

COVER LETTER

Wednesday, May 26, 2010

Rick Beauheim  
Sandia National Lab  
4100 National Parks Hwy.  
MS1395  
Carlsbad, NM 88220

TEL: (505) 234-0006

FAX (505) 234-0061

RE: WIPP/H-8a (M)

Order No.: 1004462

Dear Rick Beauheim:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 4/21/2010 for the analyses presented in the following report.

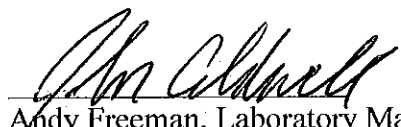
This report is an addendum to the report dated May 20, 2010. This is an updated report.

No determination of compounds below these (denoted by the ND or < sign) has been made.

Reporting limits are determined by EPA methodology.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

*F01*   
Andy Freeman, Laboratory Manager

NM Lab # NM9425

AZ license # AZ0682

ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



# Hall Environmental Analysis Laboratory, Inc.

Date: 27-May-10

CLIENT: Sandia National Lab  
 Lab Order: 1004462  
 Project: WIPP/H-8a (M)  
 Lab ID: 1004462-01

Client Sample ID: H-8a(M)\_042010  
 Collection Date: 4/20/2010 10:28:00 AM  
 Date Received: 4/21/2010  
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: LJB
Fluoride	1.8	0.10		mg/L	1	4/21/2010 1:16:49 PM
Chloride	3400	250		mg/L	500	4/29/2010 11:11:06 PM
Bromide	3.4	0.10		mg/L	1	4/21/2010 1:16:49 PM
Nitrate (As N)+Nitrite (As N)	ND	10		mg/L	50	5/1/2010 2:20:44 AM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	4/21/2010 2:09:03 PM
Sulfate	3700	50		mg/L	100	4/29/2010 10:53:41 PM
<b>EPA METHOD 6010B: DISSOLVED METALS</b>						Analyst: RAGS
Calcium	650	20		mg/L	20	5/6/2010 4:59:07 PM
Magnesium	140	50		mg/L	50	4/22/2010 11:19:22 AM
Potassium	47	20		mg/L	20	4/22/2010 3:25:41 PM
Sodium	2500	100		mg/L	100	5/6/2010 5:01:26 PM
Strontium	11	0.30		mg/L	50	4/22/2010 11:19:22 AM
<b>EPA 6010B: TOTAL RECOVERABLE METALS</b>						Analyst: RAGS
Lead	ND	0.025		mg/L	5	4/22/2010 8:37:26 PM
<b>SM 2320B: ALKALINITY</b>						Analyst: NSB
Alkalinity, Total (As CaCO3)	50	20		mg/L CaCO3	1	4/21/2010 5:25:51 PM
Carbonate	ND	2.0		mg/L CaCO3	1	4/21/2010 5:25:51 PM
Bicarbonate	50	20		mg/L CaCO3	1	4/21/2010 5:25:51 PM
<b>EPA 120.1: SPECIFIC CONDUCTANCE</b>						Analyst: BDH
Specific Conductance	15000	0.10		µmhos/cm	10	4/22/2010 1:31:46 PM
<b>SM4500-H+B: PH</b>						Analyst: NSB
pH	7.73	0.1		pH units	1	4/21/2010
<b>SM2540C MOD: TOTAL DISSOLVED SOLIDS</b>						Analyst: KS
Total Dissolved Solids	10200	20.0		mg/L	1	4/27/2010 12:32:00 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
 E Estimated value  
 J Analyte detected below quantitation limits  
 NC Non-Chlorinated  
 PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

<b>HEAL LAB NUMBER</b>	H-8a (M)_042010 1004462-1									
<b>CATIONS</b>	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	2500	108.74								
Potassium	47	1.20								
Calcium	650	32.44								
Magnesium	140	11.52								
<b>Total Cations</b>		153.90								
<b>ANIONS</b>	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	3700	77.04								
Chloride	3400	95.91								
Bicarbonate (CaCO3)	50	1.00								
Carbonate (CaCO3)	ND	*								
Phosphate (P)	ND	*								
Nitrite (N)	ND	*								
Nitrate (N)	ND	*								
Fluoride	1.8	0.09								
Bromide	3.4	0.04								
<b>Total Anions</b>		174.08								
Elect. Cond. (µMhos/cm)	15000									
<b>CATION/ANION RATIO</b>		0.88								
% Difference		6								
<b>TOTAL DISSOLVED SOLIDS RATIOS</b>										
TDS (measured)	10200									
TDS (calculated)	10472									
Ratio meas TDS:calc TDS		1.0								
Ratio Meas. TDS:EC		0.68								
Ratio Calc. TDS:EC		0.70								
Ratio of anion sum:EC		1.2								
Ratio of cation sum:EC		1.0								

\* Analyte not detected (below method detection limit).

\*\* Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

**GENERALLY ACCEPTED RANGES**

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

## QA/QC SUMMARY REPORT

Client: Sandia National Lab  
Project: WIPP/H-8a (M)

Work Order: 1004462

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: EPA Method 300.0: Anions</b>											
<b>Sample ID: 1004462-01AMSD</b>		<b>MSD</b>			<b>Batch ID: R38328</b>		<b>Analysis Date: 4/21/2010 1:51:38 PM</b>				
Fluoride	2.274	mg/L	0.10	0.5	1.841	86.6	77.5	105	1.22	20	
Chloride	ND	mg/L	0.50	5	0	0	73.8	107	0	20	S
Bromide	5.895	mg/L	0.10	2.5	3.442	98.1	78.8	108	2.45	20	
Nitrate (As N)+Nitrite (As N)	128.5	mg/L	0.20	3.5	143.1	-416	73.7	109	1.46	20	SE
Phosphorus, Orthophosphate (As P)	3.224	mg/L	0.50	5	0	64.5	68.9	115	6.63	20	S
Sulfate	ND	mg/L	0.50	10	0	0	82	113	0	20	S
<b>Sample ID: MB</b>		<b>MBLK</b>			<b>Batch ID: R38328</b>		<b>Analysis Date: 4/21/2010 7:39:49 PM</b>				
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.50								
Bromide	ND	mg/L	0.10								
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
<b>Sample ID: MB</b>		<b>MBLK</b>			<b>Batch ID: R38328</b>		<b>Analysis Date: 4/22/2010 4:56:56 AM</b>				
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.50								
Bromide	ND	mg/L	0.10								
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
<b>Sample ID: MB</b>		<b>MBLK</b>			<b>Batch ID: R38470</b>		<b>Analysis Date: 4/30/2010 12:38:08 AM</b>				
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.50								
Bromide	ND	mg/L	0.10								
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
<b>Sample ID: MB</b>		<b>MBLK</b>			<b>Batch ID: R38481</b>		<b>Analysis Date: 4/30/2010 4:46:15 PM</b>				
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.50								
Bromide	ND	mg/L	0.10								
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
<b>Sample ID: MB</b>		<b>MBLK</b>			<b>Batch ID: R38552</b>		<b>Analysis Date: 5/5/2010 3:04:25 PM</b>				
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.50								
Bromide	ND	mg/L	0.10								
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
<b>Sample ID: MB</b>		<b>MBLK</b>			<b>Batch ID: R38585</b>		<b>Analysis Date: 5/6/2010 1:43:59 PM</b>				
Fluoride	ND	mg/L	0.10								

## Qualifiers:

E Estimated value  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
NC Non-Chlorinated  
R RPD outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client: Sandia National Lab  
 Project: WIPP/H-8a (M)

Work Order: 1004462

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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**Method: EPA Method 300.0: Anions**

<b>Sample ID: MB</b>	<i>MBLK</i>										
Batch ID:	<b>R38585</b>	Analysis Date:	5/6/2010 1:43:59 PM								
Chloride	ND	mg/L	0.50								
Bromide	ND	mg/L	0.10								
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								

<b>Sample ID: MB</b>	<i>MBLK</i>										
Batch ID:	<b>R38585</b>	Analysis Date:	5/7/2010 7:08:35 AM								
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.50								
Bromide	ND	mg/L	0.10								
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								

<b>Sample ID: LCS</b>	<i>LCS</i>										
Batch ID:	<b>R38328</b>	Analysis Date:	4/21/2010 7:57:13 PM								
Fluoride	0.5208	mg/L	0.10	0.5	0	104	90	110			
Chloride	5.075	mg/L	0.50	5	0	101	90	110			
Bromide	2.685	mg/L	0.10	2.5	0	107	90	110			
Nitrate (As N)+Nitrite (As N)	3.639	mg/L	0.20	3.5	0	104	90	110			
Phosphorus, Orthophosphate (As P)	5.144	mg/L	0.50	5	0	103	90	110			
Sulfate	10.30	mg/L	0.50	10	0	103	90	110			

<b>Sample ID: LCS</b>	<i>LCS</i>										
Batch ID:	<b>R38328</b>	Analysis Date:	4/22/2010 5:14:21 AM								
Fluoride	0.5009	mg/L	0.10	0.5	0	100	90	110			
Chloride	4.889	mg/L	0.50	5	0	97.8	90	110			
Bromide	2.583	mg/L	0.10	2.5	0	103	90	110			
Nitrate (As N)+Nitrite (As N)	3.490	mg/L	0.20	3.5	0	99.7	90	110			
Phosphorus, Orthophosphate (As P)	4.877	mg/L	0.50	5	0	97.5	90	110			
Sulfate	9.954	mg/L	0.50	10	0	99.5	90	110			

<b>Sample ID: LCS</b>	<i>LCS</i>										
Batch ID:	<b>R38470</b>	Analysis Date:	4/30/2010 12:55:33 AM								
Fluoride	0.4963	mg/L	0.10	0.5	0	99.3	90	110			
Chloride	4.922	mg/L	0.50	5	0	98.4	90	110			
Bromide	2.576	mg/L	0.10	2.5	0	103	90	110			
Nitrate (As N)+Nitrite (As N)	3.511	mg/L	0.20	3.5	0	100	90	110			
Phosphorus, Orthophosphate (As P)	4.879	mg/L	0.50	5	0	97.6	90	110			
Sulfate	9.952	mg/L	0.50	10	0	99.5	90	110			

<b>Sample ID: LCS</b>	<i>LCS</i>										
Batch ID:	<b>R38481</b>	Analysis Date:	4/30/2010 5:03:39 PM								
Fluoride	0.5109	mg/L	0.10	0.5	0	102	90	110			
Chloride	5.056	mg/L	0.50	5	0	101	90	110			
Bromide	2.618	mg/L	0.10	2.5	0	105	90	110			
Nitrate (As N)+Nitrite (As N)	3.615	mg/L	0.20	3.5	0	103	90	110			
Phosphorus, Orthophosphate (As P)	5.095	mg/L	0.50	5	0	102	90	110			
Sulfate	10.41	mg/L	0.50	10	0	104	90	110			

<b>Sample ID: LCS</b>	<i>LCS</i>										
Batch ID:	<b>R38562</b>	Analysis Date:	5/5/2010 3:21:50 PM								
Fluoride	0.5106	mg/L	0.10	0.5	0	102	90	110			
Chloride	4.991	mg/L	0.50	5	0	99.8	90	110			

**Qualifiers:**

- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- NC Non-Chlorinated
- R RPD outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Sandia National Lab  
Project: WIPP/H-8a (M)

Work Order: 1004462

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: EPA Method 300.0: Anions</b>											
<b>Sample ID: LCS</b>		<b>LCS</b>									
Batch ID: R38552											
Analysis Date:											
5/5/2010 3:21:50 PM											
Bromide	2.503	mg/L	0.10	2.5	0	100	90	110			
Nitrate (As N)+Nitrite (As N)	3.527	mg/L	0.20	3.5	0	101	90	110			
Phosphorus, Orthophosphate (As P)	5.036	mg/L	0.50	5	0	101	90	110			
Sulfate	10.33	mg/L	0.50	10	0	103	90	110			
<b>Sample ID: LCS</b>		<b>LCS</b>									
Batch ID: R38585											
Analysis Date:											
5/6/2010 2:01:24 PM											
Fluoride	0.5193	mg/L	0.10	0.5	0	104	90	110			
Chloride	5.022	mg/L	0.50	5	0	100	90	110			
Bromide	2.579	mg/L	0.10	2.5	0	103	90	110			
Nitrate (As N)+Nitrite (As N)	3.603	mg/L	0.20	3.5	0	103	90	110			
Phosphorus, Orthophosphate (As P)	5.187	mg/L	0.50	5	0	104	90	110			
Sulfate	10.66	mg/L	0.50	10	0	107	90	110			
<b>Sample ID: LCS</b>		<b>LCS</b>									
Batch ID: R38585											
Analysis Date:											
5/7/2010 7:26:00 AM											
Fluoride	0.4924	mg/L	0.10	0.5	0	98.5	90	110			
Bromide	2.379	mg/L	0.10	2.5	0	95.2	90	110			
Nitrate (As N)+Nitrite (As N)	3.353	mg/L	0.20	3.5	0	95.8	90	110			
Phosphorus, Orthophosphate (As P)	4.780	mg/L	0.50	5	0	95.6	90	110			
Sulfate	9.759	mg/L	0.50	10	0	97.6	90	110			
<b>Sample ID: LCSD</b>		<b>LCSD</b>									
Batch ID: R38470											
Analysis Date:											
4/30/2010 1:12:57 AM											
Fluoride	0.5215	mg/L	0.10	0.5	0	104	90	110			
Chloride	5.049	mg/L	0.50	5	0	101	90	110			
Bromide	2.650	mg/L	0.10	2.5	0	106	90	110			
Nitrate (As N)+Nitrite (As N)	3.607	mg/L	0.20	3.5	0	103	90	110			
Phosphorus, Orthophosphate (As P)	5.066	mg/L	0.50	5	0	101	90	110			
Sulfate	10.25	mg/L	0.50	10	0	103	90	110			
<b>Sample ID: LCSD</b>		<b>LCSD</b>									
Batch ID: R38585											
Analysis Date:											
5/7/2010 12:10:46 AM											
Fluoride	0.5370	mg/L	0.10	0.5	0	107	90	110	3.35	20	
Chloride	4.966	mg/L	0.50	5	0	99.3	90	110	1.12	20	
Bromide	2.544	mg/L	0.10	2.5	0	102	90	110	1.37	20	
Nitrate (As N)+Nitrite (As N)	3.565	mg/L	0.20	3.5	0	102	90	110	1.05	20	
Phosphorus, Orthophosphate (As P)	5.159	mg/L	0.50	5	0	103	90	110	0.539	20	
Sulfate	10.51	mg/L	0.50	10	0	105	90	110	1.43	20	
<b>Sample ID: 1004462-01AMS</b>		<b>MS</b>									
Batch ID: R38328											
Analysis Date:											
4/21/2010 1:34:13 PM											
Fluoride	2.246	mg/L	0.10	0.5	1.841	81.1	77.5	105			
Bromide	5.752	mg/L	0.10	2.5	3.442	92.4	78.6	108			
Phosphorus, Orthophosphate (As P)	3.017	mg/L	0.50	5	0	60.3	68.9	115			S

Method: SM 2320B: Alkalinity

<b>Sample ID: MB</b>		<b>MBLK</b>									
Batch ID: R38323											
Analysis Date:											
4/21/2010 2:46:45 PM											
Alkalinity, Total (As CaCO3)	ND	mg/L Ca	20								
Carbonate	ND	mg/L Ca	2.0								
Bicarbonate	ND	mg/L Ca	20								
<b>Sample ID: 80PPM LCS</b>		<b>LCS</b>									
Batch ID: R38323											
Analysis Date:											
4/21/2010 2:52:20 PM											
Alkalinity, Total (As CaCO3)	79.52	mg/L Ca	20	80	0	99.4	96.5	104			

## Qualifiers:

E Estimated value  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
H Holding times for preparation or analysis exceeded  
NC Non-Chlorinated  
R RPD outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Sandia National Lab  
 Project: WIPP/H-8a (M)

Work Order: 1004462

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: EPA Method 6010B: Dissolved Metals</b>											
<b>Sample ID: MB</b>		<b>MBLK</b>									
Batch ID:	<b>R38335</b>	Analysis Date:	4/22/2010 10:17:36 AM								
Calcium	ND	mg/L	1.0								
Magnesium	ND	mg/L	1.0								
Potassium	ND	mg/L	1.0								
Sodium	ND	mg/L	1.0								
Strontium	ND	mg/L	0.0060								
<b>Sample ID: MB</b>		<b>MBLK</b>									
Batch ID:	<b>R38347</b>	Analysis Date:	4/22/2010 4:58:30 PM								
Calcium	ND	mg/L	1.0								
Magnesium	ND	mg/L	1.0								
Potassium	ND	mg/L	1.0								
Sodium	ND	mg/L	1.0								
<b>Sample ID: MB</b>		<b>MBLK</b>									
Batch ID:	<b>R38565</b>	Analysis Date:	5/6/2010 3:10:22 PM								
Calcium	ND	mg/L	1.0								
Magnesium	ND	mg/L	1.0								
Potassium	ND	mg/L	1.0								
Sodium	ND	mg/L	1.0								
<b>Sample ID: LCS</b>		<b>LCS</b>									
Batch ID:	<b>R38335</b>	Analysis Date:	4/22/2010 10:24:11 AM								
Calcium	54.67	mg/L	1.0	50.5	0	108	80	120			
Magnesium	54.67	mg/L	1.0	50.5	0	108	80	120			
Potassium	56.83	mg/L	1.0	55	0.0638	103	80	120			
Sodium	53.73	mg/L	1.0	50.5	0.063	106	80	120			
Strontium	0.09551	mg/L	0.0060	0.1	0	95.5	80	120			
<b>Sample ID: LCS</b>		<b>LCS</b>									
Batch ID:	<b>R38347</b>	Analysis Date:	4/22/2010 5:01:39 PM								
Calcium	48.76	mg/L	1.0	50.5	0	96.6	80	120			
Magnesium	49.30	mg/L	1.0	50.5	0	97.6	80	120			
Potassium	51.53	mg/L	1.0	55	0	93.7	80	120			
Sodium	48.21	mg/L	1.0	50.5	0	95.5	80	120			
<b>Sample ID: LCSRR</b>		<b>LCS</b>									
Batch ID:	<b>R38565</b>	Analysis Date:	5/6/2010 3:17:32 PM								
Calcium	59.37	mg/L	1.0	50.5	0	118	80	120			
Magnesium	59.51	mg/L	1.0	50.5	0	118	80	120			
Potassium	57.82	mg/L	1.0	55	0	105	80	120			
Sodium	58.12	mg/L	1.0	50.5	0	115	80	120			
<b>Sample ID: LCSRR2</b>		<b>LCS</b>									
Batch ID:	<b>R38565</b>	Analysis Date:	5/6/2010 3:20:22 PM								
Calcium	46.95	mg/L	1.0	50.5	0	93.0	80	120			
Magnesium	47.00	mg/L	1.0	50.5	0	93.1	80	120			
Potassium	45.91	mg/L	1.0	55	0	83.5	80	120			
Sodium	45.84	mg/L	1.0	50.5	0	90.8	80	120			
<b>Method: EPA 6010B: Total Recoverable Metals</b>											
<b>Sample ID: MB-22008</b>		<b>MBLK</b>									
Batch ID:	<b>22008</b>	Analysis Date:	4/22/2010 5:04:38 PM								
Lead	ND	mg/L	0.0050								
<b>Sample ID: LCS-22008</b>		<b>LCS</b>									
Batch ID:	<b>22008</b>	Analysis Date:	4/22/2010 5:07:48 PM								
Lead	0.4839	mg/L	0.0050	0.5	0	96.8	80	120			

## Qualifiers:

E Estimated value  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 NC Non-Chlorinated  
 R RPD outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client: Sandia National Lab  
 Project: WIPP/H-8a (M)

Work Order: 1004462

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SM2540C MOD: Total Dissolved Solids

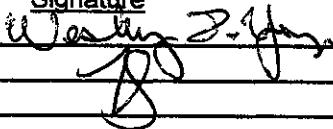

Sample ID: MB-22056		MBLK				Batch ID: 22056	Analysis Date: 4/27/2010 12:32:00 PM
Total Dissolved Solids	ND	mg/L	20.0				
Sample ID: LCS-22056		LCS				Batch ID: 22056	Analysis Date: 4/27/2010 12:32:00 PM
Total Dissolved Solids	1036	mg/L	20.0	1000	0	104	80 120

**Qualifiers:**

- |  |  |
|--|--|
| E Estimated value                            | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | NC Non-Chlorinated                                   |
| ND Not Detected at the Reporting Limit       | R RPD outside accepted recovery limits               |



## Appendix A

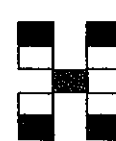
<b>ACTIVITY/ PROJECT SPECIFIC PROCEDURE</b>  Sandia National Laboratories	<h1 style="margin: 0;">Chain of Custody</h1>	<b>Form Number:</b> <b>SP 13-1-1</b>  <b>Page</b> <u>  1  </u> <b>of</b> <u>  1  </u> Attach more forms as needed				
<b>1. Initial Sample Custodian</b> <u>Wesley F. DeYonge</u> Organization: <u>6712</u> Date: <u>04/20/2010</u> <small>Printed Name</small>						
<b>2. Sample Collection or Creation Information</b> Scientific Notebook ID: <u>Magenta Hydrology #11</u> Test Plan ID: <u>TP 03-01</u> Field Log ID: <u>N/A</u> Sample Location: <u>WIPP Monitoring Well H-8a</u> <small>i.e. borehole/core no./lab bldg. no./etc.</small>		<b>Sample Team Members/Organization.</b> <u>Dale Bowman/6712 Raul Rascon/ 6712-RSI</u> <u>Wes DeYonge/ 6712-RESPEC (RSI)</u> <small>enter n/a if none</small>				
<b>3. Sample Identification</b>	<b>Date Collected</b>	<b>Container Type</b>	<b>Volume</b>	<b>Preservative</b>	<b>Analysis Request</b>	<b>Sample Description</b>
Sample/Sub-Sample #						
H-8a(M) 042010	04/20/10	PE Bottle	500 ml	None	Anions, pH, TDS, Cond., Alk.	H-8a Magenta water unpreserved
H-8a(M) 042010	04/20/10	PE Bottle	125 ml	H2SO4	NO2+NO3	H-8a Magenta water preserved w/ sulfuric acid
H-8a(M) 042010	04/20/10	PE Bottle	125 ml	HNO3	Cations, Metals, Sr	H-8a Magenta water filtered & preserved w/ nitric acid
H-8a(M) 042010	04/20/10	PE Bottle	500 ml	HNO3	Lead	H-8a Magenta water preserved w/ nitric acid
--End of Sample List--						
<small>enter n/a if none</small>						
<b>4. Sample Requirements</b>						
Handling: Keep sealed until use						
Storage & Preservation: Keep chilled/refrigerated						
Shipping: Hand carry/Fed Ex						
Archive: N/A						
Disposition: Discard samples upon completion of testing						
Expiration Date: 05/20/2010						
<b>5. Custody Transfer</b>		<b>Printed Name</b>		<b>Signature</b>		<b>Organization/Company</b>
a. Relinquished by:		<u>Wesley F. DeYonge</u>				<u>6712 / RESPEC</u>
a. Received by:		<u>Tanya Shomis</u>				<u>HEAL</u>
b. Relinquished by:						<u>4/21/10 935</u>
b. Received by:						
c. Relinquished by:						
c. Received by:						
Upon sample receipt, note condition. This form (copy for your records) shall follow samples through its life, until final disposition, then send original to WIPP Records Center. For samples that are potentially hazardous & require packaging and shipping, contact Center 6700 ES&H Coordinator or see SNL ES&H Manual, Chpt. 12.						

# Chain-of-Custody Record

Client: Sandia National Laboratories

Turn-Around Time:

Standard  Rush



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Mailing Address: 4100 National Parks Highway

Carlsbad, NM 88220

Project Name:

WIPP / H-8a (M)

Project #:

98806 / 1.4.2.3

Phone #: (575) 234-0107

email or Fax#: (575) 234-0061

Project Manager:

Rick Beauheim /  
Mike Schuhen

QA/QC Package:

Standard  Level 4 (Full Validation)

Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Sampler: Bowman, Rascon, DeYonge

On Ice:  Yes  No *4/21/10*

Sample Temperature: *2 to 2.70°*

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	Lead	8260B (VOA)	8270 (Semi-VOA)	Cation / Anion Balance	pH, Cond, TDS, Alkalinity	NO <sub>2</sub> + NO <sub>3</sub>	Metals / Strontium	Air Bubbles (Y or N)	
4/20/10	10:28	H <sub>2</sub> O	H-8a(M)_042010	#1: 500 mL	NONE	1004462	-												X	X			
4/20/10	10:28	H <sub>2</sub> O	H-8a(M)_042010	#2: 125 mL	H <sub>2</sub> SO <sub>4</sub>		-														X		
4/20/10	10:28	H <sub>2</sub> O	H-8a(M)_042010	#3: 125 mL	HNO <sub>3</sub>		-															X	
4/20/10	10:28	H <sub>2</sub> O	H-8a(M)_042010	#4: 500 mL	HNO <sub>3</sub>		-								X								
			<b>END OF SAMPLE LIST</b>																				

Date: 4/20/10  
Time: 11:30  
Relinquished by: Wesley F. DeYonge  
*Wesley F. DeYonge*

Received by: *[Signature]*  
Date: 4/21/10  
Time: 1430

Remarks:  
Container #3 was filtered.  
Samples may contain high levels of salts.  
Sample #4 (preserved, unfiltered) was collected for lead analysis

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.