex ornatus.* pp. 12-13. In: Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White (editors). *California Wildlife. Vol. III. Mammals.* Calif. Dept. Fish and Game.

Haseltine, S. D., L. Sileo, D. J. Hoffman, and B. D. Mulhern. 1985. "Effects of Chromium on Reproduction and Growth in Black Ducks," Unpublished, Patuxent Wildlife Research Center, Laurel, Maryland.

Heinz, G. H. 1976. Methylmercury: second-year feeding effects on mallard reproduction and duckling behavior. *J Wildl Manage* 4: 82-90.

Heinz, G. H. and D. J. Hoffman. 1998. Methylmercury chloride and selenomethionine interactions on health and reproduction in mallards. *Environ Toxicol Chem* 17: 139-145.

Heinz, G. H., D. J. Hoffman, A. J. Krynitsky, and D. M. G. Weller. 1987. "Reproduction in Mallards Fed Selenium," *Environ. Toxicol. Chem.* 6:423-433.

Hill, C. H. 1979. "The effect of Dietary Protein Levels on Mineral Toxicity in Chicks." *J Nutr.* 109 (3): 501-7.

Impact Sciences, Inc. 1996. North Ormond Beach Flood Control Management Plan. Prepared for Ventura County Flood Control District, Ventura, CA.
International Atomic Energy Agency. 1992. Effects of Ionizing Radiation on Plants and Animals at Levels Implied by Current Radiation Protection Standards. Technical Reports Series 332. International Atomic Energy Agency, Vienna, Austria. 54 pp.

International Commission of Radiological Protection (ICRP). 1991. 1990 Recommendations of the International Commission of Radiological Protection. ICRP Publication 60. Ann. ICRP 21 (1-3), Pergamon Press, Oxford.

Ingersoll, C. G., P. S. Haverland, E. C. Brunsen, T. J. Canfield, F. J. Dwyer, C. E. Henke, N. E. Kemble, M. R. Mount, and R. G. Fox. 1996. Calculation and Evaluation of Sediment Effect Concentrations for the Amphipod *Hyalella azteca* and the Midge *Chironomus aiparius.* J. Great Lakes Research. 22(3):602-623.

Johnson, D., Jr., A. L. Mehring, Jr., and H. W. Titus. 1960. Tolerance of chickens for barium. *Proc. Soc. Exp. Biol. Med*. 104: 436-438.

Jones & Stokes (Jones & Stokes Associates, Inc). 1998. Results of a Biological Survey of an Approximately 309-acre Parcel at Ormond Beach, City of Oxnard, California. Prepared for the Metropolitan Water District of Southern California, Los Angeles, CA. July 24, 1998.

Kimmel, C. A., L. D. Grant, C. S. Sloan, and B. C. Gladen. 1980. "Chronic Low-Level Lead Toxicity in the Rat. I. Maternal Toxicity and Perinatal Effects." *Toxicol. Appl. Pharmacol*. 56: 28-41.

Laskey, J. W., G. L. Rehnberg, J. F. Hein, and S. D. Carter. 1982. "Effects of Chronic Manganese (MnO) Exposure on Selected Reproductive Parameters in Rats." *J. Toxicol. Environ. Health* 9: 34,677-34,687.

Laskey, J. W. and F. W. Edens. 1985. Effects of chronic high-level manganese exposure on male behavior in the Japanese Quail (*Cotirnix coturnix japonica*). *Poult. Sci*. 64: 579-584.

Leach, R. M., Jr., K. Wei-Li Wang, and D. E. Baker. 1979. Cadmium and the food chain: the effect of dietary cadmium on tissue composition in chicks and laying hens. *J. Nutr*. 109: 437-443.

Lepore, P. D. and R. F. Miller. 1965. Embryonic viability as influenced by excess molybdenum in chicken breeder diets. *Proc. Soc. Exp. Biol. Med.* 118: 155-157

Long, E. R. and L. G. Morgan. 1990. *The Potential for Biological Effects in Sediment-Sorbed Contaminants Tested in the National Status and Trends Program*. Technical Memorandum NOS OMA *52*. National Oceanic and Atmospheric Administration.

Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of adverse biological effects within ranges of chemical concentrations in marine and estuarine sediments. *Environmental Management* 19(1):81-97.

MacDonald, D. D., C. G. Ingersoll, and T. A. Berger. 2000. Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems. *Archives of Environmental Contamination and Toxicology* 39: 20-31.

Mackenzie, R. D., R. U. Byerrum, C. F. Decker, C. A. Hoppert, and R. F. Langham. 1958. "Chronic Toxicity Studies, II. Hexavalent and Trivalent Chromium Administered in Drinking Water to Rats." *Am. Med. Assoc. Arch. Ind. Health*. 18: 232-234.

Mehring, A. L., Jr., J. H. Brumbaugh, A. J. Sutherland, and H. W. Titus. 1960. The tolerance of growing chickens for dietary copper. *Poult. Sci*. 39: 713-719.

Nagy, K. A. 2001. "Food Requirements of wild Animals: Predictive Equations for Free-Living Mammals, Reptiles, and Birds." *Nutrition Abstracts and Reviews Series B: Livestock Feeds and Feeding.* Vol. 71, No. 10.

Nemec, M. D., J. F. Holson, C. H. Farr, and R. D. Hood. 1998. Developmental toxicity assessment of arsenic acid in mice and rabbits. *Reprod. Toxicol.* 12: 647-658.

NTP. 1994. NTP Technical Report on the Toxicology and Carcinogenesis Studies of Barium Chloride Dihydrate (CAS no.10326-27-9) in F344/N Rats and B6C3F1 Mice (Drinking Water Studies), Public Health Service, U.S. Department of Health and Human Services, NTP TR 432, National Toxicology Program Research Triangle Park, NC. NIH pub. no.94-3163, NTIS pub PB94-214178.

Ondreicka, R., E. Ginter, and J. Kortus. 1966. "Chronic Toxicity of Aluminum in Rats and Mice and its Effects on Phosphorus Metabolism." *Brit. J. Indust. Med*. 23: 305-313.

Oak Ridge National Laboratory. 2005. Oak Ridge National Laboratory Risk Assessment Information System (ORNL RAIS). 2005. http://risk.lsd.ornl.gov/cgi-bin/tox/TOX_select?select=nrad.

Persaud, D., R. Jaagumagi, and A. Hayton. 1993. Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario. Water Resources Branch, Ontario Ministry of the Environment. Toronto.

Philip Williams & Associates, Ltd. (PWA). 2007. Ormond Beach Wetland Restoration Feasibility Plan: Hydrologic and Geomorphic Conditions Report. September 26, 2007.

Phillips, J. 2007. Email Communication from J. Phillips, USFWS, to W. Praskins, EPA, concerning special-status species. February 14.Rosenfeld, I. and O. A. Beath. 1954. Effect of selenium on reproduction in rats. *Proc. Soc. Exp. Biol. Med.* 87: 295-297.

Rossi, F., R. Acampora, C. Vacca, S. Maione, M. G. Matera, R. Servodio, and E. Marmo. 1987. "Prenatal and Postnatal Antimony Exposure in Rats: Effect on Vasomotor Reactivity Development of Pups." *Teratog. Carcinog.Mutagen.* 7 (5): 491-496.

Rungby, J. and G. Danscher. 1984. Hypoactivity in Silver Exposed Mice. *Acta Pharmacolo. Et Toxicol*. 55:398-401, 1984.

Team 9. 2008. Summary report for the southeast smelter area, Halaco Site, Oxnard, California. Prepared for U.S. Environmental Protection Agency (EPA).

Sample, B. E., D. M. Opresko, and G. W Suter, II. 1996. *Toxicological Benchmarks for Wildlife*: 1996 Revision. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 227 pp, ES/ER/TM-86/R3.

Sample, B. E., J. Beauchamp, R. Efroymson, G. W. Suter, II, and T. L. Ashwood. 1998a. *Development and Validation of Literature-Based Bioaccumulation Models for Earth worms*. ES/ER/TM-220. Oak Ridge National Laboratory, Oak Ridge, TN.

Sample, B. E., J. Beauchamp, R. Efroymson, G. W. Suter, II, and T. L. Ashwood. 1998b. *Development and Validation of Literature-Based Bioaccumulation Models for Small Mammals*. ES/ER/TM-219. Oak Ridge National Laboratory, Oak Ridge, TN.

Sample, B. E., G. W. Suter, II, J. J. Beauchamp, and R. A. Efroymson. 1999. "Literature-Derived Bioaccumulation Models for Earthworms: Development and Validation." *Environ. Toxicol. Chem.* Vol. 18, No. 9. Pp. 2,110-2,120.

Sawyer, J.O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society.
Schlicker, S. A. and D. H. Cox. 1968. Maternal dietary zinc, and development and zinc, iron, and copper content of the rat fetus. *J. Nutr.* 95: 287-294.

Schroeder, H. A. and M. Mitchener. 1971. Toxic effects of trace elements on the reproduction of mice and rats. *Arch. Environ. Health.* 23: 102-106.

Schroeder, H. A. and M. Mitchener. 1975. Life-term studies in rats: effects of aluminum, barium, beryllium, and tungsten. *J. Nutr.* 105: 421-427.

Silva, M. and J. A. Downing. 1995. *CRC Handbook of Mammalian Body Masses*. CRC Press, Boca Raton, FL.

Skoryna, S. C. 1981. Effects of oral supplementation with stable strontium. *Can. Med. Assoc. J.* 125: 703-712.

Smith, G. J. and V. P. Anders. 1989. Toxic effects of boron on mallard reproduction. *Environ. Toxicol. Chem*. 8: 943-950.

Smith, M. K., E. L. George, J. A. Stober, H. A. Feng, and G. L. Kimmel. 1993. Perinatal toxicity associated with nickel chloride exposure. *Environ. Res.* 61:200-211.

Stahl, J. L., J. L. Greger, and M. E. Cook. 1990. Breeding-hen and progeny performance when hens are fed excessive dietary zinc. *Poult. Sci*. 69: 259-263.

Stanley, T. R., Jr., J. W. Spann, G. J. Smith, and R. Rosscoe. 1994. Main and interactive effects of arsenic and selenium on mallard reproduction and duckling growth and survival. *Arch Environ Contam Toxicol* 26: 444-451.

Steven, J. D., L. J. Davies, E. K. Stanley, R. A. Abbott, M. Ihnat, L. Bidstrup, and J. F. Jaworski. 1976. *Effects of Chromium in the Canadian Environment*, NRCC No. 151017, National Research Council of Canada, Ottawa, ON. 168 pp.

Suter, G.W., II. 1990. Endpoints for ecological risk assessments. *Environ. Manage.* 14:9-23.

Suter, G.W., II. 1993. *Ecological risk assessment*. Lewis Publishers, Chelsea, MI.

Suter, G. W., II, and C. L. Tsao. 1996. *Toxicological Benchmarks for Screening of Potential Contaminants of Concern for Effects on Aquatic Biota on Oak Ridge Reservation*: 1996 Revision. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 104 pp, ES/ER/ TM-96/R2.

Suter, G. W., II., R. A. Efroymson, B. E. Sample, and D. S. Jones. 2000. *Ecological Risk Assessment for Contaminated Sites*. Lewis Publishers, Boca Raton, Florida.

Thompson, B. C., J. A. Jackson, J. Burger, L. A. Hill, E. M. Kirsch, and J. L. Atwood. 1997. Least tern (*Sterna antillarum*). In: Poole, A. and F. Gill (editors). *The Birds of North America*, No. 290. The Academy of Natural Sciences, Philadelphia, and the American Ornithologists Union, Washington, D.C.

United Nations Scientific Committee on the Effects of Atomic Radiation. 1996. Sources and Effects of Ionizing Radiation. Report to the General Assembly, United Nations, New York, 17 pp + Annexes.

U.S. Army Center for Health Promotion and Preventive Medicine (USACPPM). 2004. Development of Terrestrial Exposure and Bioaccumulation Information for the Army Risk Assessment Modeling System (ARAMS). Contract No. DAAD050-00-P-8365. April, 2004.

U.S. Department of Energy (USDOE). 2002. A Graded Approach for Evaluating Radiation Doses to Aquatic and Terrestrial Biota. DOE-STD-1153-2002.

U.S. Department of Energy (USDOE). 2006. RASRAD-BIOTA for Windows version 1.21. Argonne National Laboratory, U.S. Department of Energy. Argonne, IL. May 11, 2006. URL: http://web.ead.anl.gov/resrad/home2/ biota.cfm

U. S. Environmental Protection Agency (EPA). 1997. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final. Office of Solid Waste and Emergency Response, Washington, D.C., EPA/540-R-97-005. June.

U. S. Environmental Protection Agency (EPA). 1989. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A). December.

U.S. Environmental Protection Agency (EPA). 1991a. "Ecological Assessment of Superfund Sites: an Overview." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 1, No. 2, Publication 9345.0-05I. December.

U.S. Environmental Protection Agency (EPA). 1991b. "The Role of the BTAGs in Ecological Assessment." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 1, No. 1, Publication 9345.0-05I, September.

U.S. Environmental Protection Agency (EPA). 1992a. *Framework for Ecological Risk Assessment, Risk Assessment Forum, EPA/630/R-92-001.* Washington, D.C.

U.S. Environmental Protection Agency (EPA). 1992b. "The Role of the Natural Resource Trustees in the Superfund Process." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 1, No. 3, Publication 9345.0-05I. March.

U.S. Environmental Protection Agency (EPA). 1992c. "Developing a Work Scope for Ecological Assessments." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 1, No. 4, Publication 9345.0-05I, May.

U.S. Environmental Protection Agency (EPA). 1992d. "Briefing the BTAG: Initial Description of Setting, History, and Ecology of a Site." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 1, No. 5, Publication 9345.0-05I. August.

U.S. Environmental Protection Agency (EPA). 1992e. *Dermal Exposure Assessment: Principles and Applications*. EPA/600/8-91-011B. Office of Health and Environmental Assessment. Washington, D.C.

U.S. Environmental Protection Agency (EPA). 1993. *Wildlife Exposure Factors Handbook. Volume I.* Office of Research and Development. Washington, DC. EPA/600/R-93/187a.

U.S. Environmental Protection Agency (EPA). 1994a. "Using Toxicity Tests in Ecological Risk Assessment." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 2, No. 1, Publication 9345.0-05I, EPA 540-F-94-012. September.

U.S. Environmental Protection Agency (EPA). 1994b. "Catalog of Standard Toxicity Tests for Ecological Risk Assessment." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 2, No. 2, Publication 9345.0-05I, EPA 540-F-94-013. September.

U.S. Environmental Protection Agency (EPA). 1994c. "Field Studies for Ecological Risk Assessment." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 2, No. 3, Publication 9345.0-05I, EPA 540-F-94-014. September.

U.S. Environmental Protection Agency (EPA). 1994d. "Selecting and Using Reference Information in Superfund Ecological Risk Assessments." Office of Solid Waste and

Emergency Response, *ECO Update*. Vol. 2, No. 4, Publication 9345.0-05I, EPA 540-F-94-050. September.

U.S. Environmental Protection Agency (EPA). 1996a. "Ecological Significance and Selection of Candidate Assessment Endpoints." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 3, No. 1, Publication 9345.0-05I, EPA 540/F-95/037. January.

U.S. Environmental Protection Agency (EPA). 1996b. "Ecotox Thresholds." Office of Solid Waste and Emergency Response, *ECO Update*. Vol. 3, No. 2, Publication 9345.0-05I, EPA 540/F-95/038. January.

U.S. Environmental Protection Agency (EPA). 1997. *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final*. Office of Solid Waste and Emergency Response. EPA 540-R-97-006. June.

U.S. Environmental Protection Agency (EPA). 1998. *Final Guidelines for Ecological Risk Assessment, Risk Assessment Forum.* U.S. EPA, Washington, D.C., EPA/630/R-95/002F. April.

U.S. Environmental Protection Agency (EPA). 1999a. *Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities*. Peer Review Draft. November.

U.S. Environmental Protection Agency (EPA). 1999b. *Ecological Risk Assessment and Risk Management Principles for Superfund Sites*. October 7, 1999. OSWER Directive 92857.7-28P.

U.S. Environmental Protection Agency (EPA). 2000a. Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule 40 CFR Part 131, Federal Register 65(97):31682-31719.

U.S. Environmental Protection Agency (EPA). 2000b. *Assessing Chemical Contaminant Data for Use in Fish Advisories, Volume 2, Risk Assessment and Fish Consumption Limits, 3rd Edition.*

U.S. Environmental Protection Agency (EPA). 2001. *The Role of Screening-Level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments*. Office of Solid Waste and Emergency Response, *ECO Update*. Intermittent Bulletin, Publication 9345.0-14, EPA 540/F-01/014. June.

U.S. Environmental Protection Agency (EPA). 2002. National Recommended Water Quality Criteria: 2002, EPA-822-R-02-047, Office of Water and Office of Science and Technology, U.S. Environmental Protection Agency, Washington, D.C.

U.S. Environmental Protection Agency (EPA). 2003a. Ecological Soil Screening Level for Aluminum. Interim Final. U.S. Environmental Protection Agency. OSWER Directive 9285.7-60. November.

U.S. Environmental Protection Agency (EPA). 2003b. Ecological Soil Screening Levels for Antimony. Interim Final, Office of Solid Waste and Emergency Response, Washington, D.C., OSWER Directive 9285.7-61. February.

U.S. Environmental Protection Agency (EPA). 2004. *User's Guide and Background Technical Document for US EPA Region 9 Preliminary Remediation Goals Table.* October.

U.S. Environmental Protection Agency (EPA). 2005a. Guidance for Developing Ecological Soil Screening Levels. Office of Solid Waste and Emergency Response, Washington, D.C., OSWER Directive 9285.7-55. March.

U.S. Environmental Protection Agency (EPA). 2005b. Ecological Soil Screening Levels for Cadmium. Interim Final, Office of Solid Waste and Emergency Response, Washington, D.C., OSWER Directive 9285.7-65. March.

U.S. Environmental Protection Agency (EPA). 2005c. Ecological Soil Screening Levels for Cobalt. Interim Final, Office of Solid Waste and Emergency Response, Washington, D.C., OSWER Directive 9285.7-67. March.

U.S. Environmental Protection Agency (EPA). 2006. National Recommended Water Quality Criteria. Office of Science and Technology. http://www.epa.gov/waterscience/criteria/nrwqc-2006.pdf

U.S. Environmental Protection Agency (EPA). 2007a. Ecological Soil Screening Levels (EcoSSL): Interim EcoSSL Documents. http://www.epa.gov/ecotox/ecossl. Accessed on September 5, 2007.

U.S. Environmental Protection Agency (EPA). 2007c. *National Primary Drinking Water Regulations.* September 10.

U.S. Environmental Protection Agency (EPA). 2007d. *Radionuclide Toxicity and Preliminary Remediation Goals for Superfund.* ORNL. November 13.

U.S. Fish and Wildlife Service. 2001. Western Snowy Plover (*Charadrius alexandrinus nivosus*) Pacific Coast Population Draft Recovery Plan. Portland, Oregon. xix + 630 pp.

U.S. Geological Survey. 2003. *Simulation of Ground-Water/Surface-Water Flow in the Santa Clara – Calleguas Water Basin, Ventura County, California*. Water-Resources Investigation Report 02-4136.

United Water Conservation District. 2004. 2003 Coastal Saline Intrusion Report, Oxnard Plain, Ventura County, California. August.

Verschuuren, H. G., R. Kroes, E. M. Den Tonkelaar, J. M. Berkvens, P. W. Helleman, A. G. Rauws, P. L. Schuller, and G. J. Van Esch. 1976. Toxicity of methyl mercury chloride in rats. II. Reproduction study. *Toxicol*. 6: 97-106.

Webster, W. S. 1978. Cadmium-induced fetal growth retardation in the mouse. *Arch. Environ. Health*. 33:36-43.

Weir, R. J., and R. S. Fisher. 1972. Toxicological studies on borax and boric acid. *Toxicol. Appl. Pharmacol*. 23: 351-364.

Weston Solutions, Inc. 2007. Integrated Assessment Halaco Engineering Company, Oxnard, California, Ventura County. EPA ID NO: CAD009688052. Prepared for the United States Environmental Protection Agency, Region 9. January 2007.

Wheelwright, N. T. and J. D. Rising. 1993. Savannah Sparrow (*Passerculus sandwichensis*). In The Birds of North America, No. 45 (A. Poole and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.

White, D.H. and M.P. Dieter. 1978. Effects of dietary vanadium in mallard ducks. *J. Toxicol. Environ. Health*. 4: 43-50.

WRA. 2007. Final Biological Assessment, Ormond Beach, Oxnard, Ventura County, California. Prepared For Aspen Environmental Group, Agoura Hills, CA. July, 2007.

Tables

TABLE 2-1

Summary Statistics and Results of Rank ANOVA of Metal (µg/L), and Radionuclide (pCi/L) Concentrations in Onsite and Potential Background Unfiltered Surface Water

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Type	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Aluminum	Poten. Bkgd[b]	6	7	86	112.9	0	22.8	287	B
Aluminum	Offsite[c]	2	2	2010	14.1	2000	2010	2020	A
Aluminum	onsite[u]	7	8	235	202.6	0	198.5	534	B
Antimony	Poten. Bkgd	1	4	24.05	11.9	6.2	30	30	A
Antimony	onsite	0	6	30	0	30	30	30	A
Arsenic	Poten. Bkgd	3	7	3.4	3.3	0	4.7	8	A
Arsenic	Offsite	0	2	0	0	0	0	0	A
Arsenic	onsite	3	8	4.1	2.6	0	5	6.9	A
Barium	Poten. Bkgd	7	7	42.9	14.0	28.2	37.1	64.2	A
Barium	Offsite	2	2	128.4	114.0	47.8	128.4	209	A
Barium	onsite	8	8	69.2	49.8	27.2	50.65	153	A
Beryllium	Poten. Bkgd	4	4	0.08	0.01	0.06	0.08	0.09	B
Beryllium	onsite	5	6	0.56	0.95	0.07	0.21	2.5	A
Cadmium	Poten. Bkgd	0	7	1.4	1.3	0	2.5	2.5	A
Cadmium	Offsite	0	2	0	0	0	0	0	A
Cadmium	onsite	2	8	1.3	1.2	0	1.455	2.5	A
Chromium	Poten. Bkgd	3	7	5.4	0.65	5	5	6.6	B
Chromium	Offsite	2	2	15.2	10.1	8.09	15.25	22.4	A
Chromium	onsite	2	8	5.2	0.5	5	5	6.4	B
Cobalt	Poten. Bkgd	0	4	25	0	25	25	25	A
Cobalt	onsite	0	6	25	0	25	25	25	A
Copper	Poten. Bkgd	4	7	3.1	2.9	0	5.2	5.7	A
Copper	Offsite	2	2	13.5	9.6	6.76	13.5	20.3	A
Copper	onsite	7	8	20.5	23.6	0	10.7	67.1	A
Iron	Poten. Bkgd	6	7	485	798	0	141	2230	B
Iron	Offsite	2	2	3410	14	3400	3410	3420	A
Iron	onsite	8	8	206	83	127	189	355	B
Lead	Poten. Bkgd	0	7	2.9	2.7	0	5	5	A
Lead	Offsite	0	2	0	0	0	0	0	A
Lead	onsite	0	8	3.8	2.3	0	5	5	A
Magnesium	Poten. Bkgd	7	7	197571	49169	140000	215000	270000	A
Magnesium	Offsite	2	2	180450	197354	40900	180450	320000	A
Magnesium	onsite	8	8	220750	83594	133000	196000	343000	A
Manganese	Poten. Bkgd	7	7	177.6	114.5	70.2	118	353	A
Manganese	Offsite	2	2	262.1	234.6	96.2	262.1	428	A
Manganese	onsite	8	8	277.15	339.5	92.4	139.5	1100	A
Mercury	Poten. Bkgd	0	3	0	0	0	0	0	A
Mercury	Offsite	0	2	0	0	0	0	0	A
Mercury	onsite	0	2	0	0	0	0	0	A
Nickel	Poten. Bkgd	4	7	2.3	2.2	0	3.6	4.5	A
Nickel	Offsite	1	2	11.5	16.2	0	11.45	22.9	A
Nickel	onsite	6	8	3.1	2.0	0	3.7	5.2	A
Selenium	Poten. Bkgd	0	3	0	0	0	0	0	A
Selenium	Offsite	0	2	0	0	0	0	0	A
Selenium	onsite	0	2	0	0	0	0	0	A
Silver	Poten. Bkgd	0	7	2.86	2.67	0	5	5	A
Silver	Offsite	0	2	0	0	0	0	0	A
Silver	onsite	0	8	3.75	2.31	0	5	5	A
Vanadium	Poten. Bkgd	4	4	1.04	0.42	0.63	0.96	1.6	A
Vanadium	onsite	4	6	9.22	12.23	0.83	1.65	25	A
Zinc	Poten. Bkgd	6	7	14.96	15.36	0	11.8	46.7	A
Zinc	Offsite	2	2	27.45	6.72	22.7	27.45	32.2	A
Zinc	onsite	8	8	53.96	71.95	12.3	32.95	229	A
Cs-137	Poten. Bkgd	0	4	1.51	0.15	1.355	1.52	1.65	A
Cs-137	onsite	0	6	1.56	0.12	1.405	1.545	1.78	A
K-40	Poten. Bkgd	2	4	28.48	17.97	12.4	28	45.5	A
K-40	onsite	3	6	103.03	103.60	22.4	54.0	264	A
Th-228	Poten. Bkgd	0	4	0.37	0.17	0.20	0.34	0.61	A

TABLE 2-1

Summary Statistics and Results of Rank ANOVA of Metal (µg/L), and Radionuclide (pCi/L) Concentrations in Onsite and Potential Background Unfiltered Surface Water

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Type	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Th-228	onsite	0	6	0.42	0.14	0.26	0.38	0.69	A
Th-230	Poten. Bkgd	0	4	0.17	0.10	0.10	0.13	0.32	B
Th-230	onsite	0	6	0.29	0.10	0.20	0.27	0.45	A
Th-232	Poten. Bkgd	0	4	0.18	0.11	0.12	0.13	0.34	A
Th-232	onsite	0	6	0.25	0.07	0.16	0.24	0.34	A

Notes:

highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd

[a]Rows with same letter are not significantly different as determined by ANOVA on rank-transformed concentrations

[b]Potential background samples from OID or Hueneme Drain upstream of site

[c]Offsite samples from wetland on NCL east of site

[d]Onsite samples from OID or lagoon within or downstream of site

TABLE 2-2

Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite and Potential Background Sediments

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Aluminum	OID	Poten. Bkgd[b]	6	6	2796	2975	246	1665	8580	B
Aluminum	OID	onsite	10	10	14249	12981	1960	11800	47000	A
Aluminum	Wetland	Poten. Bkgd	7	7	3509	1353	1510	3210	5810	B
Aluminum	Wetland	onsite	6	6	154400	48770	96400	161000	205000	A
Aluminum	Beach	Poten. Bkgd	6	6	1525	149	1350	1500	1760	B
Aluminum	Beach	onsite	6	6	2035	305	1750	1990	2510	A
Aluminum	Marine	Poten. Bkgd	6	6	5127	1668	3440	4870	8120	A
Aluminum	Marine	onsite	6	6	4173	718	3350	4230	5360	A
Antimony	OID	Poten. Bkgd	0	6	4.025	0.14	3.8	4.025	4.2	A
Antimony	OID	onsite	1	10	4.72	1.31	2.2	4.875	7.15	A
Antimony	Wetland	Poten. Bkgd	1	7	2.71	1.70	0	3.2	4.25	B
Antimony	Wetland	onsite	3	6	7.65	2.62	4.5	7.225	11.8	A
Antimony	Beach	Poten. Bkgd	1	6	3.62	1.27	3.1	3.1	6.2	A
Antimony	Beach	onsite	0	6	3.1	0	3.1	3.1	3.1	A
Antimony	Marine	Poten. Bkgd	0	6	3.91	0.04	3.85	3.9	3.95	A
Antimony	Marine	onsite	0	6	3.91	0.07	3.8	3.925	4	A
Arsenic	OID	Poten. Bkgd	4	6	2.23	3.44	0.54	0.695	9.2	B
Arsenic	OID	onsite	10	10	4.693	3.39	0.93	4.55	11.9	A
Arsenic	Wetland	Poten. Bkgd	6	7	1.51	0.66	0.7	1.6	2.53	A
Arsenic	Wetland	onsite	5	6	3.08	2.36	1.05	2.4	7.1	A
Arsenic	Beach	Poten. Bkgd	6	6	1.83	0.53	1.1	2	2.5	B
Arsenic	Beach	onsite	6	6	3.62	1.07	2	3.7	4.8	A
Arsenic	Marine	Poten. Bkgd	6	6	4.68	1.73	2.7	4.3	7.2	A
Arsenic	Marine	onsite	6	6	2.78	0.60	2.1	2.75	3.5	B
Barium	OID	Poten. Bkgd	6	6	44.1	52.95	0.35	25.85	147	B
Barium	OID	onsite	10	10	769.2	1056.22	39.9	321	2970	A
Barium	Wetland	Poten. Bkgd	7	7	213.3	244.04	22	124	748	B
Barium	Wetland	onsite	6	6	2713.3	1221.60	1310	2530	4620	A
Barium	Beach	Poten. Bkgd	6	6	39.7	12.43	26.9	37.45	57.2	B
Barium	Beach	onsite	6	6	226.0	77.87	81.9	249.5	297	A
Barium	Marine	Poten. Bkgd	6	6	156.5	96.55	79.3	121	332	A
Barium	Marine	onsite	6	6	92.8	44.80	46.1	85.9	154	A
Beryllium	OID	Poten. Bkgd	6	6	0.20	0.16	0.081	0.15	0.51	B
Beryllium	OID	onsite	10	10	2.76	3.39	0.15	1.5	10.3	A
Beryllium	Wetland	Poten. Bkgd	6	6	0.82	1.00	0.11	0.445	2.8	B
Beryllium	Wetland	onsite	6	6	10.93	4.52	7.1	10	19.7	A
Beryllium	Beach	Poten. Bkgd	0	6	0.26	0.00	0.255	0.26	0.26	A
Beryllium	Beach	onsite	3	6	0.29	0.12	0.2	0.26	0.52	A
Beryllium	Marine	Poten. Bkgd	6	6	0.29	0.09	0.2	0.27	0.46	A
Beryllium	Marine	onsite	6	6	0.22	0.03	0.18	0.22	0.27	A
Cadmium	OID	Poten. Bkgd	5	6	0.53	0.26	0.335	0.39	0.98	A
Cadmium	OID	onsite	10	10	1.02	0.81	0.07	0.835	2.9	A
Cadmium	Wetland	Poten. Bkgd	7	7	0.59	0.27	0.19	0.57	1	B
Cadmium	Wetland	onsite	6	6	7.12	5.42	3.1	4.75	17	A
Cadmium	Beach	Poten. Bkgd	0	6	0.26	0.00	0.255	0.2575	0.26	A
Cadmium	Beach	onsite	5	6	0.20	0.16	0.04	0.19	0.46	A
Cadmium	Marine	Poten. Bkgd	4	6	0.23	0.15	0.04	0.2375	0.42	A
Cadmium	Marine	onsite	5	6	0.34	0.07	0.3	0.315	0.48	A
Calcium	OID	Poten. Bkgd	5	5	28044	25329	222	18800	64100	A
Calcium	OID	onsite	10	10	53724	52732	5910	42050	176000	A
Calcium	Wetland	Poten. Bkgd	6	6	12480	5667	6790	10725	20100	A
Calcium	Wetland	onsite	6	6	5527	1688	3230	5905	7080	B
Calcium	Beach	Poten. Bkgd	6	6	5345	709	4410	5285	6330	B
Calcium	Beach	onsite	6	6	12248	3230	7470	13300	15700	A
Calcium	Marine	Poten. Bkgd	6	6	11937	4979	8200	10200	21700	A
Calcium	Marine	onsite	6	6	10122	1298	8630	9990	11800	A
Chromium	OID	Poten. Bkgd	5	6	5.5	5.65	0.65	3.2	16.2	B
Chromium	OID	onsite	10	10	31.1	28.80	5.7	26.1	108	A
Chromium	Wetland	Poten. Bkgd	7	7	8.5	4.23	3.7	7.4	17.2	B
Chromium	Wetland	onsite	6	6	325.3	131.46	166	312	503	A
Chromium	Beach	Poten. Bkgd	6	6	4.1	0.59	3.4	4.1	4.9	B
Chromium	Beach	onsite	6	6	11.1	4.23	5.7	10.35	18.3	A

TABLE 2-2

Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite and Potential Background Sediments

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Chromium	Marine	Poten. Bkgd	6	6	11.6	3.82	8.1	10.9	18.9	A
Chromium	Marine	onsite	6	6	9.6	1.40	7.8	9.7	11.8	A
Cobalt	OID	Poten. Bkgd	5	6	2.9	2.20	1.2	2.3	7.1	B
Cobalt	OID	onsite	10	10	6.6	3.94	1.3	6.65	11.9	A
Cobalt	Wetland	Poten. Bkgd	6	6	2.4	0.68	1.3	2.45	3	B
Cobalt	Wetland	onsite	6	6	9.8	2.15	7	10.35	12.2	A
Cobalt	Beach	Poten. Bkgd	6	6	1.2	0.10	1.1	1.2	1.4	B
Cobalt	Beach	onsite	6	6	2.3	0.46	1.6	2.25	2.8	A
Cobalt	Marine	Poten. Bkgd	6	6	4.1	1.28	2.7	3.85	6.4	A
Cobalt	Marine	onsite	6	6	3.0	0.48	2.4	3.05	3.7	B
Copper	OID	Poten. Bkgd	6	6	12.3	10.03	4.5	7.65	30.2	B
Copper	OID	onsite	10	10	169.0	251.65	13.3	74.8	854	A
Copper	Wetland	Poten. Bkgd	7	7	24.5	24.21	3.5	18.3	76.5	B
Copper	Wetland	onsite	6	6	3850.0	1629.60	2120	3705	5960	A
Copper	Beach	Poten. Bkgd	6	6	2.1	0.26	1.7	2	2.4	B
Copper	Beach	onsite	6	6	3.2	0.42	2.5	3.25	3.6	A
Copper	Marine	Poten. Bkgd	6	6	5.6	1.91	3.8	5.3	9.2	A
Copper	Marine	onsite	6	6	4.1	0.44	3.7	3.95	4.9	B
Iron	OID	Poten. Bkgd	5	5	6554	7431	1.4	4000	19200	B
Iron	OID	onsite	10	10	17330	11139	3700	17200	39400	A
Iron	Wetland	Poten. Bkgd	6	6	6735	1843	3690	6980	9080	B
Iron	Wetland	onsite	6	6	10983	3480	8190	9985	17400	A
Iron	Beach	Poten. Bkgd	6	6	4053	455	3430	3935	4630	B
Iron	Beach	onsite	6	6	8208	1714	5170	8565	9740	A
Iron	Marine	Poten. Bkgd	6	6	12352	3725	7900	12400	18800	A
Iron	Marine	onsite	6	6	9522	1586	7840	9620	11900	A
Lead	OID	Poten. Bkgd	6	6	7.7	8.20	2.4	3.25	23.2	B
Lead	OID	onsite	10	10	40.2	43.49	3.4	26.8	139	A
Lead	Wetland	Poten. Bkgd	7	7	21.1	10.78	4.3	18.3	35	B
Lead	Wetland	onsite	6	6	415.7	211.50	164	389	736	A
Lead	Beach	Poten. Bkgd	6	6	1.6	0.25	1.2	1.6	1.8	B
Lead	Beach	onsite	6	6	4.2	1.09	2.5	4.5	5.4	A
Lead	Marine	Poten. Bkgd	6	6	4.7	1.96	2.8	4.35	8.2	A
Lead	Marine	onsite	6	6	3.8	0.98	2.5	3.8	4.9	A
Magnesium	OID	Poten. Bkgd	5	6	2452	2311	334.5	1565	6680	B
Magnesium	OID	onsite	10	10	14862	15300	1400	9860	52400	A
Magnesium	Wetland	Poten. Bkgd	7	7	3623	2329	1930	2910	8720	B
Magnesium	Wetland	onsite	6	6	51500	21292	22000	62600	69900	A
Magnesium	Beach	Poten. Bkgd	6	6	1268	126	1140	1260	1420	B
Magnesium	Beach	onsite	6	6	1700	222	1420	1745	2000	A
Magnesium	Marine	Poten. Bkgd	6	6	4137	1298	2880	3845	6510	A
Magnesium	Marine	onsite	6	6	3422	527	2680	3440	4300	A
Manganese	OID	Poten. Bkgd	6	6	191.3	200.5	0.11	111.75	555	B
Manganese	OID	onsite	10	10	594.1	454.9	68.6	446.5	1450	A
Manganese	Wetland	Poten. Bkgd	7	7	208.3	96.3	55.1	200	322	B
Manganese	Wetland	onsite	6	6	1813.2	699.3	879	1685	2980	A
Manganese	Beach	Poten. Bkgd	6	6	61.2	7.4	49.5	62	70.1	B
Manganese	Beach	onsite	6	6	99.2	17.2	74.6	100.25	120	A
Manganese	Marine	Poten. Bkgd	6	6	173.8	56.0	119	166.5	274	A
Manganese	Marine	onsite	6	6	138.5	24.5	114	136.5	180	A
Mercury	OID	Poten. Bkgd	0	5	0.07	0.00	0.065	0.065	0.07	A
Mercury	OID	onsite	3	10	0.08	0.02	0.043	0.0795	0.12	A
Mercury	Wetland	Poten. Bkgd	3	7	0.06	0.03	0.0237	0.06	0.11	A
Mercury	Wetland	onsite	2	6	0.10	0.05	0.055	0.0925	0.19	A
Mercury	Beach	Poten. Bkgd	4	6	0.07	0.02	0.05	0.058	0.098	B
Mercury	Beach	onsite	6	6	0.21	0.09	0.075	0.21	0.34	A
Mercury	Marine	Poten. Bkgd	0	6	0.07	0	0.065	0.065	0.065	A
Mercury	Marine	onsite	1	6	0.12	0.14	0.065	0.065	0.42	A
Nickel	OID	Poten. Bkgd	6	6	6.28	6.42	0.37	3.95	18.4	B
Nickel	OID	onsite	10	10	25.29	19.49	5	21.75	73.4	A
Nickel	Wetland	Poten. Bkgd	7	7	7.92	2.74	3.6	7.8	12.2	B
Nickel	Wetland	onsite	6	6	166.80	68.26	81.8	167	244	A

TABLE 2-2

Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite and Potential Background Sediments

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Nickel	Beach	Poten. Bkgd	6	6	3.70	0.30	3.4	3.65	4.1	B
Nickel	Beach	onsite	6	6	5.42	0.86	4.4	5.3	6.6	A
Nickel	Marine	Poten. Bkgd	6	6	10.62	3.12	7.6	10.1	16.3	A
Nickel	Marine	onsite	6	6	8.87	1.21	7.1	8.75	10.7	A
Potassium	OID	Poten. Bkgd	4	5	1264	1170.27	334.5	646	3200	A
Potassium	OID	onsite	10	10	3724	2696.30	488	3440	8440	A
Potassium	Wetland	Poten. Bkgd	6	6	1263	434.34	528	1295	1790	B
Potassium	Wetland	onsite	6	6	4873	3012.47	2710	3995	10700	A
Potassium	Beach	Poten. Bkgd	6	6	424	40.02	375	423	486	B
Potassium	Beach	onsite	6	6	482	49.13	434	474.5	571	A
Potassium	Marine	Poten. Bkgd	6	6	1963	638.58	1340	1785	3150	A
Potassium	Marine	onsite	6	6	1558	299.16	1120	1575	2000	A
Selenium	OID	Poten. Bkgd	1	5	3.2	1.81	2.2	2.45	6.4	A
Selenium	OID	onsite	0	10	2.9	0.58	2.25	2.85	4.2	A
Selenium	Wetland	Poten. Bkgd	1	7	1.7	0.85	0	1.8	2.5	B
Selenium	Wetland	onsite	5	6	3.8	1.40	1.8	4.35	5.1	A
Selenium	Beach	Poten. Bkgd	0	6	1.8	0	1.8	1.8	1.8	A
Selenium	Beach	onsite	0	6	1.8	0	1.8	1.8	1.8	A
Selenium	Marine	Poten. Bkgd	0	6	2.3	0.02	2.25	2.3	2.3	A
Selenium	Marine	onsite	0	6	2.3	0.03	2.25	2.3	2.3	A
Silver	OID	Poten. Bkgd	1	6	1.24	1.40	0.65	0.675	4.1	A
Silver	OID	onsite	0	10	0.82	0.17	0.65	0.8	1.2	A
Silver	Wetland	Poten. Bkgd	1	7	0.53	0.18	0.175	0.55	0.7	B
Silver	Wetland	onsite	0	6	0.81	0.19	0.55	0.775	1.05	A
Silver	Beach	Poten. Bkgd	0	6	0.50	0	0.5	0.5	0.5	A
Silver	Beach	onsite	0	6	0.50	0	0.5	0.5	0.5	A
Silver	Marine	Poten. Bkgd	0	6	0.65	0	0.65	0.65	0.65	A
Silver	Marine	onsite	0	6	0.65	0	0.65	0.65	0.65	A
Sodium	OID	Poten. Bkgd	4	5	2355	2377.79	334.5	1300	6370	A
Sodium	OID	onsite	10	10	5659	4302.70	936	4690	11900	A
Sodium	Wetland	Poten. Bkgd	0	6	303	41.00	252.5	301	354	B
Sodium	Wetland	onsite	5	6	3215	3486.34	271.5	1700	9680	A
Sodium	Beach	Poten. Bkgd	6	6	611	67.13	514	623	681	B
Sodium	Beach	onsite	6	6	699	61.13	625	702	789	A
Sodium	Marine	Poten. Bkgd	6	6	5283	1882.05	3980	4565	8920	A
Sodium	Marine	onsite	6	6	4305	640.21	3580	4155	5460	A
Thallium	OID	Poten. Bkgd	2	5	1.7	0.50	1	1.7	2.4	A
Thallium	OID	onsite	3	10	1.8	0.52	1.2	1.725	3	A
Thallium	Wetland	Poten. Bkgd	0	6	1.5	0.23	1.25	1.45	1.75	A
Thallium	Wetland	onsite	2	6	2.7	1.96	0.85	2.25	6.5	A
Thallium	Beach	Poten. Bkgd	0	6	1.3	0	1.3	1.3	1.3	A
Thallium	Beach	onsite	0	6	1.3	0	1.3	1.3	1.3	A
Thallium	Marine	Poten. Bkgd	0	6	1.6	0.02	1.6	1.65	1.65	A
Thallium	Marine	onsite	0	6	1.6	0.03	1.6	1.65	1.65	A
Vanadium	OID	Poten. Bkgd	6	6	10.7	10.27	4.8	6	31	B
Vanadium	OID	onsite	10	10	31.7	19.75	6.5	31.1	59.8	A
Vanadium	Wetland	Poten. Bkgd	6	6	10.9	3.17	6	10.9	14.2	B
Vanadium	Wetland	onsite	6	6	59.8	16.50	41.1	61.55	83	A
Vanadium	Beach	Poten. Bkgd	6	6	6.1	0.71	5.1	6.15	7.1	B
Vanadium	Beach	onsite	6	6	14.9	4.23	7.7	15.7	19.4	A
Vanadium	Marine	Poten. Bkgd	6	6	21.4	7.28	13.6	20.95	34.9	A
Vanadium	Marine	onsite	6	6	15.9	2.28	13.1	15.9	19	A
Zinc	OID	Poten. Bkgd	6	6	80	57.31	2.2	83.8	136	B
Zinc	OID	onsite	10	10	322	409.31	28.8	246	1450	A
Zinc	Wetland	Poten. Bkgd	7	7	63	39.40	17.4	50.4	138	B
Zinc	Wetland	onsite	6	6	3050	1287.43	1860	2765	5210	A
Zinc	Beach	Poten. Bkgd	6	6	9	1.06	7.8	8.8	10.5	B
Zinc	Beach	onsite	6	6	13	2.12	10.4	12.35	15.8	A
Zinc	Marine	Poten. Bkgd	6	6	31	10.01	21	29.05	49.4	A
Zinc	Marine	onsite	6	6	25	4.13	19.5	24.9	31.7	A
Chlordane	Wetland	Poten. Bkgd	0	1	0		0	0	0	na
p,p-DDD	Wetland	Poten. Bkgd	1	1	12		12	12	12	na

TABLE 2-2

Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite and Potential Background Sediments

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
p,p-DDE	Wetland	Poten. Bkgd	1	1	110		110	110	110	na
p,p-DDT	Wetland	Poten. Bkgd	1	1	126		126	126	126	na
Dieldrin	Wetland	Poten. Bkgd	0	1	0		0	0	0	na
Total DDTs	Wetland	Poten. Bkgd	1	1	248		248	248	248	na
Total PCBs	Wetland	Poten. Bkgd	0	1	0		0	0	0	na
Toxaphene	Wetland	Poten. Bkgd	1	1	780		780	780	780	na
Cs-137	OID	Poten. Bkgd	0	6	0.02	0.01	0.02	0.02	0.03	A
Cs-137	OID	onsite	0	10	0.03	0.01	0.02	0.03	0.06	A
Cs-137	Wetland	Poten. Bkgd	2	6	0.04	0.02	0.01	0.03	0.06	A
Cs-137	Wetland	onsite	0	6	0.04	0.02	0.02	0.03	0.06	A
Cs-137	Beach	Poten. Bkgd	0	6	0.02	0.00	0.02	0.02	0.02	B
Cs-137	Beach	onsite	1	6	0.04	0.02	0.03	0.04	0.09	A
Cs-137	Marine	Poten. Bkgd	0	6	0.04	0.01	0.02	0.03	0.06	A
Cs-137	Marine	onsite	0	6	0.03	0.00	0.02	0.03	0.03	A
K-40	OID	Poten. Bkgd	6	6	28.70	11.66	21.40	24.35	51.90	A
K-40	OID	onsite	10	10	21.95	2.47	18.00	22.30	26.30	A
K-40	Wetland	Poten. Bkgd	6	6	25.42	9.81	20.60	21.50	45.40	A
K-40	Wetland	onsite	6	6	16.53	11.96	7.20	10.35	36.80	A
K-40	Beach	Poten. Bkgd	6	6	18.90	1.58	17.20	18.70	21.20	A
K-40	Beach	onsite	6	6	12.22	2.01	10.40	11.35	15.60	B
K-40	Marine	Poten. Bkgd	6	6	28.80	8.59	23.80	25.00	45.80	A
K-40	Marine	onsite	6	6	24.05	1.10	22.50	24.05	25.20	A
Th-228	OID	Poten. Bkgd	3	6	0.63	0.52	0.19	0.53	1.47	A
Th-228	OID	onsite	10	10	1.20	0.54	0.12	1.30	2.04	A
Th-228	Wetland	Poten. Bkgd	5	6	0.66	0.38	0.20	0.67	1.26	B
Th-228	Wetland	onsite	5	6	1.34	0.66	0.70	1.22	2.55	A
Th-228	Beach	Poten. Bkgd	0	6	0.29	0.13	0.16	0.24	0.51	B
Th-228	Beach	onsite	6	6	1.33	0.72	0.64	1.19	2.72	A
Th-228	Marine	Poten. Bkgd	6	6	1.20	0.77	0.29	0.99	2.48	A
Th-228	Marine	onsite	6	6	0.87	0.57	0.38	0.71	1.87	A
Th-230	OID	Poten. Bkgd	4	6	0.54	0.34	0.20	0.49	0.98	A
Th-230	OID	onsite	10	10	1.24	0.76	0.19	1.07	2.43	A
Th-230	Wetland	Poten. Bkgd	5	6	0.71	0.59	0.17	0.53	1.84	A
Th-230	Wetland	onsite	4	6	0.76	0.59	0.15	0.49	1.61	A
Th-230	Beach	Poten. Bkgd	2	6	0.24	0.08	0.10	0.26	0.33	B
Th-230	Beach	onsite	5	6	0.54	0.30	0.16	0.51	0.89	A
Th-230	Marine	Poten. Bkgd	6	6	0.80	0.47	0.45	0.64	1.70	A
Th-230	Marine	onsite	6	6	0.60	0.14	0.44	0.56	0.78	A
Th-232	OID	Poten. Bkgd	4	6	0.70	0.63	0.14	0.58	1.75	A
Th-232	OID	onsite	10	10	1.09	0.53	0.23	1.09	1.78	A
Th-232	Wetland	Poten. Bkgd	5	6	0.63	0.36	0.23	0.50	1.17	A
Th-232	Wetland	onsite	5	6	0.98	0.76	0.35	0.78	2.46	A
Th-232	Beach	Poten. Bkgd	3	6	0.30	0.13	0.14	0.28	0.50	B
Th-232	Beach	onsite	6	6	1.45	1.13	0.53	1.17	3.67	A
Th-232	Marine	Poten. Bkgd	6	6	1.11	0.40	0.67	1.00	1.70	A
Th-232	Marine	onsite	6	6	0.82	0.55	0.30	0.68	1.71	A

Notes:

[a]Rows with same letter are not significantly different as determined by ANOVA on rank-transformed concentrations

[b]Potential Background

Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd

TABLE 2-3
Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite, Potential Background, and Adjacent Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Aluminum	Smelter-w[b]	2	2	25000	1414	24000	25000	26000	ABC
Aluminum	Smelter-s[c]	40	40	44136	44074	5550	30400	197000	ABC
Aluminum	WDA-w	4	4	78500	44079	27000	83500	120000	A
Aluminum	WMU-w	35	35	117606	67618	7800	120000	290000	A
Aluminum	NCL-east	12	12	62938	56279	3790	73250	174000	AB
Aluminum	NCL-North	4	4	4890	1017	4220	4475	6390	C
Aluminum	Ag-North	3	3	6980	144	6820	7020	7100	BC
Aluminum	Ag-East	5	5	4886	581	4300	4900	5650	C
Aluminum	RES	2	2	7960	5148	4320	7960	11600	BC
Aluminum	Poten. Bkgd[u]-s	9	9	10177	3443	3390	10200	16400	BC
Antimony	Smelter-w		2	6	0	6	6	6	AB
Antimony	Smelter-s	35	40	16.2	24.9	0	10.455	155	A
Antimony	WDA-w		4	5.75	0.5	5.5	5.5	6.5	AB
Antimony	WMU-w	1	35	8.6	2.3	5.5	8.5	18	A
Antimony	NCL-east	7	12	3.2	2.6	0	3.85	6.7	AB
Antimony	NCL-North		4	0	0	0	0	0	BC
Antimony	Ag-North		3	2.1	1.8	0	3.1	3.1	BC
Antimony	Ag-East		5	0	0	0	0	0	BC
Antimony	RES		2	3.5	0.7	3	3.525	4.05	AB
Antimony	Poten. Bkgd-s	2	9	3.2	1.4	0	3.25	5.23	AB
Arsenic	Smelter-w	1	2	1.2	0.78	0.6	1.15	1.7	B
Arsenic	Smelter-s	38	39	18.8	25.18	0.276	15	161	A
Arsenic	WDA-w	4	4	5.6	2.39	2.3	6.3	7.5	AB
Arsenic	WMU-w	31	35	8.1	5.09	0.85	7.8	20	AB
Arsenic	NCL-east	12	12	3.8	2.41	0.54	3.11	9.7	AB
Arsenic	NCL-North	4	4	2.9	0.47	2.43	2.845	3.29	AB
Arsenic	Ag-North	3	3	3.5	0.15	3.3	3.5	3.6	AB
Arsenic	Ag-East	5	5	2.8	0.39	2.45	2.74	3.43	AB
Arsenic	RES	2	2	3.7	1.70	2.5	3.7	4.9	AB
Arsenic	Poten. Bkgd-s	9	9	4.4	1.94	2.04	4.4	7.75	AB
Barium	Smelter-w	2	2	645	473.8	310	645	980	ABC
Barium	Smelter-s	40	40	4073.1	3643.2	47.3	3765	14900	AB
Barium	WDA-w	4	4	15100	22607.7	3200	4100	49000	A
Barium	WMU-w	35	35	6986.3	5820.5	130	5100	19000	A
Barium	NCL-east	12	12	1597.7	1783.8	55	1520	6190	ABC
Barium	NCL-North	4	4	67.1	13.7	57.1	62	87.3	C
Barium	Ag-North	3	3	100.6	4.7	95.7	101	105	BC
Barium	Ag-East	5	5	79.8	43.2	50.4	62.5	156	C
Barium	RES	2	2	136.3	60.5	93.5	136.25	179	BC
Barium	Poten. Bkgd-s	9	9	157.3	84.7	51	151	333	BC
Beryllium	Smelter-w	2	2	95	35.4	70	95	120	A
Beryllium	Smelter-s	39	39	24.0	35.3	0.23	18.1	214	ABC
Beryllium	WDA-w	4	4	6784.5	13477.0	22	58	27000	A
Beryllium	WMU-w	35	35	40.0	41.4	0.39	24	170	AB
Beryllium	NCL-east	8	8	9.5	4.5	1.5	9.3	15.9	BC
Beryllium	Ag-North	2	2	0.42	0	0.42	0.42	0.42	C
Beryllium	RES		2	0.3	0.1	0.25	0.295	0.34	C
Beryllium	Poten. Bkgd-s	7	8	0.6	0.3	0.275	0.575	1.27	C
Boron	Smelter-w	2	2	49.5	44.5	18	49.5	81	B
Boron	Smelter-s	1	1	250		250	250	250	A
Boron	WDA-w	4	4	70.5	57.7	12	60	150	B
Boron	WMU-w	35	35	167.2	64.9	12	180	270	AB
Boron	NCL-east	0	0						
Boron	Ag-North	0	0						
Boron	RES	0	0						
Boron	Poten. Bkgd-s	0	0						
Cadmium	Smelter-w	1	2	0.45	0.2	0.3	0.445	0.59	C
Cadmium	Smelter-s	37	40	8.28	13.7	0	3.53	64.7	ABC

TABLE 2-3
Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite, Potential Background, and Adjacent Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Cadmium	WDA-w	4	4	9.17	11.4	0.56	5.05	26	AB
Cadmium	WMU-w	35	35	5.23	2.6	0.58	5.1	15	A
Cadmium	NCL-east	12	12	2.80	2.3	0.354	3	6	ABC
Cadmium	NCL-North	4	4	0.46	0.1	0.347	0.4115	0.65	C
Cadmium	Ag-North	3	3	0.96	0.4	0.58	1	1.3	ABC
Cadmium	Ag-East	5	5	0.54	0.2	0.344	0.416	0.866	C
Cadmium	RES	2	2	0.64	0.2	0.5	0.64	0.78	BC
Cadmium	Poten. Bkgd-s	9	9	1.09	0.6	0.18	1.1	1.87	ABC
Calcium	Smelter-w	2	2	5500	141.4	5400	5500	5600	A
Calcium	Smelter-s	6	6	18700	12788.1	5700	14950	41000	A
Calcium	WDA-w	4	4	15625	11884.0	6500	11500	33000	A
Calcium	WMU-w	35	35	8025.71	13636.1	1600	5300	84000	A
Calcium	NCL-east	8	8	11552.5	6259.5	2550	9580	21000	A
Calcium	Ag-North	2	2	7545	233.3	7380	7545	7710	A
Calcium	RES	2	2	9245	3754.7	6590	9245	11900	A
Calcium	Poten. Bkgd-s	6	6	8205	2032.7	4630	8535	10700	A
Chromium	Smelter-w	2	2	21	2.8	19	21	23	B
Chromium	Smelter-s	39	40	332.05	1196.2	0	114	7660	AB
Chromium	WDA-w	4	4	587.5	753.0	40	305	1700	A
Chromium	WMU-w	35	35	258.49	195.8	15	210	760	A
Chromium	NCL-east	12	12	140.87	136.3	6.09	133	363	AB
Chromium	NCL-North	4	4	8.31	1.6	7.35	7.595	10.7	B
Chromium	Ag-North	3	3	12.9	1.6	11.3	13	14.4	B
Chromium	Ag-East	5	5	8.58	0.7	7.48	8.83	9.22	B
Chromium	RES	2	2	13.9	7.4	8.7	13.9	19.1	B
Chromium	Poten. Bkgd-s	9	9	20.66	7.0	5.44	21.8	29.7	B
Cobalt	Smelter-w		2	1.2	0	1.2	1.2	1.2	B
Cobalt	Smelter-s	39	40	14.5	21.47	0	8.185	115	A
Cobalt	WDA-w	2	4	3.6	3.36	1.1	2.55	8.2	AB
Cobalt	WMU-w	12	35	4.5	6.02	1.4	2.05	34	AB
Cobalt	NCL-east	8	8	8.3	1.03	6.1	8.6	9.6	A
Cobalt	Ag-North	2	2	5.3	0	5.3	5.3	5.3	AB
Cobalt	RES	2	2	6.1	3.68	3.5	6.1	8.7	AB
Cobalt	Poten. Bkgd-s	8	8	9.2	4.40	6.08	7.8	19.8	A
Copper	Smelter-w	2	2	105	35.36	80	105	130	ABC
Copper	Smelter-s	40	40	1178.6	1273.78	25.3	895	7150	AB
Copper	WDA-w	4	4	1580	1102.84	120	1700	2800	A
Copper	WMU-w	35	35	2168.9	2441.16	15	1600	12000	A
Copper	NCL-east	12	12	1393.8	1510.40	6.91	1195	3790	ABC
Copper	NCL-North	4	4	8.2575	1.66	7.15	7.59	10.7	C
Copper	Ag-North	3	3	14.7	2.66	11.6	16.1	16.3	BC
Copper	Ag-East	5	5	9.282	1.30	7.67	9.14	11.3	C
Copper	RES	2	2	20.75	10.11	13.6	20.75	27.9	BC
Copper	Poten. Bkgd-s	9	9	54.9	53.21	5.6	32.1	175	BC
Iron	Smelter-w	2	2	5500	282.84	5300	5500	5700	B
Iron	Smelter-s	6	6	172633.3	287179.92	8200	64850	747400	A
Iron	WDA-w	4	4	15775	10240.56	5100	15000	28000	AB
Iron	WMU-w	35	35	9177.1	8380.34	3100	6200	46000	AB
Iron	NCL-east	8	8	23078.75	31530.63	8930	12550	101000	AB
Iron	Ag-North	2	2	14700	141.42	14600	14700	14800	A
Iron	RES	2	2	15860	8824.69	9620	15860	22100	A
Iron	Poten. Bkgd-s	6	6	23883.3	8749.95	18400	20800	41600	A
Lead	Smelter-w	2	2	8.5	0.57	8.1	8.5	8.9	ABC
Lead	Smelter-s	40	40	583.8	1257.95	2.29	155	7280	AB
Lead	WDA-w	4	4	167.5	119.55	10	180	300	ABC
Lead	WMU-w	35	35	220.5	188.58	4	200	1100	A
Lead	NCL-east	12	12	123.0	100.18	8.51	142.5	250	ABC
Lead	NCL-North	4	4	6.6	0.75	5.68	6.71	7.45	C

TABLE 2-3
Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite, Potential Background, and Adjacent Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Lead	Ag-North	3	3	7.61	2.41	4.93	8.3	9.6	BC
Lead	Ag-East	5	5	10.4	6.06	5.97	7.67	20.9	ABC
Lead	RES	2	2	32.75	21.28	17.7	32.75	47.8	ABC
Lead	Poten. Bkgd-s	9	9	47.2	76.51	4.54	25.6	249	ABC
Magnesium	Smelter-w	2	2	220000	42426.41	190000	220000	250000	A
Magnesium	Smelter-s	40	40	104040.93	102115.25	10.2	86650	354000	ABCD
Magnesium	WDA-w	4	4	120500	35791.06	82000	120000	160000	AB
Magnesium	WMU-w	35	35	108168.6	66155.22	4100	98000	240000	ABC
Magnesium	NCL-east	12	12	39476.7	34384.23	3360	41200	111000	BCD
Magnesium	NCL-North	4	4	3437.5	853.52	2900	3070	4710	D
Magnesium	Ag-North	3	3	4490	398.37	4260	4260	4950	D
Magnesium	Ag-East	5	5	3404	589.35	2740	3270	4330	D
Magnesium	RES	2	2	4655	2991.06	2540	4655	6770	D
Magnesium	Poten. Bkgd-s	9	9	8667.8	3859.57	2390	8690	13600	CD
Manganese	Smelter-w	2	2	5650	1484.92	4600	5650	6700	A
Manganese	Smelter-s	6	6	2849.8	2333.45	597	2570	6110	ABC
Manganese	WDA-w	4	4	5675	2389.39	3500	5350	8500	A
Manganese	WMU-w	35	35	3416	2596.26	220	2400	12000	AB
Manganese	NCL-east	12	12	1683.3	1639.58	138	1815	5720	BCD
Manganese	NCL-North	4	4	166.75	48.53	138	145	239	D
Manganese	Ag-North	3	3	284.7	51.39	254	256	344	BCD
Manganese	Ag-East	5	5	159.8	34.46	119	177	189	D
Manganese	RES	2	2	269	127.28	179	269	359	CD
Manganese	Poten. Bkgd-s	7	7	347.9	165.45	120	328	643	BCD
Mercury	Smelter-w		2	0.027	0.018	0.0145	0.02725	0.04	AB
Mercury	Smelter-s	6	6	0.158	0.117	0.043	0.123	0.35	A
Mercury	WDA-w	3	4	0.034	0.025	0.014	0.0265	0.067	AB
Mercury	WMU-w	25	35	0.053	0.034	0.0135	0.05	0.19	AB
Mercury	NCL-east	2	12	0.049	0.028	0	0.0625	0.08	AB
Mercury	NCL-North	1	4	0.007	0.015	0	0	0.0293	B
Mercury	Ag-North	3	3	0.075	0.049	0.0363	0.058	0.13	AB
Mercury	Ag-East	3	5	0.029	0.035	0	0.0283	0.0859	AB
Mercury	RES	2	2	0.084	0.011	0.076	0.084	0.092	A
Mercury	Poten. Bkgd-s	5	7	0.183	0.225	0	0.081	0.66	A
Molybdenum	Smelter-w		2	6	0	6	6	6	A
Molybdenum	Smelter-s	35	35	80.38	287.26	2.2	8.89	1370	A
Molybdenum	WDA-w	3	4	15.28	10.73	5.5	12.8	30	A
Molybdenum	WMU-w	15	35	15.06	15.80	3.3	10	94	A
Molybdenum	NCL-east	0	0						
Molybdenum	Ag-North	0	0						
Molybdenum	RES	0	0						
Molybdenum	Poten. Bkgd-s	2	2	3	1.98	1.6	3	4.4	A
Nickel	Smelter-w	2	2	15.5	3.54	13	15.5	18	BC
Nickel	Smelter-s	40	40	395.43	1096.69	13.6	82.55	4500	AB
Nickel	WDA-w	4	4	245	250.93	50	160	610	A
Nickel	WMU-w	35	35	131.31	144.36	13	74	570	AB
Nickel	NCL-east	12	12	84.54	84.39	7.2	69.7	265	ABC
Nickel	NCL-North	4	4	9.80	2.35	8.25	8.82	13.3	C
Nickel	Ag-North	3	3	14.73	0.31	14.4	14.8	15	BC
Nickel	Ag-East	5	5	9.48	0.87	8.46	9.35	10.6	C
Nickel	RES	2	2	16.05	7.28	10.9	16.05	21.2	BC
Nickel	Poten. Bkgd-s	9	9	19.01	5.40	7.13	20.7	24.7	BC
Potassium	Smelter-w	2	2	46500	50204.58	11000	46500	82000	A
Potassium	Smelter-s	6	6	6663.33	3712.17	4090	5610	14000	AB
Potassium	WDA-w	4	4	1860	1392.14	950	1295	3900	C
Potassium	WMU-w	35	35	6100	3801.01	1400	5600	22000	ABC
Potassium	NCL-east	8	8	17683.75	10598.00	6520	17050	39300	AB
Potassium	Ag-North	2	2	2900	84.85	2840	2900	2960	C

TABLE 2-3
Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite, Potential Background, and Adjacent Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Potassium	RES	2	2	2570	1626.35	1420	2570	3720	C
Potassium	Poten. Bkgd-s	6	6	4688.33	352.22	4360	4565	5160	BC
Selenium	Smelter-w		2	1.18	0.04	1.15	1.175	1.2	A
Selenium	Smelter-s	21	40	73.38	186.04	0	2.15	836	A
Selenium	WDA-w	1	4	1.25	0.19	1.1	1.2	1.5	A
Selenium	WMU-w	12	35	2.47	1.46	1.1	2.05	7.3	A
Selenium	NCL-east		12	1.57	1.18	0	2.175	2.75	A
Selenium	NCL-North		4	0	0	0	0	0	A
Selenium	Ag-North		3	1.2	1.04	0	1.8	1.8	A
Selenium	Ag-East		5	0	0	0	0	0	A
Selenium	RES		2	2.05	0.42	1.75	2.05	2.35	A
Selenium	Poten. Bkgd-s	2	9	14.79	26.22	0	1.9	64.8	A
Silver	Smelter-w	2	2	6.8	2.0	5.4	6.8	8.2	A
Silver	Smelter-s	37	40	6592.4	41419.1	0	14.5	262000	A
Silver	WDA-w	4	4	21.4	27.1	5.6	9.05	62	A
Silver	WMU-w	33	35	5.9	4.7	0.55	5.2	28	AB
Silver	NCL-east		12	0.4	0.3	0	0.625	0.8	BC
Silver	NCL-North		4	0	0	0	0	0	C
Silver	Ag-North		3	0.3	0.3	0	0.5	0.5	C
Silver	Ag-East		5	0	0	0	0	0	C
Silver	RES		2	0.6	0.1	0.5	0.6	0.7	BC
Silver	Poten. Bkgd-s	3	9	1.79	2.5	0	0.55	7.75	BC
Sodium	Smelter-w	2	2	5750	212.1	5600	5750	5900	B
Sodium	Smelter-s	6	6	4766.7	2537.0	1960	4730	9100	BCD
Sodium	WDA-w	4	4	802.5	761.199711	250	530	1900	CD
Sodium	WMU-w	35	35	6051.7	3778.0	760	4700	13000	BC
Sodium	NCL-east	8	8	26087.5	11257.2	12500	24050	45800	A
Sodium	Ag-North		2	257.5	0	257.5	257.5	257.5	D
Sodium	RES	1	2	356.5	147.8	252	356.5	461	D
Sodium	Poten. Bkgd-s	6	6	7650	8116.9	465	5985	22200	BC
Thallium	Smelter-w		2	6	0	6	6	6	AB
Thallium	Smelter-s	10	40	2.20	5.12	0	0	23.7	B
Thallium	WDA-w		4	5.75	0.5	5.5	5.5	6.5	AB
Thallium	WMU-w		35	8.457142857	1.86	5.5	8.5	14	A
Thallium	NCL-east	1	8	1.61	0.31	0.99	1.6	1.95	B
Thallium	Ag-North		2	1.3	0	1.3	1.3	1.3	B
Thallium	RES	1	2	1.275	0.04	1.25	1.275	1.3	B
Thallium	Poten. Bkgd-s	6	8	1.20	0.34	0.77	1.3	1.75	B
Vanadium	Smelter-w	2	2	8.25	3.89	5.5	8.25	11	B
Vanadium	Smelter-s	40	40	31.61	11.68	7.92	30.45	55	AB
Vanadium	WDA-w	4	4	43	20.77	21	41.5	68	A
Vanadium	WMU-w	35	35	46.37	20.22	12	49	84	A
Vanadium	NCL-east	8	8	45.64	6.82	34.3	45.55	56.7	A
Vanadium	Ag-North	2	2	24.85	0.21	24.7	24.85	25	AB
Vanadium	RES	2	2	28.2	16.12	16.8	28.2	39.6	AB
Vanadium	Poten. Bkgd-s	8	8	34.7	6.87	27.9	34.15	50.1	AB
Zinc	Smelter-w	2	2	550	0	550	550	550	ABC
Zinc	Smelter-s	40	40	3114.09	3731.8	77.5	2335	22900	A
Zinc	WDA-w	4	4	1700	588.8	1100	1600	2500	AB
Zinc	WMU-w	35	35	1743.49	1370.2	40	1400	6800	AB
Zinc	NCL-east	12	12	1646.97	2014.6	22.9	1235	5950	ABC
Zinc	NCL-North	4	4	30.425	8.0	25.6	26.9	42.3	C
Zinc	Ag-North	3	3	50.07	5.3	43.9	52.9	53.4	BC
Zinc	Ag-East	5	5	31.36	6.8	23.6	30.1	42	C
Zinc	RES	2	2	74.5	11.3	66.5	74.5	82.5	BC
Zinc	Poten. Bkgd-s	9	9	178.8	158.1	21.8	118	533	BC
Cs-137	Smelter-w		2	0.034	0.007	0.029	0.034	0.039	A
Cs-137	Smelter-s	1	6	0.069	0.091	0.0155	0.03	0.249	A

TABLE 2-3
Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite, Potential Background, and Adjacent Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
Cs-137	WDA-w		4	0.038	0.016	0.017	0.0395	0.056	A
Cs-137	WMU-w	1	33	0.031	0.015	0.0125	0.027	0.079	A
Cs-137	NCL-east	2	8	0.062	0.032	0.0295	0.045	0.113	A
Cs-137	Ag-North		2	0.036	0.008	0.03	0.03575	0.0415	A
Cs-137	RES		2	0.024	0.005	0.0205	0.024	0.0275	A
Cs-137	Poten. Bkgd-s	2	6	0.043	0.019	0.024	0.03875	0.073	A
K-40	Smelter-w	2	2	19.05	4.596	15.8	19.05	22.3	AB
K-40	Smelter-s	6	6	17.38	5.082	10.7	17.15	23.6	AB
K-40	WDA-w	4	4	6.33	1.996	4.2	6.05	9	B
K-40	WMU-w	33	33	9.01	9.845	1.9	6.5	55	B
K-40	NCL-east	8	8	28.49	20.759	9.9	22.35	76.7	A
K-40	Ag-North	2	2	26.45	0.212	26.3	26.45	26.6	A
K-40	RES	2	2	22.85	1.626	21.7	22.85	24	A
K-40	Poten. Bkgd-s	6	6	22.62	3.742	16.2	22.6	27.1	A
Ra-226	Smelter-s	32	34	0.71	0.933	0	0.576	5.79	A
Ra-226	Poten. Bkgd-s	2	2	0.62	0.168	0.5	0.6185	0.737	A
Ra-228	Smelter-s	33	34	28.48	96.530	0	6.755	564	A
Ra-228	Poten. Bkgd-s	2	2	1.00	0.108	0.927	1.0035	1.08	A
Th-228	Smelter-w		2	0.26	0.118	0.175	0.25875	0.3425	B
Th-228	Smelter-s	37	40	26.26	89.736	0	7.425	567	A
Th-228	WDA-w	4	4	5.51	9.075	0.358	1.2925	19.1	AB
Th-228	WMU-w	8	33	0.60	0.779	0.1685	0.3325	4.48	AB
Th-228	NCL-east	7	8	3.06	2.405	0.565	2.14	6.73	A
Th-228	Ag-North	2	2	0.97	0.189	0.833	0.9665	1.1	AB
Th-228	RES	2	2	0.62	0.013	0.614	0.6235	0.633	AB
Th-228	Poten. Bkgd-s	7	8	0.97	0.474	0	1.115	1.44	AB
Th-230	Smelter-w	1	2	0.33	0.203	0.1865	0.32975	0.473	A
Th-230	Smelter-s	37	40	34.96	120.590	0	8.55	770	A
Th-230	WDA-w	4	4	3.17	3.935	0.244	1.855	8.74	A
Th-230	WMU-w	15	33	0.66	0.996	0.1495	0.33	5.25	A
Th-230	NCL-east	8	8	2.91	2.383	0.612	2.175	6.17	A
Th-230	Ag-North	2	2	1.03	0.199	0.889	1.0295	1.17	A
Th-230	RES	2	2	0.72	0.028	0.7	0.7195	0.739	A
Th-230	Poten. Bkgd-s	8	8	0.86	0.237	0.54	0.86	1.32	A
Th-232	Smelter-w		2	0.07	0.022	0.059	0.07475	0.0905	C
Th-232	Smelter-s	39	40	28.48	103.258	0	5.39	653	A
Th-232	WDA-w	4	4	5.57	9.500	0.258	1.115	19.8	AB
Th-232	WMU-w	16	33	0.50	0.830	0.101	0.2815	4.79	BC
Th-232	NCL-east	8	8	2.57	2.009	0.737	1.63	5.44	AB
Th-232	Ag-North	2	2	0.90	0.306	0.687	0.9035	1.12	AB
Th-232	RES	2	2	0.65	0.047	0.618	0.6515	0.685	AB
Th-232	Poten. Bkgd-s	8	8	1.16	0.264	0.794	1.1725	1.56	AB
Chlordane	NCL-east		4	0	0	0	0	0	
Chlordane	NCL-North		4	0	0	0	0	0	
Chlordane	Ag-North		1	0		0	0	0	
Chlordane	Ag-East		5	0	0	0	0	0	
Chlordane	Poten. Bkgd-s		1	0		0	0	0	
Dieldrin	NCL-east		4	0	0	0	0	0	
Dieldrin	NCL-North		4	0	0	0	0	0	
Dieldrin	Ag-North		1	0		0	0	0	
Dieldrin	Ag-East		5	0	0	0	0	0	
Dieldrin	Poten. Bkgd-s		1	0		0	0	0	
p,p-DDD	NCL-east		4	0	0	0	0	0	
p,p-DDD	NCL-North	3	4	5.1	4.1	0	5.35	9.7	
p,p-DDD	Ag-North		1	0		0	0	0	
p,p-DDD	Ag-East	3	5	19.36	31.0	0	2	72	
p,p-DDD	Poten. Bkgd-s		1	0		0	0	0	
p,p-DDE	NCL-east	4	4	12.3	5.8	4.2	14	17	

TABLE 2-3

Summary Statistics and Results of Rank ANOVA of Metal (mg/kg), Chlorinated Organic (µg/kg), and Radionuclide (pCi/g) Concentrations in Onsite, Potential Background, and Adjacent Soils

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[a]
p,p-DDE	NCL-North	4	4	60.575	24.6	33	61	87.3	
p,p-DDE	Ag-North	1	1	1.7		1.7	1.7	1.7	
p,p-DDE	Ag-East	5	5	62.5	74.0	6.6	18	170	
p,p-DDE	Poten. Bkgd-s	1	1	3.2		3.2	3.2	3.2	
p,p-DDT	NCL-east	3	4	4.4	2.9	0	5.65	6.3	
p,p-DDT	NCL-North	4	4	23	13.5	5.3	26.35	34	
p,p-DDT	Ag-North		1	0		0	0	0	
p,p-DDT	Ag-East	5	5	41.84	75.7	2.8	8.1	177	
p,p-DDT	Poten. Bkgd-s		1	0		0	0	0	
Total DDTs	NCL-east	4	4	16.7	8.7	4.2	19.65	23.3	
Total DDTs	NCL-North	4	4	88.675	34.8	48	93.2	120.3	
Total DDTs	Ag-North		1	0		0	0	0	
Total DDTs	Ag-East	5	5	123.7	156.4	11.4	33.3	369.8	
Total DDTs	Poten. Bkgd-s	1	1	3.2		3.2	3.2	3.2	
Total PCBs	NCL-east		4	0	0	0	0	0	
Total PCBs	NCL-North		4	0	0	0	0	0	
Total PCBs	Ag-North		1	0		0	0	0	
Total PCBs	Ag-East		5	0	0	0	0	0	
Total PCBs	Poten. Bkgd-s		1	0		0	0	0	
Toxaphene	NCL-east	1	4	14	28	0	0	56	
Toxaphene	NCL-North	4	4	135.75	75.0	63	120	240	
Toxaphene	Ag-North		1	0		0	0	0	
Toxaphene	Ag-East	3	5	277.6	423.3	0	78	1000	
Toxaphene	Poten. Bkgd-s		1	0		0	0	0	

Notes:

Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd

[a]Rows with same letter are not significantly different as determined by ANOVA on rank-transformed concentrations; All locations, including Poten. Bkgd, included in statistical comparison

[b]w indicates material is smelter waste

[c]s indicates material is soil

TABLE 2-4

Summary Statistics and Results of Rank ANOVA of Metal (mg/kg) and Radionuclide (pCi/g) Concentrations Measured in Air Samples at Five Locations at the Halaco Site, June 20 to June 28, 2006

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Sample[a]	Area	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[b]
Aluminum	Air-1	Upwind	0	8	506.625	269.2583398	258	423.5	1110	A
Aluminum	Air-4/5	NCL	0	9	556.5555556	164.4656964	296.5	492	795	A
Aluminum	Air-3	Downwind	0	5	1114.1	1424.882206	307	423.5	3640	A
Aluminum	Air-2	Wastepile	0	7	572.2857143	192.5495298	332.5	590	855	A
Aluminum	Air-6	Wastepile	0	6	429.9166667	215.3089447	109.5	455.75	665	A
Antimony	Air-1	Upwind	2	4	0.32675	0.112097056	0.219	0.30325	0.4815	A
Antimony	Air-4/5	NCL	1	3	0.419166667	0.201788462	0.1945	0.478	0.585	A
Antimony	Air-3	Downwind	1	1	0.197		0.197	0.197	0.197	A
Antimony	Air-2	Wastepile	2	4	0.21825	0.028037178	0.1825	0.21975	0.251	A
Antimony	Air-6	Wastepile	3	4	0.217475	0.085891225	0.0904	0.25275	0.274	A
Arsenic	Air-1	Upwind	1	4	0.05525	0.022502518	0.0316	0.05235	0.0847	A
Arsenic	Air-4/5	NCL	2	7	0.08375	0.042211462	0.04865	0.058	0.1595	A
Arsenic	Air-3	Downwind	1	3	0.05545	0.023919291	0.03285	0.053	0.0805	A
Arsenic	Air-2	Wastepile	2	5	0.0523	0.008025896	0.0441	0.0525	0.0636	A
Arsenic	Air-6	Wastepile	3	5	0.05082	0.020048242	0.0183	0.0575	0.0665	A
Barium	Air-1	Upwind	0	8	96.3125	60.46246622	52	72.5	229.5	A
Barium	Air-4/5	NCL	0	9	108.5555556	35.55228935	54	95	161.5	A
Barium	Air-3	Downwind	0	5	224.6	315.2929987	52	81	785	A
Barium	Air-2	Wastepile	0	7	104.2142857	40.8838366	53	91.5	156.5	A
Barium	Air-6	Wastepile	0	6	78.80833333	41.8058419	23.2	80.25	125	A
Beryllium	Air-1	Upwind	6	8	0.05090625	0.031039266	0.01425	0.04595	0.114	B
Beryllium	Air-4/5	NCL	7	9	0.054777778	0.018990493	0.02355	0.0507	0.0828	AB
Beryllium	Air-3	Downwind	3	5	0.13837	0.146572813	0.0363	0.0925	0.393	AB
Beryllium	Air-2	Wastepile	6	7	0.130642857	0.060601646	0.052	0.122	0.237	A
Beryllium	Air-6	Wastepile	4	6	0.164316667	0.130528624	0.0079	0.1585	0.375	AB
Cadmium	Air-1	Upwind	4	4	0.042275	0.029444906	0.0165	0.0381	0.0764	A
Cadmium	Air-4/5	NCL	3	3	0.0328	0.011217397	0.0239	0.0291	0.0454	A
Cadmium	Air-3	Downwind	4	4	0.046025	0.051793846	0.0126	0.02475	0.122	A
Cadmium	Air-2	Wastepile	4	4	0.024625	0.00645	0.0187	0.0231	0.0336	A
Cadmium	Air-6	Wastepile	2	2	0.01355	0.003040559	0.0114	0.01355	0.0157	A
Chromium	Air-1	Upwind	0	8	0.7411875	0.366227675	0.457	0.6175	1.58	A
Chromium	Air-4/5	NCL	0	9	0.795444444	0.232810068	0.454	0.71	1.175	A
Chromium	Air-3	Downwind	0	5	1.6138	2.048927085	0.469	0.61	5.25	A
Chromium	Air-2	Wastepile	0	7	0.834785714	0.272735198	0.4985	0.9	1.25	A
Chromium	Air-6	Wastepile	0	6	0.63725	0.307449467	0.152	0.69	0.97	A
Cobalt	Air-1	Upwind	0	5	0.02337	0.015241211	0.0144	0.01705	0.0505	A
Cobalt	Air-4/5	NCL	0	6	0.037775	0.02142694	0.02015	0.0322	0.079	A
Cobalt	Air-3	Downwind	0	4	0.01965	0.008186371	0.012	0.01775	0.0311	A
Cobalt	Air-2	Wastepile	0	6	0.02385	0.008953714	0.01565	0.021725	0.04115	A
Cobalt	Air-6	Wastepile	0	6	0.018458333	0.007011806	0.0056	0.019325	0.0271	A
Copper	Air-1	Upwind	7	8	1.2920625	0.650945819	0.3315	1.2	2.27	B
Copper	Air-4/5	NCL	8	9	1.085888889	1.230196371	0.143	0.777	4.28	B
Copper	Air-3	Downwind	5	5	5.232	2.328984757	1.62	6.37	7.2	A
Copper	Air-2	Wastepile	7	7	5.158571429	2.536437322	2.87	4.09	8.9	A
Copper	Air-6	Wastepile	6	6	3.976833333	2.094452713	0.841	4.345	6.89	A
Lead	Air-1	Upwind	1	8	0.173125	0.090109358	0.0755	0.145	0.313	A
Lead	Air-4/5	NCL	0	9	0.163833333	0.050900639	0.088	0.1635	0.223	A
Lead	Air-3	Downwind	2	5	0.6369	0.454867893	0.142	0.824	1.055	A
Lead	Air-2	Wastepile	3	7	0.491142857	0.387677778	0.168	0.324	1.06	A
Lead	Air-6	Wastepile	3	6	0.408625	0.305955134	0.02975	0.449	0.714	A
Magnesium	Air-1	Upwind	0	8	48.2	18.5912806	28.35	44.925	88.5	B
Magnesium	Air-4/5	NCL	0	9	49.18333333	10.42841671	30.45	54	60.5	B
Magnesium	Air-3	Downwind	2	5	214	143.8632163	60.5	251.5	374	A
Magnesium	Air-2	Wastepile	6	7	271	152.059199	93	200	519	A
Magnesium	Air-6	Wastepile	5	6	278.2166667	154.0457129	14.3	336.5	440	A
Manganese	Air-1	Upwind	1	8	0.561375	0.405071488	0.29	0.38675	1.42	B
Manganese	Air-4/5	NCL	3	9	0.967444444	0.792034542	0.2985	0.545	2.67	B
Manganese	Air-3	Downwind	4	5	4.192	2.428213335	2.2	2.79	6.91	A

TABLE 2-4

Summary Statistics and Results of Rank ANOVA of Metal (mg/kg) and Radionuclide (pCi/g) Concentrations Measured in Air Samples at Five Locations at the Halaco Site, June 20 to June 28, 2006

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Sample[a]	Area	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum	Results of Statistical Comparisons[b]
Manganese	Air-2	Wastepile	7	7	6.102857143	3.437997064	3.17	5	12.7	A
Manganese	Air-6	Wastepile	5	6	6.992416667	4.261652853	0.2545	7.125	13.3	A
Molybdenum	Air-1	Upwind	7	8	0.1200875	0.066504381	0.05	0.116	0.25	A
Molybdenum	Air-4/5	NCL	6	8	0.1333875	0.080251505	0.067	0.10415	0.31	A
Molybdenum	Air-3	Downwind	3	4	0.3057875	0.426986531	0.04025	0.12095	0.941	A
Molybdenum	Air-2	Wastepile	5	7	0.112614286	0.059905549	0.0333	0.119	0.197	A
Molybdenum	Air-6	Wastepile	3	6	0.079625	0.052212487	0.01575	0.08125	0.144	A
Nickel	Air-1	Upwind	3	8	0.3145	0.168848411	0.1115	0.301	0.558	AB
Nickel	Air-4/5	NCL	1	9	0.241944444	0.102427549	0.1305	0.202	0.4705	A
Nickel	Air-3	Downwind	3	5	0.8824	0.45271216	0.181	1.03	1.34	B
Nickel	Air-2	Wastepile	3	7	0.539571429	0.316500978	0.2015	0.4755	1.04	AB
Nickel	Air-6	Wastepile	1	6	0.3205	0.165908409	0.0415	0.33325	0.491	AB
Selenium	Air-1	Upwind	1	1	0.0731		0.0731	0.0731	0.0731	A
Selenium	Air-4/5	NCL	1	1	0.138		0.138	0.138	0.138	A
Selenium	Air-3	Downwind	0	0						NO DATA
Selenium	Air-2	Wastepile	2	2	0.11545	0.054517933	0.0769	0.11545	0.154	A
Selenium	Air-6	Wastepile	2	2	0.03885	0.009828784	0.0319	0.03885	0.0458	A
Silver	Air-1	Upwind	3	3	0.0458	0.036650921	0.0235	0.0258	0.0881	A
Silver	Air-4/5	NCL	4	4	0.092875	0.066119608	0.0379	0.0723	0.189	A
Silver	Air-3	Downwind	1	1	0.0309		0.0309	0.0309	0.0309	A
Silver	Air-2	Wastepile	3	3	0.047333333	0.027151489	0.0297	0.0337	0.0786	A
Silver	Air-6	Wastepile	2	2	0.04655	0.014071425	0.0366	0.04655	0.0565	A
Thallium	Air-1	Upwind	0	0						
Thallium	Air-4/5	NCL	1	1	0.263		0.263	0.263	0.263	
Thallium	Air-3	Downwind	1	1	0.0585		0.0585	0.0585	0.0585	NO ANALYSIS
Thallium	Air-2	Wastepile	0	0						
Thallium	Air-6	Wastepile	1	1	0.0183		0.0183	0.0183	0.0183	
Vanadium	Air-1	Upwind	0	8	0.5585625	0.216921223	0.3985	0.505	1.07	A
Vanadium	Air-4/5	NCL	0	9	0.615388889	0.191357613	0.408	0.498	0.965	A
Vanadium	Air-3	Downwind	0	5	1.0687	1.099486107	0.4485	0.63	3.03	A
Vanadium	Air-2	Wastepile	0	7	0.656785714	0.249168259	0.4725	0.58	1.205	A
Vanadium	Air-6	Wastepile	0	6	0.464833333	0.204877931	0.115	0.498	0.675	A
Zinc	Air-1	Upwind	0	8	68.7625	44.93570605	35.6	50.825	169	A
Zinc	Air-4/5	NCL	0	9	74.24444444	23.72841709	38.7	64.5	108.5	A
Zinc	Air-3	Downwind	0	5	147.33	209.57622	35.55	54	520	A
Zinc	Air-2	Wastepile	0	7	67.32857143	26.63227768	35.35	57	98	A
Zinc	Air-6	Wastepile	0	6	50.98333333	27.21934361	15.65	50.475	83	A

Notes:

Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded upgradient

[a]Sample locations are displayed in Appendix A, Figure A-5

[b]Rows with same letter are not significantly different as determined by ANOVA on rank-transformed concentrations; All locations included in statistical analysis

TABLE 2-5

Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Mean	Standard Deviation	Minimum	Median	Maximum
Aluminum	Poten. Bkgd	1	1	1440		1440	1440	1440
Aluminum	onsite	13	13	230908	808049	671	2380	2920000
Antimony	Poten. Bkgd	0	1	30		30	30	30
Antimony	onsite	2	13	27.5	6.33	9.2	30	30
Arsenic	Poten. Bkgd	0	1	5		5	5	5
Arsenic	onsite	8	13	28.2	71.5	4.5	5.5	264
Barium	Poten. Bkgd	1	1	105		105	105	105
Barium	onsite	13	13	121982	435079	110	570	1570000
Beryllium	Poten. Bkgd	1	1	0.15		0.15	0.15	0.15
Beryllium	onsite	12	13	29.5	98.0	0.07	0.2	355
Cadmium	Poten. Bkgd	1	1	0.92		0.92	0.92	0.92
Cadmium	onsite	6	13	43.3	112.7	0.59	2.5	398
Chromium	Poten. Bkgd	1	1	13.5		13.5	13.5	13.5
Chromium	onsite	8	13	312.1	1051.9	0.73	5	3810
Cobalt	Poten. Bkgd	0	1	25		25	25	25
Cobalt	onsite	10	13	57.7	106.5	1.2	11.1	307
Copper	Poten. Bkgd	1	1	43.4		43.4	43.4	43.4
Copper	onsite	13	13	6685.83	21468.43	3.6	59.3	77700
Iron	Poten. Bkgd	1	1	945		945	945	945
Iron	onsite	13	13	99716.3	284620.6	692	4560	1040000
Lead	Poten. Bkgd	0	1	5		5	5	5
Lead	onsite	5	13	561.3	1372.9	5	5	4350
Magnesium	Poten. Bkgd	1	1	385000		385000	385000	385000
Magnesium	onsite	13	13	1715154	3062821	100000	425000	11100000
Manganese	Poten. Bkgd	1	1	237		237	237	237
Manganese	onsite	13	13	34382.7	92202.1	400	1250	328000
Nickel	Poten. Bkgd	1	1	6		6	6	6
Nickel	onsite	12	13	142.2	441.9	3.5	13.4	1610
Silver	Poten. Bkgd	0	1	5		5	5	5
Silver	onsite	3	13	52.72	156.35	5	5	571
Vanadium	Poten. Bkgd	1	1	3.3		3.3	3.3	3.3
Vanadium	onsite	12	13	128.51	409.82	1.3	6.6	1490
Zinc	Poten. Bkgd	1	1	45.7		45.7	45.7	45.7
Zinc	onsite	13	13	10981.5	27692.9	15.7	70.1	90100
Cs-137	Poten. Bkgd	0	1	1.8		1.8	1.8	1.8
Cs-137	onsite	0	12	2.85	2.08	1.665	2.4325	9.35
K-40	Poten. Bkgd	1	1	660		660	660	660
K-40	onsite	11	12	4919	5616	26.35	4550	19800
Th-228	Poten. Bkgd	0	1	0.2785		0.2785	0.2785	0.2785
Th-228	onsite	7	12	9.34	30.13	0.1645	0.6905	105
Th-230	Poten. Bkgd	0	1	0.22		0.22	0.22	0.22
Th-230	onsite	7	12	0.68	0.63	0.12	0.48	2.17
Th-232	Poten. Bkgd	0	1	0.22		0.22	0.22	0.22
Th-232	onsite	5	12	0.31	0.25	0.10	0.21	0.87

TABLE 2-6

Raw and Summary Statistics for Metal (mg/kg ww) Concentrations in Whole Body Fish Tissue

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Fish-1	Fish-2	Fish-3	Fish-4	Fish-5	Fish-6	Fish-7	Fish-9	Fish-10	No. of Detects	Sample Size	Mean	Std	Minimum	Median	Maximum
Aluminum	5.3 B	5.3 B	10.9	10.7 B	8.7 B	15.5	3.5 B	2.6 B	66.5	10	10	13.5	18.0	2.6	8.7	66.5
Antimony	0.048 B	0.026 B	0.026 B	0.014 B	0.0085 B	0.061 B	0.0063 U	0.018 B	0.033 B	9	10	1.749	3.839	0.0063	0.026	0.061
Arsenic	0.51	0.51	0.31	0.31	0.21 B	0.40	0.38	0.19 B	0.43	10	10	0.36	0.12	0.19	0.38	0.51
Barium	0.45	0.44	0.52	1.2	0.66	0.76	0.68	0.47	0.99	10	10	0.69	0.26	0.44	0.66	1.2
Beryllium	0.042 B	0.021 B	0.026 B	0.014 B	0.0075 B	0.0061 B	0.0035 U	0.0034 U	0.0066 B	9	10	1.739	3.844	0.0034	0.0075	0.042
Cadmium	0.084 B	0.037 B	0.041 B	0.061 B	0.021 B	0.023 B	0.091 B	0.017 B	0.019 B	10	10	0.044	0.028	0.017	0.037	0.091
Calcium	12400	12000	7260	25900	5690	12700	12200	12600	11200	10	10	12438.9	5650.8	5690	12200	25900
Chromium	0.081 B	0.042 B	0.076 B	0.051 B	0.22	0.061 B	0.023 B	0.033 B	0.12 B	10	10	0.079	0.061	0.023	0.061	0.22
Cobalt	0.045 B	0.027 B	0.026 B	0.025 B	0.013 B	0.016 B	0.011 B	0.0074 B	0.021 B	10	10	0.021	0.011	0.0074	0.021	0.045
Copper	2.1	1.2	0.77	3.9	1.5	1.1	3.4	1.2	2.2	10	10	1.93	1.09	0.77	1.5	3.9
Iron	17.9	17.1	17.3	29.8	20.6	38.1	16.8	11.8	37.1	10	10	22.94	9.59	11.8	17.9	38.1
Lead	0.061 B	0.038 B	0.064 B	0.069 B	0.053 B	0.053 B	0.024 B	0.016 B	0.16 B	10	10	0.060	0.042	0.016	0.053	0.16
Magnesium	516	497	391	678	268	516	551	464	448	10	10	481.0	112.5	268	497	678
Manganese	2.6	2.9	5.5	7.8	2.9	4.8	4.0	9.8	9.3	10	10	5.5	2.8	2.6	4.8	9.8
Nickel	0.081 B	0.059 B	1.0	0.076 B	0.061 B	0.066 B	0.049 B	0.051 B	0.50	10	10	0.2	0.3	0.049	0.066	1
Potassium	3240	3120	3220	2990	2250	2970	1490	3520	3660	10	10	2940	674	1490	3120	3660
Selenium	0.74	0.76	0.81	0.73	0.51	0.68	0.40	0.84	1.1	10	10	0.73	0.20	0.4	0.74	1.1

TABLE 2-6

Raw and Summary Statistics for Metal (mg/kg ww) Concentrations in Whole Body Fish Tissue

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Fish-1	Fish-2	Fish-3	Fish-4	Fish-5	Fish-6	Fish-7	Fish-9	Fish-10	No. of Detects	Sample Size	Mean	Std	Minimum	Median	Maximum
Silver	0.066 B	0.033 B	0.025 B	0.043 B	0.012 B	0.016 B	0.027 B	0.0098 B	0.0041 B	10	10	0.026	0.019	0.0041	0.025	0.066
Sodium	1000	999	1200	1550	857	1060	1300	1460	1530	10	10	1217	256	857	1200	1550
Thallium	0.040 B	0.017 B	0.027 B	0.0079 B	0.0028 U	0.0029 U	0.0029 U	0.0028 U	0.0027 U	4	10	1.282	3.129	0.0027	0.0029	0.04
Vanadium	0.12 B	0.093 B	0.064 B	0.32 B	0.079 B	0.13 B	0.17 B	0.069 B	0.12 B	10	10	0.129	0.079	0.064	0.12	0.32
Zinc	35.7	34.7	21.1	46.4	12.4	33.0	40.3	29.2	33.7	10	10	31.8	10.1	12.4	33.7	46.4

Notes:

All concentrations are in mg/kg.

U The compound was analyzed for, but was not detected.

B flag was not defined in the lab reports, however it is generally used to flag metals data when the result was above the detection limit and below the quantitation limit (i.e., result is estimated). B-flagged values were considered to represent detects and were used in all analyses.

TABLE 3-1

Assessment Endpoints and Measures of Exposure and Effects

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Assessment Endpoint								
Entity	**Attribute**	**Effect Level**	**Conceptual Model Group**	**Representative Receptor**	**Assessment Level**	**Measures of Exposure**	**Available Lines of Evidence**	**Measures of Effect**
Aquatic plants, water-column invertebrates, amphibians, and fish	Growth, reproduction, or survival	NOECs (or equivalent) for initial screen LOECs for refined screen (if necessary)	Aquatic Organism	NA	Community	Maximum measured detected or non-detected surface water concentrations in the initial screen or the entire distribution of data in the refined screen	Single-chemical Toxicity Data	Benchmark values for toxic effects that could affect growth, reproduction, or survival
						Measured concentrations of COPECs in fish tissue	Tissue-based Toxicity Data	Whole-body concentration benchmarks associated with decreased survival, growth, or reproduction
Tidewater Goby	Growth, reproduction, or survival	NOECs for initial and refined screen (if necessary)	Aquatic Organism/Special-status Species	Tidewater goby	Individual	Maximum measured detected or non-detected surface water concentrations in the initial screen or the entire distribution of data in the refined screen	Single-chemical Toxicity Data	Benchmark values for toxic effects that could affect growth, reproduction, or survival
						Measured concentrations of COPECs in fish tissue	Tissue-based Toxicity Data	Whole-body concentration benchmarks associated with decreased survival, growth, or reproduction
Benthic Invertebrates	Growth, reproduction, or survival	NOECs (or equivalent) for initial screen LOECs for refined screen (if necessary)	Sediment Biota	NA	Community	Maximum measured detected or non-detected sediment concentrations in the initial screen or the entire distribution of data in the refined screen	Single-chemical Toxicity Data	Benchmark values for toxic effects that could affect growth, reproduction, or survival
Terrestrial Plants	Growth, reproduction, or survival	NOECs (or equivalent) for initial screen LOECs for refined screen (if necessary)	Soil Biota	NA	Community	Maximum measured detected or non-detected soil concentrations in the initial screen or the entire distribution of data in the refined screen	Single-chemical Toxicity Data	Benchmark values for toxic effects that could affect growth, reproduction, or survival
						Maximum measured detected or non-detected groundwater concentrations in the initial screen or the entire distribution of data in the refined screen		Soil solution benchmark values for toxic effects that could affect growth, reproduction, or survival
Soil Invertebrates	Growth, reproduction, or survival	NOECs (or equivalent) for initial screen LOECs for refined screen (if necessary)	Soil Biota	NA	Community	Maximum measured detected or non-detected soil concentrations in the initial screen or the entire distribution of data in the refined screen	Single-chemical Toxicity Data	Benchmark values for toxic effects that could affect growth, reproduction, or survival
Birds	Growth, reproduction, or survival	NOAELs for initial and refined screens	Sediment Invertivore/Special-status Species	Snowy Plover	Individual	Exposure estimates based on maximum measured detected or non-detected surface water and sediment concentrations and biota concentrations estimated using literature-based bioaccumulation models for initial screen; 95UCL media concentrations and biota concentrations using literature-based bioaccumulation models for refined screen	Single-chemical Toxicity Data	Benchmark values (NOAELs for initial screening and LOAELs for refinement) for toxic effects that could affect growth, reproduction, or survival
	Growth, reproduction, or survival	NOAELs for initial and refined screens	Piscivore/Special-status Species	Least Tern	Individual	Exposure estimates based on maximum measured detected or non-detected surface water and sediment concentrations and biota concentrations estimated using literature-based bioaccumulation models for initial screen; 95UCL media concentrations and biota concentrations using literature-based bioaccumulation models for refined screen	Single-chemical Toxicity Data	Benchmark values (NOAELs for initial screening and LOAELs for refinement) for toxic effects that could affect growth, reproduction, or survival

TABLE 3-1

Assessment Endpoints and Measures of Exposure and Effects

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Assessment Endpoint			Conceptual Model	Representative	Assessment			
Entity	**Attribute**	**Effect Level**	**Group**	**Receptor**	**Level**	**Measures of Exposure**	**Available Lines of Evidence**	**Measures of Effect**
	Growth, reproduction, or survival	NOAELs for initial and refined screens	Terrestrial Omnivore/Special-status Species	Belding's Savannah Sparrow	Individual	Exposure estimates based on maximum measured detected or non-detected surface water and sediment concentrations and biota concentrations estimated using literature-based bioaccumulation models for initial screen; 95UCL media concentrations and biota concentrations using literature-based bioaccumulation models for refined screen	Single-chemical Toxicity Data	Benchmark values (NOAELs for initial screening and LOAELs for refinement) for toxic effects that could affect growth, reproduction, or survival
Mammals	Growth, reproduction, or survival	NOAELs for initial screen LOAELs for refined screen	Terrestrial Herbivore	California Vole	Population	Exposure estimates based on maximum measured detected or non-detected surface water and soil concentrations and biota concentrations estimated using literature-based bioaccumulation models for initial screen; 95UCL media concentrations and biota concentrations using literature-based bioaccumulation models for refined screen	Single-chemical Toxicity Data	Benchmark values (NOAELs for initial screening and LOAELs for refinement) for toxic effects that could affect growth, reproduction, or survival
	Growth, reproduction, or survival	NOAELs for initial screen LOAELs for refined screen	Terrestrial Insectivore	Ornate Shrew	Population	Exposure estimates based on maximum measured detected or non-detected surface water and sediment concentrations and biota concentrations estimated using literature-based bioaccumulation models for initial screen; 95UCL media concentrations and biota concentrations using literature-based bioaccumulation models for refined screen	Single-chemical Toxicity Data	Benchmark values (NOAELs for initial screening and LOAELs for refinement) for toxic effects that could affect growth, reproduction, or survival

Notes:

95UCL = 95 percent upper confidence limit of the arithmetic mean

COPEC = Contaminants of potential ecological concern

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effects Concentration

LOAEL = No Observed Adverse Effect Level

LOEC = Lowest Observed Effects Concentration

NA = Not applicable

TABLE 3-2
Screening-level Ecological Benchmarks for Chemical Contamination
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

	Freshwater ug/L (USEPA 2000)		Freshwater Sediment mg/kg (MacDonald et al. 2000)		Freshwater Sediment mg/kg (Buchmann 2007)	Marine Sediment mg/kg (Field et al. 2002)		Marine Sediment mg/kg (Buchmann 2007)	Soil (mg/kg) EcoSSLs (unless stated otherwise)				Groundwater mg/L (Efroymson et al. 1997a)
	CMC	**CCC**	**TEC**	**PEC**	**UET**	**T20**	**T50**	**AET**	**Plant**	**Invert**	**Bird**	**Mammal**	**Plant**
Aluminum	750[x]	87[x]						18000	50[b]	--	--	--	0.3
Antimony	180[a]	30[a]			3	0.63	2.4	9.3	5[b]	78	--	0.27	
Arsenic	340	150	9.79	33	17	7.4	20	35	18	60[c]	43	46	0.001
Barium	110[a]	4[a]						48	500[b]	330	--	2000	
Beryllium	35[a]	0.66[a]							10[b]	40	--	21	0.5
Boron	30[a]	1.6[a]							0.5[b]				1
Cadmium	4.3*	2.2*	0.99	4.98	3	0.38	1.4	3	32	140	0.77	0.36	0.1
Calcium		116000[d]											
Chromium III	550*	180*							--	--	26	34	
Chromium VI	16	11							--	--	--	81	
Chromium (Total)			43.4	111	95	49	141	62	1[b]	0.4[c]	--	--	0.05
Cobalt	1500[a]	23[a]						10	13	--	120	230	0.06
Copper	13*	9*	31.6	149	86	32	94	390	70	80	28	49	0.06
Iron		158[d]			40000			22000					10
Lead	65*	2.5*	35.5	128	127	30	94	400	120	1700	11	56	0.02
Magnesium		82000[d]							--	--	--	--	
Manganese	2300[a]	120[a]			1100			260	220	450	4300	4000	4
Mercury		1.3[a]	0.18	1.06	0.56	0.14	0.48	0.41	0.3[b]	.1[c]			0.005
Molybdenum	16000[a]	370[a]							2[b]				0.5
Nickel	470*	52*	22.7	48.6	43	15	47	110	38	280	210	130	0.5
Potassium		53000[d]											
Silver	3.4*	0.36[a]			4.5	0.23	1.1	3.1	560	--	4.2	14	0.1
Selenium	--	5						1	1[b]	70[c]			0.7
Sodium		680000[d]											
Thallium	110[a]	12[a]							1[b]				0.005
Vanadium	280[a]	20[a]						57	2[b]	--	7.8	280	0.2
Zinc	120*	120*	121	459	520	94	247	410	50[b]	200[c]	--	--	0.4

TABLE 3-2
Screening-level Ecological Benchmarks for Chemical Contamination
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

	Freshwater ug/L (USEPA 2000)		Freshwater Sediment mg/kg (MacDonald et al. 2000)		Freshwater Sediment mg/kg (Buchmann 2007)	Marine Sediment mg/kg (Field et al. 2002)		Marine Sediment mg/kg (Buchmann 2007)	Soil (mg/kg) EcoSSLs (unless stated otherwise)				Groundwater mg/L (Efroymson et al. 1997a)
	CMC	**CCC**	**TEC**	**PEC**	**UET**	**T20**	**T50**	**AET**	**Plant**	**Invert**	**Bird**	**Mammal**	**Plant**
Chlordane	2.4	0.0043	0.00324	0.0176									
Dieldrin	0.24	0.056	0.0019	0.0618		0.00083	0.0029						
Total PCBs		0.014	0.0598	0.676		0.035	0.368		40[b]				
Ttoxaphene	0.73	0.0002											
p,p DDD			0.00488	0.028		0.0022	0.019						
p,p DDE			0.00316	0.0313		0.0031	0.103						
p,p DDT	1.1	0.001	0.00416	0.0629		0.0017	0.011						
Total DDTs			0.00528	0.572					--	--	0.093	0.021	

Notes:

* Value is hardness dependent; AWQC based on 100 mg/L hardness.

[a]SAV and SCV from Suter and Tsao 1996

[x]AWQC from Suter and Tsao 1996

[b]from Efroymson et al. 1997a

[c]from Efroymson et al. 1997b

[d]Lowest chronic value for Daphnids from Suter and Tsao (1996)

TABLE 3-3
Toxicity Reference Values for Birds and Mammals
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Form/Surrogate Analyte	Primary Study	Test Species	Test Species Body Weight (kg)	Duration	Exposure Route	General Effect Endpoint	Specific Effect Endpoint	Uncertainty Factors Applied	Uncertainty Factor type	NOAEL (mg/kg/d)	LOAEL (mg/kg/d)	Secondary Source[a]
Birds													
Aluminum	Al2(SO4)3	Carriere et al. 1986	ringed dove	0.155	4 months	oral in diet	reproduction				109.7		Sample et al. 1996
Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	Sodium arsenate	Stanley et al. 1994	mallard	1	>10 weeks	oral in diet	reproduction				9.3	40.3	
Barium	Barium hydroxide	Johnson et al. 1960	1-day old chicks	0.121	4 weeks	oral in diet	mortality		0.1	acute-chronic	20.8	41.7	Sample et al. 1996
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	Boric acid	Smith and Anders 1989	mallard	1	3 weeks pre-, during, and 3 weeks post-reproduction	oral in diet	reproduction	egg fertility, duckling growth, embry and duckling mortality			28.8	100	Sample et al. 1996
Cadmium	Cadmium sulfate	Leach et al. 1979	chicken	1.6	1 year	oral in diet	reproduction	egg production			0.16	0.61	Sample et al. 1996
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	Cr+3 as CrK(SO4)2	Haseltine et al. 1985	black duck	1.25	10 months	oral in diet	reproduction	duckling survival			1	5	Sample et al. 1996
Cobalt		Hill 1979	chicken		5 weeks	oral in diet	growth	body weight			3.89	7.8	Cobalt EcoSSL/ EPA 2005c
Copper	Copper oxide	Mehring et al. 1960	chicken	0.534	10 weeks	oral in diet	growth, mortality				47	61.7	Sample et al. 1996
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Lead	Lead acetate	Edens and Garlich 1983	Japanese quail	0.8	5 weeks	oral in diet	reproduction				0.19	1.78	
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	Manganese Oxide	Laskey and Edens 1985	Japanese quail	0.072	75 days	oral in diet	growth, behavior				98	977	Sample et al. 1996
Mercury	Methyl mercury	Heinz and Hoffman 1998; Heinz 1976	mallard	1	2.5 months to two generations	oral in diet	reproduction				0.068	0.37	
Molybdenum	Sodium molybdate	Lepore and Miller 1965	chicken	1.5	21 days through reproduction	oral in diet	reproduction	embryonic viability	0.1	LOAEL-NOAEL	3.53	35.3	Sample et al. 1996
Nickel	Nickel sulfate	Cain and Pafford 1981	mallard	0.782	90 days	oral in diet	mortality, growth, behavior				77.4	106.9	Sample et al. 1996
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	Sodium selenite	Heinz et al. 1987	mallard	1	78 days	oral in diet	reproduction	lethal embryo deformaties			0.4	0.8	Sample et al. 1996
Silver	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	Vanadyl sulfate	White and Dieter 1978	mallard	1.17	12 weeks	oral in diet	mortality, organ pathology				11.4		Sample et al. 1996
Zinc	Zinc sulfate	Stahl et al. 1990	chicken	1.766	44 weeks	oral in diet	reproduction				14.5	131	Sample et al. 1996
DDT (and metabolites	DDT	Anderson et al. 1975	brown pelican	3.5	5 years	oral in diet	reproduction	fledgling rate	0.1	LOAEL-NOAEL	0.009	0.09	BTAG
Mammals													
Aluminum	AlCl3	Ondreicka et al. 1966	mouse	0.03	three generations	oral in water	reproduction		0.1	LOAEL-NOAEL	1.93	19.3	Sample et al. 1996
Antimony		Rossi et al. 1987	rat	0.35	31 days		reproduction				0.059	0.59	EcoSSL/EPA 2003b
Arsenic	Arsenate	Nemec et al. 1998	rabbit	3.8	days 6 to 18 of gestation	oral gavage	reproduction				0.396	1.58	
Barium	Barium chloride	NTP 1994	rat	0.35	105 weeks	oral in water	nephrotoxicity				45	75	
Beryllium	Beryllium sulfate	Schroeder and Mitchener 1975	rat	0.35	lifetime	oral in water	longevity				0.66		Sample et al. 1996
Boron	Boric acid or Borax	Weir and Fischer 1972	rat	0.35	three generations	oral in diet	reproduction	sterility			28	93.6	Sample et al. 1996
Cadmium		Webster 1978	mouse	0.03	19 days during gestation	oral in water	reproduction	pup weight			0.77	1.42	EPA 2005a
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	K2Cr2O4 (hexavalent)	MacKenzie et al. 1958/Steven et al. 1976	rat	0.35	1 year/3 months	oral in water	body weight/mortality		0.1	subchronic-chronic	3.28	13.14	Sample et al. 1996
Cobalt	Cobalt chloride	Domingo et al. 1985	rat	0.275	days 6 to 15 of gestation	oral gavage	reproduction				5.45	10.9	Cobalt EcoSSL/ EPA 2005b
Copper	Copper sulfate	Aulerich et al. 1982	mink	1	357 days	oral in diet	reproduction				11.7	15.14	
Lead	Lead acetate	Kimmel et al. 1980	rat	0.35	10 weeks	oral in diet	reproduction				0.92	4.7	
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3-3
Toxicity Reference Values for Birds and Mammals
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Form/Surrogate Analyte	Primary Study	Test Species	Test Species Body Weight (kg)	Duration	Exposure Route	General Effect Endpoint	Specific Effect Endpoint	Uncertainty Factors Applied	Uncertainty Factor type	NOAEL (mg/kg/d)	LOAEL (mg/kg/d)	Secondary Source[a]
Manganese	Manganese Oxide	Laskey et al. 1982	rat	0.35	224 days	oral in diet	reproduction				88	284	Sample et al. 1996
Mercury	Methylmercury chloride	Verschuuren et al. 1976	rat	0.35	three generations	oral in diet	reproduction	pup viability			0.032	0.16	Sample et al. 1996
Molybdenum	Molybdate (MoO4)	Schroeder and Mitchener 1971	mouse	0.03	three generations	oral in water	reproduction	reproductive success, number of runts	0.1	LOAEL-NOAEL	0.26	2.6	Sample et al. 1996
Nickel	Nickel chloride	Smith et al. 1993	rat	0.35	two generations	oral in water	reproduction				6.8	31.63	
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	Potassium selenate	Rosenfeld and Beath 1954	rat	0.35	two generations	oral in water	reproduction	young produced			0.2	0.33	Sample et al. 1996
Silver	AgNO3	Rungby and Dacsher 1984	mouse	0.03	125 days	oral	behavior	activity			2.38	23.8	
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	Thalleous acetate	Downs et al. 1960	rat		15 weeks	oral	growth	body weight			0.48	1.43	
Vanadium	sodium metavanadate	Domingo et al. 1986	rat	0.35	60 days through reproduction	oral intubation	reproduction		0.1	LOAEL-NOAEL	0.21	2.1	Sample et al. 1996
Zinc	Zinc oxide	Schlicker and Cox 1968	rat	0.35	days 1 to 16 of gestation	oral in diet	reproduction				160	320	Sample et al. 1996
DDT (and metabolites	DDT	Fitzhugh 1948	rat	0.35	2 years	oral in diet	reproduction	number of young produced			0.8	4	Sample et al. 1996

Notes:
Uncertainty factors were used to adjust all measured effect concentrations to chronic NOAELS and chronic LOAELs as follows:
NOAEL to LOAEL = 0.1
Subchronic to chronic = 0.1
LD50 to chronic = 0.01
subacute to chronic = 0.01
acute to chronic = 0.01
where:
chronic = >12 weeks or during critical lifestage
subchronic = 4 to 12 weeks
subacute = <4 weeks, multiple doses
acute = only one dose
kg = kilogram
mg/kg/d = milligram analyte per kilogram body weight per day
LOAEL = lowest observed adverse effect level
NA = not available
NOAEL = no observed adverse effect level

TABLE 3-4

Summary of Media Screening Values (Biota Concentration Guides [BCGs]) for Radionuclides

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

	Soil BCGs (pCi/g)		**Water BCGs (pCi/L)**				**Sediment BCGs (pCi/g)**	
Analyte	**Terrestrial Animal**	**Terrestrial Plant**	**Aquatic Animal**	**Riparian Animal**	**Terrestrial Animal**	**Terrestrial Plant**	**Aquatic Animal**	**Riparian Animal**
Cs-137	20.8	2210	1050	42.6	599000	49300000	49300	3120
K-40	119	1380	2900	250	1930000	58000000	58000	4430
Ra-226	50.6	288	10.2	4.08	8110	14500000	14500	101
Ra-228	43.9	245	8.49	3.4	6780	29000000	29000	87.8
Th-228	530	6420	374	2040	63300	16400000	16400	805
Th-230	9980	175000	2570	13900	452000	2740000000	2740000	10400
Th-232	1510	23500	304	1680	53600	3290000000	3290000	1300

Note:

All values extracted from USDOE (2002) or USDOE (2006)

TABLE 3-5
Exposure Parameters for Wildlife Receptors
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

	Exposure Factors									Feeding Habits and Foraging Range									
	Body Weight			Ingestion Rate - Food Dry Wt.			Ingestion Rate - Water			Biotic Dietary Items (% Diet)						Abiotic Media Ingestion (% diet)			
Species	Mean (kg)	Notes	Reference	Mean (kg/kg BW-d)	Notes	Reference	L/kg bw -d	Notes	Reference	Plants	Terrestrial Invertebrates	Mammals	Aquatic Invertebrates	Fish	Reference	Soil	Sediment	Notes	Reference
Birds																			
California Least Tern	Both: 0.0398	Values for birds from coastal California	Thompson et al. 1997	0.22	Estimated using allometric estimation for charadriiforms and a body weight of 0.0398 kg.	Nagy 2001	0.17	Estimated using allometric equation for birds and a body weight of 0.0398 kg	Calder and Braun 1983	0	0	0	0	100	Thompson et al. 1997	--	0	As a piscivore, soil ingestion is assumed to be negligible.	
Western Snowy Plover	Range 0.034 - 0.058 kg Mean = 0.046		USFWS 2001	0.22	Estimated using allometric estimation for charadriiforms and a body weight of 0.046 kg.	Nagy 2001	0.16	Estimated using allometric equation for birds and a body weight of 0.046 kg	Calder and Braun 1983	0	0	0	100	0	USFWS 2001	--	16.5	Data not available for snowy plover. Value represents mean for five other charadriiform birds.	Beyer et al. 1994
Belding's Savannah Sparrow	0.0187	Data from San Diego, CA	Wheelwright and Rising 1993	0.25	Estimated using allometric estimation for passerines and a body weight of 0.0187 kg.	Nagy 2001	0.22	Estimated using allometric equation for birds and a body weight of 0.0187 kg	Calder and Braun 1983	50	*		50		Wheelwright and Rising 1993	*	2	Wheelright and Rising (1993) report that foraging is primarily by gleaning. Minimum soil ingestion assumed.	adapted from Beyer et al. 1994
Mammals																			
Ornate Shrew (Mammalian Terrestrial Insectivore)	Male: 0.0052 Female: 0.0048 Mean: 0.005	Values reported for California	Silva and Downing 1995	0.26	Estimated using allometric equation for mammals and the mean body weight of 0.005 kg.	Nagy 2001	0.17	Estimated using allometric equation for mammals and a body weight of 0.005 kg	Calder and Braun 1983	--	100		--		Harris 1990	3		Data not available for ornate shrew. Assumed to be similar to short-tailed shrew. This is the 90th percentile value.	EPA 2007a (EcoSSLs)
California Vole (Mammalian Terrestrial Herbivore)	Male (breeding): 0.04-0.06 Male: (non-breeding): 0.03-0.05 Female (breeding): 0.04-0.05 Female (non-breeding) 0.03-0.04 Mean: 0.043		Cockburn and Lidicker (1983) in Cal Ecotox Database	0.206 (6SE) fed rabbit pellets 0.254 (8SE) fed bromegrass 0.157 (5SE) fed ryegr. Seed Mean: 0.206		Batzli and Cole 1979 in Cal Ecotox Database	0.14	Estimated using allometric equation for mammals and a body weight of 0.043 kg	Calder and Braun 1983	100	--		--		Batzli and Pitelka 1971 in Cal Ecotox Database	2.4		Data not available for California vola. Assumed to be similar to meadow vole.	adapted from Beyer et al. 1994

*For this ERA, sparrows were assumed to forage in both upland and marsh habitats. For upland exposure estimates, a diet of 100 percent terrestrial invertebrates was used. For marsh exposure estimates, a diet of 100 percent aquatic invertebrates was used. A soil/sediment ingestion rate of 3.3 percent of diet was applied to both habitats.

TABLE 3-6

Summary of Bioaccumulation Models for Uptake from Sediment to Benthic Invertebrates

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

	Regression Models[a]				Bioaccumulation Factors			
Analyte	**B0**	**B1**	**Source**	**Notes**	**BAF**	**Source**	**Notes**	**Surrogate (Yes/No)[b]**
Aluminum					**1**	Default Value		
Antimony					**1**	Baes et al. 1984 cited in EPA 2007a	Assumed earthworm conc = soil conc as per EPA 2007a (Table 4a)	Yes
Arsenic					**4.330**	Bechtel Jacobs 1998b	90th percentile (Dep.) from Table 2	No
Barium					**1**	Default Value		
Beryllium					**1.182**	Sample et al. 1998a	90th percentile - taken from soil to terrestrial invert Table 3-5	Yes
Boron					**1**	Default Value		
Cadmium					**3.073**	Bechtel Jacobs 1998b	90th percentile (Dep.) from Table 2	No
Calcium					**1.896**	Sample et al. 1998a	90th percentile from Table C.1	Yes
Chromium					**0.186**	Bechtel Jacobs 1998b	90th percentile (Dep.) from Table 2	No
Cobalt					**1**	Default Value		
Copper					**7.957**	Bechtel Jacobs 1998b	90th percentile (Dep.) from Table 2	No
Cyanide					**1**	Default Value		
Iron					**1**	Default Value		
Lead					**0.326**	Bechtel Jacobs 1998b	90th percentile (Dep.) from Table 2	No
Magnesium					**1**	Default Value		
Manganese					**1**	Default Value		
Mercury					**3.981**	Bechtel Jacobs 1998b	90th percentile (Dep.) from Table 2	No
Molybdenum					**2.091**	Sample et al. 1998a	90th percentile from Table C.1	Yes
Nickel					**0.214**	Bechtel Jacobs 1998b	90th percentile (Dep.) from Table 2	No
Potassium					**5.964**	Sample et al. 1998a	90th percentile from Table C.1	Yes
Selenium	**-0.075**	**0.733**	Sample et al. 1998a	Equation selected by EPA 2007a	4.149	USACHPPM 2004	90th percentile from Table 4-5 (Insecta)	Yes
Silver					**15.338**	Sample et al. 1998a	90th percentile	Yes
Sodium					**64.503**	Sample et al. 1998a	90th percentile from Table C.1	Yes
Strontium					**1**	Default Value		
Thallium					**1**	Default Value		
Vanadium					**1**	Default Value		
Zinc					**4.759**	Bechtel Jacobs 1998b	90th percentile (Dep.) from Table 2	No
p,p'-DDE	**2.4771**	**0.8804**	EPA 2007a					Yes

Bold indicates regression or BAF selected for use in the wildlife exposure calculation

[a]Regression models are in the form of LN(invertebrate concentration) = B0 + B1(LN (sediment concentration))

[b]BAFs developed for terrestrial invertebrates were used as surrogates for analytes that lacked aquatic invertebrate BAFs

BAF data for benthic invertebrates considered to represent all aquatic invertebrates

BAF = Bioaccumulation Factor

EPA = United States Environmental Protection Agency

USACHPPM = United States Army Center for Health Promotion and Preventive Medicine

TABLE 3-7
Summary of Bioaccumulation Models for Uptake from Soil to Plants
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

	Regression Models [a]				Bioaccumulation Factors		
Analyte	**B0**	**B1**	**Source**	**Notes**	**Plant BAF**	**Source**	**Notes**
Aluminum					**0.005**	Bechtel-Jacobs 1998a	90th percentile - Table D-1 validation data
Antimony	**-3.233**	**0.938**	EPA 2005a	Derived from measured data in Appendix A	0.011	Bechtel-Jacobs 1998a	90th percentile
Arsenic	-1.992	0.564	Bechtel Jacobs 1998	Single variable regression	**1.103**	Bechtel-Jacobs 1998a	90th percentile; EPA 2005 used median 0.0375
Barium					**0.477**	Bechtel-Jacobs 1998a	90th percentile; EPA 2005 used median 0.156
Beryllium	**-0.5361**	**0.7345**	EPA 2005a	Derived from measured data in Appendix A			
Boron					**18.11**	USACHPPM 2004	90th percentile - Table 4-6 leaf tissue
Cadmium	**-0.476**	**0.546**	Bechtel Jacobs 1998	Cited in EPA 2005a (Table 4a)	3.43	USACHPPM 2004	90th percentile - Table 4-6 leaf tissue
Calcium					**6.0335**	Bechtel-Jacobs 1998a	90th percentile - Table D-1 validation data
Chromium					**0.0839**	Bechtel-Jacobs 1998a	90th percentile; EPA 2005 used median 0.041
Cobalt					**0.0248**	Bechtel-Jacobs 1998a	90th percentile; EPA 2005 used median 0.0075
Copper	**0.669**	**0.394**	Bechtel Jacobs 1998	Cited in EPA 2005a (Table 4a)	1.31	USACHPPM 2004	90th percentile - Table 4-6 leaf tissue
Cyanide					**1**	Default	
Iron					**0.01**	Bechtel-Jacobs 1998a	90th percentile - Table D-1 validation data
Lead	**-1.328**	**0.561**		Cited in EPA 2005a (Table 4a)	1.31	USACHPPM 2004	90th percentile - Table 4-6 leaf tissue
Magnesium					**2.0597**	Bechtel-Jacobs 1998a	90th percentile - Table D-1 validation data
Manganese					**0.234**	Bechtel-Jacobs 1998a	90th percentile; EPA 2005 used median 0.079
Mercury	**-0.996**	**0.544**	Bechtel Jacobs 1998	Single variable regression			
Molybdenum					**4.4177**	USACHPPM 2004	90th percentile - Table 4-6 leaf tissue
Nickel	**-2.224**	**0.748**	Bechtel Jacobs 1998	Cited in EPA 2005a (Table 4a)	0.72	USACHPPM 2004	90th percentile - Table 4-6 leaf tissue
Potassium					**11.2630**	Bechtel-Jacobs 1998a	90th percentile - Table D-1 validation data
Selenium	**-0.678**	**1.104**	Bechtel Jacobs 1998	Cited in EPA 2005a (Table 4a)	1.9677	USACHPPM 200	90th percentile - Table 4-6 leaf tissue
Silver					**0.0367**	Bechtel-Jacobs 1998a	90th percentile
Sodium					**0.8202**	Bechtel-Jacobs 1998a	90th percentile - Table D-1 validation data
Thallium					**0.004**	ORNL RAIS 2005	
Vanadium					**0.0097**	Bechtel-Jacobs 1998a	90th percentile
Zinc	**1.575**	**0.555**	Bechtel Jacobs 1998	Cited in EPA 2005a (Table 4a)	1.336	USACHPPM 2004	90th percentile - Table 4-6 leaf tissue

Notes:
[a]Regression models are in the form of LN(plant concentration) = B0 + B1(LN (soil concentration))
BAF = Bioaccumulation Factor
EPA = United States Environmental Protection Agency
USACHPPM = United States Army Center for Health Promotion and Preventive Medicine

TABLE 3-8

Summary of Bioaccumulation Models for Uptake from Soil to Terrestrial Invertebrates

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

	Regression Models[a]				Bioaccumulation Factors		
Analyte	**B0**	**B1**	**Invertebrate Regression Reference**	**Notes**	**Invertebrate BAF**	**Source**	**Notes**
Aluminum					**0.118**	Sample et al. 1998a	90th percentile - Table C.1 ORR UFs
Antimony					**1**	Bases et al. 1984 cited in EPA 2005	Assumed earthworm conc = soil conc according to (Table 4a)
Arsenic	**-1.421**	**0.706**	Sample et al. 1998a	Sample et al. 1999 cited in EPA 2005 (Table 4a)	0.1258	USACHPPM 2004	90th percentile - Table 4-5 (Insecta)
Barium					**0.16**	Sample et al. 1998a	90th percentile; EPA 2005 used median 0.091
Beryllium					**1.182**	Sample et al. 1998a	90th percentile; EPA 2005 used median 0.045
Boron					**1**	Default	
Cadmium	**2.114**	**0.795**	Sample et al. 1998a	Sample et al. 1999 cited in EPA 2005 (Table 4a)	4.078	USACHPPM 2004	90th percentile - Table 4-5 (Insecta)
Calcium					**1.896**	Sample et al. 1998a	90th percentile - Table C.1 ORR UFs
Chromium					**3.162**	Sample et al. 1998a	90th percentile; EPA 2005 used median 0.306
Cobalt					**0.291**	Sample et al. 1998a	90th percentile; EPA 2005 used median 0.122
Copper	1.675	0.264	Sample et al. 1998a	General regression	**1.531**	Sample et al. 1998a	90th percentile; EPA 2005 used median 0.515 and cited Sample et al. 1999
Cyanide					**1**	Default	
Iron					**0.078**	Sample et al. 1998a	90th percentile - Table C.1 ORR UFs
Lead	**-0.218**	**0.807**	Sample et al. 1998a	Sample et al. 1999 cited in EPA 2005 (Table 4a)			
Magnesium					**0.425**	Sample et al. 1998a	90th percentile - Table C.1 ORR UFs
Manganese	**-0.809**	**0.682**	Sample et al. 1998a	Sample et al. 1999 cited in EPA 2005 (Table 4a)	0.2267	USACHPPM 2004	90th percentile - Table 4-5 (Insecta)
Mercury	**0.0781**	**0.3369**	Sample et al. 1998a	General regression, not including validation data	2	USACHPPM 2004	90th percentile - Table 4-5 (Insecta)
Molybdenum					**2.091**	Sample et al. 1998a	90th percentile - Table C.1 ORR UFs
Nickel					**4.73**	Sample et al. 1998a	90th percentile
Potassium					**5.964**	Sample et al. 1998a	90th percentile - Table C.1 ORR UFs
Selenium	**-0.075**	**0.733**	Sample et al. 1998a	Sample et al. 1999 cited in EPA 2005 (Table 4a)	4.149	USACHPPM 2004	90th percentile - Table 4-5 (Insecta)
Silver					**15.338**	Sample et al. 1998a	90th percentile; EPA 2005 used median 2.045
Sodium					**64.503**	Sample et al. 1998a	90th percentile - Table C.1 ORR UFs
Thallium					**0.256**	USACHPPM 2004	90th percentile - Table 4-5 (Insecta)
Vanadium					**0.088**	Sample et al. 1998a	90th percentile; EPA 2005 used median 0.042
Zinc	**4.449**	**0.328**	Sample et al. 1998a	Sample et al. 1999 cited in EPA 2005 (Table 4a)			

[a]Regression models are in the form of LN(invertebrate concentration) = B0 + B1(LN (soil concentration))

BAF = Bioaccumulation Factor

EPA = United States Environmental Protection Agency

USACHPPM = United States Army Center for Health Promotion and Preventive Medicine

TABLE 3-9
Summary of Bioaccumulation Models for Uptake from Soil to Small Mammals
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

	Regression Models [a]				Bioaccumulation Factors		
Analyte	**B0**	**B1**	**Source**	**Notes**	**Mammal BAF**	**Source**	**Notes**
Aluminum					**0.0732**	Sample et al. 1998b	90th percentile (general) - Table C.1 UFs from validation data
Antimony						Baes et al. 1984 cited in EPA 2007a	**0.001* 50 * Cdiet (from Table 4a)**
Arsenic	**-4.8471**	**0.8188**	Sample et al. 1998b	cited in EPA 2007a (Table 4a) - general			
Barium					**0.1121**	Sample et al. 1998b	90th percentile general
Beryllium						Baes et al. 1984 cited in EPA 2007a (table 4a)	**0.001 * 50 * Cdiet (from Table 4a)**
Boron					**1**	Default value	Default Value
Cadmium	**-1.2571**	**0.4723**	Sample et al. 1998b	cited in EPA 2007a (Table 4a); Sample et al. 1998b recommends omnivore (B0= -1.5383, B1=0.566) , but EcoSSLs used herbivore			
Calcium					**15.5307**	Sample et al. 1998b	90th percentile (general) - Table C.1 UFs from validation data
Chromium	**-1.4599**	**0.7338**	Sample et al. 1998b	cited in EPA 2007a (Table 4a) - general			
Cobalt	**-4.4669**	**1.307**	Sample et al. 1998b	cited in EPA 2007a (Table 4a) - general			
Copper	**2.042**	**0.1444**	Sample et al. 1998b	cited in EPA 2007a (Table 4a) - general			
Cyanide					**1**	Default value	
Iron	**-0.2879**	**0.5969**	Sample et al. 1998b	General regression			
Lead	**0.0761**	**0.4422**	Sample et al. 1998b	cited in EPA 2007a (Table 4a) - general			
Magnesium					**0.9925**	Sample et al. 1998b	90th percentile (general) - Table C.1 UFs from validation data
Manganese					**0.0587**	Sample et al. 1998b	90th percentile (general) - Table C.1 UFs from validation data
Mercury					**0.1920**	Sample et al. 1998b	90th percentile (general) - Table C.1 UFs from validation data
Molybdenum					**1**	Default value	
Nickel	**-0.2462**	**0.4658**	Sample et al. 1998b	cited in EPA 2007a (Table 4a) - general			
Potassium					**7.7143**	Sample et al. 1998b	90th percentile (general) - Table C.1 UFs from validation data
Selenium	**-0.4158**	**0.3764**	Sample et al. 1998b	cited in EPA 2007a (Table 4a) - general			
Silver					**0.5013**	Sample et al. 1998b	90th percentile (general) - Table C.1 UFs from validation data
Sodium					**81.9473**	Sample et al. 1998b	90th percentile (general) - Table C.1 UFs from validation data
Thallium					**0.1227**	Sample et al. 1998b	90th percentile general UF
Vanadium					**0.0179**	Sample et al. 1998b	90th percentile (general) - Table C.1 UFs from validation data
Zinc	**4.3632**	**0.0706**	Sample et al. 1998b	cited in EPA 2007a (Table 4a); Sample et al. 1998b recommends omnivore (B0= 4.4713 B1=0.0738) , but EcoSSLs used herbivore			

[a]Regression models are in the form of LN(small mammal concentration) = B0 + B1(LN (soil concentration))
BAF = Bioaccumulation Factor
EPA = United States Environmental Protection Agency

TABLE 3-10
Results of Screening Comparisons of Surface Water Concentrations to Freshwater Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Freshwater Screening Values[a]	HQ	Conclusion
Antimony	Poten. Bkgd[b]	1	4	6.2	30	30	30	1.00	fail, retain
Antimony	onsite[c]	0	6	30	30	30	30	1.00	fail, retain
Arsenic	Poten. Bkgd	3	7	0	4.7	8	150	0.05	pass
Arsenic	Offsite[d]	0	2	0	0	0	150	0.00	pass
Arsenic	onsite	3	8	0	5	6.9	150	0.05	pass
Barium	Poten. Bkgd	7	7	28.2	37.1	64.2	4	16.05	fail, retain
Barium	Offsite	2	2	47.8	128.4	209	4	52.25	fail, retain
Barium	onsite	8	8	27.2	50.65	153	4	38.25	fail, retain
Beryllium	Poten. Bkgd	4	4	0.06	0.08	0.09	0.66	0.14	pass
Beryllium	onsite	5	6	0.07	0.21	2.5	0.66	3.79	fail, retain
Cadmium	Poten. Bkgd	0	7	0	2.5	2.5	2.2	1.14	fail, retain
Cadmium	Offsite	0	2	0	0	0	2.2	0.00	pass
Cadmium	onsite	2	8	0	1.455	2.5	2.2	1.14	fail, retain
Chromium	Poten. Bkgd	3	7	5	5	6.6	11	0.60	pass
Chromium	Offsite	2	2	8.09	15.25	22.4	11	2.04	fail, retain
Chromium	onsite	2	8	5	5	6.4	11	0.58	pass
Cobalt	Poten. Bkgd	0	4	25	25	25	23	1.09	fail, retain
Cobalt	onsite	0	6	25	25	25	23	1.09	fail, retain
Copper	Poten. Bkgd	4	7	0	5.2	5.7	9	0.63	pass
Copper	Offsite	2	2	6.76	13.5	20.3	9	2.26	fail, retain
Copper	onsite	7	8	0	10.7	67.1	9	7.46	fail, retain
Lead	Poten. Bkgd	0	7	0	5	5	2.5	2.00	fail, retain
Lead	Offsite	0	2	0	0	0	2.5	0.00	pass
Lead	onsite	0	8	0	5	5	2.5	2.00	fail, retain
Manganese	Poten. Bkgd	7	7	70.2	118	353	120	2.94	fail, retain
Manganese	Offsite	2	2	96.2	262.1	428	120	3.57	fail, retain
Manganese	onsite	8	8	92.4	139.5	1100	120	9.17	fail, retain
Mercury	Poten. Bkgd	0	7	0	0.03	0.03	1.3	0.02	pass
Mercury	Offsite	0	2	0	0	0	1.3	0.00	pass
Mercury	onsite	1	8	0	0.03	0.033	1.3	0.03	pass
Nickel	Poten. Bkgd	4	7	0	3.6	4.5	52	0.09	pass
Nickel	Offsite	1	2	0	11.45	22.9	52	0.44	pass
Nickel	onsite	6	8	0	3.7	5.2	52	0.10	pass
Selenium	Poten. Bkgd	0	7	0	10.6	10.6	5	2.12	fail, retain
Selenium	Offsite	0	2	0	0	0	5	0.00	pass
Selenium	onsite	0	8	0	10.6	10.6	5	2.12	fail, retain
Silver	Poten. Bkgd	0	7	0	5	5	0.36	13.89	fail, retain
Silver	Offsite	0	2	0	0	0	0.36	0.00	pass
Silver	onsite	0	8	0	5	5	0.36	13.89	fail, retain
Vanadium	Poten. Bkgd	4	4	0.63	0.96	1.6	20	0.08	pass
Vanadium	onsite	4	6	0.83	1.65	25	20	1.25	fail, retain
Zinc	Poten. Bkgd	6	7	0	11.8	46.7	120	0.39	pass
Zinc	Offsite	2	2	22.7	27.45	32.2	120	0.27	pass
Zinc	onsite	8	8	12.3	32.95	229	120	1.91	fail, retain

TABLE 3-10

Results of Screening Comparisons of Surface Water Concentrations to Freshwater Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Freshwater Screening Values[a]	HQ	Conclusion
Cs-137	Poten. Bkgd	0	4	1.355	1.52	1.65	42.6	0.04	pass
Cs-137	onsite	0	6	1.405	1.545	1.78	42.6	0.04	pass
K-40	Poten. Bkgd	2	4	12.4	28	45.5	250	0.18	pass
K-40	onsite	3	6	22.4	54.0	264	250	1.06	fail, retain
Th-228	Poten. Bkgd	0	4	0.20	0.34	0.61	374	0.00	pass
Th-228	onsite	0	6	0.26	0.38	0.69	374	0.00	pass
Th-230	Poten. Bkgd	0	4	0.10	0.13	0.32	2570	0.00	pass
Th-230	onsite	0	6	0.20	0.27	0.45	2570	0.00	pass
Th-232	Poten. Bkgd	0	4	0.12	0.13	0.34	304	0.00	pass
Th-232	onsite	0	6	0.16	0.24	0.34	304	0.00	pass

Notes:

Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgdient

[a]Concentrations for chemicals are ug/L and pCi/L for radionuclides

[b]Poten. Bkgd samples from OID or Hueneme Drain upstream of site

[c]Onsite samples from OID or lagoon within or downstream of site

[d]Offsite samples from wetland on NCL east of site

TABLE 3-11

Results of Screening Comparisons of Sediment Concentrations to Freshwater and Marine Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Maximum	Freshwater Sediment mg/kg (MacDonald et al. 2000) TEC	Marine Sediment mg/kg (Field et al. 2002) T20	Screening HQ	conclusion
Antimony	OID	Poten. Bkgd	0	6	4.2	3[a]	0.63	1.40	failed; retain
Antimony	OID	onsite	1	10	7.15	3[a]	0.63	2.38	failed; retain
Antimony	Wetland	Poten. Bkgd	1	7	4.25	3[a]	0.63	1.42	failed; retain
Antimony	Wetland	onsite	3	6	11.8	3[a]	0.63	3.93	failed; retain
Antimony	Beach	Poten. Bkgd	1	6	6.2	3[a]	0.63	9.84	failed; retain
Antimony	Beach	onsite	0	6	3.1	3[a]	0.63	4.92	failed; retain
Antimony	Marine	Poten. Bkgd	0	6	3.95	3[a]	0.63	6.27	failed; retain
Antimony	Marine	onsite	0	6	4	3[a]	0.63	6.35	failed; retain
Arsenic	OID	Poten. Bkgd	4	6	9.2	9.79	7.4	0.94	pass
Arsenic	OID	onsite	10	10	11.9	9.79	7.4	1.22	failed; retain
Arsenic	Wetland	Poten. Bkgd	6	7	2.53	9.79	7.4	0.26	pass
Arsenic	Wetland	onsite	5	6	7.1	9.79	7.4	0.73	pass
Arsenic	Beach	Poten. Bkgd	6	6	2.5	9.79	7.4	0.34	pass
Arsenic	Beach	onsite	6	6	4.8	9.79	7.4	0.65	pass
Arsenic	Marine	Poten. Bkgd	6	6	7.2	9.79	7.4	0.97	pass
Arsenic	Marine	onsite	6	6	3.5	9.79	7.4	0.47	pass
Barium	OID	Poten. Bkgd	6	6	147		48[a]		
Barium	OID	onsite	10	10	2970		48[a]		
Barium	Wetland	Poten. Bkgd	7	7	748		48[a]		
Barium	Wetland	onsite	6	6	4620		48[a]		
Barium	Beach	Poten. Bkgd	6	6	57.2		48[a]	1.19	failed; retain
Barium	Beach	onsite	6	6	297		48[a]	6.19	failed; retain
Barium	Marine	Poten. Bkgd	6	6	332		48[a]	6.92	failed; retain
Barium	Marine	onsite	6	6	154		48[a]	3.21	failed; retain
Beryllium	OID	Poten. Bkgd	6	6	0.51				
Beryllium	OID	onsite	10	10	10.3				
Beryllium	Wetland	Poten. Bkgd	6	6	2.8				
Beryllium	Wetland	onsite	6	6	19.7				
Beryllium	Beach	Poten. Bkgd	0	6	0.26				
Beryllium	Beach	onsite	3	6	0.52				
Beryllium	Marine	Poten. Bkgd	6	6	0.46				
Beryllium	Marine	onsite	6	6	0.27				
Cadmium	OID	Poten. Bkgd	5	6	0.98	0.99	0.38	0.99	pass
Cadmium	OID	onsite	10	10	2.9	0.99	0.38	2.93	failed; retain
Cadmium	Wetland	Poten. Bkgd	7	7	1	0.99	0.38	1.01	failed; retain
Cadmium	Wetland	onsite	6	6	17	0.99	0.38	17.17	failed; retain
Cadmium	Beach	Poten. Bkgd	0	6	0.26	0.99	0.38	0.68	pass
Cadmium	Beach	onsite	5	6	0.46	0.99	0.38	1.21	failed; retain
Cadmium	Marine	Poten. Bkgd	4	6	0.42	0.99	0.38	1.11	failed; retain
Cadmium	Marine	onsite	5	6	0.48	0.99	0.38	1.26	failed; retain
Chromium	OID	Poten. Bkgd	5	6	16.2	43.4	49	0.37	pass
Chromium	OID	onsite	10	10	108	43.4	49	2.49	failed; retain
Chromium	Wetland	Poten. Bkgd	7	7	17.2	43.4	49	0.40	pass

TABLE 3-11
Results of Screening Comparisons of Sediment Concentrations to Freshwater and Marine Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Maximum	Freshwater Sediment mg/kg (MacDonald et al. 2000) TEC	Marine Sediment mg/kg (Field et al. 2002) T20	Screening HQ	conclusion
Chromium	Wetland	onsite	6	6	503	43.4	49	11.59	failed; retain
Chromium	Beach	Poten. Bkgd	6	6	4.9	43.4	49	0.10	pass
Chromium	Beach	onsite	6	6	18.3	43.4	49	0.37	pass
Chromium	Marine	Poten. Bkgd	6	6	18.9	43.4	49	0.39	pass
Chromium	Marine	onsite	6	6	11.8	43.4	49	0.24	pass
Cobalt	OID	Poten. Bkgd	5	6	7.1		10[a]		
Cobalt	OID	onsite	10	10	11.9		10[a]		
Cobalt	Wetland	Poten. Bkgd	6	6	3		10[a]		
Cobalt	Wetland	onsite	6	6	12.2		10[a]		
Cobalt	Beach	Poten. Bkgd	6	6	1.4		10[a]	0.14	pass
Cobalt	Beach	onsite	6	6	2.8		10[a]	0.28	pass
Cobalt	Marine	Poten. Bkgd	6	6	6.4		10[a]	0.64	pass
Cobalt	Marine	onsite	6	6	3.7		10[a]	0.37	pass
Copper	OID	Poten. Bkgd	6	6	30.2	31.6	32	0.96	pass
Copper	OID	onsite	10	10	854	31.6	32	27.03	failed; retain
Copper	Wetland	Poten. Bkgd	7	7	76.5	31.6	32	2.42	failed; retain
Copper	Wetland	onsite	6	6	5960	31.6	32	188.61	failed; retain
Copper	Beach	Poten. Bkgd	6	6	2.4	31.6	32	0.08	pass
Copper	Beach	onsite	6	6	3.6	31.6	32	0.11	pass
Copper	Marine	Poten. Bkgd	6	6	9.2	31.6	32	0.29	pass
Copper	Marine	onsite	6	6	4.9	31.6	32	0.15	pass
Lead	OID	Poten. Bkgd	6	6	23.2	35.5	30	0.65	pass
Lead	OID	onsite	10	10	139	35.5	30	3.92	failed; retain
Lead	Wetland	Poten. Bkgd	7	7	35	35.5	30	0.99	pass
Lead	Wetland	onsite	6	6	736	35.5	30	20.73	failed; retain
Lead	Beach	Poten. Bkgd	6	6	1.8	35.5	30	0.06	pass
Lead	Beach	onsite	6	6	5.4	35.5	30	0.18	pass
Lead	Marine	Poten. Bkgd	6	6	8.2	35.5	30	0.27	pass
Lead	Marine	onsite	6	6	4.9	35.5	30	0.16	pass
Manganese	OID	Poten. Bkgd	6	6	555	1100[a]	260[a]	0.50	pass
Manganese	OID	onsite	10	10	1450	1100[a]	260[a]	1.32	failed; retain
Manganese	Wetland	Poten. Bkgd	7	7	322	1100[a]	260[a]	0.29	pass
Manganese	Wetland	onsite	6	6	2980	1100[a]	260[a]	2.71	failed; retain
Manganese	Beach	Poten. Bkgd	6	6	70.1	1100[a]	260[a]	0.27	pass
Manganese	Beach	onsite	6	6	120	1100[a]	260[a]	0.46	pass
Manganese	Marine	Poten. Bkgd	6	6	274	1100[a]	260[a]	1.05	failed; retain
Manganese	Marine	onsite	6	6	180	1100[a]	260[a]	0.69	pass
Mercury	OID	Poten. Bkgd	0	5	0.07	0.18	0.14	0.39	pass
Mercury	OID	onsite	3	10	0.12	0.18	0.14	0.67	pass
Mercury	Wetland	Poten. Bkgd	3	7	0.11	0.18	0.14	0.61	pass
Mercury	Wetland	onsite	2	6	0.19	0.18	0.14	1.06	failed; retain
Mercury	Beach	Poten. Bkgd	4	6	0.098	0.18	0.14	0.70	pass
Mercury	Beach	onsite	6	6	0.34	0.18	0.14	2.43	failed; retain

TABLE 3-11
Results of Screening Comparisons of Sediment Concentrations to Freshwater and Marine Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Maximum	Freshwater Sediment mg/kg (MacDonald et al. 2000) TEC	Marine Sediment mg/kg (Field et al. 2002) T20	Screening HQ	conclusion
Mercury	Marine	Poten. Bkgd	0	6	0.065	0.18	0.14	0.46	pass
Mercury	Marine	onsite	1	6	0.42	0.18	0.14	3.00	failed; retain
Nickel	OID	Poten. Bkgd	6	6	18.4	22.7	15	0.81	pass
Nickel	OID	onsite	10	10	73.4	22.7	15	3.23	failed; retain
Nickel	Wetland	Poten. Bkgd	7	7	12.2	22.7	15	0.54	pass
Nickel	Wetland	onsite	6	6	244	22.7	15	10.75	failed; retain
Nickel	Beach	Poten. Bkgd	6	6	4.1	22.7	15	0.27	pass
Nickel	Beach	onsite	6	6	6.6	22.7	15	0.44	pass
Nickel	Marine	Poten. Bkgd	6	6	16.3	22.7	15	1.09	failed; retain
Nickel	Marine	onsite	6	6	10.7	22.7	15	0.71	pass
Selenium	OID	Poten. Bkgd	1	5	6.4		1[a]		
Selenium	OID	onsite	0	10	4.2		1[a]		
Selenium	Wetland	Poten. Bkgd	1	7	2.5		1[a]		
Selenium	Wetland	onsite	5	6	5.1		1[a]		
Selenium	Beach	Poten. Bkgd	0	6	1.8		1[a]	1.80	failed; retain
Selenium	Beach	onsite	0	6	1.8		1[a]	1.80	failed; retain
Selenium	Marine	Poten. Bkgd	0	6	2.3		1[a]	2.30	failed; retain
Selenium	Marine	onsite	0	6	2.3		1[a]	2.30	failed; retain
Silver	OID	Poten. Bkgd	1	6	4.1	4.5[a]	0.23	0.91	pass
Silver	OID	onsite	0	10	1.2	4.5[a]	0.23	0.27	pass
Silver	Wetland	Poten. Bkgd	1	7	0.7	4.5[a]	0.23	0.16	pass
Silver	Wetland	onsite	0	6	1.05	4.5[a]	0.23	0.23	pass
Silver	Beach	Poten. Bkgd	0	6	0.5	4.5[a]	0.23	2.17	failed; retain
Silver	Beach	onsite	0	6	0.5	4.5[a]	0.23	2.17	failed; retain
Silver	Marine	Poten. Bkgd	0	6	0.65	4.5[a]	0.23	2.83	failed; retain
Silver	Marine	onsite	0	6	0.65	4.5[a]	0.23	2.83	failed; retain
Thallium	OID	Poten. Bkgd	2	5	2.4				
Thallium	OID	onsite	3	10	3				
Thallium	Wetland	Poten. Bkgd	0	6	1.75				
Thallium	Wetland	onsite	2	6	6.5				
Thallium	Beach	Poten. Bkgd	0	6	1.3				
Thallium	Beach	onsite	0	6	1.3				
Thallium	Marine	Poten. Bkgd	0	6	1.65				
Thallium	Marine	onsite	0	6	1.65				
Vanadium	OID	Poten. Bkgd	6	6	31		57[a]		
Vanadium	OID	onsite	10	10	59.8		57[a]		
Vanadium	Wetland	Poten. Bkgd	6	6	14.2		57[a]		
Vanadium	Wetland	onsite	6	6	83		57[a]		
Vanadium	Beach	Poten. Bkgd	6	6	7.1		57[a]	0.12	pass
Vanadium	Beach	onsite	6	6	19.4		57[a]	0.34	pass
Vanadium	Marine	Poten. Bkgd	6	6	34.9		57[a]	0.61	pass
Vanadium	Marine	onsite	6	6	19		57[a]	0.33	pass
Zinc	OID	Poten. Bkgd	6	6	136	121	94	1.12	failed; retain
Zinc	OID	onsite	10	10	1450	121	94	11.98	failed; retain

TABLE 3-11
Results of Screening Comparisons of Sediment Concentrations to Freshwater and Marine Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Maximum	Freshwater Sediment mg/kg (MacDonald et al. 2000) TEC	Marine Sediment mg/kg (Field et al. 2002) T20	Screening HQ	conclusion
Zinc	Wetland	Poten. Bkgd	7	7	138	121	94	1.14	failed; retain
Zinc	Wetland	onsite	6	6	5210	121	94	43.06	failed; retain
Zinc	Beach	Poten. Bkgd	6	6	10.5	121	94	0.11	pass
Zinc	Beach	onsite	6	6	15.8	121	94	0.17	pass
Zinc	Marine	Poten. Bkgd	6	6	49.4	121	94	0.53	pass
Zinc	Marine	onsite	6	6	31.7	121	94	0.34	pass
Cs-137	OID	Poten. Bkgd	0	6	0.03	3120	3120	0.00	pass
Cs-137	OID	onsite	0	10	0.06	3120	3120	0.00	pass
Cs-137	Wetland	Poten. Bkgd	2	6	0.06	3120	3120	0.00	pass
Cs-137	Wetland	onsite	0	6	0.06	3120	3120	0.00	pass
Cs-137	Beach	Poten. Bkgd	0	6	0.02	3120	3120	0.00	pass
Cs-137	Beach	onsite	1	6	0.09	3120	3120	0.00	pass
Cs-137	Marine	Poten. Bkgd	0	6	0.06	3120	3120	0.00	pass
Cs-137	Marine	onsite	0	6	0.03	3120	3120	0.00	pass
K-40	OID	Poten. Bkgd	6	6	51.90	4430	4430	0.01	pass
K-40	OID	onsite	10	10	26.30	4430	4430	0.01	pass
K-40	Wetland	Poten. Bkgd	6	6	45.40	4430	4430	0.01	pass
K-40	Wetland	onsite	6	6	36.80	4430	4430	0.01	pass
K-40	Beach	Poten. Bkgd	6	6	21.20	4430	4430	0.00	pass
K-40	Beach	onsite	6	6	15.60	4430	4430	0.00	pass
K-40	Marine	Poten. Bkgd	6	6	45.80	4430	4430	0.01	pass
K-40	Marine	onsite	6	6	25.20	4430	4430	0.01	pass
Th-228	OID	Poten. Bkgd	3	6	1.47	805	805	0.00	pass
Th-228	OID	onsite	10	10	2.04	805	805	0.00	pass
Th-228	Wetland	Poten. Bkgd	5	6	1.26	805	805	0.00	pass
Th-228	Wetland	onsite	5	6	2.55	805	805	0.00	pass
Th-228	Beach	Poten. Bkgd	0	6	0.51	805	805	0.00	pass
Th-228	Beach	onsite	6	6	2.72	805	805	0.00	pass
Th-228	Marine	Poten. Bkgd	6	6	2.48	805	805	0.00	pass
Th-228	Marine	onsite	6	6	1.87	805	805	0.00	pass
Th-230	OID	Poten. Bkgd	4	6	0.98	10400	10400	0.00	pass
Th-230	OID	onsite	10	10	2.43	10400	10400	0.00	pass
Th-230	Wetland	Poten. Bkgd	5	6	1.84	10400	10400	0.00	pass
Th-230	Wetland	onsite	4	6	1.61	10400	10400	0.00	pass
Th-230	Beach	Poten. Bkgd	2	6	0.33	10400	10400	0.00	pass
Th-230	Beach	onsite	5	6	0.89	10400	10400	0.00	pass
Th-230	Marine	Poten. Bkgd	6	6	1.70	10400	10400	0.00	pass
Th-230	Marine	onsite	6	6	0.78	10400	10400	0.00	pass
Th-232	OID	Poten. Bkgd	4	6	1.75	1300	1300	0.00	pass
Th-232	OID	onsite	10	10	1.78	1300	1300	0.00	pass
Th-232	Wetland	Poten. Bkgd	5	6	1.17	1300	1300	0.00	pass
Th-232	Wetland	onsite	5	6	2.46	1300	1300	0.00	pass
Th-232	Beach	Poten. Bkgd	3	6	0.50	1300	1300	0.00	pass
Th-232	Beach	onsite	6	6	3.67	1300	1300	0.00	pass
Th-232	Marine	Poten. Bkgd	6	6	1.70	1300	1300	0.00	pass
Th-232	Marine	onsite	6	6	1.71	1300	1300	0.00	pass

TABLE 3-11

Results of Screening Comparisons of Sediment Concentrations to Freshwater and Marine Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

						Freshwater Sediment mg/kg (MacDonald et al. 2000)	Marine Sediment mg/kg (Field et al. 2002)		
Analyte	**Area**	**Type**	**No. of Detects**	**Sample Size**	**Maximum**	**TEC**	T20	**Screening HQ**	**conclusion**

Notes:

[a]Sediment screening values from Buchmann (2007)

highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd

TABLE 3-12

Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Plant Benchmark (mg/kg)	Screening HQ	Conclusion
Antimony	1	Smelter-w[a]		2	6	6	6	5	1.20	failed; retain
Antimony	2	Smelter-s[b]	35	40	0	10.455	155	5	31.00	failed; retain
Antimony	3	WDA-w		4	5.5	5.5	6.5	5	1.30	failed; retain
Antimony	4	WMU-w	1	35	5.5	8.5	18	5	3.60	failed; retain
Antimony	5	NCL-east	7	12	0	3.85	6.7	5	1.34	failed; retain
Antimony	6	NCL-North		4	0	0	0	5	0.00	pass
Antimony	7	Ag-North		3	0	3.1	3.1	5	0.62	pass
Antimony	8	Ag-East		5	0	0	0	5	0.00	pass
Antimony	9	RES		2	3	3.525	4.05	5	0.81	pass
Antimony	10	Poten. Bkgd-s	2	9	0	3.25	5.23	5	1.05	failed; retain
Arsenic	1	Smelter-w	1	2	0.6	1.15	1.7	18	0.09	pass
Arsenic	2	Smelter-s	38	39	0.276	15	161	18	8.94	failed; retain
Arsenic	3	WDA-w	4	4	2.3	6.3	7.5	18	0.42	pass
Arsenic	4	WMU-w	31	35	0.85	7.8	20	18	1.11	failed; retain
Arsenic	5	NCL-east	12	12	0.54	3.11	9.7	18	0.54	pass
Arsenic	6	NCL-North	4	4	2.43	2.845	3.29	18	0.18	pass
Arsenic	7	Ag-North	3	3	3.3	3.5	3.6	18	0.20	pass
Arsenic	8	Ag-East	5	5	2.45	2.74	3.43	18	0.19	pass
Arsenic	9	RES	2	2	2.5	3.7	4.9	18	0.27	pass
Arsenic	10	Poten. Bkgd-s	9	9	2.04	4.4	7.75	18	0.43	pass
Barium	1	Smelter-w	2	2	310	645	980	500	1.96	failed; retain
Barium	2	Smelter-s	40	40	47.3	3765	14900	500	29.80	failed; retain
Barium	3	WDA-w	4	4	3200	4100	49000	500	98.00	failed; retain
Barium	4	WMU-w	35	35	130	5100	19000	500	38.00	failed; retain
Barium	5	NCL-east	12	12	55	1520	6190	500	12.38	failed; retain
Barium	6	NCL-North	4	4	57.1	62	87.3	500	0.17	pass
Barium	7	Ag-North	3	3	95.7	101	105	500	0.21	pass
Barium	8	Ag-East	5	5	50.4	62.5	156	500	0.31	pass
Barium	9	RES	2	2	93.5	136.25	179	500	0.36	pass
Barium	10	Poten. Bkgd-s	9	9	51	151	333	500	0.67	pass
Beryllium	1	Smelter-w	2	2	70	95	120	10	12.00	failed; retain
Beryllium	2	Smelter-s	39	39	0.23	18.1	214	10	21.40	failed; retain
Beryllium	3	WDA-w	4	4	22	58	27000	10	2700.00	failed; retain
Beryllium	4	WMU-w	35	35	0.39	24	170	10	17.00	failed; retain
Beryllium	5	NCL-east	8	8	1.5	9.3	15.9	10	1.59	failed; retain
Beryllium	7	Ag-North	2	2	0.42	0.42	0.42	10	0.04	pass
Beryllium	9	RES		2	0.25	0.295	0.34	10	0.03	pass
Beryllium	10	Poten. Bkgd-s	7	8	0.275	0.575	1.27	10	0.13	pass
Boron	1	Smelter-w	2	2	18	49.5	81	0.5	162.00	failed; retain
Boron	2	Smelter-s	1	1	250	250	250	0.5	500.00	failed; retain
Boron	3	WDA-w	4	4	12	60	150	0.5	300.00	failed; retain
Boron	4	WMU-w	35	35	12	180	270	0.5	540.00	failed; retain
Boron	5	NCL-east	0	0				0.5	0.00	pass
Boron	7	Ag-North	0	0				0.5	0.00	pass
Boron	9	RES	0	0				0.5	0.00	pass
Boron	10	Poten. Bkgd-s	0	0				0.5	0.00	pass
Cadmium	1	Smelter-w	1	2	0.3	0.445	0.59	32	0.02	pass
Cadmium	2	Smelter-s	37	40	0	3.53	64.7	32	2.02	failed; retain
Cadmium	3	WDA-w	4	4	0.56	5.05	26	32	0.81	pass
Cadmium	4	WMU-w	35	35	0.58	5.1	15	32	0.47	pass
Cadmium	5	NCL-east	12	12	0.354	3	6	32	0.19	pass
Cadmium	6	NCL-North	4	4	0.347	0.4115	0.65	32	0.02	pass
Cadmium	7	Ag-North	3	3	0.58	1	1.3	32	0.04	pass
Cadmium	8	Ag-East	5	5	0.344	0.416	0.866	32	0.03	pass
Cadmium	9	RES	2	2	0.5	0.64	0.78	32	0.02	pass
Cadmium	10	Poten. Bkgd-s	9	9	0.18	1.1	1.87	32	0.06	pass

TABLE 3-12
Results of Screening Comparisons of Soil Concentrations to Plant Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Plant Benchmark (mg/kg)	Screening HQ	Conclusion
Chromium	1	Smelter-w	2	2	19	21	23	1	23.00	failed; retain
Chromium	2	Smelter-s	39	40	0	114	7660	1	7660.00	failed; retain
Chromium	3	WDA-w	4	4	40	305	1700	1	1700.00	failed; retain
Chromium	4	WMU-w	35	35	15	210	760	1	760.00	failed; retain
Chromium	5	NCL-east	12	12	6.09	133	363	1	363.00	failed; retain
Chromium	6	NCL-North	4	4	7.35	7.595	10.7	1	10.70	failed; retain
Chromium	7	Ag-North	3	3	11.3	13	14.4	1	14.40	failed; retain
Chromium	8	Ag-East	5	5	7.48	8.83	9.22	1	9.22	failed; retain
Chromium	9	RES	2	2	8.7	13.9	19.1	1	19.10	failed; retain
Chromium	10	Poten. Bkgd-s	9	9	5.44	21.8	29.7	1	29.70	failed; retain
Cobalt	1	Smelter-w		2	1.2	1.2	1.2	13	0.09	pass
Cobalt	2	Smelter-s	39	40	0	8.185	115	13	8.85	failed; retain
Cobalt	3	WDA-w	2	4	1.1	2.55	8.2	13	0.63	pass
Cobalt	4	WMU-w	12	35	1.4	2.05	34	13	2.62	failed; retain
Cobalt	5	NCL-east	8	8	6.1	8.6	9.6	13	0.74	pass
Cobalt	7	Ag-North	2	2	5.3	5.3	5.3	13	0.41	pass
Cobalt	9	RES	2	2	3.5	6.1	8.7	13	0.67	pass
Cobalt	10	Poten. Bkgd-s	8	8	6.08	7.8	19.8	13	1.52	failed; retain
Copper	1	Smelter-w	2	2	80	105	130	70	1.86	failed; retain
Copper	2	Smelter-s	40	40	25.3	895	7150	70	102.14	failed; retain
Copper	3	WDA-w	4	4	120	1700	2800	70	40.00	failed; retain
Copper	4	WMU-w	35	35	15	1600	12000	70	171.43	failed; retain
Copper	5	NCL-east	12	12	6.91	1195	3790	70	54.14	failed; retain
Copper	6	NCL-North	4	4	7.15	7.59	10.7	70	0.15	pass
Copper	7	Ag-North	3	3	11.6	16.1	16.3	70	0.23	pass
Copper	8	Ag-East	5	5	7.67	9.14	11.3	70	0.16	pass
Copper	9	RES	2	2	13.6	20.75	27.9	70	0.40	pass
Copper	10	Poten. Bkgd-s	9	9	5.6	32.1	175	70	2.50	failed; retain
Lead	1	Smelter-w	2	2	8.1	8.5	8.9	120	0.07	pass
Lead	2	Smelter-s	40	40	2.29	155	7280	120	60.67	failed; retain
Lead	3	WDA-w	4	4	10	180	300	120	2.50	failed; retain
Lead	4	WMU-w	35	35	4	200	1100	120	9.17	failed; retain
Lead	5	NCL-east	12	12	8.51	142.5	250	120	2.08	failed; retain
Lead	6	NCL-North	4	4	5.68	6.71	7.45	120	0.06	pass
Lead	7	Ag-North	3	3	4.93	8.3	9.6	120	0.08	pass
Lead	8	Ag-East	5	5	5.97	7.67	20.9	120	0.17	pass
Lead	9	RES	2	2	17.7	32.75	47.8	120	0.40	pass
Lead	10	Poten. Bkgd-s	9	9	4.54	25.6	249	120	2.08	failed; retain
Manganese	1	Smelter-w	2	2	4600	5650	6700	220	30.45	failed; retain
Manganese	2	Smelter-s	6	6	597	2570	6110	220	27.77	failed; retain
Manganese	3	WDA-w	4	4	3500	5350	8500	220	38.64	failed; retain
Manganese	4	WMU-w	35	35	220	2400	12000	220	54.55	failed; retain
Manganese	5	NCL-east	12	12	138	1815	5720	220	26.00	failed; retain
Manganese	6	NCL-North	4	4	138	145	239	220	1.09	failed; retain
Manganese	7	Ag-North	3	3	254	256	344	220	1.56	failed; retain
Manganese	8	Ag-East	5	5	119	177	189	220	0.86	pass
Manganese	9	RES	2	2	179	269	359	220	1.63	failed; retain
Manganese	10	Poten. Bkgd-s	7	7	120	328	643	220	2.92	failed; retain
Mercury	1	Smelter-w		2	0.0145	0.02725	0.04	0.3	0.13	pass
Mercury	2	Smelter-s	6	6	0.043	0.123	0.35	0.3	1.17	failed; retain
Mercury	3	WDA-w	3	4	0.014	0.0265	0.067	0.3	0.22	pass
Mercury	4	WMU-w	25	35	0.0135	0.05	0.19	0.3	0.63	pass
Mercury	5	NCL-east	2	12	0	0.0625	0.08	0.3	0.27	pass

TABLE 3-12
Results of Screening Comparisons of Soil Concentrations to Plant Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Plant Benchmark (mg/kg)	Screening HQ	Conclusion
Mercury	6	NCL-North	1	4	0	0	0.0293	0.3	0.10	pass
Mercury	7	Ag-North	3	3	0.0363	0.058	0.13	0.3	0.43	pass
Mercury	8	Ag-East	3	5	0	0.0283	0.0859	0.3	0.29	pass
Mercury	9	RES	2	2	0.076	0.084	0.092	0.3	0.31	pass
Mercury	10	Poten. Bkgd-s	5	7	0	0.081	0.66	0.3	2.20	failed; retain
Molybdenum	1	Smelter-w		2	6	6	6	2	3.00	failed; retain
Molybdenum	2	Smelter-s	35	35	2.2	8.89	1370	2	685.00	failed; retain
Molybdenum	3	WDA-w	3	4	5.5	12.8	30	2	15.00	failed; retain
Molybdenum	4	WMU-w	15	35	3.3	10	94	2	47.00	failed; retain
Molybdenum	5	NCL-east	0	0				2	0.00	pass
Molybdenum	7	Ag-North	0	0				2	0.00	pass
Molybdenum	9	RES	0	0				2	0.00	pass
Molybdenum	10	Poten. Bkgd-s	2	2	1.6	3	4.4	2	2.20	failed; retain
Nickel	1	Smelter-w	2	2	13	15.5	18	38	0.47	pass
Nickel	2	Smelter-s	40	40	13.6	82.55	4500	38	118.42	failed; retain
Nickel	3	WDA-w	4	4	50	160	610	38	16.05	failed; retain
Nickel	4	WMU-w	35	35	13	74	570	38	15.00	failed; retain
Nickel	5	NCL-east	12	12	7.2	69.7	265	38	6.97	failed; retain
Nickel	6	NCL-North	4	4	8.25	8.82	13.3	38	0.35	pass
Nickel	7	Ag-North	3	3	14.4	14.8	15	38	0.39	pass
Nickel	8	Ag-East	5	5	8.46	9.35	10.6	38	0.28	pass
Nickel	9	RES	2	2	10.9	16.05	21.2	38	0.56	pass
Nickel	10	Poten. Bkgd-s	9	9	7.13	20.7	24.7	38	0.65	pass
Selenium	1	Smelter-w		2	1.15	1.175	1.2	1	1.20	failed; retain
Selenium	2	Smelter-s	21	40	0	2.15	836	1	836.00	failed; retain
Selenium	3	WDA-w	1	4	1.1	1.2	1.5	1	1.50	failed; retain
Selenium	4	WMU-w	12	35	1.1	2.05	7.3	1	7.30	failed; retain
Selenium	5	NCL-east		12	0	2.175	2.75	1	2.75	failed; retain
Selenium	6	NCL-North		4	0	0	0	1	0.00	pass
Selenium	7	Ag-North		3	0	1.8	1.8	1	1.80	failed; retain
Selenium	8	Ag-East		5	0	0	0	1	0.00	pass
Selenium	9	RES		2	1.75	2.05	2.35	1	2.35	failed; retain
Selenium	10	Poten. Bkgd-s	2	9	0	1.9	64.8	1	64.80	failed; retain
Silver	1	Smelter-w	2	2	5.4	6.8	8.2	560	0.01	pass
Silver	2	Smelter-s	37	40	0	14.5	262000	560	467.86	failed; retain
Silver	3	WDA-w	4	4	5.6	9.05	62	560	0.11	pass
Silver	4	WMU-w	33	35	0.55	5.2	28	560	0.05	pass
Silver	5	NCL-east		12	0	0.625	0.8	560	0.00	pass
Silver	6	NCL-North		4	0	0	0	560	0.00	pass
Silver	7	Ag-North		3	0	0.5	0.5	560	0.00	pass
Silver	8	Ag-East		5	0	0	0	560	0.00	pass
Silver	9	RES		2	0.5	0.6	0.7	560	0.00	pass
Silver	10	Poten. Bkgd-s	3	9	0	0.55	7.75	560	0.01	pass
Thallium	1	Smelter-w		2	6	6	6	1	6.00	failed; retain
Thallium	2	Smelter-s	10	40	0	0	23.7	1	23.70	failed; retain
Thallium	3	WDA-w		4	5.5	5.5	6.5	1	6.50	failed; retain
Thallium	4	WMU-w		35	5.5	8.5	14	1	14.00	failed; retain
Thallium	5	NCL-east	1	8	0.99	1.6	1.95	1	1.95	failed; retain
Thallium	7	Ag-North		2	1.3	1.3	1.3	1	1.30	failed; retain
Thallium	9	RES	1	2	1.25	1.275	1.3	1	1.30	failed; retain
Thallium	10	Poten. Bkgd-s	6	8	0.77	1.3	1.75	1	1.75	failed; retain

TABLE 3-12

Results of Screening Comparisons of Soil Concentrations to Plant Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Plant Benchmark (mg/kg)	Screening HQ	Conclusion
Vanadium	1	Smelter-w	2	2	5.5	8.25	11	2	5.50	failed; retain
Vanadium	2	Smelter-s	40	40	7.92	30.45	55	2	27.50	failed; retain
Vanadium	3	WDA-w	4	4	21	41.5	68	2	34.00	failed; retain
Vanadium	4	WMU-w	35	35	12	49	84	2	42.00	failed; retain
Vanadium	5	NCL-east	8	8	34.3	45.55	56.7	2	28.35	failed; retain
Vanadium	7	Ag-North	2	2	24.7	24.85	25	2	12.50	failed; retain
Vanadium	9	RES	2	2	16.8	28.2	39.6	2	19.80	failed; retain
Vanadium	10	Poten. Bkgd-s	8	8	27.9	34.15	50.1	2	25.05	failed; retain
Zinc	1	Smelter-w	2	2	550	550	550	50	11.00	failed; retain
Zinc	2	Smelter-s	40	40	77.5	2335	22900	50	458.00	failed; retain
Zinc	3	WDA-w	4	4	1100	1600	2500	50	50.00	failed; retain
Zinc	4	WMU-w	35	35	40	1400	6800	50	136.00	failed; retain
Zinc	5	NCL-east	12	12	22.9	1235	5950	50	119.00	failed; retain
Zinc	6	NCL-North	4	4	25.6	26.9	42.3	50	0.85	pass
Zinc	7	Ag-North	3	3	43.9	52.9	53.4	50	1.07	failed; retain
Zinc	8	Ag-East	5	5	23.6	30.1	42	50	0.84	pass
Zinc	9	RES	2	2	66.5	74.5	82.5	50	1.65	failed; retain
Zinc	10	Poten. Bkgd-s	9	9	21.8	118	533	50	10.66	failed; retain
Cs-137	1	Smelter-w		2	0.029	0.034	0.039	20.8	0.00	pass
Cs-137	2	Smelter-s	1	6	0.0155	0.03	0.249	20.8	0.01	pass
Cs-137	3	WDA-w		4	0.017	0.0395	0.056	20.8	0.00	pass
Cs-137	4	WMU-w	1	33	0.0125	0.027	0.079	20.8	0.00	pass
Cs-137	5	NCL-east	2	8	0.0295	0.045	0.113	20.8	0.01	pass
Cs-137	7	Ag-North		2	0.03	0.03575	0.0415	20.8	0.00	pass
Cs-137	9	RES		2	0.0205	0.024	0.0275	20.8	0.00	pass
Cs-137	10	Poten. Bkgd-s	2	6	0.024	0.03875	0.073	20.8	0.00	pass
K-40	1	Smelter-w	2	2	15.8	19.05	22.3	119	0.19	pass
K-40	2	Smelter-s	6	6	10.7	17.15	23.6	119	0.20	pass
K-40	3	WDA-w	4	4	4.2	6.05	9	119	0.08	pass
K-40	4	WMU-w	33	33	1.9	6.5	55	119	0.46	pass
K-40	5	NCL-east	8	8	9.9	22.35	76.7	119	0.64	pass
K-40	7	Ag-North	2	2	26.3	26.45	26.6	119	0.22	pass
K-40	9	RES	2	2	21.7	22.85	24	119	0.20	pass
K-40	10	Poten. Bkgd-s	6	6	16.2	22.6	27.1	119	0.23	pass
Ra-226	2	Smelter-s	32	34	0	0.576	5.79	50.6	0.11	pass
Ra-226	10	Poten. Bkgd-s	2	2	0.5	0.6185	0.737	50.6	0.01	pass
Ra-228	2	Smelter-s	33	34	0	6.755	564	43.9	12.85	failed; retain
Ra-228	10	Poten. Bkgd-s	2	2	0.927	1.0035	1.08	43.9	0.02	pass
Th-228	1	Smelter-w		2	0.175	0.25875	0.3425	530	0.00	pass
Th-228	2	Smelter-s	37	40	0	7.425	567	530	1.07	failed; retain
Th-228	3	WDA-w	4	4	0.358	1.2925	19.1	530	0.04	pass
Th-228	4	WMU-w	8	33	0.1685	0.3325	4.48	530	0.01	pass
Th-228	5	NCL-east	7	8	0.565	2.14	6.73	530	0.01	pass
Th-228	7	Ag-North	2	2	0.833	0.9665	1.1	530	0.00	pass
Th-228	9	RES	2	2	0.614	0.6235	0.633	530	0.00	pass
Th-228	10	Poten. Bkgd-s	7	8	0	1.115	1.44	530	0.00	pass
Th-230	1	Smelter-w	1	2	0.1865	0.32975	0.473	9980	0.00	pass
Th-230	2	Smelter-s	37	40	0	8.55	770	9980	0.08	pass
Th-230	3	WDA-w	4	4	0.244	1.855	8.74	9980	0.00	pass
Th-230	4	WMU-w	15	33	0.1495	0.33	5.25	9980	0.00	pass
Th-230	5	NCL-east	8	8	0.612	2.175	6.17	9980	0.00	pass
Th-230	7	Ag-North	2	2	0.889	1.0295	1.17	9980	0.00	pass
Th-230	9	RES	2	2	0.7	0.7195	0.739	9980	0.00	pass
Th-230	10	Poten. Bkgd-s	8	8	0.54	0.86	1.32	9980	0.00	pass
Th-232	1	Smelter-w		2	0.059	0.07475	0.0905	1510	0.00	pass
Th-232	2	Smelter-s	39	40	0	5.39	653	1510	0.43	pass
Th-232	3	WDA-w	4	4	0.258	1.115	19.8	1510	0.01	pass

TABLE 3-12

Results of Screening Comparisons of Soil Concentrations to Plant Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Plant Benchmark (mg/kg)	Screening HQ	Conclusion
Th-232	4	WMU-w	16	33	0.101	0.2815	4.79	1510	0.00	pass
Th-232	5	NCL-east	8	8	0.737	1.63	5.44	1510	0.00	pass
Th-232	7	Ag-North	2	2	0.687	0.9035	1.12	1510	0.00	pass
Th-232	9	RES	2	2	0.618	0.6515	0.685	1510	0.00	pass
Th-232	10	Poten. Bkgd-s	8	8	0.794	1.1725	1.56	1510	0.00	pass

Notes:

Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd

[a]w indicates material is smelter waste

[b]s indicates material is soil

TABLE 3-13

Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Plant Benchmark (µg/L)	Screening HQ	Conclusion
Antimony	Poten. Bkgd	0	1	30	30	30			
Antimony	onsite	2	13	9.2	30	30			
Arsenic	Poten. Bkgd	0	1	5	5	5	1	5	failed; retain
Arsenic	onsite	8	13	4.5	5.5	264	1	264	failed; retain
Barium	Poten. Bkgd	1	1	105	105	105			
Barium	onsite	13	13	110	570	1570000			
Beryllium	Poten. Bkgd	1	1	0.15	0.15	0.15	500	0.0003	pass
Beryllium	onsite	12	13	0.07	0.2	355	500	0.71	pass
Cadmium	Poten. Bkgd	1	1	0.92	0.92	0.92	100	0.0092	pass
Cadmium	onsite	6	13	0.59	2.5	398	100	3.98	failed; retain
Chromium	Poten. Bkgd	1	1	13.5	13.5	13.5	50	0.27	pass
Chromium	onsite	8	13	0.73	5	3810	50	76.2	failed; retain
Cobalt	Poten. Bkgd	0	1	25	25	25	60	0.41666667	pass
Cobalt	onsite	10	13	1.2	11.1	307	60	5.11666667	failed; retain
Copper	Poten. Bkgd	1	1	43.4	43.4	43.4	60	0.72333333	pass
Copper	onsite	13	13	3.6	59.3	77700	60	1295	failed; retain
Lead	Poten. Bkgd	0	1	5	5	5	20	0.25	pass
Lead	onsite	5	13	5	5	4350	20	217.5	failed; retain
Manganese	Poten. Bkgd	1	1	237	237	237	4000	0.05925	pass
Manganese	onsite	13	13	400	1250	328000	4000	82	failed; retain
Nickel	Poten. Bkgd	1	1	6	6	6	500	0.012	pass
Nickel	onsite	12	13	3.5	13.4	1610	500	3.22	failed; retain
Silver	Poten. Bkgd	0	1	5	5	5	100	0.05	pass
Silver	onsite	3	13	5	5	571	100	5.71	failed; retain
Vanadium	Poten. Bkgd	1	1	3.3	3.3	3.3	200	0.0165	pass
Vanadium	onsite	12	13	1.3	6.6	1490	200	7.45	failed; retain
Zinc	Poten. Bkgd	1	1	45.7	45.7	45.7	400	0.11425	pass
Zinc	onsite	13	13	15.7	70.1	90100	400	225.25	failed; retain
Cs-137	Poten. Bkgd	0	1	1.8	1.8	1.8			
Cs-137	onsite	0	12	1.665	2.4325	9.35			
K-40	Poten. Bkgd	1	1	660	660	660			
K-40	onsite	11	12	26.35	4550	19800			
Th-228	Poten. Bkgd	0	1	0.2785	0.2785	0.2785			
Th-228	onsite	7	12	0.1645	0.6905	105			
Th-230	Poten. Bkgd	0	1	0.22	0.22	0.22			
Th-230	onsite	7	12	0.12	0.48	2.17			
Th-232	Poten. Bkgd	0	1	0.22	0.22	0.22			
Th-232	onsite	5	12	0.10	0.21	0.87			

TABLE 3-14

Results of Screening Comparisons of Soil Concentrations to Invertebrate Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Invertebrate Benchmark (mg/kg)	Screening HQ	Conclusion
Antimony	1	Smelter-w[a]		2	6	6	6	78	0.08	pass
Antimony	2	Smelter-s[b]	35	40	0	10.455	155	78	1.99	failed; retain
Antimony	3	WDA-w		4	5.5	5.5	6.5	78	0.08	pass
Antimony	4	WMU-w	1	35	5.5	8.5	18	78	0.23	pass
Antimony	5	NCL-east	7	12	0	3.85	6.7	78	0.09	pass
Antimony	6	NCL-North		4	0	0	0	78	0.00	pass
Antimony	7	Ag-North		3	0	3.1	3.1	78	0.04	pass
Antimony	8	Ag-East		5	0	0	0	78	0.00	pass
Antimony	9	RES		2	3	3.525	4.05	78	0.05	pass
Antimony	10	Poten. Bkgd-s	2	9	0	3.25	5.23	78	0.07	pass
Arsenic	1	Smelter-w	1	2	0.6	1.15	1.7	60	0.03	pass
Arsenic	2	Smelter-s	38	39	0.276	15	161	60	2.68	failed; retain
Arsenic	3	WDA-w	4	4	2.3	6.3	7.5	60	0.13	pass
Arsenic	4	WMU-w	31	35	0.85	7.8	20	60	0.33	pass
Arsenic	5	NCL-east	12	12	0.54	3.11	9.7	60	0.16	pass
Arsenic	6	NCL-North	4	4	2.43	2.845	3.29	60	0.05	pass
Arsenic	7	Ag-North	3	3	3.3	3.5	3.6	60	0.06	pass
Arsenic	8	Ag-East	5	5	2.45	2.74	3.43	60	0.06	pass
Arsenic	9	RES	2	2	2.5	3.7	4.9	60	0.08	pass
Arsenic	10	Poten. Bkgd-s	9	9	2.04	4.4	7.75	60	0.13	pass
Barium	1	Smelter-w	2	2	310	645	980	330	2.97	failed; retain
Barium	2	Smelter-s	40	40	47.3	3765	14900	330	45.15	failed; retain
Barium	3	WDA-w	4	4	3200	4100	49000	330	148.48	failed; retain
Barium	4	WMU-w	35	35	130	5100	19000	330	57.58	failed; retain
Barium	5	NCL-east	12	12	55	1520	6190	330	18.76	failed; retain
Barium	6	NCL-North	4	4	57.1	62	87.3	330	0.26	pass
Barium	7	Ag-North	3	3	95.7	101	105	330	0.32	pass
Barium	8	Ag-East	5	5	50.4	62.5	156	330	0.47	pass
Barium	9	RES	2	2	93.5	136.25	179	330	0.54	pass
Barium	10	Poten. Bkgd-s	9	9	51	151	333	330	1.01	failed; retain
Beryllium	1	Smelter-w	2	2	70	95	120	40	3.00	failed; retain
Beryllium	2	Smelter-s	39	39	0.23	18.1	214	40	5.35	failed; retain
Beryllium	3	WDA-w	4	4	22	58	27000	40	675.00	failed; retain
Beryllium	4	WMU-w	35	35	0.39	24	170	40	4.25	failed; retain
Beryllium	5	NCL-east	8	8	1.5	9.3	15.9	40	0.40	pass
Beryllium	7	Ag-North	2	2	0.42	0.42	0.42	40	0.01	pass
Beryllium	9	RES		2	0.25	0.295	0.34	40	0.01	pass
Beryllium	10	Poten. Bkgd-s	7	8	0.275	0.575	1.27	40	0.03	pass
Boron	1	Smelter-w	2	2	18	49.5	81			
Boron	2	Smelter-s	1	1	250	250	250			
Boron	3	WDA-w	4	4	12	60	150			
Boron	4	WMU-w	35	35	12	180	270			
Boron	5	NCL-east	0	0						
Boron	7	Ag-North	0	0						
Boron	9	RES	0	0						
Boron	10	Poten. Bkgd-s	0	0						
Cadmium	1	Smelter-w	1	2	0.3	0.445	0.59	140	0.00	pass
Cadmium	2	Smelter-s	37	40	0	3.53	64.7	140	0.46	pass
Cadmium	3	WDA-w	4	4	0.56	5.05	26	140	0.19	pass
Cadmium	4	WMU-w	35	35	0.58	5.1	15	140	0.11	pass
Cadmium	5	NCL-east	12	12	0.354	3	6	140	0.04	pass
Cadmium	6	NCL-North	4	4	0.347	0.4115	0.65	140	0.00	pass
Cadmium	7	Ag-North	3	3	0.58	1	1.3	140	0.01	pass
Cadmium	8	Ag-East	5	5	0.344	0.416	0.866	140	0.01	pass
Cadmium	9	RES	2	2	0.5	0.64	0.78	140	0.01	pass
Cadmium	10	Poten. Bkgd-s	9	9	0.18	1.1	1.87	140	0.01	pass
Chromium	1	Smelter-w	2	2	19	21	23	0.4	57.50	failed; retain
Chromium	2	Smelter-s	39	40	0	114	7660	0.4	19150.00	failed; retain
Chromium	3	WDA-w	4	4	40	305	1700	0.4	4250.00	failed; retain
Chromium	4	WMU-w	35	35	15	210	760	0.4	1900.00	failed; retain

TABLE 3-14
Results of Screening Comparisons of Soil Concentrations to Invertebrate Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Invertebrate Benchmark (mg/kg)	Screening HQ	Conclusion
Chromium	5	NCL-east	12	12	6.09	133	363	0.4	907.50	failed; retain
Chromium	6	NCL-North	4	4	7.35	7.595	10.7	0.4	26.75	failed; retain
Chromium	7	Ag-North	3	3	11.3	13	14.4	0.4	36.00	failed; retain
Chromium	8	Ag-East	5	5	7.48	8.83	9.22	0.4	23.05	failed; retain
Chromium	9	RES	2	2	8.7	13.9	19.1	0.4	47.75	failed; retain
Chromium	10	Poten. Bkgd-s	9	9	5.44	21.8	29.7	0.4	74.25	failed; retain
Cobalt	1	Smelter-w		2	1.2	1.2	1.2			
Cobalt	2	Smelter-s	39	40	0	8.185	115			
Cobalt	3	WDA-w	2	4	1.1	2.55	8.2			
Cobalt	4	WMU-w	12	35	1.4	2.05	34			
Cobalt	5	NCL-east	8	8	6.1	8.6	9.6			
Cobalt	7	Ag-North	2	2	5.3	5.3	5.3			
Cobalt	9	RES	2	2	3.5	6.1	8.7			
Cobalt	10	Poten. Bkgd-s	8	8	6.08	7.8	19.8			
Copper	1	Smelter-w	2	2	80	105	130	80	1.63	failed; retain
Copper	2	Smelter-s	40	40	25.3	895	7150	80	89.38	failed; retain
Copper	3	WDA-w	4	4	120	1700	2800	80	35.00	failed; retain
Copper	4	WMU-w	35	35	15	1600	12000	80	150.00	failed; retain
Copper	5	NCL-east	12	12	6.91	1195	3790	80	47.38	failed; retain
Copper	6	NCL-North	4	4	7.15	7.59	10.7	80	0.13	pass
Copper	7	Ag-North	3	3	11.6	16.1	16.3	80	0.20	pass
Copper	8	Ag-East	5	5	7.67	9.14	11.3	80	0.14	pass
Copper	9	RES	2	2	13.6	20.75	27.9	80	0.35	pass
Copper	10	Poten. Bkgd-s	9	9	5.6	32.1	175	80	2.19	failed; retain
Lead	1	Smelter-w	2	2	8.1	8.5	8.9	1700	0.01	pass
Lead	2	Smelter-s	40	40	2.29	155	7280	1700	4.28	failed; retain
Lead	3	WDA-w	4	4	10	180	300	1700	0.18	pass
Lead	4	WMU-w	35	35	4	200	1100	1700	0.65	pass
Lead	5	NCL-east	12	12	8.51	142.5	250	1700	0.15	pass
Lead	6	NCL-North	4	4	5.68	6.71	7.45	1700	0.00	pass
Lead	7	Ag-North	3	3	4.93	8.3	9.6	1700	0.01	pass
Lead	8	Ag-East	5	5	5.97	7.67	20.9	1700	0.01	pass
Lead	9	RES	2	2	17.7	32.75	47.8	1700	0.03	pass
Lead	10	Poten. Bkgd-s	9	9	4.54	25.6	249	1700	0.15	pass
Manganese	1	Smelter-w	2	2	4600	5650	6700	450	14.89	failed; retain
Manganese	2	Smelter-s	6	6	597	2570	6110	450	13.58	failed; retain
Manganese	3	WDA-w	4	4	3500	5350	8500	450	18.89	failed; retain
Manganese	4	WMU-w	35	35	220	2400	12000	450	26.67	failed; retain
Manganese	5	NCL-east	12	12	138	1815	5720	450	12.71	failed; retain
Manganese	6	NCL-North	4	4	138	145	239	450	0.53	pass
Manganese	7	Ag-North	3	3	254	256	344	450	0.76	pass
Manganese	8	Ag-East	5	5	119	177	189	450	0.42	pass
Manganese	9	RES	2	2	179	269	359	450	0.80	pass
Manganese	10	Poten. Bkgd-s	7	7	120	328	643	450	1.43	failed; retain
Mercury	1	Smelter-w		2	0.0145	0.02725	0.04	0.1	0.40	pass
Mercury	2	Smelter-s	6	6	0.043	0.123	0.35	0.1	3.50	failed; retain
Mercury	3	WDA-w	3	4	0.014	0.0265	0.067	0.1	0.67	pass
Mercury	4	WMU-w	25	35	0.0135	0.05	0.19	0.1	1.90	failed; retain
Mercury	5	NCL-east	2	12	0	0.0625	0.08	0.1	0.80	pass
Mercury	6	NCL-North	1	4	0	0	0.0293	0.1	0.29	pass
Mercury	7	Ag-North	3	3	0.0363	0.058	0.13	0.1	1.30	failed; retain
Mercury	8	Ag-East	3	5	0	0.0283	0.0859	0.1	0.86	pass
Mercury	9	RES	2	2	0.076	0.084	0.092	0.1	0.92	pass
Mercury	10	Poten. Bkgd-s	5	7	0	0.081	0.66	0.1	6.60	failed; retain
Molybdenum	1	Smelter-w		2	6	6	6			
Molybdenum	2	Smelter-s	35	35	2.2	8.89	1370			
Molybdenum	3	WDA-w	3	4	5.5	12.8	30			
Molybdenum	4	WMU-w	15	35	3.3	10	94			
Molybdenum	5	NCL-east	0	0						
Molybdenum	7	Ag-North	0	0						

TABLE 3-14
Results of Screening Comparisons of Soil Concentrations to Invertebrate Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Invertebrate Benchmark (mg/kg)	Screening HQ	Conclusion
Molybdenum	9	RES	0	0						
Molybdenum	10	Poten. Bkgd-s	2	2	1.6	3	4.4			
Nickel	1	Smelter-w	2	2	13	15.5	18	280	0.06	pass
Nickel	2	Smelter-s	40	40	13.6	82.55	4500	280	16.07	failed; retain
Nickel	3	WDA-w	4	4	50	160	610	280	2.18	failed; retain
Nickel	4	WMU-w	35	35	13	74	570	280	2.04	failed; retain
Nickel	5	NCL-east	12	12	7.2	69.7	265	280	0.95	pass
Nickel	6	NCL-North	4	4	8.25	8.82	13.3	280	0.05	pass
Nickel	7	Ag-North	3	3	14.4	14.8	15	280	0.05	pass
Nickel	8	Ag-East	5	5	8.46	9.35	10.6	280	0.04	pass
Nickel	9	RES	2	2	10.9	16.05	21.2	280	0.08	pass
Nickel	10	Poten. Bkgd-s	9	9	7.13	20.7	24.7	280	0.09	pass
Selenium	1	Smelter-w		2	1.15	1.175	1.2	70	0.02	pass
Selenium	2	Smelter-s	21	40	0	2.15	836	70	11.94	failed; retain
Selenium	3	WDA-w	1	4	1.1	1.2	1.5	70	0.02	pass
Selenium	4	WMU-w	12	35	1.1	2.05	7.3	70	0.10	pass
Selenium	5	NCL-east		12	0	2.175	2.75	70	0.04	pass
Selenium	6	NCL-North		4	0	0	0	70	0.00	pass
Selenium	7	Ag-North		3	0	1.8	1.8	70	0.03	pass
Selenium	8	Ag-East		5	0	0	0	70	0.00	pass
Selenium	9	RES		2	1.75	2.05	2.35	70	0.03	pass
Selenium	10	Poten. Bkgd-s	2	9	0	1.9	64.8	70	0.93	pass
Silver	1	Smelter-w	2	2	5.4	6.8	8.2			
Silver	2	Smelter-s	37	40	0	14.5	262000			
Silver	3	WDA-w	4	4	5.6	9.05	62			
Silver	4	WMU-w	33	35	0.55	5.2	28			
Silver	5	NCL-east		12	0	0.625	0.8			
Silver	6	NCL-North		4	0	0	0			
Silver	7	Ag-North		3	0	0.5	0.5			
Silver	8	Ag-East		5	0	0	0			
Silver	9	RES		2	0.5	0.6	0.7			
Silver	10	Poten. Bkgd-s	3	9	0	0.55	7.75			
Thallium	1	Smelter-w		2	6	6	6			
Thallium	2	Smelter-s	10	40	0	0	23.7			
Thallium	3	WDA-w		4	5.5	5.5	6.5			
Thallium	4	WMU-w		35	5.5	8.5	14			
Thallium	5	NCL-east	1	8	0.99	1.6	1.95			
Thallium	7	Ag-North		2	1.3	1.3	1.3			
Thallium	9	RES	1	2	1.25	1.275	1.3			
Thallium	10	Poten. Bkgd-s	6	8	0.77	1.3	1.75			
Vanadium	1	Smelter-w	2	2	5.5	8.25	11			
Vanadium	2	Smelter-s	40	40	7.92	30.45	55			
Vanadium	3	WDA-w	4	4	21	41.5	68			
Vanadium	4	WMU-w	35	35	12	49	84			
Vanadium	5	NCL-east	8	8	34.3	45.55	56.7			
Vanadium	7	Ag-North	2	2	24.7	24.85	25			
Vanadium	9	RES	2	2	16.8	28.2	39.6			
Vanadium	10	Poten. Bkgd-s	8	8	27.9	34.15	50.1			
Zinc	1	Smelter-w	2	2	550	550	550	200	2.75	failed; retain
Zinc	2	Smelter-s	40	40	77.5	2335	22900	200	114.50	failed; retain
Zinc	3	WDA-w	4	4	1100	1600	2500	200	12.50	failed; retain
Zinc	4	WMU-w	35	35	40	1400	6800	200	34.00	failed; retain
Zinc	5	NCL-east	12	12	22.9	1235	5950	200	29.75	failed; retain
Zinc	6	NCL-North	4	4	25.6	26.9	42.3	200	0.21	pass
Zinc	7	Ag-North	3	3	43.9	52.9	53.4	200	0.27	pass
Zinc	8	Ag-East	5	5	23.6	30.1	42	200	0.21	pass
Zinc	9	RES	2	2	66.5	74.5	82.5	200	0.41	pass
Zinc	10	Poten. Bkgd-s	9	9	21.8	118	533	200	2.67	failed; retain
Cs-137	1	Smelter-w		2	0.029	0.034	0.039			
Cs-137	2	Smelter-s	1	6	0.0155	0.03	0.249			

TABLE 3-14

Results of Screening Comparisons of Soil Concentrations to Invertebrate Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Invertebrate Benchmark (mg/kg)	Screening HQ	Conclusion
Cs-137	3	WDA-w		4	0.017	0.0395	0.056			
Cs-137	4	WMU-w	1	33	0.0125	0.027	0.079			
Cs-137	5	NCL-east	2	8	0.0295	0.045	0.113			
Cs-137	7	Ag-North		2	0.03	0.03575	0.0415			
Cs-137	9	RES		2	0.0205	0.024	0.0275			
Cs-137	10	Poten. Bkgd-s	2	6	0.024	0.03875	0.073			
K-40	1	Smelter-w	2	2	15.8	19.05	22.3			
K-40	2	Smelter-s	6	6	10.7	17.15	23.6			
K-40	3	WDA-w	4	4	4.2	6.05	9			
K-40	4	WMU-w	33	33	1.9	6.5	55			
K-40	5	NCL-east	8	8	9.9	22.35	76.7			
K-40	7	Ag-North	2	2	26.3	26.45	26.6			
K-40	9	RES	2	2	21.7	22.85	24			
K-40	10	Poten. Bkgd-s	6	6	16.2	22.6	27.1			
Ra-226	2	Smelter-s	32	34	0	0.576	5.79			
Ra-226	10	Poten. Bkgd-s	2	2	0.5	0.6185	0.737			
Ra-228	2	Smelter-s	33	34	0	6.755	564			
Ra-228	10	Poten. Bkgd-s	2	2	0.927	1.0035	1.08			
Th-228	1	Smelter-w		2	0.175	0.25875	0.3425			
Th-228	2	Smelter-s	37	40	0	7.425	567			
Th-228	3	WDA-w	4	4	0.358	1.2925	19.1			
Th-228	4	WMU-w	8	33	0.1685	0.3325	4.48			
Th-228	5	NCL-east	7	8	0.565	2.14	6.73			
Th-228	7	Ag-North	2	2	0.833	0.9665	1.1			
Th-228	9	RES	2	2	0.614	0.6235	0.633			
Th-228	10	Poten. Bkgd-s	7	8	0	1.115	1.44			
Th-230	1	Smelter-w	1	2	0.1865	0.32975	0.473			
Th-230	2	Smelter-s	37	40	0	8.55	770			
Th-230	3	WDA-w	4	4	0.244	1.855	8.74			
Th-230	4	WMU-w	15	33	0.1495	0.33	5.25			
Th-230	5	NCL-east	8	8	0.612	2.175	6.17			
Th-230	7	Ag-North	2	2	0.889	1.0295	1.17			
Th-230	9	RES	2	2	0.7	0.7195	0.739			
Th-230	10	Poten. Bkgd-s	8	8	0.54	0.86	1.32			
Th-232	1	Smelter-w		2	0.059	0.07475	0.0905			
Th-232	2	Smelter-s	39	40	0	5.39	653			
Th-232	3	WDA-w	4	4	0.258	1.115	19.8			
Th-232	4	WMU-w	16	33	0.101	0.2815	4.79			
Th-232	5	NCL-east	8	8	0.737	1.63	5.44			
Th-232	7	Ag-North	2	2	0.687	0.9035	1.12			
Th-232	9	RES	2	2	0.618	0.6515	0.685			
Th-232	10	Poten. Bkgd-s	8	8	0.794	1.1725	1.56			

Notes:

Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd

[a]w indicates material is smelter waste

[b]s indicates material is soil

TABLE 3-15

Results of Screening Comparisons of Soil Concentrations to Mammalian Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Mammal Benchmark (mg/kg)	Screening HQ	Conclusion
Antimony	1	Smelter-w[a]		2	6	6	6	0.27	22.22	failed; retain
Antimony	2	Smelter-s[b]	35	40	0	10.455	155	0.27	574.07	failed; retain
Antimony	3	WDA-w		4	5.5	5.5	6.5	0.27	24.07	failed; retain
Antimony	4	WMU-w	1	35	5.5	8.5	18	0.27	66.67	failed; retain
Antimony	5	NCL-east	7	12	0	3.85	6.7	0.27	24.81	failed; retain
Antimony	6	NCL-North		4	0	0	0	0.27	0.00	pass
Antimony	7	Ag-North		3	0	3.1	3.1	0.27	11.48	failed; retain
Antimony	8	Ag-East		5	0	0	0	0.27	0.00	pass
Antimony	9	RES		2	3	3.525	4.05	0.27	15.00	failed; retain
Antimony	10	Poten. Bkgd-s	2	9	0	3.25	5.23	0.27	19.37	failed; retain
Arsenic	1	Smelter-w	1	2	0.6	1.15	1.7	46	0.04	pass
Arsenic	2	Smelter-s	38	39	0.276	15	161	46	3.50	failed; retain
Arsenic	3	WDA-w	4	4	2.3	6.3	7.5	46	0.16	pass
Arsenic	4	WMU-w	31	35	0.85	7.8	20	46	0.43	pass
Arsenic	5	NCL-east	12	12	0.54	3.11	9.7	46	0.21	pass
Arsenic	6	NCL-North	4	4	2.43	2.845	3.29	46	0.07	pass
Arsenic	7	Ag-North	3	3	3.3	3.5	3.6	46	0.08	pass
Arsenic	8	Ag-East	5	5	2.45	2.74	3.43	46	0.07	pass
Arsenic	9	RES	2	2	2.5	3.7	4.9	46	0.11	pass
Arsenic	10	Poten. Bkgd-s	9	9	2.04	4.4	7.75	46	0.17	pass
Barium	1	Smelter-w	2	2	310	645	980	2000	0.49	pass
Barium	2	Smelter-s	40	40	47.3	3765	14900	2000	7.45	failed; retain
Barium	3	WDA-w	4	4	3200	4100	49000	2000	24.50	failed; retain
Barium	4	WMU-w	35	35	130	5100	19000	2000	9.50	failed; retain
Barium	5	NCL-east	12	12	55	1520	6190	2000	3.10	failed; retain
Barium	6	NCL-North	4	4	57.1	62	87.3	2000	0.04	pass
Barium	7	Ag-North	3	3	95.7	101	105	2000	0.05	pass
Barium	8	Ag-East	5	5	50.4	62.5	156	2000	0.08	pass
Barium	9	RES	2	2	93.5	136.25	179	2000	0.09	pass
Barium	10	Poten. Bkgd-s	9	9	51	151	333	2000	0.17	pass
Beryllium	1	Smelter-w	2	2	70	95	120	21	5.71	failed; retain
Beryllium	2	Smelter-s	39	39	0.23	18.1	214	21	10.19	failed; retain
Beryllium	3	WDA-w	4	4	22	58	27000	21	1285.71	failed; retain
Beryllium	4	WMU-w	35	35	0.39	24	170	21	8.10	failed; retain
Beryllium	5	NCL-east	8	8	1.5	9.3	15.9	21	0.76	pass
Beryllium	7	Ag-North	2	2	0.42	0.42	0.42	21	0.02	pass
Beryllium	9	RES		2	0.25	0.295	0.34	21	0.02	pass
Beryllium	10	Poten. Bkgd-s	7	8	0.275	0.575	1.27	21	0.06	pass
Boron	1	Smelter-w	2	2	18	49.5	81			
Boron	2	Smelter-s	1	1	250	250	250			
Boron	3	WDA-w	4	4	12	60	150			
Boron	4	WMU-w	35	35	12	180	270			
Boron	5	NCL-east	0	0						
Boron	7	Ag-North	0	0						
Boron	9	RES	0	0						
Boron	10	Poten. Bkgd-s	0	0						
Cadmium	1	Smelter-w	1	2	0.3	0.445	0.59	0.36	1.64	failed; retain
Cadmium	2	Smelter-s	37	40	0	3.53	64.7	0.36	179.72	failed; retain
Cadmium	3	WDA-w	4	4	0.56	5.05	26	0.36	72.22	failed; retain
Cadmium	4	WMU-w	35	35	0.58	5.1	15	0.36	41.67	failed; retain
Cadmium	5	NCL-east	12	12	0.354	3	6	0.36	16.67	failed; retain
Cadmium	6	NCL-North	4	4	0.347	0.4115	0.65	0.36	1.81	failed; retain
Cadmium	7	Ag-North	3	3	0.58	1	1.3	0.36	3.61	failed; retain
Cadmium	8	Ag-East	5	5	0.344	0.416	0.866	0.36	2.41	failed; retain
Cadmium	9	RES	2	2	0.5	0.64	0.78	0.36	2.17	failed; retain
Cadmium	10	Poten. Bkgd-s	9	9	0.18	1.1	1.87	0.36	5.19	failed; retain
Calcium	1	Smelter-w	2	2	5400	5500	5600			
Calcium	2	Smelter-s	6	6	5700	14950	41000			
Calcium	3	WDA-w	4	4	6500	11500	33000			
Calcium	4	WMU-w	35	35	1600	5300	84000			
Calcium	5	NCL-east	8	8	2550	9580	21000			

TABLE 3-15
Results of Screening Comparisons of Soil Concentrations to Mammalian Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Mammal Benchmark (mg/kg)	Screening HQ	Conclusion
Calcium	7	Ag-North	2	2	7380	7545	7710			
Calcium	9	RES	2	2	6590	9245	11900			
Calcium	10	Poten. Bkgd-s	6	6	4630	8535	10700			
Chromium	1	Smelter-w	2	2	19	21	23	34	0.68	pass
Chromium	2	Smelter-s	39	40	0	114	7660	34	225.29	failed; retain
Chromium	3	WDA-w	4	4	40	305	1700	34	50.00	failed; retain
Chromium	4	WMU-w	35	35	15	210	760	34	22.35	failed; retain
Chromium	5	NCL-east	12	12	6.09	133	363	34	10.68	failed; retain
Chromium	6	NCL-North	4	4	7.35	7.595	10.7	34	0.31	pass
Chromium	7	Ag-North	3	3	11.3	13	14.4	34	0.42	pass
Chromium	8	Ag-East	5	5	7.48	8.83	9.22	34	0.27	pass
Chromium	9	RES	2	2	8.7	13.9	19.1	34	0.56	pass
Chromium	10	Poten. Bkgd-s	9	9	5.44	21.8	29.7	34	0.87	pass
Cobalt	1	Smelter-w		2	1.2	1.2	1.2	230	0.01	pass
Cobalt	2	Smelter-s	39	40	0	8.185	115	230	0.50	pass
Cobalt	3	WDA-w	2	4	1.1	2.55	8.2	230	0.04	pass
Cobalt	4	WMU-w	12	35	1.4	2.05	34	230	0.15	pass
Cobalt	5	NCL-east	8	8	6.1	8.6	9.6	230	0.04	pass
Cobalt	7	Ag-North	2	2	5.3	5.3	5.3	230	0.02	pass
Cobalt	9	RES	2	2	3.5	6.1	8.7	230	0.04	pass
Cobalt	10	Poten. Bkgd-s	8	8	6.08	7.8	19.8	230	0.09	pass
Copper	1	Smelter-w	2	2	80	105	130	49	2.65	failed; retain
Copper	2	Smelter-s	40	40	25.3	895	7150	49	145.92	failed; retain
Copper	3	WDA-w	4	4	120	1700	2800	49	57.14	failed; retain
Copper	4	WMU-w	35	35	15	1600	12000	49	244.90	failed; retain
Copper	5	NCL-east	12	12	6.91	1195	3790	49	77.35	failed; retain
Copper	6	NCL-North	4	4	7.15	7.59	10.7	49	0.22	pass
Copper	7	Ag-North	3	3	11.6	16.1	16.3	49	0.33	pass
Copper	8	Ag-East	5	5	7.67	9.14	11.3	49	0.23	pass
Copper	9	RES	2	2	13.6	20.75	27.9	49	0.57	pass
Copper	10	Poten. Bkgd-s	9	9	5.6	32.1	175	49	3.57	failed; retain
Iron	1	Smelter-w	2	2	5300	5500	5700			
Iron	2	Smelter-s	6	6	8200	64850	747400			
Iron	3	WDA-w	4	4	5100	15000	28000			
Iron	4	WMU-w	35	35	3100	6200	46000			
Iron	5	NCL-east	8	8	8930	12550	101000			
Iron	7	Ag-North	2	2	14600	14700	14800			
Iron	9	RES	2	2	9620	15860	22100			
Iron	10	Poten. Bkgd-s	6	6	18400	20800	41600			
Lead	1	Smelter-w	2	2	8.1	8.5	8.9	56	0.16	pass
Lead	2	Smelter-s	40	40	2.29	155	7280	56	130.00	failed; retain
Lead	3	WDA-w	4	4	10	180	300	56	5.36	failed; retain
Lead	4	WMU-w	35	35	4	200	1100	56	19.64	failed; retain
Lead	5	NCL-east	12	12	8.51	142.5	250	56	4.46	failed; retain
Lead	6	NCL-North	4	4	5.68	6.71	7.45	56	0.13	pass
Lead	7	Ag-North	3	3	4.93	8.3	9.6	56	0.17	pass
Lead	8	Ag-East	5	5	5.97	7.67	20.9	56	0.37	pass
Lead	9	RES	2	2	17.7	32.75	47.8	56	0.85	pass
Lead	10	Poten. Bkgd-s	9	9	4.54	25.6	249	56	4.45	failed; retain
Magnesium	1	Smelter-w	2	2	190000	220000	250000			
Magnesium	2	Smelter-s	40	40	10.2	86650	354000			
Magnesium	3	WDA-w	4	4	82000	120000	160000			
Magnesium	4	WMU-w	35	35	4100	98000	240000			
Magnesium	5	NCL-east	12	12	3360	41200	111000			
Magnesium	6	NCL-North	4	4	2900	3070	4710			
Magnesium	7	Ag-North	3	3	4260	4260	4950			
Magnesium	8	Ag-East	5	5	2740	3270	4330			
Magnesium	9	RES	2	2	2540	4655	6770			
Magnesium	10	Poten. Bkgd-s	9	9	2390	8690	13600			
Manganese	1	Smelter-w	2	2	4600	5650	6700	4000	1.68	failed; retain
Manganese	2	Smelter-s	6	6	597	2570	6110	4000	1.53	failed; retain

TABLE 3-15

Results of Screening Comparisons of Soil Concentrations to Mammalian Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Mammal Benchmark (mg/kg)	Screening HQ	Conclusion
Manganese	3	WDA-w	4	4	3500	5350	8500	4000	2.13	failed; retain
Manganese	4	WMU-w	35	35	220	2400	12000	4000	3.00	failed; retain
Manganese	5	NCL-east	12	12	138	1815	5720	4000	1.43	failed; retain
Manganese	6	NCL-North	4	4	138	145	239	4000	0.06	pass
Manganese	7	Ag-North	3	3	254	256	344	4000	0.09	pass
Manganese	8	Ag-East	5	5	119	177	189	4000	0.05	pass
Manganese	9	RES	2	2	179	269	359	4000	0.09	pass
Manganese	10	Poten. Bkgd-s	7	7	120	328	643	4000	0.16	pass
Mercury	1	Smelter-w		2	0.0145	0.02725	0.04			
Mercury	2	Smelter-s	6	6	0.043	0.123	0.35			
Mercury	3	WDA-w	3	4	0.014	0.0265	0.067			
Mercury	4	WMU-w	25	35	0.0135	0.05	0.19			
Mercury	5	NCL-east	2	12	0	0.0625	0.08			
Mercury	6	NCL-North	1	4	0	0	0.0293			
Mercury	7	Ag-North	3	3	0.0363	0.058	0.13			
Mercury	8	Ag-East	3	5	0	0.0283	0.0859			
Mercury	9	RES	2	2	0.076	0.084	0.092			
Mercury	10	Poten. Bkgd-s	5	7	0	0.081	0.66			
Molybdenum	1	Smelter-w		2	6	6	6			
Molybdenum	2	Smelter-s	35	35	2.2	8.89	1370			
Molybdenum	3	WDA-w	3	4	5.5	12.8	30			
Molybdenum	4	WMU-w	15	35	3.3	10	94			
Molybdenum	5	NCL-east	0	0						
Molybdenum	7	Ag-North	0	0						
Molybdenum	9	RES	0	0						
Molybdenum	10	Poten. Bkgd-s	2	2	1.6	3	4.4			
Nickel	1	Smelter-w	2	2	13	15.5	18	130	0.14	pass
Nickel	2	Smelter-s	40	40	13.6	82.55	4500	130	34.62	failed; retain
Nickel	3	WDA-w	4	4	50	160	610	130	4.69	failed; retain
Nickel	4	WMU-w	35	35	13	74	570	130	4.38	failed; retain
Nickel	5	NCL-east	12	12	7.2	69.7	265	130	2.04	failed; retain
Nickel	6	NCL-North	4	4	8.25	8.82	13.3	130	0.10	pass
Nickel	7	Ag-North	3	3	14.4	14.8	15	130	0.12	pass
Nickel	8	Ag-East	5	5	8.46	9.35	10.6	130	0.08	pass
Nickel	9	RES	2	2	10.9	16.05	21.2	130	0.16	pass
Nickel	10	Poten. Bkgd-s	9	9	7.13	20.7	24.7	130	0.19	pass
Potassium	1	Smelter-w	2	2	11000	46500	82000			
Potassium	2	Smelter-s	6	6	4090	5610	14000			
Potassium	3	WDA-w	4	4	950	1295	3900			
Potassium	4	WMU-w	35	35	1400	5600	22000			
Potassium	5	NCL-east	8	8	6520	17050	39300			
Potassium	7	Ag-North	2	2	2840	2900	2960			
Potassium	9	RES	2	2	1420	2570	3720			
Potassium	10	Poten. Bkgd-s	6	6	4360	4565	5160			
Selenium	1	Smelter-w		2	1.15	1.175	1.2			
Selenium	2	Smelter-s	21	40	0	2.15	836			
Selenium	3	WDA-w	1	4	1.1	1.2	1.5			
Selenium	4	WMU-w	12	35	1.1	2.05	7.3			
Selenium	5	NCL-east		12	0	2.175	2.75			
Selenium	6	NCL-North		4	0	0	0			
Selenium	7	Ag-North		3	0	1.8	1.8			
Selenium	8	Ag-East		5	0	0	0			
Selenium	9	RES		2	1.75	2.05	2.35			
Selenium	10	Poten. Bkgd-s	2	9	0	1.9	64.8			
Silver	1	Smelter-w	2	2	5.4	6.8	8.2	14	0.59	pass
Silver	2	Smelter-s	37	40	0	14.5	262000	14	18714.29	failed; retain
Silver	3	WDA-w	4	4	5.6	9.05	62	14	4.43	failed; retain
Silver	4	WMU-w	33	35	0.55	5.2	28	14	2.00	failed; retain
Silver	5	NCL-east		12	0	0.625	0.8	14	0.06	pass
Silver	6	NCL-North		4	0	0	0	14	0.00	pass
Silver	7	Ag-North		3	0	0.5	0.5	14	0.04	pass

TABLE 3-15
Results of Screening Comparisons of Soil Concentrations to Mammalian Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Mammal Benchmark (mg/kg)	Screening HQ	Conclusion
Silver	8	Ag-East		5	0	0	0	14	0.00	pass
Silver	9	RES		2	0.5	0.6	0.7	14	0.05	pass
Silver	10	Poten. Bkgd-s	3	9	0	0.55	7.75	14	0.55	pass
Sodium	1	Smelter-w	2	2	5600	5750	5900			
Sodium	2	Smelter-s	6	6	1960	4730	9100			
Sodium	3	WDA-w	4	4	250	530	1900			
Sodium	4	WMU-w	35	35	760	4700	13000			
Sodium	5	NCL-east	8	8	12500	24050	45800			
Sodium	7	Ag-North		2	257.5	257.5	257.5			
Sodium	9	RES	1	2	252	356.5	461			
Sodium	10	Poten. Bkgd-s	6	6	465	5985	22200			
Thallium	1	Smelter-w		2	6	6	6			
Thallium	2	Smelter-s	10	40	0	0	23.7			
Thallium	3	WDA-w		4	5.5	5.5	6.5			
Thallium	4	WMU-w		35	5.5	8.5	14			
Thallium	5	NCL-east	1	8	0.99	1.6	1.95			
Thallium	7	Ag-North		2	1.3	1.3	1.3			
Thallium	9	RES	1	2	1.25	1.275	1.3			
Thallium	10	Poten. Bkgd-s	6	8	0.77	1.3	1.75			
Vanadium	1	Smelter-w	2	2	5.5	8.25	11	280	0.04	pass
Vanadium	2	Smelter-s	40	40	7.92	30.45	55	280	0.20	pass
Vanadium	3	WDA-w	4	4	21	41.5	68	280	0.24	pass
Vanadium	4	WMU-w	35	35	12	49	84	280	0.30	pass
Vanadium	5	NCL-east	8	8	34.3	45.55	56.7	280	0.20	pass
Vanadium	7	Ag-North	2	2	24.7	24.85	25	280	0.09	pass
Vanadium	9	RES	2	2	16.8	28.2	39.6	280	0.14	pass
Vanadium	10	Poten. Bkgd-s	8	8	27.9	34.15	50.1	280	0.18	pass
Zinc	1	Smelter-w	2	2	550	550	550			
Zinc	2	Smelter-s	40	40	77.5	2335	22900			
Zinc	3	WDA-w	4	4	1100	1600	2500			
Zinc	4	WMU-w	35	35	40	1400	6800			
Zinc	5	NCL-east	12	12	22.9	1235	5950			
Zinc	6	NCL-North	4	4	25.6	26.9	42.3			
Zinc	7	Ag-North	3	3	43.9	52.9	53.4			
Zinc	8	Ag-East	5	5	23.6	30.1	42			
Zinc	9	RES	2	2	66.5	74.5	82.5			
Zinc	10	Poten. Bkgd-s	9	9	21.8	118	533			
Cs-137	1	Smelter-w		2	0.029	0.034	0.039	2210	0.00	pass
Cs-137	2	Smelter-s	1	6	0.0155	0.03	0.249	2210	0.00	pass
Cs-137	3	WDA-w		4	0.017	0.0395	0.056	2210	0.00	pass
Cs-137	4	WMU-w	1	33	0.0125	0.027	0.079	2210	0.00	pass
Cs-137	5	NCL-east	2	8	0.0295	0.045	0.113	2210	0.00	pass
Cs-137	7	Ag-North		2	0.03	0.03575	0.0415	2210	0.00	pass
Cs-137	9	RES		2	0.0205	0.024	0.0275	2210	0.00	pass
Cs-137	10	Poten. Bkgd-s	2	6	0.024	0.03875	0.073	2210	0.00	pass
K-40	1	Smelter-w	2	2	15.8	19.05	22.3	1380	0.02	pass
K-40	2	Smelter-s	6	6	10.7	17.15	23.6	1380	0.02	pass
K-40	3	WDA-w	4	4	4.2	6.05	9	1380	0.01	pass
K-40	4	WMU-w	33	33	1.9	6.5	55	1380	0.04	pass
K-40	5	NCL-east	8	8	9.9	22.35	76.7	1380	0.06	pass
K-40	7	Ag-North	2	2	26.3	26.45	26.6	1380	0.02	pass
K-40	9	RES	2	2	21.7	22.85	24	1380	0.02	pass
K-40	10	Poten. Bkgd-s	6	6	16.2	22.6	27.1	1380	0.02	pass
Ra-226	2	Smelter-s	32	34	0	0.576	5.79	288	0.02	pass
Ra-226	10	Poten. Bkgd-s	2	2	0.5	0.6185	0.737	288	0.00	pass
Ra-228	2	Smelter-s	33	34	0	6.755	564	245	2.30	failed; retain
Ra-228	10	Poten. Bkgd-s	2	2	0.927	1.0035	1.08	245	0.00	pass
Th-228	1	Smelter-w		2	0.175	0.25875	0.3425	6420	0.00	pass
Th-228	2	Smelter-s	37	40	0	7.425	567	6420	0.09	pass
Th-228	3	WDA-w	4	4	0.358	1.2925	19.1	6420	0.00	pass
Th-228	4	WMU-w	8	33	0.1685	0.3325	4.48	6420	0.00	pass

TABLE 3-15

Results of Screening Comparisons of Soil Concentrations to Mammalian Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte		Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Mammal Benchmark (mg/kg)	Screening HQ	Conclusion
Th-228	5	NCL-east	7	8	0.565	2.14	6.73	6420	0.00	pass
Th-228	7	Ag-North	2	2	0.833	0.9665	1.1	6420	0.00	pass
Th-228	9	RES	2	2	0.614	0.6235	0.633	6420	0.00	pass
Th-228	10	Poten. Bkgd-s	7	8	0	1.115	1.44	6420	0.00	pass
Th-230	1	Smelter-w	1	2	0.1865	0.32975	0.473	175000	0.00	pass
Th-230	2	Smelter-s	37	40	0	8.55	770	175000	0.00	pass
Th-230	3	WDA-w	4	4	0.244	1.855	8.74	175000	0.00	pass
Th-230	4	WMU-w	15	33	0.1495	0.33	5.25	175000	0.00	pass
Th-230	5	NCL-east	8	8	0.612	2.175	6.17	175000	0.00	pass
Th-230	7	Ag-North	2	2	0.889	1.0295	1.17	175000	0.00	pass
Th-230	9	RES	2	2	0.7	0.7195	0.739	175000	0.00	pass
Th-230	10	Poten. Bkgd-s	8	8	0.54	0.86	1.32	175000	0.00	pass
Th-232	1	Smelter-w		2	0.059	0.07475	0.0905	23500	0.00	pass
Th-232	2	Smelter-s	39	40	0	5.39	653	23500	0.03	pass
Th-232	3	WDA-w	4	4	0.258	1.115	19.8	23500	0.00	pass
Th-232	4	WMU-w	16	33	0.101	0.2815	4.79	23500	0.00	pass
Th-232	5	NCL-east	8	8	0.737	1.63	5.44	23500	0.00	pass
Th-232	7	Ag-North	2	2	0.687	0.9035	1.12	23500	0.00	pass
Th-232	9	RES	2	2	0.618	0.6515	0.685	23500	0.00	pass
Th-232	10	Poten. Bkgd-s	8	8	0.794	1.1725	1.56	23500	0.00	pass

Notes:

Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd

[a]w indicates material is smelter waste

[b]s indicates material is soil

Chromium (Total) - plants; Cr+3-birds, mammals

TABLE 3-16

Results of Screening Comparisons of Soil Concentrations to Avian Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Bird Screening Level (mg/kg)	Screening HQ	Conclusions
Antimony	Smelter-w[a]		2	6	6	6			
Antimony	Smelter-s[b]	35	40	0	10.455	155			
Antimony	WDA-w		4	5.5	5.5	6.5			
Antimony	WMU-w	1	35	5.5	8.5	18			
Antimony	NCL-east	7	12	0	3.85	6.7			
Antimony	NCL-North		4	0	0	0			
Antimony	Ag-North		3	0	3.1	3.1			
Antimony	Ag-East		5	0	0	0			
Antimony	RES		2	3	3.525	4.05			
Antimony	Poten. Bkgd-s	2	9	0	3.25	5.23			
Arsenic	Smelter-w	1	2	0.6	1.15	1.7	43	0.04	pass
Arsenic	Smelter-s	38	39	0.276	15	161	43	3.74	failed; retain
Arsenic	WDA-w	4	4	2.3	6.3	7.5	43	0.17	pass
Arsenic	WMU-w	31	35	0.85	7.8	20	43	0.47	pass
Arsenic	NCL-east	12	12	0.54	3.11	9.7	43	0.23	pass
Arsenic	NCL-North	4	4	2.43	2.845	3.29	43	0.08	pass
Arsenic	Ag-North	3	3	3.3	3.5	3.6	43	0.08	pass
Arsenic	Ag-East	5	5	2.45	2.74	3.43	43	0.08	pass
Arsenic	RES	2	2	2.5	3.7	4.9	43	0.11	pass
Arsenic	Poten. Bkgd-s	9	9	2.04	4.4	7.75	43	0.18	pass
Barium	Smelter-w	2	2	310	645	980			
Barium	Smelter-s	40	40	47.3	3765	14900			
Barium	WDA-w	4	4	3200	4100	49000			
Barium	WMU-w	35	35	130	5100	19000			
Barium	NCL-east	12	12	55	1520	6190			
Barium	NCL-North	4	4	57.1	62	87.3			
Barium	Ag-North	3	3	95.7	101	105			
Barium	Ag-East	5	5	50.4	62.5	156			
Barium	RES	2	2	93.5	136.25	179			
Barium	Poten. Bkgd-s	9	9	51	151	333			
Beryllium	Smelter-w	2	2	70	95	120			
Beryllium	Smelter-s	39	39	0.23	18.1	214			
Beryllium	WDA-w	4	4	22	58	27000			
Beryllium	WMU-w	35	35	0.39	24	170			
Beryllium	NCL-east	8	8	1.5	9.3	15.9			
Beryllium	Ag-North	2	2	0.42	0.42	0.42			
Beryllium	RES		2	0.25	0.295	0.34			
Beryllium	Poten. Bkgd-s	7	8	0.275	0.575	1.27			
Boron	Smelter-w	2	2	18	49.5	81			
Boron	Smelter-s	1	1	250	250	250			
Boron	WDA-w	4	4	12	60	150			
Boron	WMU-w	35	35	12	180	270			
Boron	NCL-east	0	0						
Boron	Ag-North	0	0						
Boron	RES	0	0						
Boron	Poten. Bkgd-s	0	0						
Cadmium	Smelter-w	1	2	0.3	0.445	0.59	0.77	0.77	pass
Cadmium	Smelter-s	37	40	0	3.53	64.7	0.77	84.03	failed; retain
Cadmium	WDA-w	4	4	0.56	5.05	26	0.77	33.77	failed; retain
Cadmium	WMU-w	35	35	0.58	5.1	15	0.77	19.48	failed; retain
Cadmium	NCL-east	12	12	0.354	3	6	0.77	7.79	failed; retain
Cadmium	NCL-North	4	4	0.347	0.4115	0.65	0.77	0.84	pass
Cadmium	Ag-North	3	3	0.58	1	1.3	0.77	1.69	failed; retain

TABLE 3-16

Results of Screening Comparisons of Soil Concentrations to Avian Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Bird Screening Level (mg/kg)	Screening HQ	Conclusions
Cadmium	Ag-East	5	5	0.344	0.416	0.866	0.77	1.12	failed; retain
Cadmium	RES	2	2	0.5	0.64	0.78	0.77	1.01	failed; retain
Cadmium	Poten. Bkgd-s	9	9	0.18	1.1	1.87	0.77	2.43	failed; retain
Chromium	Smelter-w	2	2	19	21	23	26	0.88	pass
Chromium	Smelter-s	39	40	0	114	7660	26	294.62	failed; retain
Chromium	WDA-w	4	4	40	305	1700	26	65.38	failed; retain
Chromium	WMU-w	35	35	15	210	760	26	29.23	failed; retain
Chromium	NCL-east	12	12	6.09	133	363	26	13.96	failed; retain
Chromium	NCL-North	4	4	7.35	7.595	10.7	26	0.41	pass
Chromium	Ag-North	3	3	11.3	13	14.4	26	0.55	pass
Chromium	Ag-East	5	5	7.48	8.83	9.22	26	0.35	pass
Chromium	RES	2	2	8.7	13.9	19.1	26	0.73	pass
Chromium	Poten. Bkgd-s	9	9	5.44	21.8	29.7	26	1.14	failed; retain
Cobalt	Smelter-w		2	1.2	1.2	1.2	120	0.01	pass
Cobalt	Smelter-s	39	40	0	8.185	115	120	0.96	pass
Cobalt	WDA-w	2	4	1.1	2.55	8.2	120	0.07	pass
Cobalt	WMU-w	12	35	1.4	2.05	34	120	0.28	pass
Cobalt	NCL-east	8	8	6.1	8.6	9.6	120	0.08	pass
Cobalt	Ag-North	2	2	5.3	5.3	5.3	120	0.04	pass
Cobalt	RES	2	2	3.5	6.1	8.7	120	0.07	pass
Cobalt	Poten. Bkgd-s	8	8	6.08	7.8	19.8	120	0.17	pass
Copper	Smelter-w	2	2	80	105	130	28	4.64	failed; retain
Copper	Smelter-s	40	40	25.3	895	7150	28	255.36	failed; retain
Copper	WDA-w	4	4	120	1700	2800	28	100.00	failed; retain
Copper	WMU-w	35	35	15	1600	12000	28	428.57	failed; retain
Copper	NCL-east	12	12	6.91	1195	3790	28	135.36	failed; retain
Copper	NCL-North	4	4	7.15	7.59	10.7	28	0.38	pass
Copper	Ag-North	3	3	11.6	16.1	16.3	28	0.58	pass
Copper	Ag-East	5	5	7.67	9.14	11.3	28	0.40	pass
Copper	RES	2	2	13.6	20.75	27.9	28	1.00	pass
Copper	Poten. Bkgd-s	9	9	5.6	32.1	175	28	6.25	failed; retain
Lead	Smelter-w	2	2	8.1	8.5	8.9	11	0.81	pass
Lead	Smelter-s	40	40	2.29	155	7280	11	661.82	failed; retain
Lead	WDA-w	4	4	10	180	300	11	27.27	failed; retain
Lead	WMU-w	35	35	4	200	1100	11	100.00	failed; retain
Lead	NCL-east	12	12	8.51	142.5	250	11	22.73	failed; retain
Lead	NCL-North	4	4	5.68	6.71	7.45	11	0.68	pass
Lead	Ag-North	3	3	4.93	8.3	9.6	11	0.87	pass
Lead	Ag-East	5	5	5.97	7.67	20.9	11	1.90	failed; retain
Lead	RES	2	2	17.7	32.75	47.8	11	4.35	failed; retain
Lead	Poten. Bkgd-s	9	9	4.54	25.6	249	11	22.64	failed; retain
Manganese	Smelter-w	2	2	4600	5650	6700	4300	1.56	failed; retain
Manganese	Smelter-s	6	6	597	2570	6110	4300	1.42	failed; retain
Manganese	WDA-w	4	4	3500	5350	8500	4300	1.98	failed; retain
Manganese	WMU-w	35	35	220	2400	12000	4300	2.79	failed; retain
Manganese	NCL-east	12	12	138	1815	5720	4300	1.33	failed; retain
Manganese	NCL-North	4	4	138	145	239	4300	0.06	pass
Manganese	Ag-North	3	3	254	256	344	4300	0.08	pass
Manganese	Ag-East	5	5	119	177	189	4300	0.04	pass

TABLE 3-16
Results of Screening Comparisons of Soil Concentrations to Avian Screening Values
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Bird Screening Level (mg/kg)	Screening HQ	Conclusions
Manganese	RES	2	2	179	269	359	4300	0.08	pass
Manganese	Poten. Bkgd-s	7	7	120	328	643	4300	0.15	pass
Mercury	Smelter-w		2	0.0145	0.02725	0.04			
Mercury	Smelter-s	6	6	0.043	0.123	0.35			
Mercury	WDA-w	3	4	0.014	0.0265	0.067			
Mercury	WMU-w	25	35	0.0135	0.05	0.19			
Mercury	NCL-east	2	12	0	0.0625	0.08			
Mercury	NCL-North	1	4	0	0	0.0293			
Mercury	Ag-North	3	3	0.0363	0.058	0.13			
Mercury	Ag-East	3	5	0	0.0283	0.0859			
Mercury	RES	2	2	0.076	0.084	0.092			
Mercury	Poten. Bkgd-s	5	7	0	0.081	0.66			
Molybdenum	Smelter-w		2	6	6	6			
Molybdenum	Smelter-s	35	35	2.2	8.89	1370			
Molybdenum	WDA-w	3	4	5.5	12.8	30			
Molybdenum	WMU-w	15	35	3.3	10	94			
Molybdenum	NCL-east	0	0						
Molybdenum	Ag-North	0	0						
Molybdenum	RES	0	0						
Molybdenum	Poten. Bkgd-s	2	2	1.6	3	4.4			
Nickel	Smelter-w	2	2	13	15.5	18	210	0.09	pass
Nickel	Smelter-s	40	40	13.6	82.55	4500	210	21.43	failed; retain
Nickel	WDA-w	4	4	50	160	610	210	2.90	failed; retain
Nickel	WMU-w	35	35	13	74	570	210	2.71	failed; retain
Nickel	NCL-east	12	12	7.2	69.7	265	210	1.26	failed; retain
Nickel	NCL-North	4	4	8.25	8.82	13.3	210	0.06	pass
Nickel	Ag-North	3	3	14.4	14.8	15	210	0.07	pass
Nickel	Ag-East	5	5	8.46	9.35	10.6	210	0.05	pass
Nickel	RES	2	2	10.9	16.05	21.2	210	0.10	pass
Nickel	Poten. Bkgd-s	9	9	7.13	20.7	24.7	210	0.12	pass
Selenium	Smelter-w		2	1.15	1.175	1.2			
Selenium	Smelter-s	21	40	0	2.15	836			
Selenium	WDA-w	1	4	1.1	1.2	1.5			
Selenium	WMU-w	12	35	1.1	2.05	7.3			
Selenium	NCL-east		12	0	2.175	2.75			
Selenium	NCL-North		4	0	0	0			
Selenium	Ag-North		3	0	1.8	1.8			
Selenium	Ag-East		5	0	0	0			
Selenium	RES		2	1.75	2.05	2.35			
Selenium	Poten. Bkgd-s	2	9	0	1.9	64.8			
Silver	Smelter-w	2	2	5.4	6.8	8.2	4.2	1.95	failed; retain
Silver	Smelter-s	37	40	0	14.5	262000	4.2	62380.95	failed; retain
Silver	WDA-w	4	4	5.6	9.05	62	4.2	14.76	failed; retain
Silver	WMU-w	33	35	0.55	5.2	28	4.2	6.67	failed; retain
Silver	NCL-east		12	0	0.625	0.8	4.2	0.19	pass
Silver	NCL-North		4	0	0	0	4.2	0.00	pass
Silver	Ag-North		3	0	0.5	0.5	4.2	0.12	pass
Silver	Ag-East		5	0	0	0	4.2	0.00	pass
Silver	RES		2	0.5	0.6	0.7	4.2	0.17	pass

TABLE 3-16

Results of Screening Comparisons of Soil Concentrations to Avian Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Bird Screening Level (mg/kg)	Screening HQ	Conclusions
Silver	Poten. Bkgd-s	3	9	0	0.55	7.75	4.2	1.85	failed; retain
Thallium	Smelter-w		2	6	6	6			
Thallium	Smelter-s	10	40	0	0	23.7			
Thallium	WDA-w		4	5.5	5.5	6.5			
Thallium	WMU-w		35	5.5	8.5	14			
Thallium	NCL-east	1	8	0.99	1.6	1.95			
Thallium	Ag-North		2	1.3	1.3	1.3			
Thallium	RES	1	2	1.25	1.275	1.3			
Thallium	Poten. Bkgd-s	6	8	0.77	1.3	1.75			
Vanadium	Smelter-w	2	2	5.5	8.25	11	7.8	1.41	failed; retain
Vanadium	Smelter-s	40	40	7.92	30.45	55	7.8	7.05	failed; retain
Vanadium	WDA-w	4	4	21	41.5	68	7.8	8.72	failed; retain
Vanadium	WMU-w	35	35	12	49	84	7.8	10.77	failed; retain
Vanadium	NCL-east	8	8	34.3	45.55	56.7	7.8	7.27	failed; retain
Vanadium	Ag-North	2	2	24.7	24.85	25	7.8	3.21	failed; retain
Vanadium	RES	2	2	16.8	28.2	39.6	7.8	5.08	failed; retain
Vanadium	Poten. Bkgd-s	8	8	27.9	34.15	50.1	7.8	6.42	failed; retain
Zinc	Smelter-w	2	2	550	550	550			
Zinc	Smelter-s	40	40	77.5	2335	22900			
Zinc	WDA-w	4	4	1100	1600	2500			
Zinc	WMU-w	35	35	40	1400	6800			
Zinc	NCL-east	12	12	22.9	1235	5950			
Zinc	NCL-North	4	4	25.6	26.9	42.3			
Zinc	Ag-North	3	3	43.9	52.9	53.4			
Zinc	Ag-East	5	5	23.6	30.1	42			
Zinc	RES	2	2	66.5	74.5	82.5			
Zinc	Poten. Bkgd-s	9	9	21.8	118	533			
Cs-137	Smelter-w		2	0.029	0.034	0.039	2210	0.00	pass
Cs-137	Smelter-s	1	6	0.0155	0.03	0.249	2210	0.00	pass
Cs-137	WDA-w		4	0.017	0.0395	0.056	2210	0.00	pass
Cs-137	WMU-w	1	33	0.0125	0.027	0.079	2210	0.00	pass
Cs-137	NCL-east	2	8	0.0295	0.045	0.113	2210	0.00	pass
Cs-137	Ag-North		2	0.03	0.03575	0.0415	2210	0.00	pass
Cs-137	RES		2	0.0205	0.024	0.0275	2210	0.00	pass
Cs-137	Poten. Bkgd-s	2	6	0.024	0.03875	0.073	2210	0.00	pass
K-40	Smelter-w	2	2	15.8	19.05	22.3	1380	0.02	pass
K-40	Smelter-s	6	6	10.7	17.15	23.6	1380	0.02	pass
K-40	WDA-w	4	4	4.2	6.05	9	1380	0.01	pass
K-40	WMU-w	33	33	1.9	6.5	55	1380	0.04	pass
K-40	NCL-east	8	8	9.9	22.35	76.7	1380	0.06	pass
K-40	Ag-North	2	2	26.3	26.45	26.6	1380	0.02	pass
K-40	RES	2	2	21.7	22.85	24	1380	0.02	pass
K-40	Poten. Bkgd-s	6	6	16.2	22.6	27.1	1380	0.02	pass
Ra-226	Smelter-s	32	34	0	0.576	5.79	288	0.02	pass
Ra-226	Poten. Bkgd-s	2	2	0.5	0.6185	0.737	288	0.00	pass
Ra-228	Smelter-s	33	34	0	6.755	564	245	2.30	failed; retain
Ra-228	Poten. Bkgd-s	2	2	0.927	1.0035	1.08	245	0.00	pass
Th-228	Smelter-w		2	0.175	0.25875	0.3425	6420	0.00	pass
Th-228	Smelter-s	37	40	0	7.425	567	6420	0.09	pass
Th-228	WDA-w	4	4	0.358	1.2925	19.1	6420	0.00	pass
Th-228	WMU-w	8	33	0.1685	0.3325	4.48	6420	0.00	pass
Th-228	NCL-east	7	8	0.565	2.14	6.73	6420	0.00	pass
Th-228	Ag-North	2	2	0.833	0.9665	1.1	6420	0.00	pass

TABLE 3-16

Results of Screening Comparisons of Soil Concentrations to Avian Screening Values

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Bird Screening Level (mg/kg)	Screening HQ	Conclusions
Th-228	RES	2	2	0.614	0.6235	0.633	6420	0.00	pass
Th-228	Poten. Bkgd-s	7	8	0	1.115	1.44	6420	0.00	pass
Th-230	Smelter-w	1	2	0.1865	0.32975	0.473	175000	0.00	pass
Th-230	Smelter-s	37	40	0	8.55	770	175000	0.00	pass
Th-230	WDA-w	4	4	0.244	1.855	8.74	175000	0.00	pass
Th-230	WMU-w	15	33	0.1495	0.33	5.25	175000	0.00	pass
Th-230	NCL-east	8	8	0.612	2.175	6.17	175000	0.00	pass
Th-230	Ag-North	2	2	0.889	1.0295	1.17	175000	0.00	pass
Th-230	RES	2	2	0.7	0.7195	0.739	175000	0.00	pass
Th-230	Poten. Bkgd-s	8	8	0.54	0.86	1.32	175000	0.00	pass
Th-232	Smelter-w		2	0.059	0.07475	0.0905	23500	0.00	pass
Th-232	Smelter-s	39	40	0	5.39	653	23500	0.03	pass
Th-232	WDA-w	4	4	0.258	1.115	19.8	23500	0.00	pass
Th-232	WMU-w	16	33	0.101	0.2815	4.79	23500	0.00	pass
Th-232	NCL-east	8	8	0.737	1.63	5.44	23500	0.00	pass
Th-232	Ag-North	2	2	0.687	0.9035	1.12	23500	0.00	pass
Th-232	RES	2	2	0.618	0.6515	0.685	23500	0.00	pass
Th-232	Poten. Bkgd-s	8	8	0.794	1.1725	1.56	23500	0.00	pass

Notes

Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd.

[a]w indicates material is smelter waste

[b]s indicates material is soil

Chromium (Total) - plants; Cr+3-birds, mammals

TABLE 3-17

Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

													Plant Uptake													Total Dose (kg/kg-BW/day)			
Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Receptor	Body Weight (kg)	Food Intake (kg/kg-BW/day)	Area Use Factor	Daily Food Ingestion from Site (kg/kg-BW/day)	Diet Proportion	Soil to Plant BAF	Plant Concentration (mg/kg)	Plant Dose (mg/kg-BW/day)	Diet Proportion	Soil to Invertebrate BAF	Invertebrate Concentration (mg/kg)	Invertebrate Dose (mg/kg-BW/day)	Diet Proportion	Incidental Soil Dose (mg/kg-BW/day)	NOAEL TRV (mg/kg-BW/day)	Hazard Quotients	Conclusion
Boron	Smelter-w	2	2	18	49.5	81	California vole	0.043	0.206	1	0.206	1	18.11	1466.91	302.18346	0	1	81	0	0.024	0.400464	302.6	28	10.81	failed,retain
Boron	Smelter-s	1	1	250	250	250	California vole	0.043	0.206	1	0.206	1	18.11	4527.5	932.665	0	1	250	0	0.024	1.236	933.9	28	33.35	failed,retain
Boron	WDA-w	4	4	12	60	150	California vole	0.043	0.206	1	0.206	1	18.11	2716.5	559.599	0	1	150	0	0.024	0.7416	560.3	28	20.01	failed,retain
Boron	WMU-w	35	35	12	180	270	California vole	0.043	0.206	1	0.206	1	18.11	4889.7	1007.2782	0	1	270	0	0.024	1.33488	1008.6	28	36.02	failed,retain
Boron	NCL-east	0	0				California vole	0.043	0.206	1	0.206	1	18.11	0	--	0	1	0	--	0.024	--	0	28	0.00	uncertain
Boron	Ag-North	0	0				California vole	0.043	0.206	1	0.206	1	18.11	0	--	0	1	0	--	0.024	--	0	28	0.00	uncertain
Boron	RES	0	0				California vole	0.043	0.206	1	0.206	1	18.11	0	--	0	1	0	--	0.024	--	0	28	0.00	uncertain
Boron	Poten. Bkgd-s	0	0				California vole	0.043	0.206	1	0.206	1	18.11	0	--	0	1	0	--	0.024	--	0	28	0.00	uncertain
Mercury	Smelter-w		2	0.0145	0.02725	0.04	California vole	0.043	0.206	1	0.206	1	Regression	0.064115544	0.013207802	0	Regression	0.365554732	0	0.024	0.0002	0.01	0.032	0.42	pass
Mercury	Smelter-s	6	6	0.043	0.123	0.35	California vole	0.043	0.206	1	0.206	1	Regression	0.208648714	0.042981635	0	Regression	0.759127847	0	0.024	0.0017	0.04	0.032	1.40	failed,retain
Mercury	WDA-w	3	4	0.014	0.0265	0.067	California vole	0.043	0.206	1	0.206	1	Regression	0.084884303	0.017486166	0	Regression	0.434933641	0	0.024	0.0003	0.02	0.032	0.56	pass
Mercury	WMU-w	25	35	0.0135	0.05	0.19	California vole	0.043	0.206	1	0.206	1	Regression	0.149652734	0.030828463	0	Regression	0.617917489	0	0.024	0.0009	0.03	0.032	0.99	pass
Mercury	NCL-east	2	12	0	0.0625	0.08	California vole	0.043	0.206	1	0.206	1	Regression	0.093481064	0.019257099	0	Regression	0.461710143	0	0.024	0.0004	0.02	0.032	0.61	pass
Mercury	NCL-North	1	4	0	0	0.0293	California vole	0.043	0.206	1	0.206	1	Regression	0.054127589	0.011150283	0	Regression	0.329159277	0	0.024	0.0001	0.01	0.032	0.35	pass
Mercury	Ag-North	3	3	0.0363	0.058	0.13	California vole	0.043	0.206	1	0.206	1	Regression	0.121738481	0.025078127	0	Regression	0.543758319	0	0.024	0.0006	0.03	0.032	0.80	pass
Mercury	Ag-East	3	5	0	0.0283	0.0859	California vole	0.043	0.206	1	0.206	1	Regression	0.097170621	0.020017148	0	Regression	0.472912394	0	0.024	0.0004	0.02	0.032	0.64	pass
Mercury	RES	2	2	0.076	0.084	0.092	California vole	0.043	0.206	1	0.206	1	Regression	0.100865646	0.020778323	0	Regression	0.483970085	0	0.024	0.0005	0.02	0.032	0.66	pass
Mercury	Poten. Bkgd-s	5	7	0	0.081	0.66	California vole	0.043	0.206	1	0.206	1	Regression	0.294628393	0.060693449	0	Regression	0.939988956	0	0.024	0.0033	0.06	0.032	2.00	failed,retain
Molybdenum	Smelter-w		2	6	6	6	California vole	0.043	0.206	1	0.206	1	4.4177	26.5062	5.4602772	0	2.091	12.546	0	0.024	0.0297	5.49	0.26	21.12	failed,retain
Molybdenum	Smelter-s	35	35	2.2	8.89	1370	California vole	0.043	0.206	1	0.206	1	4.4177	6052.249	1246.763294	0	2.091	2864.67	0	0.024	6.7733	1253.54	0.26	4821.29	failed,retain
Molybdenum	WDA-w	3	4	5.5	12.8	30	California vole	0.043	0.206	1	0.206	1	4.4177	132.531	27.301386	0	2.091	62.73	0	0.024	0.1483	27.45	0.26	105.58	failed,retain
Molybdenum	WMU-w	15	35	3.3	10	94	California vole	0.043	0.206	1	0.206	1	4.4177	415.2638	85.5443428	0	2.091	196.554	0	0.024	0.4647	86.01	0.26	330.80	failed,retain
Molybdenum	NCL-east	0	0				California vole	0.043	0.206	1	0.206	1	4.4177	0	--	0	2.091	0	--	0.024	--	0	0.26	0.00	uncertain
Molybdenum	Ag-North	0	0				California vole	0.043	0.206	1	0.206	1	4.4177	0	--	0	2.091	0	--	0.024	--	0	0.26	0.00	uncertain
Molybdenum	RES	0	0				California vole	0.043	0.206	1	0.206	1	4.4177	0	--	0	2.091	0	--	0.024	--	0	0.26	0.00	uncertain
Molybdenum	Poten. Bkgd-s	2	2	1.6	3	4.4	California vole	0.043	0.206	1	0.206	1	4.4177	19.43788	4.00420328	0	2.091	9.2004	0	0.024	0.02	4.03	0.26	15.48	failed,retain
Selenium	Smelter-w		2	1.15	1.175	1.2	California vole	0.043	0.206	1	0.206	1	Regression	0.620818195	0.127888548	0	Regression	1.060395234	0	0.024	0.01	0.13	0.2	0.67	pass
Selenium	Smelter-s	21	40	0	2.15	836	California vole	0.043	0.206	1	0.206	1	Regression	854.4055713	176.0075477	0	Regression	128.648615	0	0.024	4.13	180.14	0.2	900.70	failed,retain
Selenium	WDA-w	1	4	1.1	1.2	1.5	California vole	0.043	0.206	1	0.206	1	Regression	0.794242443	0.163613943	0	Regression	1.248828515	0	0.024	0.01	0.17	0.2	0.86	pass
Selenium	WMU-w	12	35	1.1	2.05	7.3	California vole	0.043	0.206	1	0.206	1	Regression	4.556766542	0.938693908	0	Regression	3.983305082	0	0.024	0.04	0.97	0.2	4.87	failed,retain
Selenium	NCL-east		12	0	2.175	2.75	California vole	0.043	0.206	1	0.206	1	Regression	1.550856574	0.319476454	0	Regression	1.9474162	0	0.024	0.01	0.33	0.2	1.67	failed,retain
Selenium	NCL-North		4	0	0	0	California vole	0.043	0.206	1	0.206	1	Regression	0	0	0	Regression	0	0	0.024	0	0	0.2	0.00	pass
Selenium	Ag-North		3	0	1.8	1.8	California vole	0.043	0.206	1	0.206	1	Regression	0.971335333	0.200095079	0	Regression	1.427390034	0	0.024	0.009	0.209	0.2	1.04	failed,retain
Selenium	Ag-East		5	0	0	0	California vole	0.043	0.206	1	0.206	1	Regression	0	0	0	Regression	0	0	0.024	0	0	0.2	0.00	pass
Selenium	RES		2	1.75	2.05	2.35	California vole	0.043	0.206	1	0.206	1	Regression	1.303788846	0.268580502	0	Regression	1.735484171	0	0.024	0.01	0.28	0.2	1.40	failed,retain
Selenium	Poten. Bkgd-s	2	9	0	1.9	64.8	California vole	0.043	0.206	1	0.206	1	Regression	50.76064685	10.45669325	0	Regression	19.73842034	0	0.024	0.32	10.78	0.2	53.89	failed,retain
Thallium	Smelter-w		2	6	6	6	California vole	0.043	0.206	1	0.206	1	0.004	0.024	0.004944	0	0.256	1.536	0	0.024	0.03	0.03	0.48	0.07	pass
Thallium	Smelter-s	10	40	0	0	23.7	California vole	0.043	0.206	1	0.206	1	0.004	0.0948	0.0195288	0	0.256	6.0672	0	0.024	0.12	0.14	0.48	0.28	pass
Thallium	WDA-w		4	5.5	5.5	6.5	California vole	0.043	0.206	1	0.206	1	0.004	0.026	0.005356	0	0.256	1.664	0	0.024	0.03	0.04	0.48	0.08	pass
Thallium	WMU-w		35	5.5	8.5	14	California vole	0.043	0.206	1	0.206	1	0.004	0.056	0.011536	0	0.256	3.584	0	0.024	0.07	0.08	0.48	0.17	pass
Thallium	NCL-east	1	8	0.99	1.6	1.95	California vole	0.043	0.206	1	0.206	1	0.004	0.0078	0.0016068	0	0.256	0.4992	0	0.024	0.01	0.01	0.48	0.02	pass
Thallium	Ag-North		2	1.3	1.3	1.3	California vole	0.043	0.206	1	0.206	1	0.004	0.0052	0.0010712	0	0.256	0.3328	0	0.024	0.01	0.01	0.48	0.02	pass
Thallium	RES	1	2	1.25	1.275	1.3	California vole	0.043	0.206	1	0.206	1	0.004	0.0052	0.0010712	0	0.256	0.3328	0	0.024	0.01	0.01	0.48	0.02	pass
Thallium	Poten. Bkgd-s	6	8	0.77	1.3	1.75	California vole	0.043	0.206	1	0.206	1	0.004	0.007	0.001442	0	0.256	0.448	0	0.024	0.01	0.01	0.48	0.02	pass
Zinc	Smelter-w	2	2	550	550	550	California vole	0.043	0.206	1	0.206	1	Regression	160.293201	33.0203994	0	Regression	677.6650879	0	0.024	2.7	35.7	160	0.22	pass
Zinc	Smelter-s	40	40	77.5	2335	22900	California vole	0.043	0.206	1	0.206	1	Regression	1269.762514	261.5710779	0	Regression	2302.513516	0	0.024	113.2	374.8	160	2.34	failed,retain
Zinc	WDA-w	4	4	1100	1600	2500	California vole	0.043	0.206	1	0.206	1	Regression	371.4244713	76.51344108	0	Regression	1113.526284	0	0.024	12.4	88.9	160	0.56	pass
Zinc	WMU-w	35	35	40	1400	6800	California vole	0.043	0.206	1	0.206	1	Regression	647.2264476	133.3286482	0	Regression	1546.105316	0	0.024	33.6	166.9	160	1.04	failed,retain
Zinc	NCL-east	12	12	22.9	1235	5950	California vole	0.043	0.206	1	0.206	1	Regression	600.9948147	123.8049318	0	Regression	1479.850061	0	0.024	29.4	153.2	160	0.96	pass
Zinc	NCL-North	4	4	25.6	26.9	42.3	California vole	0.043	0.206	1	0.206	1	Regression	38.60403608	7.952431433	0	Regression	292.1566597	0	0.024	0.2	8.2	160	0.05	pass
Zinc	Ag-North	3	3	43.9	52.9	53.4	California vole	0.043	0.206	1	0.206	1	Regression	43.93384431	9.050371927	0	Regression	315.3622332	0	0.024	0.3	9.3	160	0.06	pass
Zinc	Ag-East	5	5	23.6	30.1	42	California vole	0.043	0.206	1	0.206	1	Regression	38.45184342	7.921079745	0	Regression	291.4754069	0	0.024	0.2	8.1	160	0.05	pass
Zinc	RES	2	2	66.5	74.5	82.5	California vole	0.043	0.206	1	0.206	1	Regression	55.93011991	11.5216047	0	Regression	363.72491	0	0.024	0.4	11.9	160	0.07	pass
Zinc	Poten. Bkgd-s	9	9	21.8	118	533	California vole	0.043	0.206	1	0.206	1	Regression	157.5242462	32.44999471	0	Regression	670.7221898	0	0.024	2.6	35.1	160	0.22	pass
Boron	Smelter-w	2	2	18	49.5	81	ornate shrew	0.005	0.259263638	1	0.259263638	0	18.11	1466.91	0	1	1	81	21.00035468	0.03	0.6	21.6	28	0.77	pass
Boron	Smelter-s	1	1	250	250	250	ornate shrew	0.005	0.259263638	1	0.259263638	0	18.11	4527.5	0	1	1	250	64.81590951	0.03	1.9	66.8	28	2.38	failed,retain
Boron	WDA-w	4	4	12	60	150	ornate shrew	0.005	0.259263638	1	0.259263638	0	18.11	2716.5	0	1	1	150	38.8895457	0.03	1.2	40.1	28	1.43	failed,retain
Boron	WMU-w	35	35	12	180	270	ornate shrew	0.005	0.259263638	1	0.259263638	0	18.11	4889.7	0	1	1	270	70.00118227	0.03	2.1	72.1	28	2.58	failed,retain
Boron	NCL-east	0	0				ornate shrew	0.005	0.259263638	1	0.259263638	0	18.11	0	--	1	1	0	--	0.03	--	0	28	0.00	uncertain
Boron	Ag-North	0	0				ornate shrew	0.005	0.259263638	1	0.259263638	0	18.11	0	--	1	1	0	--	0.03	--	0	28	0.00	uncertain
Boron	RES	0	0				ornate shrew	0.005	0.259263638	1	0.259263638	0	18.11	0	--	1	1	0	--	0.03	--	0	28	0.00	uncertain
Boron	Poten. Bkgd-s	0	0				ornate shrew	0.005	0.259263638	1	0.259263638	0	18.11	0	--	1	1	0	--	0.03	--	0	28	0.00	uncertain
Mercury	Smelter-w		2	0.0145	0.02725	0.04	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.064115544	0	1	Regression	0.365554732	0.09477505	0.03	0.0003	0.10	0.032	2.97	failed,retain
Mercury	Smelter-s	6	6	0.043	0.123	0.35	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.208648714	0	1	Regression	0.759127847	0.196814247	0.03	0.0027	0.20	0.032	6.24	failed,retain
Mercury	WDA-w	3	4	0.014	0.0265	0.067	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.084884303	0	1	Regression	0.434933641	0.112762478	0.03	0.0005	0.11	0.032	3.54	failed,retain
Mercury	WMU-w	25	35	0.0135	0.05	0.19	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.149652734	0	1	Regression	0.617917489	0.160203536	0.03	0.0015	0.16	0.032	5.05	failed,retain
Mercury	NCL-east	2	12	0	0.0625	0.08	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.093481064	0	1	Regression	0.461710143	0.119704651	0.03	0.0006	0.12	0.032	3.76	failed,retain
Mercury	NCL-North	1	4	0	0	0.0293	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.054127589	0	1	Regression	0.329159277	0.085339032	0.03	0.0002	0.09	0.032	2.67	failed,retain

TABLE 3-17

Hazard Quotients for the California Vole, Ornate Shrew, and Belding's Savannah Sparrow Exposed to Soils at the Site

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

								Life History Parameters					Plant Uptake					Invertebrate Uptake				Soil Uptake		Total Dose (kg/kg-BW/day)			
Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Receptor	Body Weight (kg)	Food Intake (kg/kg-BW/day)	Area Use Factor	Daily Food Ingestion from Site (kg/kg-BW/day)	Diet Proportion	Soil to Plant BAF	Plant Concentration (mg/kg)	Plant Dose (mg/kg-BW/day)	Diet Proportion	Soil to Invertebrate BAF	Invertebrate Concentration (mg/kg)	Invertebrate Dose (mg/kg-BW/day)	Diet Proportion	Incidental Soil Dose (mg/kg-BW/day)		NOAEL TRV (mg/kg-BW/day)	Hazard Quotients	Conclusion
Mercury	Ag-North	3	3	0.0363	0.058	0.13	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.121738481	0	1	Regression	0.543758319	0.14097676	0.03	0.0010	0.14	0.032	4.44	failed,retain
Mercury	Ag-East	3	5	0	0.0283	0.0859	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.097170621	0	1	Regression	0.472912394	0.122608988	0.03	0.0007	0.12	0.032	3.85	failed,retain
Mercury	RES	2	2	0.076	0.084	0.092	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.100865646	0	1	Regression	0.483970085	0.125475845	0.03	0.0007	0.13	0.032	3.94	failed,retain
Mercury	Poten. Bkgd-s	5	7	0	0.081	0.66	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.294628393	0	1	Regression	0.939988956	0.243704956	0.03	0.0051	0.25	0.032	7.78	failed,retain
Molybdenum	Smelter-w		2	6	6	6	ornate shrew	0.005	0.259263638	1	0.259263638	0	4.4177	26.5062	0	1	2.091	12.546	3.252721603	0.03	0.0467	3.30	0.26	12.69	failed,retain
Molybdenum	Smelter-s	35	35	2.2	8.89	1370	ornate shrew	0.005	0.259263638	1	0.259263638	0	4.4177	6052.249	0	1	2.091	2864.67	742.704766	0.03	10.6557	753.36	0.26	2897.54	failed,retain
Molybdenum	WDA-w	3	4	5.5	12.8	30	ornate shrew	0.005	0.259263638	1	0.259263638	0	4.4177	132.531	0	1	2.091	62.73	16.26360801	0.03	0.2333	16.50	0.26	63.45	failed,retain
Molybdenum	WMU-w	15	35	3.3	10	94	ornate shrew	0.005	0.259263638	1	0.259263638	0	4.4177	415.2638	0	1	2.091	196.554	50.95930511	0.03	0.7311	51.69	0.26	198.81	failed,retain
Molybdenum	NCL-east	0	0				ornate shrew	0.005	0.259263638	1	0.259263638	0	4.4177	0 --		1	2.091	0 --		0.03 --		0	0.26	0.00	uncertain
Molybdenum	Ag-North	0	0				ornate shrew	0.005	0.259263638	1	0.259263638	0	4.4177	0 --		1	2.091	0 --		0.03 --		0	0.26	0.00	uncertain
Molybdenum	RES	0	0				ornate shrew	0.005	0.259263638	1	0.259263638	0	4.4177	0 --		1	2.091	0 --		0.03 --		0	0.26	0.00	uncertain
Molybdenum	Poten. Bkgd-s	2	2	1.6	3	4.4	ornate shrew	0.005	0.259263638	1	0.259263638	0	4.4177	19.43788	0	1	2.091	9.2004	2.385329175	0.03	0.034	2.420	0.26	9.31	failed,retain
Selenium	Smelter-w		2	1.15	1.175	1.2	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.620818195	0	1	Regression	1.060395234	0.274921926	0.03	0.009	0.284	0.2	1.42	failed,retain
Selenium	Smelter-s	21	40	0	2.15	836	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	854.4055713	0	1	Regression	128.648615	33.35390796	0.03	6.502	39.856	0.2	199.28	failed,retain
Selenium	WDA-w	1	4	1.1	1.2	1.5	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.794242443	0	1	Regression	1.248828515	0.323775824	0.03	0.012	0.335	0.2	1.68	failed,retain
Selenium	WMU-w	12	35	1.1	2.05	7.3	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	4.556766542	0	1	Regression	3.983305082	1.032726167	0.03	0.057	1.090	0.2	5.45	failed,retain
Selenium	NCL-east		12	0	2.175	2.75	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	1.550856574	0	1	Regression	1.9474162	0.504894209	0.03	0.021	0.526	0.2	2.63	failed,retain
Selenium	NCL-North		4	0	0	0	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0	0	1	Regression	0	0	0.03	0	0	0.2	0.00	pass
Selenium	Ag-North		3	0	1.8	1.8	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0.971335333	0	1	Regression	1.427390034	0.370070333	0.03	0.01	0.38	0.2	1.92	failed,retain
Selenium	Ag-East		5	0	0	0	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	0	0	1	Regression	0	0	0.03	0	0	0.2	0.00	pass
Selenium	RES		2	1.75	2.05	2.35	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	1.303788846	0	1	Regression	1.735484171	0.44994794	0.03	0.02	0.47	0.2	2.34	failed,retain
Selenium	Poten. Bkgd-s	2	9	0	1.9	64.8	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	50.76064685	0	1	Regression	19.73842034	5.117454665	0.03	0.50	5.62	0.2	28.11	failed,retain
Thallium	Smelter-w		2	6	6	6	ornate shrew	0.005	0.259263638	1	0.259263638	0	0.004	0.024	0	1	0.256	1.536	0.398228948	0.03	0.05	0.44	0.48	0.93	pass
Thallium	Smelter-s	10	40	0	0	23.7	ornate shrew	0.005	0.259263638	1	0.259263638	0	0.004	0.0948	0	1	0.256	6.0672	1.573004345	0.03	0.18	1.76	0.48	3.66	failed,retain
Thallium	WDA-w		4	5.5	5.5	6.5	ornate shrew	0.005	0.259263638	1	0.259263638	0	0.004	0.026	0	1	0.256	1.664	0.431414694	0.03	0.05	0.48	0.48	1.00	failed,retain
Thallium	WMU-w		35	5.5	8.5	14	ornate shrew	0.005	0.259263638	1	0.259263638	0	0.004	0.056	0	1	0.256	3.584	0.929200879	0.03	0.11	1.04	0.48	2.16	failed,retain
Thallium	NCL-east	1	8	0.99	1.6	1.95	ornate shrew	0.005	0.259263638	1	0.259263638	0	0.004	0.0078	0	1	0.256	0.4992	0.129424408	0.03	0.02	0.14	0.48	0.30	pass
Thallium	Ag-North		2	1.3	1.3	1.3	ornate shrew	0.005	0.259263638	1	0.259263638	0	0.004	0.0052	0	1	0.256	0.3328	0.086282939	0.03	0.01	0.10	0.48	0.20	pass
Thallium	RES	1	2	1.25	1.275	1.3	ornate shrew	0.005	0.259263638	1	0.259263638	0	0.004	0.0052	0	1	0.256	0.3328	0.086282939	0.03	0.01	0.10	0.48	0.20	pass
Thallium	Poten. Bkgd-s	6	8	0.77	1.3	1.75	ornate shrew	0.005	0.259263638	1	0.259263638	0	0.004	0.007	0	1	0.256	0.448	0.11615011	0.03	0.01	0.13	0.48	0.27	pass
Zinc	Smelter-w	2	2	550	550	550	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	160.293201	0	1	Regression	677.6650879	175.6939161	0.03	4.28	179.97	160	1.12	failed,retain
Zinc	Smelter-s	40	40	77.5	2335	22900	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	1269.762514	0	1	Regression	2302.513516	596.9580307	0.03	178.11	775.07	160	4.84	failed,retain
Zinc	WDA-w	4	4	1100	1600	2500	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	371.4244713	0	1	Regression	1113.526284	288.6968755	0.03	19.44	308.14	160	1.93	failed,retain
Zinc	WMU-w	35	35	40	1400	6800	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	647.2264476	0	1	Regression	1546.105316	400.848889	0.03	52.89	453.74	160	2.84	failed,retain
Zinc	NCL-east	12	12	22.9	1235	5950	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	600.9948147	0	1	Regression	1479.850061	383.6713106	0.03	46.28	429.95	160	2.69	failed,retain
Zinc	NCL-North	4	4	25.6	26.9	42.3	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	38.60403608	0	1	Regression	292.1566597	75.74559847	0.03	0.33	76.07	160	0.48	pass
Zinc	Ag-North	3	3	43.9	52.9	53.4	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	43.93384431	0	1	Regression	315.3622332	81.76195987	0.03	0.42	82.18	160	0.51	pass
Zinc	Ag-East	5	5	23.6	30.1	42	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	38.45184342	0	1	Regression	291.4754069	75.56897439	0.03	0.33	75.90	160	0.47	pass
Zinc	RES	2	2	66.5	74.5	82.5	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	55.93011991	0	1	Regression	363.72491	94.30064341	0.03	0.64	94.94	160	0.59	pass
Zinc	Poten. Bkgd-s	9	9	21.8	118	533	ornate shrew	0.005	0.259263638	1	0.259263638	0	Regression	157.5242462	0	1	Regression	670.7221898	173.893875	0.03	4.15	178.04	160	1.11	failed,retain
Barium	Smelter-w	2	2	310	645	980	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	467.46	0	1	0.16	156.8	39.04027054	0.02	4.88	43.92	20.8	2.11	failed,retain
Barium	Smelter-s	40	40	47.3	3765	14900	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	7107.3	0	1	0.16	2384	593.5714602	0.02	74.20	667.77	20.8	32.10	failed,retain
Barium	WDA-w	4	4	3200	4100	49000	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	23373	0	1	0.16	7840	1952.013527	0.02	244.00	2196.02	20.8	105.58	failed,retain
Barium	WMU-w	35	35	130	5100	19000	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	9063	0	1	0.16	3040	756.9032043	0.02	94.61	851.52	20.8	40.94	failed,retain
Barium	NCL-east	12	12	55	1520	6190	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	2952.63	0	1	0.16	990.4	246.5910966	0.02	30.82	277.41	20.8	13.34	failed,retain
Barium	NCL-North	4	4	57.1	62	87.3	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	41.6421	0	1	0.16	13.968	3.477771039	0.02	0.43	3.91	20.8	0.19	pass
Barium	Ag-North	3	3	95.7	101	105	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	50.085	0	1	0.16	16.8	4.182886129	0.02	0.52	4.71	20.8	0.23	pass
Barium	Ag-East	5	5	50.4	62.5	156	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	74.412	0	1	0.16	24.96	6.214573677	0.02	0.78	6.99	20.8	0.34	pass
Barium	RES	2	2	93.5	136.25	179	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	85.383	0	1	0.16	28.64	7.130824925	0.02	0.89	8.02	20.8	0.39	pass
Barium	Poten. Bkgd-s	9	9	51	151	333	Savannah sparrow	0.0187	0.249	1	0.249	0	0.477	158.841	0	1	0.16	53.28	13.26572458	0.02	1.66	14.92	20.8	0.72	pass
Boron	Smelter-w	2	2	18	49.5	81	Savannah sparrow	0.0187	0.249	1	0.249	0	18.11	1466.91	0	1	1	81	20.16748669	0.02	0.40	20.57	28.8	0.71	pass
Boron	Smelter-s	1	1	250	250	250	Savannah sparrow	0.0187	0.249	1	0.249	0	18.11	4527.5	0	1	1	250	62.2453293	0.02	1.24	63.49	28.8	2.20	failed,retain
Boron	WDA-w	4	4	12	60	150	Savannah sparrow	0.0187	0.249	1	0.249	0	18.11	2716.5	0	1	1	150	37.34719758	0.02	0.75	38.09	28.8	1.32	failed,retain
Boron	WMU-w	35	35	12	180	270	Savannah sparrow	0.0187	0.249	1	0.249	0	18.11	4889.7	0	1	1	270	67.22495564	0.02	1.34	68.57	28.8	2.38	failed,retain
Boron	NCL-east	0	0				Savannah sparrow	0.0187	0.249	1	0.249	0	18.11	0 --		1	1	0 --		0.02 --		0	28.8	0.00	uncertain
Boron	Ag-North	0	0				Savannah sparrow	0.0187	0.249	1	0.249	0	18.11	0 --		1	1	0 --		0.02 --		0	28.8	0.00	uncertain
Boron	RES	0	0				Savannah sparrow	0.0187	0.249	1	0.249	0	18.11	0 --		1	1	0 --		0.02 --		0	28.8	0.00	uncertain
Boron	Poten. Bkgd-s	0	0				Savannah sparrow	0.0187	0.249	1	0.249	0	18.11	0 --		1	1	0 --		0.02 --		0	28.8	0.00	uncertain
Mercury	Smelter-w		2	0.0145	0.02725	0.04	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.064115544	0	1	Regression	0.365554732	0.091016299	0.02	0.0002	0.0912	0.068	1.34	failed,retain
Mercury	Smelter-s	6	6	0.043	0.123	0.35	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.208648714	0	1	Regression	0.759127847	0.189008651	0.02	0.0017	0.1908	0.068	2.81	failed,retain
Mercury	WDA-w	3	4	0.014	0.0265	0.067	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.084884303	0	1	Regression	0.434933641	0.108290351	0.02	0.0003	0.1086	0.068	1.60	failed,retain
Mercury	WMU-w	25	35	0.0135	0.05	0.19	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.149652734	0	1	Regression	0.617917489	0.15384991	0.02	0.0009	0.1548	0.068	2.28	failed,retain
Mercury	NCL-east	2	12	0	0.0625	0.08	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.093481064	0	1	Regression	0.461710143	0.1149572	0.02	0.0004	0.1154	0.068	1.70	failed,retain
Mercury	NCL-North	1	4	0	0	0.0293	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.054127589	0	1	Regression	0.329159277	0.08195451	0.02	0.0001	0.0821	0.068	1.21	failed,retain
Mercury	Ag-North	3	3	0.0363	0.058	0.13	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.121738481	0	1	Regression	0.543758319	0.135385663	0.02	0.0006	0.1360	0.068	2.00	failed,retain
Mercury	Ag-East	3	5	0	0.0283	0.0859	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.097170621	0	1	Regression	0.472912394	0.117746351	0.02	0.0004	0.1182	0.068	1.74	failed,retain
Mercury	RES	2	2	0.076	0.084	0.092	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.100865646	0	1	Regression	0.483970085	0.120499509	0.02	0.0005	0.1210	0.068	1.78	failed,retain
Mercury	Poten. Bkgd-s	5	7	0	0.081	0.66	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.294628393	0	1	Regression	0.939988956	0.234039688	0.02	0.0033	0.2373	0.068	3.49	failed,retain

TABLE 3-17
Hazard Quotients for the California Vole, Ornate Shrew, and Belding's Savannah Sparrow Exposed to Soils at the Site
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

								Life History Parameters					Plant Uptake					Invertebrate Uptake				Soil Uptake		Total Dose (kg/kg-BW/day)			
Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Receptor	Body Weight (kg)	Food Intake (kg/kg-BW/day)	Area Use Factor	Daily Food Ingestion from Site (kg/kg-BW/day)	Diet Proportion	Soil to Plant BAF	Plant Concentration (mg/kg)	Plant Dose (mg/kg-BW/day)	Diet Proportion	Soil to Invertebrate BAF	Invertebrate Concentration (mg/kg)	Invertebrate Dose (mg/kg-BW/day)	Diet Proportion	Incidental Soil Dose (mg/kg-BW/day)		NOAEL TRV (mg/kg-BW/day)	Hazard Quotients	Conclusion
Molybdenum	Smelter-w		2	6	6	6	Savannah sparrow	0.0187	0.249	1	0.249	0	4.4177	26.5062		0	1	2.091	12.546	3.123719606	0.02	0.0299	3.1536	3.53	0.89	pass
Molybdenum	Smelter-s	35	35	2.2	8.89	1370	Savannah sparrow	0.0187	0.249	1	0.249	0	4.4177	6052.249		0	1	2.091	2864.67	713.2493099	0.02	6.8221	720.0714	3.53	203.99	failed,retain
Molybdenum	WDA-w	3	4	5.5	12.8	30	Savannah sparrow	0.0187	0.249	1	0.249	0	4.4177	132.531		0	1	2.091	62.73	15.61859803	0.02	0.1494	15.7680	3.53	4.47	failed,retain
Molybdenum	WMU-w	15	35	3.3	10	94	Savannah sparrow	0.0187	0.249	1	0.249	0	4.4177	415.2638		0	1	2.091	196.554	48.93827382	0.02	0.4681	49.4064	3.53	14.00	failed,retain
Molybdenum	NCL-east	0	0				Savannah sparrow	0.0187	0.249	1	0.249	0	4.4177	0	--		1	2.091	0	--	0.02	--	0	3.53	0.00	uncertain
Molybdenum	Ag-North	0	0				Savannah sparrow	0.0187	0.249	1	0.249	0	4.4177	0	--		1	2.091	0	--	0.02	--	0	3.53	0.00	uncertain
Molybdenum	RES	0	0				Savannah sparrow	0.0187	0.249	1	0.249	0	4.4177	0	--		1	2.091	0	--	0.02	--	0	3.53	0.00	uncertain
Molybdenum	Poten. Bkgd-s	2	2	1.6	3	4.4	Savannah sparrow	0.0187	0.249	1	0.249	0	4.4177	19.43788		0	1	2.091	9.2004	2.290727711	0.02	0.021910356	2.312638067	3.53	0.66	pass
Selenium	Smelter-w		2	1.15	1.175	1.2	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.620818195		0	1	Regression	1.060395234	0.264018602	0.02	0.005975552	0.269994154	0.4	0.67	pass
Selenium	Smelter-s	21	40	0	2.15	836	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	854.4055713		0	1	Regression	128.648615	32.03110163	0.02	4.162967624	36.19406925	0.4	90.49	failed,retain
Selenium	WDA-w	1	4	1.1	1.2	1.5	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.794242443		0	1	Regression	1.248828515	0.310934969	0.02	0.00746944	0.318404408	0.4	0.80	pass
Selenium	WMU-w	12	35	1.1	2.05	7.3	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	4.556766542		0	1	Regression	3.983305082	0.991768546	0.02	0.036351272	1.028119818	0.4	2.57	failed,retain
Selenium	NCL-east		12	0	2.175	2.75	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	1.550856574		0	1	Regression	1.9474162	0.484870251	0.02	0.013693972	0.498564223	0.4	1.25	failed,retain
Selenium	NCL-North		4	0	0	0	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0		0	1	Regression	0	0	0.02	0	0	0.4	0.00	pass
Selenium	Ag-North		3	0	1.8	1.8	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0.971335333		0	1	Regression	1.427390034	0.355393451	0.02	0.008963327	0.364356778	0.4	0.91	pass
Selenium	Ag-East		5	0	0	0	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	0		0	1	Regression	0	0	0.02	0	0	0.4	0.00	pass
Selenium	RES		2	1.75	2.05	2.35	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	1.303788846		0	1	Regression	1.735484171	0.432103135	0.02	0.011702122	0.443805257	0.4	1.11	failed,retain
Selenium	Poten. Bkgd-s	2	9	0	1.9	64.8	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	50.76064685		0	1	Regression	19.73842034	4.914497895	0.02	0.322679787	5.237177682	0.4	13.09	failed,retain
Thallium	Smelter-w		2	6	6	6	Savannah sparrow	0.0187	0.249	1	0.249	0	0.004	0.024		0	1	0.256	1.536	0.382435303	0.02	0.029877758	0.412313061			uncertain
Thallium	Smelter-s	10	40	0	0	23.7	Savannah sparrow	0.0187	0.249	1	0.249	0	0.004	0.0948		0	1	0.256	6.0672	1.510619448	0.02	0.118017144	1.628636592			uncertain
Thallium	WDA-w		4	5.5	5.5	6.5	Savannah sparrow	0.0187	0.249	1	0.249	0	0.004	0.026		0	1	0.256	1.664	0.414304912	0.02	0.032367571	0.446672483			uncertain
Thallium	WMU-w		35	5.5	8.5	14	Savannah sparrow	0.0187	0.249	1	0.249	0	0.004	0.056		0	1	0.256	3.584	0.892349041	0.02	0.069714769	0.96206381			uncertain
Thallium	NCL-east	1	8	0.99	1.6	1.95	Savannah sparrow	0.0187	0.249	1	0.249	0	0.004	0.0078		0	1	0.256	0.4992	0.124291474	0.02	0.009710271	0.134001745			uncertain
Thallium	Ag-North		2	1.3	1.3	1.3	Savannah sparrow	0.0187	0.249	1	0.249	0	0.004	0.0052		0	1	0.256	0.3328	0.082860982	0.02	0.006473514	0.089334497			uncertain
Thallium	RES	1	2	1.25	1.275	1.3	Savannah sparrow	0.0187	0.249	1	0.249	0	0.004	0.0052		0	1	0.256	0.3328	0.082860982	0.02	0.006473514	0.089334497			uncertain
Thallium	Poten. Bkgd-s	6	8	0.77	1.3	1.75	Savannah sparrow	0.0187	0.249	1	0.249	0	0.004	0.007		0	1	0.256	0.448	0.11154363	0.02	0.008714346	0.120257976			uncertain
Zinc	Smelter-w	2	2	550	550	550	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	160.293201		0	1	Regression	677.6650879	168.7259462	0.02	2.738794489	171.4647407	14.5	11.83	failed,retain
Zinc	Smelter-s	40	40	77.5	2335	22900	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	1269.762514		0	1	Regression	2302.513516	573.282848	0.02	114.0334433	687.3162913	14.5	47.40	failed,retain
Zinc	WDA-w	4	4	1100	1600	2500	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	371.4244713		0	1	Regression	1113.526284	277.247241	0.02	12.44906586	289.6963069	14.5	19.98	failed,retain
Zinc	NCL-east	12	12	22.9	1235	5950	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	600.9948147		0	1	Regression	1479.850061	368.4550175	0.02	29.62877675	398.0837942	14.5	27.45	failed,retain
Zinc	NCL-North	4	4	25.6	26.9	42.3	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	38.60403608		0	1	Regression	292.1566597	72.74154996	0.02	0.210638194	72.95218816	14.5	5.03	failed,retain
Zinc	Ag-North	3	3	43.9	52.9	53.4	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	43.93384431		0	1	Regression	315.3622332	78.51930421	0.02	0.265912047	78.78521625	14.5	5.43	failed,retain
Zinc	Ag-East	5	5	23.6	30.1	42	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	38.45184342		0	1	Regression	291.4754069	72.57193074	0.02	0.209144306	72.78107505	14.5	5.02	failed,retain
Zinc	RES	2	2	66.5	74.5	82.5	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	55.93011991		0	1	Regression	363.72491	90.56070719	0.02	0.410819173	90.97152637	14.5	6.27	failed,retain
Zinc	Poten. Bkgd-s	9	9	21.8	118	533	Savannah sparrow	0.0187	0.249	1	0.249	0	Regression	157.5242462		0	1	Regression	670.7221898	166.9972943	0.02	2.654140841	169.6514351	14.5	11.70	failed,retain

TABLE 3-18
Hazard Quotients for the Snowy Plover Exposed to Sediments at the Site
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

				Life History Parameters					Invertebrate Uptake				Sediment Uptake		Total Dose (kg/kg-BW/day)	TRVs (mg/kg-BW/day)	Hazard Quotients	Conclusion
Analyte	Area	Type	Maximum	Body Weight (kg)	Food Intake (kg/kg-BW/day)	Area Use Factor	Daily Food Ingestion from Site (kg/kg-BW/day)	Diet Proportion	Sed to Invertebrate BAF	Invertebrate Concentration (mg/kg)	Invertebrate Dose (mg/kg-BW/day)	Diet Proportion	Incidental Soil Dose (mg/kg-BW/day)		Low	Low	
Antimony	OID	Poten. Bkgd	4.2	0.046	0.21556262	1	0.21556262	1	1	4.2	0.905362984	0.165	0.03556783	0.941	--	--	uncertain
Antimony	OID	onsite	7.15	0.046	0.21556262	1	0.21556262	1	1	7.15	1.541272699	0.165	0.03556783	1.577	--	--	uncertain
Antimony	Wetland	Poten. Bkgd	4.25	0.046	0.21556262	1	0.21556262	1	1	4.25	0.916141115	0.165	0.03556783	0.952	--	--	uncertain
Antimony	Wetland	onsite	11.8	0.046	0.21556262	1	0.21556262	1	1	11.8	2.54363886	0.165	0.03556783	2.579	--	--	uncertain
Antimony	Beach	Poten. Bkgd	6.2	0.046	0.21556262	1	0.21556262	1	1	6.2	1.336488214	0.165	0.03556783	1.372	--	--	uncertain
Antimony	Beach	onsite	3.1	0.046	0.21556262	1	0.21556262	1	1	3.1	0.668244107	0.165	0.03556783	0.704	--	--	uncertain
Antimony	Marine	Poten. Bkgd	3.95	0.046	0.21556262	1	0.21556262	1	1	3.95	0.85147233	0.165	0.03556783	0.887	--	--	uncertain
Antimony	Marine	onsite	4	0.046	0.21556262	1	0.21556262	1	1	4	0.862250461	0.165	0.03556783	0.898	--	--	uncertain
Arsenic	OID	Poten. Bkgd	9.2	0.046	0.21556262	1	0.21556262	1	4.33	39.836	8.587152341	0.165	0.03556783	8.623	9.3	0.93	pass
Arsenic	OID	onsite	11.9	0.046	0.21556262	1	0.21556262	1	4.33	51.527	11.10729488	0.165	0.03556783	11.143	9.3	1.20	failed,retain
Arsenic	Wetland	Poten. Bkgd	2.53	0.046	0.21556262	1	0.21556262	1	4.33	10.9549	2.361466894	0.165	0.03556783	2.397	9.3	0.26	pass
Arsenic	Wetland	onsite	7.1	0.046	0.21556262	1	0.21556262	1	4.33	30.743	6.62704148	0.165	0.03556783	6.663	9.3	0.72	pass
Arsenic	Beach	Poten. Bkgd	2.5	0.046	0.21556262	1	0.21556262	1	4.33	10.825	2.33346531	0.165	0.03556783	2.369	9.3	0.25	pass
Arsenic	Beach	onsite	4.8	0.046	0.21556262	1	0.21556262	1	4.33	20.784	4.480253395	0.165	0.03556783	4.516	9.3	0.49	pass
Arsenic	Marine	Poten. Bkgd	7.2	0.046	0.21556262	1	0.21556262	1	4.33	31.176	6.720380093	0.165	0.03556783	6.756	9.3	0.73	pass
Arsenic	Marine	onsite	3.5	0.046	0.21556262	1	0.21556262	1	4.33	15.155	3.266851434	0.165	0.03556783	3.302	9.3	0.36	pass
Barium	OID	Poten. Bkgd	147	0.046	0.21556262	1	0.21556262	1	1	147	31.68770444	0.165	0.03556783	31.723	20.8	1.53	failed,retain
Barium	OID	onsite	2970	0.046	0.21556262	1	0.21556262	1	1	2970	640.2209673	0.165	0.03556783	640.257	20.8	30.78	failed,retain
Barium	Wetland	Poten. Bkgd	748	0.046	0.21556262	1	0.21556262	1	1	748	161.2408362	0.165	0.03556783	161.276	20.8	7.75	failed,retain
Barium	Wetland	onsite	4620	0.046	0.21556262	1	0.21556262	1	1	4620	995.8992824	0.165	0.03556783	995.935	20.8	47.88	failed,retain
Barium	Beach	Poten. Bkgd	57.2	0.046	0.21556262	1	0.21556262	1	1	57.2	12.33018159	0.165	0.03556783	12.366	20.8	0.59	pass
Barium	Beach	onsite	297	0.046	0.21556262	1	0.21556262	1	1	297	64.02209673	0.165	0.03556783	64.058	20.8	3.08	failed,retain
Barium	Marine	Poten. Bkgd	332	0.046	0.21556262	1	0.21556262	1	1	332	71.56678826	0.165	0.03556783	71.602	20.8	3.44	failed,retain
Barium	Marine	onsite	154	0.046	0.21556262	1	0.21556262	1	1	154	33.19664275	0.165	0.03556783	33.232	20.8	1.60	failed,retain
Beryllium	OID	Poten. Bkgd	0.51	0.046	0.21556262	1	0.21556262	1	1.182	0.60282	0.129945456	0.165	0.03556783	0.166	--	--	uncertain
Beryllium	OID	onsite	10.3	0.046	0.21556262	1	0.21556262	1	1.182	12.1746	2.624388615	0.165	0.03556783	2.660	--	--	uncertain
Beryllium	Wetland	Poten. Bkgd	2.8	0.046	0.21556262	1	0.21556262	1	1.182	3.3096	0.713426031	0.165	0.03556783	0.749	--	--	uncertain
Beryllium	Wetland	onsite	19.7	0.046	0.21556262	1	0.21556262	1	1.182	23.2854	5.019461721	0.165	0.03556783	5.055	--	--	uncertain
Beryllium	Beach	Poten. Bkgd	0.26	0.046	0.21556262	1	0.21556262	1	1.182	0.30732	0.066246703	0.165	0.03556783	0.102	--	--	uncertain
Beryllium	Beach	onsite	0.52	0.046	0.21556262	1	0.21556262	1	1.182	0.61464	0.132493406	0.165	0.03556783	0.168	--	--	uncertain
Beryllium	Marine	Poten. Bkgd	0.46	0.046	0.21556262	1	0.21556262	1	1.182	0.54372	0.117205705	0.165	0.03556783	0.153	--	--	uncertain
Beryllium	Marine	onsite	0.27	0.046	0.21556262	1	0.21556262	1	1.182	0.31914	0.068794653	0.165	0.03556783	0.104	--	--	uncertain
Cadmium	OID	Poten. Bkgd	0.98	0.046	0.21556262	1	0.21556262	1	3.073	3.01154	0.649175438	0.165	0.03556783	0.685	0.16	4.28	failed,retain
Cadmium	OID	onsite	2.9	0.046	0.21556262	1	0.21556262	1	3.073	8.9117	1.921029358	0.165	0.03556783	1.957	0.16	12.23	failed,retain
Cadmium	Wetland	Poten. Bkgd	1	0.046	0.21556262	1	0.21556262	1	3.073	3.073	0.662423917	0.165	0.03556783	0.698	0.16	4.36	failed,retain
Cadmium	Wetland	onsite	17	0.046	0.21556262	1	0.21556262	1	3.073	52.241	11.26120658	0.165	0.03556783	11.297	0.16	70.60	failed,retain
Cadmium	Beach	Poten. Bkgd	0.26	0.046	0.21556262	1	0.21556262	1	3.073	0.79898	0.172230218	0.165	0.03556783	0.208	0.16	1.30	failed,retain
Cadmium	Beach	onsite	0.46	0.046	0.21556262	1	0.21556262	1	3.073	1.41358	0.304715002	0.165	0.03556783	0.340	0.16	2.13	failed,retain
Cadmium	Marine	Poten. Bkgd	0.42	0.046	0.21556262	1	0.21556262	1	3.073	1.29066	0.278218045	0.165	0.03556783	0.314	0.16	1.96	failed,retain
Cadmium	Marine	onsite	0.48	0.046	0.21556262	1	0.21556262	1	3.073	1.47504	0.31796348	0.165	0.03556783	0.354	0.16	2.21	failed,retain
Chromium	OID	Poten. Bkgd	16.2	0.046	0.21556262	1	0.21556262	1	0.186	3.0132	0.649533272	0.165	0.03556783	0.685	1	0.69	pass
Chromium	OID	onsite	108	0.046	0.21556262	1	0.21556262	1	0.186	20.088	4.330221815	0.165	0.03556783	4.366	1	4.37	failed,retain
Chromium	Wetland	Poten. Bkgd	17.2	0.046	0.21556262	1	0.21556262	1	0.186	3.1992	0.689627919	0.165	0.03556783	0.725	1	0.73	pass
Chromium	Wetland	onsite	503	0.046	0.21556262	1	0.21556262	1	0.186	93.558	20.16760716	0.165	0.03556783	20.203	1	20.20	failed,retain
Chromium	Beach	Poten. Bkgd	4.9	0.046	0.21556262	1	0.21556262	1	0.186	0.9114	0.196463768	0.165	0.03556783	0.232	1	0.23	pass
Chromium	Beach	onsite	18.3	0.046	0.21556262	1	0.21556262	1	0.186	3.4038	0.73373203	0.165	0.03556783	0.769	1	0.77	pass

TABLE 3-18
Hazard Quotients for the Snowy Plover Exposed to Sediments at the Site
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

				Life History Parameters					Invertebrate Uptake			Sediment Uptake		Total Dose (kg/kg-BW/day)	TRVs (mg/kg-BW/day)	Hazard Quotients	Conclusion
Analyte	Area	Type	Maximum	Body Weight (kg)	Food Intake (kg/kg-BW/day)	Area Use Factor	Daily Food Ingestion from Site (kg/kg-BW/day)	Diet Proportion	Sed to Invertebrate BAF	Invertebrate Concentration (mg/kg)	Invertebrate Dose (mg/kg-BW/day)	Diet Proportion	Incidental Soil Dose (mg/kg-BW/day)		Low	Low	
Chromium	Marine	Poten. Bkgd	18.9	0.046	0.21556262	1	0.21556262	1	0.186	3.5154	0.757788818	0.165	0.03556783	0.793	1	0.79	pass
Chromium	Marine	onsite	11.8	0.046	0.21556262	1	0.21556262	1	0.186	2.1948	0.473116828	0.165	0.03556783	0.509	1	0.51	pass
Cobalt	OID	Poten. Bkgd	7.1	0.046	0.21556262	1	0.21556262	1	1	7.1	1.530494568	0.165	0.03556783	1.566	3.89	0.40	pass
Cobalt	OID	onsite	11.9	0.046	0.21556262	1	0.21556262	1	1	11.9	2.565195121	0.165	0.03556783	2.601	3.89	0.67	pass
Cobalt	Wetland	Poten. Bkgd	3	0.046	0.21556262	1	0.21556262	1	1	3	0.646687846	0.165	0.03556783	0.682	3.89	0.18	pass
Cobalt	Wetland	onsite	12.2	0.046	0.21556262	1	0.21556262	1	1	12.2	2.629863906	0.165	0.03556783	2.665	3.89	0.69	pass
Cobalt	Beach	Poten. Bkgd	1.4	0.046	0.21556262	1	0.21556262	1	1	1.4	0.301787661	0.165	0.03556783	0.337	3.89	0.09	pass
Cobalt	Beach	onsite	2.8	0.046	0.21556262	1	0.21556262	1	1	2.8	0.603575323	0.165	0.03556783	0.639	3.89	0.16	pass
Cobalt	Marine	Poten. Bkgd	6.4	0.046	0.21556262	1	0.21556262	1	1	6.4	1.379600738	0.165	0.03556783	1.415	3.89	0.36	pass
Cobalt	Marine	onsite	3.7	0.046	0.21556262	1	0.21556262	1	1	3.7	0.797581676	0.165	0.03556783	0.833	3.89	0.21	pass
Copper	OID	Poten. Bkgd	30.2	0.046	0.21556262	1	0.21556262	1	7.957	240.3014	51.79999823	0.165	0.03556783	51.836	47	1.10	failed,retain
Copper	OID	onsite	854	0.046	0.21556262	1	0.21556262	1	7.957	6795.278	1464.807897	0.165	0.03556783	1464.843	47	31.17	failed,retain
Copper	Wetland	Poten. Bkgd	76.5	0.046	0.21556262	1	0.21556262	1	7.957	608.7105	131.2152273	0.165	0.03556783	131.251	47	2.79	failed,retain
Copper	Wetland	onsite	5960	0.046	0.21556262	1	0.21556262	1	7.957	47423.72	10222.78111	0.165	0.03556783	10222.817	47	217.51	failed,retain
Copper	Beach	Poten. Bkgd	2.4	0.046	0.21556262	1	0.21556262	1	7.957	19.0968	4.116556151	0.165	0.03556783	4.152	47	0.09	pass
Copper	Beach	onsite	3.6	0.046	0.21556262	1	0.21556262	1	7.957	28.6452	6.174834226	0.165	0.03556783	6.210	47	0.13	pass
Copper	Marine	Poten. Bkgd	9.2	0.046	0.21556262	1	0.21556262	1	7.957	73.2044	15.78013191	0.165	0.03556783	15.816	47	0.34	pass
Copper	Marine	onsite	4.9	0.046	0.21556262	1	0.21556262	1	7.957	38.9893	8.404635474	0.165	0.03556783	8.440	47	0.18	pass
Lead	OID	Poten. Bkgd	23.2	0.046	0.21556262	1	0.21556262	1	0.326	7.5632	1.630343172	0.165	0.03556783	1.666	0.19	8.77	failed,retain
Lead	OID	onsite	139	0.046	0.21556262	1	0.21556262	1	0.326	45.314	9.768004347	0.165	0.03556783	9.804	0.19	51.60	failed,retain
Lead	Wetland	Poten. Bkgd	35	0.046	0.21556262	1	0.21556262	1	0.326	11.41	2.45956944	0.165	0.03556783	2.495	0.19	13.13	failed,retain
Lead	Wetland	onsite	736	0.046	0.21556262	1	0.21556262	1	0.326	239.936	51.72123165	0.165	0.03556783	51.757	0.19	272.40	failed,retain
Lead	Beach	Poten. Bkgd	1.8	0.046	0.21556262	1	0.21556262	1	0.326	0.5868	0.126492143	0.165	0.03556783	0.162	0.19	0.85	pass
Lead	Beach	onsite	5.4	0.046	0.21556262	1	0.21556262	1	0.326	1.7604	0.379476428	0.165	0.03556783	0.415	0.19	2.18	failed,retain
Lead	Marine	Poten. Bkgd	8.2	0.046	0.21556262	1	0.21556262	1	0.326	2.6732	0.576241983	0.165	0.03556783	0.612	0.19	3.22	failed,retain
Lead	Marine	onsite	4.9	0.046	0.21556262	1	0.21556262	1	0.326	1.5974	0.344339722	0.165	0.03556783	0.380	0.19	2.00	failed,retain
Manganese	OID	Poten. Bkgd	555	0.046	0.21556262	1	0.21556262	1	1	555	119.6372515	0.165	0.03556783	119.673	98	1.22	failed,retain
Manganese	OID	onsite	1450	0.046	0.21556262	1	0.21556262	1	1	1450	312.5657921	0.165	0.03556783	312.601	98	3.19	failed,retain
Manganese	Wetland	Poten. Bkgd	322	0.046	0.21556262	1	0.21556262	1	1	322	69.41116211	0.165	0.03556783	69.447	98	0.71	pass
Manganese	Wetland	onsite	2980	0.046	0.21556262	1	0.21556262	1	1	2980	642.3765934	0.165	0.03556783	642.412	98	6.56	failed,retain
Manganese	Beach	Poten. Bkgd	70.1	0.046	0.21556262	1	0.21556262	1	1	70.1	15.11093933	0.165	0.03556783	15.147	98	0.15	pass
Manganese	Beach	onsite	120	0.046	0.21556262	1	0.21556262	1	1	120	25.86751383	0.165	0.03556783	25.903	98	0.26	pass
Manganese	Marine	Poten. Bkgd	274	0.046	0.21556262	1	0.21556262	1	1	274	59.06415658	0.165	0.03556783	59.100	98	0.60	pass
Manganese	Marine	onsite	180	0.046	0.21556262	1	0.21556262	1	1	180	38.80127074	0.165	0.03556783	38.837	98	0.40	pass
Mercury	OID	Poten. Bkgd	0.07	0.046	0.21556262	1	0.21556262	1	3.981	0.27867	0.060070834	0.165	0.03556783	0.096	0.068	1.41	failed,retain
Mercury	OID	onsite	0.12	0.046	0.21556262	1	0.21556262	1	3.981	0.47772	0.102978573	0.165	0.03556783	0.139	0.068	2.04	failed,retain
Mercury	Wetland	Poten. Bkgd	0.11	0.046	0.21556262	1	0.21556262	1	3.981	0.43791	0.094397025	0.165	0.03556783	0.130	0.068	1.91	failed,retain
Mercury	Wetland	onsite	0.19	0.046	0.21556262	1	0.21556262	1	3.981	0.75639	0.163049407	0.165	0.03556783	0.199	0.068	2.92	failed,retain
Mercury	Beach	Poten. Bkgd	0.098	0.046	0.21556262	1	0.21556262	1	3.981	0.390138	0.084099168	0.165	0.03556783	0.120	0.068	1.76	failed,retain
Mercury	Beach	onsite	0.34	0.046	0.21556262	1	0.21556262	1	3.981	1.35354	0.291772622	0.165	0.03556783	0.327	0.068	4.81	failed,retain
Mercury	Marine	Poten. Bkgd	0.065	0.046	0.21556262	1	0.21556262	1	3.981	0.258765	0.05578006	0.165	0.03556783	0.091	0.068	1.34	failed,retain
Mercury	Marine	onsite	0.42	0.046	0.21556262	1	0.21556262	1	3.981	1.67202	0.360425004	0.165	0.03556783	0.396	0.068	5.82	failed,retain
Nickel	OID	Poten. Bkgd	18.4	0.046	0.21556262	1	0.21556262	1	0.214	3.9376	0.848799354	0.165	0.03556783	0.884	77.4	0.01	pass
Nickel	OID	onsite	73.4	0.046	0.21556262	1	0.21556262	1	0.214	15.7076	3.385971335	0.165	0.03556783	3.422	77.4	0.04	pass
Nickel	Wetland	Poten. Bkgd	12.2	0.046	0.21556262	1	0.21556262	1	0.214	2.6108	0.562790876	0.165	0.03556783	0.598	77.4	0.01	pass
Nickel	Wetland	onsite	244	0.046	0.21556262	1	0.21556262	1	0.214	52.216	11.25581752	0.165	0.03556783	11.291	77.4	0.15	pass

TABLE 3-18
Hazard Quotients for the Snowy Plover Exposed to Sediments at the Site
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

				Life History Parameters					Invertebrate Uptake				Sediment Uptake		Total Dose (kg/kg-BW/day)	TRVs (mg/kg-BW/day)	Hazard Quotients	Conclusion
Analyte	Area	Type	Maximum	Body Weight (kg)	Food Intake (kg/kg-BW/day)	Area Use Factor	Daily Food Ingestion from Site (kg/kg-BW/day)	Diet Proportion	Sed to Invertebrate BAF	Invertebrate Concentration (mg/kg)	Invertebrate Dose (mg/kg-BW/day)	Diet Proportion	Incidental Soil Dose (mg/kg-BW/day)		Low	Low	
Nickel	Beach	Poten. Bkgd	4.1	0.046	0.21556262	1	0.21556262	1	0.214	0.8774	0.189134639	0.165	0.03556783	0.225	77.4	0.00	pass
Nickel	Beach	onsite	6.6	0.046	0.21556262	1	0.21556262	1	0.214	1.4124	0.304460638	0.165	0.03556783	0.340	77.4	0.00	pass
Nickel	Marine	Poten. Bkgd	16.3	0.046	0.21556262	1	0.21556262	1	0.214	3.4882	0.751925514	0.165	0.03556783	0.787	77.4	0.01	pass
Nickel	Marine	onsite	10.7	0.046	0.21556262	1	0.21556262	1	0.214	2.2898	0.493595276	0.165	0.03556783	0.529	77.4	0.01	pass
Selenium	OID	Poten. Bkgd	6.4	0.046	0.21556262	1	0.21556262	1	regression	3.617077672	0.779706723	0.165	0.03556783	0.815	0.4	2.04	failed,retain
Selenium	OID	onsite	4.2	0.046	0.21556262	1	0.21556262	1	regression	2.656254259	0.572589115	0.165	0.03556783	0.608	0.4	1.52	failed,retain
Selenium	Wetland	Poten. Bkgd	2.5	0.046	0.21556262	1	0.21556262	1	regression	1.816008765	0.391463599	0.165	0.03556783	0.427	0.4	1.07	failed,retain
Selenium	Wetland	onsite	5.1	0.046	0.21556262	1	0.21556262	1	regression	3.062505328	0.660161658	0.165	0.03556783	0.696	0.4	1.74	failed,retain
Selenium	Beach	Poten. Bkgd	1.8	0.046	0.21556262	1	0.21556262	1	regression	1.427390034	0.307691929	0.165	0.03556783	0.343	0.4	0.86	pass
Selenium	Beach	onsite	1.8	0.046	0.21556262	1	0.21556262	1	regression	1.427390034	0.307691929	0.165	0.03556783	0.343	0.4	0.86	pass
Selenium	Marine	Poten. Bkgd	2.3	0.046	0.21556262	1	0.21556262	1	regression	1.708340424	0.36825433	0.165	0.03556783	0.404	0.4	1.01	failed,retain
Selenium	Marine	onsite	2.3	0.046	0.21556262	1	0.21556262	1	regression	1.708340424	0.36825433	0.165	0.03556783	0.404	0.4	1.01	failed,retain
Silver	OID	Poten. Bkgd	4.1	0.046	0.21556262	1	0.21556262	1	15.338	62.8858	13.55582751	0.165	0.03556783	13.591	--	--	uncertain
Silver	OID	onsite	1.2	0.046	0.21556262	1	0.21556262	1	15.338	18.4056	3.967559271	0.165	0.03556783	4.003	--	--	uncertain
Silver	Wetland	Poten. Bkgd	0.7	0.046	0.21556262	1	0.21556262	1	15.338	10.7366	2.314409575	0.165	0.03556783	2.350	--	--	uncertain
Silver	Wetland	onsite	1.05	0.046	0.21556262	1	0.21556262	1	15.338	16.1049	3.471614362	0.165	0.03556783	3.507	--	--	uncertain
Silver	Beach	Poten. Bkgd	0.5	0.046	0.21556262	1	0.21556262	1	15.338	7.669	1.653149696	0.165	0.03556783	1.689	--	--	uncertain
Silver	Beach	onsite	0.5	0.046	0.21556262	1	0.21556262	1	15.338	7.669	1.653149696	0.165	0.03556783	1.689	--	--	uncertain
Silver	Marine	Poten. Bkgd	0.65	0.046	0.21556262	1	0.21556262	1	15.338	9.9697	2.149094605	0.165	0.03556783	2.185	--	--	uncertain
Silver	Marine	onsite	0.65	0.046	0.21556262	1	0.21556262	1	15.338	9.9697	2.149094605	0.165	0.03556783	2.185	--	--	uncertain
Thallium	OID	Poten. Bkgd	2.4	0.046	0.21556262	1	0.21556262	1	1	2.4	0.517350277	0.165	0.03556783	0.553	--	--	uncertain
Thallium	OID	onsite	3	0.046	0.21556262	1	0.21556262	1	1	3	0.646687846	0.165	0.03556783	0.682	--	--	uncertain
Thallium	Wetland	Poten. Bkgd	1.75	0.046	0.21556262	1	0.21556262	1	1	1.75	0.377234577	0.165	0.03556783	0.413	--	--	uncertain
Thallium	Wetland	onsite	6.5	0.046	0.21556262	1	0.21556262	1	1	6.5	1.401156999	0.165	0.03556783	1.437	--	--	uncertain
Thallium	Beach	Poten. Bkgd	1.3	0.046	0.21556262	1	0.21556262	1	1	1.3	0.2802314	0.165	0.03556783	0.316	--	--	uncertain
Thallium	Beach	onsite	1.3	0.046	0.21556262	1	0.21556262	1	1	1.3	0.2802314	0.165	0.03556783	0.316	--	--	uncertain
Thallium	Marine	Poten. Bkgd	1.65	0.046	0.21556262	1	0.21556262	1	1	1.65	0.355678315	0.165	0.03556783	0.391	--	--	uncertain
Thallium	Marine	onsite	1.65	0.046	0.21556262	1	0.21556262	1	1	1.65	0.355678315	0.165	0.03556783	0.391	--	--	uncertain
Vanadium	OID	Poten. Bkgd	31	0.046	0.21556262	1	0.21556262	1	1	31	6.682441072	0.165	0.03556783	6.718	11.4	0.59	pass
Vanadium	OID	onsite	59.8	0.046	0.21556262	1	0.21556262	1	1	59.8	12.89064439	0.165	0.03556783	12.926	11.4	1.13	failed,retain
Vanadium	Wetland	Poten. Bkgd	14.2	0.046	0.21556262	1	0.21556262	1	1	14.2	3.060989136	0.165	0.03556783	3.097	11.4	0.27	pass
Vanadium	Wetland	onsite	83	0.046	0.21556262	1	0.21556262	1	1	83	17.89169706	0.165	0.03556783	17.927	11.4	1.57	failed,retain
Vanadium	Beach	Poten. Bkgd	7.1	0.046	0.21556262	1	0.21556262	1	1	7.1	1.530494568	0.165	0.03556783	1.566	11.4	0.14	pass
Vanadium	Beach	onsite	19.4	0.046	0.21556262	1	0.21556262	1	1	19.4	4.181914736	0.165	0.03556783	4.217	11.4	0.37	pass
Vanadium	Marine	Poten. Bkgd	34.9	0.046	0.21556262	1	0.21556262	1	1	34.9	7.523135272	0.165	0.03556783	7.559	11.4	0.66	pass
Vanadium	Marine	onsite	19	0.046	0.21556262	1	0.21556262	1	1	19	4.09568969	0.165	0.03556783	4.131	11.4	0.36	pass
Zinc	OID	Poten. Bkgd	136	0.046	0.21556262	1	0.21556262	1	4.759	647.224	139.5172981	0.165	0.03556783	139.553	14.5	9.62	failed,retain
Zinc	OID	onsite	1450	0.046	0.21556262	1	0.21556262	1	4.759	6900.55	1487.500605	0.165	0.03556783	1487.536	14.5	102.59	failed,retain
Zinc	Wetland	Poten. Bkgd	138	0.046	0.21556262	1	0.21556262	1	4.759	656.742	141.5690231	0.165	0.03556783	141.605	14.5	9.77	failed,retain
Zinc	Wetland	onsite	5210	0.046	0.21556262	1	0.21556262	1	4.759	24794.39	5344.743552	0.165	0.03556783	5344.779	14.5	368.61	failed,retain
Zinc	Beach	Poten. Bkgd	10.5	0.046	0.21556262	1	0.21556262	1	4.759	49.9695	10.7715561	0.165	0.03556783	10.807	14.5	0.75	pass
Zinc	Beach	onsite	15.8	0.046	0.21556262	1	0.21556262	1	4.759	75.1922	16.20862728	0.165	0.03556783	16.244	14.5	1.12	failed,retain
Zinc	Marine	Poten. Bkgd	49.4	0.046	0.21556262	1	0.21556262	1	4.759	235.0946	50.6776068	0.165	0.03556783	50.713	14.5	3.50	failed,retain
Zinc	Marine	onsite	31.7	0.046	0.21556262	1	0.21556262	1	4.759	150.8603	32.5198408	0.165	0.03556783	32.555	14.5	2.25	failed,retain

TABLE 3-19

Hazard Quotients for the California Least Tern Based on Fish Tissue Data

Screening-level Ecological and Human Health Risk Assessment

Halaco Site, Oxnard, California

Analyte	No. of Detects	Sample Size	Mean (mg/kg ww)	Standard Deviation	Minimum (mg/kg ww)	Median (mg/kg ww)	Maximum (mg/kg ww)	Food Intake (kg/kg-BW/day ww)	Proportion Fish in Diet	Total Dose	TRVs (mg/kg-BW/day)	Hazard Quotients	Conclusion
Antimony	9	10	1.75	3.84	0.0063	0.026	0.061	0.82	1	0.05	--	--	uncertain
Arsenic	10	10	0.36	0.12	0.19	0.38	0.51	0.82	1	0.42	9.3	0.04	pass
Barium	10	10	0.69	0.26	0.44	0.66	1.2	0.82	1	0.98	20.8	0.05	pass
Beryllium	9	10	1.74	3.84	0.0034	0.0075	0.042	0.82	1	0.03	--	--	uncertain
Cadmium	10	10	0.04	0.03	0.017	0.037	0.091	0.82	1	0.07	0.16	0.47	pass
Chromium	10	10	0.08	0.06	0.023	0.061	0.22	0.82	1	0.18	1	0.18	pass
Cobalt	10	10	0.02	0.01	0.0074	0.021	0.045	0.82	1	0.04	3.89	0.01	pass
Copper	10	10	1.93	1.09	0.77	1.5	3.9	0.82	1	3.20	47	0.07	pass
Lead	10	10	0.06	0.04	0.016	0.053	0.16	0.82	1	0.13	0.19	0.69	pass
Manganese	10	10	5.51	2.80	2.6	4.8	9.8	0.82	1	8.04	98	0.08	pass
Nickel	10	10	0.22	0.33	0.049	0.066	1	0.82	1	0.82	77.4	0.01	pass
Selenium	10	10	0.73	0.20	0.4	0.74	1.1	0.82	1	0.90	0.4	2.26	failed,retain
Silver	10	10	0.03	0.02	0.0041	0.025	0.066	0.82	1	0.05	--	--	uncertain
Thallium	4	10	1.28	3.13	0.0027	0.0029	0.04	0.82	1	0.03	--	--	uncertain
Vanadium	10	10	0.13	0.08	0.064	0.12	0.32	0.82	1	0.26	11.4	0.02	pass
Zinc	10	10	31.83	10.07	12.4	33.7	46.4	0.82	1	38.05	14.5	2.62	failed,retain

TABLE 3-20
Summary of Screening-level Ecological Risk Results by Receptor and Area
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

	Surface Water			Fish for Least Tern	Sediment								Sediment for Snowy Plovers								Soil/Wastes for Terrestrial Plants										Groundwater for Terrestrial Plants		Soil/Wastes for Soil Invertebrates										Soil/Wastes for Birds and Mammals									
Analyte	Onsite	Offsite	Poten. Bkgd	OID/Wetland	OID - Poten. Bkgd	OID-onsite	Wetland-Poten. Bkgd	Wetland-Onsite	Beach-Poten. Bkgd	Beach-onsite	Marine-Poten. Bkgd	Marine-Onsite	OID - Poten. Bkgd	OID-onsite	Wetland-Poten. Bkgd	Wetland-Onsite	Beach-Poten. Bkgd	Beach-onsite	Marine-Poten. Bkgd	Marine-Onsite	Smelter Waste	Smelter Soil	Waste Disposal Waste	WMU Waste	NCL-east	NCL-north	Ag-North	Ag-East	RES	Poten. Bkgd Soil	Poten. Bkgd	Onsite	Smelter Waste	Smelter Soil	Waste Disposal Waste	WMU Waste	NCL-east	NCL-north	Ag-North	Ag-East	RES	Poten. Bkgd Soil	Smelter Waste	Smelter Soil	Waste Disposal Waste	WMU Waste	NCL-east	NCL-north	Ag-North	Ag-East	RES	Poten. Bkgd Soil
Antimony	X	na	X	u	X	X	X	X	X	X	X	X	u	u	u	u	u	u	u	u	X	X	X	X	X	-	-	-	-	X	u	u	-	X	-	-	-	-	-	-	-	-	X	X	X	X	X	-	X	-	X	X
Arsenic	-	-	-	-	-	X	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-	-	X	X	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
Barium	X	X	X	-	u	u	u	u	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	-	-	-	-	-	u	u	X	X	X	X	X	-	-	-	-	X	X	X	X	X	X	X	-	-	-	-
Beryllium	X	na	-	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	X	X	X	X	X	na	-	na	-	-	-	-	X	X	X	X	-	na	-	na	-	-	X	X	X	X	-	na	-	na	-	-
Boron	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	X	X	X	X	na	na	na	na	na	na	na	na	u	u	u	u	na	na	na	na	na	na	X	X	X	X	na	na	na	na	na	na
Cadmium	X	-	X	-	-	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X
Chromium (Total)	-	X	-	-	-	X	-	X	-	-	-	-	-	X	-	X	-	-	-	-	X	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X	X	-	-	-	-	X
Cobalt	X	na	X	-	u	u	u	u	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	-	na	-	na	-	X	-	X	u	u	u	u	u	na	u	na	u	u	-	-	-	-	-	na	-	na	-	-
Copper	X	X	-	-	-	X	X	X	-	-	-	-	X	X	X	X	-	-	-	-	X	X	X	X	X	-	-	-	-	X	-	X	X	X	X	X	X	-	-	-	-	X	X	X	X	X	X	-	-	-	-	X
Lead	X	-	X	-	-	X	-	X	-	-	-	-	X	X	X	X	-	X	X	X	-	X	X	X	X	-	-	-	-	X	-	X	-	X	-	-	-	-	-	-	-	-	-	X	X	X	X	-	-	X	X	X
Manganese	X	X	X	-	-	X	-	X	-	-	X	-	X	X	-	X	-	-	-	-	X	X	X	X	X	X	X	-	X	X	-	X	X	X	X	X	X	-	-	-	-	X	X	X	X	X	X	-	-	-	-	-
Mercury	-	-	-	na	-	-	-	X	-	X	-	X	X	X	X	X	X	X	X	X	-	X	-	-	-	-	-	-	-	X	na	na	-	X	-	X	-	-	X	-	-	X	X	X	X	X	X	X	X	X	X	X
Molybdenum	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	X	X	X	X	-	na	-	na	-	X	na	na	u	u	u	u	u	na	u	na	u	u	X	X	X	X	na	na	na	na	na	X
Nickel	-	-	-	-	-	X	-	X	-	-	X	-	-	-	-	-	-	-	-	-	-	X	X	X	X	-	-	-	-	-	-	X	-	X	X	X	-	-	-	-	-	-	-	X	X	X	X	-	-	-	-	-
Silver	X	-	X	u	-	-	-	-	X	X	X	X	u	u	u	u	u	u	u	u	-	X	-	-	-	-	-	-	-	-	-	X	u	u	u	u	u	u	u	u	u	u	X	X	X	X	-	-	-	-	-	X
Selenium	-	-	-	X	u	u	u	u	X	X	X	X	X	X	X	X	-	-	X	X	X	X	X	X	X	-	X	-	X	X	na	na	-	X	-	-	-	-	-	-	-	-	X	X	X	X	X	-	X	-	X	X
Thallium	na	na	na	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	X	X	X	X	X	na	X	na	X	X	na	na	u	u	u	u	u	na	u	na	u	u	X	X	X	X	X	na	X	na	X	X
Vanadium	X	na	-	-	u	u	u	u	-	-	-	-	-	X	-	X	-	-	-	-	X	X	X	X	X	na	X	na	X	X	-	X	u	u	u	u	u	na	u	na	u	u	X	X	X	X	X	na	X	na	X	X
Zinc	X	-	-	X	X	X	X	X	-	-	-	-	X	X	X	X	-	X	X	X	X	X	X	X	X	-	X	-	X	X	-	X	X	X	X	X	X	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X
Cs-137	-	na	-	na	-	-	-	-	-	-	-	-	NE	NE	NE	NE	NE	NE	NE	NE	-	-	-	-	-	na	-	na	-	-	u	u	-	-	-	-	-	na	-	na	-	-	-	-	-	-	-	na	-	na	-	-
K-40	X	na	-	na	-	-	-	-	-	-	-	-	NE	NE	NE	NE	NE	NE	NE	NE	-	-	-	-	-	na	-	na	-	-	u	u	-	-	-	-	-	na	-	na	-	-	-	-	-	-	-	na	-	na	-	-
Ra-226	na	na	na	na	na	na	na	na	na	na	na	na	NE	NE	NE	NE	NE	NE	NE	NE	na	-	na	na	na	na	na	na	na	-	na	na	na	u	na	na	na	na	na	na	na	u	na	-	na	na	na	na	na	na	na	-
Ra-228	na	na	na	na	na	na	na	na	na	na	na	na	NE	NE	NE	NE	NE	NE	NE	NE	na	X	na	na	na	na	na	na	na	-	na	na	na	u	na	na	na	na	na	na	na	u	na	X	na	na	na	na	na	na	na	-
Th-228	-	na	-	na	-	-	-	-	-	-	-	-	NE	NE	NE	NE	NE	NE	NE	NE	-	X	-	-	-	na	-	na	-	-	u	u	u	u	u	u	u	na	u	na	u	u	-	-	-	-	-	na	-	na	-	-
Th-230	-	na	-	na	-	-	-	-	-	-	-	-	NE	NE	NE	NE	NE	NE	NE	NE	-	-	-	-	-	na	-	na	-	-	u	u	u	u	u	u	u	na	u	na	u	u	-	-	-	-	-	na	-	na	-	-
Th-232	-	na	-	na	-	-	-	-	-	-	-	-	NE	NE	NE	NE	NE	NE	NE	NE	-	-	-	-	-	na	-	na	-	-	u	u	u	u	u	u	u	na	u	na	u	u	-	-	-	-	-	na	-	na	-	-

Notes:
- = maximum concentration does not exceed screening value
X = maximum concentration exceeded screening value - potential risk
na = no site data
u = uncertainty - no screening value
NE = not evaluated
Shaded columns indicate onsite locations

TABLE 4-1
Human Health Screening Levels for Metals and Chlorinated Organic Compounds
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

	PRG (EPA, 2004)									Drinking Water MCL	
Analyte	Tap Water (µg/l)		Residential Soil (mg/kg)		Industrial Soil (mg/kg)		Ambient Air (µg/m^3)	Ambient Air (ng/ft^3)		EPA (µg/L)	Cal EPA (µg/L)
METALS											
Aluminum	36000	nc	76000	nc	100000	max	5.1	140	nc	-	1000
Antimony	15	nc	31	nc	410	nc	-	-		6	6
Arsenic	0.045	ca	0.39	ca*	1.6	ca	0.00045	0.013	ca	10	-
"CAL-Modified PRG"	0.0071	ca	0.062	ca	0.25	ca	0.00056	0.016	ca	-	-
Barium	2600	nc	5400	nc	67000	nc	0.52	15	nc	2000	1000
Beryllium	73	nc	150	nc	1900	ca**	0.0008	0.023	ca*	4	4
Boron	7300	nc	16000	nc	100000	max	21	590	nc	-	-
Cadmium	18	nc	37	nc	450	nc	0.0011	0.03	ca	5	5
Chromium III	55000	nc	100000	max	100000	max	-	-		-	-
Chromium VI	110	nc	30	ca**	64	ca	0.000023	0.00065	ca	-	-
Total Chromium	-		210	ca	450	ca	0.00016	0.0045	ca	100	50
Cobalt	730	nc	900	ca**	1900	ca*	0.00069	0.019	ca*	-	-
Copper	1500	nc	3100	nc	41000	nc	-	-		1300	1300
Iron	11000	nc	23000	nc	100000	max	-	-		-	-
Lead	-		400	nc	800	nc	-	-		15	15
"CAL-Modified PRG"	-		150	nc	-		-	-		-	-
Manganese	880	nc	1800	nc	19000	nc	0.051	1.4	nc	-	-
Mercury	11	nc	23	nc	310	nc	-	-		2	2
Molybdenum	180	nc	390	nc	5100	nc	-	-		-	-
Nickel	730	nc	1600	nc	20000	nc	0.008	0.23	ca	-	100
Silver	180	nc	390	nc	5100	nc	-	-		-	-
Selenium	180	nc	390	nc	5100	nc	-	-		50	50
Thallium	2.4	nc	5.2	nc	67	nc	-	-		2	2
Vanadium	36	nc	78	nc	1000	nc	-	-		-	-
Zinc	11000	nc	23000	nc	100000	max	-	-		-	-
CHLORINATED ORGANIC COMPOUNDS											
Chlordane	0.19	ca*	1.6	ca*	6.5	ca*	0.019	0.54	ca*	2	0.1
Dieldrin	0.0042	ca	0.030	ca	0.11	ca	0.00042	0.012	ca	-	-
PCBs - total	0.034	ca*	0.22	ca**	0.74	ca*	0.0034	0.095	ca*	0.5	0.5
Toxaphene	0.061	ca	0.44	ca	1.6	ca	0.0060	0.17	ca	3	3
DDD	0.28	ca	2.4	ca	10	ca	0.028	0.79	ca	-	-
DDE	0.20	ca	1.7	ca	7.0	ca	0.020	0.56	ca	-	-
DDT	0.20	ca*	1.7	ca*	7.0	ca*	0.020	0.56	ca*	-	-

Notes:
MCL = Maximum Contaminant Level
PRG = Preliminary Remediation Goal
PCBs-total (PRG based on high risk, e.g. Aroclor 1254)
ca* (where: nc PRG < 100X ca PRG)
ca** (where nc PRG < 10X ca PRG)
nc = noncancer
max = Ceiling Limit

TABLE 4-2
Human Health Screening Levels for Radionuclides
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Radiunuclide	Tap Water PRG (pCi/l)	Residential Soil PRG (pCi/g)	Outdoor Worker Soil PRG (pCi/g)
Cs-137+D	1.57	0.0597	0.113
K-40	1.93	0.108	0.273
Radium-226+D	0.000816	0.0124	0.0258
Radium-228+D	0.0458	0.0677	0.150
Thorium-228+D	0.159	0.154	0.255
Thorium-230	0.523	3.49	20.2
Thorium-232	0.471	3.10	19.0

Notes:
EPA 2007, Radionuclide Toxicity and PRGs for Superfund, November 13 (http://epa-prgs.ornl.gov/radionuclides/)

TABLE 4-3
Comparison of Human Health Screening Levels for Surface Water
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Drinking Water MCL	Tap Water PRG	Drinking Water MCL Exceeded by Maximum	Tap Water PRG Exceeded by Maximum
METALS (µg/L)											
Aluminum	Poten. Bkgd[b]	6	7	0	22.8	287	B	1000	36000	no	no
Aluminum	Offsite[c]	2	2	2000	2010	2020	A	1000	36000	yes	no
Aluminum	onsite[d]	7	8	0	198.5	534	B	1000	36000	no	no
Antimony	Poten. Bkgd	1	4	6.2	30	30	A	6	15	yes	yes
Antimony	onsite	0	6	30	30	30	A	6	15	yes	yes
Arsenic	Poten. Bkgd	3	7	0	4.7	8	A	10	0.05	no	yes
Arsenic	Offsite	0	2	0	0	0	A	10	0.05	no	no
Arsenic	onsite	3	8	0	5	6.9	A	10	0.05	no	yes
Barium	Poten. Bkgd	7	7	28.2	37.1	64.2	A	1000	2600	no	no
Barium	Offsite	2	2	47.8	128.4	209	A	1000	2600	no	no
Barium	onsite	8	8	27.2	50.65	153	A	1000	2600	no	no
Beryllium	Poten. Bkgd	4	4	0.06	0.08	0.09	B	4	73	no	no
Beryllium	onsite	5	6	0.07	0.21	2.5	A	4	73	no	no
Cadmium	Poten. Bkgd	0	7	0	2.5	2.5	A	5	18	no	no
Cadmium	Offsite	0	2	0	0	0	A	5	18	no	no
Cadmium	onsite	2	8	0	1.455	2.5	A	5	18	no	no
Chromium	Poten. Bkgd	3	7	5	5	6.6	B	50		no	
Chromium	Offsite	2	2	8.09	15.25	22.4	A	50		no	
Chromium	onsite	2	8	5	5	6.4	B	50		no	
Cobalt	Poten. Bkgd	0	4	25	25	25	A		730		no
Cobalt	onsite	0	6	25	25	25	A		730		no
Copper	Poten. Bkgd	4	7	0	5.2	5.7	A	1300	1500	no	no
Copper	Offsite	2	2	6.76	13.5	20.3	A	1300	1500	no	no
Copper	onsite	7	8	0	10.7	67.1	A	1300	1500	no	no
Iron	Poten. Bkgd	6	7	0	141	2230	B		11000		no
Iron	Offsite	2	2	3400	3410	3420	A		11000		no
Iron	onsite	8	8	127	189	355	B		11000		no
Lead	Poten. Bkgd	0	7	0	5	5	A	15		no	
Lead	Offsite	0	2	0	0	0	A	15		no	

TABLE 4-3
Comparison of Human Health Screening Levels for Surface Water
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Drinking Water MCL	Tap Water PRG	Drinking Water MCL Exceeded by Maximum	Tap Water PRG Exceeded by Maximum
Lead	onsite	0	8	0	5	5	A	15		no	
Magnesium	Poten. Bkgd	7	7	140000	215000	270000	A				
Magnesium	Offsite	2	2	40900	180450	320000	A				
Magnesium	onsite	8	8	133000	196000	343000	A				
Manganese	Poten. Bkgd	7	7	70.2	118	353	A		880		no
Manganese	Offsite	2	2	96.2	262.1	428	A		880		no
Manganese	onsite	8	8	92.4	139.5	1100	A		880		yes
Mercury	Poten. Bkgd	0	3	0	0.03	0.03	A	2	11	no	no
Mercury	Offsite	0	2	0	0	0	A	2	11	no	no
Mercury	onsite	0	2	0	0.03	0.03	A	2	11	no	no
Nickel	Poten. Bkgd	4	7	0	3.6	4.5	A	100	730	no	no
Nickel	Offsite	1	2	0	11.45	22.9	A	100	730	no	no
Nickel	onsite	6	8	0	3.7	5.2	A	100	730	no	no
Selenium	Poten. Bkgd	0	3	0	10.6	10.6	A	50	180	no	no
Selenium	Offsite	0	2	0	0	0	A	50	180	no	no
Selenium	onsite	0	2	0	10.6	10.6	A	50	180	no	no
Silver	Poten. Bkgd	0	7	0	5	5	A		180		no
Silver	Offsite	0	2	0	0	0	A		180		no
Silver	onsite	0	8	0	5	5	A		180		no
Vanadium	Poten. Bkgd	4	4	0.63	0.96	1.6	A		36		no
Vanadium	onsite	4	6	0.83	1.65	25	A		36		no
Zinc	Poten. Bkgd	6	7	0	11.8	46.7	A		11000		no
Zinc	Offsite	2	2	22.7	27.45	32.2	A		11000		no
Zinc	onsite	8	8	12.3	32.95	229	A		11000		no

TABLE 4-3
Comparison of Human Health Screening Levels for Surface Water
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Drinking Water MCL	Tap Water PRG	Drinking Water MCL Exceeded by Maximum	Tap Water PRG Exceeded by Maximum
RADIONUCLIDES (pCi/L)											
Cs-137	Poten. Bkgd	0	4	1.355	1.52	1.65	A		1.57		yes
Cs-137	onsite	0	6	1.405	1.545	1.78	A		1.57		yes
K-40	Poten. Bkgd	2	4	12.4	28	45.5	A		1.93		yes
K-40	onsite	3	6	22.4	54.0	264	A		1.93		yes
Th-228	Poten. Bkgd	0	4	0.20	0.34	0.61	A		0.159		yes
Th-228	onsite	0	6	0.26	0.38	0.69	A		0.159		yes
Th-230	Poten. Bkgd	0	4	0.10	0.13	0.32	B		0.523		no
Th-230	onsite	0	6	0.20	0.27	0.45	A		0.523		no
Th-232	Poten. Bkgd	0	4	0.12	0.13	0.34	A		0.471		no
Th-232	onsite	0	6	0.16	0.24	0.34	A		0.471		no

Notes:
Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd
[a]Rows with same letter are not significantly different as determined by ANOVA on rank-transformed concentrations
[b]Potential background samples from OID or Hueneme Drain upstream of site
[c]Offsite samples from wetland on NCL east of site
[d]Onsite samples from OID or lagoon within or downstream of site

TABLE 4-4
Comparison of Human Health Screening Levels for Groundwater
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Drinking Water MCL	Tap Water PRG	Drinking Water MCL Exceeded by Maximum	Tap Water PRG Exceeded by Maximum
METALS (µg/L)										
Aluminum	Poten. Bkgd[a]	1	1	1440	1440	1440	1000	36000	yes	no
Aluminum	onsite	13	13	671	2380	2920000	1000	36000	yes	yes
Antimony	Poten. Bkgd	0	1	30	30	30	6	15	yes	yes
Antimony	onsite	2	13	9.2	30	30	6	15	yes	yes
Arsenic	Poten. Bkgd	0	1	5	5	5	10	0.045	no	yes
Arsenic	onsite	8	13	4.5	5.5	264	10	0.045	yes	yes
Barium	Poten. Bkgd	1	1	105	105	105	1000	2600	no	no
Barium	onsite	13	13	110	570	1570000	1000	2600	yes	yes
Beryllium	Poten. Bkgd	1	1	0.15	0.15	0.15	4	73	no	no
Beryllium	onsite	12	13	0.07	0.2	355	4	73	yes	yes
Cadmium	Poten. Bkgd	1	1	0.92	0.92	0.92	5	18	no	no
Cadmium	onsite	6	13	0.59	2.5	398	5	18	yes	yes
Chromium	Poten. Bkgd	1	1	13.5	13.5	13.5	50		no	
Chromium	onsite	8	13	0.73	5	3810	50		yes	
Cobalt	Poten. Bkgd	0	1	25	25	25		730		no
Cobalt	onsite	10	13	1.2	11.1	307		730		no
Copper	Poten. Bkgd	1	1	43.4	43.4	43.4	1300	1500	no	no
Copper	onsite	13	13	3.6	59.3	77700	1300	1500	yes	yes
Iron	Poten. Bkgd	1	1	945	945	945		11000		no
Iron	onsite	13	13	692	4560	1040000		11000		yes
Lead	Poten. Bkgd	0	1	5	5	5	15		no	
Lead	onsite	5	13	5	5	4350	15		yes	
Magnesium	Poten. Bkgd	1	1	385000	385000	385000				
Magnesium	onsite	13	13	100000	425000	11100000				
Manganese	Poten. Bkgd	1	1	237	237	237		880		no
Manganese	onsite	13	13	400	1250	328000		880		yes
Nickel	Poten. Bkgd	1	1	6	6	6	100	730	no	no
Nickel	onsite	12	13	3.5	13.4	1610	100	730	yes	yes
Silver	Poten. Bkgd	0	1	5	5	5		180		no
Silver	onsite	3	13	5	5	571		180		yes
Vanadium	Poten. Bkgd	1	1	3.3	3.3	3.3		36		no
Vanadium	onsite	12	13	1.3	6.6	1490		36		yes
Zinc	Poten. Bkgd	1	1	45.7	45.7	45.7		11000		no
Zinc	onsite	13	13	15.7	70.1	90100		11000		yes

TABLE 4-4
Comparison of Human Health Screening Levels for Groundwater
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Drinking Water MCL	Tap Water PRG	Drinking Water MCL Exceeded by Maximum	Tap Water PRG Exceeded by Maximum
RADIONUCLIDES (pCi/L)										
Cs-137	Poten. Bkgd	0	1	1.8	1.8	1.8		1.57		yes
Cs-137	onsite	0	12	1.665	2.4325	9.35		1.57		yes
K-40	Poten. Bkgd	1	1	660	660	660		1.93		yes
K-40	onsite	11	12	26.35	4550	19800		1.93		yes
Th-228	Poten. Bkgd	0	1	0.2785	0.2785	0.2785		0.159		yes
Th-228	onsite	7	12	0.1645	0.6905	105		0.159		yes
Th-230	Poten. Bkgd	0	1	0.22	0.22	0.22		0.523		no
Th-230	onsite	7	12	0.12	0.48	2.17		0.523		yes
Th-232	Poten. Bkgd	0	1	0.22	0.22	0.22		0.471		no
Th-232	onsite	5	12	0.10	0.21	0.87		0.471		yes

[a]Potential background samples from MW-5

TABLE 4-5
Comparison of Human Health Screening Levels for Sediments
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
METALS (mg/kg)												
Aluminum	OID	Poten. Bkgd[b]	6	6	246	1665	8580	B	76000	100000	no	no
Aluminum	OID	onsite	10	10	1960	11800	47000	A	76000	100000	no	no
Aluminum	Wetland	Poten. Bkgd	7	7	1510	3210	5810	B	76000	100000	no	no
Aluminum	Wetland	onsite	6	6	96400	161000	205000	A	76000	100000	yes	yes
Aluminum	Beach	Poten. Bkgd	6	6	1350	1500	1760	B	76000	100000	no	no
Aluminum	Beach	onsite	6	6	1750	1990	2510	A	76000	100000	no	no
Aluminum	Marine	Poten. Bkgd	6	6	3440	4870	8120	A	76000	100000	no	no
Aluminum	Marine	onsite	6	6	3350	4230	5360	A	76000	100000	no	no
Antimony	OID	Poten. Bkgd	0	6	3.8	4.025	4.2	A	31	410	no	no
Antimony	OID	onsite	1	10	2.2	4.875	7.15	A	31	410	no	no
Antimony	Wetland	Poten. Bkgd	1	7	0	3.2	4.25	B	31	410	no	no
Antimony	Wetland	onsite	3	6	4.5	7.225	11.8	A	31	410	no	no
Antimony	Beach	Poten. Bkgd	1	6	3.1	3.1	6.2	A	31	410	no	no
Antimony	Beach	onsite	0	6	3.1	3.1	3.1	A	31	410	no	no
Antimony	Marine	Poten. Bkgd	0	6	3.85	3.9	3.95	A	31	410	no	no
Antimony	Marine	onsite	0	6	3.8	3.925	4	A	31	410	no	no
Arsenic	OID	Poten. Bkgd	4	6	0.54	0.695	9.2	B	0.39	1.6	yes	yes
Arsenic	OID	onsite	10	10	0.93	4.55	11.9	A	0.39	1.6	yes	yes
Arsenic	Wetland	Poten. Bkgd	6	7	0.7	1.6	2.53	A	0.39	1.6	yes	yes
Arsenic	Wetland	onsite	5	6	1.05	2.4	7.1	A	0.39	1.6	yes	yes
Arsenic	Beach	Poten. Bkgd	6	6	1.1	2	2.5	B	0.39	1.6	yes	yes
Arsenic	Beach	onsite	6	6	2	3.7	4.8	A	0.39	1.6	yes	yes
Arsenic	Marine	Poten. Bkgd	6	6	2.7	4.3	7.2	A	0.39	1.6	yes	yes
Arsenic	Marine	onsite	6	6	2.1	2.75	3.5	B	0.39	1.6	yes	yes
Barium	OID	Poten. Bkgd	6	6	0.35	25.85	147	B	5400	67000	no	no
Barium	OID	onsite	10	10	39.9	321	2970	A	5400	67000	no	no
Barium	Wetland	Poten. Bkgd	7	7	22	124	748	B	5400	67000	no	no
Barium	Wetland	onsite	6	6	1310	2530	4620	A	5400	67000	no	no
Barium	Beach	Poten. Bkgd	6	6	26.9	37.45	57.2	B	5400	67000	no	no
Barium	Beach	onsite	6	6	81.9	249.5	297	A	5400	67000	no	no
Barium	Marine	Poten. Bkgd	6	6	79.3	121	332	A	5400	67000	no	no
Barium	Marine	onsite	6	6	46.1	85.9	154	A	5400	67000	no	no

TABLE 4-5
Comparison of Human Health Screening Levels for Sediments
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Beryllium	OID	Poten. Bkgd	6	6	0.081	0.15	0.51	B	150	1900	no	no
Beryllium	OID	onsite	10	10	0.15	1.5	10.3	A	150	1900	no	no
Beryllium	Wetland	Poten. Bkgd	6	6	0.11	0.445	2.8	B	150	1900	no	no
Beryllium	Wetland	onsite	6	6	7.1	10	19.7	A	150	1900	no	no
Beryllium	Beach	Poten. Bkgd	0	6	0.255	0.26	0.26	A	150	1900	no	no
Beryllium	Beach	onsite	3	6	0.2	0.26	0.52	A	150	1900	no	no
Beryllium	Marine	Poten. Bkgd	6	6	0.2	0.27	0.46	A	150	1900	no	no
Beryllium	Marine	onsite	6	6	0.18	0.22	0.27	A	150	1900	no	no
Cadmium	OID	Poten. Bkgd	5	6	0.335	0.39	0.98	A	37	450	no	no
Cadmium	OID	onsite	10	10	0.07	0.835	2.9	A	37	450	no	no
Cadmium	Wetland	Poten. Bkgd	7	7	0.19	0.57	1	B	37	450	no	no
Cadmium	Wetland	onsite	6	6	3.1	4.75	17	A	37	450	no	no
Cadmium	Beach	Poten. Bkgd	0	6	0.255	0.2575	0.26	A	37	450	no	no
Cadmium	Beach	onsite	5	6	0.04	0.19	0.46	A	37	450	no	no
Cadmium	Marine	Poten. Bkgd	4	6	0.04	0.2375	0.42	A	37	450	no	no
Cadmium	Marine	onsite	5	6	0.3	0.315	0.48	A	37	450	no	no
Calcium	OID	Poten. Bkgd	5	5	222	18800	64100	A				
Calcium	OID	onsite	10	10	5910	42050	176000	A				
Calcium	Wetland	Poten. Bkgd	6	6	6790	10725	20100	A				
Calcium	Wetland	onsite	6	6	3230	5905	7080	B				
Calcium	Beach	Poten. Bkgd	6	6	4410	5285	6330	B				
Calcium	Beach	onsite	6	6	7470	13300	15700	A				
Calcium	Marine	Poten. Bkgd	6	6	8200	10200	21700	A				
Calcium	Marine	onsite	6	6	8630	9990	11800	A				
Chromium	OID	Poten. Bkgd	5	6	0.65	3.2	16.2	B	210	450	no	no
Chromium	OID	onsite	10	10	5.7	26.1	108	A	210	450	no	no
Chromium	Wetland	Poten. Bkgd	7	7	3.7	7.4	17.2	B	210	450	no	no
Chromium	Wetland	onsite	6	6	166	312	503	A	210	450	yes	yes
Chromium	Beach	Poten. Bkgd	6	6	3.4	4.1	4.9	B	210	450	no	no
Chromium	Beach	onsite	6	6	5.7	10.35	18.3	A	210	450	no	no
Chromium	Marine	Poten. Bkgd	6	6	8.1	10.9	18.9	A	210	450	no	no
Chromium	Marine	onsite	6	6	7.8	9.7	11.8	A	210	450	no	no

TABLE 4-5
Comparison of Human Health Screening Levels for Sediments
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Cobalt	OID	Poten. Bkgd	5	6	1.2	2.3	7.1	B	900	1900	no	no
Cobalt	OID	onsite	10	10	1.3	6.65	11.9	A	900	1900	no	no
Cobalt	Wetland	Poten. Bkgd	6	6	1.3	2.45	3	B	900	1900	no	no
Cobalt	Wetland	onsite	6	6	7	10.35	12.2	A	900	1900	no	no
Cobalt	Beach	Poten. Bkgd	6	6	1.1	1.2	1.4	B	900	1900	no	no
Cobalt	Beach	onsite	6	6	1.6	2.25	2.8	A	900	1900	no	no
Cobalt	Marine	Poten. Bkgd	6	6	2.7	3.85	6.4	A	900	1900	no	no
Cobalt	Marine	onsite	6	6	2.4	3.05	3.7	B	900	1900	no	no
Copper	OID	Poten. Bkgd	6	6	4.5	7.65	30.2	B	3100	41000	no	no
Copper	OID	onsite	10	10	13.3	74.8	854	A	3100	41000	no	no
Copper	Wetland	Poten. Bkgd	7	7	3.5	18.3	76.5	B	3100	41000	no	no
Copper	Wetland	onsite	6	6	2120	3705	5960	A	3100	41000	yes	no
Copper	Beach	Poten. Bkgd	6	6	1.7	2	2.4	B	3100	41000	no	no
Copper	Beach	onsite	6	6	2.5	3.25	3.6	A	3100	41000	no	no
Copper	Marine	Poten. Bkgd	6	6	3.8	5.3	9.2	A	3100	41000	no	no
Copper	Marine	onsite	6	6	3.7	3.95	4.9	B	3100	41000	no	no
Iron	OID	Poten. Bkgd	5	5	1.4	4000	19200	B	23000	100000	no	no
Iron	OID	onsite	10	10	3700	17200	39400	A	23000	100000	yes	no
Iron	Wetland	Poten. Bkgd	6	6	3690	6980	9080	B	23000	100000	no	no
Iron	Wetland	onsite	6	6	8190	9985	17400	A	23000	100000	no	no
Iron	Beach	Poten. Bkgd	6	6	3430	3935	4630	B	23000	100000	no	no
Iron	Beach	onsite	6	6	5170	8565	9740	A	23000	100000	no	no
Iron	Marine	Poten. Bkgd	6	6	7900	12400	18800	A	23000	100000	no	no
Iron	Marine	onsite	6	6	7840	9620	11900	A	23000	100000	no	no
Lead	OID	Poten. Bkgd	6	6	2.4	3.25	23.2	B	400	800	no	no
Lead	OID	onsite	10	10	3.4	26.8	139	A	400	800	no	no
Lead	Wetland	Poten. Bkgd	7	7	4.3	18.3	35	B	400	800	no	no
Lead	Wetland	onsite	6	6	164	389	736	A	400	800	yes	no
Lead	Beach	Poten. Bkgd	6	6	1.2	1.6	1.8	B	400	800	no	no
Lead	Beach	onsite	6	6	2.5	4.5	5.4	A	400	800	no	no
Lead	Marine	Poten. Bkgd	6	6	2.8	4.35	8.2	A	400	800	no	no
Lead	Marine	onsite	6	6	2.5	3.8	4.9	A	400	800	no	no
Magnesium	OID	Poten. Bkgd	5	6	334.5	1565	6680	B				

TABLE 4-5
Comparison of Human Health Screening Levels for Sediments
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Magnesium	OID	onsite	10	10	1400	9860	52400	A				
Magnesium	Wetland	Poten. Bkgd	7	7	1930	2910	8720	B				
Magnesium	Wetland	onsite	6	6	22000	62600	69900	A				
Magnesium	Beach	Poten. Bkgd	6	6	1140	1260	1420	B				
Magnesium	Beach	onsite	6	6	1420	1745	2000	A				
Magnesium	Marine	Poten. Bkgd	6	6	2880	3845	6510	A				
Magnesium	Marine	onsite	6	6	2680	3440	4300	A				
Manganese	OID	Poten. Bkgd	6	6	0.11	111.75	555	B	1800	19000	no	no
Manganese	OID	onsite	10	10	68.6	446.5	1450	A	1800	19000	no	no
Manganese	Wetland	Poten. Bkgd	7	7	55.1	200	322	B	1800	19000	no	no
Manganese	Wetland	onsite	6	6	879	1685	2980	A	1800	19000	yes	no
Manganese	Beach	Poten. Bkgd	6	6	49.5	62	70.1	B	1800	19000	no	no
Manganese	Beach	onsite	6	6	74.6	100.25	120	A	1800	19000	no	no
Manganese	Marine	Poten. Bkgd	6	6	119	166.5	274	A	1800	19000	no	no
Manganese	Marine	onsite	6	6	114	136.5	180	A	1800	19000	no	no
Mercury	OID	Poten. Bkgd	0	5	0.065	0.065	0.07	A	23	310	no	no
Mercury	OID	onsite	3	10	0.043	0.0795	0.12	A	23	310	no	no
Mercury	Wetland	Poten. Bkgd	3	7	0.0237	0.06	0.11	A	23	310	no	no
Mercury	Wetland	onsite	2	6	0.055	0.0925	0.19	A	23	310	no	no
Mercury	Beach	Poten. Bkgd	4	6	0.05	0.058	0.098	B	23	310	no	no
Mercury	Beach	onsite	6	6	0.075	0.21	0.34	A	23	310	no	no
Mercury	Marine	Poten. Bkgd	0	6	0.065	0.065	0.065	A	23	310	no	no
Mercury	Marine	onsite	1	6	0.065	0.065	0.42	A	23	310	no	no
Nickel	OID	Poten. Bkgd	6	6	0.37	3.95	18.4	B	1600	20000	no	no
Nickel	OID	onsite	10	10	5	21.75	73.4	A	1600	20000	no	no
Nickel	Wetland	Poten. Bkgd	7	7	3.6	7.8	12.2	B	1600	20000	no	no
Nickel	Wetland	onsite	6	6	81.8	167	244	A	1600	20000	no	no
Nickel	Beach	Poten. Bkgd	6	6	3.4	3.65	4.1	B	1600	20000	no	no
Nickel	Beach	onsite	6	6	4.4	5.3	6.6	A	1600	20000	no	no
Nickel	Marine	Poten. Bkgd	6	6	7.6	10.1	16.3	A	1600	20000	no	no
Nickel	Marine	onsite	6	6	7.1	8.75	10.7	A	1600	20000	no	no

TABLE 4-5
Comparison of Human Health Screening Levels for Sediments
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Potassium	OID	Poten. Bkgd	4	5	334.5	646	3200	A				
Potassium	OID	onsite	10	10	488	3440	8440	A				
Potassium	Wetland	Poten. Bkgd	6	6	528	1295	1790	B				
Potassium	Wetland	onsite	6	6	2710	3995	10700	A				
Potassium	Beach	Poten. Bkgd	6	6	375	423	486	B				
Potassium	Beach	onsite	6	6	434	474.5	571	A				
Potassium	Marine	Poten. Bkgd	6	6	1340	1785	3150	A				
Potassium	Marine	onsite	6	6	1120	1575	2000	A				
Selenium	OID	Poten. Bkgd	1	5	2.2	2.45	6.4	A	390	5100	no	no
Selenium	OID	onsite	0	10	2.25	2.85	4.2	A	390	5100	no	no
Selenium	Wetland	Poten. Bkgd	1	7	0	1.8	2.5	B	390	5100	no	no
Selenium	Wetland	onsite	5	6	1.8	4.35	5.1	A	390	5100	no	no
Selenium	Beach	Poten. Bkgd	0	6	1.8	1.8	1.8	A	390	5100	no	no
Selenium	Beach	onsite	0	6	1.8	1.8	1.8	A	390	5100	no	no
Selenium	Marine	Poten. Bkgd	0	6	2.25	2.3	2.3	A	390	5100	no	no
Selenium	Marine	onsite	0	6	2.25	2.3	2.3	A	390	5100	no	no
Silver	OID	Poten. Bkgd	1	6	0.65	0.675	4.1	A	390	5100	no	no
Silver	OID	onsite	0	10	0.65	0.8	1.2	A	390	5100	no	no
Silver	Wetland	Poten. Bkgd	1	7	0.175	0.55	0.7	B	390	5100	no	no
Silver	Wetland	onsite	0	6	0.55	0.775	1.05	A	390	5100	no	no
Silver	Beach	Poten. Bkgd	0	6	0.5	0.5	0.5	A	390	5100	no	no
Silver	Beach	onsite	0	6	0.5	0.5	0.5	A	390	5100	no	no
Silver	Marine	Poten. Bkgd	0	6	0.65	0.65	0.65	A	390	5100	no	no
Silver	Marine	onsite	0	6	0.65	0.65	0.65	A	390	5100	no	no
Sodium	OID	Poten. Bkgd	4	5	334.5	1300	6370	A				
Sodium	OID	onsite	10	10	936	4690	11900	A				
Sodium	Wetland	Poten. Bkgd	0	6	252.5	301	354	B				
Sodium	Wetland	onsite	5	6	271.5	1700	9680	A				
Sodium	Beach	Poten. Bkgd	6	6	514	623	681	B				
Sodium	Beach	onsite	6	6	625	702	789	A				
Sodium	Marine	Poten. Bkgd	6	6	3980	4565	8920	A				
Sodium	Marine	onsite	6	6	3580	4155	5460	A				
Thallium	OID	Poten. Bkgd	2	5	1	1.7	2.4	A	5.2	67	no	no

TABLE 4-5
Comparison of Human Health Screening Levels for Sediments
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Thallium	OID	onsite	3	10	1.2	1.725	3	A	5.2	67	no	no
Thallium	Wetland	Poten. Bkgd	0	6	1.25	1.45	1.75	A	5.2	67	no	no
Thallium	Wetland	onsite	2	6	0.85	2.25	6.5	A	5.2	67	yes	no
Thallium	Beach	Poten. Bkgd	0	6	1.3	1.3	1.3	A	5.2	67	no	no
Thallium	Beach	onsite	0	6	1.3	1.3	1.3	A	5.2	67	no	no
Thallium	Marine	Poten. Bkgd	0	6	1.6	1.65	1.65	A	5.2	67	no	no
Thallium	Marine	onsite	0	6	1.6	1.65	1.65	A	5.2	67	no	no
Vanadium	OID	Poten. Bkgd	6	6	4.8	6	31	B	78	1000	no	no
Vanadium	OID	onsite	10	10	6.5	31.1	59.8	A	78	1000	no	no
Vanadium	Wetland	Poten. Bkgd	6	6	6	10.9	14.2	B	78	1000	no	no
Vanadium	Wetland	onsite	6	6	41.1	61.55	83	A	78	1000	yes	no
Vanadium	Beach	Poten. Bkgd	6	6	5.1	6.15	7.1	B	78	1000	no	no
Vanadium	Beach	onsite	6	6	7.7	15.7	19.4	A	78	1000	no	no
Vanadium	Marine	Poten. Bkgd	6	6	13.6	20.95	34.9	A	78	1000	no	no
Vanadium	Marine	onsite	6	6	13.1	15.9	19	A	78	1000	no	no
Zinc	OID	Poten. Bkgd	6	6	2.2	83.8	136	B	23000	100000	no	no
Zinc	OID	onsite	10	10	28.8	246	1450	A	23000	100000	no	no
Zinc	Wetland	Poten. Bkgd	7	7	17.4	50.4	138	B	23000	100000	no	no
Zinc	Wetland	onsite	6	6	1860	2765	5210	A	23000	100000	no	no
Zinc	Beach	Poten. Bkgd	6	6	7.8	8.8	10.5	B	23000	100000	no	no
Zinc	Beach	onsite	6	6	10.4	12.35	15.8	A	23000	100000	no	no
Zinc	Marine	Poten. Bkgd	6	6	21	29.05	49.4	A	23000	100000	no	no
Zinc	Marine	onsite	6	6	19.5	24.9	31.7	A	23000	100000	no	no
RADIONUCLIDES (pCi/g)												
Cs-137	OID	Poten. Bkgd	0	6	0.02	0.02	0.03	A	0.0597	0.113	no	no
Cs-137	OID	onsite	0	10	0.02	0.03	0.06	A	0.0597	0.113	yes	no
Cs-137	Wetland	Poten. Bkgd	2	6	0.01	0.03	0.06	A	0.0597	0.113	yes	no
Cs-137	Wetland	onsite	0	6	0.02	0.03	0.06	A	0.0597	0.113	yes	no
Cs-137	Beach	Poten. Bkgd	0	6	0.02	0.02	0.02	B	0.0597	0.113	no	no
Cs-137	Beach	onsite	1	6	0.03	0.04	0.09	A	0.0597	0.113	yes	no
Cs-137	Marine	Poten. Bkgd	0	6	0.02	0.03	0.06	A	0.0597	0.113	no	no
Cs-137	Marine	onsite	0	6	0.02	0.03	0.03	A	0.0597	0.113	no	no

TABLE 4-5
Comparison of Human Health Screening Levels for Sediments
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
K-40	OID	Poten. Bkgd	6	6	21.40	24.35	51.90	A	0.108	0.273	yes	yes
K-40	OID	onsite	10	10	18.00	22.30	26.30	A	0.108	0.273	yes	yes
K-40	Wetland	Poten. Bkgd	6	6	20.60	21.50	45.40	A	0.108	0.273	yes	yes
K-40	Wetland	onsite	6	6	7.20	10.35	36.80	A	0.108	0.273	yes	yes
K-40	Beach	Poten. Bkgd	6	6	17.20	18.70	21.20	A	0.108	0.273	yes	yes
K-40	Beach	onsite	6	6	10.40	11.35	15.60	B	0.108	0.273	yes	yes
K-40	Marine	Poten. Bkgd	6	6	23.80	25.00	45.80	A	0.108	0.273	yes	yes
K-40	Marine	onsite	6	6	22.50	24.05	25.20	A	0.108	0.273	yes	yes
Th-228	OID	Poten. Bkgd	3	6	0.19	0.53	1.47	A	0.154	0.255	yes	yes
Th-228	OID	onsite	10	10	0.12	1.30	2.04	A	0.154	0.255	yes	yes
Th-228	Wetland	Poten. Bkgd	5	6	0.20	0.67	1.26	B	0.154	0.255	yes	yes
Th-228	Wetland	onsite	5	6	0.70	1.22	2.55	A	0.154	0.255	yes	yes
Th-228	Beach	Poten. Bkgd	0	6	0.16	0.24	0.51	B	0.154	0.255	yes	yes
Th-228	Beach	onsite	6	6	0.64	1.19	2.72	A	0.154	0.255	yes	yes
Th-228	Marine	Poten. Bkgd	6	6	0.29	0.99	2.48	A	0.154	0.255	yes	yes
Th-228	Marine	onsite	6	6	0.38	0.71	1.87	A	0.154	0.255	yes	yes
Th-230	OID	Poten. Bkgd	4	6	0.20	0.49	0.98	A	3.49	20.2	no	no
Th-230	OID	onsite	10	10	0.19	1.07	2.43	A	3.49	20.2	no	no
Th-230	Wetland	Poten. Bkgd	5	6	0.17	0.53	1.84	A	3.49	20.2	no	no
Th-230	Wetland	onsite	4	6	0.15	0.49	1.61	A	3.49	20.2	no	no
Th-230	Beach	Poten. Bkgd	2	6	0.10	0.26	0.33	B	3.49	20.2	no	no
Th-230	Beach	onsite	5	6	0.16	0.51	0.89	A	3.49	20.2	no	no
Th-230	Marine	Poten. Bkgd	6	6	0.45	0.64	1.70	A	3.49	20.2	no	no
Th-230	Marine	onsite	6	6	0.44	0.56	0.78	A	3.49	20.2	no	no
Th-232	OID	Poten. Bkgd	4	6	0.14	0.58	1.75	A	3.1	19	no	no
Th-232	OID	onsite	10	10	0.23	1.09	1.78	A	3.1	19	no	no
Th-232	Wetland	Poten. Bkgd	5	6	0.23	0.50	1.17	A	3.1	19	no	no
Th-232	Wetland	onsite	5	6	0.35	0.78	2.46	A	3.1	19	no	no
Th-232	Beach	Poten. Bkgd	3	6	0.14	0.28	0.50	B	3.1	19	no	no
Th-232	Beach	onsite	6	6	0.53	1.17	3.67	A	3.1	19	yes	no
Th-232	Marine	Poten. Bkgd	6	6	0.67	1.00	1.70	A	3.1	19	no	no
Th-232	Marine	onsite	6	6	0.30	0.68	1.71	A	3.1	19	no	no

TABLE 4-5
Comparison of Human Health Screening Levels for Sediments
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	Type	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
CHLORINATED ORGANIC COMPOUNDS (µg/kg)												
Chlordane	Wetland	Poten. Bkgd	0	1	0	0	0	na	1.6	6.5	no	no
Dieldrin	Wetland	Poten. Bkgd	0	1	0	0	0	na	0.03	0.11	no	no
Total PCBs	Wetland	Poten. Bkgd	0	1	0	0	0	na	0.22	0.74	no	no
Toxaphene	Wetland	Poten. Bkgd	1	1	780	780	780	na	0.44	1.6	yes	yes
p,p-DDD	Wetland	Poten. Bkgd	1	1	12	12	12	na	2.4	10	yes	yes
p,p-DDE	Wetland	Poten. Bkgd	1	1	110	110	110	na	1.7	7	yes	yes
p,p-DDT	Wetland	Poten. Bkgd	1	1	126	126	126	na	1.7	7	yes	yes
Total DDTs	Wetland	Poten. Bkgd	1	1	248	248	248	na				

Notes:
[a]Rows with same letter are not significantly different as determined by ANOVA on rank-transformed concentrations
[b]Potential Background
Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
METALS (mg/kg)											
Aluminum	Smelter-w[b]	2	2	24000	25000	26000	ABC	76000	100000	no	no
Aluminum	Smelter-s[c]	40	40	5550	30400	197000	ABC	76000	100000	yes	yes
Aluminum	WDA-w	4	4	27000	83500	120000	A	76000	100000	yes	yes
Aluminum	WMU-w	35	35	7800	120000	290000	A	76000	100000	yes	yes
Aluminum	NCL-east	12	12	3790	73250	174000	AB	76000	100000	yes	yes
Aluminum	NCL-North	4	4	4220	4475	6390	C	76000	100000	no	no
Aluminum	Ag-North	3	3	6820	7020	7100	BC	76000	100000	no	no
Aluminum	Ag-East	5	5	4300	4900	5650	C	76000	100000	no	no
Aluminum	RES	2	2	4320	7960	11600	BC	76000	100000	no	no
Aluminum	Poten. Bkgd[d]-s	9	9	3390	10200	16400	BC	76000	100000	no	no
Antimony	Smelter-w		2	6	6	6	AB	31	410	no	no
Antimony	Smelter-s	35	40	0	10.455	155	A	31	410	yes	no
Antimony	WDA-w		4	5.5	5.5	6.5	AB	31	410	no	no
Antimony	WMU-w	1	35	5.5	8.5	18	A	31	410	no	no
Antimony	NCL-east	7	12	0	3.85	6.7	AB	31	410	no	no
Antimony	NCL-North		4	0	0	0	BC	31	410	no	no
Antimony	Ag-North		3	0	3.1	3.1	BC	31	410	no	no
Antimony	Ag-East		5	0	0	0	BC	31	410	no	no
Antimony	RES		2	3	3.525	4.05	AB	31	410	no	no
Antimony	Poten. Bkgd-s	2	9	0	3.25	5.23	AB	31	410	no	no
Arsenic	Smelter-w	1	2	0.6	1.15	1.7	B	0.39	1.60	yes	yes
Arsenic	Smelter-s	38	39	0.276	15	161	A	0.39	1.60	yes	yes
Arsenic	WDA-w	4	4	2.3	6.3	7.5	AB	0.39	1.60	yes	yes
Arsenic	WMU-w	31	35	0.85	7.8	20	AB	0.39	1.60	yes	yes
Arsenic	NCL-east	12	12	0.54	3.11	9.7	AB	0.39	1.60	yes	yes
Arsenic	NCL-North	4	4	2.43	2.845	3.29	AB	0.39	1.60	yes	yes
Arsenic	Ag-North	3	3	3.3	3.5	3.6	AB	0.39	1.60	yes	yes
Arsenic	Ag-East	5	5	2.45	2.74	3.43	AB	0.39	1.60	yes	yes
Arsenic	RES	2	2	2.5	3.7	4.9	AB	0.39	1.60	yes	yes
Arsenic	Poten. Bkgd-s	9	9	2.04	4.4	7.75	AB	0.39	1.60	yes	yes
Barium	Smelter-w	2	2	310	645	980	ABC	5400	67000	no	no
Barium	Smelter-s	40	40	47.3	3765	14900	AB	5400	67000	yes	no

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Barium	WDA-w	4	4	3200	4100	49000	A	5400	67000	yes	no
Barium	WMU-w	35	35	130	5100	19000	A	5400	67000	yes	no
Barium	NCL-east	12	12	55	1520	6190	ABC	5400	67000	yes	no
Barium	NCL-North	4	4	57.1	62	87.3	C	5400	67000	no	no
Barium	Ag-North	3	3	95.7	101	105	BC	5400	67000	no	no
Barium	Ag-East	5	5	50.4	62.5	156	C	5400	67000	no	no
Barium	RES	2	2	93.5	136.25	179	BC	5400	67000	no	no
Barium	Poten. Bkgd-s	9	9	51	151	333	BC	5400	67000	no	no
Beryllium	Smelter-w	2	2	70	95	120	A	150	1900	no	no
Beryllium	Smelter-s	39	39	0.23	18.1	214	ABC	150	1900	yes	no
Beryllium	WDA-w	4	4	22	58	27000	A	150	1900	yes	yes
Beryllium	WMU-w	35	35	0.39	24	170	AB	150	1900	yes	no
Beryllium	NCL-east	8	8	1.5	9.3	15.9	BC	150	1900	no	no
Beryllium	Ag-North	2	2	0.42	0.42	0.42	C	150	1900	no	no
Beryllium	RES		2	0.25	0.295	0.34	C	150	1900	no	no
Beryllium	Poten. Bkgd-s	7	8	0.275	0.575	1.27	C	150	1900	no	no
Boron	Smelter-w	2	2	18	49.5	81	B	16000	100000	no	no
Boron	Smelter-s	1	1	250	250	250	A	16000	100000	no	no
Boron	WDA-w	4	4	12	60	150	B	16000	100000	no	no
Boron	WMU-w	35	35	12	180	270	AB	16000	100000	no	no
Boron	NCL-east	0	0								
Boron	Ag-North	0	0								
Boron	RES	0	0								
Boron	Poten. Bkgd-s	0	0								
Cadmium	Smelter-w	1	2	0.3	0.445	0.59	C	37	450	no	no
Cadmium	Smelter-s	37	40	0	3.53	64.7	ABC	37	450	yes	no
Cadmium	WDA-w	4	4	0.56	5.05	26	AB	37	450	no	no
Cadmium	WMU-w	35	35	0.58	5.1	15	A	37	450	no	no
Cadmium	NCL-east	12	12	0.354	3	6	ABC	37	450	no	no
Cadmium	NCL-North	4	4	0.347	0.4115	0.65	C	37	450	no	no
Cadmium	Ag-North	3	3	0.58	1	1.3	ABC	37	450	no	no
Cadmium	Ag-East	5	5	0.344	0.416	0.866	C	37	450	no	no
Cadmium	RES	2	2	0.5	0.64	0.78	BC	37	450	no	no

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Cadmium	Poten. Bkgd-s	9	9	0.18	1.1	1.87	ABC	37	450	no	no
Calcium	Smelter-w	2	2	5400	5500	5600	A				
Calcium	Smelter-s	6	6	5700	14950	41000	A				
Calcium	WDA-w	4	4	6500	11500	33000	A				
Calcium	WMU-w	35	35	1600	5300	84000	A				
Calcium	NCL-east	8	8	2550	9580	21000	A				
Calcium	Ag-North	2	2	7380	7545	7710	A				
Calcium	RES	2	2	6590	9245	11900	A				
Calcium	Poten. Bkgd-s	6	6	4630	8535	10700	A				
Chromium	Smelter-w	2	2	19	21	23	B	210	450	no	no
Chromium	Smelter-s	39	40	0	114	7660	AB	210	450	yes	yes
Chromium	WDA-w	4	4	40	305	1700	A	210	450	yes	yes
Chromium	WMU-w	35	35	15	210	760	A	210	450	yes	yes
Chromium	NCL-east	12	12	6.09	133	363	AB	210	450	yes	no
Chromium	NCL-North	4	4	7.35	7.595	10.7	B	210	450	no	no
Chromium	Ag-North	3	3	11.3	13	14.4	B	210	450	no	no
Chromium	Ag-East	5	5	7.48	8.83	9.22	B	210	450	no	no
Chromium	RES	2	2	8.7	13.9	19.1	B	210	450	no	no
Chromium	Poten. Bkgd-s	9	9	5.44	21.8	29.7	B	210	450	no	no
Cobalt	Smelter-w		2	1.2	1.2	1.2	B	900	1900	no	no
Cobalt	Smelter-s	39	40	0	8.185	115	A	900	1900	no	no
Cobalt	WDA-w	2	4	1.1	2.55	8.2	AB	900	1900	no	no
Cobalt	WMU-w	12	35	1.4	2.05	34	AB	900	1900	no	no
Cobalt	NCL-east	8	8	6.1	8.6	9.6	A	900	1900	no	no
Cobalt	Ag-North	2	2	5.3	5.3	5.3	AB	900	1900	no	no
Cobalt	RES	2	2	3.5	6.1	8.7	AB	900	1900	no	no
Cobalt	Poten. Bkgd-s	8	8	6.08	7.8	19.8	A	900	1900	no	no
Copper	Smelter-w	2	2	80	105	130	ABC	3100	41000	no	no
Copper	Smelter-s	40	40	25.3	895	7150	AB	3100	41000	yes	no
Copper	WDA-w	4	4	120	1700	2800	A	3100	41000	no	no
Copper	WMU-w	35	35	15	1600	12000	A	3100	41000	yes	no
Copper	NCL-east	12	12	6.91	1195	3790	ABC	3100	41000	yes	no
Copper	NCL-North	4	4	7.15	7.59	10.7	C	3100	41000	no	no

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Copper	Ag-North	3	3	11.6	16.1	16.3	BC	3100	41000	no	no
Copper	Ag-East	5	5	7.67	9.14	11.3	C	3100	41000	no	no
Copper	RES	2	2	13.6	20.75	27.9	BC	3100	41000	no	no
Copper	Poten. Bkgd-s	9	9	5.6	32.1	175	BC	3100	41000	no	no
Iron	Smelter-w	2	2	5300	5500	5700	B	23000	100000	no	no
Iron	Smelter-s	6	6	8200	64850	747400	A	23000	100000	yes	yes
Iron	WDA-w	4	4	5100	15000	28000	AB	23000	100000	yes	no
Iron	WMU-w	35	35	3100	6200	46000	AB	23000	100000	yes	no
Iron	NCL-east	8	8	8930	12550	101000	AB	23000	100000	yes	yes
Iron	Ag-North	2	2	14600	14700	14800	A	23000	100000	no	no
Iron	RES	2	2	9620	15860	22100	A	23000	100000	no	no
Iron	Poten. Bkgd-s	6	6	18400	20800	41600	A	23000	100000	yes	no
Lead	Smelter-w	2	2	8.1	8.5	8.9	ABC	400	800	no	no
Lead	Smelter-s	40	40	2.29	155	7280	AB	400	800	yes	yes
Lead	WDA-w	4	4	10	180	300	ABC	400	800	no	no
Lead	WMU-w	35	35	4	200	1100	A	400	800	yes	yes
Lead	NCL-east	12	12	8.51	142.5	250	ABC	400	800	no	no
Lead	NCL-North	4	4	5.68	6.71	7.45	C	400	800	no	no
Lead	Ag-North	3	3	4.93	8.3	9.6	BC	400	800	no	no
Lead	Ag-East	5	5	5.97	7.67	20.9	ABC	400	800	no	no
Lead	RES	2	2	17.7	32.75	47.8	ABC	400	800	no	no
Lead	Poten. Bkgd-s	9	9	4.54	25.6	249	ABC	400	800	no	no
Magnesium	Smelter-w	2	2	190000	220000	250000	A				
Magnesium	Smelter-s	40	40	10.2	86650	354000	ABCD				
Magnesium	WDA-w	4	4	82000	120000	160000	AB				
Magnesium	WMU-w	35	35	4100	98000	240000	ABC				
Magnesium	NCL-east	12	12	3360	41200	111000	BCD				
Magnesium	NCL-North	4	4	2900	3070	4710	D				
Magnesium	Ag-North	3	3	4260	4260	4950	D				
Magnesium	Ag-East	5	5	2740	3270	4330	D				
Magnesium	RES	2	2	2540	4655	6770	D				
Magnesium	Poten. Bkgd-s	9	9	2390	8690	13600	CD				

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Manganese	Smelter-w	2	2	4600	5650	6700	A	1800	19000	yes	no
Manganese	Smelter-s	6	6	597	2570	6110	ABC	1800	19000	yes	no
Manganese	WDA-w	4	4	3500	5350	8500	A	1800	19000	yes	no
Manganese	WMU-w	35	35	220	2400	12000	AB	1800	19000	yes	no
Manganese	NCL-east	12	12	138	1815	5720	BCD	1800	19000	yes	no
Manganese	NCL-North	4	4	138	145	239	D	1800	19000	no	no
Manganese	Ag-North	3	3	254	256	344	BCD	1800	19000	no	no
Manganese	Ag-East	5	5	119	177	189	D	1800	19000	no	no
Manganese	RES	2	2	179	269	359	CD	1800	19000	no	no
Manganese	Poten. Bkgd-s	7	7	120	328	643	BCD	1800	19000	no	no
Mercury	Smelter-w		2	0.0145	0.02725	0.04	AB	23	310	no	no
Mercury	Smelter-s	6	6	0.043	0.123	0.35	A	23	310	no	no
Mercury	WDA-w	3	4	0.014	0.0265	0.067	AB	23	310	no	no
Mercury	WMU-w	25	35	0.0135	0.05	0.19	AB	23	310	no	no
Mercury	NCL-east	2	12	0	0.0625	0.08	AB	23	310	no	no
Mercury	NCL-North	1	4	0	0	0.0293	B	23	310	no	no
Mercury	Ag-North	3	3	0.0363	0.058	0.13	AB	23	310	no	no
Mercury	Ag-East	3	5	0	0.0283	0.0859	AB	23	310	no	no
Mercury	RES	2	2	0.076	0.084	0.092	A	23	310	no	no
Mercury	Poten. Bkgd-s	5	7	0	0.081	0.66	A	23	310	no	no
Molybdenum	Smelter-w		2	6	6	6	A	390	5100	no	no
Molybdenum	Smelter-s	35	35	2.2	8.89	1370	A	390	5100	yes	no
Molybdenum	WDA-w	3	4	5.5	12.8	30	A	390	5100	no	no
Molybdenum	WMU-w	15	35	3.3	10	94	A	390	5100	no	no
Molybdenum	NCL-east	0	0								
Molybdenum	Ag-North	0	0								
Molybdenum	RES	0	0								
Molybdenum	Poten. Bkgd-s	2	2	1.6	3	4.4	A	390	5100	no	no
Nickel	Smelter-w	2	2	13	15.5	18	BC	1600	20000	no	no
Nickel	Smelter-s	40	40	13.6	82.55	4500	AB	1600	20000	yes	no
Nickel	WDA-w	4	4	50	160	610	A	1600	20000	no	no
Nickel	WMU-w	35	35	13	74	570	AB	1600	20000	no	no
Nickel	NCL-east	12	12	7.2	69.7	265	ABC	1600	20000	no	no

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Nickel	NCL-North	4	4	8.25	8.82	13.3	C	1600	20000	no	no
Nickel	Ag-North	3	3	14.4	14.8	15	BC	1600	20000	no	no
Nickel	Ag-East	5	5	8.46	9.35	10.6	C	1600	20000	no	no
Nickel	RES	2	2	10.9	16.05	21.2	BC	1600	20000	no	no
Nickel	Poten. Bkgd-s	9	9	7.13	20.7	24.7	BC	1600	20000	no	no
Potassium	Smelter-w	2	2	11000	46500	82000	A				
Potassium	Smelter-s	6	6	4090	5610	14000	AB				
Potassium	WDA-w	4	4	950	1295	3900	C				
Potassium	WMU-w	35	35	1400	5600	22000	ABC				
Potassium	NCL-east	8	8	6520	17050	39300	AB				
Potassium	Ag-North	2	2	2840	2900	2960	C				
Potassium	RES	2	2	1420	2570	3720	C				
Potassium	Poten. Bkgd-s	6	6	4360	4565	5160	BC				
Selenium	Smelter-w		2	1.15	1.175	1.2	A	390	5100	no	no
Selenium	Smelter-s	21	40	0	2.15	836	A	390	5100	yes	no
Selenium	WDA-w	1	4	1.1	1.2	1.5	A	390	5100	no	no
Selenium	WMU-w	12	35	1.1	2.05	7.3	A	390	5100	no	no
Selenium	NCL-east		12	0	2.175	2.75	A	390	5100	no	no
Selenium	NCL-North		4	0	0	0	A	390	5100	no	no
Selenium	Ag-North		3	0	1.8	1.8	A	390	5100	no	no
Selenium	Ag-East		5	0	0	0	A	390	5100	no	no
Selenium	RES		2	1.75	2.05	2.35	A	390	5100	no	no
Selenium	Poten. Bkgd-s	2	9	0	1.9	64.8	A	390	5100	no	no
Silver	Smelter-w	2	2	5.4	6.8	8.2	A	390	5100	no	no
Silver	Smelter-s	37	40	0	14.5	262000	A	390	5100	yes	yes
Silver	WDA-w	4	4	5.6	9.05	62	A	390	5100	no	no
Silver	WMU-w	33	35	0.55	5.2	28	AB	390	5100	no	no
Silver	NCL-east		12	0	0.625	0.8	BC	390	5100	no	no
Silver	NCL-North		4	0	0	0	C	390	5100	no	no
Silver	Ag-North		3	0	0.5	0.5	C	390	5100	no	no
Silver	Ag-East		5	0	0	0	C	390	5100	no	no

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Silver	RES		2	0.5	0.6	0.7	BC	390	5100	no	no
Silver	Poten. Bkgd-s	3	9	0	0.55	7.75	BC	390	5100	no	no
Sodium	Smelter-w	2	2	5600	5750	5900	B				
Sodium	Smelter-s	6	6	1960	4730	9100	BCD				
Sodium	WDA-w	4	4	250	530	1900	CD				
Sodium	WMU-w	35	35	760	4700	13000	BC				
Sodium	NCL-east	8	8	12500	24050	45800	A				
Sodium	Ag-North		2	257.5	257.5	257.5	D				
Sodium	RES	1	2	252	356.5	461	D				
Sodium	Poten. Bkgd-s	6	6	465	5985	22200	BC				
Thallium	Smelter-w		2	6	6	6	AB	5.20	67	yes	no
Thallium	Smelter-s	10	40	0	0	23.7	B	5.20	67	yes	no
Thallium	WDA-w		4	5.5	5.5	6.5	AB	5.20	67	yes	no
Thallium	WMU-w		35	5.5	8.5	14	A	5.20	67	yes	no
Thallium	NCL-east	1	8	0.99	1.6	1.95	B	5.20	67	no	no
Thallium	Ag-North		2	1.3	1.3	1.3	B	5.20	67	no	no
Thallium	RES	1	2	1.25	1.275	1.3	B	5.20	67	no	no
Thallium	Poten. Bkgd-s	6	8	0.77	1.3	1.75	B	5.20	67	no	no
Vanadium	Smelter-w	2	2	5.5	8.25	11	B	78	1000	no	no
Vanadium	Smelter-s	40	40	7.92	30.45	55	AB	78	1000	no	no
Vanadium	WDA-w	4	4	21	41.5	68	A	78	1000	no	no
Vanadium	WMU-w	35	35	12	49	84	A	78	1000	yes	no
Vanadium	NCL-east	8	8	34.3	45.55	56.7	A	78	1000	no	no
Vanadium	Ag-North	2	2	24.7	24.85	25	AB	78	1000	no	no
Vanadium	RES	2	2	16.8	28.2	39.6	AB	78	1000	no	no
Vanadium	Poten. Bkgd-s	8	8	27.9	34.15	50.1	AB	78	1000	no	no
Zinc	Smelter-w	2	2	550	550	550	ABC	23000	100000	no	no
Zinc	Smelter-s	40	40	77.5	2335	22900	A	23000	100000	no	no
Zinc	WDA-w	4	4	1100	1600	2500	AB	23000	100000	no	no
Zinc	WMU-w	35	35	40	1400	6800	AB	23000	100000	no	no
Zinc	NCL-east	12	12	22.9	1235	5950	ABC	23000	100000	no	no
Zinc	NCL-North	4	4	25.6	26.9	42.3	C	23000	100000	no	no
Zinc	Ag-North	3	3	43.9	52.9	53.4	BC	23000	100000	no	no

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Zinc	Ag-East	5	5	23.6	30.1	42	C	23000	100000	no	no
Zinc	RES	2	2	66.5	74.5	82.5	BC	23000	100000	no	no
Zinc	Poten. Bkgd-s	9	9	21.8	118	533	BC	23000	100000	no	no
RADIONUCLIDES (pCi/g)											
Cs-137	Smelter-w		2	0.029	0.034	0.039	A	0.0597	0.113	no	no
Cs-137	Smelter-s	1	6	0.0155	0.03	0.249	A	0.0597	0.113	yes	yes
Cs-137	WDA-w		4	0.017	0.0395	0.056	A	0.0597	0.113	no	no
Cs-137	WMU-w	1	33	0.0125	0.027	0.079	A	0.0597	0.113	yes	no
Cs-137	NCL-east	2	8	0.0295	0.045	0.113	A	0.0597	0.113	yes	yes
Cs-137	Ag-North		2	0.03	0.03575	0.0415	A	0.0597	0.113	no	no
Cs-137	RES		2	0.0205	0.024	0.0275	A	0.0597	0.113	no	no
Cs-137	Poten. Bkgd-s	2	6	0.024	0.03875	0.073	A	0.0597	0.113	yes	no
K-40	Smelter-w	2	2	15.8	19.05	22.3	AB	0.108	0.273	yes	yes
K-40	Smelter-s	6	6	10.7	17.15	23.6	AB	0.108	0.273	yes	yes
K-40	WDA-w	4	4	4.2	6.05	9	B	0.108	0.273	yes	yes
K-40	WMU-w	33	33	1.9	6.5	55	B	0.108	0.273	yes	yes
K-40	NCL-east	8	8	9.9	22.35	76.7	A	0.108	0.273	yes	yes
K-40	Ag-North	2	2	26.3	26.45	26.6	A	0.108	0.273	yes	yes
K-40	RES	2	2	21.7	22.85	24	A	0.108	0.273	yes	yes
K-40	Poten. Bkgd-s	6	6	16.2	22.6	27.1	A	0.108	0.273	yes	yes
Ra-226	Smelter-s	32	34	0	0.576	5.79	A	0.0124	0.0258	yes	yes
Ra-226	Poten. Bkgd-s	2	2	0.5	0.6185	0.737	A	0.0124	0.0258	yes	yes
Ra-228	Smelter-s	33	34	0	6.755	564	A	0.0677	0.150	yes	yes
Ra-228	Poten. Bkgd-s	2	2	0.927	1.0035	1.08	A	0.0677	0.150	yes	yes
Th-228	Smelter-w		2	0.175	0.25875	0.3425	B	0.154	0.255	yes	yes
Th-228	Smelter-s	37	40	0	7.425	567	A	0.154	0.255	yes	yes
Th-228	WDA-w	4	4	0.358	1.2925	19.1	AB	0.154	0.255	yes	yes
Th-228	WMU-w	8	33	0.1685	0.3325	4.48	AB	0.154	0.255	yes	yes
Th-228	NCL-east	7	8	0.565	2.14	6.73	A	0.154	0.255	yes	yes
Th-228	Ag-North	2	2	0.833	0.9665	1.1	AB	0.154	0.255	yes	yes
Th-228	RES	2	2	0.614	0.6235	0.633	AB	0.154	0.255	yes	yes
Th-228	Poten. Bkgd-s	7	8	0	1.115	1.44	AB	0.154	0.255	yes	yes

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
Th-230	Smelter-w	1	2	0.1865	0.32975	0.473	A	3.49	20.2	no	no
Th-230	Smelter-s	37	40	0	8.55	770	A	3.49	20.2	yes	yes
Th-230	WDA-w	4	4	0.244	1.855	8.74	A	3.49	20.2	yes	no
Th-230	WMU-w	15	33	0.1495	0.33	5.25	A	3.49	20.2	yes	no
Th-230	NCL-east	8	8	0.612	2.175	6.17	A	3.49	20.2	yes	no
Th-230	Ag-North	2	2	0.889	1.0295	1.17	A	3.49	20.2	no	no
Th-230	RES	2	2	0.7	0.7195	0.739	A	3.49	20.2	no	no
Th-230	Poten. Bkgd-s	8	8	0.54	0.86	1.32	A	3.49	20.2	no	no
Th-232	Smelter-w		2	0.059	0.07475	0.0905	C	3.1	19	no	no
Th-232	Smelter-s	39	40	0	5.39	653	A	3.1	19	yes	yes
Th-232	WDA-w	4	4	0.258	1.115	19.8	AB	3.1	19	yes	yes
Th-232	WMU-w	16	33	0.101	0.2815	4.79	BC	3.1	19	yes	no
Th-232	NCL-east	8	8	0.737	1.63	5.44	AB	3.1	19	yes	no
Th-232	Ag-North	2	2	0.687	0.9035	1.12	AB	3.1	19	no	no
Th-232	RES	2	2	0.618	0.6515	0.685	AB	3.1	19	no	no
Th-232	Poten. Bkgd-s	8	8	0.794	1.1725	1.56	AB	3.1	19	no	no
Chlordane	NCL-east		4	0	0	0	na	1.6	6.5	no	no
Chlordane	NCL-North		4	0	0	0	na	1.6	6.5	no	no
Chlordane	Ag-North		1	0	0	0	na	1.6	6.5	no	no
Chlordane	Ag-East		5	0	0	0	na	1.6	6.5	no	no
Chlordane	Poten. Bkgd-s		1	0	0	0	na	1.6	6.5	no	no
Dieldrin	NCL-east		4	0	0	0	na	0.03	0.11	no	no
Dieldrin	NCL-North		4	0	0	0	na	0.03	0.11	no	no
Dieldrin	Ag-North		1	0	0	0	na	0.03	0.11	no	no
Dieldrin	Ag-East		5	0	0	0	na	0.03	0.11	no	no
Dieldrin	Poten. Bkgd-s		1	0	0	0	na	0.03	0.11	no	no
p,p-DDD	NCL-east		4	0	0	0	na	2.4	10	no	no
p,p-DDD	NCL-North	3	4	0	5.35	9.7	na	2.4	10	yes	no
p,p-DDD	Ag-North		1	0	0	0	na	2.4	10	no	no
p,p-DDD	Ag-East	3	5	0	2	72	na	2.4	10	yes	yes
p,p-DDD	Poten. Bkgd-s		1	0	0	0	na	2.4	10	no	no
p,p-DDE	NCL-east	4	4	4.2	14	17	na	1.7	7	yes	yes
p,p-DDE	NCL-North	4	4	33	61	87.3	na	1.7	7	yes	yes

TABLE 4-6
Comparison of Human Health Screening Levels for Soils
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[a]	Residential Soil PRG	Industrial Soil PRG	Residential PRG Exceeded by Maximum	Industrial PRG Exceeded by Maximum
p,p-DDE	Ag-North	1	1	1.7	1.7	1.7	na	1.7	7	yes	no
p,p-DDE	Ag-East	5	5	6.6	18	170	na	1.7	7	yes	yes
p,p-DDE	Poten. Bkgd-s	1	1	3.2	3.2	3.2	na	1.7	7	yes	no
p,p-DDT	NCL-east	3	4	0	5.65	6.3	na	1.7	7	yes	no
p,p-DDT	NCL-North	4	4	5.3	26.35	34	na	1.7	7	yes	yes
p,p-DDT	Ag-North		1	0	0	0	na	1.7	7	no	no
p,p-DDT	Ag-East	5	5	2.8	8.1	177	na	1.7	7	yes	yes
p,p-DDT	Poten. Bkgd-s		1	0	0	0	na	1.7	7	no	no
Total DDTs	NCL-east	4	4	4.2	19.65	23.3	na				
Total DDTs	NCL-North	4	4	48	93.2	120.3	na				
Total DDTs	Ag-North		1	0	0	0	na				
Total DDTs	Ag-East	5	5	11.4	33.3	369.8	na				
Total DDTs	Poten. Bkgd-s	1	1	3.2	3.2	3.2	na				
Total PCBs	NCL-east		4	0	0	0	na	0.22	0.74	no	no
Total PCBs	NCL-North		4	0	0	0	na	0.22	0.74	no	no
Total PCBs	Ag-North		1	0	0	0	na	0.22	0.74	no	no
Total PCBs	Ag-East		5	0	0	0	na	0.22	0.74	no	no
Total PCBs	Poten. Bkgd-s		1	0	0	0	na	0.22	0.74	no	no
Toxaphene	NCL-east	1	4	0	0	56	na	0.44	1.6	yes	yes
Toxaphene	NCL-North	4	4	63	120	240	na	0.44	1.6	yes	yes
Toxaphene	Ag-North		1	0	0	0	na	0.44	1.6	no	no
Toxaphene	Ag-East	3	5	0	78	1000	na	0.44	1.6	yes	yes
Toxaphene	Poten. Bkgd-s		1	0	0	0	na	0.44	1.6	no	no

Notes:
Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded Poten. Bkgd
[a]Rows with same letter are not significantly different as determined by ANOVA on rank-transformed concentrations; All locations, including Poten. Bkgd, included in statistical comparison
[b]w indicates material is smelter waste
[c]s indicates material is soil
[d]Potential Background

TABLE 4-7
Comparison of Human Health Screening Levels for Air
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Sample[a]	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[b]	Ambient Air PRG	Air PRG Exceeded by Maximum
METALS (ng/ft^3)										
Aluminum	Air-1	Upwind	0	8	258	423.5	1110	A	140	yes
Aluminum	Air-4/5	NCL	0	9	296.5	492	795	A	140	yes
Aluminum	Air-3	Downwind	0	5	307	423.5	3640	A	140	yes
Aluminum	Air-2	Wastepile	0	7	332.5	590	855	A	140	yes
Aluminum	Air-6	Wastepile	0	6	109.5	455.75	665	A	140	yes
Antimony	Air-1	Upwind	2	4	0.219	0.30325	0.4815	A		
Antimony	Air-4/5	NCL	1	3	0.1945	0.478	0.585	A		
Antimony	Air-3	Downwind	1	1	0.197	0.197	0.197	A		
Antimony	Air-2	Wastepile	2	4	0.1825	0.21975	0.251	A		
Antimony	Air-6	Wastepile	3	4	0.0904	0.25275	0.274	A		
Arsenic	Air-1	Upwind	1	4	0.0316	0.05235	0.0847	A	0.016	yes
Arsenic	Air-4/5	NCL	2	7	0.04865	0.058	0.1595	A	0.016	yes
Arsenic	Air-3	Downwind	1	3	0.03285	0.053	0.0805	A	0.016	yes
Arsenic	Air-2	Wastepile	2	5	0.0441	0.0525	0.0636	A	0.016	yes
Arsenic	Air-6	Wastepile	3	5	0.0183	0.0575	0.0665	A	0.016	yes
Barium	Air-1	Upwind	0	8	52	72.5	229.5	A	15	yes
Barium	Air-4/5	NCL	0	9	54	95	161.5	A	15	yes
Barium	Air-3	Downwind	0	5	52	81	785	A	15	yes
Barium	Air-2	Wastepile	0	7	53	91.5	156.5	A	15	yes
Barium	Air-6	Wastepile	0	6	23.2	80.25	125	A	15	yes
Beryllium	Air-1	Upwind	6	8	0.01425	0.04595	0.114	B	0.023	yes
Beryllium	Air-4/5	NCL	7	9	0.02355	0.0507	0.0828	AB	0.023	yes
Beryllium	Air-3	Downwind	3	5	0.0363	0.0925	0.393	AB	0.023	yes
Beryllium	Air-2	Wastepile	6	7	0.052	0.122	0.237	A	0.023	yes
Beryllium	Air-6	Wastepile	4	6	0.0079	0.1585	0.375	AB	0.023	yes
Cadmium	Air-1	Upwind	4	4	0.0165	0.0381	0.0764	A	0.03	yes
Cadmium	Air-4/5	NCL	3	3	0.0239	0.0291	0.0454	A	0.03	yes
Cadmium	Air-3	Downwind	4	4	0.0126	0.02475	0.122	A	0.03	yes
Cadmium	Air-2	Wastepile	4	4	0.0187	0.0231	0.0336	A	0.03	yes
Cadmium	Air-6	Wastepile	2	2	0.0114	0.01355	0.0157	A	0.03	no
Chromium	Air-1	Upwind	0	8	0.457	0.6175	1.58	A	0.0045	yes
Chromium	Air-4/5	NCL	0	9	0.454	0.71	1.175	A	0.0045	yes
Chromium	Air-3	Downwind	0	5	0.469	0.61	5.25	A	0.0045	yes

TABLE 4-7
Comparison of Human Health Screening Levels for Air
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Sample[a]	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[b]	Ambient Air PRG	Air PRG Exceeded by Maximum
Chromium	Air-2	Wastepile	0	7	0.4985	0.9	1.25	A	0.0045	yes
Chromium	Air-6	Wastepile	0	6	0.152	0.69	0.97	A	0.0045	yes
Cobalt	Air-1	Upwind	0	5	0.0144	0.01705	0.0505	A	0.019	yes
Cobalt	Air-4/5	NCL	0	6	0.02015	0.0322	0.079	A	0.019	yes
Cobalt	Air-3	Downwind	0	4	0.012	0.01775	0.0311	A	0.019	yes
Cobalt	Air-2	Wastepile	0	6	0.01565	0.021725	0.04115	A	0.019	yes
Cobalt	Air-6	Wastepile	0	6	0.0056	0.019325	0.0271	A	0.019	yes
Copper	Air-1	Upwind	7	8	0.3315	1.2	2.27	B		
Copper	Air-4/5	NCL	8	9	0.143	0.777	4.28	B		
Copper	Air-3	Downwind	5	5	1.62	6.37	7.2	A		
Copper	Air-2	Wastepile	7	7	2.87	4.09	8.9	A		
Copper	Air-6	Wastepile	6	6	0.841	4.345	6.89	A		
Lead	Air-1	Upwind	1	8	0.0755	0.145	0.313	A		
Lead	Air-4/5	NCL	0	9	0.088	0.1635	0.223	A		
Lead	Air-3	Downwind	2	5	0.142	0.824	1.055	A		
Lead	Air-2	Wastepile	3	7	0.168	0.324	1.06	A		
Lead	Air-6	Wastepile	3	6	0.02975	0.449	0.714	A		
Magnesium	Air-1	Upwind	0	8	28.35	44.925	88.5	B		
Magnesium	Air-4/5	NCL	0	9	30.45	54	60.5	B		
Magnesium	Air-3	Downwind	2	5	60.5	251.5	374	A		
Magnesium	Air-2	Wastepile	6	7	93	200	519	A		
Magnesium	Air-6	Wastepile	5	6	14.3	336.5	440	A		
Manganese	Air-1	Upwind	1	8	0.29	0.38675	1.42	B	1.4	yes
Manganese	Air-4/5	NCL	3	9	0.2985	0.545	2.67	B	1.4	yes
Manganese	Air-3	Downwind	4	5	2.2	2.79	6.91	A	1.4	yes
Manganese	Air-2	Wastepile	7	7	3.17	5	12.7	A	1.4	yes
Manganese	Air-6	Wastepile	5	6	0.2545	7.125	13.3	A	1.4	yes

TABLE 4-7
Comparison of Human Health Screening Levels for Air
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Sample[a]	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[b]	Ambient Air PRG	Air PRG Exceeded by Maximum
Molybdenum	Air-1	Upwind	7	8	0.05	0.116	0.25	A		
Molybdenum	Air-4/5	NCL	6	8	0.067	0.10415	0.31	A		
Molybdenum	Air-3	Downwind	3	4	0.04025	0.12095	0.941	A		
Molybdenum	Air-2	Wastepile	5	7	0.0333	0.119	0.197	A		
Molybdenum	Air-6	Wastepile	3	6	0.01575	0.08125	0.144	A		
Nickel	Air-1	Upwind	3	8	0.1115	0.301	0.558	AB	0.23	yes
Nickel	Air-4/5	NCL	1	9	0.1305	0.202	0.4705	A	0.23	yes
Nickel	Air-3	Downwind	3	5	0.181	1.03	1.34	B	0.23	yes
Nickel	Air-2	Wastepile	3	7	0.2015	0.4755	1.04	AB	0.23	yes
Nickel	Air-6	Wastepile	1	6	0.0415	0.33325	0.491	AB	0.23	yes
Selenium	Air-1	Upwind	1	1	0.0731	0.0731	0.0731	A		
Selenium	Air-4/5	NCL	1	1	0.138	0.138	0.138	A		
Selenium	Air-3	Downwind	0	0				NO DATA		
Selenium	Air-2	Wastepile	2	2	0.0769	0.11545	0.154	A		
Selenium	Air-6	Wastepile	2	2	0.0319	0.03885	0.0458	A		
Silver	Air-1	Upwind	3	3	0.0235	0.0258	0.0881	A		
Silver	Air-4/5	NCL	4	4	0.0379	0.0723	0.189	A		
Silver	Air-3	Downwind	1	1	0.0309	0.0309	0.0309	A		
Silver	Air-2	Wastepile	3	3	0.0297	0.0337	0.0786	A		
Silver	Air-6	Wastepile	2	2	0.0366	0.04655	0.0565	A		
Thallium	Air-1	Upwind	0	0						
Thallium	Air-4/5	NCL	1	1	0.263	0.263	0.263			
Thallium	Air-3	Downwind	1	1	0.0585	0.0585	0.0585	NO ANALYSIS		
Thallium	Air-2	Wastepile	0	0						
Thallium	Air-6	Wastepile	1	1	0.0183	0.0183	0.0183			
Vanadium	Air-1	Upwind	0	8	0.3985	0.505	1.07	A		
Vanadium	Air-4/5	NCL	0	9	0.408	0.498	0.965	A		
Vanadium	Air-3	Downwind	0	5	0.4485	0.63	3.03	A		
Vanadium	Air-2	Wastepile	0	7	0.4725	0.58	1.205	A		
Vanadium	Air-6	Wastepile	0	6	0.115	0.498	0.675	A		
Zinc	Air-1	Upwind	0	8	35.6	50.825	169	A		
Zinc	Air-4/5	NCL	0	9	38.7	64.5	108.5	A		
Zinc	Air-3	Downwind	0	5	35.55	54	520	A		
Zinc	Air-2	Wastepile	0	7	35.35	57	98	A		

TABLE 4-7
Comparison of Human Health Screening Levels for Air
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	Sample[a]	Area	No. of Detects	Sample Size	Minimum	Median	Maximum	Results of Statistical Comparisons[b]	Ambient Air PRG	Air PRG Exceeded by Maximum
Zinc	Air-6	Wastepile	0	6	15.65	50.475	83	A		

Notes:
Highlighted rows indicate analytes for which concentrations in onsite area statistically exceeded upgradient
[a]Sample locations are displayed in Appendix A, Figure A-5
[b]Rows with same letter are not significantly different as determined by ANOVA on rank-transformed concentrations; All locations included in statistical analysis

TABLE 4-8
Comparison of Human Health Screening Levels for Fish
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

Analyte	No. of Detects	Sample Size	Minimum	Median	Maximum	Fish Tissue Screening Levels (EPA, 2000) Noncancer	Fish Tissue Screening Levels (EPA, 2000) Cancer	Noncancer Screening Level Exceeded by Maximum	Cancer Screening Level Exceeded by Maximum
METALS (mg/kg wet weight)									
Aluminum	10	10	2.6	8.7	66.5				
Antimony	9	10	0.0063	0.026	0.061				
Arsenic	10	10	0.19	0.38	0.51	0.088	0.0002	yes	yes
Barium	10	10	0.44	0.66	1.2				
Beryllium	9	10	0.0034	0.0075	0.042				
Cadmium	10	10	0.017	0.037	0.091	0.088		yes	
Calcium	10	10	5690	12200	25900				
Chromium	10	10	0.023	0.061	0.22				
Cobalt	10	10	0.0074	0.021	0.045				
Copper	10	10	0.77	1.5	3.9				
Iron	10	10	11.8	17.9	38.1				
Lead	10	10	0.016	0.053	0.16				
Magnesium	10	10	268	497	678				
Manganese	10	10	2.6	4.8	9.8				
Nickel	10	10	0.049	0.066	1				
Potassium	10	10	1490	3120	3660				
Selenium	10	10	0.4	0.74	1.1	1.5		no	
Silver	10	10	0.0041	0.025	0.066				
Sodium	10	10	857	1200	1550				
Vanadium	10	10	0.064	0.12	0.32				
Zinc	10	10	12.4	33.7	46.4				
RADIONUCLIDES									
Gross Alpha/ Gamma	10	10		not detected					

Notes:
EPA 2000, Consumption of more than 16, 8-ounce fish portions per month (Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories, Volume 2, Risk Assessment and Fish Consumption Limits, 3rd Edition)

TABLE 4-9
Summary of Human Health Screening Level Comparisons by Media
Screening-level Ecological and Human Health Risk Assessment
Halaco Site, Oxnard, California

	Surface Water						Groundwater				Sediment																Soil/Wastes																		Air					Fish	
	Drinking Water MCLs			Tap Water PRGs			Drinking Water MCLs		Tap Water PRGs		Residential PRG								Industrial PRG								Residential PRG								Industrial PRG								Ambient Air PRG					EPA 2000	
Analyte	Onsite	Offsite	Poten. Bkgd	Onsite	Offsite	Poten. Bkgd	Poten. Bkgd	Onsite	Poten. Bkgd	Onsite	OID-Poten. Bkgd	OID-onsite	Wetland-Poten. Bkgd	Wetland-Onsite	Beach-Poten. Bkgd	Beach-onsite	Marine-Poten. Bkgd	Marine-Onsite	OID-Poten. Bkgd	OID-onsite	Wetland-Poten. Bkgd	Wetland-Onsite	Beach-Poten. Bkgd	Beach-onsite	Marine-Poten. Bkgd	Marine-Onsite	Smelter Waste	Smelter Soil	Waste Disposal Waste	WMU Waste	NCL-east	NCL-north	Ag-North	Ag-East	RES	Poten. Bkgd Soil	Smelter Waste	Smelter Soil	Waste Disposal Waste	WMU Waste	NCL-east	NCL-north	Ag-North	Ag-East	RES	Poten. Bkgd Soil	Air-1, Downwind	Air-4/5, Upwind NCL	Air 3, Upwind Edge	Air 2, Wastepile-2	Air 6, Wastepile-6	Noncancer	Cancer
Aluminum	-	X	-	-	-	-	X	X	-	X	-	-	-	X	-	-	-	-	-	-	-	X	-	-	-	-	-	X	X	X	X	-	-	-	-	-	X	X	X	X	-	-	-	-	-	X	X	X	X	X	u	u
Antimony	X	na	X	X	na	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	u	u	u	u	u	u	u
Arsenic	-	-	-	X	-	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Barium	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	u	u
Beryllium	-	na	-	-	na	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	-	na	-	na	-	-	-	-	X	-	-	na	-	na	-	-	X	X	X	X	X	u	u
Boron	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	-	-	-	-	na	na	na	na	na	na	-	-	-	-	na	na	na	na	na	na	na	na	na	na	na	na	na
Cadmium	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	-	X	u
Chromium (Total)	-	-	-	u	u	u	-	X	u	u	-	-	-	X	-	-	-	-	-	-	-	X	-	-	-	-	-	X	X	X	X	-	-	-	-	-	-	X	X	X	-	-	-	-	-	-	X	X	X	X	X	u	u
Cobalt	u	na	u	-	na	-	u	u	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	na	-	na	-	-	-	-	-	-	-	na	-	na	-	-	X	X	X	X	X	u	u
Copper	-	-	-	-	-	-	-	X	-	X	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	u	u	u	u	u	u	u
Iron	u	u	u	-	-	-	u	u	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	na	-	na	-	X	-	X	-	-	X	na	-	na	-	-	na	na	na	na	na	u	u
Lead	-	-	-	u	u	u	-	X	u	u	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-	-	u	u	u	u	u	u	u
Manganese	u	u	u	X	-	-	u	u	-	X	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	u	u
Mercury	-	-	-	-	-	-	na	na	na	na	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	na	na	na	na	na	na	na
Molybdenum	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	-	X	-	-	na	na	na	na	na	-	-	-	-	-	na	na	na	na	na	-	u	u	u	u	u	na	na
Nickel	-	-	-	-	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	u	u
Silver	u	u	u	-	-	-	u	u	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	u	u	u	u	u	u	u
Selenium	-	-	-	-	-	-	na	na	na	na	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	u	u	u	u	u	-	u
Thallium	na	na	na	na	na	na	na	na	na	na	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	-	na	-	na	-	-	-	-	-	-	-	na	-	na	-	-	u	u	u	u	u	na	na
Vanadium	u	na	u	-	na	-	u	u	-	X	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	na	-	na	-	-	-	-	-	-	-	na	-	na	-	-	u	u	u	u	u	u	u
Zinc	u	u	u	-	-	-	u	u	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	u	u	u	u	u	u	u
Cs-137	u	na	u	X	na	X	u	u	X	X	-	X	X	X	-	X	-	-	-	-	-	-	-	-	-	-	-	X	-	X	X	na	-	na	-	X	-	X	-	-	X	na	-	na	-	-	na	na	na	na	na	na	na
K-40	u	na	u	X	na	X	u	u	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	na	X	na	X	X	X	X	X	X	X	na	X	na	X	X	na	na	na	na	na	na	na
Ra-226	u	na	u	na	na	na	u	u	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	X	na	na	na	na	na	na	na	X	na	X	na	na	na	na	na	na	na	X	na	na	na	na	na	na	na
Ra-228	u	na	u	na	na	na	u	u	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	X	na	na	na	na	na	na	na	X	na	X	na	na	na	na	na	na	na	X	na	na	na	na	na	na	na
Th-228	u	na	u	X	na	X	u	u	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	na	X	na	X	X	X	X	X	X	X	na	X	na	X	X	na	na	na	na	na	na	na
Th-230	u	na	u	-	na	-	u	u	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	na	-	na	-	-	-	X	-	-	-	na	-	na	-	-	na	na	na	na	na	na	na
Th-232	u	na	u	-	na	-	u	u	-	X	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	na	-	na	-	-	-	X	X	-	-	na	-	na	-	-	na	na	na	na	na	na	na
Gross Alpha/Gamma	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	ND	ND

Notes:
- = maximum concentration does not exceed screening value
X = maximum concentration exceeded screening value - potential risk
na = no site data
u = uncertainty - no screening value
ND = Not detected
Shaded columns indicate onsite locations

Figures

Source: Figure 2-1, Integrated Assessment Report (Weston, 2007)

FIGURE 1-1
Site Location and Site Areas
Halaco Site, Oxnard, California

ES122007006SAC Figure_1-1.ai 02/06/09 tdaus

CH2MHILL

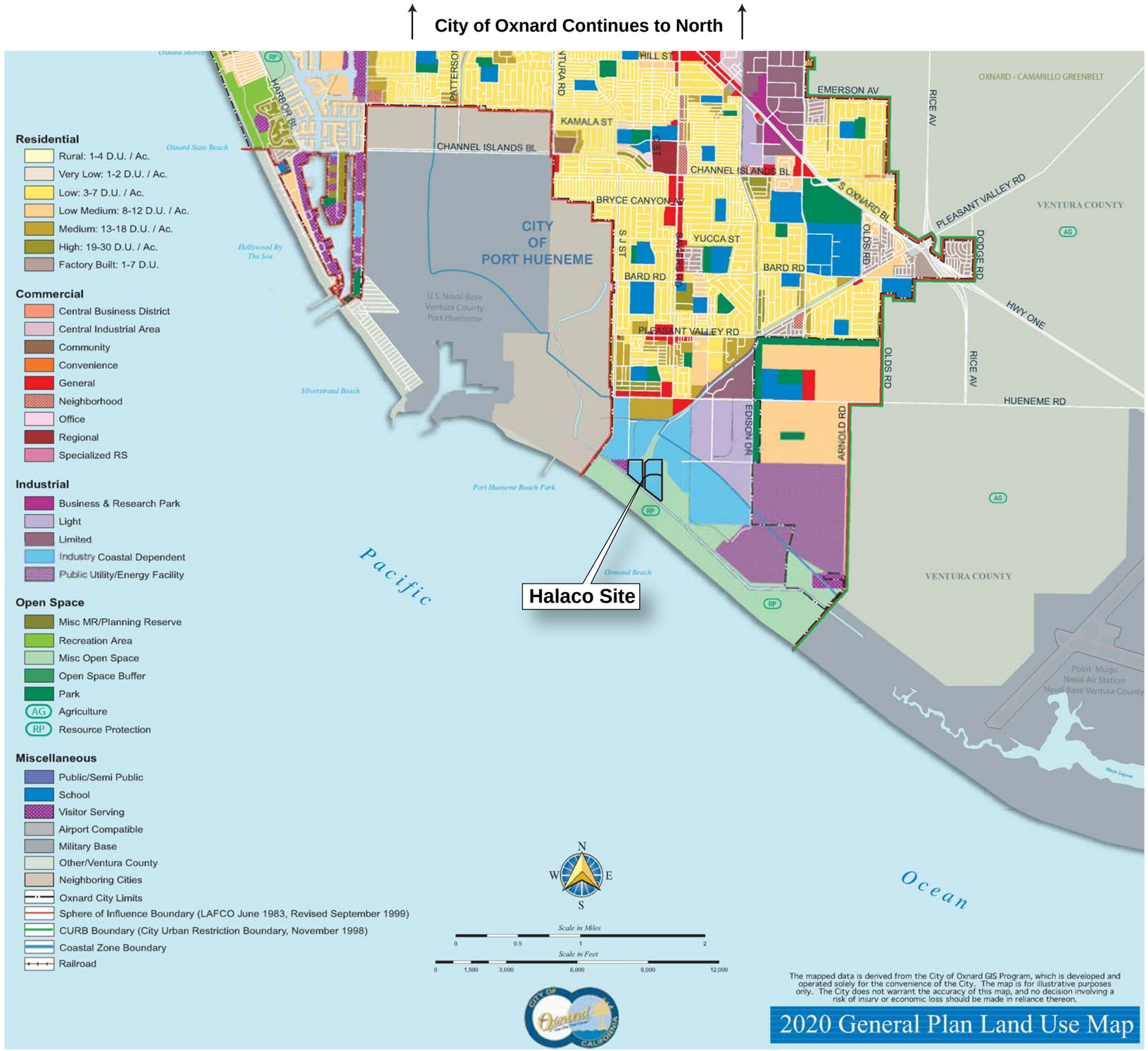


FIGURE 2-1
Land Use in the City of Oxnard
2020 General Plan
Halaco Site, Oxnard, California

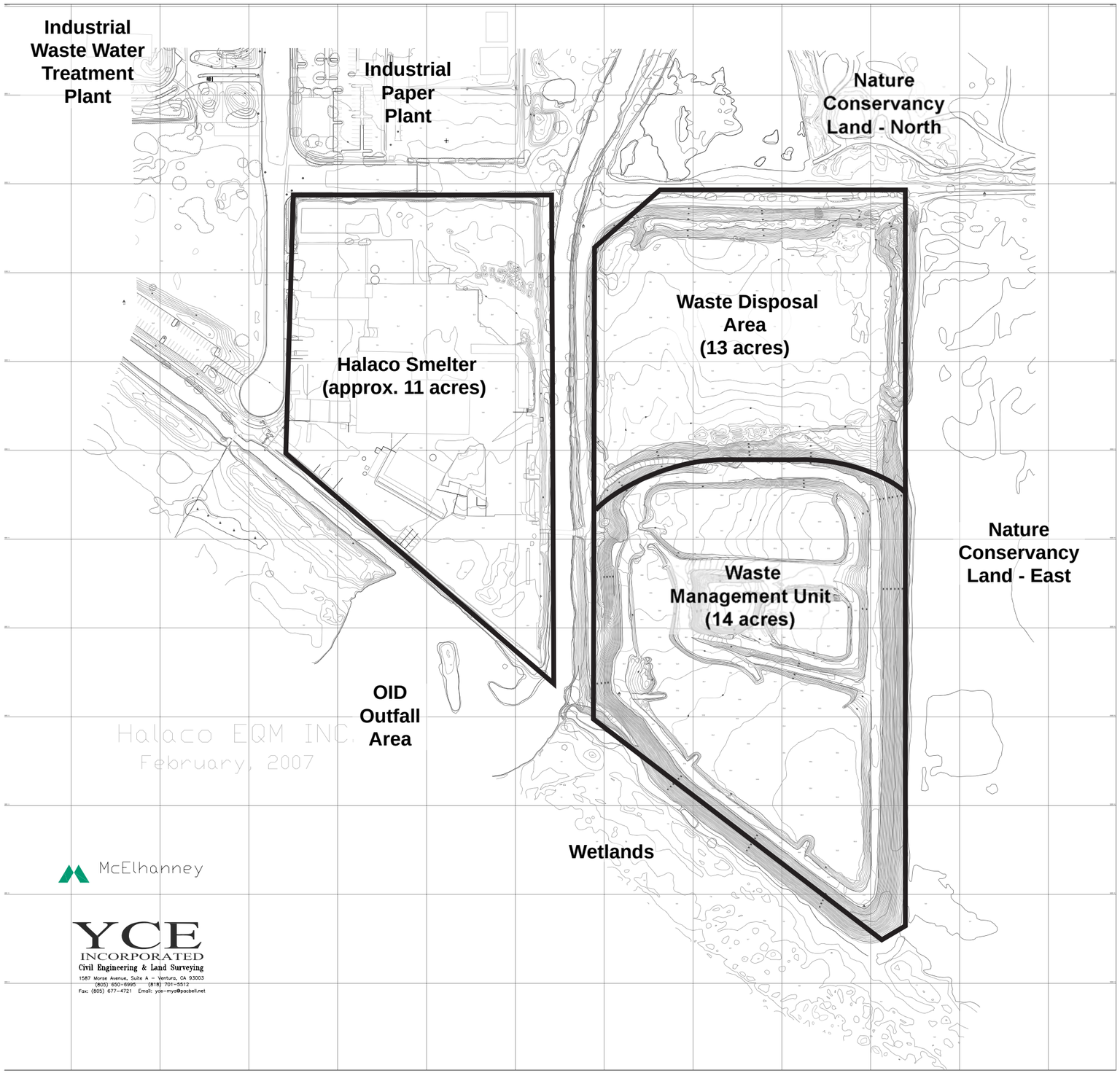
CH2MHILL

FIGURE 2-2
Aerial Photograph before EPA Removal Action - February 2007
Halaco Site, Oxnard, California

FIGURE 2-3
Aerial Photograph after
EPA Removal Action - April 2007
Halaco Site, Oxnard, California

CH2MHILL

WB082007003SCO358156.RA.01 Halaco_aerialafter.ai 1/08

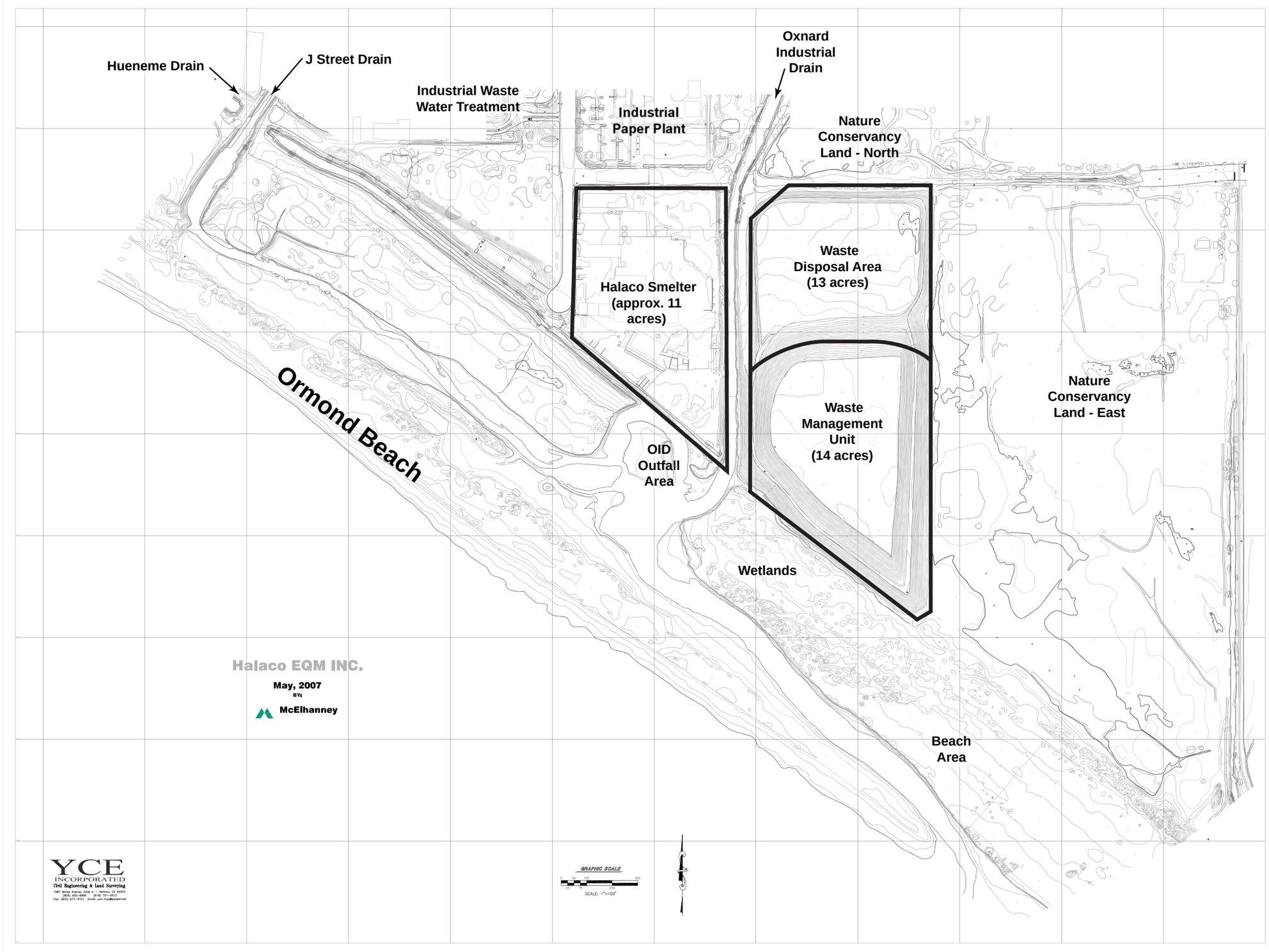


Contour interval = 1 foot

FIGURE 2-4
Topographic Map before EPA Removal Action - February 2007
Halaco Site, Oxnard, California

CH2MHILL

WB082007003SCO358156.RA.01 Halaco_topobefore.ai 1/08

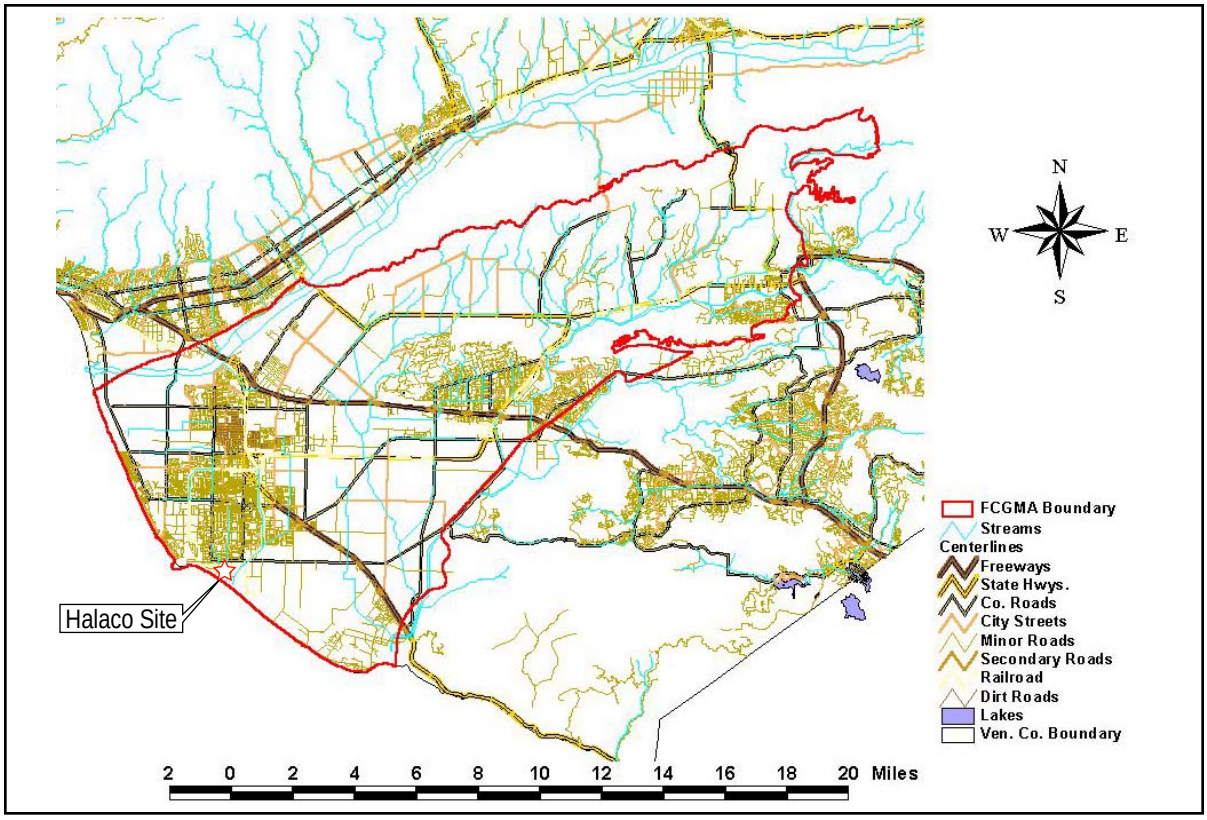


Contour interval = 1 foot

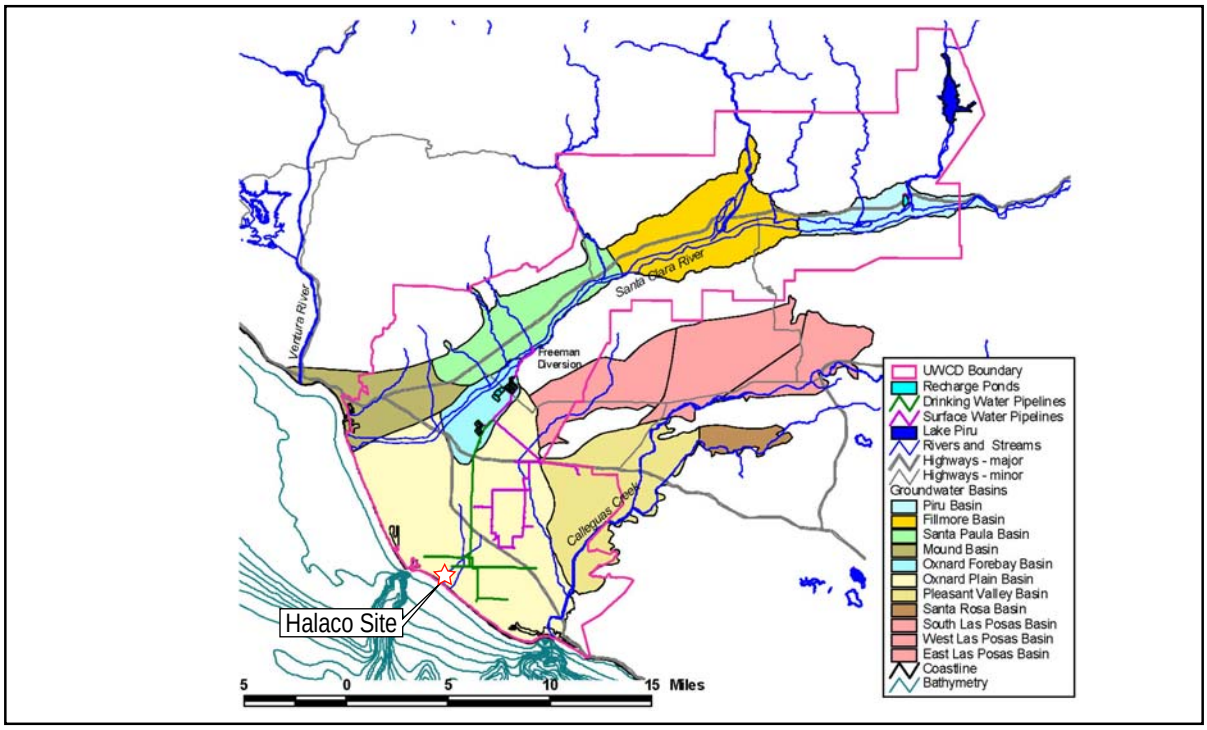
FIGURE 2-5
Topographic Map after EPA Removal Action - May 2007
Halaco Site, Oxnard, California

CH2MHILL

WB082007003SCO358156.RA.01 Halaco_topoafter.ai 1/08

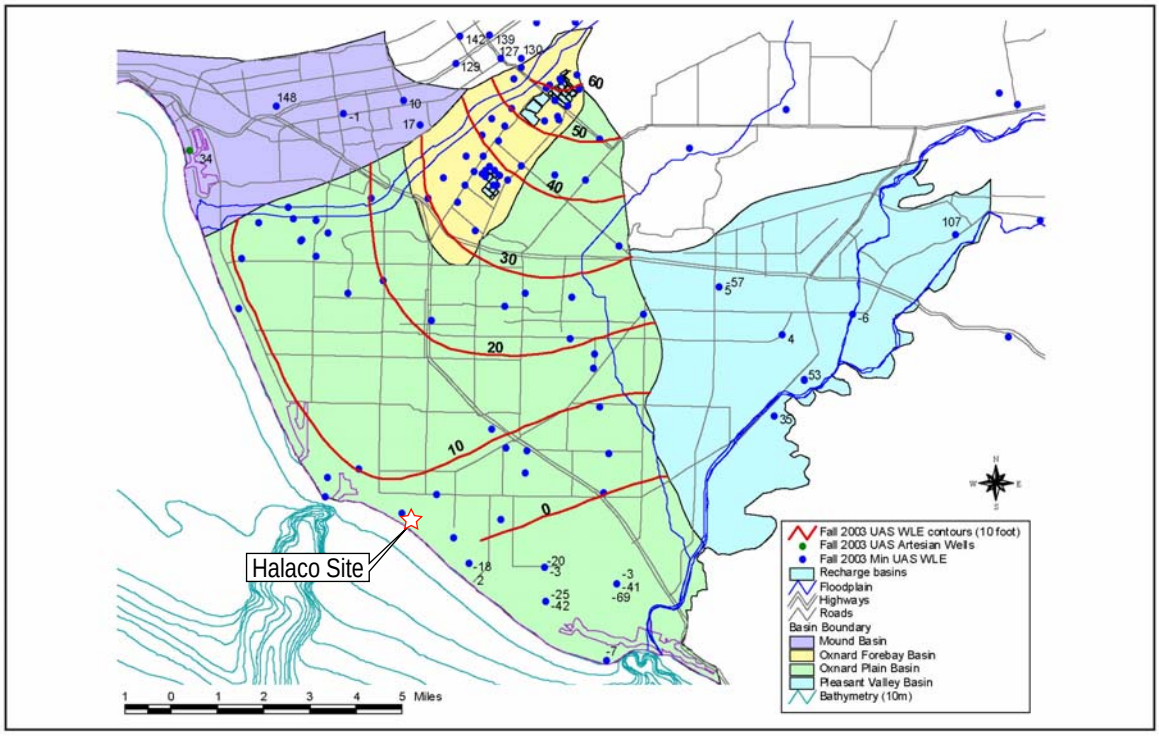


(a) Fox Canyon Groundwater Management Agency (Source: FCGMA website)

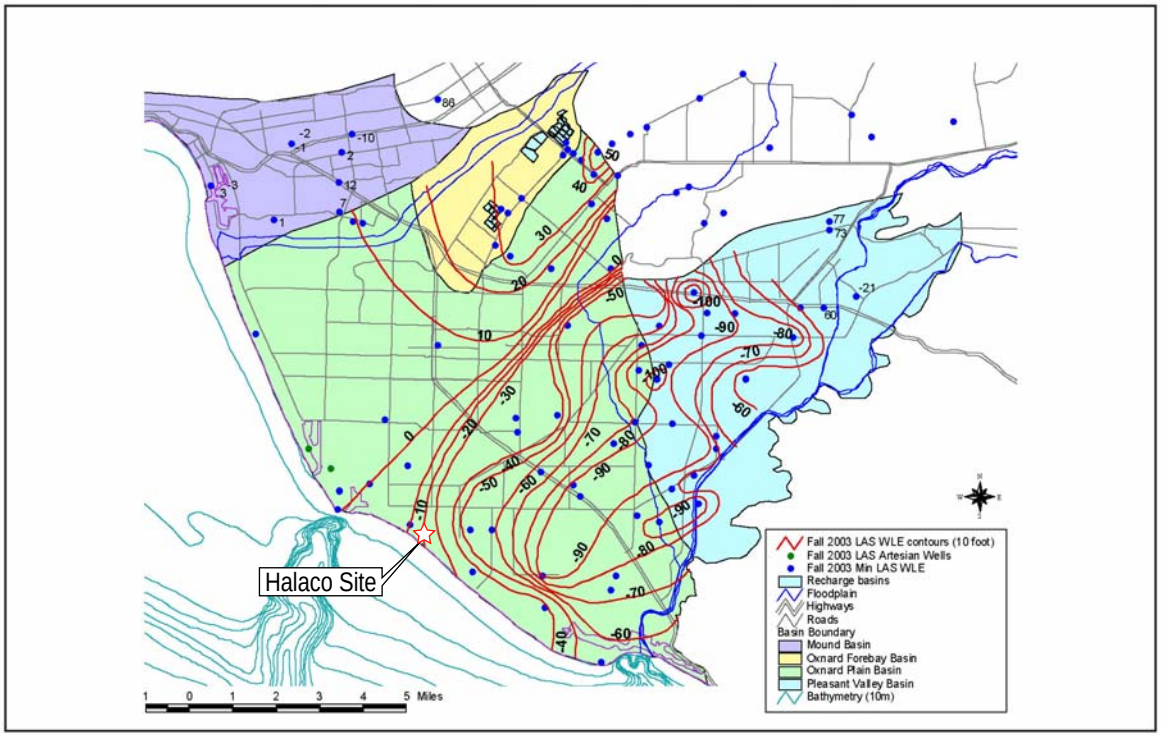


(b) United Water Conservation District (Source: UWCD, 2004)

FIGURE 2-6
FCGMA and UWCD - Fall 2003
Halaco Site, Oxnard, California



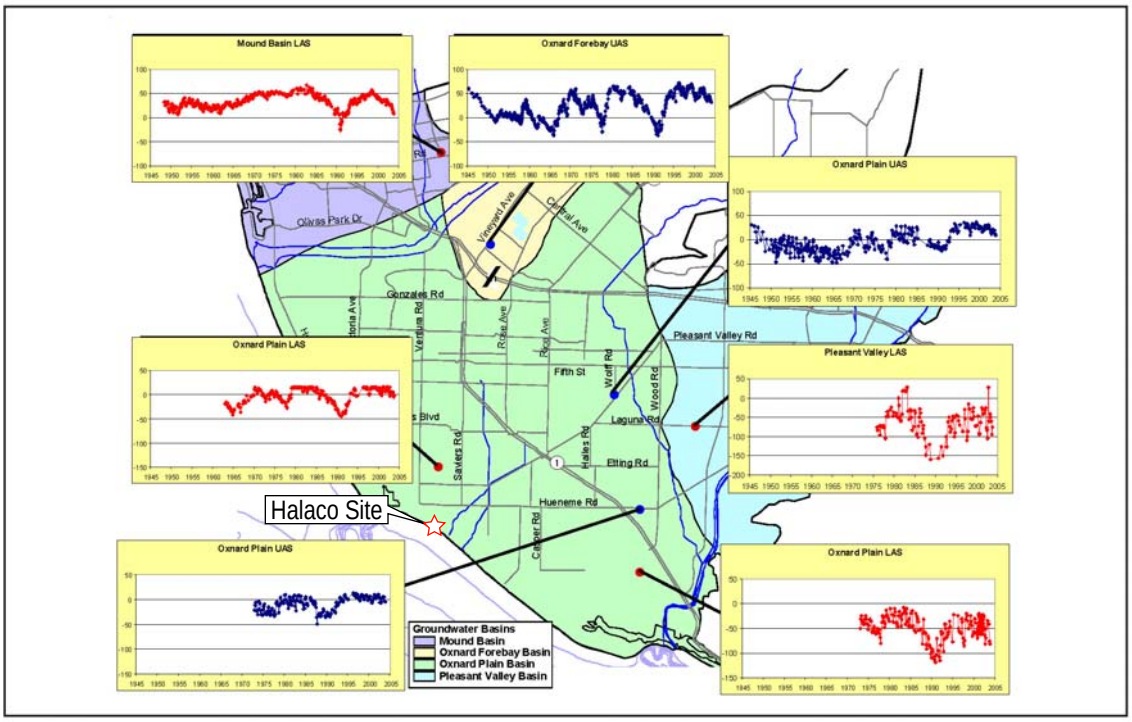
(a) Upper Aquifer System



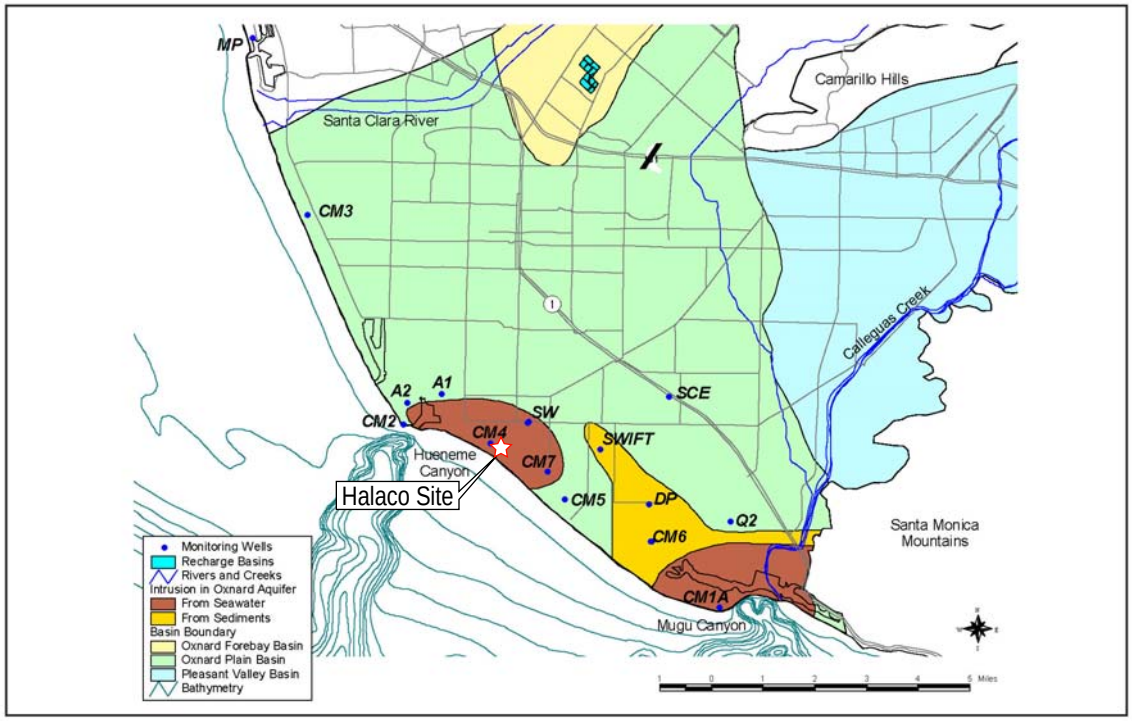
(b) Lower Aquifer System

FIGURE 2-7
Groundwater Elevations in
UAS and LAS - Fall 2003
Halaco Site, Oxnard, California

Source: UWCD, 2004



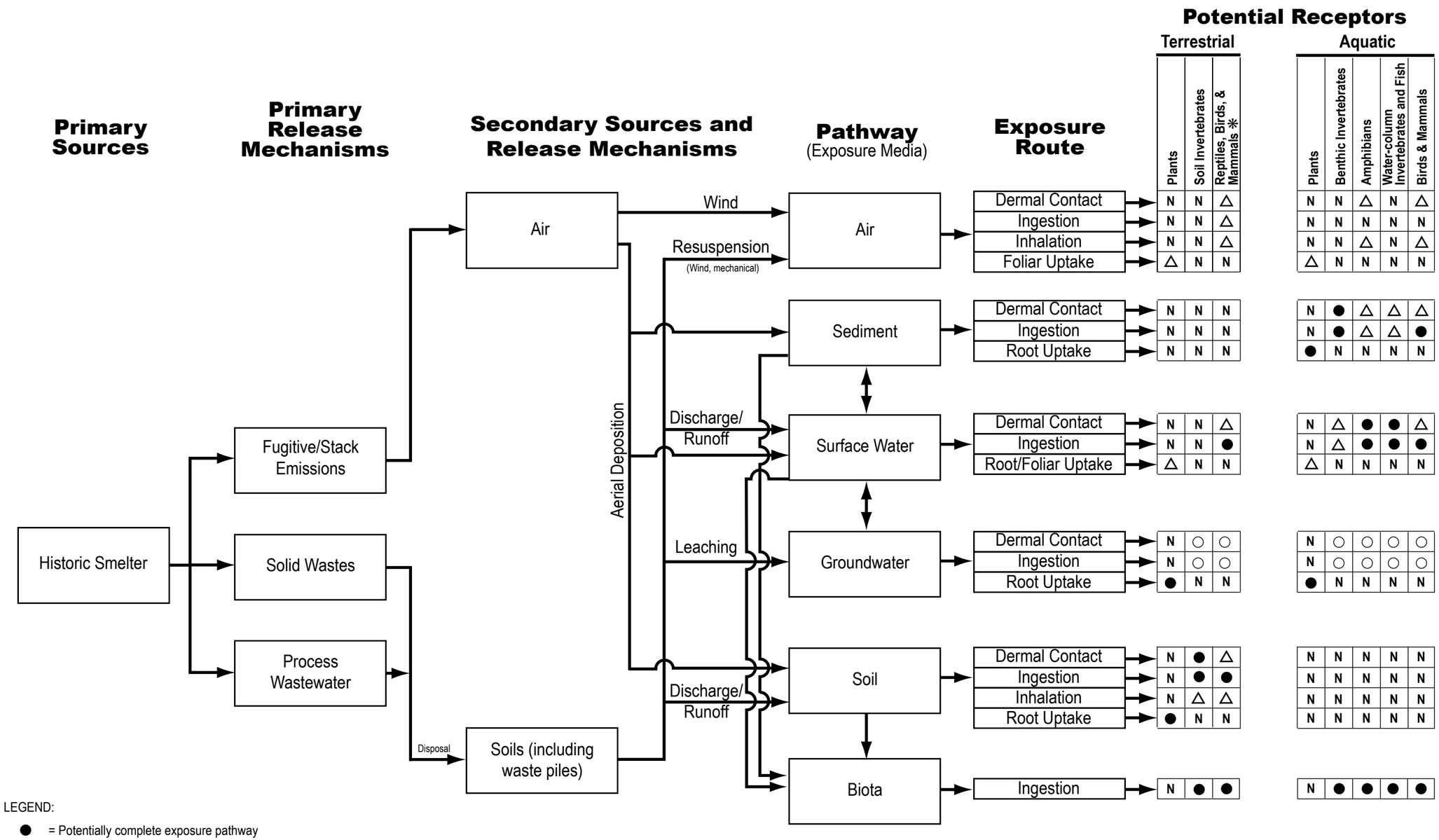
(a) Hydrographs: Blue - Upper Aquifer System, Red - Lower Aquifer System



(b) Saline Intrusion in Oxnard Aquifer of Upper Aquifer System

FIGURE 2-8
Hydrographs for UAS and LAS and
Saline Intrusion in Oxnard Aquifer
Halaco Site, Oxnard, California

Source: UWCD, 2004



LEGEND:

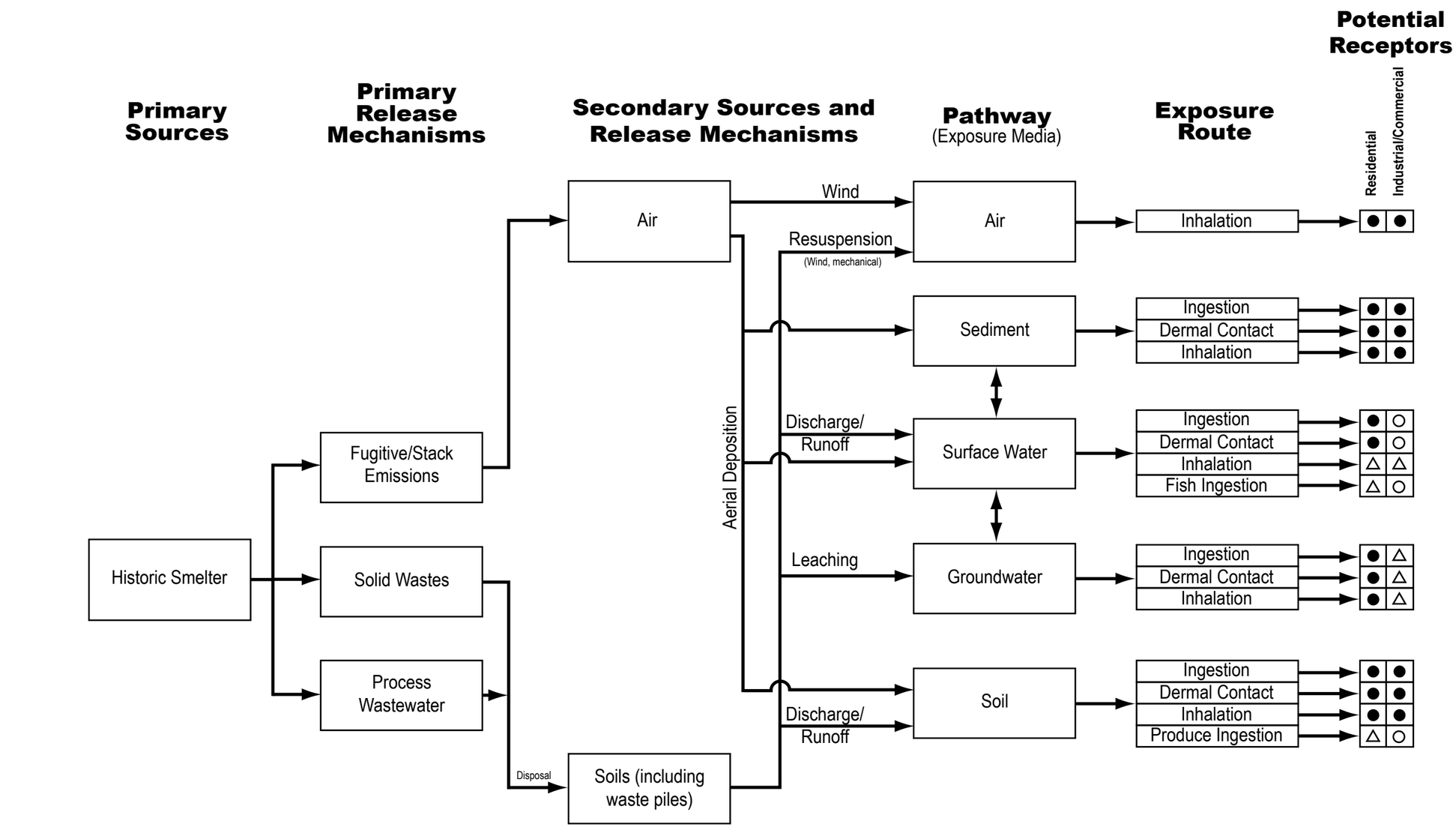
- ● = Potentially complete exposure pathway
- ○ = Incomplete exposure pathway
- N = Pathway not applicable
- △ = Possibly complete exposure pathway, but likely not significant or insufficient data for analysis in a Screening Level Ecological Risk Assessment

* Data required to evaluate exposure and effects to reptiles are lacking; therefore reptiles were not evaluated. Instead, analyses for birds were assumed to be representative of reptiles.

FIGURE 3-1
Ecological Conceptual Site Model Diagram
Halaco Site, Oxnard, California

CH2MHILL

ES122007006SAC Figure_3-1.ai 12-04-2008 tdaus



LEGEND:

- ● = Potentially complete exposure pathway
- ○ = Incomplete exposure pathway
- N = Pathway not applicable
- △ = Possibly complete exposure pathway, but likely not significant

FIGURE 4-1
Human Health Conceptual Site Model Diagram
Halaco Site, Oxnard, California

ES122007006SAC

CH2MHILL

Appendix A
Sample Location Figures

Appendix A.1

EPA Integrated Assessment Figures (Weston, 2007)

Legend:

- Surface Sediment Sample (SDF).
- Residential(SR) and Agricultural (SA) Samples.
- Soil Sample (SSN)
- Soil Boring Location (SSN)
- Wetlands Sediment Sample (SWL)
- Beach Sediment Sample (SDB)
- Marine Sediment Sample (SDM)

Source: EPA's Integrated Assessment (Weston, 2007)

FIGURE A-1
Solid Matrix Sample Locations
Halaco Site, Oxnard, California

CH2MHILL

ES122007006SAC Figure_A-1.ai 12/08/08 tdaus

Legend:

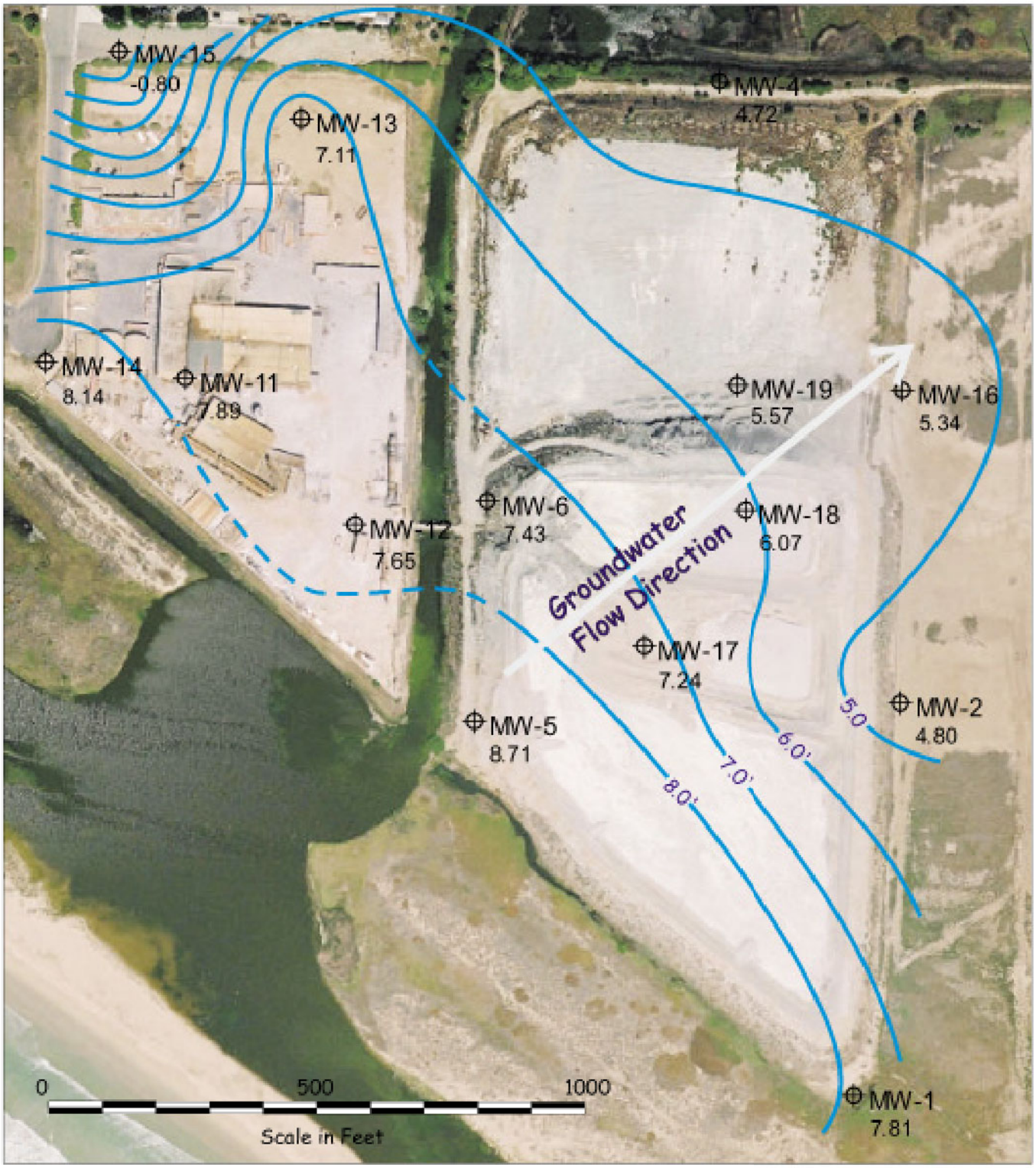
- Surface Sediment Sample (SDF).
- Residential(SR) and Agricultural (SA) Samples.
- Soil Sample (SSN)
- Soil Boring Location (SSN)
- Wetlands Sediment Sample (SWL)
- Beach Sediment Sample (SDB)
- Marine Sediment Sample (SDM)
- Waste Samples from Smelter Area

FIGURE A-2
Solid Matrix Sample Locations Near Site
Halaco Site, Oxnard, California

Source: EPA's Integrated Assessment (Weston, 2007)

ES122007006SAC Figure_A-2.ai 12/08/08 tdaus

CH2MHILL



Legend:

N

MW-2 4.80 — Monitoring Well Location with elevation in feet above mean sea level.

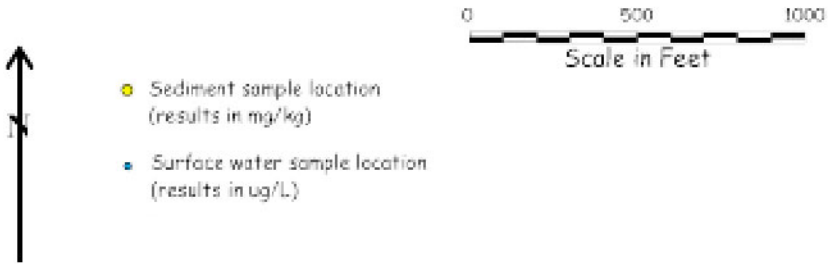
5.0 — Groundwater elevation contours interpolated from field measurements in feet above mean sea level.

FIGURE A-3
Groundwater Sampling Locations
Halaco Site, Oxnard, California

Source: EPA's Integrated Assessment (Weston, 2007)

ES122007006SAC Figure_A-3.ai 12/08/08 tdaus

CH2MHILL



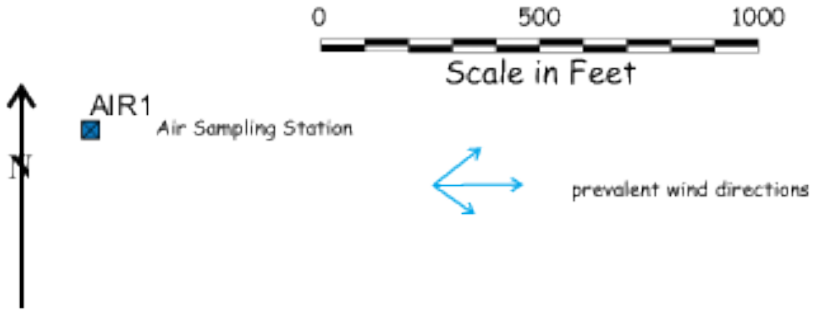
Map showing downgradient sample locations where metals data exceed three-times background.

FIGURE A-4
Surface Sampling Locations
Halaco Site, Oxnard, California

Source: EPA's Integrated Assessment (Weston, 2007)

ES122007006SAC Figure_A-4.ai 12/08/08 tdaus

CH2MHILL



Map showing locations of air sampling around the WMU.

FIGURE A-5
Air Sampling Stations
Halaco Site, Oxnard, California

CH2MHILL

ES122007006SAC Figure_A-5.ai 12/11/08 sbm

Appendix A.2

EPA Southeast Smelter Investigation Figure (Team 9, 2008)

LEGEND

- Sample location
- Area of Concern
- Surrounding Industry
- Halaco Area
- Roads

N

0 100 200 400 Feet

Source: EPA's Southeast Smelter Investigation (Team 9, 2008)

FIGURE A-6
Boring Locations
Halaco Site, Oxnard, California

CH2MHILL

ES122007006SAC Figure_A-6.ai 12/08/08 tdaus

Appendix A.3

Ormond Beach Wetland Restoration Investigation Figures (AMEC, 2006)

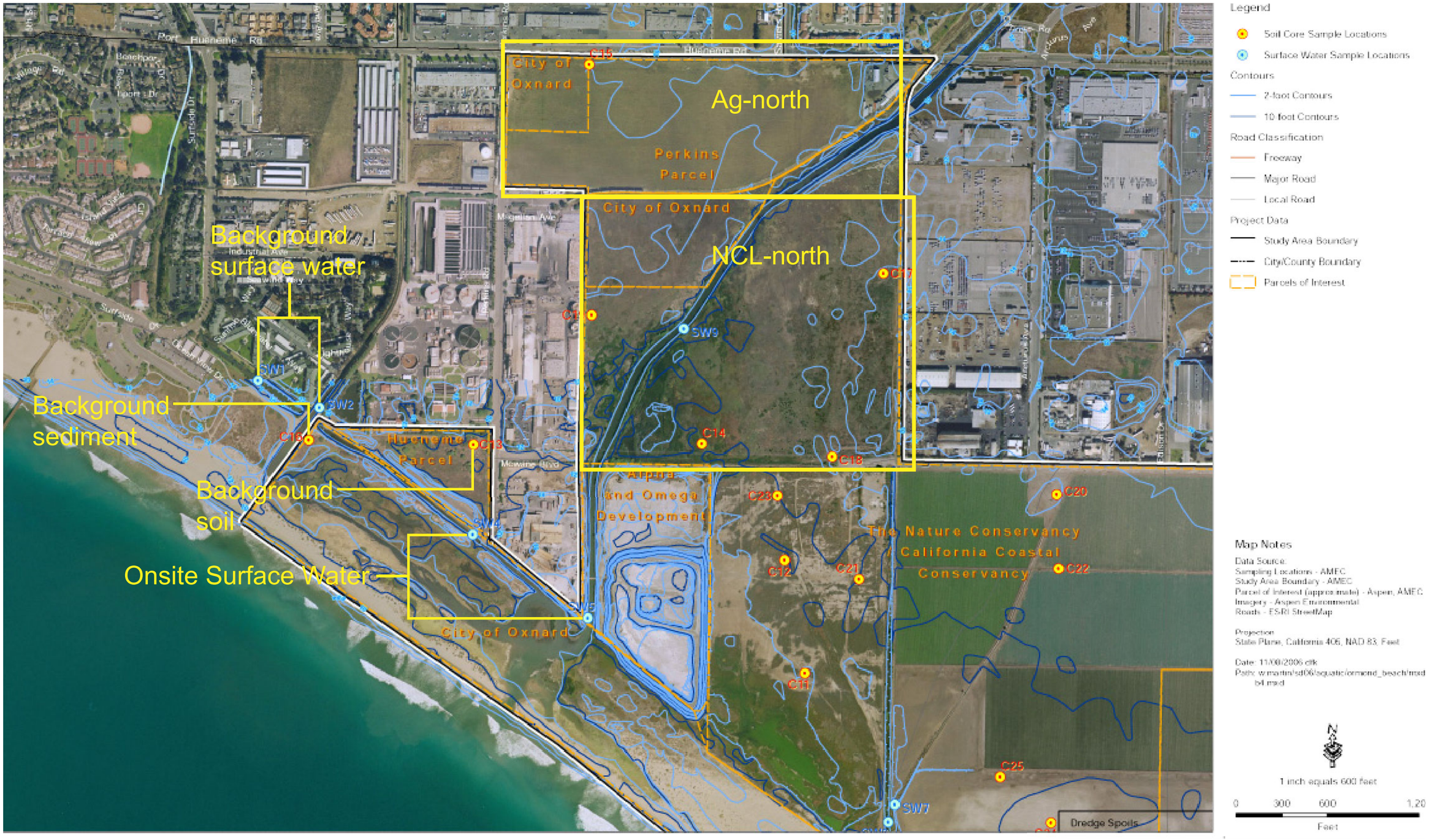
Elevation detail of Southland Sod Farm (North), The Nature Conservancy/California Coastal Conservancy Parcel, and MWD Parcel Ormond Beach Wetland Restoration Project.

FIGURE A-7
Soil and Surface Water Sampling Locations, East
Halaco Site, Oxnard, California

Source: Ormond Beach Wetland Restoration Investigation (AMEC, 2006)

ES122007006SAC Figure_A-7.ai 12/10/08 tdaus

CH2MHILL



Elevation detail of Nature Conservancy/California Coastal Conservancy, City of Oxnard, Perkins Parcel, and Hueneme Parcel
Ormond Beach Wetland Restoration Project

FIGURE A-8
Soil and Surface Water Sampling Locations, West
Halaco Site, Oxnard, California

Source: Ormond Beach Wetland Restoration Investigation (AMEC, 2006)

ES122007006SAC Figure_A-8.ai 12/10/08 tdaus

CH2MHILL

Appendix B
Raw Data Set

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Aluminum	1760		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Aluminum	1410		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Aluminum	1350		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Aluminum	1500		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Aluminum	1630		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Aluminum	1500		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Aluminum	2160		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Aluminum	2510		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Aluminum	2200		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Aluminum	1820		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Aluminum	1750		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Aluminum	1770		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Aluminum	8120		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Aluminum	4020		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Aluminum	3440		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Aluminum	4300		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Aluminum	5440		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Aluminum	5440		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Aluminum	4350		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Aluminum	4340		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Aluminum	4120		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Aluminum	3520		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Aluminum	5360		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Aluminum	3350		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Aluminum	5810		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Aluminum	3050		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Aluminum	1510		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Aluminum	4130		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Aluminum	2720		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Aluminum	3210		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Aluminum	96400		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Aluminum	205000		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Aluminum	104000		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Aluminum	187000		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Aluminum	199000		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Aluminum	135000		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Aluminum	1520		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Aluminum	1580		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Aluminum	246		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Aluminum	3100		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Aluminum	1750		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Aluminum	8580		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Aluminum	19600		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Aluminum	1960		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Aluminum	10400		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Aluminum	2160		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Aluminum	18400		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Aluminum	7800		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Aluminum	14300		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Aluminum	13200		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Aluminum	47000		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Aluminum	7670		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Aluminum	16400		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Aluminum	10400		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Aluminum	9820		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Aluminum	10800		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Aluminum	10200		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Aluminum	9140		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Aluminum	121000		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Aluminum	16300		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Aluminum	79200		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Aluminum	82400		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Aluminum	80600		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Aluminum	174000		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Aluminum	114000		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Aluminum	67300		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Aluminum	72800		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Aluminum	62500		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Aluminum	16300		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Aluminum	10200		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Aluminum	8770		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Aluminum	120000		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Aluminum	7020		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Aluminum	7100		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Aluminum	11600		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Aluminum	4320		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Aluminum	120000		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Aluminum	110000		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Aluminum	27000		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Aluminum	57000		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Aluminum	26000		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Aluminum	24000		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Aluminum	120000		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Aluminum	190000		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Aluminum	190000		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Aluminum	63000		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Aluminum	120000		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Aluminum	130000		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Aluminum	97000		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Aluminum	7800		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Aluminum	8400		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Aluminum	120000		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Aluminum	110000		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Aluminum	170000		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Aluminum	170000		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Aluminum	150000		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Aluminum	35000		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Aluminum	210000		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Aluminum	57000		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Aluminum	74000		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Aluminum	79000		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Aluminum	44000		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Aluminum	83000		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Aluminum	280000		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Aluminum	290000		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Aluminum	79000		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Aluminum	68000		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Aluminum	85000		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Aluminum	120000		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Aluminum	120000		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Aluminum	200000		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Aluminum	160000		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Aluminum	140000		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Aluminum	130000		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Aluminum	35000		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Aluminum	51000		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Aluminum	130000		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Antimony	6.2		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Antimony	3.1	U	mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Antimony	3.9	U	mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Antimony	3.9	U	mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Antimony	3.95	U	mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Antimony	3.85	U	mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Antimony	3.9	U	mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Antimony	3.95	U	mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Antimony	3.95	U	mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Antimony	3.95	U	mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Antimony	3.85	U	mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Antimony	3.9	U	mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Antimony	4	U	mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Antimony	3.8	U	mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Antimony	3.2	U	mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Antimony	0.64		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Antimony	4.25	U	mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Antimony	3.7	U	mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Antimony	4.15	U	mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Antimony	3.05	U	mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Antimony	8.1		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Antimony	4.5	U	mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Antimony	5.95	U	mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Antimony	6.35	U	mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Antimony	11.8		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Antimony	9.2		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Antimony	4.05	U	mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Antimony	3.95	U	mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Antimony	4	U	mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Antimony	4.15	U	mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Antimony	3.8	U	mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Antimony	4.2	U	mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Antimony	5.25	U	mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Antimony	3.85	U	mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Antimony	4.9	U	mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Antimony	3.9	U	mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Antimony	5.2	U	mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Antimony	7.15	U	mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Antimony	5.7	U	mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Antimony	4.85	U	mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Antimony	2.2		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Antimony	4.2	U	mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Antimony	3.3	U	mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Antimony	3.15	U	mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Antimony	3.25	U	mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Antimony	3.3	U	mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Antimony	3.05	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Antimony	3.25	U	mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Antimony	4.5		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Antimony	3.45	U	mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Antimony	6.4		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Antimony	3.5		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Antimony	4.2		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Antimony	5.7		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Antimony	6.7		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Antimony	4.3		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Antimony	3.75	U	mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Antimony	3.45	U	mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Antimony	3.2		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Antimony	12.9		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Antimony	3.2		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Antimony	7	U	mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Antimony	3.1	U	mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Antimony	3.1	U	mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Antimony	4.05	U	mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Antimony	3	U	mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Antimony	5.5	U	mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Antimony	5.5	U	mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Antimony	5.5	U	mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Antimony	6.5	U	mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Antimony	6	U	mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Antimony	6	U	mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Antimony	7.5	U	mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Antimony	5.5	U	mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Antimony	6.5	U	mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Antimony	8	U	mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Antimony	8.5	U	mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Antimony	8	U	mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Antimony	9	U	mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Antimony	5.5	U	mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Antimony	5.5	U	mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Antimony	7	U	mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Antimony	7.5	U	mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Antimony	7	U	mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Antimony	6.5	U	mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Antimony	8.5	U	mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Antimony	7	U	mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Antimony	6	U	mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Antimony	8.5	U	mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Antimony	8.5	U	mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Antimony	10	U	mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Antimony	10.5	U	mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Antimony	10.5	U	mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Antimony	6.5	U	mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Antimony	6.5	U	mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Antimony	10	U	mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Antimony	10	U	mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Antimony	10.5	U	mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Antimony	10	U	mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Antimony	8	U	mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Antimony	18		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Antimony	8.5	U	mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Antimony	10	U	mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Antimony	9	U	mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Antimony	10	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Antimony	10.5	U	mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Antimony	11.5	U	mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Arsenic	2.5		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Arsenic	2.1		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Arsenic	1.1		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Arsenic	1.3		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Arsenic	1.9		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Arsenic	2.1		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Arsenic	4		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Arsenic	4.6		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Arsenic	4.8		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Arsenic	3.4		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Arsenic	2.9		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Arsenic	2		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Arsenic	7.2		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Arsenic	3.6		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Arsenic	2.7		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Arsenic	6.1		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Arsenic	5		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Arsenic	3.5		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Arsenic	2.5		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Arsenic	3.4		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Arsenic	2.2		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Arsenic	2.1		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Arsenic	3.5		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Arsenic	3		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Arsenic	1.3		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Arsenic	1.6		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Arsenic	0.7	U	mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Arsenic	1.9		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Arsenic	0.72		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Arsenic	1.8		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Arsenic	4.3		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Arsenic	1.5		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Arsenic	1.2		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Arsenic	1.05	U	mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Arsenic	3.3		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Arsenic	7.1		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Arsenic	0.65	U	mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Arsenic	0.74		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Arsenic	0.65	U	mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Arsenic	1.6		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Arsenic	0.54		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Arsenic	9.2		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Arsenic	11.9		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Arsenic	1		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Arsenic	2.5		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Arsenic	0.93		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Arsenic	4.6		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Arsenic	4.5		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Arsenic	6.6		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Arsenic	5.5		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Arsenic	7.4		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Arsenic	2		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Arsenic	2.7		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Arsenic	4.4		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Arsenic	5.1		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Arsenic	5.9		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Arsenic	3.5		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Arsenic	2.4		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Arsenic	3.6		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Arsenic	3.2		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Arsenic	9.7		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Arsenic	4.9		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Arsenic	2		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Arsenic	0.54		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Arsenic	6.6		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Arsenic	3.8		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Arsenic	0.6	U	mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Arsenic	1		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Arsenic	14.1		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Arsenic	16.5		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Arsenic	19.9		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Arsenic	19		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Arsenic	3.5		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Arsenic	3.6		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Arsenic	4.9		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Arsenic	2.5		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Arsenic	5.4		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Arsenic	7.2		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Arsenic	2.3		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Arsenic	7.5		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Arsenic	0.6	U	mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Arsenic	1.7		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Arsenic	6.3		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Arsenic	4.4		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Arsenic	7.5		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Arsenic	8.2		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Arsenic	10		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Arsenic	9		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Arsenic	9.4		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Arsenic	2.8		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Arsenic	2.9		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Arsenic	14		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Arsenic	15		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Arsenic	10		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Arsenic	12		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Arsenic	8		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Arsenic	8.8		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Arsenic	7.8		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Arsenic	0.85	U	mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Arsenic	7.6		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Arsenic	12		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Arsenic	1.05	U	mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Arsenic	16		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Arsenic	5		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Arsenic	4.8		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Arsenic	2.5		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Arsenic	2		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Arsenic	19		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Arsenic	20		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Arsenic	7.8		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Arsenic	4		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Arsenic	12		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Arsenic	8.8		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Arsenic	14		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Arsenic	1	U	mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Arsenic	1.05	U	mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Arsenic	6.7		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Barium	33.7		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Barium	51.1		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Barium	26.9		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Barium	28.1		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Barium	57.2		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Barium	41.2		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Barium	246		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Barium	278		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Barium	297		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Barium	253		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Barium	200		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Barium	81.9		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Barium	332		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Barium	106		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Barium	79.3		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Barium	136		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Barium	85.9		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Barium	200		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Barium	137		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Barium	81.1		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Barium	46.1		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Barium	47.9		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Barium	90.7		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Barium	154		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Barium	748		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Barium	91.8		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Barium	22		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Barium	174		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Barium	111		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Barium	222		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Barium	3560		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Barium	2760		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Barium	1310		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Barium	1730		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Barium	2300		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Barium	4620		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Barium	25		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Barium	15.6		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Barium	0.35		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Barium	50.1		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Barium	26.7		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Barium	147		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Barium	195		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Barium	40.3		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Barium	348		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Barium	39.9		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Barium	294		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Barium	155		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Barium	705		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Barium	2970		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Barium	2480		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Barium	465		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Barium	54.6		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Barium	170		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Barium	155		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Barium	220		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Barium	142		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Barium	139		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Barium	1820		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Barium	296		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Barium	6190		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Barium	2680		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Barium	1880		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Barium	1220		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Barium	2290		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Barium	2540		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Barium	5960		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Barium	831		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Barium	682		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Barium	6920		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Barium	413		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Barium	3700		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Barium	105		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Barium	101		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Barium	179		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Barium	93.5		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Barium	3200		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Barium	4600		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Barium	49000		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Barium	3600		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Barium	310		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Barium	980		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Barium	9700		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Barium	380		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Barium	3100		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Barium	13000		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Barium	12000		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Barium	8300		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Barium	10000		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Barium	130		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Barium	140		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Barium	11000		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Barium	2500		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Barium	3200		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Barium	800		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Barium	5100		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Barium	12000		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Barium	970		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Barium	4600		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Barium	12000		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Barium	13000		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Barium	14000		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Barium	15000		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Barium	380		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Barium	490		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Barium	19000		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Barium	11000		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Barium	2400		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Barium	7700		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Barium	6600		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Barium	530		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Barium	1400		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Barium	2100		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Barium	4500		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Barium	18000		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Barium	16000		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Barium	3500		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Beryllium	0.255	U	mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Beryllium	0.255	U	mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Beryllium	0.26	U	mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Beryllium	0.26	U	mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Beryllium	0.26	U	mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Beryllium	0.26	U	mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Beryllium	0.2		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Beryllium	0.23		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Beryllium	0.26	U	mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Beryllium	0.26	U	mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Beryllium	0.52		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Beryllium	0.26	U	mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Beryllium	0.46		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Beryllium	0.24		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Beryllium	0.2		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Beryllium	0.26		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Beryllium	0.31		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Beryllium	0.28		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Beryllium	0.23		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Beryllium	0.23		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Beryllium	0.21		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Beryllium	0.18		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Beryllium	0.27		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Beryllium	0.2		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Beryllium	2.8		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Beryllium	0.32		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Beryllium	0.11		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Beryllium	0.42		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Beryllium	0.47		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Beryllium	0.8		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Beryllium	9.7		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Beryllium	8		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Beryllium	7.1		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Beryllium	10.8		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Beryllium	19.7		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Beryllium	10.3		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Beryllium	0.1		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Beryllium	0.081		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Beryllium	0.19		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Beryllium	0.2		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Beryllium	0.11		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Beryllium	0.51		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Beryllium	1.2		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Beryllium	0.18		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Beryllium	1.3		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Beryllium	0.15		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Beryllium	1.7		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Beryllium	1.2		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Beryllium	2.3		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Beryllium	7.6		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Beryllium	10.3		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Beryllium	1.7		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Beryllium	0.275	U	mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Beryllium	0.59		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Beryllium	0.57		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Beryllium	0.62		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Beryllium	0.58		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Beryllium	0.5		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Beryllium	8.4		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Beryllium	1.5		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Beryllium	15.9		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Beryllium	10.2		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Beryllium	7.3		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Beryllium	6.7		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Beryllium	12.5		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Beryllium	13.4		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Beryllium	26.4		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Beryllium	17.9		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Beryllium	0.23		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Beryllium	0.24		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Beryllium	0.23		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Beryllium	21		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Beryllium	0.42		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Beryllium	0.42		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Beryllium	0.34	U	mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Beryllium	0.25	U	mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Beryllium	65		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Beryllium	51		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Beryllium	22		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Beryllium	27000		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Beryllium	70		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Beryllium	120		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Beryllium	23		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Beryllium	4		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Beryllium	10		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Beryllium	48		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Beryllium	41		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Beryllium	21		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Beryllium	25		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Beryllium	0.39		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Beryllium	0.4		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Beryllium	14		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Beryllium	15		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Beryllium	10		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Beryllium	8.2		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Beryllium	17		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Beryllium	85		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Beryllium	7.3		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Beryllium	170		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Beryllium	54		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Beryllium	72		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Beryllium	150		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Beryllium	36		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Beryllium	9.3		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Beryllium	18		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Beryllium	95		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Beryllium	76		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Beryllium	14		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Beryllium	38		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Beryllium	50		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Beryllium	7.7		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Beryllium	31		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Beryllium	9		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Beryllium	28		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Beryllium	96		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Beryllium	92		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Beryllium	24		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Boron			mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Boron			mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Boron			mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Boron			mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Boron			mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Boron			mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Boron			mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Boron			mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Boron			mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Boron			mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Boron			mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Boron			mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Boron			mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Boron			mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Boron			mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Boron			mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Boron			mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Boron			mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Boron			mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Boron			mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Boron			mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Boron			mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Boron			mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Boron			mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Boron			mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Boron			mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Boron			mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Boron			mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Boron			mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Boron			mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Boron			mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Boron			mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Boron			mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Boron			mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Boron			mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Boron			mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Boron			mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Boron			mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Boron			mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Boron			mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Boron			mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Boron			mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Boron			mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Boron			mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Boron			mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Boron			mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Boron			mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Boron			mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Boron			mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Boron			mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Boron			mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Boron			mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Boron			mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Boron			mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Boron			mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Boron			mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Boron			mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Boron			mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Boron			mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Boron			mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Boron			mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Boron			mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Boron	250		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Boron			mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Boron			mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Boron			mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Boron			mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Boron	62		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Boron	150		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Boron	12		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Boron	58		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Boron	18		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Boron	81		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Boron	180		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Boron	83		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Boron	190		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Boron	120		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Boron	230		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Boron	210		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Boron	210		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Boron	14		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Boron	12		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Boron	150		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Boron	270		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Boron	200		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Boron	200		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Boron	220		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Boron	78		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Boron	220		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Boron	100		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Boron	150		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Boron	140		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Boron	91		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Boron	200		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Boron	180		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Boron	140		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Boron	130		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Boron	120		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Boron	260		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Boron	230		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Boron	190		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Boron	94		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Boron	190		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Boron	240		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Boron	170		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Boron	210		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Boron	170		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Boron	260		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Cadmium	0.255	U	mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Cadmium	0.255	U	mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Cadmium	0.255	U	mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Cadmium	0.26	U	mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Cadmium	0.26	U	mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Cadmium	0.26	U	mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Cadmium	0.17		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Cadmium	0.21		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Cadmium	0.46		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Cadmium	0.05		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Cadmium	0.04		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Cadmium	0.26	U	mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Cadmium	0.15		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Cadmium	0.325	U	mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Cadmium	0.33	U	mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Cadmium	0.04		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Cadmium	0.12		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Cadmium	0.42		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Cadmium	0.31		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Cadmium	0.3		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Cadmium	0.3		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Cadmium	0.32		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Cadmium	0.48		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Cadmium	0.32	U	mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Cadmium	1		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Cadmium	0.63		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Cadmium	0.19		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Cadmium	0.83		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Cadmium	0.43		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Cadmium	0.57		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Cadmium	3.1		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Cadmium	5.9		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Cadmium	3.5		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Cadmium	9.6		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Cadmium	17		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Cadmium	3.6		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Cadmium	0.41		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Cadmium	0.37		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Cadmium	0.335	U	mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Cadmium	0.71		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Cadmium	0.36		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Cadmium	0.98		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Cadmium	0.67		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Cadmium	0.39		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Cadmium	0.83		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Cadmium	0.07		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Cadmium	0.84		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Cadmium	0.98		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Cadmium	1.8		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Cadmium	1.2		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Cadmium	2.9		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Cadmium	0.51		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Cadmium	0.18		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Cadmium	0.83		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Cadmium	1.1		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Cadmium	1.3		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Cadmium	1.4		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Cadmium	0.91		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Cadmium	4.3		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Cadmium	0.56		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Cadmium	4		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Cadmium	5.1		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Cadmium	2.6		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Cadmium	6		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Cadmium	5.9		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Cadmium	3.4		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Cadmium	5.9		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Cadmium	2.9		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Cadmium	14.5		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Cadmium	12.8		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Cadmium	11.7		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Cadmium	4.7		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Cadmium	1.3		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Cadmium	1		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Cadmium	0.78		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Cadmium	0.5		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Cadmium	5.8		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Cadmium	4.3		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Cadmium	0.56		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Cadmium	26		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Cadmium	0.3	U	mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Cadmium	0.59		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Cadmium	5.7		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Cadmium	3.7		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Cadmium	7.4		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Cadmium	9.6		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Cadmium	5.5		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Cadmium	5.1		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Cadmium	5.4		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Cadmium	0.58		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Cadmium	0.72		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Cadmium	3.8		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Cadmium	8.1		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Cadmium	7.2		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Cadmium	2.8		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Cadmium	8.3		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Cadmium	2.9		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Cadmium	3.6		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Cadmium	4.3		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Cadmium	4.9		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Cadmium	3.2		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Cadmium	5.2		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Cadmium	3.5		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Cadmium	4.3		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Cadmium	7.4		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Cadmium	5.3		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Cadmium	2.8		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Cadmium	4.1		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Cadmium	6.7		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Cadmium	6.2		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Cadmium	15		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Cadmium	5.1		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Cadmium	4.2		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Cadmium	5.4		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Cadmium	2.9		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Cadmium	5.6		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Cadmium	6.6		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Calcium	5600		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Calcium	4970		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Calcium	4410		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Calcium	6330		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Calcium	5860		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Calcium	4900		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Calcium	14300		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Calcium	15700		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Calcium	14400		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Calcium	12300		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Calcium	9320		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Calcium	7470		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Calcium	21700		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Calcium	9020		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Calcium	8200		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Calcium	10300		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Calcium	10100		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Calcium	12300		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Calcium	9380		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Calcium	11800		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Calcium	9020		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Calcium	10600		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Calcium	11300		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Calcium	8630		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Calcium	20100		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Calcium	7840		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Calcium	6790		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Calcium	18700		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Calcium	9350		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Calcium	12100		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Calcium	3230		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Calcium	4890		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Calcium	7080		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Calcium	6920		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Calcium	6970		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Calcium	4070		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Calcium	18800		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Calcium			mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Calcium	222		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Calcium	64100		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Calcium	14300		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Calcium	42800		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Calcium	5910		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Calcium	10200		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Calcium	47400		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Calcium	8730		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Calcium	39300		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Calcium	106000		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Calcium	176000		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Calcium	69100		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Calcium	44800		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Calcium	29800		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Calcium	10700		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Calcium	8040		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Calcium	7760		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Calcium	9030		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Calcium	9070		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Calcium	4630		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Calcium	2550		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Calcium	17000		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Calcium	9340		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Calcium	21000		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Calcium	8610		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Calcium	6700		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Calcium	9820		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Calcium	17400		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Calcium	13200		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Calcium	10200		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Calcium	41000		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Calcium	25400		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Calcium	16700		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Calcium	5700		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Calcium	7380		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Calcium	7710		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Calcium	11900		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Calcium	6590		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Calcium	10000		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Calcium	33000		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Calcium	13000		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Calcium	6500		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Calcium	5400		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Calcium	5600		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Calcium	4900		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Calcium	5000		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Calcium	5300		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Calcium	2000		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Calcium	4100		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Calcium	3000		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Calcium	4800		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Calcium	9400		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Calcium	12000		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Calcium	3100		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Calcium	5400		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Calcium	5600		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Calcium	3200		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Calcium	6700		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Calcium	8100		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Calcium	3800		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Calcium	6600		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Calcium	17000		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Calcium	2500		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Calcium	2800		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Calcium	2500		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Calcium	11000		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Calcium	6000		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Calcium	5300		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Calcium	3500		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Calcium	3600		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Calcium	8300		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Calcium	4800		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Calcium	12000		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Calcium	84000		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Calcium	1600		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Calcium	8700		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Calcium	5500		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Calcium	6200		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Calcium	2600		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Chromium	3.5		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Chromium	4.9		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Chromium	4.2		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Chromium	4		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Chromium	4.6		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Chromium	3.4		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Chromium	10.7		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Chromium	12.9		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Chromium	18.3		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Chromium	10		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Chromium	9.1		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Chromium	5.7		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Chromium	18.9		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Chromium	9.3		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Chromium	8.1		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Chromium	10.1		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Chromium	11.7		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Chromium	11.7		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Chromium	10		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Chromium	9.4		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Chromium	10.1		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Chromium	8.5		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Chromium	11.8		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Chromium	7.8		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Chromium	17.2		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Chromium	6.9		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Chromium	3.7		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Chromium	9.3		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Chromium	6.4		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Chromium	7.4		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Chromium	166		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Chromium	343		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Chromium	213		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Chromium	446		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Chromium	503		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Chromium	281		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Chromium	3.2		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Chromium	2.7		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Chromium	0.65	U	mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Chromium	7.3		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Chromium	3.2		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Chromium	16.2		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Chromium	32.6		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Chromium	5.7		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Chromium	23.3		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Chromium	6.1		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Chromium	35.7		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Chromium	19.4		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Chromium	27.4		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Chromium	24.8		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Chromium	108		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Chromium	28.1		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Chromium	22.1		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Chromium	21.8		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Chromium	19.1		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Chromium	29.7		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Chromium	18.4		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Chromium	17.5		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Chromium	344		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Chromium	34.1		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Chromium	119		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Chromium	167		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Chromium	167		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Chromium	315		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Chromium	363		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Chromium	147		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Chromium	318		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Chromium	107		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Chromium	47.7		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Chromium	67.6		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Chromium	44		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Chromium	350		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Chromium	14.4		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Chromium	13		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Chromium	19.1		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Chromium	8.7		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Chromium	350		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Chromium	260		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Chromium	40		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Chromium	1700		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Chromium	19		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Chromium	23		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Chromium	220		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Chromium	390		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Chromium	370		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Chromium	110		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Chromium	210		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Chromium	310		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Chromium	240		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Chromium	16		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Chromium	15		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Chromium	240		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Chromium	420		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Chromium	580		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Chromium	730		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Chromium	320		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Chromium	70		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Chromium	330		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Chromium	99		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Chromium	130		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Chromium	140		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Chromium	70		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Chromium	130		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Chromium	540		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Chromium	760		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Chromium	110		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Chromium	140		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Chromium	170		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Chromium	180		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Chromium	200		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Chromium	640		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Chromium	190		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Chromium	340		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Chromium	210		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Chromium	44		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Chromium	83		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Chromium	300		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Cobalt	1.4		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Cobalt	1.2		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Cobalt	1.1		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Cobalt	1.2		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Cobalt	1.3		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Cobalt	1.2		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Cobalt	2.2		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Cobalt	2.8		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Cobalt	2.7		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Cobalt	2.3		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Cobalt	1.9		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Cobalt	1.6		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Cobalt	6.4		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Cobalt	3.3		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Cobalt	2.7		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Cobalt	4		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Cobalt	4.4		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Cobalt	3.7		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Cobalt	3.3		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Cobalt	3.2		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Cobalt	2.9		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Cobalt	2.4		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Cobalt	3.7		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Cobalt	2.6		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Cobalt	3		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Cobalt	2.7		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Cobalt	1.3		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Cobalt	3		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Cobalt	1.9		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Cobalt	2.2		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Cobalt	7		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Cobalt	11.4		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Cobalt	7.3		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Cobalt	10.4		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Cobalt	12.2		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Cobalt	10.3		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Cobalt	1.4		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Cobalt	1.2		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Cobalt	3.35	U	mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Cobalt	2.8		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Cobalt	1.8		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Cobalt	7.1		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Cobalt	11.7		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Cobalt	1.7		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Cobalt	5.2		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Cobalt	1.3		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Cobalt	8.1		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Cobalt	4.5		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Cobalt	9.1		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Cobalt	9.5		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Cobalt	11.9		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Cobalt	3.4		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Cobalt	19.8		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Cobalt	7.7		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Cobalt	7.9		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Cobalt	8.1		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Cobalt	7.6		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Cobalt	6.8		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Cobalt	8.6		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Cobalt	6.1		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Cobalt	7.7		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Cobalt	8.8		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Cobalt	8.6		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Cobalt	8.2		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Cobalt	9.6		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Cobalt	8.7		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Cobalt	12.4		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Cobalt	3.7		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Cobalt	15.5		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Cobalt	23.3		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Cobalt	21.8		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Cobalt	3.7		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Cobalt	5.3		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Cobalt	5.3		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Cobalt	8.7		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Cobalt	3.5		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Cobalt	4		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Cobalt	1.1	U	mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Cobalt	1.1	U	mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Cobalt	8.2		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Cobalt	1.2	U	mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Cobalt	1.2	U	mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Cobalt	1.5	U	mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Cobalt	6.5		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Cobalt	5.8		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Cobalt	1.65	U	mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Cobalt	1.7	U	mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Cobalt	1.6	U	mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Cobalt	1.8	U	mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Cobalt	4.1		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Cobalt	4.5		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Cobalt	1.4	U	mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Cobalt	5.2		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Cobalt	13		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Cobalt	11		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Cobalt	1.7	U	mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Cobalt	1.45	U	mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Cobalt	34		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Cobalt	1.65	U	mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Cobalt	1.7	U	mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Cobalt	2.05	U	mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Cobalt	2.1	U	mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Cobalt	2.1	U	mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Cobalt	7		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Cobalt	12		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Cobalt	2.05	U	mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Cobalt	2.05	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Cobalt	2.1	U	mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Cobalt	1.95	U	mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Cobalt	1.55	U	mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Cobalt	7.5		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Cobalt	1.7	U	mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Cobalt	6		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Cobalt	1.75	U	mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Cobalt	2.05	U	mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Cobalt	2.15	U	mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Cobalt	2.35	U	mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Copper	2.4		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Copper	1.9		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Copper	1.7		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Copper	2		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Copper	2.3		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Copper	2		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Copper	3.4		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Copper	3.5		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Copper	3.6		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Copper	3.1		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Copper	2.9		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Copper	2.5		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Copper	9.2		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Copper	4.3		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Copper	3.8		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Copper	5.6		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Copper	5.9		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Copper	5		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Copper	4		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Copper	4.2		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Copper	3.9		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Copper	3.7		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Copper	4.9		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Copper	3.8		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Copper	76.5		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Copper	11.2		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Copper	3.5		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Copper	18.3		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Copper	13.4		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Copper	20.3		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Copper	2120		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Copper	4720		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Copper	2440		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Copper	5170		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Copper	5960		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Copper	2690		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Copper	5.6		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Copper	4.5		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Copper	8.5		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Copper	18		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Copper	6.8		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Copper	30.2		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Copper	41.8		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Copper	13.3		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Copper	161		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Copper	15.4		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Copper	250		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Copper	82.5		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Copper	61.3		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Copper	67.1		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Copper	854		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Copper	144		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Copper	30.9		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Copper	37.3		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Copper	32.1		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Copper	61.4		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Copper	22.8		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Copper	24.8		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Copper	3750		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Copper	169		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Copper	1020		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Copper	1620		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Copper	1470		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Copper	3500		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Copper	3790		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Copper	1370		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Copper	2220		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Copper	954		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Copper	1400		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Copper	560		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Copper	555		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Copper	2000		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Copper	16.3		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Copper	16.1		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Copper	27.9		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Copper	13.6		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Copper	2800		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Copper	1700		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Copper	120		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Copper	1700		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Copper	130		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Copper	80		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Copper	1700		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Copper	2500		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Copper	4000		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Copper	880		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Copper	1300		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Copper	1800		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Copper	1300		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Copper	18		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Copper	15		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Copper	1600		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Copper	1900		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Copper	3400		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Copper	3800		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Copper	2200		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Copper	390		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Copper	2300		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Copper	850		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Copper	840		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Copper	670		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Copper	550		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Copper	620		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Copper	6500		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Copper	8700		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Copper	2600		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Copper	1000		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Copper	1700		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Copper	1300		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Copper	1800		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Copper	12000		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Copper	1300		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Copper	2100		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Copper	1200		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Copper	350		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Copper	730		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Copper	2000		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Iron	4630		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Iron	3990		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Iron	3430		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Iron	3850		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Iron	4540		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Iron	3880		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Iron	8120		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Iron	9740		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Iron	9640		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Iron	9010		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Iron	7570		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Iron	5170		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Iron	18800		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Iron	9610		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Iron	7900		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Iron	13000		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Iron	12500		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Iron	12300		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Iron	10300		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Iron	10200		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Iron	9040		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Iron	7840		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Iron	11900		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Iron	7850		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Iron	7810		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Iron	6680		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Iron	3690		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Iron	9080		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Iron	5870		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Iron	7280		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Iron	8770		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Iron	17400		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Iron	8190		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Iron	11200		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Iron	11800		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Iron	8540		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Iron	3170		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Iron			mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Iron	1.4		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Iron	6400		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Iron	4000		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Iron	19200		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Iron	39400		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Iron	3700		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Iron	12000		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Iron	4100		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Iron	19900		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Iron	14900		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Iron	24400		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Iron	19500		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Iron	27000		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Iron	8400		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Iron	41600		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Iron	21200		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Iron	20400		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Iron	21600		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Iron	20100		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Iron	18400		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Iron	11000		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Iron	14500		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Iron	101000		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Iron	12900		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Iron	10900		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Iron	8930		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Iron	13200		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Iron	12200		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Iron	16700		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Iron	11500		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Iron	747400		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Iron	139000		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Iron	113000		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Iron	8200		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Iron	14600		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Iron	14800		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Iron	22100		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Iron	9620		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Iron	20000		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Iron	10000		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Iron	5100		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Iron	28000		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Iron	5700		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Iron	5300		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Iron	7100		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Iron	9600		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Iron	9200		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Iron	6900		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Iron	5800		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Iron	5600		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Iron	5400		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Iron	14000		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Iron	16000		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Iron	6400		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Iron	8400		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Iron	11000		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Iron	28000		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Iron	7500		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Iron	5600		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Iron	7900		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Iron	4200		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Iron	46000		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Iron	5000		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Iron	3100		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Iron	4700		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Iron	8400		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Iron	12000		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Iron	5100		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Iron	4400		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Iron	5400		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Iron	5700		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Iron	6100		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Iron	25000		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Iron	5300		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Iron	6300		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Iron	6100		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Iron	3800		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Iron	4000		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Iron	6200		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Lead	1.8		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Lead	1.6		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Lead	1.2		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Lead	1.3		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Lead	1.8		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Lead	1.6		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Lead	4.6		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Lead	5.1		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Lead	5.4		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Lead	4.4		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Lead	3.4		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Lead	2.5		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Lead	8.2		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Lead	3.3		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Lead	2.8		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Lead	3.8		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Lead	4.9		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Lead	5.4		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Lead	4.9		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Lead	4.1		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Lead	3.5		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Lead	3.1		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Lead	4.9		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Lead	2.5		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Lead	35		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Lead	13.5		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Lead	4.3		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Lead	28.7		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Lead	17.3		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Lead	18.3		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Lead	164		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Lead	473		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Lead	263		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Lead	553		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Lead	736		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Lead	305		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Lead	3.2		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Lead	3.3		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Lead	2.4		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Lead	10.6		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Lead	3.2		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Lead	23.2		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Lead	14		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Lead	3.6		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Lead	29.6		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Lead	3.4		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Lead	29.4		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Lead	24.2		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Lead	92.6		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Lead	16.5		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Lead	139		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Lead	49.4		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Lead	8		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Lead	28		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Lead	25.6		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Lead	39.1		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Lead	17.6		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Lead	19		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Lead	246		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Lead	53.4		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Lead	149		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Lead	207		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Lead	136		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Lead	238		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Lead	250		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Lead	160		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Lead	205		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Lead	84.3		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Lead	7280		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Lead	1840		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Lead	1720		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Lead	200		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Lead	9.6		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Lead	8.3		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Lead	17.7		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Lead	47.8		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Lead	170		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Lead	190		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Lead	10		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Lead	300		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Lead	8.1		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Lead	8.9		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Lead	280		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Lead	220		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Lead	390		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Lead	210		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Lead	210		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Lead	210		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Lead	240		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Lead	5.3		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Lead	4		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Lead	180		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Lead	250		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Lead	330		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Lead	190		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Lead	330		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Lead	120		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Lead	190		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Lead	90		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Lead	160		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Lead	140		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Lead	83		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Lead	120		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Lead	230		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Lead	480		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Lead	81		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Lead	80		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Lead	230		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Lead	200		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Lead	200		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Lead	1100		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Lead	130		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Lead	350		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Lead	170		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Lead	39		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Lead	86		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Lead	390		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Magnesium	1420		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Magnesium	1140		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Magnesium	1150		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Magnesium	1380		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Magnesium	1340		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Magnesium	1180		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Magnesium	1830		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Magnesium	2000		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Magnesium	1760		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Magnesium	1730		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Magnesium	1460		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Magnesium	1420		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Magnesium	6510		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Magnesium	3310		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Magnesium	2880		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Magnesium	3480		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Magnesium	4430		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Magnesium	4210		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Magnesium	3470		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Magnesium	3490		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Magnesium	3410		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Magnesium	3180		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Magnesium	4300		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Magnesium	2680		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Magnesium	8720		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Magnesium	2280		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Magnesium	1930		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Magnesium	3440		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Magnesium	2460		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Magnesium	2910		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Magnesium	69900		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Magnesium	65200		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Magnesium	22000		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Magnesium	26700		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Magnesium	60500		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Magnesium	64700		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Magnesium	1310		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Magnesium	1150		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Magnesium	334.5	U	mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Magnesium	3420		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Magnesium	1820		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Magnesium	6680		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Magnesium	13100		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Magnesium	1800		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Magnesium	8120		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Magnesium	1400		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Magnesium	11600		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Magnesium	6690		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Magnesium	24900		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Magnesium	22000		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Magnesium	52400		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Magnesium	6610		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Magnesium	13600		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Magnesium	6870		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Magnesium	8690		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Magnesium	9810		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Magnesium	7450		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Magnesium	12300		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Magnesium	77500		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Magnesium	19100		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Magnesium	111000		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Magnesium	61500		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Magnesium	48100		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Magnesium	35200		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Magnesium	58200		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Magnesium	47200		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Magnesium	109000		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Magnesium	32500		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Magnesium	4360		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Magnesium	4970		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Magnesium	3410		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Magnesium	110000		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Magnesium	4260		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Magnesium	4260		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Magnesium	6770		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Magnesium	2540		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Magnesium	100000		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Magnesium	82000		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Magnesium	160000		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Magnesium	140000		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Magnesium	190000		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Magnesium	250000		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Magnesium	81000		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Magnesium	23000		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Magnesium	56000		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Magnesium	180000		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Magnesium	120000		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Magnesium	95000		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Magnesium	110000		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Magnesium	4100		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Magnesium	4800		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Magnesium	110000		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Magnesium	73000		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Magnesium	55000		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Magnesium	90000		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Magnesium	80000		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Magnesium	240000		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Magnesium	37000		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Magnesium	190000		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Magnesium	140000		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Magnesium	130000		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Magnesium	210000		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Magnesium	150000		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Magnesium	33000		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Magnesium	25000		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Magnesium	190000		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Magnesium	190000		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Magnesium	170000		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Magnesium	98000		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Magnesium	110000		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Magnesium	33000		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Magnesium	86000		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Magnesium	54000		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Magnesium	110000		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Magnesium	230000		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Magnesium	200000		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Magnesium	78000		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Manganese	70.1		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Manganese	57.3		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Manganese	49.5		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Manganese	64.7		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Manganese	66		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Manganese	59.3		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Manganese	109		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Manganese	120		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Manganese	112		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Manganese	91.5		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Manganese	88.3		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Manganese	74.6		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Manganese	274		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Manganese	132		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Manganese	119		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Manganese	148		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Manganese	185		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Manganese	185		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Manganese	149		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Manganese	139		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Manganese	134		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Manganese	115		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Manganese	180		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Manganese	114		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Manganese	322		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Manganese	197		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Manganese	55.1		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Manganese	286		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Manganese	119		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Manganese	200		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Manganese	1530		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Manganese	2120		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Manganese	879		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Manganese	1640		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Manganese	2980		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Manganese	1730		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Manganese	97.5		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Manganese	87.1		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Manganese	0.11		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Manganese	282		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Manganese	126		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Manganese	555		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Manganese	323		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Manganese	120		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Manganese	350		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Manganese	68.6		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Manganese	639		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Manganese	543		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Manganese	1070		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Manganese	1040		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Manganese	1450		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Manganese	337		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Manganese	643		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Manganese	328		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Manganese	457		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Manganese	300		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Manganese	342		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Manganese	245		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Manganese	5720		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Manganese	426		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Manganese	2210		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Manganese	2700		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Manganese	2210		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Manganese	1600		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Manganese	2610		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Manganese	2030		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Manganese	4520		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Manganese	6110		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Manganese	597		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Manganese	1140		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Manganese	732		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Manganese	4000		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Manganese	254		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Manganese	256		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Manganese	359		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Manganese	179		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Manganese	3900		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Manganese	3500		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Manganese	8500		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Manganese	6800		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Manganese	4600		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Manganese	6700		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Manganese	2400		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Manganese	1500		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Manganese	2000		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Manganese	3900		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Manganese	3300		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Manganese	2000		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Manganese	2000		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Manganese	220		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Manganese	240		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Manganese	3200		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Manganese	1800		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Manganese	1800		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Manganese	6500		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Manganese	1700		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Manganese	11000		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Manganese	1800		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Manganese	12000		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Manganese	4100		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Manganese	4100		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Manganese	5900		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Manganese	4600		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Manganese	1600		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Manganese	1800		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Manganese	5000		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Manganese	5600		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Manganese	1900		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Manganese	3400		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Manganese	4000		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Manganese	2700		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Manganese	2000		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Manganese	1500		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Manganese	2100		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Manganese	5500		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Manganese	5400		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Manganese	1000		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Mercury	0.052		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Mercury	0.05	U	mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Mercury	0.05	U	mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Mercury	0.064		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Mercury	0.098		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Mercury	0.08		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Mercury	0.25		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Mercury	0.21		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Mercury	0.21		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Mercury	0.34		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Mercury	0.16		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Mercury	0.075		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Mercury	0.42		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Mercury	0.055	U	mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Mercury	0.05	U	mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Mercury	0.07	U	mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Mercury	0.06	U	mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Mercury	0.078		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Mercury	0.11		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Mercury	0.07	U	mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Mercury	0.19		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Mercury	0.12		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Mercury	0.105	U	mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Mercury	0.055	U	mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Mercury	0.08	U	mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Mercury			mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Mercury	0.07	U	mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Mercury	0.07	U	mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Mercury	0.079		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Mercury	0.08	U	mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Mercury	0.085	U	mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Mercury	0.12	U	mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Mercury	0.092		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Mercury	0.08	U	mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Mercury	0.043		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Mercury	0.07	U	mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Mercury	0.055	U	mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Mercury	0.22		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Mercury	0.2		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Mercury	0.66		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Mercury	0.062		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Mercury	0.081		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Mercury	0.055	U	mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Mercury	0.08	U	mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Mercury	0.075	U	mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Mercury	0.065	U	mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Mercury	0.06	U	mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Mercury	0.07	U	mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Mercury	0.096		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Mercury	0.069		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Mercury	0.35		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Mercury	0.15		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Mercury	0.24		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Mercury	0.043		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Mercury	0.058		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Mercury	0.13		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Mercury	0.092		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Mercury	0.076		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Mercury	0.067		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Mercury	0.037		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Mercury	0.014	U	mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Mercury	0.016		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Mercury	0.04	U	mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Mercury	0.0145	U	mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Mercury	0.083		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Mercury	0.018		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Mercury	0.031		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Mercury	0.1		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Mercury	0.043		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Mercury	0.061		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Mercury	0.061		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Mercury	0.0135	U	mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Mercury	0.026		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Mercury	0.05		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Mercury	0.064		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Mercury	0.04		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Mercury	0.016	U	mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Mercury	0.064		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Mercury	0.021		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Mercury	0.0155	U	mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Mercury	0.052		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Mercury	0.063		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Mercury	0.051		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Mercury	0.089		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Mercury	0.047		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Mercury	0.016	U	mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Mercury	0.041	U	mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Mercury	0.0255	U	mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Mercury	0.0255	U	mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Mercury	0.084		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Mercury	0.071		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Mercury	0.089		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Mercury	0.04	U	mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Mercury	0.082		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Mercury	0.067		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Mercury	0.19		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Mercury	0.0255	U	mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Mercury	0.029	U	mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Mercury	0.058		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Molybdenum			mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Molybdenum			mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Molybdenum			mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Molybdenum			mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Molybdenum			mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Molybdenum			mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Molybdenum			mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Molybdenum			mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Molybdenum			mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Molybdenum			mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Molybdenum			mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Molybdenum			mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Molybdenum			mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Molybdenum			mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Molybdenum	10		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Molybdenum			mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Molybdenum	16		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Molybdenum	9.6		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Molybdenum	5.5	U	mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Molybdenum	30		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Molybdenum	6	U	mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Molybdenum	6	U	mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Molybdenum	10		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Molybdenum	12		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Molybdenum	15		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Molybdenum	8	U	mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Molybdenum	8.5	U	mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Molybdenum	17		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Molybdenum	9	U	mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Molybdenum	5.5	U	mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Molybdenum	5.5	U	mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Molybdenum	9.1		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Molybdenum	32		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Molybdenum	19		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Molybdenum	39		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Molybdenum	14		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Molybdenum	7.7		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Molybdenum	12		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Molybdenum	8.5	U	mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Molybdenum	8.5	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Molybdenum	10	U	mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Molybdenum	10.5	U	mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Molybdenum	10.5	U	mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Molybdenum	23		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Molybdenum	33		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Molybdenum	10	U	mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Molybdenum	10	U	mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Molybdenum	10.5	U	mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Molybdenum	10	U	mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Molybdenum	3.3		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Molybdenum	94		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Molybdenum	8.5	U	mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Molybdenum	10	U	mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Molybdenum	9	U	mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Molybdenum	10	U	mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Molybdenum	10.5	U	mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Molybdenum	14	U	mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Nickel	4		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Nickel	3.4		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Nickel	3.4		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Nickel	3.6		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Nickel	4.1		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Nickel	3.7		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Nickel	5.5		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Nickel	6.6		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Nickel	6.2		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Nickel	5.1		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Nickel	4.7		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Nickel	4.4		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Nickel	16.3		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Nickel	8.2		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Nickel	7.6		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Nickel	9.8		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Nickel	11.4		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Nickel	10.4		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Nickel	8.7		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Nickel	8.3		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Nickel	9.6		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Nickel	8.8		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Nickel	10.7		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Nickel	7.1		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Nickel	12.2		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Nickel	7.8		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Nickel	3.6		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Nickel	10		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Nickel	6.3		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Nickel	7		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Nickel	81.8		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Nickel	210		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Nickel	114		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Nickel	227		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Nickel	244		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Nickel	124		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Nickel	3.4		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Nickel	3.1		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Nickel	0.37		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Nickel	7.9		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Nickel	4.5		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Nickel	18.4		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Nickel	36.6		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Nickel	5		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Nickel	18.8		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Nickel	5.4		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Nickel	29.4		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Nickel	16.1		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Nickel	24.7		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Nickel	22		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Nickel	73.4		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Nickel	21.5		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Nickel	24.7		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Nickel	20.7		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Nickel	20.7		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Nickel	22.2		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Nickel	20.5		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Nickel	17.4		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Nickel	199		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Nickel	30.5		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Nickel	51.7		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Nickel	87.7		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Nickel	90.9		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Nickel	163		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Nickel	265		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Nickel	88.2		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Nickel	164		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Nickel	41.5		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Nickel	57.9		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Nickel	95.9		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Nickel	63.7		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Nickel	140		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Nickel	14.8		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Nickel	14.4		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Nickel	21.2		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Nickel	10.9		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Nickel	200		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Nickel	120		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Nickel	50		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Nickel	610		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Nickel	13		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Nickel	18		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Nickel	96		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Nickel	150		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Nickel	180		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Nickel	53		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Nickel	70		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Nickel	140		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Nickel	72		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Nickel	13		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Nickel	14		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Nickel	85		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Nickel	170		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Nickel	270		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Nickel	540		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Nickel	130		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Nickel	38		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Nickel	190		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Nickel	40		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Nickel	47		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Nickel	37		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Nickel	31		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Nickel	34		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Nickel	460		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Nickel	570		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Nickel	87		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Nickel	61		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Nickel	74		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Nickel	57		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Nickel	95		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Nickel	390		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Nickel	70		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Nickel	130		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Nickel	65		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Nickel	18		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Nickel	31		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Nickel	88		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Potassium	486		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Potassium	391		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Potassium	375		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Potassium	416		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Potassium	448		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Potassium	430		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Potassium	479		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Potassium	571		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Potassium	495		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Potassium	434		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Potassium	443		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Potassium	470		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Potassium	3150		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Potassium	1600		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Potassium	1340		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Potassium	1680		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Potassium	2120		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Potassium	1890		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Potassium	1600		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Potassium	1710		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Potassium	1550		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Potassium	1370		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Potassium	2000		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Potassium	1120		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Potassium	1570		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Potassium	1330		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Potassium	528		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Potassium	1790		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Potassium	1100		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Potassium	1260		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Potassium	2710		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Potassium	10700		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Potassium	3270		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Potassium	2840		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Potassium	4720		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Potassium	5000		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Potassium	617		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Potassium			mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Potassium	334.5	U	mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Potassium	1520		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Potassium	646		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Potassium	3200		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Potassium	8440		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Potassium	695		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Potassium	2380		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Potassium	488		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Potassium	4020		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Potassium	2860		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Potassium	6860		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Potassium	4630		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Potassium	5680		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Potassium	1190		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Potassium	4410		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Potassium	4430		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Potassium	4360		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Potassium	5160		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Potassium	4700		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Potassium	5070		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Potassium	7250		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Potassium	6520		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Potassium	39300		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Potassium	11400		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Potassium	23000		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Potassium	14600		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Potassium	19900		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Potassium	19500		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Potassium	4090		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Potassium	5080		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Potassium	6370		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Potassium	6140		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Potassium	4300		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Potassium	14000		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Potassium	2960		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Potassium	2840		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Potassium	3720		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Potassium	1420		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Potassium	1600		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Potassium	3900		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Potassium	990		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Potassium	950		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Potassium	82000		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Potassium	11000		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Potassium	3400		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Potassium	7700		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Potassium	2300		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Potassium	4300		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Potassium	5400		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Potassium	2700		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Potassium	11000		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Potassium	7200		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Potassium	4100		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Potassium	4400		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Potassium	11000		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Potassium	5000		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Potassium	2400		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Potassium	11000		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Potassium	1500		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Potassium	3900		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Potassium	5600		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Potassium	6700		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Potassium	7500		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Potassium	7700		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Potassium	6400		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Potassium	1400		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Potassium	7400		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Potassium	8200		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Potassium	8200		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Potassium	7500		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Potassium	6700		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Potassium	2300		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Potassium	22000		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Potassium	5800		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Potassium	6800		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Potassium	5300		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Potassium	3100		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Potassium	4900		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Potassium	2700		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Selenium	1.8	U	mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Selenium	2.25	U	mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Selenium	2.25	U	mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Selenium	2.25	U	mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Selenium	1.4		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Selenium	1.8	U	mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Selenium	2.5	U	mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Selenium	2.15	U	mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Selenium	2.4	U	mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Selenium	1.75	U	mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Selenium	2.45	U	mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Selenium	5.1		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Selenium	4		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Selenium	4.7		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Selenium	1.8		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Selenium	5		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Selenium	2.35	U	mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Selenium			mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Selenium	6.4		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Selenium	2.45	U	mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Selenium	2.2	U	mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Selenium	2.45	U	mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Selenium	3.05	U	mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Selenium	2.25	U	mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Selenium	2.85	U	mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Selenium	2.3	U	mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Selenium	3.05	U	mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Selenium	4.2	U	mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Selenium	3.3	U	mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Selenium	2.85	U	mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Selenium	2.5	U	mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Selenium	2.45	U	mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Selenium	1.95	U	mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Selenium	1.85	U	mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Selenium	1.9	U	mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Selenium	1.95	U	mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Selenium	1.8	U	mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Selenium	1.9	U	mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Selenium	2.2	U	mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Selenium	2	U	mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Selenium	2.75	U	mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Selenium	2.65	U	mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Selenium	2.3	U	mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Selenium	2.3	U	mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Selenium	2.15	U	mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Selenium	2.5	U	mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Selenium	2.6		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Selenium	2.2		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Selenium	3.1		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Selenium	4.9		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Selenium	4		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Selenium	2.1		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Selenium	1.8	U	mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Selenium	1.8	U	mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Selenium	2.35	U	mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Selenium	1.75	U	mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Selenium	1.1	U	mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Selenium	1.5		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Selenium	1.1	U	mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Selenium	1.3	U	mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Selenium	1.2	U	mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Selenium	1.15	U	mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Selenium	1.5		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Selenium	1.1	U	mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Selenium	1.3	U	mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Selenium	1.65	U	mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Selenium	3		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Selenium	1.6	U	mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Selenium	4.4		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Selenium	1.1	U	mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Selenium	1.1	U	mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Selenium	1.5		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Selenium	7.3		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Selenium	4.6		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Selenium	1.3	U	mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Selenium	5.2		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Selenium	1.45	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Selenium	1.25	U	mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Selenium	4.4	U	mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Selenium	1.8		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Selenium	2.05	U	mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Selenium	2.1	U	mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Selenium	2.1	U	mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Selenium	1.3	U	mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Selenium	1.3	U	mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Selenium	2.05	U	mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Selenium	2.05	U	mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Selenium	2.1	U	mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Selenium	2		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Selenium	2.1		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Selenium	2.4		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Selenium	4.2	U	mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Selenium	2.05	U	mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Selenium	4.25	U	mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Selenium	2.05	U	mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Selenium	2.4	U	mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Selenium	4.4		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Silver	0.5	U	mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Silver	0.5	U	mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Silver	0.55	U	mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Silver	0.7	U	mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Silver	0.6	U	mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Silver	0.7	U	mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Silver	0.7	U	mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Silver	0.75	U	mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Silver	1	U	mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Silver	1.05	U	mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Silver	0.55	U	mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Silver	0.8	U	mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Silver	0.65	U	mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Silver	0.65	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Silver	4.1		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Silver	0.7	U	mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Silver	0.65	U	mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Silver	0.7	U	mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Silver	0.9	U	mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Silver	0.8	U	mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Silver	0.85	U	mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Silver	1.2	U	mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Silver	0.95	U	mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Silver	0.8	U	mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Silver	0.7	U	mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Silver	0.7	U	mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Silver	0.55	U	mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Silver	0.55	U	mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Silver	2		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Silver	0.5	U	mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Silver	0.55	U	mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Silver	0.55	U	mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Silver	0.8	U	mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Silver	0.75	U	mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Silver	0.65	U	mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Silver	0.6	U	mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Silver	0.7	U	mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Silver	0.6	U	mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Silver	0.55	U	mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Silver	5.4		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Silver	3.8		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Silver	1.9		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Silver	14		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Silver	0.5	U	mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Silver	0.5	U	mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Silver	0.7	U	mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Silver	0.5	U	mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Silver	8.9		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Silver	9.2		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Silver	5.6		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Silver	62		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Silver	5.4		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Silver	8.2		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Silver	4.8		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Silver	2.4		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Silver	5.5		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Silver	8.2		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Silver	6.3		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Silver	3.5		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Silver	3.5		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Silver	0.55	U	mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Silver	0.55	U	mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Silver	8.1		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Silver	3.4		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Silver	5.2		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Silver	12		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Silver	5.2		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Silver	11		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Silver	3.1		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Silver	5.3		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Silver	8		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Silver	5.2		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Silver	3.8		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Silver	7.7		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Silver	3.4		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Silver	6.8		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Silver	4.3		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Silver	5.7		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Silver	7.9		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Silver	11		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Silver	6.6		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Silver	28		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Silver	2.6		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Silver	2.4		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Silver	3.1		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Silver	4.4		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Silver	4.3		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Silver	2.8		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Sodium	681		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Sodium	514		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Sodium	553		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Sodium	601		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Sodium	645		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Sodium	671		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Sodium	625		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Sodium	789		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Sodium	733		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Sodium	643		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Sodium	682		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Sodium	722		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Sodium	8920		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Sodium	4050		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Sodium	3980		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Sodium	4320		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Sodium	5620		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Sodium	4810		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Sodium	4490		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Sodium	4230		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Sodium	3990		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Sodium	4080		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Sodium	5460		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Sodium	3580		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Sodium	266	U	mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Sodium	295	U	mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Sodium	354	U	mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Sodium	307	U	mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Sodium	345.5	U	mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Sodium	252.5	U	mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Sodium	1420		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Sodium	9680		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Sodium	1320		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Sodium	1980		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Sodium	271.5	U	mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Sodium	4620		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Sodium	1300		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Sodium			mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Sodium	334.5	U	mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Sodium	6370		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Sodium	2540		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Sodium	1230		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Sodium	11500		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Sodium	3040		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Sodium	6340		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Sodium	1010		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Sodium	2890		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Sodium	9500		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Sodium	11900		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Sodium	7750		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Sodium	1720		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Sodium	936		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Sodium	6710		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Sodium	465		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Sodium	5260		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Sodium	10700		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Sodium	565		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Sodium	22200		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Sodium	39900		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Sodium	12500		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Sodium	45800		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Sodium	17100		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Sodium	23300		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Sodium	20500		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Sodium	24800		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Sodium	24800		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Sodium	5400		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Sodium	4110		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Sodium	5350		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Sodium	2680		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Sodium	1960		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Sodium	9100		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Sodium	257.5	U	mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Sodium	257.5	U	mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Sodium	461		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Sodium	252	U	mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Sodium	730		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Sodium	1900		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Sodium	250		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Sodium	330		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Sodium	5600		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Sodium	5900		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Sodium	2700		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Sodium	8900		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Sodium	2100		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Sodium	3000		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Sodium	5600		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Sodium	2200		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Sodium	13000		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Sodium	4700		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Sodium	2800		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Sodium	3200		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Sodium	13000		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Sodium	4300		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Sodium	3900		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Sodium	11000		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Sodium	850		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Sodium	3800		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Sodium	2600		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Sodium	8700		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Sodium	10000		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Sodium	8400		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Sodium	3000		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Sodium	760		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Sodium	1500		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Sodium	6400		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Sodium	8200		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Sodium	11000		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Sodium	7300		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Sodium	2900		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Sodium	12000		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Sodium	8900		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Sodium	12000		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Sodium	9000		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Sodium	4300		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Sodium	7400		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Sodium	2400		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Thallium	1.3	U	mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Thallium	1.6	U	mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Thallium	1.6	U	mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Thallium	1.6	U	mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Thallium	1.35	U	mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Thallium	1.25	U	mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Thallium	1.75	U	mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Thallium	1.55	U	mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Thallium	1.75	U	mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Thallium	1.25	U	mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Thallium	1.75	U	mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Thallium	0.85		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Thallium	2.5	U	mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Thallium	2.65	U	mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Thallium	6.5		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Thallium	2	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Thallium	1.7	U	mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Thallium			mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Thallium	2.4		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Thallium	1.75	U	mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Thallium	1.55	U	mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Thallium	1		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Thallium	1.7		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Thallium	1.6	U	mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Thallium	2.05	U	mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Thallium	1.65	U	mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Thallium	2.15	U	mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Thallium	3	U	mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Thallium	1.2		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Thallium	2.05	U	mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Thallium	1.2		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Thallium	1.75	U	mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Thallium	1.3		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Thallium	0.84		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Thallium	0.86		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Thallium	0.77		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Thallium	1.3	U	mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Thallium	1.35	U	mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Thallium	1.55	U	mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Thallium	1.45	U	mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Thallium	1.95	U	mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Thallium	1.9	U	mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Thallium	1.65	U	mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Thallium	0.99		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Thallium	1.55	U	mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Thallium	1.8	U	mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Thallium	1.55	U	mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Thallium	1.45	U	mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Thallium	1.6	U	mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Thallium	1.7	U	mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Thallium	1.45	U	mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Thallium	7	U	mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Thallium	1.3	U	mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Thallium	1.3	U	mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Thallium	1.3		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Thallium	1.25	U	mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Thallium	5.5	U	mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Thallium	5.5	U	mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Thallium	5.5	U	mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Thallium	6.5	U	mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Thallium	6	U	mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Thallium	6	U	mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Thallium	7.5	U	mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Thallium	5.5	U	mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Thallium	6.5	U	mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Thallium	8	U	mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Thallium	8.5	U	mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Thallium	8	U	mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Thallium	9	U	mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Thallium	5.5	U	mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Thallium	5.5	U	mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Thallium	7	U	mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Thallium	7.5	U	mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Thallium	7	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Thallium	6.5	U	mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Thallium	8.5	U	mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Thallium	7	U	mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Thallium	6	U	mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Thallium	8.5	U	mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Thallium	8.5	U	mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Thallium	10	U	mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Thallium	10.5	U	mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Thallium	10.5	U	mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Thallium	9	U	mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Thallium	9	U	mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Thallium	10	U	mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Thallium	10	U	mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Thallium	10.5	U	mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Thallium	10	U	mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Thallium	8	U	mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Thallium	6	U	mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Thallium	8.5	U	mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Thallium	10	U	mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Thallium	9	U	mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Thallium	10	U	mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Thallium	10.5	U	mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Thallium	14	U	mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Vanadium	6.4		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Vanadium	5.9		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Vanadium	5.1		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Vanadium	5.7		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Vanadium	6.6		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Vanadium	7.1		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Vanadium	14.3		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Vanadium	17.1		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Vanadium	17.8		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Vanadium	19.4		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Vanadium	13		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Vanadium	7.7		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Vanadium	34.9		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Vanadium	16.8		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Vanadium	13.6		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Vanadium	21.2		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Vanadium	20.9		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Vanadium	21		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Vanadium	17.3		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Vanadium	17.2		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Vanadium	14.6		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Vanadium	13.1		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Vanadium	19		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Vanadium	14.1		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Vanadium	14.2		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Vanadium	11.5		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Vanadium	6		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Vanadium	14.2		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Vanadium	9		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Vanadium	10.3		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Vanadium	41.1		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Vanadium	83		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Vanadium	42.6		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Vanadium	68.2		mg/kg
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Vanadium	68.9		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Vanadium	54.9		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Vanadium	4.8		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Vanadium	4.8		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Vanadium	5.5		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Vanadium	11.6		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Vanadium	6.5		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Vanadium	31		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Vanadium	59.8		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Vanadium	6.5		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Vanadium	22.1		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Vanadium	6.8		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Vanadium	36.4		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Vanadium	25.8		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Vanadium	45.9		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Vanadium	38.8		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Vanadium	59.6		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Vanadium	14.8		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Vanadium	50.1		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Vanadium	34.7		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Vanadium	34.5		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Vanadium	36.2		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Vanadium	33.8		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Vanadium	28.9		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Vanadium	41.2		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Vanadium	34.3		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Vanadium	46.4		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Vanadium	48.5		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Vanadium	51.3		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Vanadium	56.7		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Vanadium	44.7		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Vanadium	42		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Vanadium	45.6		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Vanadium	26.7		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Vanadium	21.6		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Vanadium	20.2		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Vanadium	18.3		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Vanadium	55		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Vanadium	25		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Vanadium	24.7		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Vanadium	39.6		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Vanadium	16.8		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Vanadium	32		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Vanadium	51		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Vanadium	21		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Vanadium	68		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Vanadium	5.5		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Vanadium	11		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Vanadium	49		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Vanadium	55		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Vanadium	64		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Vanadium	23		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Vanadium	48		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Vanadium	51		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Vanadium	45		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Vanadium	26		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Vanadium	29		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Vanadium	54		mg/kg
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Vanadium	48		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Vanadium	56		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Vanadium	73		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Vanadium	59		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Vanadium	18		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Vanadium	80		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Vanadium	18		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Vanadium	34		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Vanadium	40		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Vanadium	12		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Vanadium	39		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Vanadium	67		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Vanadium	79		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Vanadium	31		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Vanadium	25		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Vanadium	29		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Vanadium	56		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Vanadium	53		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Vanadium	84		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Vanadium	70		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Vanadium	58		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Vanadium	56		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Vanadium	12		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Vanadium	19		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Vanadium	63		mg/kg
Weston 2007	SDB31	sediment	Beach	Bkgd	metal	Zinc	10.5		mg/kg
Weston 2007	SDB32	sediment	Beach	Bkgd	metal	Zinc	8.2		mg/kg
Weston 2007	SDB33	sediment	Beach	Bkgd	metal	Zinc	7.8		mg/kg
Weston 2007	SDB34	sediment	Beach	Bkgd	metal	Zinc	8.7		mg/kg
Weston 2007	SDB35	sediment	Beach	Bkgd	metal	Zinc	10.1		mg/kg
Weston 2007	SDB36	sediment	Beach	Bkgd	metal	Zinc	8.9		mg/kg
Weston 2007	SDB17	sediment	Beach	onsite	metal	Zinc	13.2		mg/kg
Weston 2007	SDB18	sediment	Beach	onsite	metal	Zinc	15.8		mg/kg
Weston 2007	SDB20	sediment	Beach	onsite	metal	Zinc	14.8		mg/kg
Weston 2007	SDB23	sediment	Beach	onsite	metal	Zinc	11.5		mg/kg
Weston 2007	SDB26	sediment	Beach	onsite	metal	Zinc	11.4		mg/kg
Weston 2007	SDB30	sediment	Beach	onsite	metal	Zinc	10.4		mg/kg
Weston 2007	SDM1	sediment	Marine	Bkgd	metal	Zinc	49.4		mg/kg
Weston 2007	SDM2	sediment	Marine	Bkgd	metal	Zinc	24.9		mg/kg
Weston 2007	SDM3	sediment	Marine	Bkgd	metal	Zinc	21		mg/kg
Weston 2007	SDM4	sediment	Marine	Bkgd	metal	Zinc	27.2		mg/kg
Weston 2007	SDM5	sediment	Marine	Bkgd	metal	Zinc	34.4		mg/kg
Weston 2007	SDM6	sediment	Marine	Bkgd	metal	Zinc	30.9		mg/kg
Weston 2007	SDM14	sediment	Marine	onsite	metal	Zinc	25.4		mg/kg
Weston 2007	SDM16	sediment	Marine	onsite	metal	Zinc	25.7		mg/kg
Weston 2007	SDM21	sediment	Marine	onsite	metal	Zinc	24.4		mg/kg
Weston 2007	SDM23	sediment	Marine	onsite	metal	Zinc	21.9		mg/kg
Weston 2007	SDM24	sediment	Marine	onsite	metal	Zinc	31.7		mg/kg
Weston 2007	SDM26	sediment	Marine	onsite	metal	Zinc	19.5		mg/kg
Weston 2007	SWL31	sediment	Wetland	Bkgd	metal	Zinc	138		mg/kg
Weston 2007	SWL32	sediment	Wetland	Bkgd	metal	Zinc	35.3		mg/kg
Weston 2007	SWL33	sediment	Wetland	Bkgd	metal	Zinc	17.4		mg/kg
Weston 2007	SWL34	sediment	Wetland	Bkgd	metal	Zinc	78.6		mg/kg
Weston 2007	SWL35	sediment	Wetland	Bkgd	metal	Zinc	47.5		mg/kg
Weston 2007	SWL36	sediment	Wetland	Bkgd	metal	Zinc	50.4		mg/kg
Weston 2007	SWL3	sediment	Wetland	onsite	metal	Zinc	1860		mg/kg
Weston 2007	SWL5	sediment	Wetland	onsite	metal	Zinc	3010		mg/kg
Weston 2007	SWL13	sediment	Wetland	onsite	metal	Zinc	1890		mg/kg
Weston 2007	SWL19	sediment	Wetland	onsite	metal	Zinc	3810		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SWL21	sediment	Wetland	onsite	metal	Zinc	5210		mg/kg
Weston 2007	SWL22	sediment	Wetland	onsite	metal	Zinc	2520		mg/kg
Weston 2007	SDF11	sediment	Smelter	Bkgd	metal	Zinc	40.1		mg/kg
Weston 2007	SDF12	sediment	Smelter	Bkgd	metal	Zinc	48.6		mg/kg
Weston 2007	SDF13	sediment	Smelter	Bkgd	metal	Zinc	2.2		mg/kg
Weston 2007	SDF14	sediment	Smelter	Bkgd	metal	Zinc	136		mg/kg
Weston 2007	SDF15	sediment	Smelter	Bkgd	metal	Zinc	136		mg/kg
Weston 2007	SDF16	sediment	Smelter	Bkgd	metal	Zinc	119		mg/kg
Weston 2007	SDF1	sediment	Smelter	onsite	metal	Zinc	119		mg/kg
Weston 2007	SDF2	sediment	Smelter	onsite	metal	Zinc	44.7		mg/kg
Weston 2007	SDF3	sediment	Smelter	onsite	metal	Zinc	350		mg/kg
Weston 2007	SDF4	sediment	Smelter	onsite	metal	Zinc	28.8		mg/kg
Weston 2007	SDF5	sediment	Smelter	onsite	metal	Zinc	271		mg/kg
Weston 2007	SDF6	sediment	Smelter	onsite	metal	Zinc	238		mg/kg
Weston 2007	SDF7	sediment	Smelter	onsite	metal	Zinc	257		mg/kg
Weston 2007	SDF8	sediment	Smelter	onsite	metal	Zinc	212		mg/kg
Weston 2007	SDF9	sediment	Smelter	onsite	metal	Zinc	1450		mg/kg
Weston 2007	SDF10	sediment	Smelter	onsite	metal	Zinc	254		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	metal	Zinc	75.7		mg/kg
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	metal	Zinc	145		mg/kg
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	metal	Zinc	118		mg/kg
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	metal	Zinc	242		mg/kg
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	metal	Zinc	83.2		mg/kg
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	metal	Zinc	93.5		mg/kg
Weston 2007	SSN54	soil	NCL-east	Offsite	metal	Zinc	5200		mg/kg
Weston 2007	SSN55	soil	NCL-east	Offsite	metal	Zinc	253		mg/kg
Weston 2007	SSN58	soil	NCL-east	Offsite	metal	Zinc	1240		mg/kg
Weston 2007	SSN60	soil	NCL-east	Offsite	metal	Zinc	1660		mg/kg
Weston 2007	SSN62	soil	NCL-east	Offsite	metal	Zinc	1230		mg/kg
Weston 2007	SSN74	soil	NCL-east	Offsite	metal	Zinc	2520		mg/kg
Weston 2007	SSN75	soil	NCL-east	Offsite	metal	Zinc	5950		mg/kg
Weston 2007	SSN86	soil	NCL-east	Offsite	metal	Zinc	1590		mg/kg
Weston 2007	SSN15	soil	Smelter-s	onsite	metal	Zinc	3260		mg/kg
Weston 2007	SSN1-1	soil	Smelter-s	onsite	metal	Zinc	1140		mg/kg
Weston 2007	SSN2-8	soil	Smelter-s	onsite	metal	Zinc	22900		mg/kg
Weston 2007	SSN5-8	soil	Smelter-s	onsite	metal	Zinc	5160		mg/kg
Weston 2007	SSN10-1	soil	Smelter-s	onsite	metal	Zinc	1700		mg/kg
Weston 2007	SSN33-8	soil	Smelter-s	onsite	metal	Zinc	3000		mg/kg
Weston 2007	SSA7	soil	Ag-North	Offsite	metal	Zinc	52.9		mg/kg
Weston 2007	SSA8	soil	Ag-North	Offsite	metal	Zinc	53.4		mg/kg
Weston 2007	SSR6	soil	RES	Offsite	metal	Zinc	82.5		mg/kg
Weston 2007	SSR8	soil	RES	Offsite	metal	Zinc	66.5		mg/kg
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	metal	Zinc	2500		mg/kg
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	metal	Zinc	1700		mg/kg
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	metal	Zinc	1100		mg/kg
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	metal	Zinc	1500		mg/kg
Weston 2007	SWF1	waste	Smelter-w	onsite	metal	Zinc	550		mg/kg
Weston 2007	SWF5	waste	Smelter-w	onsite	metal	Zinc	550		mg/kg
Weston 2007	SW1-1-20	waste	WMU-w	onsite	metal	Zinc	1500		mg/kg
Weston 2007	SW1-2-15	waste	WMU-w	onsite	metal	Zinc	2000		mg/kg
Weston 2007	SW1-4-10	waste	WMU-w	onsite	metal	Zinc	2600		mg/kg
Weston 2007	SW1-4-5	waste	WMU-w	onsite	metal	Zinc	1000		mg/kg
Weston 2007	SW1-5-5	waste	WMU-w	onsite	metal	Zinc	1200		mg/kg
Weston 2007	SW1-6-20	waste	WMU-w	onsite	metal	Zinc	1600		mg/kg
Weston 2007	SW1-7-15	waste	WMU-w	onsite	metal	Zinc	1100		mg/kg
Weston 2007	SW2-1-20	waste	WMU-w	onsite	metal	Zinc	42		mg/kg
Weston 2007	SW2-2-20	waste	WMU-w	onsite	metal	Zinc	40		mg/kg
Weston 2007	SW2-3-15	waste	WMU-w	onsite	metal	Zinc	2000		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW2-4-15	waste	WMU-w	onsite	metal	Zinc	1600		mg/kg
Weston 2007	SW2-5-15	waste	WMU-w	onsite	metal	Zinc	2700		mg/kg
Weston 2007	SW2-6-20	waste	WMU-w	onsite	metal	Zinc	4400		mg/kg
Weston 2007	SW2-7-5	waste	WMU-w	onsite	metal	Zinc	1700		mg/kg
Weston 2007	SW3-1-10	waste	WMU-w	onsite	metal	Zinc	1000		mg/kg
Weston 2007	SW3-2-20	waste	WMU-w	onsite	metal	Zinc	1500		mg/kg
Weston 2007	SW3-3-10	waste	WMU-w	onsite	metal	Zinc	1200		mg/kg
Weston 2007	SW3-4-5	waste	WMU-w	onsite	metal	Zinc	940		mg/kg
Weston 2007	SW3-5-20	waste	WMU-w	onsite	metal	Zinc	1000		mg/kg
Weston 2007	SW3-6-10	waste	WMU-w	onsite	metal	Zinc	690		mg/kg
Weston 2007	SW3-7-20	waste	WMU-w	onsite	metal	Zinc	810		mg/kg
Weston 2007	SW4-1-5	waste	WMU-w	onsite	metal	Zinc	4000		mg/kg
Weston 2007	SW4-2-5	waste	WMU-w	onsite	metal	Zinc	4900		mg/kg
Weston 2007	SW4-3-5	waste	WMU-w	onsite	metal	Zinc	1200		mg/kg
Weston 2007	SW4-4-10	waste	WMU-w	onsite	metal	Zinc	1100		mg/kg
Weston 2007	SW4-5-20	waste	WMU-w	onsite	metal	Zinc	2000		mg/kg
Weston 2007	SW4-6-20	waste	WMU-w	onsite	metal	Zinc	1400		mg/kg
Weston 2007	SW4-7-15	waste	WMU-w	onsite	metal	Zinc	1700		mg/kg
Weston 2007	SW5-1-5	waste	WMU-w	onsite	metal	Zinc	6800		mg/kg
Weston 2007	SW5-2-15	waste	WMU-w	onsite	metal	Zinc	1200		mg/kg
Weston 2007	SW5-3-20	waste	WMU-w	onsite	metal	Zinc	1700		mg/kg
Weston 2007	SW5-4-15	waste	WMU-w	onsite	metal	Zinc	1400		mg/kg
Weston 2007	SW5-5-5	waste	WMU-w	onsite	metal	Zinc	760		mg/kg
Weston 2007	SW5-6-5	waste	WMU-w	onsite	metal	Zinc	940		mg/kg
Weston 2007	SW5-7-10	waste	WMU-w	onsite	metal	Zinc	1300		mg/kg
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	radionuclide	Cs-137	0.055		pCi/g
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	radionuclide	Cs-137	0.073		pCi/g
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	radionuclide	Cs-137	0.024	U	pCi/g
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	radionuclide	Cs-137	0.0285	U	pCi/g
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	radionuclide	Cs-137	0.049	U	pCi/g
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	radionuclide	Cs-137	0.0285	U	pCi/g
Weston 2007	SSR6	soil	RES	Offsite	radionuclide	Cs-137	0.0205	U	pCi/g
Weston 2007	SSR8	soil	RES	Offsite	radionuclide	Cs-137	0.0275	U	pCi/g
Weston 2007	SSA7	soil	Ag-North	Offsite	radionuclide	Cs-137	0.0415	U	pCi/g
Weston 2007	SSA8	soil	Ag-North	Offsite	radionuclide	Cs-137	0.03	U	pCi/g
Weston 2007	SSN54	soil	NCL-east	Offsite	radionuclide	Cs-137	0.0425	U	pCi/g
Weston 2007	SSN55	soil	NCL-east	Offsite	radionuclide	Cs-137	0.113		pCi/g
Weston 2007	SSN58	soil	NCL-east	Offsite	radionuclide	Cs-137	0.1015	U	pCi/g
Weston 2007	SSN60	soil	NCL-east	Offsite	radionuclide	Cs-137	0.084		pCi/g
Weston 2007	SSN62	soil	NCL-east	Offsite	radionuclide	Cs-137	0.037	U	pCi/g
Weston 2007	SSN74	soil	NCL-east	Offsite	radionuclide	Cs-137	0.0295	U	pCi/g
Weston 2007	SSN75	soil	NCL-east	Offsite	radionuclide	Cs-137	0.0475	U	pCi/g
Weston 2007	SSN86	soil	NCL-east	Offsite	radionuclide	Cs-137	0.042	U	pCi/g
Weston 2007	SSN1-1	soil	Smelter-s	onsite	radionuclide	Cs-137	0.0155	U	pCi/g
Weston 2007	SSN2-8	soil	Smelter-s	onsite	radionuclide	Cs-137	0.0285	U	pCi/g
Weston 2007	SSN15	soil	Smelter-s	onsite	radionuclide	Cs-137	0.0695	U	pCi/g
Weston 2007	SSN10-1	soil	Smelter-s	onsite	radionuclide	Cs-137	0.249		pCi/g
Weston 2007	SSN33-8	soil	Smelter-s	onsite	radionuclide	Cs-137	0.0315	U	pCi/g
Weston 2007	SSN5-8	soil	Smelter-s	onsite	radionuclide	Cs-137	0.017	U	pCi/g
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	radionuclide	Cs-137	0.056	U	pCi/g
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	radionuclide	Cs-137	0.017	U	pCi/g
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	radionuclide	Cs-137	0.0365	U	pCi/g
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	radionuclide	Cs-137	0.0425	U	pCi/g
Weston 2007	SW1-1-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.022	U	pCi/g
Weston 2007	SW1-2-15	waste	WMU-w	onsite	radionuclide	Cs-137	0.0165	U	pCi/g
Weston 2007	SW1-4-10	waste	WMU-w	onsite	radionuclide	Cs-137	0.0155	U	pCi/g
Weston 2007	SW1-4-5	waste	WMU-w	onsite	radionuclide	Cs-137	0.039	U	pCi/g
Weston 2007	SW1-5-5	waste	WMU-w	onsite	radionuclide	Cs-137	0.027	U	pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW1-6-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.024	U	pCi/g
Weston 2007	SW1-7-15	waste	WMU-w	onsite	radionuclide	Cs-137	0.046	U	pCi/g
Weston 2007	SW2-1-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.026	U	pCi/g
Weston 2007	SW2-3-15	waste	WMU-w	onsite	radionuclide	Cs-137	0.0265	U	pCi/g
Weston 2007	SW2-4-15	waste	WMU-w	onsite	radionuclide	Cs-137	0.047	U	pCi/g
Weston 2007	SW2-5-15	waste	WMU-w	onsite	radionuclide	Cs-137	0.0625	U	pCi/g
Weston 2007	SW2-6-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.015	U	pCi/g
Weston 2007	SW2-7-5	waste	WMU-w	onsite	radionuclide	Cs-137	0.079		pCi/g
Weston 2007	SW3-1-10	waste	WMU-w	onsite	radionuclide	Cs-137	0.0465	U	pCi/g
Weston 2007	SW3-2-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.026	U	pCi/g
Weston 2007	SW3-3-10	waste	WMU-w	onsite	radionuclide	Cs-137	0.0355	U	pCi/g
Weston 2007	SW3-4-5	waste	WMU-w	onsite	radionuclide	Cs-137	0.0275	U	pCi/g
Weston 2007	SW3-5-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.0485	U	pCi/g
Weston 2007	SW3-6-10	waste	WMU-w	onsite	radionuclide	Cs-137	0.0245	U	pCi/g
Weston 2007	SW3-7-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.0195	U	pCi/g
Weston 2007	SW4-1-5	waste	WMU-w	onsite	radionuclide	Cs-137	0.018	U	pCi/g
Weston 2007	SW4-3-5	waste	WMU-w	onsite	radionuclide	Cs-137	0.033	U	pCi/g
Weston 2007	SW4-4-10	waste	WMU-w	onsite	radionuclide	Cs-137	0.027	U	pCi/g
Weston 2007	SW4-5-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.0315	U	pCi/g
Weston 2007	SW4-6-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.0255	U	pCi/g
Weston 2007	SW4-7-15	waste	WMU-w	onsite	radionuclide	Cs-137	0.034	U	pCi/g
Weston 2007	SW5-1-5	waste	WMU-w	onsite	radionuclide	Cs-137	0.0125	U	pCi/g
Weston 2007	SW5-2-15	waste	WMU-w	onsite	radionuclide	Cs-137	0.017	U	pCi/g
Weston 2007	SW5-3-20	waste	WMU-w	onsite	radionuclide	Cs-137	0.018	U	pCi/g
Weston 2007	SW5-4-15	waste	WMU-w	onsite	radionuclide	Cs-137	0.0395	U	pCi/g
Weston 2007	SW5-5-5	waste	WMU-w	onsite	radionuclide	Cs-137	0.0255	U	pCi/g
Weston 2007	SW5-6-5	waste	WMU-w	onsite	radionuclide	Cs-137	0.033	U	pCi/g
Weston 2007	SW5-7-10	waste	WMU-w	onsite	radionuclide	Cs-137	0.047	U	pCi/g
Weston 2007	SWF1	waste	Smelter-w	onsite	radionuclide	Cs-137	0.039	U	pCi/g
Weston 2007	SWF5	waste	Smelter-w	onsite	radionuclide	Cs-137	0.029	U	pCi/g
Weston 2007	SDF11	sediment	Smelter	Bkgd	radionuclide	Cs-137	0.0315	U	pCi/g
Weston 2007	SDF12	sediment	Smelter	Bkgd	radionuclide	Cs-137	0.017	U	pCi/g
Weston 2007	SDF13	sediment	Smelter	Bkgd	radionuclide	Cs-137	0.0275	U	pCi/g
Weston 2007	SDF14	sediment	Smelter	Bkgd	radionuclide	Cs-137	0.02	U	pCi/g
Weston 2007	SDF15	sediment	Smelter	Bkgd	radionuclide	Cs-137	0.0325	U	pCi/g
Weston 2007	SDF16	sediment	Smelter	Bkgd	radionuclide	Cs-137	0.018	U	pCi/g
Weston 2007	SDF1	sediment	Smelter	onsite	radionuclide	Cs-137	0.0285	U	pCi/g
Weston 2007	SDF2	sediment	Smelter	onsite	radionuclide	Cs-137	0.0275	U	pCi/g
Weston 2007	SDF3	sediment	Smelter	onsite	radionuclide	Cs-137	0.033	U	pCi/g
Weston 2007	SDF4	sediment	Smelter	onsite	radionuclide	Cs-137	0.02	U	pCi/g
Weston 2007	SDF5	sediment	Smelter	onsite	radionuclide	Cs-137	0.0195	U	pCi/g
Weston 2007	SDF6	sediment	Smelter	onsite	radionuclide	Cs-137	0.055	U	pCi/g
Weston 2007	SDF7	sediment	Smelter	onsite	radionuclide	Cs-137	0.023	U	pCi/g
Weston 2007	SDF8	sediment	Smelter	onsite	radionuclide	Cs-137	0.06	U	pCi/g
Weston 2007	SDF9	sediment	Smelter	onsite	radionuclide	Cs-137	0.029	U	pCi/g
Weston 2007	SDF10	sediment	Smelter	onsite	radionuclide	Cs-137	0.0225	U	pCi/g
Weston 2007	SDB31	sediment	Beach	Bkgd	radionuclide	Cs-137	0.021	U	pCi/g
Weston 2007	SDB32	sediment	Beach	Bkgd	radionuclide	Cs-137	0.015	U	pCi/g
Weston 2007	SDB33	sediment	Beach	Bkgd	radionuclide	Cs-137	0.022	U	pCi/g
Weston 2007	SDB34	sediment	Beach	Bkgd	radionuclide	Cs-137	0.021	U	pCi/g
Weston 2007	SDB35	sediment	Beach	Bkgd	radionuclide	Cs-137	0.0215	U	pCi/g
Weston 2007	SDB36	sediment	Beach	Bkgd	radionuclide	Cs-137	0.0215	U	pCi/g
Weston 2007	SDB17	sediment	Beach	onsite	radionuclide	Cs-137	0.03	U	pCi/g
Weston 2007	SDB18	sediment	Beach	onsite	radionuclide	Cs-137	0.0285	U	pCi/g
Weston 2007	SDB20	sediment	Beach	onsite	radionuclide	Cs-137	0.037	U	pCi/g
Weston 2007	SDB23	sediment	Beach	onsite	radionuclide	Cs-137	0.0385	U	pCi/g
Weston 2007	SDB26	sediment	Beach	onsite	radionuclide	Cs-137	0.0375	U	pCi/g
Weston 2007	SDB30	sediment	Beach	onsite	radionuclide	Cs-137	0.092		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDM1	sediment	Marine	Bkgd	radionuclide	Cs-137	0.0385	U	pCi/g
Weston 2007	SDM2	sediment	Marine	Bkgd	radionuclide	Cs-137	0.024	U	pCi/g
Weston 2007	SDM3	sediment	Marine	Bkgd	radionuclide	Cs-137	0.0305	U	pCi/g
Weston 2007	SDM4	sediment	Marine	Bkgd	radionuclide	Cs-137	0.059	U	pCi/g
Weston 2007	SDM5	sediment	Marine	Bkgd	radionuclide	Cs-137	0.027	U	pCi/g
Weston 2007	SDM6	sediment	Marine	Bkgd	radionuclide	Cs-137	0.032	U	pCi/g
Weston 2007	SDM14	sediment	Marine	onsite	radionuclide	Cs-137	0.0205	U	pCi/g
Weston 2007	SDM16	sediment	Marine	onsite	radionuclide	Cs-137	0.0325	U	pCi/g
Weston 2007	SDM21	sediment	Marine	onsite	radionuclide	Cs-137	0.0235	U	pCi/g
Weston 2007	SDM23	sediment	Marine	onsite	radionuclide	Cs-137	0.0245	U	pCi/g
Weston 2007	SDM24	sediment	Marine	onsite	radionuclide	Cs-137	0.029	U	pCi/g
Weston 2007	SDM26	sediment	Marine	onsite	radionuclide	Cs-137	0.0305	U	pCi/g
Weston 2007	SWL31	sediment	Wetland	Bkgd	radionuclide	Cs-137	0.025	U	pCi/g
Weston 2007	SWL32	sediment	Wetland	Bkgd	radionuclide	Cs-137	0.0365	U	pCi/g
Weston 2007	SWL33	sediment	Wetland	Bkgd	radionuclide	Cs-137	0.013	U	pCi/g
Weston 2007	SWL34	sediment	Wetland	Bkgd	radionuclide	Cs-137	0.063		pCi/g
Weston 2007	SWL35	sediment	Wetland	Bkgd	radionuclide	Cs-137	0.0155	U	pCi/g
Weston 2007	SWL36	sediment	Wetland	Bkgd	radionuclide	Cs-137	0.064		pCi/g
Weston 2007	SWL3	sediment	Wetland	onsite	radionuclide	Cs-137	0.0625	U	pCi/g
Weston 2007	SWL5	sediment	Wetland	onsite	radionuclide	Cs-137	0.034	U	pCi/g
Weston 2007	SWL13	sediment	Wetland	onsite	radionuclide	Cs-137	0.0215	U	pCi/g
Weston 2007	SWL19	sediment	Wetland	onsite	radionuclide	Cs-137	0.044	U	pCi/g
Weston 2007	SWL21	sediment	Wetland	onsite	radionuclide	Cs-137	0.0235	U	pCi/g
Weston 2007	SWL22	sediment	Wetland	onsite	radionuclide	Cs-137	0.0265	U	pCi/g
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	radionuclide	K-40	16.2		pCi/g
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	radionuclide	K-40	27.1		pCi/g
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	radionuclide	K-40	23		pCi/g
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	radionuclide	K-40	22.2		pCi/g
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	radionuclide	K-40	25.4		pCi/g
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	radionuclide	K-40	21.8		pCi/g
Weston 2007	SSR6	soil	RES	Offsite	radionuclide	K-40	21.7		pCi/g
Weston 2007	SSR8	soil	RES	Offsite	radionuclide	K-40	24		pCi/g
Weston 2007	SSA7	soil	Ag-North	Offsite	radionuclide	K-40	26.3		pCi/g
Weston 2007	SSA8	soil	Ag-North	Offsite	radionuclide	K-40	26.6		pCi/g
Weston 2007	SSN54	soil	NCL-east	Offsite	radionuclide	K-40	9.9		pCi/g
Weston 2007	SSN55	soil	NCL-east	Offsite	radionuclide	K-40	23.3		pCi/g
Weston 2007	SSN58	soil	NCL-east	Offsite	radionuclide	K-40	76.7		pCi/g
Weston 2007	SSN60	soil	NCL-east	Offsite	radionuclide	K-40	19.3		pCi/g
Weston 2007	SSN62	soil	NCL-east	Offsite	radionuclide	K-40	27.5		pCi/g
Weston 2007	SSN74	soil	NCL-east	Offsite	radionuclide	K-40	16		pCi/g
Weston 2007	SSN75	soil	NCL-east	Offsite	radionuclide	K-40	21.4		pCi/g
Weston 2007	SSN86	soil	NCL-east	Offsite	radionuclide	K-40	33.8		pCi/g
Weston 2007	SSN1-1	soil	Smelter-s	onsite	radionuclide	K-40	13.1		pCi/g
Weston 2007	SSN2-8	soil	Smelter-s	onsite	radionuclide	K-40	22.6		pCi/g
Weston 2007	SSN15	soil	Smelter-s	onsite	radionuclide	K-40	10.7		pCi/g
Weston 2007	SSN10-1	soil	Smelter-s	onsite	radionuclide	K-40	23.6		pCi/g
Weston 2007	SSN33-8	soil	Smelter-s	onsite	radionuclide	K-40	17.4		pCi/g
Weston 2007	SSN5-8	soil	Smelter-s	onsite	radionuclide	K-40	16.9		pCi/g
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	radionuclide	K-40	6.3		pCi/g
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	radionuclide	K-40	9		pCi/g
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	radionuclide	K-40	4.2		pCi/g
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	radionuclide	K-40	5.8		pCi/g
Weston 2007	SW1-1-20	waste	WMU-w	onsite	radionuclide	K-40	6.5		pCi/g
Weston 2007	SW1-2-15	waste	WMU-w	onsite	radionuclide	K-40	13.6		pCi/g
Weston 2007	SW1-4-10	waste	WMU-w	onsite	radionuclide	K-40	4.4		pCi/g
Weston 2007	SW1-4-5	waste	WMU-w	onsite	radionuclide	K-40	4.8		pCi/g
Weston 2007	SW1-5-5	waste	WMU-w	onsite	radionuclide	K-40	5.5		pCi/g
Weston 2007	SW1-6-20	waste	WMU-w	onsite	radionuclide	K-40	5.4		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW1-7-15	waste	WMU-w	onsite	radionuclide	K-40	13.2		pCi/g
Weston 2007	SW2-1-20	waste	WMU-w	onsite	radionuclide	K-40	28.2		pCi/g
Weston 2007	SW2-3-15	waste	WMU-w	onsite	radionuclide	K-40	5.5		pCi/g
Weston 2007	SW2-4-15	waste	WMU-w	onsite	radionuclide	K-40	16.4		pCi/g
Weston 2007	SW2-5-15	waste	WMU-w	onsite	radionuclide	K-40	55		pCi/g
Weston 2007	SW2-6-20	waste	WMU-w	onsite	radionuclide	K-40	4		pCi/g
Weston 2007	SW2-7-5	waste	WMU-w	onsite	radionuclide	K-40	10.1		pCi/g
Weston 2007	SW3-1-10	waste	WMU-w	onsite	radionuclide	K-40	2.7		pCi/g
Weston 2007	SW3-2-20	waste	WMU-w	onsite	radionuclide	K-40	6.5		pCi/g
Weston 2007	SW3-3-10	waste	WMU-w	onsite	radionuclide	K-40	7.8		pCi/g
Weston 2007	SW3-4-5	waste	WMU-w	onsite	radionuclide	K-40	6.2		pCi/g
Weston 2007	SW3-5-20	waste	WMU-w	onsite	radionuclide	K-40	7.4		pCi/g
Weston 2007	SW3-6-10	waste	WMU-w	onsite	radionuclide	K-40	7.1		pCi/g
Weston 2007	SW3-7-20	waste	WMU-w	onsite	radionuclide	K-40	7.1		pCi/g
Weston 2007	SW4-1-5	waste	WMU-w	onsite	radionuclide	K-40	1.9		pCi/g
Weston 2007	SW4-3-5	waste	WMU-w	onsite	radionuclide	K-40	7.3		pCi/g
Weston 2007	SW4-4-10	waste	WMU-w	onsite	radionuclide	K-40	9		pCi/g
Weston 2007	SW4-5-20	waste	WMU-w	onsite	radionuclide	K-40	7.2		pCi/g
Weston 2007	SW4-6-20	waste	WMU-w	onsite	radionuclide	K-40	5.2		pCi/g
Weston 2007	SW4-7-15	waste	WMU-w	onsite	radionuclide	K-40	2.1		pCi/g
Weston 2007	SW5-1-5	waste	WMU-w	onsite	radionuclide	K-40	19.2		pCi/g
Weston 2007	SW5-2-15	waste	WMU-w	onsite	radionuclide	K-40	5.8		pCi/g
Weston 2007	SW5-3-20	waste	WMU-w	onsite	radionuclide	K-40	7.2		pCi/g
Weston 2007	SW5-4-15	waste	WMU-w	onsite	radionuclide	K-40	5		pCi/g
Weston 2007	SW5-5-5	waste	WMU-w	onsite	radionuclide	K-40	2.5		pCi/g
Weston 2007	SW5-6-5	waste	WMU-w	onsite	radionuclide	K-40	4.1		pCi/g
Weston 2007	SW5-7-10	waste	WMU-w	onsite	radionuclide	K-40	3.4		pCi/g
Weston 2007	SWF1	waste	Smelter-w	onsite	radionuclide	K-40	22.3		pCi/g
Weston 2007	SWF5	waste	Smelter-w	onsite	radionuclide	K-40	15.8		pCi/g
Weston 2007	SDF11	sediment	Smelter	Bkgd	radionuclide	K-40	21.4		pCi/g
Weston 2007	SDF12	sediment	Smelter	Bkgd	radionuclide	K-40	28.5		pCi/g
Weston 2007	SDF13	sediment	Smelter	Bkgd	radionuclide	K-40	21.7		pCi/g
Weston 2007	SDF14	sediment	Smelter	Bkgd	radionuclide	K-40	23.7		pCi/g
Weston 2007	SDF15	sediment	Smelter	Bkgd	radionuclide	K-40	51.9		pCi/g
Weston 2007	SDF16	sediment	Smelter	Bkgd	radionuclide	K-40	25		pCi/g
Weston 2007	SDF1	sediment	Smelter	onsite	radionuclide	K-40	19.1		pCi/g
Weston 2007	SDF2	sediment	Smelter	onsite	radionuclide	K-40	26.3		pCi/g
Weston 2007	SDF3	sediment	Smelter	onsite	radionuclide	K-40	23.5		pCi/g
Weston 2007	SDF4	sediment	Smelter	onsite	radionuclide	K-40	19.7		pCi/g
Weston 2007	SDF5	sediment	Smelter	onsite	radionuclide	K-40	21.7		pCi/g
Weston 2007	SDF6	sediment	Smelter	onsite	radionuclide	K-40	21.7		pCi/g
Weston 2007	SDF7	sediment	Smelter	onsite	radionuclide	K-40	18		pCi/g
Weston 2007	SDF8	sediment	Smelter	onsite	radionuclide	K-40	22.9		pCi/g
Weston 2007	SDF9	sediment	Smelter	onsite	radionuclide	K-40	23.5		pCi/g
Weston 2007	SDF10	sediment	Smelter	onsite	radionuclide	K-40	23.1		pCi/g
Weston 2007	SDB31	sediment	Beach	Bkgd	radionuclide	K-40	20		pCi/g
Weston 2007	SDB32	sediment	Beach	Bkgd	radionuclide	K-40	17.9		pCi/g
Weston 2007	SDB33	sediment	Beach	Bkgd	radionuclide	K-40	19.5		pCi/g
Weston 2007	SDB34	sediment	Beach	Bkgd	radionuclide	K-40	17.2		pCi/g
Weston 2007	SDB35	sediment	Beach	Bkgd	radionuclide	K-40	17.6		pCi/g
Weston 2007	SDB36	sediment	Beach	Bkgd	radionuclide	K-40	21.2		pCi/g
Weston 2007	SDB17	sediment	Beach	onsite	radionuclide	K-40	10.9		pCi/g
Weston 2007	SDB18	sediment	Beach	onsite	radionuclide	K-40	10.4		pCi/g
Weston 2007	SDB20	sediment	Beach	onsite	radionuclide	K-40	11.5		pCi/g
Weston 2007	SDB23	sediment	Beach	onsite	radionuclide	K-40	11.2		pCi/g
Weston 2007	SDB26	sediment	Beach	onsite	radionuclide	K-40	13.7		pCi/g
Weston 2007	SDB30	sediment	Beach	onsite	radionuclide	K-40	15.6		pCi/g
Weston 2007	SDM1	sediment	Marine	Bkgd	radionuclide	K-40	25.7		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDM2	sediment	Marine	Bkgd	radionuclide	K-40	29.4		pCi/g
Weston 2007	SDM3	sediment	Marine	Bkgd	radionuclide	K-40	23.8		pCi/g
Weston 2007	SDM4	sediment	Marine	Bkgd	radionuclide	K-40	45.8		pCi/g
Weston 2007	SDM5	sediment	Marine	Bkgd	radionuclide	K-40	23.8		pCi/g
Weston 2007	SDM6	sediment	Marine	Bkgd	radionuclide	K-40	24.3		pCi/g
Weston 2007	SDM14	sediment	Marine	onsite	radionuclide	K-40	24.7		pCi/g
Weston 2007	SDM16	sediment	Marine	onsite	radionuclide	K-40	22.5		pCi/g
Weston 2007	SDM21	sediment	Marine	onsite	radionuclide	K-40	25.1		pCi/g
Weston 2007	SDM23	sediment	Marine	onsite	radionuclide	K-40	25.2		pCi/g
Weston 2007	SDM24	sediment	Marine	onsite	radionuclide	K-40	23.4		pCi/g
Weston 2007	SDM26	sediment	Marine	onsite	radionuclide	K-40	23.4		pCi/g
Weston 2007	SWL31	sediment	Wetland	Bkgd	radionuclide	K-40	21.2		pCi/g
Weston 2007	SWL32	sediment	Wetland	Bkgd	radionuclide	K-40	45.4		pCi/g
Weston 2007	SWL33	sediment	Wetland	Bkgd	radionuclide	K-40	21.5		pCi/g
Weston 2007	SWL34	sediment	Wetland	Bkgd	radionuclide	K-40	20.6		pCi/g
Weston 2007	SWL35	sediment	Wetland	Bkgd	radionuclide	K-40	21.5		pCi/g
Weston 2007	SWL36	sediment	Wetland	Bkgd	radionuclide	K-40	22.3		pCi/g
Weston 2007	SWL3	sediment	Wetland	onsite	radionuclide	K-40	25.6		pCi/g
Weston 2007	SWL5	sediment	Wetland	onsite	radionuclide	K-40	36.8		pCi/g
Weston 2007	SWL13	sediment	Wetland	onsite	radionuclide	K-40	7.2		pCi/g
Weston 2007	SWL19	sediment	Wetland	onsite	radionuclide	K-40	9.7		pCi/g
Weston 2007	SWL21	sediment	Wetland	onsite	radionuclide	K-40	8.9		pCi/g
Weston 2007	SWL22	sediment	Wetland	onsite	radionuclide	K-40	11		pCi/g
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	radionuclide	Th-228	1.07		pCi/g
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	radionuclide	Th-228	1.16		pCi/g
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	radionuclide	Th-228	1.44		pCi/g
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	radionuclide	Th-228	1.34		pCi/g
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	radionuclide	Th-228	1.24		pCi/g
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	radionuclide	Th-228	0.912		pCi/g
Weston 2007	SSR6	soil	RES	Offsite	radionuclide	Th-228	0.614		pCi/g
Weston 2007	SSR8	soil	RES	Offsite	radionuclide	Th-228	0.633		pCi/g
Weston 2007	SSA7	soil	Ag-North	Offsite	radionuclide	Th-228	1.1		pCi/g
Weston 2007	SSA8	soil	Ag-North	Offsite	radionuclide	Th-228	0.833		pCi/g
Weston 2007	SSN54	soil	NCL-east	Offsite	radionuclide	Th-228	6.33		pCi/g
Weston 2007	SSN55	soil	NCL-east	Offsite	radionuclide	Th-228	1.13		pCi/g
Weston 2007	SSN58	soil	NCL-east	Offsite	radionuclide	Th-228	6.73		pCi/g
Weston 2007	SSN60	soil	NCL-east	Offsite	radionuclide	Th-228	1.59		pCi/g
Weston 2007	SSN62	soil	NCL-east	Offsite	radionuclide	Th-228	1.34		pCi/g
Weston 2007	SSN74	soil	NCL-east	Offsite	radionuclide	Th-228	0.565	U	pCi/g
Weston 2007	SSN75	soil	NCL-east	Offsite	radionuclide	Th-228	4.12		pCi/g
Weston 2007	SSN86	soil	NCL-east	Offsite	radionuclide	Th-228	2.69		pCi/g
Weston 2007	SSN1-1	soil	Smelter-s	onsite	radionuclide	Th-228	2.29		pCi/g
Weston 2007	SSN2-8	soil	Smelter-s	onsite	radionuclide	Th-228	0.905		pCi/g
Weston 2007	SSN15	soil	Smelter-s	onsite	radionuclide	Th-228	11.9		pCi/g
Weston 2007	SSN10-1	soil	Smelter-s	onsite	radionuclide	Th-228	0.555		pCi/g
Weston 2007	SSN33-8	soil	Smelter-s	onsite	radionuclide	Th-228	2.66		pCi/g
Weston 2007	SSN5-8	soil	Smelter-s	onsite	radionuclide	Th-228	0.479		pCi/g
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	radionuclide	Th-228	1.66		pCi/g
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	radionuclide	Th-228	0.925		pCi/g
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	radionuclide	Th-228	0.358		pCi/g
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	radionuclide	Th-228	19.1		pCi/g
Weston 2007	SW1-1-20	waste	WMU-w	onsite	radionuclide	Th-228	0.3325	U	pCi/g
Weston 2007	SW1-2-15	waste	WMU-w	onsite	radionuclide	Th-228	0.4865	U	pCi/g
Weston 2007	SW1-4-10	waste	WMU-w	onsite	radionuclide	Th-228	0.4405	U	pCi/g
Weston 2007	SW1-4-5	waste	WMU-w	onsite	radionuclide	Th-228	0.595		pCi/g
Weston 2007	SW1-5-5	waste	WMU-w	onsite	radionuclide	Th-228	0.3325	U	pCi/g
Weston 2007	SW1-6-20	waste	WMU-w	onsite	radionuclide	Th-228	0.2215	U	pCi/g
Weston 2007	SW1-7-15	waste	WMU-w	onsite	radionuclide	Th-228	0.6445	U	pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW2-1-20	waste	WMU-w	onsite	radionuclide	Th-228	1		pCi/g
Weston 2007	SW2-3-15	waste	WMU-w	onsite	radionuclide	Th-228	1.95		pCi/g
Weston 2007	SW2-4-15	waste	WMU-w	onsite	radionuclide	Th-228	0.363	U	pCi/g
Weston 2007	SW2-5-15	waste	WMU-w	onsite	radionuclide	Th-228	0.626		pCi/g
Weston 2007	SW2-6-20	waste	WMU-w	onsite	radionuclide	Th-228	1.13		pCi/g
Weston 2007	SW2-7-5	waste	WMU-w	onsite	radionuclide	Th-228	0.3125	U	pCi/g
Weston 2007	SW3-1-10	waste	WMU-w	onsite	radionuclide	Th-228	0.242	U	pCi/g
Weston 2007	SW3-2-20	waste	WMU-w	onsite	radionuclide	Th-228	0.71	U	pCi/g
Weston 2007	SW3-3-10	waste	WMU-w	onsite	radionuclide	Th-228	0.1685	U	pCi/g
Weston 2007	SW3-4-5	waste	WMU-w	onsite	radionuclide	Th-228	0.69		pCi/g
Weston 2007	SW3-5-20	waste	WMU-w	onsite	radionuclide	Th-228	0.4735	U	pCi/g
Weston 2007	SW3-6-10	waste	WMU-w	onsite	radionuclide	Th-228	0.2545	U	pCi/g
Weston 2007	SW3-7-20	waste	WMU-w	onsite	radionuclide	Th-228	0.238	U	pCi/g
Weston 2007	SW4-1-5	waste	WMU-w	onsite	radionuclide	Th-228	0.491	U	pCi/g
Weston 2007	SW4-3-5	waste	WMU-w	onsite	radionuclide	Th-228	0.2175	U	pCi/g
Weston 2007	SW4-4-10	waste	WMU-w	onsite	radionuclide	Th-228	0.2285	U	pCi/g
Weston 2007	SW4-5-20	waste	WMU-w	onsite	radionuclide	Th-228	4.48		pCi/g
Weston 2007	SW4-6-20	waste	WMU-w	onsite	radionuclide	Th-228	0.767		pCi/g
Weston 2007	SW4-7-15	waste	WMU-w	onsite	radionuclide	Th-228	0.3335	U	pCi/g
Weston 2007	SW5-1-5	waste	WMU-w	onsite	radionuclide	Th-228	0.2665	U	pCi/g
Weston 2007	SW5-2-15	waste	WMU-w	onsite	radionuclide	Th-228	0.286	U	pCi/g
Weston 2007	SW5-3-20	waste	WMU-w	onsite	radionuclide	Th-228	0.3175	U	pCi/g
Weston 2007	SW5-4-15	waste	WMU-w	onsite	radionuclide	Th-228	0.3025	U	pCi/g
Weston 2007	SW5-5-5	waste	WMU-w	onsite	radionuclide	Th-228	0.263	U	pCi/g
Weston 2007	SW5-6-5	waste	WMU-w	onsite	radionuclide	Th-228	0.3255	U	pCi/g
Weston 2007	SW5-7-10	waste	WMU-w	onsite	radionuclide	Th-228	0.3235	U	pCi/g
Weston 2007	SWF1	waste	Smelter-w	onsite	radionuclide	Th-228	0.175	U	pCi/g
Weston 2007	SWF5	waste	Smelter-w	onsite	radionuclide	Th-228	0.3425	U	pCi/g
Weston 2007	SDF11	sediment	Smelter	Bkgd	radionuclide	Th-228	0.251	U	pCi/g
Weston 2007	SDF12	sediment	Smelter	Bkgd	radionuclide	Th-228	0.1915	U	pCi/g
Weston 2007	SDF13	sediment	Smelter	Bkgd	radionuclide	Th-228	0.193	U	pCi/g
Weston 2007	SDF14	sediment	Smelter	Bkgd	radionuclide	Th-228	1.47		pCi/g
Weston 2007	SDF15	sediment	Smelter	Bkgd	radionuclide	Th-228	0.885		pCi/g
Weston 2007	SDF16	sediment	Smelter	Bkgd	radionuclide	Th-228	0.814		pCi/g
Weston 2007	SDF1	sediment	Smelter	onsite	radionuclide	Th-228	1.02		pCi/g
Weston 2007	SDF2	sediment	Smelter	onsite	radionuclide	Th-228	1.31		pCi/g
Weston 2007	SDF3	sediment	Smelter	onsite	radionuclide	Th-228	0.633		pCi/g
Weston 2007	SDF4	sediment	Smelter	onsite	radionuclide	Th-228	1.33		pCi/g
Weston 2007	SDF5	sediment	Smelter	onsite	radionuclide	Th-228	0.117		pCi/g
Weston 2007	SDF6	sediment	Smelter	onsite	radionuclide	Th-228	2.04		pCi/g
Weston 2007	SDF7	sediment	Smelter	onsite	radionuclide	Th-228	1.06		pCi/g
Weston 2007	SDF8	sediment	Smelter	onsite	radionuclide	Th-228	1.28		pCi/g
Weston 2007	SDF9	sediment	Smelter	onsite	radionuclide	Th-228	1.61		pCi/g
Weston 2007	SDF10	sediment	Smelter	onsite	radionuclide	Th-228	1.56		pCi/g
Weston 2007	SDB31	sediment	Beach	Bkgd	radionuclide	Th-228	0.1995	U	pCi/g
Weston 2007	SDB32	sediment	Beach	Bkgd	radionuclide	Th-228	0.16	U	pCi/g
Weston 2007	SDB33	sediment	Beach	Bkgd	radionuclide	Th-228	0.209	U	pCi/g
Weston 2007	SDB34	sediment	Beach	Bkgd	radionuclide	Th-228	0.505	U	pCi/g
Weston 2007	SDB35	sediment	Beach	Bkgd	radionuclide	Th-228	0.2645	U	pCi/g
Weston 2007	SDB36	sediment	Beach	Bkgd	radionuclide	Th-228	0.3825	U	pCi/g
Weston 2007	SDB17	sediment	Beach	onsite	radionuclide	Th-228	0.93		pCi/g
Weston 2007	SDB18	sediment	Beach	onsite	radionuclide	Th-228	2.72		pCi/g
Weston 2007	SDB20	sediment	Beach	onsite	radionuclide	Th-228	1.24		pCi/g
Weston 2007	SDB23	sediment	Beach	onsite	radionuclide	Th-228	1.28		pCi/g
Weston 2007	SDB26	sediment	Beach	onsite	radionuclide	Th-228	1.14		pCi/g
Weston 2007	SDB30	sediment	Beach	onsite	radionuclide	Th-228	0.643		pCi/g
Weston 2007	SDM1	sediment	Marine	Bkgd	radionuclide	Th-228	0.932		pCi/g
Weston 2007	SDM2	sediment	Marine	Bkgd	radionuclide	Th-228	0.291		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDM3	sediment	Marine	Bkgd	radionuclide	Th-228	1.05		pCi/g
Weston 2007	SDM4	sediment	Marine	Bkgd	radionuclide	Th-228	2.48		pCi/g
Weston 2007	SDM5	sediment	Marine	Bkgd	radionuclide	Th-228	0.786		pCi/g
Weston 2007	SDM6	sediment	Marine	Bkgd	radionuclide	Th-228	1.67		pCi/g
Weston 2007	SDM14	sediment	Marine	onsite	radionuclide	Th-228	1.14		pCi/g
Weston 2007	SDM16	sediment	Marine	onsite	radionuclide	Th-228	1.87		pCi/g
Weston 2007	SDM21	sediment	Marine	onsite	radionuclide	Th-228	0.382		pCi/g
Weston 2007	SDM23	sediment	Marine	onsite	radionuclide	Th-228	0.396		pCi/g
Weston 2007	SDM24	sediment	Marine	onsite	radionuclide	Th-228	0.796		pCi/g
Weston 2007	SDM26	sediment	Marine	onsite	radionuclide	Th-228	0.626		pCi/g
Weston 2007	SWL31	sediment	Wetland	Bkgd	radionuclide	Th-228	1.26		pCi/g
Weston 2007	SWL32	sediment	Wetland	Bkgd	radionuclide	Th-228	0.836		pCi/g
Weston 2007	SWL33	sediment	Wetland	Bkgd	radionuclide	Th-228	0.1955	U	pCi/g
Weston 2007	SWL34	sediment	Wetland	Bkgd	radionuclide	Th-228	0.785		pCi/g
Weston 2007	SWL35	sediment	Wetland	Bkgd	radionuclide	Th-228	0.341		pCi/g
Weston 2007	SWL36	sediment	Wetland	Bkgd	radionuclide	Th-228	0.563		pCi/g
Weston 2007	SWL3	sediment	Wetland	onsite	radionuclide	Th-228	1.36		pCi/g
Weston 2007	SWL5	sediment	Wetland	onsite	radionuclide	Th-228	1.08		pCi/g
Weston 2007	SWL13	sediment	Wetland	onsite	radionuclide	Th-228	1.47		pCi/g
Weston 2007	SWL19	sediment	Wetland	onsite	radionuclide	Th-228	0.879		pCi/g
Weston 2007	SWL21	sediment	Wetland	onsite	radionuclide	Th-228	2.55		pCi/g
Weston 2007	SWL22	sediment	Wetland	onsite	radionuclide	Th-228	0.695	U	pCi/g
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	radionuclide	Th-230	0.949		pCi/g
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	radionuclide	Th-230	0.962		pCi/g
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	radionuclide	Th-230	1.32		pCi/g
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	radionuclide	Th-230	0.856		pCi/g
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	radionuclide	Th-230	0.864		pCi/g
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	radionuclide	Th-230	0.642		pCi/g
Weston 2007	SSR6	soil	RES	Offsite	radionuclide	Th-230	0.739		pCi/g
Weston 2007	SSR8	soil	RES	Offsite	radionuclide	Th-230	0.7		pCi/g
Weston 2007	SSA7	soil	Ag-North	Offsite	radionuclide	Th-230	1.17		pCi/g
Weston 2007	SSA8	soil	Ag-North	Offsite	radionuclide	Th-230	0.889		pCi/g
Weston 2007	SSN54	soil	NCL-east	Offsite	radionuclide	Th-230	3.25		pCi/g
Weston 2007	SSN55	soil	NCL-east	Offsite	radionuclide	Th-230	1.1		pCi/g
Weston 2007	SSN58	soil	NCL-east	Offsite	radionuclide	Th-230	6.17		pCi/g
Weston 2007	SSN60	soil	NCL-east	Offsite	radionuclide	Th-230	0.991		pCi/g
Weston 2007	SSN62	soil	NCL-east	Offsite	radionuclide	Th-230	0.612		pCi/g
Weston 2007	SSN74	soil	NCL-east	Offsite	radionuclide	Th-230	0.659		pCi/g
Weston 2007	SSN75	soil	NCL-east	Offsite	radionuclide	Th-230	5.9		pCi/g
Weston 2007	SSN86	soil	NCL-east	Offsite	radionuclide	Th-230	4.57		pCi/g
Weston 2007	SSN1-1	soil	Smelter-s	onsite	radionuclide	Th-230	2.15		pCi/g
Weston 2007	SSN2-8	soil	Smelter-s	onsite	radionuclide	Th-230	0.661		pCi/g
Weston 2007	SSN15	soil	Smelter-s	onsite	radionuclide	Th-230	23.7		pCi/g
Weston 2007	SSN10-1	soil	Smelter-s	onsite	radionuclide	Th-230	0.371		pCi/g
Weston 2007	SSN33-8	soil	Smelter-s	onsite	radionuclide	Th-230	2.35		pCi/g
Weston 2007	SSN5-8	soil	Smelter-s	onsite	radionuclide	Th-230	0.544		pCi/g
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	radionuclide	Th-230	3.16		pCi/g
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	radionuclide	Th-230	0.55		pCi/g
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	radionuclide	Th-230	0.244		pCi/g
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	radionuclide	Th-230	8.74		pCi/g
Weston 2007	SW1-1-20	waste	WMU-w	onsite	radionuclide	Th-230	0.383		pCi/g
Weston 2007	SW1-2-15	waste	WMU-w	onsite	radionuclide	Th-230	0.281	U	pCi/g
Weston 2007	SW1-4-10	waste	WMU-w	onsite	radionuclide	Th-230	0.2995	U	pCi/g
Weston 2007	SW1-4-5	waste	WMU-w	onsite	radionuclide	Th-230	0.434		pCi/g
Weston 2007	SW1-5-5	waste	WMU-w	onsite	radionuclide	Th-230	0.337	U	pCi/g
Weston 2007	SW1-6-20	waste	WMU-w	onsite	radionuclide	Th-230	0.235	U	pCi/g
Weston 2007	SW1-7-15	waste	WMU-w	onsite	radionuclide	Th-230	0.422	U	pCi/g
Weston 2007	SW2-1-20	waste	WMU-w	onsite	radionuclide	Th-230	1.17		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW2-3-15	waste	WMU-w	onsite	radionuclide	Th-230	3.11		pCi/g
Weston 2007	SW2-4-15	waste	WMU-w	onsite	radionuclide	Th-230	1.09		pCi/g
Weston 2007	SW2-5-15	waste	WMU-w	onsite	radionuclide	Th-230	0.2845	U	pCi/g
Weston 2007	SW2-6-20	waste	WMU-w	onsite	radionuclide	Th-230	0.2925	U	pCi/g
Weston 2007	SW2-7-5	waste	WMU-w	onsite	radionuclide	Th-230	0.1535	U	pCi/g
Weston 2007	SW3-1-10	waste	WMU-w	onsite	radionuclide	Th-230	1.38		pCi/g
Weston 2007	SW3-2-20	waste	WMU-w	onsite	radionuclide	Th-230	0.444	U	pCi/g
Weston 2007	SW3-3-10	waste	WMU-w	onsite	radionuclide	Th-230	0.857		pCi/g
Weston 2007	SW3-4-5	waste	WMU-w	onsite	radionuclide	Th-230	0.483		pCi/g
Weston 2007	SW3-5-20	waste	WMU-w	onsite	radionuclide	Th-230	0.2815	U	pCi/g
Weston 2007	SW3-6-10	waste	WMU-w	onsite	radionuclide	Th-230	0.478		pCi/g
Weston 2007	SW3-7-20	waste	WMU-w	onsite	radionuclide	Th-230	0.33		pCi/g
Weston 2007	SW4-1-5	waste	WMU-w	onsite	radionuclide	Th-230	0.1495	U	pCi/g
Weston 2007	SW4-3-5	waste	WMU-w	onsite	radionuclide	Th-230	0.154	U	pCi/g
Weston 2007	SW4-4-10	waste	WMU-w	onsite	radionuclide	Th-230	0.274		pCi/g
Weston 2007	SW4-5-20	waste	WMU-w	onsite	radionuclide	Th-230	5.25		pCi/g
Weston 2007	SW4-6-20	waste	WMU-w	onsite	radionuclide	Th-230	0.67		pCi/g
Weston 2007	SW4-7-15	waste	WMU-w	onsite	radionuclide	Th-230	0.929		pCi/g
Weston 2007	SW5-1-5	waste	WMU-w	onsite	radionuclide	Th-230	0.2175	U	pCi/g
Weston 2007	SW5-2-15	waste	WMU-w	onsite	radionuclide	Th-230	0.296	U	pCi/g
Weston 2007	SW5-3-20	waste	WMU-w	onsite	radionuclide	Th-230	0.1805	U	pCi/g
Weston 2007	SW5-4-15	waste	WMU-w	onsite	radionuclide	Th-230	0.41		pCi/g
Weston 2007	SW5-5-5	waste	WMU-w	onsite	radionuclide	Th-230	0.16	U	pCi/g
Weston 2007	SW5-6-5	waste	WMU-w	onsite	radionuclide	Th-230	0.161	U	pCi/g
Weston 2007	SW5-7-10	waste	WMU-w	onsite	radionuclide	Th-230	0.2265	U	pCi/g
Weston 2007	SWF1	waste	Smelter-w	onsite	radionuclide	Th-230	0.473		pCi/g
Weston 2007	SWF5	waste	Smelter-w	onsite	radionuclide	Th-230	0.1865	U	pCi/g
Weston 2007	SDF11	sediment	Smelter	Bkgd	radionuclide	Th-230	0.205	U	pCi/g
Weston 2007	SDF12	sediment	Smelter	Bkgd	radionuclide	Th-230	0.1985	U	pCi/g
Weston 2007	SDF13	sediment	Smelter	Bkgd	radionuclide	Th-230	0.586		pCi/g
Weston 2007	SDF14	sediment	Smelter	Bkgd	radionuclide	Th-230	0.389		pCi/g
Weston 2007	SDF15	sediment	Smelter	Bkgd	radionuclide	Th-230	0.892		pCi/g
Weston 2007	SDF16	sediment	Smelter	Bkgd	radionuclide	Th-230	0.978		pCi/g
Weston 2007	SDF1	sediment	Smelter	onsite	radionuclide	Th-230	0.887		pCi/g
Weston 2007	SDF2	sediment	Smelter	onsite	radionuclide	Th-230	1.33		pCi/g
Weston 2007	SDF3	sediment	Smelter	onsite	radionuclide	Th-230	0.646		pCi/g
Weston 2007	SDF4	sediment	Smelter	onsite	radionuclide	Th-230	0.791		pCi/g
Weston 2007	SDF5	sediment	Smelter	onsite	radionuclide	Th-230	0.194		pCi/g
Weston 2007	SDF6	sediment	Smelter	onsite	radionuclide	Th-230	1.77		pCi/g
Weston 2007	SDF7	sediment	Smelter	onsite	radionuclide	Th-230	0.661		pCi/g
Weston 2007	SDF8	sediment	Smelter	onsite	radionuclide	Th-230	1.26		pCi/g
Weston 2007	SDF9	sediment	Smelter	onsite	radionuclide	Th-230	2.42		pCi/g
Weston 2007	SDF10	sediment	Smelter	onsite	radionuclide	Th-230	2.43		pCi/g
Weston 2007	SDB31	sediment	Beach	Bkgd	radionuclide	Th-230	0.233	U	pCi/g
Weston 2007	SDB32	sediment	Beach	Bkgd	radionuclide	Th-230	0.0995	U	pCi/g
Weston 2007	SDB33	sediment	Beach	Bkgd	radionuclide	Th-230	0.296		pCi/g
Weston 2007	SDB34	sediment	Beach	Bkgd	radionuclide	Th-230	0.184	U	pCi/g
Weston 2007	SDB35	sediment	Beach	Bkgd	radionuclide	Th-230	0.326		pCi/g
Weston 2007	SDB36	sediment	Beach	Bkgd	radionuclide	Th-230	0.2795	U	pCi/g
Weston 2007	SDB17	sediment	Beach	onsite	radionuclide	Th-230	0.1605	U	pCi/g
Weston 2007	SDB18	sediment	Beach	onsite	radionuclide	Th-230	0.886		pCi/g
Weston 2007	SDB20	sediment	Beach	onsite	radionuclide	Th-230	0.654		pCi/g
Weston 2007	SDB23	sediment	Beach	onsite	radionuclide	Th-230	0.341		pCi/g
Weston 2007	SDB26	sediment	Beach	onsite	radionuclide	Th-230	0.366		pCi/g
Weston 2007	SDB30	sediment	Beach	onsite	radionuclide	Th-230	0.844		pCi/g
Weston 2007	SDM1	sediment	Marine	Bkgd	radionuclide	Th-230	0.747		pCi/g
Weston 2007	SDM2	sediment	Marine	Bkgd	radionuclide	Th-230	0.453		pCi/g
Weston 2007	SDM3	sediment	Marine	Bkgd	radionuclide	Th-230	0.489		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDM4	sediment	Marine	Bkgd	radionuclide	Th-230	1.702		pCi/g
Weston 2007	SDM5	sediment	Marine	Bkgd	radionuclide	Th-230	0.537		pCi/g
Weston 2007	SDM6	sediment	Marine	Bkgd	radionuclide	Th-230	0.86		pCi/g
Weston 2007	SDM14	sediment	Marine	onsite	radionuclide	Th-230	0.444		pCi/g
Weston 2007	SDM16	sediment	Marine	onsite	radionuclide	Th-230	0.751		pCi/g
Weston 2007	SDM21	sediment	Marine	onsite	radionuclide	Th-230	0.55		pCi/g
Weston 2007	SDM23	sediment	Marine	onsite	radionuclide	Th-230	0.577		pCi/g
Weston 2007	SDM24	sediment	Marine	onsite	radionuclide	Th-230	0.777		pCi/g
Weston 2007	SDM26	sediment	Marine	onsite	radionuclide	Th-230	0.498		pCi/g
Weston 2007	SWL31	sediment	Wetland	Bkgd	radionuclide	Th-230	1.84		pCi/g
Weston 2007	SWL32	sediment	Wetland	Bkgd	radionuclide	Th-230	0.765		pCi/g
Weston 2007	SWL33	sediment	Wetland	Bkgd	radionuclide	Th-230	0.1695	U	pCi/g
Weston 2007	SWL34	sediment	Wetland	Bkgd	radionuclide	Th-230	0.552		pCi/g
Weston 2007	SWL35	sediment	Wetland	Bkgd	radionuclide	Th-230	0.404		pCi/g
Weston 2007	SWL36	sediment	Wetland	Bkgd	radionuclide	Th-230	0.509		pCi/g
Weston 2007	SWL3	sediment	Wetland	onsite	radionuclide	Th-230	0.437		pCi/g
Weston 2007	SWL5	sediment	Wetland	onsite	radionuclide	Th-230	0.1485	U	pCi/g
Weston 2007	SWL13	sediment	Wetland	onsite	radionuclide	Th-230	0.547		pCi/g
Weston 2007	SWL19	sediment	Wetland	onsite	radionuclide	Th-230	1.38		pCi/g
Weston 2007	SWL21	sediment	Wetland	onsite	radionuclide	Th-230	1.61		pCi/g
Weston 2007	SWL22	sediment	Wetland	onsite	radionuclide	Th-230	0.413	U	pCi/g
Weston 2007	SSN94	soil	Bkgd-s	Bkgd	radionuclide	Th-232	0.913		pCi/g
Weston 2007	SSN95	soil	Bkgd-s	Bkgd	radionuclide	Th-232	1.43		pCi/g
Weston 2007	SSN96	soil	Bkgd-s	Bkgd	radionuclide	Th-232	1.56		pCi/g
Weston 2007	SSN97	soil	Bkgd-s	Bkgd	radionuclide	Th-232	1.3		pCi/g
Weston 2007	SSN98	soil	Bkgd-s	Bkgd	radionuclide	Th-232	1.23		pCi/g
Weston 2007	SSN99	soil	Bkgd-s	Bkgd	radionuclide	Th-232	0.794		pCi/g
Weston 2007	SSR6	soil	RES	Offsite	radionuclide	Th-232	0.685		pCi/g
Weston 2007	SSR8	soil	RES	Offsite	radionuclide	Th-232	0.618		pCi/g
Weston 2007	SSA7	soil	Ag-North	Offsite	radionuclide	Th-232	0.687		pCi/g
Weston 2007	SSA8	soil	Ag-North	Offsite	radionuclide	Th-232	1.12		pCi/g
Weston 2007	SSN54	soil	NCL-east	Offsite	radionuclide	Th-232	4.73		pCi/g
Weston 2007	SSN55	soil	NCL-east	Offsite	radionuclide	Th-232	0.855		pCi/g
Weston 2007	SSN58	soil	NCL-east	Offsite	radionuclide	Th-232	5.44		pCi/g
Weston 2007	SSN60	soil	NCL-east	Offsite	radionuclide	Th-232	1.14		pCi/g
Weston 2007	SSN62	soil	NCL-east	Offsite	radionuclide	Th-232	0.737		pCi/g
Weston 2007	SSN74	soil	NCL-east	Offsite	radionuclide	Th-232	0.937		pCi/g
Weston 2007	SSN75	soil	NCL-east	Offsite	radionuclide	Th-232	4.6		pCi/g
Weston 2007	SSN86	soil	NCL-east	Offsite	radionuclide	Th-232	2.12		pCi/g
Weston 2007	SSN1-1	soil	Smelter-s	onsite	radionuclide	Th-232	3.14		pCi/g
Weston 2007	SSN2-8	soil	Smelter-s	onsite	radionuclide	Th-232	0.644		pCi/g
Weston 2007	SSN15	soil	Smelter-s	onsite	radionuclide	Th-232	12.3		pCi/g
Weston 2007	SSN10-1	soil	Smelter-s	onsite	radionuclide	Th-232	0.596		pCi/g
Weston 2007	SSN33-8	soil	Smelter-s	onsite	radionuclide	Th-232	3.2		pCi/g
Weston 2007	SSN5-8	soil	Smelter-s	onsite	radionuclide	Th-232	0.52		pCi/g
Weston 2007	SSN35	waste	Waste-Disp-w	onsite	radionuclide	Th-232	1.52		pCi/g
Weston 2007	SSN40	waste	Waste-Disp-w	onsite	radionuclide	Th-232	0.71		pCi/g
Weston 2007	SSN49	waste	Waste-Disp-w	onsite	radionuclide	Th-232	0.258		pCi/g
Weston 2007	SSN51	waste	Waste-Disp-w	onsite	radionuclide	Th-232	19.8		pCi/g
Weston 2007	SW1-1-20	waste	WMU-w	onsite	radionuclide	Th-232	0.185	U	pCi/g
Weston 2007	SW1-2-15	waste	WMU-w	onsite	radionuclide	Th-232	0.236	U	pCi/g
Weston 2007	SW1-4-10	waste	WMU-w	onsite	radionuclide	Th-232	0.353	U	pCi/g
Weston 2007	SW1-4-5	waste	WMU-w	onsite	radionuclide	Th-232	0.641		pCi/g
Weston 2007	SW1-5-5	waste	WMU-w	onsite	radionuclide	Th-232	0.238	U	pCi/g
Weston 2007	SW1-6-20	waste	WMU-w	onsite	radionuclide	Th-232	0.1935	U	pCi/g
Weston 2007	SW1-7-15	waste	WMU-w	onsite	radionuclide	Th-232	0.588		pCi/g
Weston 2007	SW2-1-20	waste	WMU-w	onsite	radionuclide	Th-232	0.831		pCi/g
Weston 2007	SW2-3-15	waste	WMU-w	onsite	radionuclide	Th-232	1.66		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SW2-4-15	waste	WMU-w	onsite	radionuclide	Th-232	0.627		pCi/g
Weston 2007	SW2-5-15	waste	WMU-w	onsite	radionuclide	Th-232	0.2845	U	pCi/g
Weston 2007	SW2-6-20	waste	WMU-w	onsite	radionuclide	Th-232	0.836		pCi/g
Weston 2007	SW2-7-5	waste	WMU-w	onsite	radionuclide	Th-232	0.412		pCi/g
Weston 2007	SW3-1-10	waste	WMU-w	onsite	radionuclide	Th-232	0.495		pCi/g
Weston 2007	SW3-2-20	waste	WMU-w	onsite	radionuclide	Th-232	0.31	U	pCi/g
Weston 2007	SW3-3-10	waste	WMU-w	onsite	radionuclide	Th-232	0.184		pCi/g
Weston 2007	SW3-4-5	waste	WMU-w	onsite	radionuclide	Th-232	0.46		pCi/g
Weston 2007	SW3-5-20	waste	WMU-w	onsite	radionuclide	Th-232	0.2815	U	pCi/g
Weston 2007	SW3-6-10	waste	WMU-w	onsite	radionuclide	Th-232	0.116		pCi/g
Weston 2007	SW3-7-20	waste	WMU-w	onsite	radionuclide	Th-232	0.452		pCi/g
Weston 2007	SW4-1-5	waste	WMU-w	onsite	radionuclide	Th-232	0.1495	U	pCi/g
Weston 2007	SW4-3-5	waste	WMU-w	onsite	radionuclide	Th-232	0.1115	U	pCi/g
Weston 2007	SW4-4-10	waste	WMU-w	onsite	radionuclide	Th-232	0.1365	U	pCi/g
Weston 2007	SW4-5-20	waste	WMU-w	onsite	radionuclide	Th-232	4.79		pCi/g
Weston 2007	SW4-6-20	waste	WMU-w	onsite	radionuclide	Th-232	0.237	U	pCi/g
Weston 2007	SW4-7-15	waste	WMU-w	onsite	radionuclide	Th-232	0.465		pCi/g
Weston 2007	SW5-1-5	waste	WMU-w	onsite	radionuclide	Th-232	0.149	U	pCi/g
Weston 2007	SW5-2-15	waste	WMU-w	onsite	radionuclide	Th-232	0.215	U	pCi/g
Weston 2007	SW5-3-20	waste	WMU-w	onsite	radionuclide	Th-232	0.1445	U	pCi/g
Weston 2007	SW5-4-15	waste	WMU-w	onsite	radionuclide	Th-232	0.301		pCi/g
Weston 2007	SW5-5-5	waste	WMU-w	onsite	radionuclide	Th-232	0.101	U	pCi/g
Weston 2007	SW5-6-5	waste	WMU-w	onsite	radionuclide	Th-232	0.1165	U	pCi/g
Weston 2007	SW5-7-10	waste	WMU-w	onsite	radionuclide	Th-232	0.15		pCi/g
Weston 2007	SWF1	waste	Smelter-w	onsite	radionuclide	Th-232	0.0905	U	pCi/g
Weston 2007	SWF5	waste	Smelter-w	onsite	radionuclide	Th-232	0.059	U	pCi/g
Weston 2007	SDF11	sediment	Smelter	Bkgd	radionuclide	Th-232	0.14	U	pCi/g
Weston 2007	SDF12	sediment	Smelter	Bkgd	radionuclide	Th-232	0.144	U	pCi/g
Weston 2007	SDF13	sediment	Smelter	Bkgd	radionuclide	Th-232	0.337		pCi/g
Weston 2007	SDF14	sediment	Smelter	Bkgd	radionuclide	Th-232	1.75		pCi/g
Weston 2007	SDF15	sediment	Smelter	Bkgd	radionuclide	Th-232	0.993		pCi/g
Weston 2007	SDF16	sediment	Smelter	Bkgd	radionuclide	Th-232	0.813		pCi/g
Weston 2007	SDF1	sediment	Smelter	onsite	radionuclide	Th-232	0.679		pCi/g
Weston 2007	SDF2	sediment	Smelter	onsite	radionuclide	Th-232	1.08		pCi/g
Weston 2007	SDF3	sediment	Smelter	onsite	radionuclide	Th-232	0.409		pCi/g
Weston 2007	SDF4	sediment	Smelter	onsite	radionuclide	Th-232	0.935		pCi/g
Weston 2007	SDF5	sediment	Smelter	onsite	radionuclide	Th-232	0.228		pCi/g
Weston 2007	SDF6	sediment	Smelter	onsite	radionuclide	Th-232	1.78		pCi/g
Weston 2007	SDF7	sediment	Smelter	onsite	radionuclide	Th-232	1.09		pCi/g
Weston 2007	SDF8	sediment	Smelter	onsite	radionuclide	Th-232	1.52		pCi/g
Weston 2007	SDF9	sediment	Smelter	onsite	radionuclide	Th-232	1.6		pCi/g
Weston 2007	SDF10	sediment	Smelter	onsite	radionuclide	Th-232	1.58		pCi/g
Weston 2007	SDB31	sediment	Beach	Bkgd	radionuclide	Th-232	0.223	U	pCi/g
Weston 2007	SDB32	sediment	Beach	Bkgd	radionuclide	Th-232	0.496		pCi/g
Weston 2007	SDB33	sediment	Beach	Bkgd	radionuclide	Th-232	0.329		pCi/g
Weston 2007	SDB34	sediment	Beach	Bkgd	radionuclide	Th-232	0.14	U	pCi/g
Weston 2007	SDB35	sediment	Beach	Bkgd	radionuclide	Th-232	0.4		pCi/g
Weston 2007	SDB36	sediment	Beach	Bkgd	radionuclide	Th-232	0.2265	U	pCi/g
Weston 2007	SDB17	sediment	Beach	onsite	radionuclide	Th-232	0.819		pCi/g
Weston 2007	SDB18	sediment	Beach	onsite	radionuclide	Th-232	3.67		pCi/g
Weston 2007	SDB20	sediment	Beach	onsite	radionuclide	Th-232	1.33		pCi/g
Weston 2007	SDB23	sediment	Beach	onsite	radionuclide	Th-232	1.33		pCi/g
Weston 2007	SDB26	sediment	Beach	onsite	radionuclide	Th-232	1.01		pCi/g
Weston 2007	SDB30	sediment	Beach	onsite	radionuclide	Th-232	0.526		pCi/g
Weston 2007	SDM1	sediment	Marine	Bkgd	radionuclide	Th-232	1.15		pCi/g
Weston 2007	SDM2	sediment	Marine	Bkgd	radionuclide	Th-232	0.849		pCi/g
Weston 2007	SDM3	sediment	Marine	Bkgd	radionuclide	Th-232	0.674		pCi/g
Weston 2007	SDM4	sediment	Marine	Bkgd	radionuclide	Th-232	1.697		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	SDM5	sediment	Marine	Bkgd	radionuclide	Th-232	0.849		pCi/g
Weston 2007	SDM6	sediment	Marine	Bkgd	radionuclide	Th-232	1.44		pCi/g
Weston 2007	SDM14	sediment	Marine	onsite	radionuclide	Th-232	1.15		pCi/g
Weston 2007	SDM16	sediment	Marine	onsite	radionuclide	Th-232	1.71		pCi/g
Weston 2007	SDM21	sediment	Marine	onsite	radionuclide	Th-232	0.296		pCi/g
Weston 2007	SDM23	sediment	Marine	onsite	radionuclide	Th-232	0.41		pCi/g
Weston 2007	SDM24	sediment	Marine	onsite	radionuclide	Th-232	0.907		pCi/g
Weston 2007	SDM26	sediment	Marine	onsite	radionuclide	Th-232	0.454		pCi/g
Weston 2007	SWL31	sediment	Wetland	Bkgd	radionuclide	Th-232	1.17		pCi/g
Weston 2007	SWL32	sediment	Wetland	Bkgd	radionuclide	Th-232	0.975		pCi/g
Weston 2007	SWL33	sediment	Wetland	Bkgd	radionuclide	Th-232	0.396		pCi/g
Weston 2007	SWL34	sediment	Wetland	Bkgd	radionuclide	Th-232	0.461		pCi/g
Weston 2007	SWL35	sediment	Wetland	Bkgd	radionuclide	Th-232	0.2325	U	pCi/g
Weston 2007	SWL36	sediment	Wetland	Bkgd	radionuclide	Th-232	0.534		pCi/g
Weston 2007	SWL3	sediment	Wetland	onsite	radionuclide	Th-232	0.949		pCi/g
Weston 2007	SWL5	sediment	Wetland	onsite	radionuclide	Th-232	0.749		pCi/g
Weston 2007	SWL13	sediment	Wetland	onsite	radionuclide	Th-232	0.541		pCi/g
Weston 2007	SWL19	sediment	Wetland	onsite	radionuclide	Th-232	0.806		pCi/g
Weston 2007	SWL21	sediment	Wetland	onsite	radionuclide	Th-232	2.46		pCi/g
Weston 2007	SWL22	sediment	Wetland	onsite	radionuclide	Th-232	0.3455	U	pCi/g
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Aluminum	20		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Aluminum	22.8		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Aluminum	47		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Aluminum	19.3		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Aluminum	417		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Aluminum	148		ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Aluminum	425		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Aluminum	61.4		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Aluminum	46.2		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Aluminum	534		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Aluminum	1440		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Aluminum	2380		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Aluminum	1240		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Aluminum	6200		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Aluminum	1710		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Aluminum	1010		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Aluminum	1200		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Aluminum	671		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Aluminum	9240		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Aluminum	2660		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Aluminum	41800		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Aluminum	12500		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Aluminum	2920000		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Aluminum	1190		ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Antimony	30	U	ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Antimony	6.2		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Antimony	30	U	ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Antimony	30	U	ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Antimony	30	U	ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Antimony	9.2		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Antimony	18.7		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Antimony	30	U	ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Arsenic	4.7		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Arsenic	5	U	ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Arsenic	8		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Arsenic	5.9		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Arsenic	5.1		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Arsenic	5.5		ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Arsenic	5	U	ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Arsenic	5	U	ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Arsenic	5	U	ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Arsenic	6.9		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Arsenic	5	U	ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Arsenic	5	U	ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Arsenic	6.5		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Arsenic	5	U	ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Arsenic	6.5		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Arsenic	7.3		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Arsenic	7.1		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Arsenic	5	U	ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Arsenic	4.5		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Arsenic	5	U	ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Arsenic	40.8		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Arsenic	5	U	ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Arsenic	264		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Arsenic	5.5		ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Barium	42.3		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Barium	37.1		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Barium	33.6		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Barium	34.3		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Barium	41.9		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Barium	142		ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Barium	153		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Barium	36.5		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Barium	33.3		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Barium	59.4		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Barium	105		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Barium	417		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Barium	665		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Barium	126		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Barium	5400		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Barium	110		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Barium	1570000		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Barium	147		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Barium	249		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Barium	141		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Barium	570		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Barium	896		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Barium	5030		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Barium	2020		ug/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Beryllium	0.09		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Beryllium	0.08		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Beryllium	0.08		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Beryllium	0.06		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Beryllium	0.21		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Beryllium	2.5	U	ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Beryllium	0.21		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Beryllium	0.07		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Beryllium	0.1		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Beryllium	0.25		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Beryllium	0.15		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Beryllium	0.2		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Beryllium	0.07		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Beryllium	0.47		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Beryllium	0.15		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Beryllium	0.15		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Beryllium	0.16		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Beryllium	2.5	U	ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Beryllium	0.57		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Beryllium	0.17		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Beryllium	1.7		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Beryllium	22.7		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Beryllium	355		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Beryllium	0.12		ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Cadmium	2.5	U	ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Cadmium	2.5	U	ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Cadmium	2.5	U	ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Cadmium	2.5	U	ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Cadmium	0.36		ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Cadmium	0.41		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Cadmium	0.92		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Cadmium	0.92		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Cadmium	0.59		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Cadmium	10.3		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Cadmium	0.95		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Cadmium	398		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Cadmium	135		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Cadmium	2.5	U	ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Chromium	5	U	ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Chromium	5	U	ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Chromium	5	U	ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Chromium	5	U	ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Chromium	5	U	ug/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Chromium	13.5		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Chromium	3.1		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Chromium	0.73		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Chromium	0.73		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Chromium	13.7		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Chromium	3.7		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Chromium	41.2		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Chromium	159		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Chromium	3810		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Chromium	5	U	ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Cobalt	25	U	ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Cobalt	25	U	ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Cobalt	25	U	ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Cobalt	25	U	ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Cobalt	25	U	ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Cobalt	25	U	ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Cobalt	25	U	ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Cobalt	25	U	ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Cobalt	25	U	ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Cobalt	25	U	ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Cobalt	25	U	ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Cobalt	25	U	ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Cobalt	1.6		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Cobalt	1.2		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Cobalt	2.5		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Cobalt	1.9		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Cobalt	281		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Cobalt	25	U	ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Cobalt	4		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Cobalt	1.2		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Cobalt	11.1		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Cobalt	63.6		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Cobalt	307		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Cobalt	25	U	ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Copper	5.7		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Copper	5.5		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Copper	5.3		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Copper	5.2		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Copper	19.4		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Copper	45.3		ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Copper	67.1		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Copper	5.5		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Copper	5.3		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Copper	15.9		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Copper	43.4		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Copper	9.3		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Copper	73.4		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Copper	15.8		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Copper	19.1		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Copper	59.3		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Copper	147		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Copper	19.2		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Copper	82.3		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Copper	3.6		ug/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Copper	148		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Copper	8630		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Copper	77700		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Copper	8.8		ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Iron	84.9		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Iron	102		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Iron	192		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Iron	141		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Iron	305		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Iron	147		ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Iron	175		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Iron	127		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Iron	129		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Iron	355		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Iron	945		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Iron	4430		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Iron	1080		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Iron	4560		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Iron	1560		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Iron	26800		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Iron	692		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Iron	4310		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Iron	16200		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Iron	8130		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Iron	70500		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Iron	117000		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Iron	1040000		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Iron	1050		ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Lead	5	U	ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Lead	5	U	ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Lead	5	U	ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Lead	5	U	ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Lead	5	U	ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Lead	61.8		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Lead	35.9		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Lead	18.8		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Lead	4350		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Lead	2790		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Lead	5	U	ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Magnesium	215000		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Magnesium	167000		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Magnesium	141000		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Magnesium	140000		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Magnesium	148000		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Magnesium	343000		ug/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	WS3	surface water	Smelter	onsite	metal	Magnesium	314000		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Magnesium	153000		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Magnesium	133000		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Magnesium	160000		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Magnesium	385000		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Magnesium	191000		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Magnesium	1470000		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Magnesium	298000		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Magnesium	186000		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Magnesium	425000		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Magnesium	2700000		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Magnesium	296000		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Magnesium	179000		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Magnesium	100000		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Magnesium	524000		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Magnesium	11100000		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Magnesium	4110000		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Magnesium	718000		ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Manganese	110		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Manganese	109		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Manganese	118		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Manganese	154		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Manganese	148		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Manganese	297		ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Manganese	1100		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Manganese	128		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Manganese	131		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Manganese	98.8		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Manganese	237		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Manganese	567		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Manganese	4500		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Manganese	400		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Manganese	728		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Manganese	1250		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Manganese	1150		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Manganese	465		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Manganese	1390		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Manganese	805		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Manganese	6610		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Manganese	328000		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Manganese	98600		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Manganese	2510		ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Nickel	3.6		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Nickel	4.5		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Nickel	3.9		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Nickel	4.2		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Nickel	4.9		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Nickel	3		ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Nickel	3.5		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Nickel	3.9		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Nickel	4.4		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Nickel	5.2		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Nickel	6		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Nickel	13.4		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Nickel	8.1		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Nickel	9		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Nickel	3.5		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Nickel	15		ug/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Nickel	6.7		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Nickel	5.4		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Nickel	15.3		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Nickel	3.9		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Nickel	31.7		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Nickel	107		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Nickel	1610		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Nickel	20	U	ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Silver	5	U	ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Silver	5	U	ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Silver	5	U	ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Silver	5	U	ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Silver	5	U	ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Silver	8.4		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Silver	56		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Silver	571		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Silver	5	U	ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Vanadium	0.82		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Vanadium	0.63		ug/L
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Vanadium	1.1		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Vanadium	1.6		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Vanadium	1.8		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Vanadium	25	U	ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Vanadium	25	U	ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Vanadium	0.83		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Vanadium	1.2		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Vanadium	1.5		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Vanadium	3.3		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Vanadium	6.6		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Vanadium	3.3		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Vanadium	9.3		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Vanadium	2.8		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Vanadium	1.8		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Vanadium	2.6		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Vanadium	1.3		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Vanadium	25.8		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Vanadium	7.8		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Vanadium	92.2		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Vanadium	25	U	ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Vanadium	1490		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Vanadium	2.1		ug/L
Weston 2007	WS7	surface water	Smelter	Bkgd	metal	Zinc	5.1		ug/L
Weston 2007	WS8	surface water	Smelter	Bkgd	metal	Zinc	8		ug/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	WS9	surface water	Smelter	Bkgd	metal	Zinc	13.1		ug/L
Weston 2007	WS10	surface water	Smelter	Bkgd	metal	Zinc	11.8		ug/L
Weston 2007	WS1	surface water	Smelter	onsite	metal	Zinc	47.5		ug/L
Weston 2007	WS2	surface water	Smelter	onsite	metal	Zinc	32.1		ug/L
Weston 2007	WS3	surface water	Smelter	onsite	metal	Zinc	44		ug/L
Weston 2007	WS4	surface water	Smelter	onsite	metal	Zinc	12.6		ug/L
Weston 2007	WS5	surface water	Smelter	onsite	metal	Zinc	12.3		ug/L
Weston 2007	WS6	surface water	Smelter	onsite	metal	Zinc	33.8		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	metal	Zinc	45.7		ug/L
Weston 2007	MW-1	groundwater	Smelter	onsite	metal	Zinc	40.8		ug/L
Weston 2007	MW-2	groundwater	Smelter	onsite	metal	Zinc	63.5		ug/L
Weston 2007	MW-4	groundwater	Smelter	onsite	metal	Zinc	29.3		ug/L
Weston 2007	MW-6	groundwater	Smelter	onsite	metal	Zinc	51.4		ug/L
Weston 2007	MW-11	groundwater	Smelter	onsite	metal	Zinc	318		ug/L
Weston 2007	MW-12	groundwater	Smelter	onsite	metal	Zinc	95.2		ug/L
Weston 2007	MW-13	groundwater	Smelter	onsite	metal	Zinc	70.1		ug/L
Weston 2007	MW-14	groundwater	Smelter	onsite	metal	Zinc	245		ug/L
Weston 2007	MW-15	groundwater	Smelter	onsite	metal	Zinc	29.9		ug/L
Weston 2007	MW-16	groundwater	Smelter	onsite	metal	Zinc	200		ug/L
Weston 2007	MW-17	groundwater	Smelter	onsite	metal	Zinc	90100		ug/L
Weston 2007	MW-18	groundwater	Smelter	onsite	metal	Zinc	51500		ug/L
Weston 2007	MW-19	groundwater	Smelter	onsite	metal	Zinc	15.7		ug/L
Weston 2007	MW-5	groundwater	background	Bkgd	Radionuclide	Cs-137	1.8	U	pCi/L
Weston 2007	MW-11	groundwater	Smelter	onsite	Radionuclide	Cs-137	1.72	U	pCi/L
Weston 2007	MW-12	groundwater	Smelter	onsite	Radionuclide	Cs-137	9.35	U	pCi/L
Weston 2007	MW-1	groundwater	Smelter	onsite	Radionuclide	Cs-137	2.95	U	pCi/L
Weston 2007	MW-13	groundwater	Smelter	onsite	Radionuclide	Cs-137	2.04	U	pCi/L
Weston 2007	MW-14	groundwater	Smelter	onsite	Radionuclide	Cs-137	1.665	U	pCi/L
Weston 2007	MW-15	groundwater	Smelter	onsite	Radionuclide	Cs-137	2.52	U	pCi/L
Weston 2007	MW-16	groundwater	Smelter	onsite	Radionuclide	Cs-137	2.6	U	pCi/L
Weston 2007	MW-18	groundwater	Smelter	onsite	Radionuclide	Cs-137	2.45	U	pCi/L
Weston 2007	MW-19	groundwater	Smelter	onsite	Radionuclide	Cs-137	2.415	U	pCi/L
Weston 2007	MW-2	groundwater	Smelter	onsite	Radionuclide	Cs-137	2.5	U	pCi/L
Weston 2007	MW-4	groundwater	Smelter	onsite	Radionuclide	Cs-137	1.99	U	pCi/L
Weston 2007	MW-6	groundwater	Smelter	onsite	Radionuclide	Cs-137	1.995	U	pCi/L
Weston 2007	WS7	surface water	Smelter	Bkgd	Radionuclide	Cs-137	1.62	U	pCi/L
Weston 2007	WS8	surface water	Smelter	Bkgd	Radionuclide	Cs-137	1.355	U	pCi/L
Weston 2007	WS9	surface water	Smelter	Bkgd	Radionuclide	Cs-137	1.42	U	pCi/L
Weston 2007	WS10	surface water	Smelter	Bkgd	Radionuclide	Cs-137	1.65	U	pCi/L
Weston 2007	WS1	surface water	Smelter	onsite	Radionuclide	Cs-137	1.405	U	pCi/L
Weston 2007	WS2	surface water	Smelter	onsite	Radionuclide	Cs-137	1.53	U	pCi/L
Weston 2007	WS3	surface water	Smelter	onsite	Radionuclide	Cs-137	1.56	U	pCi/L
Weston 2007	WS4	surface water	Smelter	onsite	Radionuclide	Cs-137	1.575	U	pCi/L
Weston 2007	WS5	surface water	Smelter	onsite	Radionuclide	Cs-137	1.78	U	pCi/L
Weston 2007	WS6	surface water	Smelter	onsite	Radionuclide	Cs-137	1.495	U	pCi/L
Weston 2007	MW-5	groundwater	background	Bkgd	Radionuclide	K-40	660		pCi/L
Weston 2007	MW-11	groundwater	Smelter	onsite	Radionuclide	K-40	659		pCi/L
Weston 2007	MW-12	groundwater	Smelter	onsite	Radionuclide	K-40	19800		pCi/L
Weston 2007	MW-1	groundwater	Smelter	onsite	Radionuclide	K-40	3560		pCi/L
Weston 2007	MW-13	groundwater	Smelter	onsite	Radionuclide	K-40	862		pCi/L
Weston 2007	MW-14	groundwater	Smelter	onsite	Radionuclide	K-40	129		pCi/L
Weston 2007	MW-15	groundwater	Smelter	onsite	Radionuclide	K-40	26.35	U	pCi/L
Weston 2007	MW-16	groundwater	Smelter	onsite	Radionuclide	K-40	5540		pCi/L
Weston 2007	MW-18	groundwater	Smelter	onsite	Radionuclide	K-40	6710		pCi/L
Weston 2007	MW-19	groundwater	Smelter	onsite	Radionuclide	K-40	7370		pCi/L
Weston 2007	MW-2	groundwater	Smelter	onsite	Radionuclide	K-40	7390		pCi/L
Weston 2007	MW-4	groundwater	Smelter	onsite	Radionuclide	K-40	143		pCi/L
Weston 2007	MW-6	groundwater	Smelter	onsite	Radionuclide	K-40	6840		pCi/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	WS7	surface water	Smelter	Bkgd	Radionuclide	K-40	12.4	U	pCi/L
Weston 2007	WS8	surface water	Smelter	Bkgd	Radionuclide	K-40	45.5		pCi/L
Weston 2007	WS9	surface water	Smelter	Bkgd	Radionuclide	K-40	42.5		pCi/L
Weston 2007	WS10	surface water	Smelter	Bkgd	Radionuclide	K-40	13.5	U	pCi/L
Weston 2007	WS1	surface water	Smelter	onsite	Radionuclide	K-40	22.4	U	pCi/L
Weston 2007	WS2	surface water	Smelter	onsite	Radionuclide	K-40	264		pCi/L
Weston 2007	WS3	surface water	Smelter	onsite	Radionuclide	K-40	198		pCi/L
Weston 2007	WS4	surface water	Smelter	onsite	Radionuclide	K-40	81		pCi/L
Weston 2007	WS5	surface water	Smelter	onsite	Radionuclide	K-40	25.8	U	pCi/L
Weston 2007	WS6	surface water	Smelter	onsite	Radionuclide	K-40	26.95	U	pCi/L
Weston 2007	MW-5	groundwater	background	Bkgd	Radionuclide	Th-228	0.2785	U	pCi/L
Weston 2007	MW-11	groundwater	Smelter	onsite	Radionuclide	Th-228	0.172	U	pCi/L
Weston 2007	MW-12	groundwater	Smelter	onsite	Radionuclide	Th-228	105		pCi/L
Weston 2007	MW-1	groundwater	Smelter	onsite	Radionuclide	Th-228	0.248	U	pCi/L
Weston 2007	MW-13	groundwater	Smelter	onsite	Radionuclide	Th-228	0.1645	U	pCi/L
Weston 2007	MW-14	groundwater	Smelter	onsite	Radionuclide	Th-228	0.754		pCi/L
Weston 2007	MW-15	groundwater	Smelter	onsite	Radionuclide	Th-228	1.41		pCi/L
Weston 2007	MW-16	groundwater	Smelter	onsite	Radionuclide	Th-228	1.05		pCi/L
Weston 2007	MW-18	groundwater	Smelter	onsite	Radionuclide	Th-228	0.24	U	pCi/L
Weston 2007	MW-19	groundwater	Smelter	onsite	Radionuclide	Th-228	0.3055	U	pCi/L
Weston 2007	MW-2	groundwater	Smelter	onsite	Radionuclide	Th-228	0.695		pCi/L
Weston 2007	MW-4	groundwater	Smelter	onsite	Radionuclide	Th-228	0.686		pCi/L
Weston 2007	MW-6	groundwater	Smelter	onsite	Radionuclide	Th-228	1.34		pCi/L
Weston 2007	WS7	surface water	Smelter	Bkgd	Radionuclide	Th-228	0.335	U	pCi/L
Weston 2007	WS8	surface water	Smelter	Bkgd	Radionuclide	Th-228	0.3485	U	pCi/L
Weston 2007	WS9	surface water	Smelter	Bkgd	Radionuclide	Th-228	0.61	U	pCi/L
Weston 2007	WS10	surface water	Smelter	Bkgd	Radionuclide	Th-228	0.1955	U	pCi/L
Weston 2007	WS1	surface water	Smelter	onsite	Radionuclide	Th-228	0.686	U	pCi/L
Weston 2007	WS2	surface water	Smelter	onsite	Radionuclide	Th-228	0.4075	U	pCi/L
Weston 2007	WS3	surface water	Smelter	onsite	Radionuclide	Th-228	0.3825	U	pCi/L
Weston 2007	WS4	surface water	Smelter	onsite	Radionuclide	Th-228	0.3765	U	pCi/L
Weston 2007	WS5	surface water	Smelter	onsite	Radionuclide	Th-228	0.259	U	pCi/L
Weston 2007	WS6	surface water	Smelter	onsite	Radionuclide	Th-228	0.3805	U	pCi/L
Weston 2007	MW-5	groundwater	background	Bkgd	Radionuclide	Th-230	0.2165	U	pCi/L
Weston 2007	MW-11	groundwater	Smelter	onsite	Radionuclide	Th-230	0.123	U	pCi/L
Weston 2007	MW-12	groundwater	Smelter	onsite	Radionuclide	Th-230	0.995		pCi/L
Weston 2007	MW-1	groundwater	Smelter	onsite	Radionuclide	Th-230	0.3105	U	pCi/L
Weston 2007	MW-13	groundwater	Smelter	onsite	Radionuclide	Th-230	0.1455	U	pCi/L
Weston 2007	MW-14	groundwater	Smelter	onsite	Radionuclide	Th-230	1.39		pCi/L
Weston 2007	MW-15	groundwater	Smelter	onsite	Radionuclide	Th-230	0.988		pCi/L
Weston 2007	MW-16	groundwater	Smelter	onsite	Radionuclide	Th-230	0.61		pCi/L
Weston 2007	MW-18	groundwater	Smelter	onsite	Radionuclide	Th-230	0.138	U	pCi/L
Weston 2007	MW-19	groundwater	Smelter	onsite	Radionuclide	Th-230	0.1755	U	pCi/L
Weston 2007	MW-2	groundwater	Smelter	onsite	Radionuclide	Th-230	0.345		pCi/L
Weston 2007	MW-4	groundwater	Smelter	onsite	Radionuclide	Th-230	0.806		pCi/L
Weston 2007	MW-6	groundwater	Smelter	onsite	Radionuclide	Th-230	2.17		pCi/L
Weston 2007	WS7	surface water	Smelter	Bkgd	Radionuclide	Th-230	0.1645	U	pCi/L
Weston 2007	WS8	surface water	Smelter	Bkgd	Radionuclide	Th-230	0.0975	U	pCi/L
Weston 2007	WS9	surface water	Smelter	Bkgd	Radionuclide	Th-230	0.3185	U	pCi/L
Weston 2007	WS10	surface water	Smelter	Bkgd	Radionuclide	Th-230	0.0985	U	pCi/L
Weston 2007	WS1	surface water	Smelter	onsite	Radionuclide	Th-230	0.451	U	pCi/L
Weston 2007	WS2	surface water	Smelter	onsite	Radionuclide	Th-230	0.321	U	pCi/L
Weston 2007	WS3	surface water	Smelter	onsite	Radionuclide	Th-230	0.2095	U	pCi/L
Weston 2007	WS4	surface water	Smelter	onsite	Radionuclide	Th-230	0.212	U	pCi/L
Weston 2007	WS5	surface water	Smelter	onsite	Radionuclide	Th-230	0.34	U	pCi/L
Weston 2007	WS6	surface water	Smelter	onsite	Radionuclide	Th-230	0.204	U	pCi/L
Weston 2007	MW-5	groundwater	background	Bkgd	Radionuclide	Th-232	0.2215	U	pCi/L
Weston 2007	MW-11	groundwater	Smelter	onsite	Radionuclide	Th-232	0.134	U	pCi/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	MW-12	groundwater	Smelter	onsite	Radionuclide	Th-232	0.424		pCi/L
Weston 2007	MW-1	groundwater	Smelter	onsite	Radionuclide	Th-232	0.15855	U	pCi/L
Weston 2007	MW-13	groundwater	Smelter	onsite	Radionuclide	Th-232	0.118	U	pCi/L
Weston 2007	MW-14	groundwater	Smelter	onsite	Radionuclide	Th-232	0.872		pCi/L
Weston 2007	MW-15	groundwater	Smelter	onsite	Radionuclide	Th-232	0.48		pCi/L
Weston 2007	MW-16	groundwater	Smelter	onsite	Radionuclide	Th-232	0.27		pCi/L
Weston 2007	MW-18	groundwater	Smelter	onsite	Radionuclide	Th-232	0.106	U	pCi/L
Weston 2007	MW-19	groundwater	Smelter	onsite	Radionuclide	Th-232	0.1025	U	pCi/L
Weston 2007	MW-2	groundwater	Smelter	onsite	Radionuclide	Th-232	0.139	U	pCi/L
Weston 2007	MW-4	groundwater	Smelter	onsite	Radionuclide	Th-232	0.694		pCi/L
Weston 2007	MW-6	groundwater	Smelter	onsite	Radionuclide	Th-232	0.2745	U	pCi/L
Weston 2007	WS7	surface water	Smelter	Bkgd	Radionuclide	Th-232	0.1195	U	pCi/L
Weston 2007	WS8	surface water	Smelter	Bkgd	Radionuclide	Th-232	0.1395	U	pCi/L
Weston 2007	WS9	surface water	Smelter	Bkgd	Radionuclide	Th-232	0.341	U	pCi/L
Weston 2007	WS10	surface water	Smelter	Bkgd	Radionuclide	Th-232	0.1295	U	pCi/L
Weston 2007	WS1	surface water	Smelter	onsite	Radionuclide	Th-232	0.304	U	pCi/L
Weston 2007	WS2	surface water	Smelter	onsite	Radionuclide	Th-232	0.276	U	pCi/L
Weston 2007	WS3	surface water	Smelter	onsite	Radionuclide	Th-232	0.198	U	pCi/L
Weston 2007	WS4	surface water	Smelter	onsite	Radionuclide	Th-232	0.2035	U	pCi/L
Weston 2007	WS5	surface water	Smelter	onsite	Radionuclide	Th-232	0.34	U	pCi/L
Weston 2007	WS6	surface water	Smelter	onsite	Radionuclide	Th-232	0.1565	U	pCi/L
Weston 2007	AIR-1	air	Downwind	200606	metal	Aluminum	620	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Aluminum	690	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Aluminum	805	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Aluminum	700	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Aluminum	710	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Aluminum	414	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Aluminum	525	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Aluminum	3640	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Aluminum	492	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Aluminum	454	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Aluminum	635	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Aluminum	398.5	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Aluminum	590	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Aluminum	423.5	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Aluminum	296.5	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Aluminum	453	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Aluminum	479	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Aluminum	520	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Aluminum	665	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Aluminum	433	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Aluminum	680	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Aluminum	1110	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Aluminum	855	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Aluminum	795	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Aluminum	109.5	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Aluminum	299.5	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Aluminum	332.5	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Aluminum	307	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Aluminum	660	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Aluminum	432.5	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Aluminum	258	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Aluminum	333.5	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Aluminum	395	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Aluminum	448.5	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Aluminum	258.5	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Antimony	0.2805	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Antimony	0	U	ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-3	air	upwind edge	200606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Antimony	0.1945	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Antimony	0.2405	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Antimony	0.1825	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Antimony	0.2185	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Antimony	0.4815	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Antimony	0.585	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Antimony	0.0904		ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Antimony	0.326		ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Antimony	0.251		ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Antimony	0.197		ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Antimony	0.274		ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Antimony	0.219		ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Antimony	0.221		ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Antimony	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Antimony	0.478		ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Antimony	0.265		ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Arsenic	0.0585	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Arsenic	0.053	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Arsenic	0.058	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Arsenic	0.0462	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Arsenic	0.0525	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Arsenic	0.0535	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Arsenic	0.053	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Arsenic	0.0665	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Arsenic	0.0316	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Arsenic	0.0441	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Arsenic	0.03285	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Arsenic	0.04865	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Arsenic	0.0575	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Arsenic	0.0453	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Arsenic	0.1595	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Arsenic	0.0183		ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-1	air	Downwind	270606	metal	Arsenic	0.0847		ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Arsenic	0.0636		ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Arsenic	0.0805		ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Arsenic	0.115		ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Arsenic	0.0457		ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Arsenic	0.056		ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Arsenic	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Arsenic	0.0986		ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Arsenic	0.0661		ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Barium	131	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Barium	131.5	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Barium	143.5	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Barium	139	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Barium	153	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Barium	52	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Barium	87.5	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Barium	785	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Barium	95	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Barium	92	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Barium	123.5	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Barium	68	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Barium	91.5	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Barium	81	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Barium	54	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Barium	90	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Barium	85.5	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Barium	103.5	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Barium	125	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Barium	77	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Barium	146.5	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Barium	229.5	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Barium	156.5	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Barium	161.5	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Barium	23.2	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Barium	56	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Barium	63	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Barium	52	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Barium	109	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Barium	75	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Barium	53.5	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Barium	53	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Barium	61.5	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Barium	83.5	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Barium	40.65	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Beryllium	0.0693		ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Beryllium	0.157		ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Beryllium	0.123		ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Beryllium	0.0709		ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Beryllium	0.0752		ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Beryllium	0.037		ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Beryllium	0.0765		ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Beryllium	0.393		ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Beryllium	0.0561		ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Beryllium	0.0485		ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Beryllium	0.148		ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Beryllium	0.0443		ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Beryllium	0.155		ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-3	air	upwind edge	220606	metal	Beryllium	0.0925		ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Beryllium	0.0495		ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Beryllium	0.0507		ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Beryllium	0.169		ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Beryllium	0.0579		ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Beryllium	0.23		ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Beryllium	0.0476		ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Beryllium	0.115		ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Beryllium	0.114		ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Beryllium	0.237		ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Beryllium	0.0828		ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Beryllium	0.0079	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Beryllium	0.0229	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Beryllium	0.122		ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Beryllium	0.0363	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Beryllium	0.03575	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Beryllium	0.375		ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Beryllium	0.01425	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Beryllium	0.052	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Beryllium	0.04705	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Beryllium	0.02355	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Beryllium	0.056	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Cadmium	0.0216		ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Cadmium	0.036		ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Cadmium	0.0239		ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Cadmium	0.0573		ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Cadmium	0.0187		ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Cadmium	0.122		ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Cadmium	0.0454		ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Cadmium	0.0165		ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Cadmium	0.0336		ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Cadmium	0.0157		ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Cadmium	0.0189		ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Cadmium	0.0764		ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Cadmium	0.0246		ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Cadmium	0.0291		ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Cadmium	0.0135		ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Cadmium	0.0114		ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Cadmium	0.0126		ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Cadmium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Chromium	0.865	U	ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Chromium	1.005	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Chromium	1.14	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Chromium	0.965	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Chromium	0.94	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Chromium	0.625	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Chromium	0.735	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Chromium	5.25	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Chromium	0.71	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Chromium	0.63	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Chromium	0.905	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Chromium	0.575	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Chromium	0.9	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Chromium	0.61	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Chromium	0.454	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Chromium	0.645	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Chromium	0.705	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Chromium	0.76	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Chromium	0.97	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Chromium	0.61	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Chromium	0.945	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Chromium	1.58	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Chromium	1.25	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Chromium	1.175	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Chromium	0.152	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Chromium	0.4575	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Chromium	0.4985	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Chromium	0.469	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Chromium	1	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Chromium	0.675	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Chromium	0.457	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Chromium	0.51	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Chromium	0.6	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Chromium	0.64	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Chromium	0.4165	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Cobalt	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Cobalt	0.0236	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Cobalt	0.0311	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Cobalt	0.02515	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Cobalt	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Cobalt	0.0144	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Cobalt	0.01565	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Cobalt	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Cobalt	0.03795	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Cobalt	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Cobalt	0.02045	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Cobalt	0.0163	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Cobalt	0.02315	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Cobalt	0.0163	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Cobalt	0.02655	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Cobalt	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Cobalt	0.0191	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Cobalt	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Cobalt	0.01955	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Cobalt	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Cobalt	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Cobalt	0.0505	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Cobalt	0.04115	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Cobalt	0.079	U	ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Cobalt	0.0056	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Cobalt	0.0186	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Cobalt	0.0203	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Cobalt	0.0192	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Cobalt	0.03785	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Cobalt	0.0271	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Cobalt	0.01705	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Cobalt	0.01925	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Cobalt	0.012	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Cobalt	0.02015	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Cobalt	0.01895	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Copper	1.05		ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Copper	4.82		ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Copper	6.78		ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Copper	0.539		ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Copper	0.578		ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Copper	2.01		ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Copper	3.8		ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Copper	6.37		ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Copper	0.938		ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Copper	0.821		ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Copper	4.78		ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Copper	0.665		ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Copper	8.59		ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Copper	1.62		ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Copper	0.777		ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Copper	1.13		ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Copper	4.91		ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Copper	1.23		ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Copper	3.91		ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Copper	1.17		ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Copper	2.87		ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Copper	2.27		ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Copper	8.9		ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Copper	0.567		ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Copper	0.841		ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Copper	1.61		ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Copper	4.09		ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Copper	4.19		ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Copper	4.28		ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Copper	6.89		ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Copper	0.3315	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Copper	3.04		ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Copper	7.2		ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Copper	0.143	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Copper	2.53		ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Lead	0.163	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Lead	0.324	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Lead	1.01		ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Lead	0.1635	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Lead	0.1475	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Lead	0.2265	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Lead	0.533		ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Lead	1.055	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Lead	0.2095	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Lead	0.139	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Lead	0.714		ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Lead	0.127	U	ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Lead	1.06		ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Lead	0.142	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Lead	0.1915	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Lead	0.0945	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Lead	0.682		ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Lead	0.313		ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Lead	0.256	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Lead	0.1005	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Lead	0.1905	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Lead	0.2815	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Lead	0.992		ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Lead	0.218	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Lead	0.02975	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Lead	0.098	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Lead	0.168	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Lead	0.1535	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Lead	0.223	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Lead	0.642		ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Lead	0.0755	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Lead	0.1705	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Lead	0.824		ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Lead	0.088	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Lead	0.128	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Magnesium	58.5	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Magnesium	312		ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Magnesium	374		ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Magnesium	57.5	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Magnesium	54.5	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Magnesium	47.1	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Magnesium	200		ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Magnesium	251.5	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Magnesium	52	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Magnesium	37.75	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Magnesium	343		ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Magnesium	44.95	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Magnesium	416		ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Magnesium	67	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Magnesium	56	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Magnesium	39.95	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Magnesium	330		ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Magnesium	44.9	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Magnesium	360		ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Magnesium	34.95	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Magnesium	93	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Magnesium	88.5	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Magnesium	519		ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Magnesium	60.5	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Magnesium	14.3	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Magnesium	38.35	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Magnesium	160		ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Magnesium	60.5	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Magnesium	54	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Magnesium	440		ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Magnesium	28.35	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Magnesium	197		ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Magnesium	317		ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Magnesium	30.45	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Magnesium	182		ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-1	air	Downwind	200606	metal	Manganese	0.482	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Manganese	6.52		ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Manganese	6.91		ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Manganese	0.545	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Manganese	0.49	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Manganese	0.357	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Manganese	3.17		ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Manganese	2.29	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Manganese	1.52		ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Manganese	0.2985	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Manganese	6.84		ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Manganese	0.29	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Manganese	8.19		ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Manganese	2.2		ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Manganese	2.67		ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Manganese	0.3765	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Manganese	7.41		ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Manganese	0.4165	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Manganese	8.72		ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Manganese	0.305	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Manganese	3.24		ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Manganese	0.925	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Manganese	12.7		ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Manganese	1.39		ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Manganese	0.2545	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Manganese	1.42		ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Manganese	3.9		ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Manganese	2.79		ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Manganese	1.095	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Manganese	13.3		ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Manganese	0.2955	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Manganese	5		ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Manganese	6.77		ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Manganese	0.322	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Manganese	5.43		ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Molybdenum	0.173		ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Molybdenum	0.104		ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Molybdenum	0.169		ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Molybdenum	0.141		ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Molybdenum	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Molybdenum	0.0765		ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Molybdenum	0.131		ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Molybdenum	0.941		ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Molybdenum	0.179		ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Molybdenum	0.0963		ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Molybdenum	0.121		ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Molybdenum	0.125		ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Molybdenum	0.119		ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Molybdenum	0.0729		ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Molybdenum	0.0818		ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Molybdenum	0.112		ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Molybdenum	0.11		ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Molybdenum	0.122		ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Molybdenum	0.144		ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Molybdenum	0.11		ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Molybdenum	0.163		ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Molybdenum	0.25		ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Molybdenum	0.197		ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Molybdenum	0.31		ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Molybdenum	0.01575	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Molybdenum	0.05	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Molybdenum	0.0333	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Molybdenum	0.04025	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Molybdenum	0.08	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Molybdenum	0.0525	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Molybdenum	0.0542		ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Molybdenum	0.041	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Molybdenum	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Molybdenum	0.067	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Molybdenum	0.0345	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Nickel	0.19	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Nickel	0.7		ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Nickel	0.716		ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Nickel	0.202	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Nickel	0.2285	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Nickel	0.474		ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Nickel	0.212	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Nickel	1.145	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Nickel	0.199	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Nickel	0.311		ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Nickel	0.266	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Nickel	0.1565	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Nickel	0.794		ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Nickel	0.181	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Nickel	0.182	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Nickel	0.1685	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Nickel	0.458		ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Nickel	0.199	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Nickel	0.268	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Nickel	0.1115	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Nickel	0.2015	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Nickel	0.403	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Nickel	1.04		ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Nickel	0.2855	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Nickel	0.0415	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Nickel	0.558		ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Nickel	0.4755	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Nickel	1.03		ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Nickel	0.4705	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Nickel	0.491	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Nickel	0.424		ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Nickel	0.354	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Nickel	1.34		ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Nickel	0.1305	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Nickel	0.3985	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Selenium	0.0731		ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Selenium	0	U	ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-1	air	Downwind	220606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Selenium	0.154		ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Selenium	0.138		ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Selenium	0.0319		ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Selenium	0.0769		ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Selenium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Selenium	0.0458		ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Silver	0.0705		ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Silver	0.0881		ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Silver	0.0786		ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Silver	0.189		ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Silver	0.0258		ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Silver	0.0297		ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Silver	0.0309		ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Silver	0.0741		ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Silver	0.0565		ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Silver	0.0235		ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Silver	0.0337		ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Silver	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Silver	0.0379		ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Silver	0.0366		ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Thallium	0.263		ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Thallium	0.0183		ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Thallium	0.0585		ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Thallium	0	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Vanadium	0.555	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Vanadium	0.64	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Vanadium	0.665	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Vanadium	0.685	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Vanadium	0.76	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Vanadium	0.428	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Vanadium	0.4725	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Vanadium	3.03	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Vanadium	0.498	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Vanadium	0.457	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Vanadium	0.55	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Vanadium	0.422	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Vanadium	0.58	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Vanadium	0.4485	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Vanadium	0.408	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Vanadium	0.486	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Vanadium	0.446	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Vanadium	0.51	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Vanadium	0.63	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Vanadium	0.3985	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Vanadium	0.62	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Vanadium	1.07	U	ng/ft

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Vanadium	1.205	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Vanadium	0.965	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Vanadium	0.115	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Vanadium	0.585	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Vanadium	0.58	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Vanadium	0.57	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Vanadium	0.79	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Vanadium	0.675	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Vanadium	0.5	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Vanadium	0.5	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Vanadium	0.63	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Vanadium	0.4895	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Vanadium	0.373	U	ng/ft
Weston 2007	AIR-1	air	Downwind	200606	metal	Zinc	91.5	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	200606	metal	Zinc	88	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	200606	metal	Zinc	91.5	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	200606	metal	Zinc	94.5	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	200606	metal	Zinc	105	U	ng/ft
Weston 2007	AIR-1	air	Downwind	210606	metal	Zinc	40.3	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	210606	metal	Zinc	56	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	210606	metal	Zinc	520	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	210606	metal	Zinc	64.5	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	210606	metal	Zinc	64	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	210606	metal	Zinc	79.5	U	ng/ft
Weston 2007	AIR-1	air	Downwind	220606	metal	Zinc	48.65	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	220606	metal	Zinc	57	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	220606	metal	Zinc	54	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	220606	metal	Zinc	38.7	U	ng/ft
Weston 2007	AIR-5	air	upwind NCL	220606	metal	Zinc	61	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	220606	metal	Zinc	54.5	U	ng/ft
Weston 2007	AIR-1	air	Downwind	230606	metal	Zinc	74.5	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	230606	metal	Zinc	83	U	ng/ft
Weston 2007	AIR-1	air	Downwind	240606	metal	Zinc	53	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	240606	metal	Zinc	98	U	ng/ft
Weston 2007	AIR-1	air	Downwind	260606	metal	Zinc	169	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	260606	metal	Zinc	97	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	260606	metal	Zinc	108.5	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	260606	metal	Zinc	15.65	U	ng/ft
Weston 2007	AIR-1	air	Downwind	270606	metal	Zinc	37.55	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	270606	metal	Zinc	39.95	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	270606	metal	Zinc	35.6	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	270606	metal	Zinc	76	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	270606	metal	Zinc	46.45	U	ng/ft
Weston 2007	AIR-1	air	Downwind	280606	metal	Zinc	35.6	U	ng/ft
Weston 2007	AIR-2	air	wastepile-2	280606	metal	Zinc	35.35	U	ng/ft
Weston 2007	AIR-3	air	upwind edge	280606	metal	Zinc	35.55	U	ng/ft
Weston 2007	AIR-4	air	upwind NCL	280606	metal	Zinc	56	U	ng/ft
Weston 2007	AIR-6	air	wastepile-6	280606	metal	Zinc	26.8	U	ng/ft
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Arsenic	2.08		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Barium	55		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Cadmium	0.354		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Chromium	6.09		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Copper	6.91		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Lead	8.51		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Nickel	7.2		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Silver	0	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Zinc	22.9		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Aluminum	3790		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Magnesium	3360		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Manganese	138		mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	metal	Mercury	0	U	mg/kg
AMEC 2006	C11	soil	NCL-east	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C11	soil	NCL-east	Offsite	PCB/pest	p,p-DDD	0	U	ug/kg
AMEC 2006	C11	soil	NCL-east	Offsite	PCB/pest	p,p-DDE	17		ug/kg
AMEC 2006	C11	soil	NCL-east	Offsite	PCB/pest	p,p-DDT	6.3		ug/kg
AMEC 2006	C11	soil	NCL-east	Offsite	PCB/pest	Total DDTs	23.3		ug/kg
AMEC 2006	C11	soil	NCL-east	Offsite	PCB/pest	Toxaphene	0	U	ug/kg
AMEC 2006	C11	soil	NCL-east	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C11	soil	NCL-east	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Arsenic	2.86		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Barium	68.5		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Cadmium	0.483		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Chromium	9.76		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Copper	12.3		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Lead	9.89		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Nickel	11.1		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Zinc	35.1		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Aluminum	5700		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Magnesium	4220		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Manganese	172		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	metal	Mercury	0.0272		mg/kg
AMEC 2006	C12	soil	NCL-east	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C12	soil	NCL-east	Offsite	PCB/pest	p,p-DDD	0	U	ug/kg
AMEC 2006	C12	soil	NCL-east	Offsite	PCB/pest	p,p-DDE	4.2		ug/kg
AMEC 2006	C12	soil	NCL-east	Offsite	PCB/pest	p,p-DDT	0	U	ug/kg
AMEC 2006	C12	soil	NCL-east	Offsite	PCB/pest	Total DDTs	4.2		ug/kg
AMEC 2006	C12	soil	NCL-east	Offsite	PCB/pest	Toxaphene	0	U	ug/kg
AMEC 2006	C12	soil	NCL-east	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C12	soil	NCL-east	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Antimony	0	U	mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Arsenic	2.04		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Barium	51		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Cadmium	0.49		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Chromium	5.44		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Copper	5.6		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Lead	4.54		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Nickel	7.13		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Selenium	0	U	mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Silver	0	U	mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Zinc	21.8		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Aluminum	3390		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Magnesium	2390		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Manganese	120		mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	metal	Mercury	0	U	mg/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	PCB/pest	p,p-DDD	0	U	ug/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	PCB/pest	p,p-DDE	3.2		ug/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	PCB/pest	p,p-DDT	0	U	ug/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	PCB/pest	Total DDTs	3.2		ug/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	PCB/pest	Toxaphene	0	U	ug/kg
AMEC 2006	C13	soil	Bkgd-s	Bkgd	PCB/pest	Dieldrin	0	U	ug/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
AMEC 2006	C13	soil	Bkgd-s	Bkgd	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Arsenic	3.29		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Barium	61.3		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Cadmium	0.408		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Chromium	7.35		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Copper	7.28		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Lead	6.91		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Nickel	8.82		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Zinc	25.6		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Aluminum	4300		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Magnesium	3130		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Manganese	151		mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	metal	Mercury	0	U	mg/kg
AMEC 2006	C14	soil	NCL-North	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C14	soil	NCL-North	Offsite	PCB/pest	p,p-DDD	9.7		ug/kg
AMEC 2006	C14	soil	NCL-North	Offsite	PCB/pest	p,p-DDE	33		ug/kg
AMEC 2006	C14	soil	NCL-North	Offsite	PCB/pest	p,p-DDT	5.3		ug/kg
AMEC 2006	C14	soil	NCL-North	Offsite	PCB/pest	Total DDTs	48		ug/kg
AMEC 2006	C14	soil	NCL-North	Offsite	PCB/pest	Toxaphene	63		ug/kg
AMEC 2006	C14	soil	NCL-North	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C14	soil	NCL-North	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Arsenic	3.3		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Barium	95.7		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Cadmium	0.58		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Chromium	11.3		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Copper	11.6		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Lead	4.93		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Nickel	15		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Zinc	43.9		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Aluminum	6820		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Magnesium	4950		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Manganese	344		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	metal	Mercury	0.0363		mg/kg
AMEC 2006	C15	soil	Ag-North	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C15	soil	Ag-North	Offsite	PCB/pest	p,p-DDD	0	U	ug/kg
AMEC 2006	C15	soil	Ag-North	Offsite	PCB/pest	p,p-DDE	1.7		ug/kg
AMEC 2006	C15	soil	Ag-North	Offsite	PCB/pest	p,p-DDT	0	U	ug/kg
AMEC 2006	C15	soil	Ag-North	Offsite	PCB/pest	Total DDTs	0	U	ug/kg
AMEC 2006	C15	soil	Ag-North	Offsite	PCB/pest	Toxaphene	0	U	ug/kg
AMEC 2006	C15	soil	Ag-North	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C15	soil	Ag-North	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Antimony	0	U	mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Arsenic	2.53		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Barium	124		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Cadmium	0.495		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Chromium	8.65		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Copper	28.4		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Lead	30.3		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Nickel	8.53		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Selenium	0	U	mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Silver	0.175		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Zinc	77.2		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Aluminum	4130		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Magnesium	3620		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Manganese	279		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	metal	Mercury	0.0237		mg/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	PCB/pest	p,p-DDD	12		ug/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	PCB/pest	p,p-DDE	110		ug/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	PCB/pest	p,p-DDT	126		ug/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	PCB/pest	Total DDTs	248		ug/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	PCB/pest	Toxaphene	780		ug/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C16	sediment	Wetland	Bkgd	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Arsenic	2.47		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Barium	62.7		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Cadmium	0.415		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Chromium	7.84		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Copper	7.9		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Lead	7.45		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Nickel	8.82		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Zinc	26.4		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Aluminum	4650		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Magnesium	3010		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Manganese	139		mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	metal	Mercury	0	U	mg/kg
AMEC 2006	C17	soil	NCL-North	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C17	soil	NCL-North	Offsite	PCB/pest	p,p-DDD	3.9		ug/kg
AMEC 2006	C17	soil	NCL-North	Offsite	PCB/pest	p,p-DDE	48		ug/kg
AMEC 2006	C17	soil	NCL-North	Offsite	PCB/pest	p,p-DDT	19.7		ug/kg
AMEC 2006	C17	soil	NCL-North	Offsite	PCB/pest	Total DDTs	71.6		ug/kg
AMEC 2006	C17	soil	NCL-North	Offsite	PCB/pest	Toxaphene	110		ug/kg
AMEC 2006	C17	soil	NCL-North	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C17	soil	NCL-North	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Arsenic	2.43		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Barium	57.1		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Cadmium	0.347		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Chromium	7.35		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Copper	7.15		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Lead	6.51		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Nickel	8.25		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Zinc	27.4		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Aluminum	4220		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Magnesium	2900		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Manganese	138		mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	metal	Mercury	0	U	mg/kg
AMEC 2006	C18	soil	NCL-North	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C18	soil	NCL-North	Offsite	PCB/pest	p,p-DDD	6.8		ug/kg
AMEC 2006	C18	soil	NCL-North	Offsite	PCB/pest	p,p-DDE	74		ug/kg
AMEC 2006	C18	soil	NCL-North	Offsite	PCB/pest	p,p-DDT	34		ug/kg
AMEC 2006	C18	soil	NCL-North	Offsite	PCB/pest	Total DDTs	114.8		ug/kg
AMEC 2006	C18	soil	NCL-North	Offsite	PCB/pest	Toxaphene	130		ug/kg
AMEC 2006	C18	soil	NCL-North	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C18	soil	NCL-North	Offsite	PCB/pest	Chlordane	0	U	ug/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Arsenic	3.22		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Barium	87.3		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Cadmium	0.65		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Chromium	10.7		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Copper	10.7		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Lead	5.68		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Nickel	13.3		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Zinc	42.3		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Aluminum	6390		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Magnesium	4710		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Manganese	239		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	metal	Mercury	0.0293		mg/kg
AMEC 2006	C19	soil	NCL-North	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C19	soil	NCL-North	Offsite	PCB/pest	p,p-DDD	0	U	ug/kg
AMEC 2006	C19	soil	NCL-North	Offsite	PCB/pest	p,p-DDE	87.3		ug/kg
AMEC 2006	C19	soil	NCL-North	Offsite	PCB/pest	p,p-DDT	33		ug/kg
AMEC 2006	C19	soil	NCL-North	Offsite	PCB/pest	Total DDTs	120.3		ug/kg
AMEC 2006	C19	soil	NCL-North	Offsite	PCB/pest	Toxaphene	240		ug/kg
AMEC 2006	C19	soil	NCL-North	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C19	soil	NCL-North	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Arsenic	2.45		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Barium	70		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Cadmium	0.675		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Chromium	9.22		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Copper	9.34		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Lead	10.4		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Nickel	10.6		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Zinc	32.6		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Aluminum	5650		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Magnesium	4330		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Manganese	189		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	metal	Mercury	0.0312		mg/kg
AMEC 2006	C20	soil	Ag-East	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C20	soil	Ag-East	Offsite	PCB/pest	p,p-DDD	0	U	ug/kg
AMEC 2006	C20	soil	Ag-East	Offsite	PCB/pest	p,p-DDE	7.9		ug/kg
AMEC 2006	C20	soil	Ag-East	Offsite	PCB/pest	p,p-DDT	6		ug/kg
AMEC 2006	C20	soil	Ag-East	Offsite	PCB/pest	Total DDTs	13.9		ug/kg
AMEC 2006	C20	soil	Ag-East	Offsite	PCB/pest	Toxaphene	0	U	ug/kg
AMEC 2006	C20	soil	Ag-East	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C20	soil	Ag-East	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Arsenic	3.02		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Barium	70.9		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Cadmium	0.475		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Chromium	9.55		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Copper	9.03		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Lead	8.8		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Nickel	10.3		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Zinc	32		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Aluminum	5670		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Magnesium	4180		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Manganese	180		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	metal	Mercury	0.0277		mg/kg
AMEC 2006	C21	soil	NCL-east	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C21	soil	NCL-east	Offsite	PCB/pest	p,p-DDD	0	U	ug/kg
AMEC 2006	C21	soil	NCL-east	Offsite	PCB/pest	p,p-DDE	12		ug/kg
AMEC 2006	C21	soil	NCL-east	Offsite	PCB/pest	p,p-DDT	5.7		ug/kg
AMEC 2006	C21	soil	NCL-east	Offsite	PCB/pest	Total DDTs	17.7		ug/kg
AMEC 2006	C21	soil	NCL-east	Offsite	PCB/pest	Toxaphene	56		ug/kg
AMEC 2006	C21	soil	NCL-east	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C21	soil	NCL-east	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Arsenic	2.74		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Barium	59.9		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Cadmium	0.416		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Chromium	8.44		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Copper	9.14		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Lead	7.27		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Nickel	9.35		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Zinc	28.5		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Aluminum	4900		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Magnesium	3270		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Manganese	188		mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	metal	Mercury	0	U	mg/kg
AMEC 2006	C22	soil	Ag-East	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C22	soil	Ag-East	Offsite	PCB/pest	p,p-DDD	22.8		ug/kg
AMEC 2006	C22	soil	Ag-East	Offsite	PCB/pest	p,p-DDE	170		ug/kg
AMEC 2006	C22	soil	Ag-East	Offsite	PCB/pest	p,p-DDT	177		ug/kg
AMEC 2006	C22	soil	Ag-East	Offsite	PCB/pest	Total DDTs	369.8		ug/kg
AMEC 2006	C22	soil	Ag-East	Offsite	PCB/pest	Toxaphene	1000		ug/kg
AMEC 2006	C22	soil	Ag-East	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C22	soil	Ag-East	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Arsenic	2.75		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Barium	61.7		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Cadmium	0.445		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Chromium	8.93		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Copper	8.91		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Lead	9.65		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Nickel	9.92		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Zinc	30.6		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Aluminum	5290		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Magnesium	4160		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Manganese	204		mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	metal	Mercury	0	U	mg/kg
AMEC 2006	C23	soil	NCL-east	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C23	soil	NCL-east	Offsite	PCB/pest	p,p-DDD	0	U	ug/kg
AMEC 2006	C23	soil	NCL-east	Offsite	PCB/pest	p,p-DDE	16		ug/kg
AMEC 2006	C23	soil	NCL-east	Offsite	PCB/pest	p,p-DDT	5.6		ug/kg
AMEC 2006	C23	soil	NCL-east	Offsite	PCB/pest	Total DDTs	21.6		ug/kg
AMEC 2006	C23	soil	NCL-east	Offsite	PCB/pest	Toxaphene	0	U	ug/kg
AMEC 2006	C23	soil	NCL-east	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C23	soil	NCL-east	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Antimony	0	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Arsenic	3.02		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Barium	156		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Cadmium	0.344		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Chromium	8.91		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Copper	11.3		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Lead	20.9		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Nickel	8.9		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Zinc	42		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Aluminum	4300		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Magnesium	3160		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Manganese	119		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	metal	Mercury	0.0859		mg/kg
AMEC 2006	C24	soil	Ag-East	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C24	soil	Ag-East	Offsite	PCB/pest	p,p-DDD	72		ug/kg
AMEC 2006	C24	soil	Ag-East	Offsite	PCB/pest	p,p-DDE	110		ug/kg
AMEC 2006	C24	soil	Ag-East	Offsite	PCB/pest	p,p-DDT	8.1		ug/kg
AMEC 2006	C24	soil	Ag-East	Offsite	PCB/pest	Total DDTs	190.1		ug/kg
AMEC 2006	C24	soil	Ag-East	Offsite	PCB/pest	Toxaphene	310		ug/kg
AMEC 2006	C24	soil	Ag-East	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C24	soil	Ag-East	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Arsenic	3.43		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Barium	62.5		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Cadmium	0.866		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Chromium	8.83		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Copper	8.96		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Lead	7.67		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Nickel	10.1		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Zinc	30.1		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Aluminum	5240		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Magnesium	3520		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Manganese	177		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	metal	Mercury	0.0283		mg/kg
AMEC 2006	C25	soil	Ag-East	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C25	soil	Ag-East	Offsite	PCB/pest	p,p-DDD	0	U	ug/kg
AMEC 2006	C25	soil	Ag-East	Offsite	PCB/pest	p,p-DDE	18		ug/kg
AMEC 2006	C25	soil	Ag-East	Offsite	PCB/pest	p,p-DDT	15.3		ug/kg
AMEC 2006	C25	soil	Ag-East	Offsite	PCB/pest	Total DDTs	33.3		ug/kg
AMEC 2006	C25	soil	Ag-East	Offsite	PCB/pest	Toxaphene	78		ug/kg
AMEC 2006	C25	soil	Ag-East	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C25	soil	Ag-East	Offsite	PCB/pest	Chlordane	0	U	ug/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Antimony	0	U	mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Arsenic	2.59		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Barium	50.4		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Cadmium	0.399		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Chromium	7.48		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Copper	7.67		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Lead	5.97		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Nickel	8.46		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Selenium	0	U	mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Silver	0	U	mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Zinc	23.6		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Aluminum	4340		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Magnesium	2740		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Manganese	126		mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	metal	Mercury	0	U	mg/kg
AMEC 2006	C26	soil	Ag-East	Offsite	PCB/pest	Total PCBs	0	U	ug/kg
AMEC 2006	C26	soil	Ag-East	Offsite	PCB/pest	p,p-DDD	2		ug/kg
AMEC 2006	C26	soil	Ag-East	Offsite	PCB/pest	p,p-DDE	6.6		ug/kg
AMEC 2006	C26	soil	Ag-East	Offsite	PCB/pest	p,p-DDT	2.8		ug/kg
AMEC 2006	C26	soil	Ag-East	Offsite	PCB/pest	Total DDTs	11.4		ug/kg
AMEC 2006	C26	soil	Ag-East	Offsite	PCB/pest	Toxaphene	0	U	ug/kg
AMEC 2006	C26	soil	Ag-East	Offsite	PCB/pest	Dieldrin	0	U	ug/kg
AMEC 2006	C26	soil	Ag-East	Offsite	PCB/pest	Chlordane	0	U	ug/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Aluminum	12700		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Aluminum	8740		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Aluminum	33100		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Aluminum	36900		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Aluminum	53100		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Aluminum	58300		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Aluminum	54500		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Aluminum	15900		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Aluminum	6610		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Aluminum	168000		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Aluminum	10200		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Aluminum	197000		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Aluminum	5550		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Aluminum	54700		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Aluminum	64900		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Aluminum	52000		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Aluminum	11400		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Aluminum	16600		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Aluminum	11600		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Aluminum	12100		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Aluminum	17500		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Aluminum	144000		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Aluminum	27700		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Aluminum	11500		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Aluminum	6690		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Aluminum	24500		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Aluminum	41100		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Aluminum	64500		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Aluminum	42600		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Aluminum	56400		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Aluminum	39100		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Aluminum	57000		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Aluminum	13400		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Aluminum	22800		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Aluminum	16400		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Aluminum	27200		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Antimony	4.07		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Antimony	5.23		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Antimony	6.14		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Antimony	6.56		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Antimony	14		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Antimony	19.2		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Antimony	9.51		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Antimony	3.6		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Antimony	0	U	mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Antimony	34.3		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Antimony	15		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Antimony	42.1		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Antimony	3.65		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Antimony	25.7		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Antimony	44.7		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Antimony	21.5		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Antimony	5.05		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Antimony	5.64		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Antimony	4.22		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Antimony	17.7		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Antimony	22.3		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Antimony	12.4		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Antimony	24.1		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Antimony	21.6		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Antimony	1.26		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Antimony	8.58		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Antimony	13.3		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Antimony	16.4		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Antimony	11.4		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Antimony	17		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Antimony	155		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Antimony	18.7		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Antimony	4.89		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Antimony	4.91		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Antimony	5.4		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Antimony	0	U	mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Arsenic	6.14		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Arsenic	7.75		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Arsenic	15.1		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Arsenic	14.7		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Arsenic			mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Arsenic	17.3		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Arsenic	15		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Arsenic	10.1		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Arsenic	41.9		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Arsenic	15.5		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Arsenic	28.5		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Arsenic	19.3		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Arsenic	23.7		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Arsenic	13.2		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Arsenic	16.2		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Arsenic	16.9		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Arsenic	9.72		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Arsenic	7.72		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Arsenic	7.57		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Arsenic	0.318		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Arsenic	0.276		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Arsenic	10.5		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Arsenic	17		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Arsenic	43.9		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Arsenic	10.9		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Arsenic	11.9		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Arsenic	13.7		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Arsenic	13.5		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Arsenic	28.3		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Arsenic	19.8		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Arsenic	18.1		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Arsenic	15.9		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Arsenic	10.9		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Arsenic	4.4		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Arsenic	7.83		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Arsenic	161		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Barium	151		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Barium	333		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Barium	3520		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Barium	4560		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Barium	14900		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Barium	9800		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Barium	1750		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Barium	2440		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Barium	5540		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Barium	5870		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Barium	504		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Barium	3830		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Barium	179		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Barium	9590		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Barium	7600		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Barium	4560		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Barium	149		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Barium	295		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Barium	138		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Barium	48.6		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Barium	47.3		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Barium	2580		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Barium	1490		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Barium	920		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Barium	125		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Barium	4930		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Barium	5920		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Barium	5300		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Barium	10700		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Barium	7760		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Barium	5440		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Barium	2990		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Barium	4020		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Barium	6570		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Barium	251		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Barium	10100		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Beryllium	1.27		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Beryllium	0.35		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Beryllium	50.4		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Beryllium	42.4		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Beryllium			mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Beryllium	36		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Beryllium	48.7		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Beryllium	45.1		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Beryllium	12.8		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Beryllium	23.5		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Beryllium	0.798		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Beryllium	17.2		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Beryllium	0.291		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Beryllium	43		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Beryllium	54.6		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Beryllium	19.3		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Beryllium	0.675		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Beryllium	1.75		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Beryllium	1.45		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Beryllium	11		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Beryllium	23.1		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Beryllium	1		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Beryllium	5.3		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Beryllium	0.252		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Beryllium	0.287		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Beryllium	25.9		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Beryllium	28.4		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Beryllium	25.4		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Beryllium	23.5		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Beryllium	36.3		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Beryllium	27.2		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Beryllium	18.1		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Beryllium	13.1		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Beryllium	214		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Beryllium	1.6		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Beryllium	15.9		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Cadmium	1.74		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Cadmium	1.87		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Cadmium	3.76		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Cadmium	2.58		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Cadmium	45.5		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Cadmium	4.41		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Cadmium	2.97		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Cadmium	1.96		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Cadmium	2.7		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Cadmium	4.32		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Cadmium	2.02		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Cadmium	12.6		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Cadmium	0	U	mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Cadmium	5.43		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Cadmium	4.13		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Cadmium	7.51		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Cadmium	1.81		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Cadmium	12.3		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Cadmium	1.37		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Cadmium	64.7		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Cadmium	48.3		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Cadmium	3.1		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Cadmium	3.53		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Cadmium	17		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Cadmium	0	U	mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Cadmium	1.56		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Cadmium	3.53		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Cadmium	3.16		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Cadmium	3.55		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Cadmium	3.45		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Cadmium	0	U	mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Cadmium	4.75		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Cadmium	2		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Cadmium	1.39		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Cadmium	1.29		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Cadmium	2.05		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Chromium	27.3		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Chromium	24.6		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Chromium	116		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Chromium	120		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Chromium	215		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Chromium	233		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Chromium	151		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Chromium	129		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Chromium	56.5		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Chromium	763		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Chromium	82.1		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Chromium	256		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Chromium	61.2		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Chromium	218		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Chromium	284		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Chromium	245		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Chromium	21		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Chromium	43.5		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Chromium	22		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Chromium	0.882		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Chromium	0	U	mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Chromium	226		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Chromium	101		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Chromium	58.9		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Chromium	15.3		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Chromium	71.6		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Chromium	149		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Chromium	179		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Chromium	166		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Chromium	200		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Chromium	7660		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Chromium	245		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Chromium	60.3		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Chromium	59.7		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Chromium	26.6		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Chromium	112		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Cobalt	9.23		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Cobalt	6.08		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Cobalt	13.1		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Cobalt	9.01		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Cobalt	6.82		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Cobalt	8.24		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Cobalt	10.7		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Cobalt	115		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Cobalt	0	U	mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Cobalt	9.1		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Cobalt	15.9		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Cobalt	8.16		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Cobalt	9.71		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Cobalt	3.91		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Cobalt	36.4		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Cobalt	3.63		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Cobalt	8.21		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Cobalt	6.57		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Cobalt	8.99		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Cobalt	16.4		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Cobalt	20.6		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Cobalt	4.31		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Cobalt	6.99		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Cobalt	17.4		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Cobalt	5.83		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Cobalt	6.93		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Cobalt	6.87		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Cobalt	6.62		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Cobalt	6.98		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Cobalt	7.31		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Cobalt	87.2		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Cobalt	7.27		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Cobalt	3.69		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Cobalt	4.69		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Cobalt	11.7		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Cobalt	5.25		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Copper	175		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Copper	104		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Copper	745		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Copper	643		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Copper	1630		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Copper	1710		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Copper	1140		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Copper	135		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Copper	286		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Copper	4050		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Copper	504		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Copper	7150		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Copper	206		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Copper	1530		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Copper	2110		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Copper	1420		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Copper	41.5		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Copper	352		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Copper	41.6		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Copper	361		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Copper	597		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Copper	2270		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Copper	1090		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Copper	1300		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Copper	25.3		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Copper	419		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Copper	801		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Copper	1780		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Copper	1260		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Copper	1570		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Copper	1100		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Copper	1760		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Copper	214		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Copper	318		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Copper	58.9		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Copper	836		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Lead	33.7		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Lead	249		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Lead	95.1		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Lead	93.5		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Lead	155		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Lead	214		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Lead	147		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Lead	115		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Lead	48.4		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Lead	336		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Lead	773		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Lead	2090		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Lead	2470		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Lead	215		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Lead	363		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Lead	176		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Lead	48.9		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Lead	132		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Lead	22.7		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Lead	2.29		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Lead	11.9		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Lead	109		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Lead	817		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Lead	1780		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Lead	609		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Lead	68.3		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Lead	111		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Lead	155		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Lead	172		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Lead	164		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Lead	135		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Lead	179		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Lead	45.5		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Lead	33.3		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Lead	26.9		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Lead	108		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Magnesium	12700		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Magnesium	4200		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Magnesium	307000		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Magnesium	263000		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Magnesium	171000		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Magnesium	170000		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Magnesium	10.2		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Magnesium	320000		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Magnesium	354000		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Magnesium	111000		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Magnesium	6870		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Magnesium	54800		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Magnesium	6140		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Magnesium	209000		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Magnesium	212000		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Magnesium	177000		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Magnesium	8470		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Magnesium	16600		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Magnesium	8400		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Magnesium	517		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Magnesium	1030		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Magnesium	174000		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Magnesium	22600		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Magnesium	4060		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Magnesium	17200		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Magnesium	78500		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Magnesium	210000		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Magnesium	94300		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Magnesium	158000		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Magnesium	137000		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Magnesium	121000		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Magnesium	79000		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Magnesium	42100		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Magnesium	98400		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Magnesium	13400		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Magnesium	251000		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Molybdenum	1.6		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Molybdenum	4.4		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Molybdenum	8.04		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Molybdenum	9.5		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Molybdenum	9.4		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Molybdenum	7.57		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Molybdenum	57.5		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Molybdenum	2.2		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Molybdenum	17.3		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Molybdenum	13.9		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Molybdenum	9.72		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Molybdenum	4.98		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Molybdenum	10.9		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Molybdenum	5.26		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Molybdenum	8.89		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Molybdenum	5.83		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Molybdenum	4.73		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Molybdenum	4.25		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Molybdenum	3.01		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Molybdenum	1070		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Molybdenum	1370		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Molybdenum	17.1		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Molybdenum	3.9		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Molybdenum	10.7		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Molybdenum	6.96		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Molybdenum	3.9		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Molybdenum	7.15		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Molybdenum	11.8		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Molybdenum	9.14		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Molybdenum	9.8		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Molybdenum	64.4		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Molybdenum	5.49		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Molybdenum	7.44		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Molybdenum	3.5		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Molybdenum	2.3		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Molybdenum	16.8		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Nickel	23.3		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Nickel	14.5		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Nickel	54.5		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Nickel	88.8		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Nickel	96.8		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Nickel	150		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Nickel	79.1		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Nickel	17.4		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Nickel	20.7		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Nickel	565		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Nickel	104		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Nickel	222		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Nickel	32.4		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Nickel	79.5		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Nickel	107		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Nickel	48		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Nickel	21.7		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Nickel	59.9		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Nickel	21.6		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Nickel	4500		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Nickel	4280		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Nickel	95.5		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Nickel	113		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Nickel	75.1		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Nickel	13.6		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Nickel	36		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Nickel	56.4		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Nickel	85.6		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Nickel	128		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Nickel	93.4		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Nickel	3740		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Nickel	99.2		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Nickel	17		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Nickel	31.6		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Nickel	25.9		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Nickel	95.4		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Selenium	64.8		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Selenium	57		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Selenium	30.8		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Selenium	698		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Selenium	34.8		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Selenium	836		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Selenium	83		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Selenium	66.7		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Selenium	74.9		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Selenium	6.98		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Selenium	12.1		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Selenium	116		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Selenium	478		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Selenium	331		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Selenium	52.5		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Selenium	25.5		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Selenium	70		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Selenium	0	U	mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Silver	3.71		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Silver	7.75		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Silver	30.5		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Silver	20.3		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Silver	29.7		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Silver	32.2		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Silver	262000		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Silver	10.7		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Silver	15		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Silver	19.5		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Silver	33		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Silver	15.2		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Silver	37.6		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Silver	8.76		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Silver	24.6		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Silver	11.8		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Silver	2.45		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Silver	3.17		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Silver	2.79		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Silver	303		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Silver	430		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Silver	28.4		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Silver	7.88		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Silver	27.6		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Silver	6.87		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Silver	11.5		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Silver	12.1		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Silver	23.6		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Silver	183		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Silver	21.6		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Silver	26.7		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Silver	10.2		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Silver	7.07		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Silver	0	U	mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Silver	3.55		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Silver	271		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Thallium	1.44		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Thallium	1.75		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Thallium	7.26		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Thallium	2.01		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Thallium	0.937		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Thallium	1.68		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Thallium	23.7		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Thallium	21.5		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Thallium	5.42		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Thallium	3.21		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Thallium	4.74		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Thallium	2.75		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Thallium	0	U	mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Vanadium	31.5		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Vanadium	27.9		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Vanadium	26		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Vanadium	20.8		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Vanadium	31		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Vanadium	42.7		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Vanadium	30.8		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Vanadium	8.41		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Vanadium	7.92		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Vanadium	42.8		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Vanadium	19.1		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Vanadium	44.2		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Vanadium	19.4		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Vanadium	35.2		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Vanadium	43.1		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Vanadium	48.7		mg/kg
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Vanadium	38.1		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Vanadium	28		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Vanadium	39.4		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Vanadium	25.6		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Vanadium	25.1		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Vanadium	28.9		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Vanadium	30.1		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Vanadium	24.6		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Vanadium	24.6		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Vanadium	43		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Vanadium	47.2		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Vanadium	39.7		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Vanadium	32.9		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Vanadium	37.9		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Vanadium	47.9		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Vanadium	34.5		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Vanadium	20.3		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Vanadium	17.1		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Vanadium	48.6		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Vanadium	23.4		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	metal	Zinc	297		mg/kg
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	metal	Zinc	533		mg/kg
SE Corner data	B3-01	soil	Smelter-s	onsite	metal	Zinc	3110		mg/kg
SE Corner data	B3-10	soil	Smelter-s	onsite	metal	Zinc	1630		mg/kg
SE Corner data	B6-01	soil	Smelter-s	onsite	metal	Zinc	4290		mg/kg
SE Corner data	B6-10	soil	Smelter-s	onsite	metal	Zinc	8520		mg/kg
SE Corner data	B9-01	soil	Smelter-s	onsite	metal	Zinc	3250		mg/kg
SE Corner data	B9-05	soil	Smelter-s	onsite	metal	Zinc	1540		mg/kg
SE Corner data	B9-10	soil	Smelter-s	onsite	metal	Zinc	1460		mg/kg
SE Corner data	B13-01	soil	Smelter-s	onsite	metal	Zinc	6100		mg/kg
SE Corner data	B13-05	soil	Smelter-s	onsite	metal	Zinc	3120		mg/kg
SE Corner data	B14-01	soil	Smelter-s	onsite	metal	Zinc	5100		mg/kg
SE Corner data	B14-05	soil	Smelter-s	onsite	metal	Zinc	559		mg/kg
SE Corner data	B15-01	soil	Smelter-s	onsite	metal	Zinc	1590		mg/kg
SE Corner data	B15-10	soil	Smelter-s	onsite	metal	Zinc	2540		mg/kg
SE Corner data	B20-05	soil	Smelter-s	onsite	metal	Zinc	2120		mg/kg

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B20-15	soil	Smelter-s	onsite	metal	Zinc	154		mg/kg
SE Corner data	B23-01	soil	Smelter-s	onsite	metal	Zinc	1190		mg/kg
SE Corner data	B23-10	soil	Smelter-s	onsite	metal	Zinc	124		mg/kg
SE Corner data	B24-01	soil	Smelter-s	onsite	metal	Zinc	1740		mg/kg
SE Corner data	B24-05	soil	Smelter-s	onsite	metal	Zinc	2920		mg/kg
SE Corner data	B26-01	soil	Smelter-s	onsite	metal	Zinc	4580		mg/kg
SE Corner data	B26-5	soil	Smelter-s	onsite	metal	Zinc	1760		mg/kg
SE Corner data	B28-01	soil	Smelter-s	onsite	metal	Zinc	2870		mg/kg
SE Corner data	B28-10	soil	Smelter-s	onsite	metal	Zinc	119		mg/kg
SE Corner data	OID1-01	soil	Smelter-s	onsite	metal	Zinc	781		mg/kg
SE Corner data	OID3-12	soil	Smelter-s	onsite	metal	Zinc	1530		mg/kg
SE Corner data	OID4-01	soil	Smelter-s	onsite	metal	Zinc	3010		mg/kg
SE Corner data	OID4-12	soil	Smelter-s	onsite	metal	Zinc	3480		mg/kg
SE Corner data	OID5-01	soil	Smelter-s	onsite	metal	Zinc	4750		mg/kg
SE Corner data	OID6-12	soil	Smelter-s	onsite	metal	Zinc	2760		mg/kg
SE Corner data	OID7-01	soil	Smelter-s	onsite	metal	Zinc	2130		mg/kg
SE Corner data	OID8-12	soil	Smelter-s	onsite	metal	Zinc	639		mg/kg
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	metal	Zinc	1140		mg/kg
SE Corner data	OID2-SED	soil	Smelter-s	onsite	metal	Zinc	77.5		mg/kg
SE Corner data	OID4-SED	soil	Smelter-s	onsite	metal	Zinc	6720		mg/kg
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	radionuclide	Th-228	0.578		pCi/g
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	radionuclide	Th-228	0	U	pCi/g
SE Corner data	B3-01	soil	Smelter-s	onsite	radionuclide	Th-228	10.8		pCi/g
SE Corner data	B3-10	soil	Smelter-s	onsite	radionuclide	Th-228	14.6		pCi/g
SE Corner data	B6-01	soil	Smelter-s	onsite	radionuclide	Th-228	14.5		pCi/g
SE Corner data	B6-10	soil	Smelter-s	onsite	radionuclide	Th-228	19.2		pCi/g
SE Corner data	B9-01	soil	Smelter-s	onsite	radionuclide	Th-228	567		pCi/g
SE Corner data	B9-05	soil	Smelter-s	onsite	radionuclide	Th-228	9.71		pCi/g
SE Corner data	B9-10	soil	Smelter-s	onsite	radionuclide	Th-228	25		pCi/g
SE Corner data	B13-01	soil	Smelter-s	onsite	radionuclide	Th-228	6.69		pCi/g
SE Corner data	B13-05	soil	Smelter-s	onsite	radionuclide	Th-228	0	U	pCi/g
SE Corner data	B14-01	soil	Smelter-s	onsite	radionuclide	Th-228	3.7		pCi/g
SE Corner data	B14-05	soil	Smelter-s	onsite	radionuclide	Th-228	0.445		pCi/g
SE Corner data	B15-01	soil	Smelter-s	onsite	radionuclide	Th-228	24		pCi/g
SE Corner data	B15-10	soil	Smelter-s	onsite	radionuclide	Th-228	15.4		pCi/g
SE Corner data	B20-05	soil	Smelter-s	onsite	radionuclide	Th-228	20.1		pCi/g
SE Corner data	B20-15	soil	Smelter-s	onsite	radionuclide	Th-228	1.85		pCi/g
SE Corner data	B23-01	soil	Smelter-s	onsite	radionuclide	Th-228	1.12		pCi/g
SE Corner data	B23-10	soil	Smelter-s	onsite	radionuclide	Th-228	1.119		pCi/g
SE Corner data	B24-01	soil	Smelter-s	onsite	radionuclide	Th-228	0.741		pCi/g
SE Corner data	B24-05	soil	Smelter-s	onsite	radionuclide	Th-228	0	U	pCi/g
SE Corner data	B26-01	soil	Smelter-s	onsite	radionuclide	Th-228	1.81		pCi/g
SE Corner data	B26-5	soil	Smelter-s	onsite	radionuclide	Th-228	1.52		pCi/g
SE Corner data	B28-01	soil	Smelter-s	onsite	radionuclide	Th-228	0.749		pCi/g
SE Corner data	B28-10	soil	Smelter-s	onsite	radionuclide	Th-228	0	U	pCi/g
SE Corner data	OID1-01	soil	Smelter-s	onsite	radionuclide	Th-228	8.16		pCi/g
SE Corner data	OID3-12	soil	Smelter-s	onsite	radionuclide	Th-228	16.4		pCi/g
SE Corner data	OID4-01	soil	Smelter-s	onsite	radionuclide	Th-228	11.4		pCi/g
SE Corner data	OID4-12	soil	Smelter-s	onsite	radionuclide	Th-228	69.9		pCi/g
SE Corner data	OID5-01	soil	Smelter-s	onsite	radionuclide	Th-228	9.82		pCi/g
SE Corner data	OID6-12	soil	Smelter-s	onsite	radionuclide	Th-228	8.53		pCi/g
SE Corner data	OID7-01	soil	Smelter-s	onsite	radionuclide	Th-228	5.66		pCi/g
SE Corner data	OID8-12	soil	Smelter-s	onsite	radionuclide	Th-228	10.2		pCi/g
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	radionuclide	Th-228	61.1		pCi/g
SE Corner data	OID2-SED	soil	Smelter-s	onsite	radionuclide	Th-228	2.78		pCi/g
SE Corner data	OID4-SED	soil	Smelter-s	onsite	radionuclide	Th-228	87.6		pCi/g
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	radionuclide	Th-230	0.741		pCi/g
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	radionuclide	Th-230	0.54		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B3-01	soil	Smelter-s	onsite	radionuclide	Th-230	21.9		pCi/g
SE Corner data	B3-10	soil	Smelter-s	onsite	radionuclide	Th-230	34.2		pCi/g
SE Corner data	B6-01	soil	Smelter-s	onsite	radionuclide	Th-230	39		pCi/g
SE Corner data	B6-10	soil	Smelter-s	onsite	radionuclide	Th-230	38.5		pCi/g
SE Corner data	B9-01	soil	Smelter-s	onsite	radionuclide	Th-230	770		pCi/g
SE Corner data	B9-05	soil	Smelter-s	onsite	radionuclide	Th-230	5.29		pCi/g
SE Corner data	B9-10	soil	Smelter-s	onsite	radionuclide	Th-230	52.5		pCi/g
SE Corner data	B13-01	soil	Smelter-s	onsite	radionuclide	Th-230	9.79		pCi/g
SE Corner data	B13-05	soil	Smelter-s	onsite	radionuclide	Th-230	0	U	pCi/g
SE Corner data	B14-01	soil	Smelter-s	onsite	radionuclide	Th-230	2.93		pCi/g
SE Corner data	B14-05	soil	Smelter-s	onsite	radionuclide	Th-230	0.577		pCi/g
SE Corner data	B15-01	soil	Smelter-s	onsite	radionuclide	Th-230	40.5		pCi/g
SE Corner data	B15-10	soil	Smelter-s	onsite	radionuclide	Th-230	20.9		pCi/g
SE Corner data	B20-05	soil	Smelter-s	onsite	radionuclide	Th-230	30.3		pCi/g
SE Corner data	B20-15	soil	Smelter-s	onsite	radionuclide	Th-230	1.9		pCi/g
SE Corner data	B23-01	soil	Smelter-s	onsite	radionuclide	Th-230	0.496		pCi/g
SE Corner data	B23-10	soil	Smelter-s	onsite	radionuclide	Th-230	0	U	pCi/g
SE Corner data	B24-01	soil	Smelter-s	onsite	radionuclide	Th-230	0.763		pCi/g
SE Corner data	B24-05	soil	Smelter-s	onsite	radionuclide	Th-230	0.646		pCi/g
SE Corner data	B26-01	soil	Smelter-s	onsite	radionuclide	Th-230	1.22		pCi/g
SE Corner data	B26-5	soil	Smelter-s	onsite	radionuclide	Th-230	4.89		pCi/g
SE Corner data	B28-01	soil	Smelter-s	onsite	radionuclide	Th-230	0	U	pCi/g
SE Corner data	B28-10	soil	Smelter-s	onsite	radionuclide	Th-230	0.891		pCi/g
SE Corner data	OID1-01	soil	Smelter-s	onsite	radionuclide	Th-230	18.7		pCi/g
SE Corner data	OID3-12	soil	Smelter-s	onsite	radionuclide	Th-230	35.1		pCi/g
SE Corner data	OID4-01	soil	Smelter-s	onsite	radionuclide	Th-230	20.8		pCi/g
SE Corner data	OID4-12	soil	Smelter-s	onsite	radionuclide	Th-230	71.1		pCi/g
SE Corner data	OID5-01	soil	Smelter-s	onsite	radionuclide	Th-230	16.6		pCi/g
SE Corner data	OID6-12	soil	Smelter-s	onsite	radionuclide	Th-230	17.5		pCi/g
SE Corner data	OID7-01	soil	Smelter-s	onsite	radionuclide	Th-230	7.31		pCi/g
SE Corner data	OID8-12	soil	Smelter-s	onsite	radionuclide	Th-230	22.2		pCi/g
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	radionuclide	Th-230	21.1		pCi/g
SE Corner data	OID2-SED	soil	Smelter-s	onsite	radionuclide	Th-230	3.42		pCi/g
SE Corner data	OID4-SED	soil	Smelter-s	onsite	radionuclide	Th-230	57.8		pCi/g
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	radionuclide	Th-232	0.977		pCi/g
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	radionuclide	Th-232	1.115		pCi/g
SE Corner data	B3-01	soil	Smelter-s	onsite	radionuclide	Th-232	11		pCi/g
SE Corner data	B3-10	soil	Smelter-s	onsite	radionuclide	Th-232	14.9		pCi/g
SE Corner data	B6-01	soil	Smelter-s	onsite	radionuclide	Th-232	18.3		pCi/g
SE Corner data	B6-10	soil	Smelter-s	onsite	radionuclide	Th-232	14.9		pCi/g
SE Corner data	B9-01	soil	Smelter-s	onsite	radionuclide	Th-232	653		pCi/g
SE Corner data	B9-05	soil	Smelter-s	onsite	radionuclide	Th-232	3.36		pCi/g
SE Corner data	B9-10	soil	Smelter-s	onsite	radionuclide	Th-232	26.2		pCi/g
SE Corner data	B13-01	soil	Smelter-s	onsite	radionuclide	Th-232	5.92		pCi/g
SE Corner data	B13-05	soil	Smelter-s	onsite	radionuclide	Th-232	0.527		pCi/g
SE Corner data	B14-01	soil	Smelter-s	onsite	radionuclide	Th-232	1.83		pCi/g
SE Corner data	B14-05	soil	Smelter-s	onsite	radionuclide	Th-232	0.492		pCi/g
SE Corner data	B15-01	soil	Smelter-s	onsite	radionuclide	Th-232	24.4		pCi/g
SE Corner data	B15-10	soil	Smelter-s	onsite	radionuclide	Th-232	12		pCi/g
SE Corner data	B20-05	soil	Smelter-s	onsite	radionuclide	Th-232	17		pCi/g
SE Corner data	B20-15	soil	Smelter-s	onsite	radionuclide	Th-232	1.26		pCi/g
SE Corner data	B23-01	soil	Smelter-s	onsite	radionuclide	Th-232	1.22		pCi/g
SE Corner data	B23-10	soil	Smelter-s	onsite	radionuclide	Th-232	0.576		pCi/g
SE Corner data	B24-01	soil	Smelter-s	onsite	radionuclide	Th-232	0.486		pCi/g
SE Corner data	B24-05	soil	Smelter-s	onsite	radionuclide	Th-232	0.693		pCi/g
SE Corner data	B26-01	soil	Smelter-s	onsite	radionuclide	Th-232	1.26		pCi/g
SE Corner data	B26-5	soil	Smelter-s	onsite	radionuclide	Th-232	1.92		pCi/g
SE Corner data	B28-01	soil	Smelter-s	onsite	radionuclide	Th-232	0	U	pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B28-10	soil	Smelter-s	onsite	radionuclide	Th-232	0.469		pCi/g
SE Corner data	OID1-01	soil	Smelter-s	onsite	radionuclide	Th-232	8.5		pCi/g
SE Corner data	OID3-12	soil	Smelter-s	onsite	radionuclide	Th-232	17.2		pCi/g
SE Corner data	OID4-01	soil	Smelter-s	onsite	radionuclide	Th-232	12		pCi/g
SE Corner data	OID4-12	soil	Smelter-s	onsite	radionuclide	Th-232	70.9		pCi/g
SE Corner data	OID5-01	soil	Smelter-s	onsite	radionuclide	Th-232	9.63		pCi/g
SE Corner data	OID6-12	soil	Smelter-s	onsite	radionuclide	Th-232	10.2		pCi/g
SE Corner data	OID7-01	soil	Smelter-s	onsite	radionuclide	Th-232	4.86		pCi/g
SE Corner data	OID8-12	soil	Smelter-s	onsite	radionuclide	Th-232	10.7		pCi/g
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	radionuclide	Th-232	70.8		pCi/g
SE Corner data	OID2-SED	soil	Smelter-s	onsite	radionuclide	Th-232	2.08		pCi/g
SE Corner data	OID4-SED	soil	Smelter-s	onsite	radionuclide	Th-232	90.1		pCi/g
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	radionuclide	Ra-226	0.5		pCi/g
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	radionuclide	Ra-226	0.737		pCi/g
SE Corner data	B3-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.294		pCi/g
SE Corner data	B3-10	soil	Smelter-s	onsite	radionuclide	Ra-226	0.629		pCi/g
SE Corner data	B6-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.649		pCi/g
SE Corner data	B6-10	soil	Smelter-s	onsite	radionuclide	Ra-226	0.525		pCi/g
SE Corner data	B9-01	soil	Smelter-s	onsite	radionuclide	Ra-226	5.79		pCi/g
SE Corner data	B9-05	soil	Smelter-s	onsite	radionuclide	Ra-226	0	U	pCi/g
SE Corner data	B9-10	soil	Smelter-s	onsite	radionuclide	Ra-226	0.583		pCi/g
SE Corner data	B13-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.352		pCi/g
SE Corner data	B13-05	soil	Smelter-s	onsite	radionuclide	Ra-226	0.449		pCi/g
SE Corner data	B14-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.152		pCi/g
SE Corner data	B14-05	soil	Smelter-s	onsite	radionuclide	Ra-226	0.448		pCi/g
SE Corner data	B15-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.589		pCi/g
SE Corner data	B15-10	soil	Smelter-s	onsite	radionuclide	Ra-226	0.465		pCi/g
SE Corner data	B20-05	soil	Smelter-s	onsite	radionuclide	Ra-226	0.662		pCi/g
SE Corner data	B20-15	soil	Smelter-s	onsite	radionuclide	Ra-226	0.643		pCi/g
SE Corner data	B23-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.691		pCi/g
SE Corner data	B23-10	soil	Smelter-s	onsite	radionuclide	Ra-226	0.73		pCi/g
SE Corner data	B24-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.551		pCi/g
SE Corner data	B24-05	soil	Smelter-s	onsite	radionuclide	Ra-226	0.47		pCi/g
SE Corner data	B26-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0	U	pCi/g
SE Corner data	B26-5	soil	Smelter-s	onsite	radionuclide	Ra-226	0.487		pCi/g
SE Corner data	B28-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.625		pCi/g
SE Corner data	B28-10	soil	Smelter-s	onsite	radionuclide	Ra-226	0.335		pCi/g
SE Corner data	OID1-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.733		pCi/g
SE Corner data	OID3-12	soil	Smelter-s	onsite	radionuclide	Ra-226	0.775		pCi/g
SE Corner data	OID4-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.569		pCi/g
SE Corner data	OID4-12	soil	Smelter-s	onsite	radionuclide	Ra-226	1.37		pCi/g
SE Corner data	OID5-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.525		pCi/g
SE Corner data	OID6-12	soil	Smelter-s	onsite	radionuclide	Ra-226	0.55		pCi/g
SE Corner data	OID7-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.591		pCi/g
SE Corner data	OID8-12	soil	Smelter-s	onsite	radionuclide	Ra-226	0.54		pCi/g
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	radionuclide	Ra-226	0.592		pCi/g
SE Corner data	OID2-SED	soil	Smelter-s	onsite	radionuclide	Ra-226	1.04		pCi/g
SE Corner data	OID4-SED	soil	Smelter-s	onsite	radionuclide	Ra-226	0.868		pCi/g
SE Corner data	B-BKG-1	soil	Bkgd-s	Bkgd	radionuclide	Ra-228	0.927		pCi/g
SE Corner data	B-BKG-5	soil	Bkgd-s	Bkgd	radionuclide	Ra-228	1.08		pCi/g
SE Corner data	B3-01	soil	Smelter-s	onsite	radionuclide	Ra-228	9.29		pCi/g
SE Corner data	B3-10	soil	Smelter-s	onsite	radionuclide	Ra-228	13		pCi/g
SE Corner data	B6-01	soil	Smelter-s	onsite	radionuclide	Ra-228	14		pCi/g
SE Corner data	B6-10	soil	Smelter-s	onsite	radionuclide	Ra-228	14.1		pCi/g
SE Corner data	B9-01	soil	Smelter-s	onsite	radionuclide	Ra-228	564		pCi/g
SE Corner data	B9-05	soil	Smelter-s	onsite	radionuclide	Ra-228	3.95		pCi/g
SE Corner data	B9-10	soil	Smelter-s	onsite	radionuclide	Ra-228	20.2		pCi/g
SE Corner data	B13-01	soil	Smelter-s	onsite	radionuclide	Ra-228	5.52		pCi/g

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
SE Corner data	B13-05	soil	Smelter-s	onsite	radionuclide	Ra-228	0.628		pCi/g
SE Corner data	B14-01	soil	Smelter-s	onsite	radionuclide	Ra-228	2.33		pCi/g
SE Corner data	B14-05	soil	Smelter-s	onsite	radionuclide	Ra-228	0	U	pCi/g
SE Corner data	B15-01	soil	Smelter-s	onsite	radionuclide	Ra-228	20.3		pCi/g
SE Corner data	B15-10	soil	Smelter-s	onsite	radionuclide	Ra-228	10.5		pCi/g
SE Corner data	B20-05	soil	Smelter-s	onsite	radionuclide	Ra-228	16.9		pCi/g
SE Corner data	B20-15	soil	Smelter-s	onsite	radionuclide	Ra-228	1.09		pCi/g
SE Corner data	B23-01	soil	Smelter-s	onsite	radionuclide	Ra-228	1.03		pCi/g
SE Corner data	B23-10	soil	Smelter-s	onsite	radionuclide	Ra-228	1.09		pCi/g
SE Corner data	B24-01	soil	Smelter-s	onsite	radionuclide	Ra-228	0.923		pCi/g
SE Corner data	B24-05	soil	Smelter-s	onsite	radionuclide	Ra-228	0.554		pCi/g
SE Corner data	B26-01	soil	Smelter-s	onsite	radionuclide	Ra-228	2.13		pCi/g
SE Corner data	B26-5	soil	Smelter-s	onsite	radionuclide	Ra-228	1.84		pCi/g
SE Corner data	B28-01	soil	Smelter-s	onsite	radionuclide	Ra-228	0.919		pCi/g
SE Corner data	B28-10	soil	Smelter-s	onsite	radionuclide	Ra-228	0.442		pCi/g
SE Corner data	OID1-01	soil	Smelter-s	onsite	radionuclide	Ra-228	6.3		pCi/g
SE Corner data	OID3-12	soil	Smelter-s	onsite	radionuclide	Ra-228	12.4		pCi/g
SE Corner data	OID4-01	soil	Smelter-s	onsite	radionuclide	Ra-228	10.8		pCi/g
SE Corner data	OID4-12	soil	Smelter-s	onsite	radionuclide	Ra-228	53.4		pCi/g
SE Corner data	OID5-01	soil	Smelter-s	onsite	radionuclide	Ra-228	9.14		pCi/g
SE Corner data	OID6-12	soil	Smelter-s	onsite	radionuclide	Ra-228	8.53		pCi/g
SE Corner data	OID7-01	soil	Smelter-s	onsite	radionuclide	Ra-228	5.31		pCi/g
SE Corner data	OID8-12	soil	Smelter-s	onsite	radionuclide	Ra-228	7.21		pCi/g
SE Corner data	RADSOIL-01	soil	Smelter-s	onsite	radionuclide	Ra-228	55.7		pCi/g
SE Corner data	OID2-SED	soil	Smelter-s	onsite	radionuclide	Ra-228	2.41		pCi/g
SE Corner data	OID4-SED	soil	Smelter-s	onsite	radionuclide	Ra-228	92.4		pCi/g
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Arsenic	0	U	ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Barium	60.4		ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Cadmium	0	U	ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Chromium	6		ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Copper	0	U	ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Lead	0	U	ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Nickel	0	U	ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Selenium	0	U	ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Silver	0	U	ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Zinc	20		ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Aluminum	287		ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Iron	2230		ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Magnesium	226000		ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Manganese	353		ug/L
AMEC 2006	SW1	surface water	bubbling sprin	Bkgd	metal	Mercury	0	U	ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Arsenic	0	U	ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Barium	64.2		ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Cadmium	0	U	ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Chromium	6.58		ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Copper	0	U	ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Lead	0	U	ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Nickel	0	U	ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Selenium	0	U	ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Silver	0	U	ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Zinc	0	U	ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Aluminum	206		ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Iron	648		ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Magnesium	270000		ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Manganese	329		ug/L
AMEC 2006	SW2	surface water	j-st drain	Bkgd	metal	Mercury	0	U	ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Arsenic	0	U	ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Barium	27.2		ug/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Cadmium	0	U	ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Chromium	6.35		ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Copper	0	U	ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Lead	0	U	ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Nickel	0	U	ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Selenium	0	U	ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Silver	0	U	ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Zinc	229		ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Aluminum	0	U	ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Iron	206		ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Magnesium	283000		ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Manganese	222		ug/L
AMEC 2006	SW4	surface water	East Hueneme D	onsite	metal	Mercury	0	U	ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Arsenic	0	U	ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Barium	59.9		ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Cadmium	0	U	ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Chromium	5.62		ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Copper	5.37		ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Lead	0	U	ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Nickel	0	U	ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Selenium	0	U	ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Silver	0	U	ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Zinc	20.4		ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Aluminum	249		ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Iron	203		ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Magnesium	232000		ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Manganese	92.4		ug/L
AMEC 2006	SW5	surface water	Smelter	onsite	metal	Mercury	0	U	ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Arsenic	0	U	ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Barium	209		ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Cadmium	0	U	ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Chromium	22.4		ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Copper	20.3		ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Lead	0	U	ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Nickel	22.9		ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Selenium	0	U	ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Silver	0	U	ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Zinc	32.2		ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Aluminum	2020		ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Iron	3420		ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Magnesium	320000		ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Manganese	428		ug/L
AMEC 2006	SW6	surface water	NCL-east	Offsite	metal	Mercury	0	U	ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Arsenic	0	U	ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Barium	47.8		ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Cadmium	0	U	ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Chromium	8.09		ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Copper	6.76		ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Lead	0	U	ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Nickel	0	U	ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Selenium	0	U	ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Silver	0	U	ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Zinc	22.7		ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Aluminum	2000		ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Iron	3400		ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Magnesium	40900		ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Manganese	96.2		ug/L
AMEC 2006	SW7	surface water	NCL-east	Offsite	metal	Mercury	0	U	ug/L

Table B-1
Chemical and radiological characterization data for the Halaco site.

Source	SampleID	Matrix	Area	Type	analytype	Analyte	Result	Qual	Units
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Arsenic	0	U	ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Barium	28.2		ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Cadmium	0	U	ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Chromium	5		ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Copper	0	U	ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Lead	0	U	ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Nickel	0	U	ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Selenium	0	U	ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Silver	0	U	ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Zinc	46.7		ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Aluminum	0	U	ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Iron	0	U	ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Magnesium	224000		ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Manganese	70.2		ug/L
AMEC 2006	SW9	surface water	Smelter	onsite	metal	Mercury	0	U	ug/L

Appendix C
Box Plots

Box Plots

Key Example Box Plot Diagram

Appendix C.1—Soil/Waste and Sediment

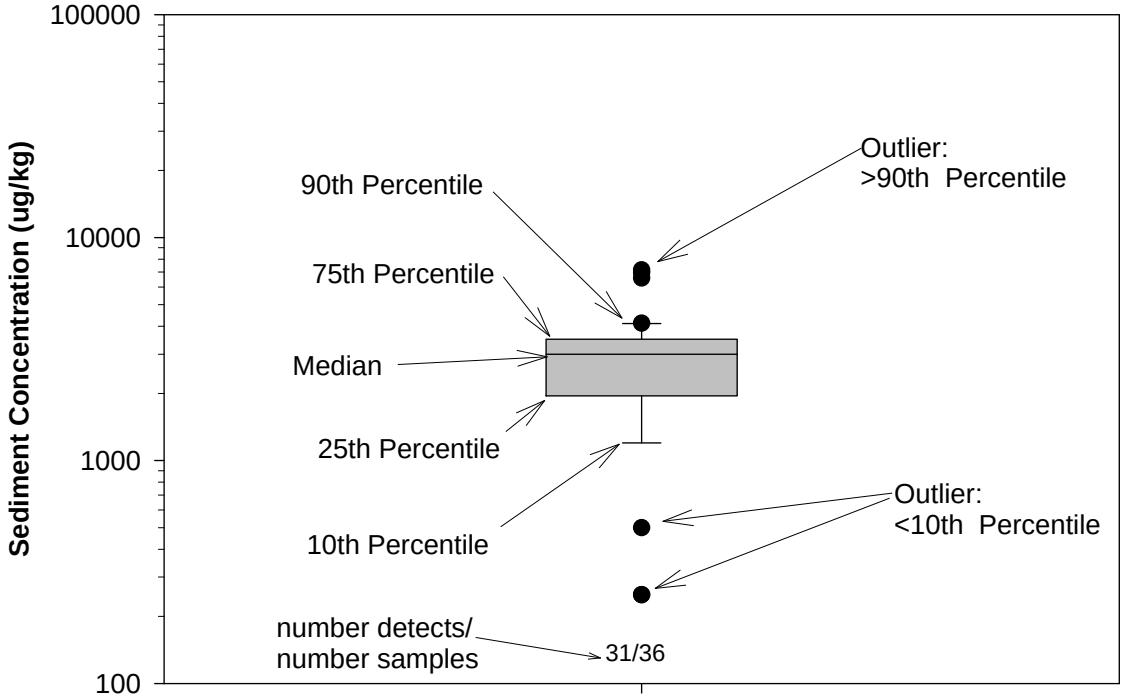
1 Aluminum
2 Antimony
3 Arsenic
4 Barium
5 Beryllium
6 Boron
7 Cadmium
8 Chromium
9 Cobalt
10 Copper
11 Iron
12 Lead
13 Manganese
14 Mercury
15 Molybdenum
16 Nickel
17 Selenium
18 Silver
19 Thallium
20 Vanadium
21 Zinc
22 Cesium 137
23 Potassium-40
24 Radium-226
25 Radium-228
26 Thorium-228
27 Thorium-230
28 Thorium-232

Appendix C.2—Surface Water

29 Aluminum and Antimony
30 Arsenic and Barium
31 Beryllium and Cadmium
32 Chromium and Cobalt
33 Copper and Iron
34 Lead and Magnesium
35 Manganese and Mercury
36 Nickel and Selenium
37 Silver and Vanadium
38 Zinc and Cesium-137
39 Potassium-40 and Thorium-228
40 Thorium-230 and Thorium-232

Appendix C.3—Air

41 Aluminum and Antimony
42 Arsenic and Barium
43 Beryllium and Cadmium
44 Chromium and Cobalt
45 Copper and Lead
46 Magnesium and Manganese
47 Molybdenum and Nickel
48 Selenium and Silver
49 Thallium and Vanadium
50 Zinc



Key. Example box plot diagram displaying a graphical representation of underlying data distribution.

Appendix C.1
Soil/Waste and Sediment

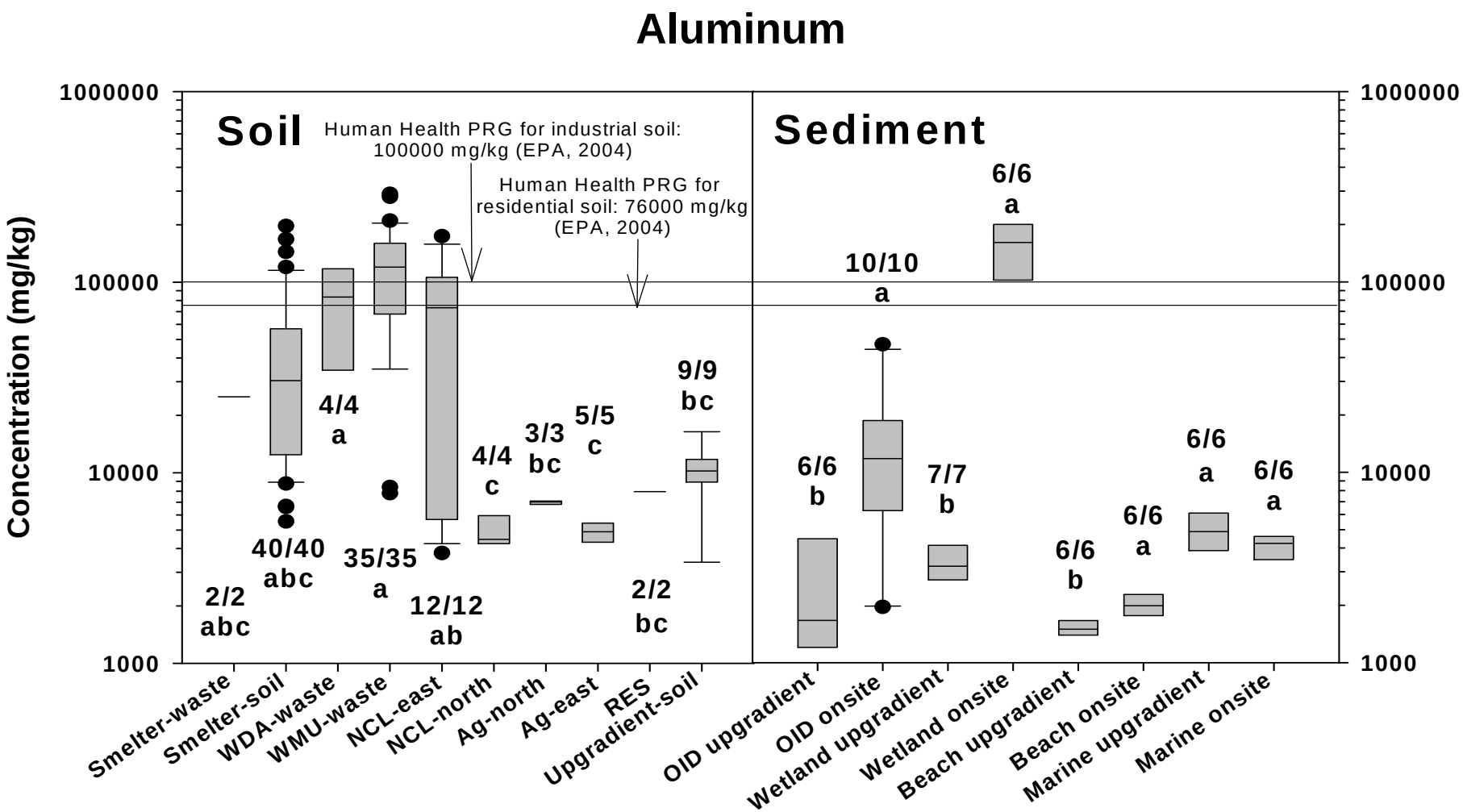


Figure C-1. Boxplots of distributions of aluminum in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Antimony

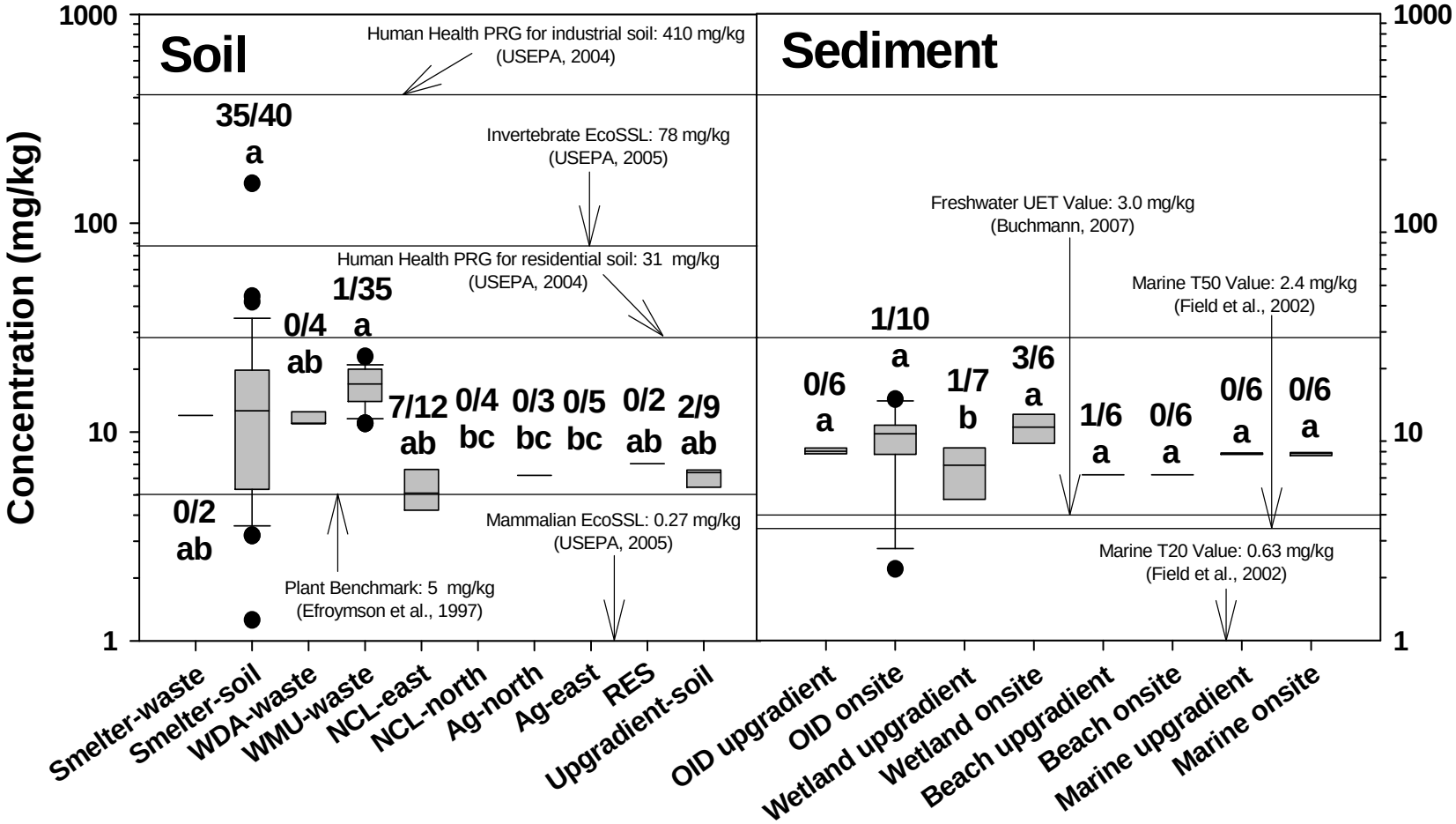


Figure C-2. Boxplots of distributions of antimony in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Arsenic

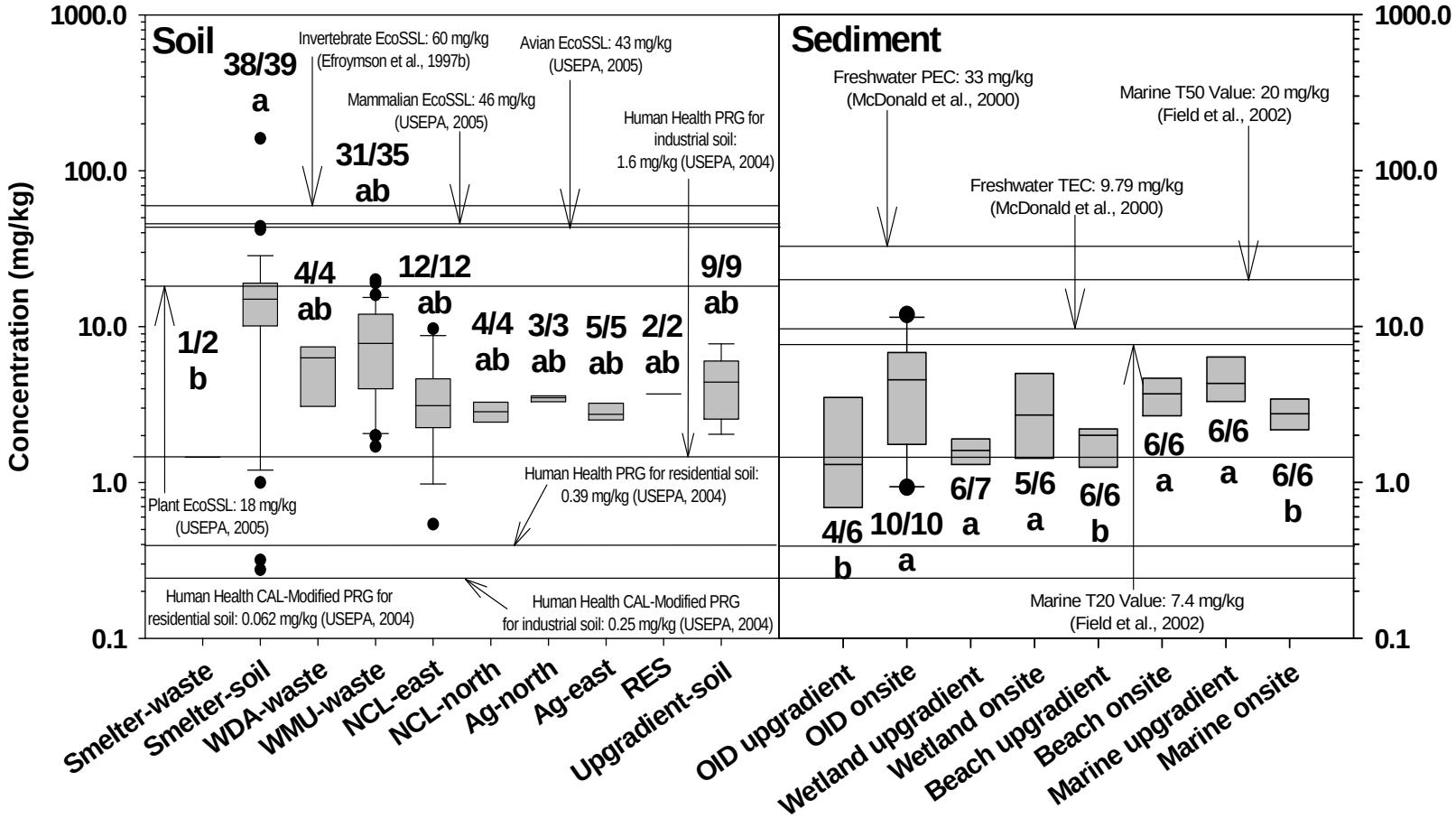


Figure C-3. Boxplots of distributions of arsenic in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

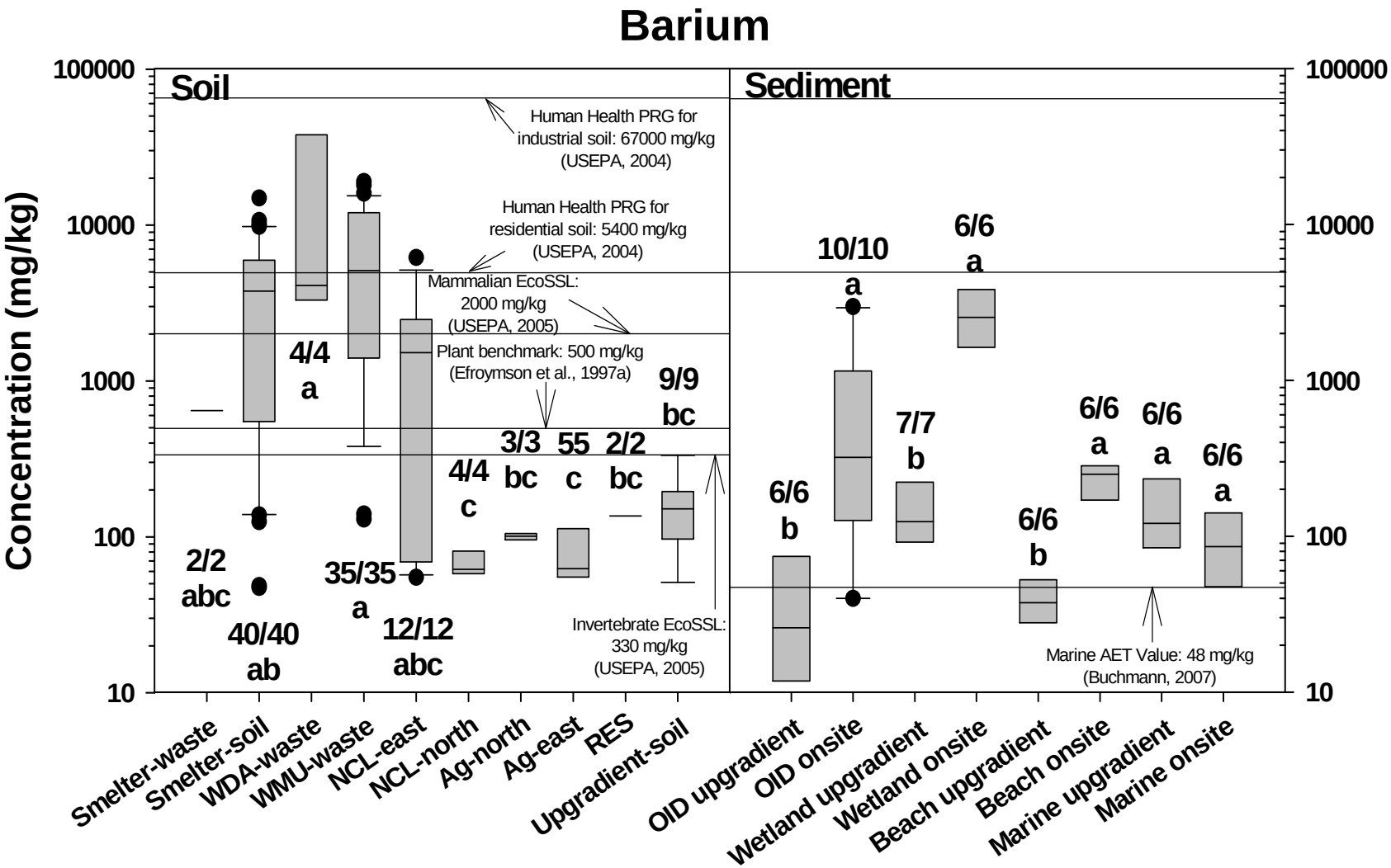


Figure C-4. Boxplots of distributions of barium in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

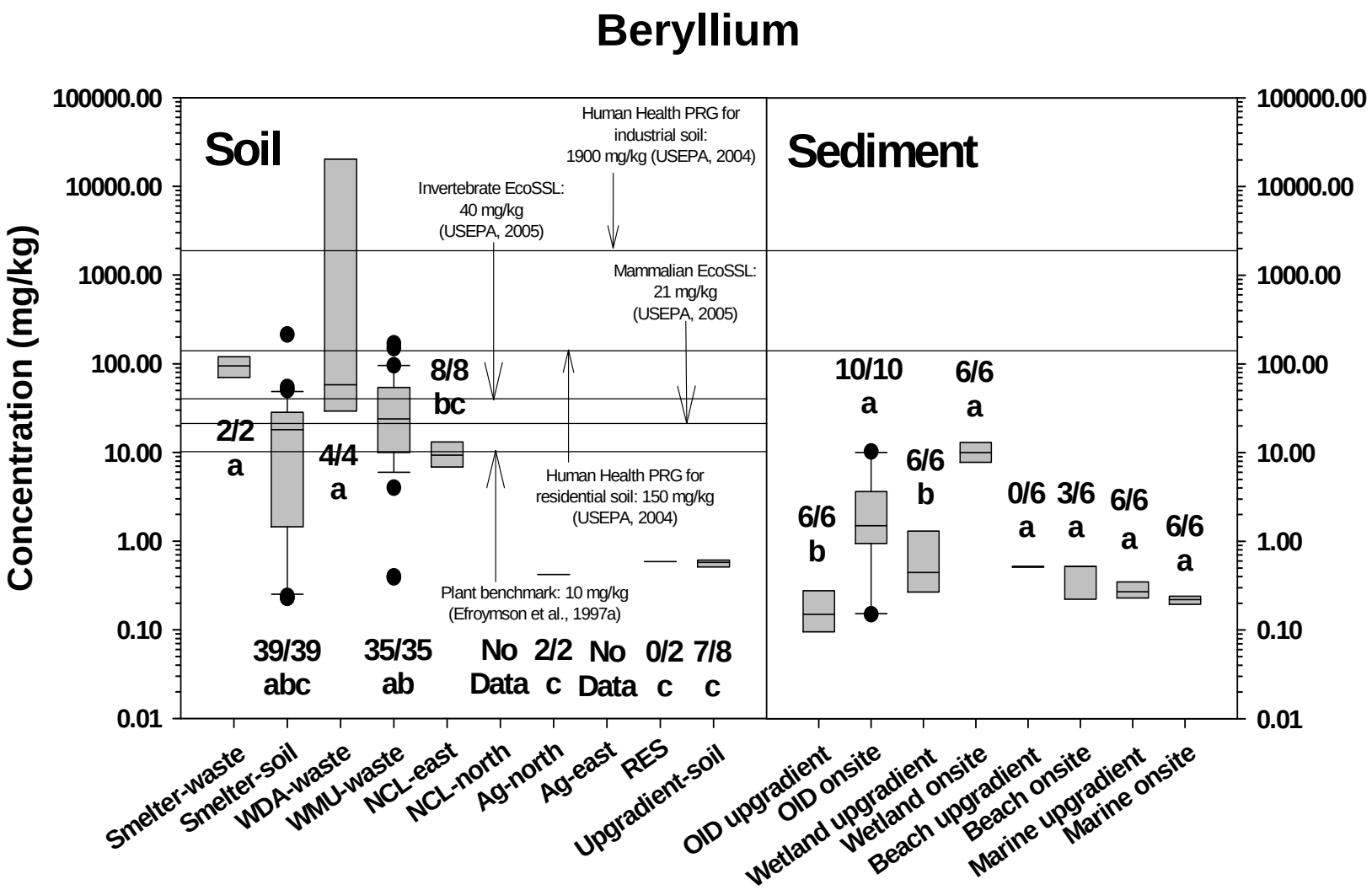


Figure C-5. Boxplots of distributions of beryllium in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Boron

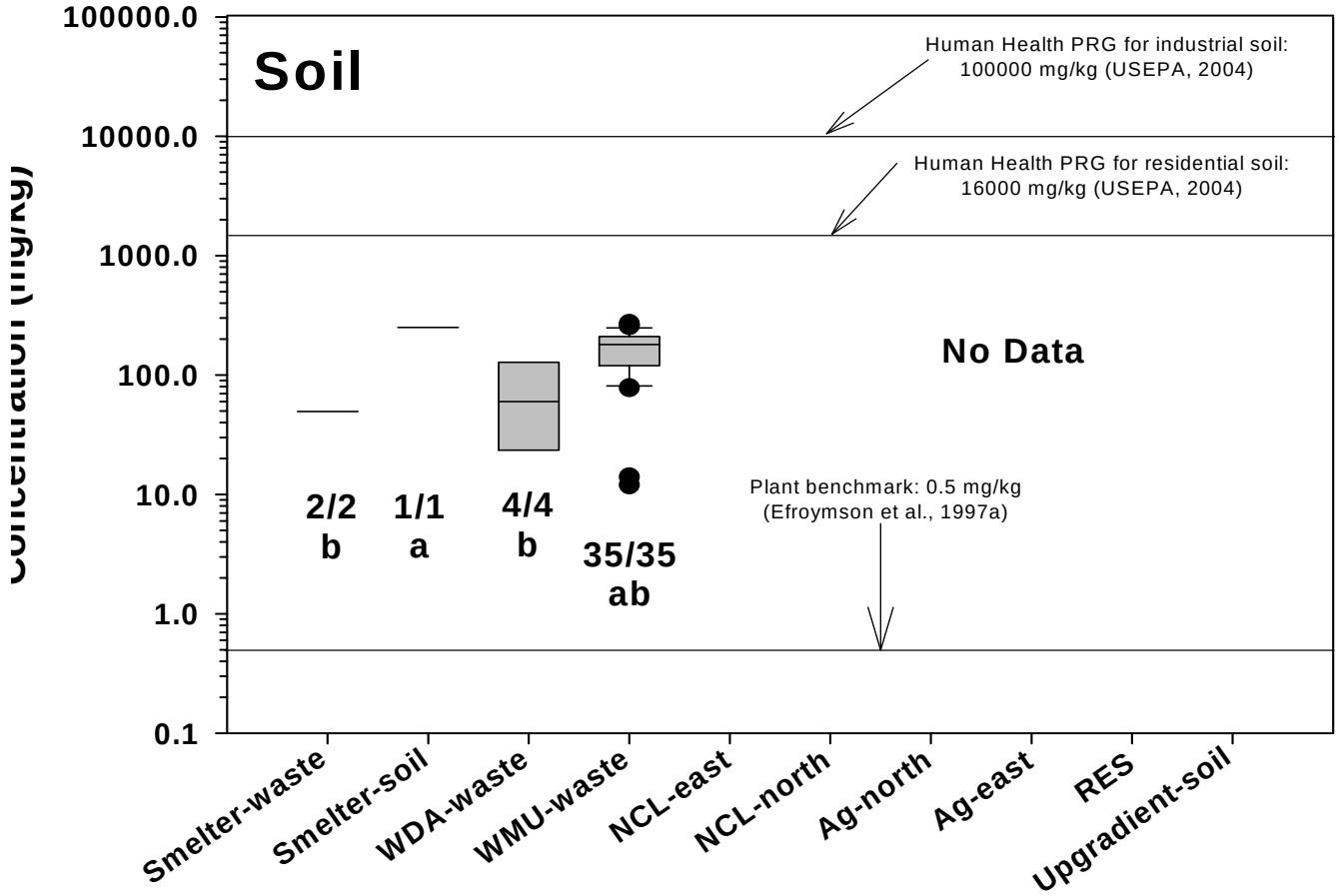


Figure C-6. Boxplots of distributions of boron in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

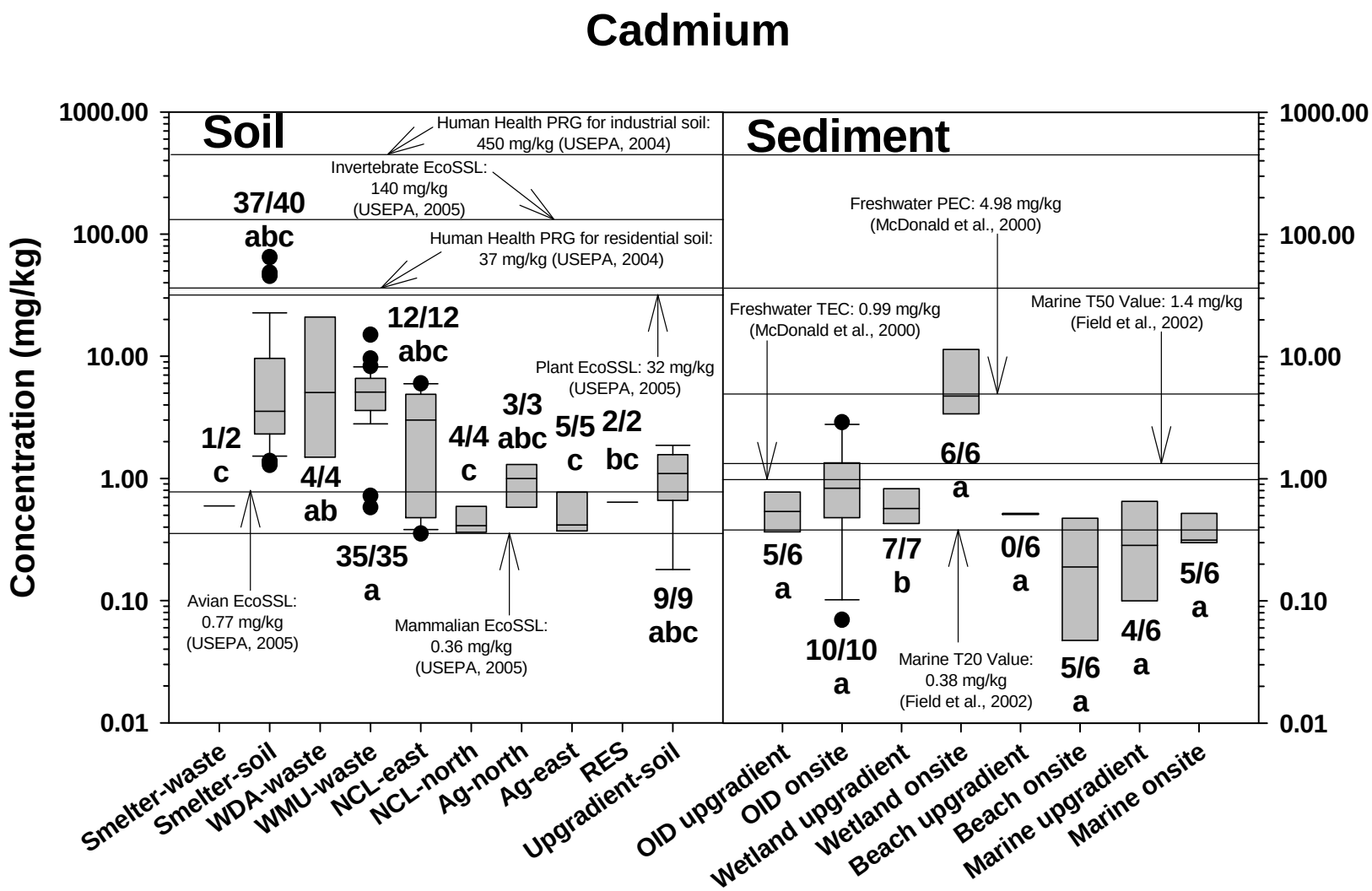


Figure C-7. Boxplots of distributions of cadmium in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Chromium

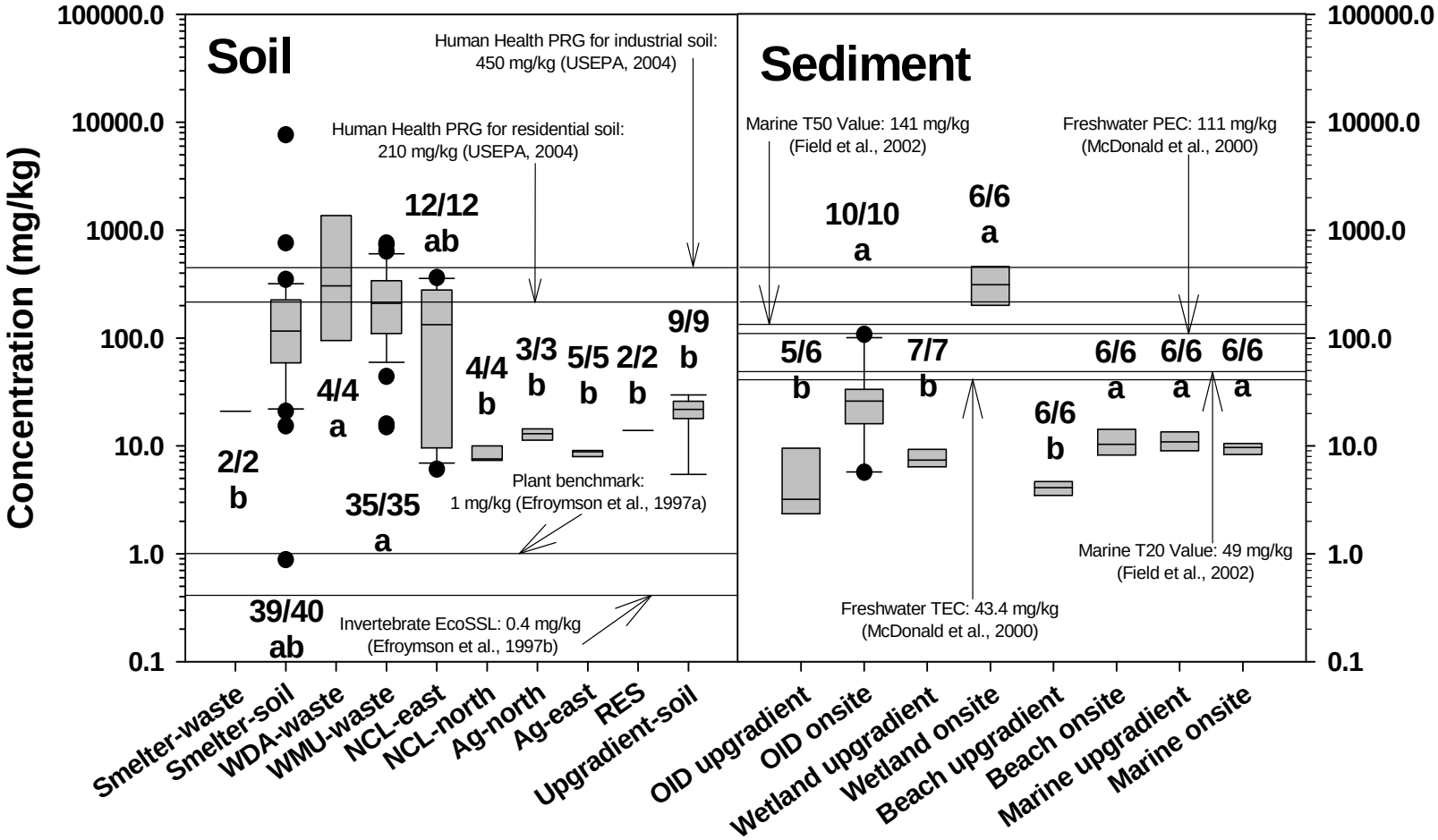


Figure C-8. Boxplots of distributions of chromium in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Cobalt

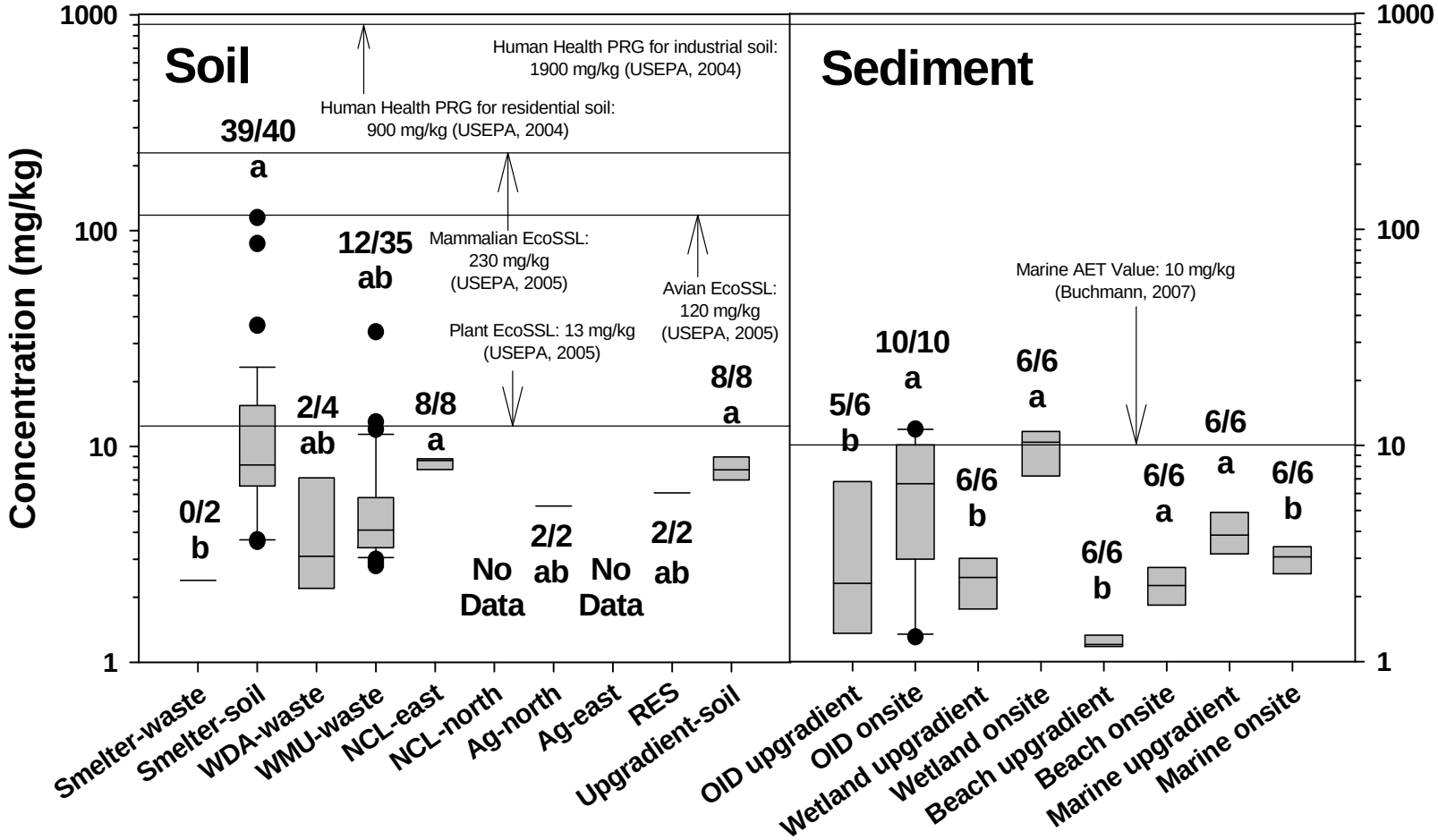


Figure C-9. Boxplots of distributions of cobalt in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Copper

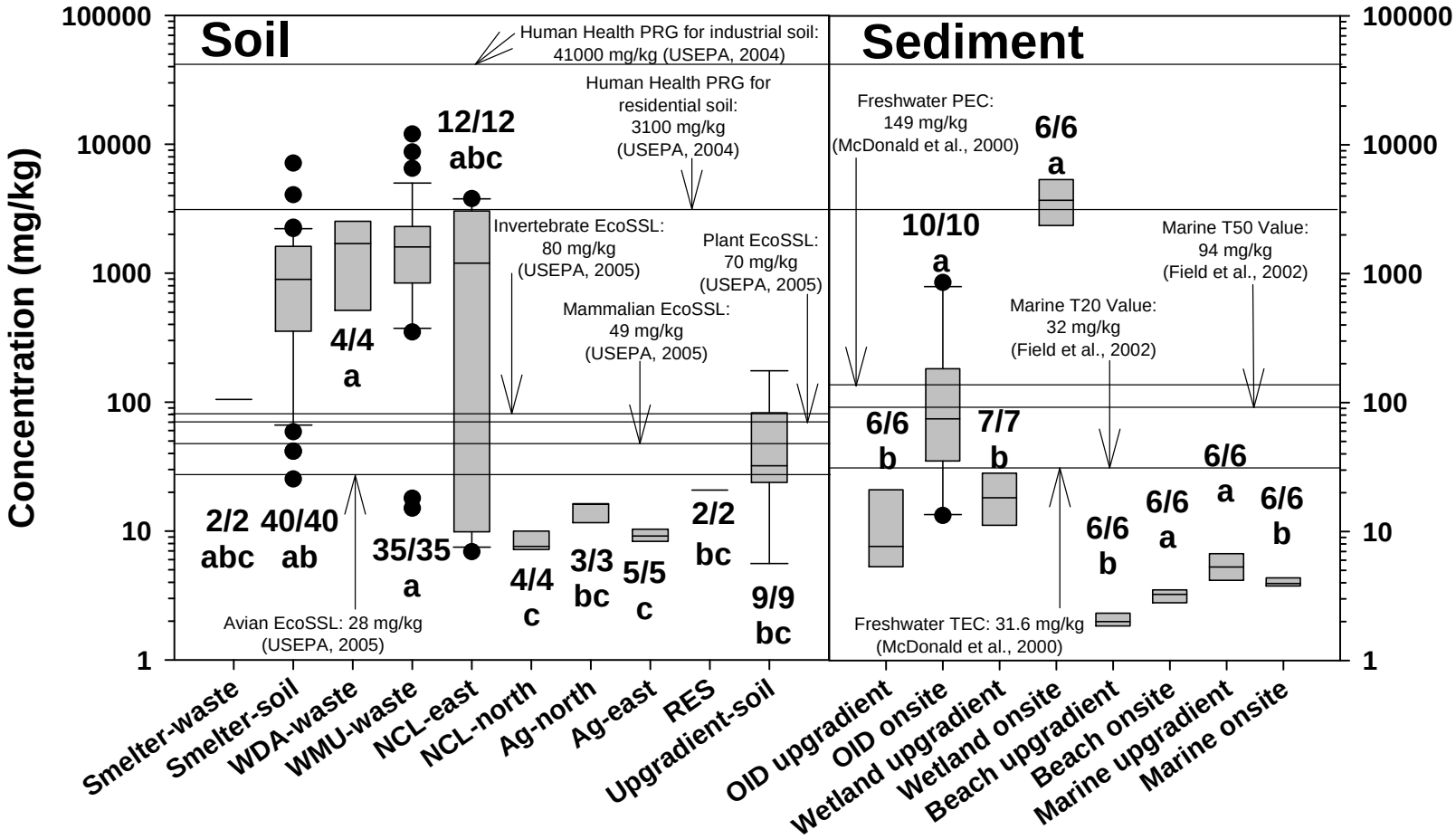


Figure C-10. Boxplots of distributions of copper in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

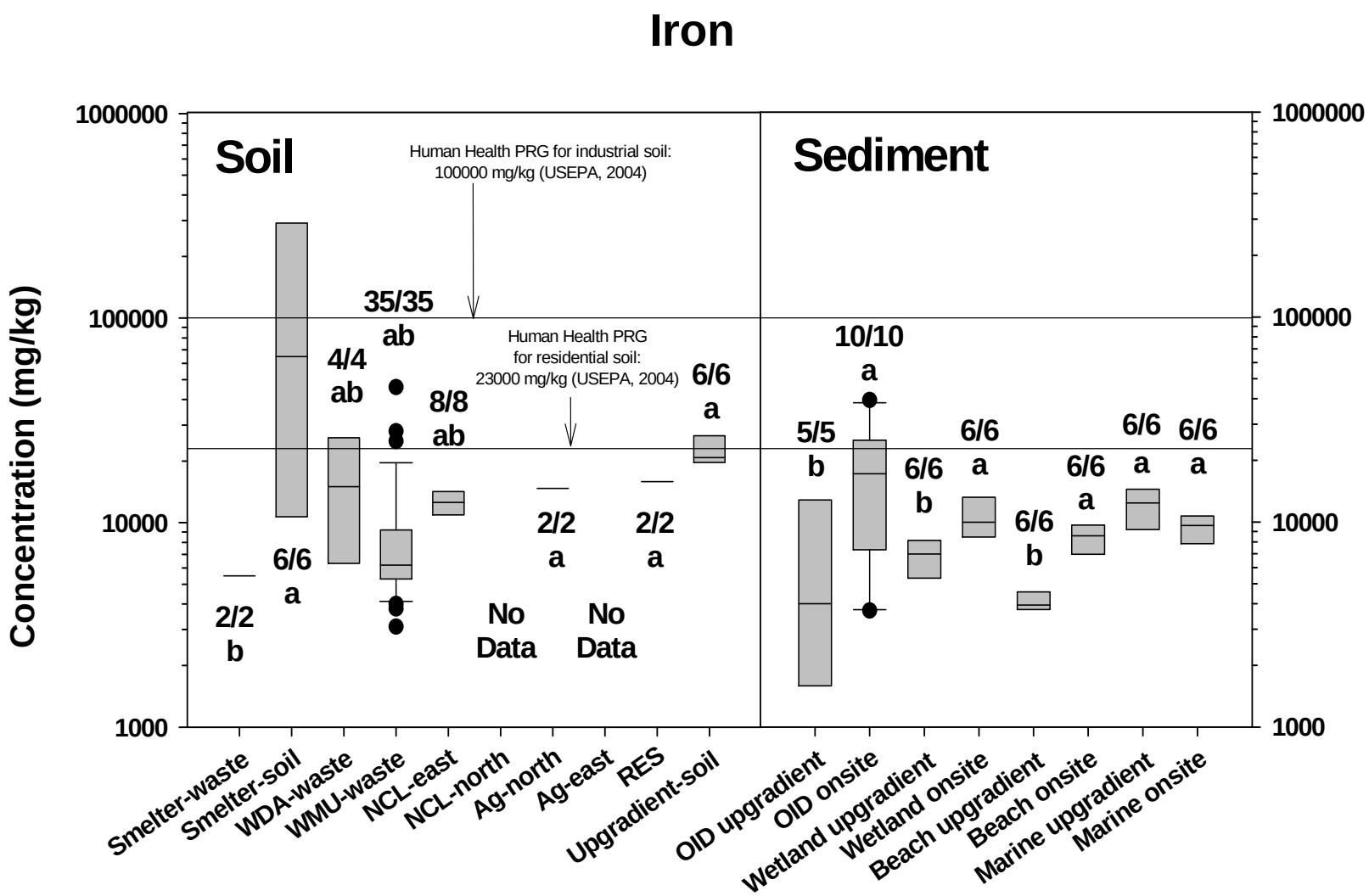


Figure C-11. Boxplots of distributions of iron in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

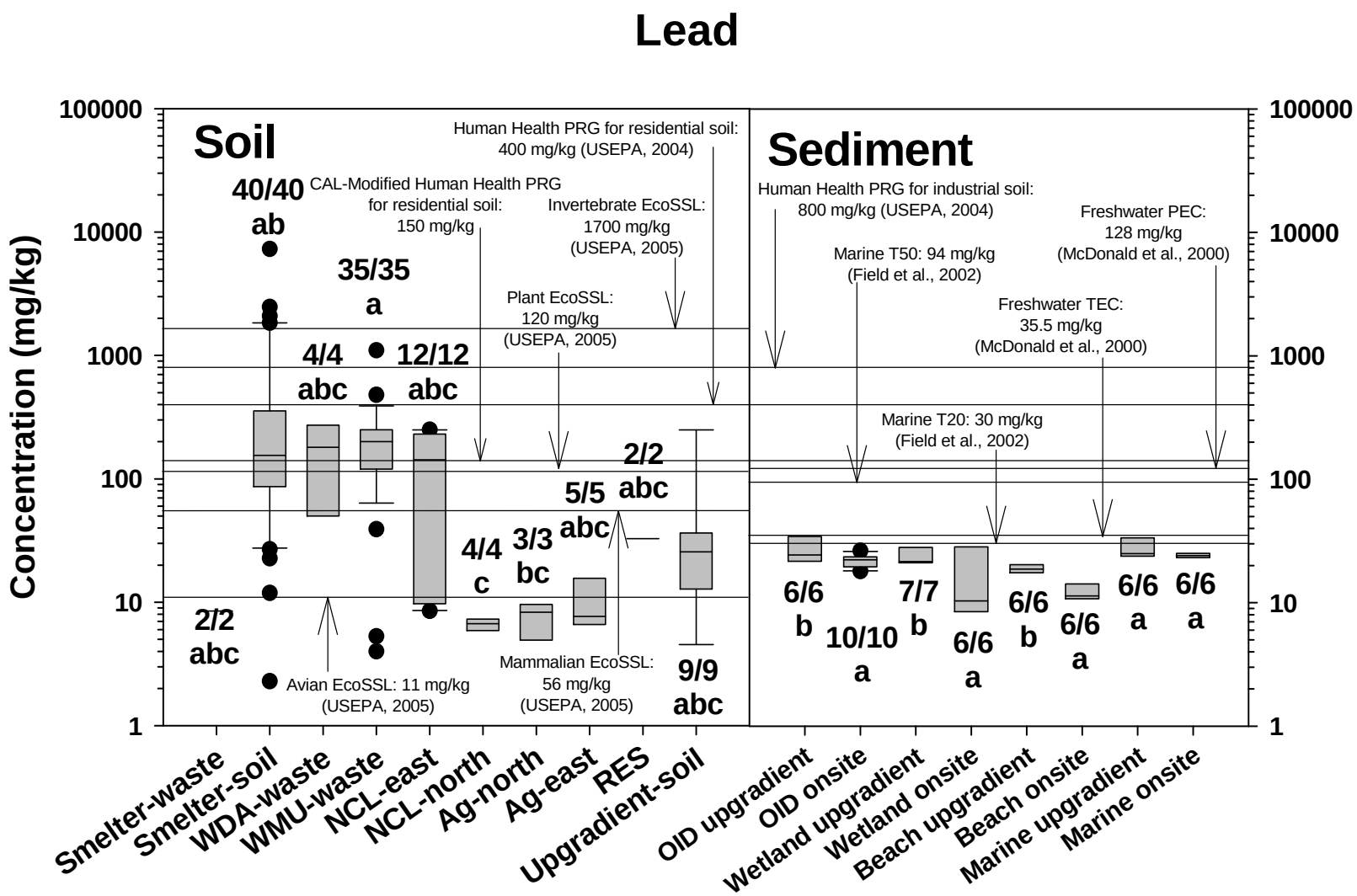


Figure C-12. Boxplots of distributions of lead in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

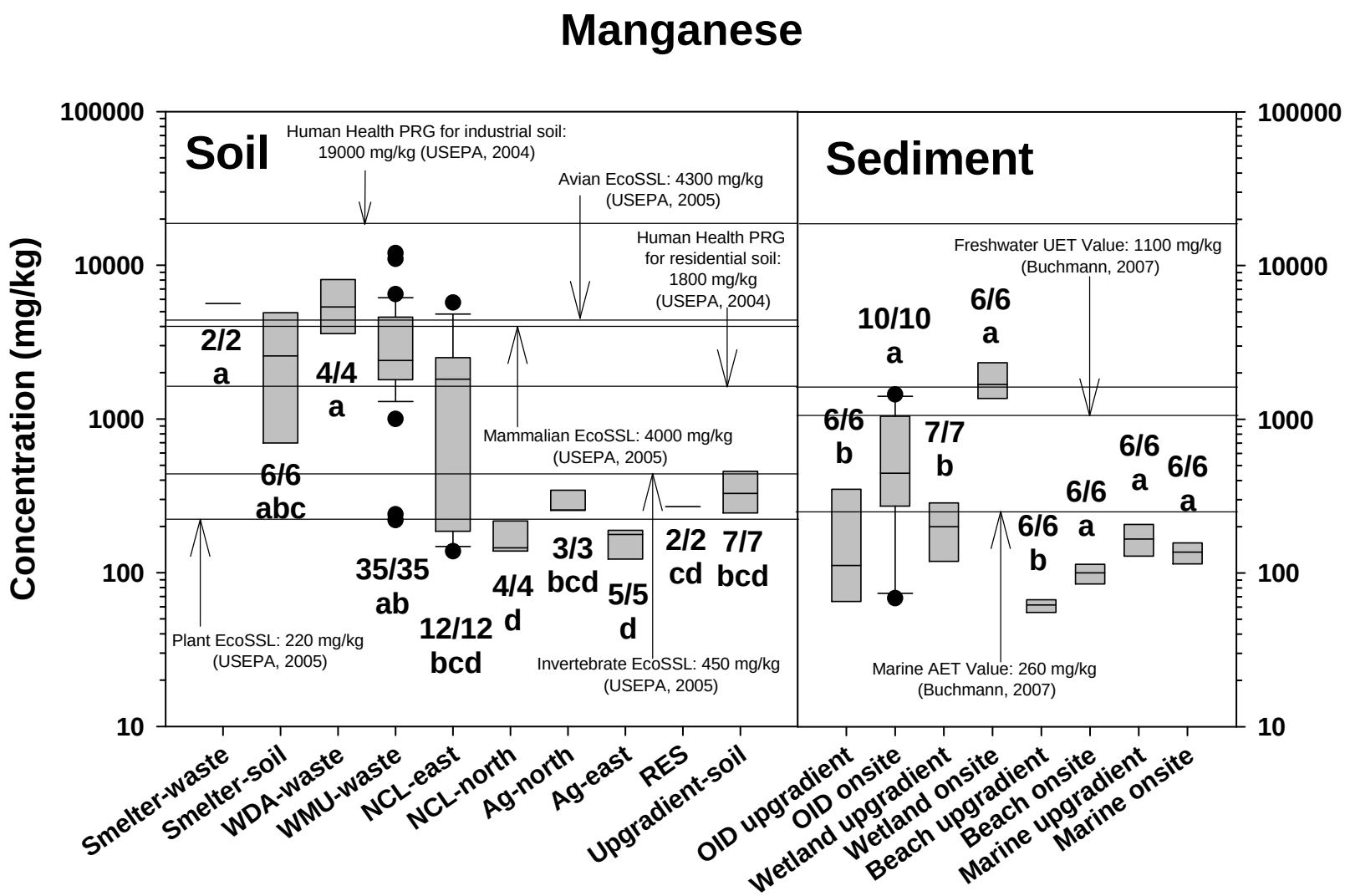


Figure C-13. Boxplots of distributions of manganese in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Mercury

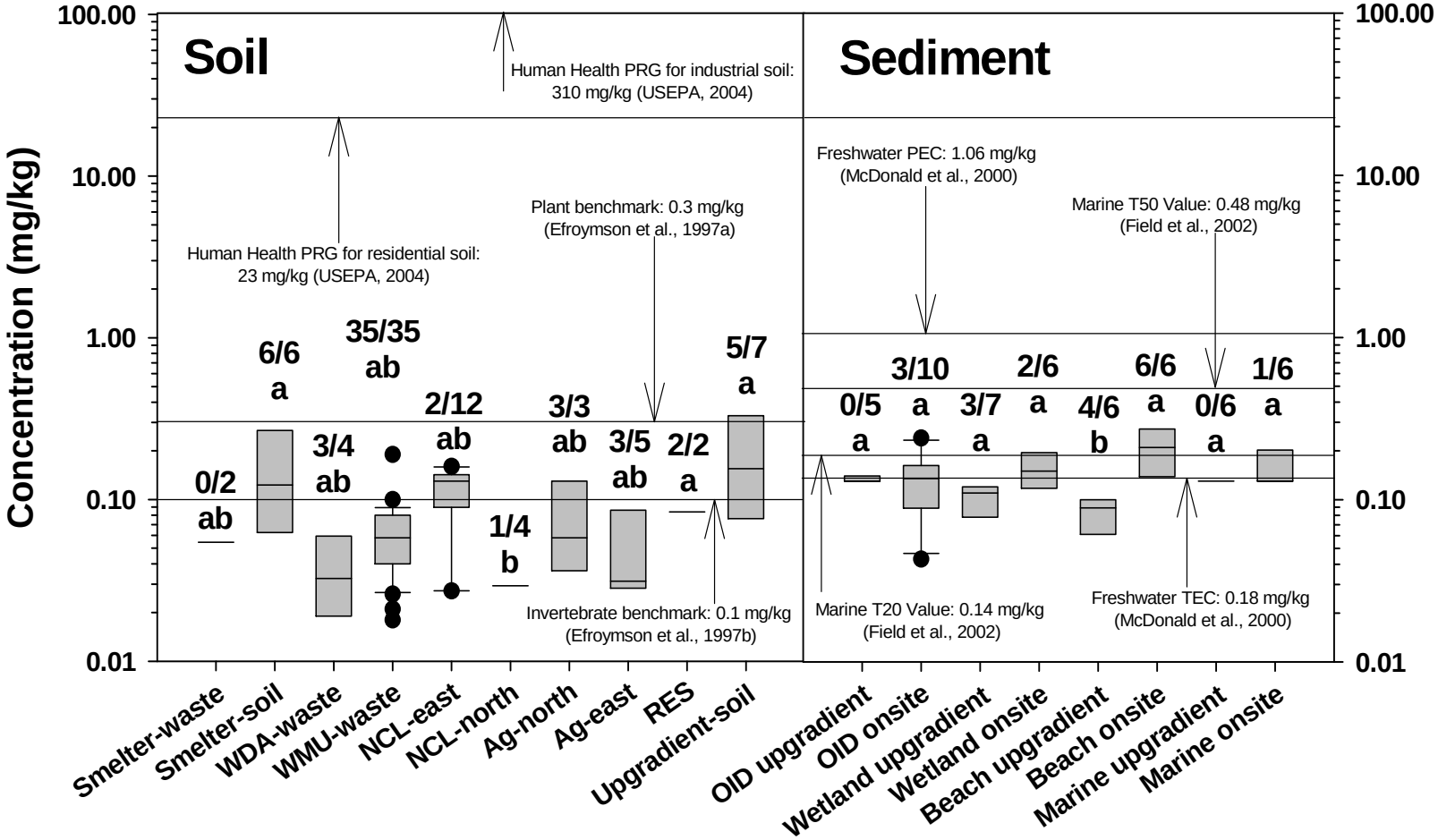


Figure C-14. Boxplots of distributions of mercury in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Molybdenum

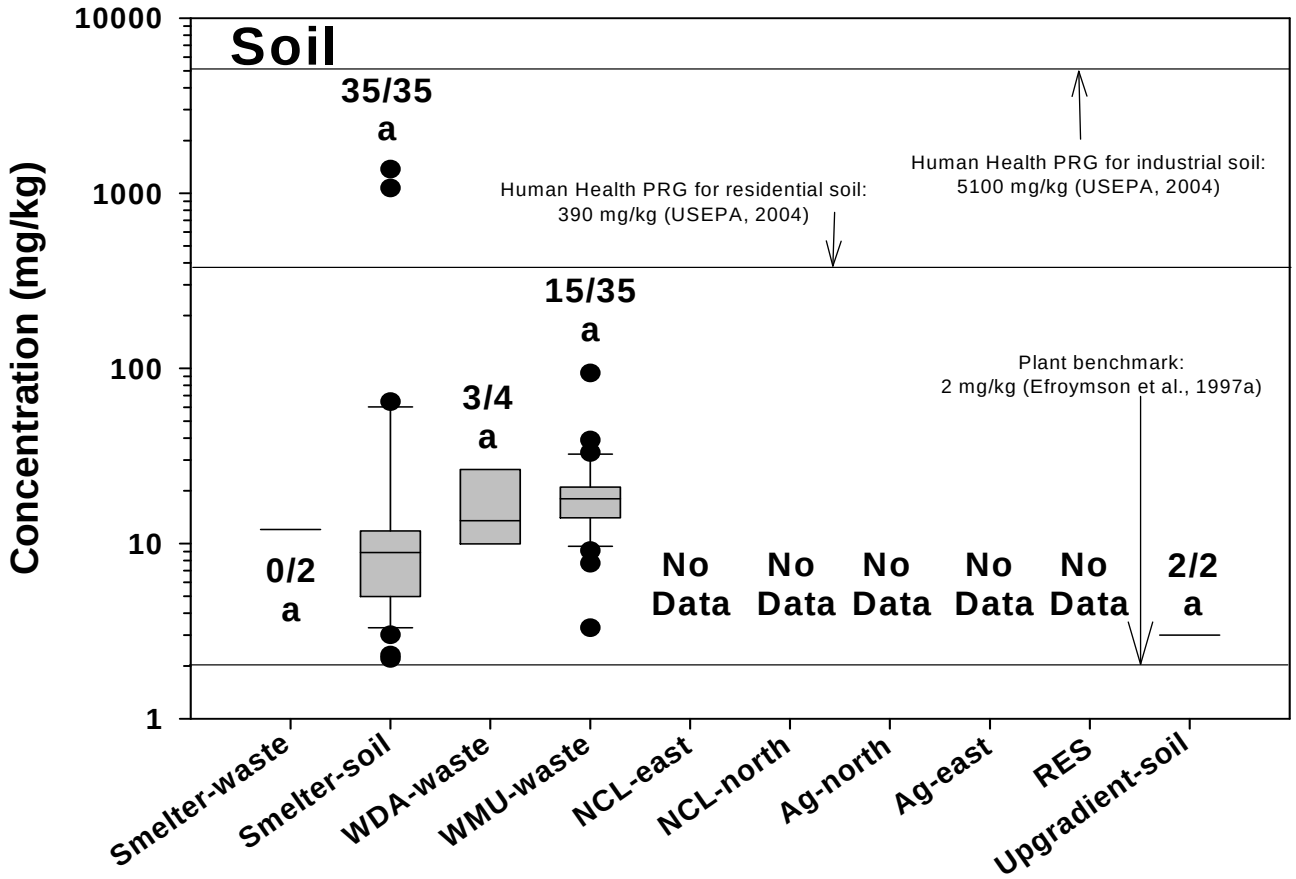


Figure C-15. Boxplots of distributions of molybdenum in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Nickel

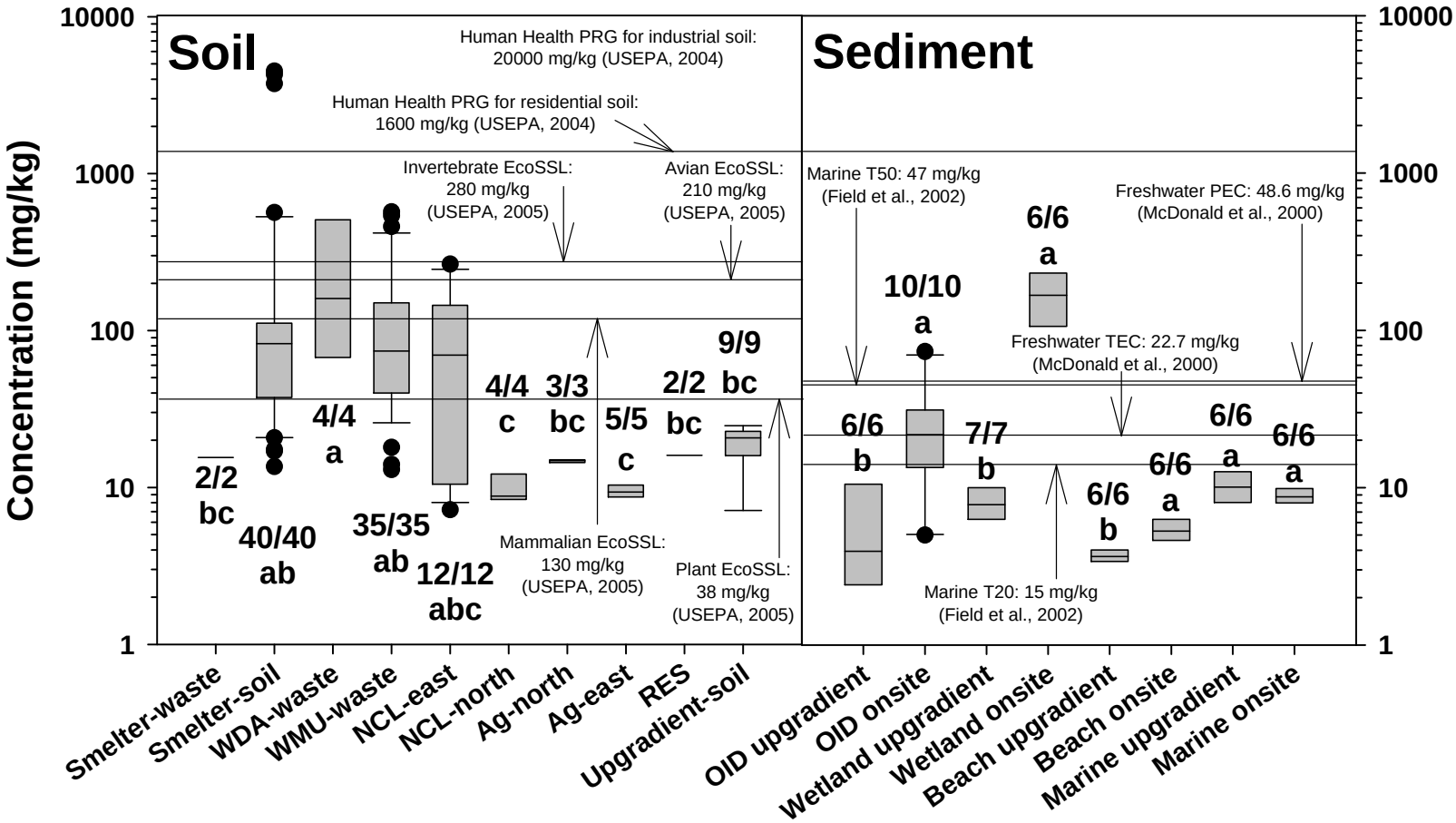


Figure C-16. Boxplots of distributions of nickel in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Selenium

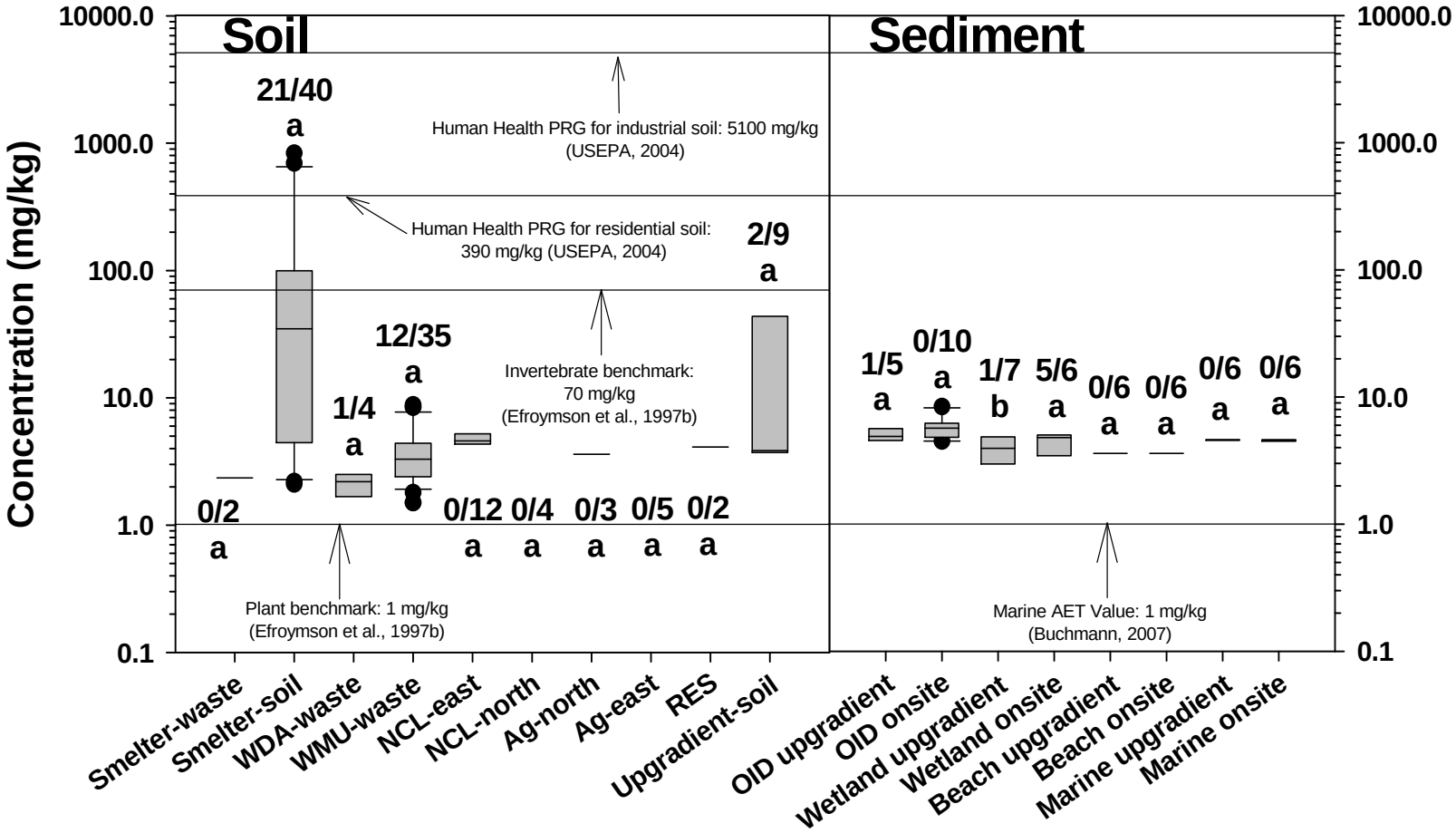


Figure C-17. Boxplots of distributions of selenium in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Silver

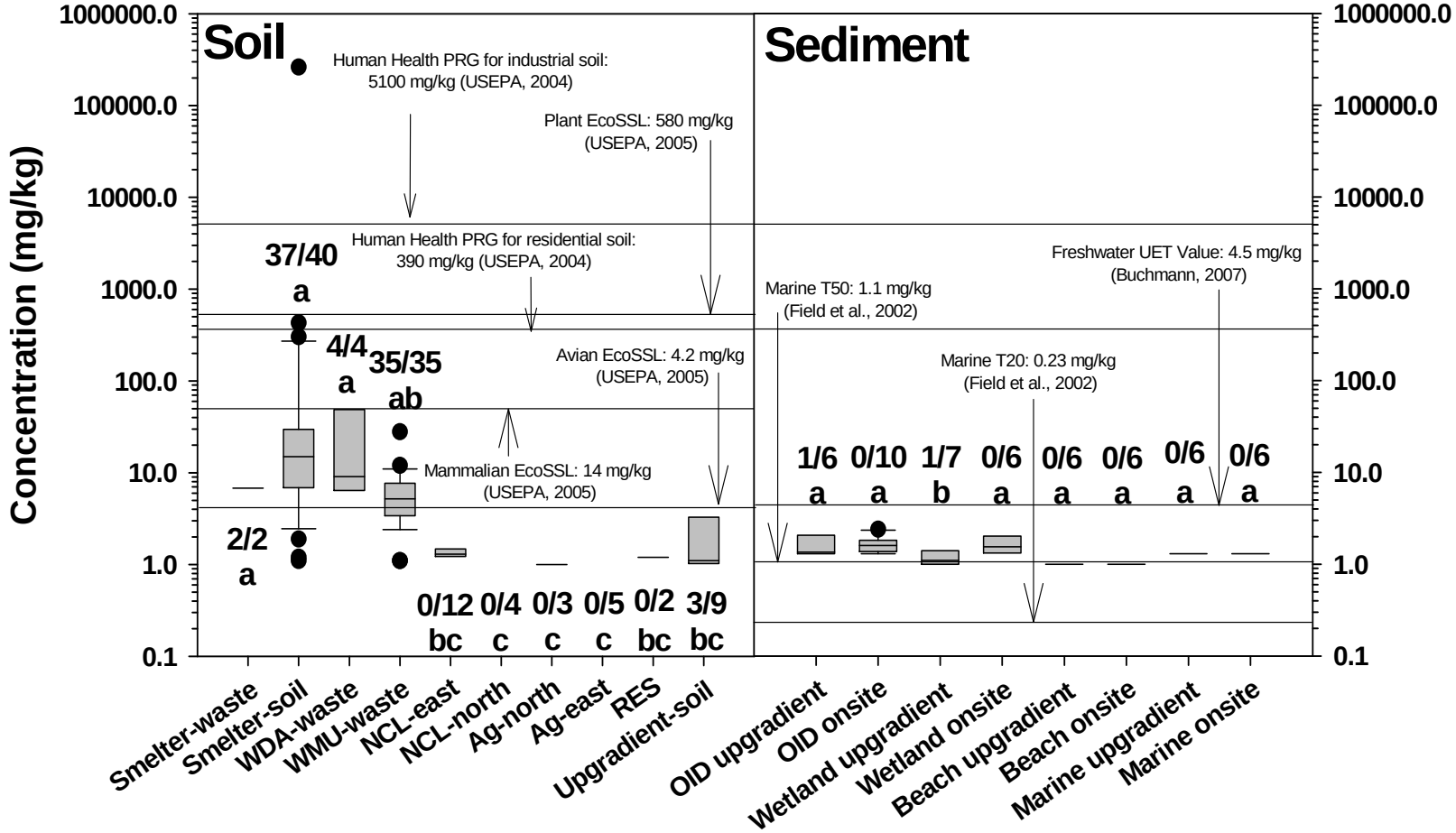


Figure C-18. Boxplots of distributions of silver in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

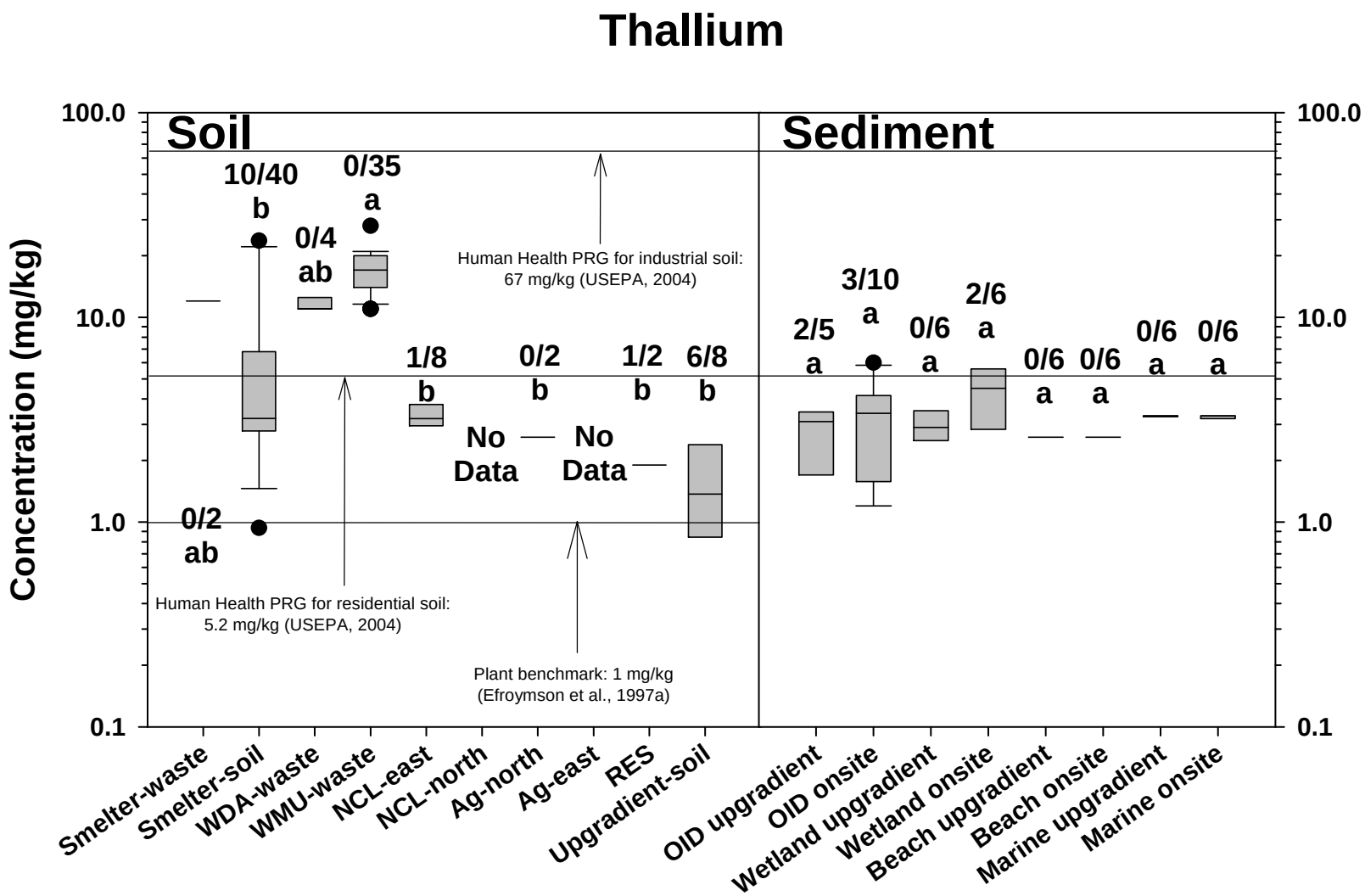


Figure C-19. Boxplots of distributions of thallium in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Vanadium

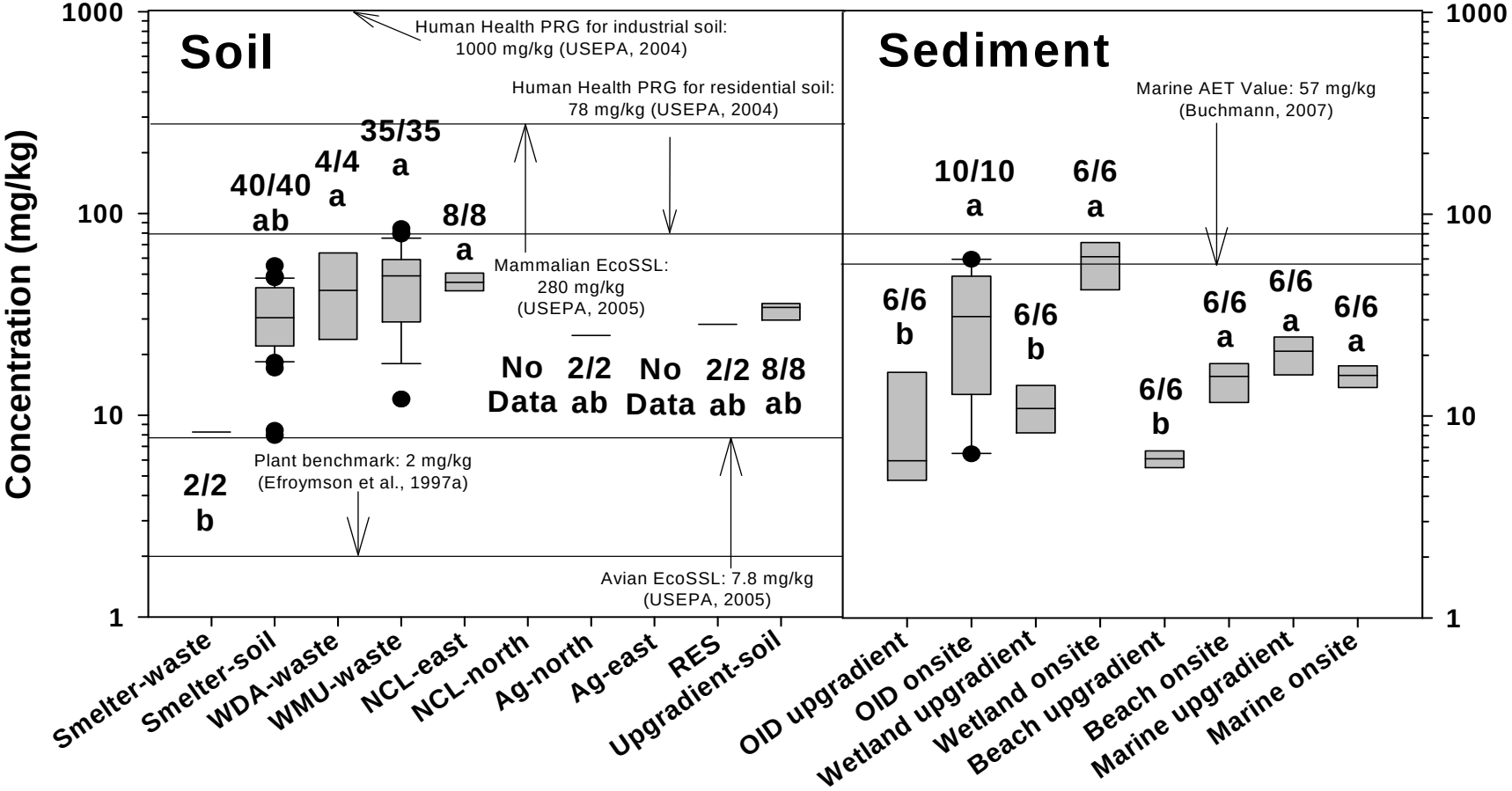


Figure C-20. Boxplots of distributions of vanadium in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

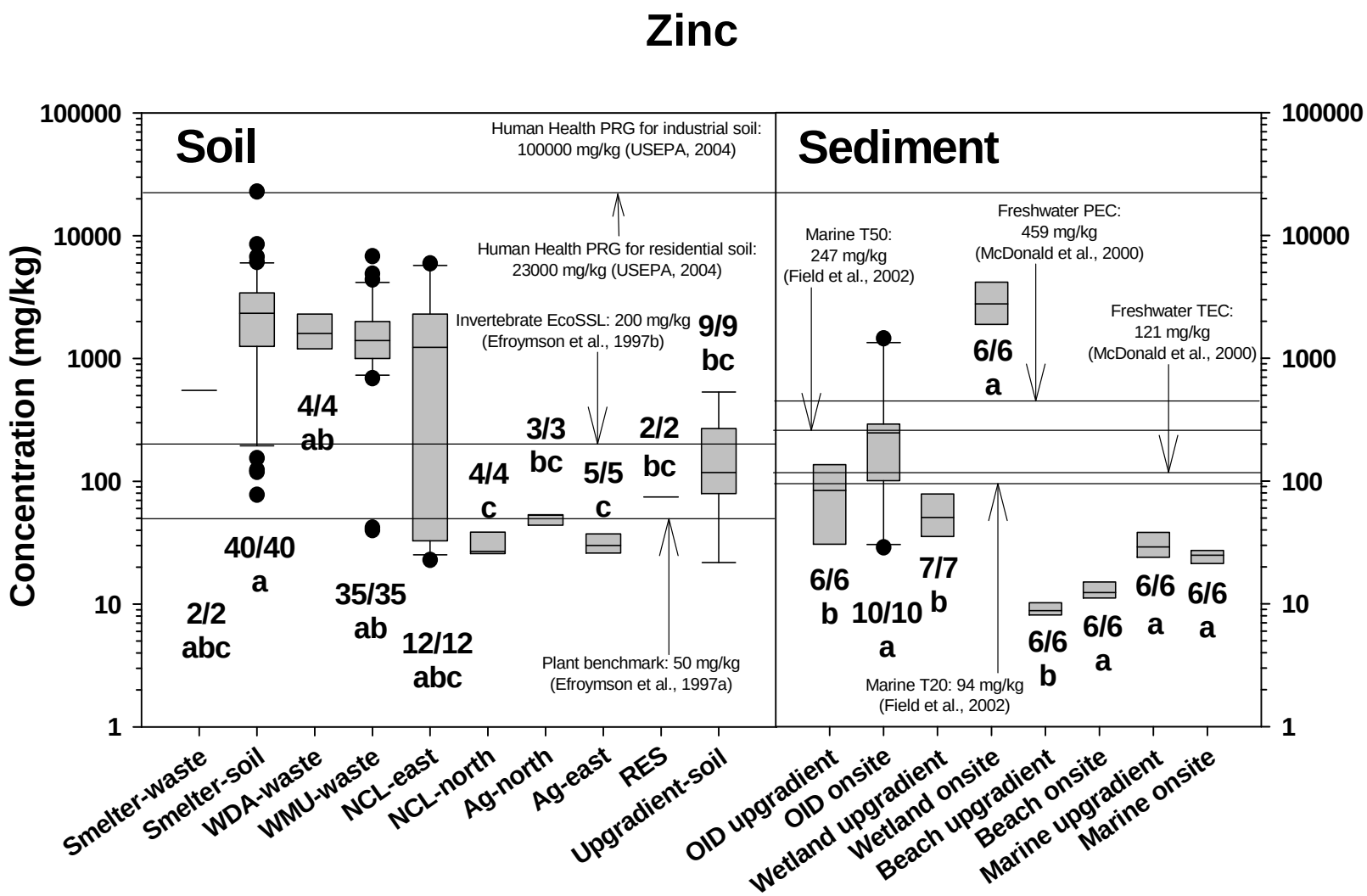


Figure C-21. Boxplots of distributions of zinc in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Cesium-137

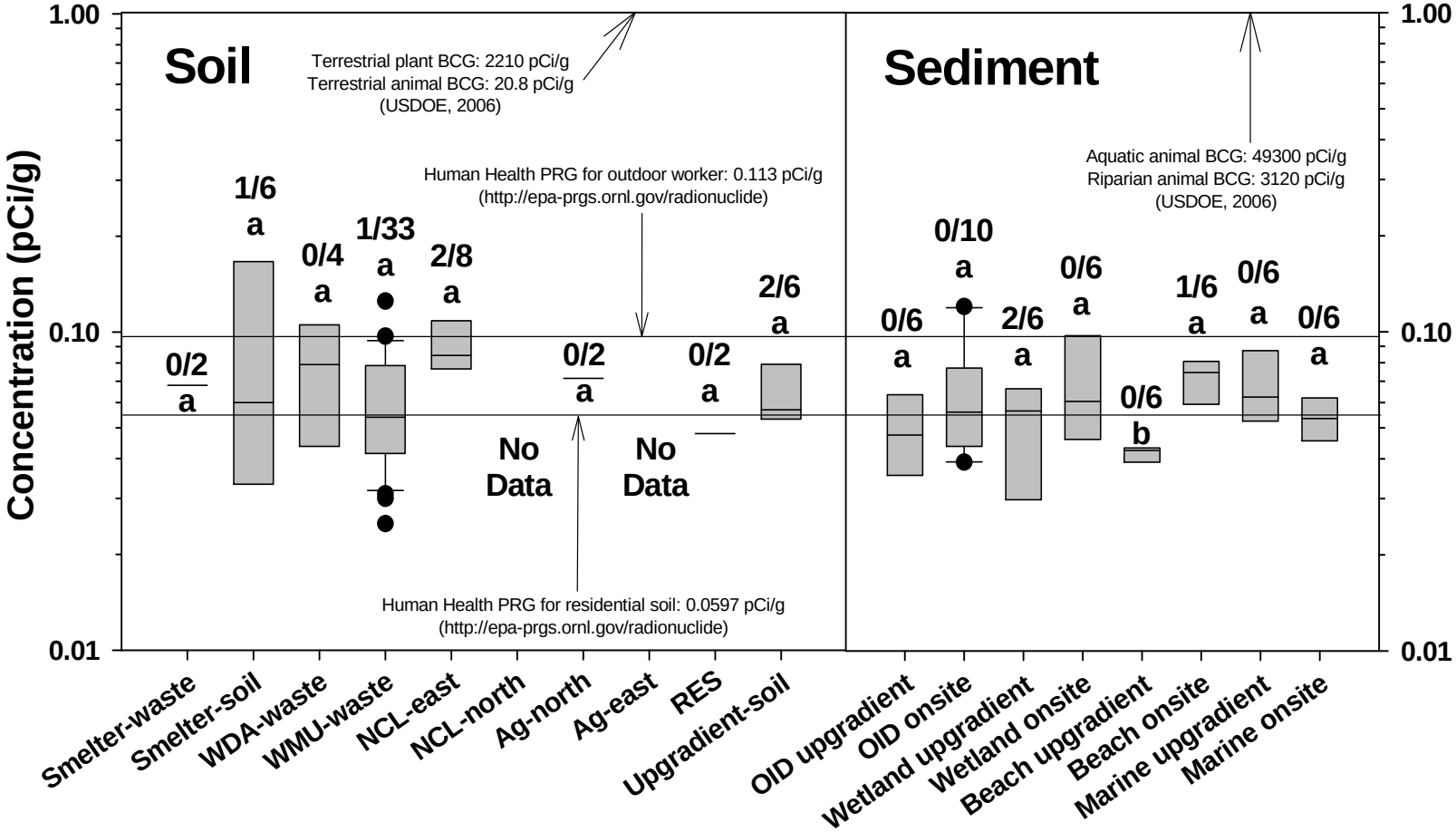


Figure C-22. Boxplots of distributions of cesium-137 in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

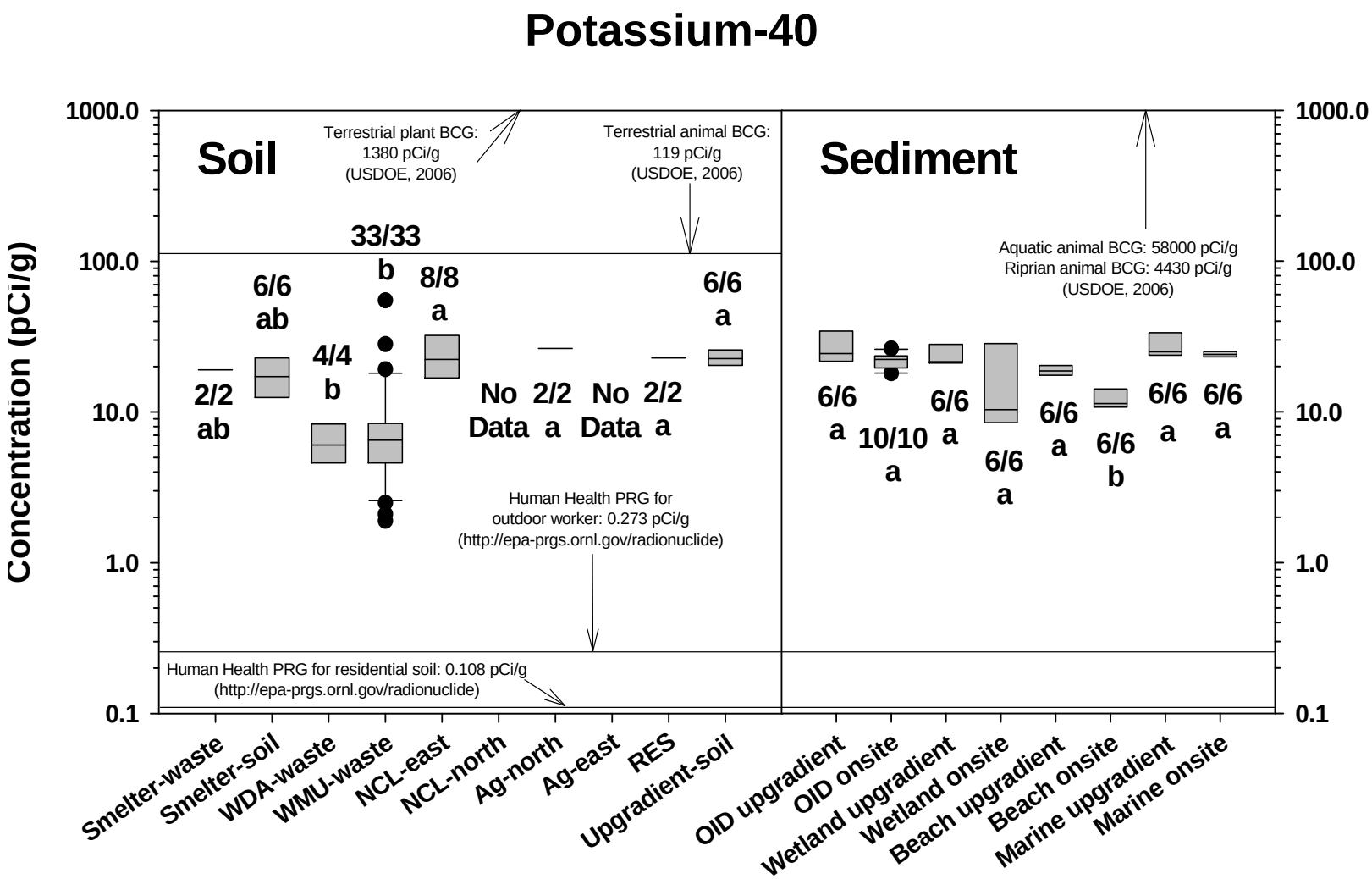


Figure C-23. Boxplots of distributions of potassium-40 in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

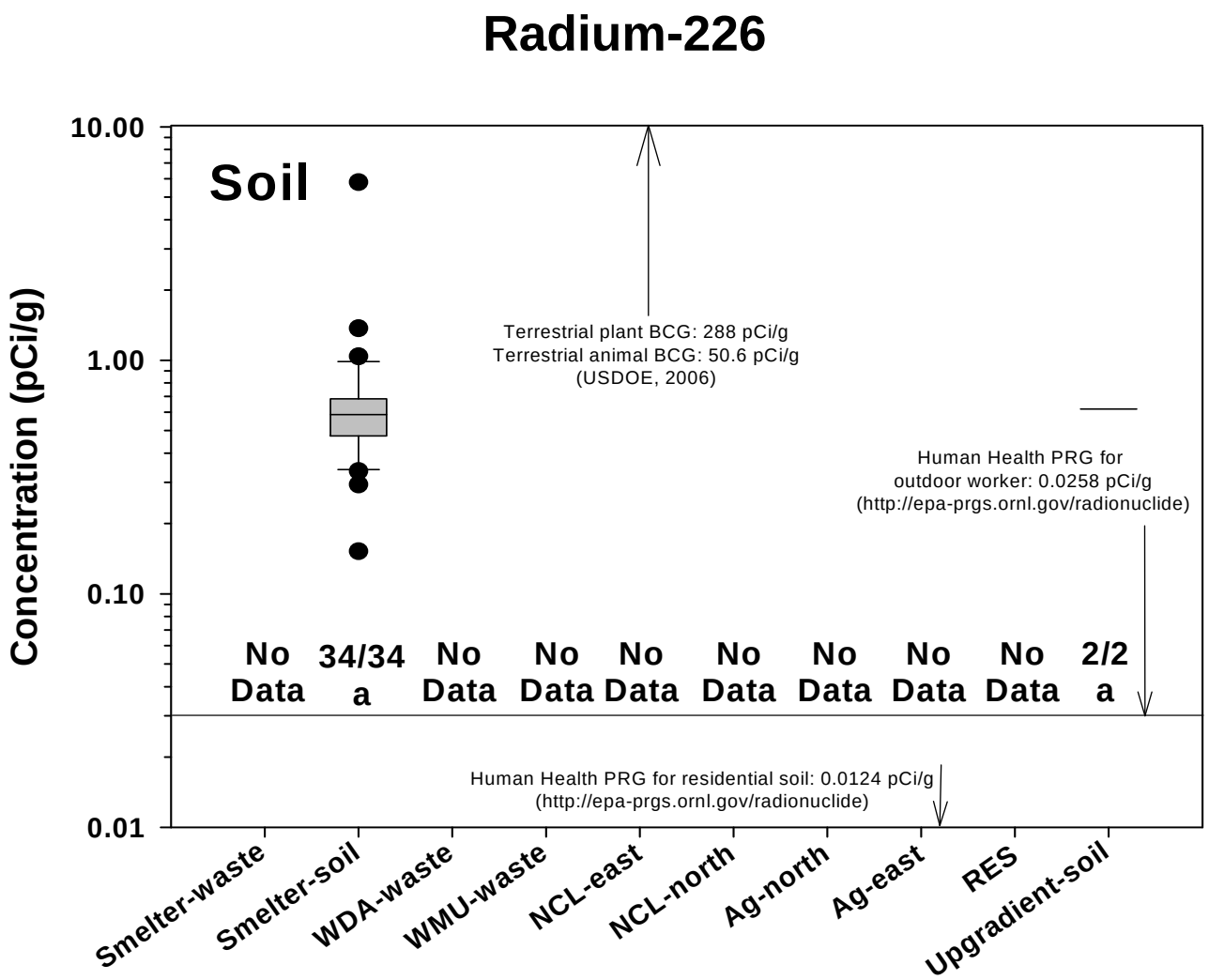


Figure C-24. Boxplots of distributions of radium-226 in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

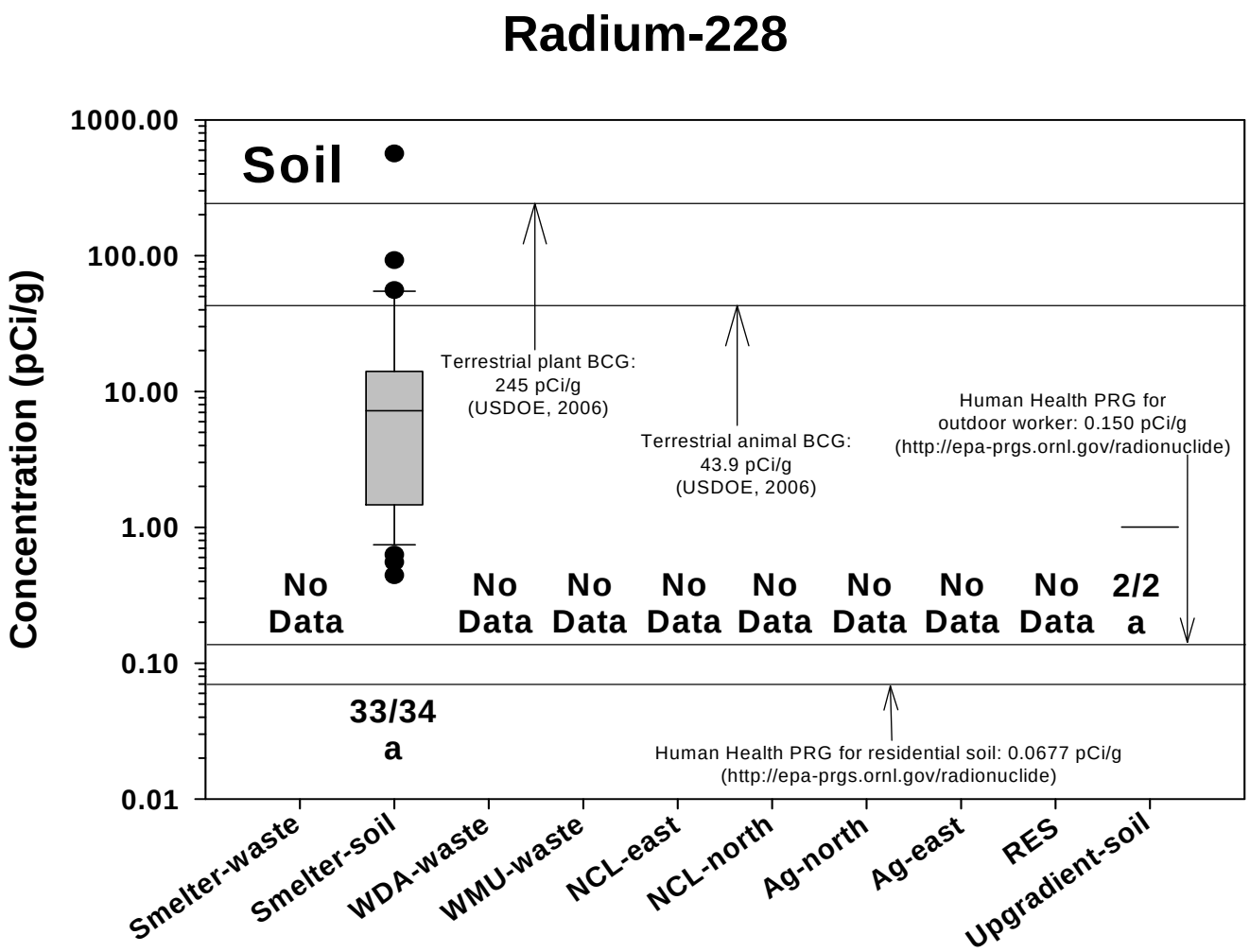


Figure C-25. Boxplots of distributions of radium-228 in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Thorium-228

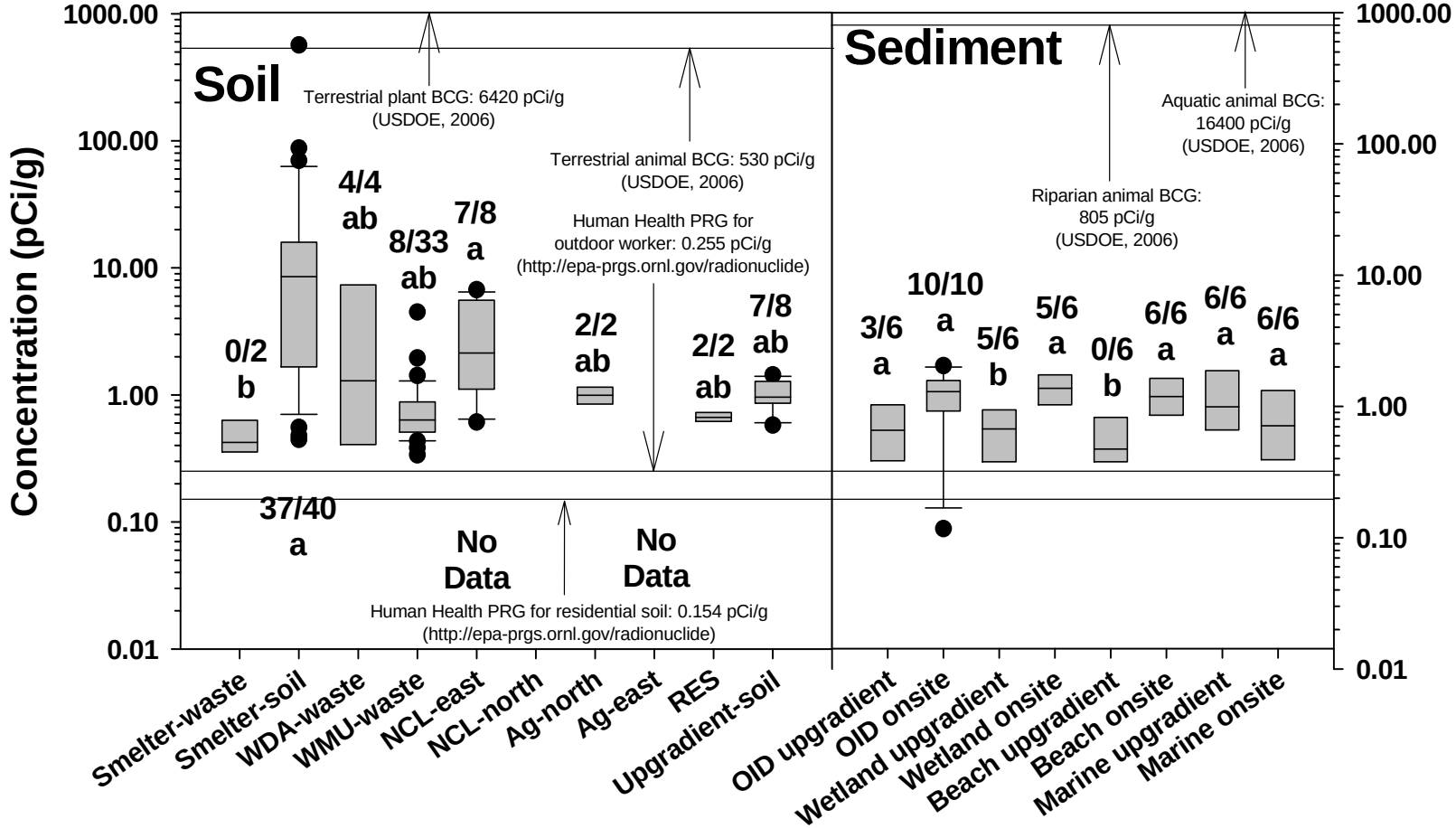


Figure C-26. Boxplots of distributions of thorium-228 in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Thorium-230

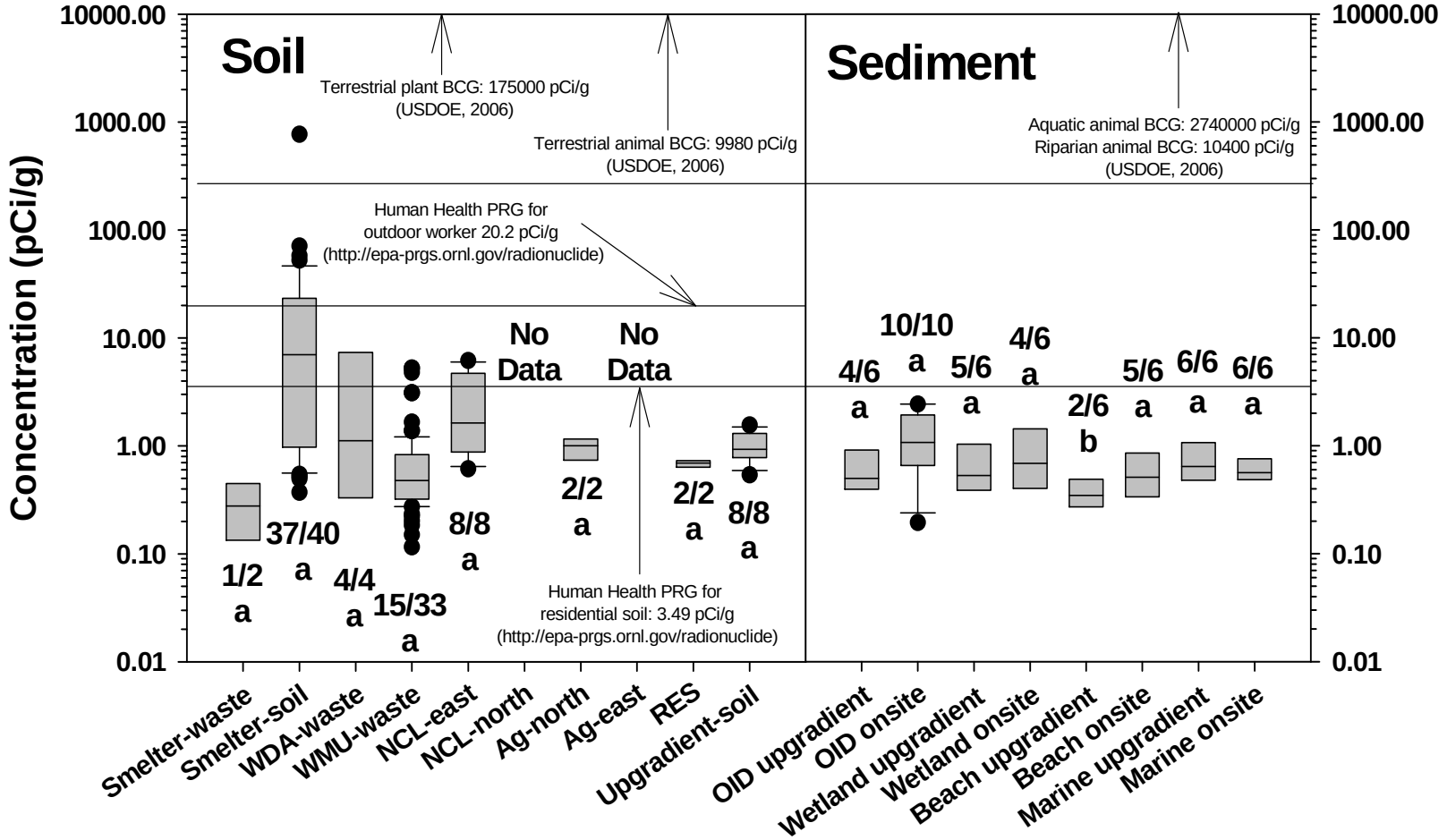


Figure C-27. Boxplots of distributions of thorium-230 in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Thorium-232

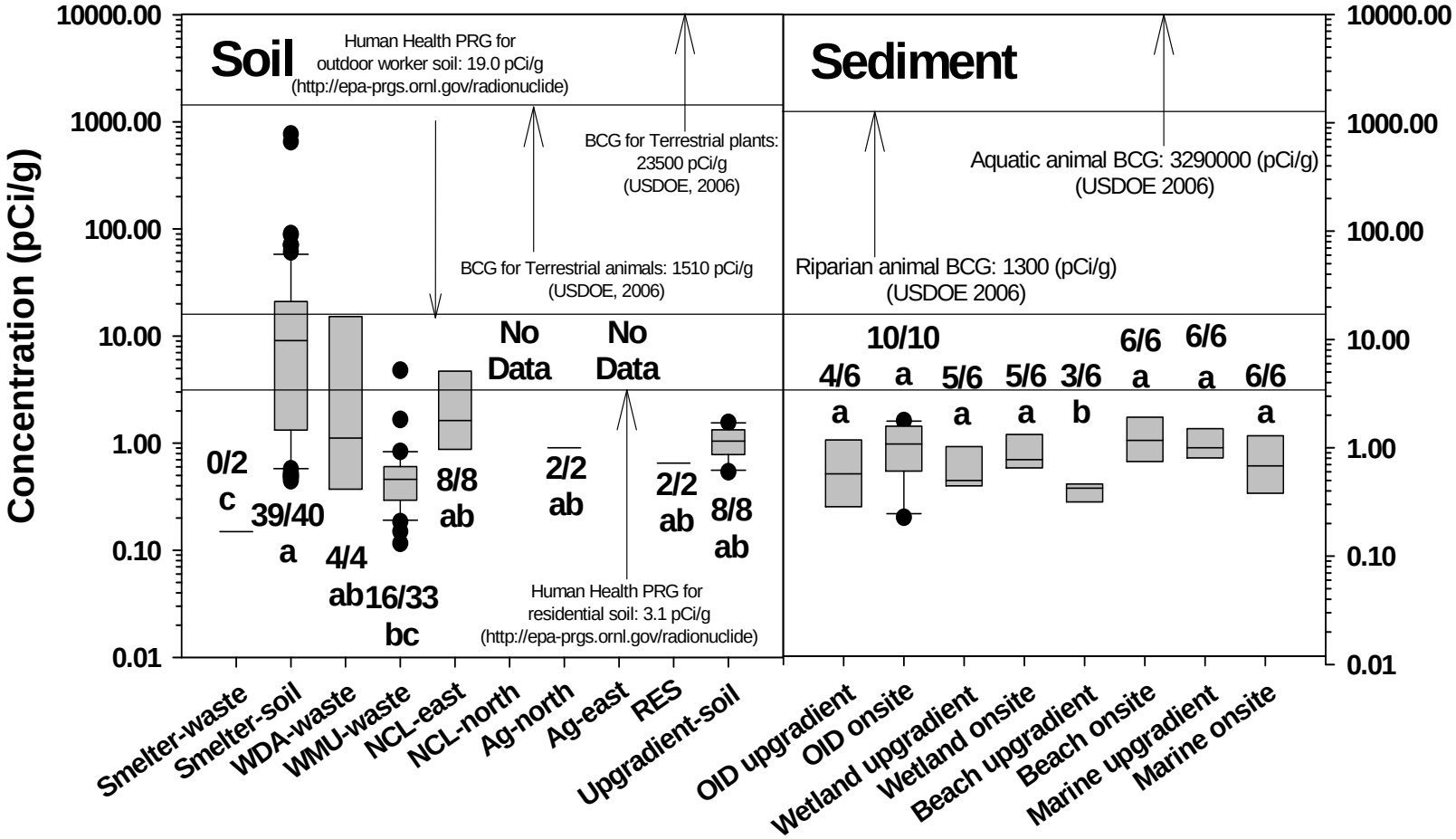


Figure C-28. Boxplots of distributions of thorium-232 in soil/waste and sediment at onsite, potential background, and adjacent locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Appendix C.2
Surface Water

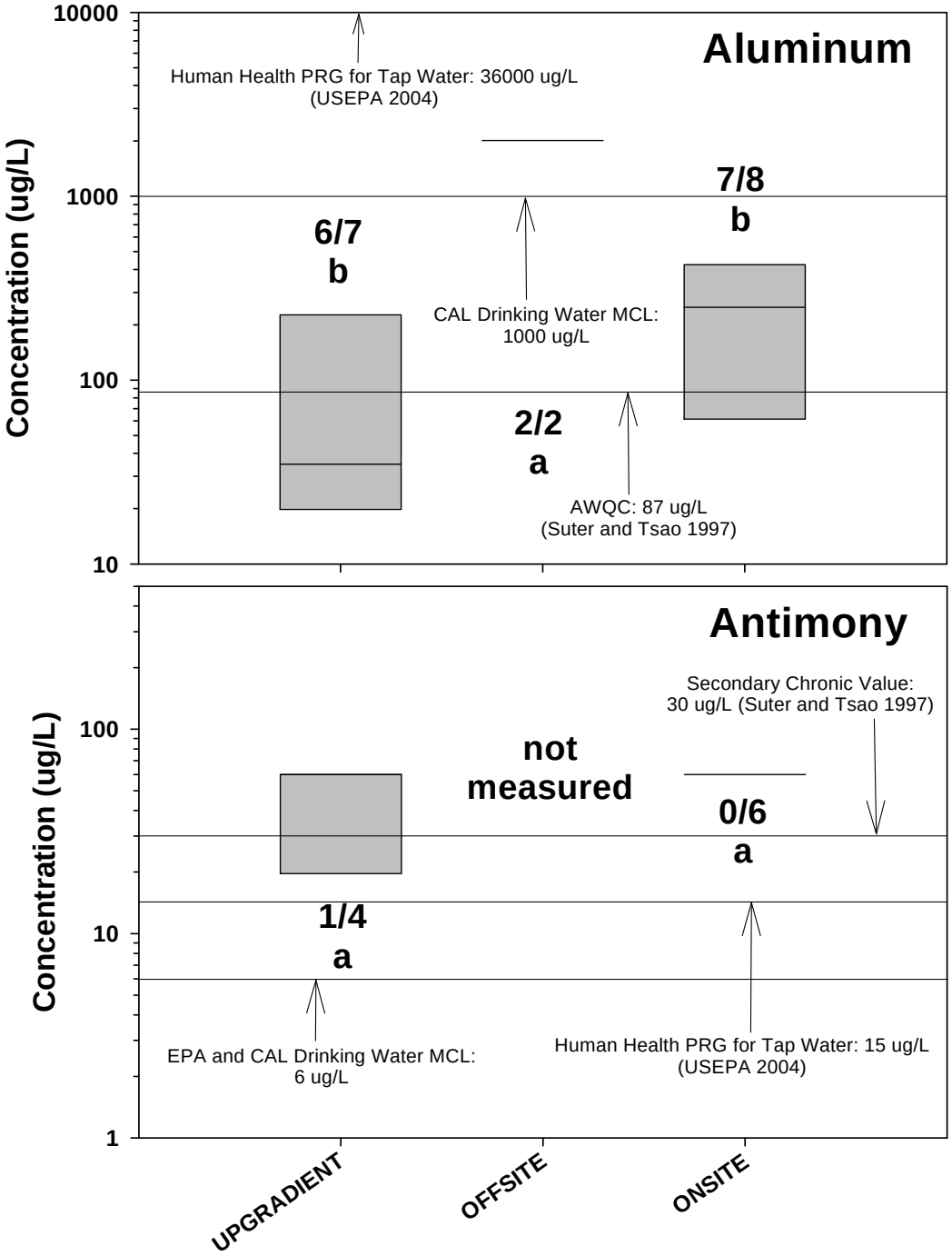


Figure C-29. Boxplots of distributions of aluminum and antimony in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

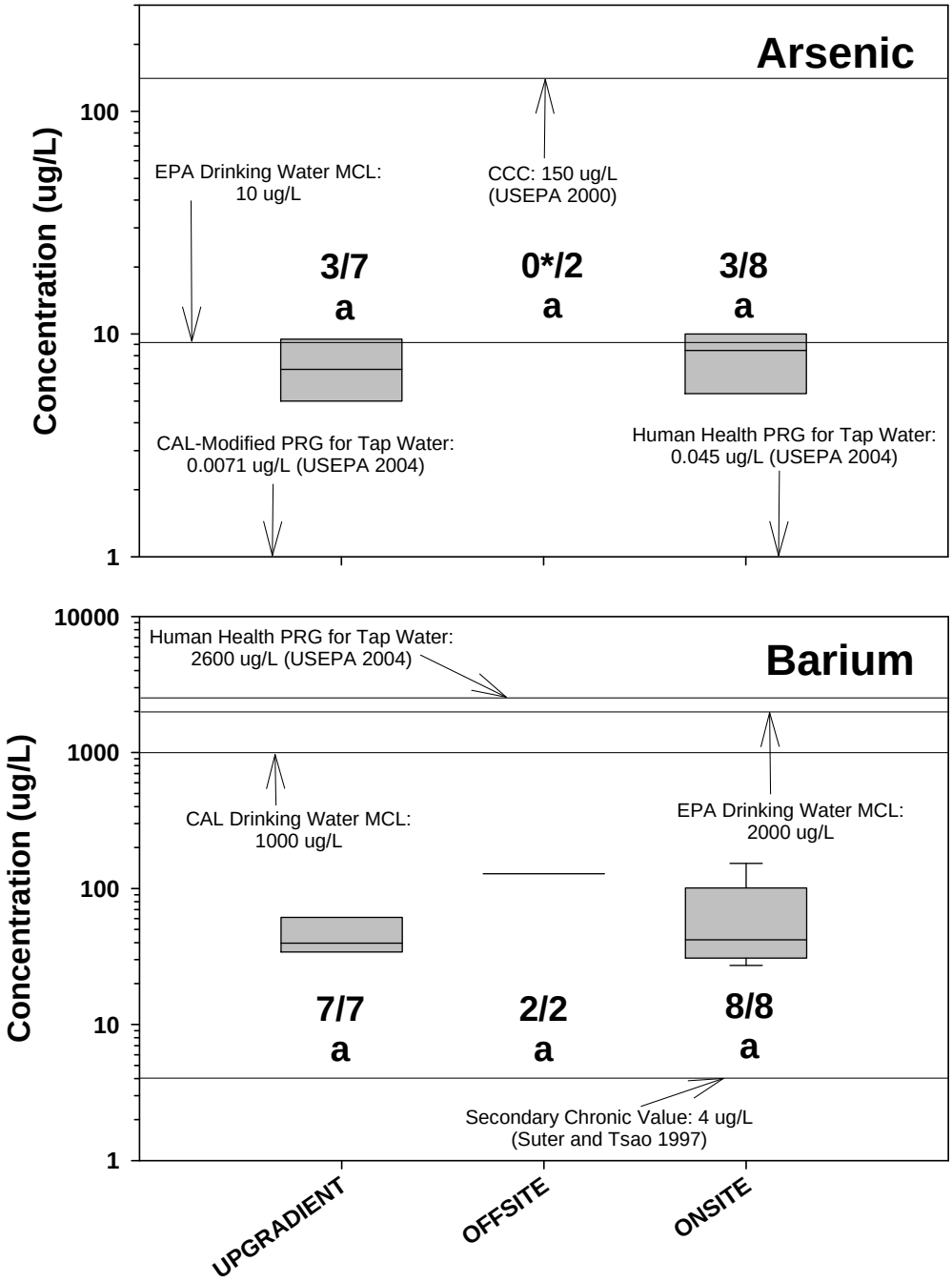


Figure C-30. Boxplots of distributions of arsenic and barium measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

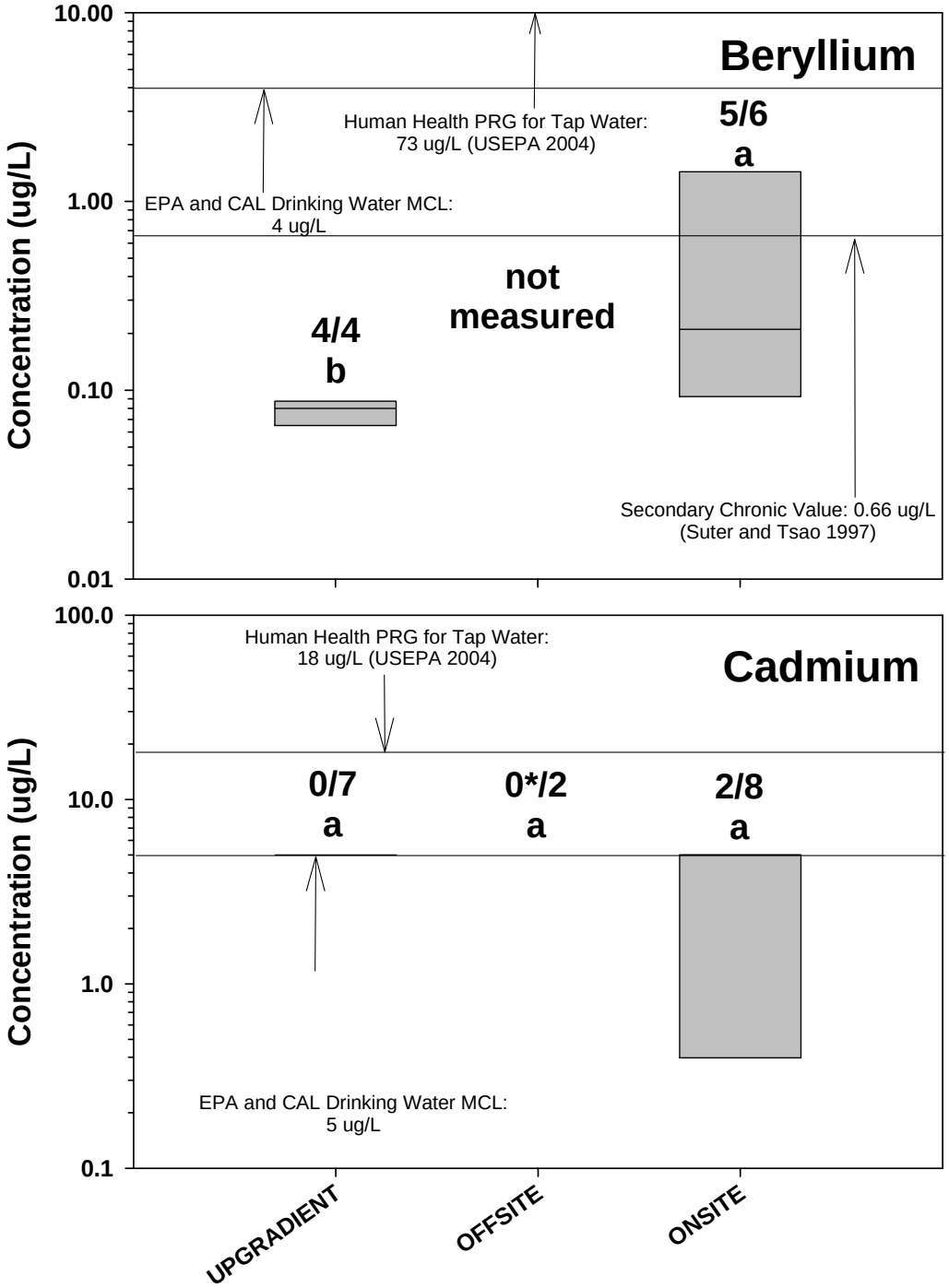


Figure C-31. Boxplots of distributions of beryllium and cadmium measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

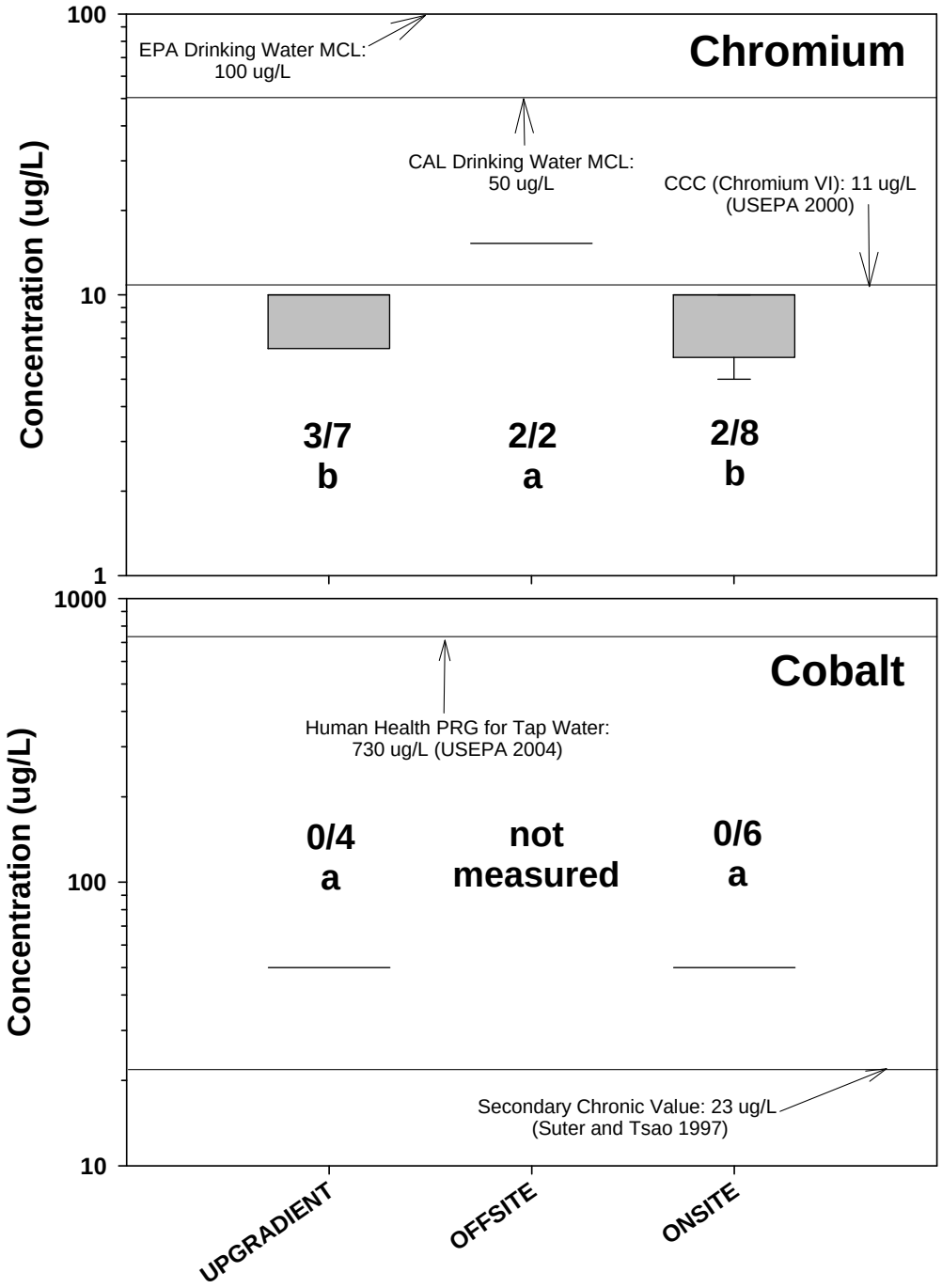


Figure C-32. Boxplots of distributions of chromium and cobalt measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

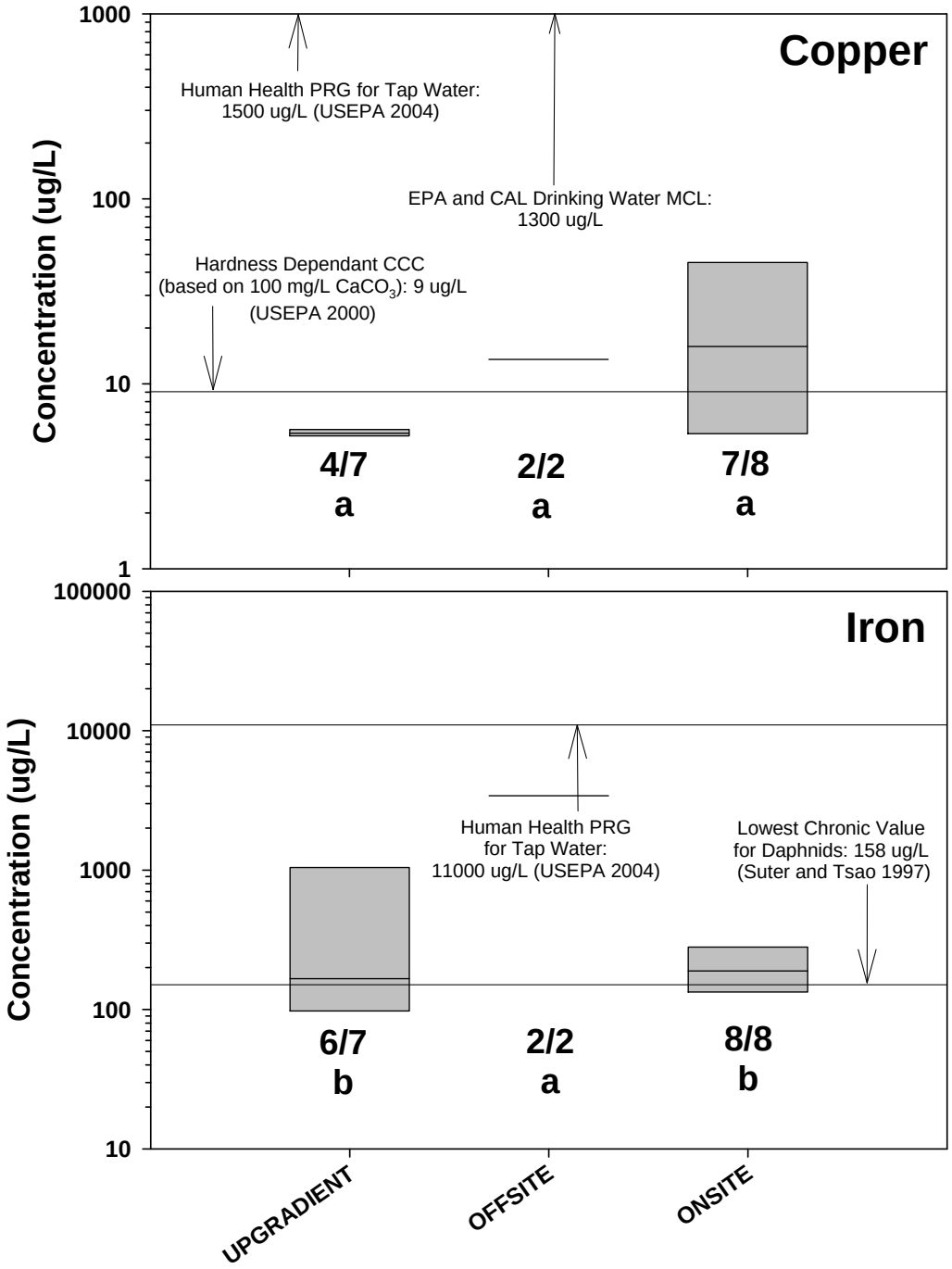


Figure C-33. Boxplots of distributions of copper and iron measured in in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

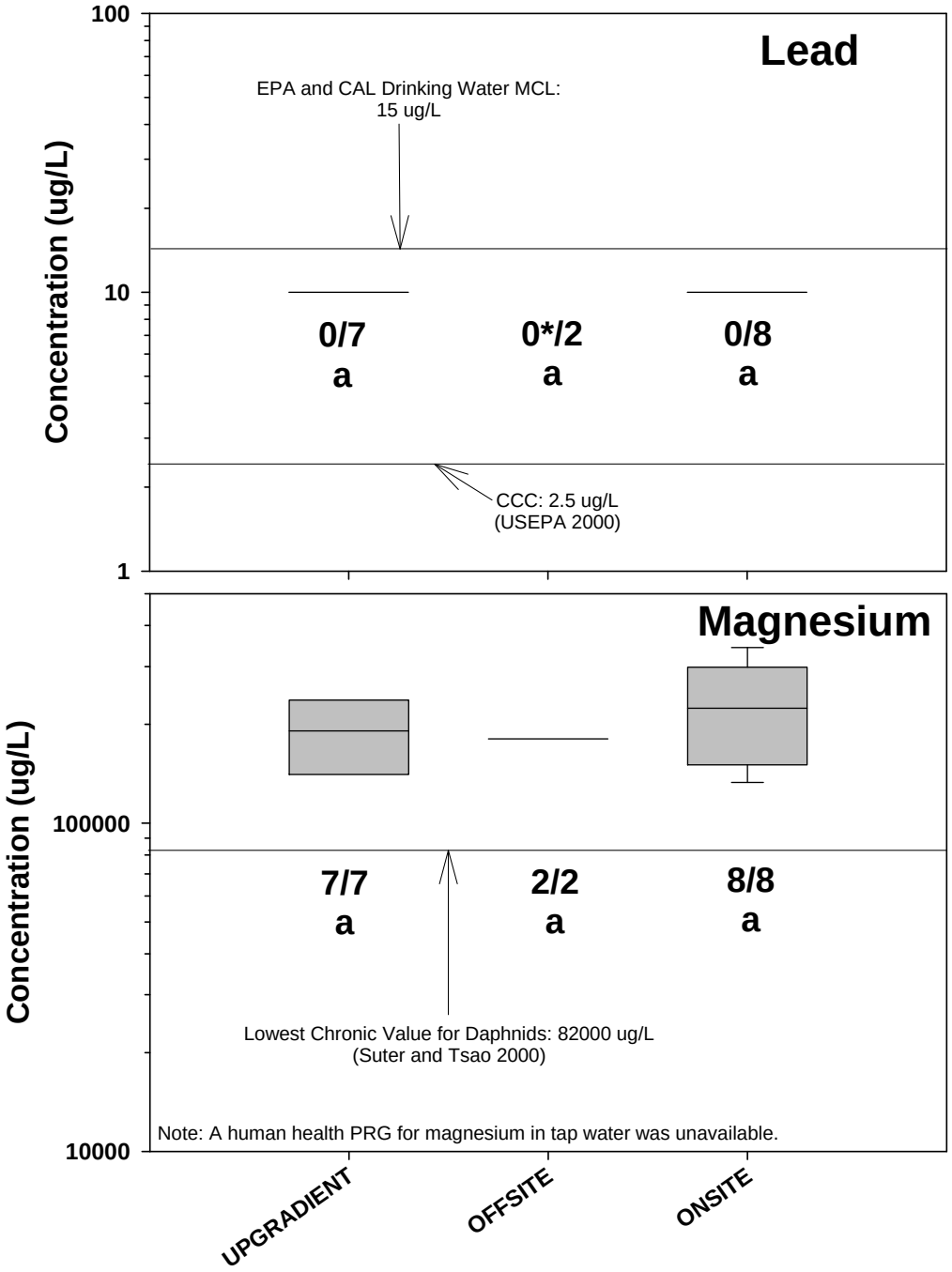


Figure C-34. Boxplots of distributions of lead and magnesium measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

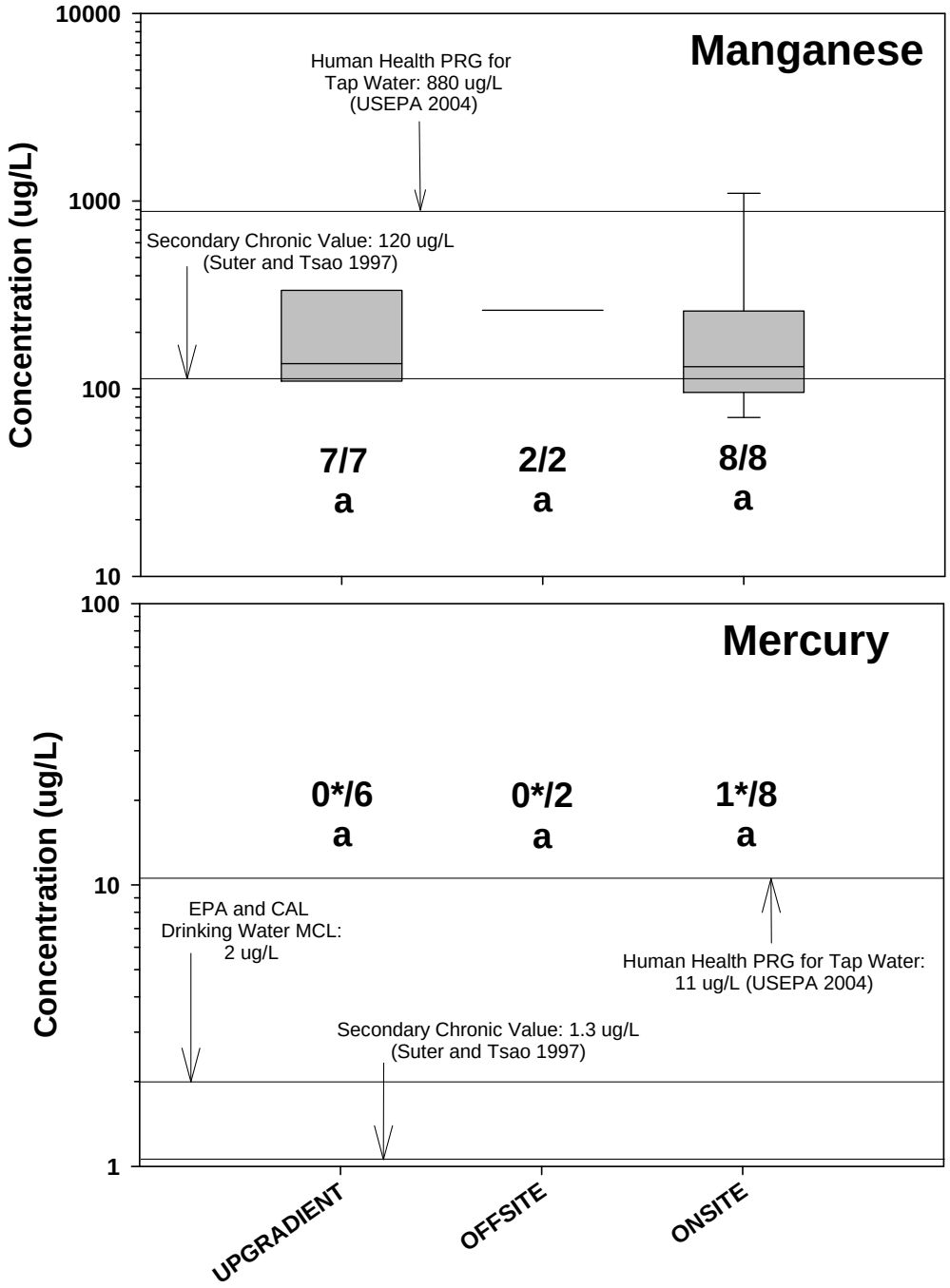


Figure C-35. Boxplots of distributions of manganese and mercury measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

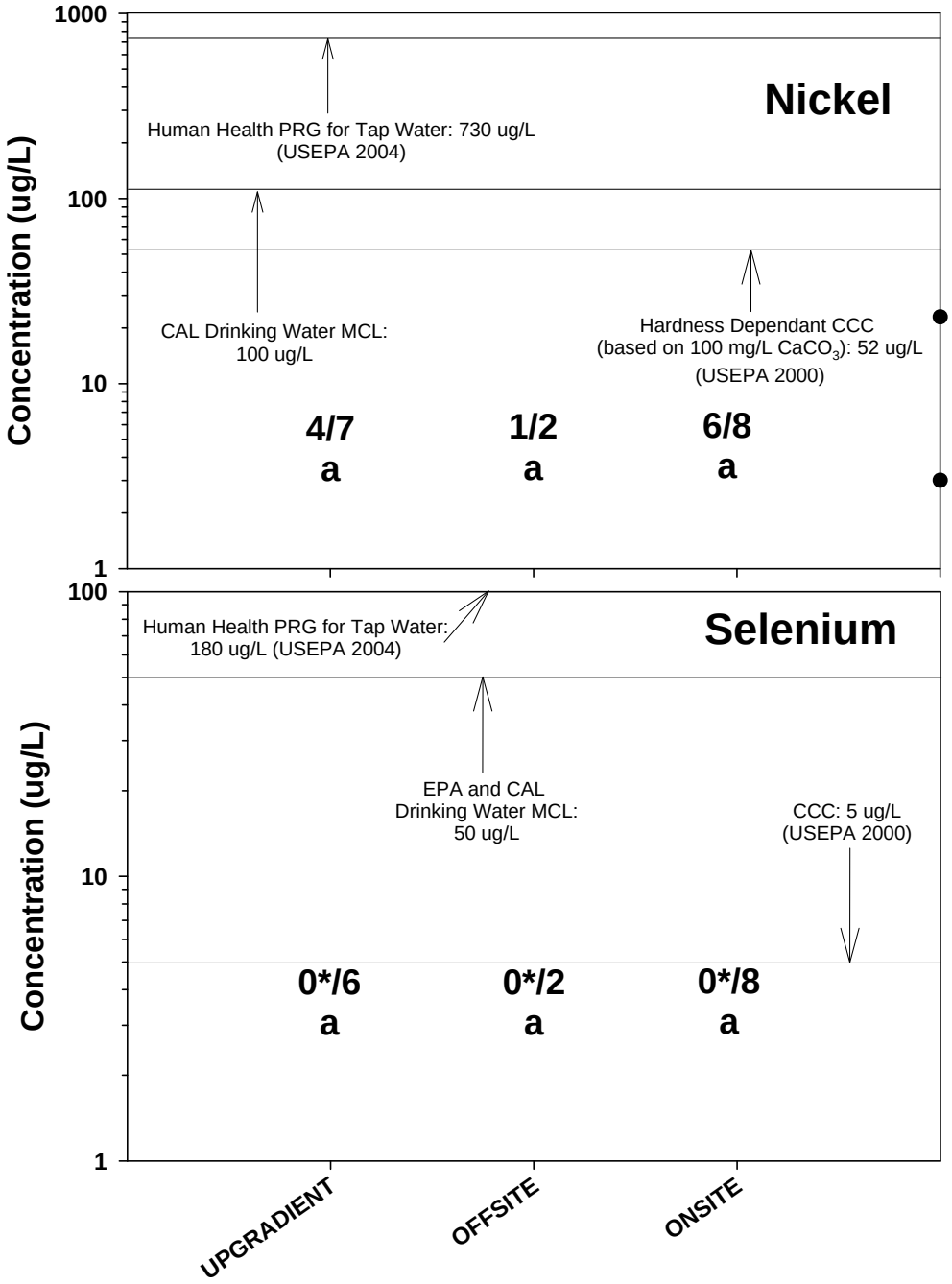


Figure C-36. Boxplots of distributions of nickel and selenium measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

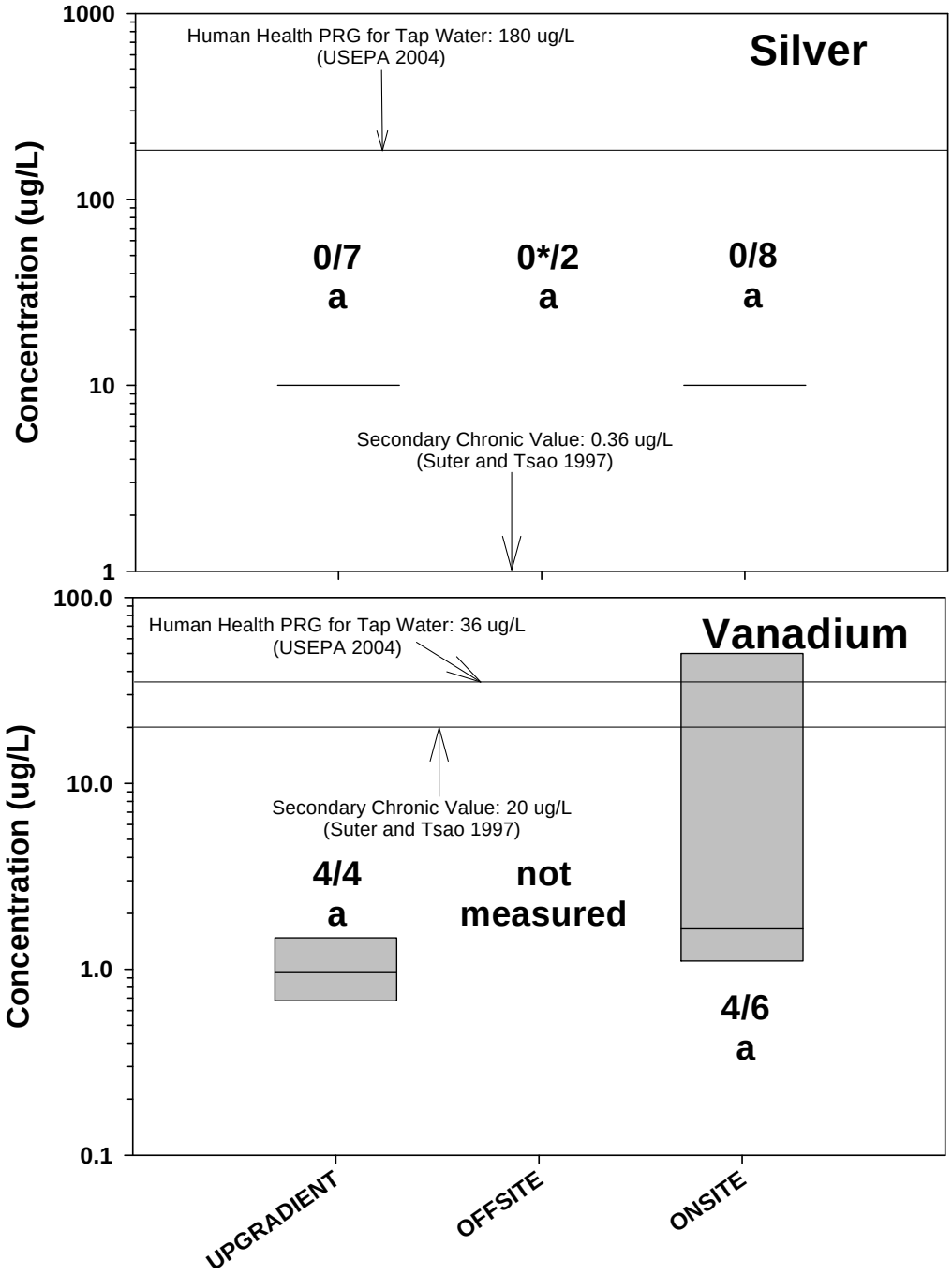


Figure C-37. Boxplots of distributions of silver and vanadium measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

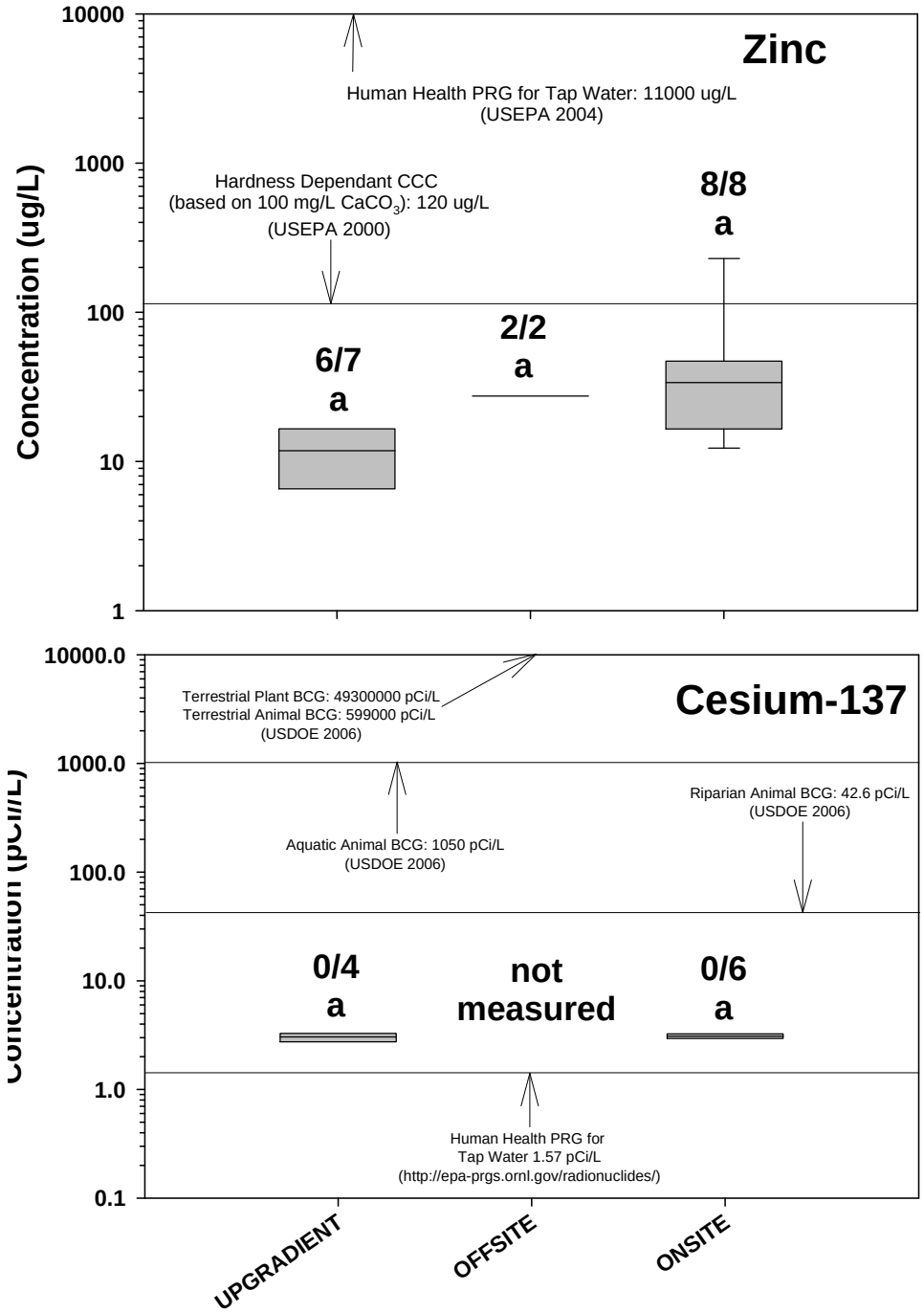


Figure C-38. Boxplots of distributions of zinc and cesium-137 measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

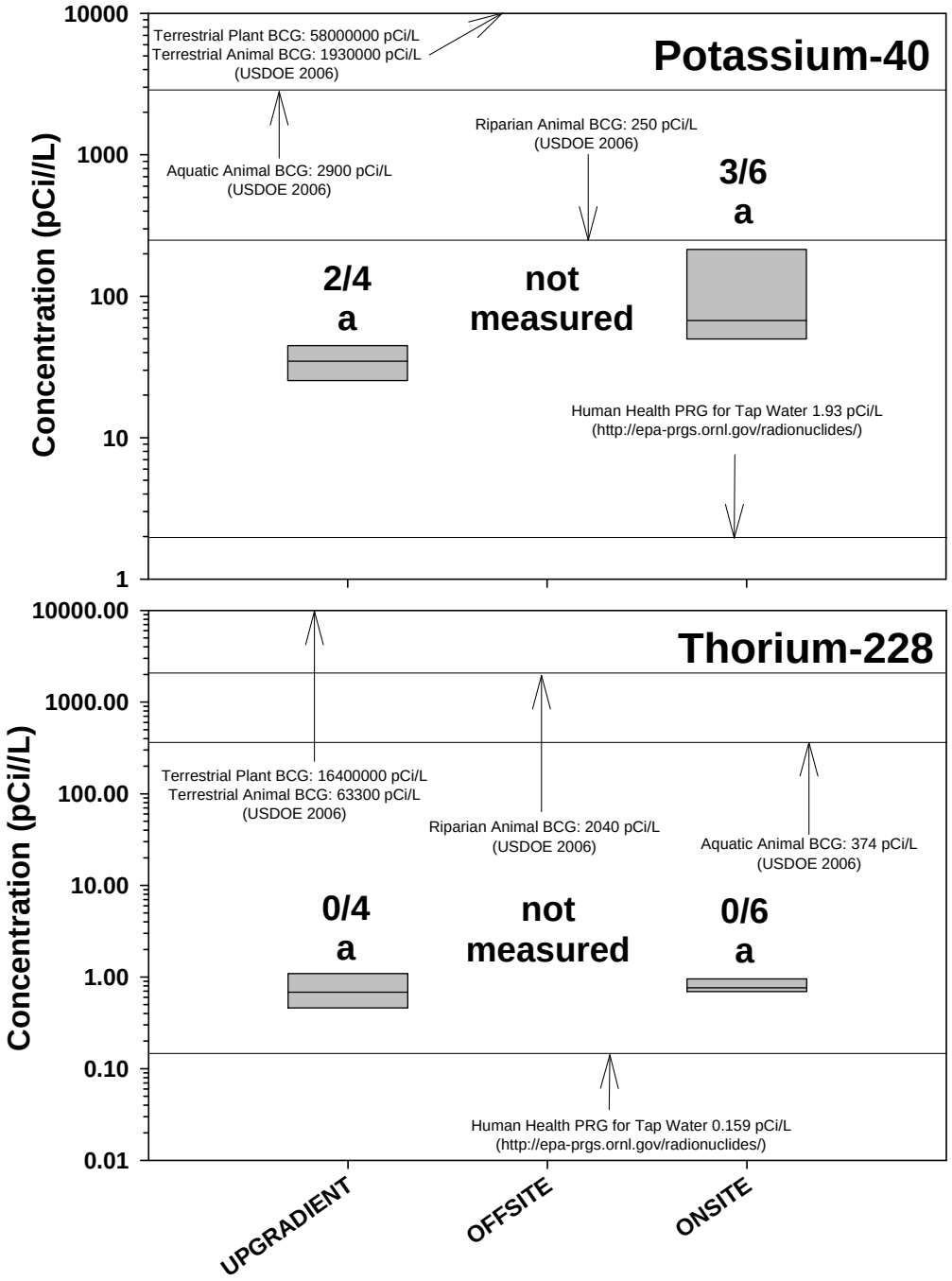


Figure C-39. Boxplots of distributions of potassium-40 and thorium-228 measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

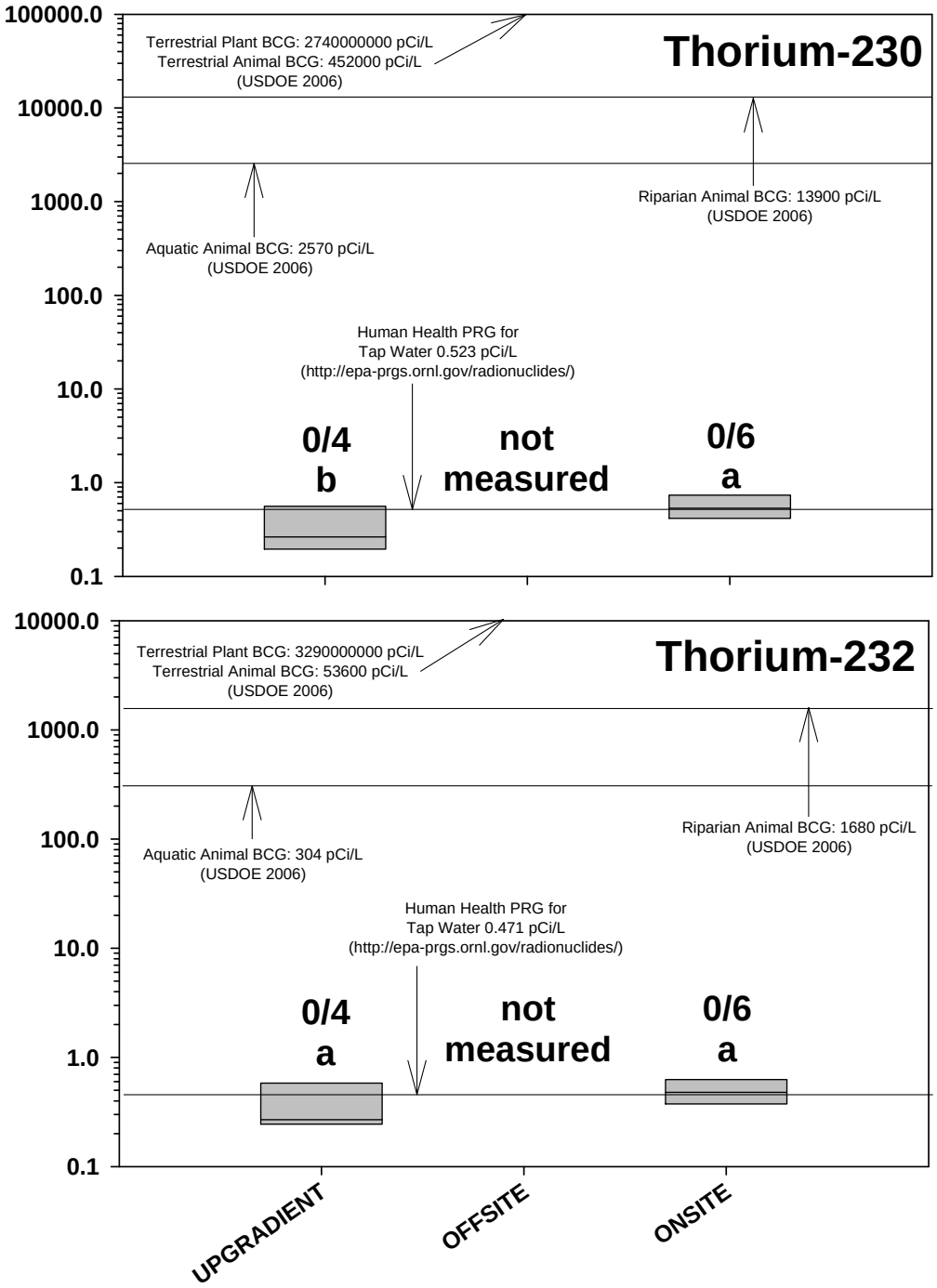


Figure C-40. Boxplots of distributions of thorium-230 and thorium-232 measured in unfiltered surface water from upgradient, offsite, and onsite locations at the Halaco Site.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

Appendix C.3
Air

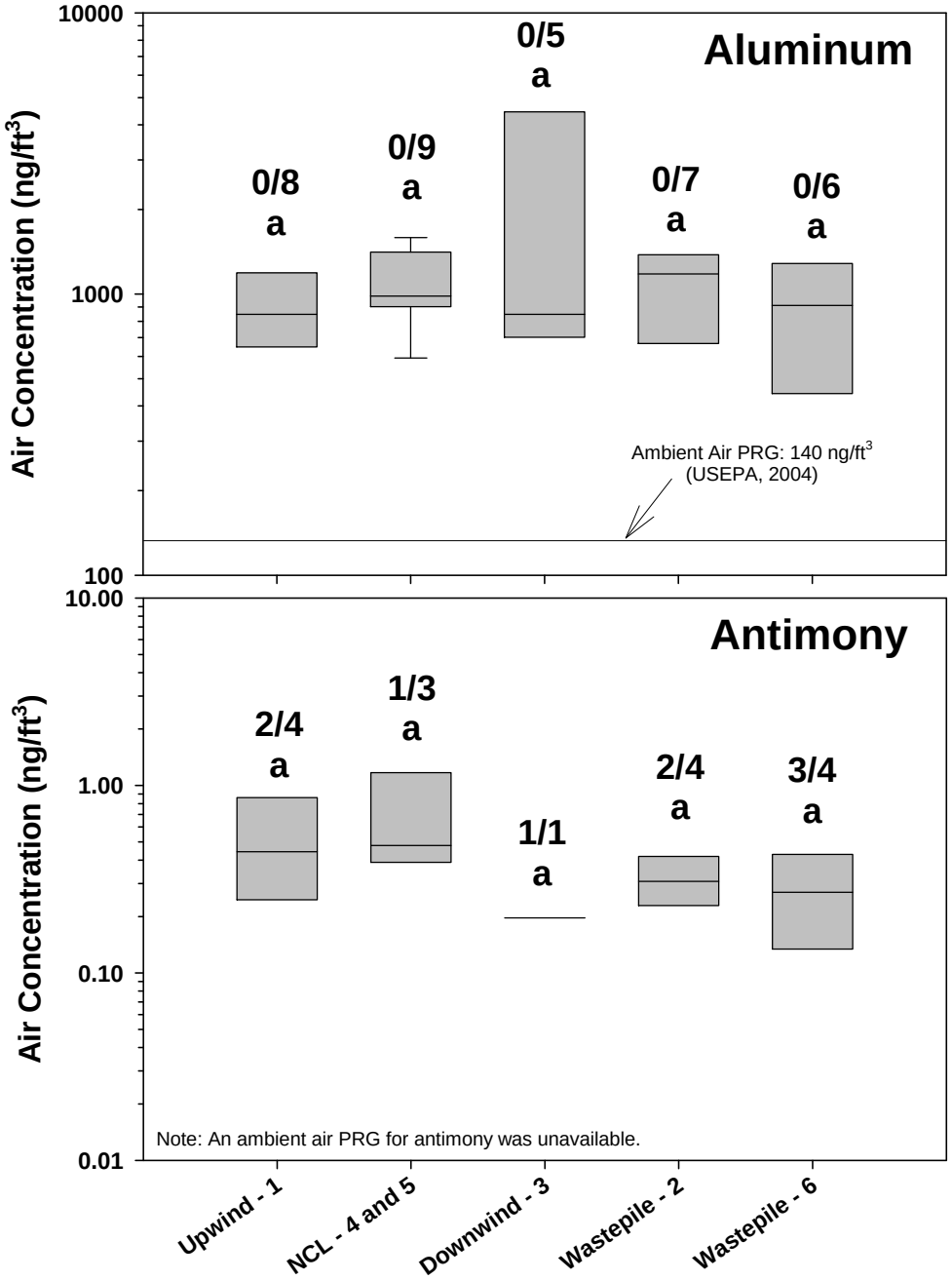


Figure C-41. Boxplots of distributions of aluminum and antimony measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

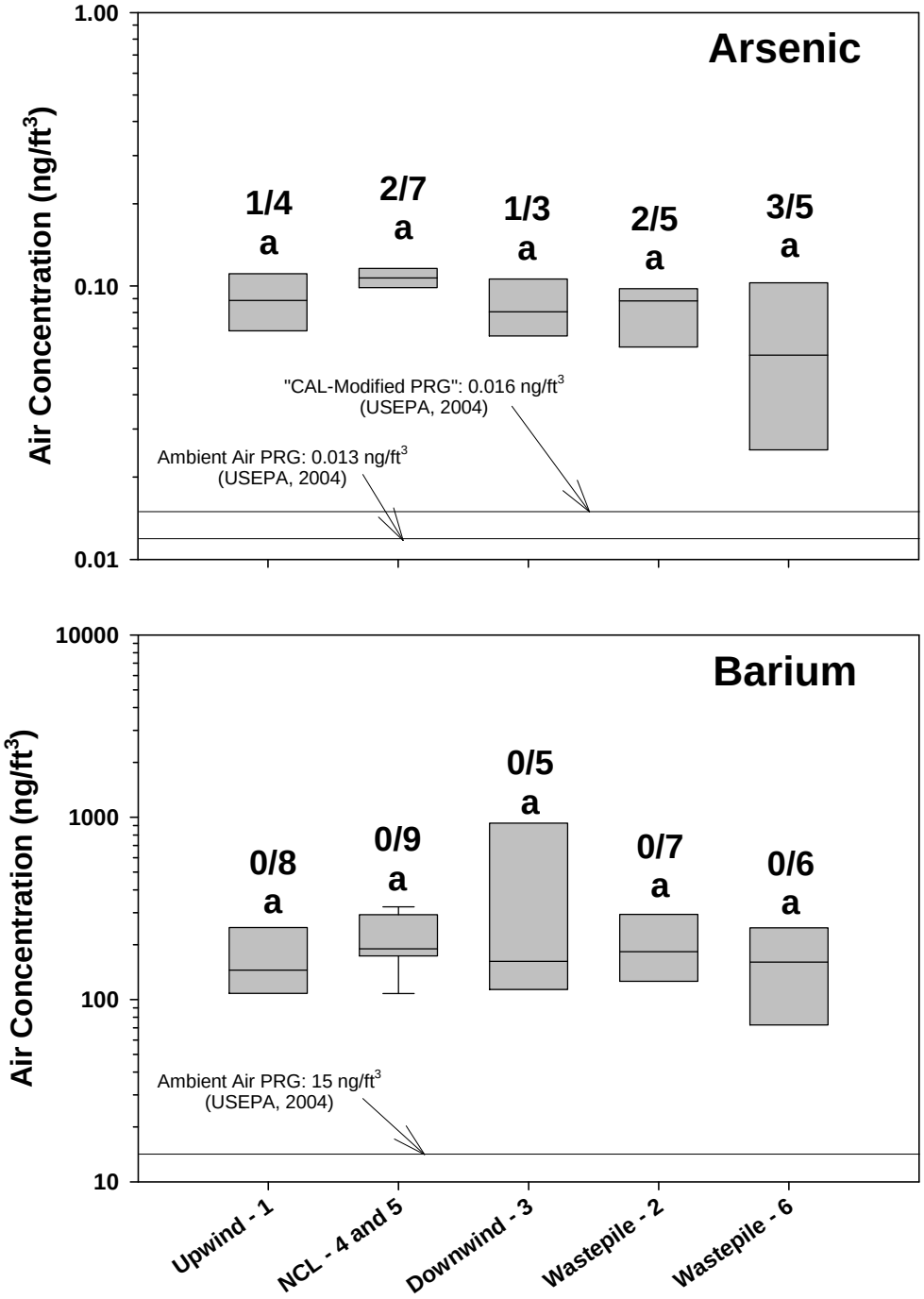


Figure C-42. Boxplots of distributions of arsenic and barium measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

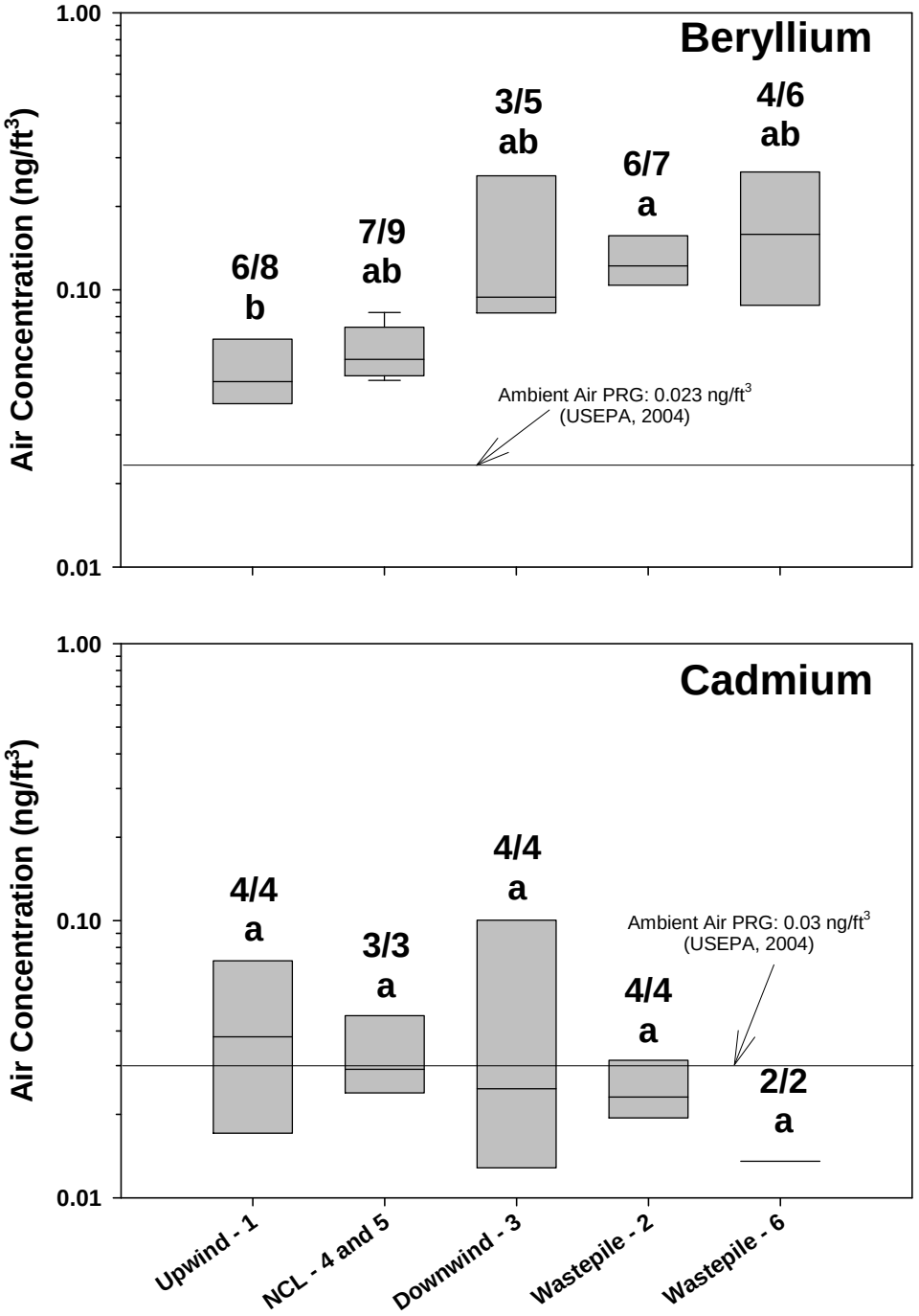


Figure C43. Boxplots of distributions of beryllium and cadmium measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

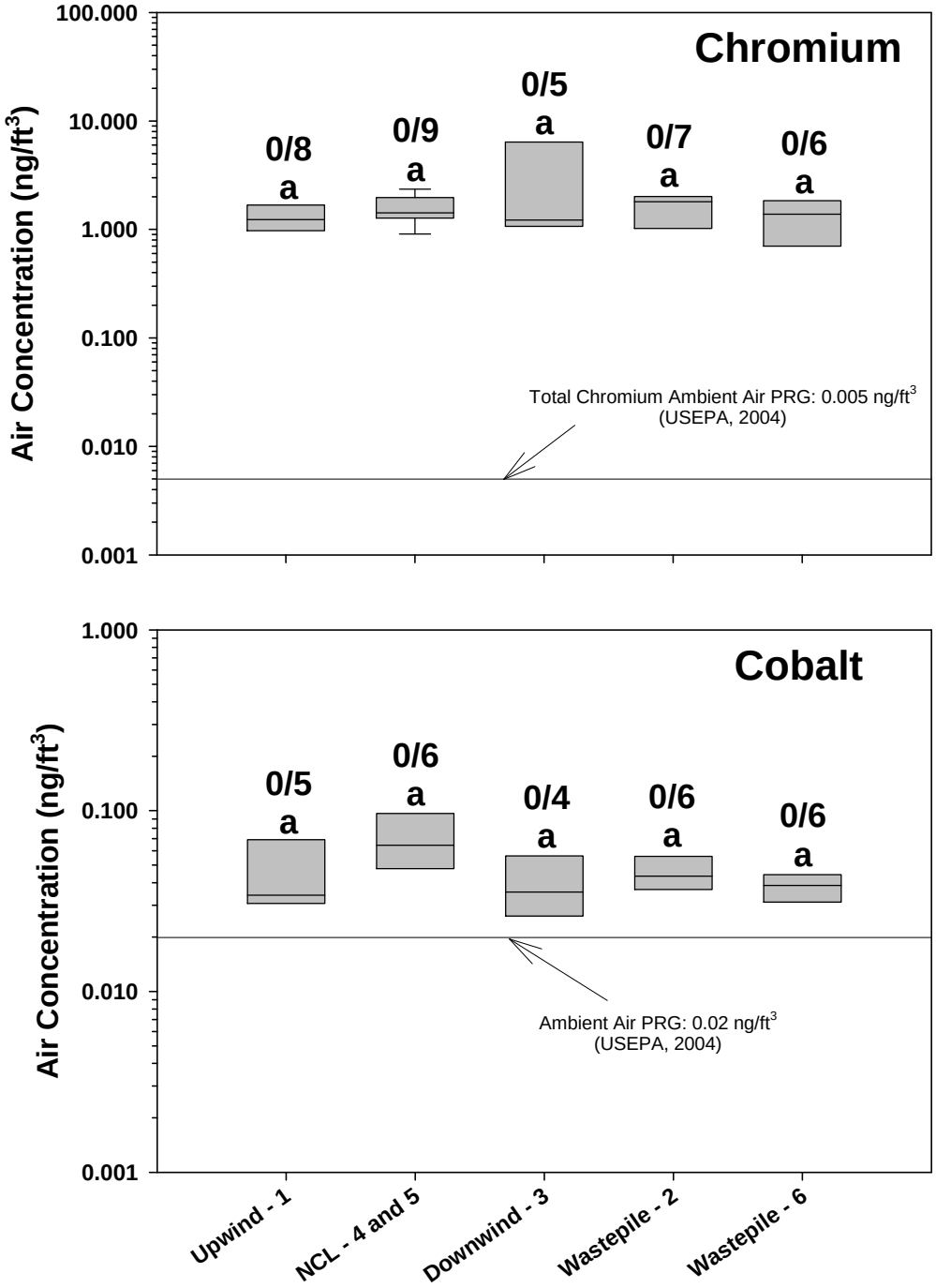


Figure C-44. Boxplots of distributions of chromium and cobalt measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

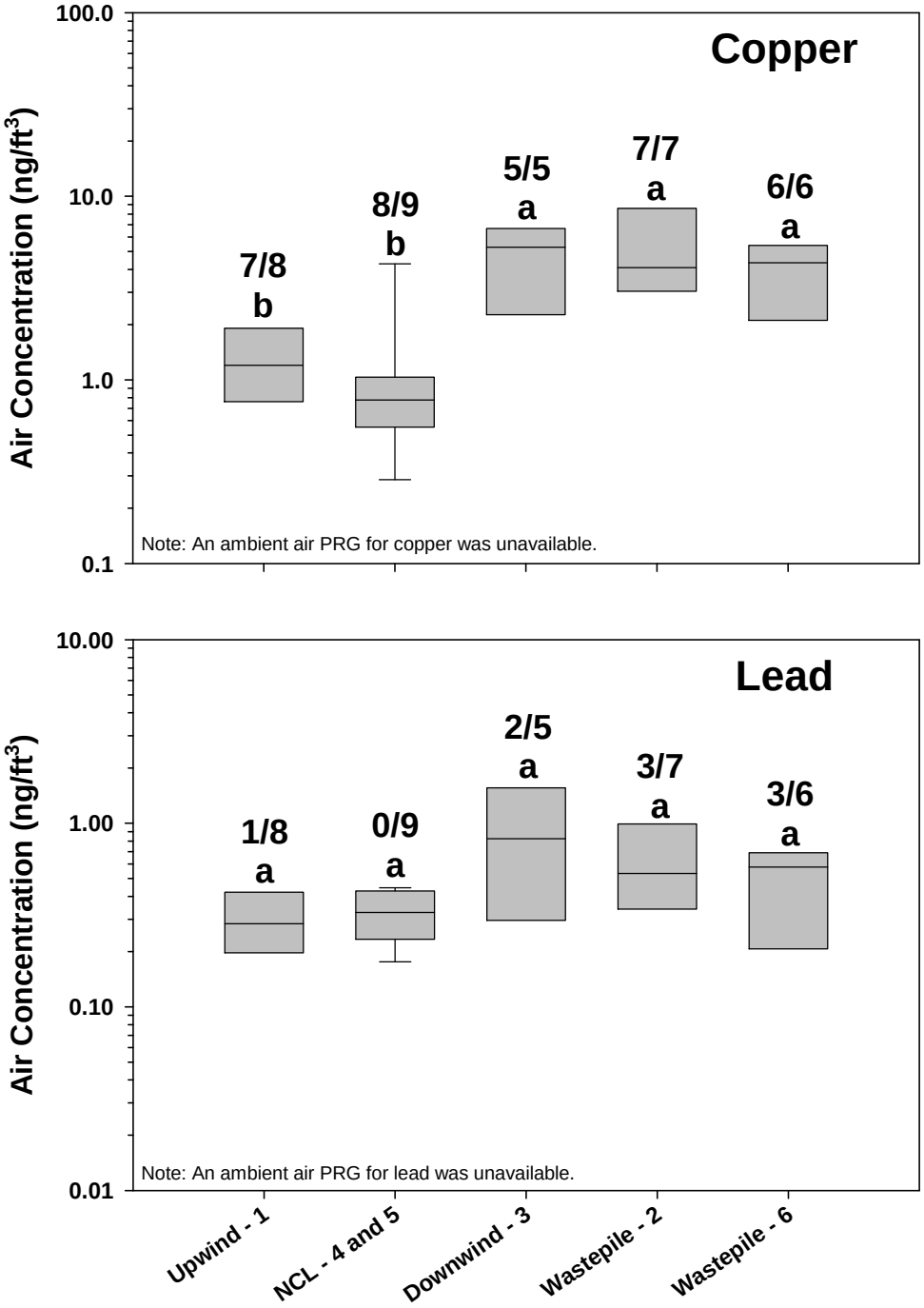


Figure C-45. Boxplots of distributions of copper and lead measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

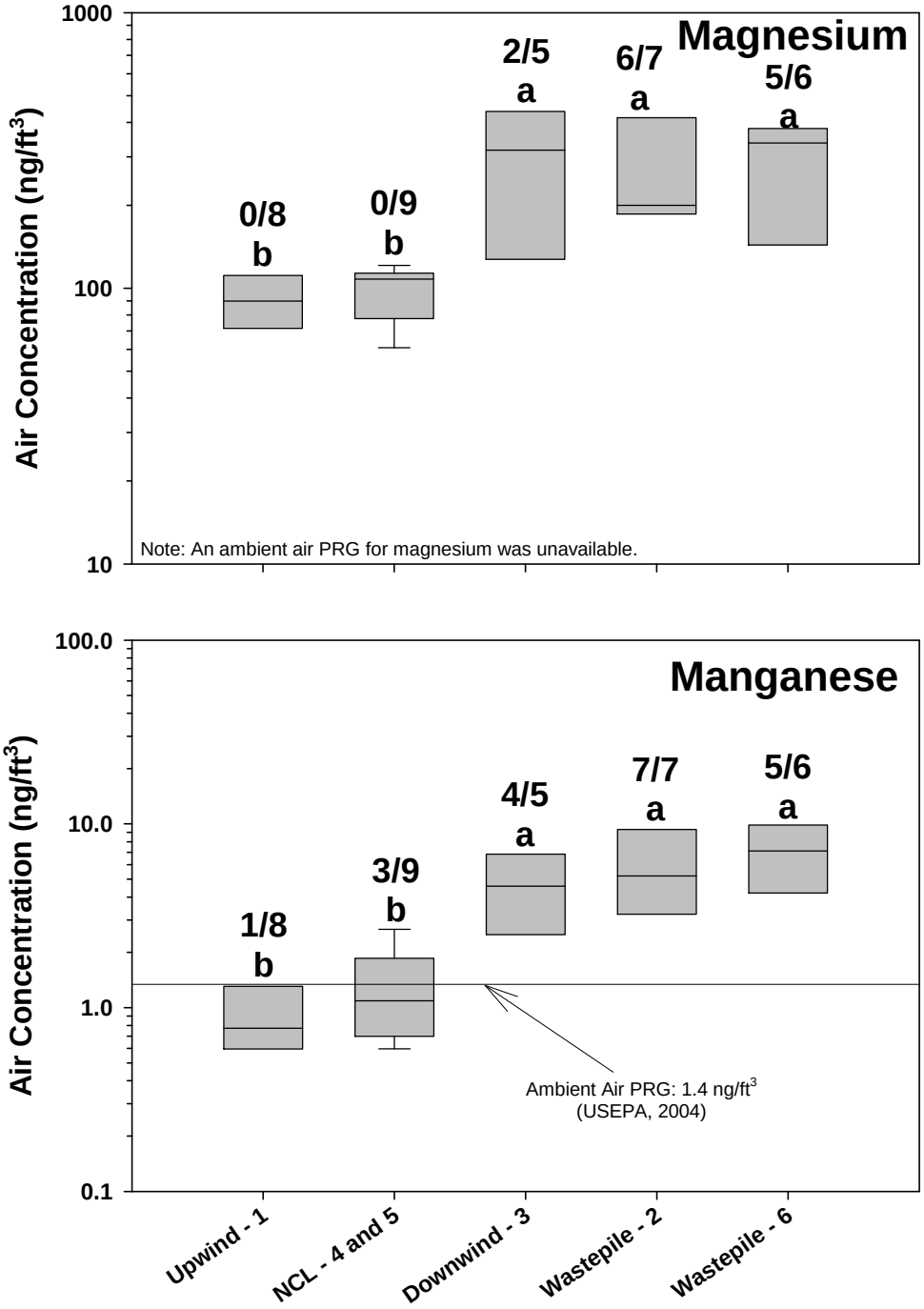


Figure C-46. Boxplots of distributions of magnesium and manganese measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

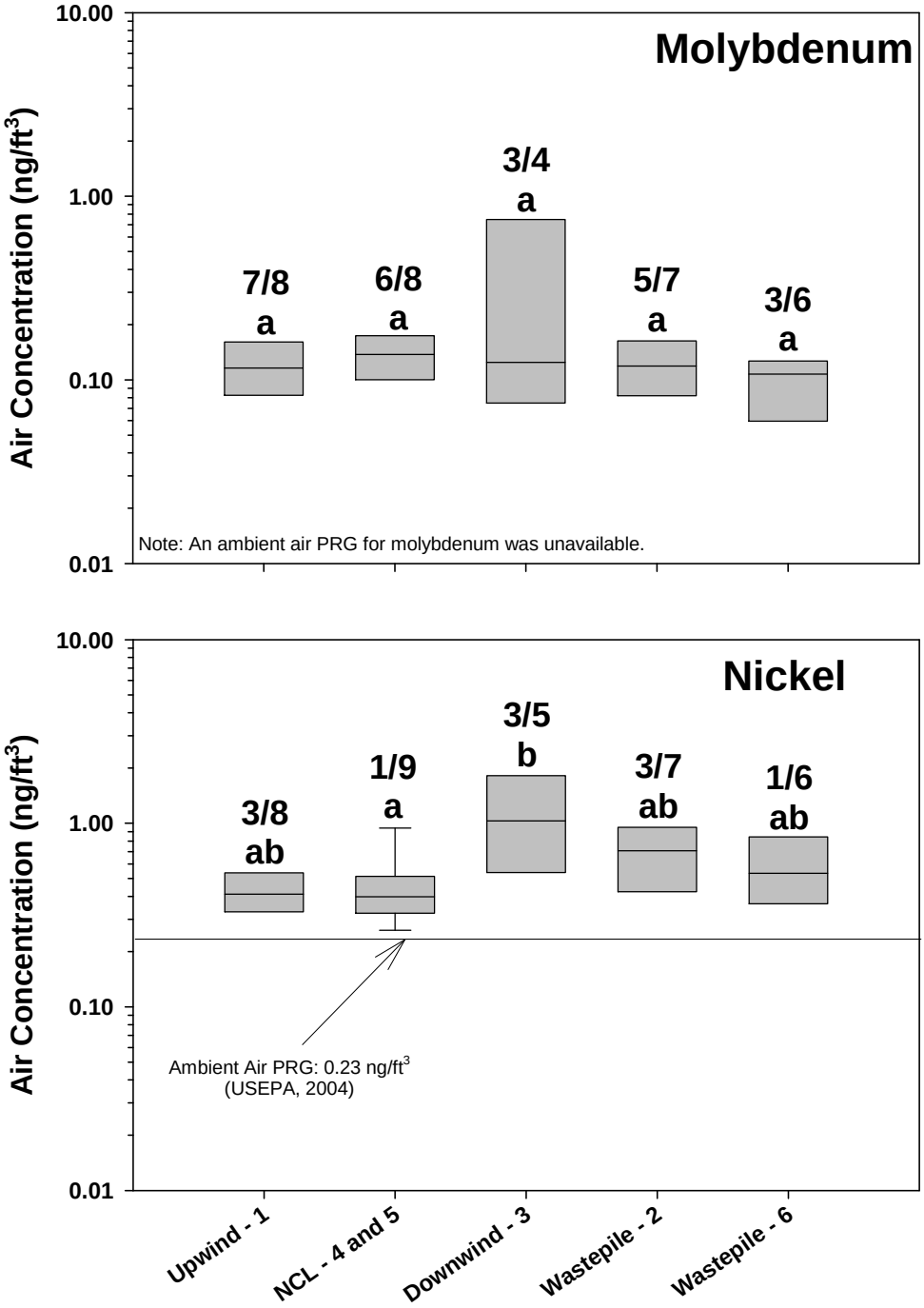


Figure C-47. Boxplots of distributions of molybdenum and nickel measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

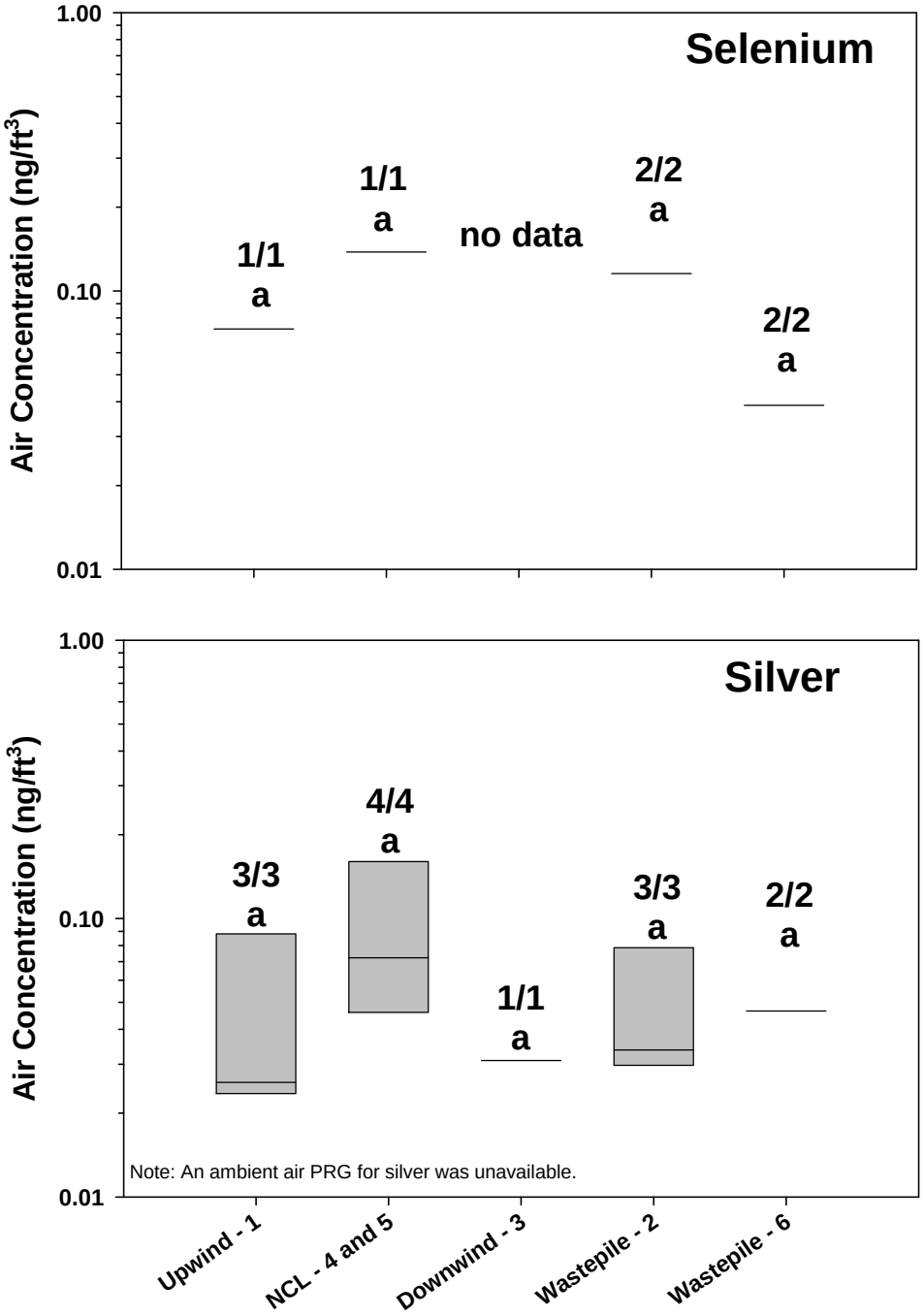


Figure C-48. Boxplots of distributions of selenium and silver measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

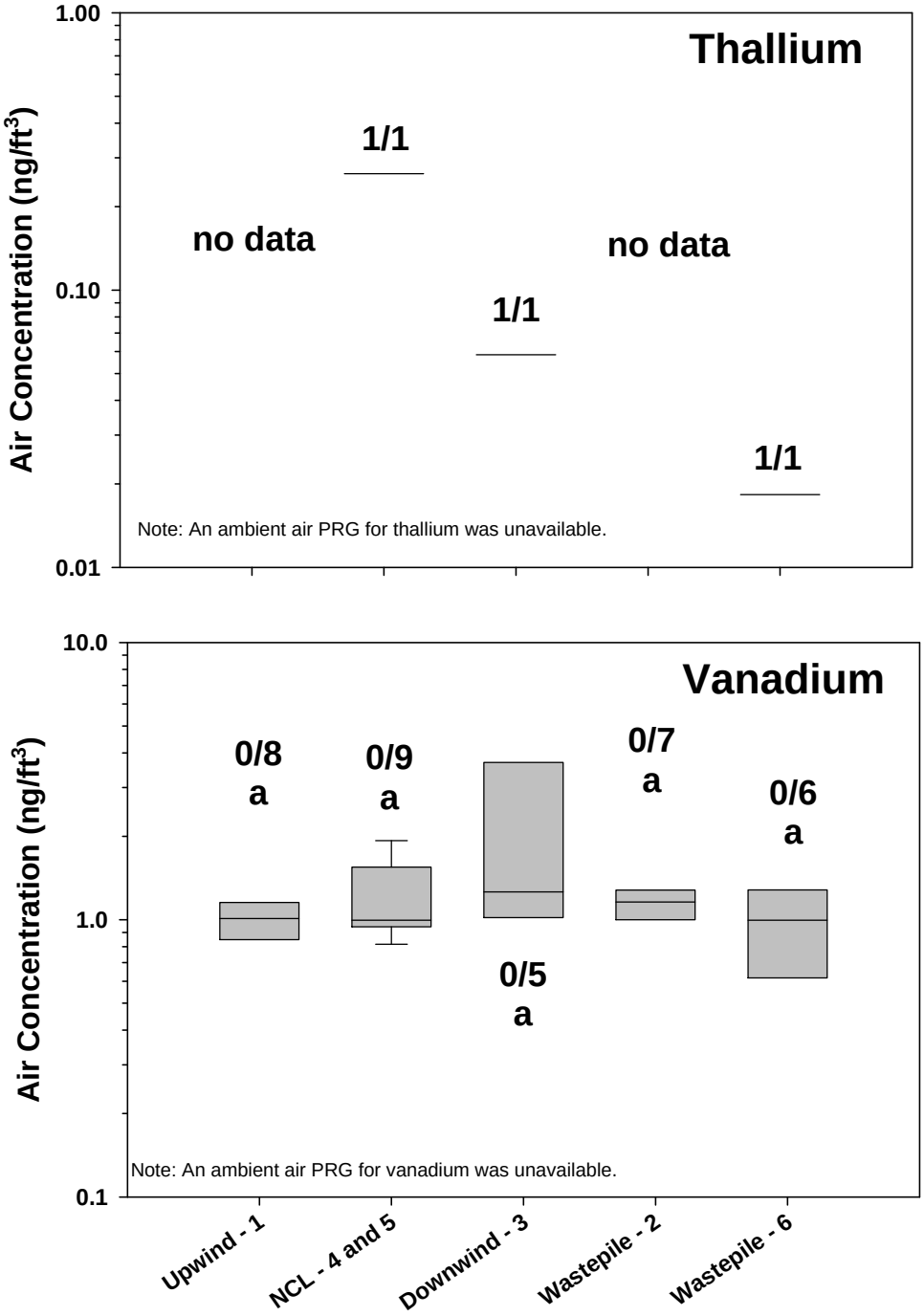


Figure C-49. Boxplots of distributions of thallium and vanadium measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.

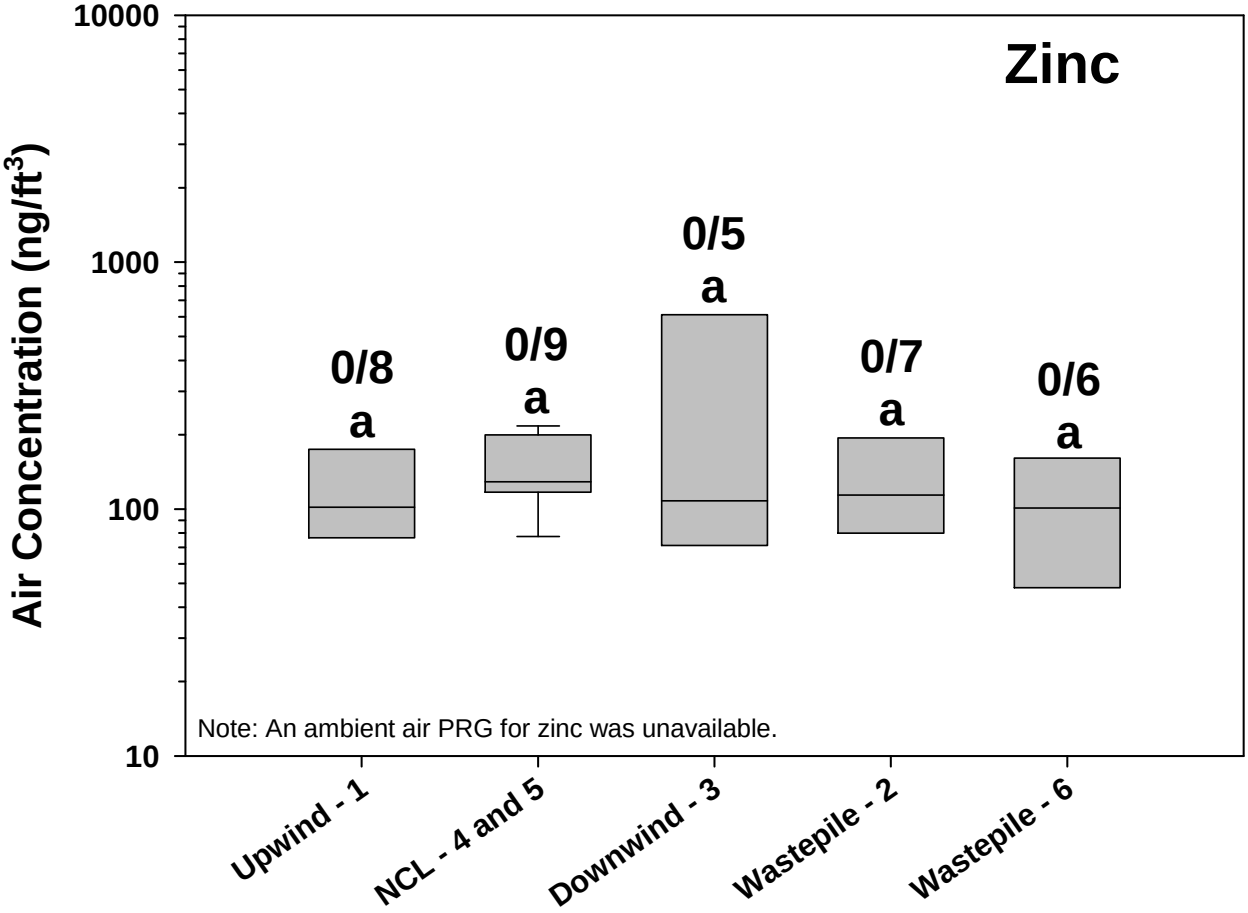


Figure C-50. Boxplots of distributions of zinc measured in air samples at five locations at the Halaco Site, June 20 to June 28, 2006.

Notes: Locations with same letter did not differ significantly (p>0.05) as determined by ANOVA on rank-transformed data. Detection frequency and screening benchmarks are also shown.