



Rocky Flats Environmental Technology Site
CHEMICAL CHARACTERIZATION PACKAGE

BUILDING 886 CLUSTER CLOSURE PROJECT – Phase 1

REVISION 2

June 11, 2001

Prepared by: DAVID BASOS 6/12/01
Industrial Hygiene

Prepared by: Kimberly L. Niles 6/12/01
Environmental Compliance

Reviewed by: [Signature] 6/12/01
Quality Assurance

Reviewed by: [Signature] 6/12/01
RISS Facility Characterization Coordinator

Approved by: K.A. [Signature] 6/12/01
Closure Project Facility Manager



DOES NOT CONTAIN
OFFICIAL USE ONLY INFORMATION

Name/Org: EMCCO Class Date: 10/6/08
Not U.S. OK for public release

56

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

ADMIN RECCRD

0000 38
B886-A-00000

CHEMICAL CHARACTERIZATION PACKAGE

BUILDING: 886 CLUSTER –PHASE 1 AREAS (Front Office Rooms 130, 131, 129, 128, 123, 125, 121, 119, 116, 127, 122, 118, 120, 117, Room 111 (Utility), Room 106 (tools), T886A (interior), exterior walls and roofs of B886, B875, & T886A, B888 (interior & exterior), and 888A slab and block walls

- * This characterization package was prepared in accordance with MAN-077-DDCP, D&D Characterization Protocols, and MAN-127-PDSP, Pre-Demolition Survey Plan for D&D Facilities.
- * PDSP Data Quality Objectives were used to develop this characterization package.

Instructions:

1. Verify characterization activities are on the Plan-of-the-Day (POD).
2. Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual.
3. Verify personnel have appropriate training for the applicable tasks they will be performing.
4. Comply with RWP requirements, if applicable.
5. Comply with JHA and facility PPE requirements, as applicable.
6. Inform the Facility Manager, or designee prior to starting characterization activities.
7. Follow applicable characterization and sampling procedures.
8. Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs.
9. Coordination with the Environmental Restoration Program organization will be required to further characterize underneath facility foundations and slabs prior to removal.
10. Collect and maintain all characterization paperwork in the Project File(s), and all electronic data in the appropriate D&D RISS subdirectory.

ASBESTOS		
Sample Location	Estimated Number of Samples	Sample location and justification/rational
T886A	15	T886A was not characterized during the RLC phase. The number of samples necessary to complete the inspection is estimated at 15.
886	0	Characterization previously completed during RLC. No additional sampling is necessary.
875	0	Characterization previously completed during RLC. No additional sampling is necessary.
B888	6	The roof is assumed to be asbestos containing since sampling was not performed during the RLC phase; sample collection could prove otherwise. Suspect transite panels were not previously sampled during the RLC.
888A Slab and block walls	0	Cinderblock walls are not considered suspect ACM. However, need to ensure no skim coat on cinderblock and no asbestos insulation used to fill the blocks. Unlikely any samples will be collected.
Total Samples:	21	The exact sample numbers and locations will not be determined until a comprehensive, invasive inspection is performed in accordance with 40 CFR Part 763, Subpart E. Sample locations will be specified on sample maps during characterization efforts. Samples will be obtained in accordance with PRO-653-ACPR, Asbestos Characterization Procedure and 40 CFR 763.

2

BERYLLIUM		
Sample Location	Number of Samples (smears)	Sample location and justification/rational
886 Cluster – Phase 1 Areas	0	Historical and process knowledge, and the 886 Cluster RCLR (RF/RMRS-97-124.UN), indicates beryllium (Be) was never used or stored in the 886 Cluster, therefore no additional Be sampling is needed in Phase 1 Areas.
Total Samples:	0	

LEAD		
Sample Location	Number of Samples	Sample location and justification/rational
886 Cluster, all locations	0	Lead sampling is not required in the 886 Cluster. All paint will remain a part of the infrastructure during demolition and therefore does not require sampling per Environmental Waste Compliance Guidance No. 27, Lead Based Paint (LBP) and LBP Debris Disposal. Sampling for lead for IH requirements will be at the discretion of the demolition contractor.
Total Samples:	0	

RCRA/CERCLA CONSTITUENTS		
Sample Location	Number of Samples	Sample location and justification/rational
B886 Cluster Phase 1 all locations	1	Based on B886 Cluster RLCR (RF/RMRS-97-124.UN), dated, December 24 th , 1997, the paint in B888 was hazardous for lead and chromium. Therefore, the drywall will be sampled in B888 to determine if this waste stream (i.e., painted drywall) will fail for TCLP metals.
Total Samples:	1	Sample will be obtained at a drywall location specified on a sample map in accordance with PRO-488-BLCR, Bulk Solids and Liquids Characterization Procedure.

PCBs		
Sample Location	Number of Samples	Sample location and justification/rational
B886 Phase 1 locations	0	The Phase 1 portions of these buildings will go off-site as assumed PCB bulk product waste, therefore no additional sampling is required.
B888	0	The Phase 1 portions of these buildings will go off-site as assumed PCB bulk product waste, therefore no additional sampling is required.
B875 (Building only)	0	The Phase 1 portions of these buildings will go off-site as assumed PCB bulk product waste, therefore no additional sampling is required.
Total Samples:	0	

* PCB ballasts, fluorescent light bulbs, potential mercury switches in thermostats, and mercury vapor light bulbs shall be removed prior to demolition.

3

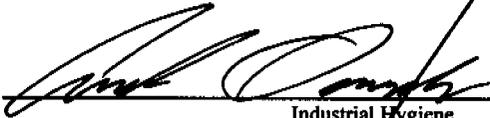


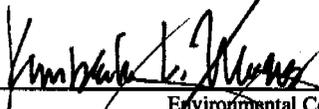
Rocky Flats Environmental Technology Site
CHEMICAL CHARACTERIZATION PACKAGE

BUILDING 886 CLUSTER CLOSURE PROJECT – Phase 1

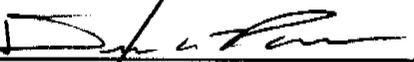
REVISION 1

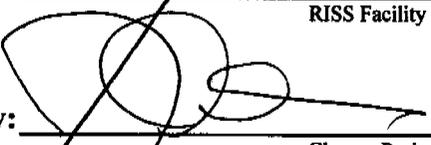
February 20, 2001

Prepared by: 
Industrial Hygiene

Prepared by:  2/20/01
Environmental Compliance

Reviewed by: 
Quality Assurance

Reviewed by:  2/21/01
RISS Facility Characterization Coordinator

Approved by:  23 Feb 01
Closure Project Facility Manager

*Superseded
by Rev 2.
MAP
10/22/01*

4

CHEMICAL CHARACTERIZATION PACKAGE

BUILDING: 886 CLUSTER –PHASE 1 AREAS (Front Office Rooms 130, 131, 129, 128, 123, 125, 121, 119, 116, 127, 122, 118, 120, 117, Room 111 (Utility), Room 106 (tools), T886A (interior), exterior walls and roofs of B886, B875, & T886A, B888 (interior & exterior), and 888A slab and block walls

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ASBESTOS		
Sample Location	Estimated Number of Samples	Sample location and justification/rational
T886A	15	T886A was not characterized during the RLC phase. The number of samples necessary to complete the inspection is estimated at 15.
886	0	Characterization previously completed during RLC. No additional sampling is necessary.
875	0	Characterization previously completed during RLC. No additional sampling is necessary.
B888	6	The roof is assumed to be asbestos containing since sampling was not performed during the RLC phase; sample collection could prove otherwise. Suspect transite panels were not previously sampled during the RLC.
888A Slab and block walls	0	Cinderblock walls are not considered suspect ACM. However, need to ensure no skim coat on cinderblock and no asbestos insulation used to fill the blocks. Unlikely any samples will be collected.
Total Samples:	21	The exact sample numbers and locations will not be determined until a comprehensive, invasive inspection is performed in accordance with 40 CFR Part 763, Subpart E. Sample locations will be specified on sample maps during characterization efforts. Samples will be obtained in accordance with PRO-653-ACPR, Asbestos Characterization Procedure and 40 CFR 763.

BERYLLIUM		
Sample Location	Number of Samples (smears)	Sample location and justification/rational
886 Cluster – Phase 1 Areas	0	Historical and process knowledge, and the 886 Cluster RCLR (RF/RMRS-97-124.UN), indicates beryllium (Be) was never used or stored in the 886 Cluster, therefore no additional Be sampling is needed

(A)
5/2/01

5

LEAD		
Sample Location	Number of Samples	Sample location and justification/rational
886 Cluster, all locations	0	Lead sampling is not required in the 886 Cluster. All paint will remain a part of the infrastructure during demolition and therefore does not require sampling per Environmental Waste Compliance Guidance No. 27, Lead Based Paint (LBP) and LBP Debris Disposal. Sampling for lead for IH requirements will be at the discretion of the demolition contractor.
Total Samples:	0	

RCRA/CERCLA CONSTITUENTS		
Sample Location	Number of Samples	Sample location and justification/rational
B886 Cluster Phase 1 all locations	0	Based on B886 Cluster RLCR (RF/RMRS-97-124.UN), dated, December 24 th , 1997, there were no chemical hazards associated with the Phase 1 portions of these buildings (except for drywall in 888). Construction debris will go offsite to a sanitary landfill; therefore no additional sampling is required.
Total Samples:	0	

PCBs		
Sample Location	Number of Samples	Sample location and justification/rational
B886 Phase 1 locations	0	The Phase 1 portions of these buildings will go off-site as assumed PCB bulk product waste, therefore no additional sampling is required.
B888	0	The Phase 1 portions of these buildings will go off-site as assumed PCB bulk product waste, therefore no additional sampling is required.
B875 (Building only)	0	The Phase 1 portions of these buildings will go off-site as assumed PCB bulk product waste, therefore no additional sampling is required.
Total Samples:	0	

* PCB ballasts, fluorescent light bulbs, potential mercury switches in thermostats, and mercury vapor light bulbs shall be removed prior to demolition.

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BERYLLIUM		
Sample Location	Number of Samples (smears)	Sample location and justification/rational
886 - Room 104	5 - biased	The 886 Cluster RCLR indicates beryllium (BE) was never used in the 886 Cluster, therefore no additional sampling is needed. However, since the RCLR was written, RCTs have been counting BE wipe samples in

5/2/01

Superseded due to Be Room 104 deletion. Date 5/2/01 Rm104 moved to Phase II

		B886, Room 104. The BE wipe samples originated from B865 and B883 and analytical results indicate the presence of Beryllium. It is possible for BE contamination from the wipe samples to have cross-contaminated equipment and/or surfaces in B886, Room 104. Five biased BE samples will be performed around the RCT survey station once BE wipe sample counting is discontinued. No other areas in the B886 Cluster require BE sampling.
All other 886 Cluster Buildings	0	The 886 Cluster RCLR indicates beryllium (BE) was never used in the 886 Cluster, therefore no additional sampling is needed.
Total Samples:	5	Samples will be obtained at locations specified on sample map(s) in accordance with PRO-536-BCPR, Beryllium Characterization Procedure. Biased sample locations will correspond with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition.

LEAD		
Sample Location	Number of Samples	Sample location and justification/rational
886 Cluster, all locations	0	Lead sampling is not required in the 886 Cluster. All paint will remain a part of the infrastructure during demolition and therefore does not require sampling per Environmental Waste Compliance Guidance No. 27, Lead Based Paint (LBP) and LBP Debris Disposal. Sampling for lead for IH requirements will be at the discretion of the demolition contractor.
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RCRA/CERCLA CONSTITUENTS		
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B886 Cluster Phase 1 all locations	0	Based on B886 Cluster RLCR (RF/RMRS-97-124.UN), dated, December 24 th , 1997, there were no chemical hazards associated with the Phase 1 portions of these buildings (except for drywall in 888). Construction debris will go offsite to a sanitary landfill; therefore no additional sampling is required.
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8

5/2/01
 Superseded
 due to Be Room 104
 deletion. AMP 5/2/01
 Room 104 moved to Phase II.



Rocky Flats Environmental Technology Site
CHEMICAL CHARACTERIZATION PACKAGE

BUILDING 886 CLUSTER CLOSURE PROJECT – Phase 1

REVISION 0

January 30, 2001

Prepared by: *[Signature]*
Industrial Hygiene

Prepared by: *[Signature]* 2/1/01
Environmental Compliance

Reviewed by: *[Signature]* 2/1/01
Quality Assurance

Reviewed by: *[Signature]* 2/1/01
RISS Facility Characterization Coordinator

Approved by: *[Signature]* 2/1/01
Closure Project Facility Manager

*Superseded by Rev 1.
DHT
2/26/01*

CHEMICAL CHARACTERIZATION PACKAGE

BUILDING: 886 CLUSTER –PHASE 1 AREAS (Front Office Rooms 130, 131, 129, 128, 123, 125, 121, 119, 116, 127, 122, 118, 120, 117, Room 111 (Utility), Room 106 (tools), T886A (interior), exterior walls and roofs of B886, B875, & T886A (<7 ft from grade), and B888 (interior & exterior)

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Sample Location	Number of Samples (smears)	Sample location and justification/rational
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Total Samples:	5	Samples will be obtained at locations specified on sample map(s) in accordance with PRO-536-BCPR, Beryllium Characterization Procedure. Biased sample locations will correspond with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition.

Superseded
07/20/01

LEAD		
Sample Location	Number of Samples	Sample location and justification/rational
886 Cluster, all locations	0	Lead sampling is not required in the 886 Cluster. All paint will remain a part of the infrastructure during demolition and therefore does not require sampling per Environmental Waste Compliance Guidance No. 27, Lead Based Paint (LBP) and LBP Debris Disposal. Sampling for lead for IH requirements will be at the discretion of the demolition contractor.
Total Samples:	0	

RCRA/CERCLA CONSTITUENTS		
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Total Samples:	0	

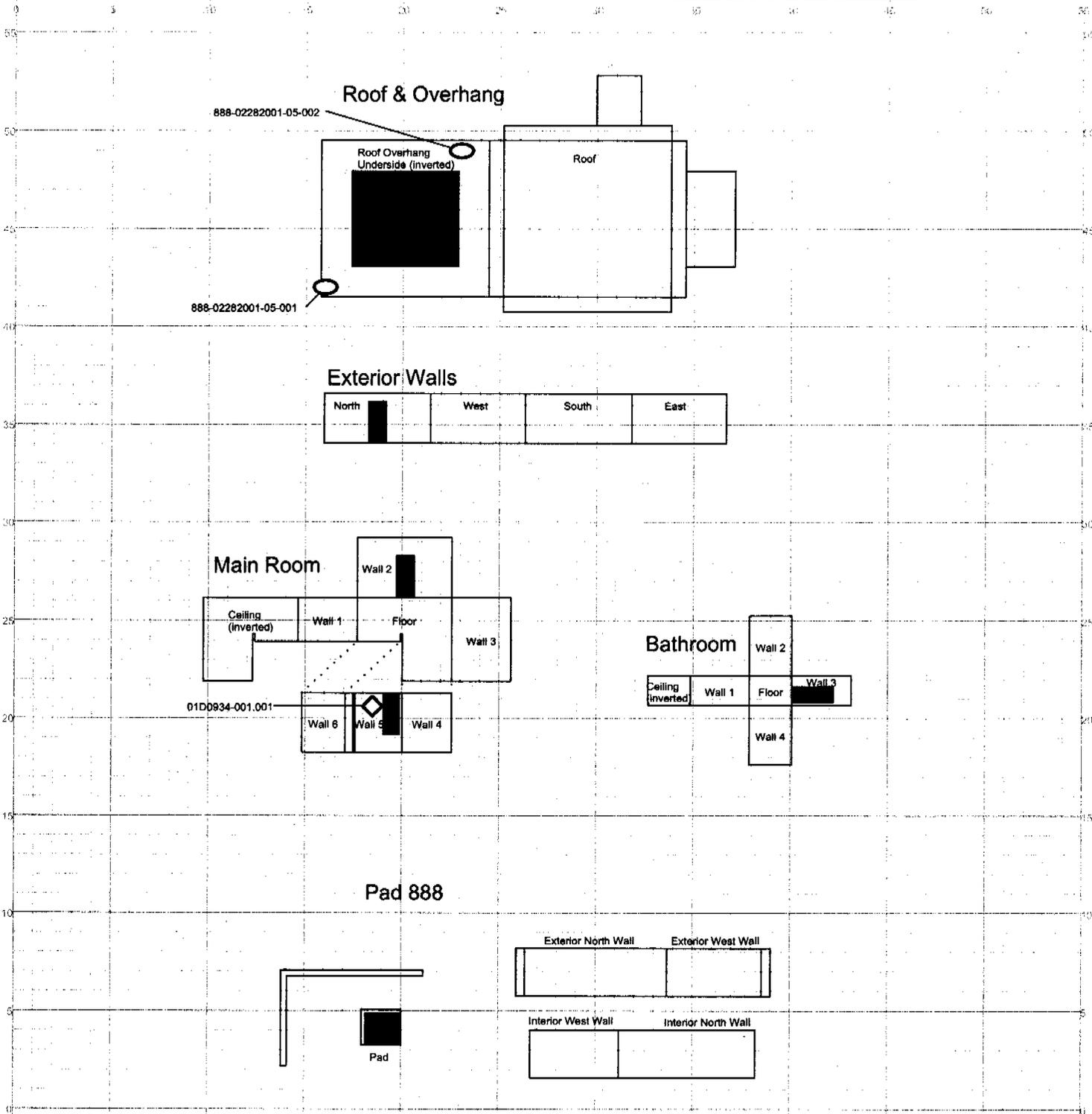
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B888	0	The Phase 1 portions of these buildings will go off-site as assumed PCB bulk product waste, therefore no additional sampling is required.
B875 (Building only)	0	The Phase 1 portions of these buildings will go off-site as assumed PCB bulk product waste, therefore no additional sampling is required.
Total Samples:	0	

* PCB ballasts, fluorescent light bulbs, potential mercury switches in thermostats, and mercury vapor light bulbs shall be removed prior to demolition.

*Superseded
BHP 2/2/01*

PRE-DEMOLITION SURVEY FOR B888 GUARD SHACK

Survey Area: C **Survey Unit: 886-C-010** **Classification: N/A**
Building: 888 Guard Shack
Survey Unit Description: B888 Guard Shack - Interior & Exterior
Total Area: 101 sq. m. **Total Floor Area: 16 sq. m.**

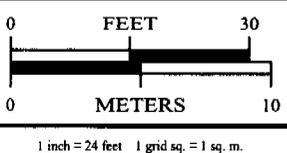


SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCBS Sample Location

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Open/Inaccessible Area
 Area in Another Survey Unit



U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-968-7707 Prepared for:

DynCorp

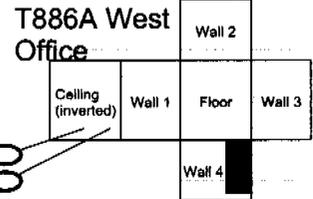
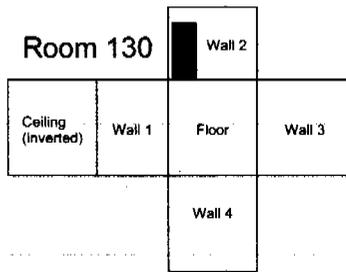
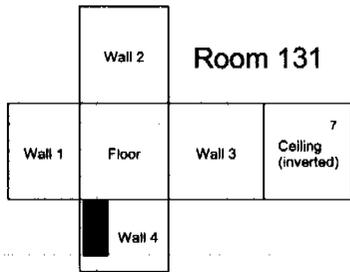
THE ART OF TECHNOLOGY

MAP ID: tv2001/01-0129 May 8, 2001

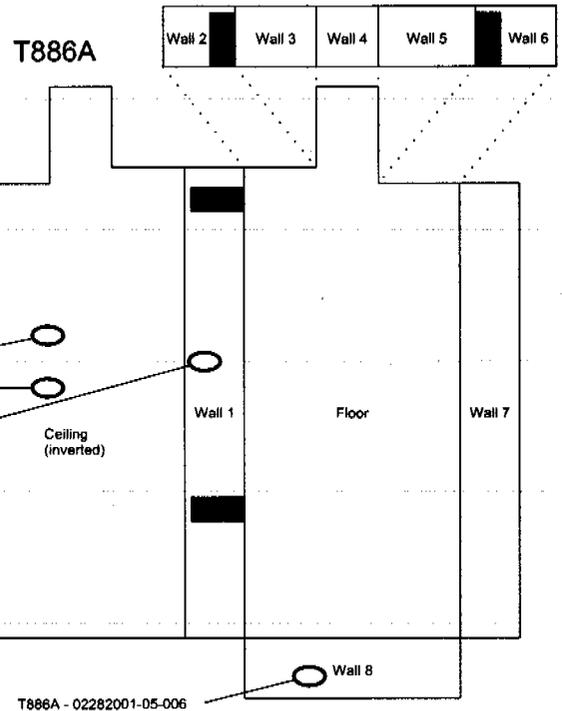
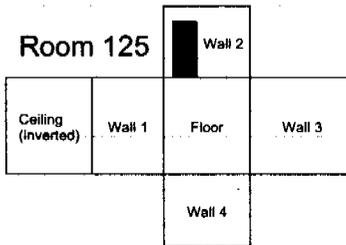
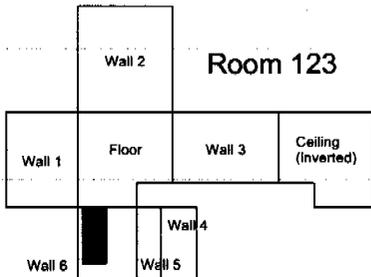
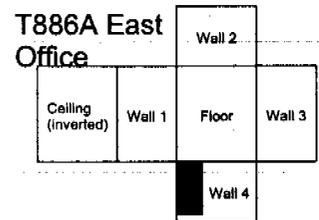
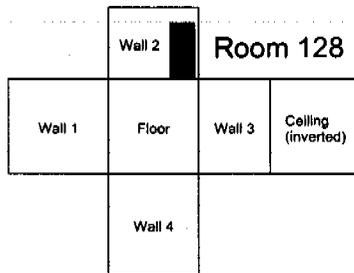
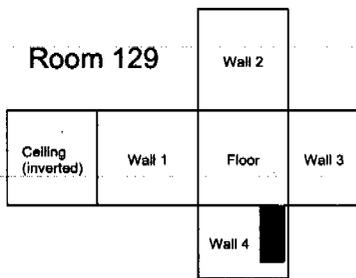
12

PRE-DEMOLITION SURVEY FOR B886 CLUSTER

Survey Area: A Survey Unit: 886-A-001 Classification: N/A
 Building: 886
 Survey Unit Description: B886 - Interior Surfaces
 Total Area: 2111 sq. m. Total Floor Area: 492 sq. m.

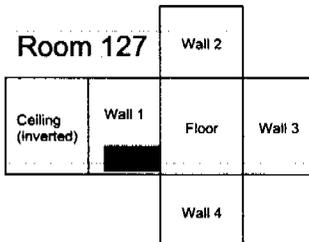
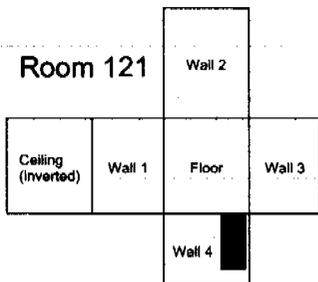


T886A - 02282001-05-001
 T886A - 02282001-05-004



T886A - 02282001-05-003
 T886A - 02282001-05-002
 T886A - 02282001-05-005

T886A - 02282001-05-006

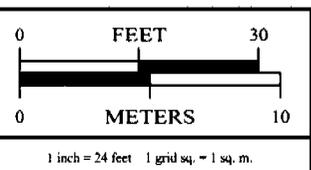
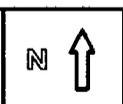


SURVEY MAP LEGEND

	Asbestos Sample Location
	Beryllium Sample Location
	Lead Sample Location
	RCRA/CERCLA Sample Location
	PCBS Sample Location

Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&ET, nor any agency thereof, nor any of their employees makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Open/Inaccessible Area
 Area in Another Survey Unit



U.S. Department of Energy
 Rocky Flats Environmental Technology Site
 Prepared by: GIS Dept. 303-966-7707 Prepared for:
DynCorp
 THE ART OF TECHNOLOGY
 MAP ID: F2801/01-0181 May 9, 2001

13

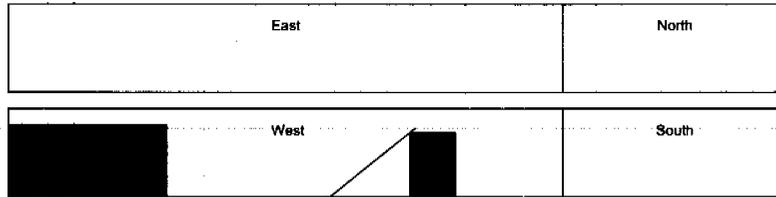
PRE-DEMOLITION SURVEY FOR B886 CLUST

Survey Area: B Survey Unit: 886-B-009 Classification: N/A
 Building: 886
 Survey Unit Description: B886 - Exterior Walls & Roof
 Total Area: 3316 sq. m. Total Floor Area: 0 sq. m.

Vestibule Walls

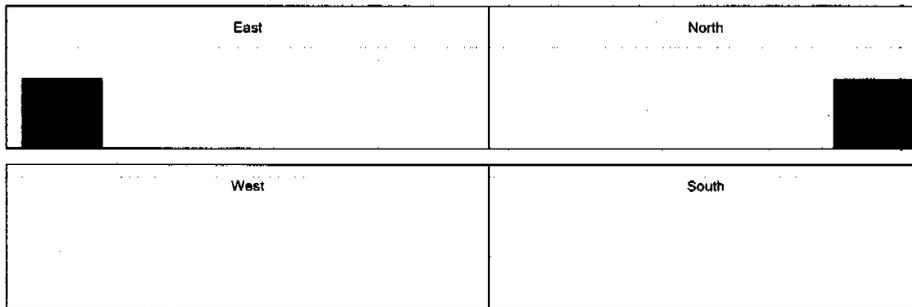


T886A Walls

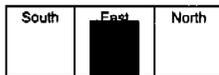


T886A - 02282001-05-007

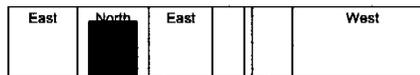
Building 875 Walls



East Entrance



North Entrance

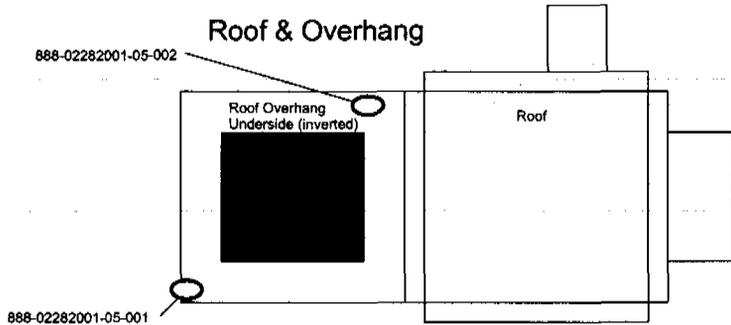


<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Asbestos Sample Location Beryllium Sample Location Lead Sample Location RCRA/CERCLA Sample Location PCBS Sample Location 	<p><small>Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&ET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or timeliness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</small></p> <p> Open/Inaccessible Area Area in Another Survey Unit</p>	<p>0 FEET 30</p> <p>0 METERS 10</p> <p>1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-466-7707 Prepared for:</p> <p>DynCorp THE ART OF TECHNOLOGY</p> <p>MAP ID: N2001/01-0181 May 9, 2001</p>
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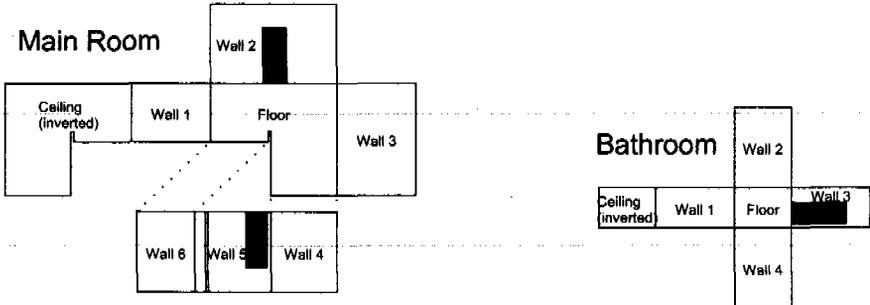
174

PRE-DEMOLITION SURVEY FOR B888 GUARD SHACK

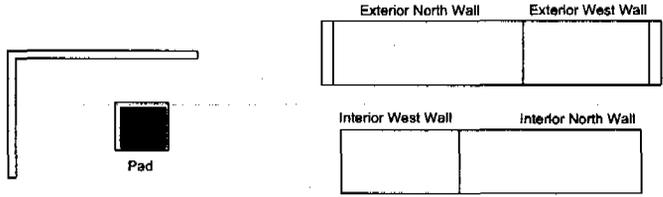
Survey Area: C Survey Unit: 886-C-010 Classification: N/A
 Building: 888 Guard Shack
 Survey Unit Description: B888 Guard Shack - Interior & Exterior
 Total Area: 101 sq. m. Total Floor Area: 16 sq. m.



Exterior Walls



Pad 888

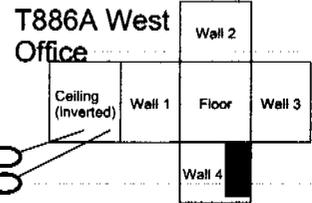
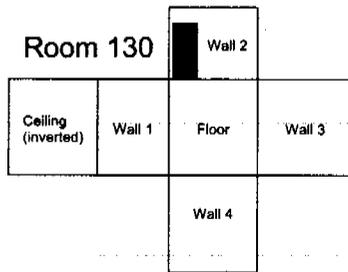
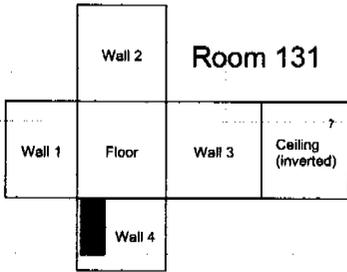


<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Asbestos Sample Location Beryllium Sample Location Lead Sample Location RCRA/CERCLA Sample Location PCBS Sample Location 	<p><small>Neither the United States Government nor Kaiser Hill Co., nor DynCorp-BRET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</small></p> <p> Open/Inaccessible Area Area in Another Survey Unit </p>	<p align="center">N ↑</p>	<p align="center">0 FEET 30</p> <p align="center">0 METERS 10</p> <p align="center">1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p align="center">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p align="center">Prepared by: G48 Dept. 363-666-7707 Prepared for:</p> <p align="center">DynCorp THE ART OF TECHNOLOGY</p> <p align="center">MAP ID: R2001/01-0128 May 9, 2001</p>
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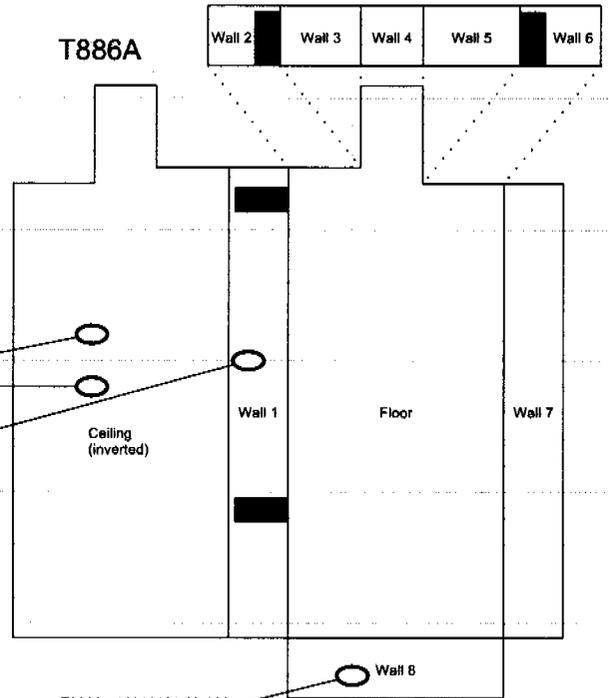
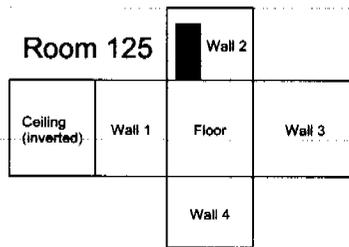
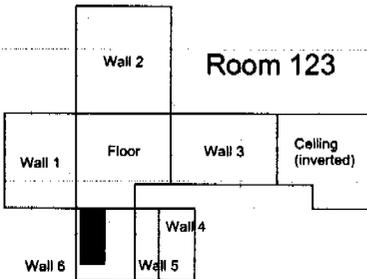
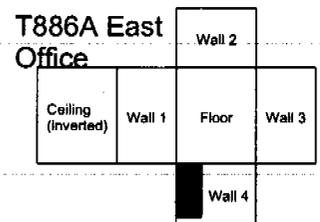
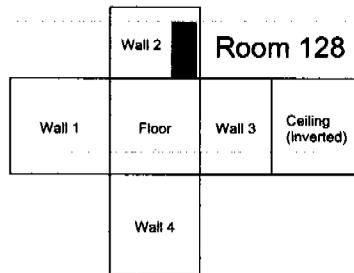
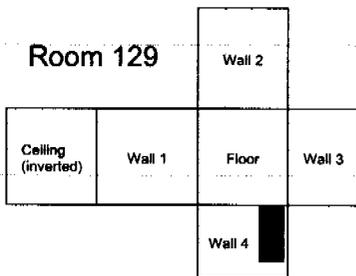
16

PRE-DEMOLITION SURVEY FOR B886 CLUSTER

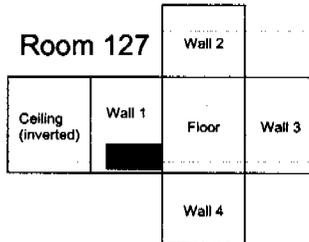
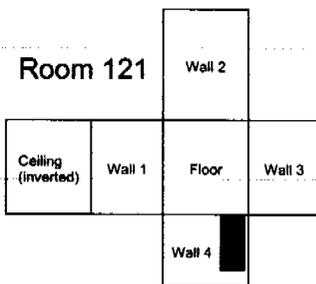
Survey Area: A Survey Unit: 886-A-001 Classification: N/A
 Building: 886
 Survey Unit Description: B886 - Interior Surfaces
 Total Area: 2111 sq. m. Total Floor Area: 492 sq. m.



T886A - 02282001-05-001
 T886A - 02282001-05-004



T886A - 02282001-05-003
 T886A - 02282001-05-002
 T886A - 02282001-05-005



T886A - 02282001-05-006

<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Asbestos Sample Location Beryllium Sample Location Lead Sample Location RCRA/CERCLA Sample Location PCBS Sample Location 	<p>Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&ET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any informative, apparatus product, or process disclosed, or represents that its use would not infringe privately owned rights.</p> <p> Open/Inaccessible Area</p> <p> Area in Another Survey Unit</p>	<p style="text-align: center;">N ↑</p> <p style="text-align: center;">0 FEET 30</p> <p style="text-align: center;">0 METERS 10</p> <p style="text-align: center;">1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p style="text-align: center;">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p style="text-align: center;">Prepared by: GRS Dept. 303-966-7707 Prepared for:</p> <p style="text-align: center;">DynCorp THE ART OF TECHNOLOGY</p> <p style="text-align: center;">MAP ID: R2001/01-0181 Max 9, 2001</p>
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16

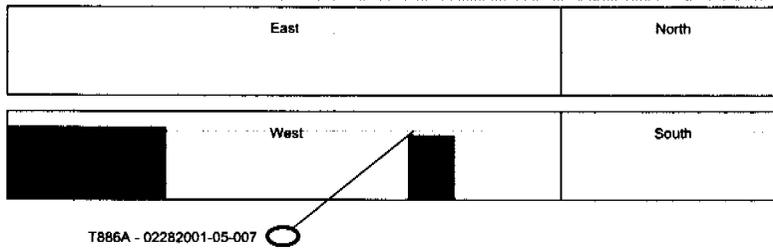
PRE-DEMOLITION SURVEY FOR B886 CLUSTER

Survey Area: B Survey Unit: 886-B-009 Classification: N/A
 Building: 886
 Survey Unit Description: B886 - Exterior Walls & Roof
 Total Area: 3316 sq. m. Total Floor Area: 0 sq. m.

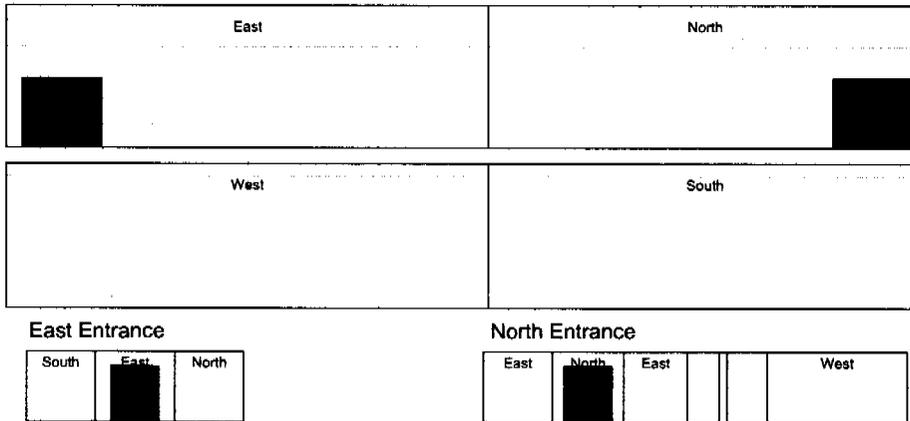
Vestibule Walls



T886A Walls



Building 875 Walls

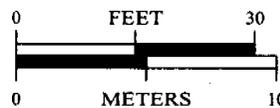


SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCBS Sample Location

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Open/Inaccessible Area
 Area in Another Survey Unit



1 inch = 24 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GHS Dept. 303-666-7707 Prepared for:

DynCorp
 THE ART OF TECHNOLOGY



MAP ID: R/2001/01-0181

May 9, 2001

17



Analytical Report

Client : K-H RIN//01D0934
LVI.# : 01061.064

W.O.# : 11830-001-001-9999-00
Date Received : 06-15-01

SW846 METALS

1. This narrative covers the analysis of 1 TCLP leachate sample.
2. The sample was prepared and analyzed in accordance with SW-846 protocol and reported with CLP deliverable. All samples and the method blank QC for ICP analysis were diluted six fold due to the sample matrix. With this dilution, the client requested limits were exceeded for Silver and Beryllium. These analytes are listed as analytes on the Universal Treatment Standards (UTS) List. The concentrations for all of these analytes are well below the UTS limits even with the dilution.
3. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures Laboratory and High Purity.
4. All analyses were performed within the required holding times.
5. The cooler temperature (11.6°C) has been recorded on the Chain of Custody.
6. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within control limits.
7. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within method criteria.
8. All preparation/method blanks were below the client requested limits found in RDL3. Refer to form 3.
9. All ICP Interference Check Standards were within control limits. Refer to form 4.
10. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to form 7.
11. The serial dilution percent differences for 2 analytes were outside SW-846 control limits. Refer to form 9.
12. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits. Refer to form 6.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 6/21 pages.

19

13. All sample IDs were changed to accommodate the EPA naming convention which allows a maximum of 6 characters on all CLP Forms. Refer to the comments section of form 1 for the original ID.
14. The TCLP extract from sample 0110934-001.001 was selected for the ICP metals matrix spike (MS) for this analytical batch. The MS recoveries for the eight RCRA analytes and the additional regulatory metal analytes in the TCLP extract were above 50% as per method criteria. The remaining analytes were not spiked. Please refer to form 5.
15. As of January 27, 2001, Recra LabNet Philadelphia became Lionville Laboratory Incorporated. Some forms may still reference Recra LabNet Philadelphia.



Iain Daniels
Deputy Laboratory Manager
Lionville Laboratory Incorporated

alm/m06-064

06-28-01
Date





KAISER•HILL
COMPANY
ANALYTICAL SERVICES DIVISION

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FAX: (303) 966-8345

TO: K. Myers

FAX: 6678

PHONE: _____

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(phone number)

22

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 06/25/01



CLIENT: K-H RIN#010934

LVL LOT #: 01061064

WORK ORDER: 11820-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	010934-001.001	Barium , TCLP Leachate	6.0	u	UG/L	6.0
		Aluminum, TCLP Leachate	608		UG/L	76.2
		Asbestos , TCLP Leachate	13.8	u	UG/L	13.8
		Barium , TCLP Leachate	91.3		UG/L	1.2
		Beryllium, TCLP Leachate	1.5		UG/L	1.2
		Calcium, TCLP Leachate	1200000		UG/L	48.6
		Chromium , TCLP Leachate	1.3		UG/L	1.2
		Cadmium , TCLP Leachate	4.1	u	UG/L	4.0
		Cobalt , TCLP Leachate	6.6		UG/L	6.4
		Copper, TCLP Leachate	33.7		UG/L	4.2
		Iron, TCLP Leachate	111		UG/L	94.2
		Potassium, TCLP Leachate	16700		UG/L	212
		Lithium, TCLP (B spike)	10.7		UG/L	1-2
		Magnesium, TCLP Leachate	14500		UG/L	52.8
		Manganese, TCLP Leachate	683		UG/L	0.60
		Molybdenum, TCLP Leachate	11.3		UG/L	6.0
		Nickel, TCLP Leachate	0.2		UG/L	7.2
		Lead , TCLP Leachate	27.4		UG/L	15.6
		Antimony, TCLP Leachate	11.4	u	UG/L	11.4
		Strontium , TCLP Leachate	15.6	u	UG/L	15.6
		Tin, Leachate	21.0	u	UG/L	21.0
		Strontium, TCLP Leachate	7320		UG/L	0.60
		Thallium, TCLP Leachate	23.4	u	UG/L	23.4
		Uranium, TCLP Leachate	64.2	u	UG/L	64.2
		Vanadium, TCLP Leachate	4.2	u	UG/L	4.2
		Zinc, TCLP Leachate	102		UG/L	1.8

23

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/25/01

CLIENT: K-N RIN#010934

LVL LOT #: 01062064

WORK ORDER: 11870-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	01L0362-MB1	Silver, TCLP Leachate	1.0	u UG/L	1.0	1.0
		Aluminum, TCLP Leachate	12.7	u UG/L	12.7	1.0
		Arsenic, TCLP Leachate	2.3	u UG/L	2.3	1.0
		Barium, TCLP Leachate	3.4	u UG/L	0.20	1.0
		Beryllium, TCLP Leachate	0.20	u UG/L	0.20	1.0
		Calcium, TCLP Leachate	17.9	u UG/L	8.1	1.0
		Cadmium, TCLP Leachate	0.30	u UG/L	0.20	1.0
		Cobalt, TCLP Leachate	0.80	u UG/L	0.80	1.0
		Chromium, TCLP Leachate	0.90	u UG/L	0.90	1.0
		Copper, TCLP Leachate	0.70	u UG/L	0.70	1.0
		Iron, TCLP Leachate	15.7	u UG/L	15.7	1.0
		Potassium, TCLP Leachate	35.3	u UG/L	35.3	1.0
		Lithium, TCLP (B Spike)	0.22	u UG/L	0.2	1.0
		Magnesium, TCLP Leachate	8.8	u UG/L	8.8	1.0
		Manganese, TCLP Leachate	0.22	u UG/L	0.20	1.0
		Molybdenum, TCLP Leachate	1.0	u UG/L	1.0	1.0
		Nickel, TCLP Leachate	1.2	u UG/L	1.2	1.0
		Lead, TCLP Leachate	2.6	u UG/L	2.6	1.0
		Antimony, TCLP Leachate	1.9	u UG/L	1.9	1.0
		Selenium, TCLP Leachate	2.6	u UG/L	2.6	1.0
		Tin, Leachate	3.5	u UG/L	3.5	1.0
		Strontium, TCLP Leachate	0.10	u UG/L	0.20	1.0
		Thallium, TCLP Leachate	3.9	u UG/L	3.9	1.0
		Uranium, TCLP Leachate	10.7	u UG/L	10.7	1.0
		Vanadium, TCLP Leachate	0.70	u UG/L	0.70	1.0
		Zinc, TCLP Leachate	3.7	u UG/L	0.30	1.0
BLANK2	01L0362-MB2	Silver, TCLP Leachate	6.0	u UG/L	6.0	6.0
		Aluminum, TCLP Leachate	76.2	u UG/L	76.2	6.0
		Arsenic, TCLP Leachate	12.8	u UG/L	12.8	6.0
		Barium, TCLP Leachate	1.2	u UG/L	1.2	6.0
		Beryllium, TCLP Leachate	1.2	u UG/L	1.2	6.0
		Calcium, TCLP Leachate	48.6	u UG/L	48.6	6.0
		Cadmium, TCLP Leachate	1.8	u UG/L	1.8	6.0
		Cobalt, TCLP Leachate	4.8	u UG/L	4.8	6.0
		Chromium, TCLP Leachate	10.2	u UG/L	5.4	6.0
		Copper, TCLP Leachate	4.2	u UG/L	4.2	6.0
		Iron, TCLP Leachate	94.2	u UG/L	94.2	6.0
		Potassium, TCLP Leachate	1090	u UG/L	212	6.0
		Lithium, TCLP (B Spike)	5.5	u UG/L	1.2	6.0

24

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/25/01

CLIENT: K-K RIN/01D0934

LVL LOT #: 01062064

WORK ORDER: 11870-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING	DILUTION	
					LIMIT	FACTOR	
BLANK2	010202-ND2	Magnesium, TCLP Leachate	52.8	u	UG/L	52.8	6.0
		Manganese, TCLP Leachate	0.90	u	UG/L	0.60	6.0
		Molybdenum, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Nickel, TCLP Leachate	7.2	u	UG/L	7.2	6.0
		Lead, TCLP Leachate	15.6	u	UG/L	15.6	6.0
		Antimony, TCLP Leachate	11.4	u	UG/L	11.4	6.0
		Selenium, TCLP Leachate	15.6	u	UG/L	15.6	6.0
		Tin, Leachate	21.0	u	UG/L	21.0	6.0
		Strontium, TCLP Leachate	0.60	u	UG/L	0.60	6.0
		Thallium, TCLP Leachate	23.4	u	UG/L	23.4	6.0
		Uranium, TCLP Leachate	64.2	u	UG/L	64.2	6.0
		Vanadium, TCLP Leachate	4.2	u	UG/L	4.2	6.0
		Zinc, TCLP Leachate	11.1	u	UG/L	1.8	6.0

25

Lionville Laboratory, Inc.

INORGANIC ACCURACY REPORT 06/21/01

CLIENT: K-M RIN#01D0934

LVL LOT #: 0106L064

WORK ORDER: 11830-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (BPK)
-002	01D0934-001.001	Barium, TCLP Leachate	5180	6.0 u	5000	103.7	6.0
		Bismuth, TCLP Leachate	5420	12.6 u	5000	108.4	6.0
		Boron, TCLP Leachate	55000	91.5	100000	94.9	6.0
		Beryllium, TCLP Leachate	1050	1.5	1000	103.3	6.0
		Barium, TCLP Leachate	1040	1.9	1000	104.3	6.0
		Bismuth, TCLP Leachate	5150	6.6	5000	102.5	6.0
		Copper, TCLP Leachate	1060	33.7	1000	102.8	6.0
		Nickel, TCLP Leachate	1040	8.2	1000	104.2	6.0
		Boron, TCLP Leachate	5130	27.4	5000	102.1	6.0
		Antimony, TCLP Leachate	1050	11.4 u	1000	105.4	6.0
		Bismuth, TCLP Leachate	1080	15.6 u	1000	107.7	6.0
		Thallium, TCLP Leachate	1040	23.4 u	3000	103.6	6.0
		Uranium, TCLP Leachate	5120	64.2 u	5000	102.4	6.0
		Vanadium, TCLP Leachate	1030	4.2 u	1000	103.2	6.0
		Zinc, TCLP Leachate	1180	102	1000	108.0	6.0

26

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 06/25/01

CLIENT: K-H RINW010924

LVL LOT #: 0106L064

WORK ORDER: 11030-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	RECOV
LCS1	01103062-LCS	Silver, LCS	484	500	UG/L	96.8
		Aluminum, LCS	4990	5000	UG/L	99.7
		Arsenic, LCS	9920	10000	UG/L	99.2
		Barium, LCS	4790	5000	UG/L	95.8
		Beryllium, LCS	248	250	UG/L	99.4
		Calcium, LCS	24800	25000	UG/L	99.4
		Cadmium, LCS	253	250	UG/L	101.3
		Cobalt, LCS	2520	2500	UG/L	100.8
		Chromium, LCS	504	500	UG/L	100.7
		Copper, LCS	1200	1250	UG/L	96.7
		Iron, LCS	4930	5000	UG/L	98.6
		Potassium, LCS	25400	25000	UG/L	101.7
		Lithium, LCS	6090	6000	UG/L	101.7
		Magnesium, LCS	25200	25000	UG/L	100.7
		Manganese, LCS	771	750	UG/L	102.8
		Molybdenum, LCS	5060	5000	UG/L	101.1
		Nickel, LCS	2010	2000	UG/L	100.3
		Lead, LCS	2480	2500	UG/L	99.3
		Antimony, LCS	2980	3000	UG/L	99.3
		Selenium, LCS	9760	10000	UG/L	97.6
		Tin, LCS	5040	5000	UG/L	100.8
		Strontium, LCS	4820	5000	UG/L	96.4
		Thallium, LCS	10100	10000	UG/L	100.9
		Uranium, LCS	5070	5000	UG/L	101.4
		Vanadium, LCS	2530	2500	UG/L	101.3
		Zinc, LCS	1010	1000	UG/L	100.6

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SPECIAL INSTRUCTIONS:

- Confidential
- Please Reply / Call
- Urgent
- For Your Information
- Other:

Send Original? No

- Regular Mail / Fed Ex / UPS
- Overnight Express

MESSAGE:

RIN # 01D0934 metals 01064064

DOES NOT CONTAIN
OFFICIAL USE ONLY INFORMATION

J. A. Nestlein
Name/Org. EMPC Class Date 10/6/05
OK for public release.

ANALYTICAL SERVICES DIVISION
SAMPLING AND ANALYSIS REQUEST FORM

ASD USE ONLY		
RIN: _____	Sampling TAT: _____	Analysis TAT: _____
ASD Project Lead: _____	Phone: _____	Pager: _____

CUSTOMER INFORMATION

Date: 6/7/01
 Project Charge No.: EE060122 Project Code: _____ Task Code: _____
 Requestor: KIM MYERS Phone: 7106 Pager: 212-1836
 Secondary Contact: U U Phone: U Pager: U
 Fax Data Results To: KIM MYERS Fax: 6678 2nd Fax: 6678

SAMPLE INFORMATION

Sample Location: B000
 Sample Description and Sample Identifiers: INTERIOR DRYWALL Number of Events: 1
 Container ID Required
 Sample Matrix: Aqueous Org. Liquid Solid Sludge Multi Phase
 Planned Sampling Date: 6/15/01 Date Data Required: 7/20/01
 90 Day Arc? Yes No 90-Day Start Date: _____ 90-Day End Date: _____
 Estimated Quantity Available for Sampling: _____ WFC/DC: _____
 Waste Stream ID No. (if known): NA Waste Stream Name (if known): _____
 EPA Codes: UNKNOWN MSDS: Yes No Attached: Yes No
 Does the sample contain any known DOT hazardous materials/substances per 49CFR/172.101: Yes No
 If Yes, Describe: _____ Unknown

ANALYSES REQUESTED

<input type="checkbox"/> Alpha/Beta Screen	VOAs: <input type="checkbox"/> Total <input type="checkbox"/> TCLP	<input type="checkbox"/> pH	Other: _____
<input type="checkbox"/> Gross Alpha/Beta	SVOAs: <input type="checkbox"/> Total <input type="checkbox"/> TCLP	<input type="checkbox"/> Fingerprint	
<input type="checkbox"/> Isotopes <input type="checkbox"/> g/l	Metals: <input type="checkbox"/> Hg <input type="checkbox"/> Total <input checked="" type="checkbox"/> TCLP	<input type="checkbox"/> IR	
<input type="checkbox"/> Gamma Spec	PCBs: <input type="checkbox"/> Total <input type="checkbox"/> TCLP	Analyses Critically Sensitive? <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No	
<input type="checkbox"/> Nitrate	<input type="checkbox"/> Nitrite	If Yes: <input checked="" type="radio"/> Single <input checked="" type="radio"/> Double	_____
Cyanide: <input type="checkbox"/> Reactive <input type="checkbox"/> Amenable <input type="checkbox"/> Total			
<input type="checkbox"/> Sulfide <input type="checkbox"/> Sulfate	Utah Lab Cert. Req'd: <input checked="" type="radio"/> Yes <input checked="" type="radio"/> No	SAP ID: _____	IWCP #: _____

RADIOLOGICAL ENTRY REQUIREMENTS

Potential Rad Materials/Contamination: Yes No Area Posting: _____
 Pre-Job Walkdown: Yes No Glovebox: Yes No
 RCT Support: Yes No Pre-Evolution Briefing: Yes No
 RWP Required: Yes No
 Radiological Evaluation (RE) Completed: Yes No RE Number: 010607-00116-001
 Rad. Engineer Concurrence: JAY BRITEN RAM Transfer Tag Required: Yes No
 Comments: _____

GENERAL ENTRY REQUIREMENTS/SAFETY CONCERNS

Plan of the Day Industrial Hygiene Assistance IWCP
 Confined Space Carcinogen Control Area Personnel Monitoring
 Asbestos
 Other: _____

Requestor Signature: [Signature] Date: 6/7/01
 Note: For samples going to Building 559, excess sample will be returned to generator.

29

SAMPLE SUMMARY FOR RIN: 01D0934

RIN Title: B888 INTERIOR DRYWALL
Project Name: Industrial and Site Services Project
Task Name: 800 Area - Facilities Management
Aggregate Area: _____
Sampling Team: CAS
Sampling Mgr/Coordinator: K. Myers
Samplers: C. Myers
Field Logbook ID: 99 van
Media: SOLID

This sample summary is supplied to waste generators as notification of sample collection. Inquires into the status of this sampling effort may be directed to the Analytical Services Division (ASD).

Bottle Number	Customer Bottle Number	Location	LIC (See Attached)	Laboratory	Date Collected	Date Shipped	Date Returned	Comments
01D0934-001.001		B888	1	Lionville Laboratory Inc	6/13/01			

Returning Excess Sample Material:

Unmodified sample material remaining after analysis is generally returned to the generator. The generator must be prepared to receive and dispose of excess sample material for applicable state and federal regulations. Regulatory exclusions for returning excess sample material are specified in the Code of Colorado Regulation (CCR) 1007-3, Part 261.4(d) 'Samples'. If problems with the disposal of excess sample material are encountered, the Environmental Coordinator for the generation area should be contacted for resolution of the issues. Only sample material which has not been modified during analysis will be returned. Material which has been acidified for preservation purposes will not be returned.

Customer Acknowledgement: _____
(Sign and Print Name)

Comments:

Line Item Codes:
 1) SS08C007 (TCLP Metals w/Hg)

COPY

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Property	Waste	Sample

RELEASE EVALUATION FORM

Page 1 of 2

Release Evaluation No. 010607-00116-001 EXTENDED: NO EXPIRES: N/A Charge No.: N/A

**PART I SENDER/CUSTODIAN
ACKNOWLEDGEMENT**

Description of Property/Waste/Sample To Be Released/Transferred: Bulk, painted dry wall samples from B888 guard shack for TCLP analysis. Sample numbers are as follows: 01D0934-001.001

Current Location: B888

Destination: Lionville Laboratory, Inc., 208 Welsh Pool Rd., Lionville, PA 19341

New Recipient/Custodian: Same as above

History/Process Knowledge: These samples came from an area that has no potential for radioactive contamination. The WISRIC and Historical Site Assessments for B888 were reviewed by the Characterization Radiological Engineer (Jay Britten, X3050) and determined to not be a radiological concern. In addition, the facility has been surveyed under the protocol set forth in the Rocky Flats Pre-Demolition Survey Plan and has been classified as a Type I facility. The indicated facility has never been used or contained a CA/RBA. The samples are being sent for TCLP analysis.

- 1) By signing below, I certify information provided in Part I of this release evaluation to be true and accurate.
- 2) By signing below, I agree to comply with the specific requirements noted in Part II of this release evaluation.

Sender/Custodian:  Date: 6/13/01 Ext: 6458

PART II RADIOLOGICAL ENGINEERING

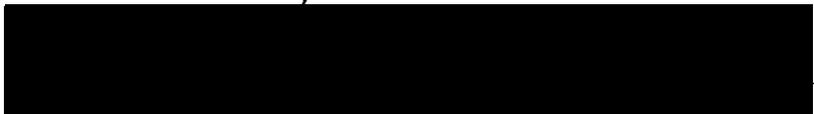
SPECIFIC REQUIREMENTS AND/OR COMMENTS:

*The samples specified above have been reviewed by Radiological Engineering and process knowledge indicates that there are no radiological concerns. The indicated areas have never been posted a CA/RBA. As a result, **NO RADIOLOGICAL SURVEYS ARE REQUIRED** prior to transfer to the receiving laboratory.*

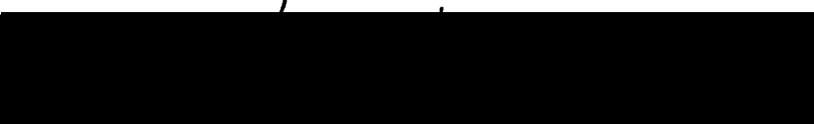
***Custodian:** Ensure only indicated samples are delivered to the new custodian for asbestos analysis. All applicable sample numbers must be inserted and verified for purposes of this release evaluation.*

***Custodian:** Retain a copy of all documents required by this release evaluation. The sender/custodian will be responsible for ensuring a copy of this release evaluation is available for auditing/due diligence purposes.*

***Radiological Engineer:** Process release evaluation to indicate an unrestricted free-release. Sign all appropriate documentation required for the disposition of the affected items.*

Evaluated:  Date: 6/13/01 Ext: 3050

APPROVAL FOR TRANSFER/SHIPMENT

Approved:  Date: 6/13/01 Ext: 3050

31

PROPERTY/WASTE RELEASE EVALUATION SIGNATURE REQUIREMENTSRelease Evaluation #: 010607-00116-001Page 2 of 2**COPY****Release Evaluation for Waste:**

A Release Evaluation for Waste requires an evaluation and unrestricted release approval signature. The evaluation signature is by the Radiological Engineer (RE) providing the methods or criteria for unrestricted release (i.e., survey requirements, analytical requirements, no survey required, etc.). The unrestricted release approval signature for a Release Evaluation for Waste shall be a RE authorized to provide unrestricted release approval. In addition, the evaluation and unrestricted release approval signatures shall not be the same RE. The intent of this provision is to provide peer review of the evaluation and method of unrestricted release. It is important the RE take the peer review process seriously and not become a "rubber stamp" for their fellow engineer.

Release Evaluation for Property:

A Release Evaluation for Property requires an evaluation and unrestricted release approval signature. For a Release Evaluation for Property, the evaluation and unrestricted release signature may be the same RE. In the past, only one signature was required for property for which a RE could provide an unrestricted release on the basis of process knowledge/history.

Release Evaluation for Samples:

Samples are any waste or material that is being shipped to an off-site facility for analysis. Samples that may be provided with an unrestricted release using process knowledge/history or standard contamination survey techniques may be authorized for shipment to an off-site facility using the signatory requirements specified for property. Samples which cannot be provided with an unrestricted release using process knowledge/history or standard contamination survey techniques shall be authorized for shipment from the Site using the methodology specified for waste, i.e., second signature being provided by a RE authorized to perform peer review and approval for shipment.

The approval for transfer/shipment section of a Sample Release Evaluation (SRE) shall be revised as noted below for samples which cannot be provide with an unrestricted release.

"The samples specified in Part 1 of this release evaluation are being provided with authorization for transport as non-radioactive materials in accordance with Department of Transportation (49 CFR) regulation. This authorization for shipment does not constitute an unrestricted release."

Additional Documentation:

Number of lines per section may be modified or additional pages attached to ensure adequate documentation of information necessary to perform release evaluation.

Additional pages or attachments to a release evaluation shall have the evaluation number, Page ___ of ___, initials of Radiological Engineer signing approval for transfer/shipment and date.

SS08
Data Quality Assessment Report
Rocky Flats Environmental Technology Site

Kim Myers


RIN Number	Analytical Method/PSA Line Item	Review Level
01D0934 SDG: 0106L064	TCLP Metals excluding Mercury /SS08/C007	Validation (RF# 001367)

Analytical Laboratory	Assessment Performed by	Number of Samples/ Matrix
RECRA LabNet	TechLaw, Inc.	1/solid/C007

Sample Numbers: 01D0934-001.001

Quality Control Item	Reviewed (Y or N)	Non-Compliance Identified
General (Cover Page, Table of Contents, DRC Checklist, General SDP Requirements Narrative)	Y	N
Chain of Custody, Preservation, and Holdings	Y	Comment 1
Sample Results	Y	N
Calibration Verification, CRDL Standard	Y	N
Verification and Preparation Blanks	Y	Action Item 1
Interference Check Sample	Y	N
Matrix Spike	Y	Comment 2
Duplicates	Y	N
Laboratory Control Sample	Y	N
Standard Additions	Y	N
ICP Serial Dilution	Y	Action Item 2
Instrument Detection Limit	Y	N
Other: Interelement Correction Factors, Linear Range Studies, Preparation Logs, Instrument Run Log	Y	N
Preparation and Instrument RAW Data	Y	N
Standards	Y	N
EDD	Y	N

Y Item was reviewed or non-compliance was identified
 N Item was not reviewed or non-compliance was not identified
 N/A Item is not applicable to the Line Item

ENTERED

RECEIVED
 AUG 7 2001

33

SS08
Data Quality Assessment Report
Rocky Flats Environmental Technology Site

Data Assessment results are classified as either Action Items or Comments. Action Items are technical non-compliances that result in qualification of analytical results. Data may be qualified as valid (V), estimated (J), presumptively estimated (NJ), estimated at an elevated level of detection (UJ), or rejected (R). Multiple qualifiers may be associated with any given data point based on the number of problems identified, however, the assigned qualifier is based upon the following hierarchy: R, UJ, NJ, J, V. All data points that are not qualified based upon action items in this report are considered valid (V). Comments are technical non-compliances or contractual non-compliances that do not result in qualification of data.

Action Items:

1. The following analytes were qualified as estimated (UJ) because the calibration and preparatory blanks exceeded the IDL and the sample concentration was less than 5X the blank concentration:
 - Cadmium, chromium, zinc, lithium, molybdenum and beryllium in sample 01D0934-001.001. [107]
2. The following analytes were qualified as estimated (J) because the serial dilution did not meet the acceptance criteria of 10%, and initial sample result was greater than 50X IDL:
 - Potassium and zinc in sample 01D0934-001.001. [117]
(Note that the zinc result for sample 01D0934-001.001 was qualified UJ due to blank contamination)

Comments:

1. The cooler temperature at the time of receipt was recorded at 11.6 degrees Celsius. No action was taken. [703]
2. The laboratory did not include aluminum, cobalt, iron, manganese, molybdenum, strontium, lithium and tin in the matrix spike. The LCS was in control for all the required analytes. No action is taken.

Verification/Validation Signature Rebra Hasford
Reviewer Signature Ken Schroeder
(Validation only)

Date: 7/24/01
Date: 8/6/01

IVA. INORGANIC ANALYSIS WORKSHEET -- ICP INTERFERENCE CHECK SAMPLE

BATCH: 01D0934

NOTE: The sample results can be accepted without qualification, if the sample concentrations of Al, Ca, Fe and Mg are less than or equal to the concentration found in the ICSA solution.

Examine the sample results in ug/L and list any Al, Ca, Fe or Mg results that are greater than the ICSA values.

Sample ID	Analyte	Sample Result	ICS Value	Comments
				None

List any analytes in the ICS AB solution that did not meet the criteria of 80-120% R.

Analyte	% R	Action	Samples Affected
			None

CLP Protocol Only
 Were Interference Check Samples run at the beginning and end of each sample analysis run, or a minimum of twice per 8-hour shift (whichever is more frequent)? Yes No

COMMENTS

Actions:

PERCENT RECOVERY

	<50%	50-79%	80-120%	>120%
Detected results	R	J	V	J
Non-detected results	R	UJ	V	V

39

X. METAL ANALYSIS WORKSHEET -- SAMPLE RESULT VERIFICATION

BATCH: D1D0934

1. Describe any raw data anomalies (i.e., baseline shifts, negative absorbances, transcription or calculation errors, legibility, etc.)

2. List results that fall outside the linear range of the ICP instrument or the calibrated range of the AA or Cyanide instrument, and were not reanalyzed.

3. Were ICP linear ranges obtained within 3 months of, and preceding, the sample analyses? Yes No NA

4. Were ICP interelement corrections obtained within 12 months of, and preceding, the sample analyses? Yes No NA

5. Were instrument detection limits present, found to be less than or equal to the CRDL, and obtained within 3 months of, and preceding, the sample analyses? Yes No NA

6. Were all sample results reported down to the IDL if running CLP protocol? Yes No NA

7. Were all sample results reported down to MDL if running SW-846 methods? Yes No NA

8. Were sample weights, volumes, percent solids, and dilutions used correctly when reporting the results? Yes No

COMMENTS

45

Where:

Sort by: RESULT_ID,BOTTLE_NUM,ANALYTE_NAME

Lab Sample Number	Matrix	Analyte Name	Line Item Code	Collect Date	Extract Date	Analyte Date	Method	Dilution Factor	MDA	Result	Units	ID	Qual
01L0362-LC1	WATER	% LCS RECOVERY (AG)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		96.8	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (AL)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		99.7	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (AS)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		99.2	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (BA)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		95.8	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (BE)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		99.4	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (CA)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		99.47	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (CD)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		101.3	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (CO)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		100.8	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (CR)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		100.7	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (CU)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		95.74	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (FE)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		96.6	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (K)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		101.7	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (LI)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		101.7	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (MG)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		100.7	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (MN)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		102.8	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (MO)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		101.1	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (NI)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		100.3	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (PB)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		99.1	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (SB)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		99.3	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (SE)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		97.6	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (SN)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		100.8	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (SR)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		96.6	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (TL)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		100.6	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (UR)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		101.4	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (V)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		101.3	%REC	LC1	
01L0362-LC1	WATER	% LCS RECOVERY (ZN)	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		100.6	%REC	LC1	
01L0362-MB1	WATER	Aluminum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	12.7	12.7	UG/L	MB1	U
01L0362-MB1	WATER	Antimony, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	1.9	1.9	UG/L	MB1	U
01L0362-MB1	WATER	Arsenic, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	2.3	2.3	UG/L	MB1	U
01L0362-MB1	WATER	Barium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	3.35	3.35	UG/L	MB1	B
01L0362-MB1	WATER	Beryllium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.20	0.20	UG/L	MB1	U
01L0362-MB1	WATER	Cadmium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.30	0.30	UG/L	MB1	U
01L0362-MB1	WATER	Calcium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	8.1	17.95	UG/L	MB1	B
01L0362-MB1	WATER	Chromium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.90	0.90	UG/L	MB1	U
01L0362-MB1	WATER	Cobalt, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.80	0.80	UG/L	MB1	U
01L0362-MB1	WATER	Copper, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.70	0.70	UG/L	MB1	U
01L0362-MB1	WATER	Iron, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	15.7	15.7	UG/L	MB1	U
01L0362-MB1	WATER	Lead, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	2.6	2.6	UG/L	MB1	U
01L0362-MB1	WATER	Lithium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.32	0.32	UG/L	MB1	B
01L0362-MB1	WATER	Magnesium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	8.8	8.8	UG/L	MB1	B
01L0362-MB1	WATER	Manganese, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.10	0.23	UG/L	MB1	B
01L0362-MB1	WATER	Molybdenum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	1.0	1.0	UG/L	MB1	U
01L0362-MB1	WATER	Nickel, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	1.2	1.2	UG/L	MB1	U
01L0362-MB1	WATER	Potassium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	35.3	35.3	UG/L	MB1	U
01L0362-MB1	WATER	Selenium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	2.6	2.6	UG/L	MB1	U
01L0362-MB1	WATER	Silver, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	1.00	1.00	UG/L	MB1	U
01L0362-MB1	WATER	Strontium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.10	0.10	UG/L	MB1	U
01L0362-MB1	WATER	Thallium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	3.9	3.9	UG/L	MB1	U

266

Where:

Sort by: RESULT_ID,BOTTLE_NUM,ANALYTE_NAME

Bottle Number	Lab Sample Number	Matrix	Analyte Name	Line Item Code	Collectn Date	Extract Date	Analys Date	Method	Dilution Factor	MDA	Result	Units	ID	Qual
	01L0362-MB1	WATER	Tin, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	3.50	3.5	UG/L	MB1	U
	0100362-MB1	WATER	Uranium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	10.7	10.7	UG/L	MB1	U
	01L0362-MB1	WATER	Vanadium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.7	0.7	UG/L	MB1	U
	01L0362-MB1	WATER	Zinc, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.30	3.7	UG/L	MB1	B
	01L0362-MB2	WATER	Aluminum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	76.2	76.2	UG/L	MB2	U
	01L0362-MB2	WATER	Antimony, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	11.4	11.4	UG/L	MB2	U
	01L0362-MB2	WATER	Arsenic, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	13.8	13.8	UG/L	MB2	U
	01L0362-MB2	WATER	Barium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.2	1.2	UG/L	MB2	U
	01L0362-MB2	WATER	Beryllium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.2	1.2	UG/L	MB2	U
	01L0362-MB2	WATER	Cadmium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.8	1.8	UG/L	MB2	B
	01L0362-MB2	WATER	Calcium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	48.6	48.6	UG/L	MB2	U
	01L0362-MB2	WATER	Chromium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	5.4	10.34	UG/L	MB2	B
	01L0362-MB2	WATER	Cobalt, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	4.8	4.8	UG/L	MB2	U
	01L0362-MB2	WATER	Copper, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	4.2	4.20	UG/L	MB2	U
	01L0362-MB2	WATER	Iron, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	94.2	94.2	UG/L	MB2	U
	01L0362-MB2	WATER	Lead, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	15.6	15.6	UG/L	MB2	U
	01L0362-MB2	WATER	Lithium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	5.50	5.50	UG/L	MB2	B
	01L0362-MB2	WATER	Magnesium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	52.8	52.8	UG/L	MB2	U
	01L0362-MB2	WATER	Manganese, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	0.60	0.90	UG/L	MB2	B
	01L0362-MB2	WATER	Molybdenum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	6.0	6.0	UG/L	MB2	U
	01L0362-MB2	WATER	Nickel, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	7.2	7.2	UG/L	MB2	U
	01L0362-MB2	WATER	Potassium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	212	1089.58	UG/L	MB2	B
	01L0362-MB2	WATER	Selenium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	15.6	15.6	UG/L	MB2	U
	01L0362-MB2	WATER	Silver, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	6.0	6.0	UG/L	MB2	U
	01L0362-MB2	WATER	Strontium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	0.6	0.6	UG/L	MB2	U
	01L0362-MB2	WATER	Thallium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	23.4	23.4	UG/L	MB2	U
	01L0362-MB2	WATER	Tin, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	21.0	21.0	UG/L	MB2	U
	0100362-MB2	WATER	Uranium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	64.2	64.2	UG/L	MB2	U
	01L0362-MB2	WATER	Vanadium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	4.2	4.2	UG/L	MB2	U
	01L0362-MB2	WATER	Zinc, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.8	11.12	UG/L	MB2	B
	0106L064-002	WATER	Aluminum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	0.4	0.4	%REC	MS1	
	01D0934-001.001	WATER	Antimony, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	105.4	105.4	%REC	MS1	
	0106L064-002	WATER	Arsenic, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	108.4	108.4	%REC	MS1	
	01D0934-001.001	WATER	Barium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	54.9	54.9	%REC	MS1	
	0106L064-002	WATER	Beryllium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	103.3	103.3	%REC	MS1	
	0106L064-002	WATER	Cadmium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	104.3	104.3	%REC	MS1	
	01D0934-001.001	WATER	Calcium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	91.9	91.9	%REC	MS1	
	0106L064-002	WATER	Chromium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	102.8	102.8	%REC	MS1	
	01D0934-001.001	WATER	Cobalt, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	102.5	102.5	%REC	MS1	
	0106L064-002	WATER	Copper, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	-0.6	-0.6	%REC	MS1	
	01D0934-001.001	WATER	Iron, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	102.1	102.1	%REC	MS1	
	0106L064-002	WATER	Lead, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	-0.2	-0.2	%REC	MS1	
	01D0934-001.001	WATER	Lithium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	-0.3	-0.3	%REC	MS1	
	0106L064-002	WATER	Magnesium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	1.4	1.4	%REC	MS1	
	01D0934-001.001	WATER	Manganese, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	-0.4	-0.4	%REC	MS1	
	0106L064-002	WATER	Molybdenum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	104.2	104.2	%REC	MS1	
	01D0934-001.001	WATER	Nickel, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0	-2.4	-2.4	%REC	MS1	
	0106L064-002	WATER	Potassium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0			%REC	MS1	

47

Where:

Sort by: RESULT_ID,BOTTLE_NUM,ANALYTE_NAME

Bottle Number	Lab Sample Number	Matrix	Analyte Name	Line Item Code	Collectn Date	Extract Date	Analys Date	Method	Dilution Factor	MDA	Result	Units	ID	Qual
01D0934-001.001	0106L064-002	WATER	Selenium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		107.7	%REC	MS1	B
01D0934-001.001	0106L064-002	WATER	Silver, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		103.7	%REC	MS1	U
01D0934-001.001	0106L064-002	WATER	Strontium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		-8.4	%REC	MS1	U
01D0934-001.001	0106L064-002	WATER	Thallium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		103.6	%REC	MS1	B
01D0934-001.001	0106L064-002	WATER	Tin, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		0.0	%REC	MS1	B
01D0934-001.001	0106L064-002	WATER	Uranium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		102.4	%REC	MS1	B
01D0934-001.001	0106L064-002	WATER	Vanadium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		103.3	%REC	MS1	B
01D0934-001.001	0106L064-002	WATER	Zinc, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	1.0		107.9	%REC	MS1	B
01D0934-001.001	0106L064-002	WATER	Aluminum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	76.2	608	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Antimony, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	11.4	11.4	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Arsenic, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	13.8	13.8	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Barium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.2	91.5	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Beryllium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.2	1.5	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Cadmium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.8	1.9	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Calcium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	48.6	120000	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Chromium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	5.4	6.6	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Cobalt, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	4.8	4.8	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Copper, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	4.2	33.7	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Iron, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	94.2	111	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Lead, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	15.6	27.4	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Lithium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0		18.7	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Magnesium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	52.8	14500	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Manganese, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	0.60	683	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Molybdenum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	11.4	11.4	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Nickel, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	7.2	8.2	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Potassium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	212	16700	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Selenium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	15.6	15.6	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Silver, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	6.0	6.0	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Strontium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	0.60	7320	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Tin, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	23.4	23.4	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Uranium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	21.0	21.0	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Vanadium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	64.2	64.2	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Zinc, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	4.2	4.2	UGL	TR1	U
01D0934-001.001	0106L064-002	WATER	Aluminum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.8	102	UGL	TR1	B
01D0934-001.001	0106L064-002	WATER	Antimony, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	76.2	602.4	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER	Arsenic, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	11.4	11.4	UGL	TR2	U
01D0934-001.001	0106L064-002	WATER	Barium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	13.8	13.8	UGL	TR2	U
01D0934-001.001	0106L064-002	WATER	Beryllium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.2	89.77	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER	Cadmium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.2	1.62	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER	Calcium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.8	1.80	UGL	TR2	U
01D0934-001.001	0106L064-002	WATER	Chromium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	48.6	1180089.74	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER	Cobalt, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	5.4	7.97	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER	Copper, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	4.8	6.75	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER	Iron, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	4.2	33.77	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER	Lead, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	94.2	113.7	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER	Lithium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	15.6	21.67	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER	Magnesium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	52.8	22.7	UGL	TR2	B
01D0934-001.001	0106L064-002	WATER		SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0		14328.84	UGL	TR2	B

48

Where:

Sort by: RESULT_ID,BOTTLE_NUM,ANALYTE_NAME

Bottle Number	Lab Sample Number	Matrix	Analyte Name	Line Item Code	Collectn Date	Extract Date	Analys Date	Method	Dilution Factor	MDA	Result	Units	ID	Qual
01D0934-001.001	0106L064-002	WATER	Manganese, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	0.60	673.2	UG/L	TR2	B
01D0934-001.001	0106L064-002	WATER	Molybdenum, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	6.0	7254.36	UG/L	TR2	B
01D0934-001.001	0106L064-002	WATER	Nickel, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	7.2	8.54	UG/L	TR2	B
01D0934-001.001	0106L064-002	WATER	Potassium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	212.	16627.98	UG/L	TR2	B
01D0934-001.001	0106L064-002	WATER	Selenium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	15.6	15.6	UG/L	TR2	U
01D0934-001.001	0106L064-002	WATER	Silver, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	6.0	6.0	UG/L	TR2	U
01D0934-001.001	0106L064-002	WATER	Strontium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	0.60	21.0	UG/L	TR2	U
01D0934-001.001	0106L064-002	WATER	Thallium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	23.4	4.2	UG/L	TR2	U
01D0934-001.001	0106L064-002	WATER	Tin, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	21.0	15.94	UG/L	TR2	U
01D0934-001.001	0106L064-002	WATER	Uranium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	64.2	64.2	UG/L	TR2	U
01D0934-001.001	0106L064-002	WATER	Vanadium, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	4.2	91.95	UG/L	TR2	B
01D0934-001.001	0106L064-002	WATER	Zinc, Soluble	SS08C007	06/22/2001	06/25/2001	06/25/2001	Total	6.0	1.8	6.66	UG/L	TR2	B

49

RESERVOIRS ENVIRONMENTAL SERVICES, INC.
WVLAB Accredited Laboratory #1896 TDH 90-0136

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 75658-1
Client: Kaiser-Hill Analytical Services Division
Client Project: On-site Sample Analysis-01D0646, A. Gonzales
Date Samples Received: March 05, 2001
Analysis Type: PLM Short Report, Bulk
Turnaround: 24 Hour

Client Sample Number	Lab ID Number	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER		Non-Fibrous Components (%)
				Mineral	Visual Estimate (%)	
T886A-02282001-05-001	EM 529553	A White/tan ceiling tile	100	ND	ND	35
T886A-02282001-05-002	EM 529554	A White/tan ceiling tile	100	ND	ND	35
T886A-02282001-05-003	EM 529555	A White ceiling tile	100	ND	ND	30
T886A-02282001-05-004	EM 529556	A White/tan wallcovering B White/tan drywall	15 85	ND ND	ND ND	100 85
T886A-02282001-05-005	EM 529557	A White/tan wallcovering B White/tan drywall	15 85	ND ND	ND ND	100 85
T886A-02282001-05-006	EM 529558	A White/tan wallcovering B White/tan drywall	15 85	ND ND	ND ND	100 85
T888A-02282001-05-007	EM 529559	A White resinous material	100	ND	ND	100
888-02282001-05-001	EM 529560	A Brown granular paint B Gray fibrous material	5 96	ND ND	ND ND	87 65
888-02282001-05-002	EM 529561	A Brown granular paint B Gray fibrous material	10 90	ND ND	ND ND	95 65

ND = None Detected
TR = Traces, < 1% Visual Estimate
Fram-Act = Tremolite-Actinolite
Point Count Trace = Observed but not countable under protocol, < 0.25%
Analyst: PDL

PDL
Data QA



Johns Manville Corporation
10100 W. Ute Avenue (80127)
P.O. Box 625005
Littleton, CO 80162-5005
303 978 2000

COVER PAGE

April 2, 2001

Rocky Flats Environmental Technology Site
Ms. Shelly Johnsen
P.O. Box 464, Building 881
Golden, CO 80402-0464

Laboratory Report ID: 01032808
Laboratory Name: JMTC IH Analytical Laboratory
Laboratory Code: JMANS
Subcontract Number: 800188SX6
RIN: 01D0634
Requestor: Andre Gonzalez
P.O./Charge Code: EED60121

Dear Ms. Johnsen:

The Johns Manville Technical Center (JMTC) has performed the following analytical services as requested. The results are calculated based upon the information supplied on the submission form. All laboratory data has been filed and are available upon request. The JMTC IH Analytical Laboratory is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program (Certificate No. 056) and participates in the AIHA ELPAT program. If you have any questions, please call (303) 978-2584.

Scope of Work:

Requested Analysis	Bottle Number(s)	Customer Number(s)	Laboratory ID Number	Line Item Code	Sample Matrix
Beryllium	01D0634-001.001	886-03212001-05-001	01032808-001	NR01A001	WIPE
Beryllium	01D0634-002.001	886-03212001-05-002	01032808-002	NR01A001	WIPE
Beryllium	01D0634-003.001	886-03212001-05-003	01032808-003	NR01A001	WIPE
Beryllium	01D0634-004.001	886-03212001-05-004	01032808-004	NR01A001	WIPE
Beryllium	01D0634-005.001	886-03212001-05-005	01032808-005	NR01A001	WIPE

Comments: No problem were encountered with sample receiving and sample analysis

I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy sample package and the computer-readable EDD, as applicable, submitted on diskette or by modem, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Scott A. Steiner
Industrial Hygiene Project Manager

Date

52

April 2, 2001

Laboratory Report ID: 01032808
Laboratory Name: JMTC IH Analytical Laboratory
Laboratory Code: JMANS
Subcontract Number: 800188SX6
RIN: 01D0634
Requestor: Andre Gonzalez
P.O./Charge Code: EED60121

QUICK RESULTS SUMMARY

Line Item Code: NR01A001
Sample Matrix: WIPE
Analytical Method: OSHA ID-125G

Reporting Limit: 0.1 µg
Date Received: 03/28/01
Date Analyzed: 04/02/01

Customer Number	Laboratory ID Number	Requested Analysis	CONCENTRATION			T	Q	Constituent ID
			Backup	Main	Total			
886-03212001-05-001	01032808-001	Beryllium			< 0.1 µg	TR1	U	7440-41-7
886-03212001-05-002	01032808-002	Beryllium			< 0.1 µg	TR1	U	7440-41-7
886-03212001-05-003	01032808-003	Beryllium			< 0.1 µg	TR1	U	7440-41-7
886-03212001-05-004	01032808-004	Beryllium			< 0.1 µg	TR1	U	7440-41-7
886-03212001-05-005	01032808-005	Beryllium			< 0.1 µg	TR1	U	7440-41-7

53

Rocky Flats Environmental Technology Site
Golden, CO 80402-0464

Safety and Hygiene Chain of Custody Record and Analysis Request

01D0634

Name of Originator: <u>A. Gonzalez</u>		Title: <u>THP1</u>	Bldg/Ext: <u>16/227</u>	Date: <u>3/26/01</u>	Page <u>1</u> of <u>1</u>			
SAMPLE NUMBER Bldg/Y/M/D/P#/S#	ANALYZE FOR	VOLUME liters	SAMPLE TIME/	MEDIA	P A B	Personal Area Bulk	REMARKS	Lab Number
<u>886-0312001-05-001</u>	<u>BF</u>							
<u>886-0312001-05-002</u>	↓						<u>ARR 01A001</u>	
<u>886-0312001-05-003</u>	↓							
<u>886-0312001-05-004</u>	↓							
<u>886-0312001-05-005</u>	↓							
<u>[Signature]</u> <u>3/26/01</u>								
Relinquished by <u>[Signature]</u>	Received by <u>[Signature]</u>	Time/Date <u>01/25 3/26/01</u>	Relinquished by	Received by	Time/Date			
Relinquished by	Received by	Time/Date	Relinquished by	Received by	Time/Date			
Relinquished by	Received by	Time/Date	Relinquished by	Received by	Time/Date			
Relinquished by	Received by	Time/Date	Relinquished by	Received by	Time/Date			

Report and Billing Instruction

Kaiser-Hill Verbal To: A. Gonzalez

RMRS Fax To: 4678

SSOC Report To: A. Gonzalez

DynCorp Bill To: KK

WSI P.O.#/Release: FID0001

Lab: JM

Analysis Request

Industrial Hygiene Sample

Standard Service Rush Other

Asbestos Samples 24 2 Other

Rush

Seal# (Release #) _____

Condition of Seal: Broken Unbroken

Signature: _____

Comments: Unusable to [Signature] PIN

56/56 White - Return to Originator Yellow - Lab Copy Green - Sample Custodian Blue - Originator 01D0634