FORM 4
Rev 12/05

02106531

# State of Colorado
# Oil and Gas Conservation Commission

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

DE | ET | DE | ES

Received COGCC
January 31 2013
Rifle Office

## SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 10091
2. Name of Operator: Berry Petroleum
3. Address: 1999 Broadway Suite 3700
City: Denver State: CO Zip: 80202
4. Contact Name: Heidi Bang
Phone: 303-999-4262
Fax: 303-999-4362
5. API Number 05-
6. Well/Facility Name: GRANLEE OM B10 696 PAD 7. Well/Facility Number Pit # 415485
OGCC Facility ID Number 335677
8. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNE, SEC. 10, T6S, R96W
9. County: GARFIELD 10. Field Name:
11. Federal, Indian or State Lease Number:

Complete the Attachment Checklist

| | OP | OGCC |
|---|---|---|
| Survey Plat | | |
| Directional Survey | | |
| Surface Eqpmt Diagram | | |
| Technical Info Page | X | |
| Other | | |

## General Notice

☐ CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

| | FNL/FSL | | FEL/FWL | |
|---|---|---|---|---|
| Change of **Surface** Footage **from** Exterior Section Lines: | | | | |
| Change of **Surface** Footage **to** Exterior Section Lines: | | | | |
| Change of **Bottomhole** Footage **from** Exterior Section Lines: | | | | |
| Change of **Bottomhole** Footage **to** Exterior Section Lines: | | | | attach directional survey |

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer
Latitude
Longitude
Ground Elevation
Distance to nearest property line
Distance to nearest lease line
Distance to nearest well same formation
Distance to nearest bldg, public rd, utility or RR
Is location in a High Density Area (rule 603b)? Yes/No
Surface owner consultation date:

GPS DATA:
Date of Measurement PDOP Reading Instrument Operator's Name

☐ CHANGE SPACING UNIT

| Formation | Formation Code | Spacing order number | Unit Acreage | Unit configuration |
|---|---|---|---|---|
| | | | | |

☐ Remove from surface bond
Signed surface use agreement attached

☐ CHANGE OF OPERATOR (prior to drilling):
Effective Date:
Plugging Bond: ☐ Blanket ☐ Individual

☐ CHANGE WELL NAME NUMBER
From:
To:
Effective Date:

☐ ABANDONED LOCATION:
Was location ever built? ☐ Yes ☐ No
Is site ready for Inspection? ☐ Yes ☐ No
Date Ready for Inspection:

☐ NOTICE OF CONTINUED SHUT IN STATUS
Date well shut in or temporarily abandoned:
Has Production Equipment been removed from site? ☐ Yes ☐ No
MIT required if shut in longer than two years. Date of last MIT

☐ SPUD DATE:

☐ REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)

☐ SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK *submit cbl and cement job summaries

| Method used | Cementing tool setting/perf depth | Cement volume | Cement top | Cement bottom | Date |
|---|---|---|---|---|---|
| | | | | | |

☐ RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately
☐ Final reclamation is completed and site is ready for inspection.

## Technical Engineering/Environmental Notice

☐ Notice of Intent
Approximate Start Date:

☐ Report of Work Done
Date Work Completed:

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

| | | |
|---|---|---|
| ☐ Intent to Recomplete (submit form 2) | ☐ Request to Vent or Flare | ☐ E&P Waste Disposal |
| ☐ Change Drilling Plans | ☐ Repair Well | ☐ Beneficial Reuse of E&P Waste |
| ☐ Gross Interval Changed? | ☒ Rule 502 variance requested | ☐ Status Update/Change of Remediation Plans |
| ☐ Casing/Cementing Program Change | ☐ Other: | for Spills and Releases |

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

Signed: Bryan Burns Date: 1/28/13 Email: BOB@BRY.COM
Print Name: Bryan Burns Title: Environmental Specialist

COGCC Approved: Dave Kubeczko Title: Oil and Gas Location Assessment Specialist, Western Colorado Date: March 20, 2013

CONDITIONS OF APPROVAL, IF ANY:

On March 20, 2013, a variance from the requirements set forth in the 100-Series definitions that multi-well pits will be used for no more than three (3) years, was granted to Berry Petroleum Company (Operator No. 10091) for two (2) locations (Granlee Old Mountain I02 696 Pad, OGCC ID#335617, Pit ID#291074 [Form 15#1433669] and Granlee Old Mountain B10 696 Pad, OGCC ID#335677, Pit ID#415485 [Form 15#1632591]) in Garfield County.
Berry will be allowed to operate the subject pits (Form 15 #1433669 "I02" and #1632591 "B10", Pit Permits expired on February 8, 2013) until January 31, 2014, by which time Berry will have completed construction of their proposed P-32 Centralized Water Storage Facility, which is currently under Form 28 review, and close these pits under an approved Form 27.
The operator has and shall continue to conduct semi-annual visual inspections and in addition, will conduct a 72-hour hydrostatic test when conditions allow.

FORM 4 Rev 12/05

# TECHNICAL INFORMATION PAGE

FOR OGCC USE ONLY

Received COGCC January 31 2013 Rifle

1. OGCC Operator Number: 10091 API Number: _____
2. Name of Operator: BERRY PETROLEUM COMPANY OGCC Facility ID # 335677
3. Well/Facility Name: GRANLEE OM B10 696 PAD Well/Facility Number: Pit # 415485
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNE, SEC. 10, T6S, R96W

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

Berry Petroleum Company is requesting an extension of the B-10 water impoundment Form 15 until July 31, 2013 (currently expires February 8th, 2013). Due to the likelihood of inclement weather conditions, snow cover, run-off, and sensitive wildlife habitat restrictions, Berry would like a 6 month extension to allow for reclamation of the B-10 and construction of the P-32 Centralized Water Storage Facility during better conditions.

In the interim, Berry will continue to utilize the B-10 impoundment for water storage as needed.

To comply with COGCC 904.b. (2) & (3), liner specifications, Berry will implement the following manufacturer recommended and voluntary maintenance protocols.

- Conduct controlled visual inspections semi-annually that are documented by the inspector. One shall occur at the start of spring (end of winter) and the other during mid-summer. Visual inspections will be conducted by a properly trained production tech or qualified 3rd party inspector (liner installer). The inspections will consist of:

*Visually inspecting the exposed liner side walls and liner bottom if the pit does not contain solids or liquids. Note that it is not necessary to drain the pond to conduct the visual inspection. The inspector will look for rips, tears, or other signs of wear on the liner or for signs of stress separations along the liner seams. The inspector will also determine if the liner is thinning or being stretched due to environmental conditions (wind or weathering) or UV light exposure. If the liner has a rip, tear, or a seam has separated, they will notify Berry to have the liner repaired.

- In addition to the visual inspection, Berry will voluntarily conduct a 72-hour hydrotest when conditions allow.

Field pumpers, water haulers, or other personnel providing routine support on location will visually inspect the fluid level within the pit. If high fluid levels are observed, the reserve pit fluid level will be brought down to below two feet freeboard.

Discussed with COGCC Director on March 20, 2013. OK to approve.


# BERRY WATERLINE PIPELINE SYSTEM

## OLD MOUNTAIN

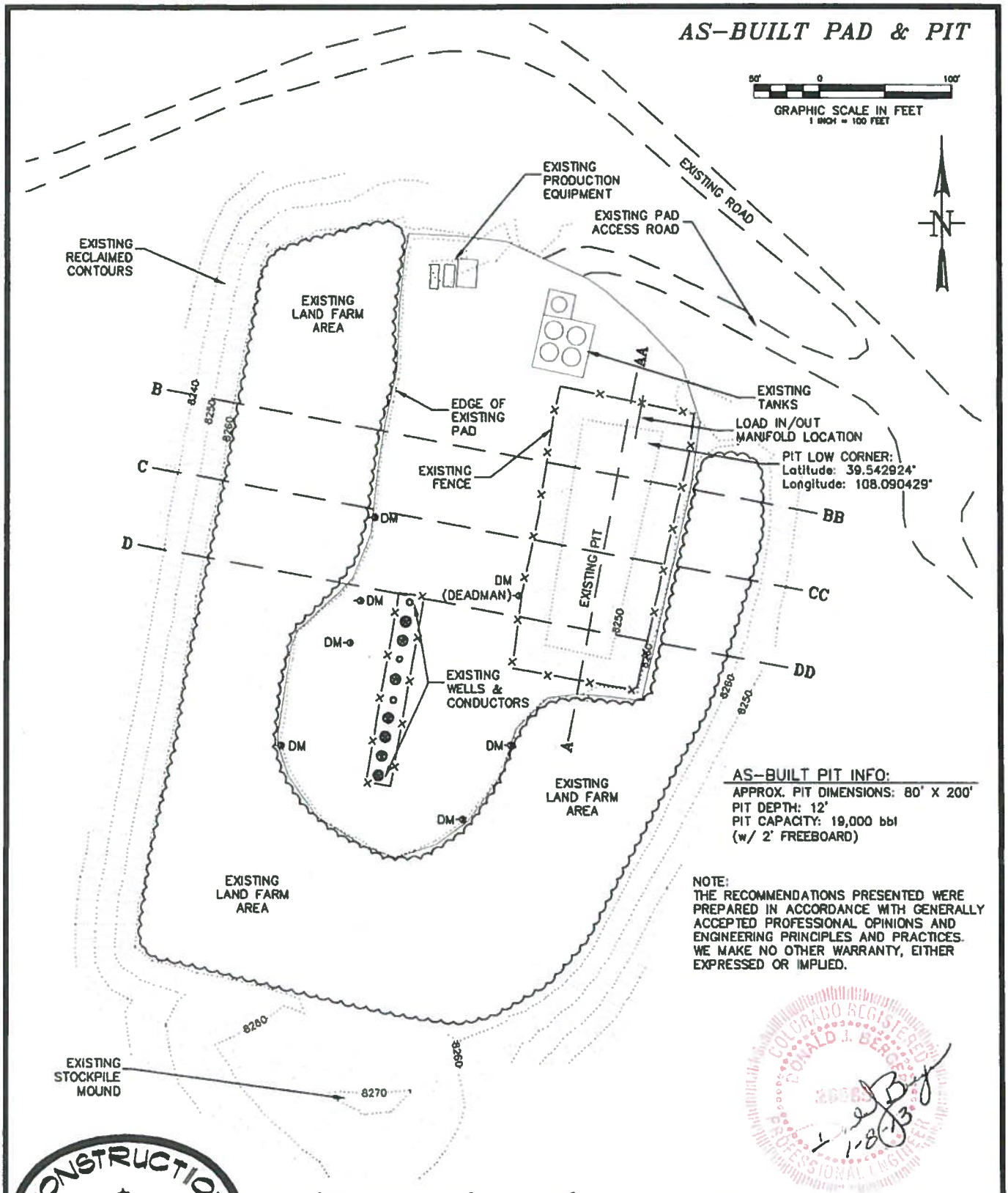
GARFIELD COUNTY, COLORADO

GRAPHIC SCALE IN FEET

CONSTRUCTION SURVEYS, INC.
607 SUNRISE BLVD
SILT, CO 81652
970.876.5153

| SURVEYED BY: MM | DRAFTED BY: BN | CHECKED BY: DB |
|---|---|---|
| DATE: 09/23/2012 | DWG: BERRY\2008\BERRY-PIPES.dwg | SHEET 1 OF 1 |

# AS-BUILT PAD & PIT




## AS-BUILT PIT INFO:

APPROX. PIT DIMENSIONS: 80' X 200'
PIT DEPTH: 12'
PIT CAPACITY: 19,000 bbl
(w/ 2' FREEBOARD)

NOTE:
THE RECOMMENDATIONS PRESENTED WERE PREPARED IN ACCORDANCE WITH GENERALLY ACCEPTED PROFESSIONAL OPINIONS AND ENGINEERING PRINCIPLES AND PRACTICES. WE MAKE NO OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED.

COLORADO REGISTERED
DONALD J. BERRY
PROFESSIONAL ENGINEER
1-8-13

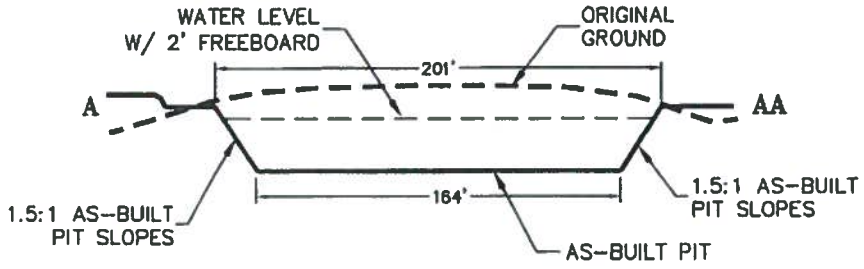
CONSTRUCTION SURVEYS
SILT COLO.

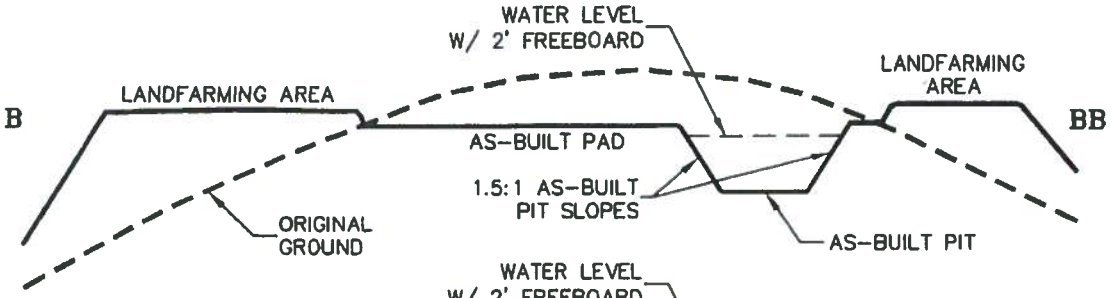

CONSTRUCTION SURVEYS, INC.
0012 SUNRISE BLVD.
SILT, CO 81652
(970)876-5753

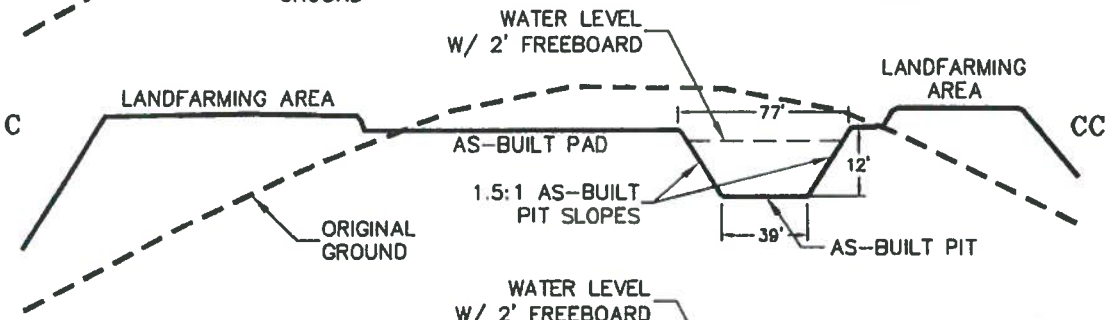

Old Mountain B10-696
N 1/2 NE 1/4 SECTION 10, T. 6 S., R. 96 W.
BERRY PETROLEUM COMPANY

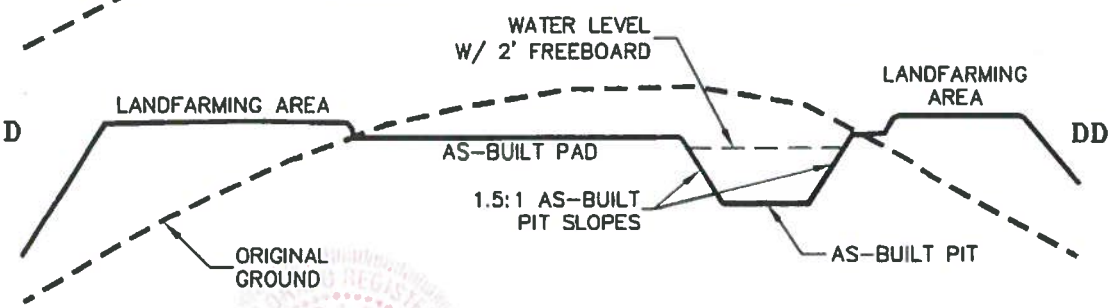
DATE: 01/03/13 | SHEET: 1 OF 2

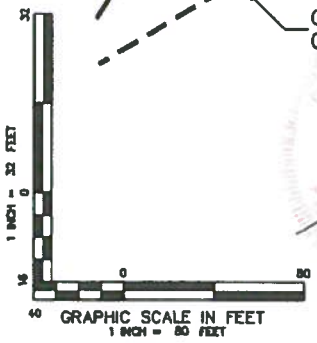
# AS-BUILT PRODUCTION PIT X-SECTIONS

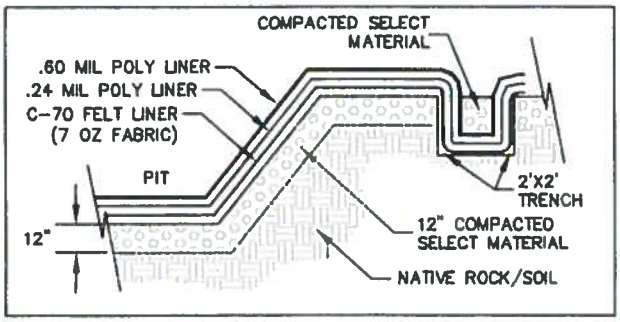



N.T.S.

CLOSE UP X-SECTION VIEW OF BERRY TYPICAL DESIGN


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


Old Mountain B10-696
N 1/2 NE 1/4 SECTION 10, T. 6 S., R. 96 W.
BERRY PETROLEUM COMPANY

DATE: 01/03/13 | SHEET: 2 OF 2


**LEGEND**

- Fill Slope
- Cut Slope
- Drainage Ditch
- Topsoil Stockpile
- Lined Reserve Pit
- Wellhead
- Sediment Trap
- Construction Boundary/Area of Disturbance
- Directional Flow
- Spoils Land Farm
- Dirt Berm

| | | | |
|---|---|---|---|
| Old Mountain Field Section I<br>Pad Site B-10<br><br>Garfield County, CO | Prepared For:<br>Berry Petroleum Company<br>1999 Broadway, Suite 3700<br>Denver, CO 80202 | Prepared By:<br>SUMMIT SERVICES GROUP<br>7796 East Napa Place<br>Denver, Colorado<br>80237 | SHEET REFERENCE NUMBER:<br><br>Pad Site<br>2 of 5 |

# Old Mountain B10-696 Location Pictures: North & South

PHOTO FACING NORTH, TAKEN ON DECEMBER 14, 2012

PHOTO FACING SOUTH, TAKEN ON DECEMBER 14, 2012

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

Old Mountain B10-696
N 1/2 NE 1/4 SECTION 10, T. 6 S., R. 96 W.
BERRY PETROLEUM COMPANY

# Old Mountain B10-696 Location Pictures: East & West

PHOTO FACING EAST, TAKEN ON DECEMBER 14, 2012

PHOTO FACING WEST, TAKEN ON DECEMBER 14, 2012

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

Old Mountain B10-696
N 1/2 NE 1/4 SECTION 10, T. 6 S., R. 96 W.
BERRY PETROLEUM COMPANY

# Berry Petroleum Company

## B10 696 Pad History

- April 24, 2007 - Preconstruction meeting held with EnCana (landowner)
- May, 2007 – Survey and field stake pad (Uintah Engineering)
- August – September 2007 - Construct pad and pit (MB Construction)
- September - October 2007 – Install liner in pit (Roustabout Specialties)
- October 2007 – Final grade on pad surface (MB Construction)
- November 12, 2007 – Spud first well on pad (Patterson 175)
- February 29, 2008 – Complete drilling of wells (Patterson 175)
- April 2008 – Clean drill cuttings out of pit (Moody Construction)
- May – June 2008 – Build frac pit (MB Construction)
- June 2008 – Install liner in frac pit (Roustabout Specialties)
- June 18, 2008 - October 10, 2008 – Completion activities: perf and frac 7 wells
- July 2008 – Install fence and bird net on pit (Roustabout Specialties)
- March 2010 – Remove fence, bird net, clean mud and water out of pit, pull liner out of pit, prepare bottom of pit, install 24 mil and 60 mil liner in pit, replace fence and bird net (Bolton Construction)
- April 3, 2010 – Hydrotest liner (Bolton Construction)
- July 2010 – Dispose of old liner to landfill (Rio Blanco County)
- June 2011 – Repair fence and net (Bolton Construction)
- January 2012 – Pull bird net off pit (Bolton Construction)
- April 2012 – Pull bird net over pit (Bolton Construction)
- October 2012 – Soil samples of pit spoil – TPH high (Nicholson GeoSolutions)
- November 2012 – Pull bird net off pit (Bolton Construction)
- November 2012 – Spread out spoil pile onto location and landfarm (Moody Construction)

December 12, 2012

1632591

"OM B-10"

FORM 15 Rev 6/99

# 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

## 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 (Multi Well Pit)

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:
Chris Freeman
No: 303-999-4400
Fax: 303-999-4401

API Number (of associated well): See attached sheet OGCC Facility ID (of other associated facility): 335677
Pit Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNE 1/4 Section 10, T 6 South, R 96 West
Latitude: 39.542272 Longitude: -108.091089 County: Garfield
Pit Use: ☑ Production ☐ Drilling (Attach mud program) ☐ Special Purpose (Describe Use):
Pit Type: ☑ Lined ☐ Unlined Surface Discharge Permit: ☐ Yes ☑ No
Offsite disposal of pit contents: ☐ Injection ☑ Commercial Pit/Facility Name: Danish Flats Pit/Facility No: Utah
**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: 2,200' ground water: approx. 800' water wells: 8,700'
**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): Natural Gas Well Pad
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: CO683 Soil Complex/Series No:
Soils Series Name: Parachute-Rhone Loams 5-30% slopes Horizon thickness (in inches): A: ; B: ; C:
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: 200' Width: 70' Depth: 15' + 2' freeboard
Calculated pit volume (bbls): 18,610 Daily inflow rate (bbls/day): variable
Daily disposal rates (attach calculations): Evaporation: bbls/day Percolation: bbls/day
Type of liner material: Polyethylene Plastic Thickness: 24-mil, double lined
**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/Production units, located at production pads.
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: Chris Freeman Signed:
Title: Environmental Manager Date: 2/10/2010

OGCC Approved: Title: Date:
CONDITIONS OF APPROVAL, IF ANY:

**FACILITY NUMBER:**

# COGIS - LOCATION Information

Related GIS Doc

## GRANLEE OM-66S96W - #335677 Information

**Status: AC**

| | | | |
|---|---|---|---|
| Location ID: | 335677 | Location Name/No: | GRANLEE OM-66S96W /10NWNE |
| Location Status: | AC | Status Date: | 4/14/2009 |
| Operator Name: | BERRY PETROLEUM COMPANY | Operator Number: | 10091 |
| County: | GARFIELD - #045 | Location: | NWNE 10 6S 96W |
| | | Lat/Long: | 39.542272/-108.091089 |
| Facility Type: | LOCATION | | |

### Facility Well(s)

| | | | |
|---|---|---|---|
| API Number: | 05-045-12848 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | XX | | |
| API Number: | 05-045-12849 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | XX | | |
| API Number: | 05-045-12850 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | XX | | |
| API Number: | 05-045-12852 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | WO | | |
| API Number: | 05-045-12853 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | WO | | |
| API Number: | 05-045-12854 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | PR | | |

FIGURE #2

# BERRY PETROLEUM COMPANY

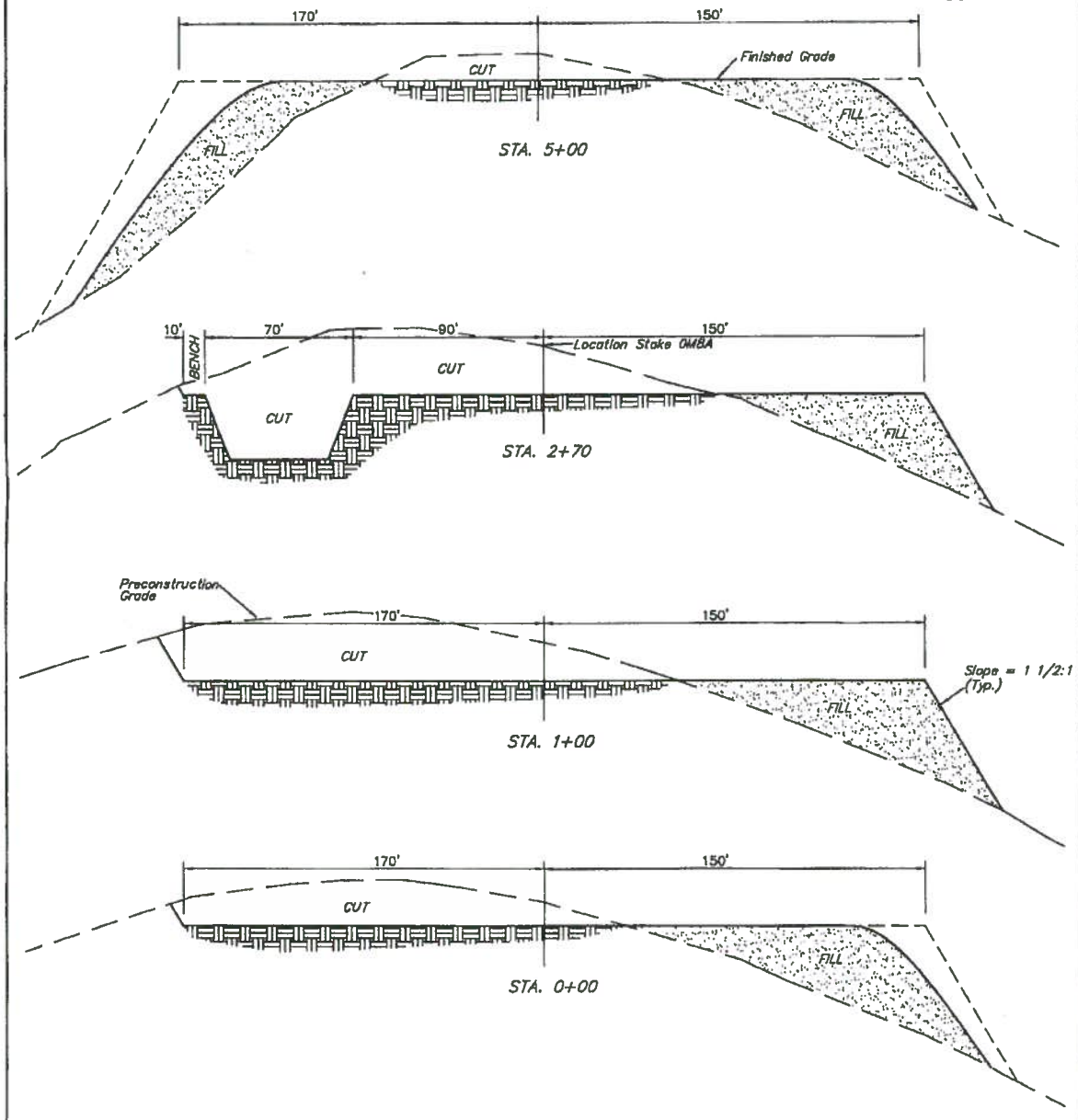
## TYPICAL CROSS SECTIONS FOR

WELL PAD B10 696
SECTION 10, T6S, R96W, 6th P.M.
NW 1/4 NE 1/4

1" = 20'
X-Section Scale
1" = 50'

DATE: 08-10-06
Drawn By: D.R.B.
Revised: 04-30-07 D.R.B.

ROBERT L. KAY
REGISTERED
17492
LAND SURVEYOR
STATE OF COLORADO




## APPROXIMATE YARDAGES

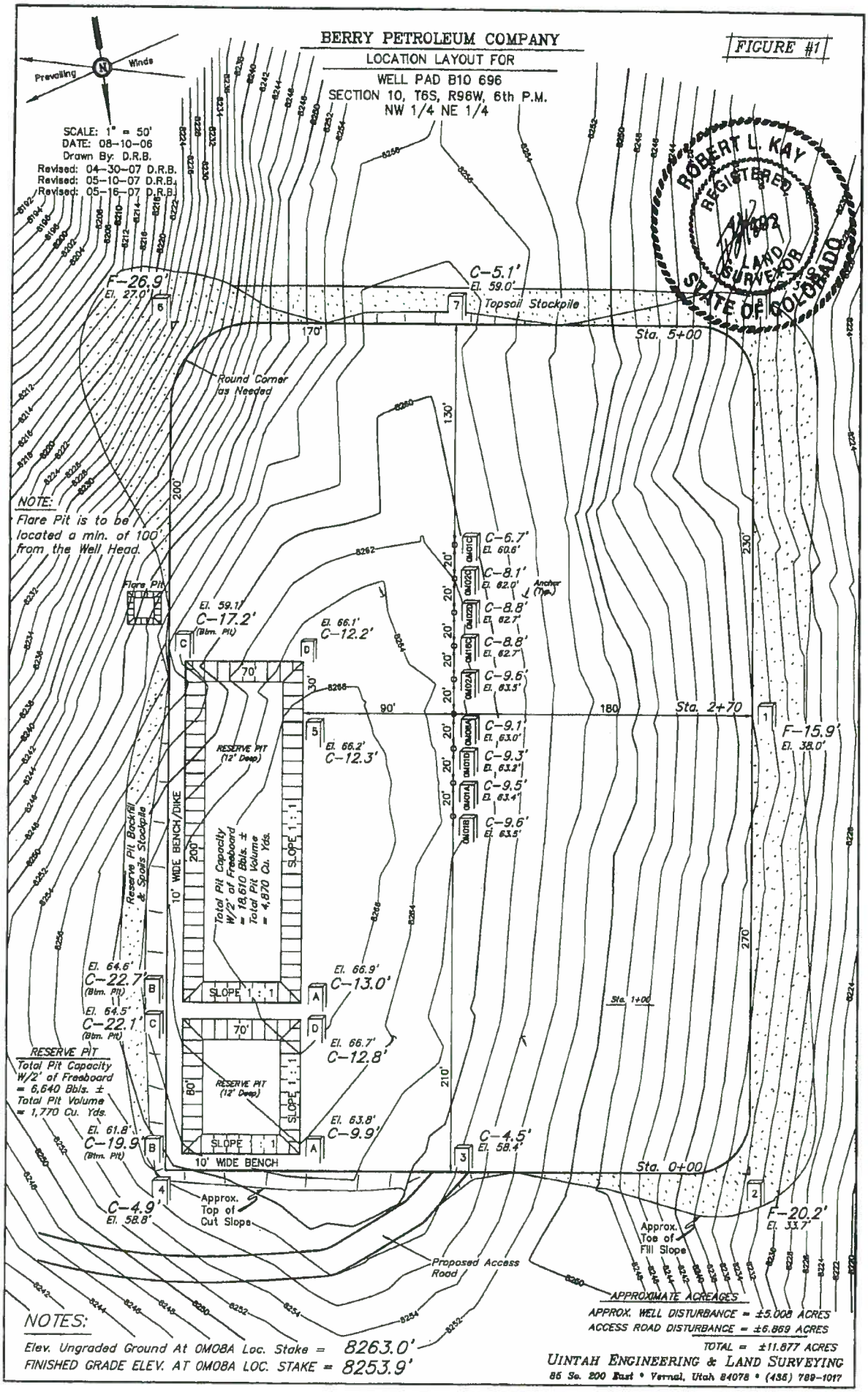
CUT
(6") Topsoil Stripping = 4,110 Cu. Yds.
Remaining Location = 35,670 Cu. Yds.

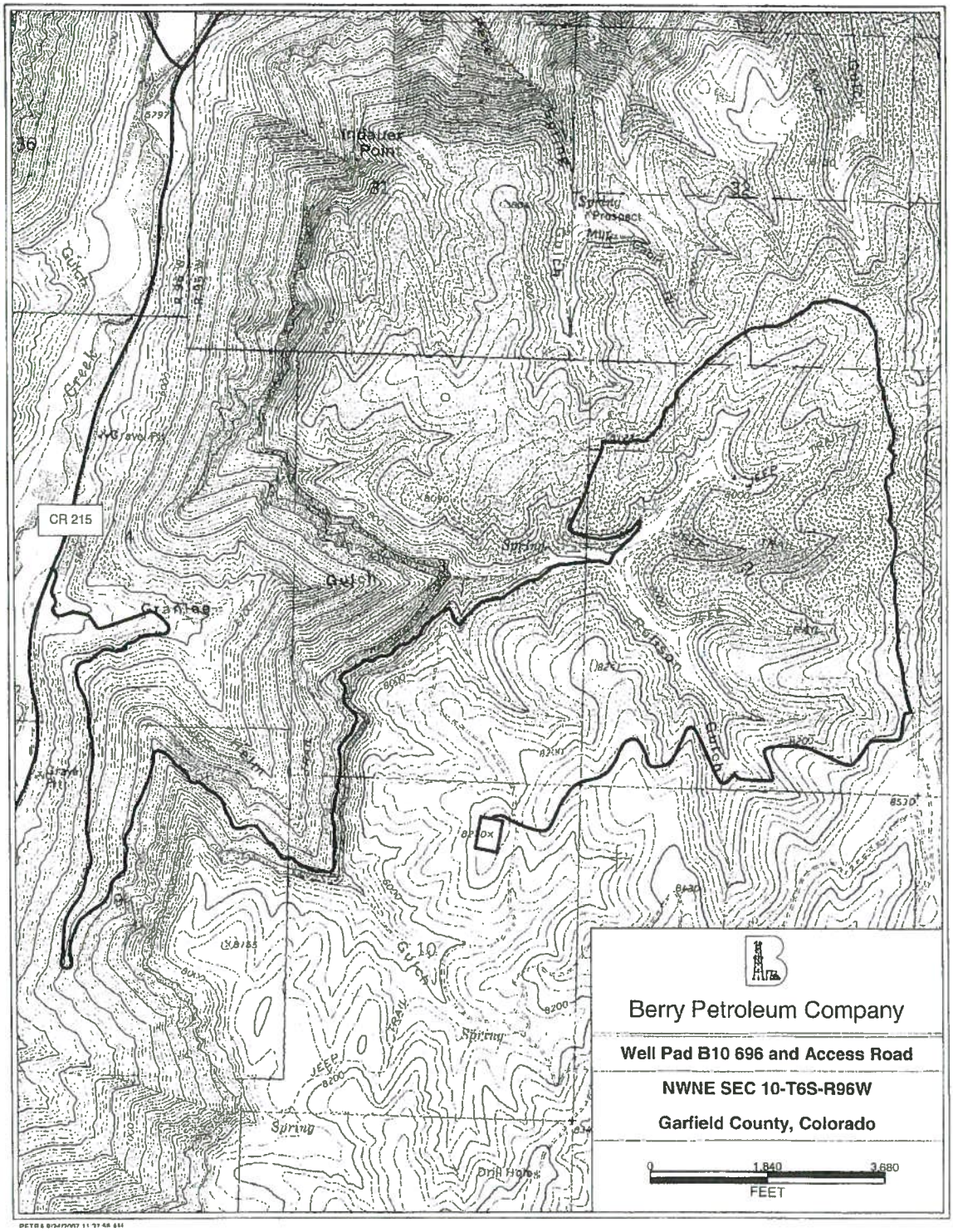
TOTAL CUT = 39,780 CU.YDS.
FILL = 32,350 CU.YDS.

* NOTE:
FILL QUANTITY INCLUDES 5% FOR COMPACTION

EXCESS MATERIAL = 7,430 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.) = 7,430 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation) = 0 Cu. Yds.


UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (435) 789-1017


BERRY PETROLEUM COMPANY
LOCATION LAYOUT FOR
WELL PAD B10 696
SECTION 10, T6S, R96W, 6th P.M.
NW 1/4 NE 1/4
FIGURE #1
Prevailing Winds
SCALE: 1" = 50'
DATE: 08-10-06
Drawn By: D.R.B.
Revised: 04-30-07 D.R.B.
Revised: 05-10-07 D.R.B.
Revised: 05-16-07 D.R.B.
ROBERT L. KAY
REGISTERED
LAND SURVEYOR
STATE OF COLORADO
C-5.1'
El. 59.0'
Topsoil Stockpile
F-26.9'
El. 27.0'
Sta. 5+00
Round Corner as Needed
NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.
Flare Pit
El. 59.1'
C-17.2'
(Btm. Pit)
El. 66.1'
C-12.2'
C-6.7'
El. 60.6'
C-8.1'
El. 62.0'
C-8.8'
El. 62.7'
C-8.8'
El. 62.7'
C-9.6'
El. 63.5'
Anchor (Typ.)
Sta. 2+70
F-15.9'
El. 38.0'
C-9.1'
El. 63.0'
C-9.3'
El. 63.2'
C-9.5'
El. 63.4'
C-9.6'
El. 63.5'
El. 66.2'
C-12.3'
RESERVE PIT
(12' Deep)
Total Pit Capacity
W/2' of Freeboard
= 19,610 Bbls. ±
Total Pit Volume
= 4,870 Cu. Yds.
Reserve Pit Backfill & Spoils Stockpile
10' WIDE BENCH/DIKE
SLOPE 1 : 1
El. 64.6'
C-22.7'
(Btm. Pit)
El. 64.5'
C-22.1'
(Btm. Pit)
El. 66.9'
C-13.0'
El. 66.7'
C-12.8'
RESERVE PIT
Total Pit Capacity
W/2' of Freeboard
= 6,640 Bbls. ±
Total Pit Volume
= 1,770 Cu. Yds.
El. 61.8'
C-19.9'
(Btm. Pit)
El. 63.8'
C-9.9'
C-4.5'
El. 58.4'
Sta. 1+00
Sta. 0+00
10' WIDE BENCH
C-4.9'
El. 58.8'
Approx. Top of Cut Slope
Proposed Access Road
F-20.2'
El. 33.7'
Approx. Toe of Fill Slope
APPROXIMATE ACREAGES
APPROX. WELL DISTURBANCE = ±5.008 ACRES
ACCESS ROAD DISTURBANCE = ±6.869 ACRES
TOTAL = ±11.877 ACRES
NOTES:
Elev. Ungraded Ground At OMOBA Loc. Stake = 8263.0'
FINISHED GRADE ELEV. AT OMOBA LOC. STAKE = 8253.9'
UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (435) 789-1017


CR 215
Berry Petroleum Company
Well Pad B10 696 and Access Road
NWNE SEC 10-T6S-R96W
Garfield County, Colorado
0
1,840
3,680
FEET

FORM 26 Rev 6/99

# 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

## 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.

Complete the Attachment Checklist

| Chemical Analysis of fluid | Oper | OGCC |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

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:
Chris Freeman
No: 303-999-4400
Fax: 303-999-4401

OGCC Disposal Facility Number: N/A, in Utah
Operator's Disposal Facility Name: Danish Flats Operator's Disposal Facility Number: N/A
Location (QtrQtr, Sec, Twp, Rng, Meridian): SWSW 1/4, Sec. 8, T 20 South, R 24 East.
Address: 510 South, 600 East
City: Salt Lake City State: UT Zip: 84102 County: Grand

If more space is required, attach additional sheet.

**Add Source** ☑ **Delete Source** ☐
OGCC Lease No: 335617 API No: See attached sheet Well Name & No: See attached sheet
Operator Name: Berry Petroleum Company Operator No: 10091
Location: QtrQtr: NW NE Section: 2 Township: 6 South Range: 96 West Producing Formation: Williams Fork
Analysis Attached? ☑Yes ☐No Transported to disposal site via: ☐Pipeline ☑Truck TDS: 21,000 mg/l

**Add Source** ☑ **Delete Source** ☐
OGCC Lease No: 335677 API No: See attached sheet Well Name & No: See attached sheet
Operator Name: Berry Petroleum Company Operator No: 10091
Location: QtrQtr: NW NE Section: 10 Township: 6 South Range: 96 West Producing Formation: Williams Fork
Analysis Attached? ☑Yes ☐No Transported to disposal site via: ☐Pipeline ☑Truck TDS: 16,000 mg/l

**Add Source** ☑ **Delete Source** ☐
OGCC Lease No: 335876 API No: See attached sheet Well Name & No: See attached sheet
Operator Name: Berry Petroleum Company Operator No: 10091
Location: QtrQtr: NE NW Section: 10 Township: 6 South Range: 96 West Producing Formation: Williams Fork
Analysis Attached? ☑Yes ☐No Transported to disposal site via: ☐Pipeline ☑Truck TDS: 21,000 mg/l

**Add Source** ☑ **Delete Source** ☐
OGCC Lease No: 335991 API No: See attached sheet Well Name & No: See attached sheet
Operator Name: Berry Petroleum Company Operator No: 10091
Location: QtrQtr: NE SW Section: 15 Township: 6 South Range: 96 West Producing Formation: Williams Fork
Analysis Attached? ☑Yes ☐No Transported to disposal site via: ☐Pipeline ☑Truck TDS: 12,000 mg/l

**Add Source** ☐ **Delete Source** ☐
OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? ☐Yes ☐No Transported to disposal site via: ☐Pipeline ☐Truck TDS:

**Add Source** ☐ **Delete Source** ☐
OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? ☐Yes ☐No Transported to disposal site via: ☐Pipeline ☐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: Chris Freeman Signed:
Title: Environmental Manager Date: 2/4/2010

OGCC Approved: Title: Date:

CONDITIONS OF APPROVAL, IF ANY:

# COGIS - LOCATION Information

Related GIS Doc

## GRANLEE OM-66S96W - #335617 Information Status: AC

Location ID: 335617
Location Status: AC
Operator Name: BERRY PETROLEUM COMPANY
County: GARFIELD - #045
Facility Type: LOCATION

Location Name/No: GRANLEE OM-66S96W /2SENE
Status Date: 4/14/2009
Operator Number: 10091
Location: SENE 2 6S 96W
Lat/Long: 39.55364/-108.06852

### Facility Well(s)

API Number: 05-045-12879 Operator Name: BERRY PETROLEUM COMPANY
Well Status: AL

API Number: 05-045-12880 Operator Name: BERRY PETROLEUM COMPANY
Well Status: PR

API Number: 05-045-12881 Operator Name: BERRY PETROLEUM COMPANY
Well Status: PR

API Number: 05-045-12882 Operator Name: BERRY PETROLEUM COMPANY
Well Status: PR

API Number: 05-045-12883 Operator Name: BERRY PETROLEUM COMPANY
Well Status: PR

API Number: 05-045-12884 Operator Name: BERRY PETROLEUM COMPANY
Well Status: XX

API Number: 05-045-12885 Operator Name: BERRY PETROLEUM COMPANY
Well Status: XX

API Number: 05-045-12886 Operator Name: BERRY PETROLEUM COMPANY
Well Status: XX

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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 10, 2009

Date Received : November 07, 2009
Description :

Sample ID : OMI-02-PW

Collected By : Dave Nicholson
Collection Date : 11/05/09 15:15

ESC Sample # : L431038-14

Site ID :

Project # : 407-36

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Bromide | 91. | 1.0 | mg/l | 9056 | 11/07/09 | 1 |
| Chloride | 12000 | 100 | mg/l | 9056 | 11/08/09 | 100 |
| Fluoride | BDL | 10. | mg/l | 9056 | 11/08/09 | 100 |
| Nitrate | BDL | 10. | mg/l | 9056 | 11/08/09 | 100 |
| Nitrite | BDL | 0.10 | mg/l | 9056 | 11/07/09 | 1 |
| Sulfate | BDL | 5.0 | mg/l | 9056 | 11/07/09 | 1 |
| Alkalinity | 850 | 200 | mg/l | 2320B | 11/09/09 | 10 |
| Alkalinity,Bicarbonate | 850 | 20. | mg/l | 2320B | 11/09/09 | 1 |
| Alkalinity,Hydroxide | BDL | 20. | mg/l | 2320B | 11/09/09 | 1 |
| pH | 6.2 | | su | 9040C | 11/10/09 | 1 |
| Phosphate,Ortho | 1.8 | 0.12 | mg/l | 4500P-E | 11/07/09 | 5 |
| Specific Conductance | 3300 | | umhos/cm | 9050A | 11/09/09 | 1 |
| Dissolved Solids | 21000 | 10. | mg/l | 2540C | 11/10/09 | 1 |
| Calcium,Dissolved | 240 | 0.50 | mg/l | 6010B | 11/09/09 | 1 |
| Iron,Dissolved | 110 | 0.10 | mg/l | 6010B | 11/09/09 | 1 |
| Magnesium,Dissolved | 23. | 0.10 | mg/l | 6010B | 11/09/09 | 1 |
| Manganese,Dissolved | 1.6 | 0.010 | mg/l | 6010B | 11/09/09 | 1 |
| Potassium,Dissolved | 83. | 0.50 | mg/l | 6010B | 11/10/09 | 1 |
| Selenium,Dissolved | BDL | 0.020 | mg/l | 6010B | 11/09/09 | 1 |
| Sodium,Dissolved | 7600 | 5.0 | mg/l | 6010B | 11/09/09 | 10 |
| Benzene | 12. | 0.10 | mg/l | 8021B | 11/10/09 | 200 |
| Toluene | 20. | 1.0 | mg/l | 8021B | 11/10/09 | 200 |
| Ethylbenzene | 0.93 | 0.0050 | mg/l | 8021B | 11/08/09 | 10 |
| Total Xylene | 11. | 0.30 | mg/l | 8021B | 11/10/09 | 200 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 96.9 | | % Rec. | 8021B | 11/08/09 | 10 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 11/10/09 16:41 Printed: 11/10/09 16:42
L431038-14 (PH) - 6.2@19.2c

# COGIS - LOCATION Information

Related GIS Doc

## GRANLEE OM-66S96W - #335677 Information Status: AC

Location ID: 335677
Location Status: AC
Operator Name: BERRY PETROLEUM COMPANY
County: GARFIELD - #045
Facility Type: LOCATION

Location Name/No: GRANLEE OM-66S96W /10NWNE
Status Date: 4/14/2009
Operator Number: 10091
Location: NWNE 10 6S 96W
Lat/Long: 39.542272/-108.091089

### Facility Well(s)

API Number: 05-045-12848 Operator Name: BERRY PETROLEUM COMPANY
Well Status: XX

API Number: 05-045-12849 Operator Name: BERRY PETROLEUM COMPANY
Well Status: XX

API Number: 05-045-12850 Operator Name: BERRY PETROLEUM COMPANY
Well Status: XX

API Number: 05-045-12852 Operator Name: BERRY PETROLEUM COMPANY
Well Status: WO

API Number: 05-045-12853 Operator Name: BERRY PETROLEUM COMPANY
Well Status: WO

API Number: 05-045-12854 Operator Name: BERRY PETROLEUM COMPANY
Well Status: PR

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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 10, 2009

Date Received : November 07, 2009
Description :

Sample ID : OMB-10-PW

Collected By : Dave Nicholson
Collection Date : 11/05/09 16:00

ESC Sample # : L431038-15

Site ID :

Project # : 407-36

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Bromide | 67. | 1.0 | mg/l | 9056 | 11/07/09 | 1 |
| Chloride | 9700 | 100 | mg/l | 9056 | 11/08/09 | 100 |
| Fluoride | BDL | 10. | mg/l | 9056 | 11/08/09 | 100 |
| Nitrate | BDL | 0.10 | mg/l | 9056 | 11/07/09 | 1 |
| Nitrite | BDL | 0.10 | mg/l | 9056 | 11/07/09 | 1 |
| Sulfate | BDL | 5.0 | mg/l | 9056 | 11/07/09 | 1 |
| Alkalinity | 670 | 200 | mg/l | 2320B | 11/09/09 | 10 |
| Alkalinity,Bicarbonate | 670 | 20. | mg/l | 2320B | 11/09/09 | 1 |
| Alkalinity,Hydroxide | BDL | 20. | mg/l | 2320B | 11/09/09 | 1 |
| pH | 6.2 | | su | 9040C | 11/10/09 | 1 |
| Phosphate,Ortho | 0.97 | 0.050 | mg/l | 4500P-E | 11/07/09 | 2 |
| Specific Conductance | 27000 | | umhos/cm | 9050A | 11/09/09 | 1 |
| Dissolved Solids | 16000 | 10. | mg/l | 2540C | 11/10/09 | 1 |
| Calcium,Dissolved | 200 | 0.50 | mg/l | 6010B | 11/09/09 | 1 |
| Iron,Dissolved | 61. | 0.10 | mg/l | 6010B | 11/09/09 | 1 |
| Magnesium,Dissolved | 16. | 0.10 | mg/l | 6010B | 11/09/09 | 1 |
| Manganese,Dissolved | 0.67 | 0.010 | mg/l | 6010B | 11/09/09 | 1 |
| Potassium,Dissolved | 66. | 0.50 | mg/l | 6010B | 11/10/09 | 1 |
| Selenium,Dissolved | BDL | 0.020 | mg/l | 6010B | 11/09/09 | 1 |
| Sodium,Dissolved | 5600 | 5.0 | mg/l | 6010B | 11/09/09 | 10 |
| Benzene | 14. | 0.10 | mg/l | 8021B | 11/10/09 | 200 |
| Toluene | 23. | 1.0 | mg/l | 8021B | 11/10/09 | 200 |
| Ethylbenzene | 0.86 | 0.0050 | mg/l | 8021B | 11/08/09 | 10 |
| Total Xylene | 11. | 0.30 | mg/l | 8021B | 11/10/09 | 200 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 95.6 | | % Rec. | 8021B | 11/08/09 | 10 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.


Reported: 11/10/09 16:41 Printed: 11/10/09 16:42
L431038-15 (PH) - 6.2@19.3c

# COGIS - LOCATION Information

Related GIS Doc

## GRANLEE OM-66S96W - #335876 Information

**Status: XX**

| | | | |
|---|---|---|---|
| Location ID: | 335876 | Location Name/No: | GRANLEE OM-66S96W /10NENW |
| Location Status: | XX | Status Date: | 4/14/2009 |
| Operator Name: | BERRY PETROLEUM COMPANY | Operator Number: | 10091 |
| County: | GARFIELD - #045 | Location: | NENW 10 6S 96W |
| | | Lat/Long: | 39.544003/-108.096078 |
| Facility Type: | LOCATION | | |

### Facility Well(s)

| | | | |
|---|---|---|---|
| API Number: | 05-045-13244 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | PR | | |
| API Number: | 05-045-13245 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | XX | | |
| API Number: | 05-045-13246 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | PR | | |
| API Number: | 05-045-13247 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | XX | | |
| API Number: | 05-045-13248 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | PR | | |
| API Number: | 05-045-13249 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | XX | | |
| API Number: | 05-045-13251 | Operator Name: | BERRY PETROLEUM COMPANY |
| Well Status: | PR | | |

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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 10, 2009

Date Received : November 07, 2009
Description :

ESC Sample # : L431038-16

Sample ID : OMC-10-PW

Site ID :

Project # : 407-36

Collected By : Dave Nicholson
Collection Date : 11/05/09 16:30

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Bromide | 80. | 10. | mg/l | 9056 | 11/07/09 | 10 |
| Chloride | 12000 | 100 | mg/l | 9056 | 11/10/09 | 100 |
| Fluoride | BDL | 10. | mg/l | 9056 | 11/10/09 | 100 |
| Nitrate | BDL | 1.0 | mg/l | 9056 | 11/07/09 | 10 |
| Nitrite | BDL | 1.0 | mg/l | 9056 | 11/07/09 | 10 |
| Sulfate | BDL | 50. | mg/l | 9056 | 11/07/09 | 10 |
| Alkalinity | 2000 | 1000 | mg/l | 2320B | 11/09/09 | 50 |
| Alkalinity,Bicarbonate | 2000 | 20. | mg/l | 2320B | 11/09/09 | 1 |
| Alkalinity,Hydroxide | BDL | 20. | mg/l | 2320B | 11/09/09 | 1 |
| pH | 6.9 | | su | 9040C | 11/10/09 | 1 |
| Phosphate,Ortho | BDL | 1.2 | mg/l | 4500P-E | 11/07/09 | 50 |
| Specific Conductance | 3000 | | umhos/cm | 9050A | 11/09/09 | 1 |
| Dissolved Solids | 21000 | 10. | mg/l | 2540C | 11/10/09 | 1 |
| Calcium,Dissolved | 110 | 0.50 | mg/l | 6010B | 11/09/09 | 1 |
| Iron,Dissolved | 1.2 | 0.10 | mg/l | 6010B | 11/09/09 | 1 |
| Magnesium,Dissolved | 10. | 0.10 | mg/l | 6010B | 11/09/09 | 1 |
| Manganese,Dissolved | 0.25 | 0.010 | mg/l | 6010B | 11/09/09 | 1 |
| Potassium,Dissolved | 48. | 0.50 | mg/l | 6010B | 11/10/09 | 1 |
| Selenium,Dissolved | 0.031 | 0.020 | mg/l | 6010B | 11/09/09 | 1 |
| Sodium,Dissolved | 6000 | 5.0 | mg/l | 6010B | 11/10/09 | 10 |
| Benzene | 11. | 0.12 | mg/l | 8021B | 11/10/09 | 250 |
| Toluene | 33. | 1.2 | mg/l | 8021B | 11/10/09 | 250 |
| Ethylbenzene | 2.5 | 0.12 | mg/l | 8021B | 11/10/09 | 250 |
| Total Xylene | 44. | 0.38 | mg/l | 8021B | 11/10/09 | 250 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 95.1 | | % Rec. | 8021B | 11/10/09 | 250 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 11/10/09 16:41 Printed: 11/10/09 16:42
L431038-16 (PH) - 6.9@19.5c

# COGIS - LOCATION Information

Related GIS D

## SCHOOL HOUSE POINT OM-66S96W - #335991 Information Sta

Location ID: **335991**
Location Name/No: **SCHOOL HOUSE POINT OM-66S**
Location Status: **XX**
Status Date: **4/14/2009**
Operator Name: **BERRY PETROLEUM COMPANY**
Operator Number: **10091**
County: **GARFIELD - #045**
Location: **NESW 15 6S 96W**
Lat/Long: **39.522314/-108.097078**
Facility Type: **LOCATION**

### Facility Well(s)

API Number: **05-045-14963** Operator Name: **BERRY PETROLEUM COMPANY**
Well Status: **PR**

API Number: **05-045-14972** Operator Name: **BERRY PETROLEUM COMPANY**
Well Status: **XX**

API Number: **05-045-14973** Operator Name: **BERRY PETROLEUM COMPANY**
Well Status: **XX**

API Number: **05-045-14974** Operator Name: **BERRY PETROLEUM COMPANY**
Well Status: **PR**

API Number: **05-045-14975** Operator Name: **BERRY PETROLEUM COMPANY**
Well Status: **XX**

API Number: **05-045-14976** Operator Name: **BERRY PETROLEUM COMPANY**
Well Status: **XX**

API Number: **05-045-14977** Operator Name: **BERRY PETROLEUM COMPANY**
Well Status: **PR**

API Number: **05-045-14978** Operator Name: **BERRY PETROLEUM COMPANY**
Well Status: **PR**

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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 10, 2009

Date Received : November 07, 2009
Description :

Sample ID : OMK-15-PW

Collected By : Dave Nicholson
Collection Date : 11/05/09 17:00

ESC Sample # : L431038-17

Site ID :

Project # : 407-36

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|---|---|---|---|---|---|---|
| Bromide | 50. | 10. | mg/l | 9056 | 11/07/09 | 10 |
| Chloride | 7800 | 100 | mg/l | 9056 | 11/08/09 | 100 |
| Fluoride | BDL | 10. | mg/l | 9056 | 11/08/09 | 100 |
| Nitrate | BDL | 1.0 | mg/l | 9056 | 11/07/09 | 10 |
| Nitrite | BDL | 1.0 | mg/l | 9056 | 11/07/09 | 10 |
| Sulfate | BDL | 50. | mg/l | 9056 | 11/07/09 | 10 |
| Alkalinity | 860 | 200 | mg/l | 2320B | 11/09/09 | 10 |
| Alkalinity,Bicarbonate | 860 | 20. | mg/l | 2320B | 11/09/09 | 1 |
| Alkalinity,Hydroxide | BDL | 20. | mg/l | 2320B | 11/09/09 | 1 |
| pH | 6.3 | | su | 9040C | 11/10/09 | 1 |
| Phosphate,Ortho | BDL | 0.50 | mg/l | 4500P-E | 11/07/09 | 20 |
| Specific Conductance | 20000 | | umhos/cm | 9050A | 11/09/09 | 1 |
| Dissolved Solids | 12000 | 10. | mg/l | 2540C | 11/10/09 | 1 |
| Calcium,Dissolved | 130 | 0.50 | mg/l | 6010B | 11/09/09 | 1 |
| Iron,Dissolved | 48. | 0.10 | mg/l | 6010B | 11/09/09 | 1 |
| Magnesium,Dissolved | 9.8 | 0.10 | mg/l | 6010B | 11/09/09 | 1 |
| Manganese,Dissolved | 0.78 | 0.010 | mg/l | 6010B | 11/09/09 | 1 |
| Potassium,Dissolved | 27. | 0.50 | mg/l | 6010B | 11/10/09 | 1 |
| Selenium,Dissolved | 0.023 | 0.020 | mg/l | 6010B | 11/09/09 | 1 |
| Sodium,Dissolved | 4100 | 2.5 | mg/l | 6010B | 11/09/09 | 5 |
| Benzene | 12. | 0.025 | mg/l | 8021B | 11/08/09 | 50 |
| Toluene | 32. | 2.5 | mg/l | 8021B | 11/10/09 | 500 |
| Ethylbenzene | 2.9 | 0.025 | mg/l | 8021B | 11/08/09 | 50 |
| Total Xylene | 29. | 0.075 | mg/l | 8021B | 11/08/09 | 50 |
| Surrogate Recovery(%) | | | | | | |
| a,a,a-Trifluorotoluene(PID) | 96.6 | | % Rec. | 8021B | 11/08/09 | 50 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 11/10/09 16:41 Printed: 11/10/09 16:42
L431038-17 (PH) - 6.3@19.3c

FORM 4 Rev 12/05

# State of Colorado
## Oil and Gas Conservation Commission

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



## SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 10091
2. Name of Operator: Berry Petroleum Company
3. Address: 1999 Broadway Suite 3700
   City: Denver State: CO Zip 80202
4. Contact Name: Heidi Bang
   Phone: 303.999.4262
   Fax: ~~303.999.4362~~

Complete the Attachment Checklist

| | OP | OGCC |
|---|---|---|
| Survey Plat | | |
| Directional Survey | | |
| Surface Egmt Diagram | | |
| Technical Info Page | X | |
| Other | | |

5. API Number: _____ OGCC Facility ID Number: _____
6. Well/Facility Name: OM02 and OMB10 698 7. Well/Facility Number: 415484 and 415485
8. Location (QtrQtr, Sec, Twp, Rng, Meridian): SENE Sec. 2,T8S,R96W, and NWNE, Sec 10,T8S,R96W
9. County: Garfield 10. Field Name: Grand Valley
11. Federal, Indian or State Lease Number: _____

### General Notice

☐ **CHANGE OF LOCATION:** Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

| | FNL/FSL | | FEL/FWL | |
|---|---|---|---|---|
| Change of Surface Footage from Exterior Section Lines: | | | | |
| Change of Surface Footage to Exterior Section Lines: | | | | |
| Change of Bottomhole Footage from Exterior Section Lines: | | | | |
| Change of Bottomhole Footage to Exterior Section Lines: | | | | |

attach directional survey

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer: _____

Latitude _____ Distance to nearest property line _____ Distance to nearest bldg, public rd, utility or RR _____
Longitude _____ Distance to nearest lease line _____ Is location in a High Density Area (rule 603b)? Yes/No NO
Ground Elevation _____ Distance to nearest well same formation _____ Surface owner consultation date: NA

**GPS DATA:**
Date of Measurement _____ PDOP Reading _____ Instrument Operator's Name _____

☐ **CHANGE SPACING UNIT**

| Formation | Formation Code | Spacing order number | Unit Acreage | Unit configuration |
|---|---|---|---|---|
| | | | | |

☐ **Remove from surface bond** Signed surface use agreement attached

☐ **CHANGE OF OPERATOR (prior to drilling):**
Effective Date: _____
Plugging Bond: ☐ Blanket ☐ Individual

☐ **CHANGE WELL NAME** NUMBER
From: _____
To: _____
Effective Date: _____

☐ **ABANDONED LOCATION:**
Was location ever built? ☐ Yes ☐ No
Is site ready for inspection? ☐ Yes ☐ No
Date Ready for Inspection: _____

☐ **NOTICE OF CONTINUED SHUT IN STATUS**
Date well shut in or temporarily abandoned: _____
Has Production Equipment been removed from site? ☐ Yes ☐ No
MIT required if shut in longer than two years. Date of last MIT _____

☐ **SPUD DATE:** _____

☐ **REQUEST FOR CONFIDENTIAL STATUS** (6 mos from date casing set)

☐ **SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK** *submit cbl and cement job summaries

| Method used | Cementing tool setting/perf depth | Cement volume | Cement top | Cement bottom | Date |
|---|---|---|---|---|---|
| | | | | | |

☐ **RECLAMATION:** Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately _____ ☐ Final reclamation is completed and site is ready for inspection.

### Technical Engineering/Environmental Notice

☐ Notice of Intent
Approximate Start Date: _____

☐ Report of Work Done
Date Work Completed: _____

**Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)**

| | | |
|---|---|---|
| ☐ Intent to Recomplete (submit form 2) | ☐ Request to Vent or Flare | ☐ E&P Waste Disposal |
| ☐ Change Drilling Plans | ☐ Repair Well | ☐ Beneficial Reuse of E&P Waste |
| ☐ Gross Interval Changed? | ☐ Rule 502 variance requested | ☐ Status Update/Change of Remediation Plans |
| ☐ Casing/Cementing Program Change | X Other: Water Transfer/Reuse Agreement | for Spills and Releases |

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

Signed: Heidi Bang Date: 5/10/12 Email: hsb@bry.com

Print Name: Heidi Bang Title: Regulatory Compliance Assistant

COGCC Approved: _____ Title Env. Supv Date: 5/15/12

CONDITIONS OF APPROVAL, IF ANY:

See Attached COA's

FORM 4 Rev 12/05

# TECHNICAL INFORMATION PAGE

FOR OGCC U

1. OGCC Operator Number: 10091 API Number:
2. Name of Operator: Berry Petroleum Company OGCC Facility ID #
3. Well/Facility Name: OM I02 AND OM B10 696 Well/Facility Number: 415484 and 415485
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SENE Sec. 2,T6S,R96W, and NWNE, Sec.10,T6S,R96W

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. **DESCRIBE PROPOSED OR COMPLETED OPERATIONS**

The attached documents are submitted for your review and approval for the water transfer of produced/flowback water between Encana and Berry.

Berry will be receiving Encana's produced/flowback water from EF D19 595 pit, Facility ID 425839, to Berry's staging points, OM I02 696, Facility ID 415484, and OM B10 696, Facility ID 415485. Water will be used for frac operations at Berry's OM C10 696 pad. All facilities are located in Garfield County, CO.

The water will be transferred using pipelines.

**CONDITIONS OF APPROVAL** AM 8/15/12
**Encana LOCATION ID: 425839**
**Berry Location IDs 415484 and 415485**
**Encana Oil and Gas (USA) Inc. and Berry Petroleum Transfer and Receiving Water Reuse Plans**

COA- APPROVAL OF THIS PLAN IS CONTINGENT UPON ANALYTICAL LABORATORY RESULTS FOR REPRESENTATIVE SAMPLES OF Encana FLOWBACK WATER FROM LOCATION ID: 425839 and Berry Location IDs 415484 and 415485.

RESULTS SHALL BE SUBMITTED TO THE COGCC WITHIN 45 DAYS OF APPROVAL OF THIS PLAN. ANALYTICAL LABORATORYANALYSIS SHALL INCLUDE:

- VOLATILE ORGANIC COMPOUNDS — EPA METHOD 624 (GC/MS)
- SEMI-VOLATILE ORGANIC COMPOUNDS — EPA METHOD 625 (GC/MS)
- DISSOLVED METALS — EPA METHOD 200.7 (ICP)
- DISSOLVED INORGANICS (NON-METALS) — EPA METHOD 300.0 (IC)
    - Br,Cl,F,Nitrate/Nitrite, Sulfate
- GENERAL WATER QUALITY PARAMETERS
    - SPECIFIC CONDUCTANCE — EPA METHOD 300.0 (IC)
    - HARDNESS — EPA METHOD 130.1
    - TOTAL DISSOLVED SOLIDS — EPA METHOD 160.1
    - pH — EPA METHOD 150.2
    - ALKALINITY — EPA METHOD 310.1
- GROSS ALPHA AND BETA RADIOACTIVITY — EPA METHOD 900.1

COA – IF LOCATIONS ARE IN A SENSITIVE AREA BECAUSE OF ITS PROXIMITY TO SURFACE WATER 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 - OPERATOR MUST IMPLEMENT BEST MANAGEMENT PRACTICES TO CONTAIN ANY UNINTENTIONAL RELEASE OF FLUIDS, INCLUDING ANY FLUIDS CONVEYED VIA TEMPORARY SURFACE PIPELINES.

COA - OPERATOR SHALL PROVIDE OVERFLOW PROTECTION FOR EACH TANK PROPOSED IN THE FACILITY PLANS, IF TANKS ARE USED.

COA- PROVIDE THE ANTICPATED DURATION OF DELIVERY OF FLUIDS BY Encana AND Berry BY AUGUST 23, 2012.

COA - SHOULD THE OPERATION OF THIS FACILITY CONTINUE MORE THAN ONE YEAR, A FORM 28 SHALL BE SUBMITTED AND APPROVED BEFORE THE ONE-YEAR ANNIVERSARY DATE OF THE FIRST USE OF THE TRANSFER FACIITY/LOCATION.

COA-TERMINATION OF ACITIVITES: BOTH ENCANA AND BERRY SHALL NOTIFY THE COGCC VIA SUNDRY IMMEDIATELY UPON TERMINATION OF ACTIVITIES.

COA-ENCANA AND BERRY WILL EACH SEPERATELY SUBMIT AN ANNUAL REPORT TO THE COGCC SUMMARIZING THE TRANSFER OF PRODUCTION WATER (BOTH AS TRANSFER AND RECEIVING OPERATOR) DURING THE CALENDAR YEAR AND INCUDING LABORATORY ANALYTICAL RESULTS FOR REPRESENTATIVE SAMPLES(S) OF THE PRODUCTION WATER PROVIDED AS THE TRANSFER/RECIEVER. THE ANNUAL REPORT SHALL BE SUBMITTED ON OR BEFORE THE ANNIVERSAY OF THE FIRST DATE OF TRANSFER.

COA- PROVIDE MAPS OF THE PIPELINE DISTRUBUTION SUSTEM(S) FROM ENCANA Location ID 425839 TO BERRYLOCATIONS 415484 AND 415485 BY AUGUST 23, 2012.

COA- PROVIDE A DESCIPTION OF THE MANIFOLD BETWEEN ENCANA AND BERRY CUSTODY TRANSFER POINT AND WHAT SAFE GUARDS ARE IN PLACE TO PRVETN BACKFLOW OR DISCHARGE INTO THE WORNG DISTRIBUTION SYSTEM BY AUGUST 23, 2012.

COA- PROVIDE PRECAUTIONS/SECONDARY CONTAINMENT THAT WILL BE INPLACE FOR BOTH BELOW GRADE AND ABOVE GRADE PIPELINES AS THEY CROSS STREAMS, SENSITVE AREAS, OR ALONG SENSITIVE AREAS. INCLUDE SPECIFIC BMPs BY AUGUST 23, 2012.

COA-PROVIDE FREQUENCY OF PIPELINE INTERGRITY TESTING FOR BOTH BELOW GRADE AND ABOVE GRADE PIPELINES BY AUGUST 23, 2012.

COA-PROVIDE TIMELINE FOR CLOSURE OF FACILITY ID 425839 BY AUGUST 31, 2012.

COA-FOR FACILITY IDS: 415484 AND 415485 PROVIDE DOCUMENTATION SHOWING DATE OF INITIAL USE FOR MULTI-WELL PURPOSES.

# Production Water Reuse
# And
# Waste Minimization Plan

**For**
**Water Transfers Between**

**Berry Petroleum Company**
**And**
**EnCana Oil and Gas (USA) Inc.**

**August 10, 2012**

**Purpose and Need**

This water reuse plan is being submitted to the Colorado Oil and Gas Conservation Commission (COGCC) with a Form 4 (Sundry) to request approval of a temporary produced water transfer agreement between Berry Petroleum Company (Berry) and EnCana Oil and Gas (USA) Inc. (EnCana).

Berry Petroleum Company has a need for up to 30,000 barrels of produced water for completion operations in Garfield County, Colorado. Berry operates wells in the Grand Valley and North Parachute Fields located in Garfield County, Colorado.

Berry would like to receive this produced water from EnCana for beneficial re-use. If permitted to do so, Berry would receive the water at its OM I02 (Facility ID 415484) and OM B10 (Facility ID 415485) water facilities, and receive from EnCana's EF D19 595 Pit (Facility ID 425839). Transfer Locations will change over time as activities conclude in one area and move on to other locales. Best management practices for spill prevention and control will be applied at each Transfer Location. Berry will be responsible for measuring and recording the volumes of Production and Flowback Water transferred utilizing a Record of Transfer.

**Benefits**

Under this plan, each party shall use reasonable and available means to safely transfer produced water, in sufficient volumes and quality, to meet the other party's transfer request, when mutually agreeable to do so. The benefits include:

- Less fresh water withdraws from surface water sources;
- Less reliance on disposal sites for produced water;
- Increased operation efficiencies from reusing local supplies of production /flowback water to meet water demands for drilling, completion, and workover activities.
- Reduced truck traffic and the associated impacts.

**Produced Fluid Pickup and Transfer Location**

Produced water will be collected at one of two identified transfer locations by a qualified water management service. The transferring company (EnCana) shall maintain all regulatory responsibility, custody and control for all water until such time it is transferred to an approved (Berry) site, at which point the receiving company will assume all regulatory responsibility, custody and control of the water.

Berry would like to receive this produced water from EnCana for beneficial re-use. If permitted to do so, Berry would receive the water at its OM I02 696, (Facility ID 415484), and OM B10 696, (Facility ID 415485), and receive from EnCana's EF D19 595 Pit (Facility ID 425839).

**Transfer**

Berry Petroleum transfer activities will consist of the following:

Berry will be receiving EnCana's produced water into the OM I02 696, (Facility ID 415484), and OM B10 696, (Facility ID 415485). Berry will transport the water via pipeline to OM 03C well on the C10 pad for completion.

The volumes of fluid to be received are estimated to be 30,000 bbls per day.

Berry Petroleum Company will maintain records with the following information:

- Changes to the approved plan;
- Applicable training requirements for Berry and its contractors (lock out/ tag out, job hazard analysis at the transfer location, etc.);
- Types and results of internal and contractor audits conducted;
- Tabulated waste generator records, as required by Rule 907.b.(2) including:
    - Date of transport
    - Identity of water generator
    - Identity of water transporter
    - Volume of water transported
    - Location of receiving point
      (Transport tickets will be maintained for each load)
- Summary of spills, incidents or upsets;

**Spill Response and Cleanup Measures**

Encana collection points are covered under Spill Prevention, Control and Countermeasure Plans (SPCC).

Berry's receiving point is covered under an SPCC plan.

**Summary**

Proposed use of water – Berry's Garfield County, CO completion activities;

Destination of water – OM I02 (Facility ID 415484) and OM B10 (Facility ID 415485) water facilities in Garfield County, Colorado;

Water Transportation – All water transported from EnCana will be via pipeline to Berry's facilities.

Estimated volume of water transferred – 30,000 bbls

**Points of Contact**

The primary and secondary points of contact representing Encana are:

**Primary**
Jeff Villalobos
Group Lead Completions
Encana Oil & Gas (USA) Inc.
370 17th Street Suite 1700
Denver, CO 80202
Office: 720-876-5831

**Secondary**
Chris Durrant
Group Lead Water Management
Encana Oil & Gas (USA) Inc.
370 17th Street Suite 1700
Denver, CO 80202
Office: 720-876-5762

The primary and secondary points of contact representing Berry are:

**Primary**
Derek Johnson
Piceance Superintendent
Berry Petroleum Company
235 Callahan Ave.
Parachute, CO 81635
Office: 970-285-5202

**Secondary**
Brent White
Piceance Foreman
Berry Petroleum Company
235 Callahan Ave.
Parachute, CO 81635
Office: 970-285-5204

FORM 4 Rev 12/05

# State of Colorado
# Oil and Gas Conservation Commission

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

02229992

## SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b.)

1. OGCC Operator Number: 100185
2. Name of Operator: Encana Oil & Gas (USA) Inc.
3. Address: 370 17th Street Suite 1700
   City: Denver State: CO Zip 80202
4. Contact Name: Heather Mitchell
   Phone: 720.876.3070
   Fax: 720.876.4070
5. API Number
   OGCC Facility ID Number: 425839
6. Well/Facility Name: EF D19 595
7. Well/Facility Number
8. Location (Qtr/Qtr, Sec, Twp, Rng, Meridian): NENW Sec 19 T6S-R95W, 6th PM
9. County: Garfield
10. Field Name: Grand Valley
11. Federal, Indian or State Lease Number:

Complete the Attachment Checklist

| | OP | OGCC |
|---|---|---|
| Survey Plat | | |
| Directional Survey | | |
| Surface Eqpmt Diagram | | |
| Technical Info Page | X | |
| Other | | |

## General Notice

☐ **CHANGE OF LOCATION:** Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

| | FNL/FSL | | FEL/FWL | |
|---|---|---|---|---|
| Change of Surface Footage from Exterior Section Lines: | | | | |
| Change of Surface Footage to Exterior Section Lines: | | | | |
| Change of Bottomhole Footage from Exterior Section Lines: | | | | |
| Change of Bottomhole Footage to Exterior Section Lines: | | | | attach directional survey |

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer

Latitude | Distance to nearest property line | Distance to nearest bldg, public rd, utility or RR
Longitude | Distance to nearest lease line | Is location in a High Density Area (rule 603b)? Yes/No NO
Ground Elevation | Distance to nearest well same formation | Surface owner consultation date: NA

**GPS DATA:**
Date of Measurement | PDOP Reading | Instrument Operator's Name

☐ **CHANGE SPACING UNIT**

| Formation | Formation Code | Spacing order number | Unit Acreage | Unit configuration |
|---|---|---|---|---|
| | | | | |

☐ **Remove from surface bond** Signed surface use agreement attached

☐ **CHANGE OF OPERATOR (prior to drilling):**
Effective Date:
Plugging Bond: ☐ Blanket ☐ Individual

☐ **CHANGE WELL NAME** NUMBER
From:
To:
Effective Date:

☐ **ABANDONED LOCATION:**
Was location ever built? ☐ Yes ☐ No
Is site ready for inspection? ☐ Yes ☐ No
Date Ready for Inspection:

☐ **NOTICE OF CONTINUED SHUT IN STATUS**
Date well shut in or temporarily abandoned:
Has Production Equipment been removed from site? ☐ Yes ☐ No
MIT required if shut in longer than two years. Date of last MIT

☐ **SPUD DATE:**

☐ **REQUEST FOR CONFIDENTIAL STATUS** (6 mos from date casing set)

☐ **SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK** *submit cbl and cement job summaries

| Method used | Cementing tool setting/perf depth | Cement volume | Cement top | Cement bottom | Date |
|---|---|---|---|---|---|
| | | | | | |

☐ **RECLAMATION:** Attach technical page describing final reclamation procedures per Rule 1004.
Final reclamation will commence on approximately
☐ Final reclamation is completed and site is ready for inspection.

## Technical Engineering/Environmental Notice

☐ Notice of Intent
Approximate Start Date:

☐ Report of Work Done
Date Work Completed:

**Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)**

| | | |
|---|---|---|
| ☐ Intent to Recomplete (submit form 2) | ☐ Request to Vent or Flare | ☐ E&P Waste Disposal |
| ☐ Change Drilling Plans | ☐ Repair Well | ☐ Beneficial Reuse of E&P Waste |
| ☐ Gross Interval Changed? | ☐ Rule 502 variance requested | ☐ Status Update/Change of Remediation Plans |
| ☐ Casing/Cementing Program Change | ☒ Other: Water Transfer/Reuse Agreement | for Spills and Releases |

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

Signed: Heather Mitchell Date: 08/13/2012 Email: heather.mitchell@encana.com

Print Name: Heather R. Mitchell Title: Regulatory Analyst

COGCC Approved: Title Env. Sup. Date: 8/15/12

CONDITIONS OF APPROVAL, IF ANY:

See Attached COA's

FORM 4 Rev 12/05

# TECHNICAL INFORMATION PAGE

FOR OGCC USE ONLY

1. OGCC Operator Number: 100185 API Number:
2. Name of Operator: Encana Oil & Gas (USA) Inc. OGCC Facility ID # 425839
3. Well/Facility Name: EF D19 595 Well/Facility Number:
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): NENW Sec 19 T5S-R95W, 6th PM

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Encana will be transfering our produced/flowback water from EF D19 595 pit, Location ID 425839, to Berry's staging points, OM B10 696, Location ID 415485, and OM I02 696, Location ID 415484. Water will be used for frac operations at Berry's OM C10 696 pad. All facilities are located in Garfield County, CO.

The water will be transferred using pipelines.

"Prep" to start immediately

FRAC 8/22/12

ATC 8/15/12

**CONDITIONS OF APPROVAL**
**Encana LOCATION ID: 425839**
**Berry Location IDs 415484 and 415485**
**Encana Oil and Gas (USA) Inc. and Berry Petroleum Transfer and Receiving Water Reuse Plans**

COA- APPROVAL OF THIS PLAN IS CONTINGENT UPON ANALYTICAL LABORATORY RESULTS FOR REPRESENTATIVE SAMPLES OF Encana FLOWBACK WATER FROM LOCATION ID: 425839 and Berry Location IDs 415484 and 415485.

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| | |
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| • DISSOLVED METALS | EPA METHOD 200.7 (ICP) |
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COA – IF LOCATIONS ARE IN A SENSITIVE AREA BECAUSE OF ITS PROXIMITY TO SURFACE WATER 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.

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COA-ENCANA AND BERRY WILL EACH SEPERATELY SUBMIT AN ANNUAL REPORT TO THE COGCC SUMMARIZING THE TRANSFER OF PRODUCTION WATER (BOTH AS TRANSFER AND RECEIVING OPERATOR) DURING THE CALENDAR YEAR AND INCUDING LABORATORY ANALYTICAL RESULTS FOR REPRESENTATIVE SAMPLES(S) OF THE PRODUCTION WATER PROVIDED AS THE TRANSFER/RECIEVER. THE ANNUAL REPORT SHALL BE SUBMITTED ON OR BEFORE THE ANNIVERSAY OF THE FIRST DATE OF TRANSFER.

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COA-FOR FACILITY IDS: 415484 AND 415485 PROVIDE DOCUMENTATION SHOWING DATE OF INITIAL USE FOR MULTI-WELL PURPOSES.

# Production Water Reuse
# And
# Waste Minimization Plan

For
Water Transfers Between

Encana Oil & Gas (USA) Inc.
And
Berry Petroleum Company

August 13, 2012

## Introduction

Encana Oil and Gas (USA) Inc. ("Encana") and Berry Petroleum Company ("Berry") are each currently and separately engaged in natural gas exploration and production operations in the Piceance Basin, which encompasses areas of Garfield and Mesa Counties, Colorado. Hydraulic fracturing operations associated with completing individual natural gas wells in the Piceance Basin require large volumes of water. A very significant percentage of the water used to conduct hydraulic fracturing is provided by operators from recycling and reuse of formation water co-produced with natural gas from their previously drilled production wells. In addition, the flowback water obtained from the return of hydraulic fracturing fluids following well stimulation is recovered for subsequent reuse during additional well completion operations. Producers typically operate various permitted facilities, which include pits, tanks and ponds, needed to treat and store produced water from its to support recycling and reuse of water during additional drilling, completion and workover activitles.

Depending largely on the level and location of drilling activity, conditions may exist when and where Encana's Production and Flowback Water volumes exceed its available treatment and storage capacity and Encana Production and Flowback Water is transferred for final disposal (with no further possibility for recycling or reuse) to a licensed commercial disposal facility. Under other conditions, Encana may need additional water to support its activities in new or peripheral areas that are removed from its infrastructure of water gathering lines, and water treatment and storage facilities or otherwise where its own supply of Production and Flowback Water may be inadequate or inconvenient for that specific location or time.

Encana's operations also occur in the Piceance Basin and in some areas are proximal to Berry's operations. Similarly, Encana's operations experience conditions where its supply of Production and Flowback Water is excessive or insufficient to meet its demands for drilling, completion and workover activities for a given location or time. When either operator's demand for makeup water exceeds their current and foreseeable supply of Production and Flowback Water, historically one recourse has been to extract fresh water from either company's rightful water rights and store and treat the fresh water for subsequent downhole use even though other nearby operators may have an abundant supply of Production and Flowback Water that they have no immediate or foreseeable need to use. The Colorado Oil and Gas Conservation Commission ("COGCC") approval of this Plan satisfies the "director approval" requirement to reuse and recycle under COGCC Rules 907(a)(3) and (c)(3).

## Purpose

In order to establish a mutually beneficial relationship, that promotes the reuse of Production and Flowback Water and avoids the withdrawal of precious fresh water supplies, Encana and Berry have entered into an agreement whereby volumes of each company's Production and Flowback Water could be transferred to the other company, on an as-needed, as requested basis, for re-use in each other's respective drilling, completion, and workover operations.

Sharing via transfer of Production and Flowback Water between operators represents a best management practice that promotes fresh water conservation, waste minimization, recycling, and re-use; consistent with the stated regulatory objectives of various State agencies (DWR, CDPHE and COGCC). This Production Water Reuse and Waste Minimization Plan (Reuse Plan) is intended to satisfy the requirements of the COGCC Rule 907.a(3) for the reuse and recycling of E&P Waste, which states:

> ***Reuse and recycling.*** *To encourage and promote waste minimization, operators may propose plans for managing E&P waste through beneficial use, reuse, and recycling by submitting a written management plan to the Director for approval on a Sundry Notice, Form 4, if applicable. Such plans shall describe, at a minimum, the type(s) of waste, the proposed use of the waste, method of waste treatment, product quality assurance, and shall include a copy of any certification or authorization that may be required by other laws and regulations. The Director may require additional information]*

**Anticipated Benefits**

Under this Reuse Plan, each party shall use reasonable and available means to safely transfer Production and Flowback Water, in sufficient volumes and quality, to meet the other party's transfer requests, when mutually agreeable to do so. The benefits of this plan include:

- Shorter haul distances and an overall reduction of truck traffic on lease and county roads, and state and federal highways, for an operator to supply and/or dispose of Production and Flowback Water in the absence of sharing and transfer of Production and Flowback Water between operators. This will result in:
  - Less road damage
  - Decreases in criteria air pollutions from water truck exhaust emissions and fugitive dust
  - Less noise
  - Fewer accidents and spills involving water trucks
- Fewer fresh water withdrawals from surface water sources
- Less reliance on injection wells for disposal of Production and Flowback Water, and
- Increased operating efficiencies from reusing local supplies of Production and Flowback Water to meet water demands for drilling, completion and workover activities.

**Proposed Use, Transfer and Ownership of Production Water**

To promote waste minimization, Berry, as the Receiver, will accept Production and Flowback Water generated from Encana's operations as the Supplier/Shipper in the Piceance Basin of Colorado, if and when needed by Berry and as consented to by Encana, to support Berry's drilling, completion or workover operations. Encana's Production and Flowback Water will be delivered by pipeline or truck to a mutually agreed upon transfer location. Transfer locations will be COGCC approved locations or facilities, such as storage tanks on well pads, multi-well pits or centralized E&P Waste Management Facilities. Transfer Locations will change over time as activities conclude in one area and move on to other locales. Best management practices for spill prevention and control will be applied at each Transfer Location. Encana will be

responsible for measuring and recording the volumes of Production and Flowback Water transferred utilizing a Record of Transfer.

Similarly, Encana has agreed to accept Production and Flowback Water as the Receiver generated from Berry's operations as the Supplier/Shipper in the Piceance Basin of Colorado, if and when needed by Encana and as consented by Berry, to support Encana's drilling, completion or workover operations. Berry's Production and Flowback Water will be delivered by Berry to a mutually agreed upon Transfer Location. Transfer Locations will be COGCC approved locations or facilities, such as well pads, multi-well pits or centralized E&P Waste Management Facilities. Transfer Locations will change over time as completion activities conclude in one area and move on to other locales. Spill prevention and control Best Management Practices will be applied at each Transfer Location. Berry will be responsible for measuring and recording the volumes of Production and Flowback Water transferred utilizing a Record of Transfer. The COGCC has determined that the activities contemplated herein do not qualify as a Centralized E&P Waste Management Facility.

Encana shall maintain all legal and regulatory responsibility, custody and control for its Production and Flowback Water until it is delivered to Berry. At the time of delivery Berry will assume all legal and regulatory responsibility, custody and control for that Production and Flowback Water. Similarly, Berry shall maintain all legal and regulatory responsibility, custody and control for its Production and Flowback Water until it is delivered to Encana when Encana will assume all legal and regulatory responsibility, custody and control for that Production and Flowback Water.

In the event that one party desires to terminate the Water Transfer Agreement, written notice shall be provided to the other party at least 30 days prior to the effective date of the termination. In addition, the terminating party is also responsible for notifying the COGCC in writing of the termination of the Water Transfer Agreement with the respective operator.

**Source, Treatment and Quality of Production Water**

The Supplier/Shipper will be responsible for identifying the source of the Production and Flowback Water on the Record of Transfer, which will only include water from facilities permitted by the COGCC including produced water storage tanks, multi-use or production storage pits, and centralized E&P waste management facilities. The majority of natural gas wells in the Piceance Basin are completed in the Williams Fork Formation, and a minority of the wells are completed in the Iles, Mancos and Niobrara Formations. Varying amounts of formation water are co-produced with the natural gas from within these formations and over the life of the well.

This Reuse Plan recognizes the Colorado State Engineer Office's ("SEO") Rules for Produced Nontributary Ground Water (C.R.S. § 37-90-137(7), 2 CCR 402-17) that govern the administration of wells, including oil and gas wells, that dewater geologic formations by withdrawing nontributary ground water to facilitate or permit the mining of minerals. Only

Production and Flowback Water derived from an operator's nontributary oil and gas wells will be allowed as a supply source for a transfer between operators to accommodate reuse under this Reuse Plan. The operator acting as the Supplier/Shipper is responsible for ensuring that only Production and Flowback Water from non-tributary and non-coalbed methane formations is utilized as a source for water transfer and re-use by another operator.

Specifically, SEO Rule 17.7.D delineates geographic areas under which the ground water in certain geologic formations is nontributary. Nontributary ground water in this area of the Piceance Basin includes ground water from the currently producing formations of the Undifferentiated, Middle, and Lower Wasatch Formation, the Iles Formation, the Williams Fork Formation, and the Undifferentiated Mesa Verde Group. The delineated areas and subject formations defined as nontributary may be viewed through Division of Water Resources' public data viewing tools as they are developed and the data files describing the areas are also available for downloading from the Division of Water Resources' website.

Prior to transfer for reuse by another operator, the Supplier/Shipper or Receiver, as mutually agreed upon, shall be responsible for treatment of the Production and Flowback Water which may involve one or more of the following: primary separation at the wellhead, addition of bactericide, removal of any surface accumulations of oil/condensate, and basic separation of solids. Treatment shall be sufficient to allow for the intended reuse of the Production and Flowback Water for makeup fluid to support either drilling, completion, or workover operations for natural gas wells. Each operator will be obligated to provide and maintain documentation of the quality of its Production and Flowback Water and the volumes transferred in accordance with applicable laws and regulations.

Specifically, Encana and Berry will each be obligated to maintain laboratory analytical results for a representative sample(s) of its Production and Flowback Water. On an annual basis, one or more samples will be collected for the type of source(s) representative of the Production and Flowback Water and analyzed for the following chemical parameters using the appropriate EPA standard analytical method:

- Volatile organic compounds — EPA Method 624 (GC/MS)
- Semi-volatile organic compounds — EPA Method 625 (GC/MS)
- Dissolved Metals — EPA Method 200.7 (ICP)
- Dissolved Inorganics (non-metals) — EPA Method 300.0 (IC)
    - Br, Cl, F, Nitrate/Nitrite, Sulfate
- General water quality parameters
    - Specific Conductance — EPA Method 120.1
    - Hardness — EPA Method 130.1
    - Total Dissolved Solids — EPA Method 160.1
    - pH — EPA Method 150.2
    - Alkalinity — EPA Method 310.1
- Gross alpha and beta radioactivity — EPA Method 900.0

## Measurements, Recordkeeping and Reporting

In addition, the party acting as the Supplier/Shipper for each Water Transfer will be responsible for measuring transfer volumes and maintaining records for the volumes transferred in accordance with applicable laws and regulations including COGCC Rule 907.b.(2) which states:

> ***Waste generator requirements.*** *Generators of E&P waste that is transported off-site shall maintain, for not less than five (5) years, copies of each invoice, bill, or ticket and such other records as necessary to document the following requirements A through F:*
>
> *A. The date of the transport;*
>
> *B. The identity of the waste generator;*
>
> *C. The identity of the waste transporter;*
>
> *D. The location of the waste pickup site;*
>
> *E. The type and volume of waste; and*
>
> *F. The name and location of the treatment or disposal site.*
>
> *Such records shall be signed by the transporter, made available for inspection by the Director during normal business hours, and copies thereof shall be furnished to the Director upon request.*

Encana and Berry will each separately submit an annual report to the COGCC summarizing the transfers of Production and Flowback Water (both as the Supplier/Shipper and the Receiver) during the calendar year and including laboratory analytical results for representative sample(s) of the Production and Flowback Water provided as the Supplier/Shipper. The annual report will include a spreadsheet that summarizes the information contained in the Record(s) of Transfer, and include copies of individual Records of Transfer. The annual report for the previous calendar year will be submitted to the COGCC by February 15 of the following year.

## Voluntary Standard Operating Procedures and Approval Conditions

- If locations are in a sensitive area because of its proximity to surface water; Operator must ensure 110% 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.

- Operator must implement Best Management Practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface pipelines.

- Operator shall provide overflow protection for each tank proposed, if tanks are used.

- Operator proposes that the transfer facilities/locations will be in operation for a period less than three (3) years. Should the operation of this facility continue more than three years, a form 28 shall be submitted and approved before the three-year anniversary date of the first use of the transfer facility/location.

**Encana's Planned Delivery Location**

OM B10 696, Facility ID 415485, Located in the NWNE Sec. 10 T6S, R96W
OM I02 696, Facility ID 415484, Located in the SENE Sec. 2 T6S, R96W

**Encana's Planned Receipt Location**

EF D19 595 pit, Facility ID 425839, Located in the NENW Sec. 19, T5S, R96W

**Points of Contact**

The primary and secondary points of contact representing Encana are:

**Primary**
Jeff Villalobos
Group Lead Completions
Encana Oil & Gas (USA) Inc.
370 17th Street Suite 1700
Denver, CO 80202
Office: 720-876-5831

**Secondary**
Chris Durrant
Group Lead Water Management
Encana Oil & Gas (USA) Inc.
370 17th Street Suite 1700
Denver, CO 80202
Office: 720-876-5762

The primary and secondary points of contact representing Berry are:

**Primary**
Derek Johnson
Piceance Superintendent
Berry Petroleum Company
235 Callahan Ave.
Parachute, CO 81635
Office: 970-285-5202

**Secondary**
Brent White
Piceance Foreman
Berry Petroleum Company
235 Callahan Ave.
Parachute, CO 81635
Office: 970-285-5204

**WATER CUSTODY TRANSFER AGREEMENT**

**Effective August 15, 2012**

**Transfer a liability will be set at NWSW of Sec. 29 T5S, R95. The valve #EF021 represents the transfer from Encana to Berry and vice versa on the return.**

**IN WITNESS WHEREOF,** the Parties have executed this Water Transfer Agreement

By
Jerry Dietz
Group Lead Production
SRBU - North Piceance
Encana Oil and Gas (USA), Inc.

By
Heidi Bang
Regulatory Compliance Assistant
Berry Petroleum Company

**From:** Bang, Heidi [mailto:hsb@bry.com]
**Sent:** Monday, August 27, 2012 2:34 PM
**To:** Fischer, Alex
**Subject:** RE: COA

Regarding the duration of delivery of fluids between Encana and Berry, are you talking about this specific job or all water movement involved with Encana? This specific job would be estimated at one month (August 15th-September 15th 2012). Our relationship to transfer water with Encana is indefinitely.

Yes, the water transfer calculations take into account total fluid volume.

**Heidi**

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**From:** Bang, Heidi [mailto:hsb@bry.com]
**Sent:** Thursday, August 23, 2012 6:57 AM
**To:** Fischer, Alex
**Subject:** COA

Alex,

Below are the answers to the COA's that pertain to Berry:

**COA- PROVIDE THE ANTICPATED DURATION OF DELIVERY OF FLUIDS BY Encana AND Berry BY AUGUST 23, 2012.**
-Estimated duration to be receiving fluids from EnCana is one month.

*Since this was approved on August 15, 2012, then the duration would be September 15, 2012?*

**COA- PROVIDE A DESCRIPTION OF THE MANIFOLD BETWEEN ENCANA AND BERRY CUSTODY TRANSFER POINT AND WHAT SAFE GUARDS ARE IN PLACE TO PREVENT BACKFLOW OR DISCHARGE INTO THE WORNG DISTRIBUTION SYSTEM BY AUGUST 23, 2012.**
- A network of pipelines, storage pits, and pumps will be manned during all water transfer operations to monitor and safeguard any backflow and delivery points.

**COA- PROVIDE PRECAUTIONS/SECONDARY CONTAINMENT THAT WILL BE INPLACE FOR BOTH BELOW GRADE AND ABOVE GRADE PIPELINES AS THEY CROSS STREAMS, SENSITVE AREAS, OR ALONG SENSITIVE AREAS. INCLUDE SPECIFIC BMPs BY AUGUST 23,2012.**

- Pipeline network is below grade with the exception of cliff leg-off point which is monitored and pressure tested regularly. Secondary containment is in place at all receiving and delivery points. All stream crossings are below grade, regular pressure testing and water transfer calculations insure system integrity.

**COA-PROVIDE FREQUENCY OF PIPELINE INTERGRITY TESTING FOR BOTH BELOW GRADE AND ABOVE GRADE PIPELINES BY AUGUST 23, 2012.**
-Above/Below grade pipeline network is monitored and pressure tested on a monthly basis and water transfer calculations insure system integrity.

*Do the water transfer calculations take into account total fluid volume?*

Berry will be submitting the Final Sundry when completion is over. I will include the rest of the potential pending water transfer if it happens with Encana and the annual report.

Heidi Bang
Regulatory Compliance Assistant
303-999-4262