

May 22, 2006

Mr. Robert Kennedy ENSR 2 Technology Park Drive Westford, MA 01886-3140

Subject: Data Package for MWH Laboratories Report 169215

Mr. Kennedy:

Enclosed is MWH Laboratories Report 169215 with the data, Subcontractor Report and the MWH Labs raw data package as requested.

Sample receipt: The soil samples arrived at MWH Laboratories, Monrovia, CA on March 8, 2006 for other subcontractor analysis after being picked up from EMAX Laboratories. EMAX retained the containers needed for analysis and these were reported separately under MWH Report 169338.

All containers were received without any visible signs of tampering or breakage. No analysis was performed by MWH Labs.

The samples were identified as follows:

| MWH LAB# | CLIENT ID | SUBCONTRACTOR LAB |
|------------|-----------|-------------------------|
| 2603090024 | M120-0.5 | EMS, STL, GEL, FRONTIER |
| 2603090026 | M120-5 | GEL |
| 2603090027 | M120-10 | EMS, STL, GEL, FRONTIER |
| 2603090028 | M120-30 | EMS, STL, GEL, FRONTIER |
| 2603090029 | M120-50 | GEL |

The subcontractor labs are as follows:

EMS: EMS, Pasadena, CA - Soil Asbestos Analysis

STL: Severn Trent Laboratories, West Sacramento, CA - Congener Analysis

GEL: General Engineering Laboratories, LLC, Charleston, SC - Radioactivity Analysis

FRONTIER: Frontier GeoSciences, Seattle, WA - Methyl mercury Analysis

Case Narrative: Please see the subcontractor reports for any technical or administrative problem during analysis, data review and reduction are contained in the analytical case narratives in the associated data package.

Data Package: The enclosed data package includes the Report, Chain of Custody, applicable Subcontractor Lab reports to document the billing and the MWH Raw data package.

Sincerely,

Linda Geddes Project Manager

Fax: 626 386 1101

Anda Dedda



750 Royal Oaks Drive, Suite 100 Monrovia, California 91016-3629 Tel: 626 386 1100 Fax: 626 386 1101 1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

ENSR 2 Technology Park Drive

Westford , MA 01886-3140

Attention: Robert Kennedy Fax: 978-589-3282

DATE OF ISSUE

MAY 2 2 2006 Historia

MWH LABORATORIES

LXG Linda Geddes Project Manager



Report#: 169215 HENDERSON

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Comments,QC Report,QC Summary,Data Report,Hits Report, totaling 5 page[s].

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Page 3 of 95

Linda Geddes printed this.



Ye Myint <YMyint@emaxlabs.com> 03/09/2006 11:38 AM To "Kennedy, Robert" <rkennedy@ensr.aecom.com>

cc "Krish, Ed" <ekrish@frontiernet.net>, Linda Geddes <Linda.Geddes@us.mwhglobal.com>, "Bilodeau, Sally" <SBilodeau@ensr.aecom.com>

bcc

Subject RE: Henderson COC modifications

History:

This message has been replied to.

Robert,

Item#3: We have only 2 sleeves for the analyses we need to do here. 2 out of 3 samples you listed need full list of analytes and with added MS/MSD on M120-30. We will need most of the samples. All the extra jars for other labs are in MWH custody and we have no extra jar left.

One question: Do you need MBAS and Conductivity for soil? I believe you need TDS and TSS for water only and they won't be logged in for soil.

Linda: If you haven't sent out the samples to other labs yesterday, Could you please get the samples for Asbestos from the jars that were picked-up yesterday? Thanks.

Ye Myint EMAX Laboratories, Inc. 1835 W 205th. St. Torrance, CA 90501 Phone: (310) 618-8889 x121

Fax: (310) 618-0818

E-mail: <u>ymyint@emaxlabs.com</u>
-----Original Message-----

From: Kennedy, Robert [mailto:rkennedy@ensr.aecom.com]

Sent: Thursday, March 09, 2006 11:08 AM

To: Ye Myint

Cc: Krish, Ed; Linda Geddes; Bilodeau, Sally **Subject:** Henderson COC modifications

Ye,

I have talked to Brian about a few changes we want to make in the COC with the serial no. 5219 from the samples collected 3/7/06:

- 1) Please add perchlorate and hexavalent chromium to the analytes for MS/MSD analysis of sample M120-50 MS/MSD at line item 5.
- 2) Please add MS/MSD analyses to the organochlorine pesticides, PCBs, organophosphorous pesticides, and SVOCs for sample M120-30 at line item 1.
- 3) Please add bulk asbestos in soil analysis to sample M120-30 (line item 1 on COC 5219), sample M120-0.5 (line item 1 on COC 5218), and sample M120-10 (line item 3 on COC 5218). These samples should go to EMS Laboratory. Linda said someone from MWH will be by to make a pick-up today so call Linda to see if she needs extra sample jars from your lab. If Emax can

Linda Geddes printed this.

have them ready to go then MWH will take care of the shipping to EMS.

If you have any questions please call or email me.

Robert Kennedy Senior Project Chemist

ENSR 2 Technology Park Drive Westford, MA 01886-3140 T 978-589-3324 F 978-589-3282 www.ensr.aecom.com

| A | COURIER SERVICE 401 N. Brand Blvd., Suite 660 • Giendale, CA 91203 Phone: 818/546-8684 Fax: 818/546-2590 | REF. NO | |
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MWH Laboratories

750 Royal Oaks Drive, Monrovia, CA 91016 PHONE: 626-386-1100/FAX: 626-386-1101

ACKNOWLEDGMENT OF SAMPLES RECEIVED

ENSR

2 Technology Park Drive Westford, MA 01886-3140 Attn: Robert Kennedy

Phone: 978-589-3324

Customer Code: ENSR-TRONOX

Group#: 169215 Project#: HENDERSON Proj Mgr: Linda Geddes

Phone: (626) 386-1163

The following samples were received from you on 03/08/06. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

| Sample# | Sample | Id Tests Scheduled | Matrix | Sample Date |
|-------------------------------------|-----------------------------------|---|--------------------|--|
| 260309002 260309002 260309002 | 7 M120-10 88 M120-30 | ASBTEM CONGENI CUSTSUB ASBTEM CONGENI | Soil Soil | 07-mar-2006 09:30:00 07-mar-2006 10:10:00 METHYLHG 07-mar-2006 11:45:00 |
| | | Test Acronym | Description | |
| Test A | .cronym | Description | | |
| CO: CU | BTEM NGENER STSUB THYLHG | Asbestos by PLM TCDDs+PCDFs by 1613b f Subcontracted Analyses Methyl mercury | ull list -soils | |



750 Royal Oaks Drive, Suite 100 Monrovia, California 91016-3629 Tel: 626 386 1100 Fax: 626 386 1101 1 800 566 LABS (1 800 566 5227)

Group Comments

Analytical results for Asbestos by PLM are submitted by EMS Labs Pasadena, CA.
Analytical results for Methyl Mercury are submitted by Frontier GeoSciences, Inc, Seattle, WA.
Analytical results for CONGENER are submitted by Severn Trent Laboratories, Sacramento, CA. NELAP 01119CA
Analytical results for radiologicals are submitted by General Engineering Laboratories, LLC, Charleston, SC.



Laboratory Hits Report #169215

750 Royal Oaks Drive, Suite 100 Monrova, California 91016-3629 Tel: 626 386 1100 Fax: 626 385 1101 1 800 566 LABS (1 800 566 5227)

ENSR Robert Kennedy 2 Technology Park Drive Westford , MA 01886-3140

Samples Received 08-mar-2006 15:54:00

| Analyzed | Sample# | Sample ID | Result | Federal MCL | UNITS | MRL |
|----------|----------------------------|-----------|--------|----------------|-------|-------|
| 03/07/06 | 2603090024 Methyl mercury | M120-0.5 | 0.024 | | | |
| , , , | 2603090027 | M120-10 | 0.034 | | ng/g | 0.020 |
| | 2603090028 | M120-30 | | | | |

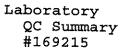


750 Royaf Oaks Drive, Suite 100 Monrovia, California 91016-3629 Tel: 626 386 1100 Fax: 626 386 1101 1 800 566 LABS (1 800 566 5227)

ENSR Robert Kennedy 2 Technology Park Drive Westford , MA 01886-3140

Samples Received 03/08/06

| | | | | | *************************************** | | | |
|----------|----------------|---------|---------------|---|---|--------------|------------|----------|
| Prepared | Analyzed | QC Ref# | Method | Analyte | Result | Units | MRL | Dilution |
| M120- | 0.5 (26030 | 90024 | Sam | pled on 03/07/06 09:10 | | | | |
| | 03/15/06 00:00 | | (SUBCONTRACT |) Asbestos by PLM | ND | 96 | 0.2 | 1 |
| | 04/13/06 00:00 | | (8290 |) TCDDs+PCDFs by 8290 full list | SUB STL | PGG | 1.0 | 1 |
| | 04/24/06 00:00 | | (|) Subcontracted Analyses-soils | SUB GEL | None | 0 | 1 |
| | 03/07/06 00:00 | 315069 | (EPA 1630 |) Methyl mercury | 0.034 | ng/g | 0.020 | 1 |
| M120-5 | (2603090 | 026) | Sample | ed on 03/07/06 09:30 | | | | |
| | 04/24/06 00:00 | | (|) Subcontracted Analyses-soils | SUB GEL | None | 0 | 1 |
| M120-1 | .0 (260309 | 0027) | Sampl | led on 03/07/06 10:10 | | | | |
| | 03/15/06 00:00 | | (SUBCONTRACT |) Asbestos by PLM | ND | _ | | |
| | 04/13/06 00:00 | | (8290 |) TCDDs+PCDFs by 8290 full list | ND SUB STL | % | 0.2 | 1 |
| | 04/24/06 00:00 | | (|) Subcontracted Analyses-soils | SUB GEL | PGG | 1.0 | 1 |
| | 03/07/06 00:00 | 315069 | (EPA 1630 |) Methyl mercury | ND GEL | None ng/g | 0 0.020 | 1 |
| M120-3 | 0 (260309 | 0028) | Samol | ed on 03/07/06 11:45 | | | | _ |
| | 03/15/06 00:00 | • | (SUBCONTRACT |) Asbestos by PLM | | | | |
| | 04/13/06 00:00 | | (8290 |) TCDDs+PCDFs by 8290 full list | ND | % | 0.2 | 1 |
| | 04/24/06 00:00 | | { | | SUB STL | PGG | 1.0 | 1 |
| | 03/07/06 00:00 | 315069 | (EPA 1630 |) Subcontracted Analyses-soils) Methyl mercury | SUB GEL | None | 0 | 1 |
| | | | 2550 | , Methyl mercury | ND | ng/g | 0.020 | 1 |
| | 0 (260309 | 0029) | Sampl | ed on 03/07/06 12:45 | | | | |
| | 04/24/06 00:00 | | (|) Subcontracted Analyses-soils | SUB GEL | None | 0 | 1 |





750 Royal Oaks Drive, Suife 100 Monrovie, California 91016-3629 Tel: 626 386 1100 Fax: 626 386 1101 1 800 566 LABS (1 800 566 5227)

ENSR

QC Ref #315069 - Methyl mercury

Analysis Date: 03/07/2006

2603090024 M120-0.5 2603090027 M120-10 2603090028 M120-30

Analyzed by: rbc

Analyzed by: rbc

Analyzed by: rbc



750 Royal Oaks Drive, Suite 100 Monrovia, California 91016-3629 7st 626 386 1100 Fax: 626 386 1101 1 800 566 LABS (1 800 566 5227)

ENSR

QC Ref #315069

Methyl mercury

| ÕC. | Analyte | Spiked | Recovered | Units | Yield (%) | Limits (%) | RPD (%) |
|----------|----------------|----------|-----------|-------|-----------|------------|---------|
| AASPKSMP | Spiked sample | Lab # 26 | 03090027 | NGG | 0.0 | (0-0) | |
| LCS | Methyl mercury | 5.49 | 5.74 | NGG | 104.6 | (50-150) | |
| MBLK | Methyl mercury | ND | <0.020 | NGG | | - | |
| MS | Methyl mercury | 4.43 | 4.28 | NGG | 96.6 | (50-150) | |
| MSD | Methyl mercury | 4.43 | 4.44 | NGG | 100.2 | (50-150) | |
| | | | | | | | |

Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining</u>. Criteria for MS and DUP are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.



April 19, 2006

Linda Geddes MWH Laboratories 750 Royal Oaks Drive Suite 100 Monrovia, CA 91016

Re: Methyl Mercury for Project # 169215

Dear Ms. Geddes,

Enclosed, please find our report concerning methyl mercury in three (3) soil samples received on March 17, 2006 for Project #169215.

High QA and a complete data package were added to the project on March 30, 2006 per our phone conversation.

There were no analytical issues encountered with this analysis and any QC issues are addressed in the following report.

Please feel free to call or e-mail if you have further questions or concerns.

Sincerely,

Kristina Spadafora Project Manager

KristinaS@FrontierGeoSciences.com

Enitina Soudgina

414 Pontius Ave. N. Seattle WA 98109
206.622.6960 • fax 206.622.6870
info@frontiergeosciences.com • www.frontiergeosciences.com

MWH Laboratories Methyl Mercury in Soil Project # 169215

April 19, 2006

Frontier Geosciences Inc. 414 Pontius Ave. North Seattle, WA 98109

1. Scope of Work

Three (3) soil samples were submitted on March 16, 2006 for methyl mercury analysis using cold vapor gas chromatographic atomic fluorescence spectrometry (CV-GC-AFS, FGS-070).

2. Sample Receipt

The samples identified above were received at Frontier Geosciences in good condition on March 17, 2006 within a sealed cooler at a temperature of 2.7 °C. All samples were securely received and logged in according to Frontier's protocols on the day of receipt.

3. Analysis

Samples were processed using ultra-clean sample handling techniques in laminar flow clean areas known to be low in atmospheric trace metals. Reagents, gases, and deionized water are all reagent or ultra-pure grade, and were previously analyzed for trace metals to ensure very low blanks.

Daily analytical runs were begun with a 5-point standard curve, spanning the entire analytical range of interest, with additional standards run every 10 samples. The daily standard curves were calculated using a linear regression forced through zero of the blank-corrected initial standards. For each analytical set, one matrix duplicate, two matrix spikes, and three method blanks were co-processed and analyzed in exactly the same manner as ordinary samples.

<u>Sample Extraction</u>. Samples were processed with an extraction designed for a soil/sediment matrix (Frontier standard operating procedure FGS-045) on March 26, 2006. In summary, the methyl Hg in an aliquot of the sample is extracted from acidic bromide slurry into methylene chloride and then back into pure water.

Methyl Hg analysis. Extracted samples were analyzed for methyl Hg in accordance with the standard operating procedures (SOPs) described in the Frontier Geosciences Quality

Assurance manual. Acetate buffer and ethylating agent were added to an aliquot of sample and the methyl Hg purged onto carbotraps. The mercury species on the carbotrap column were volatilized and separated using a gas chromatography column, reduced on a pyrolytic column and detected by an atomic fluorescence detector. The extracted samples were analyzed on March 27, 2006.

4. Analytical Issues

There were no analytical issues and all QC samples were within control.

Please feel free to contact me with any questions or concerns regarding this report.

MWH

Methyl Mercury for Project 169215

Reported by Frontier Geosciences, Inc. 414 Pontius Avenue N, Seattle, WA 98109 April 19, 2006

Results

| Sample ID | Date Sampled | Methyl Hg as Hg (ng/g) * |
|------------|--------------|--------------------------|
| 2603090024 | 3/7/06 | 0.034 |
| 2603090027 | 3/7/06 | <0.020 |
| 2603090028 | 3/7/06 | <0.020 |

^{*} Reported on a wet-mass basis (not corrected for total solids)

MWH

Methyl Mercury for Project 169215

Reported by Frontier Geosciences, Inc. 414 Pontius Avenue N, Seattle, WA 98109 April 19, 2006

Preparation Blank Report

| Anolyto (note) | 7 546 | | | | | , |
|--|------------|-------|-------|-------|--------|-------|
| 7/31 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | E | PB2 | PB3 | Mean | St Dev | RI |
| Meinyl Hg as Hg PB = Preparation Blank | 0.012 k | 0.013 | 0.008 | 0.011 | 0.003 | 0.020 |
| RL = Reporting Limit | 1 | | | | | |

Certified Reference Material Report

| % Rec | 104.6 |
|----------------|-----------------------------|
| Obs Value | 5.74 |
| Cert Value | 5.49 |
| CRM Identity | IAEA-405 |
| Analyte (ng/g) | CRM = Certified Reference N |

Cert Value = Certified Value

Obs Value = Observed Value

% Rec = Percent Recovery

Matrix Duplicate Report

RPD = Relative Percent Difference

NC = Not calculated; one or more values below the reporting limit

Matrix Spike Report

| RPD | 3.0 |
|--------------------------------|-------------------|
| % Rec | 99.4 |
| MSD | 4.436 |
| Spike | 4.464 |
| % Rec | 96.4 |
| MS | 4.275 |
| Spike | 4.433 |
| Sample | <0.020 |
| Sample ID | 1 |
| Analyte (ng/g) Methyl Hg as Ho | MS = Matrix Spike |

MSD = Matrix Spike Duplicate

MWH

Methyl Mercury for Project 169215

Reported by Frontier Geosciences, Inc. 414 Pontius Avenue N, Seattle, WA 98109 April 19, 2006

ICB/CCB report

| Analyte (ng/L) | ICB | CCB1 |
|-----------------|-------|-------|
| Methyl Hg as Hg | 0.018 | 0.016 |

ICB = Initial Calibration Blank

CCB = Continuing Calibration Blanks

ICV/CCV report

| Analyte (ng/L) | | ICV | | CCV1 | | | | |
|-----------------|-------|-------|--------|-------|-------|--------|--|--|
| | TV | Found | % Rec. | TV | Found | % Rec. | | |
| Methyl Hg as Hg | 2.240 | 1.956 | 87.3 | 2.000 | 1.956 | 97.8 | | |

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

Frontier Geosciences

Dataset for CV.GC.AFS Analysis

Analysis Method: FGS-070

MMHg

Dataset ID: Analyst: Data Prep: Analysis Date:

MHg7-060327-1 Citronc Citronc 3/27/2006

| No I | HiQA | Sample Group | | | Inst. Blank | Prep Blank | MSA | Effic Factor |
|------|------|------------------------------|---------|----------------------|-------------|------------|-----|--------------|
| 2 | | PBS *Prep Method: | FGS-045 | MMHg MeCl Extraction | Yes-1 | No | No | No |
| 3 . | W | MWH 3/17/06 *Prep Method: | FGS-045 | MMHg MeCl Extraction | Yes-1 | Yes-2 | No | No |
| | | | | | | | | |

Analytical Remarks:

No Analytical issues to report.

All results were in control.

Col 100 3/28/00 G/1

QUALITY ASSURANCE

PEER - REVIEWED

INITIALS: plo3/28/2001

QUALITY ASSURANCE REVIEWED

INITIALS: 4/10/06

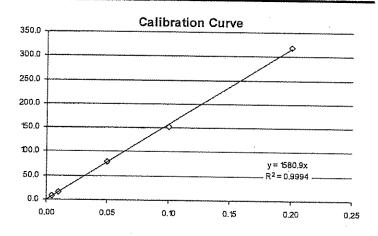
Frontier Geosciences

Dataset for CV.GC.AFS Analysis

Dataset ID: Analyst: Date: MHg7-060327-1 Citrónc 3/27/2006

Calibration Data for MMHg

| | ng vs. Mea: | sured Inten | sity |
|--------------|-----------------|-------------|----------------|
| Siope: | 1580.89784 | R: | 0.99971 |
| SE: | 2.73386 | Obs: | 5 |
| True Value-x | IBC Intensity-y | Calc Value | Calc intensity |
| 0,0050 | 7.3500 | 0,0046 | 7.9045 |
| 0.0500 | 79.9500 | 0,0506 | 79.0449 |
| 0.1000 | 152,6500 | 0.0966 | 158.0898 |
| 0.2000 | 318.6500 | 0.2016 | 316,1796 |
| 0.0100 | 16.5500 | 0.0105 | 15.8090 |



Instrument Blank (IB) Sets

| Group Analyte | Count | Avg | St Dev | EMDL | Units | Intensity |
|---------------|-------|--------|--------|--------|-------|-----------|
| 1 MMHg | 2 | 0.0171 | 0.0009 | 0.0027 | ng/L | 1.35 |

Preparation Blank (PB) Sets

| Group Analyte Count | Avg | St Dev | EMDL | Units | PB1 | PB2 | PB3 | PB4 |
|---------------------|-------|--------|-------|-------|-------|-------|-------|-----|
| 2 MMHg 3 | 0.011 | 0.003 | 800.0 | ng/g | 0.012 | 0.013 | 0.000 | |

MSA Sets

QC Sets

| Sample | Analyte | Sample | Düplicate Tr | iplicate 💯 Sr | ike 🏸 🛴 | Spike Dup. | Spike TV S | pike Dup. TV |
|--|---------|------------|--------------|---|--|--|--|--|
| M120-10 | MMHg M | -0.005 | -0.004 | | 4.275 | 4,436 | 4.433 | 4.464 |
| STATE CONTRACTOR STATE OF THE S | ng/g | Avg=-0.004 | 14.6% RPD | | 推禁 場 | 3.0% RPD 翻 | 96.5%Rec | 99.5%Rec |
| | | | | to an all the an included the beautiful and the beautiful and the | STATE OF THE PARTY | e de la companya del companya de la companya del companya de la co | Participation of the Contraction | AND DESCRIPTION OF THE PARTY OF |

Frontier Geosciences Dataset for CV.GC.AFS Analysis

| Citrone 3/27/2006 | | Remark | | An Al-Andrews (An Annual Management of Street, Concession, Concess | | | | | | *************************************** | *************************************** | - Andread Control of the Control of | | | | The same of the factor of the same of the | | | | ATTENDED TO THE PROPERTY OF TH | And the second s | | |
|--|----------------|------------------|---------------|--|--------------|----------------|--|-----------------------|--------------|---|---|---|---------------|---------------|----------------|---|-----------------|-------------|---------------|--|--|--------------|--|
| 7 | | | 0 | o | | | 5 6 | 3 6 | , | - | | | - | 5 | | - | - | | | - | - | | - |
| | j | | 0.0050 | 0.0500 | ŧ | 1 | 1 | | - 1 | | | | L | 0.4300 | | | | 00007 | 4.45.5 | 4.4040 | | 2.0000 | |
| | | Yec. | 93.0% | 101.1% | 268 60 | 100 86 | 104 786 | 87.3% | 200.00 | | | - | 100 101 | 104.078 | | | | | - | *************************************** | | 97.8% | Andrew Manager |
| Analyst: Date: | 70.00 | מסום בוסטים והפו | | | | | | 1.956 notn | th th | 0.012 nafa | 0,013.00/0 | 2000 B | 5 744 note | 5/8:1 + 2.7 | 0.034 ng/g | -0.005 ng/g | -0,004 nafa | 4 975 note | 1 436 polo | Bigli deny | Bigis 1 DO.O | | *************************************** |
| | 1 | į | ,~- | ٠ | * | | | | - | | 1 | - | 0.071 | | • | ~ | 1 | ۳ | | - - | - - | 7 | - |
| | Colld Conn | 2000 | | | | | | 1.958 na/a | | 0.012 na/a | 4 | | 5574 noto | 2 | 0.034 ng/g | 5)5u <u>900</u> 0- | -0.004 ng/g | 4.275 na/a | 4 436 00/0 | System POLO | Riffi Carin | | |
| | Mace | - Casa | | | | - | | 1.0000 a | | 0.5000 a | 0.5000 g | 0.4100 a | 0.2110.0 | | 0.5440 g | 0.5310 g | 0.5380 g | 0.5640 o | 0.5500 p | 0.5310.0 | 8 2 2 | | |
| | Prah Vini | | | | | | | 1000,00 mL | | 57.60 mL | 57.60 mL | 57.50 mL | | | | 57.60 mt. | 57.60 mL | 57.50 mL | | | 4. | | |
| | H femilie Mart | 2000 | O.USO HONE | 1.011 ng/L | 1,931 ng/L | 4.031 ng/L | 0.209 ng/L | 1.856 ng/L | 0.018 ng/L | 0.102 ng/L | 0.113 ng/L | 0.058 ng/f. | 20,420 ng/L | 200 000 | 0,324 fig/L | -0.044 ng/L | -0.038 ng/L | 41,863 ng/L | 43.129 na/L | 0.011 na/L | 1 956 not | 0.016 no/L | |
| | Radid Gross | 0000 | ייולווי הבתיה | 1.011 ng/L | 1.931 ng/L | 4.031 ng/l. | 0.209 ng/L | 1.956 ng/L | 0.018 ng/L | 0.102 ng/l. | 0.113 ng/L | 0.058 ng/L | 20.510 ng/L | 0.445.003 | 0.410 tg/t | . 0.047 ng/L | 0.052 ng/L | 41.954 ng/L | 43.219 ng/l. | 0.102 ng/L | 1.956 nn/ | 0.016 nc/L | |
| | 6 | | 3- | 1. | ÷. | - - | - | - | 1 | 5. | 5, | 5 | ьý | Ţ | ,, | 5, | ග් | 5. | ιςi | 5. | - | | |
| | Inst Vatue | 0.0048 pg | | 0.0506 ng | 0.0966 ng | 0,2016 ng | 0.0105 ng | 0.0978 ng | 0.0009 ng | 0.0012 ng | 0.0013 ng | 0.0007 ng | 0.0410 ng | 0.0048 200 | | 0.0005 ng | 0,0006 ng | 0.0839 ng | 0.0864 ng | 0.0012 ng | 0.0978 ng | 0.000B ng | |
| | | ╁ | | B1.3 0.0 | 154 0.0 | 320 0.2 | 17.9 0.0 | 156 0.0 | 1.4 0.00 | 3.2 0.00 | 3.4 0.00 | 2.4 0.00 | 66.2 0.04 | 8 9 0 0 | ┵- | 1 | 2.3 0.00 | 134 0.06 | 138 0.08 | 3.2 0.00 | 156 0.05 | 1.3 0.00 | |
| | Infen. | • ~~~ | 4 | l | | L | <u> </u> | <u> </u> | <u> </u> | Ļ | | _ | _ | L | _ | _ | | | Ļ | Ŀ | L. | _ | |
| | Aliquot | 50.000 mi | | 50,000 ml. | 50.000 ml. | 50,000 ml. | 50.000 ml | 50.000 mL | 50.000 mL | 57.600 mL | 57,600 mL | 57.500 mL | 10.000 ml. | 57,600 ml | 200 | JW (200 /c | 57.600 ml. | 10.000 mL | 10,000 mi. | 57,600 mi. | 50.000 mL | 50.000 ml | |
| l | Type | CAL | | 185 185 | CAL | CAL | CAL | SO | a | æ | B _D | ed. | rcs | 22 | 6 | , | Q. | MS | GS.W | s | ςς | 83 | |
| Ì | Excl | | | 7 | | | | | | | | | | | E | 1 | 1 | | | | | | |
| | Sample (D | D.005 ng | O ORG AS | El nen a | 0.100 ng | p.200 ng | D.010 ng | ICV/Darm-2 (2.24ng/L) | CB | PBS1 | PBS2 | P#S3 | IAEA-405 | M120-0.5 | M4120.40 | 1100 0000 | PATIZUT-UZ NAU) | M120-10(MS) | M120-10(MSD) | M120-30 | CCM | CCB1 | The state of the s |
| A TAIL AND | s Sample Group | 1 [Analysis] | 2 ZAnaluciei | le ment anal | 3 (Analysis) | 4 (Analysis) | 1 (Analysis) | 2 (Analysis) | 3 (Analysis) | 4 258 | 1 PBS | 2 PBS | 3 MWH 3/17/06 | 4 MWH 3/17/08 | 1 MWH 3/17 KIR | T | Т | 1 | 4 MWH 3/17/05 | 1 MWH 3/17/06 | 2 (Analysis) | 3 (Analysis) | |
| - × | Trap Pos | *** | | | 2 | 4 | The state of the s | | 8 | | | 8 | | 10 | 9 | | | | | 8 | 4 | 5 3 | |
| 1 1 | Run Tr | ~ | 6 | 1 0 | 2 | *F | ¥O. | 60 | ~ | 8 | G) | <u></u> | = | 12 | 13 | 1,4 | - | 61 | 16 | 4 | 18 | 6. | |

| | Mut Annu Dratt D Mut 3/17/02 | | | | |
|-------------|---------------------------------|-------------|---------------------------------------|---|--------------|
| | Maters Tissues | FSIM Iraps | ☐ Filters | Other | |
| mple Matrix | otal Hg Methyl Hg 7% Dry Weig | nt Other_ | , | · | |
| alysis: 🔲 T | ofal Hg Lawring Lawring | | | | |
| an# r%TS | Sample ID Number | Sample Size | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | ght Determing Pan wt.+ wet sample (g) | Pan wt.+ arv |
| TOBSE | | | | | |
| | 7 | - 410 | | | |
| | 3 (teften chips) | 0.410 | | | |
| VIA | EN 408 | 0.211 | | | |
| Imi | 20-0.5 | 0.544 | | | |
| 2 V. | -10 | 0.538 | | | |
| 2no V | MO | <u></u> | | | |
| 200 V | ms (2511 100 ng/s | 0.560 | | | |
| MEDY | MS() + | 0.531 | | | |
| 3 MC | 20-30 | | | | |
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Frontier GeoSciences, Inc

High QA Report:

Analyst: Citron Choice
Data Set: MHg7-060327-1
Reviewer: Shelly Fank
Reviewed Date: 4/10/06

- 1. Calibration was performed on at least five calibration standards.
- 2. The calibration curve used at least four standards and achieved a correlation coefficient of greater than 0.995.
- 3. The ICV meets acceptable criteria of 80-120%R.
- 4. The ICB meets acceptable criteria of less than or equal to 0.02 ng/g.
- 5. All CCVs have %R within 75-125% except:

| - | CCV | Analyte | %R | Comments |
|---|------|---------|----|----------|
| ļ | None | | | |

6. All LCS have %R within 75-125% except:

| LCS ID | Analyte | %R | Comments |
|--------|---------|----|----------|
| None | | | |

- 7. All MD results pass the < 25% RPD Criteria. Except:None
- 8. No prep issues noted.

TDS checked transcription.

Any other comments regarding instrument/data packages (internal standard trends/missing portions such as prep logs etc.):

All Sample Duplicates/Triplicates/ have RPD/RSD below 25%. Except: None.

All sample MS and MSD have %R within 75-125% unless spike concentration is less than 1x the ambient concentration. Except: None.

All analytical issues or other problems:

1. No other issues noted.

Page 1 of 2

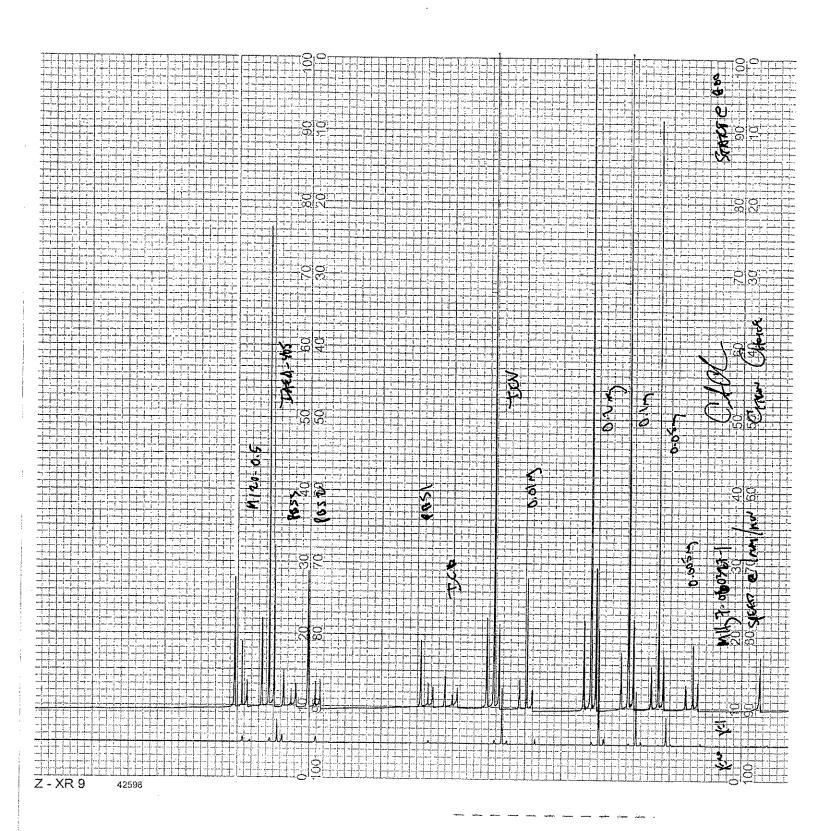
Frontier GeoSciences, Inc

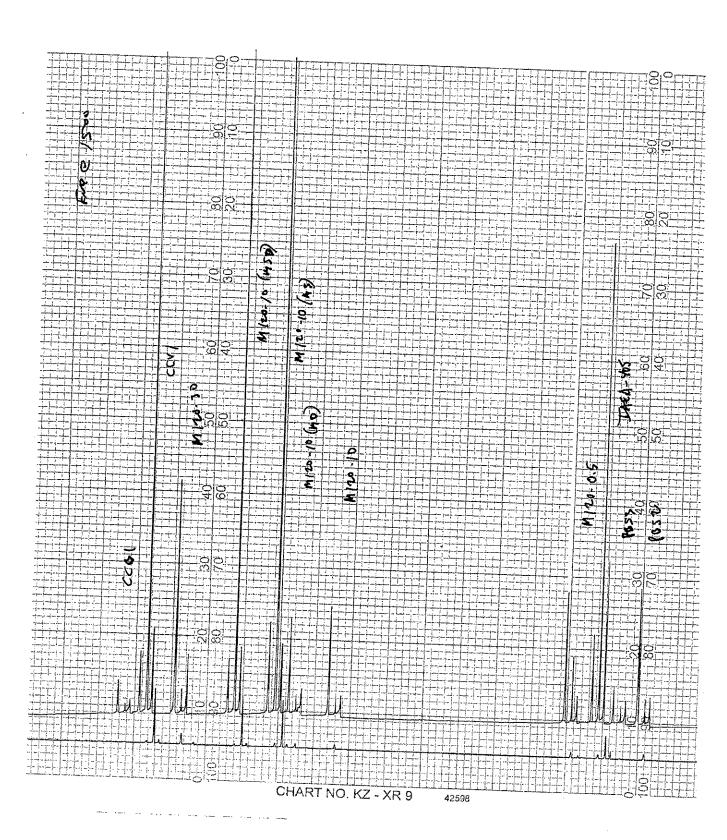
High QA Report:

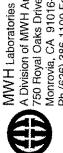
Analyst: Citron Choice Data Set: MHg7-060327-1 Reviewer: Shelly Fank Reviewed Date: 4/10/06

Follow-up items. (This would be items such as mass or dilution factors that have a problem or if a sample was changed on the Sample/Batch report but did not appear to be changed on the sample analysis report.)

These items should be emailed to the QA coordinator, lab manager, AL group leader, PM and PM group leader. They should respond as to how the item was addressed and what action was taken. That should then be amended to this report.







PM-165 Monrovia, CA 91016-3629 Ph (626) 386-1100 Fax (626) 386-1095 A Division of MWH Americas, Inc. 750 Royal Oaks Drive Suite 100

Russell Gerads Frontier Geo-Science Ship To

414 Pontius North Seattle WA 98109

03/16/06

Submittal Form & Purchase Order 99-22196

*REPORTING REQUIREMENTS: Do Not Combine Report with any other samples submitted under different MWH project numbers!

Report & Invoice must have the MWH Project Number 169215 Sub PO# 99-22196 and Job # Find Out

Report all quality control data according to Method. Include dates analyzed, date extracted (if extracted) and Method reference on the report. Results must have Complete data & QC with Approval Signature. See reverse side for List of Terms and Conditions.

MWH Laboratories 750 Royal Oaks Dr. Stc. 100, Monrovia, CA 91016 Reports: Julie Lee Sub-contracting Administrator EMAIL TO: Julie Lee@mwhglobal.com

Accounts Payable PO BOX 6610, Broomfield, CO 80021 Phone (626) 386-1136 Fax (626) 386-1095 Invoices to: MWH LABORATORIES

Provide in each Report the Specified State Certification # & Exp Date for requested tests + matrix

QC REQUESTED

TREPLES THE

MWH Project # Report Due: 03/31/06 169215

99-22196 Sub PO#

(206) 622-6870

Fax

(206) 622-6960

Client Sample ID for reference only

Analysis Requested

Sample Date & Time

Matrix

B oz. glass jars 8 oz. glass jars 8 oz. glass jars

soil

03/07/06 9:10

methyl mercury

2603090024 M120-0.5

custsub custsub

M120-10 M120-30

2603090027 2603090028

custsub

methyl mercury methyl mercury

03/07/06 10:10 03/07/06 11:45

Soil So

Container

(ed. ox brown # 6912 3665 2972 Cooled tempion, 7°C

VF5R:10:00

Co.C Sal: NIK

Sample Control

Date 03/16/06 Time 15/3 MUST HAVE NOTIFICATION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS

Time 19:05

Date

An Acknowledgement of Receipt is requested to attn. Julie Lee

Received by: NW

Relinquished by:

Page 27 of 95

豆

ENSR. TROMY

SEVERN TRENT LABORATORIES, INC. PRELIMINARY DATA SUMMARY

| PARAMETER Client Sample ID: M120-0. Cample #: 001 Date Sample ID: M120-0. | MWL-169215/Sub Project Number: 1 | 69215)309 | 2090 | Date Re | man to make . | |
|--|----------------------------------|---------------------------------------|--------------|---|---------------------------------------|---|
| lient Sample ID: M120-0. | * **** A P. H. H. A. P. | A STATE OF THE PROPERTY OF THE PARTY. | | | por ceu: | 3/27/0 |
| lient Sample ID: M120-0. | RESULT | ישמרטמים פ | | * | · · · · · · · · · · · · · · · · · · · | |
| | | REPORT: | UNITS | ANALY METHO | TICAL D | |
| | Jr. | | | | | Provident Address of the Control of |
| | mpled: 03/07/06 09: | l0 Date | Received: | 03/10/06 | Matrix: | SOLID |
| Dibenzodioxins and Dibe | | | | | | |
| 2,3,7,8-TCDD | ND | 0.18 | mar / m | Orac 4.C | 0000 | Reviewed |
| Total TCDD | 0.55 | 0.10 | pg/g | SW846 | | |
| 1,2,3,7,8-PeCDD | ND | 0.62 | pg/g | SW846 | | |
| Total PeCDD | ND | 0.02 | pg/g | SW846 | | |
| 1,2,3,4,7,8-HxCDD | ND | 0.34 | pg/g | SW846 | | |
| 1,2,3,6,7,8-HxCDD | ND | 0.94 | pg/g | SW846 | | |
| 1,2,3,7,8,9-HxCDD | ND | 1.0 | pg/g | SW846 | | |
| Total HxCDD | ND | 2.4 | pg/g | SW846 | | |
| 1,2,3,4,6,7,8-HpCDD | 6.7 | ۵.₩ | pg/g | SW846 | | |
| Total HpCDD | 12 | | pg/g | SW846 | | |
| OCDD | 33 | | pg/g | SW846 | | |
| 2,3,7,8-TCDF | 2.9 CON | | pg/g | SW846 | | |
| Total TCDF | 2.5 CON 20 | | pg/g | SW846 | | |
| 1,2,3,7,8-PeCDF | 4.7 J | | pg/g | SW846 | | |
| 2,3,4,7,8-PeCDF | 2.7 J | | pg/g | SW846 | | |
| Total PeCDF | 22 | | pg/g | SW846 | | |
| 1,2,3,4,7,8-HxCDF | 11 | | pg/g | SW846 | | |
| 1,2,3,6,7,8-HxCDF | 7.7 | | pg/g | SW846 | | |
| 2,3,4,6,7,8-HxCDF | 7.7 2.8 J | | ba\a | SW846 | | |
| 1,2,3,7,8,9-HxCDF | ND | 0.00 | pg/g | SW846 | | |
| Total HxCDF | 51 | 0.69 | ba\a | SW846 | | |
| 1,2,3,4,6,7,8-HpCDF | 30 | | pg/g | SW846 | | |
| 1,2,3,4,7,8,9-HpCDF | 6.5 | | pg/g | SW846 | | |
| Total HpCDF | 52 | | pg/g | SW846 | | |
| OCDF | 54 | | pg/g pg/g | SW846 SW846 | | |
| Results and reporting limits have been adjuste CON Confirmation analysis. J Estimated result. Result is less than the rep | | | | | | |

(Continued on next page)

SEVERN TRENT LABORATORIES, INC. PRELIMINARY DATA SUMMARY

| | MWH Labora | | | | | PAGE | |
|---|----------------|---------------|--------------|------------|----------------|----------|--|
| ot #: G6C100424 | WL-169215/Sub | | 090 | Date Po | Date Reported: | | |
| Pro | ject Number: 1 | 69215/309 | 0024 | Date Re | :bor cea: | 3/27/06 | |
| | | REPORTI | | አ እተጽ ፕ ኣ/ | TICAL | | |
| PARAMETER | RESULT | | <u>UNITS</u> | METHO | | | |
| Client Sample ID: M120-10 | | | | | | | |
| Sample #: 002 Date Sampled | : 03/07/06 10: | 10 Date | Received: | 03/10/06 | Matrix: | SOLID | |
| Dibenzodioxins and Dibenzofu | rans, HRGC/HRM | IS | | | | Reviewed | |
| 2,3,7,8-TCDD | ND | 0.27 | pg/g | SW846 | 8290 | restewed | |
| Total TCDD | ND | 0.27 | pg/g | SW846 | | | |
| 1,2,3,7,8-PeCDD | ND | 1.2 | pg/g | SW846 | | | |
| Total PeCDD | ND | 1.8 | pg/g | SW846 | | | |
| 1,2,3,4,7,8-HxCDD | ND | 0.56 | pg/g | SW846 | | | |
| 1,2,3,6,7,8-HxCDD | ND | 1.1 | pg/g | SW846 | | | |
| 1,2,3,7,8,9-HxCDD | ND | 1.9 | pg/g | SW846 | | | |
| Total HxCDD | ND | 1.9 | pg/g | SW846 | | | |
| 1,2,3,4,6,7,8-HpCDD | ND | 0.84 | ba\a | SW846 | | | |
| Total HpCDD | ND | 0.84 | pa/a | SW846 | | | |
| OCDD | ND | 1.4 | pg/g | SW846 | | | |
| 2,3,7,8-TCDF | ND | 0.29 | ba\a ba\a | SW846 | | | |
| Total TCDF | 0.74 | · · · · · · · | pg/g | SW846 | | | |
| 1,2,3,7,8-PeCDF | ND | 0.48 | pg/g | SW846 | | | |
| 2,3,4,7,8-PeCDF | ND | 0.47 | pg/g | SW846 | | | |
| Total PeCDF | ND | 0.69 | pg/g | SW846 | | | |
| 1,2,3,4,7,8-HxCDF | ND | 0.87 | pg/g | SW846 | | | |
| 1,2,3,6,7,8-HxCDF | ND | 0.65 | pg/g | SW846 | | | |
| 2,3,4,6,7,8-HxCDF | ND | 0.71 | pg/g | SW846 | | | |
| 1,2,3,7,8,9-HxCDF | ND | 0.74 | pg/g | SW846 | | | |
| Total HxCDF | ND | 0.87 | pg/g | SW846 | | | |
| 1,2,3,4,6,7,8-HpCDF | ND | 0.79 | ba\a | SW846 | | | |
| 1,2,3,4,7,8,9-HpCDF | ND | 0.59 | pg/g | SW846 | | | |
| Total HpCDF | ND | 0.79 | ba\a | SW846 | | | |
| OCDF | ND | 1.3 | pg/g | SW846 | | | |
| Results and reporting limits have been adjusted for dry w | eight. | | | | | | |
| Inorganic Analysis | | Soil | | | ĵ | Reviewed | |
| Method for Determination | 9.1 | | F | ASTM D | 2216-9 | | |
| of Water Content of Soil | | | | | | | |

(Continued on next page)

SEVERN TRENT LABORATORIES, INC. PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user. MWH Laboratories PAGE 3 Lot #: G6C100424 MWL-169215/Sub PO# 99-22090 Date Reported: 3/27/06 Project Number: 169215/3090024 REPORTING ANALYTICAL RESULT LIMIT UNITS METHOD Client Sample ID: M120-30 Sample #: 003 Date Sampled: 03/07/06 11:45 Date Received: 03/10/06 Matrix: SOLID Dibenzodioxins and Dibenzofurans, HRGC/HRMS Reviewed 2,3,7,8-TCDD ND 0.23 pg/g SW846 8290 Total TCDD ND0.23 pg/g SW846 8290 1,2,3,7,8-PeCDD ND 0.79 pg/g SW846 8290 Total PeCDD ND 2.4 SW846 8290 pg/g 1,2,3,4,7,8-HxCDD ND 0.56 SW846 8290 pg/g 1,2,3,6,7,8-HxCDD ND 0.51 pg/g SW846 8290 1,2,3,7,8,9-HxCDD ba\a ba\a ba\a ba\a ba\a ND 0.50 SW846 8290 Total HxCDD ND0.56 0.56 0.81 SW846 8290 1,2,3,4,6,7,8-HpCDD ND SW846 8290 Total HpCDD ND 0.81 SW846 8290 OCDD SW846 8290 ND 1.3 2,3,7,8-TCDF ND 0.17 SW846 8290 pg/g Total TCDF ND 0.37 SW846 8290 pg/g 1,2,3,7,8-PeCDF ND0.34 pg/g SW846 8290 2,3,4,7,8-PeCDF ND 0.33 SW846 8290 pg/g Total PeCDF ND 0.38 SW846 8290 pg/g 1,2,3,4,7,8-HxCDF ND 0.54 pg/g SW846 8290 1,2,3,6,7,8-HxCDF ND SW846 8290 0.51 pg/g ND ND 2,3,4,6,7,8-HxCDF0.55 pg/g SW846 8290 1,2,3,7,8,9-HxCDF 0.56 pg/g SW846 8290 Total HxCDF ND 0.56 pg/g SW846 8290 1,2,3,4,6,7,8-HpCDF ND 0.56 SW846 8290 pg/g 1,2,3,4,7,8,9-HpCDF SW846 8290 ND 0.63 pg/g Total HpCDF 0.63 ND pg/g SW846 8290 OCDF ND 1.4 SW846 8290 pg/g Results and reporting limits have been adjusted for dry weight. Inorganic Analysis Soil Reviewed Method for Determination 11.3 ASTM D 2216-90 of Water Content of Soil

CASE NARRATIVE

for

MWH LABORATORIES MWH PROJECT: 99-22088/169215 CDM/ASHTABULA SITE

SDG: 158048

April 12, 2006

Laboratory Identification:

General Engineering Laboratories, LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary

Sample receipt The samples arrived at General Engineering Laboratories, LLC, Charleston, South Carolina on March 10, 2006 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage.

Sample Identification The laboratory received the following samples:

| Laboratory ID | Client ID |
|---------------|------------|
| 158048001 | 2603090024 |
| 158048002 | 2603090027 |
| 158048003 | 2603090028 |
| 158048004 | 2603090026 |
| 158048005 | 2603090029 |

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Radiochemistry.

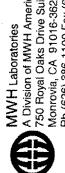
This data package, to the best of my knowledge, is in compliance with technical and administrative requirements.

Edith Kent

Project Manager

Edisk M. Kest

Chain of Custody and Supporting Documentation



750 Royal Oaks Drive Suite 100 Monrovia, CA 91016-3629 Ph (626) 386-1100 Fax (626) 386-1095 A Division of MWH Americas, Inc.

Report all quality control data according to Method, Include dates analyzed, date extracted (if extracted) and Method reference on the report. Results must have Complete data & QC with Approval Signature. See reverse side for List of Terms and Conditions

Provide in each Report
the Specified State
Certification # & Exp Date for
requested tests + matrix

MWH Laboratories 750 Royal Oaks Dr. Ste. 100, Mourovia, CA 91016

EMAIL TO: Julie, Lee@mwhglobal.com Phone (626) 386-1136 Fax (626) 386-1095 Invoices to: MWH LABORATORIES

Reports: Julie Lee Sub-contracting Administrator

Accounts Payable PO BOX 6610, Broonifield, CO 80021

*REPORTING REQUIREMENTS: Do Not Combine Report with any other samples submitted under different MWH project numbers!

Report & Invoice must have the MWH Project Number 169215

90/60/20

Sub PO# 99-22088

Submittal Form & Purchase Order 99-22088

EXTRA VOLUME PROVIDED FOR 2603090029. PLEASE SPIKE IF POSSIBLE OR ANALYZE IN DUPLICATE.

CA ELAP OK

General Engineering Laboratories, LLC Charleston, SC 29414 2040 Savage Road **Edie Kent** Ship To

(843) 556-8171 X4433

(843) 766-1178 Sub PO# Fax MWH Project # Report Due:

03/24/06 169215 ď

99-22088

Client Sample ID for reference only Lab # for ID Use MWH

Matrix Date & Time Sample Analysis Requested

Container

| soil 80z. glass jars | | | | | | | | | | | | soil 8oz. glass jars | | Date 03/09/06 Time 1534 MUST HAVE NOTIFICAION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 (| An Acknowledgement of Receipt is requested to attn: Michael Lettona |
|----------------------|--|--|--|---|------------------------------|---|---|---|-------------|--|--|----------------------|---|--|---|
| | | | | | | | | | | | | 1 | | FICAION | adgement |
| 03/07/06 9:10 | | | | | | | | | | | | 03/07/06 10:10 | | HAVE NOT | in Acknowl |
| 03/ | - | | | | | | | | | | | 03/60 | | MUST | |
| | | | | | | | | | | | | | | ime 1534 | Date 3/10/66 Time 0915 |
| | | | | PIC) | PIC) | • | 231 | | | GROSS ALPHA (ADJUSTED) | | | | 1 90/6 | 1 99° |
| 1226 | 1228 | 0) | 2 | THORIUM (ISOTOPIC) | URANIUM (ISOTOPIC) | URANIUM (TOTAL) | PRONACTINIUM 231 | JM 228 | H 212 | ALPHA (A | POLONIUM 210 | 1226 | 1228 | ate 03/0 | ate 2/10 |
| RADIUM 226 | RADIUM 228 | LEAD 210 | LEAD212 | THORIU | URANIC | URANIU | PRONA | ACTINIUM 228 | BISMUTH 212 | GROSS | POLON | RADIUM 226 | RADIUM 228 | | ۵ |
| | | | | | | | | | | | | | | Sample Control | |
| | | | | | | | | | | | | | | San | |
| M120-0.5 | | | | | | | | | | | | M120/10 | | | |
| ì | HIMMAN PROVINCE | Showman was a party of the state of the stat | | | Illenizopassy elizyppoppydat | *************************************** | ALVANORE MARKET PARTY AND | *************************************** | | | · · · · · · · · · · · · · · · · · · · | ĺ | *************************************** | | |
| 2603090024 | The state of the s | | | | | | | | | | | 2603090027 | | | ercolle |
| | | | | | | | | | | | | | | i by: | 74 |
| CUSTSUB | | WOODS OF STREET | SOCIOLISM PROPERTY CONTRACTOR CON | *************************************** | Annedownie de la company | VANDAGOOVAN ORAN MARAGEMENTA | | ************************************** | | Albert Street Control of the Street Street | ************************************** | CUSTSUB | | Relinquished by. | Received by: |
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SELSIUS

Page 34 of 95

_Date 03/09/06

Received by:

Sample Control

Time 09/5

Time/5% MUST HAVE NOTIFICAION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS

An Acknowledgement of Receipt Is requested to attm Michael Lettona

| Container | | | | | | | | | | | |
|-------------------------------------|---|--|--|------------------------------------|--|--|--|--|--|--|---|
| | | ì | 1 | 03/07/06 12:45 soil 8oz glass jars | | ı | ı | ı | ı | | 1 |
| Matrix | | | | 12:45 soil | | | | | | | *************************************** |
| Sample Date & Time | | | | 03/07/06 | | ************************************** | | | | | |
| Analysis Requested | THORIUM (ISOTOPIC) | URANIUM (ISOTOPIC) | URANIUM (TOTAL) | RADIUM 226 | RADIUM 228 | LEAD 210 | LEAD212 | THORIUM (ISOTOPIC) | URANIUM (ISOTOPIC) | URANIUM (TOTAL) | |
| Client Sample ID for reference only | THC | URA | URA | -50 | RAD | LEA | LEA | OHL | URA | URA | 1 |
| Clier | WAYSHAND PROGRAMMAN | deferituelestraammunge eranietaksproggesta | AND THE CHANGE AND THE PARTY OF | 03090029 M120 | ************************************** | reforement (orientation compressionement | | | *************************************** | ИМИСТВЕСО орторужен поружения | |
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| Row | Page 8 | 0 0 |)I (8 | 4 GUSTSUB | ************************************** | (1) (1) (1) (1) (1) (1) (1) (1) (1) (1) | 4.7 | MG And an annual | Community Commun | CAC | |

Date 03/09/06 Time 5 3k MUST HAVE NOTIFICAION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS Page 3 An Acknowledgement of Receipt is requested to after Michael Lettona

Sample Control

Received by:

Relinquished by:



SAMPLE RECEIPT & REVIEW FORM

| | | | | PM use only | | | | | |
|---|-------------------|-------------|--|--|--|--|--|--|--|
| Client: MUH 14/25 | | | | SDG/ARCOC/Work Order: 169215/99-22088 | | | | | |
| Date Received: 2/10/6/2 | | | | PM(A) Review (ensure non-conforming items are resolved prior to signing): | | | | | |
| Received By: | | ***** | ****** | End contain non-containing items are resolved prior to signing): | | | | | |
| | | | | | | | | | |
| , | ,, | ١. | | | | | | | |
| Sample Receipt Criteria | Yes | X | 2 | Comments/Qualifiers (Required for Non-Conforming Items) | | | | | |
| | | | | | | | | | |
| Shipping containers received intac | :! / | | | Circle Applicable: seals broken damaged container leaking container other (describe) | | | | | |
| and sealed? | IV | | | January Comment | | | | | |
| Samples requiring cold | | | T | Circle Coolant# ice bags blue ice dry ice none other describe | | | | | |
| 2 preservation within (4 +/- 2 C)? | | | 1 | The state of the s | | | | | |
| Record preservation method. | | Ĺ | | 17°C | | | | | |
| Chain of custody documents | ./ | 100 m | | | | | | | |
| included with shipment? | ¥ | | | | | | | | |
| 4 Sample containers intact and | | | | Circle Applicable: seals broken damaged container leaking container other (describe) | | | | | |
| sealed? | | * 0 | ļ | | | | | | |
| 5 Samples requiring chemical | | | | Sample ID's, comainers affected and observed pH: | | | | | |
| preservation at proper pH? | | V. | | | | | | | |
| VOA vials free of headspace (defined as < 6mm bubble)? | | Section 1 | Section and the section of the secti | Sample ID's and containers affected: | | | | | |
| Are Encore containers present? | | 20.00 | | | | | | | |
| 7 (If yes, immediately deliver to | | | | <i>></i> | | | | | |
| VOA laboratory) | | | | | | | | | |
| Samples received within holding | 1 | | | Id's and costs affected: | | | | | |
| time? | | 21 | | | | | | | |
| Sample ID's on COC match ID's | | | | Sample ID's and containers affected: | | | | | |
| on bottles? | | | | | | | | | |
| Date & time on COC match date | | | | Sample ID's effected: | | | | | |
| & time on bottles? | | | | | | | | | |
| Number of containers received | | | | Sample ID's affected: 6094 0047 0048 - 105 | | | | | |
| match number indicated on COC? | | | V | 0024,0029-2 each | | | | | |
| COC form is properly signed in | | | 1 | | | | | | |
| relinquished/received sections? | | | - | | | | | | |
| | T. | | | | | | | | |
| Air Bill ,Tracking #'s, & | Fed 691 | | 691 | 12 3665 1440 | | | | | |
| Additional Comments | | | 011 | - April 11 10 | | | | | |
| | | | - Î. | | | | | | |
| | Non- Regulated | Regulated | Level | RSO RAD Receipt # | | | | | |
| Suspected Hazard Information | Non- | E S | Ę, | "If > x2 area background is observed on samples identified as "non- egulated/non-radioactive", contact the Radiation Safety group for further | | | | | |
| | ž | × | High | nvestigation. | | | | | |
| Radiological Classification? | | | | Maximum Counts Observed*: 20 CPM | | | | | |
| 3 PCB Regulated? | 1 | | 7. | Comments: | | | | | |
| Shipped as DOT Hazardous | | | . J.J. | Toward (San China) | | | | | |
| Material? If yes, contact Waste Manager or ESH Manager. | or and a second | | | Iazard Class Shipped: IN#: | | | | | |
| *************************************** | | | | | | | | | |
| PM (or PMA) review of Hazard class | alaca(io | 11: | | C Initials 9/1/412 Date: | | | | | |

Subject: More on Tronox Samples Received

From: Edie Kent <emk@gel.com> **Date:** Fri, 10 Mar 2006 13:27:58 -0500

To: Linda Geddes <Linda.Geddes@us.mwhglobal.com>

CC: Edie Kent <emk@gel.com>, benjamin Jenkins <ben01079@gel.com>

Linda:

Additionally, the samplers did not sign the chain when they relinquished the samples.

Also, there is a note on the chain that an acknowledgment of receipt is requested to Michael Lettona's attention. Can you provide an e-mail address for him so that we can send that to him?

Will we be receiving samples tomorrow?

Edie

Edie Kent wrote:

Linda:

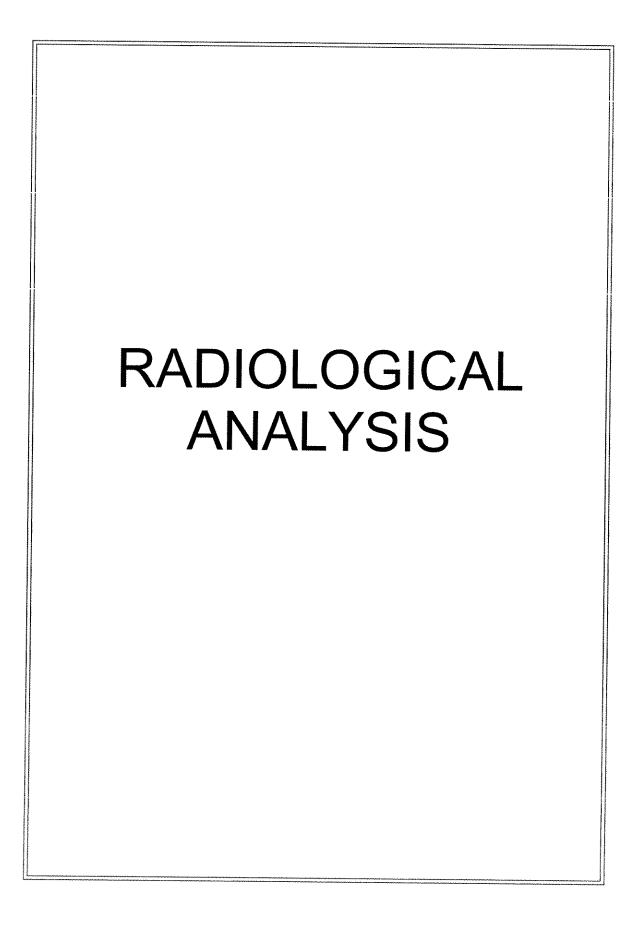
We received the soil samples today. The samples arrived at 17C which would not be an issue with the tests requested. We received 2 containers each for 2603090026 and 2603090029 and one container each for all other samples. The chain only indicates that extra volume is being sent for sample 2603090029.

Edie

Edith M. Kent Project Manager General Engineering Laboratories, LLC 2040 Savage Road PO Box 30712 Charleston, SC 29407

Phone: 843-556-8171, ext. 4453

Fax: 843-766-1178 e-mail: emk@gel.com web-site: www.gel.com



Radiochemistry Case Narrative MWH Laboratories (MWHL) Work Order 158048

Method/Analysis Information

Product:

Alphaspec Po210, solid

Analytical Method:

DOE EML HASL-300, Po-01-RC Modified

Prep Method:

Dry Soil Prep

Analytical Batch Number: 515989

Prep Batch Number:

511798

| Sample ID | Client ID |
|------------|--|
| 158048001 | 2603090024 |
| 158048002 | 2603090027 |
| 158048003 | 2603090028 |
| 1201060425 | Method Blank (MB) |
| 1201060426 | 158048002(2603090027) Sample Duplicate (DUP) |
| 1201060427 | 158048002(2603090027) Matrix Spike (MS) |
| 1201060428 | Laboratory Control Sample (LCS) |
| 1201060429 | Oualification Sample (KNOWN) |

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-016 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 158048002 (2603090027).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Batch was repreped due to poor resolution. Sample 1201060428 (LCS) was recounted due to low/high recovery.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and duplicate, 1201060426 (2603090027) and 158048002 (2603090027), do not meet the relative percent difference requirements for Po-210, however they do meet the relative error ratio requirements with a value of 0.515.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

| Product: | Alphaspec Th, Solid |
|------------------------------------|-------------------------------------|
| Analytical Method: | DOE EML HASL-300, Th-01-RC Modified |
| Prep Method: | Ash Soil Prep |
| Dry Soil Prep GL-RAD-A-021 Method: | Dry Soil Prep |
| Analytical Batch Number: | 512068 |
| Prep Batch Number: | 511800 |

| Sample ID | Client ID |
|------------|--|
| 158048001 | 2603090024 |
| 158048002 | 2603090027 |
| 158048003 | 2603090028 |
| 158048004 | 2603090026 |
| 158048005 | 2603090029 |
| 1201051873 | Method Blank (MB) |
| 1201051874 | 158048005(2603090029) Sample Duplicate (DUP) |
| 1201051875 | 158048005(2603090029) Matrix Spike (MS) |
| 1201051876 | Laboratory Control Sample (LCS) |

Dry Soil Prep GL-RAD-A-021 Batch Number: 511798

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-038 REV# 9.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 158048005 (2603090029).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample 158048005 and duplicate 1201051874 do not meet the relative percent difference requirements for Th-232, however they do meet the relative error ratio requirements with a value of 1.48.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: Alphaspec U, Solid

Analytical Method: DOE EML HASL-300, U-02-RC Modified

Prep Method: Ash Soil Prep

Dry Soil Prep GL-RAD-A-021 Method: Dry Soil Prep Analytical Batch Number: 512069
Prep Batch Number: 511800
Dry Soil Prep GL-RAD-A-021 Batch Number: 511798

| Sample ID | Client ID |
|------------|--|
| 158048001 | 2603090024 |
| 158048002 | 2603090027 |
| 158048003 | 2603090028 |
| 158048004 | 2603090026 |
| 158048005 | 2603090029 |
| 1201051877 | Method Blank (MB) |
| 1201051878 | 158048005(2603090029) Sample Duplicate (DUP) |
| 1201051879 | 158048005(2603090029) Matrix Spike (MS) |
| 1201051880 | Laboratory Control Sample (LCS) |

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 158048005 (2603090029).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample 158048005 and duplicate 1201051878 do not meet the relative percent difference requirements for U-238, however they do meet the relative error ratio requirements with a value of 1.24.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: Gamma, (Ac-228,Bi-212,Pb-212,Ra-226,Ra-228,Pa-231)

Analytical Method: EML HASL 300, 4.5.2.3

Prep Method: Dry Soil Prep Analytical Batch Number: 513799

Prep Batch Number: 511798

| Sample ID | Client ID |
|------------|--|
| 158048001 | 2603090024 |
| 158048002 | 2603090027 |
| 158048003 | 2603090028 |
| 158048004 | 2603090026 |
| 158048005 | 2603090029 |
| 1201055603 | Method Blank (MB) |
| 1201055604 | 158048005(2603090029) Sample Duplicate (DUP) |
| 1201055605 | Laboratory Control Sample (LCS) |

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 158048005 (2603090029).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Sample 1201055605 (LCS) was recounted due to low/high recovery.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Qualifier information

| Qualifier | Reason | Analyte | Sample |
|-----------|-------------------------------------|----------|------------|
| UI | Data rejected due to low abundance. | Lead-212 | 1201055603 |

Method/Analysis Information

Product: GFPC, Pb210, Solid
Analytical Method: DOE RP280 Modified

Prep Method: Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method: Dry Soil Prep

Analytical Batch Number: 517517
Prep Batch Number: 511800

Dry Soil Prep GL-RAD-A-021 Batch Number: 511798

Sample ID Client ID 158048001 2603090024 158048002 2603090027 158048003 2603090028 158048004 2603090026 158048005 2603090029 1201063764 Method Blank (MB) 158048005(2603090029) Sample Duplicate (DUP) 1201063765

1201063766 158048005(2603090029) Matrix Spike (MS)

1201063767 Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-018 REV# 5.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 158048005 (2603090029).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: GFPC, Gross Alpha Solid

Analytical Method: EPA 900.0 Modified

Prep Method: Dry Soil Prep

Analytical Batch Number: 516630 Prep Batch Number: 511798

| Sample ID | Client ID |
|------------|--|
| 158048001 | 2603090024 |
| 158048002 | 2603090027 |
| 158048003 | 2603090028 |
| 1201061724 | Method Blank (MB) |
| 1201061725 | 158048001(2603090024) Sample Duplicate (DUP) |
| 1201061726 | 158048001(2603090024) Matrix Spike (MS) |
| 1201061727 | Laboratory Control Sample (LCS) |
| 1201061728 | 158048001(2603090024) Matrix Spike Duplicate (MSD) |

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-001B REV# 9.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 158048001 (2603090024).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Gross Alpha/Beta Preparation Information

High hygroscopic salt content in evaporated samples can cause the sample mass to fluctuate due to moisture absorption. To minimize this interference, the salts are converted to oxides by heating the sample under a flame until a dull red color is obtained. The conversion to oxides stabilizes the sample weight and ensures that proper alpha/beta efficiencies are assigned for each sample. Volatile radioisotopes of carbon, hydrogen, technetium, polonium and cesium may be lost during sample heating.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A nonconformance report (NCR) was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

| Product: | KPA, Total U, Solid |
|--|---------------------|
| Analytical Method: | ASTM D 5174 |
| Prep Method: | Ash Soil Prep |
| Dry Soil Prep GL-RAD-A-021 Method: | Dry Soil Prep |
| Analytical Batch Number: | 517556 |
| Prep Batch Number: | 511800 |
| Dry Soil Prep GL-RAD-A-021 Batch Number: | 511798 |

| Sample ID | Client ID |
|------------|--|
| 158048001 | 2603090024 |
| 158048002 | 2603090027 |
| 158048003 | 2603090028 |
| 158048004 | 2603090026 |
| 158048005 | 2603090029 |
| 1201063863 | Method Blank (MB) |
| 1201063864 | 158048005(2603090029) Sample Duplicate (DUP) |
| 1201063865 | 158048005(2603090029) Matrix Spike (MS) |
| 1201063866 | Laboratory Control Sample (LCS) |
| 1201063867 | Laboratory Control Sample Duplicate (LCSD) |

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-023 REV# 11.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. The calibration for Total Uranium is

performed prior to each analysis and is located in the raw data section.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 158048005 (2603090029).

OC Information

Refer to Non-Conformance Report.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

The initial result of the following sample, 158048003 (2603090028), failed lifetime during initial analysis. Sample was reanalyzed and passed. Second result is reported. The initial results for samples 158048001 (2603090024) and 158048004 (2603090026) failed lifetime. Samples were diluted 1:10 and reanalyzed. The diluted samples were reanalyzed a second time to verify the initial diluted results. The initial diluted results are reported. The initial results for samples 158048002 (2603090027) and 158048005 (2603090029) were greater than CRDL. Samples were reanalyzed and passed. The batch was reprepped due to a failed laboratory control sample recovery and a failed relative percent difference.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following NCR was generated for this SDG: NCR 306774 was generated due to Failed Recovery for MS/PS. 1. The matrix spike, 1201063865, did not meet the recovery requirement due to matrix interference. The batch was previously prepped with similar results. 1. Reporting results.

Qualifier information

Manual qualifiers were not required.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

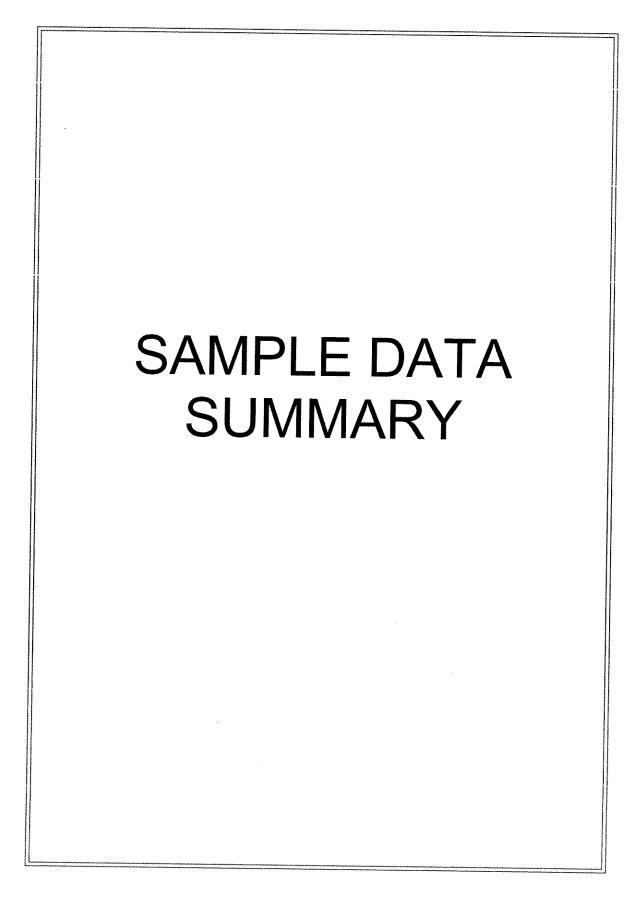
GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

| The following data val | idator verified the information presented in this case narrative: |
|------------------------|---|
| Reviewer/Date: | Kad B Cell At 4/12/66 |

NCR Report No.: 306774 Revision No.: 2

| COMPANY - WIDE NONCONFORMANCE REPORT | | | | | | | | |
|--|--|-------------------------------------|----------------------|----|--|--|--|--|
| Mo.Day Yr. 10-APR-06 | Division: Radiochemistry | Quality Criteria: Specifications | Type: Process | -A | | | | |
| Instrument Type: Kinetic Phosphorescence Analyzer | Test / Method: ASTM D 5174 | Matrix Type: Solid | Client Code: MWHL | | | | | |
| Batch ID: 517556 | Sample Numbers: See Below | ·F | <u>.</u> | | | | | |
| Potentially affected work order(s)(s Application Issues: Failed Recovery for MS/PS | SDG): 158048 | | | | | | | |
| Specification and Requirements Nonconformance Description: | | NRG Disposition: | | | | | | |
| The matrix spike, 1201063865, dic due to matrix interference. The batch results. | f not meet the recovery requirement in was previously prepped with similar | Reporting results. | | | | | | |
| Originator's Name: | | Data Validator/Group | Leader: | | | | | |
| Salina Pizarro 10-APR-06 Quality Review: | | Melanie Aycock | 11-APR-06 | | | | | |

Director:



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Certificate of Analysis Report

MWHL002 MWH Laboratories (PO 99-22088) Client SDG: 158048 GEL Work Order: 158048

The Qualifiers in this report are defined as follows:

- Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- < Result is less than amount reported.
- > Result is greater than amount reported.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- D Sample has been diluted and reanalyzed after initially exceeding inst. calibration range
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value,
- P The response between the confirmation and the primary columns is >40% Different.
- R Sample results are rejected.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- Y QC Samples were not spiked with this compound.
- Z Paint Filter qualifier: Particulates passed through the filter. No free liquids were observed.
- The 2:1 depletion requirement was not met for this sample
- Sample preparation or preservation holding time exceeded.
- ND The analyte concentration is not detected above the reporting limit.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

** Indicates the analyte is a surrogate compound.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Edith Kent.

Reviewed by

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company: MWH Laboratories

Address:

750 Royal Oaks Drive, Suite 100

Monrovia, California 91016

Contact:

Ms. Julie Lee

Project:

Matrix:

Tronox Henderson Client Sample ID: Sample ID:

2603090024

158048001

Soil

Collect Date: Receive Date:

07-MAR-06 09:10

Project: Client ID:

MWHL00106 MWHL002

Report Date: April 12, 2006

DRS1 04/07/06 1326 517556 7

| | Collector: |); | 10-MAR-06 Client | 9 | | | | | | | |
|--|---------------|------------|---------------------|--------|-------|-------|----|----------------|----------|---------|--------|
| Parameter | Qualifier | Result | Uncertainty | DL | RL | Units | DF | AnalystDate | Time | D-4.1 | *** |
| Rad Alpha Spec Analysis | | | | | | | | AnalystDate | 1 11116 | baten | Method |
| Alphaspec Po210, solid Polonium—210 | | 1.76 | +/-0.600 | 0.326 | 1.00 | pCi/g | | JXG1 04/05/06 | 1724 | £15000 | • |
| Alphaspec Th, Solid | | | | | | pong | | JAG1 04/03/00 | 1/34 | 213969 | 1 |
| Thorium-228 | | 2.01 | +/-0.617 | 0.348 | 1.00 | pCi/g | ÷ | DDR1 04/05/06 | 0052 | 512060 | 2 |
| Thorium-230 | | 1.09 | +/-0.419 | 0.272 | 1.00 | pCi/g | | DDI(1 04/05/00 | 0932 | 312008 | 2 |
| Thorium-232 | | 1.94 | +/-0.592 | 0.187 | 1.00 | pCi/g | | | | | |
| Alphaspec U, Solid | | | | | | . 0 | | | | | |
| Uranium-233/234 | | 0.962 | +/-0.339 | 0.227 | 1.00 | pCi/g | | DDR1 04/05/06 | 0610 | 512060 | 3 |
| Uranium-235/236 | U | -0.00891 | +/-0.0748 | 0.196 | 1.00 | pCi/g | | DDI(1 04/05/00 | 0017 | 312009 | 3 |
| Uranium-238 | | 0.911 | +/-0.335 | 0.271 | 1.00 | pCi/g | | | | | |
| Rad Gamma Spec Analysi | | | | | | | | | | | |
| Gamma, (Ac-228,Bi-212 | 2,Pb=212,Ra=2 | 26,Ra-228, | Pa-231) | | | | | | | | |
| Actinium-228 | | 1.87 | +/-0.126 | 0.0854 | 1.00 | pCi/g | | MJH1 04/06/06 | 2345 | \$13700 | 4 |
| Bismuth-212 | | 1.28 | +/-0.238 | 0.184 | 1.00 | pCi/g | | | <u> </u> | 113177 | 4 |
| Lead-212 | | 1.97 | +/~0.0566 | 0.042 | 10.0 | pCi/g | | | | | |
| Protactinium-231 Radium-226 | U | 0.177 | +/-0.626 | 1.10 | 0.500 | pCi/g | | | | | |
| Radium-228 | | 1.02 | +/-0.0667 | 0.0462 | 2.00 | pCi/g | | | | | |
| | 3.C. (1 | 1.87 | +/-0.126 | 0.0854 | 1.00 | pCi/g | | | | | |
| Rad Gas Flow Proportiona | ~ | | | | | | | | | | |
| GFPC, Gross Alpha Solid | ' | | | | | | | | | | |
| Alpha | | 19.9 | +/-4.41 | 2.76 | 5.00 | pCi/g | | CXO1 04/03/06 | 1910 5 | 16630 | 5 |
| GFPC, Pb210, Solid | | | | | | | | | | | - |
| Lead-210 | U | 0.462 | +/-0.490 | 1.03 | 3.00 | pCi/g | | BXF1 04/09/06 | 0957-5 | 17517 | 6 |
| Rad Total Uranium | | | | | | | | | | | U |

The following Prep Methods were performed

KPA, Total U, Solid Total Uranium

| Method | Description | Analyst | Date | Time | Prep Batch |
|---------------|------------------------------|---------|----------|------|------------|
| Ash Soil Prep | Ash Soil Prep, GL-RAD-A-021B | MXP2 | 03/16/06 | 0900 | 511800 |
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/15/06 | 1043 | 511798 |

1.08

1.00

ug/g

The following Analytical Methods were performed

Method Description **Analyst Comments** ¥.

+/-1.69

21.1

DOE EML HASL-300, Po-01-RC Modified

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Certificate of Analysis

Company: MWH Laboratories

Address: 750 Royal Oaks Drive, Suite 100

Monrovia, California 91016

Contact:

Ms. Julie Lee

Project: Tronox Henderson

Report Date: April 12, 2006

| Boundary Control of the Control of t | Client Sample II Sample ID: | ······································ | 2603090024 158048001 | | ^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | Proj Clie | ect: nt ID: | MWHL00106 MWHL002 | | | |
|--|--------------------------------|--|-------------------------|----|--|--------------|----------------|---------------------------------------|------|-------|--------|
| Parameter | Qualifier | Result | Uncertainty | DL | RL | Units | DF | AnalystDate | Time | Batch | Method |
| 2 | DOE EML HASL | -300, Th | -01-RC Modifie | ed | | | ~ | · · · · · · · · · · · · · · · · · · · | | | |
| 3 | DOE EML HASL | -300, U- | -02-RC Modified | d | | | | | | | |

DOE EML HASL-300, U

EML HASL 300, 4.5.2.3

EPA 900.0 Modified

DOE RP280 Modified

ASTM D 5174

| Surrogate/Tracer recovery | Test | Result | Nominal | Recovery% | Acceptable Limits |
|---------------------------|------------------------|--------|---------|-----------|-------------------|
| Polonium-209 | Alphaspec Po210, solid | | | | |
| Actinium-227 | Alphaspec Th, Solid | | | 57 108 | (25%–125%) |
| Actinium-227 | Alphaspec Th, Solid | | | 108 | |
| Actinium-227 | Alphaspec Th, Solid | | | 108 | |
| Uranium-232 | Alphaspec U, Solid | | | 90 | (25%-125%) |
| Uranium-232 | Alphaspec U, Solid | | | 90 | (25%-125%) |
| Uranium-232 | Alphaspec U, Solid | | | 90 | (25%-125%) |
| Lead-210 | GFPC, Pb210, Solid | | | 50 | (25%-125%) |

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Certificate of Analysis

Company: MWH Laboratories

Address:

750 Royal Oaks Drive, Suite 100

Monrovia, California 91016

Contact:

Ms. Julie Lee

Project:

Tronox Henderson

Sample ID:

Matrix:

Client Sample ID:

2603090027 158048002

+/-0.152

+/-0.572

+/-0.122

+/-0.250

 $\pm /-4.10$

+/-0.322

1.86

1.06

1.87

20.1

-0.0593

-0.753

U

U

Soil

Report Date: April 12, 2006

Project: Client ID:

MWHL00106 MWHL002

Collect Date: 07-MAR-06 10:10 Receive Date: 10-MAR-06 Collector: Client **Parameter** Qualifier Result Uncertainty DL RLUnits AnalystDate Time Batch Method Rad Alpha Spec Analysis Alphaspec Po210, solid Polonium-210 0.648 +/-0.3830.177 1.00 pCi/g JXG1 04/05/06 1734 515989 1 Alphaspec Th, Solid Thorium-228 1.44 +/-0.499 0.364 1.00 pCi/g DDR1 04/05/06 0952 512068 2 Thorium-230 1.13 +/-0.426 0.310 1.00 pCi/g Thorium-232 1.98 +/-0.5970.252 1.00 pCi/g Alphaspec U, Solid Uranium-233/234 1.24 +/-0.396 0.240 1.00 pCi/g DDR1 04/05/06 0819 512069 Uranium-235/236 0.197 +/-0.172 0.118 1.00 pCi/g Uranium-238 0.812 +/-0.319 0.198 1.00 pCi/g Rad Gamma Spec Analysis Gamma, (Ac-228,Bi-212,Pb-212,Ra-226,Ra-228,Pa-231) Actinium-228 1.87 +/-0.250 0.084 1.00 pCi/g MJH1 04/06/06 2345 513799 Bismuth-212 1.18 +/-0.233 0.183 1.00 pCi/g

Radium-228 Rad Gas Flow Proportional Counting

GFPC, Gross Alpha Solid Alpha GFPC, Pb210, Solid

Lead-210 Rad Total Uranium

Lead-212

Radium-226

Protactinium-231

KPA, Total U, Solid Total Uranium

Method

Ash Soil Prep

2.73 The following Prep Methods were performed

Description

 $\pm / -0.134$ 0.106

0.842

0.0383

0.981

0.0429

0.084

2.35

10.0

0.500

2.00

1.00

5.00

3.00

1.00

Analyst

MXP2

JMB1

ug/g

Date

pCi/g

pCi/g

pCi/g

pCi/g

pCi/g

pCi/g

BXF1 04/09/06 0957 517517

Prep Batch

511800

511798

Time

0900

1043

CXO1 04/03/06 1901 516630

DRS1 04/07/06 1328 517556

Dry Soil Prep Dry Soil Prep GL-RAD-A-021

The following Analytical Methods were performed Method

Description

Analyst Comments

03/16/06

03/15/06

DOE EML HASL-300, Po-01-RC Modified

Ash Soil Prep, GL-RAD-A-021B

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Certificate of Analysis

Company: MWH Laboratories

Address:

750 Royal Oaks Drive, Suite 100

Monrovia, California 91016

Contact:

Ms. Julie Lee

Project:

Tronox Henderson

| n | Sample ID: 15 | 503090027 58048002 | | | Proi Clie | ect: nt ID: | MWHL00106 MWHL002 | | | |
|-----------|------------------------|-----------------------|----|----|---------------|----------------|----------------------|------|-------|---|
| Parameter | Qualifier Result | Uncertainty | DL | RL | Units | DF | AnalystDate | Time | Batch | Method |
| 2 | DOE EML HASL-300, Th-6 | 01-RC Modifie | ed | | ^ | ~ | | | | *************************************** |
| 3 | DOE EML HASL-300, U-0. | | | | | | | | | |
| 4 | EML HASL 300, 4.5.2.3 | | _ | | | | | | | |
| 5 | EPA 900.0 Modified | | | | | | | | | |
| 6 | DOE RP280 Modified | | | | | | | | | |
| 7 | ASTM D 5174 | | | | | | | | | |

| Surrogate/Tracer recovery | Test | Result | Nominal | Recovery% | Acceptable Limits |
|---------------------------|------------------------|--------|---------|-----------|-------------------|
| Polonium-209 | Alphaspec Po210, solid | | | ·//// | |
| Actinium-227 | Alphaspec Th, Solid | | | 45 | (25%-125%) |
| Actinium-227 | Alphaspec Th. Solid | | | 106 | |
| Actinium-227 | Alphaspec Th. Solid | | | 106 | |
| Uranium-232 | Alphaspec U. Solid | | | 106 | / *** |
| Uranium-232 | Alphaspec U, Solid | | | 91 | (25%-125%) |
| Uranium-232 | Alphaspec U, Solid | | | 91 | (25%–125%) |
| Lead-210 | GFPC, Pb210, Solid | | | 91 | (25%-125%) |
| | 0x 1 0, 1 02 10, 50HQ | | | 66 | (25%-125%) |

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Report Date: April 12, 2006

MWHL00106

MWHL002

Project:

Client ID:

Certificate of Analysis

Company: MWH Laboratories

Address:

750 Royal Oaks Drive, Suite 100

Monrovia, California 91016

Contact:

Ms. Julie Lee

Sample ID:

Project:

Tronox Henderson

Client Sample ID:

2603090028 158048003

Soil

Matrix: Collect Date: Receive Date:

07-MAR-06 11:45 10-MAR-06

| | Collector: | • | TU-MAR-0 | 6 | | | | | | | |
|---|-------------|-------------|-------------|----------|-------|-------|----|----------------|--------|--------|--------|
| Parameter | Qualifier | Result | Uncertainty | DL | RL | Units | DF | A mala mAD = 6 | | | |
| Rad Alpha Spec Analysis | 3 | | | | | Omes | Dr | AnalystDate | lime | Batch | Method |
| Alphaspec Po210, solid | | | | | | | | | | | |
| Polonium-210 | | 0.623 | +/-0.499 | 0.594 | 1.00 | nCi/a | | TWG1 AND THE | | | |
| Alphaspec Th, Solid | | 3.520 | | 0.571 | 1.00 | pCi/g | | JXG1 04/05/06 | 5 1734 | 515989 | 1 |
| Thorium-228 | | 2.06 | +/-0.567 | 0.281 | 1.00 | | | | | | |
| Thorium-230 | | 1.77 | +/-0.504 | 0.128 | 1.00 | pCi/g | | DDR1 04/05/06 | 5 0952 | 512068 | 2 |
| Thorium-232 | | 1.74 | +/-0.499 | 0.123 | 1.00 | pCi/g | | | | | |
| Alphaspec U, Solid | | 1., 4 | . 0.1,,, | 0.151 | 1.00 | pCi/g | | | | | |
| Uranium-233/234 | | 2.00 | +/-0.493 | 0.216 | 1.00 | | | | | | |
| Uranium-235/236 | | 0.280 | +/-0.216 | 0.216 | 1.00 | pCi/g | | DDR1 04/05/06 | 0819 | 512069 | 3 |
| Uranium-238 | | 1.39 | +/-0.416 | 0.267 | 1.00 | pCi/g | | | | | |
| Rad Gamma Spec Analys | is | 1.33 | | 0.207 | 1.00 | pCi/g | | | | | |
| Gamma, (Ac-228,Bi-21 | | 26 Ra=228 I | Pa=2311 | | | | | | | | |
| Actinium-228 | | 2.24 | +/-0.208 | 0.155 | 1.00 | 0.1 | | | | | |
| Bismuth-212 | | 1.33 | +/-0.348 | 0.133 | 1.00 | pCi/g | | MJH1 04/06/06 | 2346 | 513799 | 4 |
| Lead-212 | | 2.26 | +/-0.0797 | 0.0652 | 10.0 | pCi/g | | | | | |
| Protactinium-231 | U | 0.00123 | +/-1.01 | 1.81 | 0.500 | pCi/g | | | | | |
| Radium-226 | | 1.73 | +/-0.114 | 0.0835 | 2.00 | pCi/g | | | | | |
| Radium-228 | | 2.24 | +/-0.208 | 0.155 | 1.00 | pCi/g | | | | | |
| Rad Gas Flow Proportion | al Counting | -/ | , | 0.100 | 1.00 | pCi/g | | | | | |
| GFPC, Gross Alpha Solia | l | | | | | | | | | | |
| Alpha | | 18.9 | +/-3.98 | 2.14 | 5.00 | mCi/m | | 03/01/01/05/05 | | | |
| GFPC, Pb210, Solid | | 10,5 | ., 3,30 | *** 1 -£ | 5.00 | pCi/g | | CXO1 04/03/06 | 1901 5 | 16630 | 5 |
| Lead-210 | U | 0.0294 | +/-0.329 | 0.010 | * 00 | | | | | | |
| Rad Total Uranium | Ų | 0.0274 | 17 9.329 | 0.810 | 3.00 | pCi/g | | BXF1 04/09/06 | 0957 5 | 17517 | 6 |
| KPA, Total U, Solid | | | | | | | | | | | |
| Total Uranium | | 2 45 | 3 / 0 100 | 0.105 | | | | | | | |
| . ~ * * ******************************* | | 3.45 | +/-0.128 | 0.107 | 1.00 | ug/g | | DRS1 04/07/06 | 1410 5 | 17556 | 7 |
| **** # | | | | | | | | | | | |

The following Prep Methods were performed

| Method | Description | | *************************************** | | |
|---------------|------------------------------|---------|---|------|------------|
| | | Analyst | Date | Time | Prep Batch |
| Ash Soil Prep | Ash Soil Prep, GL-RAD-A-021B | MXP2 | 03/16/06 | 0900 | 511800 |
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/15/06 | 1043 | 511798 |

The following Analytical Methods were performed

Method Description **Analyst Comments**

DOE EML HASL-300, Po-01-RC Modified

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company: MWH Laboratories

Address:

750 Royal Oaks Drive, Suite 100

Monrovia, California 91016

Contact:

Ms. Julie Lee

Report Date: April 12, 2006

| P1 | oject: Tronox Henderson | | | | | | | | | |
|-----------|---------------------------------|-------------------------|----|----|----------------|----------------|----------------------|------|-------|---------|
| Parameter | Client Sample ID: Sample ID: | 2603090028 158048003 | | | Proje Clier | ect: nt ID: | MWHL00106 MWHL002 | | | |
| - | Qualifier Result | Oncortung, | DL | RL | Units | DF | AnalystDate | Time | Rateb | Method |
| 2 | DOE EML HASL-300, T | h-01-RC Modifi | ed | | | | | | Daten | MICHIOG |
| 3 | DOE EML HASL-300, U | | | | | | | | | |
| 4 | EML HASL 300, 4.5.2.3 | on the modific | u | | | | | | | |
| 5 | EPA 900.0 Modified | | | | | | | | | |
| 6 | DOE RP280 Modified | | | | | | | | | |
| 7 | ASTM D 5174 | | | | | | | | | |

| Surrogate/Tracer recovery | Test | Docult | Nominal | D | |
|---|---|--------|---------|------------------------|--|
| Polonium-209 Actinium-227 Actinium-227 Actinium-227 Uranium-232 Uranium-232 Uranium-232 | Alphaspec Po210, solid Alphaspec Th, Solid Alphaspec Th, Solid Alphaspec Th, Solid Alphaspec U, Solid Alphaspec U, Solid Alphaspec U, Solid | Result | Nominal | 28 119 119 119 104 104 | (25%-125%) (25%-125%) (25%-125%) (25%-125%) |
| _ead-210 | GFPC, Pb210, Solid | | | 66 | (25%-125%) (25%-125%) |

GENERAL ENGINEERING LABORATORIES, LLC 2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

| onrovia, Cal s. Julie Lee onox Hend ient Sampl mple ID: atrix: | | V1.0 | | | | | | | | |
|---|-----------------------|---|----------------------------|----------------------------|----------------------------|----------------------------|---|----------------------------|---|----------------|
| onox Hend ient Sampl mple ID: atrix: | erson | | | | |] | Report Date: Apr | il 12-20 |)06 | |
| ient Sampl mple ID: atrix: | erson | | | | | | 1 | 13 12, 20 | 700 | |
| mple ID: atrix: | | | | | | | | | | |
| llect Date: ceive Date llector: | | 2603090026 158048004 Soil 07-MAR-0 10-MAR-0 Client | 6 09:30 | | Pro Cli | piect: ent ID: | MWHL00106 MWHL002 | | | |
| Qualifier | Result | Uncertainty | / DL | RL | Units | DF | Anabathata | | * | |
| | | | | | Onto | Dr. | AnalystDate | Time | Batch | Meth |
| , | | | | | | | | | | |
| | 1.88 | +/-0.537 | 0.377 | 1.00 | C:/- | | | | | |
| | 1.26 | +/-0.409 | 0.263 | -100 | pCi/g | | DDR1 04/05/06 | 0952 5 | 12068 | 1 |
| | 1.99 | +/-0.542 | 0.230 | | pCi/g | | | | | |
| | | | 0.200 | 1.00 | pCi/g | | | | | |
| | 1.18 | +/0.350 | 0.369 | 1.00 | ~ | | | | | |
| U | 0.0953 | +/-0.126 | 0.268 | 1.00 | pCi/g | • | DDR1 04/05/06 | 0952 5 | 12069 | 2 |
| ~ | 1.16 | +/-0.342 | 0.237 | 1.00 | pCi/g | | | | | |
| | 1.10 | 17 U.342 | 0.205 | 1.00 | pCi/g | | | | | |
| n-228) | | | | | | | | | | |
| 1 220) | 1.70 | | | | | | | | | |
| | 1.79 | +/~0.0815 | 0.0766 | 10.0 | pCi/g | | MJH1 04/06/06 | 2346 5 | 13799 | 3 |
| | 0.907 | +/-0.114 | 0.0884 | 2.00 | pCi/g | | | | -0,3, | , |
| ounting | 1.86 | +/-0.227 | 0.167 | 1.00 | pCi/g | | | | | |
| ounting | | | | | | | | | | |
| * * | | | | | | | | | | |
| U | 0.0735 | +/-0.414 | 1.01 | 3.00 | pCi/g | | BXF1 04/09/06 | 0957-51 | 7517 | 4 |
| | | | | | | | | 0/3/ // | 1311 | 4 |
| | | | | | | | | | | |
| | 26.2 | +/-1.58 | 1.08 | 1.00 | ug/g | | DRS1 04/07/06 | 1222 51 | 7657 | _ |
| | | | | | | | | 1332 31 | /330 | 5 |
| vere perfor | med | | | | | | | | | |
| ription | | | | Analyst | Date | Time | Prep Batch | | | ************* |
| Soil Prep, (| GL-RAD-A | 4-021B | | MXP2 | 03/16/06 | 0900 | | | | |
| Soil Prep G | | | | JMB1 | 03/15/06 | | 511800 | | | |
| | | | | 3141151 | 03/13/00 | 1043 | 511798 | | | |
| ods were p | erformed | | | | | | | | | |
| ription | | | A | A | nalyst Comme | nfe | *************************************** | , | | |
| EML HAS | I -300 Th- | -01-RC Modifi | _ 3 | | marjot Comme | | | | | |
| EMI HAS | 200, III [300 II 4 | 02-RC Modifie | cu | | | | | | *************************************** | |
| HASL 300 | ല 300, U~(-4533 | 12-KC Modifie | a | | | | | | | |
| | | | | | | | | | | |
| | dified | | | | | | | | | |
| N D 5174 | | | | | | | | | | |
| | | | | | | | | | | |
| | RP280 Moi 1 D 5174 | RP280 Modified I D 5174 | RP280 Modified 1 D 5174 | RP280 Modified 1 D 5174 | RP280 Modified 1 D 5174 | RP280 Modified 1 D 5174 | RP280 Modified 1 D 5174 | RP280 Modified 1 D 5174 | RP280 Modified 1 D 5174 | RP280 Modified |

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Certificate of Analysis

Company: MWH Laboratories

Address:

750 Royal Oaks Drive, Suite 100

Monrovia, California 91016

Contact: Project:

Ms. Julie Lee

Tronox Henderson

Report Date: April 12, 2006

| | Client Sample Sample ID: | ID: | 2603090026 158048004 | | | Project Client | | MWHL0010 MWHL002 | 6 | ************** |
|---------------------------|-----------------------------|-----------|-------------------------|--------|--------|-------------------|----|---------------------|-----------------|----------------|
| Parameter | Qualifier | Result | Uncertainty | DL | RL | Units | DF | AnalystDate | Time Batch N | Aethod |
| Surrogate/Tracer recovery | Test | | | | Result | Nominal | Į | Recovery% | Acceptable Limi | |
| Actinium-227 | Alphaspec | Th. Solid | | T-7/// | | | | | Acceptable Limi | 12 |
| Actinium-227 | Alphaspec | | | | | | | 118 | | |
| Actinium-227 | Alphaspec | - | | | | | | 118 | | |
| Uranium-232 | Alphaspec | , | | | | | | 118 | | |
| Uranium-232 | | | | | | | | 105 | (25%-125%) | |
| Uranium-232 | Alphaspec | | | | | | | 105 | (25%-125%) | |
| Lead-210 | Alphaspec | | | | | | | 105 | (25%-125%) | |
| Loui 210 | GFPC, Pb2 | 10, Solid | | | | | | 51 | (25%-125%) | |

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Certificate of Analysis

Company: MWH Laboratories

Address: 750 Royal Oaks Drive, Suite 100

Monrovia, California 91016

Contact;

Ms. Julie Lee

Project:

Tronox Henderson

Client Sample ID: Sample ID:

Matrix:

Collect Date: Receive Date: 2603090029 158048005

Soil 07-MAR-06 12:45

10-MAR-06

Report Date: April 12, 2006

Project:

MWHL00106 MWHL002 Client ID:

| | Collector: | | Client | 3 | | | | | | | |
|--------------------------|-----------------|--------|-------------|--------|------|----------------|-----|-------------------|--------|--------|--------|
| Parameter | Qualifier | Result | Uncertainty | DL | RL | Units | DF | AnalystDate | Tr: | | |
| Rad Alpha Spec Analysis | | | | | | | 171 | AnalysiDate | 1 ime | Batch | Method |
| Alphaspec Th, Solid | | | | | | | | | | | |
| Thorium-228 | | 1.80 | +/-0.534 | 0.355 | 1.00 | mCi/a | | DDD 1 0 1 10 - 11 | | | |
| Thorium-230 | | 1.55 | +/-0.475 | 0.232 | 1.00 | pCi/g pCi/g | | DDR1 04/05/06 | 0952 | 512068 | 1 |
| Thorium-232 | | 1.28 | +/-0.414 | 0.0738 | 1.00 | pCi/g | | | | | |
| Alphaspec U, Solid | | | | | 2,00 | pC1/g | | | | | |
| Uranium-233/234 | | 2.36 | +/0.512 | 0.243 | 1.00 | nCi/a | | DDD A O LIGHT | | | |
| Uranium-235/236 | U | 0.0797 | +/-0.122 | 0.243 | 1.00 | pCi/g pCi/g | | DDR1 04/05/06 | 0952 | 512069 | 2 |
| Uranium-238 | | 1.97 | +/-0.464 | 0.176 | 1.00 | pCi/g pCi/g | | | | | |
| Rad Gamma Spec Analys | is | | | | 1,00 | pCi/g | | | | | |
| Gamma, (Pb-212,Ra-22 | 26,Ra-228) | | | | | | | | | | |
| Lead-212 | • | 1.50 | +/-0.135 | 0.0539 | 10.0 | pCi/g | | LETTEL DAMES | | | |
| Radium-226 | | 1.34 | +/-0.155 | 0.065 | 2.00 | pCi/g pCi/g | | MJH1 04/06/06 | 2346 5 | 513799 | 3 |
| Radium-228 | | 1.45 | +/-0.251 | 0.128 | 1.00 | pCi/g | | | | | |
| Rad Gas Flow Proportion | al Counting | | | | | peng | | | | | |
| GFPC, Pb210, Solid | | | | | | | | | | | |
| Lead-210 | U | 0.533 | +/-0.462 | 0.935 | 3.00 | pCi/g | | DVE1 04/00/07 | 0055 5 | | |
| Rad Total Uranium | | | | | 2.00 | peng | | BXF1 04/09/06 | 095/-5 | 17517 | 4 |
| KPA, Total U, Solid | | | | | | | | | | | |
| Total Uranium | | 4.10 | +/-0.202 | 0.0981 | 1.00 | ug/g | | DDC1 04/07/07 | 1224 6 | ***** | _ |
| *** | | | | | | *6 5 | | DRS1 04/07/06 | 1554 5 | 1/556 | 5 |
| The following Prep Metho | ods were nerfor | med | | | | | | | | | |

e following Prep Methods were performed

| Method | Description | | | ~ | |
|---------------|------------------------------|---------|----------|------|------------|
| | Description | Analyst | Date | Time | Prep Batch |
| Ash Soil Prep | Ash Soil Prep, GL-RAD-A-021B | MXP2 | 03/16/06 | 0900 | 511800 |
| Dry Soil Prep | Dry Soil Prep GL-RAD-A-021 | JMB1 | 03/15/06 | 1043 | 511798 |

The following Analytical Methods were performed

| Method | Description | Analyst Comments | ************************************** |
|--------|-------------------------------------|------------------|--|
| 1 | DOE EML HASL-300, Th-01-RC Modified | | ////////////////////////////////////// |
| 2 | DOE EML HASL-300, U-02-RC Modified | | |
| 3 | EML HASL 300, 4.5.2.3 | | |
| 4 | DOE RP280 Modified | | |
| 5 | ASTM D 5174 | | |

Surrogate/Tracer recovery

Test

Result

Nominal

Recovery%

Acceptable Limits

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Certificate of Analysis

Company: MWH Laboratories

Address:

750 Royal Oaks Drive, Suite 100

Monrovia, California 91016

Contact:

Ms. Julie Lee

Project:

Parameter

Tronox Henderson

Report Date: April 12, 2006

| C Sa | lient Sample l ample ID: | D: | 2603090029 158048005 | | | Project Client I | | MWHL00106 MWHL002 | , | | |
|---------|-----------------------------|-----------|-------------------------|----|--------|---------------------|----|----------------------|---------|----------|--------|
| | Qualifier | Result | Uncertainty | DL | RL | Units | DF | AnalystDate | Time | Batch | Method |
| ery | Test | | | | Result | Nominal | F | Recovery% | Accepta | able Lin | nits |
| | Alphaspec | Th, Solid | | | 3,3,3 | | | 101 | | ~~~ | |



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QC Summary

Report Date: April 12, 2006

Page 1 of 5

MWH Laboratories

750 Royal Oaks Drive, Suite 100

Monrovia, California

Contact:

Ms. Julie Lee

Workorder: 158048

| Parmname | | | NOI | M | Sample | Qual | QC | Units | RPD% | REC | % Range Anlst | Paco Time |
|---------------------------------|-----------|-------|------|---|--------------------|------|-----------------------|-------|---------|-----|-------------------------|----------------|
| Rad Alpha Spec | | | | | | | | | | | A Mange Amsi | Date Time |
| Batch 5 | 12068 | | | | | | | | | | | |
| QC1201051874 | 15804800 | 5 DUP | | | | | | | | | | |
| Thorium-228 | | | | | 1.80 | | 1.69 | pCi/g | 6 | | (0%-20%) DDR1 | 04/05/06 09:52 |
| fra ' aaa | | | | | +/-0.534 | | +/-0.586 | POPE | | | (070 2070) DDK1 | 04/03/00 09.32 |
| Thorium-230 | | | | | 1.55 | | 1.59 | pCi/g | 3 | | (0%-20%) | |
| Thorium-232 | | | | | +/-0.475 | | +/-0.549 | | | | . , | |
| 1 normin-232 | | | | | 1.28 | | 1.83 | pCi/g | 35* | | (0%-20%) | |
| QC1201051876 | LCS | | | | +/-0.414 | | +/-0.600 | | | | | |
| Thorium-228 | LCD | | | | | U | 0.0767 | G11 | | | (M**) < 1 = 10 + 10 + 1 | |
| | | | | | | U | 0.0767 +/-0.166 | pCì/g | | | (75%-125%) | |
| Thorium-230 | | | | | | | 39.4 | -C1/- | | | (750/ 1350/) | |
| | | | | | | | +/~6.74 | pCi/g | | | (75%-125%) | |
| Thorium-232 | | | 45.3 | | | U | 0.0899 | pCi/g | | 88 | (75%-125%) | |
| | | | | | | | +/-0.105 | perg | | 00 | (7570-12570) | |
| QC1201051873 Thorium-228 | MB | | | | | | | | | | | |
| 1 11011um-225 | | | | | | U | 0.172 | pCi/g | | | | |
| Thorium-230 | | | | | | | +/-0.163 | | | | | |
| 1110114111 200 | | | | | | U | -0.0102 | pCi/g | | | | |
| Thorium-232 | | | | | | ¥ 7 | +/-0.054 | | | | | |
| | | | | | | U | -0.00558 +/-0.0112 | pCi/g | | | | |
| QC1201051875 | 158048005 | MS | | | | | 17-0.0112 | | | | | |
| Thorium-228 | | | | | 1.80 | | 1.66 | pCi/g | | | (75%-125%) | |
| | | | | | +/-0.534 | | +/-0.494 | peng | | | (7370-12370) | |
| Thorium-230 | | | | | 1.55 | | 41.2 | pCi/g | | | (75%-125%) | |
| 775 222 | | | | | +/-0.475 | | +/-6.64 | , ,- | | | (| |
| Thorium-232 | | | 45.3 | | 1.28 | | 1.86 | pCi/g | | 88 | (75%-125%) | |
| Batch 512 | 069 | | | | +/-0.414 | | +/-0.503 | | | | · | |
| | | | | | | | | | | | | |
| QC1201051878 Uranium-233/234 | 158048005 | DUP | | | | | | | | | | |
| Olamani - 2,55,254 | | | | | 2.36 | | 2.22 | pCi/g | 6 | | (0%-20%) DDR1 | 04/05/06 09:52 |
| Uranium-235/236 | | | | U | +/-0.512 | | +/-0.513 | | | | | |
| 2007200 | | | | U | 0.0797 +/-0.122 | U | 0.176 | pCi/g | 75* | | (0%-20%) | |
| Uranium-238 | | | | | 1.97 | | +/-0.163 | | Pt 2 40 | | | |
| | | | | | +/-0.464 | | 1.52 +/-0.424 | pCi/g | 26* | | (0%-20%) | |
| QC1201051880 | LCS | | | | 17 01104 | | :;=U. 4 24 | | | | | |
| Uranium-233/234 | | | | | | | 10.1 | pCi/g | | | (75%-125%) | |
| | | | | | | | +/-1.31 | μC# μ | | | (1370-12370) | |
| Uranium-235/236 | | | | | | | 0.488 | pCi/g | | | (75%-125%) | |
| 1 imminum 222 | | | | | | | +/-0.319 | 5 F | | | | |
| Uranium-238 | | | 11.0 | | | | 11.0 | pCi/g | | 100 | (75%-125%) | |
| QC1201051877 | MD | | | | | | +/-1.36 | | | | 11 | |
| QC12010318// | МВ | | | | | | | | | | | |

GENERAL ENGINEERING LABORATORIES, LLC 2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

| Workorder: | 158048 | | | | | | | <u>_</u> | | | | | |
|------------------------------|-----------|-------|------|---|--------------------|------|----------------------|----------|------|--------|------------------|--------|-----------------|
| Parmname | | | | | | | | | | | Page | 2 of 5 | |
| | | | NO | И | Sample | Qual | QC | Units | RPD% | REC | % Range | Anlst | Date Time |
| Rad Alpha Spec Batch 5 | 12069 | | | | | | | | | | | | |
| Uranium-233/23 | 4 | | | | | | | | | | | | |
| Uranium-235/23 | | | | | | Ŭ | 0.106 +/-0.117 | pCi/g | | | | | |
| Uranium-238 | • | | | | | U | 0.0168 +/-0.067 | pCi/g | | | | DDR1 | 04/05/06 09:52 |
| ~, aa., 250 | | | | | | U | -0.0377 +/-0.0302 | pCi/g | | | | | |
| QC1201051879 | | 5 MS | | | | | 17-0.0302 | | | | | | |
| Uranium-233/23 | 4 | | | | 2.36 | | 9.55 | pCi/g | | | (75%-125% | ·) | |
| Uranium-235/236 | 5 | | | U | +/-0.512 | | +/-1.10 | | | | | | |
| 200,200 | | | | U | 0.0797 +/-0.122 | | 1.57 +/-0.496 | pCi/g | | | (75%-125% |) | |
| Uranium-238 | | | 11.0 | | 1.97 | | 12.4 | pCi/g | | 95 | (75%-125% |) | |
| Batch 5 | 15989 | | | | +/-0.464 | | +/-1.25 | | | | | | |
| QC1201060426 | 158048002 | . DUP | | | | | | | | | | | |
| Polonium-210 | | | | | 0.648 | | 0.802 | pCi/g | 21* | | (0%-20% |) JXG1 | 04/05/06 17:34 |
| QC1201060429 | KNOW! | J. | | | +/-0.383 | | +/-0.406 | | | | | | |
| Polonium-210 | | | 7.70 | | | | 7.41 | pCi/g | | 96 | | | |
| 0.010010.40.11 | | | | | | | +/-0.958 | peng | | 30 | | | |
| QC1201060428 Polonium-210 | LCS | | 7.70 | | | | | | | | | | |
| | | | 7.70 | | | | 6.08 +/-1.19 | pCi/g | | 79 | (75%-125%) |) | 04/06/06 13:23 |
| QC1201060425 | MB | | | | | | ₹7-1,19 | | | | | | |
| Polonium-210 | | | | | | U | -0.0227 | pCi/g | | | | | 04/05/06 17:34 |
| QC1201060427 | 150040000 | MC | | | | | +/-0.0315 | , . | | | | | 0 11 00 17 13 4 |
| Polonium-210 | 130040002 | MS | 8.90 | | 0.648 | | 10.6 | eu. | | 110 | (Carroll 4 m 2 m | | |
| | | | | | +/-0.383 | | 10.6 +/-1.52 | pCi/g | | 112 | (75%-125%) | | |
| Rad Gamma Spec Batch 51 | 3799 | | | | | | | | | | | | |
| QC1201055604 | 158048005 | DUP | | | | | | | | | | | |
| Actinium-228 | | | | | 1.45 | | 1.47 | pCi/g | 2 | | | МЈН | 04/10/06 15:42 |
| Bismuth-212 | | | | | +/-0.251 | | +/-0.262 | • | | | | | |
| | | | | | 0.979 +/-0.325 | | 0.908 +/-0.261 | pCi/g | 8 | | | | |
| Lead-212 | | | | | 1.50 | | 1.60 | -014 | 6 | | | | |
| | | | | | +/-0.135 | | +/-0.167 | pCi/g | 6 | | | | |
| Protactinium-231 | | | | U | -0.347 | U | -0.378 | pCi/g | 9 | | | | |
| Radium-226 | | | | | +/-0.825 | | +/-0.855 | | | | | | |
| Radium-220 | | | | | 1.34 | | 1.49 | pCi/g | 1 1 | | (0%-20%) | | |
| Radium-228 | | | | | +/-0.155 1.45 | | +/-0.158 | 0.7 | 2 | | 100/ 200/ | | |
| | | | | | +/-0.251 | | 1.47 +/-0.262 | pCi/g | 2 | | (0%-20%) | | |
| QC1201055605 | LCS | | | | | | | | | | | | |
| Actinium-228 | | | | | | U | 0.401 | pCi/g | | | | | 04/12/06 12:22 |
| Americium-241 | | | 24.4 | | | | +/-0.573 | ene e | | 1 (3.0 | /maga | | |
| | | | | | | | 24.3 | pCi/g | | 100 | (75%-125%) | | |

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QC Summary

| Workorder: | 1.500.40 | | | | <u> </u> | CTENTENTER . | _ | | | | | |
|------------------------------|--|----------|------|-----------------|----------|-----------------------|----------------|------|------|----------------|--------------|----------------|
| | 158048 | | | | | | | | | Page 3 o | f 5 | |
| Parmname | ······································ | | NOM | Sample | e Qual | QC | Units | RPD% | REC% | 6 Range | Anlst | Date Time |
| Rad Gamma Spec Batch | : 513799 | | | | | | | | | | | Jan Hill |
| Bismuth-212 | | | | | U | +/-1.38 -0.248 | pCi/g | | | Ν | Л ЈН1 | 04/12/06 12:22 |
| Cesium-137 | | | 9.29 | | | +/-0.930 9.78 | pCi/p | | 105 | (75%-125%) | | |
| Cobalt-60 | | | 13.4 | | | +/-0.441 13.9 | pCi/g | | 104 | (75%-125%) | | |
| Lead-212 | | | | | U | +/-0.616 0.00864 | pCi/g | | | | | |
| Protactinium-231 | l | | | | U | +/-0.155 -2.99 | pCi/g | | | | | |
| Radium-226 | | | | | U | +/-4.49 0.0932 | pCi/p | | | (75%-125%) | | |
| Radium-228 | | | | | U | +/-0.211 0.401 | pCi/g | | | (75%-125%) | | |
| QC1201055603 Actinium-228 | з мв | | | | U | +/-0.573 0.000515 | 01/ | | | | | |
| Bismuth-212 | | | | | U | +/-0.0619 -0.00629 | pCi/g | | | | | 04/10/06 11:17 |
| Lead-212 | | | | | UUI | +/-0.0918 | pCi/e | | | | | |
| Protactinium-231 | | | | | U | +/-0.0338 | pCi/g pCi/g | | | | | |
| Radium-226 | | | | | U | +/-0.506 0.0138 | pCi/g | | | | | |
| Radium-228 | | | | | U | +/-0.0214 0.000515 | pCi/g | | | | | |
| Rad Gas Flow Batch 51 | 6630 | | | | | +/-0.0619 | per | | | | | |
| QC1201061725 Alpha | 158048001 | DUP | | 19.9 | | 22.1 | pCi/g | 10 | | (0%-20%) CX | 'O1 | 04/03/06 19:01 |
| QC1201061727 Alpha | LCS | | 100 | +/-4.41 | | +/-4.81 | pong | | | (070 2070) 071 | .01 | 04/03/00 19.01 |
| QC1201061724 | MB | | 108 | | | 102 +/-7.72 | pCi/g | | 94 | (75%-125%) | | |
| Alpha | .**** | | | | U | 0.514 +/-0.742 | pCi/g | | | | | |
| QC1201061726 Alpha | 158048001 | MS | 102 | 19.9 | | 112 | pCi/g | | 90 (| 75%-125%) | | |
| QC1201061728 Alpha | 158048001 | MSD | too | +/-4.41 | | +/-10.1 | | | | | | |
| | 7517 | | 102 | 19.9 +/-4.41 | | 103 +/-9.30 | pCi/g | 8 | 82 | | | |
| | | 20 4 783 | | | | | | | | | | |
| QC1201063765 | 158048005 | DUP | | | | | | | | | | |

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QC Summary

| Workorder: 158048 | | 7 | CO | ummar y | | | | | |
|---|--------|-------------------|------|------------|----------|------|-------|------------------|--|
| | | | | | | | | Page 4 of 5 | |
| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range AnIst | Date Time |
| Rad Gas Flow | | | | | | | | | 2410 11110 |
| Batch 517517 | | | | | | | | | |
| Lead-210 | U | 0.533 | U | 0.0696 | a | 0 | | (001 2001) P2101 | |
| | | +/-0.462 | C | +/-0.366 | pCi/g | 0 | | (0%-20%) BXF1 | 04/09/06 09:57 |
| QC1201063767 LCS | | 7 0.102 | | 17-0.500 | | | | | |
| Lead-210 | 7.02 | | | 5.38 | pCi/g | | 77 | (75%-125%) | |
| | | | | +/-0.793 | PC4/g | | . , | (1370-12370) | |
| QC1201063764 MB | | | | | | | | | |
| Lead-210 | | | U | 0.0926 | pCi/g | | | | |
| OC12018/27// 1/2048004 1/2 | | | | +/-0.347 | • | | | | |
| QC1201063766 158048005 MS Lead-210 | 7.67 U | 0.600 | | | | | | | |
| | 7.07 | 0.533 +/-0.462 | | 6.53 | pCi/g | | 85 | (75%-125%) | |
| Rad Total U | | T/*U.40.2 | | +/-1.01 | | | | | |
| Batch 517556 | | | | | | | | | |
| QC1201063864 158048005 DUP | | | | | | | | | |
| QC1201063864 158048005 DUP Total Uranium | | 4.10 | | | | | | | |
| | | 4.10 +/-0.202 | | 4.20 | ug/g | 3 | | (0%-20%) DRS1 | 04/07/06 13:14 |
| QC1201063866 LCS | | ₹7-0.202 | | +/-0.155 | | | | | |
| Total Uranium | 9.52 | | | 7.26 | | | 76 | (750/ 1050/) | 0.440.0010.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4 |
| | | | | +/-0.779 | ug/g | | 70 | (75%-125%) | 04/07/06 13:24 |
| QC1201063867 LCSD | | | | . 011.72 | | | | | |
| Total Uranium | 0.952 | | | 0.898 | ug/g | 156 | 94 | | 04/07/06 13:19 |
| | | | | +/-0.0199 | | | | | 040000 13.19 |
| QC1201063863 MB Total Uranium | | | | | | | | | |
| Total Clamum | | | U | 0.0814 | ug/g | | | | 04/07/06 13:10 |
| QC1201063865 158048005 MS | | | | +/-0.00273 | | | | | |
| Total Uranium | 8.77 | 4.10 | | | | | | | |
| | 0.77 | 4.10 +/-0.202 | | 9.94 | ug/g | | 67* (| 75%-125%) | 04/07/06 13:18 |
| | | 77-0.202 | | +/-0.739 | | | | | |

Notes:

The Qualifiers in this report are defined as follows:

- В Target analyte was detected in the sample as well as the associated blank.
- BDResults below the MDC or low tracer recovery.
- Concentration of the target analyte exceeds the instrument calibration range. E
- Н Analytical holding time exceeded.
- Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- Uncertain identification for gamma spectroscopy. UI
- Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details. X
- The 2:1 depletion requirement was not met for this sample đ
- Sample preparation or preservation holding time exceeded. h

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

| | | | | | | | | Page 5 | of 5 | |
|----------|-----|--------|------|----|-------|------|------|--------|-------|------|
| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Time |

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

Workorder:

158048

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

[^] The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/RL is used to evaluate the DUP result.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Laboratory Data Package

Lab Name: EMS Laboratories, Inc.

City/State: Pasadena, California

MWH PROJECT # 169215, Sub PO#99-22089

| | <u>Page</u> | <u>Nos</u> |
|--|-------------|------------|
| | <u>From</u> | <u>To</u> |
| 1. Inventory Sheet (DC-2) not numbered | | |
| 2. Cover Page | 1 | 1 |
| 3. Narrative | 2 | |
| 4. PLM Results | 2 3 | 2 4 |
| 5. Bench Sheets | 5 | 6 |
| PLM | | |
| 6. Calibrations | 7 | 10 |
| 7. Blank - SRM Glass Fibers as the Blank | 11 | 14 |
| 8. Replicate | 3 | 4 |
| 9. Shipping /Receiving Documents | | |
| Airbill (No. of Shipments 1) | NONE | |
| Seals, Copies of Tags | NONE | |
| Chain-of-Custody Records EMS, MWH | 15 | 16 |
| 10. Sample Log-in-sheet | | |
| EMS Laboratories | 17 | 19 |
| DC - 1 | 20 | 20 |
| 11: Tracking Sheets | 21 | 21 |
| 12. PLM NVLAP proficiency Results | 22 | 26 |

Completed by:

Burnadeni Kolh Signature

Bernadine Kolk, Laboratory Director 5/19/06 Print Name & Title Date

COVER PAGE

DATE:

May 19, 2006

CLIENT:

MWH Laboratories, Inc.

750 Royal Oaks Drive, Ste 100

Monrovia, CA 91016

ATTENTION:

Julie Lee, Linda Geddes

REFERENCE:

Project No.: 169215

Sub PO#99-22089

REPORT NO:

106002

SAMPLES SUBMITTED IN PACKAGE:

Soils

Three samples were submitted for PLM analysis

The samples were identified as follows:

2603090024 2603090027 2063090028

The sample identifications and assigned EMS Laboratories, Numbers are found in the Narrative which follows.

Respectfully submitted,

EMS LABORATORIES, INC.

A.J. Wolk

Technical Director

AJK/ah

NOTE: The results of the analysis are based upon the samples submitted to the laboratory. No representation is made regarding the sampling area other than that implied by the analytical results for the immediate vicinity of the samples analyzed as calculated from the data presented with those samples.

This report, from a NIST laboratory through NVLAP, must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

This report shall not be reproduced, except in full, without the written approval of EMS Laboratories, Inc.

Any deviation or exclusion from the test method is noted in this cover letter.

Unless otherwise noted in this cover letter, the samples were received properly packaged, clearly identified and intact.

NARRATIVE

REFERENCE:

Project No.: 169215

Sub PO#99-22089

REPORT NO:

106002

Three samples were received on March 10, 2006 at 12:00pm for asbestos analysis by PLM. The samples were collected on March 7, 2006. The samples were identified as:

| Sample No. | EMS Lab No. |
|------------|-------------|
| 2603090024 | 106002-4 |
| 2603090027 | 106002-7 |
| 2603090028 | 106002-8 |

No problems were encounter during sample receipt.

The soil samples were prepared according to CARB 435 and analyzed according to EPA 600/R-93/116.

The samples were dried at 60°C for four hours. The dried soil was crushed and milled until the final material was 200 mesh or less.

The soil was first examined at low magnification in a stereo microscope for suspected asbestos fiber bundles or mats.

The samples were then analyzed by PLM with dispersion staining for asbestos fibers. If none were found in the first preparation, two more preparations were made.

Instruments used were Zeiss a microscopes, Serial Nos. 122310 and 102702. The microscopes were serviced on May 13, 2005 by an optical microscope specialist firm.

The calibration of the refractive index liquid (used for dispersion staining) is enclosed.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. In addition, I certify that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by A.J. Kolk, Jr., Technical Director, as verified by the following signature.

A.J. Kolk, Jr.
Technical Director
May 19, 2006

2 OF 26

Page: 2

Soil Analysis CARB 435 METHOD (Determination of Asbestos Content)

| LABORATORY NO: | 106002 | DATE OF RECEIVED: | 3-10-06 |
|---|---|----------------------------|---|
| CLIENT: | MWH LABS | DATE OF ANALYSIS: | 3-15-06 |
| ATTENTION: | Julie Lee | QC ANALYST: | Sojean Peau |
| REFERENCE NO: | 169215 | ANALYST: | |
| | *************************************** | _ | Jeff Wan |
| SAMPLE ID: | 2603090024 | | |
| SAMPLE APPEARANC | E BROWN GRANULAR | - | |
| OTHER FIBROUS | CELLULOSE LESS THAN 1% | _ | |
| MATERIAL | GLASSWOOL LESS THAN 1% | | |
| NON FIBROUS | GRANULAR MINERALS | | |
| MATERIAL | OPAQUES OPAGUES | - | |
| | MICA | - | |
| POINT COUNT | 1 NA | POINT COUNT | 5 NA |
| | 2 NA | | 6 NA |
| | 3 NA | _ | 7 NA |
| | 4 <u>NA</u> | _ | 8 <u>NA</u> |
| VISUAL ESTIMATE | 1 NONE DETECTED | ASBESTOS TYPE & | NONE DETECTED |
| | 2 NONE DETECTED | PERCENTAGE | |
| | 3 NONE DETECTED | •• | *************************************** |
| SAMPLE ID: | 2603090027 | | |
| SAMPLE APPEARANC | | | |
| | | <u></u> | |
| OTHER FIBROUS | CELLULOSE LESS THAN 1%, | = | 1% |
| | | | |
| MATERIAL | SYNTHETICS LESS THAN 1% | <u>-</u> | |
| | GRANULAR MINERALS | _ | |
| NON FIBROUS | | - | |
| NON FIBROUS | GRANULAR MINERALS | - - - | |
| NON FIBROUS MATERIAL | GRANULAR MINERALS OPAQUES | - - - POINT COUNT | 5 NA |
| NON FIBROUS MATERIAL | GRANULAR MINERALS OPAQUES MICA | - - - | 5 <u>NA</u> 6 <u>NA</u> |
| NON FIBROUS MATERIAL | GRANULAR MINERALS OPAQUES MICA 1 NA | - - - | |
| NON FIBROUS MATERIAL | GRANULAR MINERALS OPAQUES MICA 1 NA 2 NA | - - - | 6 NA |
| NON FIBROUS MATERIAL POINT COUNT | GRANULAR MINERALS OPAQUES MICA 1 NA 2 NA 3 NA | - - - | 6 NA 7 NA |
| MATERIAL NON FIBROUS MATERIAL POINT COUNT VISUAL ESTIMATE | GRANULAR MINERALS OPAQUES MICA 1 NA 2 NA 3 NA 4 NA | POINT COUNT | 6 NA 7 NA 8 NA |

If visual extimate <10%, do 8 preps with 50 pts each, 3 preps for negative and >10% do visual estimate

Page: 3

Soil Analysis CARB 435 METHOD (Determination of Asbestos Content)

| LABORATORY NO: | 106002 | DATE OF RECEIVED: | 3-10-06 |
|-------------------|------------------------|-------------------|--|
| CLIENT: | MWH LABS | DATE OF ANALYSIS: | 3-15-06 |
| ATTENTION: | Julie Lee | QC ANALYST: | |
| REFERENCE NO: | 169215 | ANALYST: | A |
| | | | Jeff Wan |
| SAMPLE ID: | 2603090028 | | |
| SAMPLE APPEARANCE | BROWN GRANULAR | | |
| OTHER FIBROUS | CELLULOSE LESS THAN 1% | _ | |
| MATERIAL | GLASSWOOL LESS THAN 1% | <u>.</u> | |
| NON FIBROUS | GRANULAR MINERALS | | |
| MATERIAL | OPAQUES | an. | |
| | MICA | _ | |
| POINT COUNT | 1 NA | POINT COUNT | 5 NA |
| ; | NA NA | •• | 6 <u>NA</u> |
| : | 3 <u>NA</u> | - | 7 <u>NA</u> |
| 4 | 1 NA | - | 8 NA |
| VISUAL ESTIMATE | NONE DETECTED | ASBESTOS TYPE & | NONE DETECTED |
| 2 | NONE DETECTED | PERCENTAGE | |
| | NONE DETECTED | _ | ************************************** |
| | | | |
| | | | |

Soil Analysis

CARB 435 METHOD (Determination of Asbestos Content)

| LABORATORY NO: | 106002 | DATE OF RECEIVED: | 3-10-06 |
|---------------------------|---|--------------------------------------|------------------|
| CLIENT: | MWH LABS | DATE OF ANALYSIS: | 3-15-06 |
| ATTENTION: | N.A. | QC ANALYST: | Sp |
| REFERENCE NO: | 169215 | ANALYST: | ~~ |
| | | | |
| SAMPLE ID: | 2603090024 | | · |
| SAMPLE APPEARAN | CE BROWN GRANULAR | | |
| OTHER FIBROUS MATERIAL | Cillulose < 1 | | |
| NON FIBROUS MATERIAL | Granulas Mray Mica | <u>-</u> | |
| POINT COUNT | 1 2 3 4 | POINT COUNT | 5 6 7 8 |
| VISUAL ESTIMATE | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | ASBESTOS TYPE & PERCENTAGE | N.D. |
| SAMPLE ID: | 2603090027 | | |
| SAMPLE APPEARAN | CE BROWN GRANULAR | | |
| OTHER FIBROUS MATERIAL | cellilore < | L 6 lasiwidl | <12 |
| NON FIBROUS | Grapular mine | 21 | |
| MATERIAL | muce | | |
| POINT COUNT | 1 2 3 4 | _POINT COUNT | 5 6 7 8 |
| VISUAL ESTIMATE | 1 | _ASBESTOS TYPE & _PERCENTAGE _ | |
| | | | |

Soil Analysis CARB 435 METHOD (Determination of Asbestos Content)

| LABORATORY NO: | 106002 | DATE OF RECEIVED: | 3-10-06 |
|---------------------------|-------------------------|-------------------------------|------------------|
| CLIENT: | MWH LABS | DATE OF ANALYSIS: | 3-15-06 |
| ATTENTION: | N.A. | QC ANALYST: | |
| REFERENCE NO: | 169215 | ANALYST: | ~ |
| SAMPLE ID: | 2603090028 | | |
| SAMPLE APPEARAN | | | |
| OTHER FIBROUS MATERIAL | Cellelose- Glasswood | | |
| NON FIBROUS MATERIAL | granler mi | | |
| POINT COUNT | 1 2 3 4 | POINT COUNT | 5 6 7 8 |
| VISUAL ESTIMATE | 1 | ASBESTOS TYPE & PERCENTAGE | <u>~</u> (0 · |
| SAMPLE ID: | | | |
| SAMPLE APPEARANO | CE | | |
| OTHER FIBROUS MATERIAL | | no Andreanne | |
| NON FIBROUS MATERIAL | | | |
| POINT COUNT | 1 2 3 4 | POINT COUNT | 5 |
| VISUAL ESTIMATE | 1 2 3 | ASBESTOS TYPE & PERCENTAGE | |
| | | | |

PLM CALIBRATION LOG BOOK 2006

Microscope Type:

ZEISS STD 14

Mircoscope Serial No: 122310

Analyst:

SOJEAN

| | | E DAILY CALII | Objective | | | , | CMPTR, F | | Daily RTI R | Ref. | |
|---------|----------|-----------------|--|--|----------|---|----------|--|-------------|--|---|
| Dates | User | Microscope | | | Align | | Temp. | No. | Result | 4 OC | Remark |
| 3/1/06 | R | NIKONZEISS | , L | | - | 1 | 22.0 | /3 | 8, ANOV | BCC TO TO | ACI |
| 3/2/06 | 50 | NIKOWZEISS | L | <u> </u> | <u></u> | | 21.6 | 14 | 7.17. only | | |
| 3/3/06 | 30 | NIKON ZEISS | L | . L | | | 215 | K | 12 om | 1-27, Am | |
| 3/4/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/5/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/6/06 | De |) NIKONÆEISŠ | > ' | V | | i | 22.0 | 16 | NO | NB | |
| 3/7/06 | 3 | NIKON/ZEISS | W | r | <u></u> | ~ | 22.0 | 1 | 3% cfm | | • |
| 3/8/06 | D | NIKOWZEISS | V | | | سسن | 21.5 | - '_1_ | - 10 ceth | | |
| 3/9/06 | | NIKON/KEISS | V | V | | W | 21.0 | ्रश | 1) cffm | Strethms | |
| 3/10/06 | 50 | NIKON/ZEISS |) | | | | Ju. 5 | -4 | 37/chtmf | 37 com | 7 |
| 3/11/06 | | NIKON/ZEISS | TO THE PROPERTY OF THE PROPERT | | | | | / | 7777 | 7 | |
| 3/12/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/13/06 | 70/ | NIKONÆEIS\$ | | | | | 17.5 | 5 | 37. Opm | 29.com | 1 |
| 3/14/06 | <u> </u> | NIKON/ZEISS |) . | | · | , | 21.0 | 6 | 1.9% | 1 stock | 1 |
| 3/15/06 | 58 | NIKON/ZEISS |) | | | | 21.0 | 7 | 7.12 Chrys | 5 % Alex | |
| 3/16/06 | 50 | NIKON ZEISS | | 1 | | _ | 220 | ۵, | 190 and |)· | 1 |
| 3/17/06 | 3 | NIKON/ZEISŠ | | | | | 21. U | 11 | 3% cAn | | 1 |
| 3/18/06 | | NIKON/ZEISS | | | | | | ····· | / | 1 | |
| 3/19/06 | | NIKON/ZEISS | | | | | | | | | *************************************** |
| 3/20/06 | 507 | NIKOWZEISS | | | - | | 20.0 | 12 | 12.97, pm | 102 pm | t |
| 3/21/06 | 51 | NIKONZEISS | | | | _ | 200 | 1.0 | | 18% nigh | *************************************** |
| 3/22/06 | 57 | NIKONZEISS | | | | | 20.0 | 14 | 7.12 with | / 1 | |
| 3/23/06 | 302 | NIKON/ZEISS | | | المستمين | | 90,O | 15 | 12 0000 | 12 som | |
| 3/24/06 | 3 | NIKONZEISS | | | | | 20-5 | 16 | W0 | NA | |
| 3/25/06 |] | NIKON/ZEISS | a de la companya de l | A1 600 (10 to 10 t | | | | The state of the s | | | ******************************* |
| 3/26/06 | | NIKON/ZEISS | | TOTOTO A MARAAAA | | | | | | The state of the s | 1 (|
| 3/27/06 | SY I | NIKON/ZEISS | | - | | | 20.0 | ı | 320 Am | | 1 |
| 3/28/06 | 5/1 | VIKOV/ZEISS | | | | | 90.0 | Q | 3 Lithe | | |
| 3/29/06 | SI | VIKON/ZEISS | | | | - | 19.5 | 3 | 57. Cathal | J. Chri | |
| 3/30/06 | SP | VIKON ZEISS | | | | - Terrenance | | 4 | 5 hetry | 37 100 | |
| 3/31/06 | | VIKON ZEISS | | | | | 200 | 5 | 320Cm | 3/200m/s | —————————————————————————————————————— |

PLM **CALIBRATION LOG BOOK** 2005-6

Microscope Type:

ZEISS STD

Mircoscope Serial No: 102742

Analyst:

JEFF WAN

| | | E DAILY CALIL | Objective | | | | CMPTR, P | LM | Daily RTI | Dof | |
|---------|----------|---------------|-----------|--|---|---|---|---|----------------------|------------|--|
| Dates | User | Microscope | Centering | Illum. | Align | } | Temp. | No. | Result | QC | Remarks |
| 3/1/06 | | NIKON/ZEISS | | | | | | | | | X CHIMI RO |
| 3/2/06 | | NIKON/ZEISS | | | | | | 1 | | | ····· |
| 3/3/06 | | NIKON/ZEISS | | ************************************** | | | | THE POWER PROPERTY AND ADDRESS OF THE POWER POWER PROPERTY AND ADDRESS OF THE POWER POWER PROPERTY AND ADDRESS OF THE POWER PROPERTY ADDRESS OF THE POWER PROPERTY AND ADDRESS OF THE POWER PROPERTY ADDRESS OF THE POWER PROPERTY ADDRESS OF THE POWER PROPERTY AND ADDRESS OF THE POWER PROPERTY AND ADDRESS OF THE POWER PROPERTY ADDRESS OF | | | |
| 3/4/06 | | NIKON/ZEISS | | | | | | | | | ····· |
| 3/5/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/6/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/7/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/8/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/9/06 | | NIKON/ZEISS | | | | *************************************** | | | | | |
| 3/10/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/11/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/12/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/13/06 | 32 | NIKONZEISS | > / | | | | 2./* | | cye.1 | (Be12. | |
| 3/14/06 | 2 | NIKON/ŹEISS | | | | | 2. }` | 2 | (T >1)+ | 1 | |
| 3/15/06 | = | NIKONZEISS | | | | | 23 3 | | (His) | 10/10 | |
| 3/16/06 | ~ | NIKON/ZEISS | - Andrews | | | | ٤٧ | - | Amo 12: | 1452 | |
| 3/17/06 | | NIKON/ZEISS | | | | | | | 7.7.7.0 | 0 | |
| 3/18/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/19/06 | | NIKON/ZEISS | | | | | | | | | |
| 3/20/06 | | NIKOWZEISS | | | | | LJ | , | BMDLT S | (HR, C17) | |
| 3/21/06 | - | NIKONZEISȘ | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | 24 | 3 | BM27 | 149mos 17= | |
| 3/22/06 | | NIKON ZEISS | | | | | 21 |) | (HAZ) | cH0 = 19 | · |
| 3/23/06 | 2 | NIKON/ZEISS | | | | | 27 | f | A/12 Ze | Amoc Z | |
| 3/24/06 | 2 | NIKON/ZEISS | | | | | 24 | ς | (HR) 37.15 | (HO) | |
| 3/25/06 | | NIKON/ZEISS | | | | | 711 | | | | |
| 3/26/06 | | NIKON/ZEISS | | The state of the s | | | *************************************** | | | | |
| 3/27/06 | | NIKON/ZEISS> | | | | | 23 | 12 | A111372 11-250 14 | Amos 2, | ······································ |
| 3/28/06 | | NIKON/ŒEISS | | | | | 24 | | (NA) 1.28 | (HP) | |
| 3/29/06 | 2 | NIKONÆĖŠS | | | | | wi l | 5 | (HP) 2.6 | (HB=12) | |
| 3/30/06 | | NIKON/ZEISS | | | | | | | <u> </u> | | |
| 3/31/06 | | NIKON/ZEISS | | The state of the s | | | | | | | W MARIN |

EMS LABORTORIES

PLM Hood #2

Log book

2006

| HOOD #2 | | CONT | 'AMINA' | TION CI | łeck | | |
|---------|--|-------------|---|--------------|---|---------------------------------------|--|
| DATE | USER | GLASS SILDE | | | 1866A F.GLASS | CLEANING | REMARK |
| 3/1/06 | | | | | | | |
| 3/2/06 | 13 | | V | J. | | | |
| 3/3/06 | | | | | | | d a management of the second s |
| 3/4/06 | | | | | | | |
| 3/5/06 | | | | Taxana and a | | | |
| 3/6/06 | 4 | | | | | | |
| 3/7/06 | | | | | | | |
| 3/8/06 | | | | | | | |
| 3/9/06 | | | | | | | |
| 3/10/06 | (5 | *** | | | | | |
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| 3/12/06 | | | | | | | |
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| 3/14/06 | _> | | | | | | ······································ |
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| 3/18/06 | | | | | | | |
| 3/19/06 | | | | | | | |
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| 3/21/06 | | | | | | | |
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| 3/23/06 | 63 | | | | , <u>, , , , , , , , , , , , , , , , , , </u> | | |
| 3/24/06 | | | | | | | · · · · · · · · · · · · · · · · · · · |
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| 3/26/06 | | | | | | | |
| 3/27/06 | 4 | | ANA tables de la constante de | | | | |
| 8/28/06 | 6 | | | | | | ^^^ |
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| /30/06 | 700 | | | | | | |
| /31/06 | ************* | | | | | V V V V V V V V V V V V V V V V V V V | |

EMS

REFRACTIVE INDEX LIQUID CALIBRATION USING OPTICAL GLASS STANDARDS

Cargillie Series

- 1.550 (Series E)
- 1.605 (Series E)
- 1.680 (Series B)

Table 11. A Suggested Format for Recording Results of RI Liquids Calibration Using Cargille Glass Standard and Dispersion Staining Method R.I. Liquid Calibration Using Glass Standard

| D 0 | |
|--------------------------------------|---------|
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| S S Statement and Dispulsion Stating | |
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| Nominal | Nominal Cargille Glass | lass | | Cantral Ston | De Oberes | * * * | | | | |
|--|--|--|--|--|--|--|-------------------------|---|--|--|
| 0r | D | | Expiration | Contra 200p | DO OBSELVATION | Daguid | Actual | Difference | Accept | |
| Labeled | Nominal or | T.o.f | Date | Dradominont | 2 | Woolin | 0 L | Detween | 0r. | 1 |
| nD 25Cel. | _] | No. | | DS Color | Corresponding Lambda | Celsius (C) nD 25 Deg | Calibrated nD 25 Dec | Calibrated nD 25 Cel. | Reject | Analyst |
| 1.600 | C J J J | Ø | 0/22/01 | 5705 | 600 | 1 | イクジ | | A | Microsoft of the state of the s |
| 1.622 | | | 10/22/3 | C. 15te | 623 | 7 7 | Teg ./ | 180.0 | ₹ < | |
| .55. | | -7 | 2/202/2 | Blue | 1 | 7 () | DX 5.1 | 1 (10. 7. | \ \ \ | X |
| 1402 | 1.400 | | 16/2010 | 2/10 | 6.00 | 255 | 1.845 | 1000 | 17 | |
| Je 3.7 | Q. 9 J | | ch ye | 572 | 300 | 27 | 2087 | 0.003 | 8 | A Commence of the Commence of |
| | (25) | 7 | Rock | Puz | Sf 2 | 25% | 1.5.5 | | 4 | / _N |
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Original version: October 1996 (Shu-Chun Su, Technical Expert for NVLAP Asbestos Programs), EMS EDITED VERSION, SEPT. 2001 VERSION

EMS LABORATORIES 117 WEST BELLIEVUE DR. /PASADENA CA 91105-2503 / 626-568-4065 /FAX: 626-796-5282

MWH Laboratories

Ph (626) 386-1100 Fax (626) 386-1095 A Division of MWH Americas, Inc. 750 Royal Oaks Drive Suite 100 Monrovia, CA 91016-3629

Bernie Kolk Ship To

EMS Labs

117 West Bellvue Drive Pasadena, CA 91105

Date

Submittal Form & Purchase Oro. 90/60/80

REPORTING REQUIREMENTS: Do Not Combine Report with any other samples submitted under differen. 99-22089 Sub PO# Report & Invoice must have the MWH Project Number 169215 Report all quality control data according to Method, Include dates analyzed, date extracted (if extracted) and Method refers. Results must have Complete data & QC with Approval Signature. See reverse side for List of Terms and Conditions

MWH Laboratories 750 Royal Oaks Dr. Ste. 100, Monrovia, CA 91016 Accounts Payable PO BOX 6610, Broomfield, CO 80021 Reports: Julie Lee Sub-contracting Administrator Phone (626) 386-1136 Fax (626) 386-1095 Invoices to: MWH LABORATORIES EMAIL TO: Julie Lee@mwhglobal.com

the Specified State Certification # & Bxp Date for requested tests + matrix Provide in each Report

CA ELAP OK

Еах (626) 568-4065 ext 2542

(626) 796-5282

Sub PO# MWH Project # Report Due:

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Page 84 of 95

99-22089 03/24/06

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Client Sample ID for reference only

Analysis Requested

Date & Time Sample

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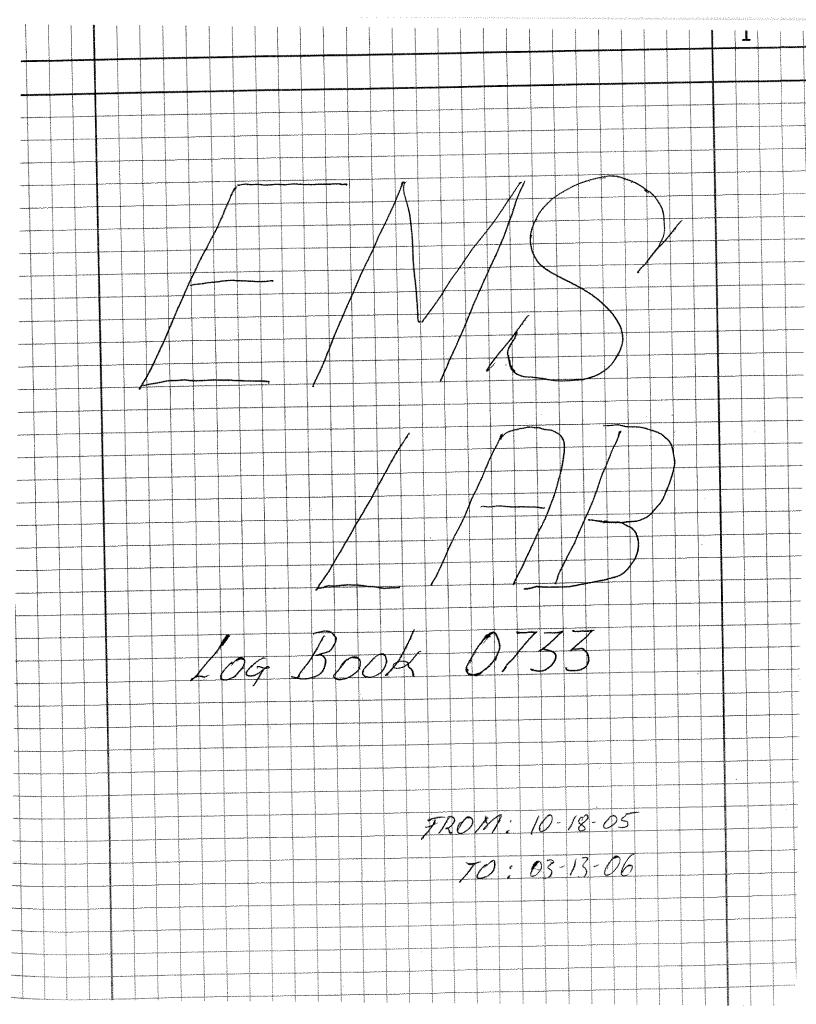
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An Acknowledgement of Receipt is requested to attn: Michael Lettona

3-10-06 Ime

3/A/G EMS LABORATORIFS

11 Page 8 5 9 fe 9 fe Drive / Pasadena CA 91105-2503 / 626-568-4065



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| 6 Ar Bill No. | | | | | | · |
| 7.Sample Tags | Present /Absent | | | | | |
| Sample Tag Numbers | Unan-of-Dustody | <i>'</i> | | | | |
| 8.Sample Condition | (ftact) Broken /Le | aking | | | | |
| Does information o ecords, traffic repor ample tags agree? | | | | | | |
| O. Date Received at | | 6 | | | | |
| 1.Time Received | 1200 | | | | | |
| Sample | Transfer | | | | | Anniverse of the second |
| raction | Fraction | | | | | |
| 4reá | Ārea | | | | | |
| 39 | By | | | | | |
| Fig. 2 | Jn | | · | - | A STATE OF THE STA | |
| ontract Client and A | ttach Records of Reso | ution | | I | | |
| eceived By | | | Logboo | k No. | | |
| iate | | | Logboo | k Page N o. | | |

FORM DC-1

TRACKING SHEET

| DATE DUE: | TIME DUE | |
|--------------------------|---|------------------|
| EMS REPORT: | 106002 | |
| DATE IN: 3/10/6 | | • |
| PRIORITY: STD | | |
| CLIENT: | MWH Laboratories 750 Royal Oaks Drive, Ste Monrovia, CA 91016 | 100 |
| ATTENTION: | | |
| CUSTOMER REFE | ERENCE NO.:169215 | |
| NO. OF SAMPLES: SUBJECT: | : 3 DEPT: | PLM |
| DATE TO ANALYS | ST: 3/10/0-6 | ANALYST: |
| ANALYTIC METH | ODS: | u (43t) |
| DATE ANALYZED | : 3/14/06 | / |
| QA ANALYST: | 52 | QA DATE: 3/15/06 |
| DATE FAXED: | 3-14-04 | VERBAL RESULTS: |
| DATE MAILED: | 3-22-06 | |
| INVOICE INSTRUC | CTIONS: | |

PROFICIENCY TEST M22005 SUBTOTALS

| Sample 1 | 0 |
|----------|---|
| Sample 2 | 0 |
| Sample 3 | 0 |
| Sample 4 | 0 |

TOTAL POINTS 0

Failure = 150 or more total points

SAMPLE 1

| Criteria | Reported by Laboratory | Reference Values | Acceptable Answers | Assigned Points |
|---|---------------------------|---------------------|--------------------------------------|-----------------|
| Asbestos Type (150 pts./type) | CHRY | Chrysotile | Chrysotile | |
| Reporting Additional Asbestos Type (150 pts. if >0.1%, 75 pts. if 0.1%) | NONE | None | None | 0 |
| % Asbestos (50 pts.) | 1.9 | 3% | 1% to 10% | 0 |
| Color (10 pts.) | CL | CL (clear) | CL (clear) | 0 |
| Pleochroism (10 pts.) | N | N (no) | N (no) | 0 |
| Extinction (10 pts.) | P | P (parallel) | P (parallel) | 0 |
| Sign of Elongation (10 pts.) | Р | P (positive) | P (positive) | 0 |
| Average Refractive Index (40 pts. each index, 10 pts. if γ = α or γ & α reversed) | 1.554 1.549 | γ=1.557 α=1.549 | γ=1.550 to 1.564 α=1.542 to 1.556 | 0 |
| Birefringence (10 pts.) | L | L (low) | L (low) | 0 |

Total Points Assigned for Sample 1 = 0

SAMPLE 2

| Criteria | Reported by Laboratory | Reference Values | Acceptable Answers | Assigned Points |
|---|---------------------------|---------------------|--------------------------------------|--------------------|
| | | | | |
| Asbestos Type (150 pts./type) | CHRY | Chrysotile | Chrysotile | 0 |
| Reporting Additional Asbestos Type (150 pts. if >0.1%, 75 pts. if 0.1%) | NONE | None | None | 0 |
| % Asbestos (50 pts.) | 14.1 | 7% | 1% to 30% | 0 |
| Color (10 pts.) | CL | CL (clear) | CL (clear) | 0 |
| Pleochroism (10 pts.) | Ň | N (no) | N (no) | 0 |
| Extinction (10 pts.) | P | P (parallel) | P (parallel) | 0 |
| Sign of Elongation (10 pts.) | P | P (positive) | P (positive) | 0 |
| Average Refractive Index (40 pts. each index, 10 pts. if $\gamma = \alpha$ or $\gamma & \alpha$ reversed) | 1.553 1.551 | γ=1.558 α=1.551 | γ=1.551 to 1.565 α=1.544 to 1.558 | 0 |
| Birefringence (10 pts.) | L | L (low) | L (low) | 0 |

Total Points Assigned for Sample 2 = 0

SAMPLE 3

| Criteria | Reported by | Reference | Acceptable | Assigned |
|------------------------------|-------------|-----------|------------|----------|
| | Laboratory | Values | Answers | Points |
| Asbestos Type (150 pts/type) | NONE | None | None | О |

Total Points Assigned for Sample 3 = 0

SAMPLE 4

| Criteria | Reported by Laboratory | Reference Values | Acceptable Answers | Assigned Points |
|--|------------------------|---------------------|--------------------------------------|--------------------|
| Asbestos Type (150 pts./type) | TREM | Tremolite | Actinolite or Tremolite | 0 |
| Reporting Additional Asbestos Type (150 pts. if >0.1%, 75 pts. if 0.1%) | NONE | None | None | 0 |
| % Asbestos (50 pts.) | 1.3 | 0.5% | 0.1% to 4% | 0 |
| Color (10 pts.) | CL | CL (clear) | CL (clear) | 0 |
| Pleochroism (10 pts.) | N | N (no) | N (no) | () |
| Extinction (10 pts.) | Ι | I (inclined) | I (inclined) | 0 |
| Sign of Elongation (10 pts.) | P | P (positive) | P (positive) | 0 |
| Average Refractive Index (40 pts. each ndex, 10 pts. if γ=α or γ & α reversed) | 1.630 1.606 | γ=1.633 α=1.603 | γ=1.618 to 1.648 α=1.588 to 1.618 | <u> </u> |
| tirefringence (10 pts.) | M | M (medium) | M (medium) | 0 |

Total Points Assigned for Sample 4 = 0