

2988-SCU-042

0044085

# SAMPLE SUMMARY

S-Cubed Reference No. 32359-27, SDG No.2988, Project Name:92-193

Sample ID	S-Cubed Number	Date Received	Sample Type	Analysis											
				A	B	C	D	E	F	G	H	I	J	K	
BO6JB8	2988-01	05/29/92	SOIL	1	1	1	1	1	1	1	1	1			
BO6JB8MS	2988-01MS	05/29/92	SOIL	1	1	1	1	1	1	1	1	1			
BO6JB8MSD	2988-01MSD	05/29/92	SOIL	1	1	1	1	1	1						

### ANALYSIS KEY:

- A=ALK
- B=ANIONS
- C=FURN7000
- D=HG7000
- E=ICP6010
- F=S
- G=TC
- H=TOC



# NARRATIVE

June 29, 1992

**Narrative Project:** 92-193  
**Reference No.:** 32359-27  
**Client:** WHC  
**SDG No.:** 2988

## METALS

The samples were analyzed according to EPA Method 6000 and 7000 series for metals. There were no difficulties with the analyses. Several analytes of interest were detected in the samples.

The quality control results were generally acceptable. Several MS recoveries and Duplicate RPDs are outside accepted criteria due to the non-homogeneous nature of the sample. The several soil LCS recoveries are outside 80-120%, but are within control limits established and listed on Form 7, which is acceptable.

## ALKALINITY

The samples were analyzed according to EPA Method 310.1 modified for soils. Five grams of sample was leached in 25 ml DI H<sub>2</sub>O and then analyzed. There were no difficulties with the analyses. Significant alkalinity was detected in the samples. The quality control results were acceptable.

## ANIONS

The samples were analyzed according to EPA Method 300.0 for anions by IC modified for soils. Nine grams of soil were leached in 45 ml DI H<sub>2</sub>O and then analyzed. There were no difficulties with the analyses. Low levels of several anions were detected in the sample. The quality control results were acceptable.

## SULFIDE

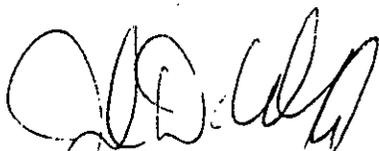
The samples were analyzed according to EPA Method 9030 for sulfide in soils. There were no difficulties with the analyses. No sulfide was detected in the sample above detection limit. The quality control results were acceptable.

## TOC/TC

The samples were analyzed according to EPA Method 9060 for TOC and TC. For TOC analysis, the

## ***NARRATIVE***

sample was made acidic and placed in an oven at 70° C for 1 hour, then analyzed. For TC analysis, no preparation was required. There were no difficulties with the analyses. TOC and TC were detected in the sample above detection limit. The quality control results were acceptable.



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John DeWald  
Manager, Commercial Analysis Section

enclosures

Custody Form Initiator Jonathan G. Lucas  
 Company Contact J.G. Lucas Telephone 376-2789  
 Project Designation/Sampling Locations Yakima Barricade Borehole Collection Date 5-26-92  
#699-48-96 @ ~minus 380FT - SiteWide Background  
 Ice Chest No. RM #35 Field Logbook No. EFL-1023  
 Bill of Lading/Airbill No. 250986885 6 Offsite Property No. W92-0-0340 #37  
 Method of Shipment Emery  
 Shipped to S-Cubed San Diego, CA  
 Possible Sample Hazards/Remarks -

Sample Identification

✓ BOGUB8 - (1) Soil aG 250m

Field Transfer of Custody

CHAIN OF POSSESSION

(Sign and Print Names)

Relinquished by: <u>Jonathan G. Lucas</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/29/92 11:30 AM</u>
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:



"Next Day Delivery"

"Signature Security"

0-12-1992

Contractor Westinghouse Hanford Co.	OFF-SITE PROPERTY CONTROL	CONTROL NUMBER (To be obtained from PROPERTY MANAGEMENT) W92-0-0340#37
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PART I - TO BE COMPLETED BY ORIGINATOR

Department Environ. Rest. Eng.	Section Environ. Remedial Act.	Unit
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The following items are to be shipped from	<input checked="" type="checkbox"/> Contractor	<input type="checkbox"/> Vendor
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Routing Emery	<input checked="" type="checkbox"/> Contractor	<input type="checkbox"/> Vendor
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Shipped to S-Cubed 3398 Carmel Mt. Rd. San Diego, CA 92121-1095	Off-site Custodian John Dewald
	Full Title —

Quantity	Description (Include Serial and any Government Tag Numbers)	Original Cost
1 Weight - 20lbs	poly ice chest (RM#35) containing glass sample container of soil packed in blue ice and vermiculite. Sample # - B06JB8	

<input type="checkbox"/> Classified	<input checked="" type="checkbox"/> Unclassified	<input type="checkbox"/> Shipped Under DOE Contract	<input type="checkbox"/> Shipped Under Contractor's Use Permit Contract
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Necessity for the Off-Site Use of this Property  
Program not available on site.  
Bill of lading # 2509868856

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

RM Clearance for Public Release Mendenhall	RM Survey No 20-113325	Date 5-29-92
Location of Property (Area & Bldg.) - 380 FT Yakima Barricade borehole #699-48-96	Contact J. G. Lucas	Phone 376-2789
Date Ready for Shipment 5-28-92	Cost Code to be Charged PK1BB 01225	Approximate Date This Property will be Returned —
Originated By J. G. Lucas	Date 5-27-92	Authorized By [Signature]
Signature and Name of Property Control	Custodian Date	Property Management Approval [Signature]
		Date 5/28/92

PART II - TO BE COMPLETED BY SHIPPING

Signature of Recipient [Signature]	Return Order No. 1050	Date Issued	Purchase Order No.	Date issued
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DISTRIBUTION

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

Date Received: 5-29-1992

Date Sampled: 5-26-1992

Client Code: WHC

Time Received: Not Available

Received by (Sig): *[Signature]*

Custody Seals Present/Intact  Y  N Reporting Level: Full CLP

Airbill No. *2509860036*

Chain of Custody Present/Intact  Y  N Turnaround Required: 30 Day

Charge No. 32359-27

Client Forms Present  Y  N Quality Control Req'd: Level 3 (RCRA)

Case No./Project Code: 92-193		SDG No.: 2988				ALK	ANIONS	FURN7000	HG7000	ICP6010	S	TC	TOC	All Info Agree	Notes
S-Cubed Sample No.	Sample Identification	Samp. Type	No. Cont.	Samp Cond	Samp Stor.										
2988 01	BO6JB8	SOIL	<i>0/1</i>	<i>OK</i>	<i>WA</i>	X	X	X	X	X	X	X			
2988-01MS	BO6JB8MS	SOIL	↓	↓	↓	X	X	X	X	X	X	X		<i>only one container for all analysis</i>	
2988 01REP	BO6JB8REP	SOIL	↓	↓	↓	X	X	X	X	X					

**Container Types**

- Water \_\_\_\_\_
- Soil \_\_\_\_\_

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

- Water MS,MSD \_\_\_\_\_
- Soil MS,MSD \_\_\_\_\_
- SDG Complete  Y  N

Review JO 5/30

1  
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE- NO.

2988-01

Lab Name: S\_CUBED \_\_\_\_\_ Contract: 32359-27 \_\_\_\_\_

Lab Code: S3 \_\_\_\_\_ Case No.: 92193 SAS No.: \_\_\_\_\_ SDG No.: 2988 \_\_\_\_\_

Matrix (soil/water): SOIL \_\_\_\_\_ Lab Sample ID: 2988-01 \_\_\_\_\_

Level (low/med): LOW \_\_\_\_\_ Date Received: 05/29/92

% 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	3850	-	*	P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	0.51	B	N	F
7440-39-3	Barium	53.1	-	-	P
7440-41-7	Beryllium	0.10	B	-	P
7440-43-9	Cadmium	0.20	U	-	P
7440-70-2	Calcium	1870	-	*	P
7440-47-3	Chromium	9.3	-	*	P
7440-48-4	Cobalt	5.9	-	-	P
7440-50-8	Copper	6.1	-	-	P
7439-89-6	Iron	12200	-	*	P
7439-92-1	Lead	2.1	-	-	F
7439-95-4	Magnesium	2110	-	*	P
7439-96-5	Manganese	285	-	*	P
7439-97-6	Mercury	0.10	U	-	CV
7440-02-0	Nickel	11.3	-	-	P
7440-09-7	Potassium	430	B	-	P
7782-49-2	Selenium	0.40	U	-	F
7440-22-4	Silver	0.40	U	-	P
7440-23-5	Sodium	98.2	B	-	P
7440-28-0	Thallium	0.30	U	-	F
7440-62-2	Vanadium	19.7	-	*	P
7440-66-6	Zinc	19.3	-	*	P

Color Before: \_\_\_\_\_ Clarity Before: \_\_\_\_\_ Texture: \_\_\_\_\_

Color After: \_\_\_\_\_ Clarity After: \_\_\_\_\_ Artifacts: \_\_\_\_\_

Comments:

B06JB8



ANIONS ANALYSIS

LABORATORY: S-CUBED  
 CLIENT: WHC  
 PROJECT: 92-193  
 LOT #: 2988  
 FILE #: ANI2988  
 DISK #: ANI0511  
 METHOD NO.: 300.0

DATA REVIEWER: *cn 6/11*  
 PROJECT REVIEWER:  
 CHARGE #: 32359-27  
 DATE SAMPLED: 05/26/92  
 DATE RECEIVED: 05/29/92  
 PREP DATE: 06/03/92  
 DATE ANALYZED: 06/03/92

UNIT: MG/KG

SAMPLE TYPE: SOIL

LAB ID	F	Cl	NO2	Br	NO3	PO4	SO4
2988 -01	1.23	9.14	< 0.3	4.96	2.69	< 0.7	26.6

All QC requirement were met. The sample was leached into D1 type II water before analysis. Nine gm of sample was leached into 45 mL water.



MAXWELL  
S-CUBED

				QC SUMMARY			
ANALYTE:	TOC/TC	CALIBRATION		CONC	OBSERVED	%REC.	ACCEPT.
METHOD REF.:	9060	STD 2000ppm	1999	MS	100	111.6	80-120
DATE:	6/3/92	STD 400ppm	398.4	LCS	2000	2066	80-120
ANALYST:	CAC	STD 10ppm	9.96				
MATRIX:	Soil	CAL BLANK	0.67				
$TOC\ CONC. = (TOC\ READING / 2000) * (0.08\ mg / 0.00001\ kg) * DIL.FACTOR$ $FINAL\ CONC. = TOC\ CONC. / (1 - (\%MOIST. * 0.01))$							

SAMPLE ID.	TOC READING	DIL. FACTOR	TOC CONC. (mg/kg)	%MOIS	FINAL CONC (mg/kg)	CLIENT SAMP.ID	
BLANK	7.3	1	29		30		
LCS	2066	1	8264		8260		
2988-01	80.59	10	3224	21.81	4120	BO6JB8	TOC
2988-01MS	192.2	10	7688	21.81	9830	BO6JB8MS	TOC
2988-01	87.08	10	3483	21.81	4450	BO6JB8	TC
2988-01MS	176.2	10	7048	21.81	9010	BO6JB8MS	TC