

# **Supporting COGCC Documents**

**LINN Operating Inc.  
O-29 Centralized E&P Waste  
Management Facility**

**OA Project No. 014-1565**

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# 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	OE	ES
Document Number: <b>400678095</b>			
Date Received: <b>09/03/2014</b>			

## SUNDRY NOTICE

Submit a signed original. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full in Comments or provide as an attachment. Identify Well by API Number; identify Oil and Gas Location by Location ID Number; identify other Facility by Facility ID Number.

OGCC Operator Number:	10516	Contact Name	HEIDI BANG
Name of Operator:	LINN OPERATING INC	Phone:	(303) 999-4262
Address:	1999 BROADWAY SUITE 3700	Fax:	(303) 999-4362
City:	DENVER	State:	CO
Zip:	80202	Email:	HBANG@LINNENERGY.COM

Complete the Attachment  
Checklist

OP OGCC

API Number :	05-	045	00	OGCC Facility ID Number:	335964
Well/Facility Name:	CHEVRON I31 596			Well/Facility Number:	
Location QtrQtr:	NESE	Section:	31	Township:	5S
				Range:	96W
				Meridian:	6
County:	GARFIELD	Field Name:	GRAND VALLEY		
Federal, Indian or State Lease Number:					

Survey Plat		
Directional Survey		
Srvc Eqpmt Diagram		
Technical Info Page		
Other		

## CHANGE OF LOCATION OR AS BUILT GPS REPORT

☐ Change of Location \* ☐ As-Built GPS Location Report ☐ As-Built GPS Location Report with Survey

\* Well location change requires new plat. A substantive surface location change may require new Form 2A.

**SURFACE LOCATION GPS DATA** Data must be provided for Change of Surface Location and As Built Reports.

Latitude \_\_\_\_\_ PDOP Reading \_\_\_\_\_ Date of Measurement \_\_\_\_\_  
Longitude \_\_\_\_\_ GPS Instrument Operator's Name \_\_\_\_\_

## LOCATION CHANGE (all measurements in Feet)

Well will be: \_\_\_\_\_ (Vertical, Directional, Horizontal)

Change of **Surface** Footage **From** Exterior Section Lines:

Change of **Surface** Footage **To** Exterior Section Lines:

Current **Surface** Location **From** QtrQtr **NESE** Sec **31**

New **Surface** Location **To** QtrQtr \_\_\_\_\_ Sec \_\_\_\_\_

Change of **Top of Productive Zone** Footage **From** Exterior Section Lines:

Change of **Top of Productive Zone** Footage **To** Exterior Section Lines:

Current **Top of Productive Zone** Location **From** Sec \_\_\_\_\_

New **Top of Productive Zone** Location **To** Sec \_\_\_\_\_

Change of **Bottomhole** Footage **From** Exterior Section Lines:

Change of **Bottomhole** Footage **To** Exterior Section Lines:

Current **Bottomhole** Location Sec \_\_\_\_\_ Twp \_\_\_\_\_

New **Bottomhole** Location Sec \_\_\_\_\_ Twp \_\_\_\_\_

Is location in High Density Area? \_\_\_\_\_

Distance, in feet, to nearest building \_\_\_\_\_, public road: \_\_\_\_\_, above ground utility: \_\_\_\_\_, railroad: \_\_\_\_\_,

property line: \_\_\_\_\_, lease line: \_\_\_\_\_, well in same formation: \_\_\_\_\_

Ground Elevation \_\_\_\_\_ feet Surface owner consultation date \_\_\_\_\_

FNL/FSL		FEL/FWL	
1530	FSL	609	FEL
Twp 5S	Range 96W	Meridian 6	
Twp	Range	Meridian	
			**
Twp	Range		
Twp	Range		
			**
			** attach deviated drilling plan

**OTHER CHANGES**

☐ **REMOVE FROM SURFACE BOND**      Signed surface use agreement is a required attachment

☐ **CHANGE OF WELL, FACILITY OR OIL & GAS LOCATION NAME OR NUMBER**

From:      Name    CHEVRON I31 596      Number    \_\_\_\_\_      Effective Date: \_\_\_\_\_

To:      Name    \_\_\_\_\_      Number    \_\_\_\_\_

☐ **ABANDON PERMIT: Permit can only be abandoned if the permitted operation has NOT been conducted. Field inspection will be conducted to verify site status.**

☐ WELL: Abandon Application for Permit-to-Drill (Form2) – Well API Number \_\_\_\_\_ has not been drilled.

☐ PIT: Abandon Earthen Pit Permit (Form 15) – COGCC Pit Facility ID Number \_\_\_\_\_ has not been constructed (Permitted and constructed pit requires closure per Rule 905)

☐ **CENTRALIZED E&P WASTE MANAGEMENT FACILITY:** Abandon Centralized E&P Waste Management Facility Permit (Form 28) – Facility ID Number \_\_\_\_\_ has not been constructed (Constructed facility requires closure per Rule 908)

OIL & GAS LOCATION ID Number: \_\_\_\_\_

☐ Abandon Oil & Gas Location Assessment (Form 2A) – Location has not been constructed and site will not be used in the future.

☐ Keep Oil & Gas Location Assessment (Form 2A) active until expiration date. This site will be used in the future.

**Surface disturbance from Oil and Gas Operations must be reclaimed per Rule 1003 and Rule 1004.**

☐ **REQUEST FOR CONFIDENTIAL STATUS**

☐ **DIGITAL WELL LOG UPLOAD**

☐ **DOCUMENTS SUBMITTED**      Purpose of Submission: \_\_\_\_\_

<p><b><u>RECLAMATION</u></b></p> <p><b>INTERIM RECLAMATION</b></p> <p><input type="checkbox"/> Interim Reclamation will commence approximately _____</p> <p>Per Rule 1003.e.(3) operator shall submit Sundry Notice reporting interim reclamation is complete and site is ready for inspection when vegetation reaches 80% coverage.</p> <p><input type="checkbox"/> Interim reclamation complete, site ready for inspection.</p> <p>Per Rule 1003.e(3) describe interim reclamation procedure in Comments below or provide as an attachment and attach required location photographs.</p> <p><b>Field inspection will be conducted to document Rule 1003.e. compliance</b></p> <p><b>FINAL RECLAMATION</b></p> <p><input type="checkbox"/> Final Reclamation will commence approximately _____</p> <p>Per Rule 1004.c.(4) operator shall submit Sundry Notice reporting final reclamation is complete and site is ready for inspection when vegetation reaches 80% coverage.</p> <p><input type="checkbox"/> Final reclamation complete, site ready for inspection. Per Rule 1004.c(4) describe final reclamation procedure in Comments below or provide as an attachment.</p> <p><b>Field inspection will be conducted to document Rule 1004.c. compliance</b></p> <p>Comments:</p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	
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## ENGINEERING AND ENVIRONMENTAL WORK

### ☐ NOTICE OF CONTINUED TEMPORARILY ABANDONED STATUS

Indicate why the well is temporarily abandoned and describe future plans for utilization in the COMMENTS box below or provide as an attachment, as required by Rule 319.b.(3).

Date well temporarily abandoned \_\_\_\_\_ Has Production Equipment been removed from site? \_\_\_\_\_

Mechanical Integrity Test (MIT) required if shut in longer than 2 years. Date of last MIT \_\_\_\_\_

☐ SPUD DATE: \_\_\_\_\_

## TECHNICAL ENGINEERING AND ENVIRONMENTAL WORK

Details of work must be described in full in the COMMENTS below or provided as an attachment.

☒ NOTICE OF INTENT Approximate Start Date 09/10/2014

☐ REPORT OF WORK DONE Date Work Completed \_\_\_\_\_

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Intent to Recomplete (Form 2 also required) | <input type="checkbox"/> Request to Vent or Flare   | <input type="checkbox"/> E&P Waste Mangement Plan      |
| <input type="checkbox"/> Change Drilling Plan                        | <input type="checkbox"/> Repair Well  | <input type="checkbox"/> Beneficial Reuse of E&P Waste |
| <input type="checkbox"/> Gross Interval Change                       | <input type="checkbox"/> Rule 502 variance requested. Must provide detailed info regarding request. |  |
| <input checked="" type="checkbox"/> Other <u>Water Reuse Plan</u>    | <input type="checkbox"/> Status Update/Change of Remediation Plans for Spills and Releases          |  |

### COMMENTS:

Water sharing for beneficial re-use up to 50,000 bbls.

## H2S REPORTING

**Data Fields in this section are intended to document Sample and Location Data associated with the collection of a Gas Sample that is submitted for Laboratory Analysis.**

**Gas Analysis Report must be attached.**

H2S Concentration: \_\_\_\_\_ in ppm (parts per million) Date of Measurement or Sample Collection \_\_\_\_\_

Description of Sample Point:

Absolute Open Flow Potential \_\_\_\_\_ in CFPD (cubic feet per day)

Description of Release Potential and Duration (If flow is not open to the atmosphere, identify the duration in which the container or pipeline would likely be opened for servicing operations.):

Distance to nearest occupied residence, school, church, park, school bus stop, place of business, or other areas where the public could reasonably be expected to frequent: \_\_\_\_\_

Distance to nearest Federal, State, County, or municipal road or highway owned and principally maintained for public use: \_\_\_\_\_

## COMMENTS:

--

**Best Management Practices****No BMP/COA Type****Description**

--	--

**Operator Comments:**

Water will be collected at the following LINN facilities:

- Chevron I31 (COGCC Facility ID 335964)
- Latham CD32 (COGCC Facility ID 335842)
- Latham O29 (COGCC Facility ID 335836)
- Chevron C19 (COGCC Facility ID 417618)

The water will be transferred to the following locations:

WPX TR 41-35-597 Pit #2 (COGCC Facility ID 422272)

WPX TR 41-35-597 pit, WPX will transfer water via pump and existing WPX pipeline to the TR 24-28-597 well pad (COGCC Facility ID 33592)

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

Signed: \_\_\_\_\_ Print Name: HEIDI BANG  
 Title: FIELD ADMIN 2 Email: HBANG@LINNENERGY.COM Date: 9/3/2014

Based on the information provided herein, this Sundry Notice (Form 4) complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: FISCHER, ALEX Date: 9/15/2014

**CONDITIONS OF APPROVAL, IF ANY:****COA Type****Description**

	<p>COA- APPROVAL OF THIS PLAN IS CONTINGENT UPON ANALYTICAL LABORATORY RESULTS FOR REPRESENTATIVE SAMPLES ENCANA WATER FROM LOCATION ID: 334939 and URSA Location ID 418828</p> <p>RESULTS SHALL BE SUBMITTED TO THE COGCC WITHIN 45 DAYS OF APPROVAL OF THIS PLAN. ANALYTICAL LABORATORY ANALYSIS SHALL INCLUDE:</p> <ul style="list-style-type: none"> <li>•VOLATILE ORGANIC COMPOUND SEPA METHOD 624 (GC/MS)</li> <li>•SEMI-VOLATILE ORGANIC COMPOUNDS EPA METHOD 625 (GC/MS)</li> <li>•DISSOLVED METAL SEPA METHOD 200.7 (ICP)</li> <li>•DISSOLVED INORGANICS (NON-METALS) EPA METHOD 300.0 (IC)</li> <li>oBr, Cl, F, Nitrate/Nitrite, Sulfate</li> <li>•GENERAL WATER QUALITY PARAMETERS</li> <li>oSPECIFIC CONDUCTANCE EPA METHOD 300.0 (IC)</li> <li>oHARDNESS EPA METHOD 130.1</li> <li>oTOTAL DISSOLVED SOLID SEPA METHOD 160.1</li> <li>oPH EPA METHOD 150.2</li> <li>oALKALINITY EPA METHOD 310.1</li> <li>•GROSS ALPHA AND BETA RADIOACTIVITY EPA METHOD 900.1</li> </ul>
	<p>PRODUCED WATER OR FLOWBACK WATER OR OTHER EXPLORATION AND PRODUCTION WASTE SHALL NOT BE TEMPORARILY STORED IN MODULAR LARGE VOLUME STORAGE TANKS (MLVSTs). PRODUCED WATER OR FLOWBACK WATER SHALL BE TEMPORARILY STORED IN FRAC TANKS.</p>

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Routing Review	Routed to A. Fischer for review.	9/3/2014 10:21:39 AM

Total: 1 comment(s)

### Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400678095	FORM 4 SUBMITTED
400678098	OTHER
400678099	REFERENCE AREA MAP
400678105	OTHER

Total Attach: 4 Files



JACAM LABORATORIES

## DownHole R<sub>x</sub>

### WATER CHEMISTRY

BERRY PETROLEUM  
ROB SIMEONE

O-29 LATHAM 29-18D  
SEPARATOR

Report Date: 10-05-2012    Sampled: 09-04-2012  
Sample #: 23926                      at 0000  
  
Sample ID: 2580

#### CATIONS

Calcium (as Ca)	243.40
Magnesium (as Mg)	18.18
Barium (as Ba)	31.32
Strontium (as Sr)	22.24
Sodium (as Na)	5758
Potassium (as K)	138.00
Lithium (as Li)	9.22
Ammonia (as NH <sub>3</sub> )	0.00
Aluminum (as Al)	0.00
Iron (as Fe)	15.61
Manganese (as Mn)	0.0120
Zinc (as Zn)	0.0940
Lead (as Pb)	0.00

#### ANIONS

Chloride (as Cl)	9500
Sulfate (as SO <sub>4</sub> )	0.00
Bromine (as Br)	0.00
Dissolved CO <sub>2</sub> (as CO <sub>2</sub> )	854.00
Bicarbonate (as HCO <sub>3</sub> )	325.00
Carbonate (as CO <sub>3</sub> )	0.00
Oxalic acid (as C <sub>2</sub> O <sub>4</sub> )	0.00
Silica (as Si)	0.00
Phosphate(as PO <sub>4</sub> )	0.00
H <sub>2</sub> S (as H <sub>2</sub> S)	0.00
Fluoride (as F)	0.00
Nitrate (as NO <sub>3</sub> )	0.00
Boron (as B)	8.71

#### PARAMETERS

Calculated T.D.S.	16103
Molar Conductivity	22652
Resistivity	44.15
Density(g/mL)	1.01
Pressure(atm)	1.00
pCO <sub>2</sub> (atm)	0.0564
pH <sub>2</sub> S(atm)	0.00
Temperature (°F)	190.00
pH	6.50

JACAM LABORATORIES

205 S. Broadway · P.O. Box 96 · Sterling, KS 67579-0096



**JACAM LABORATORIES****DownHole R<sub>x</sub>****DEPOSITION POTENTIAL INDICATORS**BERRY PETROLEUM  
ROB SIMEONEO-29 LATHAM 29-18D  
SEPARATORReport Date: 10-05-2012    Sampled: 09-04-2012  
Sample #: 23926                      at 0000  
  
Sample ID: 2580**SATURATION LEVEL**

Calcite (CaCO <sub>3</sub> )	0.985
Aragonite (CaCO <sub>3</sub> )	0.802
Witherite (BaCO <sub>3</sub> )	0.0275
Strontianite (SrCO <sub>3</sub> )	0.207
Calcium oxalate (CaC <sub>2</sub> O <sub>4</sub> )	0.00
Magnesite (MgCO <sub>3</sub> )	0.146
Anhydrite (CaSO <sub>4</sub> )	0.00
Gypsum (CaSO <sub>4</sub> *2H <sub>2</sub> O)	0.00
Barite (BaSO <sub>4</sub> )	0.00
Celestite (SrSO <sub>4</sub> )	0.00
Fluorite (CaF <sub>2</sub> )	0.00
Calcium phosphate	0.00
Hydroxyapatite	0.00
Silica (SiO <sub>2</sub> )	0.00
Brucite (Mg(OH) <sub>2</sub> )	< 0.001
Magnesium silicate	0.00
Iron hydroxide (Fe(OH) <sub>3</sub> )	329.98
Strengite (FePO <sub>4</sub> *2H <sub>2</sub> O)	0.00
Siderite (FeCO <sub>3</sub> )	202.86
Halite (NaCl)	< 0.001
Thenardite (Na <sub>2</sub> SO <sub>4</sub> )	0.00
Iron sulfide (FeS)	0.00

**MOMENTARY EXCESS (Lbs/1000 Barrels)**

Calcite (CaCO <sub>3</sub> )	-0.00247
Aragonite (CaCO <sub>3</sub> )	-0.0396
Witherite (BaCO <sub>3</sub> )	-7.47
Strontianite (SrCO <sub>3</sub> )	-0.836
Calcium oxalate (CaC <sub>2</sub> O <sub>4</sub> )	-0.212
Magnesite (MgCO <sub>3</sub> )	-0.760
Anhydrite (CaSO <sub>4</sub> )	-670.57
Gypsum (CaSO <sub>4</sub> *2H <sub>2</sub> O)	-908.08
Barite (BaSO <sub>4</sub> )	-2.96
Celestite (SrSO <sub>4</sub> )	-94.55
Fluorite (CaF <sub>2</sub> )	-19.09
Calcium phosphate	>-0.001
Hydroxyapatite	-484.14
Silica (SiO <sub>2</sub> )	-151.08
Brucite (Mg(OH) <sub>2</sub> )	0.0303
Magnesium silicate	-166.23
Iron hydroxide (Fe(OH) <sub>3</sub> )	< 0.001
Strengite (FePO <sub>4</sub> *2H <sub>2</sub> O)	>-0.001
Siderite (FeCO <sub>3</sub> )	0.185
Halite (NaCl)	-206533
Thenardite (Na <sub>2</sub> SO <sub>4</sub> )	-56031
Iron sulfide (FeS)	-0.0972

**SIMPLE INDICES**

Langelier	0.0566
Ryznar	6.39
Puckorius	4.80
Larson-Skold Index	50.12
Stiff Davis Index	0.819
Oddo-Tomson	0.141

**BOUND IONS**

Calcium	243.40
Barium	31.32
Carbonate	5.67
Phosphate	0.00
Sulfate	0.00

**TOTAL****FREE**

237.12
31.32
0.276
0.00
0.00

**OPERATING CONDITIONS**

Temperature (°F)	190.00
Time(secs)	0.00

**JACAM LABORATORIES**

205 S. Broadway · P.O. Box 96 · Sterling, KS 67579-0096

# DownHole SAT™ Water Analysis Report

## SYSTEM IDENTIFICATION

BERRY PETROLEUM  
O-29 LATHAM 29-18D  
ROB SIMEONE  
SEPARATOR

Sample ID#: 23926  
ID: 2580  
Report Date: 10-05-2012  
Sample Date: 09-04-2012  
at 0000

## WATER CHEMISTRY

### CATIONS

Calcium(as Ca)	243.40
Magnesium(as Mg)	18.18
Barium(as Ba)	31.32
Strontium(as Sr)	22.24
Sodium(as Na)	5758
Potassium(as K)	138.00
Lithium(as Li)	9.22
Iron(as Fe)	15.61
Field Iron(as Fe)	0.00
Ammonia(as NH <sub>3</sub> )	0.00
Aluminum(as Al)	0.00
Manganese(as Mn)	0.0120
Zinc(as Zn)	0.0940
Lead(as Pb)	0.00

### ANIONS

Chloride(as Cl)	9500
Sulfate(as SO <sub>4</sub> )	0.00
Bromine(as Br)	0.00
Dissolved CO <sub>2</sub> (as CO <sub>2</sub> )	854.00
Bicarbonate(as HCO <sub>3</sub> )	325.00
Carbonate(as CO <sub>3</sub> )	0.00
Silica(as Si)	0.00
Phosphate(as PO <sub>4</sub> )	0.00
H <sub>2</sub> S (as H <sub>2</sub> S)	0.00
Fluoride(as F)	0.00
Nitrate(as NO <sub>3</sub> )	0.00
Boron(as B)	8.71

### PARAMETERS

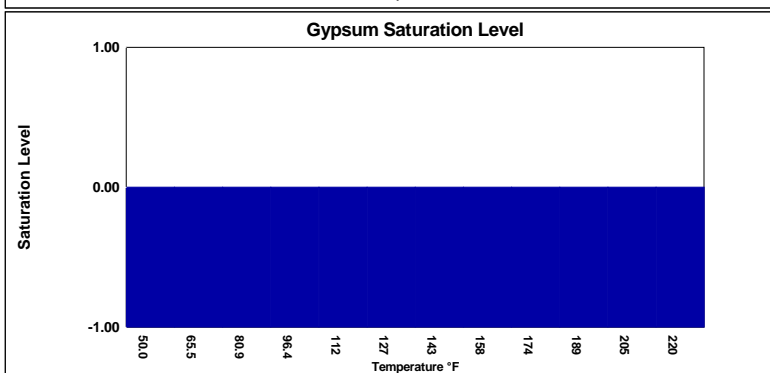
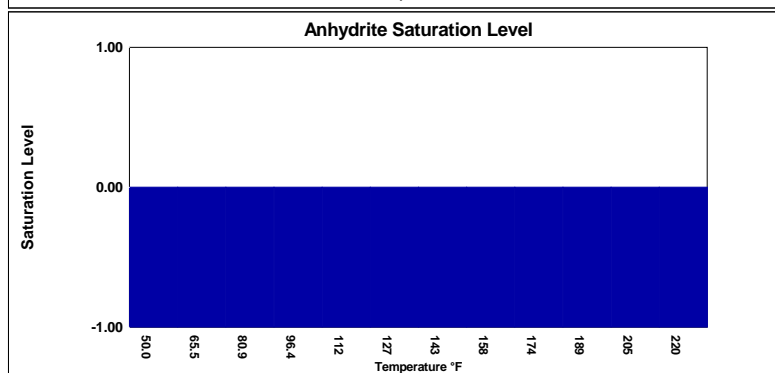
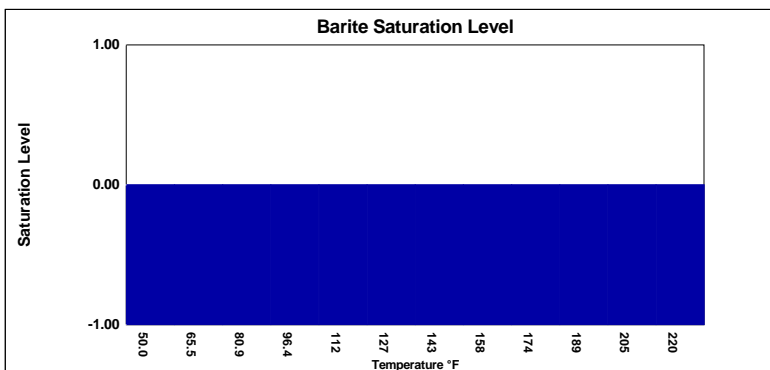
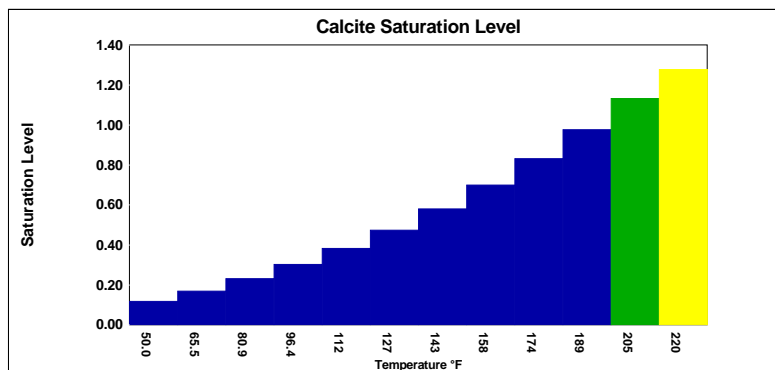
Temperature(°F)	190.00
T.D.S.	16103
Resistivity:	44.15
Sample pH	6.50
Conductivity:	22652

## SCALE AND CORROSION POTENTIAL

Temp. (°F)	Press. (atm)	Calcite CaCO <sub>3</sub>		Anhydrite CaSO <sub>4</sub>		Gypsum CaSO <sub>4</sub> *2H <sub>2</sub> O		Barite BaSO <sub>4</sub>		Celestite SrSO <sub>4</sub>		Siderite FeCO <sub>3</sub>		Mackawenite FeS		CO <sub>2</sub> (mpy)	pCO <sub>2</sub> (atm)
50.00	0.00	0.117	-0.335	0.00	-1002	0.00	-818.50	0.00	-0.275	0.00	-105.69	10.63	0.0468	0.00	-0.0655	0.0714	0.0564
65.45	0.00	0.168	-0.276	0.00	-1012	0.00	-844.10	0.00	-0.414	0.00	-108.72	17.14	0.0611	0.00	-0.0675	0.134	0.0564
80.91	0.00	0.231	-0.226	0.00	-991.98	0.00	-860.42	0.00	-0.586	0.00	-108.33	26.16	0.0755	0.00	-0.0698	0.102	0.0564
96.36	0.00	0.302	-0.183	0.00	-945.29	0.00	-868.20	0.00	-0.785	0.00	-106.12	37.98	0.0895	0.00	-0.0723	0.134	0.0564
111.82	0.00	0.382	-0.147	0.00	-882.70	0.00	-869.81	0.00	-1.01	0.00	-103.23	52.83	0.103	0.00	-0.0752	0.140	0.0564
127.27	0.00	0.474	-0.114	0.00	-826.80	0.00	-872.79	0.00	-1.27	0.00	-100.71	71.76	0.117	0.00	-0.0784	0.118	0.0564
142.73	0.00	0.579	-0.0837	0.00	-778.84	0.00	-878.02	0.00	-1.59	0.00	-98.62	95.57	0.132	0.00	-0.0821	0.0953	0.0564
158.18	0.00	0.699	-0.0556	0.00	-737.68	0.00	-885.49	0.00	-1.96	0.00	-96.93	124.77	0.148	0.00	-0.0863	0.0992	0.0564
173.64	0.00	0.831	-0.0292	0.00	-702.40	0.00	-895.26	0.00	-2.41	0.00	-95.60	159.63	0.165	0.00	-0.0912	0.103	0.0564
189.09	0.00	0.976	-0.00395	0.00	-672.28	0.00	-907.40	0.00	-2.93	0.00	-94.61	200.27	0.184	0.00	-0.0969	0.0518	0.0564
204.55	0.00	1.13	0.0204	0.00	-646.74	0.00	-922.03	0.00	-3.54	0.00	-93.96	246.30	0.203	0.00	-0.104	0.0434	0.0564
220.00	0.171	1.28	0.0422	0.00	-634.33	0.00	-952.41	0.00	-4.32	0.00	-94.85	293.80	0.225	0.00	-0.114	0.0591	0.0660
		xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels	xSAT	Lbs per 1000 Barrels		

Saturation Levels (xSAT) are the ratio of ion activity to solubility, e.g. {Ca}{CO<sub>3</sub>}/K<sub>sp</sub>. pCO<sub>2</sub> (atm) is the partial pressure of CO<sub>2</sub> in the gas phase.

Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.



State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



DE	ET	OE	ES
Document Number: <u>400518980</u>			
Date Received: <u>11/26/2013</u>			

## SUNDRY NOTICE

Submit a signed original. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full in Comments or provide as an attachment. Identify Well by API Number; identify Oil and Gas Location by Location ID Number; identify other Facility by Facility ID Number.

OGCC Operator Number:	10091	Contact Name	HEIDI BANG
Name of Operator:	BERRY PETROLEUM COMPANY LLC	Phone:	(303) 999-4262
Address:	1999 BROADWAY STE 3700	Fax:	(303) 999-4362
City:	DENVER	State:	CO
Zip:	80202	Email:	HSB@BRY.COM

Complete the Attachment  
Checklist

OP OGCC

API Number :	05-	045	00	OGCC Facility ID Number:	290544
Well/Facility Name:	LATHAM	Well/Facility Number:	O-29		
Location QtrQtr:	SWSE	Section:	29	Township:	5S
				Range:	96W
				Meridian:	6
County:	GARFIELD	Field Name:	GRAND VALLEY		
Federal, Indian or State Lease Number:					

Survey Plat		
Directional Survey		
Srvc Eqpmt Diagram		
Technical Info Page		
Other		

## CHANGE OF LOCATION OR AS BUILT GPS REPORT

☐ Change of Location \* ☐ As-Built GPS Location Report ☐ As-Built GPS Location Report with Survey

\* Well location change requires new plat. A substantive surface location change may require new Form 2A.

**SURFACE LOCATION GPS DATA** Data must be provided for Change of Surface Location and As Built Reports.

Latitude \_\_\_\_\_ PDOP Reading \_\_\_\_\_ Date of Measurement \_\_\_\_\_  
Longitude \_\_\_\_\_ GPS Instrument Operator's Name \_\_\_\_\_

## LOCATION CHANGE (all measurements in Feet)

Well will be: \_\_\_\_\_ (Vertical, Directional, Horizontal)

Change of **Surface** Footage **From** Exterior Section Lines:

Change of **Surface** Footage **To** Exterior Section Lines:

Current **Surface** Location **From** QtrQtr SWSE Sec 29

New **Surface** Location **To** QtrQtr  Sec

Change of **Top of Productive Zone** Footage **From** Exterior Section Lines:

Change of **Top of Productive Zone** Footage **To** Exterior Section Lines:

Current **Top of Productive Zone** Location **From** Sec

New **Top of Productive Zone** Location **To** Sec

Change of **Bottomhole** Footage **From** Exterior Section Lines:

Change of **Bottomhole** Footage **To** Exterior Section Lines:

Current **Bottomhole** Location Sec  Twp

New **Bottomhole** Location Sec  Twp

Is location in High Density Area? \_\_\_\_\_

Distance, in feet, to nearest building \_\_\_\_\_, public road: \_\_\_\_\_, above ground utility: \_\_\_\_\_, railroad: \_\_\_\_\_,

property line: \_\_\_\_\_, lease line: \_\_\_\_\_, well in same formation: \_\_\_\_\_

Ground Elevation \_\_\_\_\_ feet Surface owner consultation date \_\_\_\_\_

FNL/FSL		FEL/FWL	
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>
Twp <u>5S</u>	Range <u>96W</u>	Meridian <u>6</u>	
Twp <u></u>	Range <u></u>	Meridian <u></u>	
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>
Twp <u></u>	Range <u></u>		
Twp <u></u>	Range <u></u>		
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>
			**

\*\* attach deviated drilling plan

## OTHER CHANGES

☐ **REMOVE FROM SURFACE BOND** Signed surface use agreement is a required attachment

☐ **CHANGE OF WELL, FACILITY OR OIL & GAS LOCATION NAME OR NUMBER**

From: Name LATHAM Number O-29 Effective Date: \_\_\_\_\_

To: Name \_\_\_\_\_ Number \_\_\_\_\_

☐ **ABANDON PERMIT: Permit can only be abandoned if the permitted operation has NOT been conducted. Field inspection will be conducted to verify site status.**

☐ WELL: Abandon Application for Permit-to-Drill (Form2) – Well API Number \_\_\_\_\_ has not been drilled.

☐ PIT: Abandon Earthen Pit Permit (Form 15) – COGCC Pit Facility ID Number \_\_\_\_\_ has not been constructed (Permitted and constructed pit requires closure per Rule 905)

☐ CENTRALIZED E&P WASTE MANAGEMENT FACILITY: Abandon Centralized E&P Waste Management Facility Permit (Form 28) – Facility ID Number \_\_\_\_\_ has not been constructed (Constructed facility requires closure per Rule 908)

OIL & GAS LOCATION ID Number: \_\_\_\_\_

☐ Abandon Oil & Gas Location Assessment (Form 2A) – Location has not been constructed and site will not be used in the future.

☐ Keep Oil & Gas Location Assessment (Form 2A) active until expiration date. This site will be used in the future.

**Surface disturbance from Oil and Gas Operations must be reclaimed per Rule 1003 and Rule 1004.**

☐ **REQUEST FOR CONFIDENTIAL STATUS**

☐ **DIGITAL WELL LOG UPLOAD**

☐ **DOCUMENTS SUBMITTED** Purpose of Submission: \_\_\_\_\_

## RECLAMATION

### INTERIM RECLAMATION

☐ Interim Reclamation will commence approximately \_\_\_\_\_

Per Rule 1003.e.(3) operator shall submit Sundry Notice reporting interim reclamation is complete and site is ready for inspection when vegetation reaches 80% coverage.

☐ Interim reclamation complete, site ready for inspection.

Per Rule 1003.e(3) describe interim reclamation procedure in Comments below or provide as an attachment and attach required location photographs.

**Field inspection will be conducted to document Rule 1003.e. compliance**

### FINAL RECLAMATION

☐ Final Reclamation will commence approximately \_\_\_\_\_

Per Rule 1004.c.(4) operator shall submit Sundry Notice reporting final reclamation is complete and site is ready for inspection when vegetation reaches 80% coverage.

☐ Final reclamation complete, site ready for inspection. Per Rule 1004.c(4) describe final reclamation procedure in Comments below or provide as an attachment.

**Field inspection will be conducted to document Rule 1004.c. compliance**

Comments:

## ENGINEERING AND ENVIRONMENTAL WORK

### ☐ NOTICE OF CONTINUED TEMPORARILY ABANDONED STATUS

Indicate why the well is temporarily abandoned and describe future plans for utilization in the COMMENTS box below or provide as an attachment, as required by Rule 319.b.(3).

Date well temporarily abandoned \_\_\_\_\_ Has Production Equipment been removed from site? \_\_\_\_\_

Mechanical Integrity Test (MIT) required if shut in longer than 2 years. Date of last MIT \_\_\_\_\_

☐ SPUD DATE: \_\_\_\_\_

## TECHNICAL ENGINEERING AND ENVIRONMENTAL WORK

Details of work must be described in full in the COMMENTS below or provided as an attachment.

☒ NOTICE OF INTENT Approximate Start Date 11/08/2013

☐ REPORT OF WORK DONE Date Work Completed \_\_\_\_\_

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Intent to Recomplete (Form 2 also required) | <input type="checkbox"/> Request to Vent or Flare   | <input type="checkbox"/> E&P Waste Mangement Plan      |
| <input type="checkbox"/> Change Drilling Plan                        | <input type="checkbox"/> Repair Well  | <input type="checkbox"/> Beneficial Reuse of E&P Waste |
| <input type="checkbox"/> Gross Interval Change                       | <input type="checkbox"/> Rule 502 variance requested. Must provide detailed info regarding request. |  |
| <input checked="" type="checkbox"/> Other <u>PIT NETTING</u>         | <input type="checkbox"/> Status Update/Change of Remediation Plans for Spills and Releases          |  |

### COMMENTS:

Seasonal removal of pit netting.  
Removal of water impoundment netting during winter months (currently underway) due to snow loading and lack of seasonal Sage Grouse habitation. Pit is located at over 8,000 ft. elevation on private land and freezes over during winter months. No free product will accumulate on the pit surface. Nets will be reinstalled before Sage Grouse nesting season begins on March 1st. 8' wildlife fencing around pit will remain intact year round.

## H2S REPORTING

**Data Fields in this section are intended to document Sample and Location Data associated with the collection of a Gas Sample that is submitted for Laboratory Analysis.**

**Gas Analysis Report must be attached.**

H2S Concentration: \_\_\_\_\_ in ppm (parts per million) Date of Measurement or Sample Collection \_\_\_\_\_

Description of Sample Point:

Absolute Open Flow Potential \_\_\_\_\_ in CFPD (cubic feet per day)

Description of Release Potential and Duration (If flow is not open to the atmosphere, identify the duration in which the container or pipeline would likely be opened for servicing operations.):

Distance to nearest occupied residence, school, church, park, school bus stop, place of business, or other areas where the public could reasonably be expected to frequent: \_\_\_\_\_

Distance to nearest Federal, State, County, or municipal road or highway owned and principally maintained for public use: \_\_\_\_\_

COMMENTS:

--

### **Best Management Practices**

**No BMP/COA Type**

**Description**

--	--

Operator Comments:

--

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

Signed: \_\_\_\_\_ Print Name: HEIDI BANG  
Title: REG COMPLIANCE Email: HSB@BRY.COM Date: 11/26/2013  
ASST

Based on the information provided herein, this Sundry Notice (Form 4) complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: KUBECZKO, DAVE Date: 2/10/2014

### **CONDITIONS OF APPROVAL, IF ANY:**

**COA Type**

**Description**

	Netting can be removed during the winter (as requested) as long as the pit is frozen during the winter. If part of the pit does not freeze due to pumping or discharge of produced water into the pit, then that section of the pit must be netted and isolated so that no access to the water is possible for birds and other wildlife. It is the responsibility of the operator to protect wildlife from having access to (unfrozen) water of the pit.
	Netting needs to be reinstalled over fluid pits upon thawing of the pits' contents, or no later than 04-01-14.

### **General Comments**

**User Group**

**Comment**

**Comment Date**

--	--	--

Total: 0 comment(s)

### **Attachment Check List**

**Att Doc Num**

**Name**

2106894	CPW Concurrence, Seasonal Removal of Wildlife Netting
400518980	FORM 4 SUBMITTED

Total Attach: 2 Files

## Dave Kubeckzo - DNR

---

**From:** Dave Kubeckzo - DNR  
**Sent:** Monday, February 10, 2014 4:39 PM  
**To:** dave.kubeckzo@state.co.us  
**Subject:** FW: Berry Petroleum - Removal of Nets from Fluid Pits  
**Attachments:** Berry pit netting exemption with map SIGNED.pdf

**Scan No 2106894      CPW CORRESPONDENCE FOR SEASONAL REMOVAL OF WILDLIFE NETTING AT 9 PIT LOCATIONS      FORM 4 SUNDRY NOTICES**

---

**From:** Taylor Elm - DNR [mailto:[taylor.elm@state.co.us](mailto:taylor.elm@state.co.us)]  
**Sent:** Monday, February 10, 2014 4:24 PM  
**To:** Dave Kubeckzo - DNR; Bang, Heidi  
**Cc:** JT Romatzke - DNR; Scott Hoyer - DNR; Michael Warren - DNR  
**Subject:** Berry Petroleum - Removal of Nets from Fluid Pits

Dave & Heidi,

Attached is a formal letter from CPW acknowledging Berry Petroleum's sundry notice to remove wildlife netting from the proposed fluid pits. Please let me know if there are any questions or concerns.

Thank you,

Taylor Elm

Land Use Specialist, NW Region  
Colorado Parks and Wildlife  
0088 Wildlife Way  
Glenwood Springs, CO 81601  
(970) 947-2971  
[taylor.elm@state.co.us](mailto:taylor.elm@state.co.us)



## COLORADO PARKS & WILDLIFE

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NW Regional Service Center  
711 Independent Avenue • Grand Junction, Colorado 81505  
Phone (970) 255-6100 • FAX (970) 255-6111  
wildlife.state.co.us • parks.state.co.us

February 10, 2014

Dave Kubeczko  
Colorado Oil & Gas Conservation Commission  
796 Megan Avenue, Suite 201  
Rifle, CO 81650

**RE: Removal of Fluid Pit Netting During Winter Months for Berry Petroleum  
Locations on the Roan Plateau**

Dave,

Colorado Parks and Wildlife (CPW) has reviewed the request from Berry Petroleum to remove exclusionary netting from fluid pits during winter months for the following pad locations: Chevron C 19, and I13, Latham O 20, O 32, and I 02, Berry F01, Old Mountain I02, B10, and K15 as shown on the attached map. It is CPW's understanding that nets are to be removed in order to protect them from damage caused by snow and ice buildup.

CPW requests that nets be reinstalled over fluid pits upon thawing of the pits' contents, or by April 1, 2014. Greater sage-grouse lekking activity occurs in this area and pits should be covered while grouse are actively breeding and raising their young. Furthermore, CPW requests notification from the operator when nets are successfully reinstalled at these pad locations in the spring.

CPW requests that any wildlife entrapment in the pits during this open period be reported without delay to CPW staff and that the pit netting reinstalled immediately.

Colorado Parks and Wildlife appreciates the notice on this matter and the opportunity to provide recommendations/comments. If there are any questions regarding these comments or need for further information, please contact Taylor Elm, Land Use Specialist, at (970) 947-2971 or by email at [taylor.elm@state.co.us](mailto:taylor.elm@state.co.us).

Sincerely,

J.T. Romatzke, Area Wildlife Manager

Cc: Heidi Bang, Regulatory Compliance Berry Petroleum  
Scott Hoyer, District Wildlife Manager

STATE OF COLORADO

John W. Hickenlooper, Governor • Mike King, Executive Director, Department of Natural Resources  
Bob D. Broscheid, Director, Colorado Parks and Wildlife  
Parks and Wildlife Commission: Robert W. Bray • Chris Castilian, Secretary • Jeanne Home  
Bill Kane, Chair • Gaspar Perricone • James Pribyl • John Singletary  
Mark Smith, Vice-Chair • James Vigil • Dean Wingfield • Michelle Zimmerman  
Ex Officio Members: Mike King and John Salazar



Michael Warren, NW Region Energy Liaison  
File

Attchment: map with pad locations

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STATE OF COLORADO

John W. Hickenlooper, Governor • Mike King, Executive Director, Department of Natural Resources

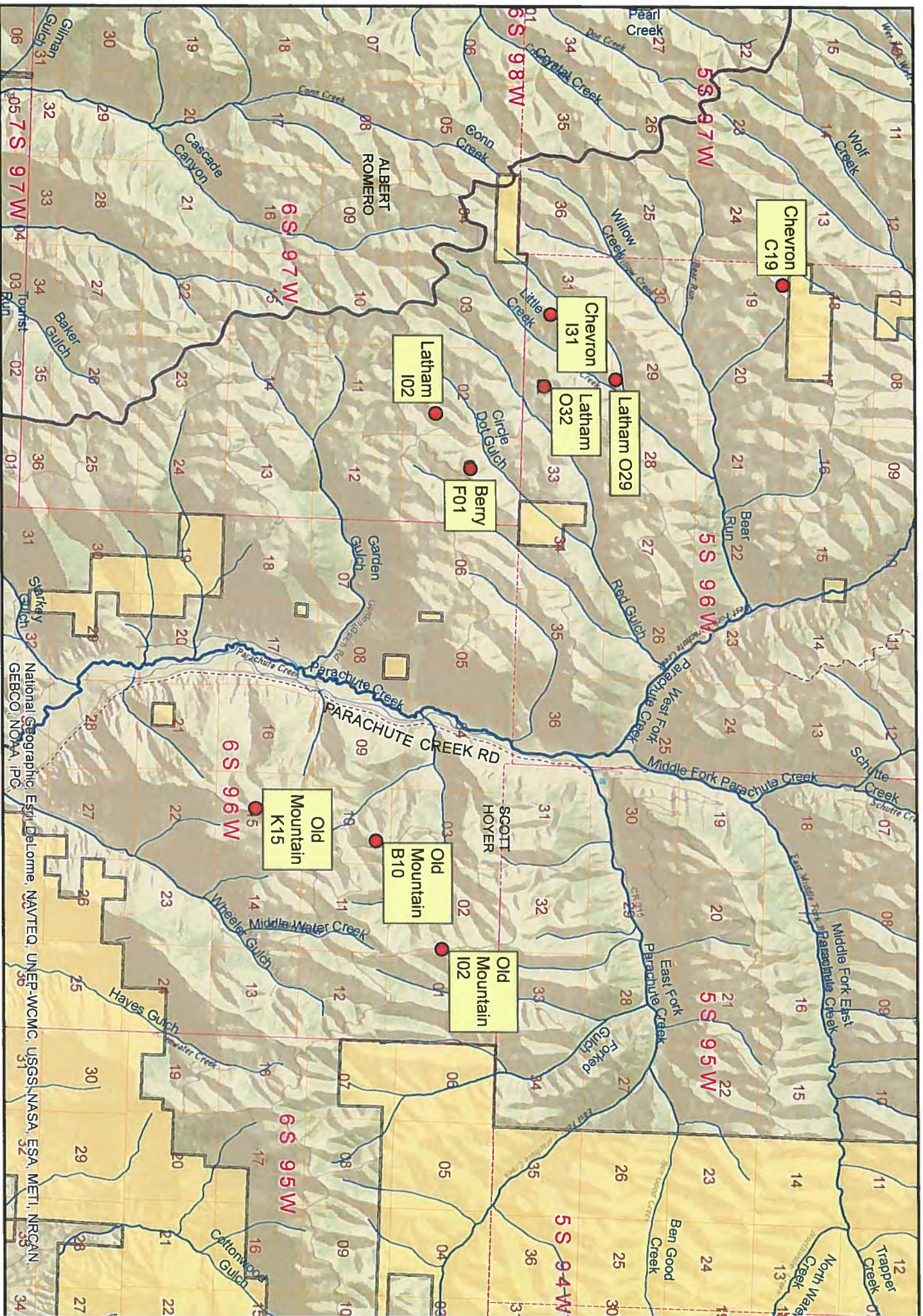
Rick D. Cables, Director, Colorado Parks and Wildlife

Parks and Wildlife Commission: David R. Brougham • Gary Butterworth, Vice-Chair • Chris Castilian  
Dorothea Farris • Tim Glenn, Chair • Allan Jones • Bill Kane • Gaspar Perricone • Jim Pribyl • John Singletary

Mark Smith, Secretary • Robert Streeter • Lenna Watson • Dean Wingfield

Ex Officio Members: Mike King and John Salazar





# Berry Petroleum - Winter Net Removal Locations



- Berry Proposed Net Removal Pits
- BLM Boundaries





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

**RECEIVED**  
**1/6/2014**

**SPILL/RELEASE REPORT**

This form is to be submitted by the party responsible for the oil and gas spill or release. Any spill or release which may impact waters of the State must be reported as soon as practicable; any spill over 20 bbls must be reported within 24 hours and all spills over five bbls must be reported within ten days. Submit a Site Investigation and Remediation Workplan (Form 27) when requested by the Director.

Spill report taken by:

FACILITY ID:

**OPERATOR INFORMATION**

Name of Operator: <b>BERRY PETROLEUM CO</b>	OGCC Operator No: <b>10091</b>	Phone Numbers
Address: <b>1999 Broadway, Suite 3700</b>		No: <b>(303) 999-4245</b>
City: <b>Denver</b> State: <b>CO</b> Zip: <b>80202</b>		Fax: <b>(303) 999-4345</b>
Contact Person: <b>Bryan Burns, Environmental Specialist</b>		E-Mail: <b>bob@bry.com</b>

**DESCRIPTION OF SPILL OR RELEASE**

Date of Incident: <b>12/26/13</b>	Facility Name & No.: <b>LATHAM O29 596</b>	County: <b>Garfield</b>
Type of Facility (well, tank battery, flow line, pit): <b>Pipeline</b>		QtrQtr: <b>SWSE</b> Section: <b>29</b>
Well Name and Number: <b>LATHAM # 29-26D</b>		Township: <b>5S</b> Range: <b>96W</b>
API Number: <b>05-045-13643</b>		Meridian: <b>6th</b>
Specify volume spilled and recovered (in bbls) for the following materials:		
Oil spilled: _____ Oil recov'd: _____	Water spilled: <b>30</b> Water recov'd: <b>3</b>	Other spilled: _____ Other recov'd: _____
Ground Water impacted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Surface Water impacted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Contained within berm? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Area and vertical extent of spill: <b>20x30</b> x <b>10</b>	
Current land use: <b>Oil and Gas Exploration Developmen</b>	Weather conditions: <b>Periodic cloud cover and precipitation</b>	
Soil/geology description: <b>Parachute loam, Parachute-Rhyme loams, colluvium derived from sedimentary rock</b>		
IF LESS THAN A MILE, report distance IN FEET to nearest.... Surface water: <b>392ft</b> wetlands: <b>392ft</b> buildings: <b>NA</b>		
Livestock: <b>NA</b> water wells: <b>392ft</b> Depth to shallowest ground water: <b>450ft</b>		
Cause of spill (e.g., equipment failure, human error, etc.): <b>Equipment Failure</b>		
Detailed description of the spill/release incident: <b>When pumping water, a leak in the six inch line that runs from the can valve up to the O-29 pit was discovered. The line was completely isolated from the main line and immediately blown clear with an air compressor. All valves were then closed and locked with the line being isolated</b>		

**CORRECTIVE ACTION**

Describe immediate response (how stopped, contained and recovered):  
**Within 4 hours the line was shutdown, blown clear, and surface water was cleaned up**

Describe any emergency pits constructed:  
**Temporary liner was installed and soil stockpile placed atop it on O-29 pad**

How was the extent of contamination determined:  
**Excavation and visual inspection**

Further remediation activities proposed (attach separate sheet if needed):  
**After sampling and lab analysis, landfarming will occur on location until soil passes COGCC 910-1 standards.**

Describe measures taken to prevent problem from reoccurring:  
**Replacement of entire line will occur with higher quality material, as well as pipeline pressure testing and chemical treatment where needed**

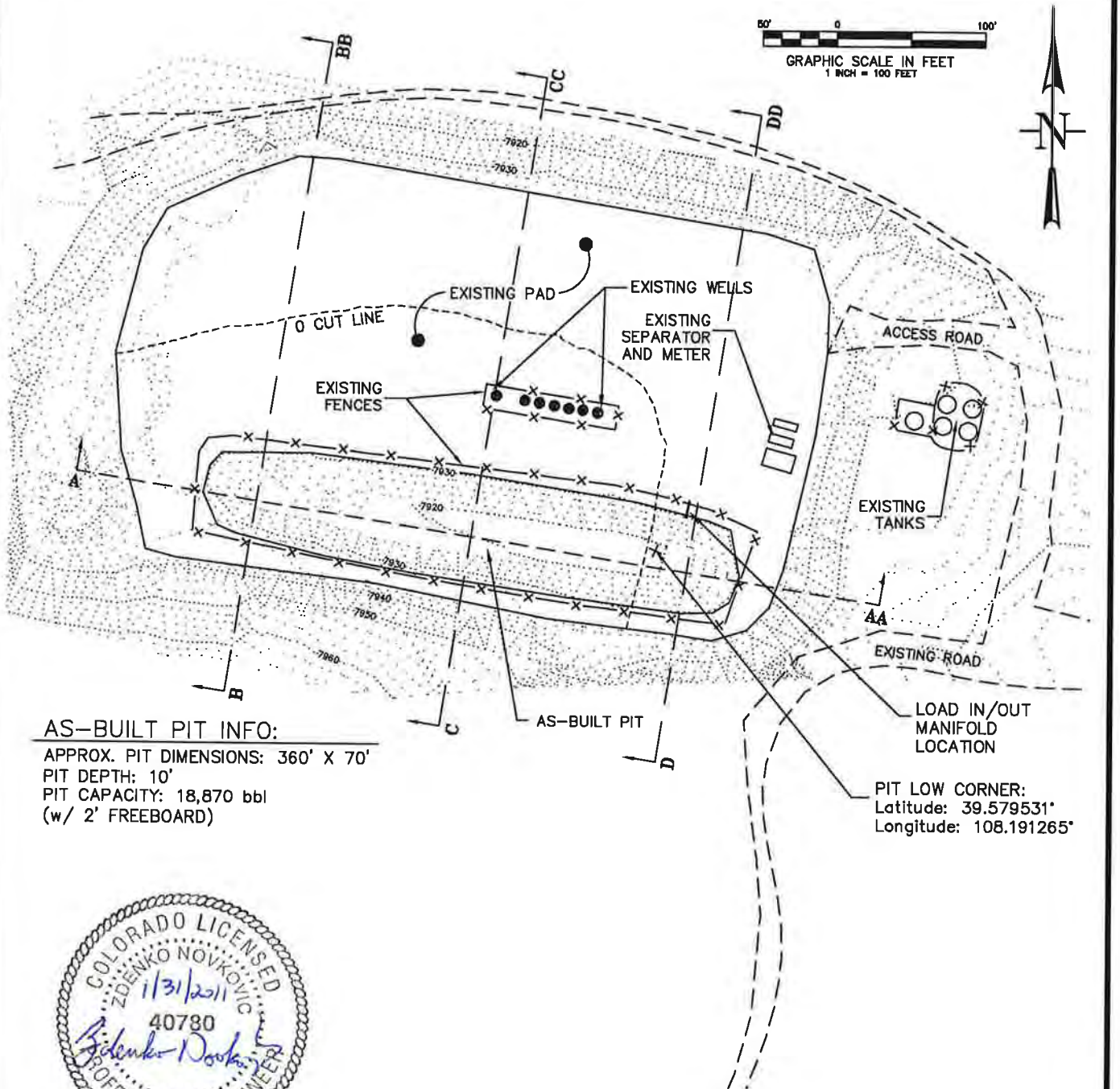
**OTHER NOTIFICATIONS**

List the parties and agencies notified (County, BLM, EPA, DOT, Local Emergency Planning Coordinator or other).

Date	Agency	Contact	Phone	Response
12-28-13	COGCC	Carlos Lujan	9706252497	NA
12-28-13	Garfield County	Kirby Wynn	9709872557	NA
12-28-13	Wapiti-landowner	Hollis Bairrington	3034830044	NA
12-28-13	Marathon- Lando	Eric Ward	9702445735	NA

Spill/Release Tracking No: **2147393**

# AS-BUILT PRODUCTION PIT PLAN VIEW



## AS-BUILT PIT INFO:

APPROX. PIT DIMENSIONS: 360' X 70'  
PIT DEPTH: 10'  
PIT CAPACITY: 18,870 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.



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

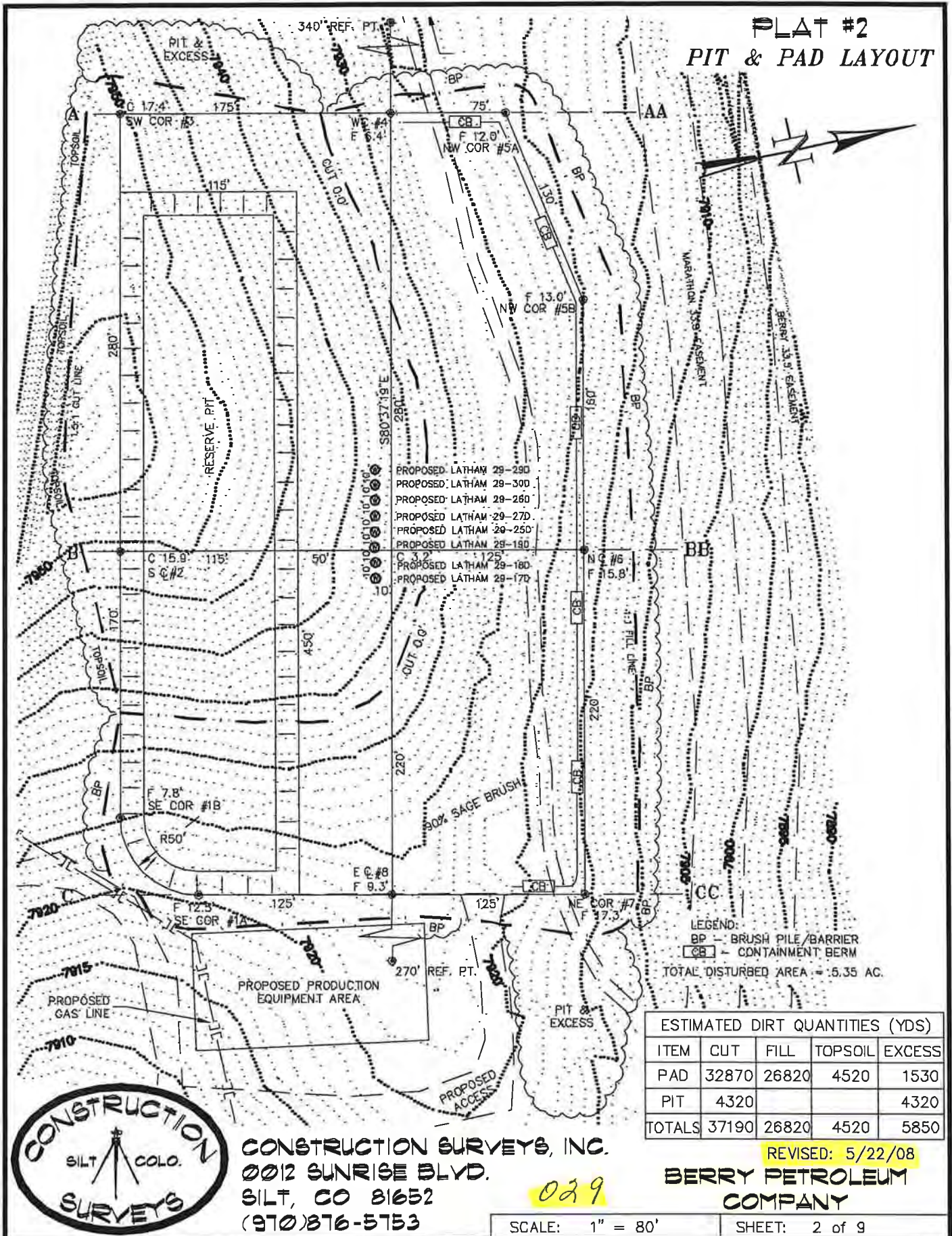
Latham 029-596  
8WSE, SECTION 29, T. 5 S., R. 96 W.  
BERRY PETROLEUM COMPANY

DATE: 01/31/11

SHEET: 1 OF 2



## PIT & PAD LAYOUT



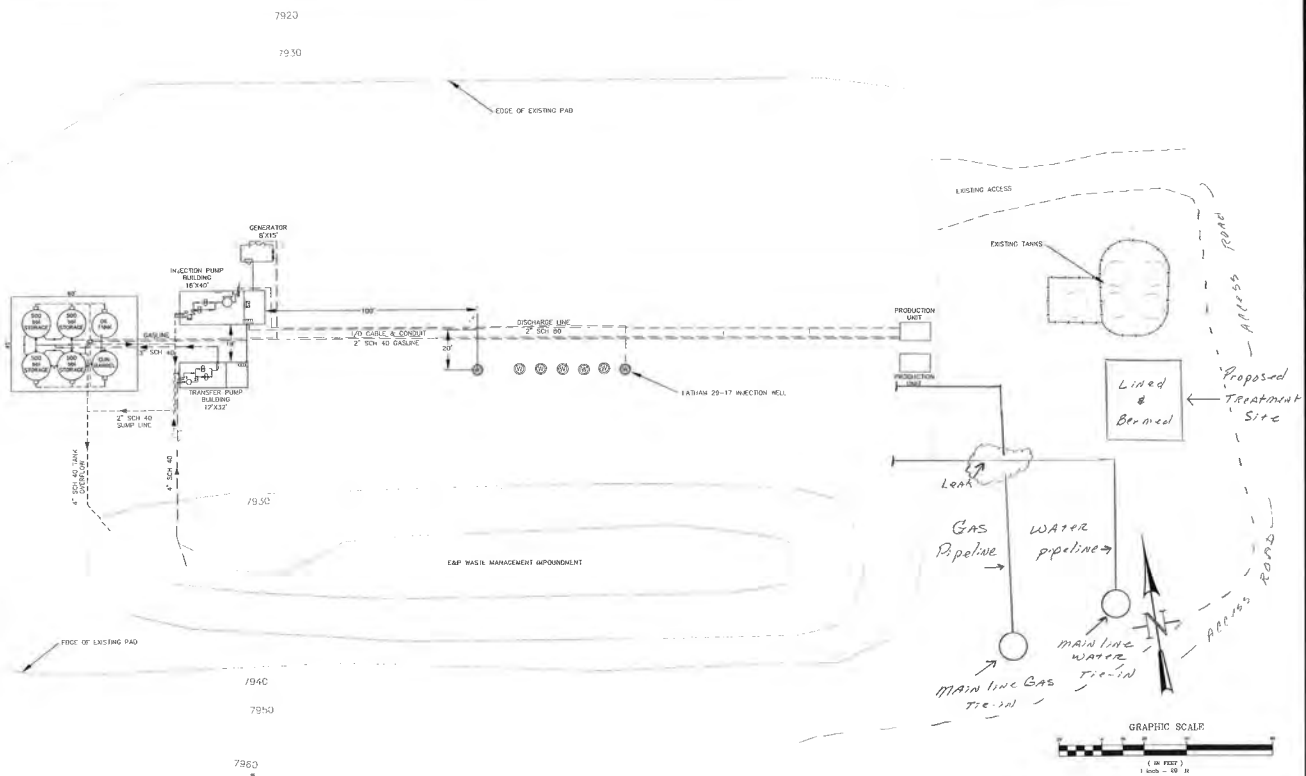
ESTIMATED DIRT QUANTITIES (YDS)				
ITEM	CUT	FILL	TOPSOIL	EXCESS
PAD	32870	26820	4520	1530
PIT	4320			4320
TOTALS	37190	26820	4520	5850

REVISÉD: 5/22/08

**BERRY PETROLEUM  
COMPANY**

SCALE: 1" = 80'

SHEET: 2 of 9



**PROPOSED LATHAM 29-17 INJECTION WELL FACILITIES SITE DIAGRAM**  
 SITUATED IN SW1/4 SE1/4 OF SECTION 23 T. 5 S., R. 36 W. 6th P.M.  
 GARFIELD COUNTY COLORADO

CONSTRUCTION SURVEYS, INC.  
 2012 SUNRISE BLVD.  
 SALT CO. 81652  
 970-576-5753



PREPARED FOR:  
 BERRY PETROLEUM COMPANY

DRAWN BY: BM CHECKED BY: CR  
 DATE: 10/15/12 Dwg: LATHAM 29-17 306

SHEET 1 OF 1



01433637

5/10/07

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

### FORM SUBMITTED FOR:

☐ Pit Report☐ Pit Permit

### 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 Sec		
Design Calculations		
Sensitive Area Determ		
Mud Program		
Form 2A		

OGCC Operator Number 10091

Name of Operator BERRY PETROLEUM COMPANY

Address 950 17TH STREET, SUITE 2400

City DENVER State CO Zip

Contact Name and Telephone

Linda Pavelka

No 303-633-1852

Fax 303-825-3350

API Number (of associated well) 045-13648-00

OGCC Facility ID (of other associated facility)

Pit Location (QtrQtr, Sec, Twp, Rng, Meridian) SESW, SEC 29, T5S, R96W

Latitude 39 580278

Longitude 108 193080

County GARFIELD

Pit Use ☒ Production ☐ Drilling (Attach mud program) ☒ Special Purpose (Describe Use) FRAC PITPit Type ☒ Lined ☐ Unlined Surface Discharge Permit ☐ Yes ☒ NoOffsite disposal of pit contents ☐ Injection ☐ Commercial Pit/Facility Name Pit/Facility No

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 300 ground water 0 water wells N/A

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 ☐ CRPNon-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 from USNRCS survey Sheet No Soil Complex/Series No

Soils Series Name 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 155' Width 350' Depth 10'

Calculated pit volume (bbls) 96,616 Daily inflow rate (bbls/day)

Daily disposal rates (attach calculations) Evaporation N/A bbls/day Percolation bbls/day

Type of liner material POLY LINER Thickness 12 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) TRUCK

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 LINDA PAVELKA Signed

Title REGULATORY Date 5/9/2007

OGCC Approved Title EPS

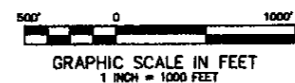
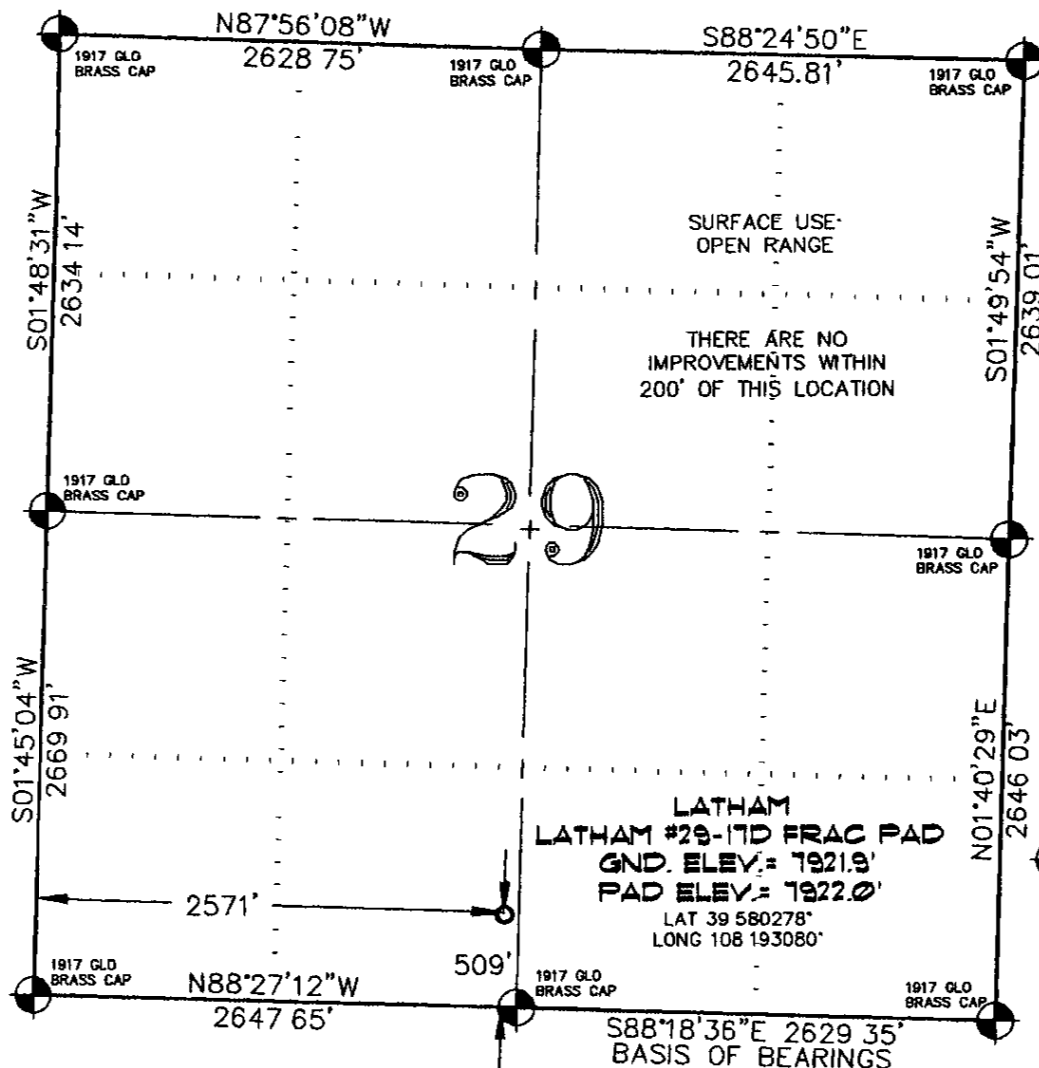
Date 5/10/07

CONDITIONS OF APPROVAL, IF ANY

FACILITY NUMBER: 290544

SEC. 29, T. 5 S., R. 96 W. OF THE 6TH P.M.

PLAT #1  
LOCATION PLAT



**-LEGEND-**

- SECTION CORNER LOCATION BASED ON GLO RECORD INFORMATION
- FIELD SURVEYED SECTION CORNER LOCATIONS
- FIELD SURVEYED PAD LOCATION

THIS WELL LOCATION PLAT WAS PREPARED FOR BERRY PETROLEUM COMPANY, TO LOCATE THE LATHAM #29-17D FRAC PAD, 509 FEET FROM THE SOUTH LINE AND 2571 FEET FROM THE WEST LINE IN THE SE1/4 SW1/4 OF SECTION 29, T. 5 S., R. 96 W. OF THE 6TH P.M. GARFIELD COUNTY, COLORADO.

**REFERENCE NOTES**

- 1) T 5 S, R 96 W, 6TH P.M GLO PLAT
- 2) U.S.G.S QUAD CIRLCE DOT GULCH, CO
- 3) ELEVATIONS BASED ON N.A.V.D. 1988
- 4) LATITUDES AND LONGITUDES ARE BASED ON NAD 83, COLORADO CENTRAL ZONE
- 5) GPS OPERATOR ROBERT WOOD, OBSERVED A PDOP OF 2.5
- 6) ALL GPS OBSERVATIONS ARE IN COMPLIANCE WITH COGCC RULE NO 215
- 7) SURFACE AND BOTTOM HOLE LOCATIONS ARE MEASURED 90° FROM SECTION LINES

**SURVEYOR'S CERTIFICATE**

I, Steven R Pace a Professional Land Surveyor in the State of Colorado do hereby certify that this Survey was made under my direct supervision, and that this Plat represents a true and correct survey.

*Steven R Pace*

COLORADO PLS 22580



**CONSTRUCTION SURVEYS, INC.**

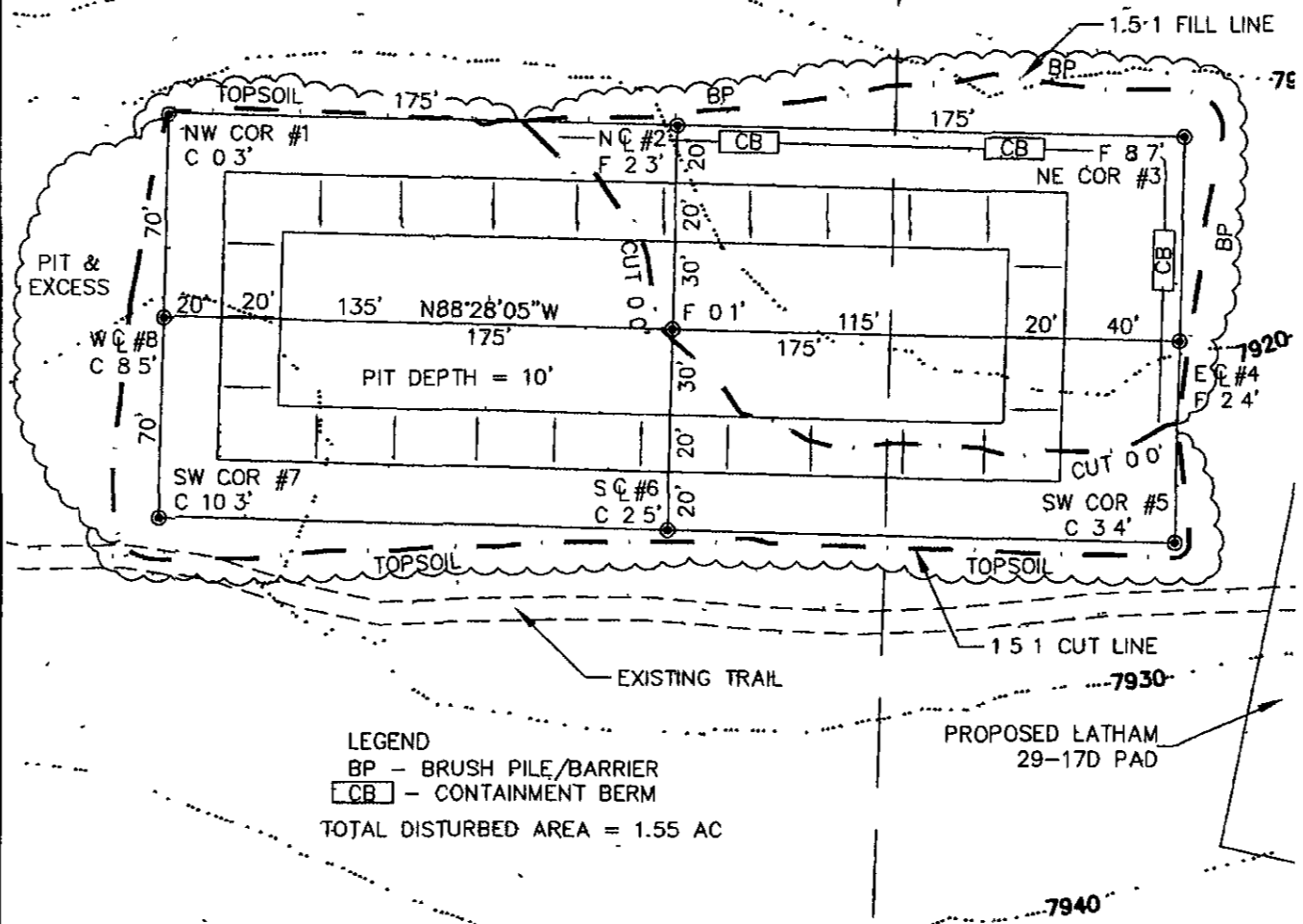
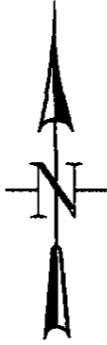
0012 SUNRISE BLVD.  
SILT, CO 81652  
(970)876-5753

SURVEYED 04/09/07	SCALE 1" = 1000'
DRAFTED 05/07/07	DWG ORION\CHEV27-17D
CHECKED 05/08/07	SHEET 1 of 2



045-13648-00

# **PLAT #2** **PIT & PAD LAYOUT**



**LEGEND**  
 BP - BRUSH PILE/BARRIER  
 CB - CONTAINMENT BERM  
 TOTAL DISTURBED AREA = 1.55 AC

PROPOSED LATHAM  
29-17D PAD



**CONSTRUCTION SURVEYS, INC.**  
 8812 SUNRISE BLVD.  
 SILT, CO 81652  
 (970)876-5753

ESTIMATED FRAC DIRT QUANTITIES (YDS)				
ITEM	CUT	FILL	TOPSOIL	EXCESS
PAD	4784	2848	1388	548
PIT	7800			7800
TOTALS	12584	2848	1388	8348

**BERRY PETROLEUM  
COMPANY**

SCALE 1" = 60'

SHEET 2 of 2