

Encana
 2717 CR 215 Suite 100
 Parachute, CO 81635

Billing Information:
 Brad Kieding
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 Parachute, CO 81635

Report to: Brad Kieding
 Email to: bradley.kieding@encana.com

Analysis/Container/Preservative



12065 Lebanon Road
 Mt. Juliet, TN 37122

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 A160

Project Description: Hells Hole 9122 Clearance
 City/State Collected: _____
 Phone: 970.260.5457
 FAX: _____
 Client Project #: 762129
 ESC Key: ENCANACO
 Collected by: Brad Kieding
 Site/Facility ID#: _____
 P.O.#: _____

Collected by (signature): _____
 Immediately Packed on Ice N Y
Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%
 Date Results Needed: Standard
 Email? ___ No Yes
 FAX? ___ No ___ Yes

See Attached (910 Table)

CoCode _____ (lab use only)
 Template/Prelogin _____
 Shipped Via: _____

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs															
West Wall South	Comp	SS	—	05/27/10	1115	2	X														
South Wall	Comp	SS	—	05/27/10	1100	2	X														
West Wall North	Comp	SS	—	05/27/10	1115	2	X														
East Wall	Comp	SS	—	05/27/10	1030	2	X														
North Wall	Comp	SS	—	05/27/10	1045	2	X														

Remarks/Contaminant _____
 Sample # (lab only)
 46/811-01
 02
 03
 04
 05

*Matrix: **SS** - Soil/Solid **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____
 Remarks: _____
 869 219 5596 pH _____ Temp _____
 8706 5679 6459 Flow _____ Other _____

Relinquished by: (Signature) _____	Date: 05/28/10	Time: 1600	Received by: (Signature) _____	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: <u>ok</u> (lab use only)
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Temp: <u>3.7°C</u>	Bottles Received: <u>10-16oz</u>
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) _____	Date: <u>5-29-10</u>	Time: <u>0900</u>
				CoC Seals Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	pH Checked: _____ NCF: _____

L461811

Constituents of Concern: Allowable Concentrations and Analytical Methods (COGCC Table 910-1)

CONTAMINANT OF CONCERN	CONCENTRATIONS ¹	ANALYTICAL METHOD (SW846)
<i>Organic Compounds in Soil</i>		
TPH (total volatile and extractable petroleum hydrocarbons)	500 mg/kg	8015
Benzene	0.17 mg/kg ²	8260B
Toluene	85 mg/kg ²	8260B
Ethylbenzene	100 mg/kg ²	8260B
Xylenes (total)	175 mg/kg ²	8260B
Acenaphthene	1,000 mg/kg ²	8270C
Anthracene	1,000 mg/kg ²	8270C
Benzo(A)anthracene	0.22 mg/kg ²	8270C
Benzo(B)fluoranthene	0.22 mg/kg ²	8270C
Benzo(K)fluoranthene	2.2 mg/kg ²	8270C
Benzo(A)pyrene	0.022 mg/kg ²	8270C
Chrysene	22 mg/kg ²	8270C
Dibenzo(A,H)anthracene	0.022 mg/kg ²	8270C
Fluoranthene	1,000 mg/kg ²	8270C
Fluorene	1,000 mg/kg ²	8270C
Indeno(1,2,3,C,D)pyrene	0.22 mg/kg ²	8270C
Naphthalene	23 mg/kg ²	8270C
Pyrene	1,000 mg/kg ²	8270C
<i>Inorganics in Soils</i>		
Electrical Conductivity (EC)	<4 mmhos/cm or 2x background	9050
Sodium Adsorption Ratio (SAR)	<12 ⁵	LADNR29B
pH	6-9	9045C
<i>Metals in Soils</i>		
Arsenic	0.39 mg/kg ²	6010B
Barium	15,000 mg/kg ²	6010B
Cadmium	70 mg/kg ^{3,6}	6010B
Chromium (III)	120,000 mg/kg ²	6010B
Chromium (VI)	23 mg/kg ^{2,6}	6010B
Copper	3,100 mg/kg ²	6010B
Lead (inorganic)	400 mg/kg ²	6010B
Mercury	23 mg/kg ²	6010B
Nickel (soluble salts)	1,600 mg/kg ^{2,6}	6010B
Selenium	390 mg/kg ^{2,6}	6010B
Silver	390 mg/kg ²	6010BB
Zinc	23,000 mg/kg ^{2,6}	6010B
<i>Liquid Hydrocarbons in Soils and Ground Water</i>		
Liquid hydrocarbons including condensate and oil	Below detection level	Visual

COGCC recommends that the latest version of EPA SW-846 analytical methods be used where possible and that analyses of samples be performed by laboratories that maintain state or national accreditation programs.

1 Consideration shall be given to background levels in native soils and ground water.

2 Concentrations taken from CDPHE-HMWMD Table 1 Colorado Soil Evaluation Values (December 2007).

3 Concentrations taken from CDPHE-WQCC Regulation 41 - The Basic Standards for Ground Water.

4 For this range of standards, the first number in the range is a strictly health-based value, based on the WQCC's established methodology for human health-based standards. The second number in the range is a maximum contaminant level (MCL), established under the Federal Safe Drinking Water Act which has been 900-22 As of April 1, 2009 900-23 As of April 1, 2009

determined to be an acceptable level of this chemical in public water supplies, taking treatability and laboratory detection limits into account. The WQCC intends that control requirements for this chemical be implemented to attain a level of ambient water quality that is at least equal to the first number in the range except as follows: 1) where ground water quality exceeds the first number in the range due to a release of contaminants that occurred prior to September 14, 2004 (regardless of the date of discovery or subsequent migration of such contaminants) clean-up levels for the entire contaminant plume shall be no more restrictive than the second number in the range or the ground water quality resulting from such release, whichever is more protective, and 2) whenever the WQCC has adopted alternative, site-specific standards for the chemical, the site-specific standards shall apply instead of these statewide standards.

5 Analysis by USDA Agricultural Handbook 60 method (20B) with soluble cations determined by method (2). Method (20B) = estimation of exchangeable sodium percentage and exchangeable potassium percentage from soluble cations. Method (2) = saturated paste method (note: each analysis requires a unique sample of at least 500 grams). If soils are saturated, USDA Agricultural Handbook 60 with soluble cations determined by method (3A) saturation extraction method.

6 The table value for these inorganic constituents is taken from the CDPHE-HMWMD Table 1 Colorado Soil Evaluation Values (December 2007). However, because these values are high, it is possible that site-specific geochemical conditions may exist that could allow these constituents to migrate into ground water at levels exceeding ground water standards even though the concentrations are below the table values. Therefore, when these constituents are present as contaminants, a secondary evaluation of their leachability must be performed to ensure ground water protection.