

**SAF-RC-190**  
**100N Field Remediation – Soil In-Process**  
**FINAL DATA PACKAGE**

**COMPLETE COPY OF DATA PACKAGE TO:**

Kathy Wendt H4-21

KW 4/14/11  
INITIAL/DATE

**COMMENTS:**

**SDG D1109168 SAF-RC-190**

Rad only

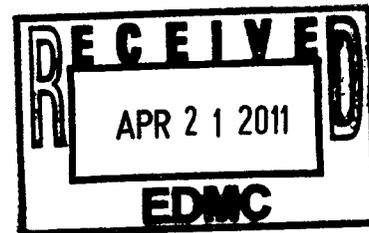
Chem only

Rad & Chem

Complete

Partial

**Sample Location: 100-N-23**





ALS  
Laboratory  
Group  
formerly  
DataChem

# Cover



Report Identification Number: D1109168  
 Subcontract Number: S003827A00  
 Name of Industrial Hygienist: Gwen Whatley / Debbie Gothard / Ken Way  
 Laboratory Identification Number: DCHM *RC-190-039*  
 SAF#: *RC-001* / RC-190-039  
 Sample Receipt Date: 04/01/2011

### Sample Information

Sample Date	Customer Sample Number	Laboratory Sample Number	Method	Analytical Batch Identification	Sample Matrix
03/30/2011	J1H088	1109168001	NIOSH 9002	64524	Bulk
03/30/2011	J1H089	1109168002	NIOSH 9002	64524	Bulk
03/30/2011	J1H090	1109168003	NIOSH 9002	64524	Bulk
03/30/2011	J1H091	1109168004	NIOSH 9002	64524	Bulk

I certify that this electronic image and all hardcopies produced from this image accurately represent the data and are in compliance with the contract specific requirements, both technically and for completeness, other than the conditions detailed above or in the sample data package narrative. Release, by submission through email, the data contained in this electronic image and the computer-readable EDD (as applicable), has been authorized by the laboratory Manager or the Manager's designee.

Name: Peter P. Steen  
 Title: Chemist  
 Date: April 08, 2011



Report Identification Number: D1109168  
Subcontract Number: S003827A00  
Name of Industrial Hygienist: Gwen Whatley / Debbie Gothard / Ken Way  
Laboratory Identification Number: DCHM  
SAF#: RC-001 / RC-190-039  
Sample Receipt Date: 04/01/2011

**General Workorder Information:** There are three samples in workorder 1109059, three samples in workorder 1109060, one sample in workorder 1109165, one sample in workorder 1109167, and four samples in workorder 1109168 which were analyzed for asbestos in bulk material. No problems were encountered with the receipt of this sample.

**Method Summary:** All samples were examined for homogeneity. Non-homogeneous samples were ground to ensure homogeneity. Distinct layers were analyzed separately. The samples were prepared and examined for asbestos fibers utilizing the procedures outlined in NIOSH method 9002 (4<sup>th</sup> edition). A polarizing light microscope equipped with a 10x and a 16x eyepiece was used for the analysis. The area percentage of asbestos was estimated microscopically by a visual estimation of the fibers with a length-to-width aspect ratio of 3:1 or greater. If present, asbestos identities were confirmed with the appropriate refractive index oils applying dispersion staining techniques.

**Sample Preparation:** All samples were prepared in accordance with NIOSH method 9002 (4<sup>th</sup> edition).

**Initial and Continuing Calibration Verification Analysis:** N/A

**Initial and Continuing Calibration Blank Analysis:** N/A

**Method Blank Analysis:** N/A

**Dilution(s):** N/A.

**Laboratory Control Sample and Duplicate Analysis:** One Laboratory Control Sample (LCS) was prepared and analyzed with the sample batch. The results were within the control limit of +/- one reporting range.

**Replicate Analysis:** One sample was replicated with this analysis batch.

**Flagging Codes:** None

**Nonconformance/Corrective Action Report (NC/CAR):** N/A



**Sample Calculation:** Sample results are reported by a visual estimation of the area percentage of asbestos. If necessary, a gravimetric ashing procedure may be used to remove certain non-asbestos material from the sample; a percentage calculation is used to correct for the removal of the non-asbestos material.

**Miscellaneous Comments:**

- 1109059001: Brown, granular soil.
- 1109059002: Brown, granular soil.
- 1109059003: Brown, granular soil.
- 1109060001: Brown, granular soil.
- 1109060002: Brown, granular soil.
- 1109060003: Brown, granular soil.
- 1109165001: Brown, granular soil.
- 1109167001: Brown, granular soil.
- 1109168001: Brown, granular soil.
- 1109168002: Brown, granular soil.
- 1109168003: Brown, granular soil.
- 1109168004: Brown, granular soil.



# Results

Report Identification Number: D1109168  
 Subcontract Number: S003827A00  
 Name of Industrial Hygienist: Gwen Whatley / Debbie Gothard / Ken Way  
 Laboratory Identification Number: DCHM  
 SAF#: RC-001 / RC-190-039  
 Sample Receipt Date: 04/01/2011

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Chrysotile %		Amosite %		Crocidolite %	
J1H088	1109168001	04/08/2011	<1	U	<1	U	<1	U
J1H089	1109168002	04/08/2011	<1	U	<1	U	<1	U
J1H090	1109168003	04/08/2011	<1	U	<1	U	<1	U
J1H091	1109168004	04/08/2011	<1	U	<1	U	<1	U
Required Detection Limit (RDL)			1		1		1	

Customer Sample Number	Laboratory Sample Number	Date Analyzed	Actinolite/Tremolite %		Anthophyllite %	
J1H088	1109168001	04/08/2011	<1	U	<1	U
J1H089	1109168002	04/08/2011	<1	U	<1	U
J1H090	1109168003	04/08/2011	<1	U	<1	U
J1H091	1109168004	04/08/2011	<1	U	<1	U
Required Detection Limit (RDL)			1		1	

U - Parameter not detected above LOD  
 J - Parameter between LOD and RDL  
 \*\* - Not provided or unable to calculate  
 NA - Not Applicable



# QC Summary

Report Identification Number: D1109168  
 Subcontract Number: S003827A00  
 Name of Industrial Hygienist: Gwen Whatley / Debbie Gothard / Ken Way  
 Laboratory Identification Number: DCHM  
 SAF: RC-001 / RC-190-039  
 Sample Receipt Date: 04/01/2011

Batch ID: 64524

QC Sample ID	QC Type	Analyte	Units	Result	Target
QC10788	LCS	Amosite	%	ND	ND
QC10788	LCSD	Amosite	%	ND	ND
QC10788	LCS	Chrysotile	%	20	30
QC10788	LCSD	Chrysotile	%	30	30

- MB - Method Blank
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MSD - Matrix Spike Duplicate
- LD - Laboratory Duplicate
  
- NA - Not Applicable
- ND - Parameter not detected above LOD

$$\text{LCS, LCSD Percent Rec.} = (\text{Result} / \text{Target}) * 100.0$$

$$\text{MS, MSD Percent Rec.} = ((\text{Result} - \text{Parent}) / \text{Target}) * 100.0$$

$$\text{LCS, LCSD Relative Percent Diff.} = ( (|\text{LCS} - \text{LCSD}|) / ((\text{LCS} + \text{LCSD})/2.0) ) * 100.$$

$$\text{MS, MSD Relative Percent Diff.} = ( (|\text{MS} - \text{MSD}|) / ((\text{MS} + \text{MSD})/2.0) ) * 100.$$

$$\text{LD Relative Percent Diff.} = ( (|\text{Parent} - \text{LD}|) / ((\text{Parent} + \text{LD})/2.0) ) * 100$$





*Non-Reg*

3/30/2011 4:26:23PM

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Analysis Report for RCF27441

J1H085 SAF:RC-190 100NFR/100-N-23 SOIL SAMPLE 60mL aG JAR

### GAMMA SPECTRUM ANALYSIS

Sample Identification : RCF27441  
 Sample Description : J1H085 SAF:RC-190 100NFR/100-N-23 SOIL SAMPLE 60mL aG JAR  
 Sample Type : Non Standard Geometry

Sample Size : 6.600E+01 grams  
 Facility : Default

Sample Taken On : 3/30/2011 9:45:00AM  
 Acquisition Started : 3/30/2011 3:25:58PM

Procedure : Non Standard Geometry  
 Operator : RCT  
 Detector Name : PGTLYNX  
 Geometry : Non Standard Geometry  
 Live Time : 3600.0 seconds  
 Real Time : 3601.6 seconds

Dead Time : 0.04 %

Peak Locate Threshold : 3.00  
 Peak Locate Range (in channels) : 40 - 4096  
 Peak Area Range (in channels) : 40 - 4096  
 Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 3/3/2011  
 Efficiency Calibration Used Done On : 3/11/2011  
 Efficiency Calibration Description : PGTL NSTD 030711EC SN28751A-238

Sample Number : 13062

**"Qualitative Only"**

### INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.996	1.33E+01	2.44E+00	
PB-212	0.711	4.73E-01	1.11E-01	
RA-226d @	0.673	4.16E-01	1.09E-01	
TH-232d	0.676	4.02E-01	1.08E-01	
X U-235	0.548			



2011-04-01-1109168-03

**Project Shipment Specific Client/Shipper's Notification of Sample Radioactivity**

*Please complete this form and include it with each shipment.*

Sample Number/RCF Number: RCF 27441

Shipment Date: \_\_\_\_\_

All samples shipped in this cooler have been screened for radioactivity. All samples have activity less than:

Total Activity	Gross Alpha Activity	Gross Beta/Gamma Activity
<1500 pCi/g	<500 pCi/sample	<1000 pCi/Sample

I certify that the samples shipped to DataChem are below the criteria above.

WCH Signature: Jan H. Boone Date: 3/31/11

Any samples in the shipment which have activity above the levels specified above require DataChem approval prior to shipment in accordance with the DataChem SOP WA-DC-002.

DataChem Nuclear Material License UT 1800237

This release has been authorized by Robert P. Di Rienzo, DataChem Radiation Safety Officer on December 6, 2007.