



State of Colorado
Oil and Gas Conservation Commission



1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



EARTHEN PIT REPORT/PERMIT

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days, is required for pits. Submit required attachments and forms.

**Complete the
Attachment Checklist**

Oper OGCC

Detailed Site Plan	✓	
Topo Map w/ Pit Location	✓	
Water Analysis (Form 25)	✓	
Source Wells (Form 26)	✓	
Pit Design/Plan & Cross Sect	✓	
Design Calculations	✓	
Sensitive Area Determ.	✓	
Mud Program	✓	
Form 2A	✓	

FORM SUBMITTED FOR:

☒ **Pit Report**

☒ **Pit Permit**

OGCC Operator Number: 10091
Name of Operator: Berry Petroleum Company
Address: 1999 Broadway, Suite 3700
City: Denver State: CO Zip: 80202

Contact Name and Telephone:
Bryan Burns
No: 303-999-4245
Fax: 303-999-4401

API Number (of associated well): 05-045-19069 OGCC Facility ID (of other associated facility): 415531- Latham I-02 Pad

Pit Location (QtrQtr, Sec, Twp, Rng, Meridian): NESE, Sec. 2, T6S, R97W, 6th P.M.

Latitude: 39.550104 Longitude: -108.183111 County: Garfield

Pit Use: ☒ Production ☐ Drilling (Attach mud program) ☒ Special Purpose (Describe Use): Multi-Well Completions/Storage

Pit Type: ☒ Lined ☐ Unlined Surface Discharge Permit: ☐ Yes ☐ No

Offsite disposal of pit contents: ☐ Injection ☐ Commercial Pit/Facility Name: LATHAM Pit/Facility No: I-02

Attach Form 26 to identify Source Wells and Form 25 to provide Produced Water Analysis results.

Existing Site Conditions

Is the location in a "Sensitive Area?" ☒ Yes ☐ No **Attach data used for determination.**

Distance (in feet) to nearest surface water: 540' ground water: 300' water wells: 1,214'

LAND USE (or attach copy of Form 2A if previously submitted for associated well) Select one which best describes land use:

Crop Land: ☐ Irrigated ☐ Dry Land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

SOILS (or attach copy of Form 2A if previously submitted for associated well)

Soil map units form USNRCS survey: Sheet No: CO682 Soil Complex/Series No: 56

Soils Series Name: Parachute-Irigul-Rhone association/ 25-50% Slopes Horizon thickness (in inches): A: N/A ; B: N/A ; C: N/A

Soils Series Name: _____ Horizon thickness (in inches): A: _____ ; B: _____ ; C: _____

Attach detailed site plan and topo map with pit location.

Pit Design and Construction

Size of pit (feet): Length: 300' Width: 80' Depth: 12'

Calculated pit volume (bbls): 21,000 Daily inflow rate (bbls/day): 35

Daily disposal rates (attach calculations): Evaporation: _____ bbls/day Percolation: _____ bbls/day

Type of liner material: Polyethylene Plastic Thickness: 2 liners - 24 mil. and 60 mil.

Attach description of proposed design and construction (include sketches and calculations).

Method of treatment of produced water prior to discharge into pit (separator, heater treater, other): Separators

Is pit fenced? ☒ Yes ☐ No Is pit netted? ☒ Yes ☐ No

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Bryan Burns Signed: [Signature]

Title: Environmental Specialist Date: 5-24-2011

OGCC Approved: [Signature] Title: Location Assessment Specialist Date: 7-28-11

CONDITIONS OF APPROVAL, IF ANY: See Attached

FACILITY NUMBER: 423846

JAP

Berry Petroleum, Latham I-02 697 Pad, NESE Sec 2 T6S R97W, Garfield County, Form 15 Pit Permit (Pit ID#423846) Conditions of Approval

COA 21 - Operator must comply with all provisions of the June 12, 2008 Notice to Operators (NTO) Drilling Wells Within $\frac{3}{4}$ Mile of the Rim of the Roan Plateau in Garfield County – Pit Design, Construction, and Monitoring Requirements.

COA 22 - After installation of the uppermost liner and prior to operating the pit, the synthetic liner(s) shall be tested by filling the pit with at least 4 feet of water, measured from the base of the pit (not to exceed the 2-foot freeboard requirement). The operator shall monitor the pit for leaks for a period of 72 hours prior to draining the pit and commencing operations. Operator shall notify the COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us) 48 hours prior to start of the hydrotest. Hydrotest monitoring results must be maintained by the operator for the life of the pit and provided to COGCC prior to using the pit.

COA 23 - Operator must ensure 110 percent secondary containment for any volume of fluids contained at the water handling facility site during natural gas development activities and operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

COA 5 - Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via buried or temporary surface pipelines.

COA 90 - Notify COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us) and the COGCC Field Inspection Supervisor for Northwest Colorado (Shaun Kellerby; email shaun.kellerby@state.co.us) 48 hours prior to use of existing pit.

COA 47 - The pit will require a leak detection system (Rule 904.e).

COA 41 - The nearby hillside must be monitored for any day-lighting of fluids throughout pit operations.

COA 49 - The operator must maintain the fencing and netting until the pit is closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buried Produced Water Vessels.

COA 25 - The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material.

COA 20 - Surface water samples from Circle Dot Creek (at the previously sampled [November 2010] location) shall be collected prior to pit use and every 12 months to evaluate potential impacts from pit operations. At a minimum, the surface water samples will be analyzed for the following parameters: major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); and BTEX/DRO.

COA 91 - At the time of pit closure, operator must submit disposal information via a Form 4 Sundry Notice to the COGCC Location Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us). The disposal method will need to be approved prior to operator starting pit closure. In addition, operator will collect a pit water sample and, at a minimum, analyze for the following parameters: pH; alkalinity; specific conductance; major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); BTEX/DRO; TPH; PAH's (including benzo[a]pyrene); and metals (arsenic, barium, calcium, chromium, iron, magnesium, selenium). At the time of closure/disposal of pit water, COGCC may require additional analytes, as appropriate.

Supplemental Information
Form 15 - Latham I-02 Production Pit
COGCC Facility Id. *Pending*

1. Historic and Intended Use of Latham I-02 Pit

Construction of the original Latham I-02 drilling pit was completed in 2010. Since that time, two producing wells were drilled and completed at that location. In May 2010, the original pit was emptied and reconstructed per COGCC Rule 904 with a double synthetic liner (24-mil and 60-mil) and other required features. The pit was hydrotested prior to placement in service. Well completions and flowback occurred in the spring and summer of 2010.

The following is a chronology for the pit, including construction activity and pit uses:

I02 697 Pad History

- Sept. 2009 - February, 2010 – Surveyed & plat-ed well pad.
- February 15-28, 2010 - Built access road, pad and pit.
- March 12 - 14, 2010 - Hauled felt & liners to location, dug anchor ditch, installed felt.
- March 15 - 18, 2010 - Installed 24 mil liner, installed 60 mil liner.
- March 17- 19, 2010 - Hauled water for liner hydrotest.
- March 20-21, 2010 - Hydrotested liner.
- March 23-25, 2010 - Installed 3 strand wire fence around pit perimeter.
- May 22 - 26, 2010 - Hauled water & mud from pit.
- May 28- 29, 2010 - Installed felt, 24 mil liner, 60 mil liner.
- May 28-30, 2010 - Hauled water on-site to hydrotest liners.
- May 31 - June 1, 2010 - Hydrotested liners.
- June 1 -2, 2010 - Installed 8' wildlife fence around pit.
- July 19 - 29, 2010 - Installed bird net over pit.

Going forward, the intended use of the Latham I-02 pit will be for storage of produced water, prior to its beneficial re-use for well completion activities elsewhere on Berry's leases. Berry would like to temporarily utilize this pit for storage of produced water until planned centralized E&P waste management facilities are permitted and constructed elsewhere on Berry's leasehold. These facilities are expected to be brought online in the summer of 2012. Once these centralized facilities are brought online, the Latham I-02 production pit will be closed and reclaimed per the COGCC 1000 series rules.

2. Location Information

Producing wells (2) associated with the Latham I-02 pit and the designated API numbers:

- LATHAM # 2-14D - 05-045-19069
- LATHAM # 2-17D - 05-045-19104

The latitude/longitude coordinates of the pit are 39.550104, -108.183111

3. Produced Water Disposal Method

The vast majority of produced water to be stored in this pit will be put to beneficial re-use for completions on other well locations. There may be circumstances where produced water from this pit may need to be sent to disposal. At the present time, Berry utilizes the Danish Flats evaporation pit facility near Cisco, Utah for disposal.

A Form 26 containing additional information on produced water is attached with this submittal packet.

4. Sensitive Area Determination

The following sensitive area determination was made utilizing Appendix Part B of the COGCC Rules, dated April 1, 2009.

Box 1: Does the produced water to be placed in the pit meet WQCC standards for groundwater for the following contaminants of concern?

Answer: No. A laboratory analysis of produced water from source wells on the Latham I-02 pad indicated TDS is 13,000 mg/l, and chloride is 7,200 mg/l. Similarly, BTEX compounds in the produced water are above the standards listed in Appendix Part B.

Box 2: Is the pit location underlain by an unconfined aquifer or recharge zone?

Answer: Yes. Bedrock in the project area is highly fractured Uinta sandstone that may be hydrologically connected to nearby surface waters. While site-specific data do not exist to confirm the presence or absence of fractures in the vicinity of the pit, Circle Dot Creek, a perennial stream, runs approximately 2,100 feet to the southeast of the location. This stream is fed by discharge from shallow aquifers and springs in the area. Additionally, four (4) springs (Latham Spring 1, Latham Spring 1A, Latham Spring 2, Latham Spring 3) have been identified down gradient from the I-02 pad.

Conclusion: The pit is located in a sensitive area. However, since the pit is double lined with both 24-mil and 60-mil liners, the pit will be hydrotested before being placed in service, and pit level monitoring will occur on a daily basis, the risk to water resources from use of this pit would be very low.

5. Design Basis

At present, the wells on the Latham I-02 pad are producing approximately 1,050 barrels of water per month. Given the proposed pit has a capacity of 21,000 barrels, it can store roughly 20 months of water production.

If the proposed production pit were permitted, water would be placed in the pit at the rate of about 35 barrels per day. Water would accumulate in the pit over a period of weeks or months until it would be piped to other locations for well completions. During an active well completion, water could be withdrawn from the pit at the rate of up to 10,000 barrels per day (about 2 days to empty).

Assuming the pit was full and no water was needed for completions elsewhere; it would be removed by vacuum trucks at the rate of about 100 barrels per load and hauled off-site for disposal.

Prior to placement in the pit, produced water is stored in a tank battery on location where liquid hydrocarbons separate from the water by gravity. Virtually no condensate or other hydrocarbons are placed in the pit. If floating hydrocarbons are observed on the pit, they are skimmed immediately per COGCC rules.

6. Attachments

Site Plan

An as-built drawing for the Latham I-02 is attached to this submittal, which provides the dimensions and depth of the pit as it was constructed, and the locations of wellheads, separators, productions tanks, and the access road. The as-built also provides pit cross sections (longitudinal and transverse) and a design view cross section illustrating the liner foundation and liner specifications.

Leak Detection and Pit Level Monitoring System

Berry proposes to install a pressure transducer in the Latham I-02 pit to monitor fluid levels. The instrument will provide continuous data on the pit level and can be programmed to provide an alarm if the fluid level is too high, or if there is a sudden loss of fluid. In terms of leak detection, the fluid level will be monitored continuously, and if there is an unexplained loss of fluid, Berry operations personnel will immediately inspect the pit to assess whether or not there is a leak. Any leaks will be repaired at once.

Liner Inspection and Hydrotest

Following the installation of the double liner in March 2010, the liner was inspected by Thomas Hogelin, Berry's construction foreman for any defects. No problems were identified. A hydrostatic test was then performed on May 31st-June 1st, 2010 to verify the liner was tight. Following the successful liner test, the pit was placed in service for well completions. No fluid losses were observed during completion and flowback operations.

7. Surface Water Quality Sampling Data

To assess baseline water quality conditions and to monitor potential impacts associated with drilling to the springs in the area, samples were collected on November 9th, 2010. A sample was collected from Circle Dot Creek and analyzed by a laboratory.

The sampling event confirmed that no impacts to the creek were occurring as a result of Berry's drilling activities at the Latham I-02 location as observed TDS and chloride levels in the creek were in the normal range. Volatile organic (BTEX) compounds were non-detect in both samples taken.

The laboratory results for the surface water sample collected near the Latham I-02 well pad are attached.

COGIS - LOCATION Information

Latham 102 697 - #415531 Information

Location ID: 415531

Location Status: AC

Operator Name:

BERRY PETROLEUM COMPANY

County: GARFIELD - #045

Facility Type: LOCATION

Form 2A Document #: 400012163

Status: AC

Location Name/No: Latham 102 697 /2-6D

Status Date: 2/2/2010

Operator Number: 10091

Location: NESE 2 6S 97W

Lat/Long: 39.550061/-108.182545

Form 2A Expiration: 2/1/2013

Location Inventory

Wells:9

Production Pits:1

Electric Motors:3

Pump Jacks:

Water Pipeline:1

Dehydrator Units:

Fuel Tanks:1

Special Purpose Pits:

Condensate Tanks:

Gas or Diesel Motors:6

Electric Generators:3

Gas Compressors:

Multi-Well Pits:

Drilling Pits:1

Water Tanks:1

Cavity Pumps:

Gas Pipeline:1

VOC Combustor:

Pigging Station:

DRILLING RIG TEMPORARY ON LOCATION FOR 10 DAYS PER WELL. SEPARATORS USED WILL BE: 2 QUADS, 1 DOUBLE. TEMP OFFICE HOUSING:1

Facility Well(s)

API Number:	05-045-19069	Operator Name:	BERRY PETROLEUM COMPANY # 10091	Well Name:	LATHAM # 2-14D
Well Status:	PR			Location:	NESE 2 6S 97W
API Number:	05-045-19073	Operator Name:	BERRY PETROLEUM COMPANY # 10091	Well Name:	LATHAM # 2-8D
Well Status:	XX			Location:	NESE 2 6S 97W
API Number:	05-045-19075	Operator Name:	BERRY PETROLEUM COMPANY # 10091	Well Name:	LATHAM # 2-12D
Well Status:	XX			Location:	NESE 2 6S 97W
API Number:	05-045-19081	Operator Name:	BERRY PETROLEUM COMPANY # 10091	Well Name:	LATHAM # 2-7D
Well Status:	XX			Location:	NESE 2 6S 97W
API Number:	05-045-19090	Operator Name:	BERRY PETROLEUM COMPANY # 10091	Well Name:	LATHAM # 2-16D
Well Status:	XX			Location:	NESE 2 6S 97W

API Number: Well Status:	<u>05-045-19091</u> XX	Operator Name:	BERRY PETROLEUM COMPANY # 10091	Well Name: Location:	LATHAM # 2- 13D NESE 2 6S 97W
API Number: Well Status:	<u>05-045-19097</u> XX	Operator Name:	BERRY PETROLEUM COMPANY # 10091	Well Name: Location:	LATHAM # 2- 15D NESE 2 6S 97W
API Number: Well Status:	<u>05-045-19103</u> XX	Operator Name:	BERRY PETROLEUM COMPANY # 10091	Well Name: Location:	Latham # 2-6D NESE 2 6S 97W
API Number: Well Status:	<u>05-045-19104</u> PR	Operator Name:	BERRY PETROLEUM COMPANY # 10091	Well Name: Location:	LATHAM # 2- 17D NESE 2 6S 97W

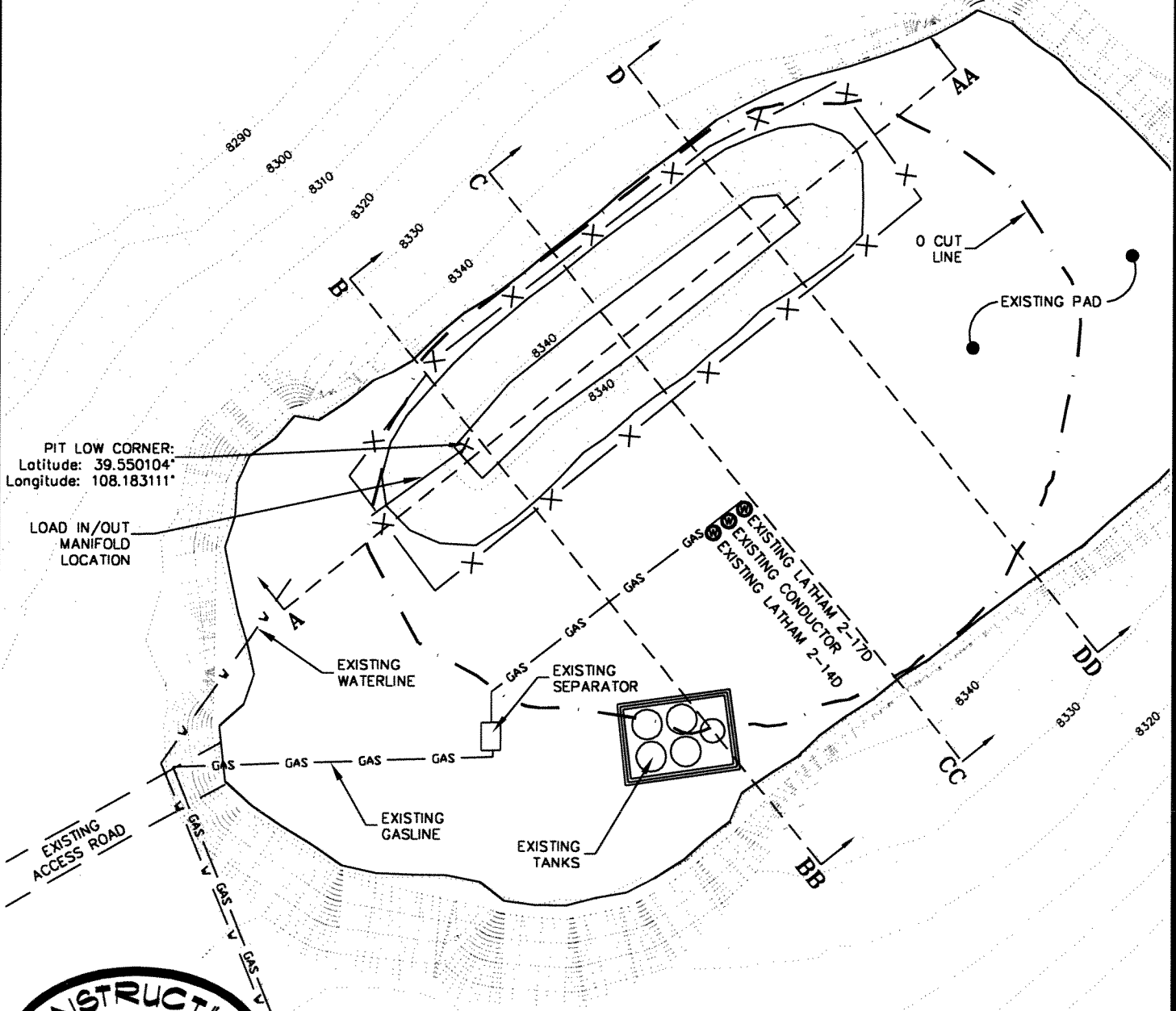
AS-BUILT PRODUCTION PIT PLAN VIEW

40' 0 80'
GRAPHIC SCALE IN FEET
1 INCH = 80 FEET



AS-BUILT PIT INFO:

APPROX. PIT DIMENSIONS: 300' X 80'
PIT DEPTH: 12'
PIT CAPACITY: 21,000 bbl
(w/ 2' FREEBOARD)



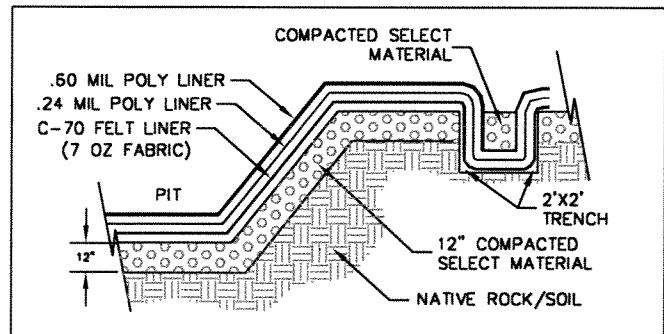
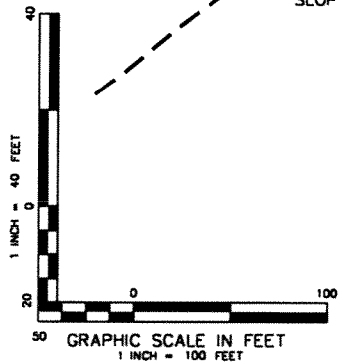
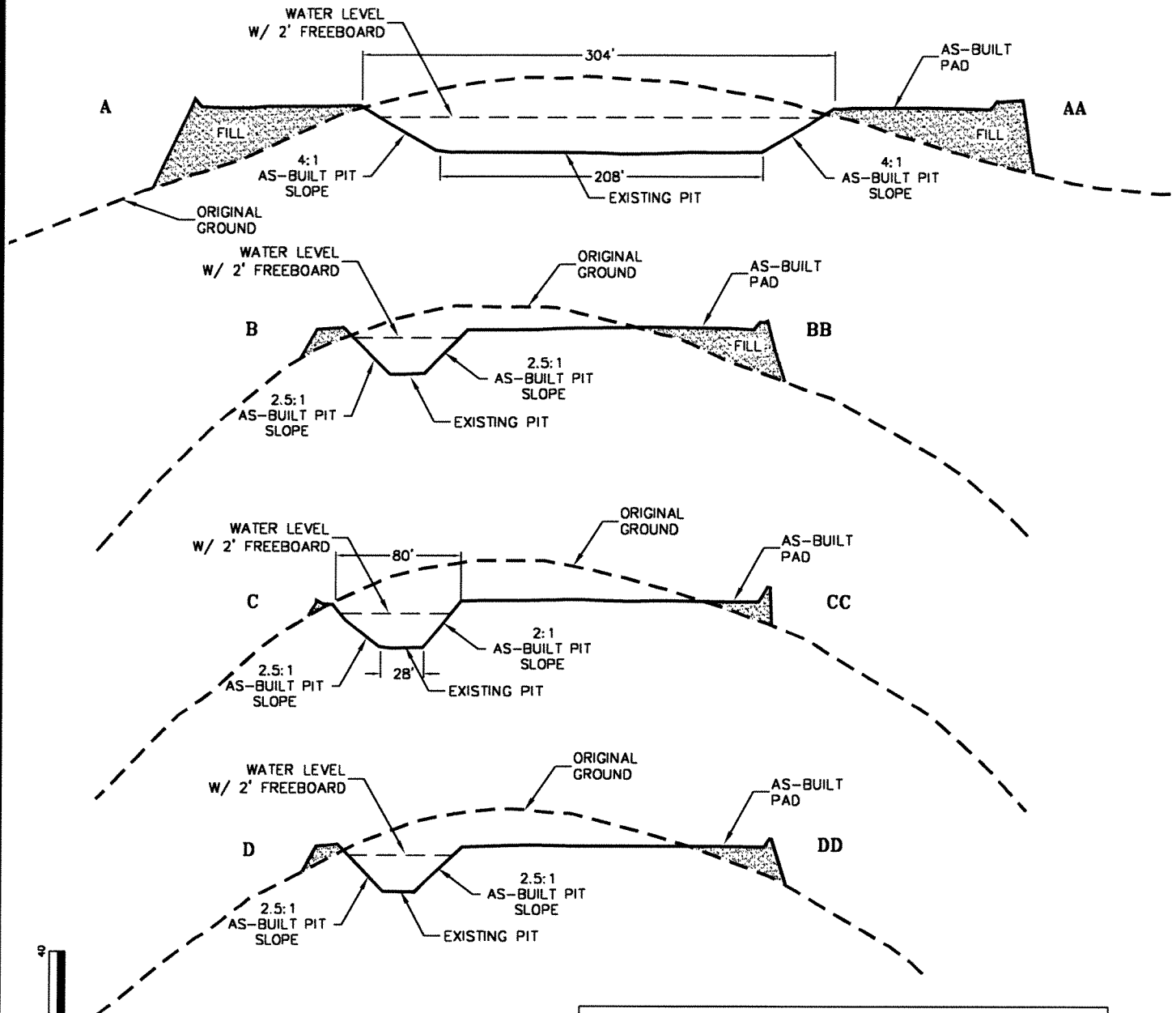
CONSTRUCTION SURVEYS, INC.
0012 SUNRISE BLVD.
SILT, CO 81652
(970)876-5753

Latham 102-697
NE 1/4 SE 1/4 SECTION 2, T. 6 S., R. 97 W.
BERRY PETROLEUM COMPANY

DATE: 04/12/11

SHEET: 1 OF 2

AS-BUILT PRODUCTION PIT X-SECTIONS



N.T.S.

CLOSE UP X-SECTION VIEW OF BERRY TYPICAL DESIGN



CONSTRUCTION SURVEYS, INC.
 0012 SUNRISE BLVD.
 SILT, CO 81652
 (970)876-5753

Latham 102-697
 NE1/4 SE1/4 SECTION 2, T. 6 S., R. 97 W.
 BERRY PETROLEUM COMPANY

DATE: 04/12/11

SHEET: 2 OF 2



12065 Lebanon Rd.
Mt. Juliet, TN 37122
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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Dave Nicholson
Berry Petroleum Company - Denver, CO
1999 Broadway, Suite 3700
Denver, CO 80202

Report Summary

Sunday November 21, 2010

Report Number: L488284

Samples Received: 11/10/10

Client Project: 407-32

Description: Berry Petroleum Water Sampling

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Mark W. Beasley, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



YOUR LAB OF CHOICE

12065 Lebanon Rd.
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Dave Nicholson
Berry Petroleum Company - Denver, C
1999 Broadway, Suite 3700
Denver, CO 80202

November 21, 2010

Date Received : November 10, 2010
Description : Berry Petroleum Water Sampling

ESC Sample # : L488284-01

Sample ID : CDG-1A

Site ID :

Collected By : Derek Veazey
Collection Date : 11/09/10 11:45

Project # : 407-32

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromide	BDL	1.0	mg/l	9056	11/11/10	1
Chloride	2.5	1.0	mg/l	9056	11/11/10	1
Fluoride	BDL	0.10	mg/l	9056	11/11/10	1
Nitrate	0.10	0.10	mg/l	9056	11/11/10	1
Nitrite	BDL	0.10	mg/l	9056	11/11/10	1
Sulfate	42.	5.0	mg/l	9056	11/11/10	1
Alkalinity	270	20.	mg/l	2320B	11/17/10	1
Alkalinity,Bicarbonate	270	20.	mg/l	2320B	11/18/10	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320B	11/18/10	1
Methane	BDL	0.010	mg/l	RSK175	11/12/10	1
Ethane	BDL	0.013	mg/l	RSK175	11/12/10	1
Ethene	BDL	0.013	mg/l	RSK175	11/12/10	1
Ammonia Nitrogen	BDL	0.10	mg/l	350.1	11/16/10	1
Sulfide	BDL	0.050	mg/l	4500-S2 D	11/13/10	1
Dissolved Solids	330	10.	mg/l	2540C	11/17/10	1
Suspended Solids	52.	1.0	mg/l	2540D	11/13/10	1
Arsenic,Dissolved	0.0034	0.0010	mg/l	6020	11/16/10	1
Chromium,Dissolved	BDL	0.0020	mg/l	6020	11/16/10	1
Copper,Dissolved	0.0036	0.0020	mg/l	6020	11/16/10	1
Lead,Dissolved	BDL	0.0010	mg/l	6020	11/16/10	1
Nickel,Dissolved	0.0018	0.0010	mg/l	6020	11/16/10	1
Selenium,Dissolved	BDL	0.0010	mg/l	6020	11/16/10	1
Zinc,Dissolved	BDL	0.010	mg/l	6020	11/16/10	1
Aluminum,Dissolved	BDL	0.10	mg/l	6010B	11/21/10	1
Barium,Dissolved	0.075	0.0050	mg/l	6010B	11/21/10	1
Boron,Dissolved	BDL	0.20	mg/l	6010B	11/21/10	1
Calcium,Dissolved	57.	0.50	mg/l	6010B	11/21/10	1
Iron,Dissolved	BDL	0.10	mg/l	6010B	11/21/10	1
Magnesium,Dissolved	23.	0.10	mg/l	6010B	11/21/10	1
Manganese,Dissolved	BDL	0.010	mg/l	6010B	11/21/10	1
Potassium,Dissolved	0.76	0.50	mg/l	6010B	11/21/10	1
Sodium,Dissolved	35.	0.50	mg/l	6010B	11/21/10	1
Benzene	BDL	0.00050	mg/l	8021B	11/12/10	1
Toluene	BDL	0.0050	mg/l	8021B	11/12/10	1
Ethylbenzene	BDL	0.00050	mg/l	8021B	11/12/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

State of Colorado Oil and Gas Conservation Commission



1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

SOURCE OF PRODUCED WATER FOR DISPOSAL

This form must be completed for any new disposal site and for any change in sources of produced water for an existing disposal site.

FOR OGCC USE ONLY

Complete the
Attachment Checklist

OGCC Operator Number: <u>10091</u>	Contact Name and Telephone:
Name of Operator: <u>Berry Petroleum Company</u>	<u>Bryan Burns</u>
Address: <u>1999 Broadway, Suite 3700</u>	No: <u>303-999-4245</u>
City: <u>Denver</u> State: <u>CO</u> Zip: <u>80202</u>	Fax: <u>303-999-4345</u>

OGCC Disposal Facility Number: _____

Operator's Disposal Facility Name: Latham Operator's Disposal Facility Number: I-02

Location (QtrQtr, Sec, Twp, Rng, Meridian): NESE Section 2, T6S R97W 6th PM

Address: N/A

City: N/A State: CO Zip: N/A County: Garfield

Chemical Analysis of fluid	Oper	OGCC

If more space is required,
attach additional sheet.

Add Source:	OGCC Lease No: <u>415531</u>	API No: <u>05-045-19069</u>	Well Name & No: <u>Latham 2-14D</u>
<input checked="" type="checkbox"/>	Operator Name: <u>Berry Petroleum Company</u>		Operator No: <u>10091</u>
Delete Source:	Location: QtrQtr: <u>NESE</u>	Section: <u>2</u>	Township: <u>6S</u> Range: <u>97W</u> Producing Formation: <u>Williams Fork</u>
<input type="checkbox"/>	Analysis Attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Transported to disposal site via: <input checked="" type="checkbox"/> Pipeline <input checked="" type="checkbox"/> Truck TDS: <u>13,000 mg/l</u>

Add Source:	OGCC Lease No: _____	API No: _____	Well Name & No: _____
<input type="checkbox"/>	Operator Name: _____		Operator No: _____
Delete Source:	Location: QtrQtr: _____	Section: _____	Township: _____ Range: _____ Producing Formation: _____
<input type="checkbox"/>	Analysis Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No		Transported to disposal site via: <input type="checkbox"/> Pipeline <input type="checkbox"/> Truck TDS: _____

Add Source:	OGCC Lease No: _____	API No: _____	Well Name & No: _____
<input type="checkbox"/>	Operator Name: _____		Operator No: _____
Delete Source:	Location: QtrQtr: _____	Section: _____	Township: _____ Range: _____ Producing Formation: _____
<input type="checkbox"/>	Analysis Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No		Transported to disposal site via: <input type="checkbox"/> Pipeline <input type="checkbox"/> Truck TDS: _____

Add Source:	OGCC Lease No: _____	API No: _____	Well Name & No: _____
<input type="checkbox"/>	Operator Name: _____		Operator No: _____
Delete Source:	Location: QtrQtr: _____	Section: _____	Township: _____ Range: _____ Producing Formation: _____
<input type="checkbox"/>	Analysis Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No		Transported to disposal site via: <input type="checkbox"/> Pipeline <input type="checkbox"/> Truck TDS: _____

Add Source:	OGCC Lease No: _____	API No: _____	Well Name & No: _____
<input type="checkbox"/>	Operator Name: _____		Operator No: _____
Delete Source:	Location: QtrQtr: _____	Section: _____	Township: _____ Range: _____ Producing Formation: _____
<input type="checkbox"/>	Analysis Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No		Transported to disposal site via: <input type="checkbox"/> Pipeline <input type="checkbox"/> Truck TDS: _____

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Bryan Burns

Signed: [Signature]

Title: Environmental Specialist

Date: 5-24-11

OGCC Approved: _____ Title: _____ Date: _____

CONDITIONS OF APPROVAL, IF ANY:

Dave Nicholson
Berry Petroleum Company - Denver, CO
1999 Broadway, Suite 3700
Denver, CO 80202

Report Summary

Thursday May 12, 2011

Report Number: L514659

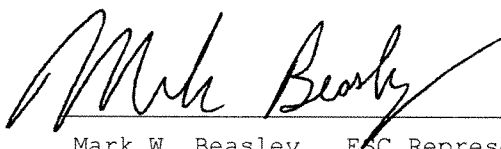
Samples Received: 05/06/11

Client Project: 202-01

Description: Berry Pit Permitting

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:



Mark W. Beasley, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

Dave Nicholson
Berry Petroleum Company - Denver, C
1999 Broadway, Suite 3700
Denver, CO 80202

May 12, 2011

Date Received : May 06, 2011
Description : Berry Pit Permitting
Sample ID : I-02 PW
Collected By : D. Nicholson
Collection Date : 05/05/11 14:40

ESC Sample # : L514659-04

Site ID :

Project # : 202-01

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromide	60.	1.0	mg/l	300.0	05/06/11	1
Chloride	7200	100	mg/l	300.0	05/07/11	100
Fluoride	0.78	0.50	mg/l	300.0	05/07/11	5
Nitrate	BDL	0.10	mg/l	300.0	05/07/11	1
Nitrite	BDL	0.10	mg/l	300.0	05/06/11	1
Sulfate	BDL	5.0	mg/l	300.0	05/06/11	1
Alkalinity	700	20.	mg/l	2320B	05/06/11	1
pH	6.4		su	4500H-B	05/10/11	1
Phosphate, Ortho	BDL	0.62	mg/l	4500P-E	05/07/11	25
Specific Conductance	2100		umhos/cm	120.1	05/11/11	1
Dissolved Solids	13000	10.	mg/l	2540C	05/12/11	1
Selenium, Dissolved	0.12	0.010	mg/l	200.8	05/10/11	10
Calcium, Dissolved	96.	0.50	mg/l	200.7	05/08/11	1
Iron, Dissolved	51.	0.10	mg/l	200.7	05/08/11	1
Magnesium, Dissolved	8.5	0.10	mg/l	200.7	05/08/11	1
Manganese, Dissolved	0.70	0.010	mg/l	200.7	05/08/11	1
Potassium, Dissolved	57.	0.50	mg/l	200.7	05/08/11	1
Sodium, Dissolved	4700	2.5	mg/l	200.7	05/09/11	5
Benzene	19.	0.10	mg/l	602	05/09/11	200
Toluene	33.	1.0	mg/l	602	05/09/11	200
Ethylbenzene	0.96	0.025	mg/l	602	05/07/11	50
Total Xylene	16.	0.075	mg/l	602	05/07/11	50
Surrogate Recovery(%) a,a,a-Trifluorotoluene (PID)	103.		% Rec.	602	05/07/11	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/12/11 13:31 Printed: 05/12/11 13:31

L514659-04 (PORTHO) - diluted due to turbidity interference

L514659-04 (PH) - 6.4@22.1c

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☒ Site/Facility Closure ☐ Other (describe): _____

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 10091

Name of Operator: Berry Petroleum Company

Address: 1999 Broadway, Suite 3700

City: Denver State: CO Zip: 80202

Contact Name and Telephone:

Bryan Burns

No: 3039994245

Fax: 3039994345

API Number: 05-045-19069

County: Garfield / 045

Facility Name: Latham

Facility Number: I-02

Well Name: Latham

Well Number: 2-14D

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NESE, Sec. 2, T6S, R97W, 6th PM Latitude: 39.550104 Longitude: -108.183111

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Drilling fluids, produced water - No Impacts Identified

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☒ Y ☐ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Parachute-Irigul-Rhone association, 25-50% slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Latham Springs (1, 1A, 2, 3), Circle Dot Creek

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):

Extent of Impact:

How Determined:

☐

Soils

N/A

☐

Vegetation

N/A

☐

Groundwater

N/A

☐

Surface Water

N/A

REMEDIAL WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

This Form 27 is intended to notify the COGCC of closure of the Latham I-02 drilling pit. There were no known spills or releases of any kind to the environment, so no remedial actions have been taken, apart from removal of drilling solids from the pit for land treatment on the well location.

Describe how source is to be removed:

N/A

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

When the pit was closed, drilling fluids were recovered by trucks for beneficial reuse at other drilling locations. Pit solids, such as cuttings, were blended with amendments and piled on the location for land treatment prior to eventual beneficial reuse.



REMEDIATION WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

No impacts to groundwater have been identified.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

Berry is proposing to convert the Latham I-02 drilling pit to a production pit. Reclamation of the pit is proposed after the use of the production pit is complete. A Form 27 describing the final closure of the production pit will include reclamation details.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

Since no impacts have occurred, no sampling or remediation activities have been carried out.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

Drilling pit solids are presently undergoing land treatment on the Latham I-02 location. Those solids will be tested for compliance with Table 910-1. Once the solids achieve the 910-1 limits, they will be put to beneficial reuse or backfilled into the pit excavation at the time of final pit reclamation.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: _____ Date Site Investigation Completed: _____ Date Remediation Plan Submitted: _____
Remediation Start Date: _____ Anticipated Completion Date: _____ Actual Completion Date: _____

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Bryan Burns

Signed: _____

Title: Environmental Specialist

Date: 5-24-2011

OGCC Approved: _____ Title: _____ Date: _____