



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



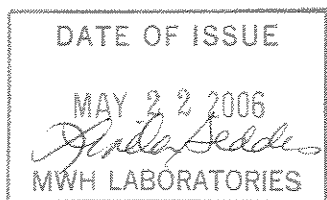
A Division of MWH Americas, Inc.

750 Foyal 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



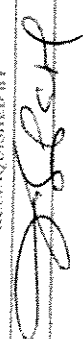

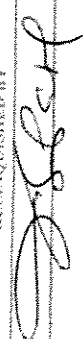

LXG Linda Geddes
Project Manager



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].

CHAIN OF CUSTODY

EMAX LABORATORIES, INC. 1835 W. 205th Street, Torrance, CA 90501 Tel #: 310-618-8889 Fax #: 310-618-0818 Email: info@emaxlabs.com		PO NUMBER: SAMPLE STORAGE		EMAX CONTROL NO. * 06C071 PROJECT CODE:	
CLIENT: IRONOX LLC PROJECT: Upgradient Investigation COORDINATOR: Ye Myint (EMAX) TEL: 310-618-8889 FAX: X121 SEND REPORT TO:		MATRIX CODE DW-Drinking Water DW-Drinking Water WW-Waste Water SW-Solid Waste SL-Sludge SS-Solid Sediment VA-Vapor P-Pure Product AP-Air O-		ANALYSIS REQUIRED <input type="checkbox"/> Rush hrs. <input type="checkbox"/> Rush days <input type="checkbox"/> 7 days <input type="checkbox"/> 14 days <input type="checkbox"/> 21 days <input type="checkbox"/> 30 days <input type="checkbox"/> days	
COMPANY: IRONOX LLC ADDRESS:		PRESERVATIVE CODE IC - Ice HC - HO FN - FNOI SH - NaOH ST - Na2S2O3 ZA - Zinc Acetate IS - H2SO4		TAT	
SAMPLE ID CLIENT		CONTAINER NO. SIZE TYPE		PRESERVATIVE CODE MATRIX CODE QC	
LOCATION DATE TIME		NO. SIZE TYPE		MATRIX CODE QC	
M120-30 M120-50 M120-0.5 M120-5 M120-10 M120-20		4 8oz Jar 2 ↓ 4 ↓ - - 3/1 8oz Jar 2 8oz Jar SS		X X X X X X X X X X X X X X X X	
COMMENTS / Comments M120-05 (EMAX-071-08) for Radionuclides not received. EMAX 071-11 was received (2 jars) with no client sample ID/Date/Time and Radionuclides analysis on the labels but not documented in EMAX LOC.		COMMENTS EMAX 10 COMMENTS 40 071-01 071-04 MS/MSD 071-07 071-08 jars not received 071-09 071-11		COMMENTS EMAX 10 COMMENTS 40 071-01 071-04 MS/MSD 071-07 071-08 jars not received 071-09 071-11	
INSTRUCTIONS / Comments M120-05 (EMAX-071-08) for Radionuclides not received. EMAX 071-11 was received (2 jars) with no client sample ID/Date/Time and Radionuclides analysis on the labels but not documented in EMAX LOC.		COOLER # Temp (C)		SAMPLE #	
RELINQUISHED BY 		RECEIVED BY 		DATE 3-8-06 1130	
DATE 3-8-06 1130		DATE 3-8-06 1130		DATE 3-8-06 1130	
SIGNATURE 		SIGNATURE 		SIGNATURE M. J. DeMesa	
DATE 3-8-06 1130		DATE 3-8-06 1130		DATE 3-8-06 1130	
COMMENTS Relinquished to MWH Lab.		COMMENTS Relinquished to MWH Lab.		COMMENTS Relinquished to MWH Lab.	

NOTICE: Every ground since (TAG) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved other than (TAG) shall mark at (TAG) for the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not later than 180 days (182 calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal for the samples defined by CA Title 22 as non-hazardous shall be \$5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

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: ymyint@emaxlabs.com

-----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
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www.ensr.aecom.com



AREA FAST
COURIER SERVICE

401 N. Brand Blvd., Suite 660 • Glendale, CA 91203
Phone: 818/ 546-8684 Fax: 818/ 546-2580

INVOICE 20948
CALL NO _____
REF. NO _____
DATE 03-08-06

CHARGE TO Montgomery daly

FROM: E MAX TO: MUJHL
1835 205 ST Monrovia
Fairview

PACKAGES	DESCRIPTION	CHARGES
		REGULAR
		RUSH
		ACAP
		SEC. CHARGE
		WAITING TIME
		WEIGHT
		TOTAL CHARGE

DRIVER: _____ PICK UP TIME: _____ DELIVERY TIME: 1554
Received By: Nick Yoo

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
2603090024	M120-0.5	ASBTEM CONGENER CUSTSUB METHYLHG	Soil	07-mar-2006 09:10:00
2603090026	M120-5	CUSTSUB	Soil	07-mar-2006 09:30:00
2603090027	M120-10	ASBTEM CONGENER CUSTSUB METHYLHG	Soil	07-mar-2006 10:10:00
2603090028	M120-30	ASBTEM CONGENER CUSTSUB METHYLHG	Soil	07-mar-2006 11:45:00
2603090029	M120-50	CUSTSUB	Soil	07-mar-2006 12:45:00

Test Acronym Description

Test Acronym	Description
ASBTEM	Asbestos by PLM
CONGENER	TCDDs+PCDFs by 1613b full list
CUSTSUB	Subcontracted Analyses-soils
METHYLHG	Methyl mercury



MWH Laboratories

A Division of MWH Americas, Inc.

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Monrovia, California 91016-3629
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Report
Comments
#169215

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.



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Laboratory
Hits Report
#169215

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
	2603090024	M120-0.5				
03/07/06	Methyl mercury		0.034		ng/g	0.020
	2603090027	M120-10				
	2603090028	M120-30				

SUMMARY OF POSITIVE DATA ONLY.

Hits Report - Page 1 of 1



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Laboratory
 Data Report
 #169215

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 (2603090024) Sampled on 03/07/06 09:10								
	03/15/06 00:00		(SUBCONTRACT)	Asbestos by PLM	ND	%	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 (2603090026) Sampled on 03/07/06 09:30								
	04/24/06 00:00		()	Subcontracted Analyses-soils	SUB GEL	None	0	1
M120-10 (2603090027) Sampled on 03/07/06 10:10								
	03/15/06 00:00		(SUBCONTRACT)	Asbestos by PLM	ND	%	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	ND	ng/g	0.020	1
M120-30 (2603090028) Sampled on 03/07/06 11:45								
	03/15/06 00:00		(SUBCONTRACT)	Asbestos by PLM	ND	%	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	ND	ng/g	0.020	1
M120-50 (2603090029) Sampled on 03/07/06 12:45								
	04/24/06 00:00		()	Subcontracted Analyses-soils	SUB GEL	None	0	1



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A Division of MWH Americas, Inc.

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Laboratory
QC Summary
#169215

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



MWH Laboratories

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Laboratory
QC Report
#169215

ENSR

QC Ref #315069

Methyl mercury

QC	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 Underlining.
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.

ENSR-TRONOX

169215



Frontier GeoSciences Inc.

innovative solutions through advanced geochemistry

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

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.

Sample Extraction. 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

Analyte (ng/g)	PB1	PB2	PB3	Mean	St Dev	RL
Methyl Hg as Hg	0.012	0.013	0.008	0.011	0.003	0.020

PB = Preparation Blank

RL = Reporting Limit

Certified Reference Material Report

Analyte (ng/g)	CRM Identity	Cert Value	Obs Value	% Rec
Methyl Hg as Hg	IAEA-405	5.49	5.74	104.6

CRM = Certified Reference Material

Cert Value = Certified Value

Obs Value = Observed Value

% Rec = Percent Recovery

Matrix Duplicate Report

Analyte (ng/g)	Sample ID	Sample	Duplicate	Mean	RPD
Methyl Hg as Hg	2603090027	<0.020	<0.020	NC	NC

RPD = Relative Percent Difference

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

Matrix Spike Report

Analyte (ng/g)	Sample ID	Sample	Spike	MS	% Rec	MSD	% Rec	RPD
Methyl Hg as Hg	2603090027	<0.020	4.433	4.275	96.4	4.436	99.4	3.0

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:

MHg7-060327-1

Analyst:

Citronc

Data Prep:

Citronc

Analysis Date:

3/27/2006

Project List:

No.	HiQA	Sample Group	Inst. Blank	Corrections		
				Prep. Blank	MSA	Effic. Factor
2	<input type="checkbox"/>	PBS *Prep Method: FGS-045 MMHg MeCl Extraction	Yes-1	No	No	No
3	<input checked="" type="checkbox"/>	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.

C. J. [unclear]
3/28/06
GJY

QUALITY ASSURANCE

PEER - REVIEWED

INITIALS: js/03/28/2006

QUALITY ASSURANCE REVIEWED

INITIALS: 2/6 4/10/06

Frontier Geosciences

Dataset for CV.GC.AFS Analysis

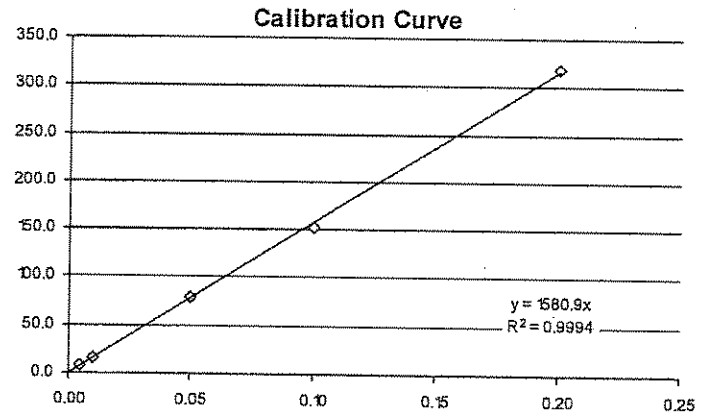
Dataset ID:
Analyst:
Date:

MHg7-060327-1
Citronc
3/27/2006

Calibration Data for MMHg

ng vs. Measured Intensity
Slope: 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	0.0508	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	0.008	ng/g	0.012	0.013	0.008	

MSA Sets

QC Sets

Sample	Analyte	Sample	Duplicate	Triplicate	Spike	Spike Dup.	Spike TV	Spike Dup. TV
M120-10	MMHg	-0.005	-0.004		4.275	4.436	4.433	4.464
	ng/g	Avg=-0.004	14.6% RPD			3.0% RPD	96.5% Rec	99.5% Rec

Frontier Geosciences

Dataset for CV.GC.AFS Analysis

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

Run	Trap	Pos	Sample Group	Sample ID	Excl.	Type	Aliquot	Inten.	Inst Value	Di.	[Liquid Gross]	[Liquid Net]	Prep Vol.	Mass	Solid Conc	T.S.	Solid Conc (DB)	Rec.	TV	Remarks
1	1	1	[Analysis]	0.005 ng		CAL	50.000 mL	8.7	0.0046 ng	1.	0.093 ng/L	0.093 ng/L				1		93.0%	0.0080	
2	2	2	[Analysis]	0.050 ng		CAL	50.000 mL	81.3	0.0506 ng	1.	1.011 ng/L	1.011 ng/L				1		101.1%	0.0500	
3	3	3	[Analysis]	0.100 ng		CAL	50.000 mL	154	0.0966 ng	1.	1.931 ng/L	1.931 ng/L				1		96.6%	0.1000	
4	4	4	[Analysis]	0.200 ng		CAL	50.000 mL	320	0.2015 ng	1.	4.031 ng/L	4.031 ng/L				1		100.8%	0.2000	
5	5	1	[Analysis]	0.010 ng		CAL	50.000 mL	17.9	0.0105 ng	1.	0.209 ng/L	0.209 ng/L				1		104.7%	0.0100	
6	6	2	[Analysis]	CV(Damm-2 (2.24ng/L)		LCS	50.000 mL	156	0.0978 ng	1.	1.956 ng/L	1.956 ng/L	1000.00 mL	1.0000 g	1.956 ng/g	1	1.956 ng/g	87.3%	2.2400	
7	7	3	[Analysis]	CCB		IB	50.000 mL	1.4	0.0009 ng	1.	0.018 ng/L	0.018 ng/L				1				
8	1	4	PBS	PBS1		PB	57.600 mL	3.2	0.0012 ng	5.	0.102 ng/L	0.102 ng/L	57.60 mL	0.5000 g	0.012 ng/g	1	0.012 ng/g			
9	2	1	PBS	PBS2		PB	57.600 mL	3.4	0.0013 ng	5.	0.113 ng/L	0.113 ng/L	57.60 mL	0.5000 g	0.013 ng/g	1	0.013 ng/g			
10	3	2	PBS	PBS3		PB	57.600 mL	2.4	0.0007 ng	5.	0.068 ng/L	0.068 ng/L	57.60 mL	0.4100 g	0.008 ng/g	1	0.008 ng/g			
11	4	3	MWH 3/17/05	AEA-405		LCS	10.000 mL	65.2	0.0410 ng	5.	20.510 ng/L	20.420 ng/L	57.60 mL	0.2110 g	5.574 ng/g	0.971	5.741 ng/g	104.6%	5.4900	
12	5	4	MWH 3/17/05	M120-0.5		S	57.600 mL	8.9	0.0048 ng	5.	0.415 ng/L	0.324 ng/L	57.60 mL	0.5440 g	0.034 ng/g	1	0.034 ng/g			
13	6	1	MWH 3/17/05	M120-10		S	57.600 mL	2.2	0.0095 ng	5.	0.047 ng/L	-0.544 ng/L	57.60 mL	0.5310 g	-0.005 ng/g	1	-0.005 ng/g			
14	6	2	MWH 3/17/05	M120-10(MD)		MD	57.600 mL	2.3	0.0006 ng	5.	0.052 ng/L	-0.038 ng/L	57.60 mL	0.5380 g	-0.004 ng/g	1	-0.004 ng/g			
15	1	3	MWH 3/17/05	M120-10(MS)		MS	10.000 mL	134	0.0839 ng	5.	41.954 ng/L	41.663 ng/L	57.60 mL	0.5640 g	4.275 ng/g	1	4.275 ng/g		4.4300	
16	2	4	MWH 3/17/05	M120-10(MSD)		MSD	10.000 mL	138	0.0884 ng	5.	43.219 ng/L	43.120 ng/L	57.60 mL	0.5600 g	4.436 ng/g	1	4.436 ng/g		4.4640	
17	3	1	MWH 3/17/05	M120-30		S	57.600 mL	3.2	0.0012 ng	5.	0.102 ng/L	0.011 ng/L	57.60 mL	0.5310 g	0.001 ng/g	1	0.001 ng/g			
18	4	2	[Analysis]	CCV1		CV	50.000 mL	156	0.0978 ng	1.	1.956 ng/L	1.956 ng/L				1		97.8%	2.0000	
19	5	3	[Analysis]	CCB1		IB	50.000 mL	1.3	0.0008 ng	1.	0.016 ng/L	0.016 ng/L				1				

Sample Digestion and Percent Solids Log

Name: ^{of 3/20/02} MWH Andrea Pratt Date: 3-26-02 Final volume: _____

Client Name: MWH 3/17/02

Sample Matrix: Sediments Waters Tissues FSTM Traps Filters Other _____

Analysis: Total Hg Methyl Hg % Dry Weight Other _____
est.

Pan # for %TS	Sample ID Number	Sample Size <input type="checkbox"/> ml <input type="checkbox"/> g	Dry Weight Determination		
			Pan wt. (g)	Pan wt. + wet sample (g)	Pan wt. + dry sample (g)
✓	PBS1				
✓	2				
✓	3 (leften chips)	0.410			
✓	IAEA 405	0.211			
1 ✓	M120-0.5	0.544			
2 ✓	-10	0.531			
2MO ✓	MO	0.538			
2MG ✓	MS (25ul 100ng/ml)	0.564			
2MSD ✓	MSD	0.560			
3	M120-30	0.531			

OP 3-26-02

*lots of rocks + pebbles.

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
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.

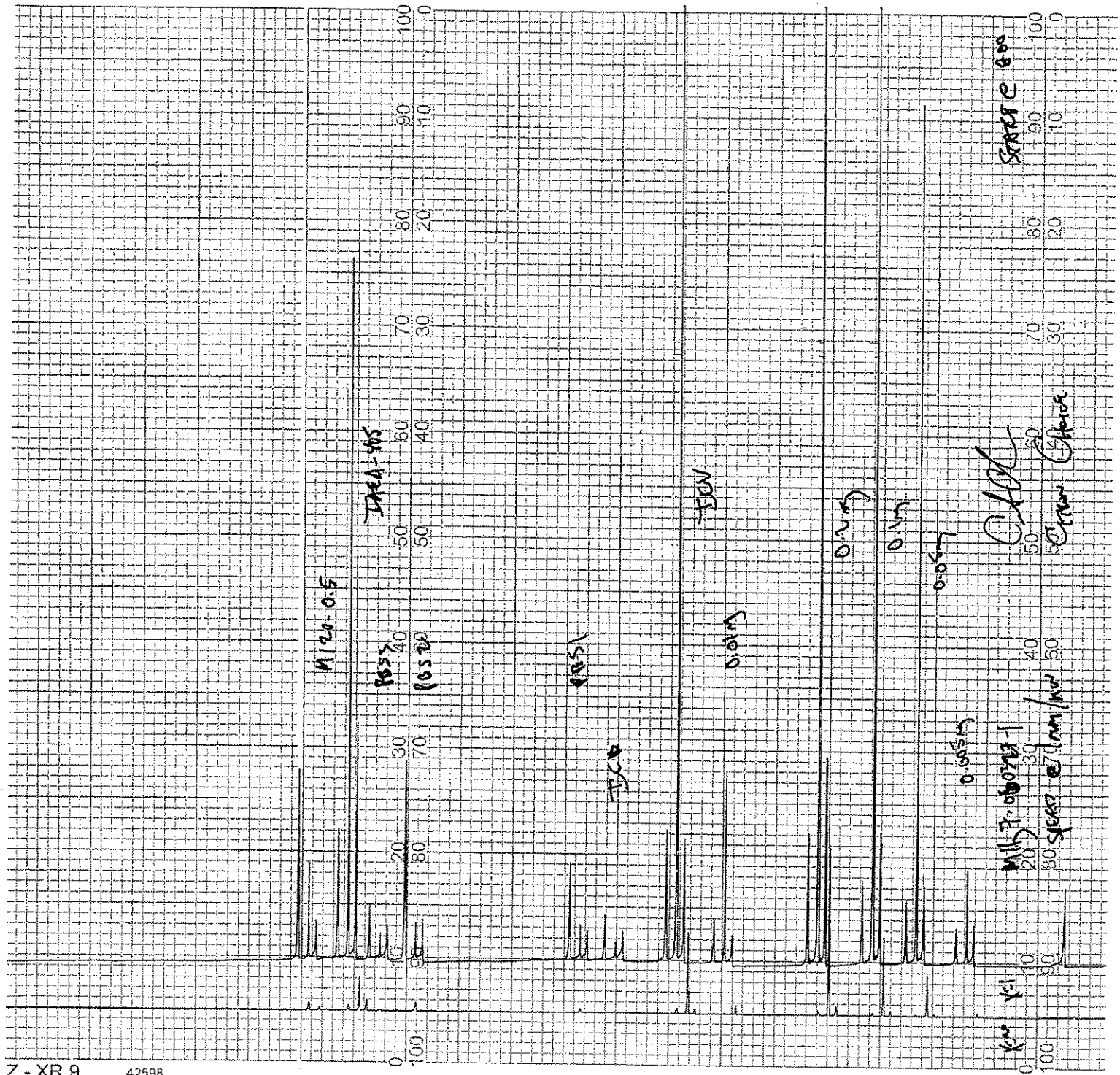
Frontier GeoSciences, Inc
High QA Report:
Analyst: Citron Choice
Data Set : MHg7-060327-1
Reviewer : Shelly Fank
Reviewed Date: 4/10/06

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.

Z - XR 9

42598



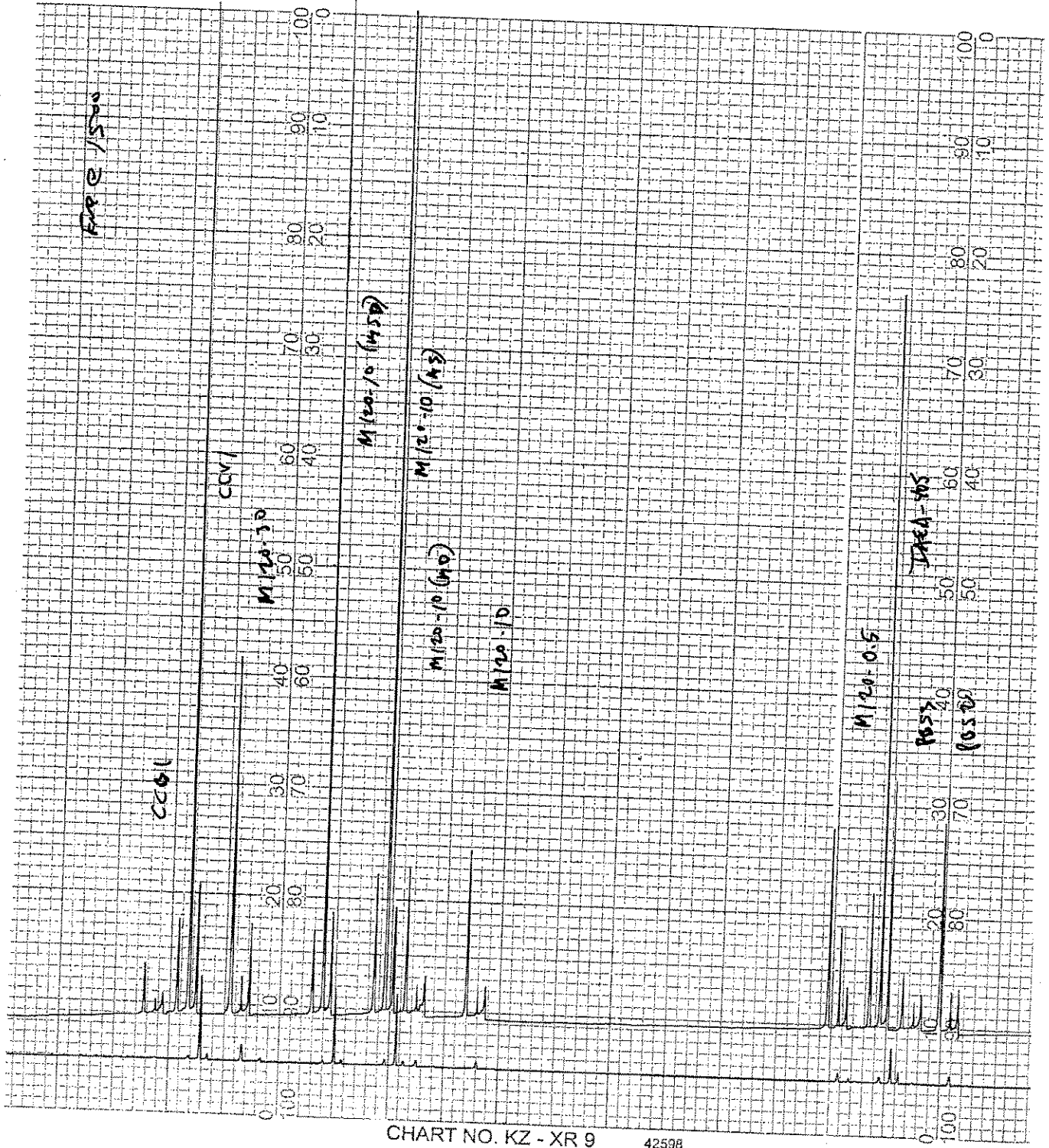


CHART NO. KZ - XR 9

42598



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

Ship To **Russell Gerads**
Frontier Geo-Science

414 Pontius North
Seattle WA 98109

(206) 622-6960 Fax (206) 622-6870

MWH Project # Report Due: Sub PO#
169215 03/31/06 99-22196

JDL



Client Sample ID for reference only

● 2603090024 M120-0.5 methyl mercury 03/07/06 9:10 soil 8 oz. glass jars
● 2603090027 M120-10 methyl mercury 03/07/06 10:10 soil 8 oz. glass jars
● 2603090028 M120-30 methyl mercury 03/07/06 11:45 soil 8 oz. glass jars

Date 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 and Job # Find Out 99-22196

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

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

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

QC REQUESTED

FREEDERICK
SMITH A

Container

felix breaking # 6912 3665 2972
VFSR: 10:00 Coles temp: 2.7°C
C.O.C Seal: N/A

Nick Heston FGS

Relinquished by: Sample Control Date 03/16/06 Time 15:13 MUST HAVE NOTIFICATION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS Page 1

Received by: Julie Lee Date 3/17/06 Time 12:05 An Acknowledgement of Receipt is requested to attn: Julie Lee

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 1

Lot #: G6C100424 MWL-169215/Sub PO# 99-22090 Date Reported: 3/27/06

Project Number: 169215/3090024

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
-----------	--------	-----------------	-------	-------------------

Client Sample ID: M120-0.5

Sample #: 001 Date Sampled: 03/07/06 09:10 Date Received: 03/10/06 Matrix: SOLID

Dibenzodioxins and Dibenzofurans, HRGC/HRMS				Reviewed
2,3,7,8-TCDD	ND	0.18	pg/g	SW846 8290
Total TCDD	0.55		pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	0.62	pg/g	SW846 8290
Total PeCDD	ND	0.87	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.34	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	0.94	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	1.0	pg/g	SW846 8290
Total HxCDD	ND	2.4	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	6.7		pg/g	SW846 8290
Total HpCDD	12		pg/g	SW846 8290
OCDD	33		pg/g	SW846 8290
2,3,7,8-TCDF	2.9 CON		pg/g	SW846 8290
Total TCDF	20		pg/g	SW846 8290
1,2,3,7,8-PeCDF	4.7 J		pg/g	SW846 8290
2,3,4,7,8-PeCDF	2.7 J		pg/g	SW846 8290
Total PeCDF	22		pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	11		pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	7.7		pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	2.8 J		pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.69	pg/g	SW846 8290
Total HxCDF	51		pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	30		pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	6.5		pg/g	SW846 8290
Total HpCDF	52		pg/g	SW846 8290
OCDF	54		pg/g	SW846 8290

Results and reporting limits have been adjusted for dry weight.
 CON Confirmation analysis.
 J Estimated result. Result is less than the reporting limit.

Inorganic Analysis	Soil	Reviewed
Method for Determination of Water Content of Soil	5.9	ASTM D 2216-90

(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 2

Lot #: G6C100424 MWL-169215/Sub PO# 99-22090 Date Reported: 3/27/06
Project Number: 169215/3090024

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
-----------	--------	-----------------	-------	-------------------

Client Sample ID: M120-10

Sample #: 002 Date Sampled: 03/07/06 10:10 Date Received: 03/10/06 Matrix: SOLID

Dibenzodioxins and Dibenzofurans, HRGC/HRMS				Reviewed
2,3,7,8-TCDD	ND	0.27	pg/g	SW846 8290
Total TCDD	ND	0.27	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	1.2	pg/g	SW846 8290
Total PeCDD	ND	1.8	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.56	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	1.1	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	1.9	pg/g	SW846 8290
Total HxCDD	ND	1.9	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	0.84	pg/g	SW846 8290
Total HpCDD	ND	0.84	pg/g	SW846 8290
OCDD	ND	1.4	pg/g	SW846 8290
2,3,7,8-TCDF	ND	0.29	pg/g	SW846 8290
Total TCDF	0.74		pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	0.48	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.47	pg/g	SW846 8290
Total PeCDF	ND	0.69	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.87	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.65	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	0.71	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.74	pg/g	SW846 8290
Total HxCDF	ND	0.87	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	0.79	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	0.59	pg/g	SW846 8290
Total HpCDF	ND	0.79	pg/g	SW846 8290
OCDF	ND	1.3	pg/g	SW846 8290

Results and reporting limits have been adjusted for dry weight.

Inorganic Analysis		Soil	Reviewed
Method for Determination of Water Content of Soil	9.1	%	ASTM D 2216-90

(Continued on next page)

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:

<u>Laboratory ID</u>	<u>Client ID</u>
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

Chain of Custody and Supporting Documentation



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

Ship To **Edie Kent**

General Engineering Laboratories, LLC

2040 Savage Road
Charleston, SC 29414

(843) 556-8171 X4433 Fax (843) 766-1178

MWH Project # Report Due: Sub PO#
169215 03/24/06 99-22088

Use MWH Lab # for ID

JDL

Client Sample ID for reference only

1500487

Date 03/09/06 Submittal Form & Purchase Order 99-22088

*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 and Job # Find Out Sub PO# 99-22088

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

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

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

CA ELAP OK

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

Container

	Analysis Requested	Sample Date & Time	Matrix
1	RADIUM 226	03/07/06 9:10	soil 8oz. glass jars
2	RADIUM 228		
3	LEAD 210		
4	LEAD212		
5	THORIUM (ISOTOPIC)		
6	URANIUM (ISOTOPIC)		
7	URANIUM (TOTAL)		
8	PRONACTINIUM 231		
9	ACTINIUM 228		
10	BISMUTH 212		
11	GROSS ALPHA (ADJUSTED)		
12	POLONIUM 210		
13	RADIUM 226	03/07/06 10:10	soil 8oz. glass jars
14	RADIUM 228		

Relinquished by:

[Signature]

Sample Control Date 03/09/06 Time 1536

MUST HAVE NOTIFICATION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS

Received by:

Date 3/10/06 Time 0915

An Acknowledgement of Receipt is requested to attn: Michael Leitona

Row	Client Sample ID for reference only	Analysis Requested	Sample Date & Time	Matrix	Container
15		LEAD 210			
16		LEAD212			
17		THORIUM (ISOTOPIC)			
18		URANIUM (ISOTOPIC)			
19		URANIUM (TOTAL)			
20		FRONACTINIUM 231			
21		ACTINIUM 228			
22		BISMUTH 212			
23		GROSS ALPHA (ADJUSTED)			
24		POLONIUM 210			
25	CUSTSUB	RADIUM 226	03/07/06 11:45	soil	8oz. glass jars
26	2603090028	M120-30			
27		RADIUM 228			
28		LEAD 210			
29		LEAD212			
30		THORIUM (ISOTOPIC)			
31		URANIUM (ISOTOPIC)			
32		URANIUM (TOTAL)			
33		PRONACTINIUM 231			
34		ACTINIUM 228			
35		BISMUTH 212			
36		GROSS ALPHA (ADJUSTED)			
37	CUSTSUB	POLONIUM 210			
38	2603090026	M120-5	03/07/06 9:30	soil	8oz. glass jars
39		RADIUM 226			
40		RADIUM 228			
41		LEAD 210			
42		LEAD212			

Page 5 of 892

Relinquished by:

[Signature]

Received by:

Sample Control

Date 03/09/06

Time 5:16

MUST HAVE NOTIFICATION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS

Page 2

An Acknowledgement of Receipt is requested to attn: Michael Lettona

Date 3/10/06 Time 0915

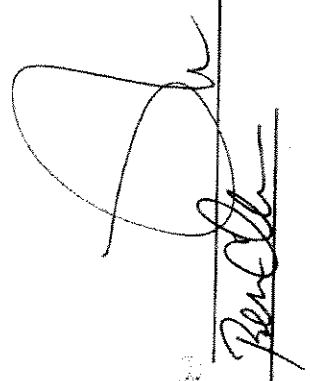
Row	Client Sample ID for reference only	Analysis Requested	Sample Date & Time	Matrix	Container
41		THORIUM (ISOTOPIIC)			
42		URANIUM (ISOTOPIIC)			
43		URANIUM (TOTAL)			
44	2603090029 M120-50	RADIUM 226	03/07/06 12:45	soil	8oz. glass jars
45		RADIUM 228			
46		LEAD 210			
47		LEAD212			
48		THORIUM (ISOTOPIIC)			
49		URANIUM (ISOTOPIIC)			
50		URANIUM (TOTAL)			

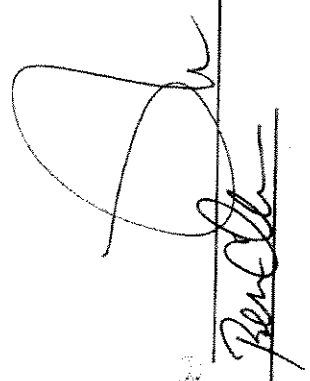
Page 6 of 8

2603090029 M120-50

soil

8oz. glass jars

Relinquished by: 

Received by: 

Sample Control

Date 03/09/06

Time 5:36

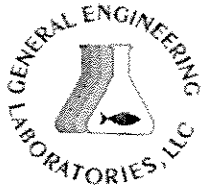
MUST HAVE NOTIFICATION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS

Page 3

An Acknowledgement of Receipt is requested to attn: Michael Lettona

Date 3/19/06

Time 0915



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>MWH Labs</u>	SDG/ARCOC/Work Order: <u>169215/99-22088</u>
Date Received: <u>3/10/06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing): <u>em</u>
Received By: <u>[Signature]</u>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.		<input checked="" type="checkbox"/>		Circle Coolant # ice bags blue ice dry ice <u>none</u> other (describe) <u>17°C</u>
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			<input checked="" type="checkbox"/>	
8 Samples received within holding time?	<input checked="" type="checkbox"/>			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
11 Number of containers received match number indicated on COC?			<input checked="" type="checkbox"/>	Sample ID's affected: <u>0024, 0027, 0028 - 1 each</u> <u>0026, 0029 - 2 each</u>
12 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			

14 Air Bill, Tracking #'s, & Additional Comments	<u>Fed Ex 6912 3665 1440</u>
--	------------------------------

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A Radiological Classification?	<input checked="" type="checkbox"/>			Maximum Counts Observed*: <u>20 cpm</u>
B PCB Regulated?	<input checked="" type="checkbox"/>			Comments:
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	<input checked="" type="checkbox"/>			Hazard Class Shipped: UN#:

PM (or PMA) review of Hazard classification: <u>[Signature]</u> Initials: <u>[Signature]</u> Date: _____
--

More on Tronox Samples Received

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

RADIOLOGICAL ANALYSIS

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

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)

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)
1201063765	158048005(2603090029) Sample Duplicate (DUP)

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).

QC 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 reprepared 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 validator verified the information presented in this case narrative:

Reviewer/Date: K. B. Bell 4/12/06

COMPANY - WIDE NONCONFORMANCE REPORT

Mo.Day Yr. 10-APR-06	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process
Instrument Type: Kinetic Phosphorescence Analyzer	Test / Method: ASTM D 5174	Matrix Type: Solid	Client Code: MWHL
Batch ID: 517556	Sample Numbers: See Below		
Potentially affected work order(s)(SDG): 158048			
Application Issues: Failed Recovery for MS/PS			
Specification and Requirements Nonconformance Description:		NRG Disposition:	
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.	

Originator's Name:

Salina Pizarro 10-APR-06

Data Validator/Group Leader:

Melanie Aycock 11-APR-06

Quality Review:

Director:

SAMPLE DATA SUMMARY

GENERAL ENGINEERING LABORATORIES, LLC

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

Certificate of Analysis Report for

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.
- d The 2:1 depletion requirement was not met for this sample
- h 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 _____

GENERAL ENGINEERING LABORATORIES, LLC
 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

Project: **Tronox Henderson**

Client Sample ID:	2603090024	Project:	MWHL00106
Sample ID:	158048001	Client ID:	MWHL002
Matrix:	Soil		
Collect Date:	07-MAR-06 09:10		
Receive Date:	10-MAR-06		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Alpha Spec Analysis											
<i>Alphaspec Po210, solid</i>											
Polonium-210		1.76	+/-0.600	0.326	1.00	pCi/g		JXG1 04/05/06	1734	515989	1
<i>Alphaspec Th, Solid</i>											
Thorium-228		2.01	+/-0.617	0.348	1.00	pCi/g		DDR1 04/05/06	0952	512068	2
Thorium-230		1.09	+/-0.419	0.272	1.00	pCi/g					
Thorium-232		1.94	+/-0.592	0.187	1.00	pCi/g					
<i>Alphaspec U, Solid</i>											
Uranium-233/234		0.962	+/-0.339	0.227	1.00	pCi/g		DDR1 04/05/06	0819	512069	3
Uranium-235/236	U	-0.00891	+/-0.0748	0.196	1.00	pCi/g					
Uranium-238		0.911	+/-0.335	0.271	1.00	pCi/g					
Rad Gamma Spec Analysis											
<i>Gamma, (Ac-228, Bi-212, Pb-212, Ra-226, Ra-228, Pa-231)</i>											
Actinium-228		1.87	+/-0.126	0.0854	1.00	pCi/g		MJH1 04/06/06	2345	513799	4
Bismuth-212		1.28	+/-0.238	0.184	1.00	pCi/g					
Lead-212		1.97	+/-0.0566	0.042	10.0	pCi/g					
Protactinium-231	U	0.177	+/-0.626	1.10	0.500	pCi/g					
Radium-226		1.02	+/-0.0667	0.0462	2.00	pCi/g					
Radium-228		1.87	+/-0.126	0.0854	1.00	pCi/g					
Rad Gas Flow Proportional Counting											
<i>GFPC, Gross Alpha Solid</i>											
Alpha		19.9	+/-4.41	2.76	5.00	pCi/g		CXO1 04/03/06	1910	516630	5
<i>GFPC, Pb210, Solid</i>											
Lead-210	U	0.462	+/-0.490	1.03	3.00	pCi/g		BXF1 04/09/06	0957	517517	6
Rad Total Uranium											
<i>KPA, Total U, Solid</i>											
Total Uranium		21.1	+/-1.69	1.08	1.00	ug/g		DRS1 04/07/06	1326	517556	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
I	DOE EML HASL-300, Po-01-RC Modified	

GENERAL ENGINEERING LABORATORIES, LLC
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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

Project: **Tronox Henderson**

Client Sample ID: 2603090024 Project: MWHL00106
 Sample ID: 158048001 Client ID: MWHL002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
2	DOE EML HASL-300, Th-01-RC Modified										
3	DOE EML HASL-300, U-02-RC Modified										
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			57	(25%-125%)
Actinium-227	Alphaspec Th, Solid			108	
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

Report Date: April 12, 2006

Project: **Tronox Henderson**

Client Sample ID:	2603090027	Project:	MWHL00106
Sample ID:	158048002	Client ID:	MWHL002
Matrix:	Soil		
Collect Date:	07-MAR-06 10:10		
Receive Date:	10-MAR-06		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Po210, solid</i>												
Polonium-210		0.648	+/-0.383	0.177	1.00	pCi/g		JXG1	04/05/06	1734	515989	1
<i>Alphaspec Th, Solid</i>												
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	+/-0.597	0.252	1.00	pCi/g						
<i>Alphaspec U, Solid</i>												
Uranium-233/234		1.24	+/-0.396	0.240	1.00	pCi/g		DDR1	04/05/06	0819	512069	3
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												
<i>Gamma, (Ac-228, Bi-212, Pb-212, Ra-226, Ra-228, Pa-231)</i>												
Actinium-228		1.87	+/-0.250	0.084	1.00	pCi/g		MJH1	04/06/06	2345	513799	4
Bismuth-212		1.18	+/-0.233	0.183	1.00	pCi/g						
Lead-212		1.86	+/-0.152	0.0383	10.0	pCi/g						
Protactinium-231	U	-0.753	+/-0.572	0.981	0.500	pCi/g						
Radium-226		1.06	+/-0.122	0.0429	2.00	pCi/g						
Radium-228		1.87	+/-0.250	0.084	1.00	pCi/g						
Rad Gas Flow Proportional Counting												
<i>GFPC, Gross Alpha Solid</i>												
Alpha		20.1	+/-4.10	2.35	5.00	pCi/g		CXO1	04/03/06	1901	516630	5
<i>GFPC, Pb210, Solid</i>												
Lead-210	U	-0.0593	+/-0.322	0.842	3.00	pCi/g		BXFI	04/09/06	0957	517517	6
Rad Total Uranium												
<i>KPA, Total U, Solid</i>												
Total Uranium		2.73	+/-0.134	0.106	1.00	ug/g		DRS1	04/07/06	1328	517556	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
1	DOE EML HASL-300, Po-01-RC Modified	

GENERAL ENGINEERING LABORATORIES, LLC
 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

Project: **Tronox Henderson**

Client Sample ID: 2603090027
 Sample ID: 158048002

Project: MWHL00106
 Client ID: MWHL002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
2	DOE EML HASL-300, Th-01-RC Modified										
3	DOE EML HASL-300, U-02-RC Modified										
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			45	(25%-125%)
Actinium-227	Alphaspec Th, Solid			106	
Actinium-227	Alphaspec Th, Solid			106	
Actinium-227	Alphaspec Th, Solid			106	
Uranium-232	Alphaspec U, Solid			91	(25%-125%)
Uranium-232	Alphaspec U, Solid			91	(25%-125%)
Uranium-232	Alphaspec U, Solid			91	(25%-125%)
Lead-210	GFPC, Pb210, Solid			66	(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**

Report Date: April 12, 2006

Client Sample ID: 2603090028
 Sample ID: 158048003
 Matrix: Soil
 Collect Date: 07-MAR-06 11:45
 Receive Date: 10-MAR-06
 Collector: Client
 Project: MWHL00106
 Client ID: MWHL002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Po210, solid</i>												
Polonium-210		0.623	+/-0.499	0.594	1.00	pCi/g		JXG1	04/05/06	1734	515989	1
<i>Alphaspec Th, Solid</i>												
Thorium-228		2.06	+/-0.567	0.281	1.00	pCi/g		DDR1	04/05/06	0952	512068	2
Thorium-230		1.77	+/-0.504	0.128	1.00	pCi/g						
Thorium-232		1.74	+/-0.499	0.151	1.00	pCi/g						
<i>Alphaspec U, Solid</i>												
Uranium-233/234		2.00	+/-0.493	0.216	1.00	pCi/g		DDR1	04/05/06	0819	512069	3
Uranium-235/236		0.280	+/-0.216	0.267	1.00	pCi/g						
Uranium-238		1.39	+/-0.416	0.267	1.00	pCi/g						
Rad Gamma Spec Analysis												
<i>Gamma, (Ac-228, Bi-212, Pb-212, Ra-226, Ra-228, Pa-231)</i>												
Actinium-228		2.24	+/-0.208	0.155	1.00	pCi/g		MJH1	04/06/06	2346	513799	4
Bismuth-212		1.33	+/-0.348	0.344	1.00	pCi/g						
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 Proportional Counting												
<i>GFPC, Gross Alpha Solid</i>												
Alpha		18.9	+/-3.98	2.14	5.00	pCi/g		CXO1	04/03/06	1901	516630	5
<i>GFPC, Pb210, Solid</i>												
Lead-210	U	0.0294	+/-0.329	0.810	3.00	pCi/g		BXF1	04/09/06	0957	517517	6
Rad Total Uranium												
<i>KPA, Total U, Solid</i>												
Total Uranium		3.45	+/-0.128	0.107	1.00	ug/g		DRS1	04/07/06	1410	517556	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
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

Report Date: April 12, 2006

Project: **Tronox Henderson**

Client Sample ID: 2603090028
 Sample ID: 158048003

Project: MWHL00106
 Client ID: MWHL002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
2	DOE EML HASL-300, Th-01-RC Modified										
3	DOE EML HASL-300, U-02-RC Modified										
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			28	(25%-125%)
Actinium-227	Alphaspec Th, Solid			119	
Actinium-227	Alphaspec Th, Solid			119	
Actinium-227	Alphaspec Th, Solid			119	
Uranium-232	Alphaspec U, Solid			104	(25%-125%)
Uranium-232	Alphaspec U, Solid			104	(25%-125%)
Uranium-232	Alphaspec U, Solid			104	(25%-125%)
Lead-210	GFPC, Pb210, Solid			66	(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

Report Date: April 12, 2006

Project: **Tronox Henderson**

Client Sample ID: 2603090026
 Sample ID: 158048004
 Matrix: Soil
 Collect Date: 07-MAR-06 09:30
 Receive Date: 10-MAR-06
 Collector: Client

Project: MWHL00106
 Client ID: MWHL002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid</i>												
Thorium-228		1.88	+/-0.537	0.377	1.00	pCi/g						
Thorium-230		1.26	+/-0.409	0.263	1.00	pCi/g		DDR1	04/05/06	0952	512068	1
Thorium-232		1.99	+/-0.542	0.230	1.00	pCi/g						
<i>Alphaspec U, Solid</i>												
Uranium-233/234		1.18	+/-0.350	0.268	1.00	pCi/g						
Uranium-235/236	U	0.0953	+/-0.126	0.237	1.00	pCi/g		DDR1	04/05/06	0952	512069	2
Uranium-238		1.16	+/-0.342	0.205	1.00	pCi/g						
Rad Gamma Spec Analysis												
<i>Gamma, (Pb-212,Ra-226,Ra-228)</i>												
Lead-212		1.79	+/-0.0815	0.0766	10.0	pCi/g						
Radium-226		0.907	+/-0.114	0.0884	2.00	pCi/g		MJH1	04/06/06	2346	513799	3
Radium-228		1.86	+/-0.227	0.167	1.00	pCi/g						
Rad Gas Flow Proportional Counting												
<i>GFPC, Pb210, Solid</i>												
Lead-210	U	0.0735	+/-0.414	1.01	3.00	pCi/g		BXF1	04/09/06	0957	517517	4
Rad Total Uranium												
<i>KPA, Total U, Solid</i>												
Total Uranium		26.2	+/-1.58	1.08	1.00	ug/g		DRS1	04/07/06	1332	517556	5

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
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
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Contact: Ms. Julie Lee
 Project: **Tronox Henderson**

Report Date: April 12, 2006

Client Sample ID: 2603090026 Project: MWHL00106
 Sample ID: 158048004 Client ID: MWHL002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Surrogate/Tracer recovery	Test					Result	Nominal	Recovery%	Acceptable Limits		
Actinium-227	Alphaspec Th, Solid							118			
Actinium-227	Alphaspec Th, Solid							118			
Actinium-227	Alphaspec Th, Solid							118			
Uranium-232	Alphaspec U, Solid							105		(25%-125%)	
Uranium-232	Alphaspec U, Solid							105		(25%-125%)	
Uranium-232	Alphaspec U, Solid							105		(25%-125%)	
Lead-210	GFPC, Pb210, Solid							51		(25%-125%)	

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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

Client Sample ID: 2603090029
Sample ID: 158048005
Matrix: Soil
Collect Date: 07-MAR-06 12:45
Receive Date: 10-MAR-06
Collector: Client
Project: MWHL00106
Client ID: MWHL002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
<i>Alphaspec Th, Solid</i>												
Thorium-228		1.80	+/-0.534	0.355	1.00	pCi/g		DDR1	04/05/06	0952	512068	1
Thorium-230		1.55	+/-0.475	0.232	1.00	pCi/g						
Thorium-232		1.28	+/-0.414	0.0738	1.00	pCi/g						
<i>Alphaspec U, Solid</i>												
Uranium-233/234		2.36	+/-0.512	0.243	1.00	pCi/g		DDR1	04/05/06	0952	512069	2
Uranium-235/236	U	0.0797	+/-0.122	0.243	1.00	pCi/g						
Uranium-238		1.97	+/-0.464	0.176	1.00	pCi/g						
Rad Gamma Spec Analysis												
<i>Gamma, (Pb-212, Ra-226, Ra-228)</i>												
Lead-212		1.50	+/-0.135	0.0539	10.0	pCi/g		MJH1	04/06/06	2346	513799	3
Radium-226		1.34	+/-0.155	0.065	2.00	pCi/g						
Radium-228		1.45	+/-0.251	0.128	1.00	pCi/g						
Rad Gas Flow Proportional Counting												
<i>GFPC, Pb210, Solid</i>												
Lead-210	U	0.533	+/-0.462	0.935	3.00	pCi/g		BXF1	04/09/06	0957	517517	4
Rad Total Uranium												
<i>KPA, Total U, Solid</i>												
Total Uranium		4.10	+/-0.202	0.0981	1.00	ug/g		DRS1	04/07/06	1334	517556	5

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
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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Company : MWH Laboratories
 Address : 750 Royal Oaks Drive, Suite 100
 Monrovia, California 91016

Contact: Ms. Julie Lee

Report Date: April 12, 2006

Project: **Tronox Henderson**

Client Sample ID: 2603090029
 Sample ID: 158048005

Project: MWHL00106
 Client ID: MWHL002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits						
Actinium-227	Alphaspec Th, Solid							101			
Actinium-227	Alphaspec Th, Solid							101			
Actinium-227	Alphaspec Th, Solid							101			
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							57		(25%-125%)	

QUALITY CONTROL DATA

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

QC Summary

Report Date: April 12, 2006
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MWH Laboratories
 750 Royal Oaks Drive, Suite 100
 Monrovia, California

Contact: Ms. Julie Lee

Workorder: 158048

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	512068										
QC1201051874	158048005	DUP									
Thorium-228		1.80		1.69	pCi/g	6		(0%-20%)	DDR1	04/05/06	09:52
		+/-0.534		+/-0.586							
Thorium-230		1.55		1.59	pCi/g	3		(0%-20%)			
		+/-0.475		+/-0.549							
Thorium-232		1.28		1.83	pCi/g	35*		(0%-20%)			
		+/-0.414		+/-0.600							
QC1201051876	LCS										
Thorium-228			U	0.0767	pCi/g			(75%-125%)			
				+/-0.166							
Thorium-230				39.4	pCi/g			(75%-125%)			
				+/-6.74							
Thorium-232	45.3		U	0.0899	pCi/g		88	(75%-125%)			
				+/-0.105							
QC1201051873	MB										
Thorium-228			U	0.172	pCi/g						
				+/-0.163							
Thorium-230			U	-0.0102	pCi/g						
				+/-0.054							
Thorium-232			U	-0.00558	pCi/g						
				+/-0.0112							
QC1201051875	158048005	MS									
Thorium-228		1.80		1.66	pCi/g			(75%-125%)			
		+/-0.534		+/-0.494							
Thorium-230		1.55		41.2	pCi/g			(75%-125%)			
		+/-0.475		+/-6.64							
Thorium-232	45.3	1.28		1.86	pCi/g		88	(75%-125%)			
		+/-0.414		+/-0.503							
Batch	512069										
QC1201051878	158048005	DUP									
Uranium-233/234		2.36		2.22	pCi/g	6		(0%-20%)	DDR1	04/05/06	09:52
		+/-0.512		+/-0.513							
Uranium-235/236		0.0797	U	0.176	pCi/g	75*		(0%-20%)			
		+/-0.122		+/-0.163							
Uranium-238		1.97		1.52	pCi/g	26*		(0%-20%)			
		+/-0.464		+/-0.424							
QC1201051880	LCS										
Uranium-233/234				10.1	pCi/g			(75%-125%)			
				+/-1.31							
Uranium-235/236				0.488	pCi/g			(75%-125%)			
				+/-0.319							
Uranium-238	11.0			11.0	pCi/g		100	(75%-125%)			
				+/-1.36							
QC1201051877	MB										

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QC Summary

Workorder: 158048

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch		512069									
Uranium-233/234			U	0.106 +/-0.117	pCi/g						
Uranium-235/236			U	0.0168 +/-0.067	pCi/g				DDR1	04/05/06	09:52
Uranium-238			U	-0.0377 +/-0.0302	pCi/g						
QC1201051879		158048005 MS									
Uranium-233/234				2.36 +/-0.512	9.55 +/-1.10	pCi/g		(75%-125%)			
Uranium-235/236			U	0.0797 +/-0.122	1.57 +/-0.496	pCi/g		(75%-125%)			
Uranium-238	11.0			1.97 +/-0.464	12.4 +/-1.25	pCi/g	95	(75%-125%)			
Batch		515989									
QC1201060426		158048002 DUP									
Polonium-210				0.648 +/-0.383	0.802 +/-0.406	pCi/g	21*	(0%-20%)	JXG1	04/05/06	17:34
QC1201060429		KNOWN									
Polonium-210	7.70				7.41 +/-0.958	pCi/g	96				
QC1201060428		LCS									
Polonium-210	7.70				6.08 +/-1.19	pCi/g	79	(75%-125%)		04/06/06	13:23
QC1201060425		MB									
Polonium-210			U	-0.0227 +/-0.0315		pCi/g				04/05/06	17:34
QC1201060427		158048002 MS									
Polonium-210	8.90			0.648 +/-0.383	10.6 +/-1.52	pCi/g	112	(75%-125%)			
Rad Gamma Spec											
Batch		513799									
QC1201055604		158048005 DUP									
Actinium-228				1.45 +/-0.251	1.47 +/-0.262	pCi/g	2		MJHI	04/10/06	15:42
Bismuth-212				0.979 +/-0.325	0.908 +/-0.261	pCi/g	8				
Lead-212				1.50 +/-0.135	1.60 +/-0.167	pCi/g	6				
Protactinium-231			U	-0.347 +/-0.825	-0.378 +/-0.855	pCi/g	9				
Radium-226				1.34 +/-0.155	1.49 +/-0.158	pCi/g	11	(0%-20%)			
Radium-228				1.45 +/-0.251	1.47 +/-0.262	pCi/g	2	(0%-20%)			
QC1201055605		LCS									
Actinium-228			U	0.401 +/-0.573		pCi/g				04/12/06	12:22
Americium-241	24.4				24.3	pCi/g	100	(75%-125%)			

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QC Summary

Workorder: 158048

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	513799										
Bismuth-212			U	+/-1.38 -0.248	pCi/g				MJH1	04/12/06	12:22
Cesium-137	9.29			+/-0.930 9.78	pCi/g		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			U	+/-0.155 -2.99	pCi/g						
Radium-226			U	+/-4.49 0.0932	pCi/g			(75%-125%)			
Radium-228			U	+/-0.211 0.401	pCi/g			(75%-125%)			
QC1201055603	MB			+/-0.573							
Actinium-228			U	0.000515	pCi/g					04/10/06	11:17
Bismuth-212			U	+/-0.0619 -0.00629	pCi/g						
Lead-212			UUI	+/-0.0918 0.00	pCi/g						
Protactinium-231			U	+/-0.0338 -0.332	pCi/g						
Radium-226			U	+/-0.506 0.0138	pCi/g						
Radium-228			U	+/-0.0214 0.000515	pCi/g						
Rad Gas Flow											
Batch	516630										
QC1201061725	158048001	DUP									
Alpha				19.9	22.1	pCi/g	10	(0%-20%)	CXO1	04/03/06	19:01
				+/-4.41	+/-4.81						
QC1201061727	LCS										
Alpha	108				102	pCi/g		94	(75%-125%)		
					+/-7.72						
QC1201061724	MB										
Alpha			U	0.514	pCi/g						
				+/-0.742							
QC1201061726	158048001	MS									
Alpha	102			19.9	112	pCi/g		90	(75%-125%)		
				+/-4.41	+/-10.1						
QC1201061728	158048001	MSD									
Alpha	102			19.9	103	pCi/g	8	82			
				+/-4.41	+/-9.30						
Batch	517517										
QC1201063765	158048005	DUP									

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QC Summary

Workorder: 158048

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	517517										
Lead-210		U	0.533	U	0.0696	pCi/g	0	(0%-20%)	BXF1	04/09/06	09:57
			+/-0.462		+/-0.366						
QC1201063767	LCS										
Lead-210	7.02				5.38	pCi/g	77	(75%-125%)			
					+/-0.793						
QC1201063764	MB										
Lead-210		U			0.0926	pCi/g					
					+/-0.347						
QC1201063766	158048005 MS										
Lead-210	7.67	U	0.533		6.53	pCi/g	85	(75%-125%)			
			+/-0.462		+/-1.01						
Rad Total U											
Batch	517556										
QC1201063864	158048005 DUP										
Total Uranium			4.10		4.20	ug/g	3	(0%-20%)	DRS1	04/07/06	13:14
			+/-0.202		+/-0.155						
QC1201063866	LCS										
Total Uranium	9.52				7.26	ug/g	76	(75%-125%)		04/07/06	13:24
					+/-0.779						
QC1201063867	LCSD										
Total Uranium	0.952				0.898	ug/g	156	94		04/07/06	13:19
					+/-0.0199						
QC1201063863	MB										
Total Uranium		U			0.0814	ug/g				04/07/06	13:10
					+/-0.00273						
QC1201063865	158048005 MS										
Total Uranium	8.77		4.10		9.94	ug/g	67*	(75%-125%)		04/07/06	13:18
			+/-0.202		+/-0.739						

Notes:

The Qualifiers in this report are defined as follows:

- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- 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.
- d The 2:1 depletion requirement was not met for this sample
- h Sample preparation or preservation holding time exceeded.

GENERAL ENGINEERING LABORATORIES, LLC

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QC Summary

Workorder: 158048

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ 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 +/- the RL is used to evaluate the DUP result.

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

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.

Laboratory Data Package

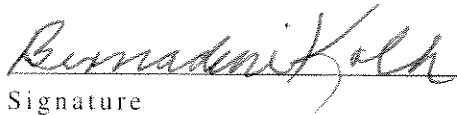
Lab Name: EMS Laboratories, Inc.

City/State: Pasadena, California

MWH PROJECT # 169215,
Sub PO#99-22089

	<u>Page Nos</u>	
	<u>From</u>	<u>To</u>
1. Inventory Sheet (DC-2) not numbered		
2. Cover Page	1	1
3. Narrative	2	2
4. PLM Results	3	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
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Completed by:



Signature

Bernadine Kolk, Laboratory Director
Print Name & Title

5/19/06

Date

DC-2

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. Kolk
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:

<u>Sample No.</u>	<u>EMS Lab No.</u>
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

Soil Analysis


CARB 435 METHOD (Determination of Asbestos Content)

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

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

Soil Analysis

CARB 435 METHOD (Determination of Asbestos Content)

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

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

Soil Analysis

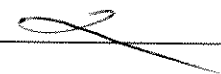
CARB 435 METHOD (Determination of Asbestos Content)

LABORATORY NO:	106002	DATE OF RECEIVED:	3-10-06
CLIENT:	MWH LABS	DATE OF ANALYSIS:	3-15-06
ATTENTION:	N.A.	QC ANALYST:	<i>SP</i>
REFERENCE NO:	169215	ANALYST:	<i>[Signature]</i>
<hr/>			
SAMPLE ID:	2603090024		
SAMPLE APPEARANCE	BROWN GRANULAR		
OTHER FIBROUS MATERIAL	<i>cellulose < 1% glass wool < 1%</i>		
NON FIBROUS MATERIAL	<i>Granular mineral quartz mica</i>		
POINT COUNT	1 2 3 4	POINT COUNT	5 6 7 8
<i>[Diagonal line from 1 to 4]</i>		<i>[Diagonal line from 5 to 8]</i>	
VISUAL ESTIMATE	1 2 3	ASBESTOS TYPE & PERCENTAGE	<i>N.D.</i>
<i>N.D. N.D. N.D.</i>			
<hr/>			
SAMPLE ID:	2603090027		
SAMPLE APPEARANCE	BROWN GRANULAR		
OTHER FIBROUS MATERIAL	<i>cellulose < 1% glass wool < 1% spinel, < 1%</i>		
NON FIBROUS MATERIAL	<i>Granular mineral quartz mica</i>		
POINT COUNT	1 2 3 4	POINT COUNT	5 6 7 8
<i>[Diagonal line from 1 to 4]</i>		<i>[Diagonal line from 5 to 8]</i>	
VISUAL ESTIMATE	1 2 3	ASBESTOS TYPE & PERCENTAGE	<i>N.D.</i>
<i>N.D. SP N.D. N.D.</i>			

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

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 APPEARANCE <u>BROWN GRANULAR</u>			
OTHER FIBROUS MATERIAL	<u>cellulose < 1</u> <u>glass wool</u>		
NON FIBROUS MATERIAL	<u>granular soil</u> <u>spines</u> <u>min</u>		
POINT COUNT	1 _____	POINT COUNT	5 _____
	2 _____		6 _____
	3 _____		7 _____
	4 _____		8 _____
VISUAL ESTIMATE	1 <u>N.D.</u>	ASBESTOS TYPE &	<u>N.D.</u>
	2 <u>N.D.</u>	PERCENTAGE	
	3 <u>N.D.</u>		
SAMPLE ID:			
SAMPLE APPEARANCE _____			
OTHER FIBROUS MATERIAL	_____		
NON FIBROUS MATERIAL	_____		
POINT COUNT	1 _____	POINT COUNT	5 _____
	2 _____		6 _____
	3 _____		7 _____
	4 _____		8 _____
VISUAL ESTIMATE	1 _____	ASBESTOS TYPE &	_____
	2 _____	PERCENTAGE	_____
	3 _____		_____

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

PLM
CALIBRATION
LOG BOOK
2006

Microscope Type: ZEISS STD 14

Mircoscope Serial No: 122310

Analyst: SOJEAN

PLM MICROSCOPE DAILY CALIBRATION SHEET

FILE: XRD, CMPTR, PLM

Dates	User	Microscope	Objective Centering	Kohler Illum.	X-Polars Align	X-Hair Align	Lab Temp.	Daily RTI Ref.			Remarks
								No.	Result	QC	
3/1/06	JP	NIKON/ZEISS	✓	✓	✓	✓	22.0	13	8.1.0mm	6% mm	
3/2/06	JP	NIKON/ZEISS	✓	✓	✓	✓	21.6	14	7.17.0mm	7.0% mm	
3/3/06	JP	NIKON/ZEISS	✓	✓	✓	✓	21.5	15	1.2.0mm	1.2% mm	
3/4/06		NIKON/ZEISS									
3/5/06		NIKON/ZEISS									
3/6/06	JP	NIKON/ZEISS	✓	✓	✓	✓	22.0	16	ND	ND	
3/7/06	JP	NIKON/ZEISS	✓	✓	✓	✓	22.0	1	3% ctny	< 1% ctny	
3/8/06	JP	NIKON/ZEISS	✓	✓	✓	✓	21.5	2	2% ctny	2% ctny	
3/9/06	JP	NIKON/ZEISS	✓	✓	✓	✓	21.0	3	2% ctny	5% ctny	
3/10/06	JP	NIKON/ZEISS	✓	✓	✓	✓	20.5	4	2% ctny	3% ctny	
3/11/06		NIKON/ZEISS									
3/12/06		NIKON/ZEISS									
3/13/06	JP	NIKON/ZEISS	-	-	-	-	17.5	5	3% ctny	2% ctny	
3/14/06	JP	NIKON/ZEISS	-	-	-	-	21.0	6	1.9% ctny	2% ctny	
3/15/06	JP	NIKON/ZEISS	-	-	-	-	21.0	7	7.1% ctny	5% ctny	
3/16/06	JP	NIKON/ZEISS	-	-	-	-	22.0	8	1% ctny	1.2% mm	
3/17/06	JP	NIKON/ZEISS	-	-	-	-	21.0	11	3% ctny	3% ctny	
3/18/06		NIKON/ZEISS									
3/19/06		NIKON/ZEISS									
3/20/06	JP	NIKON/ZEISS	-	-	-	-	20.0	12	12.9% mm	10% mm	
3/21/06	JP	NIKON/ZEISS	-	-	-	-	20.0	13	0% mm	0% mm	
3/22/06	JP	NIKON/ZEISS	-	-	-	-	20.0	14	7.17.0mm	7.0% mm	
3/23/06	JP	NIKON/ZEISS	-	-	-	-	20.0	15	1.2.0mm	1.2% mm	
3/24/06	JP	NIKON/ZEISS	-	-	-	-	20.5	16	ND	ND	
3/25/06		NIKON/ZEISS									
3/26/06		NIKON/ZEISS									
3/27/06	JP	NIKON/ZEISS	-	-	-	-	20.0	1	3% ctny	< 1% ctny	
3/28/06	JP	NIKON/ZEISS	-	-	-	-	20.0	2	2% ctny	2% ctny	
3/29/06	JP	NIKON/ZEISS	-	-	-	-	19.5	3	5% ctny	5% ctny	
3/30/06	JP	NIKON/ZEISS	-	-	-	-	20.0	4	3% ctny	3% ctny	
3/31/06	JP	NIKON/ZEISS	-	-	-	-	20.0	5	3% ctny	3% ctny	

PLM
CALIBRATION
LOG BOOK
2005-6

Microscope Type: ZEISS STD

Microscope Serial No: 102742

Analyst: JEFF WAN

PLM MICROSCOPE DAILY CALIBRATION SHEET

FILE:XRD.CMPTR.PLM

Dates	User	Microscope	Objective Centering	Kohler Illum.	X-Polars Align	X-Hair Align	Lab Temp.	Daily RTI Ref.			Remarks
								No.	Result	QC	
3/1/06		NIKON/ZEISS									
3/2/06		NIKON/ZEISS									
3/3/06		NIKON/ZEISS									
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	Z	NIKON/ZEISS	/	/	/	/	23°	8	CHG 0.1	CHG < 1?	
3/14/06	Z	NIKON/ZEISS	/	/	/	/	24°	2	0.5-1.1	CHG 1.2	
3/15/06	Z	NIKON/ZEISS	/	/	/	/	23°	5	CHG 0.1	CHG < 1?	
3/16/06	Z	NIKON/ZEISS	/	/	/	/	24°	3	AMC 2.5 0.5-1.5	CHG 5?	
3/17/06		NIKON/ZEISS									
3/18/06		NIKON/ZEISS									
3/19/06		NIKON/ZEISS									
3/20/06	Z	NIKON/ZEISS	/	/	/	/	23	1	CHG 0-0.25	CHG < 1?	
3/21/06	Z	NIKON/ZEISS	/	/	/	/	24	3	AMC 2.5 0.5-1.5	AMC 5?	
3/22/06	Z	NIKON/ZEISS	/	/	/	/	23	5	CHG 0.5-0.5	CHG < 1?	
3/23/06	Z	NIKON/ZEISS	/	/	/	/	23	8	AMC 2.5 0.5-1.5	AMC 2.5 2.2	
3/24/06	Z	NIKON/ZEISS	/	/	/	/	24	9	CHG 2.0-2.5	CHG 2.0	
3/25/06		NIKON/ZEISS									
3/26/06		NIKON/ZEISS									
3/27/06	Z	NIKON/ZEISS	/	/	/	/	23	12	AMC 2.5 1.5-2.5	AMC 2.5 1.0?	
3/28/06	Z	NIKON/ZEISS	/	/	/	/	24	6	CHG 1.5-2.25	CHG 2.2	
3/29/06	Z	NIKON/ZEISS	/	/	/	/	23	5	CHG 0.5-0.5	CHG 0 < 1?	
3/30/06		NIKON/ZEISS									
3/31/06		NIKON/ZEISS									

EMS
LABORTORIES

PLM Hood #2

Log book

2006

HOOD #2	DATE	USER	CONTAMINATION CHECK				CLEANING	REMARK
			GLASS SILDE	COVER SLIP	1.55 HD.OIL	1866A F.GLASS		
3/1/06								
3/2/06		CS	✓	✓	✓	✓		
3/3/06								
3/4/06								
3/5/06								
3/6/06		CS	✓	✓	✓	✓		
3/7/06								
3/8/06								
3/9/06								
3/10/06		CS	-	-	-	-		
3/11/06								
3/12/06								
3/13/06		CS	-	-	-	-		
3/14/06		CS	-	-	-	-		
3/15/06		CS	✓	✓	✓	✓		
3/16/06		CS	✓	✓	✓	✓		
3/17/06								
3/18/06								
3/19/06								
3/20/06								
3/21/06								
3/22/06		CS	✓	-	-	-		
3/23/06		CS	✓	✓	✓	✓		
3/24/06								
3/25/06								
3/26/06								
3/27/06		CS	✓	✓	✓	✓		
3/28/06		CS	✓	✓	✓	✓		
3/29/06								
3/30/06								
3/31/06								

EMS

REFRACTIVE INDEX LIQUID CALIBRATION USING OPTICAL GLASS STANDARDS

Cargillie Series

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

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

file name: RI CALIBRATION TALBE.WKS

Date	Nominal or Labeled nD 25Cel.	Cargille Glass		Oil Expiration Date	Central Stop		DS Observation	Liquid Room Temperature Celsius (C)	Actual or Calibrated nD 25 Deg	Difference between Calibrated nD 25 Cel. & Labeled nD 25 Cel.	Accept or Reject	Analyst
		Nominal or Labeled R.I.	Lot No.		Predominant DS Color	Corresponding Lambda						
1/16/06	1.680	1.680	B	10/2010	Blue	600	600	25.2	1.682	0.002	A	2
	1.600	1.600	↓	10/2010	B. Green	620	620	25.2	1.603	0.003	A	2
	1.550	1.550	↓	2/2008	Blue	580	580	25.2	1.549	0.001	A	2
2/13/06	1.680	1.680	↓	10/2010	Blue	600	600	25.2	1.679	0.001	A	2
	1.600	1.600	↓	10/2010	Blue	600	600	25.2	1.602	0.002	B	2
	1.550	1.550	↓	2/2008	Purple	580	580	25.2	1.550	0	A	2
3/20/06	1.680	1.680	B	10/2010	B. Green	620	620	25.2	1.681	0.001	A	2
	1.600	1.600	↓	10/2010	L.B. Green	640	640	25.2	1.603	0.003	A	2
	1.550	1.550	↓	2/2008	Purple	560	560	↓	1.548	0.002	A	2
4/13/20	1.680	1.680	B	10/2010	Blue	580	580	27.0	1.679	0.001	A	2
	1.600	1.600	↓	10/2010	B. Green	620	620	↓	1.602	0.002	A	2
	1.550	1.550	↓	2/2008	PR. Blue	580	580	↓	1.551	0.001	A	2
5/18/06	1.680	1.680	B	10/2010	B. Green	620	620	27	1.682	0.002	A	2
	1.600	1.600	↓	10/2010	B. Green	640	640	27	1.604	0.004	A	2
	1.550	1.550	↓	2/2008	Blue	600	600	27	1.553	0.003	A	2

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

Ship To **Bernie Kolk**
EMS Labs

117 West Bellvue Drive
Pasadena, CA 91105

(626) 568-4065 ext 2542 Fax (626) 796-5282

MWH Project # **169215** Report Due: **03/24/06** Sub PO# **99-22089**

JDL
 Use MWH Lab # for ID

Submittal Form & Purchase Order

Date **03/09/06**

***REPORTING REQUIREMENTS: Do Not Combine Report with any other samples submitted under different.**
 Report & Invoice must have the MWH Project Number **169215** Sub PO# **99-22089** and Job #

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

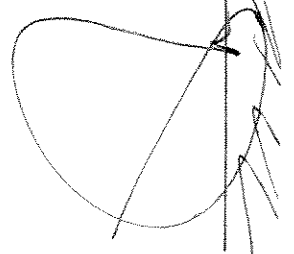
Reports: Julie Lee Sub-contracting Administrator
 EMAIL TO: Julie.Lee@mwhglobal.com
 MWH Laboratories 750 Royal Oaks Dr. Ste. 100, Monrovia, CA 91016
 Phone (626) 386-1136 Fax (626) 386-1095
Invoices to: MWH LABORATORIES
 Accounts Payable PO BOX 6610, Broomfield, CO 80021

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

CA ELAP OK

Client Sample ID for reference only Analysis Requested Date & Time Matrix Container

CUSTSUB	2603090024	M120-0.5	ASBESTOS BY PLM	03/07/06 9:10	soil	8 oz. glass jars
CUSTSUB	2603090027	M120-10	ASBESTOS BY PLM	03/07/06 10:10	soil	8 oz. glass jars
CUSTSUB	2603090028	M120-30	ASBESTOS BY PLM	03/07/06 11:45	soil	8 oz. glass jars

Relinquished by: 
 Date **3-10-06** Time **12:00**
 Sample Control **ISA** Date **03/09/06** Time **15:11**

MUST HAVE NOTIFICATION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS
 Page 1
 An Acknowledgement of Receipt is requested to attn: Michael Lettona

SUBMITTAL FORM/Laboratory Services

106002

PAGE OF

TURNAROUND TIME: STD 48 HR. 24 HR.
 <8 HR. WKND OTHER:

RELINQUISHED BY _____
 TIME / DATE _____
 DATE OF SHIPMENT _____ CARRIER _____
 CLIENT P.O. NO. _____
 CLIENT JOB/PROJECT ID NO(S) **169215**
 PACKAGE SHIPPED FROM _____

CLIENT **MWH VAB**
 ADDRESS _____
 TELEPHONE **(626) 386-1100**
 CONTACT _____

RESULTS REQUESTED VIA VERBAL FAX CLIENT FAX NO. **(626) 386-1045**
 (NOTE: Complete written reports will follow all analyses, in addition to any prior transmitted verbal or fax results.)

DATE/TIME OF SAMPLE COLLECTION **3-7-06**
 SAMPLE PRESERVATIVES _____ HOLDING TIMES _____
 NO. OF SAMPLES SENT **3** SAMPLER'S NAME _____
 TYPE: WATER WASTE WATER SOIL FILTER SORBENT TUBE IMPINGER OTHER **Pu**

SIGNATURE _____ PRINTED _____

(FOR EMS ONLY)

EMS Sample No.	CLIENT SAMPLE NO.	DESCRIPTION/LOCATION/ANALYSIS	VOLUME/ TIME/WEIGHT (IF APPLICABLE)
106002-4	2603090024	27 PM	
7	↓	28 SOIL	
8	↓		
X			

(SF 5/00)

106002

FOR EMS ONLY
 Laboratory No. _____
 Date of Package Delivery **3-10-06**
 Condition of Package on Receipt **a**
 (NOTE: If the package has sustained substantial damage or the custody seal is broken, stop and contact the project manager and the shipper.)
 No. of Samples **3**
 Date of Acceptance into Sample Bank **3-10-06**
 Disposition of Samples **EMS VAB**
 Received By **[Signature]** Time **2:00**
 Shipping Bill Retained: YES NONE
 Condition of Custody Seal _____
 Chain-of-Custody Signature **[Signature]**
 Misc. Info. _____

AMS

LAB

Log Book 0733

FROM: 10-18-05

TO: 03-13-06

LAB#	DATE	CLIENT	REP
105990	03-10-06	Del Mar Analytical	REP
105991	03-10-06	Edward J. Babcock & Son	REP
105992	03-10-06	Edward J. Babcock & Son	REP
105993	03-10-06	Edward J. Babcock & Son	REP
105994	03-10-06	GEM Services	REP
105995	03-10-06	Larry Hall	REP
105996	03-10-06	Independent Roofing Co.	REP
105997	03-10-06	Aurora IH - Long Beach	REP
105998	03-10-06	Gota Environmental	REP
105999	03-10-06	Gota Environmental	REP
106000	03-10-06	Gota Environmental	REP
106001	03-10-06	Gota Environmental	REP
106002	03-10-06	MHM Lab	REP
106003	03-10-06	C. A. Shapiro	REP
106004	03-10-06	Environmental Solutions	REP
106005	03-10-06	American Medway Inc.	REP
106006	03-10-06	J.M. Hitzelberger	REP
106007	03-10-06	MACTEC	REP
106008	03-10-06	Pacific Health & Safety	REP
106009	03-10-06	Pacific Health & Safety	REP
106010	03-10-06	IRC (INDEPENDENT ROOFING CONSULTANTS)	REP
106011	03-10-06	Fresh Air	REP
106012	03-12-06	KCC Enroll	REP
106013	03-13-06	Pacific Health & Safety	REP
106014	03-13-06	Pacific Health & Safety	REP
106015	03-13-06	Pacific Health & Safety	REP
106016	03-13-06	Pacific Health & Safety	REP
106017	03-13-06	Pacific Health & Safety	REP
106018	03-13-06	Pacific Health & Safety	REP
106018.1	03-13-06	Pacific Health & Safety	REP
106019	03-13-06	Pacific Health & Safety	REP
106020	03-13-06	Pacific Health & Safety	REP
106021	03-13-06	Pacific Health & Safety	REP
106022	03-13-06	Robert Bennett	REP
106023	03-13-06	L19 & CHECK	REP
106024	03-13-06	Thomas Hughes	REP
106025	03-13-06	GLA Environmental	REP
106026	03-13-06	JHM Inc	REP
106027	03-13-06	JHM Inc	REP
106028	03-13-06	City of San Diego	REP

PO/BS#	QUANTITY & DESCRIPTION	COUNT
0312	1 pc TEM(WATER) # CPC-0312-01; EMS#105990-01.	
76C-0946	1 pc TEM(WATER) # 76C-0946-01; EMS#105991-01.	
963-0942	1 pc TEM(WATER) # 96C-0942-01; EMS#105992-01.	
963-0906	2 pc TEM(WATER) # 96C-0906-1,2; EMS#105993-1,2.	
1545	13 pc TEM(WATER) # 01-13; EMS#105994-01-13.	
IIC	4 pc dms(PB: AIA) # 3106-1-4; EMS#105995-1-4.	
	1 pc PMA #1; EMS#105996-1.	
24040	43 pc PMA #1-1,2,3 & 14-1,2,3; EMS#105997-1-1,2,3-14-1,2,3.	
	12 pc dms(PB: WIRE) # 37-36-10-15; 37-10-15; EMS#105998-36-10-15; 37-10-15.	
	12 pc dms(PB: WIRE) # ANAB 32-10-15; 33-10-15; EMS#105999-32-10-15; 33-10-15.	
	12 pc dms(PB: WIRE) # CHE 29-10-15; 30-10-15; EMS#106000-29-10-15; 30-10-15.	
	12 pc dms(PB: WIRE) # NT 35-10-15; 10-10-15; EMS#106001-35-10-15; 10-10-15.	
69215	3 pc TEM(SOL) # 603090024, 27, 28; EMS#106002-24, 27, 28.	
21454	1 pc PMA #1; EMS#106003-1.	
06-027	3 pc PMA # 027-1,2,3; EMS#106004-1,2,3.	
51107	2 pc PMA # 1,2; EMS#106005-1,2.	
C-904	3 pc dms(PB: WATER) # 1,2,3; EMS#106006-1,2,3.	
2-05-0902	1 FOR PLM(1000 PCT) # 24; EMS#106007-24	
-0086	2 FOR TEM(1402) # 06-0086-0306-P1, P3; EMS#106008-P1, P3	OK
-0086	2 FOR TEM(1402) # 06-0086-0906-P2, P6; EMS#106009-P2, P6	OK
49.00	1 FOR PLM # 1; EMS#106010-1	OK
	1 pc PLM(1000 POINT COUNT) # 1; EMS#106011-1.	
1 FEB 180	1070+TEM 01-12; EMS 106012-01 to 12	
5-0086	3 pc PMA # 06-0086-0309-P1, 2, 3; EMS#106013-1, 2, 3.	
5-0086	2 pc PMA # 06-0086-0310-P1, 5, 8; EMS#106014-1-5, 8; BL: B1;	
2-0091	2 pc dms(PB: BULK) # 06-0091-0309-1, 2; EMS#106015-1, 2.	
2-0091	43 pc PMA # 06-0091-301-43; EMS#106016-01-43.	
6-0086	3 pc PMA # 0603-19, 20, 21; EMS#106017-19, 20, 21.	
5-0086	3 pc dms(PB: BULK) # 06-0086-0309-B1, 2, 3; EMS#106018-1, 2, 3.	
5-0086	3 pc PMA # 06-0086-0309-B1, 2, 3; EMS#106018-1-1, 2, 3.	
5-0086	6 pc TEM # 06-0086-0310-R1-24; P6, 7; EMS#106019-1-4, 6, 7.	
5-0086	5 pc TEM # 06-0086-0311-A1-5; EMS#106020-1-5.	
26724	3 pc PMA # 1, 2, 3; EMS#106021-1, 2, 3.	
SEL-MGR	4 pc BIO(MOLD) # 1, 2, 3, 4; EMS#106022-1, 2, 3, 4.	
C-1704	3 pc BIO(MOLD) # 1, 2, 3; EMS#106023-1, 2, 3.	
2458	5 pc TEM # 030806-46-P1, 2, 44-P1, 2, 3; EMS#106024-46-1, 2, 44-1, 2, 3.	
11-13	7 pc dms(PB: 6 P.D. W) # 5088-01-MY-PB-1-6; EMS#106025-51-M1-6.	
1-12	1 pc dms(PB: P.D.) # 28-28-01; EMS#106026-01.	
33448	4 pc dms(PB: 18-30) # 733448-81-W1, 2, 3; EMS#106027-81-W1, 2, 3.	
8168	1 pc dms(PB: Soil) # 28168-8-1; EMS#106028-1.	

SAMPLE LOG-IN SHEET

Lab Name EMS Laboratories		Page _____ of _____		
Received By (Print Name) 7-7024134496		Log in Date 03-10-06		
Received by (Signature) <i>[Signature]</i>				
Sample Delivery Group No.				
Remarks	EPA Sample #	Corresponding		Remarks Condition of Sample, Shipment etc
		Sample Tag#	Assigned Tag#	
1. Custody Seal(s) Present/Absent Intact/Broken	2603090024	—	106002-4	(Good)
2. Custody Seal Nos	2603090027	—	106002-7	(Good)
3. Chain-of-Custody Records Present/Absent	2603090028	—	106002-8	(Good)
4. Traffic Reports or Packing Lists Present/Absent				
5. Air Bill Airbill Sticker Present/Absent				
6. Air Bill No.				
7. Sample Tags Present/Absent				
8. Sample Tag Numbers Listed/Not Listed on Chain-of-Custody				
9. Sample Condition Intact/Broken/Leaking				
9. Does information on custody records, traffic reports and sample tags agree? Yes/No				
10. Date Received at Lab 03-10-06				
11. Time Received 12⁰⁰				
Sample Transfer				
Fraction	Fraction			
Area	Area			
By	By			
On	On			
Contract Client and Attach Records of Resolution				
Received By		Logbook No.		
Date		Logbook Page No.		

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 100
Monrovia, CA 91016

ATTENTION:

CUSTOMER REFERENCE NO.: 169215

NO. OF SAMPLES: 3 DEPT: PLM

SUBJECT: ACM

DATE TO ANALYST: 3/10/06 ANALYST: 2

ANALYTIC METHODS: plm (435)

DATE ANALYZED: 3/15/06

QA ANALYST: SP QA DATE: 3/15/06

DATE FAXED: 3-16-06 VERBAL RESULTS: _____

DATE MAILED: 3-22-06

INVOICE INSTRUCTIONS:

NVLAP Lab Code 101218-0

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

NVLAP Lab Code 101218-0

SAMPLE 1

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.)	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.)	P	P (positive)	P (positive)	0
Average Refractive Index (40 pts. each index, 10 pts. if $\gamma=\alpha$ or γ & α reversed)	1.554 1.549	$\gamma=1.557$ $\alpha=1.549$	$\gamma=1.550$ to 1.564 $\alpha=1.542$ to 1.556	0
Birefringence (10 pts.)	L	L (low)	L (low)	0

Total Points Assigned for Sample 1 = 0

NVLAP Lab Code 101218-0

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.)	N	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 γ & α reversed)	1.553 1.551	$\gamma=1.558$ $\alpha=1.551$	$\gamma=1.551$ to 1.565 $\alpha=1.544$ to 1.558	0
Birefringence (10 pts.)	L	L (low)	L (low)	0

Total Points Assigned for Sample 2 = 0

NVLAP Lab Code 101218-0

SAMPLE 3

Criteria	Reported by Laboratory	Reference Values	Acceptable Answers	Assigned Points
Asbestos Type (150 pts./type)	NONE	None	None	0

Total Points Assigned for Sample 3 = 0

NVLAP Lab Code 101218-0

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)	0
Extinction (10 pts.)	I	I (inclined)	I (inclined)	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 γ & α reversed)	1.630 1.606	$\gamma=1.633$ $\alpha=1.603$	$\gamma=1.618$ to 1.648 $\alpha=1.588$ to 1.618	
Birefringence (10 pts.)	M	M (medium)	M (medium)	0

Total Points Assigned for Sample 4 = 0