Environmental Health Laboratories
The Nation's Drinking Water Laboratory

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LABORATORY REPORT

Client: Hall Environmental
Attn: Andy Freeman
4901 Hawkins NE
Suite A
Albuquerque, NM 87109

Report#: 966062

Priority: Standard Written

Status: Final

Project/Site: R-26 pit / 0311068-01E

Samples Submitted: One groundwater sample

Copies to: None

Collected: 11/10/03 By: Client Received: 11/12/03

REPORT SUMMARY

One groundwater sample was submitted for perchlorate analysis.

Note: Sample container was provided by the client.

Detailed quantitative results are presented on the following page.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call us at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Environmental Health Laboratories (EHL). EHL is accredited by the National Environmental Laboratory Accreditation Program (NELAP). This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

REVIEWED BY: William Reeves Reporting Manager DATE: 11/21/03

FINALIZED BY: [illegible] DATE: 11-21-03

6456

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Client: Hall Environmental Report#: 966062

PERCHLORATE — Groundwater

Lab#	Sampling Point	MRL	Results
966062	R-26 pit / 0311068-01E	4.0	< 400 † ug/L

Analyzed: 11/14/03 Analyst: NB Method: 314.0

† Result presented is based upon a dilution factor of 100, due to poor sample matrix.

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Client: Hall Environmental Report#: 966062

REFERENCES AND DEFINITIONS OF TERMS

General Chemistry

References: 1. EPA-600/4-79-020
Methods for Chemical Analysis of Water and Wastes
2. Standard Methods For the Examination of Water and Wastewater
Vol. 19, 1995

MRL = EHL's Minimum Reporting Limit

Results: Values presented in the result column represent the lowest reportable value for a parameter after correcting for all sample dilutions.

< = "less than." This number is the lowest reportable value by the procedure used for analysis after factoring in all dilutions.

√ = If dilutions were required for quantitation of specific parameters, they are indicated by a (√) preceding the result.

1 ug/L = 1 microgram per liter (ug/L) = 1 part per billion

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LABORATORY ANALYTICAL REPORT

Client: Hall Environmental
Project: Not Indicated
Lab ID: C03110337-001
Client Sample ID: R-26 Pit 0311068-01D

Report Date: 12/04/03
Collection Date: 11/10/03 12:50
Date Received: 11/11/03
Matrix: Aqueous

Analyses	Result	Units	Qual	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Calcium	10.1	mg/L		1.0		E200.7	11/12/03 18:33 cp
Magnesium	2.2	mg/L		1.0		E200.7	11/12/03 18:33 cp
Potassium	4.4	mg/L		1.0		E200.7	11/12/03 18:33 cp
Sodium	69.4	mg/L		1.0		E200.7	11/12/03 18:33 cp
METALS - DISSOLVED							
Aluminum	7.23	mg/L		0.001		E200.8	11/22/03 02:14 smd
Antimony	0.004	mg/L		0.001		E200.8	11/22/03 02:14 smd
Arsenic	0.031	mg/L	D	0.002		E200.8	11/22/03 02:14 smd
Barium	0.100	mg/L		0.001		E200.8	11/22/03 02:14 smd
Beryllium	ND	mg/L		0.001		E200.8	12/02/03 18:41 smd
Cadmium	ND	mg/L		0.001		E200.8	11/22/03 02:14 smd
Chromium	0.003	mg/L	D	0.002		E200.8	11/22/03 02:14 smd
Cobalt	ND	mg/L		0.001		E200.8	11/22/03 02:14 smd
Copper	0.029	mg/L		0.001		E200.8	11/22/03 02:14 smd
Iron	1.08	mg/L		0.030		E200.7	11/12/03 18:33 cp
Lead	0.011	mg/L		0.001		E200.8	11/22/03 02:14 smd
Manganese	0.072	mg/L		0.001		E200.8	11/22/03 02:14 smd
Mercury	0.001	mg/L		0.001		E200.8	11/22/03 02:14 smd
Nickel	ND	mg/L		0.001		E200.8	11/22/03 02:14 smd
Selenium	ND	mg/L	D	0.005		E200.8	11/22/03 02:14 smd
Silver	0.009	mg/L		0.001		E200.8	11/22/03 02:14 smd
Thallium	ND	mg/L		0.001		E200.8	11/22/03 02:14 smd
Vanadium	0.005	mg/L		0.001		E200.8	11/22/03 02:14 smd
Zinc	0.135	mg/L		0.001		E200.8	11/22/03 02:14 smd
RADIONUCLIDES - TOTAL							
Gross Alpha	10.7	pCi/L		1.0		E900.0	11/17/03 09:00 rs
Gross Alpha precision (±)	1.0	pCi/L				E900.0	11/17/03 09:00 rs
Gross Gamma	ND	pCi/L		20.0		E901.1	11/13/03 09:38 db
Tritium	ND	pCi/L		1200		E906.0	11/12/03 12:00 db

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due o sample matrix interference.
MCL - Maximum contaminant level.
ND - Not detected a he reporting limit.

QA/QC Summary Report

Client: Hall Environmental
Project: Not Indicated

Report Date: 12/04/03
Work Order: C03110337

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Batch: 4581
Sample ID: C03110365-001CMS1	Matrix Spike								11/12/03 17:57
Calcium	766	mg/L	1.00	99.5	80	120			
Magnesium	528	mg/L	1.00	96.3	80	120			
Potassium	504	mg/L	1.00	94.8	80	120			
Sodium	541	mg/L	1.00	88.7	80	120			
Sample ID: C03110365-001CMSD1	Matrix Spike Duplicate								11/12/03 18:05
Calcium	763	mg/L	1.00	98.9	80	120	0.4	20	
Magnesium	528	mg/L	1.00	96.3	80	120	0	20	
Potassium	507	mg/L	1.00	95.4	80	120	0.6	20	
Sodium	543	mg/L	1.00	89.1	80	120	0.4	20	
Method: E200.8									Batch: 4581
Sample ID: C03110534-001BMS	Matrix Spike								11/21/03 23:09
Antimony	0.534	mg/L	0.00100	106	70	130			
Arsenic	0.456	mg/L	0.00200	91.2	70	130			
Barium	0.567	mg/L	0.00100	109	70	130			
Beryllium	0.383	mg/L	0.00100	75.7	70	130			
Cadmium	0.468	mg/L	0.00100	91.7	70	130			
Chromium	0.509	mg/L	0.00200	102	70	130			
Cobalt	0.548	mg/L	0.00100	99.3	70	130			
Copper	0.520	mg/L	0.00100	87.6	70	130			
Lead	0.530	mg/L	0.00100	106	70	130			
Mercury	0.0543	mg/L	0.00100	109	70	130			
Nickel	0.621	mg/L	0.00100	83.2	70	130			
Thallium	0.531	mg/L	0.00100	106	70	130			
Vanadium	0.536	mg/L	0.00100	106	70	130			
Sample ID: C03110534-001BMSD	Matrix Spike Duplicate								11/21/03 23:14
Antimony	0.516	mg/L	0.00100	103	70	130	3.4	20	
Arsenic	0.450	mg/L	0.00200	90	70	130	1.3	20	
Barium	0.562	mg/L	0.00100	108	70	130	0.9	20	
Beryllium	0.367	mg/L	0.00100	72.5	70	130	4.3	20	
Cadmium	0.455	mg/L	0.00100	89.2	70	130	2.8	20	
Chromium	0.511	mg/L	0.00200	102	70	130	0.4	20	
Cobalt	0.545	mg/L	0.00100	98.7	70	130	0.5	20	
Copper	0.504	mg/L	0.00100	84.4	70	130	3.1	20	
Lead	0.522	mg/L	0.00100	104	70	130	1.5	20	
Mercury	0.0551	mg/L	0.00100	110	70	130	1.5	20	
Nickel	0.597	mg/L	0.00100	78.4	70	130	4.0	20	
Thallium	0.522	mg/L	0.00100	104	70	130	1.7	20	
Vanadium	0.530	mg/L	0.00100	105	70	130	1.2	20	

Qualifiers: RL - Analyte reporting limit. ND - Not detected a he reporting limit.

QA/QC Summary Report

Client: Hall Environmental
Project: Not Indicated

Report Date: 12/04/03
Work Order: C03110337

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E900.0									Batch: R28843
Sample ID: C03110308-001A	Matrix Spike								11/17/03 09:00
Gross Alpha	445	pCi/L	1.00	91.6	70	130			
Sample ID: C03110308-001A	Matrix Spike Duplicate								11/17/03 09:00
Gross Alpha	419	pCi/L	1.00	86.3	70	130	5.9	30	
Sample ID: MB-R28843	Method Blank								11/17/03 09:00
Gross Alpha	ND	pCi/L	1.00						
Sample ID: LCS-R28843	Laboratory Control Spike								11/17/03 09:00
Gross Alpha	454	pCi/L	1.00	93.4	70	130			
Method: E901.1									Batch: R28507
Sample ID: LCS-R28507	Laboratory Control Spike								11/13/03 09:38
Gross Gamma	616000	pCi/L	20.0	95.4	70	130			
Sample ID: MB-R28507	Method Blank								11/13/03 09:38
Gross Gamma	ND	pCi/L	20.0						
Sample ID: C03110337-001ADUP	Sample Duplicate								11/13/03 09:38
Gross Gamma	ND	pCi/L	20.0				0	30	
Method: E906.0									Batch: R28499
Sample ID: C03110337-001BMS	Matrix Spike								11/12/03 12:00
Tritium	2000	pCi/L	1200	88.2	70	130			
Sample ID: C03110337-001BMSD	Matrix Spike Duplicate								11/12/03 12:00
Tritium	1900	pCi/L	1200	82.4	70	130	6.9	30	
Sample ID: MB-R28499	Method Blank								11/12/03 12:00
Tritium	ND	pCi/L	1200						

Qualifiers: RL - Analyte reporting limit. ND - Not detected a he reporting limit.

CHAIN-OF-CUSTODY RECORD

Accreditation Applied: NELAC ☐ USACE ☐ Other:

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Albuquerque, NM 87113

Phone #: 344-7373

Fax #: 344-1711

Project Name: R-26

Project #:

Project Manager: Mark Everett

Sampler: John Carrillo

Sample Temperature: ~~57°~~ F 14°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative H_gCl_2	Preservative HNO_3	Preservative	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	~~RCRA 8 Metals~~ Perchlorates	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)	Alpha, Beta, Gamma, Tot	Tritium	Metals	Air Bubbles or Headspace (Y or N)
11/10/03	1250	H_2O	R-26 pit A Amber	Amber 1 liter			X	0311068-1													X				
11/10/03	1250	H_2O	R-26 pit B Amber	Amber 1 liter			X												X						
11/10/03	1250	H_2O	R-26 pit C	40 ml	X															X					
11/10/03	1250	H_2O	R-26 pit D	40 ml	X															X					
11/10/03	1250	H_2O	R-26 pit E	40 ml	X															X					
11/10/03	1250	H_2O	R-26 pit F	Poly liter		X																X			
11/10/03	1250	H_2O	R-26 pit G	Poly liter		X																	X		
11/10/03	1250	H_2O	R-26 pit H	Poly liter		X																		X	
11/10/03	1250	H_2O	R-26 pit I	½ liter Poly			X									X									
11/10/03	1250	H_2O	R-26 pit J	½ liter Poly			X											X							
11/10/03	1250	H_2O	R-26 pit K	100 ml Poly			H_2SO_4																		
			Trip Blank					-2												X					

Date:	Time:	Relinquished By: (Signature)	Remarks:
11/10/03	1615	[signature]	Received by Anne Thorne 11/10/03
Date:	Time:	Relinquished By: (Signature)	Remarks:
11/10/03	1250	Soil R26 Cuttings	3 8oz 1615 -3

Remarks: -03 see list for soils per Bernie Bookisch