

SAF-RC-189
100N Field Remediation –
Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21

KW 10/30/12
INITIAL/DATE

COMMENTS:

SDG D1229851

SAF-RC-189

Rad only

Chem only

Rad & Chem

Complete

Partial

Sample Location: 116-N-2 Verification



ANALYTICAL REPORT

Report Date: October 26, 2012

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E-mail: Joan.kessner@wch-rcc.com

Workorder: **34-1229851**
Client Project ID: 110N Field Remediation
Purchase Order: RC-189-135
Project Manager: Kevin Griffiths

Analytical Results

| Sample ID: J1R3T4 | Media: Bulk | Collected: 10/18/2012 |
|--------------------------|---|-----------------------|
| Lab ID: 1229851001 | Sampling Location: 116-N-2 Verification | Received: 10/24/2012 |
| Method: NIOSH 9002 | | Analyzed: 10/25/2012 |
| Analyte | % | RL (%) |
| Chrysotile | ND | 1.0 |
| Amosite | ND | 1.0 |
| Crocidolite | ND | 1.0 |
| Actinolite/Tremolite | ND | 1.0 |
| Anthophyllite | ND | 1.0 |

Report Authorization

| Method | Analyst | Peer Review |
|------------|----------------|----------------------|
| NIOSH 9002 | Peter P. Steen | Paul M. Megerdichian |

Laboratory Contact Information

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ANALYTICAL REPORT

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General Lab Comments

The results provided in this report relate only to the items tested.
 Samples were received in acceptable condition unless otherwise noted.
 Samples have not been blank corrected unless otherwise noted.
 This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

| Testing Sector | Accreditation Body (Standard) | Certificate Number | Website |
|------------------------|--|--------------------|---|
| Environmental | ACCLASS (DoD ELAP) | ADE-1420 | http://www.aiclasscorp.com |
| | Utah (NELAC) | DATA1 | http://health.utah.gov/lab/labimp/ |
| | Nevada | UT00009 | http://ndep.nv.gov/bsdwlabservice.htm |
| | Oklahoma | UT00009 | http://www.deq.state.ok.us/CSDnew/ |
| | Iowa | IA# 376 | http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx |
| | Florida (TNI) | E871067 | http://www.dep.state.fl.us/labs/bars/sas/qa/ |
| | Texas (TNI) | T104704456-11-1 | http://www.tceq.texas.gov/field/qa/lab_accred_certif.html |
| Industrial Hygiene | AIHA (ISO 17025 & AIHA IHLAP/ELLAP) | 101574 | http://www.aihaaccreditedlabs.org |
| Lead Testing: | | | |
| CPSC | ACCLASS (ISO 17025, CPSC) | ADE-1420 | http://www.aiclasscorp.com |
| Soil, Dust, Paint ,Air | AIHA (ISO 17025, AIHA ELLAP and NLLAP) | 101574 | http://www.aihaaccreditedlabs.org |
| Dietary Supplements | ACCLASS (ISO 17025) | ADE-1420 | http://www.aiclasscorp.com |

Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.

LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.

ND = Not Detected, Testing result not detected above the LOD or LOQ.

** No result could be reported, see sample comments for details.

< This testing result is less than the numerical value.

() This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.

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

Please complete this form and include it with each shipment.

Sample Number/RCF Number:

C1R3L0 (RCF 34718)

Shipment Date:

10/23/12

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:

Janet Kozzmer

Date:

10/23/12

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.



Analysis Report for RCF34718

J1R3L0 SAF:RC-189 100NFR/116-N-2 VERIFICATION SOIL SAMPLE

GAMMA SPECTRUM ANALYSIS

Sample Identification : RCF34718
 Sample Description : J1R3L0 SAF:RC-189 100NFR/116-N-2 VERIFICATION SOIL SAMPLE
 Sample Type : 80g pillbox

 Sample Size : 7.500E+01 grams
 Facility : Default

 Sample Taken On : 10/18/2012 2:00:00PM
 Acquisition Started : 10/22/2012 10:19:35AM

 Procedure : 80 Gram Pill Box
 Operator : RCT
 Detector Name : NEWBEGE
 Geometry : 80 Gram Pill Box
 Live Time : 1800.0 seconds
 Real Time : 1800.3 seconds

 Dead Time : 0.01 %

 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 : 7/18/2012
 Efficiency Calibration Used Done On : 3/9/2012
 Efficiency Calibration Description : NBEGE 80gPB EC030712 SN85269-238

 Sample Number : 28623

INTERFERENCE CORRECTED REPORT

| <i>Nuclide Name</i> | <i>Nuclide Id</i> | <i>Confidence</i> | <i>Wt mean Activity (pCi/grams)</i> | <i>Wt mean Activity Uncertainty</i> | <i>Comments</i> |
|---------------------|-------------------|-------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | | 0.881 | 1.27E+01 | 3.02E+00 | |
| PB-212 | | 0.709 | 7.58E-01 | 1.51E-01 | |
| RA-226d | @ | 0.344 | 4.49E-01 | 1.33E-01 | |

From: (509) 376-7768
1162 SHIPPING DEPT
US DOE
2355 STEVENS DR

Origin ID: PSCA

FedEx
Express



J12201209200325

RICHLAND, WA 99354

Ship Date: 23OCT12
ActWgt: 29.0 LB
CAD: 5851986/INET3300

Delivery Address Bar Code



SHIP TO: (801) 904-4302
KEVIN GRIFFITHS
ALS LABORATORIES
960 WEST LEVOY DRIVE

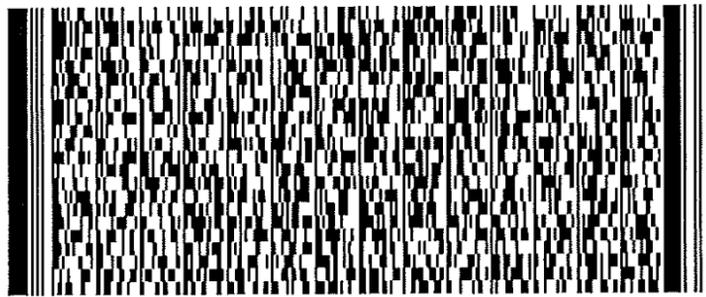
BILL THIRD PARTY

Ref # R10N61 2000
Invoice #
PO #
Dept #

SALT LAKE CITY, UT 84123

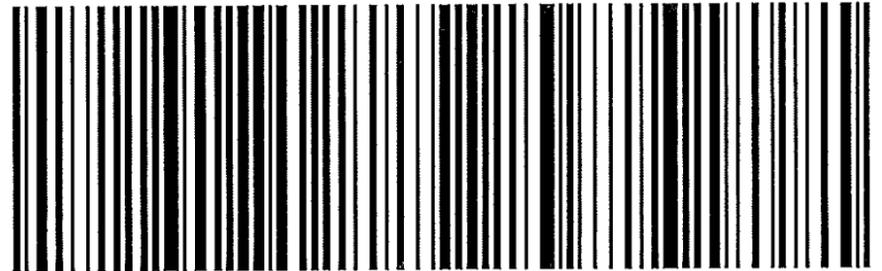
WED - 24 OCT A
PRIORITY OVERNIGHT

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515G19CCB/AA44

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