2633-SCU-195

0045516

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

November 26, 1991

JAN 1992
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 several pages that we found to be missing from the original submission for SDG 2633 sent November 20, 1991. The missing pages consist of GFAA raw data pages 283 through 340. These pages are in "VOL 1 OF 2 p.283-340" sent as an addendum to the original "VOL 1 OF 2".

We regret any inconvenience this has caused. Please feel free to call me if you have any questions.

Sincerely,

Marie O'Flaherty for

John DeWald
Manager, Commercial Analysis Section

/alb

encl: a/s

OCT 1996
RECEIVED
EDMC

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFFI
3398 Carmel Mountain Road., San Diego, CA 92121-1
P.O. Box 1620, La Jolla, CA 92038-1

JAN 1992
RECEIVED
OSM DMO

January 27, 1992

Mr. Ted Washington
OSM T6-08
PO BOX 1970
Richland, WA 99352

Dear Mr. Washington:

Per our telephone discussion today, I am sending you a copy of the "missing pages volume" that was sent to Westinghouse Hanford on November 26, 1991. As you can see from the cover letter which accompanied that submittal, pp.283-340 had been inadvertently left out of the original package. The missing raw data consists of the Zr, Ti, and Li analytical run and the first part of the GFAA 11/01/91 analytical run.

Please call me if you have any additional problems or questions at (619)549-2169.

Sincerely,

Stacie O'Flaherty

Stacie O'Flaherty
Data Reporting Supervisor

enclosures

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 20, 1991
REFERENCE NO.: 32359-04, SDG 2633.

CLP METALS + LI, TI, ZR

The samples were analyzed according to the 2/88 CLP Inorganics Statement of Work and method 6010. GFAA dilutions were required for all samples at a dilution factor of 11 for As, Se, Pb, and Tl. The IDL for Ti was elevated to 100 ug/L for the analytical run used due to a slight carryover problem. The Ti levels in the samples were significant and were not affected by this problem. There were significant levels of several analytes detected in the samples.

The quality control results were generally acceptable. QC samples were run on samples 2633-4 and 2633-15. Matrix recovery for several analytes were outside criteria due to matrix problems. The Se was diluted out of the matrix spike samples during analysis, thus there was no recovery. Duplicate values for several metals are out of criteria due to the soil matrix.

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

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-CURED 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	REV	ZONE/PARA
CLP. SOW INORGANICS	2/88	PART E, SECTION V, ITEM #B

M.A. Beck — ORIGINATOR; 12500/OSM — 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. 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; 5/21/92 — DATE

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 ☐

2310-104 (6-87)

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFFICE
9398 Carmel Mountain Road., San Diego, CA 92121-10
P.O. Box 1620, La Jolla, CA 92038-16

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

Telephone (619) 452-0060 • FAX (619) 755-0474 • Division Office

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.

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.

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

SAMPLE SUMMARY

S-Cubed Reference No. 32359-04, SDG No. 2633, 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	K
BO 1457	2633-1	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1458	2633-2	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1459	2633-3	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1462	2633-4	10/12/91	SOIL	3	3			3	3	3	3	3	3	3
BO 1463	2633-5	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1464	2633-6	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1467	2633-7	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1468	2633-8	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1469	2633-9	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1470	2633-10	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1471	2633-11	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1472	2633-12	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1473	2633-13	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1482	2633-14	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1483	2633-15	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1484	2633-16	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1485	2633-17	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1486	2633-18	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1487	2633-19	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1488	2633-20	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1489	2633-21	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1490	2633-22	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1491	2633-23	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1492	2633-24	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1493	2633-25	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 14H5	2633-26	10/12/91	SOIL	1	1			1	1	1	1	1	1	1

Analysis Key:

A=Ti
B=Zr
C=OCPCLP
D=TOC
E=ICPCLP-M

F=FURNCLP
G=HGCLP
H=ANIONS
I=N-NH3
J=ALK

K=Si

Westinghouse Hanford Company	CHAIN OF CUSTODY Priority Samples Project No. 91-075

Custody Form Initiator C. D. Kramer

Company Contact Chris Kramer Telephone (509) 376-4186

Project Designation/Sampling Locations Site-wide Background - Sites 4, 6, 10 Collection Date 10/3, 8/91

Ice Chest No. RM 40 Field Logbook No. WHC-N-438

Bill of Lading/Airbill No. 2474253441 Offsite Property No. W92-0-0014 #3

Method of Shipment Emery

Shipped to S-Cubed, San Diego, CA

Possible Sample Hazards/Remarks None

Sample Identification

B01457	3(120-ml) jars	B01472	3(120ml) jars
B01458	↓		
B01459	↓		
B01462	4(120-ml) jars		
B01463	↓		
B01464	↓		
B01467	↓		
B01468	3(120-ml) jars		
B01469	↓		
B01470	↓		
B01471	↓		

☐ Field Transfer of Custody

CHAIN OF POSSESSION		(Sign and Print Names)
Relinquished by: C. D. Kramer C. D. Kramer	Received by: [illegible] For Lab	Date/Time: 10/12/91 1pm
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)

Westinghouse Hanford Company	CHAIN OF CUSTODY Priority Samples	Project No. 91-075

Custody Form Initiator: C. D. Kramer

Company Contact: Chris Kramer — Telephone: (509) 376-4186

Project Designation/Sampling Locations: Site-wide Bkg. Site 6 (partial) — Collection Date: 10/8/91

Ice Chest No.: RM 37 — Field Logbook No.: WHC-N-438

Bill of Lading/Airbill No.: 2477425344 1 — Offsite Property No.: W92-0-0018 #2

Method of Shipment: Emery

Shipped to: S-Cubed San Diego, CA

Possible Sample Hazards/Remarks: None

Sample Identification

B01473 (3) 120ml jars
B01482
B01483
B01484
B01485
B01486
B01487
B01488
B01489
B01490
B01491

B01492 (3) 120-ml jars
B01493

B01485 (0) jars - Sample no. to be used for reporting additional prep blank. Blank generated at S-Cubed - not enclosed.

☐ Field Transfer of Custody

CHAIN OF POSSESSION (Sign and Print Names)		
Relinquished by: C. D. Kramer C. D. Kramer	Received by: John Dixon For Lab	Date/Time: 10/12/91 1 pm
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)

"Signature Security" "Next Day Delivery"

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
Westinghouse Hanford Co.		~~W91-0-0579~~ W92-0-0014 #3

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Engineering	Technical Baseline	

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Emery ☒ Contractor ☐ Vendor

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

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
2 Weight 52 lbs. 49 lbs.	Poly Ice Chest ~~(RM #A-1)~~ RM 40, RM 37 Glass jars of soil packed in vermiculite and blue ice. Sample No.s - B01457, B01458, B01459, B01462, B01463, B01464, B01467 thru B01472 (:RM 40), B01473, B01483 thru B01493 (:RM 37).	

☐ Classified ☒ 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 # 247425 344 1

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
TE Baldwin	910766	10/10/91

Location of Property (Area & Bldg.)	Contact	Phone
Background Site 4, 6, 10	C. D. Kramer	376-4186

Date Ready for Shipment	Cost Code to be Charged	Approximate Date This Property will be Returned
10-10-91	~~EK15A~~/81223 PKIRB	N/A

Originated By	Date	Authorized By	Date
C D Kramer 14:00 C.D. Kramer	10/10/91	~~PKIRB~~ [illegible]	10/10/91
Signature and Name of Property Control	**Custodian Date**	**Property Management Approval**	**Date**
		[illegible]	10/10/91

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
S Raymond				
Date 10-10-91				

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)

1

Signature Security "Next Day Delivery"

Contractor	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT)
Westinghouse Hanford Co.		~~[illegible]-0-0579~~ WT[illegible]014 [illegible]

PART I – TO BE COMPLETED BY ORIGINATOR

Department	Section	Unit
Env. Engineering	Technical Baseline	

The following items are to be shipped from ☒ Contractor ☐ Vendor

Routing Emery ☒ Contractor ☐ Vendor

Shipped to	Off-site Custodian
S-Cubed 3398 Carmel Mt.Rd. San Diego, CA 92121-0095	John Dewald
	Full Title Project Coordinator

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1	Polyice Chest ~~(RM 4A-1)~~ RM 4[illegible], RM37 Glass jars of soil packed in vermiculite and blue ice. Sample No.s - B01457, B01458, B01459, B01461, B01463, B01464, B01467, [illegible] B01472 ([illegible]), [illegible] [illegible] [illegible] B01[illegible] [illegible] RM37).	

☐ Classified ☒ 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 # 247425 3441

BEST AVAILABLE COPY

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
[illegible]	[illegible]	

Location of Property (Area & Bldg.)	Contact	Phone
Background Site 4[illegible]	C. D. Kramer	376-8186

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

Originated By	Date	Authorized By	Date
C. D. Kramer C. D. Kramer	10/10/91	FKIBE	10/10/91

Signature and Name of Property Control	Custodian Date	Property Management Approval	Date
		[signature]	10/10/91

PART II – TO BE COMPLETED BY SHIPPING

Signature of Recipient	Return Order No.	Date Issued	Purchase Order No.	Date Issued
[signature]				
Date 10-10-91				

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)

8

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

Priority Samples — Project 91-075

PART I: FIELD SECTION

Collector C. Kramer — Date Sampled 10/8/91 — Time ____ hours

Company Contact Chris Kramer — Telephone (509) 376-4186

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B01473	(3) 120-ml	Soil	See attached Tables A-1, A-2
B01482	↓	↓	Each sample is to be analyzed
B01483			for all analytes by the method
B01484			shown except for fluoride.
B01485			Fluoride may be done by
B01486			ion chromatography.
B01487			
B01488			
B01489			
B01490			
B01491			
B01492			
B01493	↓	↓	
B01445	0 jars	None	Additional prep blank for
			all analyses. This sample
			number is to be used for
			reporting this request.

Field Information** Site-wide Bkg - Site 6

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

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)

Westinghouse Hanford Company

SAMPLE ANALYSIS REQUEST

Priority Samples Project 91-075

PART I: FIELD SECTION

Collector C. Kramer Date Sampled 10/3-8/91 Time ____ hours

Company Contact Chris Kramer Telephone (509) 376-4186

Sample Number	Number and Type of Sample Containers	Type of Sample*	Analysis Requested
B01457	(3) 120-ml	Soil	See attached Tables A-1, A-2
B01458	↓		Each sample is to be analyzed
B01459	↓		for all analytes by the method
B01462	(4) 120-ml		shown except for fluoride.
B01463	↓		Fluoride may be done by
B01464	↓		ion chromatography.
B01467	↓		
B01468	(3) 120-ml		
B01469	↓		
B01470	↓		
B01471	↓		
B01472	↓		

Field Information** Samples from sites 4, 6 and 10 — Sitewide Background

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

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)

PRECISION PRINTING SYSTEMS • (503) 230-0018

EMERY WORLDWIDE

CF Company

22

SIGNATURE AND TALLY RECORD

00029-46 (5/89) Litho USA

DATE: 10-11-91 SHIPMENT NO.: 2474253441

SHIPPER: WESTINGHOUSE SHIPPING DEPT (509) 376-6665

REFERENCE NO.: W92-0-001443

SHIPPER NAME AND ADDRESS	CONSIGNEE NAME AND ADDRESS
WESTINGHOUSE SHIPPING DEPT (509) 376-6665 B2-06 US DEPARTMENT OF ENERGY C/O WESTINGHOUSE HANFORD COMPANY 2355 STEVENS DRIVE 1163 BUILDING PO BOX 1970 RICHLAND WA 99352	JOHN DEWALD S-CURED 3398 CARMEL MT RD. SAN DIEGO CA 92121-1095

Pieces	Weight	Description/Marks	Emery Authorization No.
2	101 LBS	W92-0-001443 SOIL SAMPLES ICE CHEST RM#40 52 #, RM37 49#	

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 Demment [illegible]	[illegible]	[illegible]	[illegible]
2.			
3. Ted Vance EWW	PSC	Ted Vance	1530 10/11/91
4. K Rowsden [illegible]	PASCO	K Rowsden	15:50 10/11/91
5. SWR	MDY	SWR	0403 10/12
6. S May	EWW SAN	S May	1100 10-12
7. J. T. HOPKINS	EWW SAN	[illegible]	1101 10-12-91
8. Tracy [illegible]	Compliance Rd. Sorrento Valley	Tracy [illegible]	1235 10-12-91
[illegible]	LAB	[illegible]	1 pm 10/12/91

SPECIAL HANDLING INSTRUCTIONS

DESTINATION TERMINAL COPY

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

FORM NO. 60001-46

FORM OF PAYMENT

CASH ☐ GBL CBL ☐ FCCOD ☐

PPD [X] COL ☐ OTH ☐ COMAT ☐

EMERY WORLDWIDE

Air CF Company

SERVICES

UNITED STATES / CANADA: Same Day ☐ Next AM ☐ PM ☐ Second Day ☐ Saturday Delivery [X]

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

PULL FOR SHPT. NO. TAB

E Shipper's Account Number: 850281585

Date: 10-11-91 Origin: PSC Shipment Number: 2474253441 1

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 CARMEL MT ROAD
SAN DIEGO CA Canada ☐
Hold for Pick Up ☐

Tariff Dest. Gateway

10/12/91 1pm

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: W81223 PK1BB W92-0-0014#3

Zip: 99352

E Consignee's Account Number

Zip: 92121-1095

Description	Pcs	L	W	H	Total Pieces	Total Weight (In Lbs)
2 ICE CHEST RM40 52 #; RM37 49# SOIL SAMPLES W92-0-0014#3	2				2	101

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

Declared Value $

2 4 7 4 2 5 3 4 4 1

Product Maz Met ☐ Edit ☐ 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

CONSIGNEE — PACKAGE COPY — 4

1 of 2

MAXWELL S-CUBED Division

Lot No. 2633

Sample Log-In Sheet

DC No. ____-____-____

Date Received 10/12/91 Date Sampled 10/3 & 10/8/91

Time Received 1pm

Received by (Sig.) [signature]

Airbill No. 247425 3441

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 30D

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

Case No./Proj. Code Site Wide Soil SDG No. 2633

	S-Cubed No.	Sample Identification	Samp. Type	No. Cont.	Samp. Cond.	Samp. Stor.	A	B	C	D	E	F	G			All Info Agree	Notes
	2633-1	B0 1457	S	0/3	OK	WA	X	X	X	X	X	X	X				
	2	1458															
	3	1459															
MS	4	1462		0/4													
	5	1463															
	6	1464															
	7	1467															H
	8	1468		0/3													G Si
	9	1469															F ALK J
	10	1470															E N-NH3 I
	11	1471															D ANIONS H
	12	1472															C HGCLP G
																	B FURNCLP F
																	A ICPCLP + extra E

Container Types

Water _____

Soil 120ml X All

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 10/14

SC-03, Rev. 7/91

13

2 of 2

MAXWELL S-CUBED Division

Lot No. 2633

Sample Log-In Sheet

DC No. ____-____-____

Date Received 10/12/91 Date Sampled 10/3 & 10/8/91

Client Code WHC

Time Received 1pm

Received by (Sig.) [illegible]

Airbill No. 2474253441

Charge No. 32359-04

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 30D

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

Case No./Proj. Code Site Wide Soil SDG No. 2633

S-Cubed No.	Sample Identification	Samp. Type	No. Cont.	Samp. Cond.	Samp. Stor.	A	B	C	D	E	F	G			All Info Agree	Notes
2633-~~1~~13	BO 1473	S	0/3	OK	WA	X	X	X	X	X	X	X				* Prep. Blank generated by lab.
14 ~~2~~	1482															
MS 15 ~~3~~	1483															
16 ~~4~~	1484															
17 ~~5~~	1485															
18 ~~6~~	1486															
19 ~~7~~	1487															G Si
20 ~~8~~	1488															F ALK
21 ~~9~~	1489															E N-NH_3
22 ~~10~~	1490															D ANIONS
23 ~~11~~	1491															C HGCLP
24 ~~12~~	1492															B FURNCLP
25 ~~13~~	1493															A ICPCLP + extra
* 26~~14~~	BO14H5															

Container Types

Water _____

Soil 120ml x All

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 10/14

SC-03, Rev. 7/91

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-1

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-1

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9640			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	6.3		N	F
7440-39-3	Barium	92.5		*	P
7440-41-7	Beryllium	0.92			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	6050		*	P
7440-47-3	Chromium	19.0		*	P
7440-48-4	Cobalt	9.0			P
7440-50-8	Copper	17.2		N*	P
7439-89-6	Iron	18700			P
7439-92-1	Lead	26.6		N	F
7439-95-4	Magnesium	5490			P
7439-96-5	Manganese	299			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	18.6		*	P
7440-09-7	Potassium	2100			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	223	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	38.2			P
7440-66-6	Zinc	58.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1457

FORM I - IN

7/88

03

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-1

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-1

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.8

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.7	U		P
7440-32-6	Titanium	957		*	P
7440-67-7	Zirconium	10.2	U	N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1457

FORM I - IN

7/88

04

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-2

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-2

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14100			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	5.0		N	F
7440-39-3	Barium	139		*	P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	5790		*	P
7440-47-3	Chromium	29.6		*	P
7440-48-4	Cobalt	11.1			P
7440-50-8	Copper	22.8		N*	P
7439-89-6	Iron	24800			P
7439-92-1	Lead	1.1	U	N	F
7439-95-4	Magnesium	7090			P
7439-96-5	Manganese	397			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	26.6		*	P
7440-09-7	Potassium	1950			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	295	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	47.9			P
7440-66-6	Zinc	73.3			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1458

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-2

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-2

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.6	U		P
7440-32-6	Titanium	1130		*	P
7440-67-7	Zirconium	10.2	U	N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1458

FORM I - IN

7/88

06

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-3

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-3

Level (low/med): LOW Date Received: 10/12/91

% Solids: 91.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14900			P
7440-36-0	Antimony	6.1	U	N	P
7440-38-2	Arsenic	5.0		N	F
7440-39-3	Barium	143		*	P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.33	U		P
7440-70-2	Calcium	5830		*	P
7440-47-3	Chromium	30.6		*	P
7440-48-4	Cobalt	11.2			P
7440-50-8	Copper	22.8		N*	P
7439-89-6	Iron	24400			P
7439-92-1	Lead	12.1		N	F
7439-95-4	Magnesium	6820			P
7439-96-5	Manganese	407			P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	28.2		*	P
7440-09-7	Potassium	1370			P
7782-49-2	Selenium	4.8	U	N	F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	316	B	*	P
7440-28-0	Thallium	3.6	U		F
7440-62-2	Vanadium	49.7			P
7440-66-6	Zinc	70.5			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1459

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-3

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-3

Level (low/med): LOW Date Received: 10/12/91

% Solids: 91.4

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	32.8	U		P
7440-32-6	Titanium	1110		*	P
7440-67-7	Zirconium	15.1		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1459

FORM I - IN

7/88

08

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-4

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-4

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18100			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	4.4		N	F
7440-39-3	Barium	221		*	P
7440-41-7	Beryllium	2.1			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	11200		*	P
7440-47-3	Chromium	17.3		*	P
7440-48-4	Cobalt	16.5			P
7440-50-8	Copper	36.1		N*	P
7439-89-6	Iron	35000			P
7439-92-1	Lead	9.8		N	F
7439-95-4	Magnesium	9090			P
7439-96-5	Manganese	556			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	22.7		*	P
7440-09-7	Potassium	2620			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	970		*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	59.8			P
7440-66-6	Zinc	72.2			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1462

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-4

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-4

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.2

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.9	U		P
7440-32-6	Titanium	1510		*	P
7440-67-7	Zirconium	84.8		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1462

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-5

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-5

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16400			P
7440-36-0	Antimony	6.7		N	P
7440-38-2	Arsenic	5.6		N	F
7440-39-3	Barium	169		*	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	18000		*	P
7440-47-3	Chromium	21.7		*	P
7440-48-4	Cobalt	14.7			P
7440-50-8	Copper	29.6		N*	P
7439-89-6	Iron	31000			P
7439-92-1	Lead	11.2		N	F
7439-95-4	Magnesium	8620			P
7439-96-5	Manganese	466			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	22.9		*	P
7440-09-7	Potassium	2540			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.7			P
7440-23-5	Sodium	976		*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	66.9			P
7440-66-6	Zinc	68.4			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1463

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-5

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-5

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.5

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.1	U		P
7440-32-6	Titanium	1580		*	P
7440-67-7	Zirconium	53.9		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1463

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-6

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-6

Level (low/med): LOW Date Received: 10/12/91

% Solids: 93.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14300			P
7440-36-0	Antimony	7.1		N	P
7440-38-2	Arsenic	5.0		N	F
7440-39-3	Barium	132		*	P
7440-41-7	Beryllium	1.5			P
7440-43-9	Cadmium	0.32	U		P
7440-70-2	Calcium	18600		*	P
7440-47-3	Chromium	22.5		*	P
7440-48-4	Cobalt	14.5			P
7440-50-8	Copper	29.6		N*	P
7439-89-6	Iron	28400			P
7439-92-1	Lead	11.2		N	F
7439-95-4	Magnesium	7950			P
7439-96-5	Manganese	473			P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	25.1		*	P
7440-09-7	Potassium	2140			P
7782-49-2	Selenium	4.7	U	N	F
7440-22-4	Silver	1.3			P
7440-23-5	Sodium	717		*	P
7440-28-0	Thallium	3.5	U		F
7440-62-2	Vanadium	60.2			P
7440-66-6	Zinc	77.2			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1464

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-6

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-6

Level (low/med): LOW Date Received: 10/12/91

% Solids: 93.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	32.3	U		P
7440-32-6	Titanium	1730		*	P
7440-67-7	Zirconium	48.8		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1464

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-7

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-7

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18000			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	8.0		N	F
7440-39-3	Barium	99.1		*	P
7440-41-7	Beryllium	2.0			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	13100		*	P
7440-47-3	Chromium	27.0		*	P
7440-48-4	Cobalt	16.8			P
7440-50-8	Copper	35.9		N*	P
7439-89-6	Iron	35100			P
7439-92-1	Lead	14.4		N	F
7439-95-4	Magnesium	9810			P
7439-96-5	Manganese	508			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	25.1		*	P
7440-09-7	Potassium	2340			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.2			P
7440-23-5	Sodium	687		*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	65.8			P
7440-66-6	Zinc	74.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1467

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-7

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-7

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.2

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.2	U		P
7440-32-6	Titanium	1700		*	P
7440-67-7	Zirconium	65.7		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1467

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-8

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-8

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14800			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	8.8		N	F
7440-39-3	Barium	82.6		*	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	25300		*	P
7440-47-3	Chromium	16.4		*	P
7440-48-4	Cobalt	14.7			P
7440-50-8	Copper	30.7		N*	P
7439-89-6	Iron	30600			P
7439-92-1	Lead	11.4		N	F
7439-95-4	Magnesium	10100			P
7439-96-5	Manganese	485			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	21.0		*	P
7440-09-7	Potassium	1670			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.4			P
7440-23-5	Sodium	457	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	61.1			P
7440-66-6	Zinc	67.7			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1468

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-8

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-8

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.9

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.3	U		P
7440-32-6	Titanium	1610		*	P
7440-67-7	Zirconium	57.1		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1468

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-9

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-9

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4520			P
7440-36-0	Antimony	5.9	U	N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	77.3		*	P
7440-41-7	Beryllium	1.0			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	6610		*	P
7440-47-3	Chromium	2.9		*	P
7440-48-4	Cobalt	13.9			P
7440-50-8	Copper	13.3		N*	P
7439-89-6	Iron	25900			P
7439-92-1	Lead	3.3		N	F
7439-95-4	Magnesium	2900			P
7439-96-5	Manganese	347			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	6.5		*	P
7440-09-7	Potassium	652			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.3			P
7440-23-5	Sodium	254	B	*	P
7440-28-0	Thallium	3.5	U		F
7440-62-2	Vanadium	79.2			P
7440-66-6	Zinc	44.8			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1469

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-9

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-9

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.4	U		P
7440-32-6	Titanium	2830		*	P
7440-67-7	Zirconium	29.4		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1469

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-10

Lab Name: S_CUBED_____ Contract: 32359-04__

Lab Code: S3____ Case No.: SITE_ SAS No.: _____ SDG No.: 2633__

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-10___

Level (low/med): LOW__ Date Received: 10/12/91

% Solids: _95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	6610			P_
7440-36-0	Antimony_	5.9	U	N	P_
7440-38-2	Arsenic__	2.3	U	N	F_
7440-39-3	Barium___	114		*	P_
7440-41-7	Beryllium	1.3			P_
7440-43-9	Cadmium__	0.31	U		P_
7440-70-2	Calcium__	11000		*	P_
7440-47-3	Chromium_	4.5		*	P_
7440-48-4	Cobalt___	14.9			P_
7440-50-8	Copper___	32.8		N*	P_
7439-89-6	Iron____	29900			P_
7439-92-1	Lead____	5.0		N	F_
7439-95-4	Magnesium	4190			P_
7439-96-5	Manganese	477			P_
7439-97-6	Mercury__	0.10	U	N	CV
7440-02-0	Nickel___	9.8		*	P_
7440-09-7	Potassium	827			P_
7782-49-2	Selenium_	4.6	U	N	F_
7440-22-4	Silver___	1.3			P_
7440-23-5	Sodium___	298	B	*	P_
7440-28-0	Thallium_	3.5	U		F_
7440-62-2	Vanadium_	83.9			P_
7440-66-6	Zinc____	56.9			P_
7440-31-5	Tin____				NR

Color Before: _____ Clarity Before: _____ Texture: FINE__

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
B0_1470

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-10

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-10

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.4	U		P
7440-32-6	Titanium	2690		*	P
7440-67-7	Zirconium	32.2		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
BO_1470

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-11

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-11

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4840			P
7440-36-0	Antimony	7.3		N	P
7440-38-2	Arsenic	2.2	U	N	F
7440-39-3	Barium	78.3		*	P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	6500		*	P
7440-47-3	Chromium	4.2		*	P
7440-48-4	Cobalt	13.0			P
7440-50-8	Copper	12.6		N*	P
7439-89-6	Iron	26300			P
7439-92-1	Lead	3.2		N	F
7439-95-4	Magnesium	3200			P
7439-96-5	Manganese	394			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	7.1		*	P
7440-09-7	Potassium	546			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	14.6			P
7440-23-5	Sodium	254	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	74.1			P
7440-66-6	Zinc	44.9			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1471

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-11

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-11

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.5

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.5	U		P
7440-32-6	Titanium	2460		*	P
7440-67-7	Zirconium	29.2		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1471

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-12

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-12

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4860			P
7440-36-0	Antimony	5.9	U	N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	81.6		*	P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	6840		*	P
7440-47-3	Chromium	4.8		*	P
7440-48-4	Cobalt	14.4			P
7440-50-8	Copper	11.5		N*	P
7439-89-6	Iron	26600			P
7439-92-1	Lead	4.8		N	F
7439-95-4	Magnesium	3360			P
7439-96-5	Manganese	435			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	7.8		*	P
7440-09-7	Potassium	743			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	212	B	*	P
7440-28-0	Thallium	3.5	U		F
7440-62-2	Vanadium	83.1			P
7440-66-6	Zinc	47.4			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1472

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-12

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-12

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5			P
7439-93-2	Lithium	31.4	U		P
7440-32-6	Titanium	2400		*	P
7440-67-7	Zirconium	26.4		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1472

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-13

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-13

Level (low/med): LOW Date Received: 10/12/91

% 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	5170			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	2.5		N	F
7440-39-3	Barium	79.6		*	P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	11800		*	P
7440-47-3	Chromium	4.1		*	P
7440-48-4	Cobalt	14.8			P
7440-50-8	Copper	12.1		N*	P
7439-89-6	Iron	29900			P
7439-92-1	Lead	3.5		N	F
7439-95-4	Magnesium	3670			P
7439-96-5	Manganese	411			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	7.8		*	P
7440-09-7	Potassium	658			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.4			P
7440-23-5	Sodium	251	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	90.1			P
7440-66-6	Zinc	50.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1473

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-13

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-13

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.1

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.2	U		P
7440-32-6	Titanium	2600		*	P
7440-67-7	Zirconium	34.4		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:

B0_1473

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-14

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-14

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6590			P
7440-36-0	Antimony	5.9	U	N	P
7440-38-2	Arsenic	3.1		N	F
7440-39-3	Barium	98.5		*	P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	12100		*	P
7440-47-3	Chromium	5.2		*	P
7440-48-4	Cobalt	15.9			P
7440-50-8	Copper	14.1		N*	P
7439-89-6	Iron	30500			P
7439-92-1	Lead	4.2		N	F
7439-95-4	Magnesium	4640			P
7439-96-5	Manganese	553			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	9.3		*	P
7440-09-7	Potassium	865			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.3			P
7440-23-5	Sodium	288	B	*	P
7440-28-0	Thallium	3.5	U		F
7440-62-2	Vanadium	77.5			P
7440-66-6	Zinc	50.9			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1482

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-14

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-14

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.4	U		P
7440-32-6	Titanium	2120		*	P
7440-67-7	Zirconium	34.4		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1482

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-15

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-15

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5160			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	90.2		*	P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	9730		*	P
7440-47-3	Chromium	6.2		*	P
7440-48-4	Cobalt	13.7			P
7440-50-8	Copper	14.2		N*	P
7439-89-6	Iron	29400			P
7439-92-1	Lead	4.0		N	F
7439-95-4	Magnesium	4020			P
7439-96-5	Manganese	443			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	15.3		*	P
7440-09-7	Potassium	721			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.4			P
7440-23-5	Sodium	950		*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	81.0			P
7440-66-6	Zinc	50.2			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1483

FORM I - IN

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-15

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-15

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.9

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	31.0	U		P
7440-32-6	Titanium	2300		*	P
7440-67-7	Zirconium	31.8		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1483

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-16

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-16

Level (low/med): LOW Date Received: 10/12/91

% 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	5890			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	2.4		N	F
7440-39-3	Barium	96.6		*	P
7440-41-7	Beryllium	1.5			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	13500		*	P
7440-47-3	Chromium	5.0		*	P
7440-48-4	Cobalt	15.9			P
7440-50-8	Copper	12.3		N*	P
7439-89-6	Iron	33700			P
7439-92-1	Lead	4.0		N	F
7439-95-4	Magnesium	4480			P
7439-96-5	Manganese	485			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	10.3		*	P
7440-09-7	Potassium	797			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.9			P
7440-23-5	Sodium	293	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	94.9			P
7440-66-6	Zinc	59.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1484
CCB_F

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-16

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-16

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.1

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.2	U		P
7440-32-6	Titanium	2940		*	P
7440-67-7	Zirconium	38.4		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:

B0_1484

CCB_F

FORM I - IN

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-17

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-17

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7890			P
7440-36-0	Antimony	5.9	U	N	P
7440-38-2	Arsenic	3.2		N	F
7440-39-3	Barium	124		*	P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.32	U		P
7440-70-2	Calcium	12500		*	P
7440-47-3	Chromium	8.7		*	P
7440-48-4	Cobalt	14.8			P
7440-50-8	Copper	13.6		N*	P
7439-89-6	Iron	30900			P
7439-92-1	Lead	4.9		N	F
7439-95-4	Magnesium	4950			P
7439-96-5	Manganese	560			P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	14.8		*	P
7440-09-7	Potassium	1070			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.3			P
7440-23-5	Sodium	277	B	*	P
7440-28-0	Thallium	3.5	U		F
7440-62-2	Vanadium	78.1			P
7440-66-6	Zinc	54.6			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1485

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-17

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-17

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.6	U		P
7440-32-6	Titanium	2230		*	P
7440-67-7	Zirconium	33.3		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1485

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-18

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-18

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6150			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	101		*	P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	13300		*	P
7440-47-3	Chromium	5.0		*	P
7440-48-4	Cobalt	15.3			P
7440-50-8	Copper	12.8		N*	P
7439-89-6	Iron	34000			P
7439-92-1	Lead	3.8		N	F
7439-95-4	Magnesium	4240			P
7439-96-5	Manganese	399			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	9.3		*	P
7440-09-7	Potassium	832			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	2.5			P
7440-23-5	Sodium	327	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	90.9			P
7440-66-6	Zinc	119			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1486

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-18

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-18

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.9

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	31.0	U		P
7440-32-6	Titanium	2630		*	P
7440-67-7	Zirconium	37.0		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1486

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-19

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-19

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4870			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	4.1		N	F
7440-39-3	Barium	82.3		*	P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	10900		*	P
7440-47-3	Chromium	5.0		*	P
7440-48-4	Cobalt	12.4			P
7440-50-8	Copper	11.9		N*	P
7439-89-6	Iron	27400			P
7439-92-1	Lead	3.3		N	F
7439-95-4	Magnesium	3980			P
7439-96-5	Manganese	334			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	9.3		*	P
7440-09-7	Potassium	620			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.2			P
7440-23-5	Sodium	288	B	*	P
7440-28-0	Thallium	3.4	U	*	F
7440-62-2	Vanadium	65.5			P
7440-66-6	Zinc	48.4			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1487

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-19

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-19

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.4

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.1	U		P
7440-32-6	Titanium	1870		*	P
7440-67-7	Zirconium	28.6		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1487

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-20

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-20

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5070			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	2.3		N	F
7440-39-3	Barium	95.1		*	P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	10000		*	P
7440-47-3	Chromium	4.6		*	P
7440-48-4	Cobalt	11.6			P
7440-50-8	Copper	12.4		N*	P
7439-89-6	Iron	26500			P
7439-92-1	Lead	2.8		N	F
7439-95-4	Magnesium	4340			P
7439-96-5	Manganese	350			P
7439-97-6	Mercury	0.12		N	CV
7440-02-0	Nickel	9.0		*	P
7440-09-7	Potassium	812			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.2			P
7440-23-5	Sodium	335	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	74.6			P
7440-66-6	Zinc	54.0			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1488

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-20

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-20

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.5

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.1	U		P
7440-32-6	Titanium	1730		*	P
7440-67-7	Zirconium	26.3		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1488

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-21

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-21

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5520			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	107		*	P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	8880		*	P
7440-47-3	Chromium	4.8		*	P
7440-48-4	Cobalt	13.2			P
7440-50-8	Copper	13.3		N*	P
7439-89-6	Iron	30400			P
7439-92-1	Lead	3.4		N	F
7439-95-4	Magnesium	4150			P
7439-96-5	Manganese	383			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	11.7		*	P
7440-09-7	Potassium	782			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.4			P
7440-23-5	Sodium	397	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	71.0			P
7440-66-6	Zinc	56.9			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1489

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-21

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-21

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.3	U		P
7440-32-6	Titanium	2130		*	P
7440-67-7	Zirconium	29.8		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1489

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-22

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-22

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4100			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	57.4		*	P
7440-41-7	Beryllium	1.0			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	6700		*	P
7440-47-3	Chromium	5.9		*	P
7440-48-4	Cobalt	12.3			P
7440-50-8	Copper	12.0		N*	P
7439-89-6	Iron	25500			P
7439-92-1	Lead	2.6		N	F
7439-95-4	Magnesium	4050			P
7439-96-5	Manganese	383			P
7439-97-6	Mercury	0.16		N	CV
7440-02-0	Nickel	11.2		*	P
7440-09-7	Potassium	481	B		P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0			P
7440-23-5	Sodium	721		*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	60.1			P
7440-66-6	Zinc	46.2			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1490

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-22

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-22

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.2

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.9	U		P
7440-32-6	Titanium	1940		*	P
7440-67-7	Zirconium	25.0		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1490

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-23

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-23

Level (low/med): LOW Date Received: 10/12/91

% 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	6700			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	9.9		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	14700		*	P
7440-47-3	Chromium	8.3		*	P
7440-48-4	Cobalt	11.0			P
7440-50-8	Copper	13.5		N*	P
7439-89-6	Iron	22400			P
7439-92-1	Lead	10.8		N	F
7439-95-4	Magnesium	6840			P
7439-96-5	Manganese	379			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	11.4		*	P
7440-09-7	Potassium	1210			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0			P
7440-23-5	Sodium	1030		*	P
7440-28-0	Thallium	3.4	U	*	F
7440-62-2	Vanadium	47.7			P
7440-66-6	Zinc	50.8			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1491

FORM I - IN

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-23

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-23

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.4

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.5	U		P
7440-32-6	Titanium	1510		*	P
7440-67-7	Zirconium	20.5		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1491

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-24

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-24

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8430			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	4.2		N	F
7440-39-3	Barium	152		*	P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	12900		*	P
7440-47-3	Chromium	6.8		*	P
7440-48-4	Cobalt	17.3			P
7440-50-8	Copper	15.4		N*	P
7439-89-6	Iron	32900			P
7439-92-1	Lead	7.4		N	F
7439-95-4	Magnesium	4980			P
7439-96-5	Manganese	602			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	12.7		*	P
7440-09-7	Potassium	1300			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.1			P
7440-23-5	Sodium	332	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	72.6			P
7440-66-6	Zinc	54.4			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1492

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-24

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-24

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.7	U		P
7440-32-6	Titanium	2280		*	P
7440-67-7	Zirconium	39.9		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1492

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-25

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-25

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7770			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	9.0		N	F
7440-39-3	Barium	99.4		*	P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	18500		*	P
7440-47-3	Chromium	9.0		*	P
7440-48-4	Cobalt	12.6			P
7440-50-8	Copper	13.5		N*	P
7439-89-6	Iron	26700			P
7439-92-1	Lead	11.9		N	F
7439-95-4	Magnesium	7450			P
7439-96-5	Manganese	420			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	11.0		*	P
7440-09-7	Potassium	1260			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.1			P
7440-23-5	Sodium	748		*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	62.8			P
7440-66-6	Zinc	58.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1493

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-25

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-25

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.1

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.6	U		P
7440-32-6	Titanium	2070		*	P
7440-67-7	Zirconium	23.5		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1493

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-26

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-26

Level (low/med): LOW Date Received: 10/12/91

% 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	2.2	U	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	N*	P
7439-89-6	Iron	7.1	B		P
7439-92-1	Lead	1.1	U	N	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	4.4	U	N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	98.7	U	*	P
7440-28-0	Thallium	3.3	U		F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	5.0	U		P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_14H5

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-26

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-26

Level (low/med): LOW Date Received: 10/12/91

% Solids: 100.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.0	U		P
7440-32-6	Titanium	11.3		*	P
7440-67-7	Zirconium	10.0	U	N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_14H5

FORM I - IN

7/88

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

November 20, 1991

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

NOV 1991
RECEIVED
OSM DMO

Reference No. 32359-04

Dear Ms. Owens:

Enclosed are the results from the analysis of the soil samples received by S-Cubed on October 12, 1991. This shipment includes SDG 2633. 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,

Stacie O Flaherty for
John DeWald
Manager, Commercial Analysis Section

/alb

encl: a/s

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

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 20, 1991
REFERENCE NO.: 32359-04, SDG 2633

SILICA

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

The quality control results were generally acceptable. MS recovery for alkalinity was high, possible due to matrix interferences.

ANIONS

The samples were analyzed according to Method 300.0. There were no difficulties with the analysis. Dilutions were required for several samples for the analysis of F, Cl, NO3, NO2, OPO4, and SO4. There were moderate levels of most analytes detected in most samples.

The quality control results were acceptable.

ib 11/18/94

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

SAMPLE SUMMARY

S-Cubed Reference No. 32359-04, SDG No. 2633, 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	K
BO 1457	2633-1	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1458	2633-2	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1459	2633-3	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1462	2633-4	10/12/91	SOIL	3	3			3	3	3	3	3	3	3
BO 1463	2633-5	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1464	2633-6	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1467	2633-7	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1468	2633-8	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1469	2633-9	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1470	2633-10	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1471	2633-11	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1472	2633-12	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1473	2633-13	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1482	2633-14	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1483	2633-15	10/12/91	SOIL	3	3			3	3	3	3	3	3	3
BO 1484	2633-16	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1485	2633-17	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1486	2633-18	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1487	2633-19	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1488	2633-20	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1489	2633-21	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1490	2633-22	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1491	2633-23	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1492	2633-24	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1493	2633-25	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 14H5	2633-26	10/12/91	SOIL	1	1			1	1	1	1	1	1	1

Analysis Key:

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

id 11-28-94

SILICA ANALYSIS

LAB:	S-CUBED	DATA REVIEWER:	aN 11/11/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIDE SOIL	CHARGE NO:	32359-04
LOT:	2633	DATE RECEIVED:	10/12/91
FILE:	SI1012	DATE PREP:	10/25/91
DISK:	SI1023	DATE ANALYZED:	10/25/91
METHOD:	370.1	MATRIX:	SOIL
RESULTS:	UNIT AS MG/KG		

LAB ID	CONCENTRATION
2633 -1	7.62
2633 -2	43.3
2633 -3	104
2633 -4	22.3
2633 -5	20.9
2633 -6	15.1
2633 -7	15.2
2633 -8	30.3
2633 -9	<5.2
2633 -10	7.48
2633 -11	5.08
2633 -12	32.6
2633 -13	7.96
2633 -14	8.84
2633 -15	6.30
2633 -16	6.04
2633 -17	30.1
2633 -18	13.4
2633 -19	6.59
2633 -20	9.54
2633 -21	9.01
2633 -22	5.15
2633 -23	13.7
2633 -24	17.9
2633 -25	15.7
** 2633 -26	< 5

COMMENTS:

** Extra lab blank is calculated from:

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

AMMONIA ANALYSIS

LABORATORY:	S-CUBED	DATA REVIEWER:	CWN 11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2633	DATE RECEIVED:	10/12/91
FILE#:	NH31012	DATE PREP:	10/31/91
DISK:	NH31024	DATE ANALYZED:	10/31/91
METHOD NO.	350.3	MATRIX:	SOIL

RESULTS: UNIT AS MG/KG DRY WEIGHT

LAB ID	CONCENTRATION
2633 -1	16.4
2633 -2	7.29
2633 -3	14.1
2633 -4	13.9
2633 -5	1.03
2633 -6	1.27
2633 -7	1.31
2633 -8	1.80
2633 -9	1.71
2633 -10	< 0.16
2633 -11	< 0.15
2633 -12	< 0.16
2633 -13	6.14
2633 -14	7.85
2633 -15	9.34
2633 -16	1.28
2633 -17	1.94
2633 -18	1.71
2633 -19	1.18
2633 -20	1.61
2633 -21	0.79
2633 -22	12.8
2633 -23	21.0
2633 -24	6.15
2633 -25	16.6
2633 -26	< 0.15 **

Comments:

** Extra lab blank is calculated from:

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

ALKALINITY ANALYSIS

LAB:	S-CUBED	DATA REVIEWER:	aw 11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2633	DATE RECIEVED:	10/12/91
FILE #:	ALK1012	DATE PREP:	10-21/30-91
DISK #:	ALK1016	DATE ANALYZED:	10-21/30-91
METHOD NO.:	EPA 310.1	MATRIX:	SOIL

RESULTS: RESULTS AS DRY WEIGHT - MG/KG

LAB ID	CONCENTRATION
2633 - 1	2140
2633 - 2	2000
2633 - 3	739
2633 - 4	408
2633 - 5	4140
2633 - 6	3270
2633 - 7	3320
2633 - 8	3790
2633 - 9	205
2633 - 10	665
2633 - 11	366
2633 - 12	310
2633 - 13	225
2633 - 14	247
2633 - 15	615
2633 - 16	121
2633 - 17	670
2633 - 18	305
2633 - 19	162
2633 - 20	162
2633 - 21	454
2633 - 22	181
2633 - 23	11000
2633 - 24	2870
2633 - 25	6660
2633 - 26	< 5 **

COMMENTS:

** Extra lab blank is calculated from:

$$\frac{\text{Method Detection Limit (mg/L) X 0.025 L (Leaching Volume)}}{\text{0.005 kg (Sample Weight)}}$$

ANIONS ANALYSIS

LABORATORY:	S-CUBED	DATA REVIEWER:	
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2633	DATE RECEIVED:	10/12/91
FILE#:	ANI1012	DATE PREP:	10/22-25/91
DISK:	ANI1017	DATE ANALYZED:	10/22-25/91
METHOD NO.	300.0	MATRIX:	SOIL

RESULTS: UNIT AS MG/KG DRY WEIGHT

LAB ID	F	CL	NO2	NO3	PO4	SO4
2633 -1	0.56	2.37	< 0.2	1.81	< 0.5	2.88
2633 -2	1.92	4.42	< 0.2	2.77	1.88	45.2
2633 -3	2.03	3.65	< 0.2	3.46	1.44	11.2
2633 -4	20.1	212	< 21	328	< 51	4340
2633 -5	16.6	112	< 21	175	225	4270
2633 -6	0.15	101	< 0.2	132	43.8	1650
2633 -7	73.3	723	1.11	206	< 0.5	1920
2633 -8	1.60	39.9	< 0.2	60.0	0.80	220
2633 -9	0.56	2.49	< 0.2	1.34	< 0.5	3.26
2633 -10	0.70	2.24	< 0.2	1.04	< 0.5	1.89
2633 -11	0.46	2.35	< 0.2	1.16	< 0.5	2.19
2633 -12	1.23	2.73	< 0.2	1.60	< 0.5	4.51
2633 -13	0.49	2.75	< 0.2	1.16	< 0.5	2.54
2633 -14	0.67	3.42	< 0.2	1.30	< 0.5	3.87
2633 -15	0.73	3.45	< 0.2	1.25	< 0.5	3.06
2633 -16	0.65	4.00	< 0.2	1.04	< 0.5	3.87
2633 -17	0.77	3.85	< 0.2	1.07	< 0.5	7.21
2633 -18	0.47	9.03	< 0.2	0.71	< 0.5	11.1
2633 -19	0.40	4.27	< 0.2	0.77	< 0.5	11.9
2633 -20	0.45	3.81	< 0.2	0.99	< 0.5	7.52
2633 -21	0.49	11.5	< 0.2	1.06	< 0.5	24.6
2633 -22	0.61	46.4	< 0.2	1.64	< 0.5	79.2
2633 -23	2.25	292	< 0.2	0.92	< 0.5	430
2633 -24	0.86	36.7	< 0.2	41.9	< 0.5	101
2633 -25	1.93	87.7	< 0.2	10.7	< 0.5	182
2633 -26	< 0.1	< 0.1	< 0.2	< 0.5	< 0.5	< 0.5

COMMENTS:

** Extra lab blank is calculated from:

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

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFFIC
3398 Carmel Mountain Road., San Diego, CA 92121-10
P.O. Box 1620, La Jolla, CA 92038-16

November 26, 1991

DEC 1991
REC
OSM

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 several pages that we found to be missing from the original submission for SDG 2633 sent November 20, 1991. The missing pages consist of GFAA raw data pages 283 through 340. These pages are in "VOL 1 OF 2 p.283-340" sent as an addendum to the original "VOL 1 OF 2".

We regret any inconvenience this has caused. Please feel free to call me if you have any questions.

Sincerely,

John O'Haherty for

John DeWald
Manager, Commercial Analysis Section

/alb

encl: a/s

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

DEC 1991
RECEIVED
OSM DMO

VOLUME 1 OF 2, p.283-340

DATE: November 26, 1991
REFERENCE NO.: 32359-04, SDG 2633

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

VALIDATION SUMMARY

OSM INORGANIC DATA ASSESSMENT

DATE 1-22-92

REVIEWED BY Ted Washington (TXW) 2-6-92

LABORATORY MaxWell-S-Cubed

CASE # SiteWide

SDG # 2633

SAMPLES/MATRIX B01457 B01458 B01459
B01462 B01463 B01464
B01467 B01468 B01469
-all Soil B01470 B01471 B01472
B01473 ~~B01478~~ B01483
B01484 B01482 B01486 B0149.
B01487 B01485 B01491 B0149
B01490 B01488 B01489 B014H

DATA ASSESSMENT SUMMARY

	ICP	AA	Hg	CN
1. Calibrations (Form II)	X	O	O	
2. Blanks (III)	O	O	O	
3. ICS (IV)	O			
4. Matrix Spike (V)	X	O	X	
5. Duplicate Analysis (VI)	O	O	O	
6. LCS (VII)	O	O		
7. Serial Dilution (IX)	X			
9 ~~8.~~ GFAA		X		
8 ~~9.~~ Holding Times (XIV)	O	O	O	
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 overall was acceptable, when it was not it was qualified and noted as per OSM guidelines

NOTES: There two sets of QC performed in some cases because this SDG was larger 20 samples.

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

WHC sample #'s (HEIS) located in lower left hand corner of Form I

ok to transmit

JJ 2/7/92

INORGANIC QC - Calibrations

Name Ted Washington Date 1-20-92 TW 2-6-92

COMMENTS: - ALL ICV RESULTS WERE WITHIN THE CONTROL LIMITS.
- CV and GFAA continuing calibration verifications were within limits.
- The ICP CCV5 had three analytes out of control (Al, Cu, Na).
- Hg coefficient was acceptable.
- Each instrument was calibrated.
- The last 2 thallium CCV's were out of control but no action was taken because they didn't affect any WMC samples.

ACTION: Qualifications (estimated, rejected) will be placed on samples and analytes associated with CCV5 as per OSM guidelines. This will affect the samples before and after CCV5 because they cannot be justified by another CCV.

sample #	constituent	value/qual
B01491	Aluminum	J
B01492	copper	J
B01493	sodium	J
B01H5		

sample #	constituent	value/qual

INORGANIC QC - Blanks

Name Ted WASHINGTON Date 1-21-92 (TJW 2-6-92)

COMMENTS: THERE WERE NO CONTAMINANTS DETECTED THAT WERE GREATER THAN THE IDL FOR ANY ANALYSIS (ICP, CV, GFAA).

ACTION: NONE - NO ACTION REQUIRED.

sample #	constituent	value/qual	sample #	constituent	value/qual
N/A			N/A		

INORGANIC QC - ICS

Name Ted Washington Date 1-21-92 (T) 2-6-92

COMMENTS: - The number of interference check samples run met the acceptance criteria.
- The percent recovery (%R) for these check samples were within limits for acceptance.
This check applies only to ICP, it is not intended to check GFAA or Hg.

ACTION: none - no action required.

sample #	constituent	value/qual	sample #	constituent	value/qual
N/A			N/A		

INORGANIC QC - Matrix Spike

Name Ted Washington Date 1-21-92 (TW) 2-6-92

COMMENTS: - THERE WAS NO WAY TO VERIFY THAT A FIELD BLANK WAS NOT USED FOR SPIKE ANALYSIS.

- THERE WERE TWO MATRIX SPIKES RUN FOR THIS sample data group, ~~BUT~~ THEY WERE RUN BACK TO BACK THUS ANY OUT OF CONTROL ANALYTES IN EITHER SPIKE AFFECTED ALL SAMPLES.

- ANTIMONY, ARSENIC, LEAD, ~~MERCURY~~ mercury AND ZIRCONIUM WERE ALL OUT OF CONTROL LIMITS. ~~Hg >125%, and undetected thus acceptable~~

- THE OUT OF CONTROL ANALYTES AFFECTED ICP ~~and Hg~~ and Hg ANALYSIS.

ACTION: ALL SAMPLES AFFECTED WILL BE QUALIFIED unusable (R) OR ESTIMATED (J or UJ) as per OSM guidelines, due to the proximity of the MATRIX SPIKES and THE OUT OF CONTROL ANALYTES.

sample #	constituent	value/qual
B01459, B01462, B01467, B01468, B01473, B01482, B01484, B01485, B01487, B01491, B01492, B01493	ANTIMONY	UJ
	ARSENIC	J
	LEAD	J
	ZIRCONIUM	J
B01457	ANTIMONY	UJ
	ARSENIC	J
	LEAD	J
	ZIRCONIUM	UJ
B01458	ANTIMONY	UJ
	ARSENIC	J
	ZIRCONIUM	UJ

sample #	constituent	value/qual
B01469, B01470, B01472, B01483, B01486, B01489	ANTIMONY	UJ
	LEAD	J
	ZIRCONIUM	J
B01463, B01464	ANTIMONY	J
	ARSENIC	J
	LEAD	J
	ZIRCONIUM	J
B01471	ANTIMONY	J
	LEAD	J
	ZIRCONIUM	J
B01488	ANTIMONY	UJ
	ARSENIC	J
	LEAD	J
	~~MERCURY~~	~~UJ~~
	ZIRCONIUM	J
B01485	ANTIMONY	UJ
	ZIRCONIUM	UJ
B01490	ANTIMONY	
	LEAD	
	MERCURY	
	ZIRCONIUM	

INORGANIC QC - Duplicate Analysis

Name Ted WAshington Date 1-21-92 TKD 2-6-92

COMMENTS: - THERE WAS NO WAY TO determine IF A Field blank WAS used FOR THE duplicate Analysis.

- THE duplicate analysis ALL met THE control limit Requirements, one WAS Acceptable based on THE provisional Requirements of < ±2X CRDL.

THE duplicate analysis were run on ALL Analytes through THE ICP, GFAA, OR CV methods.

ACTION: none - no actions Required.

sample #	constituent	value/qual	sample #	constituent	value/qual
N/A			N/A		

INORGANIC QC - LCS

Name Ted Washington Date 1-21-92 TW2672

COMMENTS: All Laboratory check samples were tested as aqueous samples even though the were soil samples. This does not however, automatically create a need to qualify the data.

ACTION: None - no actions required as all the aqueous samples were in control.

sample #	constituent	value/qual	sample #	constituent	value/qual
N/A			N/A		

INORGANIC QC - Serial Dilution

Name Ted WASHINGTON Date 1-21-92 TW 2-6-92

COMMENTS: THERE WAS only one Analyte out of control (chromium). It's original concentration was greater than 50 X the IDL and it had 10.1 % Difference which is above the control limit.

ACTION: WITH only one ICP SERIAL DILUTION RUN, ALL samples are affected and subject to qualification. I qualified all samples as per OSM guidelines

sample #	constituent	value/qual	sample #	constituent	value/qual
B014H5	Chromium	UJ			
ALL OTHER SAMPLES	Chromium	J			

INORGANIC QC - Holding Times

Name Ted Washington Date 1-21-92 (TW) 2-6-92

COMMENTS: - Holding Time criteria were all met. All samples were properly preserved.

ACTION: none - no action required, holding time and preservation requirements met.

sample #	constituent	value/qual	sample #	constituent	value/qual
N/A			N/A		

INORGANIC QC - GFAA

Name Ted Washington Date 1-21-92 ~~TXW~~ 2-6-92

COMMENTS: - THERE WERE THREE duplicate ANALYSIS INJECTIONS THAT WERE OUT OF THE CONTROL LIMITS. THEY ~~methods~~ involved TWO ANALYTES (ARSENIC and THALLIUM).
- THERE WERE A number OF ANALYTICAL SPIKE RECOVERIES THAT WERE OUT OF CONTROL, THEY INVOLVED THREE ANALYTES (ARSENIC, SELENIUM AND THALLIUM).

ACTION: ALL OF THE SAMPLES THAT WERE AFFECTED by THESE OUT OF CONTROL ANALYTES WERE QUALIFIED ~~ET~~ EITHER UJ OR J AS PER OSM guidelines

sample #	constituent	value/qual
B01457	SELENIUM	UJ
B01458		
B01462		
B01467		
B01470		
B01482		
B01457	ARSENIC	J
B01462	ARSENIC	J
B01469	ARSENIC	UJ
B01487	ARSENIC	J
~~B01464~~	~~ARSENIC~~	~~J~~
B01457	THALLIUM	UJ
B01458		
B01462		
B01463		
B01473		
B01482		
B01483		

sample #	constituent	value/qual

INORGANIC QC - other

Name Ted Washington Date 1-21-92 TRW 2-6-92

COMMENTS: THE OVER ALL Q.C. WAS adequate, when the data was not it was qualified as estimated (UJ or J) or unusable (R).

ACTION: none - no action required.

sample #	constituent	value/qual	sample #	constituent	value/qual
N/A			N/A		

MAXWELL
S-CUBED Division

SORRENTO VALLEY OFF
3398 Carmel Mountain Road., San Diego, CA 92121-1
P.O. Box 1620, La Jolla, CA 92038-1

NARRATIVE

DATE: November 20, 1991
REFERENCE NO.: 32359-04, SDG 2633

CLP METALS + LI, TI, ZR

The samples were analyzed according to the 2/88 CLP Inorganics Statement of Work and method 6010. GFAA dilutions were required for all samples at a dilution factor of 11 for As, Se, Pb, and Tl. The IDL for Ti was elevated to 100 ug/L for the analytical run used due to a slight carryover problem. The Ti levels in the samples were significant and were not affected by this problem. There were significant levels of several analytes detected in the samples.

The quality control results were generally acceptable. QC samples were run on samples 2633-4 and 2633-15. Matrix recovery for several analytes were outside criteria due to matrix problems. The Se was diluted out of the matrix spike samples during analysis, thus there was no recovery. Duplicate values for several metals are out of criteria due to the soil matrix. SOP

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

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-1

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-1

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.8

TKW 2-6-92

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9640			P
7440-36-0	Antimony	5.7	~~U~~	UJ N	P
7440-38-2	Arsenic	6.3		J N	F
7440-39-3	Barium	92.5		*	P
7440-41-7	Beryllium	0.92			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	6050		*	P
7440-47-3	Chromium	19.0		J *	P
7440-48-4	Cobalt	9.0			P
7440-50-8	Copper	17.2		N*	P
7439-89-6	Iron	18700			P
7439-92-1	Lead	26.6		J N	F
7439-95-4	Magnesium	5490			P
7439-96-5	Manganese	299			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	18.6		*	P
7440-09-7	Potassium	2100			P
7782-49-2	Selenium	4.5	~~U~~	UJ N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	223	B	*	P
7440-28-0	Thallium	3.4	~~U~~	UJ	F
7440-62-2	Vanadium	38.2			P
7440-66-6	Zinc	58.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1457

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-1

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-1

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.8

TXW 2-6-92

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.7	U		P
7440-32-6	Titanium	957		*	P
7440-67-7	Zirconium	10.2	~~U~~	~~UJ~~ N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1457

FORM I - IN

7/88

04

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-2

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-2

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14100			P
7440-36-0	Antimony	5.7	~~U~~	UJ N	P
7440-38-2	Arsenic	5.0		J N	F
7440-39-3	Barium	139		*	P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	5790		*	P
7440-47-3	Chromium	29.6		J *	P
7440-48-4	Cobalt	11.1			P
7440-50-8	Copper	22.8		N*	P
7439-89-6	Iron	24800			P
7439-92-1	Lead	1.1	U	N	F
7439-95-4	Magnesium	7090			P
7439-96-5	Manganese	397			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	26.6		*	P
7440-09-7	Potassium	1950			P
7782-49-2	Selenium	4.5	~~U~~	UJ N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	295	B	*	P
7440-28-0	Thallium	3.4	~~U~~	UJ	F
7440-62-2	Vanadium	47.9			P
7440-66-6	Zinc	73.3			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1458

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-2

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-2

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.6	U		P
7440-32-6	Titanium	1130		*	P
7440-67-7	Zirconium	10.2	~~U~~	KJN	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1458

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-3

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: _____ SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-3

Level (low/med): LOW Date Received: 10/12/91

% Solids: 91.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14900			P
7440-36-0	Antimony	6.1	~~U~~	UJ N	P
7440-38-2	Arsenic	5.0		J N	F
7440-39-3	Barium	143		*	P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.33	U		P
7440-70-2	Calcium	5830		*	P
7440-47-3	Chromium	30.6		J *	P
7440-48-4	Cobalt	11.2			P
7440-50-8	Copper	22.8		N*	P
7439-89-6	Iron	24400			P
7439-92-1	Lead	12.1		J N	F
7439-95-4	Magnesium	6820			P
7439-96-5	Manganese	407			P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	28.2		*	P
7440-09-7	Potassium	1370			P
7782-49-2	Selenium	4.8	U	N	F
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	316	B	*	P
7440-28-0	Thallium	3.6	U		F
7440-62-2	Vanadium	49.7			P
7440-66-6	Zinc	70.5			P
7440-31-5	Tin				NR

Color Before: _____ Clarity Before: _____ Texture: FINE

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
B0_1459

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-3

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: _____ SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-3

Level (low/med): LOW Date Received: 10/12/91

% Solids: 91.4

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	32.8	U		P
7440-32-6	Titanium	1110		*	P
7440-67-7	Zirconium	15.1		J N	P

Color Before: _____ Clarity Before: _____ Texture: FINE

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

B0_1459

FORM I - IN

7/88

08

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-4

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-4

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18100			P
7440-36-0	Antimony	5.8	~~U~~	UJ N	P
7440-38-2	Arsenic	4.4		J N	F
7440-39-3	Barium	221		*	P
7440-41-7	Beryllium	2.1			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	11200		*	P
7440-47-3	Chromium	17.3		J *	P
7440-48-4	Cobalt	16.5			P
7440-50-8	Copper	36.1		N*	P
7439-89-6	Iron	35000			P
7439-92-1	Lead	9.8		J N	F
7439-95-4	Magnesium	9090			P
7439-96-5	Manganese	556			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	22.7		*	P
7440-09-7	Potassium	2620			P
7782-49-2	Selenium	4.5	~~U~~	UJ N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	970		*	P
7440-28-0	Thallium	3.4	~~U~~	UJ	F
7440-62-2	Vanadium	59.8			P
7440-66-6	Zinc	72.2			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1462

FORM I - IN

7/88

09

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-4

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-4

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.2

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.9	U		P
7440-32-6	Titanium	1510		*	P
7440-67-7	Zirconium	84.8		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1462

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-5

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-5

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16400			P
7440-36-0	Antimony	6.7		J N	P
7440-38-2	Arsenic	5.6		J N	F
7440-39-3	Barium	169		*	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	18000		*	P
7440-47-3	Chromium	21.7		J *	P
7440-48-4	Cobalt	14.7			P
7440-50-8	Copper	29.6		N*	P
7439-89-6	Iron	31000			P
7439-92-1	Lead	11.2		J N	F
7439-95-4	Magnesium	8620			P
7439-96-5	Manganese	466			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	22.9		*	P
7440-09-7	Potassium	2540			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.7			P
7440-23-5	Sodium	976		*	P
7440-28-0	Thallium	3.4	~~U~~	UJ	F
7440-62-2	Vanadium	66.9			P
7440-66-6	Zinc	68.4			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1463

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-5

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-5

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.5

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.1	U		P
7440-32-6	Titanium	1580		*	P
7440-67-7	Zirconium	53.9		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1463

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-6

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-6

Level (low/med): LOW Date Received: 10/12/91

% Solids: 93.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14300			P
7440-36-0	Antimony	7.1		J N	P
7440-38-2	Arsenic	5.0		J N	F
7440-39-3	Barium	132		*	P
7440-41-7	Beryllium	1.5			P
7440-43-9	Cadmium	0.32	U		P
7440-70-2	Calcium	18600		*	P
7440-47-3	Chromium	22.5		J *	P
7440-48-4	Cobalt	14.5			P
7440-50-8	Copper	29.6		N*	P
7439-89-6	Iron	28400			P
7439-92-1	Lead	11.2		J N	F
7439-95-4	Magnesium	7950			P
7439-96-5	Manganese	473			P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	25.1		*	P
7440-09-7	Potassium	2140			P
7782-49-2	Selenium	4.7	U	N	F
7440-22-4	Silver	1.3			P
7440-23-5	Sodium	717		*	P
7440-28-0	Thallium	3.5	U		F
7440-62-2	Vanadium	60.2			P
7440-66-6	Zinc	77.2			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:

B0_1464

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-6

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-6

Level (low/med): LOW Date Received: 10/12/91

% Solids: 93.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG TXW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	32.3	U		P
7440-32-6	Titanium	1730		*	P
7440-67-7	Zirconium	48.8		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1464

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-7

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-7

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18000			P
7440-36-0	Antimony	5.8	U	UJ N	P
7440-38-2	Arsenic	8.0		J N	F
7440-39-3	Barium	99.1		*	P
7440-41-7	Beryllium	2.0			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	13100		*	P
7440-47-3	Chromium	27.0		J *	P
7440-48-4	Cobalt	16.8			P
7440-50-8	Copper	35.9		N*	P
7439-89-6	Iron	35100			P
7439-92-1	Lead	14.4		J N	F
7439-95-4	Magnesium	9810			P
7439-96-5	Manganese	508			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	25.1		*	P
7440-09-7	Potassium	2340			P
7782-49-2	Selenium	4.6	U	UJ N	F
7440-22-4	Silver	1.2			P
7440-23-5	Sodium	687		*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	65.8			P
7440-66-6	Zinc	74.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1467

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-7

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-7

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.2

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.2	U		P
7440-32-6	Titanium	1700		*	P
7440-67-7	Zirconium	65.7		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1467

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-8

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-8

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.9

TAW 2-6-92

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14800			P
7440-36-0	Antimony	5.8	~~U~~	~~UJ~~ N	P
7440-38-2	Arsenic	8.8		J N	F
7440-39-3	Barium	82.6		*	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	25300		*	P
7440-47-3	Chromium	16.4		J *	P
7440-48-4	Cobalt	14.7			P
7440-50-8	Copper	30.7		N*	P
7439-89-6	Iron	30600			P
7439-92-1	Lead	11.4		J N	F
7439-95-4	Magnesium	10100			P
7439-96-5	Manganese	485			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	21.0		*	P
7440-09-7	Potassium	1670			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.4			P
7440-23-5	Sodium	457	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	61.1			P
7440-66-6	Zinc	67.7			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1468

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-8

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-8

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.9

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

TKW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.3	U		P
7440-32-6	Titanium	1610		*	P
7440-67-7	Zirconium	57.1		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1468

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-9

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-9

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

TRW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4520			P
7440-36-0	Antimony	5.9	~~U~~	uJ N	P
7440-38-2	Arsenic	2.3	~~U~~	uJ N	F
7440-39-3	Barium	77.3		*	P
7440-41-7	Beryllium	1.0			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	6610		*	P
7440-47-3	Chromium	2.9		J *	P
7440-48-4	Cobalt	13.9			P
7440-50-8	Copper	13.3		N*	P
7439-89-6	Iron	25900			P
7439-92-1	Lead	3.3		J N	F
7439-95-4	Magnesium	2900			P
7439-96-5	Manganese	347			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	6.5		*	P
7440-09-7	Potassium	652			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.3			P
7440-23-5	Sodium	254	B	*	P
7440-28-0	Thallium	3.5	U		F
7440-62-2	Vanadium	79.2			P
7440-66-6	Zinc	44.8			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1469

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-9

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-9

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

TXD 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.4	U		P
7440-32-6	Titanium	2830		*	P
7440-67-7	Zirconium	29.4		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1469

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-10

Lab Name: S_CUBED_____ Contract: 32359-04__

Lab Code: S3____ Case No.: SITE_ SAS No.: _____ SDG No.: 2633__

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-10___

Level (low/med): LOW__ Date Received: 10/12/91

% Solids: _95.6

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

2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	6610			P_
7440-36-0	Antimony_	5.9	~~U~~	UJ N	P_
7440-38-2	Arsenic__	2.3	U	N	F_
7440-39-3	Barium___	114		*	P_
7440-41-7	Beryllium	1.3			P_
7440-43-9	Cadmium__	0.31	U		P_
7440-70-2	Calcium__	11000		*	P_
7440-47-3	Chromium_	4.5		J *	P_
7440-48-4	Cobalt___	14.9			P_
7440-50-8	Copper___	32.8		N*	P_
7439-89-6	Iron____	29900			P_
7439-92-1	Lead____	5.0		J N	F_
7439-95-4	Magnesium	4190			P_
7439-96-5	Manganese	477			P_
7439-97-6	Mercury__	0.10	U	N	CV
7440-02-0	Nickel___	9.8		*	P_
7440-09-7	Potassium	827			P_
7782-49-2	Selenium_	4.6	~~U~~	UJ N	F_
7440-22-4	Silver___	1.3			P_
7440-23-5	Sodium___	298	B	*	P_
7440-28-0	Thallium_	3.5	U		F_
7440-62-2	Vanadium_	83.9			P_
7440-66-6	Zinc____	56.9			P_
7440-31-5	Tin_____				NR

Color Before: _____ Clarity Before: _____ Texture: FINE__

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
B0_1470

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-10

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-10

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.4	U		P
7440-32-6	Titanium	2690		*	P
7440-67-7	Zirconium	32.2		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1470

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-11

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-11

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.5

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

TXW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4840			P
7440-36-0	Antimony	7.3		J N	P
7440-38-2	Arsenic	2.2	U	N	F
7440-39-3	Barium	78.3		*	P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	6500		*	P
7440-47-3	Chromium	4.2		J *	P
7440-48-4	Cobalt	13.0			P
7440-50-8	Copper	12.6		N*	P
7439-89-6	Iron	26300			P
7439-92-1	Lead	3.2		J N	F
7439-95-4	Magnesium	3200			P
7439-96-5	Manganese	394			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	7.1		*	P
7440-09-7	Potassium	546			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	14.6			P
7440-23-5	Sodium	254	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	74.1			P
7440-66-6	Zinc	44.9			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1471

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-11

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-11

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.5

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.5	U		P
7440-32-6	Titanium	2460		*	P
7440-67-7	Zirconium	29.2		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1471

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-12

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-12

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4860			P
7440-36-0	Antimony	5.9	~~U~~	~~UJ~~ N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	81.6		*	P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	6840		*	P
7440-47-3	Chromium	4.8		J *	P
7440-48-4	Cobalt	14.4			P
7440-50-8	Copper	11.5		N*	P
7439-89-6	Iron	26600			P
7439-92-1	Lead	4.8		J N	F
7439-95-4	Magnesium	3360			P
7439-96-5	Manganese	435			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	7.8		*	P
7440-09-7	Potassium	743			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	212	B	*	P
7440-28-0	Thallium	3.5	U		F
7440-62-2	Vanadium	83.1			P
7440-66-6	Zinc	47.4			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1472

FORM I - IN

7/88

2

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-12

Lab Name: S_CUBED_____ Contract: 32359-04__

Lab Code: S3____ Case No.: SITE_ SAS No.: _____ SDG No.: 2633__

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-12___

Level (low/med): LOW__ Date Received: 10/12/91

% Solids: _95.6

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

TXW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5			P
7439-93-2	Lithium	31.4	U		P
7440-32-6	Titanium	2400		*	P
7440-67-7	Zirconium	26.4		J N	P

Color Before: _____ Clarity Before: _____ Texture: FINE__

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
B0_1472

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-13

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-13

Level (low/med): LOW Date Received: 10/12/91

% 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	5170			P
7440-36-0	Antimony	5.8	U	UJ N	P
7440-38-2	Arsenic	2.5		J N	F
7440-39-3	Barium	79.6		*	P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	11800		*	P
7440-47-3	Chromium	4.1		J *	P
7440-48-4	Cobalt	14.8			P
7440-50-8	Copper	12.1		N*	P
7439-89-6	Iron	29900			P
7439-92-1	Lead	3.5		J N	F
7439-95-4	Magnesium	3670			P
7439-96-5	Manganese	411			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	7.8		*	P
7440-09-7	Potassium	658			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.4			P
7440-23-5	Sodium	251	B	*	P
7440-28-0	Thallium	3.4	U	UJ	F
7440-62-2	Vanadium	90.1			P
7440-66-6	Zinc	50.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
BO_1473

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-13

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-13

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.1

TKW 2-6-92

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.2	U		P
7440-32-6	Titanium	2600		*	P
7440-67-7	Zirconium	34.4		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1473

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-14

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-14

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

TXW 26.72

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6590			P
7440-36-0	Antimony	5.9	~~U~~	UJ N	P
7440-38-2	Arsenic	3.1		J N	F
7440-39-3	Barium	98.5		*	P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	12100		*	P
7440-47-3	Chromium	5.2		J *	P
7440-48-4	Cobalt	15.9			P
7440-50-8	Copper	14.1		N*	P
7439-89-6	Iron	30500			P
7439-92-1	Lead	4.2		J N	F
7439-95-4	Magnesium	4640			P
7439-96-5	Manganese	553			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	9.3		*	P
7440-09-7	Potassium	865			P
7782-49-2	Selenium	4.6	~~U~~	UJ N	F
7440-22-4	Silver	1.3			P
7440-23-5	Sodium	288	B	*	P
7440-28-0	Thallium	3.5	~~U~~	UJ	F
7440-62-2	Vanadium	77.5			P
7440-66-6	Zinc	50.9			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
BO_1482

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-14

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-14

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.6

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.4	U		P
7440-32-6	Titanium	2120		*	P
7440-67-7	Zirconium	34.4		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
BO_1482

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-15

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-15

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5160			P
7440-36-0	Antimony	5.8	~~U~~	UJ N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	90.2		*	P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	9730		*	P
7440-47-3	Chromium	6.2		J *	P
7440-48-4	Cobalt	13.7			P
7440-50-8	Copper	14.2		N*	P
7439-89-6	Iron	29400			P
7439-92-1	Lead	4.0		J N	F
7439-95-4	Magnesium	4020			P
7439-96-5	Manganese	443			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	15.3		*	P
7440-09-7	Potassium	721			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.4			P
7440-23-5	Sodium	950		*	P
7440-28-0	Thallium	3.4	~~U~~	UJ	F
7440-62-2	Vanadium	81.0			P
7440-66-6	Zinc	50.2			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1483

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-15

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-15

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.9

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

TRW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	31.0	U		P
7440-32-6	Titanium	2300		*	P
7440-67-7	Zirconium	31.8		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:

B0_1483

FORM I - IN

7/88

3

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-16

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-16

Level (low/med): LOW Date Received: 10/12/91

% 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	5890			P
7440-36-0	Antimony	5.8	U	UJ N	P
7440-38-2	Arsenic	2.4		J N	F
7440-39-3	Barium	96.6		*	P
7440-41-7	Beryllium	1.5			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	13500		*	P
7440-47-3	Chromium	5.0		J *	P
7440-48-4	Cobalt	15.9			P
7440-50-8	Copper	12.3		N*	P
7439-89-6	Iron	33700			P
7439-92-1	Lead	4.0		J N	F
7439-95-4	Magnesium	4480			P
7439-96-5	Manganese	485			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	10.3		*	P
7440-09-7	Potassium	797			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.9			P
7440-23-5	Sodium	293	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	94.9			P
7440-66-6	Zinc	59.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1484
CCB_F

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-16

Lab Name: S_CUBED_____ Contract: 32359-04__

Lab Code: S3____ Case No.: SITE_ SAS No.: _____ SDG No.: 2633__

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-16___

Level (low/med): LOW__ Date Received: 10/12/91

% Solids: _96.1

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

TXU 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.2	U		P
7440-32-6	Titanium	2940		*	P
7440-67-7	Zirconium	38.4		J N	P

Color Before: _____ Clarity Before: _____ Texture: FINE__

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
B0_1484
CCB_F

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-17

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-17

Level (low/med): LOW Date Received: 10/12/91

% Solids: 95.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7890			P
7440-36-0	Antimony	5.9	~~U~~	WJN	P
7440-38-2	Arsenic	3.2		J N	F
7440-39-3	Barium	124		*	P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.32	U		P
7440-70-2	Calcium	12500		*	P
7440-47-3	Chromium	8.7		J *	P
7440-48-4	Cobalt	14.8			P
7440-50-8	Copper	13.6		N*	P
7439-89-6	Iron	30900			P
7439-92-1	Lead	4.9		J N	F
7439-95-4	Magnesium	4950			P
7439-96-5	Manganese	560			P
7439-97-6	Mercury	0.11	U	N	CV
7440-02-0	Nickel	14.8		*	P
7440-09-7	Potassium	1070			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.3			P
7440-23-5	Sodium	277	B	*	P
7440-28-0	Thallium	3.5	U		F
7440-62-2	Vanadium	78.1			P
7440-66-6	Zinc	54.6			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1485

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-17

Lab Name: S_CUBED_____ Contract: 32359-04__

Lab Code: S3____ Case No.: SITE_ SAS No.: _____ SDG No.: 2633__

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-17___

Level (low/med): LOW__ Date Received: 10/12/91

% Solids: _95.0

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

TLD 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.6	U		P
7440-32-6	Titanium	2230		*	P
7440-67-7	Zirconium	33.3		J N	P

Color Before: _____ Clarity Before: _____ Texture: FINE__

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
B0_1485

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-18

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-18

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.9

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

TXW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6150			P
7440-36-0	Antimony	5.8	~~U~~	UJ N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	101		*	P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	13300		*	P
7440-47-3	Chromium	5.0		J *	P
7440-48-4	Cobalt	15.3			P
7440-50-8	Copper	12.8		N*	P
7439-89-6	Iron	34000			P
7439-92-1	Lead	3.8		J N	F
7439-95-4	Magnesium	4240			P
7439-96-5	Manganese	399			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	9.3		*	P
7440-09-7	Potassium	832			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	2.5			P
7440-23-5	Sodium	327	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	90.9			P
7440-66-6	Zinc	119			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1486

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-18

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-18

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.9

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

2692

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	31.0	U		P
7440-32-6	Titanium	2630		*	P
7440-67-7	Zirconium	37.0		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1486

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-19

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-19

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4870			P
7440-36-0	Antimony	5.8	~~U~~	UJ N	P
7440-38-2	Arsenic	4.1		J N	F
7440-39-3	Barium	82.3		*	P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	10900		*	P
7440-47-3	Chromium	5.0		J *	P
7440-48-4	Cobalt	12.4			P
7440-50-8	Copper	11.9		N*	P
7439-89-6	Iron	27400			P
7439-92-1	Lead	3.3		J N	F
7439-95-4	Magnesium	3980			P
7439-96-5	Manganese	334			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	9.3		*	P
7440-09-7	Potassium	620			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.2			P
7440-23-5	Sodium	288	B	*	P
7440-28-0	Thallium	3.4	U	*	F
7440-62-2	Vanadium	65.5			P
7440-66-6	Zinc	48.4			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1487

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-19

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-19

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.4

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.1	U		P
7440-32-6	Titanium	1870		*	P
7440-67-7	Zirconium	28.6		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1487

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-20

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-20

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5070			P
7440-36-0	Antimony	5.8	U	J N	P
7440-38-2	Arsenic	2.3		J N	F
7440-39-3	Barium	95.1		*	P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	10000		*	P
7440-47-3	Chromium	4.6		J *	P
7440-48-4	Cobalt	11.6			P
7440-50-8	Copper	12.4		N*	P
7439-89-6	Iron	26500			P
7439-92-1	Lead	2.8		J N	F
7439-95-4	Magnesium	4340			P
7439-96-5	Manganese	350			P
7439-97-6	Mercury	0.12		N	CV
7440-02-0	Nickel	9.0		*	P
7440-09-7	Potassium	812			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.2			P
7440-23-5	Sodium	335	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	74.6			P
7440-66-6	Zinc	54.0			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1488

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-20

Lab Name: S_CUBED_____ Contract: 32359-04__

Lab Code: S3____ Case No.: SITE_ SAS No.: _____ SDG No.: 2633__

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-20___

Level (low/med): LOW__ Date Received: 10/12/91

% Solids: _96.5

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.1	U		P
7440-32-6	Titanium	1730		*	P
7440-67-7	Zirconium	26.3		J N	P

Color Before: _____ Clarity Before: _____ Texture: FINE__

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
B0_1488

FORM I - IN

7/88

4:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-21

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL Lab Sample ID: 2633-21

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5520			P
7440-36-0	Antimony	5.8	~~U~~	UJ N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	107		*	P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	8880		*	P
7440-47-3	Chromium	4.8		J *	P
7440-48-4	Cobalt	13.2			P
7440-50-8	Copper	13.3		N*	P
7439-89-6	Iron	30400			P
7439-92-1	Lead	3.4		J N	F
7439-95-4	Magnesium	4150			P
7439-96-5	Manganese	383			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	11.7		*	P
7440-09-7	Potassium	782			P
7782-49-2	Selenium	4.6	U	N	F
7440-22-4	Silver	1.4			P
7440-23-5	Sodium	397	B	*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	71.0			P
7440-66-6	Zinc	56.9			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1489

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-21

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-21

Level (low/med): LOW Date Received: 10/12/91

% Solids: 96.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.5	U		P
7439-93-2	Lithium	31.3	U		P
7440-32-6	Titanium	2130		*	P
7440-67-7	Zirconium	29.8		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1489

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-22

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-22

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.2

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

TKW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4100			P
7440-36-0	Antimony	5.8	~~U~~	UJ N	P
7440-38-2	Arsenic	2.3	U	N	F
7440-39-3	Barium	57.4		*	P
7440-41-7	Beryllium	1.0			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	6700		*	P
7440-47-3	Chromium	5.9		J *	P
7440-48-4	Cobalt	12.3			P
7440-50-8	Copper	12.0		N*	P
7439-89-6	Iron	25500			P
7439-92-1	Lead	2.6		J N	F
7439-95-4	Magnesium	4050			P
7439-96-5	Manganese	383			P
7439-97-6	Mercury	0.16		J N	CV
7440-02-0	Nickel	11.2		*	P
7440-09-7	Potassium	481	B		P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0			P
7440-23-5	Sodium	721		*	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	60.1			P
7440-66-6	Zinc	46.2			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:

B0_1490

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-22

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-22

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.2

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.9	U		P
7440-32-6	Titanium	1940		*	P
7440-67-7	Zirconium	25.0		N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:

B0_1490

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-23

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: _____ SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-23

Level (low/med): LOW Date Received: 10/12/91

% 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	6700		J	P
7440-36-0	Antimony	5.7	~~U~~	UJ N	P
7440-38-2	Arsenic	9.9		J 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	14700		*	P
7440-47-3	Chromium	8.3		J *	P
7440-48-4	Cobalt	11.0			P
7440-50-8	Copper	13.5		J N*	P
7439-89-6	Iron	22400			P
7439-92-1	Lead	10.8		J N	F
7439-95-4	Magnesium	6840			P
7439-96-5	Manganese	379			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	11.4		*	P
7440-09-7	Potassium	1210			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.0			P
7440-23-5	Sodium	1030		J *	P
7440-28-0	Thallium	3.4	U	*	F
7440-62-2	Vanadium	47.7			P
7440-66-6	Zinc	50.8			P
7440-31-5	Tin				NR

Color Before: _____ Clarity Before: _____ Texture: FINE

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
B0_1491

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-23

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-23

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.4

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.5	U		P
7440-32-6	Titanium	1510		*	P
7440-67-7	Zirconium	20.5		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1491

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-24

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-24

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8430		J	P
7440-36-0	Antimony	5.7	~~U~~	UJ N	P
7440-38-2	Arsenic	4.2		J N	F
7440-39-3	Barium	152		*	P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	12900		*	P
7440-47-3	Chromium	6.8		J *	P
7440-48-4	Cobalt	17.3			P
7440-50-8	Copper	15.4		J N*	P
7439-89-6	Iron	32900			P
7439-92-1	Lead	7.4		J N	F
7439-95-4	Magnesium	4980			P
7439-96-5	Manganese	602			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	12.7		*	P
7440-09-7	Potassium	1300			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.1			P
7440-23-5	Sodium	332	B	J *	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	72.6			P
7440-66-6	Zinc	54.4			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
BO_1492

FORM I - IN

7/88

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-24

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-24

Level (low/med): LOW Date Received: 10/12/91

% Solids: 97.6

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

TKD 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.7	U		P
7440-32-6	Titanium	2280		*	P
7440-67-7	Zirconium	39.9		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1492

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-25

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-25

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7770		J	P
7440-36-0	Antimony	5.7	U	UJ N	P
7440-38-2	Arsenic	9.0		J N	F
7440-39-3	Barium	99.4		*	P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	18500		*	P
7440-47-3	Chromium	9.0		J *	P
7440-48-4	Cobalt	12.6			P
7440-50-8	Copper	13.5		J N*	P
7439-89-6	Iron	26700			P
7439-92-1	Lead	11.9		J N	F
7439-95-4	Magnesium	7450			P
7439-96-5	Manganese	420			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	11.0		*	P
7440-09-7	Potassium	1260			P
7782-49-2	Selenium	4.5	U	N	F
7440-22-4	Silver	1.1			P
7440-23-5	Sodium	748		J *	P
7440-28-0	Thallium	3.4	U		F
7440-62-2	Vanadium	62.8			P
7440-66-6	Zinc	58.1			P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1493

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-25

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-25

Level (low/med): LOW Date Received: 10/12/91

% Solids: 98.1

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

TKW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.6	U		P
7440-32-6	Titanium	2070		*	P
7440-67-7	Zirconium	23.5		J N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_1493

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-26

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-26

Level (low/med): LOW Date Received: 10/12/91

% Solids: 100.0

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

TRW 2-6-92

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7.2	~~U~~	UJ	P
7440-36-0	Antimony	5.6	~~U~~	UJN	P
7440-38-2	Arsenic	2.2	U	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~~	UJ*	P
7440-48-4	Cobalt	1.6	U		P
7440-50-8	Copper	1.8	~~U~~	UJN*	P
7439-89-6	Iron	7.1	B		P
7439-92-1	Lead	1.1	U	N	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	4.4	U	N	F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	98.7	~~U~~	UJ*	P
7440-28-0	Thallium	3.3	U		F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	5.0	U		P
7440-31-5	Tin				NR

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_14H5

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

2633-26

Lab Name: S_CUBED Contract: 32359-04

Lab Code: S3 Case No.: SITE_ SAS No.: SDG No.: 2633

Matrix (soil/water): SOIL_ Lab Sample ID: 2633-26

Level (low/med): LOW Date Received: 10/12/91

% Solids: 100.0

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

CAS No.	Analyte	Concentration	C	Q	M
7439-98-7	Molybdenu	1.4	U		P
7439-93-2	Lithium	30.0	U		P
7440-32-6	Titanium	11.3		*	P
7440-67-7	Zirconium	10.0	~~U~~ UJ	N	P

Color Before: Clarity Before: Texture: FINE

Color After: Clarity After: Artifacts:

Comments:
B0_14H5

FORM I - IN

7/88

OSM RCRA DATA ASSESSMENT

DATE 2/3/92

REVIEWED BY Mark A. Bedsman

LABORATORY Maxwell-S-Cubed

CASE # Site Wide Soil

SDG # ~~RFW~~ 2633

SAMPLES/MATRIX all soil

B01457 B01458 B01459
B01462 B01463 B01464
B01467 B01468 B01469
B01470 B01471 B01472
B01473 B01482 B01483
B01484 B01485 B01486
B01487 B01488 B01489
B01490 B01491 B01492
B01493 B01485

DATA ASSESSMENT SUMMARY

QUALITY CONTROL CHECK	ANALYSIS	Silica by 370.1 Ammonia by 350.3	Alkalinity by 310.1	Anions by 300.0
1. Holding Times		O	X	M
2. Matrix Spikes		O	X	O
3. Duplicates		O	O	O
4. Blanks		O	O	O
5. Calibrations/LCS		O	O	O
6. Other		O	O	O
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: Analysis method numbers refer to EPA method numbers. "Anions" includes: fluoride, chloride nitrite, nitrate, sulfate and phosphate. The relationship between WHC and S-Cubed sample numbers is established in the "Sample Summary."

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

RCRA QC

Name Mark A. Beck MAB Date 2/3/92

QC Check: Holding Times

COMMENTS: Holding time requirements were met for silica, ammonia, fluoride, chloride, and sulfate for all samples. all nitrite, nitrate, phosphate missed holding times. alkalinity missed holding time for some samples.

ACTION: Qualify those samples that missed holding time for alkalinity as estimated. Qualify all samples estimated for nitrite, nitrate, and phosphate.

sample #	constituent	value/qual
all	nitrite	UJ
	nitrate	or
	phosphate	J
B01457	alkalinity	UJ
B01458		or
B01459		J
B01462		
B01463		
B01467		
B01468		
B01469		
B01470		
B01471		
B01472		

sample #	constituent	value/qual

___ of ___

RCRA QC

Name Mark A. Beckman Date 2/3/92

QC Check: Matrix Spikes

COMMENTS: matrix spikes for silica, ammonia and anions all met acceptance criteria for all (both) spikes in the SDG. Alkalinity only had one (1) matrix spike performed, that matrix spike was out of control, biased ~~high~~ high.

ACTION: Qualify all alkalinity results in this SDG as estimated J if the result is above the IDL all other analyses acceptable, no qualification needed.

sample #	constituent	value/qual	sample #	constituent	value/qual
all except alkalinity		J			
B01445					

___ of ___

RCRA QC

Name Mark A. Bedsmag Date 2/3/92

QC Check: Duplicates

COMMENTS: Duplicate analyses for silica, ammonia, alkalinity, and all anions met acceptance criteria.

ACTION: none - none required.

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

___ of ___

RCRA QC

Name Mark A. Beck mab Date 2/3/92

QC Check: Blanks

COMMENTS: Blanks for silica, ammonia, alkalinity and anions were run appropriatly and ~~to~~ were free of contamination.

ACTION: none, none required

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

___ of ___

RCRA QC

Name Mark A. Beck mab Date 2/3/92

QC Check: Calibrations/LCS

COMMENTS: Calibrations (set-up, ICV and CCV) and Laboratory Control Samples (LCS) were performed at appropriate points in the analytical sequence of all analyses. All LCS, ICV and CCV had acceptable recoveries for all ~~alg~~ analyses, including each Ion chromotography run.

ACTION: none - none needed.

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

___ of ___

RCRA QC

Name Mark A. Beck mab Date 2/3/92

QC Check: Other

COMMENTS: none

ACTION: none - none needed.

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

___ of ___

SILICA ANALYSIS

LAB:	S-CUBED	DATA REVIEWER:	aN 11/11/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIDE SOIL	CHARGE NO:	32359-04
LOT:	2633	DATE RECEIVED:	10/12/91
FILE:	SI1012	DATE PREP:	10/25/91
DISK:	SI1023	DATE ANALYZED:	10/25/91
METHOD:	370.1	MATRIX:	SOIL
RESULTS:	UNIT AS MG/KG		

LAB ID	CONCENTRATION
2633 -1	7.62
2633 -2	43.3
2633 -3	104
2633 -4	22.3
2633 -5	20.9
2633 -6	15.1
2633 -7	15.2
2633 -8	30.3
2633 -9	<5.2
2633 -10	7.48
2633 -11	5.08
2633 -12	32.6
2633 -13	7.96
2633 -14	8.84
2633 -15	6.30
2633 -16	6.04
2633 -17	30.1
2633 -18	13.4
2633 -19	6.59
2633 -20	9.54
2633 -21	9.01
2633 -22	5.15
2633 -23	13.7
2633 -24	17.9
2633 -25	15.7
** 2633 -26	< 5

COMMENTS:

mab 2/3/92

** Extra lab blank is calculated from:

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

AMMONIA ANALYSIS

LABORATORY:	S-CUBED	DATA REVIEWER:	11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2633	DATE RECEIVED:	10/12/91
FILE#:	NH31012	DATE PREP:	10/31/91
DISK:	NH31024	DATE ANALYZED:	10/31/91
METHOD NO.	350.3	MATRIX:	SOIL

RESULTS: UNIT AS MG/KG DRY WEIGHT

LAB ID	CONCENTRATION
2633 -1	16.4
2633 -2	7.29
2633 -3	14.1
2633 -4	13.9
2633 -5	1.03
2633 -6	1.27
2633 -7	1.31
2633 -8	1.80
2633 -9	1.71
2633 -10	< 0.16
2633 -11	< 0.15
2633 -12	< 0.16
2633 -13	6.14
2633 -14	7.85
2633 -15	9.34
2633 -16	1.28
2633 -17	1.94
2633 -18	1.71
2633 -19	1.18
2633 -20	1.61
2633 -21	0.79
2633 -22	12.8
2633 -23	21.0
2633 -24	6.15
2633 -25	16.6
2633 -26	< 0.15 **

Comments:

** Extra lab blank is calculated from:

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

MGB 2/3/92

ALKALINITY ANALYSIS

LAB:	S-CUBED	DATA REVIEWER:	aw 11/5/91
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2633	DATE RECIEVED:	10/12/91
FILE #:	ALK1012	DATE PREP:	10-21/30-91
DISK #:	ALK1016	DATE ANALYZED:	10-21/30-91
METHOD NO.:	EPA 310.1	MATRIX:	SOIL

RESULTS: RESULTS AS DRY WEIGHT - MG/KG

LAB ID	CONCENTRATION
2633 - 1	2140 J
2633 - 2	2000
2633 - 3	739
2633 - 4	408
2633 - 5	4140
2633 - 6	3270
2633 - 7	3320
2633 - 8	3790
2633 - 9	205
2633 - 10	665
2633 - 11	366
2633 - 12	310
2633 - 13	225
2633 - 14	247
2633 - 15	615
2633 - 16	121
2633 - 17	670
2633 - 18	305
2633 - 19	162
2633 - 20	162
2633 - 21	454
2633 - 22	181
2633 - 23	11000
2633 - 24	2870
2633 - 25	6660 J
2633 - 26	< 5 **

mlh 2/3/92

COMMENTS:

** Extra lab blank is calculated from:

$$\frac{\text{Method Detection Limit (mg/L) X 0.025 L (Leaching Volume)}}{\text{0.005 kg (Sample Weight)}}$$

01

ANIONS ANALYSIS

LABORATORY:	S-CUBED	DATA REVIEWER:	
CLIENT:	WHC	PROJECT REVIEWER:	
CASE:	SITE WIPE SOIL	CHARGE #:	32359-04
LOT #:	2633	DATE RECEIVED:	10/12/91
FILE#:	ANI1012	DATE PREP:	10/22-25/91
DISK:	ANI1017	DATE ANALYZED:	10/22-25/91
METHOD NO.	300.0	MATRIX:	SOIL

RESULTS: UNIT AS MG/KG DRY WEIGHT

LAB ID	F	CL	NO2	NO3	PO4	SO4
2633 -1	0.56	2.37	< 0.2 uJ	1.81 J	< 0.5 uJ	2.88
2633 -2	1.92	4.42	< 0.2	2.77	1.88 J	45.2
2633 -3	2.03	3.65	< 0.2 uJ	3.46	1.44 J	11.2
2633 -4	20.1	212	< 21 uJ	328	< 51 uJ	4340
2633 -5	16.6	112	< 21	175	225 J	4270
2633 -6	0.15	101	< 0.2 uJ	132	43.8 J	1650
2633 -7	73.3	723	1.11 J	206	< 0.5 uJ	1920
2633 -8	1.60	39.9	< 0.2 uJ	60.0	0.80 J	220
2633 -9	0.56	2.49	< 0.2	1.34	< 0.5 uJ	3.26
2633 -10	0.70	2.24	< 0.2	1.04	< 0.5	1.89
2633 -11	0.46	2.35	< 0.2	1.16	< 0.5	2.19
2633 -12	1.23	2.73	< 0.2	1.60	< 0.5	4.51
2633 -13	0.49	2.75	< 0.2	1.16	< 0.5	2.54
2633 -14	0.67	3.42	< 0.2	1.30	< 0.5	3.87
2633 -15	0.73	3.45	< 0.2	1.25	< 0.5	3.06
2633 -16	0.65	4.00	< 0.2	1.04	< 0.5	3.87
2633 -17	0.77	3.85	< 0.2	1.07	< 0.5	7.21
2633 -18	0.47	9.03	< 0.2	0.71	< 0.5	11.1
2633 -19	0.40	4.27	< 0.2	0.77	< 0.5	11.9
2633 -20	0.45	3.81	< 0.2	0.99	< 0.5	7.52
2633 -21	0.49	11.5	< 0.2	1.06	< 0.5	24.6
2633 -22	0.61	46.4	< 0.2	1.64	< 0.5	79.2
2633 -23	2.25	292	< 0.2	0.92	< 0.5	430
2633 -24	0.86	36.7	< 0.2	41.9	< 0.5	101
2633 -25	1.93	87.7	< 0.2	10.7 J	< 0.5	182
2633 -26	< 0.1	< 0.1	< 0.2 uJ	< 0.5 uJ	< 0.5 uJ	< 0.5

COMMENTS:

mal 2/3/92

** Extra lab blank is calculated from:

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

SAMPLE SUMMARY

S-Cubed Reference No. 32359-04, SDG No. 2633, 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	K
BO 1457	2633-1	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1458	2633-2	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1459	2633-3	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1462	2633-4	10/12/91	SOIL	3	3			3	3	3	3	3	3	3
BO 1463	2633-5	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1464	2633-6	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1467	2633-7	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1468	2633-8	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1469	2633-9	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1470	2633-10	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1471	2633-11	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1472	2633-12	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1473	2633-13	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1482	2633-14	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1483	2633-15	10/12/91	SOIL	3	3			3	3	3	3	3	3	3
BO 1484	2633-16	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1485	2633-17	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1486	2633-18	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1487	2633-19	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1488	2633-20	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1489	2633-21	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1490	2633-22	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1491	2633-23	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1492	2633-24	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 1493	2633-25	10/12/91	SOIL	1	1			1	1	1	1	1	1	1
BO 14H5	2633-26	10/12/91	SOIL	1	1			1	1	1	1	1	1	1

Analysis Key:

A=Ti
B=Zr
C=OCPCLP
D=TOC
E=ICPCLP-M
F=FURNCLP
G=HGCLP
H=ANIONS
I=N-NH3
J=ALK
K=SI