2628-SCU-006

0045517

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFF
3398 Carmel Mountain Road., San Diego, CA 92121-
P.O. Box 1620, La Jolla, CA 92038-

November 7, 1991

NOV 1991
RECEIVED
OSM DMO

Ms. Jeanette Duncan
MSIN: T6-08
Office of Sample Management
Westinghouse Hanford Company
2355 Stevens Drive
Richland, WA 99352

Reference No. 32359-04

Dear Ms. Owens:

Enclosed are the results from the analysis of the soil samples received by S-Cubed on October 7 and 8, 1991. This shipment includes SDG's 2628 and 2630. The samples were analyzed for Metals, Anions, Ammonia, and Alkalinity.

The enclosed report contains a sample summary, narrative, copies of the chain-of-custody, and a full data package for each analysis. If you have any question about the data, please give me a call.

Sincerely,

John DeWald
Manager, Commercial Analysis Section

/alb

encl: a/s

OCT 1996
RECEIVED
EDMC

Westinghouse Hanford Company

Hanford Operations and Engineering Contractor for the US Department of Energy
P.O. Box 1970 Richland, Wa. 99352

NONCONFORMANCE REPORT

Page 1 of ____

No. B 06175

1. MFR/ORG: MAXWELL S-CUBED DIVISION

ITEM/MATERIAL NAME: EWIR: SAMPLE

PART NO.: N/A

DRAWING/SPEC. NO.:

REV.: N/A

PROGRAM/PROJECT: SITE-WIDE Background

P.O./W.O. NO.:

UNUSUAL OCCURRENCE REPORT REQUIRED: ☒ YES ☒ NO

SYSTEM/END USE:

DATE: 01/28/92

2. DESCRIPTION OF NONCONFORMANCE

LABORATORY IS PERFORMING INORGANIC ANALYSIS (SOIL) WITHOUT UTILIZING A SOLID MATRIX LCS FOR CLP METALS ANALYSIS.

EXAMPLES: SDG # 2630 & 2633

NOTE: THE LAB INDICATES THAT ALL METAL ANALYSIS (CLP) HAVE BEEN PERFORMED WITHOUT A SOIL LCS.

3. REQUIREMENT VIOLATED: "ONE SOLID LCS MUST BE PREPARED & ANALYZED FOR EVERY GROUP OF SOLID SAMPLES IN A SAMPLE DELIVERY GROUP....."

DOCUMENT: CLP. SOW INORGANICS

REV: 2/88

ZONE/PARA: PART E, SECTION V, ITEM #8

M.A. Beck — ORIGINATOR

12500/05M — ORGANIZATION

01/28/92 — DATE

4. ASME CODE ITEM(s): ☐ NO ☐ YES. NOTIFY AUTHORIZED INSPECTOR.

WHC QAR

5. CAUSE OF NONCONFORMANCE

☐ PROCEDURES ☐ PERSONNEL ☐ MATERIALS
☐ EQUIPMENT ☒ OTHERS

REMARKS: See 8A

PR-07, EQ-001-002

6. CORRECTIVE ACTION TO ELIMINATE CAUSE

- S³ has obtained and is currently using a solid LCS sample for the QC requirement (see S³ Letter to T. Washington 3/2

INITIATION DATE: ____ SERIAL NO.: ____

RESPONSIBLE ORG. REP. ____ TITLE ____ DATE ____

7. RECOMMENDED DISPOSITION: ☒ ACCEPT ☐ REJECT ☐ REPAIR ☐ REWORK ☐ OTHER

8A. DISPOSITION JUSTIFICATION AND INSTRUCTIONS

S³ did perform the LCS at the required frequency using an aqueous standard prior to receiving and testing the solid LCS. The aqueous LCS results were evaluated in the applicable data packages and performance was documented with the validation paper work.

8. ADDITIONAL REVIEWS REQUIRED (WHC ONLY) ☐ YES ☒ NO

IF YES, IDENTIFY:

9. SUPPLIER ENG. ____ SUPPLIER QA ____

10. DISPOSITION APPROVAL (WHC ONLY)

☒ APPROVED ☐ DISAPPROVED
☐ OTHER (SEE CONTINUATION SHEET)

J.A. Hoover — COGNIZANT ENGINEER — DATE 5/21/92

LW VANCE L.W. Vance — COGNIZANT QA ENGINEER — DATE 5/21/92

NA — AUTHORIZED INSPECTOR REVIEW — DATE

11. ADDITIONAL APPROVALS

NAME	TITLE	DATE	NAME	TITLE	DATE

12. DISPOSITION ACTION COMPLETE

L.W. Vance — NAME — DATE 5/21/92

QTY. ACCEPT: NA QTY. REJ.: NA

FOLLOW ON NCR

QA LOG NO.: 3A-92-013

The issuance and acceptance of this request in no way limits or affects the warranty provisions of the order. This request shall not establish a precedent or obligation to accept similar conditions in the future.

FOLLOW-UP LEVEL: A ☐ B ☐ C ☐

7310-104 (8-87)

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFF
3398 Carmel Mountain Road., San Diego, CA 92121-
P.O. Box 1620, La Jolla, CA 92038-

March 27, 1992

Ted Washington
MSIN: T6-08
Office of Sample Management
Westinghouse Hanford Company
2355 Stevens Drive
Richland, WA 99352

Dear Mr. Washington:

We have recently been able to validate and confirm true values for the ERA solid LCS source using the CLP method. The validation study was performed by preparing and analyzing ten solid LCS samples using the CLP method and determining the average value obtained for each analyte and the appropriate windows of acceptability. This validation study was required by the solid LCS source since the certified true value determinations were based on the method 3050, SW-846 (see attached sheet).

Prior to the availability of validated solid LCS for CLP soil analysis, EPA-approved aqueous LCS spike solution was spiked into a clean, empty beaker and then prepared and analyzed by the CLP soil method. Thus quality control requirements for preparation and analysis are acceptable and confirm the reliability and validity of the associated samples using the available LCS at that time.

Sincerely,

Wipawan Nisamaneepong

Wipawan Nisamaneepong, Ph.D.
Inorganics Laboratory Manager

Instructions for the use of

PriorityPollutnT™/CLP Quality Control Standards

Inorganics in Soil **Caution:** Read instructions carefully before opening PriorityPollutnT™/CLP standards.

PriorityPollutnT™/CLP Quality Control Standards are designed to test your complete inorganic priority pollutant and CLP analysis procedure. The Trace Metals solid standard contains 24 trace metals (refer to the back of this sheet for a complete list). The Cyanide solid standard is designed for cyanide analysis, either a simple or a complex cyanide, or both, may be present.

I. Standard Preparation

The standards must be prepared by the following directions before analysis.

A. Trace Metals

Digest the standard using Method 3050, SW-846. This digestion is essentially a hot acid leach of the standard and is not a total digestion. The standard should then be analyzed by ICP and/or atomic absorption. Results different from the certified values will be obtained if a total digestion using hydrofluoric acid, perchloric acid or fusion is employed. Digest and analyze the sample for mercury using Method 7471, SW-846.

B. Cyanide

Prepare the standard using Method 9010 or 9012, SW-846. The preparation quoted is intended for use with an aqueous waste. The only required modification is to place 10 grams of the soil standard into the appropriate aliquot of water in the distillation flask (step 7.2.1). All other preparation steps should be followed. The digestate obtained is then analyzed for cyanide using Method 9010 (manual) or 9012 (automated), SW-846.

II. Standard Storage

Store the standards in a cool, dark place. The stability and certified values are unconditionally guaranteed for one year. Due to possible sample contamination, the guarantee is void after the standards are opened.

III. Standard Analysis

Remember ... PriorityPollutnT™/CLP standards are designed to help you evaluate the accuracy of your routine laboratory procedures. Therefore, analyze PriorityPollutnT™/CLP standards using your regular methods.

IV. Certified Results

The ERA certified and advisory range of values are included. The advisory range is the range of values that an experienced laboratory can expect to attain using the most precise methods and equipment. Certified and advisory values for ERA inorganic quality control standards are based on analytical results from applicable EPA reference methods. Certified values represent 100% recoveries for the analyses. Since many inorganic analytical methods do not yield 100% recoveries, especially for soil samples, ERA advisory ranges reflect typical recoveries from samples for the applicable EPA methodologies. The advisory ranges for these standards are wider than for ERA aqueous standards due to the variability of the SW-846 preparation methods.

SW-846

Inorganics in Soil has been prepared using a cleaned, dried and sieved topsoil substrate. The final product was digested by a variety of methods, including the recommended 3050 (SW-846), to evaluate the effect of digestion variability on the results the laboratory should obtain. The certified values and advisory ranges shown on the accompanying certification sheet were arrived at after extensive evaluation of the experimental results. It should be noted that antimony and molybdenum are especially difficult to quantitatively recover using Method 3050. Low recoveries may also be experienced for arsenic, selenium, silver, thallium and vanadium. The advisory ranges for these elements have been adjusted to reflect this fact.

Experiments conducted by ERA using a "weak acid" digestion with only hydrochloric acid significantly improved the recovery of antimony. Digestion of Inorganics in Soil by a closed vessel microwave methodology also decreased the recovery of silver to <10% of the certified value. High recoveries of the metals native to the soil matrix (e.g. aluminum, calcium, manganese, iron and magnesium) indicate a too vigorous digestion procedure. In general, it should be noted that Method 3050 is not an extremely rugged methodology and close attention should be paid to the procedure to insure recovery of the listed elements within the advisory ranges. ERA stresses that it is the responsibility of the individual laboratory to determine acceptable levels of performance for a particular analytical result depending on the intended use of the data.

* CLP

V. Safety

ERA products may be hazardous and are intended for use by professional laboratory personnel trained in the competent handling of such materials. Responsibility for the safe use of these products rests entirely with the buyer and/or user. If you need a Material Safety Data Sheet for any ERA product, please call toll-free at 1-800-ERA-0122.

MAXWELL
S-CUBED Division

FAX

TO:	M. Beck
FROM:	J. Goodin
DATE:	January 22, 1992
FAX NO:	(509) 373-3992
Pages to follow:	0

At S-Cubed, we do not have access to the EPA's solid LCS sample described in the CLP protocols because we are not currently under CLP contract with them for inorganic analysis. It might be possible to obtain some other solid reference material, but we have not yet found one containing all or even most of the metals. In the Quality Assurance Project Plan for Westinghouse Hanford Company, no solid LCS is specified and no solid LCS is discussed in the SW-846 (RCRA) methods. The LCS is used to determine laboratory consistency, for which purpose the liquid LCS is sufficient and allows us to monitor all of the metals of interest. We have recently analyzed a purchased solid reference standard, containing five of the metals, and would be glad to furnish you with these results. I hope that this explanation will satisfy your client. If you have any other questions or comments, please call me at (619) 587-8409.

CORRESPONDENCE DISTRIBUTION COVERSHEET

To: Distribution

From: Environmental Quality Assurance
H4-16 / 6-8557 / 6-9490

Subject: DISTRIBUTION OF NCR #B06175 (EQA-92-013)

INTERNAL DISTRIBUTION

Approval	Date	Name	Location	w/att
		M. A. Beck	T6-08	
		J. H. Kessner	T6-08	
		J. D. Hoover	H4-57	
		L. W. Vance	H4-16	
		APA	B5-20	
		QUEST	L4-86	
		EQA File	H4-16	

Jeanette
Fancy
Ford
Jeff

MAY 1992
RECEIVED
J.H. KESSNER

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFFICE
3398 Carmel Mountain Road., San Diego, CA 92121-1095
P.O. Box 1620, La Jolla, CA 92038-1620

NARRATIVE

DATE: November 7, 1991
REFERENCE NO.: 32359-04, SDG 2628

CLP METALS + LI, TI, ZR

The samples were analyzed according to the 2/88 CLP Inorganics Statement of Work. GFAA dilutions were required for samples 2628-1 through 2628-17 at a dilution factor of 6 for Pb and at a dilution factor of 11 for As, Se, and Tl. The Li IDL for the analytical run used for this SDG is 300 ug/L. The Li IDL is subject to fluctuations due to the wavelength required for analysis. There were significant levels of several analytes detected in the samples.

The quality control results were generally acceptable. A wider window of 80-120% is accepted for Li CCV percent recoveries due to the characteristics of the wavelength required for Li analysis on the ICP. The Se was diluted out of the matrix spike sample during analysis, thus no recovery. Ti, Sb, Mn, and Ag show low recoveries for the matrix spike but are within windows for the post-digestion spike analysis. Li recovery is high for the matrix spike but within windows for the post-digestion spike. These matrix spike anomolies are matrix-associated. As and Tl recoveries are low for the matrix spike due to dilutions. Duplicate results for several analytes are out of criteria due to soil matrix. SOT

SAMPLE SUMMARY

S-Cubed Reference No. 32359-04, SDG No. 2628, Project Name: Site Wide Soil

Sample ID	S-Cubed Sample #	Date Received	Sample Type	Analysis									
				A	B	C	D	E	F	G	H	I	J
BO 1429	2628-1	10/7/91	SOIL	3	3	3	3	3	3	3	3	3	3
BO 1430	2628-2	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 1431	2628-3	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 1433	2628-4	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 1435	2628-5	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 1436	2628-6	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K0	2628-7	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K1	2628-8	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K2	2628-9	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K3	2628-10	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K4	2628-11	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K5	2628-12	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K6	2628-13	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K7	2628-14	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K8	2628-15	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14K9	2628-16	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14L0	2628-17	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1
BO 14H2	2628-18	10/7/91	SOIL	1	1	1	1	1	1	1	1	1	1

Analysis Key:

A=Li
B=Si
C=Ti
D=Zr
E=ICPCLP-M
F=FURNCLP
G=HGCLP
H=ANIONS
I=N-NH3
J=ALK

Westinghouse Hanford Company	CHAIN OF CUSTODY

Custody Form Initiator: C. D. Kramer

Company Contact: C. D. Kramer — Telephone: (509) 376-4186

Project Designation/Sampling Locations: Site-wide Background — Collection Date: 9/26/91

Site #2 (WPPSS Pit), Yakima Barricade Borehole 699-48-96 (Archived)

Ice Chest No.: ~~RM-42~~ CK 10/4 RM #9 — Field Logbook No.: WHC-N-438

Bill of Lading/Airbill No.: 247425338 6 — Offsite Property No.: W92-0-0014 #1 ~~W91-0-0579 #3~~

Method of Shipment: Emery

Shipped to: S-Cubed, San Diego, CA

Possible Sample Hazards/Remarks: None

Sample Identification

B01429 (3) 120-ml jars	B014K4 (1) Pint Mason jar
B01430	B014K5
B01431	B014K6
B01433	B014K7
B01435	B014K8
B01436	B014K9
B014K0 (1) Pint Mason jar	B014L0
B014K1	
B014K2	
B014K3	

(Additional HEIS # for lab-generated blank = B014H2)

☐ Field Transfer of Custody

CHAIN OF POSSESSION (Sign and Print Names)

Relinquished by:	Received by:	Date/Time:
C. D. Kramer	[illegible]	10/7/91 12 noon
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
Relinquished by:	Received by:	Date/Time:

Final Sample Disposition

Disposal Method:	Disposed by:	Date/Time:

Comments:

A-6000-407 (12/90)

"~~Next~~" Saturday Delivery" Signature Security

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
Westinghouse Hanford Co.		~~W91-0-0679~~ ~~#~~ W91-C-014 #1

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Engineering	Technical Baseline	

The following items are to be shipped from [X] Contractor [ ] Vendor

Routing Emery [X] Contractor [ ] Vendor

Shipped to	Off-site Custodian
S-Cubed 3398 Camel Mt. Rd. San Diego, CA 92121-1095	John Dewald
	Full Title Project Coordinator

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 Weight- 63 lbs	Poly Ice Chest (RM ~~#A-1~~) 9 AC 10-4-91 Glass jars of soil packed in vermiculite and blue ice. Sample # – E01429, E01430, E01431, E01433, E01435, E01436, E01KC thru E01K9, and E01LC	

[ ] Classified [X] Unclassified [ ] Shipped Under DOE Contract [ ] Shipped Under Contractor's Use Permit Contract

Necessity for the Off-Site Use of this Property
Program not available on site.

Bill of Lading # 2474 5338 6

CERTIFICATION OF THE RADIATION MONITORING RELEASE MUST BE SECURED THE SAME DAY THAT MATERIAL IS DELIVERED TO SHIPPING.

RM Clearance for Public Release	RM Survey No	Date

Location of Property (Area & Bldg.)	Contact	Phone
BackgroundSite	C. D. Kramer	376-4186

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
10-4-91	EK16A/81223 FK16BB	N/A

Originated By	Date	Authorized By	Date
C. D. Kramer	10-4-91		

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
			10/4/91

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
Date				

DISTRIBUTION

By Originator	Shipping Operation – Sign all Copies and Forward to:	
White, Green, Yellow, Pink – Property Management Goldenrod – Retain	White – Property Management Yellow – Retain	Green – Property Control Custodian (Issuing Office) Pink – Originator

54-3000-479 (09/89)

5

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector C. Kramer / J. Lucas / C. Heiden Date Sampled 9/26/91 Time ____ hours

Company Contact Chris Kramer Telephone (509) 376-4186

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested · E,F,G,H,I J
B01429	(3) 120-ml	Soil	See attached Tables A-1, A-2
B01430	↓	↓	Each sample is to be analyzed
B01431			for all analytes by the method
B01433			shown except for fluoride
B01435			Fluoride may be done by
B01436	↓	↓	ion chromatography.
B014H2	0 jars - Sample no. to be used for reporting an additional prep		
	blank. Blank generated at S-Cubed, not enclosed.		
B014K0	(1) Pint Mason jar*	Archived Soil	Analyze B014H2, B014K0 → K9
B014K1	↓	↓	and B014L0 for lithium by ICP
B014K2			in addition to preprinted Tables
B014K3			A-1 and A-2.
B014K4			
B014K5			*PLEASE RETURN UNUSED
B014K6			SOIL ARRIVING IN THE
B014K7			MASON PINT JARS.
B014K8			
B014K9			
B014L0	↓	↓	

Field Information** B01429 – 36 are from WPPSS Pit, Site #2.
B014K0 – L0 are from archived borehole material, 2101-M Building.

Special Handling and/or Storage Sieve samples. Use the less-than 2 mm size fraction in analytical aliquots. Exclude stones, etc larger than 2 mm.

Possible Sample Hazards None

PART II: LABORATORY SECTION

Received by ____ Title ____ Date ____

Analysis Required ____

*Indicate whether sample is soil, sludge, water, etc.
**Use back of page for additional information relative to sample location.

A-6000-406 (05/90)

BEST AVAILABLE COPY

☐ Same Day ☐ AM ☐ PM ☐ Second Day ☒ Saturday Delivery

Date 10-04-91 Origin PSC

Shipment Number 247425338 6

To: JOHN DEWALD
3398 CARNEL MT. RO
SAN DIEGO

SERVICES

UNITED STATES / CANADA: ☐ Same Day ☐ AM ☐ PM ☐ Second Day ☒ Saturday Delivery

INTERNATIONAL: Express ☐ Preferred ☐ Standard ☐ Business Documents ☐ Customs Clearance ☐ Delivery ☐

PULL FOR SHPT. NO. TAB

Shipper's Account Number E 850281585

Date 10-04-91 Origin PSC Shipment Number 247425338 6

From:
WESTINGHOUSE SHIPPING DEPT (509) 376-6665
US DEPARTMENT OF ENERGY C/O
WESTINGHOUSE HANFORD
BLDG 1163
2355 STEVENS DRIVE
RICHLAND WA Canada ☐

To:
JOHN DEWALD
S-CUBED
3398 CARNEL MT. ROAD
SAN DIEGO CA Canada ☐

Hold for Pick Up ☐

Tariff Dest. Gateway

Check to Shipper $

EMERY WORLDWIDE will collect consignee's check made payable only to the shipper for the value of the goods in the amount shown above.

Customer's Reference Numbers: WB1223 PK16BB W92-0-0014#1 Zip 99352

E Consignee's Account Number Zip 92121-1095

Description	Pcs	L	W	H	Total Pieces	Total Weight (In Lbs.)
1 ICE CHEST RM#1-2 SOIL SAMPLES W92-0-0014#1	1				1	63

FOR INFORMATION OR RATES CALL 1-800 HI EMERY (1-800-443-6379)

Declared Value $

2 4 7 4 2 5 3 3 8 6

TOOSR ☐ Haz Mat ☐ Alt ☐ A B C D E F G H I J K

1 2 3 4 5 6 / 7 8 9 0 1 2

SATURDAY DELIVERY
SIGNATURE SECURITY SERVICE

Envelope 9X12 ☐ Pack 12X15 ☐

Shipper's Signature X

International Shipments: Free Domicile ☐ Commodity Code

Third party Account Number mandatory for Third party billing. E Third Party Account Number

International Customs Value

International Insurance

Base Charge

Total Transportation Charges

Other Charges/Advance at Origin ☐ OC/AO $

SAN-SAT

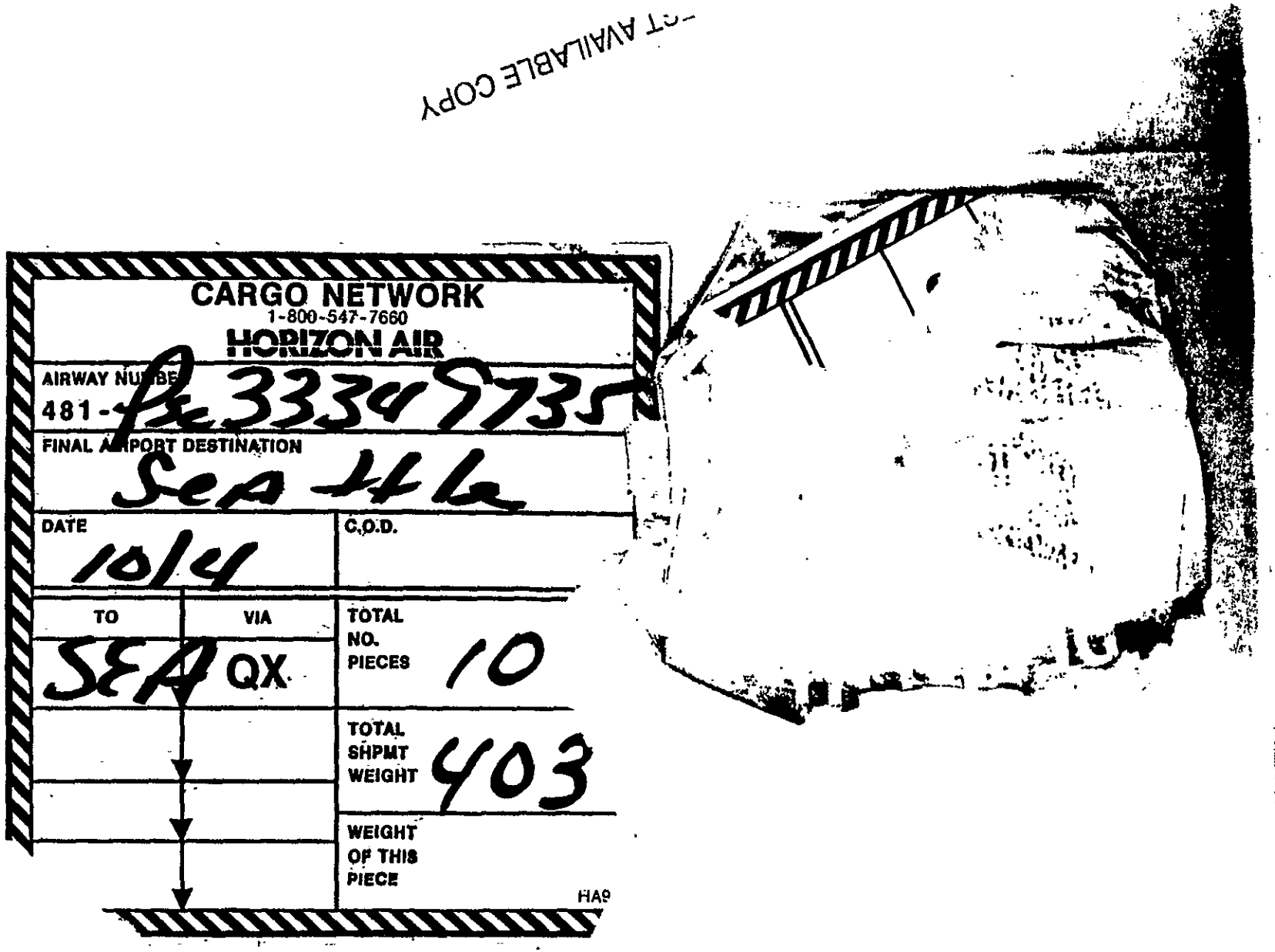
Terms and Conditions on Back

PLEASE TYPE OR USE BALL POINT PEN. BEAR DOWN FIRMLY! KEEP MARKS WITHIN BOXES TO ASSURE ACCURACY

FORM 60001-46

CONSIGNEE — PACKAGE COPY — 4

BEST AVAILABLE COPY



CARGO NETWORK
1-800-547-7660
HORIZON AIR

AIRWAY NUMBER
481-Pe 33349735

FINAL AIRPORT DESTINATION
Sea Hla

DATE
10/4

C.O.D.

TO	VIA
SEA	QX

TOTAL NO. PIECES 10

TOTAL SHPMT WEIGHT 403

WEIGHT OF THIS PIECE

HA9

EMERY WORLDWIDE — A CF Company

18

DATE: 10-04-91 SHIPMENT NO.: 247425338-6
SHIPPER: WESTINGHOUSE SHIPPING DEPT (509) 376-6665
REFERENCE NO.: W92-0-0014#1

SIGNATURE AND TALLY RECORD

80029-46 (8/89) Litho USA

SHIPPER NAME AND ADDRESS
WESTINGHOUSE SHIPPING DEPT (509) 376-6665
62-06 US DEPARTMENT OF ENERGY C/O
WESTINGHOUSE HANFORD COMPANY
2355 STEVENS DRIVE 1163 BUILDING
PO BOX 1970
RICHLAND WA 99352

CONSIGNEE NAME AND ADDRESS
JOHN DEWALD
S-CUBED
3398 CARMEL MT. ROAD
SAN DIEGO CA 92121-1095

Pieces	Weight	Description/Marks	Emery Authorization No.
1	63 LBS	W92-0-0014#1 ICE CHEST RM#A-2 SOIL SAMPLES	

EACH PERSON HANDLING OR TAKING CUSTODY OF THIS SHIPMENT MUST SIGN AND COMPLETE THE INFORMATION BELOW

Name of Person/Company	Transship Point/Destination	Signature of Person Accepting Custody	Time/Date
1. JOYCE DEMAREST WESTINGHOUSE SHIPPING 1167/1100	RICHLAND WA		/10-04-91
2.			
3.			
4.			
5.	SAN		1100/05
6.	SAN		10/7/91
7.	SAN	J. Dixon S-Cubed	12noon 10/7/91
8.		Sample Receipt	

SPECIAL HANDLING INSTRUCTIONS

CONSIGNEE COPY

102

MAXWELL
S-CUBED Division

Lot No. 2628

Sample Log-In Sheet

DC No. ____-____-____

Date Received 10/7/91 Date Sampled 9/26/91 & 10/4/91

Time Received 12 noon

Received by (Sig.) T. Dhar

Airbill No. 2474253338-6

Charge No. 32359-04

Client Code WHC

Custody Seals Present/Intact (Y) N

Chain of Custody Present (Y) N

Client Forms Present (Y) N

Reporting Format: Summ. CLP Summ. (Full CLP) Disk

Turnaround Req'd: 45d (30d) 21d 14d 48hr Other ~~10d~~

Quality Control Req'd: Level 1(Low) (2(CLP)) 3(RCRA) 4(Other)

Case No./Proj. Code Site Wide Soil SDG No. 2628

S-Cubed No.	Sample Identification	Samp. Type	No. Cont.	Samp. Cond.	Samp. Stor.	A	B	C	D	E	F				All Info Agree	Notes
2628-1	BO 1429	0/3	S	OK	WA	X	X	X	X	X	X					
MS 2	1430															
3	1431															Note: Extra Method
4	1433															Blank
5	1435															
6	1436															extra Metals = Li, Si,
7	BO14K0	0/1														Ti, Zr
8	14K1															
9	14K2															F Alk
10	14K3															~~E~~ N-NH3
11	14K4															~~D~~ ANIONS
12	14K5															~~C~~ HGCLP
13	14K6															~~B~~ FURNCLP
14	14K7															~~A~~ ICPCLP + Extra

Container Types

Water _____

Soil _____

S = Soil/Sediment/Sludge
W = Aqueous
NAL = Non-Aqueous Liquid
NSS = Non-Soil Solid

Water MS, MSD _____

Soil MS, MSD _____

SDG Complete (Y) N

Review JD 10/7

SC-03, Rev. 7/91

2 of 2

MAXWELL S-CUBED Division

Lot No. 2628

Sample Log-In Sheet

DC No. ____-____-____

Date Received 10/7/91 Date Sampled 9/26 & 10/4/91

Time Received 12 noon

Received by (Sig.) [illegible]

Airbill No. 247425338-6

Charge No. 32359-04

Client Code WHC

Custody Seals Present/Intact (Y) N

Chain of Custody Present (Y) N

Client Forms Present (Y) N

Reporting Format: Summ. CLP Summ. (Full CLP) Disk

Turnaround Req'd: 45d 30d 21d 14d 48hr Other 10D

Quality Control Req'd: Level 1(Low) (2(CLP)) (3(RCRA)) 4(Other)

Case No./Proj. Code

SDG No. 2628

S-Cubed No.	Sample Identification	Samp. Type	No. Cont.	Samp. Cond.	Samp. Stor.	A	B	C	D	E	F				All Info Agree	Notes
2628-15	B014K8	0/1	5	OK	WA	↓	↓	↓	↓	↓	↓					* To be used for reporting S-Cubed extra Prep Blank.
16	14K9	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					
17	14K0	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					
* 18	14H2					↓	↓	↓	↓	↓	↓					

Container Types

Water _____

Soil _____

S = Soil/Sediment/Sludge
W = Aqueous
NAL = Non-Aqueous Liquid
NSS = Non-Soil Solid

Water MS, MSD _____

Soil MS, MSD _____

SDG Complete (Y) N

Review JD 10/7

SC-03, Rev. 7/91

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-1

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-1

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5900			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	4.0		N	F
7440-39-3	Barium	75.3			P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	7710			P
7440-47-3	Chromium	7.9		*	P
7440-48-4	Cobalt	16.0			P
7440-50-8	Copper	13.8			P
7439-89-6	Iron	32500			P
7439-92-1	Lead	4.1			F
7439-95-4	Magnesium	5150			P
7439-96-5	Manganese	391			P
7439-97-6	Mercury	1.0		N*	CV
7440-02-0	Nickel	13.5		*	P
7440-09-7	Potassium	938			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.4		N	P
7440-23-5	Sodium	514			P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	93.1			P
7440-66-6	Zinc	70.6			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1429

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-1

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-1

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.5	U	N	P
7440-32-6	Titanium	2890			P
7440-67-7	Zirconium	27.6		*	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_1429

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-2

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-2

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5480			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	3.6		N	F
7440-39-3	Barium	80.3			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	8360			P
7440-47-3	Chromium	6.1		*	P
7440-48-4	Cobalt	13.6			P
7440-50-8	Copper	15.0			P
7439-89-6	Iron	27200			P
7439-92-1	Lead	3.6			F
7439-95-4	Magnesium	4630			P
7439-96-5	Manganese	358			P
7439-97-6	Mercury	0.43		N*	CV
7440-02-0	Nickel	10		*	P
7440-09-7	Potassium	819			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	328	B		P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	73.7			P
7440-66-6	Zinc	70.5			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1430

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-2

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-2

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.5	U	N	P
7440-32-6	Titanium	2650			P
7440-67-7	Zirconium	27.8		*	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 1430

FORM I - IN

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-3

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-3

Level (low/med): LOW Date Received: 10/07/91

% Solids: 97.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4940			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	2.2		N	F
7440-39-3	Barium	70.4			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	7510			P
7440-47-3	Chromium	4.2		*	P
7440-48-4	Cobalt	14.3			P
7440-50-8	Copper	15.1			P
7439-89-6	Iron	29000			P
7439-92-1	Lead	3.3			F
7439-95-4	Magnesium	4670			P
7439-96-5	Manganese	350			P
7439-97-6	Mercury	0.10		N*	CV
7440-02-0	Nickel	9.7		*	P
7440-09-7	Potassium	669			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	344	B		P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	77.7			P
7440-66-6	Zinc	99.8			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 1431

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-3

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-3

Level (low/med): LOW Date Received: 10/07/91

% Solids: 97.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.6	U	N	P
7440-32-6	Titanium	2760			P
7440-67-7	Zirconium	27.5		*	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1431

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7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-4

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-4

Level (low/med): LOW Date Received: 10/07/91

% Solids: 99.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8360			P
7440-36-0	Antimony	5.6	U	N	P
7440-38-2	Arsenic	3.6		N	F
7440-39-3	Barium	97.0			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	3980			P
7440-47-3	Chromium	10.4		*	P
7440-48-4	Cobalt	11.6			P
7440-50-8	Copper	12.1			P
7439-89-6	Iron	24800			P
7439-92-1	Lead	4.7			F
7439-95-4	Magnesium	4570			P
7439-96-5	Manganese	380			P
7439-97-6	Mercury	0.10		N*	CV
7440-02-0	Nickel	11.8		*	P
7440-09-7	Potassium	2190			P
7782-49-2	Selenium	4.4	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	190	B		P
7440-28-0	Thallium	3.3	U	N	F
7440-62-2	Vanadium	59.7			P
7440-66-6	Zinc	62.3			P

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1433

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-4

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-4

Level (low/med): LOW Date Received: 10/07/91

% Solids: 99.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.2	U	N	P
7440-32-6	Titanium	1930			P
7440-67-7	Zirconium	22.4		*	P

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_1433

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-5

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-5

Level (low/med): LOW Date Received: 10/07/91

% Solids: 99.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4190			P
7440-36-0	Antimony	5.6	U	N	P
7440-38-2	Arsenic	4.0		N	F
7440-39-3	Barium	84.6			P
7440-41-7	Beryllium	1.0			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	39300			P
7440-47-3	Chromium	3.4		*	P
7440-48-4	Cobalt	11.6			P
7440-50-8	Copper	13.6			P
7439-89-6	Iron	23500			P
7439-92-1	Lead	3.2			F
7439-95-4	Magnesium	4080			P
7439-96-5	Manganese	299			P
7439-97-6	Mercury	0.27		N*	CV
7440-02-0	Nickel	7.7		*	P
7440-09-7	Potassium	640			P
7782-49-2	Selenium	4.4	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	287	B		P
7440-28-0	Thallium	3.3	U	N	F
7440-62-2	Vanadium	63.0			P
7440-66-6	Zinc	52.5			P

Color Before: WHITE Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1435

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-5

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-5

Level (low/med): LOW Date Received: 10/07/91

% Solids: 99.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.2	U	N	P
7440-32-6	Titanium	2190			P
7440-67-7	Zirconium	20.0		*	P

Color Before: WHITE Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1435

FORM I - IN

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-6

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-6

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5680			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	4.9		N	F
7440-39-3	Barium	70.6			P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	9840			P
7440-47-3	Chromium	5.1		*	P
7440-48-4	Cobalt	14.3			P
7440-50-8	Copper	18.1			P
7439-89-6	Iron	29000			P
7439-92-1	Lead	4.0			F
7439-95-4	Magnesium	5240			P
7439-96-5	Manganese	400			P
7439-97-6	Mercury	0.71		N*	CV
7440-02-0	Nickel	9.4		*	P
7440-09-7	Potassium	950			P
7782-49-2	Selenium	4.4	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	305	B		P
7440-28-0	Thallium	3.3	U	N	F
7440-62-2	Vanadium	79.6			P
7440-66-6	Zinc	60.9			P

Color Before: BLACK Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_1436

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-6

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-6

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.3	U	N	P
7440-32-6	Titanium	2700			P
7440-67-7	Zirconium	25.2		*	P

Color Before: BLACK Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_1436

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-7

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-7

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9810			P
7440-36-0	Antimony	5.9	U	N	P
7440-38-2	Arsenic	5.1		N	F
7440-39-3	Barium	112			P
7440-41-7	Beryllium	1.5			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	10900			P
7440-47-3	Chromium	10.8		*	P
7440-48-4	Cobalt	14.2			P
7440-50-8	Copper	20.1			P
7439-89-6	Iron	29000			P
7439-92-1	Lead	5.5			F
7439-95-4	Magnesium	5450			P
7439-96-5	Manganese	460			P
7439-97-6	Mercury	0.53		N*	CV
7440-02-0	Nickel	13.1		*	P
7440-09-7	Potassium	1580			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	798			P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	74.7			P
7440-66-6	Zinc	56.7			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 14KO

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-7

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-7

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.3	U	N	P
7440-32-6	Titanium	2160			P
7440-67-7	Zirconium	26.9		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14KO

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-8

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-8

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6300			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	5.4		N	F
7440-39-3	Barium	73.5			P
7440-41-7	Beryllium	0.71			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	8140			P
7440-47-3	Chromium	10.6		*	P
7440-48-4	Cobalt	5.7			P
7440-50-8	Copper	8.5			P
7439-89-6	Iron	14000			P
7439-92-1	Lead	4.9			F
7439-95-4	Magnesium	4640			P
7439-96-5	Manganese	268			P
7439-97-6	Mercury	0.16		N*	CV
7440-02-0	Nickel	10.7		*	P
7440-09-7	Potassium	1380			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	208	B		P
7440-28-0	Thallium	3.3	U	N	F
7440-62-2	Vanadium	24.3			P
7440-66-6	Zinc	40.6			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 14K1

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-8

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-8

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.4	U	N	P
7440-32-6	Titanium	613			P
7440-67-7	Zirconium	10.1	U	*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 14K1

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-9

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-9

Level (low/med): LOW Date Received: 10/07/91

% Solids: 90.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7800			P
7440-36-0	Antimony	6.2	U	N	P
7440-38-2	Arsenic	4.9		N	F
7440-39-3	Barium	97.0			P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.33	U		P
7440-70-2	Calcium	10700			P
7440-47-3	Chromium	9.7		*	P
7440-48-4	Cobalt	12.6			P
7440-50-8	Copper	16.2			P
7439-89-6	Iron	27500			P
7439-92-1	Lead	4.9			F
7439-95-4	Magnesium	4690			P
7439-96-5	Manganese	357			P
7439-97-6	Mercury	0.44		N*	CV
7440-02-0	Nickel	12.7		*	P
7440-09-7	Potassium	1130			P
7782-49-2	Selenium	4.9	U	N	F
7440-22-4	Silver	1.1	U	N	P
7440-23-5	Sodium	481	B		P
7440-28-0	Thallium	3.7	U	N	F
7440-62-2	Vanadium	67.4			P
7440-66-6	Zinc	54.4			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 14K2

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-9

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-9

Level (low/med): LOW Date Received: 10/07/91

% Solids: 90.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	33.2	U	N	P
7440-32-6	Titanium	2090			P
7440-67-7	Zirconium	22.0		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 14K2

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-10

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-10

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6200			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	3.9		N	F
7440-39-3	Barium	76.3			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	12700			P
7440-47-3	Chromium	7.3		*	P
7440-48-4	Cobalt	12.2			P
7440-50-8	Copper	18.9			P
7439-89-6	Iron	26100			P
7439-92-1	Lead	4.3			F
7439-95-4	Magnesium	4990			P
7439-96-5	Manganese	311			P
7439-97-6	Mercury	0.14		N*	CV
7440-02-0	Nickel	11.7		*	P
7440-09-7	Potassium	897			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	351	B		P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	57.3			P
7440-66-6	Zinc	52.3			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 14K3

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-10

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-10

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.2	U	N	P
7440-32-6	Titanium	1630			P
7440-67-7	Zirconium	25.8		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 14K3

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-11

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-11

Level (low/med): LOW Date Received: 10/07/91

% Solids: 93.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7210			P
7440-36-0	Antimony	6.0	U	N	P
7440-38-2	Arsenic	0.33		N	F
7440-39-3	Barium	80.7			P
7440-41-7	Beryllium	0.96			P
7440-43-9	Cadmium	0.32	U		P
7440-70-2	Calcium	86600			P
7440-47-3	Chromium	8.0		*	P
7440-48-4	Cobalt	8.4			P
7440-50-8	Copper	14.6			P
7439-89-6	Iron	16200			P
7439-92-1	Lead	0.40			F
7439-95-4	Magnesium	3830			P
7439-96-5	Manganese	219			P
7439-97-6	Mercury	0.41		N*	CV
7440-02-0	Nickel	10.7		*	P
7440-09-7	Potassium	601			P
7782-49-2	Selenium	0.47	U	N	F
7440-22-4	Silver	1.1	U	N	P
7440-23-5	Sodium	314	B		P
7440-28-0	Thallium	0.35	U	N	F
7440-62-2	Vanadium	44.1			P
7440-66-6	Zinc	37.7			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K4

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-11

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-11

Level (low/med): LOW Date Received: 10/07/91

% Solids: 93.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	32.1	U	N	P
7440-32-6	Titanium	1190			P
7440-67-7	Zirconium	15.6		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K4

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-12

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-12

Level (low/med): LOW Date Received: 10/07/91

% Solids: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6430			P
7440-36-0	Antimony	6.3	U	N	P
7440-38-2	Arsenic	4.2		N	F
7440-39-3	Barium	52.7			P
7440-41-7	Beryllium	0.79			P
7440-43-9	Cadmium	0.34	U		P
7440-70-2	Calcium	52900			P
7440-47-3	Chromium	12.6		*	P
7440-48-4	Cobalt	7.7			P
7440-50-8	Copper	13.9			P
7439-89-6	Iron	15600			P
7439-92-1	Lead	4.8			F
7439-95-4	Magnesium	5600			P
7439-96-5	Manganese	244			P
7439-97-6	Mercury	0.22		N*	CV
7440-02-0	Nickel	13.3		*	P
7440-09-7	Potassium	735			P
7782-49-2	Selenium	5.0	U	N	F
7440-22-4	Silver	1.1	U	N	P
7440-23-5	Sodium	320	B		P
7440-28-0	Thallium	3.7	U	N	F
7440-62-2	Vanadium	34.5			P
7440-66-6	Zinc	39.5			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
80_14K5

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-12

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-12

Level (low/med): LOW Date Received: 10/07/91

% Solids: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	34.0	U	N	P
7440-32-6	Titanium	1010			P
7440-67-7	Zirconium	13.8		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K5

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-13

Lab Name: S_CUBED_____ Contract: 32359-04__

Lab Code: S3 ___ Case No.: SITE_ SAS No.: _____ SDG No.: 2628__

Matrix (soil/water): SOIL_ Lab Sample ID: 2628-13___

Level (low/med): LOW __ Date Received: 10/07/91

% Solids: _96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7520			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	3.3		N	F
7440-39-3	Barium	102			P
7440-41-7	Beryllium	0.94			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	14500			P
7440-47-3	Chromium	15.0		*	P
7440-48-4	Cobalt	8.2			P
7440-50-8	Copper	13.8			P
7439-89-6	Iron	16400			P
7439-92-1	Lead	4.6			F
7439-95-4	Magnesium	4780			P
7439-96-5	Manganese	332			P
7439-97-6	Mercury	0.24		N*	CV
7440-02-0	Nickel	14.6		*	P
7440-09-7	Potassium	1690			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	190	B		P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	33.1			P
7440-66-6	Zinc	45.0			P

Color Before: BROWN ___ Clarity Before: _____ Texture: FINE__

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

BO 14K6

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-13

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-13

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.2	U	N	P
7440-32-6	Titanium	828			P
7440-67-7	Zirconium	10.4	U	*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 14K6

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-14

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-14

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7170			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	3.6		N	F
7440-39-3	Barium	90.6			P
7440-41-7	Beryllium	0.94			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	21600			P
7440-47-3	Chromium	8.9		*	P
7440-48-4	Cobalt	9.0			P
7440-50-8	Copper	11.9			P
7439-89-6	Iron	17600			P
7439-92-1	Lead	3.8			F
7439-95-4	Magnesium	4150			P
7439-96-5	Manganese	297			P
7439-97-6	Mercury	0.82		N*	CV
7440-02-0	Nickel	11.7		*	P
7440-09-7	Potassium	1090			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	260	B		P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	45.4			P
7440-66-6	Zinc	46.2			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 14K7

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-14

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-14

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.3	U	N	P
7440-32-6	Titanium	1320			P
7440-67-7	Zirconium	18.3		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 14K7

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-15

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-15

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7160			P
7440-36-0	Antimony	5.9	U	N	P
7440-38-2	Arsenic	3.3		N	F
7440-39-3	Barium	84.1			P
7440-41-7	Beryllium	0.94			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	25500			P
7440-47-3	Chromium	10.7		*	P
7440-48-4	Cobalt	8.7			P
7440-50-8	Copper	13.0			P
7439-89-6	Iron	17600			P
7439-92-1	Lead	4.3			F
7439-95-4	Magnesium	4880			P
7439-96-5	Manganese	317			P
7439-97-6	Mercury	3.0		N*	CV
7440-02-0	Nickel	12.3		*	P
7440-09-7	Potassium	1190			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	216	B		P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	46.4			P
7440-66-6	Zinc	44.4			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K8

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-15

Lab Name: S. CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-15

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.3	U	N	P
7440-32-6	Titanium	1250			P
7440-67-7	Zirconium	16.7		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K8

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-16

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-16

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6260			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	2.6		N	F
7440-39-3	Barium	62.2			P
7440-41-7	Beryllium	0.72			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	10700			P
7440-47-3	Chromium	10.6		*	P
7440-48-4	Cobalt	7.0			P
7440-50-8	Copper	11.5			P
7439-89-6	Iron	14200			P
7439-92-1	Lead	4.0			F
7439-95-4	Magnesium	3850			P
7439-96-5	Manganese	262			P
7439-97-6	Mercury	0.22		N*	CV
7440-02-0	Nickel	12.4		*	P
7440-09-7	Potassium	1180			P
7782-49-2	Selenium	6.0		N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	173	B		P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	33.5			P
7440-66-6	Zinc	40.7			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 14K9

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-16

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL_ Lab Sample ID: 2628-16

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.0	U	N	P
7440-32-6	Titanium	843			P
7440-67-7	Zirconium	10.3	U	*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K9

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-17

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-17

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5550			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	2.7		N	F
7440-39-3	Barium	66.4			P
7440-41-7	Beryllium	0.94			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	3900			P
7440-47-3	Chromium	5.9		*	P
7440-48-4	Cobalt	7.6			P
7440-50-8	Copper	12.9			P
7439-89-6	Iron	17900			P
7439-92-1	Lead	3.9			F
7439-95-4	Magnesium	3890			P
7439-96-5	Manganese	247			P
7439-97-6	Mercury	3.8		N*	CV
7440-02-0	Nickel	9.2		*	P
7440-09-7	Potassium	725			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	175	B		P
7440-28-0	Thallium	3.4	U	N	F
7440-62-2	Vanadium	36.0			P
7440-66-6	Zinc	43.8			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 14LO

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-17

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-17

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.2	U	N	P
7440-32-6	Titanium	1170			P
7440-67-7	Zirconium	17.6		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14LO

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-18

Lab Name: S. CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-18

Level (low/med): LOW Date Received: 10/07/91

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7.2	U		P
7440-36-0	Antimony	5.6	U	N	P
7440-38-2	Arsenic	0.69	B	N	F
7440-39-3	Barium	4.1	U		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	107	U		P
7440-47-3	Chromium	0.70	U	*	P
7440-48-4	Cobalt	1.6	U		P
7440-50-8	Copper	1.8	U		P
7439-89-6	Iron	10.2			P
7439-92-1	Lead	0.90			F
7439-95-4	Magnesium	249	U		P
7439-96-5	Manganese	0.60	U		P
7439-97-6	Mercury	0.10	U	N*	CV
7440-02-0	Nickel	3.2	U	*	P
7440-09-7	Potassium	130	U		P
7782-49-2	Selenium	0.40	U	N	F
7440-22-4	Silver	1.0	U	N	P
7440-23-5	Sodium	98.7	U		P
7440-28-0	Thallium	0.30	U	N	F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	5.1			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

BO 14H2

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-18

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-18

Level (low/med): LOW Date Received: 10/07/91

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.0	U	N	P
7440-32-6	Titanium	1.0	U		P
7440-67-7	Zirconium	10.0	U	*	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
BO 14H2

FORM I - IN

7/88

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFFICE
3398 Carmel Mountain Road., San Diego, CA 92121-1095
P.O. Box 1620, La Jolla, CA 92038-1620

NARRATIVE

DATE: November 7, 1991
REFERENCE NO.: 32359-04, SDG 2628

SILICA

The samples were analyzed according to Method 370.1 for dissolved silica. There were no difficulties with the analysis. There were moderate levels detected in the samples.

The quality control results were acceptable.

AMMONIA

The samples were analyzed according to Method 350.3. There were no difficulties with the analysis. There were moderate levels detected in the samples.

The quality control results were acceptable.

ALKALINITY

The samples were analyzed according to Method 310.1. There were no difficulties with the analysis. There were significant levels detected in the samples.

The quality control results were acceptable.

ANIONS

The samples were analyzed according to the method. There were no difficulties with the analysis. There were low levels detected in the samples.

The quality control results were acceptable. SDT

Telephone (619) 453-0060 - FAX (619) 755-0474 - Division Office

S - CUBED

Trace Inorganics Report

Client: WHC
Project: SITE WIPE SOIL
Sample Receipt Date: 10/07/91

Analyts: CN 10/31/91
Review: _____

Analyte: Si Matrix: Soil Units: mg/kg

S - CUBED Sample No.	Client Sample ID	Sample Concentration
26281	B01429	10.98
26282	B01430	12.20
26283	B01431	8.74
26284	B01433	8.55
26285	B01435	10.87
26286	B01436	9.56
26287	B014K0	12.81
26288	B014K1	5.17
26289	B014K2	21.58
262810	B014K3	19.41
262811	B014K4	12.32
262812	B014K5	17.23
262813	B014K6	15.34
262814	B014K7	19.95
262815	B014K8	15.78
262816	B014K9	3.00
262817	B014L0	12.33
262818	B014L2	< 0.50 *

Method Detection Limit: 0.1
Preparation Method: 370.1
Analytical Method: 370.1
Preparation Date: 10/17/91
Analysis Date: 10/17/91

Comments:

* Detection limit of extra method blank is calculated from:

$$\frac{\text{Method Detection Limit (mg/L)} \times 0.050 \text{ L (Leaching Volume)}}{0.010\text{kg (Sample weight)}}$$

AMMONIA ANALYSIS

LABORATORY:	S-CUBED	DATA REVIEWER:	ω N 11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2628	DATE RECEIVED:	10/07/91
FILE#:	NH31007	DATE PREP:	10/30/91
DISK:	NH31024	DATE ANALYZED:	10/30/91
METHOD NO.	350.3	MATRIX:	SOIL

RESULTS: UNIT AS MG/KG DRY WEIGHT

LAB ID	CONCENTRATION
2628 -1	8.95
2628 -2	0.94
2628 -3	1.26
2628 -4	2.99
2628 -5	16.6
2628 -6	1.39
2628 -7	1.8
2628 -8	< 0.15
2628 -9	< 0.17
2628 -10	< 0.16
2628 -11	1.18
2628 -12	1.11
2628 -13	1.24
2628 -14	1.20
2628 -15	1.12
2628 -16	< 0.15
2628 -17	< 0.16
2628 -18	< 0.15 **

COMMENTS:

** Extra lab blank is calculated from:

$$\frac{\text{Method detection limit (mg/L) X 0.05 L (Leaching Volume)}}{\text{0.01 kg (Sample Weight)}}$$

ALKALINITY ANALYSIS

LAB:	S-CUBED	DATA REVIEWER:	CW 11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2628	DATE RECIEVED:	10/07/91
FILE #:	ALK1007	DATE PREP:	10-09/30-91
DISK #:	ALK1016	DATE ANALYZED:	10-10/30-91
METHOD NO.:	EPA 310.1	MATRIX:	SOIL

RESULTS: RESULTS AS DRY WEIGHT - MG/KG

LAB ID	CONCENTRATION
2628 - 1	282
2628 - 2	735
2628 - 3	536
2628 - 4	379
2628 - 5	13900
2628 - 6	280
2628 - 7	6710
2628 - 8	983
2628 - 9	1950
2628 - 10	3590
2628 - 11	37600
2628 - 12	28500
2628 - 13	2250
2628 - 14	2620
2628 - 15	5150
2628 - 16	1000
2628 - 17	288
2628 - 18	< 5 **

COMMENTS:

** Extra lab blank is calculated from:

$$\frac{\text{Method Detection Limit (mg/L) X 0.05L (Leaching Volume)}}{\text{0.01 kg (Sample Weight)}}$$

ANIONS ANALYSIS

LABORATORY:	S-CUBED	DATA REVIEWER:	aw 11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2628	DATE RECEIVED:	10/07/91
FILE#:	ANI1007	DATE PREP:	10/16-18/91
DISK:	ANI1017	DATE ANALYZED:	10/16-18/91
METHOD NO.	300.0	MATRIX:	SOIL

RESULTS: UNIT AS MG/KG DRY WEIGHT

LAB ID	F	CL	NO2	NO3	PO4	SO4
2628 -1	1.88	< 0.1	< 0.2	1.64	1.13	3.36
2628 -2	0.55	0.42	< 0.2	1.88	< 0.5	0.65
2628 -3	0.70	0.70	5.04	2.91	< 0.5	0.98
2628 -4	0.63	0.73	< 0.2	5.51	2.03	2.87
2628 -5	1.32	0.63	< 0.2	4.17	< 0.5	2.71
2628 -6	0.38	0.25	< 0.2	0.90	< 0.5	2.28
2628 -7	1.51	170	< 0.2	10.5	0.93	95.7
2628 -8	0.43	17.3	< 0.2	22.4	< 0.5	103
2628 -9	0.86	2.47	0.44	10.5	< 0.5	22.1
2628 -10	0.77	2.24	< 0.2	8.12	< 0.5	14.1
2628 -11	2.32	9.00	< 0.2	44.6	< 0.5	54.6
2628 -12	1.21	3.13	< 0.2	13.2	< 0.5	13.6
2628 -13	0.75	1.79	< 0.2	5.98	< 0.5	2.34
2628 -14	0.96	2.85	< 0.2	9.03	< 0.5	5.69
2628 -15	0.81	3.13	< 0.2	9.56	< 0.5	4.40
2628 -16	0.62	3.38	< 0.2	8.32	< 0.5	2.30
2628 -17	0.44	0.76	< 0.2	2.32	< 0.5	1.74
** 2628 -18	< 0.1	< 0.1	< 0.2	< 0.5	< 0.5	< 0.5

COMMENTS:

** Extra lab blank is calculated from:

$$\frac{\text{Method Detection Limit (mg/L) X 0.02 L (Leaching Volume)}}{\text{0.004 kg (Sample Weight)}}$$

VALIDATION SUMMARY

OSM RCRA DATA ASSESSMENT

DATE 2/5/92 mdb

REVIEWED BY Mark G. Beck

LABORATORY S-Cubed

CASE # Site-Wide Soil

SDG # 2628

SAMPLES/MATRIX all soil

B01429 B01430 B01431
B01433 B01435 B01436
B014K0 B014K1 B014K2
B014K3 B014K4 B014K5
B014K6 B014K7 B014K8
B014K9 B014L0 B014L2

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS Anions	Ammonia (350.3) Alkalinity (310.1)	Silica 370.1
1. Holding times	X	X	X
2. Blanks	O	O	O
3. matrix Spikes	O	O	O
4. Duplicate analyses	O	O	O
5. Calibration/LCS	O	X	O
6. other	X	X	X
7.			
8.			
9.			
10.			

O = data had no problems
X = minor problems, data may be qualified
M = data qualified due to major problems/some data may be unusable

OVERALL ASSESSSMENT: The data are acceptable with the attached qualifiers.

NOTES: "anions" refers to fluoride, chloride, nitrite, nitrate orthophosphate, and sulfate, all done by EPA 300.0.

o Refer to the corresponding attachments for explanation of any problems.

RCRA QC

Name Mark A. Beck Date 2/5/92 MAB

QC Check: Holding Times - archived samples

COMMENTS: As some of these samples were ~~all~~ archived samples, holding times may be assumed to have been missed for all analytes. Nitrite is especially sensitive to environmental conditions and is to be considered ~~extrem~~ extremely suspect

ACTION: Qualify all analytes estimated for all archived samples.

sample #	constituent	value/qual	sample #	constituent	value/qual
B014K0	all	J or UJ			
B014K1					
B014K2					
B014K3					
B014K4					
B014K5					
B014K6					
B014K7					
B014K8					
B014K9					
B014L0					

RCRA QC

Name Mark A. Beck Date 2/5/92 MAB

QC Check: Holding Times - non archived soil

COMMENTS: Silica exceeded holding times set forth in SW-846 (28 days), ~~Amon~~ Ammonia exceeded holding time, as did some alkalinity samples. Nitrite, phosphate nitrate holding times were all missed, all other anions met holding time requirements.

ACTION: All silica, ammonia, and ~~thos~~ alkalinity results that missed holding time requirements are qualified (J) estimated, or (UJ) estimated but ~~un~~ undetected. The same is true for nitrite nitrate and phosphate.

sample #	constituent	value/qual
non archived soils		
B01429	Si silica	UJ or J
B01430		
B01431	NH_3 ammonia	
B01433		
B01435	NO_2^- nitrite	
B01436		
	NO_3^- nitrate	
	phosphate HPO_4^{-2}	

sample #	constituent	value/qual

RCRA QC

Name Mark A. Beck Date 2/5/92 MAB

QC Check: Blanks

COMMENTS: Silica, ammonia alkalinity, and anions analyses all were free of blank contamination

ACTION: none, - none needed.

sample #	constituent	value/qual	sample #	constituent	value/qual

RCRA QC

Name Mark A. Beck Date 2/5/92 m.a.b.

QC Check: Matrix Spikes

COMMENTS: Silica, ammonia, alkalinity, and all anions had acceptable recoveries from the matrix spikes.

ACTION: none - none needed

sample #	constituent	value/qual	sample #	constituent	value/qual

RCRA QC

Name Mark A. Beck Date 2/5/92 m.a.b.

QC Check: Duplicate analyses

COMMENTS: All duplicate analyses were acceptable for silica, ammonia, alkalinity, and all anions.

ACTION: none - none needed

sample #	constituent	value/qual	sample #	constituent	value/qual

RCRA QC

Name Mark A. Beck Date 2/5/92 mab

QC Check: Calibrations/LCS

COMMENTS: Silica - appropriate initial calibration was performed. The ~~ana~~ calibration frequency was acceptable. All calibration checks had acceptable recoveries. Ammonia - appropriate initial and continuing calibrations were ~~to~~ performed, all with acceptable recoveries. Alkalinity - although all LCS and matrix spikes had acceptable recoveries, no set of initial calibrations was done. Anions - appropriate initial (cont.)

ACTION: none, none needed. alkalinity - as the LCS and matrix spikes had acceptable % recoveries, no need for qualification of this ~~analyte~~ analysis is needed.

sample #	constituent	value/qual	sample #	constituent	value/qual

comments: and continuing calibrations were run, and all had acceptable recoveries.

RCRA QC

Name Mark A. Beck Date 2/5/92 MAB

QC Check: Other

COMMENTS: The archived samples may have missed holding times for some or most or all of the analytes. As these were soil samples, the formal holding times do not apply. However, the loss of water and the changing the % dry weight, and the lack of full possible chain of custody for these samples causes the reviewer to qualify those samples as estimated (UJ or J) for these analyses.

ACTION: Qualify all ammonia, alkalinity, silica and anion analyses for the "archived" samples as estimated.

sample #	constituent (S-Cubed ID)	value/qual
B014K0	2628-7	alkalinity UJ or J
B014K1	2628-8	silica
B014K2	2628-9	all anions:
B014K3	2628-10	[F^- Cl^-
B014K4	2628-11	NO_2^- NO_3^-
B014K5	2628-12	SO_4^{-2} & PO_4^{-2}]
B014K6	2628-13	
B014K7	2628-14	ammonia
B014K8	2628-15	
B014K9	2628-16	
B014L0	2628-17	

sample #	constituent	value/qual

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFFICE
3398 Carmel Mountain Road., San Diego, CA 92121-109
P.O. Box 1620, La Jolla, CA 92038-162

NARRATIVE

DATE: November 7, 1991
REFERENCE NO.: 32359-04, SDG 2628

SILICA

The samples were analyzed according to Method 370.1 for dissolved silica. There were no difficulties with the analysis. There were moderate levels detected in the samples.

The quality control results were acceptable.

AMMONIA

The samples were analyzed according to Method 350.3. There were no difficulties with the analysis. There were moderate levels detected in the samples.

The quality control results were acceptable.

ALKALINITY

The samples were analyzed according to Method 310.1. There were no difficulties with the analysis. There were significant levels detected in the samples.

The quality control results were acceptable.

ANIONS

The samples were analyzed according to the method. There were no difficulties with the analysis. There were low levels detected in the samples.

The quality control results were acceptable.

Telephone (619) 453-0060 - FAX (619) 755-0474 - Division Office

S - CUBED

Trace Inorganics Report

Client: WHC
Project: SITE WIPE SOIL
Sample Receipt Date: 10/07/91

Analyts: CN 10/31/91
Review:

Analyte: Si Matrix: Soil Units: mg/kg

S - CUBED Sample No.	Client Sample ID	Sample Concentration
26281	B01429	10.98 J
26282	B01430	12.20
26283	B01431	8.74
26284	B01433	8.55
26285	B01435	10.87
26286	B01436	9.56 J
26287	B014K0	12.81 J
26288	B014K1	5.17
26289	B014K2	21.58
262810	B014K3	19.41
262811	B014K4	12.32
262812	B014K5	17.23
262813	B014K6	15.34
262814	B014K7	19.95
262815	B014K8	15.78
262816	B014K9	3.00
262817	B014L0	12.33 J
262818	B014L2	< 0.50 *

Method Detection Limit: 0.1
Preparation Method: 370.1
Analytical Method: 370.1
Preparation Date: 10/17/91
Analysis Date: 10/17/91

2/5/92
mgB

Comments:

* Detection limit of extra method blank is calculated from:

$$\frac{\text{Method Detection Limit (mg/L)} \times 0.050 \text{ L (Leaching Volume)}}{0.010\text{kg (Sample weight)}}$$

AMMONIA ANALYSIS

LABORATORY:	S-CUBED	DATA REVIEWER:	ω N 11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2628	DATE RECEIVED:	10/07/91
FILE#:	NH31007	DATE PREP:	10/30/91
DISK:	NH31024	DATE ANALYZED:	10/30/91
METHOD NO.	350.3	MATRIX:	SOIL

RESULTS: UNIT AS MG/KG DRY WEIGHT

LAB ID	CONCENTRATION
2628 -1	8.95 J
2628 -2	0.94
2628 -3	1.26
2628 -4	2.99
2628 -5	16.6
2628 -6	1.39 J
2628 -7	1.8 J
2628 -8	< 0.15 uJ
2628 -9	< 0.17 uJ
2628 -10	< 0.16 uJ
2628 -11	1.18 J
2628 -12	1.11
2628 -13	1.24
2628 -14	1.20
2628 -15	1.12 J
2628 -16	< 0.15 uJ
2628 -17	< 0.16 uJ
2628 -18	< 0.15 uJ**

COMMENTS:

2/5/92 mab

** Extra lab blank is calculated from:

$$\frac{\text{Method detection limit (mg/L) X 0.05 L (Leaching Volume)}}{\text{0.01 kg (Sample Weight)}}$$

ALKALINITY ANALYSIS

LAB:	S-CUBED	DATA REVIEWER:	CW 11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2628	DATE RECIEVED:	10/07/91
FILE #:	ALK1007	DATE PREP:	10-09/30-91
DISK #:	ALK1016	DATE ANALYZED:	10-10/30-91
METHOD NO.:	EPA 310.1	MATRIX:	SOIL

RESULTS: RESULTS AS DRY WEIGHT - MG/KG

LAB ID	CONCENTRATION
2628 - 1	282
2628 - 2	735
2628 - 3	536
2628 - 4	379
2628 - 5	13900
2628 - 6	280
2628 - 7	6710 J
2628 - 8	983
2628 - 9	1950
2628 - 10	3590
2628 - 11	37600
2628 - 12	28500
2628 - 13	2250
2628 - 14	2620
2628 - 15	5150
2628 - 16	1000
2628 - 17	288 J
2628 - 18	< 5 **

2/5/92
MGB

COMMENTS:

** Extra lab blank is calculated from:

$$\frac{\text{Method Detection Limit (mg/L) X 0.05L (Leaching Volume)}}{\text{0.01 kg (Sample Weight)}}$$

ANIONS ANALYSIS

LABORATORY:	S-CUBED	DATA REVIEWER:	aw 11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2628	DATE RECEIVED:	10/07/91
FILE#:	ANI1007	DATE PREP:	10/16-18/91
DISK:	ANI1017	DATE ANALYZED:	10/16-18/91
METHOD NO.	300.0	MATRIX:	SOIL

RESULTS: UNIT AS MG/KG DRY WEIGHT

LAB ID	F	CL	NO2	NO3	PO4	SO4
2628 -1	1.88	< 0.1	< 0.2 uJ	1.64 J	1.13 J	3.36
2628 -2	0.55	0.42	< 0.2 uJ	1.88	< 0.5 uJ	0.65
2628 -3	0.70	0.70	5.04 J	2.91	< 0.5 uJ	0.98
2628 -4	0.63	0.73	< 0.2 uJ	5.51	2.03 J	2.87
2628 -5	1.32	0.63	< 0.2	4.17	< 0.5 uJ	2.71
2628 -6	0.38	0.25	< 0.2	0.90	< 0.5 uJ	2.28
2628 -7	1.51 J	170 J	< 0.2 uJ	10.5 J	0.93 J	95.7 J
2628 -8	0.43	17.3	< 0.2 uJ	22.4	< 0.5 uJ	103
2628 -9	0.86	2.47	0.44 J	10.5	< 0.5	22.1
2628 -10	0.77	2.24	< 0.2 uJ	8.12	< 0.5	14.1
2628 -11	2.32	9.00	< 0.2	44.6	< 0.5	54.6
2628 -12	1.21	3.13	< 0.2	13.2	< 0.5	13.6
2628 -13	0.75	1.79	< 0.2	5.98	< 0.5	2.34
2628 -14	0.96	2.85	< 0.2	9.03	< 0.5	5.69
2628 -15	0.81	3.13	< 0.2	9.56	< 0.5	4.40
2628 -16	0.62	3.38	< 0.2	8.32	< 0.5	2.30
2628 -17	0.44 J	0.76 J	< 0.2 uJ	2.32 J	< 0.5 uJ	1.74 J
** 2628 -18	< 0.1	< 0.1	< 0.2	< 0.5	< 0.5	< 0.5

2/5/92
mah

COMMENTS:

** Extra lab blank is calculated from:

$$\frac{\text{Method Detection Limit (mg/L) X 0.02 L (Leaching Volume)}}{\text{0.004 kg (Sample Weight)}}$$

OSM INORGANIC DATA ASSESSMENT

DATE 2/5/92 mdk

REVIEWED BY Mark A. Beck

LABORATORY S-Cubed

CASE # Site Wide Soil

SDG # 2628

SAMPLES/MATRIX all soil

B01429 B01430 B01431
B01433 B01435 B01436
B014K0 B014K1 B014K2
mdk ~~B014K3~~ B014K3 B014K5
B014K6 B014K7 B014K8
B014K9 B014L0 B014H2

DATA ASSESSMENT SUMMARY

	ICP	AA	Hg	CN
1. Calibrations (Form II)	O	O	O	
2. Blanks (III)	O	O	O	
3. ICS (IV)	O			
4. Matrix Spike (V)	~~M~~ X	X	M	
5. Duplicate Analysis (VI)	X	O	X	
6. LCS (VII)	O	O		
7. Serial Dilution (IX)	O			
8. GFAA		~~X~~ M		
9. Holding Times (XIV)	X	X	X	
10. Other QC	O	O	O	

O = data had no problems
X = data qualified due to minor problems
M = data qualified due to major problems/some data may be unusable

OVERALL ASSESSSMENT: The data are acceptable with the attached qualifiers.

NOTES: The WHC HEIS sample number can be found in the lower left-hand corner of the Form I's.

o Refer to the corresponding attachments for explanation of any problems.

INORGANIC QC - Calibrations

Name Mark A. Beck Date 2/5/92 mdb

COMMENTS: The appropriate number of blanks and standards were run for initial calibration for all analytes. The mercury correlation coefficent was acceptable. All initial and continuing calibrations were within ~~for~~ acceptance criteria for all analyte except lithium. Bias for lithium ~~5~~ high

ACTION: Lithium not qualified, all lithium results are <IDL, ~~on~~ high biased results on ICV, CCV recovery do not require qualification. All other analytes acceptable.

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - Blanks

Name Mark A. Beck Date 2/5/92 MAB

COMMENTS: Antimony, cadmium, and mercury were detected in the blanks (all continuing calibration blanks). Antimony and mercury blanks had negative values. Cadmium was detected at the IDL (value was positive.

ACTION: No qualification. All blank values less than the IDL listed for soil for all analytes.

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - ICS

Name Mark A. Beck Date 2/5/92 MAB

COMMENTS: Appropriate ICS samples were run at the beginning and end of each ICP analysis run. All analytes had acceptable % recoveries.

ACTION: none, none required.

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - Matrix Spike

Name Mark A. Beck Date 2/5/92 MAB

COMMENTS: antimony, arsenic, mercury, selenium, silver, and thallium and manganese all had recoveries out of control limits. The selenium spike added had a true value less than the IDL, so no control limit applies. The manganese spike was less than 1/4 the sample concentration, so no control limits apply.

ACTION: ~~at~~ qualify all antimony arsenic, mercury, silver and thallium as estimated (UJ or J), except mercury for sample B014H2 is rejected.

sample #	constituent	value/qual
all	antimony Sb	UJ
all	arsenic As	J
all	mercury	J
except B014H2		R ~~UJ~~
all	selenium	no qualifier
B01429	silver	J ~~UJ~~

sample #	constituent	value/qual
B01430	silver	UJ
B01431		
B01433	B014K6	
B01435	B014K7	
B01436	B014K8	
B014K0	B014K9	
B014K1	B014L0	
B014K2	B014H2	
B014K3		
B014K4		
B014K5		
all	thallium	UJ

INORGANIC QC - Duplicate Analysis

Name Mark A. Beck **Date** 2/5/92 MAB

COMMENTS: Chromium, mercury, and nickel had sample values >5xCRDL and failed to meet the corresponding (±20%RPD) criterion. Silver and zirconium had high %RPD but had sample values <5xCRDL and ~~so~~ they did meet the ±CRDL criterion.

ACTION: Qualify ~~the~~ chromium, mercury, and nickel as estimated (UJ or J)

sample #	constituent	value/qual
all	Chromium (Cr)	~~UJ~~ J
	mercury (Hg)	UJ or J
	~~nickel~~ nickel (Ni)	

sample #	constituent	value/qual
Form X		

CRDL (ug/L) $\times \frac{.10\ L\ \text{soln}}{0.001\ kg} \times \frac{100\ kg}{95\ kg} \times \frac{1\ mg}{1000\ ug}$

= CRDL (mg/kg)

= Cr = 1.05 mg/kg
Hg = 0.02 mg/kg
Ni = 4.2 mg/kg
Ag = 1.05 mg/kg
Zr = 10.5 mg/kg

INORGANIC QC - LCS

Name Mark A. Beck Date 2/5/92 MAB

COMMENTS: All LCS results were within ± 20% recovery, except for lithium (Li). All lithium results are < IDL, all ~~non~~ lithium results are acceptable, since the LCS bias was high.

ACTION: None - none required.

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - Serial Dilution

Name Mark A. Beck Date 2/5/92 MAB.

COMMENTS: Nickel, Silver and Zirconium all had % differences >10%. However, ~~all~~ these analytes had original sample concentrations <10xIDL so no control limits apply.

ACTION: None, none required.

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - Holding Times

Name Mark A. Beck Date 2/5/92 MAB

COMMENTS: The samples from site #2 (WPPSS pit) met water holding time requirements for all analytes. Whether or not the archived samples (B014K0-B014L0) met water holding times (from sampling date) can't be determined. The holding time requirements for this matrix (soil) haven't yet been determined.

ACTION: None, except above note.

sample #	constituent	value/qual	sample #	constituent	value/qual

INORGANIC QC - GFAA

Name Mark A. Beck Date 2/5/92 m. AB.

COMMENTS: All GFAA analytes had replicate injections within the ±20% RSD for at least one run, or the concentration was less than CRDL, and no control limits apply. Lead, selenium and thallium had analytical spikes with low recoveries for some samples

ACTION: ~~Qualf~~ Qualify all lead analyses as estimated (J). Qualify B014K9 as estimated for selenium, with all others qualified UJ for selenium. All thallium ~~samples~~ samples that had low analytical spike recoveries were qualified UJ.

sample #	constituent	value/qual
all in SDG	PB lead	J
B014K9	Se selenium	J
all in SDG except B014K9	Se	UJ
B01436, B014K0, B014K1, B014K2, B014K3, B014K4, B014K5, B014K6, B014K7, B014K8, B014K9, B014L0, B014H2	Tl Thallium	UJ

sample #	constituent	value/qual

comments: all arsenic samples had acceptable analytical spike.
No MSA work was performed.

INORGANIC QC - other

Name Mark A. Beck Date 2/5/92 mAB

COMMENTS: none.

ACTION: none.

sample #	constituent	value/qual	sample #	constituent	value/qual

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFFICE
3398 Carmel Mountain Road., San Diego, CA 92121-1095
P.O. Box 1620, La Jolla, CA 92038-1620

NARRATIVE

DATE: November 7, 1991
REFERENCE NO.: 32359-04, SDG 2628

CLP METALS + LI, TI, ZR

The samples were analyzed according to the 2/88 CLP Inorganics Statement of Work. GFAA dilutions were required for samples 2628-1 through 2628-17 at a dilution factor of 6 for Pb and at a dilution factor of 11 for As, Se, and Tl. The Li IDL for the analytical run used for this SDG is 300 ug/L. The Li IDL is subject to fluctuations due to the wavelength required for analysis. There were significant levels of several analytes detected in the samples.

The quality control results were generally acceptable. A wider window of 80-120% is accepted for Li CCV percent recoveries due to the characteristics of the wavelength required for Li analysis on the ICP. The Se was diluted out of the matrix spike sample during analysis, thus no recovery. Ti, Sb, Mn, and Ag show low recoveries for the matrix spike but are within windows for the post-digestion spike analysis. Li recovery is high for the matrix spike but within windows for the post-digestion spike. These matrix spike anomolies are matrix-associated. As and Tl recoveries are low for the matrix spike due to dilutions. Duplicate results for several analytes are out of criteria due to soil matrix. SOF

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

SOW No.: 7/88

EPA Sample No.	Lab Sample ID
2628-1	2628-1
2628-1D	2628-1R
2628-1L	2628-1L
2628-1S	2628-1S
2628-10	2628-10
2628-11	2628-11
2628-12	2628-12
2628-13	2628-13
2628-14	2628-14
2628-15	2628-15
2628-16	2628-16
2628-17	2628-17
2628-18	2628-18
2628-2	2628-2
2628-3	2628-3
2628-4	2628-4
2628-5	2628-5
2628-6	2628-6
2628-7	2628-7
2628-8	2628-8

Were ICP interelement corrections applied ? Yes/No NO

Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No YES

Comments:
WHC SITE WIDE SOIL
SDG 2628
CLP METALS + LI, TI, ZR

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Stacie O'Flaherty Name: STACIE O'FLAHERTY

Date: 11/6/91 Title: Data Reporting Supervisor

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.:2628

SOW No.: 7/88

EPA Sample No.	Lab Sample ID
2628-9	2628-9

Were ICP interelement corrections applied ? Yes/No NO

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No YES

Comments:

WHC SITE WIDE SOIL

SDG 2628

CLP METALS + LI, TI, ZR

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Stacie O'Flaherty Name: STACIE O'FLAHERTY

Date: 11/6/91 Title: Data Reporting Supervisor

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-1

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-1

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5900			P
7440-36-0	Antimony	5.7	U	~~N~~ UJ	P
7440-38-2	Arsenic	4.0		~~N~~ J	F
7440-39-3	Barium	75.3			P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	7710			P
7440-47-3	Chromium	7.9		~~*~~ J	P
7440-48-4	Cobalt	16.0			P
7440-50-8	Copper	13.8			P
7439-89-6	Iron	32500			P
7439-92-1	Lead	4.1		J	F
7439-95-4	Magnesium	5150			P
7439-96-5	Manganese	391			P
7439-97-6	Mercury	1.0		~~N*~~ J	CV
7440-02-0	Nickel	13.5		~~*~~ J	P
7440-09-7	Potassium	938			P
7782-49-2	Selenium	4.5	U	~~N~~ UJ	F
7440-22-4	Silver	1.4		~~N~~ J	P
7440-23-5	Sodium	514			P
7440-28-0	Thallium	3.4	U	~~N~~ UJ	F
7440-62-2	Vanadium	93.1			P
7440-66-6	Zinc	70.6			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 1429

2/5/95

FORM I - IN

7/88

MGB

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-1

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-1

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.5	U	N	P
7440-32-6	Titanium	2890			P
7440-67-7	Zirconium	27.6		*	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO_1429

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-2

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-2

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5480			P
7440-36-0	Antimony	5.7	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	3.6		~~N~~ J	F
7440-39-3	Barium	80.3			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	8360			P
7440-47-3	Chromium	6.1		* J	P
7440-48-4	Cobalt	13.6			P
7440-50-8	Copper	15.0			P
7439-89-6	Iron	27200			P
7439-92-1	Lead	3.6		J	F
7439-95-4	Magnesium	4630			P
7439-96-5	Manganese	358			P
7439-97-6	Mercury	0.43		~~N~~* J	CV
7440-02-0	Nickel	10		* J	P
7440-09-7	Potassium	819			P
7782-49-2	Selenium	4.5	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	328	B		P
7440-28-0	Thallium	3.4	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	73.7			P
7440-66-6	Zinc	70.5			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_1430

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-2

Lab Name: S. CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-2

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.5	U	N	P
7440-32-6	Titanium	2650			P
7440-67-7	Zirconium	27.8		*	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1430

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-3

Lab Name: S.CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-3

Level (low/med): LOW Date Received: 10/07/91

% Solids: 97.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4940			P
7440-36-0	Antimony	5.7	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	2.2		~~N~~ J	F
7440-39-3	Barium	70.4			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	7510			P
7440-47-3	Chromium	4.2		* J	P
7440-48-4	Cobalt	14.3			P
7440-50-8	Copper	15.1			P
7439-89-6	Iron	29000			P
7439-92-1	Lead	3.3		J	F
7439-95-4	Magnesium	4670			P
7439-96-5	Manganese	350			P
7439-97-6	Mercury	0.10		~~N~~ * J	CV
7440-02-0	Nickel	9.7		* J	P
7440-09-7	Potassium	669			P
7782-49-2	Selenium	4.5	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	344	B		P
7440-28-0	Thallium	3.4	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	77.7			P
7440-66-6	Zinc	99.8			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 1431

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-3

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-3

Level (low/med): LOW Date Received: 10/07/91

% Solids: 97.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.6	U	N	P
7440-32-6	Titanium	2760			P
7440-67-7	Zirconium	27.5		*	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1431

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-4

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-4

Level (low/med): LOW Date Received: 10/07/91

% Solids: 99.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8360			P
7440-36-0	Antimony	5.6	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	3.6		~~N~~ J	F
7440-39-3	Barium	97.0			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	3980			P
7440-47-3	Chromium	10.4		* J	P
7440-48-4	Cobalt	11.6			P
7440-50-8	Copper	12.1			P
7439-89-6	Iron	24800			P
7439-92-1	Lead	4.7		J	F
7439-95-4	Magnesium	4570			P
7439-96-5	Manganese	380			P
7439-97-6	Mercury	0.10		~~N~~* J	CV
7440-02-0	Nickel	11.8		* J	P
7440-09-7	Potassium	2190			P
7782-49-2	Selenium	4.4	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	190	B		P
7440-28-0	Thallium	3.3	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	59.7			P
7440-66-6	Zinc	62.3			P

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1433

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-4

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-4

Level (low/med): LOW Date Received: 10/07/91

% Solids: 99.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.2	U	N	P
7440-32-6	Titanium	1930			P
7440-67-7	Zirconium	22.4		*	P

Color Before: BLACK Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_1433

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-5

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-5

Level (low/med): LOW Date Received: 10/07/91

% Solids: 99.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4190			P
7440-36-0	Antimony	5.6		~~N~~ UJ	P
7440-38-2	Arsenic	4.0		~~N~~ J	F
7440-39-3	Barium	84.6			P
7440-41-7	Beryllium	1.0			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	39300			P
7440-47-3	Chromium	3.4		* J	P
7440-48-4	Cobalt	11.6			P
7440-50-8	Copper	13.6			P
7439-89-6	Iron	23500			P
7439-92-1	Lead	3.2		J	F
7439-95-4	Magnesium	4080			P
7439-96-5	Manganese	299			P
7439-97-6	Mercury	0.27		~~N~~* J	CV
7440-02-0	Nickel	7.7		* J	P
7440-09-7	Potassium	640			P
7782-49-2	Selenium	4.4		~~N~~ UJ	F
7440-22-4	Silver	1.0		~~N~~ UJ	P
7440-23-5	Sodium	287	B		P
7440-28-0	Thallium	3.3		~~N~~ UJ	F
7440-62-2	Vanadium	63.0			P
7440-66-6	Zinc	52.5			P

Color Before: WHITE Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 1435

FORM I - IN

7/88

2/5/92

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-5

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-5

Level (low/med): LOW Date Received: 10/07/91

% Solids: 99.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.2	U	N	P
7440-32-6	Titanium	2190			P
7440-67-7	Zirconium	20.0		*	P

Color Before: WHITE Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO 1435

FORM I - IN

7/88

2/5/92

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-6

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-6

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5680			P
7440-36-0	Antimony	5.7	U	~~N~~ UJ	P
7440-38-2	Arsenic	4.9		~~N~~ J	F
7440-39-3	Barium	70.6			P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	9840			P
7440-47-3	Chromium	5.1		* J	P
7440-48-4	Cobalt	14.3			P
7440-50-8	Copper	18.1			P
7439-89-6	Iron	29000			P
7439-92-1	Lead	4.0		J	F
7439-95-4	Magnesium	5240			P
7439-96-5	Manganese	400			P
7439-97-6	Mercury	0.71		~~N~~* J	CV
7440-02-0	Nickel	9.4		* J	P
7440-09-7	Potassium	950			P
7782-49-2	Selenium	4.4	U	~~N~~ UJ	F
7440-22-4	Silver	1.0	U	~~N~~ UJ	P
7440-23-5	Sodium	305	B		P
7440-28-0	Thallium	3.3	U	~~N~~ UJ	F
7440-62-2	Vanadium	79.6			P
7440-66-6	Zinc	60.9			P

Color Before: BLACK Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO_1436

FORM I - IN

7/88

2/5/92

JM 013

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-6

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-6

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.3	U	N	P
7440-32-6	Titanium	2700			P
7440-67-7	Zirconium	25.2		*	P

Color Before: BLACK Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_1436

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-7

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-7

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9810			P
7440-36-0	Antimony	5.9	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	5.1		~~N~~ J	F
7440-39-3	Barium	112			P
7440-41-7	Beryllium	1.5			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	10900			P
7440-47-3	Chromium	10.8		~~*~~ J	P
7440-48-4	Cobalt	14.2			P
7440-50-8	Copper	20.1			P
7439-89-6	Iron	29000			P
7439-92-1	Lead	5.5		J	F
7439-95-4	Magnesium	5450			P
7439-96-5	Manganese	460			P
7439-97-6	Mercury	0.53		~~N*~~ J	CV
7440-02-0	Nickel	13.1		~~*~~ J	P
7440-09-7	Potassium	1580			P
7782-49-2	Selenium	4.6	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	798			P
7440-28-0	Thallium	3.4	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	74.7			P
7440-66-6	Zinc	56.7			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 14KO

FORM I - IN

7/88

2/9/93

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C15

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-7

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-7

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.3	U	N	P
7440-32-6	Titanium	2160			P
7440-67-7	Zirconium	26.9		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14KO

FORM I - IN

2/5/92
7/88 mat

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-8

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-8

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6300			P
7440-36-0	Antimony	5.7		~~U~~ ~~N~~ UJ	P
7440-38-2	Arsenic	5.4		~~N~~ J	F
7440-39-3	Barium	73.5			P
7440-41-7	Beryllium	0.71			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	8140			P
7440-47-3	Chromium	10.6		~~*~~ J	P
7440-48-4	Cobalt	5.7			P
7440-50-8	Copper	8.5			P
7439-89-6	Iron	14000			P
7439-92-1	Lead	4.9		J	F
7439-95-4	Magnesium	4640			P
7439-96-5	Manganese	268			P
7439-97-6	Mercury	0.16		~~N*~~ J	CV
7440-02-0	Nickel	10.7		~~*~~ J	P
7440-09-7	Potassium	1380			P
7782-49-2	Selenium	4.5		~~U~~ ~~N~~ UJ	F
7440-22-4	Silver	1.0		~~U~~ ~~N~~ UJ	P
7440-23-5	Sodium	208	B		P
7440-28-0	Thallium	3.3		~~U~~ ~~N~~ UJ	F
7440-62-2	Vanadium	24.3			P
7440-66-6	Zinc	40.6			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 14K1

2/5/92

FORM I - IN

7/88

MCB 017

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-8

Lab Name: S. CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-8

Level (low/med): LOW Date Received: 10/07/91

% Solids: 98.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.4	U	N	P
7440-32-6	Titanium	613			P
7440-67-7	Zirconium	10.1	U	*	P

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-9

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-9

Level (low/med): LOW Date Received: 10/07/91

% Solids: 90.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7800			P
7440-36-0	Antimony	6.2	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	4.9		~~N~~ J	F
7440-39-3	Barium	97.0			P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.33	U		P
7440-70-2	Calcium	10700			P
7440-47-3	Chromium	9.7		~~*~~ J	P
7440-48-4	Cobalt	12.6			P
7440-50-8	Copper	16.2			P
7439-89-6	Iron	27500			P
7439-92-1	Lead	4.9		J	F
7439-95-4	Magnesium	4690			P
7439-96-5	Manganese	357			P
7439-97-6	Mercury	0.44		~~N*~~ J	CV
7440-02-0	Nickel	12.7		~~*~~ J	P
7440-09-7	Potassium	1130			P
7782-49-2	Selenium	4.9	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.1	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	481	B		P
7440-28-0	Thallium	3.7	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	67.4			P
7440-66-6	Zinc	54.4			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 14K2

2/5/92

FORM I - IN

7/88

019

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-9

Lab Name: S.CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-9

Level (low/med): LOW Date Received: 10/07/91

% Solids: 90.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	33.2	U	N	P
7440-32-6	Titanium	2090			P
7440-67-7	Zirconium	22.0		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO_14K2

2/9/92

FORM I - IN

7/88

020

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-10

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-10

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6200			P
7440-36-0	Antimony	5.8	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	3.9		~~N~~ J	F
7440-39-3	Barium	76.3			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	12700			P
7440-47-3	Chromium	7.3		* J	P
7440-48-4	Cobalt	12.2			P
7440-50-8	Copper	18.9			P
7439-89-6	Iron	26100			P
7439-92-1	Lead	4.3		J	F
7439-95-4	Magnesium	4990			P
7439-96-5	Manganese	311			P
7439-97-6	Mercury	0.14		~~N*~~ J	CV
7440-02-0	Nickel	11.7		* J	P
7440-09-7	Potassium	897			P
7782-49-2	Selenium	4.6	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	351	B		P
7440-28-0	Thallium	3.4	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	57.3			P
7440-66-6	Zinc	52.3			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO_14K3

FORM I - IN

7/88

2/5/92 mah

WP 021

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-10

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-10

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.2	U	N	P
7440-32-6	Titanium	1630			P
7440-67-7	Zirconium	25.8		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K3

FORM I - IN

2/5/92 mah

7/88

022

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-11

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-11

Level (low/med): LOW Date Received: 10/07/91

% Solids: 93.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7210			P
7440-36-0	Antimony	6.0	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	0.33		~~N~~ J	F
7440-39-3	Barium	80.7			P
7440-41-7	Beryllium	0.96			P
7440-43-9	Cadmium	0.32	U		P
7440-70-2	Calcium	86600			P
7440-47-3	Chromium	8.0		~~*~~ J	P
7440-48-4	Cobalt	8.4			P
7440-50-8	Copper	14.6			P
7439-89-6	Iron	16200			P
7439-92-1	Lead	0.40		J	F
7439-95-4	Magnesium	3830			P
7439-96-5	Manganese	219			P
7439-97-6	Mercury	0.41		~~N*~~ J	CV
7440-02-0	Nickel	10.7		~~*~~ J	P
7440-09-7	Potassium	601			P
7782-49-2	Selenium	0.47	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.1	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	314	B		P
7440-28-0	Thallium	0.35	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	44.1			P
7440-66-6	Zinc	37.7			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO_14K4

FORM I - IN

7/88

2/5/92 mab.

023

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-11

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-11

Level (low/med): LOW Date Received: 10/07/91

% Solids: 93.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	32.1	U	N	P
7440-32-6	Titanium	1190			P
7440-67-7	Zirconium	15.6		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K4

FORM I - IN

7/88

2/5/92

029

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-12

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-12

Level (low/med): LOW Date Received: 10/07/91

% Solids: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6430			P
7440-36-0	Antimony	6.3	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	4.2		~~N~~ J	F
7440-39-3	Barium	52.7			P
7440-41-7	Beryllium	0.79			P
7440-43-9	Cadmium	0.34	U		P
7440-70-2	Calcium	52900			P
7440-47-3	Chromium	12.6		~~*~~ J	P
7440-48-4	Cobalt	7.7			P
7440-50-8	Copper	13.9			P
7439-89-6	Iron	15600			P
7439-92-1	Lead	4.8		J	F
7439-95-4	Magnesium	5600			P
7439-96-5	Manganese	244			P
7439-97-6	Mercury	0.22		~~N*~~ J	CV
7440-02-0	Nickel	13.3		~~*~~ J	P
7440-09-7	Potassium	735			P
7782-49-2	Selenium	5.0	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.1	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	320	B		P
7440-28-0	Thallium	3.7	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	34.5			P
7440-66-6	Zinc	39.5			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

80_14K5

2/4/92

FORM I - IN

7/88

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-12

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL_ Lab Sample ID: 2628-12

Level (low/med): LOW Date Received: 10/07/91

% Solids: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	34.0	U	N	P
7440-32-6	Titanium	1010			P
7440-67-7	Zirconium	13.8		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K5

FORM I - IN

7/88

2/5/92

026

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-13

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-13

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7520			P
7440-36-0	Antimony	5.8	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	3.3		~~N~~ J	F
7440-39-3	Barium	102			P
7440-41-7	Beryllium	0.94			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	14500			P
7440-47-3	Chromium	15.0		~~*~~ J	P
7440-48-4	Cobalt	8.2			P
7440-50-8	Copper	13.8			P
7439-89-6	Iron	16400			P
7439-92-1	Lead	4.6		J	F
7439-95-4	Magnesium	4780			P
7439-96-5	Manganese	332			P
7439-97-6	Mercury	0.24		~~N*~~ J	CV
7440-02-0	Nickel	14.6		~~*~~ J	P
7440-09-7	Potassium	1690			P
7782-49-2	Selenium	4.6	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	190	B		P
7440-28-0	Thallium	3.4	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	33.1			P
7440-66-6	Zinc	45.0			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 14K6

FORM I - IN

7/88

2/5/92 mab

027

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-13

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL_ Lab Sample ID: 2628-13

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.2	U	N	P
7440-32-6	Titanium	828			P
7440-67-7	Zirconium	10.4	U	*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO_14K6

2/5/92

FORM I - IN

7/88 mak

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-14

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-14

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7170			P
7440-36-0	Antimony	5.8	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	3.6		~~N~~ J	F
7440-39-3	Barium	90.6			P
7440-41-7	Beryllium	0.94			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	21600			P
7440-47-3	Chromium	8.9		* J	P
7440-48-4	Cobalt	9.0			P
7440-50-8	Copper	11.9			P
7439-89-6	Iron	17600			P
7439-92-1	Lead	3.8		J	F
7439-95-4	Magnesium	4150			P
7439-96-5	Manganese	297			P
7439-97-6	Mercury	0.82		~~N~~* J	CV
7440-02-0	Nickel	11.7		* J	P
7440-09-7	Potassium	1090			P
7782-49-2	Selenium	4.6	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	260	B		P
7440-28-0	Thallium	3.4	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	45.4			P
7440-66-6	Zinc	46.2			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO 14K7

2/5/92

FORM I - IN

7/88

mab

029

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-14

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-14

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.3	U	N	P
7440-32-6	Titanium	1320			P
7440-67-7	Zirconium	18.3		*J	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

80_14K7

2/5/92

FORM I - IN

7/88 mat

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-15

Lab Name: S.CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-15

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7160			P
7440-36-0	Antimony	5.9		~~U~~ ~~N~~ UJ	P
7440-38-2	Arsenic	3.3		~~N~~ J	F
7440-39-3	Barium	84.1			P
7440-41-7	Beryllium	0.94			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	25500			P
7440-47-3	Chromium	10.7		* J	P
7440-48-4	Cobalt	8.7			P
7440-50-8	Copper	13.0			P
7439-89-6	Iron	17600			P
7439-92-1	Lead	4.3		J	F
7439-95-4	Magnesium	4880			P
7439-96-5	Manganese	317			P
7439-97-6	Mercury	3.0		~~N~~ * J	CV
7440-02-0	Nickel	12.3		* J	P
7440-09-7	Potassium	1190			P
7782-49-2	Selenium	4.6		~~U~~ ~~N~~ UJ	F
7440-22-4	Silver	1.0		~~U~~ ~~N~~ UJ	P
7440-23-5	Sodium	216	B		P
7440-28-0	Thallium	3.4		~~U~~ ~~N~~ UJ	F
7440-62-2	Vanadium	46.4			P
7440-66-6	Zinc	44.4			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO_14K8

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FORM I - IN

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031

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-15

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-15

Level (low/med): LOW Date Received: 10/07/91

% Solids: 95.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.3	U	N	P
7440-32-6	Titanium	1250			P
7440-67-7	Zirconium	16.7		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO_14K8

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-16

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-16

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6260			P
7440-36-0	Antimony	5.8	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	2.6		~~N~~ J	F
7440-39-3	Barium	62.2			P
7440-41-7	Beryllium	0.72			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	10700			P
7440-47-3	Chromium	10.6		* J	P
7440-48-4	Cobalt	7.0			P
7440-50-8	Copper	11.5			P
7439-89-6	Iron	14200			P
7439-92-1	Lead	4.0		J	F
7439-95-4	Magnesium	3850			P
7439-96-5	Manganese	262			P
7439-97-6	Mercury	0.22		~~N~~* J	CV
7440-02-0	Nickel	12.4		* J	P
7440-09-7	Potassium	1180			P
7782-49-2	Selenium	6.0		~~N~~ J	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	173	B		P
7440-28-0	Thallium	3.4	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	33.5			P
7440-66-6	Zinc	40.7			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

BO_14K9

2/5/92

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-16

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL_ Lab Sample ID: 2628-16

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.0	U	N	P
7440-32-6	Titanium	843			P
7440-67-7	Zirconium	10.3	U	*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14K9

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034

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-17

Lab Name: S CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-17

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5550			P
7440-36-0	Antimony	5.8	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	2.7		~~N~~ J	F
7440-39-3	Barium	66.4			P
7440-41-7	Beryllium	0.94			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	3900			P
7440-47-3	Chromium	5.9		~~*~~ J	P
7440-48-4	Cobalt	7.6			P
7440-50-8	Copper	12.9			P
7439-89-6	Iron	17900			P
7439-92-1	Lead	3.9		J	F
7439-95-4	Magnesium	3890			P
7439-96-5	Manganese	247			P
7439-97-6	Mercury	3.8		~~N*~~ J	CV
7440-02-0	Nickel	9.2		~~*~~ J	P
7440-09-7	Potassium	725			P
7782-49-2	Selenium	4.6	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	175	B		P
7440-28-0	Thallium	3.4	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	36.0			P
7440-66-6	Zinc	43.8			P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-17

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-17

Level (low/med): LOW Date Received: 10/07/91

% Solids: 96.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	31.2	U	N	P
7440-32-6	Titanium	1170			P
7440-67-7	Zirconium	17.6		*	P

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: Artifacts:

Comments:
BO_14LO

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-18

Lab Name: S. CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-18

Level (low/med): LOW Date Received: 10/07/91

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7.2	U		P
7440-36-0	Antimony	5.6	~~U~~	~~N~~ UJ	P
7440-38-2	Arsenic	0.69	B	~~N~~ J	F
7440-39-3	Barium	4.1	U		P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	107	U		P
7440-47-3	Chromium	0.70	U	~~*~~ J	P
7440-48-4	Cobalt	1.6	U		P
7440-50-8	Copper	1.8	U		P
7439-89-6	Iron	10.2			P
7439-92-1	Lead	0.90		J	F
7439-95-4	Magnesium	249	U		P
7439-96-5	Manganese	0.60	U		P
7439-97-6	Mercury	0.10	~~U~~	~~N*~~ UJ	CV
7440-02-0	Nickel	3.2	U	~~*~~ J	P
7440-09-7	Potassium	130	U		P
7782-49-2	Selenium	0.40	~~U~~	~~N~~ UJ	F
7440-22-4	Silver	1.0	~~U~~	~~N~~ UJ	P
7440-23-5	Sodium	98.7	U		P
7440-28-0	Thallium	0.30	~~U~~	~~N~~ UJ	F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	5.1			P

R-mercury

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2628-18

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2628

Matrix (soil/water): SOIL Lab Sample ID: 2628-18

Level (low/med): LOW Date Received: 10/07/91

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-93-2	Lithium	30.0	U	N	P
7440-32-6	Titanium	1.0	U		P
7440-67-7	Zirconium	10.0	U	*	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:
BO_14H2

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038