B01980-TMA-460

0046298

Page 1 Skinner&Sherman REPORT Work Order # S3-04-136

Received: 04/13/93 04/26/93 16:47:35

REPORT TO: TMA/NORCAL, 2030 Wright Avenue, Richmond, CA 94804

ATTEN: Dan Steurmer

CLIENT: HANFORD NOR SAMPLES 13

COMPANY: TMA/NORCAL Hanford

FACILITY: Richmond, CA

PREPARED BY: TMA / Skinner & Sherman Labs., 300 Second Avenue, P.O. Box 521, Waltham, MA 02254

ATTEN: Client Services

PHONE: (617) 890-7200

CERTIFIED BY

CONTACT: DP

WORK ID: N3-04-050 RUSH!!! DUE 4/22/93

TAKEN: By Client

TRANS: Fed Ex

TYPE: Soil

P.O. #: N3-04-050

INVOICE: under separate cover

SAMPLE IDENTIFICATION		
01	B01980	
02	B01981	
03	B01982	
04	B01983	
05	B01984	
06	B01985	
07	B01986	
08	B01987	
09	B01988	
10	B01989	
11	B01991	
12	B01992	
12	B01992	DUPL
12	B01992	SPIKE
13	LCSS	

TEST CODES and NAMES used on this workorder

CRHEXS Hexavalent Chromium/Soil

JAN 1997 RECEIVED ETMC

SEP 1996 RECEIVED Data Log In

TMA Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

Received: 04/13/93

Results by Sample

SAMPLE ID B01980 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01981 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01982 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01983 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01984 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01985 SAMPLE # 06 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01986 SAMPLE # 07 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

TMA
Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc. 300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

Received: 04/13/93

Results by Sample

SAMPLE ID B01987 SAMPLE # 08 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01988 SAMPLE # 09 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01989 SAMPLE # 10 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01991 SAMPLE # 11 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01992 SAMPLE # 12 FRACTIONS: A
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01992 DUPL SAMPLE # 12 FRACTIONS: B
Date & Time Collected 04/08/93 Category SOIL

CRHEXS <0.50
mg/kg

SAMPLE ID B01992 SPIKE SAMPLE # 12 FRACTIONS: C
Date & Time Collected 04/08/93 Category SOIL

CRHEXS 0.50
mg/kg

TMA
Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc. 300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

Received: 04/13/93

Results by Sample

SAMPLE ID LCSS SAMPLE # 13 FRACTIONS: A

Date & Time Collected not specified Category SOIL

CRHEXS 19.8
ug/L

TMA
Thermo Analytical Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

Skinner & Sherman Laboratories Inc.
300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

Received: 04/13/93 04/26/93 16:51:50

TMA/NORCAL Hanford

QUALITY CONTROL

HEXAVALENT CHROMIUM

MATRIX SPIKE

Sample ID	Sample Result	Spike Added	Spike Result	% Recovery
S304136-12	<0.50 mg/kg	0.50 mg/kg	0.50 mg/kg	100.0

DUPLICATE

Sample ID	Sample Result	Duplicate Result	Relative % Difference
S304136-12	<0.50 mg/kg	<0.50 mg/kg	not calculable

QUALITY CONTROL SAMPLES

Sample ID	True Value	Found Value	% Recovery
LCS	20.0 ug/L	19.8 ug/L	99.0
Prep Blank	--	<10 ug/L	--

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

TEST CODE CRHEXS NAME Hexavalent Chromium/Soil

The soil was digested in accordance with EPA Method 3020 and subsequently analyzed by for hexavalent chromium by EPA Method 7197.

TMA
Thermo Analytical Inc.
Skinner & Sherman Laboratories Inc.

This report is rendered upon all of the following conditions: Skinner & Sherman Laboratories, Inc., retains ownership of this report until associated submitted invoice is satisfied. Expert witness services shall be available in conjunction with this report only if prior notification of this potential requirement was made and accepted, before the analysis. Client will be responsible for Skinner & Sherman costs and consulting fees if our services are required by subpoena or otherwise in legal proceedings. Total liability is limited to the invoice amount. The results listed refer only to tested samples and applicable parameters. Samples are not analyzed in accordance with New York State protocol unless indicated. Product endorsement is neither inferred nor implied. Skinner & Sherman Laboratories, Inc., will exercise due diligence but will not be responsible for lost or destroyed samples or evidence unless client makes appropriate insurance coverage arrangements. Samples are held for thirty days following issuance of report. Samples will be stored at client's expense, if authorized in writing.

300 Second Avenue, P.O. Box 521, Waltham, Massachusetts 02254-0521 (617) 890-7200
1-800-4 LAB TEST FAX (617) 890-3883

TMA/Skinner & Sherman **HEXAVALENT CHROMIUM Cr(VI)** Method 7197

Date	Init.	Sample ID/ Standard	Water, Soil	Sample Vol.	Initial pH	Adjust pH	Extract Vol.*	Result (ppb)
4-21-93	AD	0 ug						
		1 ug						
		2 ug						
		5 ug						
		SJ04136 01	Soil	100	12.691	2.421		
		02			12.650	2.445		
		03			12.581	2.379		
		04			12.467	2.401		
		05			12.493	2.377		
		06			12.661	2.413		
		07			12.670	2.381		
		08			12.665	2.368		
		09			12.658	2.380		
		10			12.665	2.415		
		11			12.657	2.394		
		12		RB 9-21-93	12.659	2.396		
		12D			12.689	2.391		
		12S		200 ul 10 ppm	12.667	2.403		
		PREP BLANK			12.512	2.401		

10 ppm Stock Solution - Dilute 1 ml of 1000 ppm Cr. ICP Standard/100 ml.
Spike Used - 400 ul 10 ppm Stock in 20 ml MIBK = 2 ug Spike
* - in MIBK.

Comments:

Reviewed [signature] Rev. 0, 10/91 Page 44

Rush Due 4/22/93

TMA/Skinner & Sherman Labs SAMPLE LOG-IN
WORKORDER 5304136 CLIENT Hanford NOR No. SAMPLES:
PROTCL CLP TURNARND 11 Day 12
COOLER TEMP: 2 oC, or NA (Soil) (Water) (Specify Other)
CUSTODIAN B. Prouix SDG/BATCH N/A
CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N304050
SHIPER & # Fed Ex PO/CONTRACT# 1
TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. Sanchez
CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # N/A COMMENTS: none

SAMPLE CONTAINERS-INTACT/BROKEN COMMENTS

CLIENT COMMENT? YES/NO
SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)
CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES /NO (COMMENT)

SHIPMENT DATES 4/13/93
LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B01980	Soil	4/13/93	N/A	CRHeks	
2	B01981					
3	B01982					
4	B01983					
5	B01984					
6	B01985					
7	B01986					
8	B01987					
9	B01988					
10	B01989					
11	B01991					
12	B01992				D.S	
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO
Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO TO: DATE:

REVIEWED Complete BP 4/13/93

* EPA/CLP required Rev 1.6 PAGE: 20

PAGE 1 TMA/Hotcell CHAIN OF CUSTODY ORD # NO-94-050

RCVD: 04/12/93 DUE: 04/22/93 04/12/93 12:44:22 KEEP: 07/21/93 DISP: 6

DASH	SAMPLE IDENTIFICATION	STORED	TESTS FOR FRACTIONS with work in DEPT: SV and CATEGORY			
01A-S	B01980	S&S	WH001	WH002	WH175	
02A-S	B01981	S&S	WH001	WH002	WH175	
03A-S	B01982	S&S	WH001	WH002	WH175	
04A-S	B01983	S&S	WH001	WH002	WH175	
05A-S	B01984	S&S	WH001	WH002	WH175	
06A-S	B01985	S&S	WH001	WH002	WH175	
07A-S	B01986	S&S	WH001	WH002	WH175	
08A-S	B01987	S&S	WH001	WH002	WH175	
09A-S	B01988	S&S	WH001	WH002	WH175	
10A-S	B01989	S&S	WH001	WH002	WH175	
11A-S	B01991	S&S	WH001	WH002	WH175	
12A-S	B01992	S&S	WH001	WH002	WH175	
12B-S	B01992 MS	S&S	WH001	WH002	WH175	
12C-S	B01992 DUP	S&S	WH001	WH002	WH175	
12D-S	L C S	S&S	WH001	WH002	WH175	

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Yamamoto	4-12-93	Kinzer	4-12-93	Bank Punge	4/13/93

TMA
Thermo Analytical Inc.

Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 521
Waltham, MA 02254-0521
(617) 890-7200
FAX (617) 890-3883

SEP 1996
RECEIVED
Data
Log In

April 26, 1993

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Steurmer

Quality Control Narrative

Scope
Twelve (12) soil samples were submitted to TMA/Skinner & Sherman Laboratories, Inc. on April 13, 1993 from TMA/NORCAL. The samples were analyzed for the USEPA CLP ICP metals only. The analysis was performed under Skinner and Sherman work order S304137.

Methodology
The samples were prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.1

Discussion
All quality control requirements were met for the samples with the following exception;

The antimony digestion spike recovery exceeded the control limit requirements.

Please feel free to call if there are any questions concerning the data package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

David N. Peterson
Assistant Laboratory Manager

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B01980

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0138

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-01S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 93.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	50.1			P
7440-36-0	Antimony	3.8	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	0.30	B		P
7440-41-7	Beryllium	0.06	U		P
7440-43-9	Cadmium	0.29	U		P
7440-70-2	Calcium	19.3	U		P
7440-47-3	Chromium	0.68	U		P
7440-48-4	Cobalt	0.60	U		P
7440-50-8	Copper	2.3	B		P
7439-89-6	Iron	256			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	6.0	B		P
7439-96-5	Manganese	0.25	B		P
7439-97-6	Mercury				NR
7440-02-0	Nickel	0.86	U		P
7440-09-7	Potassium	23.8	B		P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.68	U		P
7440-23-5	Sodium	15.6	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	0.44	B		P
7440-66-6	Zinc	2.9	B		P
	Cyanide				NR

Color Before: WHITE Clarity Before: Texture: FINE

Color After: WHITE Clarity After: Artifacts: -

Comments:

02

WESTINGHOUSE/HANFORD

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B01981

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-02S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 91.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8360			P
7440-36-0	Antimony	3.0	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	142			P
7440-41-7	Beryllium	0.30	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	4320			P
7440-47-3	Chromium	29.6			P
7440-48-4	Cobalt	18.3			P
7440-50-8	Copper	144			P
7439-89-6	Iron	31800			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4400			P
7439-96-5	Manganese	592			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	42.2			P
7440-09-7	Potassium	1690			P
7782-49-2	Selenium				NR
7440-22-4	Silver	4.5			P
7440-23-5	Sodium	910	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	37.6			P
7440-66-6	Zinc	247			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS, METAL

03

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B01982

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-033

Level (low/med): LOW Date Received: 04/13/93

% Solids: 91.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8160			P
7440-36-0	Antimony	3.9	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	89.3			P
7440-41-7	Beryllium	0.32	B		P
7440-43-9	Cadmium	0.29	U		P
7440-70-2	Calcium	4450			P
7440-47-3	Chromium	16.4			P
7440-48-4	Cobalt	9.2	B		P
7440-50-8	Copper	31.4			P
7439-89-6	Iron	20300			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4670			P
7439-96-5	Manganese	345			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	12.8			P
7440-09-7	Potassium	1730			P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.85	B		P
7440-23-5	Sodium	196	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	40.3			P
7440-66-6	Zinc	90.3			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS

04

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B01983

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-04S

Level (low/med): LOW Date Received: 04/13/93

% 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	8010			P
7440-36-0	Antimony	3.8	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	89.2			P
7440-41-7	Beryllium	0.28	B		P
7440-43-9	Cadmium	0.29	U		P
7440-70-2	Calcium	5890			P
7440-47-3	Chromium	16.8			P
7440-48-4	Cobalt	8.7	B		P
7440-50-8	Copper	37.5			P
7439-89-6	Iron	21200			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4550			P
7439-96-5	Manganese	323			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	13.3			P
7440-09-7	Potassium	1560			P
7782-49-2	Selenium				NR
7440-22-4	Silver	1.3	B		P
7440-23-5	Sodium	382	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	40.5			P
7440-66-6	Zinc	145			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS

05

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B01984

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-05S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 91.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7070			P
7440-36-0	Antimony	3.9	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	72.0			P
7440-41-7	Beryllium	0.27	B		P
7440-43-9	Cadmium	0.29	U		P
7440-70-2	Calcium	4550			P
7440-47-3	Chromium	16.5			P
7440-48-4	Cobalt	8.0	B		P
7440-50-8	Copper	17.9			P
7439-89-6	Iron	17600			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4310			P
7439-96-5	Manganese	277			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	10.4			P
7440-09-7	Potassium	1520			P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.86	B		P
7440-23-5	Sodium	236	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	37.1			P
7440-66-6	Zinc	61.6			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS

06

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

301985

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0103

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: 801980

Matrix (soil/water): SOIL Lab Sample ID: 24137-06S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 89.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7800			P
7440-36-0	Antimony	4.1	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	81.5			P
7440-41-7	Beryllium	0.34	B		P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	4570			P
7440-47-3	Chromium	16.2			P
7440-48-4	Cobalt	8.6	B		P
7440-50-8	Copper	20.7			P
7439-89-6	Iron	19700			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4340			P
7439-96-5	Manganese	307			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	11.3			P
7440-09-7	Potassium	1590			P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.73	B		P
7440-23-5	Sodium	263	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	39.9			P
7440-66-6	Zinc	83.4			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS, ROOTS

07

WESTINGHOUSE/HANFORD

1

SAMPLE NUMBER:

B01986

INORGANIC ANALYSIS DATA SHEET

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-07S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 89.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6930			P
7440-36-0	Antimony	3.9	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	75.3			P
7440-41-7	Beryllium	0.30	B		P
7440-43-9	Cadmium	0.29	U		P
7440-70-2	Calcium	4470			P
7440-47-3	Chromium	11.5			P
7440-48-4	Cobalt	7.6	B		P
7440-50-8	Copper	15.3			P
7439-89-6	Iron	16100			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4120			P
7439-96-5	Manganese	283			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	9.5			P
7440-09-7	Potassium	1540			P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.58	U		P
7440-23-5	Sodium	254	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	35.3			P
7440-66-6	Zinc	50.7			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS

08

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B01987

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-08S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 90.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6660			P
7440-36-0	Antimony	3.8	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	68.3			P
7440-41-7	Beryllium	0.31	B		P
7440-43-9	Cadmium	0.29	U		P
7440-70-2	Calcium	4460			P
7440-47-3	Chromium	15.6			P
7440-48-4	Cobalt	7.5	B		P
7440-50-8	Copper	13.0			P
7439-89-6	Iron	16000			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4150			P
7439-96-5	Manganese	269			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	10.1			P
7440-09-7	Potassium	1470			P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.67	U		P
7440-23-5	Sodium	195	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	34.9			P
7440-66-6	Zinc	46.0			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS

09

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B01980

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-09S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 89.9

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7170			P
7440-36-0	Antimony	4.1	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	69.0			P
7440-41-7	Beryllium	0.26	B		P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	7030			P
7440-47-3	Chromium	17.1			P
7440-48-4	Cobalt	7.8	B		P
7440-50-8	Copper	13.8			P
7439-89-6	Iron	16800			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4300			P
7439-96-5	Manganese	269			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	10.3			P
7440-09-7	Potassium	1560			P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.73	U		P
7440-23-5	Sodium	213	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	38.5			P
7440-66-6	Zinc	38.1			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS

10

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER: B01989

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-10S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 89.6

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7620			P
7440-36-0	Antimony	4.1	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	77.1			P
7440-41-7	Beryllium	0.28	B		P
7440-43-9	Cadmium	0.31	U		P
7440-70-2	Calcium	4780			P
7440-47-3	Chromium	17.7			P
7440-48-4	Cobalt	7.8	B		P
7440-50-8	Copper	12.7			P
7439-89-6	Iron	17300			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	1450			P
7439-96-5	Manganese	279			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	11.2			P
7440-09-7	Potassium	1520			P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.72	U		P
7440-23-5	Sodium	227	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	38.1			P
7440-66-6	Zinc	38.1			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS

11

WESTINGHOUSE/HANFORD
1

SAMPLE NUMBER:

INORGANIC ANALYSIS DATA SHEET

B01991

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0108

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-11S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 92.3

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6120			P
7440-36-0	Antimony	4.0	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	61.3			P
7440-41-7	Beryllium	0.26	B		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	5200			P
7440-47-3	Chromium	10.0			P
7440-48-4	Cobalt	7.4	B		P
7440-50-8	Copper	11.9			P
7439-89-6	Iron	15200			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4290			P
7439-96-5	Manganese	250			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	10.2			P
7440-09-7	Potassium	1210			P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.71	U		P
7440-23-5	Sodium	202	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	35.8			P
7440-66-6	Zinc	35.1			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS

12

WESTINGHOUSE/HANFORD
1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NUMBER:

B01992

Lab Name: SKINNER & SHERMAN LABS. Contract: 68-D0-0103

Lab Code: SKINER Case No.: N3-04-050SAS No.: SDG No.: B01980

Matrix (soil/water): SOIL Lab Sample ID: 04137-12S

Level (low/med): LOW Date Received: 04/13/93

% Solids: 92.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7720			P
7440-36-0	Antimony	3.9	U	N	P
7440-38-2	Arsenic				NR
7440-39-3	Barium	75.0			P
7440-41-7	Beryllium	0.32	B		P
7440-43-9	Cadmium	0.29	U		P
7440-70-2	Calcium	5190			P
7440-47-3	Chromium	12.3			P
7440-48-4	Cobalt	8.3	B		P
7440-50-8	Copper	12.1			P
7439-89-6	Iron	18200			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	4310			P
7439-96-5	Manganese	286			P
7439-97-6	Mercury				NR
7440-02-0	Nickel	10.5			P
7440-09-7	Potassium	1640			P
7782-49-2	Selenium				NR
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	270	B		P
7440-28-0	Thallium				NR
7440-62-2	Vanadium	40.0			P
7440-66-6	Zinc	36.4			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: FINE

Color After: BROWN Clarity After: Artifacts: YES

Comments:
ROCKS

13

Rush ! Due 4/22/93

TMA/Skinner & Sherman Labs SAMPLE LOG-IN
WORKORDER 5304137 CLIENT Hanford Nor No. SAMPLES:
PROTCL CLP TURNARND 11 Day 12
COOLER TEMP: 2 oC, or NA (Soil) (Water) (Specify Other)
CUSTODIAN B Prouk SDG/BATCH N/A
CUSTODY SEAL: PRESENT/ABSENT/INTACT/NOT CLIENT CASE N304050
SHIPER & # Fed Ex PO/CONTRACT# 1
TAGS: PRESENT/ABSENT/NA/SEE COC CONTACT D. Sanchez
CHAIN OF CUSTODY: PRESENT/ABSENT/NA, # N/A COMMENTS: nma

SAMPLE CONTAINERS-INTACT/BROKEN COMMENTS

CLIENT COMMENT? YES/NO
SAMPLE LABELS AGREE WITH CHAIN OF CUSTODY INFO? YES/NO (COMMENT)
CLIENT PAPERWORK AGREES WITH SAMPLES & COC? YES /NO (COMMENT)

SHIPMENT DATES 4/13/93
LIST ANY DATE WITH PAPERWORK/SHIPMENT PROBLEMS & SPECIFY THE PROBLEM:

N/A

	CLIENT ID	MATRIX	RECEIVED	PH*	TEST(S) & QC	HOLD TIME UP
1	B01980	Soil	4/13/93	N/A	IC20.S	
2	B01981					
3	B01982					
4	B01983					
5	B01984					
6	B01985					
7	B01986					
8	B01987					
9	B01988					
10	B01989					
11	B01991					
12	B01992				D.S	
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						

Samples are from site known to have Rad-Contamination: YES ✓ NO
Samples have detectable amounts of Radioactive Material: YES NO ✓

SUBCONTRACT: YES/NO TO: DATE: 4/13/93 BP

REVIEWED complete

* EPA/CLP required Rev 1.6 PAGE: 21