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| | | ing Bureau - | 35 | | |
| 1220 | South St. Francis D | rive, Santa Fe, NM 8 | 7505 | Asper | "32"stateCo |
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THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE **Application Acronyms:** [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication] [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement] [PC-Pool Commingling] [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase] [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response] [1] **TYPE OF APPLICATION - Check Those Which Apply for [A]** Location - Spacing Unit - Simultaneous Dedication NSL NSP SD Check One Only for [B] or [C] [B] Commingling - Storage - Measurement DHC CTB PLC PC OLS OLM [C] Injection - Disposal - Presture Increase - Enhanced Oil Recovery X SWD IPI EOR PR _ PMX [D] Other: Specify [2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply Working, Royalty or Overriding Royalty Interest Owners [A] Offset Operators, Leaseholders or Surface Owner [B] Application is One Which Requires Published Legal Notice [C][D] Notification and/or Concurrent Approval by BLM or SLO U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office [E] For all of the above, Proof of Notification or Publication is Attached, and/or [F] Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

ign/ature

James Bruce P.O. Box 1056 Santa Fe, New Mexico 87504 Tiple box (6)

Duit

mail Address



RECEIVED OCD 2010 AUG 27 A 11: 18

August 26, 2010

New Mexico Oil conservation Division Attn: William V. Jones PE 1220 South St. Francis Santa Fe, NM 87505

Re: Application for Authorization to Inject Application

Aspen 32 State Com #1 Well

Section 32, 17S, 28E, Eddy Co., NM

Dear Mr. Jones:

Enclosed please find revised Application for Authorization to Inject for the above referenced well. As stated in previous email we researched and determined the working interest owners in the Cisco Formation and sent applications to the working interest owners by certified mail. The complete listing of the working interest owners along with the date sent is shown in this application.

Our engineer, Richard Ghiselin, also composed a wellbore schematic showing the "after conversion" view of the wellbore which is enclosed in Section X. of this application.

Please let Jim Bruce or myself know if you need anything further. You can also call our Production Engineer, Richard Ghiselin, if you have any technical questions.

Thanks for your time and attention to this application.

Sincerely

Chuck L. Reagan

Sr. Landman for Lime Rock Resources

<u>APPLICATION FOR AUTHORIZATION TO INJECT</u>

Aspen 32 State Com #1

Section 32, T-17-S, R-28E Location: 1370' FSL and 1609' FEL API #: 30-015-34148 Eddy County, New Mexico

I. Purpose: Lime Rock plans to commence injection into the above listed previously permitted well for disposal purposes.

II. Operator:

Lime Rock Resources A, L.P. 7535,

1111 Bagby, Ste. 4600 Houston, TX 77002

Contact Party: Chuck L. Reagan

Phone: (713) 292-9548

III. Well Data:

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

Aspen 32 State Com #1 Section 32, T-17-S, R-28E

Location: 1370' FSL and 1609' FEL, (Unit J)

API #: 30-015-34148 Eddy County, New Mexico

(2) Casing strings used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

Surface Casing

Hole Size: 17 ½"

Casing Size: 13 3/8"

Depth Set: 428 feet

Cemented with: 400 sacks Top of Cement: surface

Method Determined: Circulated

Intermediate Casing

Hole Size: 12 ¼"

Casing Size: 9 5/8"

Depth Set: 2,660 feet

Cemented with: 1100 sacks Top of Cement: surface

Method Determined: Circulated

Production Casing

8 3/4" Hole Size:

Casing Size: 7"

Cemented with: 500 sacks

Top of Cement: 500' above Wolfcamp Formation (approximately 6,392')

Method Determined: Cement Bond Log

Total Depth: 9,400

INJECTION INTERVAL

8,198' to 8,790'

INJECTION WELL DATA

(3) A description of the tubing to be used including its size, lining material, and setting depth.

Tubing Size: 3 1/2"

Lining Material: TK70XT = 10-20 ml

Type of Packer: Retrievable Packer Setting Depth: 8,100±

Other Type of Tubing/Casing Seal (if applicable): N/A

(4) The name, model, and setting depth of the packer used or a description of any other seal

system or assembly used. Manufacturer: Weatherford

Model: 3.50 X 7 AS1 W/ on/off tool W/ 2.81 profile nipple, nickel plated

Setting depth: 8,100±

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- The following must be submitted for each injection well covered by this application. All items В. must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
 - (1) Is this a new well drilled for injection? No If no, for what purpose was the well originally drilled? The well was originally drilled as a potential Empire Morrow well and was P&A'ed on 10/18/05.
 - (2) The name of the injection formation and, if applicable, the field or pool name. Cisco Formation
 - (3) Field or Pool name: Undesignated
 - (4) Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No

(5) Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

Next higher:

Wolfcamp (oil)

6,950'

Next lower:

Atoka (Gas)

9,293'

IV. Is this an expansion of an existing project? - No

- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review. See map attached hereto
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

As shown on the enclosed spreadsheet there are 2 wells within the area of review that penetrate the proposed injection zone. Below is a tabulation of data, and attached for reference is a schematic of each well.

Well Name:

NW State #33 (formerly known as the Dancer 32 State Com #1)

API:

30-015-28863

Operator:

LIME ROCK RESOURCES A, L.P.

Well Location:

1728 FNL and 916 FEL of Section 32, T-17-S, R-28E, Eddy Co., NM

Well Type/Status:

Active

Spud Date:

3/17/1996

Depth:

10,610'

Surface Casing:

13-3/8" 48# J-55 set at 560 ft, cemented with 600 sks Class "C" + 2% S1

+ 0.25 pps D29. Circulated Cement to surface. Hole size 17-1/2".

Intermediate Casing:

9-5/8" 36# J-55 set at 2,640 ft, cemented with 400 sks 35:65 (Poz:C) + 10% D20 + 5% bwow D44 + 0.25 pps D29 lead cement followed by 525 sks Class "C" neat tail cement. Circulated cement to surface. Hole size

12-1/4".

Production Casing:

5-1/2" 15.5/17# P-110 set at 10,610 ft, cemented with 1,300 sks Class "H" + 1.0 gps D600 + 0.1 gps D604 + 0.05 gps M45 + 2% B28 + 0.1% D153 + 0.2% D800. Did not circulate cement, top of cement is 5,953'

from CBL. Hole size 8-3/4".

Completion:

Perf Morrow from 10,200 ft – 10,206 ft. Fracture stimulate using 28,000

gallons 60Q Foam with 16,500# of 20/40 InterProp Plus. (Sept 1996)

Developed Hole in Casing at 3,594 ft, attempted to squeeze and return to production. Exited casing with mill while drilling out squeeze plug. Well temporarily abandoned. (Aug 2008)

Set CIBP @ 3,390'. Squeeze 5-1/2" casing in order to raise top of cement in annulus. Old top of cement – 2,780', new top of cement – 2,160' from CBL. (Aug 2010)

Perf San Andres from 2,674' to 2,952' (44 holes) and fracture stimulate with 84,000 gallons of cross-linked fluid with 169,500 #'s of 16/30 sand. Set CBP for second stage and Perf from 2,465' to 2,631' and fracture stimulate with 82,000 gallons of cross-linked fluid with 165,000 #'s of 16/30 sand. Drill out CBP and return to production. (Aug 2010)

Production: As of 8/19/2010, completion rig still on location prepping for

production.

Well Name: Aspen 32 State Com #1 SWD (This is the proposed well to be re-entered)

API: 30-015-34148

Operator: LIME ROCK RESOURCES A, L.P.

Well Location: 1370 FSL and 1609 FEL of Section 32, T-17-S, R-28E, Eddy Co., NM

Well Type/Status: Subject Well Spud Date: 9/20/2005
Depth: 10,400'

Surface Casing: 13-3/8" 48# H-40 set at 428 ft, cemented with 200 sks 35:65 (Poz:C) +

6% Bentonite + additives lead followed by 200 sks Class "C" + 2% CaCl2.. Circulated 75 sks of cement to surface. Hole size 17-1/2". (Sept 2005)

Intermediate Casing: 9-5/8" 40# N-80/J-55/L-80 set at 2,660 ft, cemented with 500 sks 35:65

(Poz:C) + 6% Bentonite + additives lead cement followed by 600 sks Class "C" + 1% CaCl2 tail cement. Circulated 85 sks of cement to

surface. Hole size 12-1/4". (Sept 2005)

Production Casing: No production casing run. Well was Plugged & abandoned with cement

plugs set at the following depths: 10,041' - 9,941', 8,338' - 8,238', 7,049' - 6,949', 5,568' - 5,468', 3,412' - 3,312', 2,713' - 2,613', 450' -

390', 60' - 0' (Oct 2005)

Completion: None

Wellbore schematics for all of the plugged wells within the area of review are enclosed herein.

VII. DATA SHEET - Attach data on the proposed operation, including:

- 1. Proposed average and maximum daily rate and volume of fluids to be injected; 4,000 BWPD and 7,500 BWPD Max
- 2. This will be a closed system
- 3. Proposed average and maximum injection pressure;
 - a. Proposed average injection pressure: 800 psi.
 - b. The proposed maximum injection pressure is 0.2 psi/ft (1,600 psi @ 8,100± ft)
- 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than re-injected produced water;

 Sources of water will be produced water from shallow reservoirs in the Red Lake area; Abo/Glorieta, San Andres, Premier, Grayburg, Queen and Yeso formations. An analysis of the water is enclosed herein.
- 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells etc).
 An analysis of the disposal zone formation water is attached, taken from nearby SWD well applications for wells which inject into the same interval.
 Formation water analysis enclosed herein.

VIII. Geological Data

Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth.

The proposed injection zone is the Pennsylvanian aged Cisco formation, also known as the Canyon, at a depth of 8,198 feet (top marker). This is a predominately limestone interval, with some dolomite streaks, that has peak porosity of 20% over a 592 foot gross interval. The base of the porous interval of interest is 8,790 feet. Within the area of review, drilling operations in this zone typically encounter lost circulation, and formation test have been non-productive of oil or gas.

Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

In the area of review, fresh water occurs down to a depth of approximately 150 feet. No know fresh water sources are underlying the injection interval.

IX. Describe the proposed stimulation program, if any.
Proposed to perforate, acidize and fracture stimulate.

X. ATTACH APPROPRIATE LOGGING AND TEST DATA ON THE WELL

The complete well logs for this well are on file with the Oil Conservation Division. Attached for reference is an excerpt of the Triple Combo Log.

XI. ANALYSIS OF FRESHWATER WELLS

There are no freshwater wells producing within one mile of the proposed injection well.

XII. APPLICANTS FOR DISPOSAL WELLS MUST MAKE AN AFFIRMATIVE STATEMENT THAT THEY HAVE EXAMINED AVAILABLE GEOLOGIC AND ENGINEERING DATA AND FIND NO EVIDENCE OF OPEN FAULTS OR ANY OTHER HYDROLOGIC CONNECTION BETWEEN THE DISPOSAL ZONE AND ANY UNDERGROUND SOURCES OF DRINKING WATER.

Geologic and engineering data have been examined and no evidence of open faults or any other hydrological connection between the injection zone and any fresh water aquifer (as been found.

XIII. Proof of Notice List

- (A.) Surface Owner:
 John R. Gray
 P.O. Box 1182
 Artesia, New Mexico 88211
- (B.) Offset Leasehold Operators within ½ mile of proposed injection well:
 Altura Energy, Ltd
 580 Westlake Park Blvd
 Houston, TX 77078-4294

Mary L. Boling and Michael Boling, Trustees of the Robert E. Boling Family Trust 305 S. 5th Street Artesia, NM 88210

BP America Production Company Craig Ferguson 501 Westlake Park Blvd. Houston, TX 77079

Cibola Energy Corp c/o Jalapeno Corp 1429 Central Avenue NW Albuquerque, NM 87104

COG Oil & Gas, LP 550 W. Texas Ave., Ste 1300 Midland, TX 79701 Doral Energy Corp. Marty Bloodworth 415 W. Wall Street, Suite #500 Midland, TX 79701

Jalapeno Corp. 1429 Central Avenue NW Albuquerque, NM 87104

Kinder Morgan Energy Partners, LP 1301 McKinney, Ste 3450 Houston, TX 77010

Lobos Energy Partners, LLC 3817 NW Expressway, Ste 950 Oklahoma City, OK 73112

Marathon Oil Company 5553 San Felipe Road Houston, TX 77036

Marico Petroleum, Inc. 105 S. 4th Street Artesia, NM 88210-2177

Marbob Energy Corp. P. O. Box 304 Artesia, NM 88210

Mewbourne Oil Company 701 S. Cecil Street Hobbs, NM 88240

Occidental Petroleum Corporation 5 Greenway Plaza, Suite 110 Houston, TX 77096-0521

RSE Partners – I, LP 3141 Hood Street, Suite 350 Dallas, TX 75219

Sacramento Partners, LP 105 S. 4th Street Artesia, NM 88210

Sharboro Oil, Ltd 105 S. 4th Street Artesia, NM 88210 Three Rivers Acquisition, LLC 3821 Juniper Trace, Ste 107 Austin, TX 78738

Total E&P, USA, Inc. 1201 Louisana Street, Ste 1800 Houston, TX 77002

Harvey E. Yates Co. 105 S. 4th Street Artesia, NM 88210

Richard Martin Yates 105 S. 4th Street Artesia, NM 88210

St. Clair Peyton Yates 105 S. 4th Street Artesia, NM 88210

Yates Petroleum Co. 105 S. 4th Street Artesia, NM 88210

G. Wilbanks Revocable Trust created by Trust Agreement 1-9-1995 2200 Scurry Big Spring, TX 79720

The parties listed above have been sent by certified mail a copy of Form C-108 Application for Injection submitted by Lime Rock Resources for their Aspen 32 State Com #1 Well. Please see attached

(C.) Affidavit of Publication – Please see attached

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

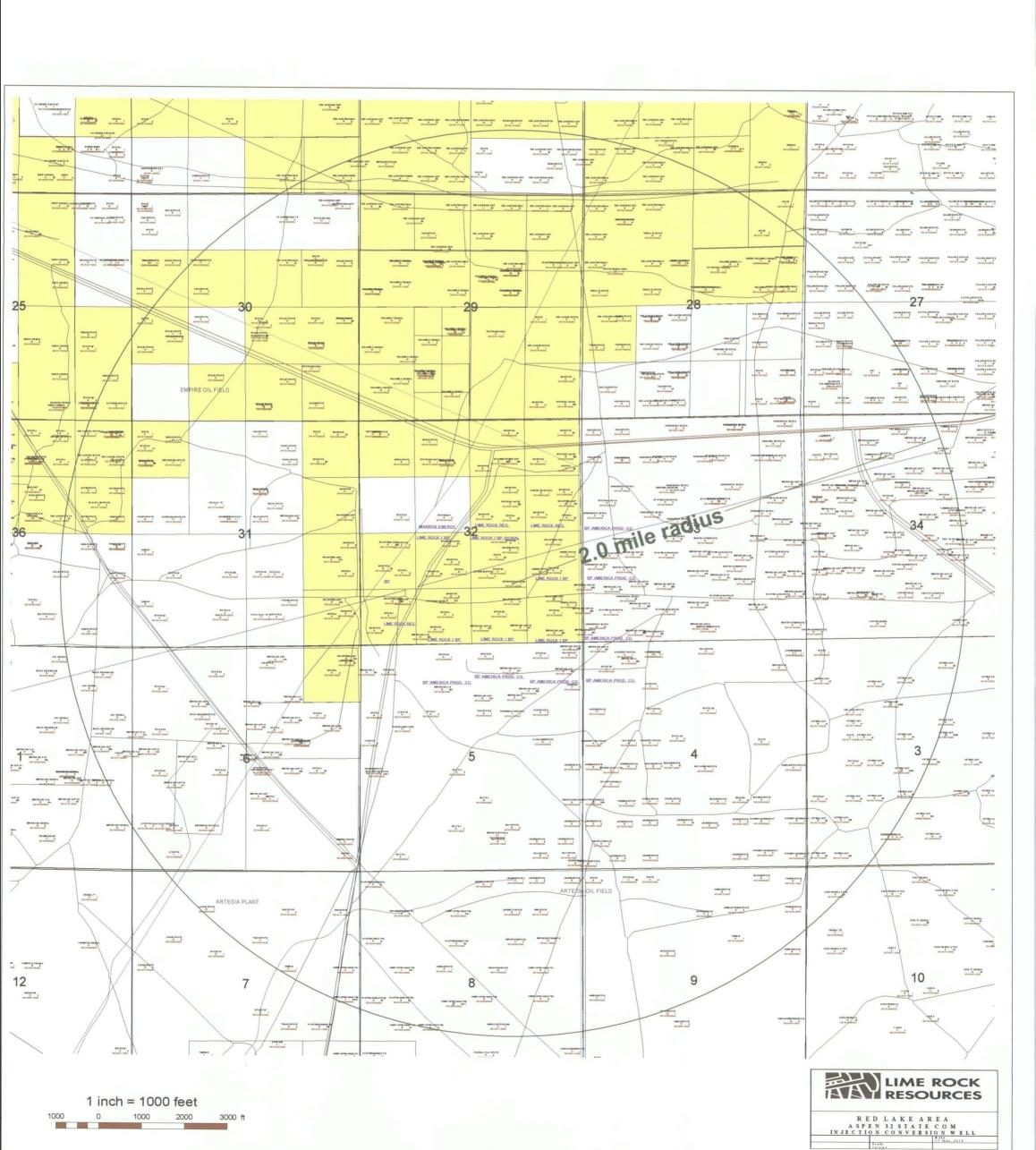
Keagan TITLE: 5. Landman Lagar DATE: 8-26-10 SIGNATURE: _ (hul

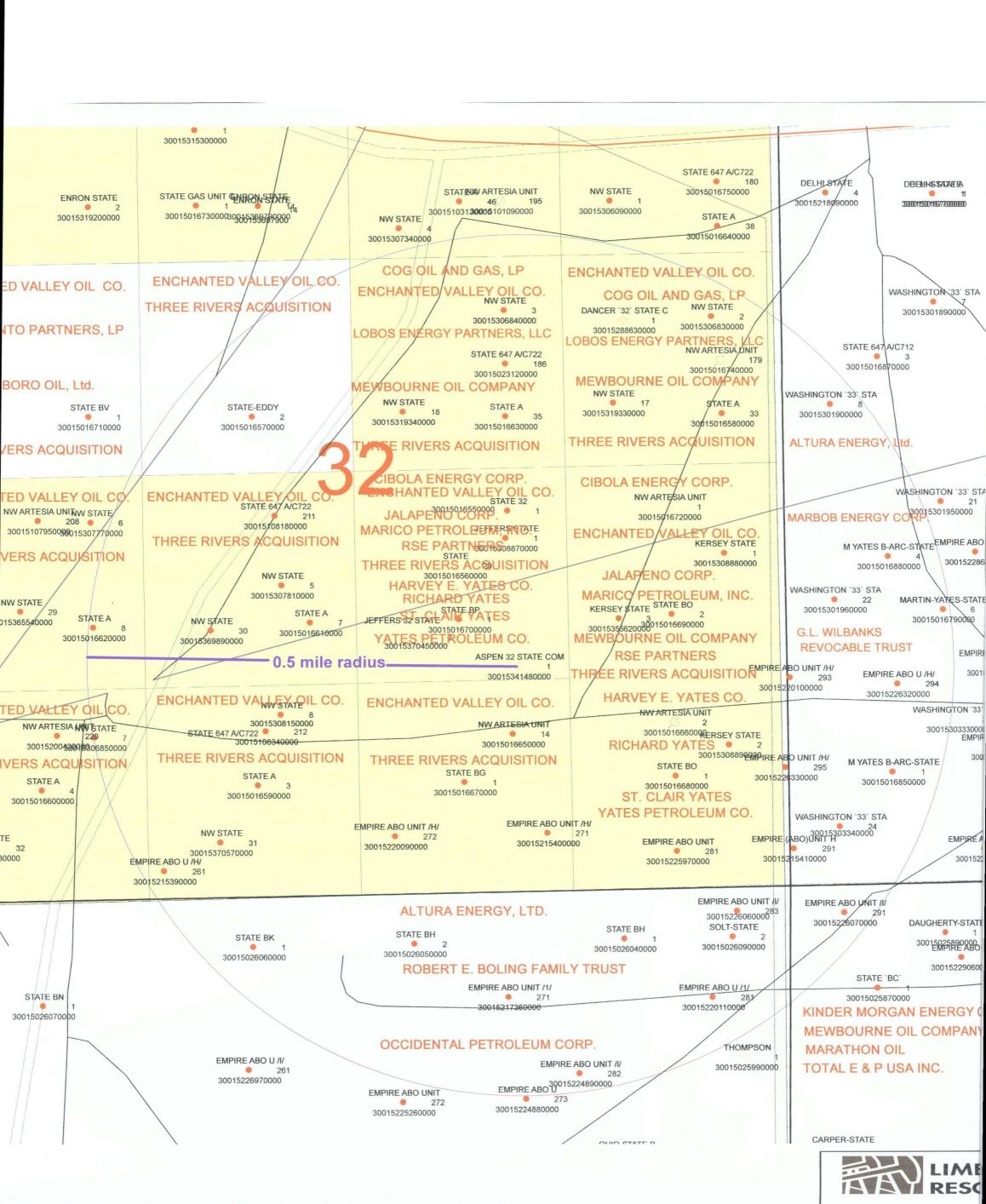
PHONE: 7/3-292-9548

NAME: RICHARD GHISELIN TITLE: PROD. ENGINEER
SIGNATURE: DATE: 8/26/10

E-MAIL ADDRESS: rghiselin@ limerockresources. com

PHONE: 713.345.2136





Aspen 32 State Com #1 SWD

Section 32, T-17-S, R-28E Location: 1370' FSL and 1609' FEL API #: 30-015-34148 Eddy County, New Mexico

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

As shown on the enclosed spreadsheet there are 2 wells within the area of review that penetrated the proposed injection zone. The Aspen 32 State Com #1 SWD Well is the well that is being converted to a disposal well. Below is a tabulation of data, and attached for reference is a schematic of each well.

Well Name:

NW State #33 (formerly Dancer 32 State Com #1)

API:

30-015-28863

Operator:

LIME ROCK RESOURCES A, L.P.

Well Location:

1728 FNL and 916 FEL of Section 32, T-17-S, R-28E, Eddy Co., NM

Well Type/Status:

Active 3/17/1996

Spud Date: Depth:

10,610'

Surface Casing:

13-3/8" 48# J-55 set at 560 ft, cemented with 600 sks Class "C" + 2% S1

+ 0.25 pps D29. Circulated Cement to surface. Hole size 17-1/2".

Intermediate Casing:

9-5/8" 36# J-55 set at 2,640 ft, cemented with 400 sks 35:65 (Poz:C) + 10% D20 + 5% bwow D44 + 0.25 pps D29 lead cement followed by 525 sks Class "C" neat tail cement. Circulated cement to surface. Hole size

12-1/4".

Production Casing:

5-1/2" 15.5/17# P-110 set at 10,610 ft, cemented with 1,300 sks Class "H" + 1.0 gps D600 + 0.1 gps D604 + 0.05 gps M45 + 2% B28 + 0.1% D153 + 0.2% D800. Did not circulate cement, top of cement is 5,953'

from CBL. Hole size 8-3/4".

Completion:

Perf Morrow from 10,200 ft – 10,206 ft. Fracture stimulate using 28,000 gallons 60Q Foam with 16,500# of 20/40 InterProp Plus. (Sept 1996)

Developed Hole in Casing at 3,594 ft, attempted to squeeze and return to production. Exited casing with mill while drilling out squeeze plug.

Well temporarily abandoned. (Aug 2008)

Set CIBP @ 3,390'. Squeeze 5-1/2'' casing in order to raise top of cement in annulus. Old top of cement -2,780', new top of cement -2,160' from CBL. (Aug 2010)

Perf San Andres from 2,674' to 2,952' (44 holes) and fracture stimulate with 84,000 gallons of cross-linked fluid with 169,500 #'s of 16/30 sand. Set CBP for second stage and Perf from 2,465' to 2,631' and fracture stimulate with 82,000 gallons of cross-linked fluid with 165,000 #'s of 16/30 sand. Drill out CBP and return to production. (Aug 2010)

Production:

As of 8/19/2010, completion rig still on location prepping for

production.

Well Name:

Aspen 32 State Com #1 SWD

API:

30-015-34148

Operator:

LIME ROCK RESOURCES A, L.P.

Well Location:

1370 FSL and 1609 FEL of Section 32, T-17-S, R-28E, Eddy Co., NM

Well Type/Status: Spud Date:

Subject Well 9/20/2005

Depth:

10,400'

Surface Casing:

13-3/8" 48# H-40 set at 428 ft, cemented with 200 sks 35:65 (Poz:C) + 6% Bentonite + additives lead followed by 200 sks Class "C" + 2% CaCl2.. Circulated 75 sks of cement to surface. Hole size 17-1/2". (Sept 2005)

Intermediate Casing:

9-5/8" 40# N-80/J-55/L-80 set at 2,660 ft, cemented with 500 sks 35:65 (Poz:C) + 6% Bentonite + additives lead cement followed by 600 sks Class "C" + 1% CaCl2 tail cement. Circulated 85 sks of cement to surface. Hole size 12-1/4". (Sept 2005)

Production Casing:

No production casing run. Well was Plugged & abandoned with cement plugs set at the following depths: 10,041'-9,941', 8,338'-8,238', 7,049'-6,949', 5,568'-5,468', 3,412'-3,312', 2,713'-2,613', 450'-390', 60'-0' (Oct 2005)

Completion:

None

Wellbore schematics for all of the plugged wells within the area of review are enclosed herein.

Aspen 32 State Com #1 Spreadsheet Part VI to Application For Authorization to Inject

| | | | | H | _ | 1 | | - | - | _ | ⊢ | 1 | \vdash | | 100 | 1 | 305 | F | 10000 | | CONTRACTIC |
|---|-----------|--------------|----------------------------------|-------|---------|----------|------------|--------------|--------------|-----------------|-------------------------------|------------|----------|--------|------------------|---------|---------|------------|-------------|---------------------------------|---|
| No Lease | # | AP. | Operator | Sec 1 | TWN RGE | N/S Dir | E/W DIr | Type | Status Spu | Spud Date Sur | Sur Hole Surf Csg Size | Csg SX Cmt | <u> </u> | Prod | Prod USB Size | SA CMI | 30 | וסם | Date | | Civilgenis |
| 1 WASHINGTON 33 STATE | ∞ | 30-015-30190 | BP AMERICA PRODUCTION | 33 1 | 175 28E | 2267 FNL | 1 330 FWL | | Active 7/ | 7/30/98 12: | 12 1/4" 8 5/8" | /8" 325 | Circ | 17/8" | 5 1/2" | 092 | Circ | 4,000' | 9/1/98 2 | 2306' - 2864' Pr 20 | Production as per Go-Tech: Sept 1998- Jan 2010 |
| 2 NW STATE | 2 | 30-015-30683 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 1709 FNL | 1 385 FEL | iō | Active 8 | 8/6/99 12 | 1/4" 85/8" | /8" 325 | Circ | 17/8" | 5 1/2" | 750 | Circ | 2,850' 9 | 9/3/99 2 | 2466' - 2742' Pr | Production as per Go-Tech: Sep 1999 - Jan 2009 |
| 3 NW STATE (formerly DANCER 32 STATE COM No. 1) | 33 No. | 30-015-28863 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 1728 FNL | L 916 FEL | ii 0 | Inactive 3/ | 3/17/96 17 | 1/2" 13 3/8 | 009 8/8 | Circ | 12 1/4 | 9/5/8 | 925 | Circ 1 | 10,610' 5, | 5/11/96 10, | 10,200' - 10,206 Pi pi re | Production as per Go-Tech: No current production. Jun 1996 - Apr 2008. Well being re-completed in the San Andres. |
| 4 NW STATE | 17 | 30-015-31933 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 2237 FNL | L 990 FEL | iō | Active 9/ | 9/13/01 12 | 12 1/4" 8 5/8" | /8" 375 | Circ | 17/8" | 5 1/2" | 625 | Circ | 3,225' 1. | 11/1/01 2 | 2467' - 2872' Pi | Production as per Go-Tech: Oct 2001 - Jan 2009 |
| 5 EMPIRE ABO UNIT | 28 | 30-015-01658 | BP AMERICA PRODUCTION | 32 1 | 175 28E | 2310 FNL | L 330 FEL | a IIO | Plugged 8/ | 8/26/60 1 | 11" 85/8" | /8" 300 | Circ | 77/8" | 5 1/2" | 150 | ε: | 6,176' 9 | 9 09/8/6 | 6072' - 6094' N | No Production as per Go-Tech |
| 6 NORTHWEST ARTESIA UNIT | 9 LIN | 30-015-01674 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 1980 FNL | L 330 FEL | Oil | Injection 11 | 11/1/61 1 | 10" 85/ | 5/8" 75 | Circ | -80 | 4 1/2" | 300 | 55 | 1,973' 11 | 11/24/61 1 | 1920' - 1955' PI | Production as per Go-Tech: Aug 1999 - Jun 2008 |
| 7 NW STATE | m | 30-015-30684 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 1650 FNL | L 1650 FEL | ō | Active 8/ | 8/16/99 12 | 12 1/4" 8 5/ | 5/8" 375 | Circ | 77/8" | 5 1/2" | 625 | Circ | 3,205' 9, | 9/10/99 2 | 2464' - 2750' Pi | |
| 8 NORTHWEST ARTESIA UNIT | NIT 5 | 30-015-02312 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 1980 FNL | L 1650 FEL | Ö | Active 3/ | 3/29/62 1 | 10" 85/ | 5/8" 50 | Circ | -8 | 4 1/2" | 75 | 25 | 1,955' 4, | 4/21/62 1 | 1911' - 1940' P | |
| 9 NW STATE | 18 | 30-015-31934 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 2272 FNL | L 2273 FEL | ō | Active 2/ | 2/26/02 12 | 12 1/4" 8 5/ | 5/8" 375 | ü | 17/8" | 5 1/2" | 800 | Circ | 3,215' 5 | 5/1/02 2 | 2472' - 2852' PI | Production as per Go-Tech: Anr 2002 - Jan 2009 |
| 10 EMPIRE ABO UNIT | 27 | 30-015-01663 | BP AMERICA PRODUCTION | 32 1 | 175 28E | 2310 FNL | L 1650 FEL | I.O | Plugged 9/ | 9/10/60 | 11" 85/8" | /8" 450 | Circ | 7 7/8" | 5 1/2" | 150 | 66 | 6,108' 9, | 9/27/60 \$ | N ,0665 - ,0865 | No Production as per Go-Tech |
| 11 AA STATE | + | 30-015-01657 | MARBOB ENERGY CORP | 32 1 | 175 28E | 2280 FNL | L 1980 FWL | ō | Active 7/ | 7/30/60 1 | 11" 8 5/8" | /8" 550 | Circ | 17/8" | 4 1/2" | 1000 | 920 | 6,171' 8, | 8/24/60 5 | 5844' - 5892' Li | Last production per Go-Tech was Jan 2010 |
| 12 Empire ABO Unit #025A | ∞ | 30-015-01662 | BP AMERICA PRODUCTION | 32 1 | 17S 28E | 990 FWL | . 1650 FSL | ē | Active 3/ | 3/29/60 1 | 11" 8 5/8" | /8" 350 | Circ | 7 7/8" | 51-2" | 450 | 2.5 | 6,125' 4, | 4/14/60 5 | 5996' - 6012' P | Production as per Go-Tech: January 1993 - January 2010 |
| 13 NORTHWEST ARTESIA UNIT | NIT 8 | 30-015-10818 | SDX Resources, Inc. | 32 1 | 175 28E | 2310 FSL | L 2105 FWL | iio | Plugged 5/ | 5/25/66 1 | 11" 85 | 8 5/8 125 | A A | 7 7/8" | 4 1/2" | 175 | 55 | 2,003' 6 | 6/8/66 1 | 1898' - 1934' W | Well was plugged Nov 6, 2006 |
| 14 NW STATE | 25 | 30-015-30781 | LIME ROCK RESOURCES A, L.P. | 32 1 | 17S 28E | 1900 FSL | 2146 FWL | ö | Injection 10 | 10/28/99 12 | 12 1/4" 8 5/8" | /8" 350 | U | 17/8" | 5 1/2" | 300 | CIC | 3,190' 11 | 11/23/99 | 2802'-2856' P | Production as per Go-Tech: Jan 2000 -October |
| 15 NM STATE No. 030 | 30 | 30-015-36989 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 1630 FSL | 1710 FWL | ē | Active 7 | 7/7/09 12 | 12 1/4" 8 5/8" | /8" 375 | 0 0 0 | 17/8" | 5 1/2" | 350+400 | PozC | 3,405' 7, | 7/14/09 | 2788'-3102' P | Production as per Go-Tech: Sept '09 - Jan '10 |
| 16 Empire ABO Unit No. 026B | 68 68 | 30-015-01661 | BP AMERICA PRODUCTION | 32 1 | 175 28E | 1650 FSL | 2310 FWL | 5/0 | Active 3/ | 3/13/60 1 | 11" 8 5/8" | /8" 225 | NA NA | 7 7/8" | 5 1/2" | 450 | NA | 6,099' 3, | 3/27/60 | 5966'-5982' P | Production as per Go-Tech: Jan '93 - Apr '09 |
| 17 STATE 32 | - | 30-015-01655 | DORAL ENERGY CORP. | 32 1 | 175 28E | 1350 FSL | L 1650 FEL | ō | Active 2 | 2/7/58 10 | 10 3/4" 8 5/8' | /8" 50 | Circ | | 5 1/2" | 150 | 55 | 1,650' 3, | 3/12/58 1 | 1919' - 2039' P | Production as per Go-Tech: lan 1993 - Ian 2009 |
| 18 JEFFERS STATE | | 30-015-30887 | LIME ROCK RESOURCES A, L.P. | 32 1 | 17S 28E | 2141 FSL | L 1665 FEL | ō | Active 1/ | 1/27/00 12 | 12 1/4" 8 5, | 5/8" 375 | Circ | 17/8" | 5 1/2" | 800 | Circ | 3,220' 3, | 3/14/00 2 | 2312' - 2632' P | |
| 19 State 32 | 2 | 30-015-01656 | DORAL ENERGY CORP. | 32 1 | 175 28E | 1980 FSL | L 1980 FEL | ō | Active 7/ | 7/29/59 N | NA | NA NA | NA | 18/56 | 7". | 200 | 55 | 2,075' | 8/6/59 | None P | Production as per Go-Tech: lan 1993 - Jan 2009 |
| 20 EMPIRE ABO UNIT | 278 | 30-015-01670 | BP AMERICA PRODUCTION | 32 1 | 175 28E | 1650 FSL | L 1961 FEL | l <u>i</u> O | 9 paggnld | 6/7/60 | 11" 85/8" | /8" 450 | Circ | 7 7/8" | 4 1/2" | 850 | 6: | 6,165' 6 | 6/18/60 6 | 6092' - 6060' P | = |
| 21 Aspen 32 State Com #1 | 32 | 30-015-34148 | Mewbourne Oil Company | 32 1 | 175 28E | 1370 FSL | . 1609 FEL | Gas | Plugged 9/ | 9/20/05 | 17.5" 13 7/8" | 7/8" 400 | Circ | NA | NA | NA | NA A | 10,400' | NA | NA | Dry Hole. This is the well Lime Rock will re- |
| 22 Iron Horse 22 Federal | 1 | 30-015-37040 | Devon Energy Production Company | 22 1 | 19S 31E | 760 FNL | 1980 FEL | Gas | NA | AN | NA | NA NA | NA | Ā | NA | NA | NA | NA | NA | AN AN | No Production as per Go-Tech, apparently well never produced |
| 23 NORTHWEST ARTESIA UNIT | NIT 7 | 30-015-01672 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 2310 FSL | L 660 FEL | Oil | In-Active 12 | 12/17/53 1 | 10. 7 | , 25 | 25 | 6 1/4" | 4 1/2" | 725 | Circ | 2,500' 1 | 1/22/54 1 | 1933' - 1963' P | Production as per Go-Tech: Jan 1993 - Jan 2001 |
| 24 KERSEY STATE | | 30-015-30888 | LIME ROCK RESOURCES A, L.P. | 32 1 | 175 28E | 2018 FSL | 1 330 FEL | ō | Active 5/ | 5/16/00 12 | 12 1/4" 8 5/8" | /8" 350 | Circ | 77/8" | 5 1/2" | 006 | | | 7/14/00 2 | 2330' - 2608' P | Production as per Go-Tech: Jul 2000 - Jan 2009 |
| 25 KERSEY STATE | m | 30-015-35562 | LIME ROCK RESOURCES A, L.P. | 32 1 | 17S 28E | 1650 FSL | L 990 FEL | ō | Active 7 | 7/2/07 12 | 12 1/4" 8 5/8" | /8" 375 | "J" | 7 7/8" | 5 1/2" | 950 | נ". | 3,950' . | 2 /0///8 | 2405' - 2731' P | on as |
| 26 EMPIRE ABO UNIT | 28C | 30-015-01669 | BP AMERICA PRODUCTION | 32 1 | 175 28E | 1650 FSL | 1 660 FEL | O IIO | Plugged 5/ | 5/16/00 1 | 11" 85/8" | .8/ | Circ | 17/8" | 4 1/2" | 850 | 2: | 4,075' | 6/4/60 2 | 2330' - 2608' P | Production as per Go-Tech: Jan 1993 - Jun 2004 |
| 27 Empire ABO Unit No. 029G | 96 4 | 30-015-01688 | BP AMERICA PRODUCTION | 33 1 | 175 28E | 1980 FSL | 1 660 FWL | iō | Plugged 4/ | 4/24/60 1 | 11" 85/8" | /8" 750 | N/A | 17/8" | 4 1/2" | 800 | N/A | 6,200' 5 | 5/17/60 | 6122'-6153" P | Production as pre Go-Tech: Jan 1993 - Dec |
| 28 Washington 33 State No. | . 023 22 | 30-015-30196 | BP AMERICA PRODUCTION | 33 1 | 175 28E | 1720 FSL | 330 FWL | lio | Active 9/ | 9/23/98 12 | 12 1/4" 8 5/8" | /8" 325 | CLC | 17/8" | 5 1/2" | 810 | ×s | 4,000' 1 | 10/9/98 | 3632' - 3758' P | Production as per Go Tech: June '99 - Dec 72010 |
| 29 Atlantic Richfield Co. | 9 | 30-015-01679 | Atlantic Richfield | 33 1 | 175 28E | 1650 FSL | 1 990 FWL | liO | Plugged 10 | 10/9/53 | 11" 85/ | 5/8" 250 | Circ | 7 7/8" | 5 1/2" | 125 | TopCem | 2,143' 11 | 11/10/53 | 1947'-206' N | No Production as per Go-Tech |
| 30 Empire ABO Unit | 293 | 30-015-22010 | BP AMERICA PRODUCTION | 33 1 | 175 28E | 1249 FSL | L SO FWL | iö | Active 3/ | 3/16/77 1 | 11" 85, | 5/8" 342 | N N | 7 7/8" | 5 1/2" | 1241 | N/A | 6,379' 3 | 3/31/77 | 6132'-6142' P | Production as per Go-Tech: Jan 1993 - Jan |
| 31 Empire ABO Unit | 294 | 30-015-22632 | BP AMERICA PRODUCTION | 33 1 | 17S 28E | 1200 FSL | 700 FWL | ō | Active 10 | 10/13/78 1 | 11" 85/8" | /8" 430 | NA | 7 7/8" | 5 1/2" | 1365 | N/A | 6,300' 1 | 13-3-78 | 6216'-6238 P | Production as per Go-Tech: Jan 1993 - Jan 2010 |
| 32 Empire ABO Unit | 29 | 30-015-01685 | BP AMERICA PRODUCTION | 33 1 | 175 28E | 660 FSL | 660 FWL | ō | Active 1, | 1/21/60 | 11" 85, | 8 5/8" 450 | NA | 63/4" | 4 1/2" | 200 | N/A | 6,250' | 3/4/60 | 5691'-6249' P | Production as per Go-Tech: Jan 1993 - Sept 2009 |
| 33 Empire ABO Unit | 295 | 30-015-22633 | BP AMERICA PRODUCTION COMPANY | 33 1 | 175 28E | 700 FSL | 10 FWL | Oil | Plugged 10 | 10/14/78 | 11" 85, | 8 5/8" 330 | N A | 7 7/8" | 5 1/2" | 1630 | N/A | 6,300' 1 | 11/6/78 | 6250'-6270 P | Production as per Go-Tech: Jan 1993 - August 1999 |
| | | | | | | | | | | | | | | | | | | | | | |

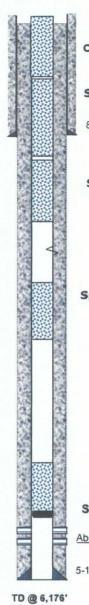


Aspen 32 State Com #1 Spreadsheet Part VI to Application For Authorization to Inject





2 of 2



Circulate cement plug from 514' to surface'

Spotted 35 sack cement plug from 914' to 515' (tagged top of plug)

8-5/8"; 24# Casing @ 735'

Spotted 25 sack cement plug from 1,220' to 920' (tagged top of plug)

Spotted 25 sack cement plug from 3,520' to 3,282' (tagged top of plug)

| Zone | Тор |
|----------|--------|
| Yates | 1,215' |
| Queen | 1,219' |
| Glorieta | 3,417' |

Set CIBP @ 6,058' Spotted 25 sack cement plug from 5,820' to 6,058'

AboPerfs: 6,072-94'

5-1/2"; 15.5# Casing @ 6,176'

BP America Empire Abo Unit "F" 28 API #: 30 - 015 - 01658 H - Sec 32-17S-28E Eddy County, NM Empire Abo Unit F-27 Empire Abo Field

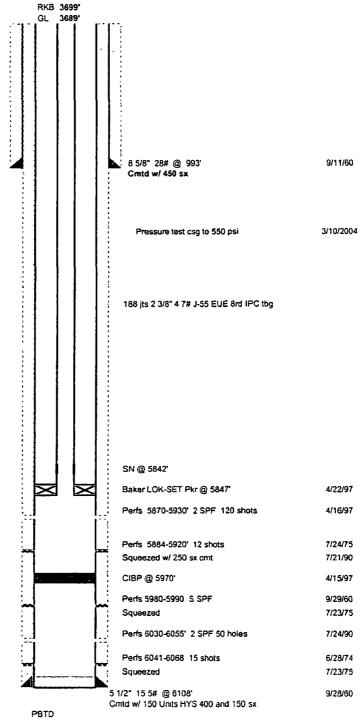
API No. 30-015-01663

2310" FNL & 1650" FEL Sec 32- T17S - R28E Eddy County, New Mexico

Event Date

Spud Completed 9/10/60 9/29/60

Status 11-10-2008

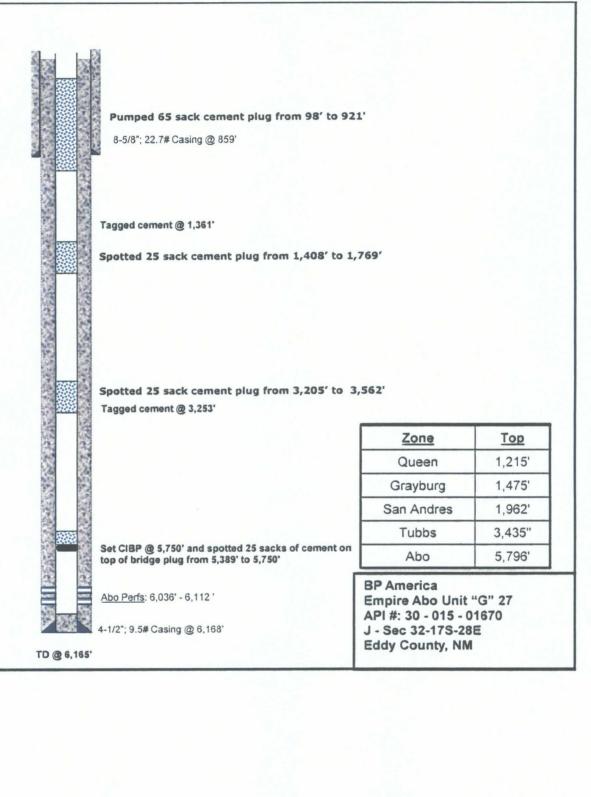


DLT 11/12/08

6068

7/24/1990

Pump 15 sack cement plug from 4.5" to surface Sqz. 70 sack cement plug from 70' to 200' (tagged bottom of plug) Perf 4 holes: 60' 8-5/8"; 24# Casing @ 462' Perf 4 holes: 512' Spotted 25 sack cement plug from 900' to 1,080' (tagged bottom of plug) Perf 4 holes: 1,240' Zone Top Yates 346' 7 Rivers 612' Queen 1,190' 1,625' Grayburg San Andres 1,938' Set CIBP @ 1,800' and spotted 25 sacks of cement on top of bridge plug **SDX Resources** Acidized Perfs: 1,898-1,908' Northwest Artesia Unit 8 Acidized Perfs: 1,930-1,934 API#: 30 - 015 - 10818 4-1/2"; 11.6# Casing @ 2,002' K - Sec 32-17S-28E **Eddy County, NM** TD @ 2,003'



Set 19 sack Class C Neat plug from 60' to Surface

13-3/8"; 248# Casing @ 428'
Set 19 sack Class C Neat plug
from 450' to 390'

9-5/8"; 40# Casing @ 2,660'
Set 41 sack Class C Neat plug
from 2,713' to 2,613'

Set 41 sack Class C Neat plug from 3,412' to 3,314'

Set 42 sack Class H Neat plug from 5,568' to 5,468'

Set 42 sack Class H Neat plug from 7,049' to 6,949'

Set 51 sack Class H Neat plug from 8,338' to 8,238'

Set 42 sack Class H Neat plug from 10041' to 9941'

| <u>Zone</u> | Тор |
|--------------|--------|
| Seven Rivers | 632' |
| Bowers Sand | 990' |
| Queen | 1,208' |
| San Andres | 1,981' |
| Glorieta | 3,412' |
| Tubb | 4,767' |
| Abo | 5,383' |
| Wolfcamp | 6,892' |
| UPU | 7,735' |
| Strawn | 9,096' |
| Atoka | 9,696' |

Limerock Resources Aspen 32 State Com 1 API #: 30 - 015 - 34148 J - Sec 32-17S-28E Eddy County, NM

TD @ 10,400'

Empire Abo Unit G-28 Empire Abo Field

API No. 30-015-01669

1650' FSL & 660' FEL Sec 32 - T175 - R28E **Eddy County, New Mexico**

Present Status

Event Date

RKB 3685'

GL

Spud Completed

5/20/60 6/8/60

Queen, Surface Shoe <u>Pluq</u>

Yates, Top Plug

0' - 450' 32 sx

1040' - 1400' 25 sx

8 5/8", 22.7# @ 1304' Cmt w/ 680 sx Cmt circulated

5/23/60

San Andres (base) Plug 2340' - 2700' 25 sx

> Glorieta Pluq 3240' - 3600' 25 sx

Abo (prod zone) Plug 5610' - 5970' 25 sx

5753-5937

5/6/04

CIBP @ 5970°

5/6/04

6012-6082

Original Completion

6/8/1960

6130-6175

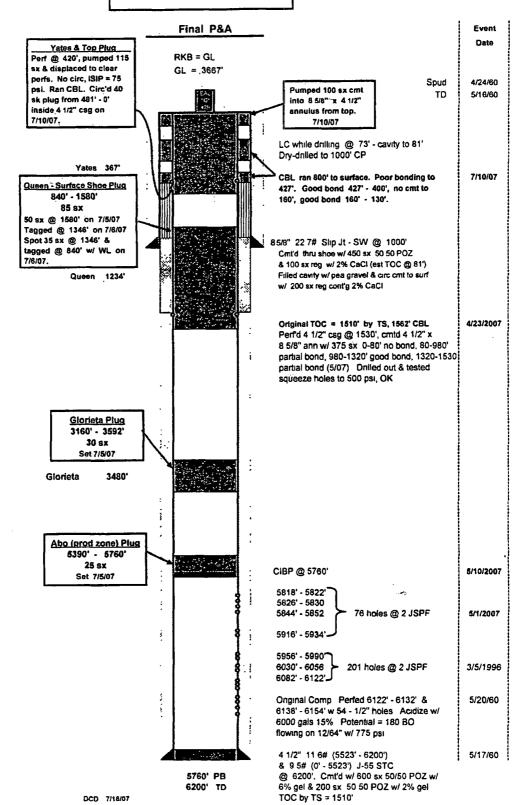
6/4/92

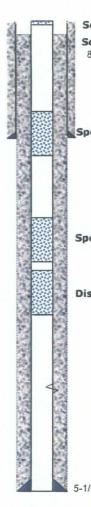
6/5/60

WCH 3/28/2007

ΤD 6250' PBO 5970' 4 1/2", 9.5#@ 6250" Cmt w/ 850 sx Cmt circulated

Empire Abo Unit "G" #29 Empire Abo Field API No. 30:015-01688 1980' FSL & 660' FWL Sec 33 - 1175 - R28E Eddy County, New Mexico (Originally Drilled by Sinctair O&G as the M. Yates "B" ARC #4)





Set 10 sack cement plug @ surface

Sqz. 70 sack cement plug from 70' to 200' (tagged bottom of plug) 8-5/8"; 24# Casing @ 680°

Spotted 30 sack cement plug from 620' to 720'

Spotted 30 sack cement plug from 1,122' to 1,320'

Displaced 30 cement plug to 1,386' to cover zone 1,400'-1,625'

| Zone | Тор |
|------------|--------|
| 7 Rivers | 890' |
| Queen | 1,290' |
| Grayburg | 1,740' |
| San Andres | 2,028' |

5-1/2"; 15.5# Casing @ 2,143'

TD @ 2,143'

Atlantic Richfield Co. Yates 6 API #: 30 - 015 - 01679 L - Sec 33-17S-28E Eddy County, NM

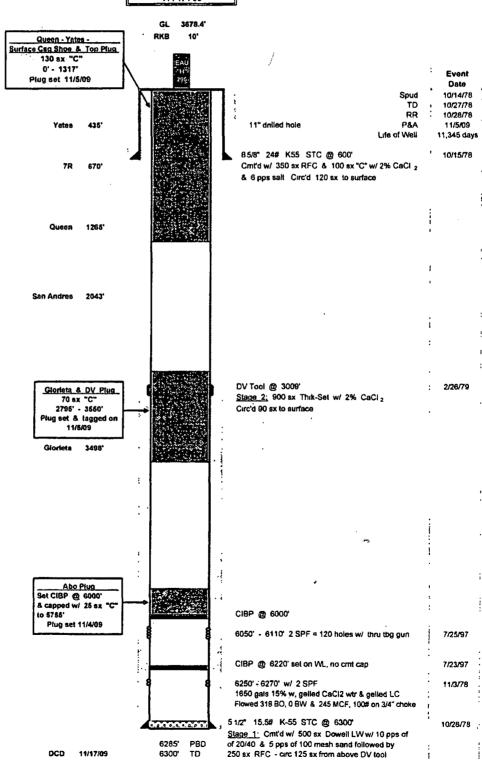


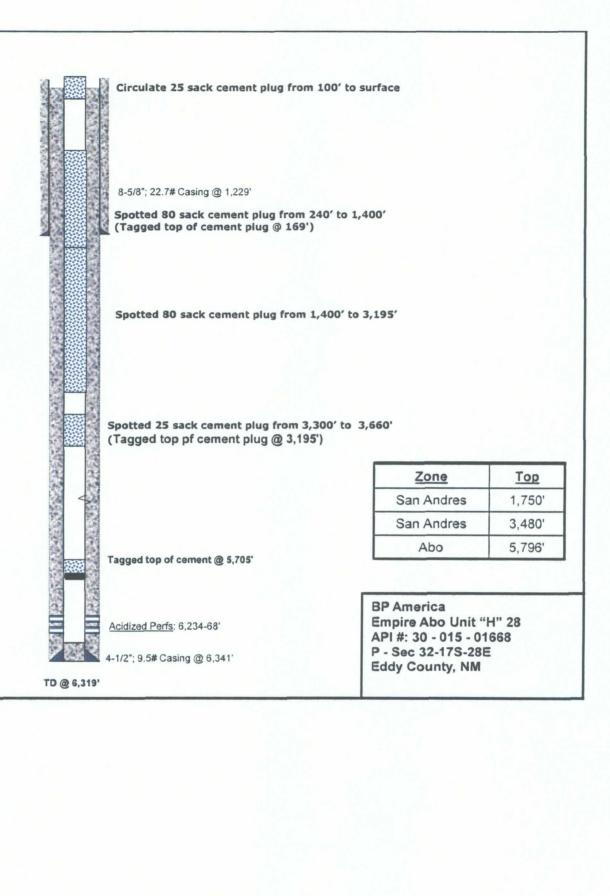
API No. 30-015-22633

State Lease No. 647-349, 647-351

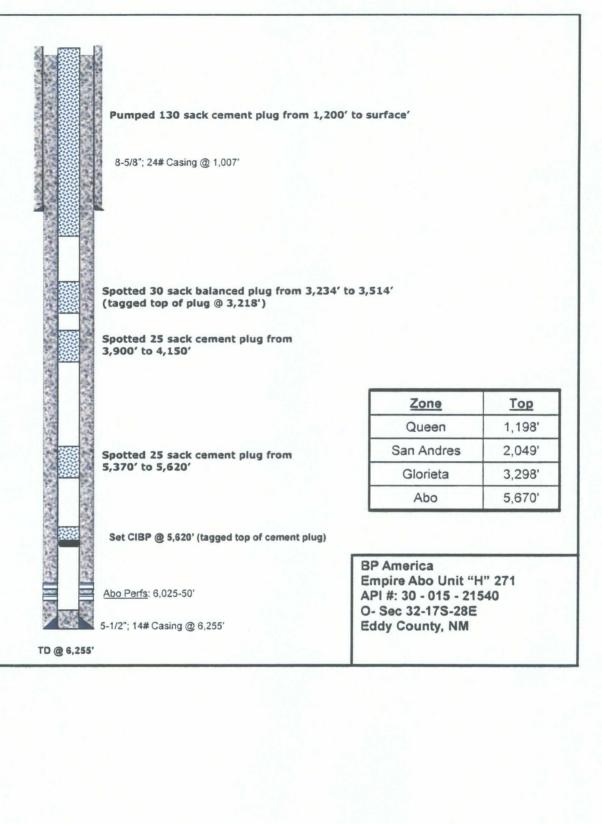
700" FSL & 10" FWL Sec 33 - T17S - R28E Eddy County, New Mexico

Final 'P&A Status 11 / 17 / 09





Circulate cement plug from 525' to surface' 8-5/8"; 24# Casing @ 984' Spotted 25 sack cement plug from 850' to 1,250' (tagged top of cement plug) Spotted 25 sack cement plug from 3,258' to Zone Top 3,650 Queen 1,215' San Andres 1,990' Glorieta 3,390' Abo 5,707 Set CIBP @ 5,670' Spotted 25 sack cement plug from 5,294' to 5,665' **BP** America Empire Abo Unit "H" 27 Acidized Perfs: 6,010-70' API #: 30 - 015 - 01667 O - Sec 32-17S-28E 4-1/2"; 9.5# Casing @ 6,240' **Eddy County, NM** TD @ 6,215'



Spotted 10 sack cement plug from 60' to surface Sqz. 40 sack cement plug from 100' to 160' (tagged top of plug) 8-5/8"; 24.5# Casing @ 493' Perf 4 holes: 543' Spotted 25 sack cement plug from 998' to 1300' (tagged top of plug) Perf 4 holes: 1,243' Zone Top Yates 346' 7 Rivers 607' Queen 1,193' Grayburg 1,640' San Andres 1,958' Set CIBP @ 1,856' and spotted 25 sacks of cement on top of bridge plug Perfs: 1,921-26' **SDX Resources** Perfs: 1,952-54' Northwest Artesia Unit 13 API #: 30 - 015 - 10834 4-1/2"; 11.6# Casing @ 2,003' N - Sec 32-17S-28E **Eddy County, NM** TD @ 2,003'

Sp 8-Sp

Circulated cement from 300' to surface

Spotted 150 sack cement plug from 630' to 1,034'

8-5/8"; 22.7# Casing @ 1,239'

Spotted 150 sack cement plug from 1,127' to 1,300'

Spotted 25 sack cement plug from 3,430' to 3,760' (tagged top of plug)

| Zone | Тор |
|------------|--------|
| Queen | 1,185' |
| San Andres | 2,032' |
| Glorieta | 3,275' |
| Abo | 5,665' |

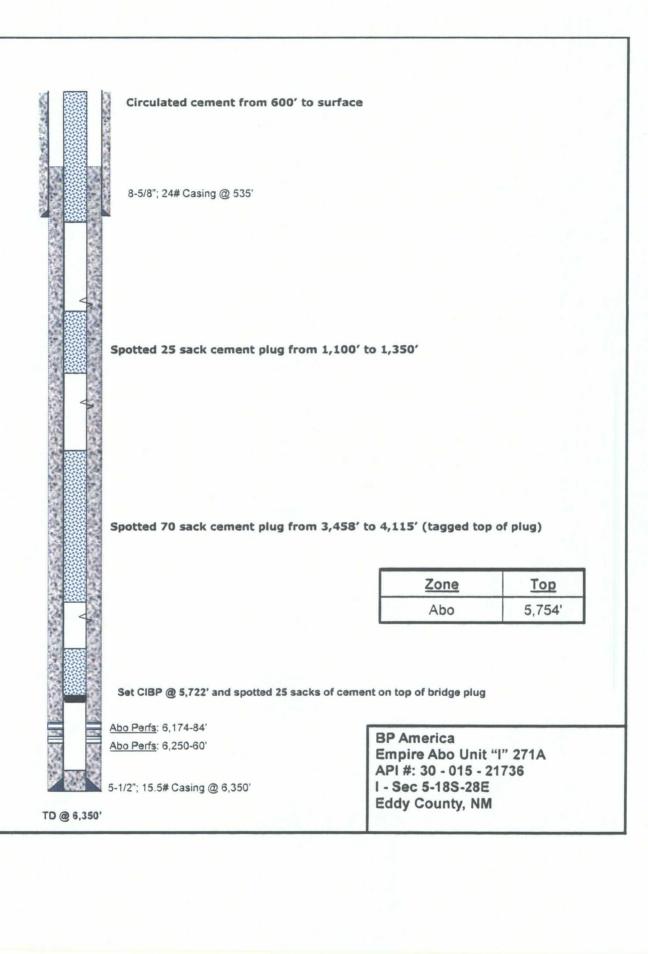
Set CIBP @ 5,700' and spotted 25 sacks of cement on top of bridge plug

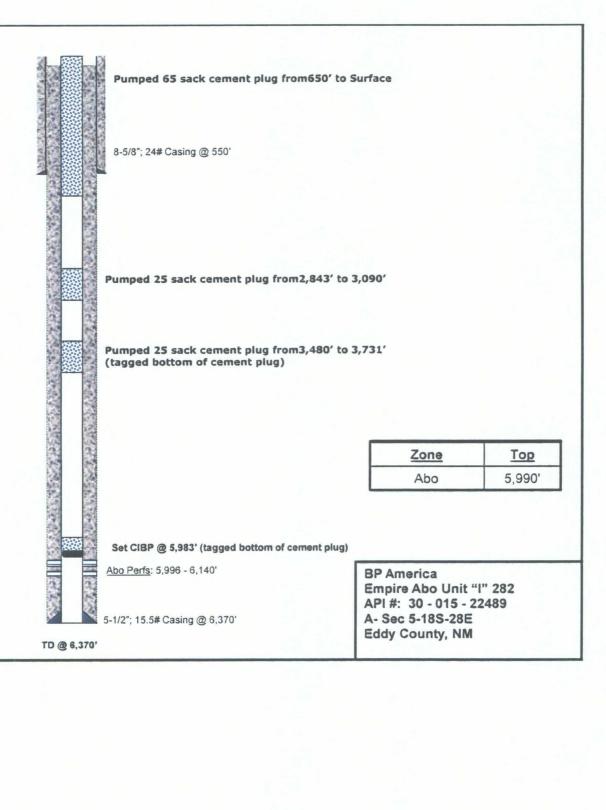
Abo Perfs: 6,160-97'

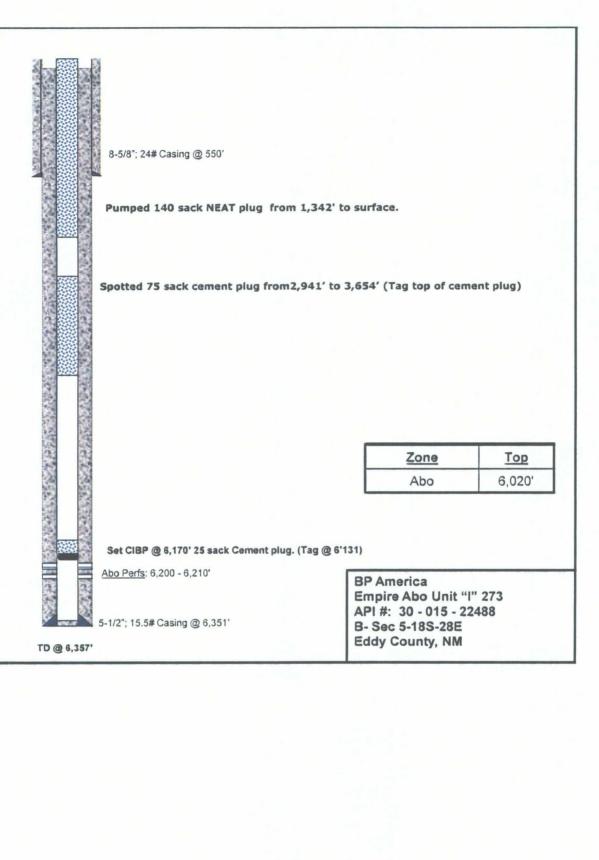
4-1/2"; 9.5# Casing @ 6,261'

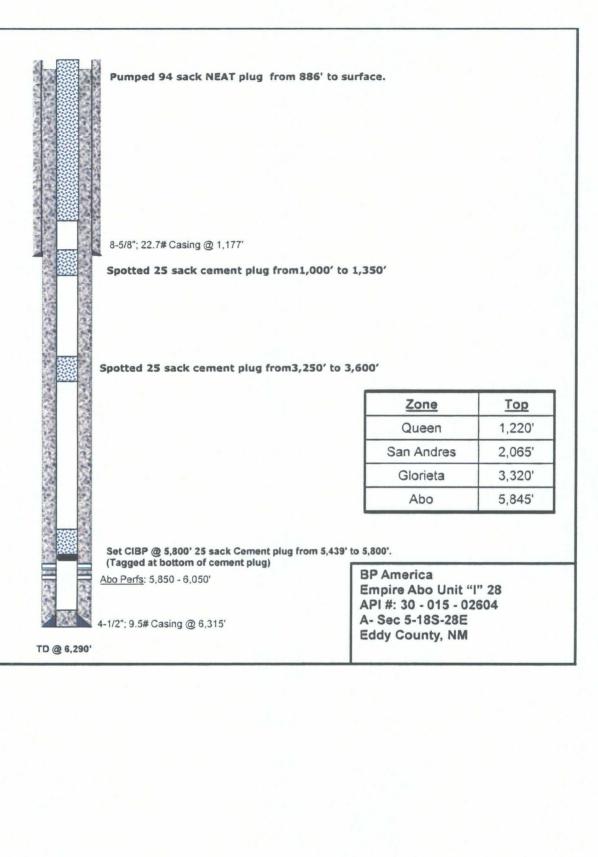
TD @ 6,261'

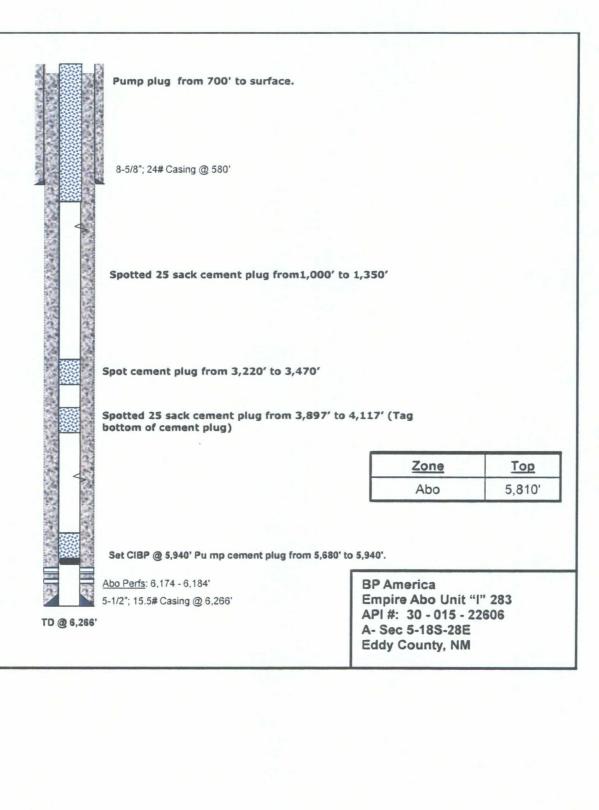
BP America Empire Abo Unit "I" 27 API #: 30 - 015 - 02605 I - Sec 5-18S-28E Eddy County, NM

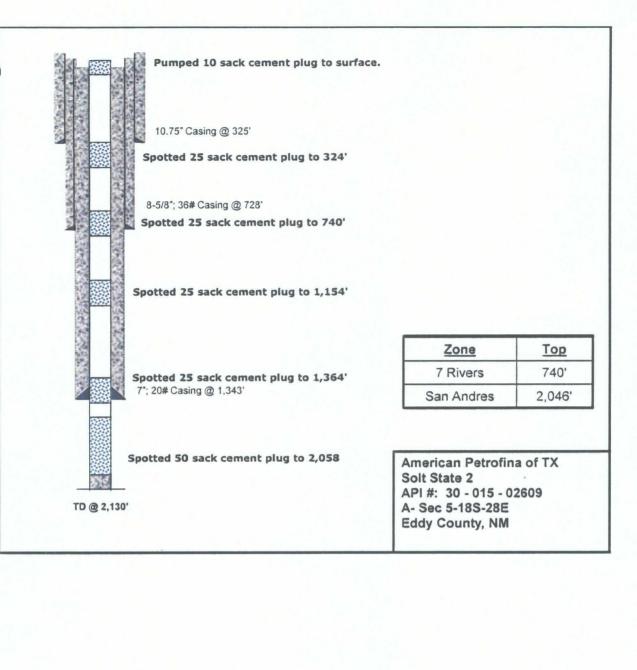


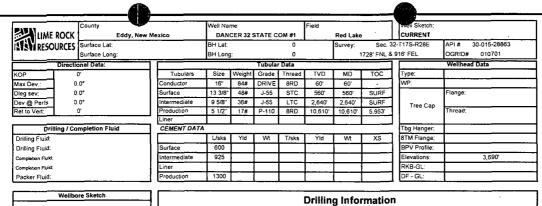




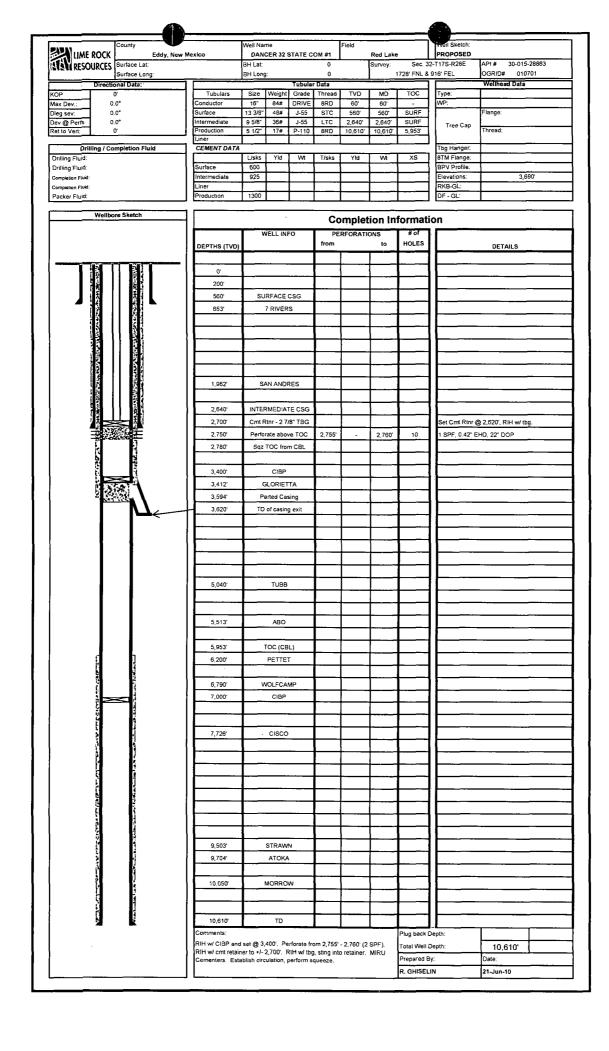


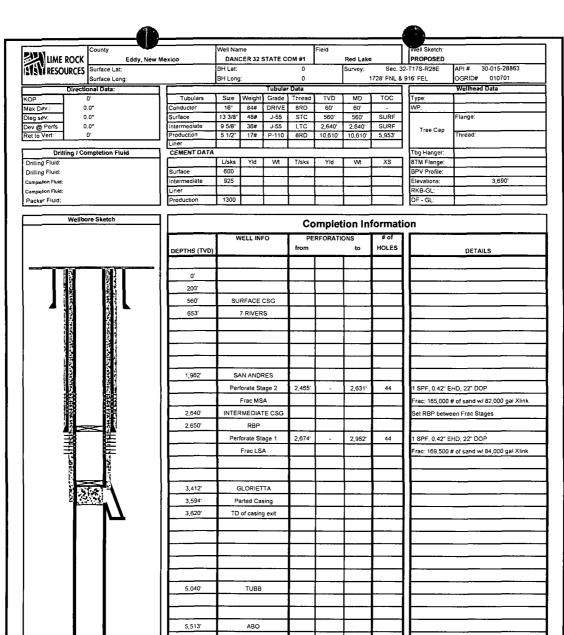






| Orilling Fluid: | Surface | 600 | 1 | | | | | BPV Profile: | | |
|-------------------|----------------------------|------------|----------|--|--|-----------|--------------|--------------|--|--|
| completion Fluid: | Intermediate | 925 | | | | | | Elevations: | 3,€ | 90' |
| ompletion Fluid: | Liner | | | | | | | RKB-GL: | | |
| Packer Fluid: | Production | 1300 | | | | | | DF - GL: | L | |
| Weilbore Sketch | | | | | Drilling | g Info | rmation | | | |
| | | HOLE SIZE | | | | TION TOP | S/WELL | | | |
| | DEPTHS (TVD) | BITS - BHA | INC | PATH AZI | | INFO | | MW | MUD PROPERTIE | S YP |
| | 0 | 17.5" | 0.0° | 0.0° | | | | | | |
| | 200' | | 0.3" | 348.1° | | | | | | |
| | 560' | 12 1/4" | 0.4* | 345.9° | SUF | RFACE CA | SING | L | | |
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| | 10,610' | | 0.0° | 0.0° | | TD | الـــــــ | <u> </u> | <u> </u> | |
| | Comments: Comments Here | | | | | | Plug back D | | | |
| | I I | | | | | | Total Well D | epin: | 10,610 | 1 |
| | 11 | | | | | | Prepared By | | Date: | |





| | DEPTHS (TVD) | | from | | to | HOLES | | DETAILS | |
|--|---------------|-------------------|-------|---|--------|--------------|-----------------|---------------------|-----------|
| | | | | | | | | | |
| 8 82 | 0' | | | | | | | | |
| | 200' | | | | | | <u></u> | | |
| | 560' | SURFACE CSG | | | | | L | | |
| | 653' | 7 RIVERS | | | | | L | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 18 81 | | | | | | | | | |
| | | | | | | | | | |
| | 1,962' | SAN ANDRES | | | | | | | |
| | | Perforate Stage 2 | 2,465 | - | 2,631 | 44 | 1 SPF, 0.42" E | HD, 22" DOP | |
| | | Frac MSA | | | | | Frac: 165,000 | # of sand w/ 82,000 | gai Xlink |
| | 2,640' | INTERMEDIATE CSG | | | | | Set RBP between | en Frac Stages | |
| | 2,650 | RBP | L | | | | | _ | |
| 3 | | Perforate Stage 1 | 2,674 | - | 2,952' | 44 | 1 SPF, 0.42" E | HD, 22" DOP | - |
| | | Frac LSA | | | | | Frac: 169,500 | # of sand w/ 84,000 | gal Xlink |
| 5 5 | | | | | | | | | |
| | | | | | | | | | |
| | 3,412' | GLORIETTA | | | | | | | |
| | 3,594 | Parted Casing | | | | | | | |
| 1 77 | 3,620 | TD of casing exit | | | | | | | |
| ı ı— | | | | | | | | | |
| 1 1 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | 5,040' | TUBB | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | 5,513' | ABO | | | | | | | |
| 1 1 | | | | | | | | | |
| 1 1 | 5,953 | TOC (CBL) | | | | | | · | |
| g 9 | 6,200 | PETTET | | | | i | | | |
| S S | | | | | | | | | _ |
| e de la constante de la consta | 6,790 | WOLFCAMP | | | | | | | |
| | 7,000 | CIBP | | | | | | | |
| | | | | | | | | | |
| § | | | | | | | | | |
| | 7,726' | cisco | | | | | | | |
| M B | | | | | | | | | |
| M K | | | | | | | | | |
| | | | L | | | $oxed{oxed}$ | | | |
| | L | | L | | | | | | |
| 2200 | | | | | | $oxed{oxed}$ | | | |
| N 13 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| i i | 9,503 | STRAWN | | | | | | | |
| a M | 9,704' | ATOKA | | | | | | | |
| و تدایک توریک در ایمانکوی | | | | | | | | | |
| ti iz | 10,050' | MORROW | | | | | | | |
| 8 8 | | | | | | | | | |
| គ្គី <u>ឆ</u> ្ន | | | | | | | | | |
| 5 1 | 10,610' | TD | | | | | | | |
| - - | Comments: | | | | | Plug back D | Depth: | | |
| | Comments Here | | | | | Total Weil C | | 10,610' | |
| | ((| | | | | Prepared B | | Date: | |
| | | | | | | R. GHISEL | | 21-Jun-10 | |
| | J | | | | | | | | |

Aspen 32 State Com #1 SWD

Section 32, T-17-S, R-28E Location: 1370' FSL and 1609' FEL API #: 30-015-34148 Eddy County, New Mexico

VII. DATA SHEET - Attach data on the proposed operation, including:

- 1. Proposed average and maximum daily rate and volume of fluids to be injected; 4,000 BWPD and 7,500 BWPD Max
- 2. This will be a closed system
- 3. Proposed average and maximum injection pressure;
 - a. Proposed average injection pressure: 800 psi.
 - b. The proposed maximum injection pressure is 0.2 psi/ft (1,600 psi @ 8,100± ft)
- Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than re-injected produced water.
 Sources of water will be produced water from shallow reservoirs in the Red Lake area; Abo/Glorieta, San Andres, Premier, Grayburg, Queen and Yeso formations. An analysis of the water is enclosed herein.
- 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells etc).
 An analysis of the disposal zone formation water is attached, taken from nearby SWD well
 - applications for wells which inject into the same interval.
 - Formation water analysis enclosed herein.

SAMPLE

il Co. : Lime Rock Resources

Lease : Enron Fed

Well No.: Location: Attention: Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.003-1

Salesperson:

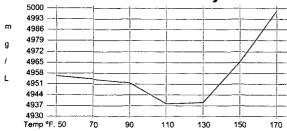
File Name: Jul2810.003

ANALYSIS

| 1. | Ph | | 5.6 | 600 | | |
|------|---------------------|-------------|--------------|----------------|----------------|----------|
| 2. | Specific Gravity 60 | /60 F. | 1.1 | 38 | | |
| 3. | CACO3 Saturation | Index | @ 80F | -0.346 | Negligible | |
| | | | @140F | 0.754 | Moderate | |
| 1 | Dissolved Gasses | | _ | <u>MG/L.</u> | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 40 | _ | · · |
| 5. | Carbon Dioxide | | | 100 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| 9 | <u>Cations</u> | | | | | |
| 7. | Calcium | (Ca++) | | 1,884 | / 20.1 = | 93.73 |
| 8. | Magnesium | (Mg++) | | 2,571 | / 12.2 = | 210.74 |
| 9. | Sodium | (Na+) | (Calculated) | 70,252 | / 23.0 = | 3,054.44 |
| 10. | Barium | (Ba++) | • | Not Determined | | |
| 4 | <u>Anions</u> | | | | • | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 868 | / 61.1 = | 14.21 |
| _14. | Sulfate | (SO4=) | | 5,000 | / 48.8 = | 102.46 |
| 5. | Chloride | (CI-) | | 114,974 | / 35.5 = | 3,238.70 |
| 16. | Total Dissolved Sol | lids | | 195,549 | | |
| 17. | Total Iron | (Fe) | | 10.00 | / 18.2 = | 0.55 |
| 18. | Manganese | (Mn++) | | Not Determined | | |
| 19. | Total Hardness as | CaCO3 | | 15,289 | | |
| 20. | Resistivity @ 75 F. | (Calculated | d) | 0.00 | 3 Ohm · meters | |

LOGARITHMIC WATER PATTERN

| Calcium | Sulfate | Solubilit | ty Profile |
|---------|---------|-----------|------------|
|---------|---------|-----------|------------|



PROBABLE MINERAL COMPOSITION

| i KOD | I KODADLE MINILITAL COM CONTON | | | | | | |
|-----------|--------------------------------|-----|---------------|----|--------|--|--|
| COMPOUNE |) *meq/L | X E | Q. WT. | = | mg/L. | | |
| Ca(HCO3)2 | 14.21 | 8 | 31.04 | | 1,151 | | |
| CaSO4 | 79.53 | 6 | 8.07 | | 5,413 | | |
| CaCl2 | 0.00 | 5 | 55.50 | | 0 | | |
| Mg(HCO3)2 | 0.00 | 7 | ' 3.17 | | 0 | | |
| MgSO4 | 22.93 | 6 | 0.19 | | 1,380 | | |
| MgCl2 | 187.80 | 4 | 7.62 | | 8,943 | | |
| NaHCO3 | 0.00 | 8 | 34.00 | | 0 | | |
| NaSO4 | 0.00 | 7 | 1.03 | | 0 | | |
| NaCl | 3,050.90 | 5 | 8.46 | 17 | 78,356 | | |
| | Liter | | | | | | |

AMPLE

il Co.: LimeRock Resources

Lease : Enron Well No.: ST Location:

Attention:

Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.001-9

Salesperson:

File Name: Jul2810.001

ANALYSIS

| 1. | Ph | 5.600 |
|----|---------------------------|-------|
| 2. | Specific Gravity 60/60 F. | 1.138 |

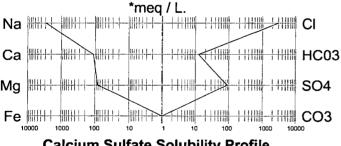
| ٠. | 1 11 | | 5.0 | | | |
|----------|---------------------|---------|--------------|----------------|------------|----------|
| 2. | Specific Gravity 60 | /60 F. | 1.1 | 38 | | |
| 3. | CACO3 Saturation | Index | @ 80F | -0.530 | Negligible | |
| | | | @140F | 0.410 | Mild | |
| <u>D</u> | issolved Gasses | | | MG/L. | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 100 | | |
| 5. | Carbon Dioxide | | | 80 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| <u>C</u> | ations | | | | | |
| 7. | Calcium | (Ca++) | | 2,166 | / 20.1 = | 107.76 |
| 8. | Magnesium | (Mg++) | | 971 | / 12.2 = | 79.59 |
| 9. | Sodium | (Na+) | (Calculated) | 65,383 | / 23.0 = | 2,842.74 |
| 10. | Barium | (Ba++) | | Not Determined | | |
| A | nions | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 714 | / 61.1 = | 11.69 |
| 14. | Sulfate | (SO4=) | | 4,200 | / 48.8 = | 86.07 |
| 5. | Chloride | (CI-) | | 103,977 | / 35.5 = | 2,928.93 |
| 16. | Total Dissolved So | lids | | 177,411 | | |
| 17. | Total Iron | (Fe) | | 1.5 | 0 / 18.2 = | 0.08 |
| | | | | | | |

Manganese 18. (Mn++) **Not Determined** 19. Total Hardness as CaCO3 9,408

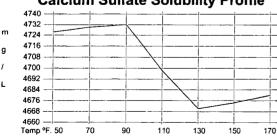
Resistivity @ 75 F. (Calculated) 20.

0.017 Ohm · meters

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

| I RODADEL MINERAL COMIT CONTON | | | | | | | |
|--------------------------------|----|---------|---|----------|-----------|--|--|
| mg/L. | = | EQ. WT. | Χ | *meq/L | COMPOUND | | |
| 947 | | 81.04 | | 11.69 | Ca(HCO3)2 | | |
| 5,858 | | 68.07 | | 86.07 | CaSO4 | | |
| 556 | | 55.50 | | 10.01 | CaCl2 | | |
| 0 | | 73.17 | | 0.00 | Mg(HCO3)2 | | |
| 0 | | 60.19 | | 0.00 | MgSO4 | | |
| 3,790 | | 47.62 | | 79.59 | MgCl2 | | |
| 0 | | 84.00 | | 0.00 | NaHCO3 | | |
| 0 | | 71.03 | | 0.00 | NaSO4 | | |
| 65,987 | 16 | 58.46 | | 2,839.33 | NaCi | | |
| | | 1 ** | | | • | | |

* milliequivalents per Liter

SAMPLE

oil Co.: LimeRock Resources

Lease: Jeffery 01 Well No.: ST Location:

Attention:

Date Sampled: 15-July-2010
Date Analyzed: 28-July-2010
Lab ID Number: Jul2810.001-8

Salesperson:

10,584

File Name : Jul2810.001

ANALYSIS

| 1. | Ph | 5.600 |
|----|---------------------------|-------|
| 2. | Specific Gravity 60/60 F. | 1.133 |

| 2. | Specific Gravity 60 | /60 F. | 1.1 | 33 | | |
|-----|---------------------|---------|----------------|-----------------|--------------------|----------|
| 3. | CACO3 Saturation | Index | @ 80F @140F | -0.527 0.463 | Negligible Mild | |
| ļ | Dissolved Gasses | | | <u>MG/L.</u> | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 0 | | |
| 5. | Carbon Dioxide | | | 90 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| (| Cations | | | | | |
| 7. | Calcium | (Ca++) | | 1,884 | / 20.1 = | 93.73 |
| 8. | Magnesium | (Mg++) | | 1,428 | / 12.2 = | 117.05 |
| 9. | Sodium | (Na+) | (Calculated) | 67,431 | / 23.0 = | 2,931.78 |
| 10. | Barium | (Ba++) | | Not Determined | | |
| 4 | <u>Anions</u> | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 703 | / 61.1 = | 11.51 |
| 14. | Sulfate | (SO4=) | | 4,200 | / 48.8 = | 86.07 |
| 15. | Chloride | (CI-) | | 107,976 | / 35.5 = | 3,041.58 |
| 16. | Total Dissolved So | lids | | 183,622 | | |
| 17. | Total Iron | (Fe) | | 1.50 | 0 / 18.2 = | 0.08 |

18. Manganese (Mn++) Not Determined

19. Total Hardness as CaCO3

20. Resistivity @ 75 F. (Calculated)

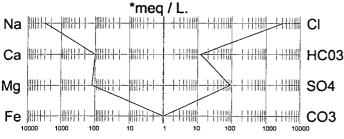
PROBABLE MINERAL COMPOSITION

0.012 Ohm · meters

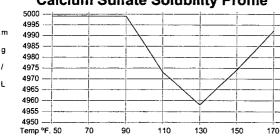
| 4 | PROBABLE WINERAL COWPOSITION | | | | | | | |
|--------|------------------------------|---------|---|------------|-----------|---|--|--|
| mg/L. | = | EQ. WT. | X | *meq/L | COMPOUND | (| | |
| 932 | | 81.04 | | 11.51 | Ca(HCO3)2 | (| | |
| 5,597 | | 68.07 | | 82.23 | CaSO4 | (| | |
| 0 | | 55.50 | | 0.00 | CaCl2 | (| | |
| 0 | | 73.17 | | 0.00 | Mg(HCO3)2 | 1 | | |
| 231 | | 60.19 | | 3.84 | MgSO4 | ſ | | |
| 5,391 | | 47.62 | | 113.21 | MgCl2 | 1 | | |
| 0 | | 84.00 | | 0.00 | NaHCO3 | Ì | | |
| 0 | | 71.03 | | 0.00 | NaSO4 | ı | | |
| 71,192 | 17 | 58.46 | | 2,928.37 | NaCl | 1 | | |
| | | | | **** * * * | _ | | | |

* milliequivalents per Liter

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



AMPLE

lil Co.: LimeRock Resources

Lease : Jeffery 36 Well No.: ST

Location: Attention: Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010

MG/L

2.072

69,530

Not Determined

Not Determined

971

0

0

1.00

857

4.400

109,975

187,805

9,173

File Name: Jul2810.001

ANALYSIS

9.

| 1. | Ph | | 5.600 |
|----------|---------------------------|----------------|-------|
| 2. | Specific Gravity 60/60 F. | | 1.143 |
| 3. | CACO3 Saturation Index | @ 80F @140F | |
| <u>[</u> | Dissolved Gasses | • | |

| 4. | Hydrogen Sulfide | 30 |
|----|------------------|----------------|
| 5. | Carbon Dioxide | 100 |
| 6 | Dissolved Oxygen | Not Determined |

(Calculated)

| | , , | |
|----------|----------------|--------|
| <u>C</u> | <u>Cations</u> | |
| 7. | Calcium | (Ca++) |
| 8. | Magnesium | (Mg++) |

| Magnesium | (1419) |
|-----------|---------|
| Sodium | (Na+) |
| Barium | (Ba++) |

| 12. | Carbonate | (CO3=) |
|-----|-------------|---------|
| 13. | Bicarbonate | (HCO3-) |
| 14. | Sulfate | (SO4=) |



- 17. Total Iron (Fe) 18. Manganese (Mn++)
- Total Hardness as CaCO3 19.
- 20. Resistivity @ 75 F. (Calculated)

Lab ID Number: Jul2810.001-7

Negligible

EQ. WT.

/ 20.1 =

/ 12.2 =

/ 23.0 =

/ 17.0 =

/ 30.0 =

/ 61.1 =

/ 48.8 =

/ 35.5 =

/ 18.2 =

0.009 Ohm · meters

*MEQ/L

103.08

3,023.04

79.59

0.00

0.00

14.03

90.16

0.05

3,097.89

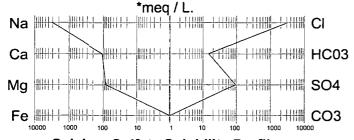
Mild

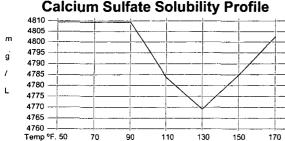
Salesperson:

-0.400

0.590

PROBABLE MINERAL COMPOSITION LOGARITHMIC WATER PATTERN





| PROBABLE MINERAL COMPOSITION | | | | | | |
|------------------------------|----------|---|---------|---|--------|--|
| COMPOUND |) *meq/L | Χ | EQ. WT. | = | mg/L. | |
| Ca(HCO3)2 | 14.03 | | 81.04 | | 1,137 | |
| CaSO4 | 89.06 | | 68.07 | | 6,062 | |
| CaCl2 | 0.00 | | 55.50 | | 0 | |
| Mg(HCO3)2 | 0.00 | | 73.17 | | 0 | |
| MgSO4 | 1.11 | | 60.19 | | 67 | |
| MgCl2 | 78.48 | | 47.62 | | 3,737 | |
| NaHCO3 | 0.00 | | 84.00 | | 0 | |
| NaSO4 | 0.00 | | 71.03 | | 0 | |
| NaCl | 3,019.40 | | 58.46 | 1 | 76,514 | |
| * milliequivalents per Liter | | | | | | |

AMPLE

il Co. : LimeRock Resources

Lease : Kersey Well No.: ST Location: Attention:

Ph

Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.001- 6

Salesperson:

File Name: Jul2810.001

ANALYSIS

| ١. | r H | J. | 000 | |
|----|---------------------------|-------|----------------|------------|
| 2. | Specific Gravity 60/60 F. | 1. | 143 | |
| 3. | CACO3 Saturation Index | @ 80F | -0.496 | Negligible |
| | | @140F | 0.494 | Mild |
| [| Dissolved Gasses | | MG/L. | EQ. WT. |
| 4. | Hydrogen Sulfide | | 30 | |
| 5. | Carbon Dioxide | | 50 | |
| 6. | Dissolved Oxygen | | Not Determined | |
| 9 | <u>Cations</u> | | | |

| $\underline{\sim}$ | 110 | |
|--------------------|-----|-----|
| | 0- | lci |

| 8. | Magnesium | (Mg++) | | 1,143 | / 12.2 = | 93.69 |
|-----|-----------|--------|--------------|----------------|----------|----------|
| 9. | Sodium | (Na+) | (Calculated) | 69,836 | / 23.0 = | 3,036.35 |
| 10. | Barium | (Ba++) | | Not Determined | | |

5 600

Anions

| 11. | Hydroxyl | (OH-) | 0 | / 17.0 = | 0.00 |
|------|-----------------|---------|---------|----------|----------|
| 12. | Carbonate | (CO3=) | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | 686 | / 61.1 = | 11.23 |
| _14. | Sulfate | (SO4=) | 4,500 | / 48.8 = | 92.21 |
| 5. | Chloride | (CI-) | 110,975 | / 35.5 = | 3,126.06 |
| 16. | Total Dissolved | Solids | 189,212 | | |

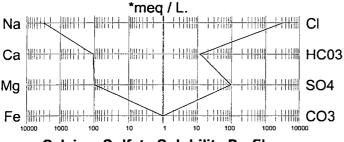
Total Dissolved Solids 16.

17. Total Iron (Fe) 14.50 / 18.2 = 0.80 Manganese (Mn++)**Not Determined** 18.

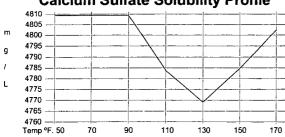
19. Total Hardness as CaCO3

20. Resistivity @ 75 F. (Calculated) 9,879 0.008 Ohm meters

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



DDODADLE MINEDAL COMPOSITION

*MEQ/L

| PROBABLE MINERAL COMPOSITION | | | | | | |
|------------------------------|----------|-----------|---------|--|--|--|
| COMPOUND | *meq/L | X EQ. WT. | = mg/L. | | | |
| Ca(HCO3)2 | 11.23 | 81.04 | 910 | | | |
| CaSO4 | 91.86 | 68.07 | 6,253 | | | |
| CaCl2 | 0.00 | 55.50 | 0 | | | |
| Mg(HCO3)2 | 0.00 | 73.17 | 0 | | | |
| MgSO4 | 0.36 | 60.19 | 21 | | | |
| MgCl2 | 93.33 | 47.62 | 4,444 | | | |
| NaHCO3 | 0.00 | 84.00 | 0 | | | |
| NaSO4 | 0.00 | 71.03 | 0 | | | |
| NaCl | 3,032.72 | 58.46 | 177,293 | | | |

* milliequivalents per Liter

MPLE

II Co. : Lime Rock Resources

Lease : No Bluff Glorieta

Well No .: Location: Attention: Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.003-3

Salesperson:

File Name: Jul2810.003

ANALYSIS 1.

Ph

| 2. | Specific Gravity 60 | /60 F. | 1.1 | 08 | | |
|----------|---------------------|---------|--------------|----------------|------------|----------|
| 3. | CACO3 Saturation | Index | @ 80F | -0.820 | Negligible | |
| | | | @140F | 0.070 | Mild | |
| <u> </u> | Dissolved Gasses | | | MG/L. | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 120 | | |
| 5. | Carbon Dioxide | | | 90 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| (| Cations | | | | | |
| 7. | Calcium | (Ca++) | | 2,449 | / 20.1 = | 121.84 |
| 8. | Magnesium | (Mg++) | | 971 | / 12.2 = | 79.59 |
| 9. | Sodium | (Na+) | (Calculated) | 49,142 | / 23.0 = | 2,136.61 |
| 10. | Barium | (Ba++) | , | Not Determined | | |
| <u> </u> | <u>Anions</u> | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 912 | / 61.1 = | 14.93 |
| _14. | Sulfate | (SO4=) | | 3,300 | / 48.8 = | 67.62 |

5.400

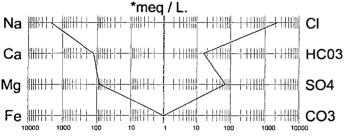
00 3 .62 / 35.5 = 2,253.01 Chloride (CI-) 79,982 16. **Total Dissolved Solids** 136,756

17. Total Iron (Fe) 8.50 18.

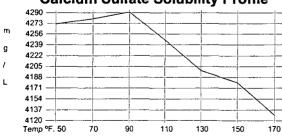
Manganese (Mn++) **Not Determined** 19. Total Hardness as CaCO3 10,114

20. Resistivity @ 75 F. (Calculated) 0.052 Ohm · meters

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

0.47

/ 18.2 =

| PROBABLE MINERAL COMPOSITION | | | | | | |
|------------------------------|----------|-----------|---------|--|--|--|
| COMPOUND | *meq/L | X EQ. WT. | = mg/L. | | | |
| Ca(HCO3)2 | 14.93 | 81.04 | 1,210 | | | |
| CaSO4 | 67.62 | 68.07 | 4,603 | | | |
| CaCl2 | 39.29 | 55.50 | 2,181 | | | |
| Mg(HCO3)2 | 0.00 | 73.17 | 0 | | | |
| MgSO4 | 0.00 | 60.19 | 0 | | | |
| MgCl2 | 79.59 | 47.62 | 3,790 | | | |
| NaHCO3 | 0.00 | 84.00 | 0 | | | |
| NaSO4 | 0.00 | 71.03 | 0 | | | |
| NaCl | 2,134.13 | 58.46 | 124,761 | | | |
| | | | | | | |

* milliequivalents per Liter

AMPLE

il Co.: Lime Rock Resources

Lease : No Bluff 36 St.

Well No.: 1 Location: Attention:

Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.003-2

Salesperson:

31,993

12,231

File Name: Jul2810.003

ANALYSIS 1.

5.

| 1. | Ph | | 6.20 | 0 | | |
|----------|-------------------------|---------|--------------|----------------|------------|--------|
| 2. | Specific Gravity 60 | /60 F. | 1.04 | 13 | | |
| 3. | CACO3 Saturation | Index | @ 80F | -0.487 | Negligible | |
| | | | @140F | 0.438 | Mild | |
| <u>D</u> | issolved Gasses | | | <u>MG/L.</u> | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 0 | - | |
| 5. | Carbon Dioxide | | | 125 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| <u>C</u> | ations | | | | | |
| 7. | Calcium | (Ca++) | | 4,333 | / 20.1 = | 215.57 |
| 8. | Magnesium | (Mg++) | | 343 | / 12.2 = | 28.11 |
| 9. | Sodium | (Na+) | (Calculated) | 15,805 | / 23.0 = | 687.17 |
| 10. | Barium | (Ba++) | 1 | Not Determined | | |
| A | nions | | | | | |
| 11. | H <mark>ydr</mark> oxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 275 | / 61.1 = | 4.50 |
| 14. | Sulfate | (SO4=) | | 1,200 | / 48.8 = | 24.59 |

16. **Total Dissolved Solids** 53,949 17. Total Iron 125.00 (Fe) 18. Manganese (Mn++) **Not Determined**

(CI-)

19. Total Hardness as CaCO3

Chloride

20. Resistivity @ 75 F. (Calculated) 0.175 Ohm · meters

/ 35.5 =

/ 18.2 =

901.21

6.87

| *meg / L. | | | | | | | | | |
|-----------|------------------------------------|-------|--------------------|------|------|--|------|------------|------|
| Na | | 1111 | | | | | | | CI |
| Ca | <u> </u> | | - | -### | | | +++ | 1-1-111111 | HC03 |
| Mg | ##### | | 1 | | | | | +++ | SO4 |
| | | 000 1 | | 10 | 1 10 | | 1000 | | |
| | Calcium Sulfate Solubility Profile | | | | | | | | |

LOGARITHMIC WATER PATTERN

| | 10000 | 1000 | 100 | 10 | , | 10 | 100 | 1000 |
|---|---------|----------|------|--------|--------|---------------|---------------|---------------|
| | C | alcii | um S | ulfate | e Solu | ibility | Prof | ile |
| | 2020 — | - | | | | | | |
| | 2005 | | | | | | | |
| m | 1990 - | - | | | | \rightarrow | | |
| g | 1975 — | ļ.—— | | | | | | |
| 9 | 1960 | ļ | | | | | <u> </u> | |
| 1 | 1945 | ļ | | | | | \rightarrow | |
| | 1930 | | | | | | __ | |
| L | 1915 - | | | | | | | |
| | 1900 | ļ | | | | | | $\overline{}$ |
| | 1885 | ļ | | | | | | $-$ \- |
| | 1870 | <u> </u> | | | | | | |
| | 7emp °F | . 50 | 70 | 90 | 110 | 130 | 150 | 170 |

| PROBABLE MINERAL COMPOSITION | | | | | | | | | |
|------------------------------|----------|-----------|---------|--|--|--|--|--|--|
| COMPOUND |) *meq/L | X EQ. WT. | = mg/L. | | | | | | |
| Ca(HCO3)2 | 4.50 | 81.04 | 365 | | | | | | |
| CaSO4 | 24.59 | 68.07 | 1,674 | | | | | | |
| CaCl2 | 186.48 | 55.50 | 10,350 | | | | | | |
| Mg(HCO3)2 | 0.00 | 73.17 | 0 | | | | | | |
| MgSO4 | 0.00 | 60.19 | 0 | | | | | | |
| MgCl2 | 28.11 | 47.62 | 1,339 | | | | | | |
| NaHCO3 | 0.00 | 84.00 | 0 | | | | | | |
| NaSO4 | 0.00 | 71.03 | 0 | | | | | | |
| NaCl | 686.62 | 58.46 | 40,140 | | | | | | |
| * milliequivalents per Liter | | | | | | | | | |

AMPLE

il Co.: LimeRock Resources

Lease : NW Well No.: AU Location:

Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.001-3

Salesperson:

File Name: Jul2810.001

ANALYSIS

Attention:

| 1. | Ph | | 5.7 | ' 00 | | |
|----------|---------------------|---------|--------------|----------------|------------|----------|
| 2. | Specific Gravity 60 | /60 F. | | 23 | | |
| 3. | CACO3 Saturation | Index | @ 80F | - 0.643 | Negligible | |
| | | | @140F | 0.247 | Mild | |
| <u>D</u> | issolved Gasses | | | MG/L. | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 0 | | |
| 5. | Carbon Dioxide | | | 100 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| <u>C</u> | ations | | | | | |
| 7. | Calcium | (Ca++) | | 3,108 | / 20.1 = | 154.63 |
| 8. | Magnesium | (Mg++) | , | 2,228 | / 12.2 = | 182.62 |
| 9. | Sodium | (Na+) | (Calculated) | 45,999 | / 23.0 = | 1,999.96 |
| 10. | Barium | (Ba++) | | Not Determined | | |
| A | <u>inions</u> | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 505 | / 61.1 = | 8.27 |
| 14. | Sulfate | (SO4=) | | 3,600 | / 48.8 = | 73.77 |
| 5. | Chloride | (CI-) | | 79,982 | / 35.5 = | 2,253.01 |
| 16. | Total Dissolved So | lids | | 135,422 | | |
| 17. | Total Iron | (Fe) | | 130.5 | 0 / 18.2 = | 7.17 |
| | | | | | | |

Not Determined (Mn++)18. Manganese 19. Total Hardness as CaCO3 16,935

20. Resistivity @ 75 F. (Calculated)

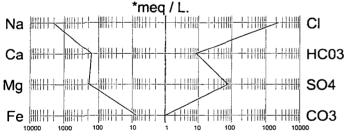
PROBABLE MINERAL COMPOSITION

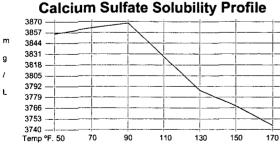
0.052 Ohm · meters

| mg/L. | = | EQ. WT. | Χ | *meq/L | COMPOUND | | |
|------------------------------|---|---------|---|----------|-----------|--|--|
| 670 | | 81.04 | | 8.27 | Ca(HCO3)2 | | |
| 5,022 | | 68.07 | | 73.77 | CaSO4 | | |
| 4,029 | | 55.50 | | 72.59 | CaCl2 | | |
| 0 | | 73.17 | | 0.00 | Mg(HCO3)2 | | |
| 0 | | 60.19 | | 0.00 | MgSO4 | | |
| 8,697 | | 47.62 | | 182.62 | MgCl2 | | |
| 0 | | 84.00 | | 0.00 | NaHCO3 | | |
| 0 | | 71.03 | | 0.00 | NaSO4 | | |
| 116,791 | 1 | 58.46 | | 1,997.80 | NaCl | | |
| * millieguivalents per Liter | | | | | | | |

milliequivalents per Liter

| LOGARITHMIC | WATER | PATTERN |
|-------------|--------------|----------------|
| | | |





SAMPLE

il Co.: LimeRock Resources

Tease: NW
Well No.: ST
Location:
Attention:

Date Sampled: 15-July-2010
Date Analyzed: 28-July-2010
Lab ID Number: Jul2810.001- 2

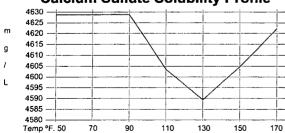
Salesperson:

File Name: Jul2810.001

ANALYSIS

| 1. | Ph | | 5.5 | 500 | | |
|-------------|----------------------|-------------|--------------|----------------|----------------|----------|
| 2. | Specific Gravity 60/ | /60 F. | 1.1 | 43 | | |
| 3. | CACO3 Saturation | Index | @ 80F | -0.473 | Negligible | |
| | | | @140F | 0.487 | Mild | |
| <u>D</u> | issolved Gasses | | | MG/L. | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 0 | | |
| 5. | Carbon Dioxide | | | 100 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| С | ations | , | | | | |
| 7. | Calcium | (Ca++) | | 2,261 | / 20.1 = | 112.49 |
| 8. | Magnesium | (Mg++) | | 1,200 | / 12.2 = | 98.36 |
| 9. | Sodium | (Na+) | (Calculated) | 66,588 | / 23.0 = | 2,895.13 |
| 10. | Barium | (Ba++) | | Not Determined | | |
| Α | nions | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 895 | / 61.1 = | 14.65 |
| _14. | Sulfate | (SO4=) | | 5,000 | / 48.8 = | 102.46 |
| 5. | Chloride | (CI-) | | 105,976 | / 35.5 = | 2,985.24 |
| 1 6. | Total Dissolved Sol | ids | | 181,920 | | |
| 17. | Total Iron | (Fe) | | 3.50 | / 18.2 = | 0.19 |
| 18. | Manganese | (Mn++) | | Not Determined | | |
| 19. | Total Hardness as | CaCO3 | | 10,584 | | |
| 20. | Resistivity @ 75 F. | (Calculated | d) | 0.01 | 4 Ohm · meters | |

LOGARITHMIC WATER PATTERN



PROBABLE MINERAL COMPOSITION

| PROBABLE WIINERAL COMPOSITION | | | | | | | | | |
|-------------------------------|-----------|----------|---|---------|----|--------|--|--|--|
| | COMPOUND | *meq/L | X | EQ. WT. | = | mg/L. | | | |
| | Ca(HCO3)2 | 14.65 | | 81.04 | | 1,187 | | | |
| | CaSO4 | 97.84 | | 68.07 | | 6,660 | | | |
| | CaCl2 | 0.00 | | 55.50 | | 0 | | | |
| | Mg(HCO3)2 | 0.00 | | 73.17 | | 0 | | | |
| | MgSO4 | 4.62 | | 60.19 | | 278 | | | |
| | MgCl2 | 93.74 | | 47.62 | | 4,464 | | | |
| | NaHCO3 | 0.00 | | 84.00 | | 0 | | | |
| | NaSO4 | 0.00 | | 71.03 | | 0 | | | |
| | NaCl | 2,891.50 | | 58.46 | 10 | 69,037 | | | |
| | | | | | | | | | |

* milliequivalents per Liter

AMPLE

il Co. : Lime Rock Resources

Lease : Stalev ST

Well No .: Location: Attention:

Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.003-4

Salesperson:

File Name: Jul2810.003

ANALYSIS

20.

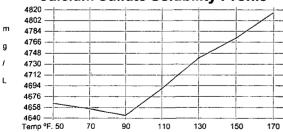
| 1. | Ph | | 5.5 | 500 | | |
|------|---------------------|---------|--------------|----------------|------------|----------|
| 2. | Specific Gravity 60 | /60 F. | 1.1 | 178 | | |
| 3. | CACO3 Saturation | Index | @ 80F | -2.905 | Negligible | |
| | | | @140F | -1.145 | Negligible | |
| | Dissolved Gasses | | | <u>MG/L.</u> | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 0 | | |
| 5. | Carbon Dioxide | | | 0 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| | Cations | | • | | | |
| 7. | Calcium | (Ca++) | | 1,884 | / 20.1 = | 93.73 |
| 8. | Magnesium | (Mg++) | | 5,371 | / 12.2 = | 440.25 |
| 9. | Sodium | (Na+) | (Calculated) | 80,438 | / 23.0 = | 3,497.30 |
| 10. | Barium | (Ba++) | • | Not Determined | | |
| | Anions | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 0 | / 61.1 = | 0.00 |
| _14. | Sulfate | (SO4=) | | 15,000 | / 48.8 = | 307.38 |
| 5. | Chloride | (CI-) | | 131,970 | / 35.5 = | 3,717.46 |
| 16. | Total Dissolved So | lids | | 234,663 | | |
| 17. | Total Iron | (Fe) | | 2,500.00 | 0 / 18.2 = | 137.36 |
| 18. | Manganese | (Mn++) | | Not Determined | | |
| 19. | Total Hardness as | CaCO3 | | 26,814 | | |

LOGARITHMIC WATER PATTERN

Resistivity @ 75 F. (Calculated)

*meq / L. HC03 Ca Mg Fe ∰∰

| Calcium | Sulfate | Solubility | Profile |
|---------|---------|------------|---------|
|---------|---------|------------|---------|



0.001 Ohm · meters

| PROBABLE MINERAL COMPOSITION | | | | | | |
|------------------------------|----------|-----------|---------|--|--|--|
| COMPOUND |) *meq/L | X EQ. WT. | = mg/L. | | | |
| Ca(HCO3)2 | 0.00 | 81.04 | 0 | | | |
| CaSO4 | 93.73 | 68.07 | 6,380 | | | |
| CaCl2 | 0.00 | 55.50 | 0 | | | |
| Mg(HCO3)2 | 0.00 | 73.17 | 0 | | | |
| MgSO4 | 213.65 | 60.19 | 12,859 | | | |
| MgCl2 | 226.60 | 47.62 | 10,791 | | | |
| NaHCO3 | 0.00 | 84.00 | 0 | | | |
| NaSO4 | 0.00 | 71.03 | 0 | | | |
| NaCl | 3,490.86 | 58.46 | 204,076 | | | |
| | * | 4 | | | | |

* milliequivalents per Liter

SAMPLE

il Co. : Lime Rock Resources

Lease : Staley ST A

Well No.: Location: Attention: Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.003-5

Salesperson:

File Name: Jul2810.003

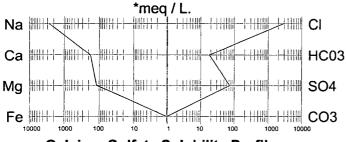
ANALYSIS

20.

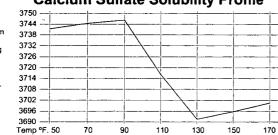
| 1. | Ph | | 5.6 | 600 | | |
|-----|--------------------|----------|--------------|----------------|------------|----------|
| 2. | Specific Gravity 6 | 60/60 F. | 1.1 | 18 | | |
| 3. | CACO3 Saturatio | n Index | @ 80F | -0.204 | Negligible | |
| | | | @140F | 0.716 | Moderate | |
| | Dissolved Gasses | | | MG/L. | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 80 | | |
| 5. | Carbon Dioxide | | | 160 | | |
| 6. | Dissolved Oxyger | า | | Not Determined | | |
| | Cations | | | | | |
| 7. | Calcium | (Ca++) | | 3,391 | / 20.1 = | 168.71 |
| 8. | Magnesium | (Mg++) | | 1,371 | / 12.2 = | 112.38 |
| 9. | Sodium | (Na+) | (Calculated) | 58,430 | / 23.0 = | 2,540.44 |
| 10. | Barium | (Ba++) | | Not Determined | | |
| | Anions | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 1,060 | / 61.1 = | 17.35 |
| 14. | Sulfate | (SO4=) | | 3,400 | / 48.8 = | 69.67 |
| 15. | Chloride | (CI-) | | 96,978 | / 35.5 = | 2,731.77 |
| 16. | Total Dissolved S | olids | | 164,630 | | |
| 17. | Total Iron | (Fe) | | 18.00 | / 18.2 = | 0.99 |
| 18. | Manganese | (Mn++) | | Not Determined | | |
| 19. | Total Hardness as | s CaCO3 | | 14,113 | | |
| | | | | | | |

LOGARITHMIC WATER PATTERN

Resistivity @ 75 F. (Calculated)







PROBABLE MINERAL COMPOSITION

0.027 Ohm · meters

| PROBABLE MINERAL COMPOSITION | | | | | | | | |
|------------------------------|----------|---|---------|----|--------|--|--|--|
| COMPOUND |) *meq/L | Χ | EQ. WT. | = | mg/L. | | | |
| Ca(HCO3)2 | 17.35 | | 81.04 | | 1,406 | | | |
| CaSO4 | 69.67 | | 68.07 | | 4,743 | | | |
| CaCl2 | 81.69 | | 55.50 | | 4,534 | | | |
| Mg(HCO3)2 | 0.00 | | 73.17 | | 0 | | | |
| MgSO4 | 0.00 | | 60.19 | | 0 | | | |
| MgCl2 | 112.38 | | 47.62 | | 5,351 | | | |
| NaHCO3 | 0.00 | | 84.00 | | 0 | | | |
| NaSO4 | 0.00 | | 71.03 | | 0 | | | |
| NaCl | 2,537.71 | | 58.46 | 14 | 48,355 | | | |
| * millioguivalente per Liter | | | | | | | | |

* milliequivalents per Liter

SAMPLE

bil Co.: LimeRock Resources

Lease : Trige Well No.: Fed Location:

Attention:

Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.001- 4

Salesperson:

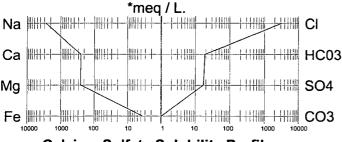
File Name: Jul2810.001

ANALYSIS

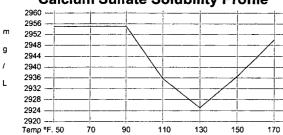
| 1. | Ph | 5.400 |
|----|---------------------------|-------|
| 2. | Specific Gravity 60/60 F. | 1.138 |

| 2. | Specific Gravity 60 | /60 F. | 1.1 | 38 | | |
|------|-------------------------|-------------|--------------|----------------|-----------------|----------|
| 3. | CACO3 Saturation | Index | @ 80F | -0.125 | Negligible | |
| | | | @140F | 0.865 | Moderate | |
| | Dissolved Gasses | | | MG/L. | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 120 | | |
| 5. | Carbon Dioxide | | | 40 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| | Cations | | | | | |
| 7. | Calcium | (Ca++) | | 4,804 | / 20.1 = | 239.00 |
| 8. | Magnesium | (Mg++) | | 2,971 | / 12.2 = | 243.52 |
| 9. | Sodium | (Na+) | (Calculated) | 60,983 | / 23.0 = | 2,651.44 |
| 10. | Barium | (Ba++) | | Not Determined | | |
| | Anions | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 1,104 | / 61.1 = | 18.07 |
| _14. | Sulfate | (SO4=) | | 800 | / 48.8 = | 16.39 |
| 15. | Chloride | (CI-) | | 109,975 | / 35.5 = | 3,097.89 |
| 16. | Total Dissolved Sol | lids | | 180,637 | | |
| 17. | Total Iron | (Fe) | | 61.50 | / 18.2 = | 3.38 |
| 18. | Manganese | (Mn++) | | Not Determined | | |
| 19. | Total Hardness as | CaCO3 | | 24,227 | | |
| 20. | Resistivity @ 75 F. | (Calculated | d) | 0.01 | 12 Ohm · meters | |

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

| PROBABLE MINERAL COMPOSITION | | | | | | | | |
|------------------------------|----------|---|---------|---------|--|--|--|--|
| COMPOUND | *meq/L | X | EQ. WT. | = mg/L. | | | | |
| Ca(HCO3)2 | 18.07 | | 81.04 | 1,464 | | | | |
| CaSO4 | 16.39 | | 68.07 | 1,116 | | | | |
| CaCl2 | 204.54 | | 55.50 | 11,352 | | | | |
| Mg(HCO3)2 | 0.00 | | 73.17 | 0 | | | | |
| MgSO4 | 0.00 | | 60.19 | 0 | | | | |
| MgCl2 | 243.52 | | 47.62 | 11,597 | | | | |
| NaHCO3 | 0.00 | | 84.00 | 0 | | | | |
| NaSO4 | 0.00 | | 71.03 | 0 | | | | |
| NaCl | 2,649.82 | | 58.46 | 154,908 | | | | |
| ★ 100 2 1 4 - 24 | | | | | | | | |

* milliequivalents per Liter

AMPLE

il Co.: LimeRock Resources

Lease : Tigner Well No.: ST

Location: Attention: Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.001-1

Salesperson:

14,113

File Name: Jul2810.001

ANALYSIS

| 1. | Ph | | 5.6 | 600 | | |
|----------|--------------------------|------------|--------------|----------------|------------|----------|
| 2. | Specific Gravity 60 | /60 F. | | 143 | | |
| 3. | CACO3 Saturation | Index | @ 80F | -0.444 | Negligible | |
| | | | @140F | 0.656 | Moderate | |
| ַ | <u> Dissolved Gasses</u> | | | <u>MG/L.</u> | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 80 | | |
| 5. | Carbon Dioxide | | | 70 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| C | Cations | | | | | |
| 7. | Calcium | (Ca++) | | 1,884 | / 20.1 = | 93.73 |
| 8. | Magnesium | (Mg++) | | 2,285 | / 12.2 = | 187.30 |
| 9. | Sodium | (Na+) | (Calculated) | 70,440 | / 23.0 = | 3,062.61 |
| 10. | Barium | (Ba++) | | Not Determined | | |
| <u> </u> | <u>Anions</u> | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 692 | / 61.1 = | 11.33 |
| 14. | Sulfate | (SO4=) | | 4,400 | / 48.8 = | 90.16 |
| 5. | Chloride | (CI-) | | 114,974 | / 35.5 = | 3,238.70 |
| 16. | Total Dissolved So | lids | | 194,675 | | |
| 17. | Total Iron | (Fe) | | 1.5 | 0 / 18.2 = | 0.08 |
| | | / * | | | | |

(Mn++) **Not Determined** 18. Manganese

19. Total Hardness as CaCO3

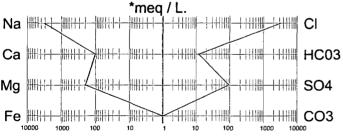
20. Resistivity @ 75 F. (Calculated)

PROBABLE MINERAL COMPOSITION

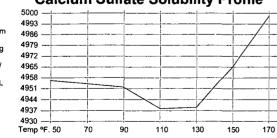
| I NODADEL MINERAL COMI CONTON | | | | | | | | |
|-------------------------------|----------|---|---------|----|--------|--|--|--|
| COMPOUND |) *meq/L | Χ | EQ. WT. | = | mg/L. | | | |
| Ca(HCO3)2 | 11.33 | | 81.04 | | 918 | | | |
| CaSO4 | 82.41 | | 68.07 | | 5,609 | | | |
| CaCl2 | 0.00 | | 55.50 | | 0 | | | |
| Mg(HCO3)2 | 0.00 | | 73.17 | | 0 | | | |
| MgSO4 | 7.76 | | 60.19 | | 467 | | | |
| MgCl2 | 179.54 | | 47.62 | | 8,550 | | | |
| NaHCO3 | 0.00 | | 84.00 | | 0 | | | |
| NaSO4 | 0.00 | | 71.03 | | 0 | | | |
| NaCl | 3,059.17 | | 58.46 | 17 | 78,839 | | | |
| * millioquivalente per Liter | | | | | | | | |

milliequivalents per Liter

| LOGARITHMIC WATER PATTER | Ν |
|--------------------------|---|
|--------------------------|---|



Calcium Sulfate Solubility Profile



Tony Abernathy, Analyst

0.004 Ohm · meters

AMPLE

II Co.: LimeRock Resources

Lease :Welch RL Well No.: ST

Location: Attention: Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.001-5

Salesperson:

File Name: Jul2810.001

ANALYSIS

| 1. | Ph | | 5.400 |
|----|---------------------------|-------|-------|
| 2. | Specific Gravity 60/60 F. | | 1.135 |
| 2 | CACCO Caturation Index | © 00E | |

-0.586@ 80F Negligible CACO3 Saturation Index <u>ത്</u>140E

| | | | @140F | 0.374 | Mild | |
|------|---------------------|---------|--------------|----------------|----------|----------|
| 1 | Dissolved Gasses | | | MG/L. | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 80 | | |
| 5. | Carbon Dioxide | | | 100 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| 9 | <u>Cations</u> | | | | | |
| 7. | Calcium | (Ca++) | | 2,355 | / 20.1 = | 117.16 |
| 8. | Magnesium | (Mg++) | | 971 | / 12.2 = | 79.59 |
| 9. | Sodium | (Na+) | (Calculated) | 67,805 | / 23.0 = | 2,948.04 |
| 10. | Barium | (Ba++) | | Not Determined | | |
| 4 | <u>Anions</u> | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 835 | / 61.1 = | 13.67 |
| _14. | Sulfate | (SO4=) | | 4,200 | / 48.8 = | 86.07 |
| 5. | Chloride | (CI-) | | 107,976 | / 35.5 = | 3,041.58 |
| 16. | Total Dissolved Sol | ids | | 184,142 | | |

17. Total Iron 7.50 (Fe) 18. Manganese (Mn++) **Not Determined**

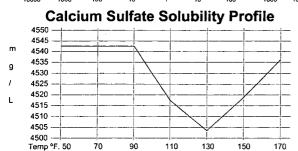
19. Total Hardness as CaCO3

20. Resistivity @ 75 F. (Calculated) 0.012 Ohm · meters

9,879

*meq / L. HC03 ----- SO4 Mg 11111 - 11111 - 11111 CO3 Fe 10

LOGARITHMIC WATER PATTERN



| PROBABL | E MINERA | YL (| COMP | OSIT | ON |
|----------|----------|------|------|------|----|
| IDOI IND | *mea/l | Y | FΩ | ۱۸/T | _ |

0.41

/ 18.2 =

| I MODADLE IIIII LIGAL COIIII COI IIICH | | | | | | | |
|--|----------|---|---------|----|--------|--|--|
| COMPOUND |) *meq/L | X | EQ. WT. | = | mg/L. | | |
| Ca(HCO3)2 | 13.67 | | 81.04 | | 1,108 | | |
| CaSO4 | 86.07 | | 68.07 | | 5,858 | | |
| CaCl2 | 17.43 | | 55.50 | | 968 | | |
| Mg(HCO3)2 | 0.00 | | 73.17 | | 0 | | |
| MgSO4 | 0.00 | | 60.19 | | 0 | | |
| MgCl2 | 79.59 | | 47.62 | | 3,790 | | |
| NaHCO3 | 0.00 | | 84.00 | | 0 | | |
| NaSO4 | 0.00 | | 71.03 | | 0 | | |
| NaCl | 2,944.55 | | 58.46 | 17 | 72,139 | | |
| * millieguivalents per Liter | | | | | | | |

milliequivalents per Liter

SAMPLE

il Co. : Lime Rock Resources

Lease : Williams A Fed

Well No.: 1 Location: Attention: Date Sampled: 15-July-2010
Date Analyzed: 28-July-2010
Lab ID Number: Jul2810.003-8

Salesperson:

File Name: Jul2810.003

ANALYSIS

20.

| 1. | Ph | | 5.6 | 600 | | |
|------|---------------------|---------|--------------|----------------|------------|----------|
| 2. | Specific Gravity 60 | /60 F. | 1.1 | 138 | | |
| 3. | CACO3 Saturation | Index | @ 80F | -0.516 | Negligible | |
| | | | @140F | 0.504 | Mild | |
| 2 | Dissolved Gasses | | | MG/L. | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 20 | | |
| 5. | Carbon Dioxide | | | 60 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| C | Cations | | | | | |
| 7. | Calcium | (Ca++) | | 1,884 | / 20.1 = | 93.73 |
| 8. | Magnesium | (Mg++) | | 800 | / 12.2 = | 65.57 |
| 9. | Sodium | (Na+) | (Calculated) | 72,438 | / 23.0 = | 3,149.48 |
| 10. | Barium | (Ba++) | | Not Determined | | |
| A | Anions | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 643 | / 61.1 = | 10.52 |
| _14. | Sulfate | (SO4=) | | 4,100 | / 48.8 = | 84.02 |
| 15. | Chloride | (CI-) | | 113,974 | / 35.5 = | 3,210.54 |
| 16. | Total Dissolved So | lids | | 193,839 | | |
| 17. | Total Iron | (Fe) | | 4.50 | / 18.2 = | 0.25 |
| 18. | Manganese | (Mn++) | | Not Determined | | |
| 19. | Total Hardness as | , | | 7,997 | | |

LOGARITHMIC WATER PATTERN

Resistivity @ 75 F. (Calculated)

*meq / L.

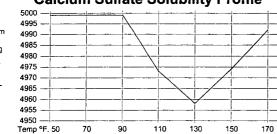
Na HC03

Mg

Fe

10000 1000 100 10 10 100 1000 10000 10000

Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

0.005 Ohm · meters

| PROBABLE MINERAL COMPOSITION | | | | | | | |
|-------------------------------|---------|---|----------|-----------|--|--|--|
| = mg/L. | EQ. WT. | Χ | *meq/L | COMPOUND | | | |
| 853 | 81.04 | | 10.52 | Ca(HCO3)2 | | | |
| 5,664 | 68.07 | | 83.21 | CaSO4 | | | |
| 0 | 55.50 | | 0.00 | CaCl2 | | | |
| 0 | 73.17 | | 0.00 | Mg(HCO3)2 | | | |
| 49 | 60.19 | | 0.81 | MgSO4 | | | |
| 3,084 | 47.62 | | 64.76 | MgCl2 | | | |
| 0 | 84.00 | | 0.00 | NaHCO3 | | | |
| 0 | 71.03 | | 0.00 | NaSO4 | | | |
| 183,902 | 58.46 | | 3,145.77 | NaCl | | | |
| * million displants most item | | | | | | | |

* milliequivalents per Liter

MPLE

il Co.: Lime Rock Resources

Lease : Williams A Fed

Well No .: Location: Attention: Date Sampled: 15-July-2010 Date Analyzed: 28-July-2010 Lab ID Number: Jul2810.003-7

EQ. WT.

*MEQ/L

Salesperson:

File Name: Jul2810.003

ANALYSIS 1.

| 2. | Specific Gravity 60/60 F. | 1.13 | 88 | |
|----|---------------------------|--------------------|-----------------|--------------------|
| 3. | CACO3 Saturation Index | @ 80F @140F | -0.449 0.511 | Negligible Mild |
| | Dissolved Gasses | 9 * * * * * | MG/L. | EQ. W |
| ν. | Hydrogen Sulfide | | 120 | |

| 4. | nyarogen Sullide | 120 |
|----|------------------|----------------|
| 5. | Carbon Dioxide | 70 |
| 6. | Dissolved Oxygen | Not Determined |

Cations

Ph

| 7. | Calcium | (Ca++) | | 2,166 | / 20.1 = | 107.76 |
|-----|-----------|--------|--------------|----------------|----------|----------|
| 8. | Magnesium | (Mg++) | | 571 | / 12.2 = | 46.80 |
| 9. | Sodium | (Na+) | (Calculated) | 69,264 | / 23.0 = | 3,011.48 |
| 10. | Barium | (Ba++) | · | Not Determined | | |

5.600

Anions

| 11. | Hydroxyl | (OH-) | 0 | / 17.0 = | 0.00 |
|-----|-------------|---------|---------|----------|----------|
| 12. | Carbonate | (CO3=) | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | 785 | / 61.1 = | 12.85 |
| 14. | Sulfate | (SO4=) | 3,900 | / 48.8 = | 79.92 |
| 5. | Chloride | (CI-) | 108,975 | / 35.5 = | 3,069.72 |

Total Dissolved Solids 16.

185,661 17. Total Iron (Fe) 4.00 / 18.2 = 0.22

Not Determined

7,762

18. Manganese (Mn++)

Total Hardness as CaCO3 19.

20. Resistivity @ 75 F. (Calculated)

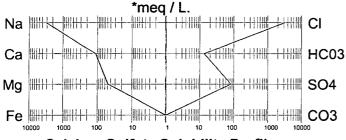
PROBABLE MINERAL COMPOSITION

0.011 Ohm · meters

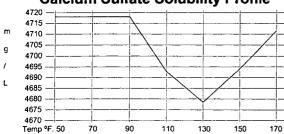
| I ITODADLE IIIIITEITAL GOIIII GOITIGIT | | | | | | | |
|--|----------|---|---------|----|--------|--|--|
| COMPOUND | *meq/L | Χ | EQ. WT. | = | mg/L. | | |
| Ca(HCO3)2 | 12.85 | | 81.04 | | 1,041 | | |
| CaSO4 | 79.92 | | 68.07 | | 5,440 | | |
| CaCl2 | 15.00 | | 55.50 | | 832 | | |
| Mg(HCO3)2 | 0.00 | | 73.17 | | 0 | | |
| MgSO4 | 0.00 | | 60.19 | | 0 | | |
| MgCl2 | 46.80 | | 47.62 | | 2,229 | | |
| NaHCO3 | 0.00 | | 84.00 | | 0 | | |
| NaSO4 | 0.00 | | 71.03 | | 0 | | |
| NaCl | 3,007.92 | | 58.46 | 17 | 75,843 | | |
| | <u> </u> | _ | | | • | | |

* milliequivalents per Liter

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



SAMPLE

il Co. : Lime Rock Resources

Lease : Williams B Fed

Well No.: Location: Attention: Date Sampled: 15-July-2010
Date Analyzed: 28-July-2010
Lab ID Number: Jul2810.003-6

Salesperson:

8,468

File Name: Jul2810.003

ANALYSIS

| 1. | Ph | 5.600 |
|----|---------------------------|-------|
| 2. | Specific Gravity 60/60 F. | 1.138 |

| 3. | CACO3 Saturation Index | @ 80F | -0.575 | Negligible |
|----|------------------------|-------|--------|------------|
| | | @140F | 0.385 | Mild |

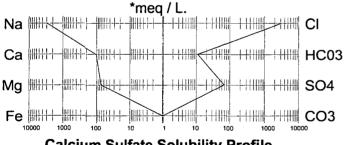
| | | | @140F | 0.385 | Mild | |
|----------|--------------------|---------|--------------|----------------|----------|----------|
| E | Dissolved Gasses | | | MG/L. | EQ. WT. | *MEQ/L |
| 4. | Hydrogen Sulfide | | | 100 | | |
| 5. | Carbon Dioxide | | | 70 | | |
| 6. | Dissolved Oxygen | | | Not Determined | | |
| (| Cations | | | | | |
| 7. ¯ | Calcium | (Ca++) | | 1,978 | / 20.1 = | 98.41 |
| 8. | Magnesium | (Mg++) | | 857 | / 12.2 = | 70.25 |
| 9. | Sodium | (Na+) | (Calculated) | 67,253 | / 23.0 = | 2,924.04 |
| 10. | Barium | (Ba++) | • | Not Determined | | |
| <u> </u> | <u>Anions</u> | | | | | |
| 11. | Hydroxyl | (OH-) | | 0 | / 17.0 = | 0.00 |
| 12. | Carbonate | (CO3=) | | 0 | / 30.0 = | 0.00 |
| 13. | Bicarbonate | (HCO3-) | | 643 | / 61.1 = | 10.52 |
| 14. | Sulfate | (SO4=) | | 3,200 | / 48.8 = | 65.57 |
| 5. | Chloride | (CI-) | | 106,976 | / 35.5 = | 3,013.41 |
| 16. | Total Dissolved So | lids | | 180,907 | | |
| | | | | | | |

17. Total Iron (Fe) 2.50
18. Manganese (Mn++) Not Determined

19. Total Hardness as CaCO3

20. Resistivity @ 75 F. (Calculated) 0.014 Ohm · meters

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile 4920 4913 4906 4899 g 4892 4885 4878 4871 -4864 4857 4850 Temp °F. 50 130 150

PROBABLE MINERAL COMPOSITION

0.14

/ 18.2 =

| PROBABLE MINERAL COMPOSITION | | | | | | | |
|------------------------------|----------|-----------|---------|--|--|--|--|
| COMPOUND |) *meq/L | X EQ. WT. | = mg/L. | | | | |
| Ca(HCO3)2 | 10.52 | 81.04 | 853 | | | | |
| CaSO4 | 65.57 | 68.07 | 4,464 | | | | |
| CaCl2 | 22.31 | 55.50 | 1,238 | | | | |
| Mg(HCO3)2 | 0.00 | 73.17 | 0 | | | | |
| MgSO4 | 0.00 | 60.19 | 0 | | | | |
| MgCl2 | 70.25 | 47.62 | 3,345 | | | | |
| NaHCO3 | 0.00 | 84.00 | 0 | | | | |
| NaSO4 | 0.00 | 71.03 | 0 | | | | |
| NaCl | 2,920.85 | 58.46 | 170,753 | | | | |
| * millioguiuslanta nor Litar | | | | | | | |

* milliequivalents per Liter



Water Analysis

Date: 2/24/2005

2401 Sivley, Artesia NM 88210

5057452293

Phone (505) 746-3140 Fax (505) 746-2293

Analyzed For

| Company | A CONTRACTOR OF THE PERSON NAMED IN | Vell Name | C III C | ounty | State | | |
|-------------------------------|-------------------------------------|-----------|---------------------------------------|---------|------------|--|--|
| Westall | | State G#1 | · · · · · · · · · · · · · · · · · · · | Eddy | New Mexico | | |
| Sample Source | | | Sample # | | 1 | | |
| Formation | Canyo | n | Depth | | | | |
| Specific Gravity | 1.050 | | SG @ | 3 60 °F | 1.051 | | |
| ρH | 6.30 | | ន | uifides | New Mexico | | |
| Temperature (°F) | 65 | | Reducing A | Agents | Not Tested | | |
| Cations | | | | | | | |
| Sodium (Calc) | ··· <u></u> | in Mg/L | 9,518 | IN PPM | 9,056 | | |
| Calcium | | in Mg/L | 5,600 | in PPM | 5,328 | | |
| Magnesium | | in Mg/L | 240 | ia PPM | 228 | | |
| Soluable Iron (FE2) | | in Mg/L | 300.0 | in PPM | 285 | | |
| Anions | | | | | -· | | |
| Chlorides | | in Mg/L | 24,000 | in PPM | 22,835 | | |
| Sulfates | | in Mg/L | 2,000 | in PPM | 1,903 | | |
| Bicarbonates | | in Mg/L | 185 | in PPM | 176 | | |
| Total Hardness (as CaCO3) | · | in Mg/L | 15,000 | in PPM | 14,272 | | |
| Total Dissolved Solids (Calc) | | in Mg/L | 41,844 | in PPM | 39,813 | | |
| Equivalent NaCl Concentration | n | in Mg/L | 38,410 | in PPM | 36,546 | | |
| Scaling Tendencies | | | | | | | |
| Calcium Carbonate Index | | | | | 1,038,464 | | |

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

*Calcium Suifate (Gyp) Index

11,200,000

Balow 500,000 Remote / 500,000 - 10,000,00 Possible / Above 10,000,000 Probable

*This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.

Remarks

FAX 677-2361

| LIME ROCK | County Eddy, ! | New Mexico | Well Na | | TATE CO | | Field | Red Lake | , | Well Sketch: CURRENT | |
|-------------------|-------------------|--------------|---------|--------|---------|------------|-------|----------|------------|-------------------------|--------------------|
| RESOURCES | Surface Lat: | 32° 47' 15" | BH Lat: | | | 32° 47' 1 | 5" | Survey: | Sec. 3 | 2-T17S-R28E | API # 30-015-34148 |
| | Surface Long: | 104" 11" 39" | BH Long | j: | | 104° 11' 3 | 9" | 1 1 | 370' FSL & | 1609' FEL | 014744 |
| Directi | onal Data: | | | | Tubula | Data | | | | | Wellhead Data |
| KOP | 0, | Tubulars | Size | Weight | Grade | Thread | TVD | MD | TOC | Туре: | |
| Max Dev.: 0 | 1.0° | Conductor | 16" | 84# | DRIVE | 8RD | 40 | 40" | - | WP: | |
| Dieg sev: 0 | 0.0° | Surface | 13 3/8" | 48# | H-40 | STC | 428 | 428 | SURF | | Flange: |
| Dev @ Perfs 0 | 0.0° | Intermediate | 9 5/8" | 40# | J-55 | LTC | 2,660 | 2,660 | SURF | Tree Cap | |
| Ret to Vert: | 0' | Production | | | | | | | | The sup | Thread: |
| | | Liner | | | | | | | | | |
| Drilling / Co | ompletion Fluid | CEMENT DATA | 4 | | | | | | | Tbg Hanger: | |
| Drilling Fluid: | | | Usks | Yld | Wt | T/sks | Yld | Wt | XŞ | 8TM Flange: | |
| Drilling Fluid: | | Surface | 200 | | 12.7 | 200 | | 14.8 | | BPV Profile: | |
| Completion Fluid: | | Intermediate | 500 | | 12.7 | 600 | | 14.8 | | Elevations: | 3,669' |
| Completion Fluid: | | Liner | | | | | | | | RKB-GL: | |
| Packer Fluid: | | Production | | | | | | | | DF - GL: | |

| Wellbore Sketch | |
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|-------------|---------------------------|------|------|------------------------|--------------|----------|---------------|----------|
| EPTHS (TVD) | HOLE SIZE - BITS - BHA | WELL | PATH | FORMATION TOPS INFO | / WELL | | MUD PROPERTII | ES |
| | | INC | AZI | | | MW | PV | YP |
| O, | 17 1/2" | 0.0° | 0.0° | 60' Cmt Plug (19 | sks) | | | |
| | | | | | | | | |
| 390, | | | | 60' Cmt Plug (19 | sks) | | | |
| 428' | 12 1/4" | | | SURFACE CASI | | | | |
| 632' | | | | 7 RIVERS | | | | |
| 990' | | | | BOWERS SAN | ID. | | | |
| | | | | | | | 1 | |
| 1,208' | | | | QUEEN | | | | |
| | | | | | | | | |
| 1,981 | | | | SAN ANDRES | s | | | |
| | | | | | | | | |
| | | | | | | | | |
| 2,613* | | | | 100' Cmt Plug (41 | l sks) | | | |
| 2,660 | 8 3/4" | | | INTERMEDIATE CASING | | | | |
| | | | | | | | | |
| | | | | 100' Cmt Plug (41 sks) | | | | |
| 3,314 | | | | 100' Cmt Plug (41 | l sks) | | | |
| 3,412' | | | | GLORIETTA | | | | |
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| 4,767 | | | | TUBB | | | | |
| | | | | | | | | |
| * | | | | | | | | — |
| 5,383' | | | | ABO | | | | İ |
| 5,468' | | | | 100' Cmt Plug (42 | 2 sks) | | | |
| | | | | | | | | <u> </u> |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 6,892' | | | | WOLFCAMP | | | | |
| 6,949' | | | | 100' Cmt Plug (42 | sks) | | | |
| | | | | | | | | |
| | | | | | | | | |
| 7,735* | | | | UPPER PENN | 1. | | | |
| | | | | | | | | |
| 8,198' | | | | CISCO (TOP) | | | | |
| 8,238' | | | | 100' Cmt Plug (51 | sks) | | | |
| | | | | | | | | |
| | | | | | | | | |
| 8,790* | | | | cisco (вотто | м) | | | |
| | | | | | | | | |
| 9,096 | | | | STRAWN | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 9,696' | | | | ATOKA | | | | |
| | | | | | | | | |
| 9,941' | | | | 100' Cmt Plug (42 | sks) | | | |
| | | | | | | | | |
| 10,400' | | 0.0° | 0.0° | TD | | | Ī | |
| mments: | | | | | lug back De | pth: | <u> </u> | <u> </u> |
| mments Here | | | | | otal Well De | | 10,400' | <u> </u> |
| | | | | <u> </u> | repared By: | | Date: | |
| | | | | | | | 7-Jul-10 | |

| LIME ROCK | County Eddy, I | New Mexico | Well Na ASP | | TATE CO | | Field | Red Lake | • | Well Sketch: PROPOSED | |
|-------------------|-------------------|--------------|----------------|------------|---------|------------|-------|----------|------------|--------------------------|--------------------|
| 1 RESOURCES | Surface Lat: | 32° 47' 15" | BH Lat: | | | 32° 47' 15 | 5" | Survey: | Sec. 3 | 32-T17S-R28E | API # 30-015-34148 |
| are ar recoonded | Surface Long: | 104" 11' 39" | BH Long | j : | | 104° 11' 3 | 9" | 1 | 370' FSL & | 1609' FEL | 014744 |
| Direction | onal Data: | | | | Tubula | Data | | • | | 1 | Wellhead Data |
| KOP | D | Tubulars | Size | Weight | Grade | Thread | TVD | MD | TOC | Type: | |
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| Dev @ Perfs 0 | .0° | Intermediate | 9 5/8" | 40# | J-55 | LTC | 2,660 | 2,660' | SURF | Tree Cap | l |
| Ret to Vert: | 0, | Production | 7" | 29# | L-80 | LTC | 9,400 | 9,400' | 2,160 | 1 I Hed Cap | Thread: |
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| | 9,500°. POUH, R | IH and cement 7" Producti | on csg. | | | Prepared By: | | Date: 21-Jun-10 | |

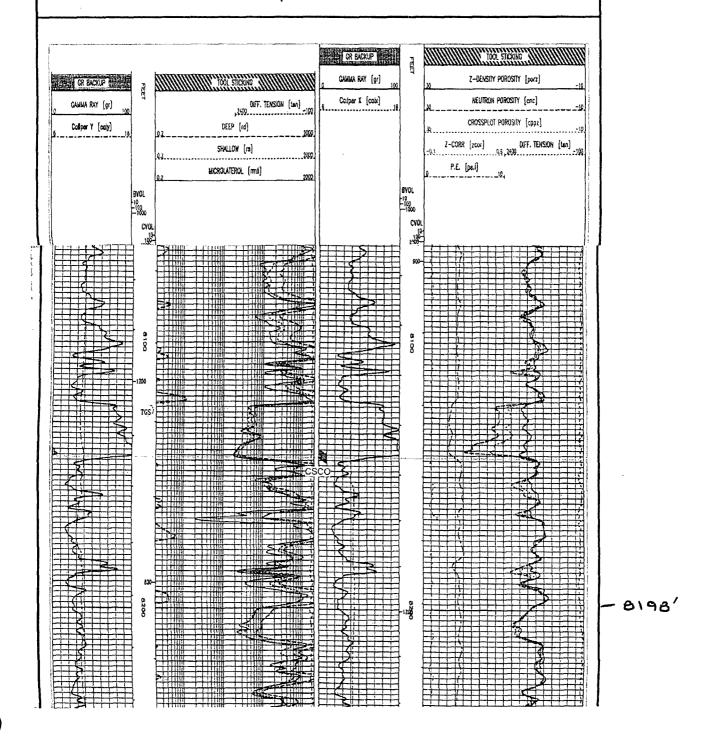
| LIME ROCK | County Eddy, | New Mexico | Well Na | | TATE CO | | Field | Red Lake | , | Well Sketch: PROPOSED | |
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| flax Dev.: 0 | .0° | Conductor | 16" | 84# | DRIVE | 8RD | 40' | 40' | | WP: | |
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| Dev @ Perfs 0 | .0° | Intermediate | 9 5/8" | 40# | J-55 | LTC | 2,660' | 2,660' | SURF | Tree Cap | _ |
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| | • | Tubing | 4 1/2" | 10,5# | J-55 | LTC | 8,090 | 8,090 | N/A | | |
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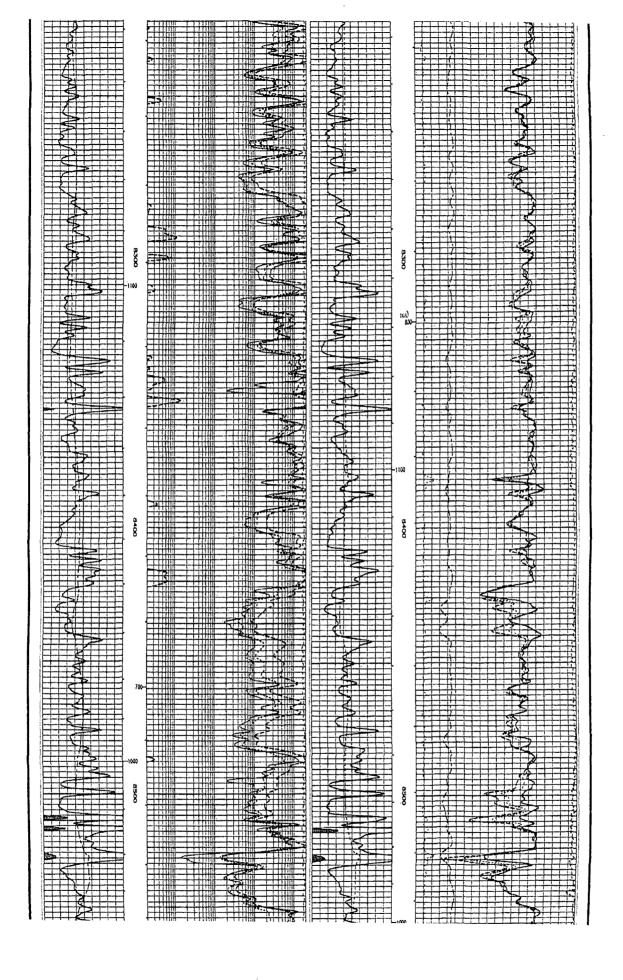
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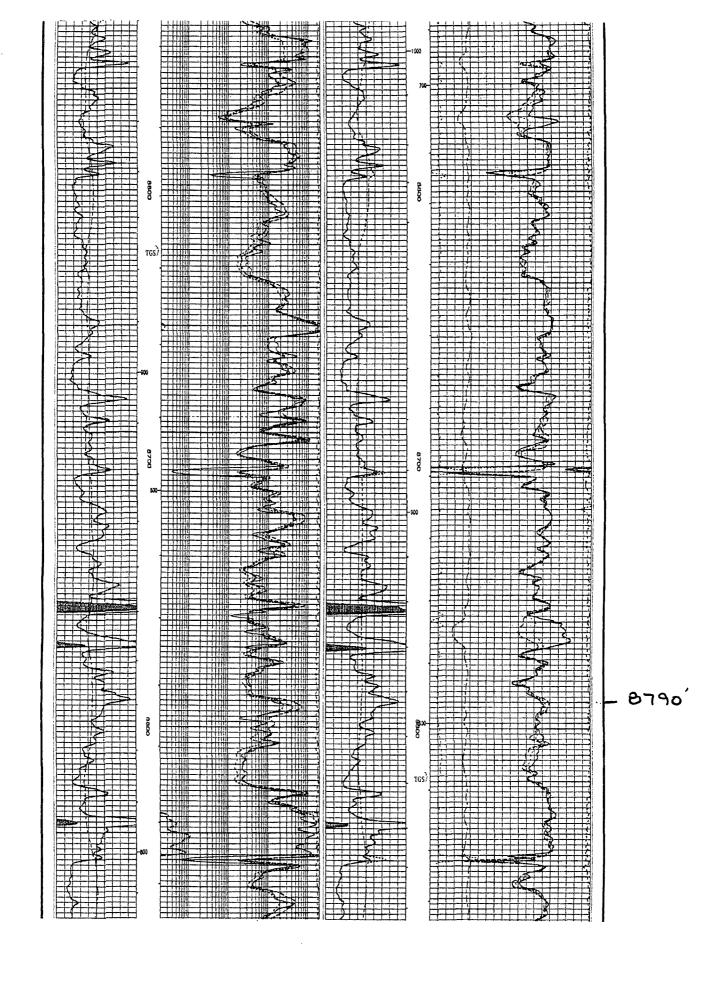
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MEWBOURNE OIL CO ASPEN 32 STATE COM 1 SE NW SE 1370 FSL 1609 FEL

TWP: 17 S - Range: 28 E - Sec. 32
Datum=3669
Reference=GR
Comp Date=10/19/2005







Affidavit of Publication

| ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | NO. | 21167 | · . |
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| STATE OF NEW MEXI | ico . | | |
| County of Eddy: | | | |
| GARY D. SCOTT | | | being duly |
| sworn,says: That he is | the | PUBLISHER | of The |
| Artesia Daily Press, a d | aily newspaper of ge | neral | |
| circulation, published in | English at Artesia, sa | aid county | |
| and county and state, a | nd that the here to at | tached | |
| | Legal Notice | | |
| was published in a regu | lar and entire issue o | f the said | |
| Artesia Daily Press,a da | illy newspaper duly q | ualified | |
| for that purpose within the | he meaning of Chapte | er 167 of | |
| the 1937 Session Laws | of the state of New M | Aexico for | |
| 1 Consecutive | week/days on the s | ame | |
| day as follows: | | | |
| First Publication | May 14, 2010 |) | |
| Second Publication | | | |
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| Subscribed and sworn to | before me this | | |
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Jo Morgany

Notary Jublic, Eddy County, New Mexico

Copy of Publication:

WALLING ST

Aspen 32 State Com #1
Lime Plock Resources,
1111 Bagby, Suite 4600,
Houston, Texas 77002,
contact: Chuck L.
Reagan (713) 292-9548
is seeking administrative
approval from the New
Mexido Oil Conservation
Division to complete the
following well for water
disposant: Aspen 32
State Com #1, (API No.
39-015-34148), located
1,370* FSL & 1,009* FEL,
of Section 32 Lot J,
7175. R28E, Eddy
County, New Mexico;
proposed injection interval is the Cisco formation with initial perforations from 8,199* 8,790*
with maximum delly deposal volume of water at
7,500 bbts per day with
a maximum injection
pressure of 1,600#,
Chjections to this application or request for
hearing-must be filed
with the Oil
Conservation Division,
francis Drive, Sante Fe
New Mexico 97505 within fifteen days of the
date of the publication of
the notice.
Published in the Artesia
Daily Press, Artesia,
NM Mey 14, 2010.
Legal No. 21167



CERTIFIED MAIL RETURN RECEIPT REQUESTED

Altura Energy, Ltd 580 Westlake Park Blvd Houston, TX 77078-4294

TRe: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

Dear Sir or Madam:

This letter is to advise you that Lime Rock Resources A, L.P., ("Lime Rock") has filed the enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water into its Aspen 32 State Com No. 1 Well, (API No. 30-015-34148), located 1370 feet from the South line and 1690 feet from the East line of Section 32, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. Lime Rock proposes to dispose of produced water into the Cisco formation through an initial injection interval of 8,198' - 8,790'. The initial maximum surface injection pressure proposed by Lime Rock is 1,600 pounds and the maximum daily injection rate will be 7,500 barrels of water.

If you have any questions concerning this application, you may contact Chuck L. Reagan at Lime Rock Resources, 1111 Bagby, Suite 4600, Houston, Texas 77002, telephone number (713) 292-9548.

Objection to this application or request for hearing must be filed with the Oil Conservation Division, 1220 South Francis Drive, Santa Fe, New Mexico 87505 within 15 days of the date of this letter.

Chuck L. Reagan

Sr. Landman for Lime Rock Resources

☐ Addressee C. Date of Delivery ☐ Express Mail ☐ Return Receipt for Merchandise ☐ C.O.D. ☐ Agent D. Is delivery address different from it in 1? The Yes If YES, enter delivery address below: COMPLETE THIS SECTION ON DELIVERY If YES, enter delivery address below: B. Received by (Printed Name) ☐ Certified Mail
☐ Registered
☐ Insured Mail A Bostrictod Do Service Type A. Signature Attach this card to the back of the mailpiece, or on the front if space permits. Print your name and address on the reverse ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. SENDER: COMPLETE THIS SECTION so that we can return the card to you. Houston, TX 77078-4294 580 Westlake Park Blvd Altura Energy, Ltd 1. Article Addressed to:

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ZIP G ODE 77002

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| PS Form 3811, February 2004 | Domest | Domestic Return Receipt | eceipt | | | 102595-02-M-154 | 240 |

Houston, TX 77078-4294

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on delivery information visit our website an www usps.com_© estic Mail Only. No Insurance Coverage Provided) US Postal Service... OEPTIFIED WAIL BECEPT 580 Westlake Park Blvd Altura Energy, Ltd Postage Certified Fee Return Receipt Fee (Endorsement Required) Restricted Delivery Fee (Endorsement Required) Total Posta 2692

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Houston, TX 77078-4294 Street, Apt. N or PO Box Nt TROP 0000 OSTO 8002 2692 TROP 8002 0000 DSTD

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CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mary L. Boling and Michael Boling, Trustees of the Robert E. Boling Family Trust 305 S. 5th Street Artesia, NM 88210

TRe: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

Dear Sir or Madam:

This letter is to advise you that Lime Rock Resources A, L.P., ("Lime Rock") has filed the enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water into its Aspen 32 State Com No. 1 Well, (API No. 30-015-34148), located 1370 feet from the South line and 1690 feet from the East line of Section 32, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. Lime Rock proposes to dispose of produced water into the Cisco formation through an initial injection interval of 8,198′ – 8,790′. The initial maximum surface injection pressure proposed by Lime Rock is 1,600 pounds and the maximum daily injection rate will be 7,500 barrels of water.

If you have any questions concerning this application, you may contact Chuck L. Reagan at Lime Rock Resources, 1111 Bagby, Suite 4600, Houston, Texas 77002, telephone number (713) 292-9548.

Objection to this application or request for hearing must be filed with the Oil Conservation Division, 1220 South Francis Drive, Santa Fe, New Mexico 87505 within 15 days of the date of this letter.

Sincerely,

Chuck L. Reagan

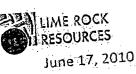
Sr. Landman for Lime Rock Resources



| COMPLETE THIS SECTION ON DELIVERY | A. Signature | B. Received by (Printed Name) C. Date of Delivery | D. is delivery address different from the first of the fi | | Service Type Certified Mail Express Mail Registered Return Receipt for Merchandise Insured Mail C.O.D. | 4. Restricted Delivery? (Extra Fee) 🔲 Yes | 7008 0150 0000 7697 1490 | sturn Receipt 102595-02-1M-1540 |
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| SENDER: COMPLETETHIS SECTION | Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. | Solution that is an action to solution and action that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. | 1. Article Addressed to: | Mary L. Boling and Michael Boling, Tstees of the Robert E. Boling Family Trust | 305 S. 5th Street Artesia, NM 88210 | · inc | 2. Article Number (Transfer from service label) | PS Form 3811, February 2004 Domestic Return Receipt |

Mary L. Bolin Of the Robert 305 S. 5th Str Artesia, NM E

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| Sevice Simale, Sece | | | æ | | | | , | Mary L. Boling and Michael Boling, Tstees | of the Robert E. Boling Family Trust 305 S. 5th Street Artesia, NM 88210 | |
| | in on very | | Postage | Certilled Fee | Return Receipt Fee (Endorsement Required) | Restricted Delivery Fee (Endorsement Required) | Total Pos | Sent To Mary L. | , x | |
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CERTIFIED MAIL RETURN RECEIPT REQUESTED

BP America Production Company Craig Ferguson 501 Westlake Park Blvd. Houston, TX 77079

Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

This letter is to advise you that Lime Rock Resources A, L.P., ("Lime Rock") has filed the Gentlemen: enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water into its Aspen 32 State Com No. 1 Well, (API No. 30-015-34148), located 1370 feet from the South line and 1690 feet from the East line of Section 32, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. Lime Rock proposes to dispose of produced water into the Cisco formation through an initial injection interval of 8,198' - 8,790'. The initial maximum surface injection pressure proposed by Lime Rock is 1,600 pounds and the maximum daily injection rate will be 7,500 barrels of water.

If you have any questions concerning this application, you may contact Chuck L. Reagan at Lime Rock Resources, 1111 Bagby, Suite 4600, Houston, Texas 77002, telephone number (713) 292-

Objection to this application or request for hearing must be filed with the Oil Conservation 9548. Division, 1220 South Francis Drive, Santa-Fe, New Mexico 87505 within 15 days of the date-of this letter.

Sincerely

Sr. Landman for Lime Rock Resources

| Complete items: 1, 2; and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse | A Signature ☐ Agent ☐ Addressee |
|--|---|
| so that we can return the card to you. Attach this card to the back of the mailpiece, | B. Received by (Printed Name) C. Date of Delivery |
| or on the front if space permits. 1. Article Addressed to: | D. is delivery address different from item 1? If YES, enter delivery address below: No |
| BP America Production Company | |
| Craig Ferguson 501 Westlake Park Blvd. Houston, TX 77079 | 3. Service Type □ Certified Mail □ Express Mail □ Registered □ Return Receipt for Merchandise □ Insured Mail □ C.O.D. |
| | 4 Restricted Delivery? (Extra Fee) ☐ Yes |
| 2. 'Article Number 7008 0150 | 0000 7697 1360 |

| 360 360 | U.S. Rosial Service. GERTIFIED WAIL. RECEPT (Domestic Mail Only, No Insurance Coverage Provided) | |
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| | PS.Form:9800-magaz | |



Cibola Energy Corp 1429 Central Avenue NW Albuquerque, NM 87104

Re: Application of Lime Resources for administrative approval

for water disposal, Eddy County, New Mexico

Dear Sir or Madam:

This letter is to advise you that Lime Rock Resources A, L.P., ("Lime Rock") has filed the enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water into its Aspen 32 State Com No. 1 Well, (API No. 30-015-34148), located 1370 feet from the South line and 1690 feet from the East line of Section 32, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. Lime Rock proposes to dispose of produced water into the Cisco formation through an initial injection interval of 8,198' – 8,790'. The initial maximum surface injection pressure proposed by Lime Rock is 1,600 pounds and the maximum daily injection rate will be 7,500 barrels of water.

If you have any questions concerning this application, you may contact Chuck L. Reagan at Lime Rock Resources, 1111 Bagby, Suite 4600, Houston, Texas 77002, telephone number (713) 292-9548.

Objection to this application or request for hearing must be filed with the Oil Conservation Division, 1220 South Francis Drive, Santa Fe, New Mexico 87505 within 15 days of the date of this letter.

Sincerely,

Chuck L. Reagan

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COG Oil & Gas, LP Attn: Stuart Dirks 550 W. Texas Ave., Ste 1300 Midland, TX 79701

Re: Application of Lime Resources for administrative approval

for water disposal, Eddy County, New Mexico

Dear Stuart:

This letter is to advise you that Lime Rock Resources A, L.P., ("Lime Rock") has filed the enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water into its Aspen 32 State Com No. 1 Well, (API No. 30-015-34148), located 1370 feet from the South line and 1690 feet from the East line of Section 32, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. Lime Rock proposes to dispose of produced water into the Cisco formation through an initial injection interval of 8,198' – 8,790'. The initial maximum surface injection pressure proposed by Lime Rock is 1,600 pounds and the maximum daily injection rate will be 7,500 barrels of water.

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Objection to this application or request for hearing must be filed with the Oil Conservation Division, 1220 South Francis Drive, Santa Fe, New Mexico 87505 within 15 days of the date of this letter.

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Chuck L. Reagan

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o de de liveny in ormanio a californa de se se se anverte a se como Attn: Stuart Dirks 550 W. Texas Ave., Ste 1300 COG Oil & Gas, LP Midland, TX 79701 Certified Fee Return Receipt Fee (Endorsement Required) Restricted Delivery Fee (Endorsement Required) Postage Total Pos 0000 סדפס 2692 0000 DSTO 8007

Postmark Here



June 17, 2010

CERTIFIED MAIL RETURN RECEIPT REQUESTED

John R. Gray, LLC Attn: Lewis Derrick 2208 West Main Street Artesia, N.M. 88210

Re: Application of Lime Resources for administrative approval

for water disposal, Eddy County, New Mexico

Gentlemen:

This letter is to advise you that Lime Rock Resources A, L.P., ("Lime Rock") has filed the enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water into its Aspen 32 State Com No. 1 Well, (API No. 30-015-34148), located 1370 feet from the South line and 1690 feet from the East line of Section 32, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. Lime Rock proposes to dispose of produced water into the Cisco formation through an initial injection interval of 8,198′ – 8,790′. The initial maximum surface injection pressure proposed by Lime Rock is 1,600 pounds and the maximum daily injection rate will be 7,500 barrels of water.

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| SENDER: COMPLETE THIS SECTION | COMPLETE THIS SECTION ON DELIVERY |
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| Complete items: 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse | A Signature ☐ Agent ☐ Addressee |
| so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. | B. Received by (Printed Name) C. Date of Delivery |
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| John R. Gray, LLC | |
| P. O. Box 304 Artesia, NM 88210 | 3. Service Type □ Certified Mail □ Express Mail □ Registered □ Return Receipt for Merchandise □ Insured Mail □ C.O.D. |
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| | | PS Form 3800. August 2006 |

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Jalapeno Corporation 1429 Central Avenue NW Albuquerque, NM 87104

Re: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

Dear working interest owner:

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Chuck L. Reagan



| ψ, | SENDER: COMPLETE THIS SECTION. | COMPLETE THIS SECTION ON DELIVERY |
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Jalapeno Corporation

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Kinder Morgan Energy Partners, LP 1301 McKinney, Ste 3450 Houston, TX 77010

TRe: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

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Chuck L. Reagan

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| SENDER: COMPLETE THIS SECTION | COMPLETE THIS SECTION ON DELIVERY |
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| so that we can return the card to you. • Attach this card to the back of the mailpiece, or on the front if space permits. | B. Received by (Printed Name) C. Date of Delivery |
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Kinder Mc 1301 McK Houston, TX 77010



Lobos Energy Partners, LLC 3817 NW Expressway, Ste 950 Oklahoma City, OK 73112

TRe: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

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Marathon Oil Company 5553 San Felipe Road Houston, TX 77036

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Chuck L. Reagan

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or on the front if space permits.

Marathon Oil Company 5553 San Felipe Road Houston, TX 77036 1. Article Addressed to:

102595-02-M-1540

□ Yes

4. Restricted Delivery? (Extra Fee)

Marathon Oil Company 5553 San Felipe Road Postage Certified Fee Feturn Receipt Fee (Endorsement Requiren) Restricted Delivery Fee (Endorsement Required) Street, Apt., or PO Box A Total Post Sent To BEhT7697 0000 OSTO

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Houston, TX 77036

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PS Form 3811, February 2004 (Transfer from service label) 2. Article Number

Marathor 5553 Sai Houston



Marico Petroleum, Inc. 105 S. 4th Street Artesia, NM 88210-2177

Re: Application of Lime Resources for administrative approval

for water disposal, Eddy County, New Mexico

Dear working interest owner:

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Chuck L. Reagan



| Sendiere complete this section | COMPLETE THIS SECTION ON DELIVERY |
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| Artesia, NM 88210-2177 | 3. Service Type |
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Postage Certified Fee Postmark

Artesia, NM 88210-2177

Marico Petroleum, Inc. 105 S. 4th Street

Marico

Artesia 105 S.



Mewbourne Oil Company 701 S. Cecil Street Hobbs, NM 88240

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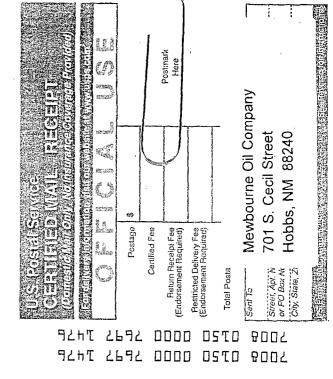
Sincerely,

Chuck L. Reagan

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| Mewbourne Oil Company | | |
| 701 S. Cecil Street Hobbs, NM 88240 | 3. Service Type | |
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701 S. Cecil Street Hobbs, NM 88240

Mewbo





August 18, 2010

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Occidental Petroleum Corporation 5 Greenway Plaza, Ste 110 Houston, TX 77096-0521

TRe: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

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| SENDER. COMPLETE THIS SECTION | COMPLETE THIS SECTION ON DELIVERY |
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| Complete items 1.2. and 3. Also complete | A. Signature |
| item 4 if Restricted Delivery is desired. | ∨ □ Agent |
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| Occidental Petroleum Corporation | |
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PS Form 3811, February 2004 5 Greenway Plaza, Ste 110 Houston, TX 77096-0521 Occident

102595-02-M-1540

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Occidental Petroleum Corporation 5 Greenway Plaza, Ste 110 Houston, TX 77096-0521 Certified Fee Return Receipt Fee (Endorsement Required) Restricted Delivery Fee (Endorsement Required) Street, Apt. N or PO Box No Total Posta 2T9T OSTO 0000 7P47 0000 OSTO 8007



August 18, 2010

CERTIFIED MAIL RETURN RECEIPT REQUESTED

RSE Partners – I, LP 3141 Hood Street, Ste 350 Dallas, TX 75219

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☐ Agent ☐ Addressee ☐ Return Receipt for Merchandise C. Date of Delivery □ Yes If YES, enter delivery address below: Express Mail 4. Restricted Delivery? (Extra Fee) B. Received by (Printed Name) ☐ Certified Mail
☐ Registered
☐ Insured Mail Service Type A. Signature × Attach this card to the back of the mailpiece, Print your name and address on the reverse ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired so that we can return the card to you. 3141 Hood Street, Ste 350 or on the front if space permits. RSE Partners - I, LP Dallas, TX 75219 1. Article Addressed to:

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Domestic Return Receipt

PS Form 3811, February 2004

(Transfer from service label)

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August 18, 2010

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Sacramento Partners, LP 105 S. 4th Street Artesia, NM 88210

Re: Application of Lime Resources for administrative approval

for water disposal, Eddy County, New Mexico

Dear working interest owner:

This letter is to advise you that Lime Rock Resources A, L.P., ("Lime Rock") has filed the enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water into its Aspen 32 State Com No. 1 Well, (API No. 30-015-34148), located 1370 feet from the South line and 1690 feet from the East line of Section 32, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. Lime Rock proposes to dispose of produced water into the Cisco formation through an initial injection interval of 8,198' - 8,790'. The initial maximum surface injection pressure proposed by Lime Rock is 1,600 pounds and the maximum daily injection rate will be 7,500 barrels of water.

If you have any questions concerning this application, you may contact Chuck L. Reagan at Lime Rock Resources, 1111 Bagby, Suite 4600, Houston, Texas 77002, telephone number (713) 292-9548.

Objection to this application or request for hearing must be filed with the Oil Conservation Division, 1220 South Francis Drive, Santa Fe, New Mexico 87505 within 15 days of the date of this letter.

Sincerely

Chuck L. Reagan



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Sacramento Partners, LP

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Sharboro Oil, Ltd 105 S. 4th Street Artesia, NM 88210

Re: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

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Sincerely,

Chuck L. Reagan



ก็จะ ซีย์ไห้รอ/สิกใจนาสเมือกที่เริ่ม จะจะพลายเล็กสังพาพายกระรอกเล็ Postmark Here Artesia, NM 88210 Sharboro Oil, Ltd 105 S. 4th Street Postage Certified Fee Return Receipt Fee (Endorsement Required) Restricted Delivery Fee (Endorsement Required) Street, Apt. No., or PO Box No. City, State, ZIP. Total Postage Sent To 5695 5695 285T 0000 OSTO 8007 0000 8007 OSTO

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Sharboi 105 S. z Artesia,



Three Rivers Acquisition, LLC 3821 Juniper Trace, Ste 107 Austin, TX 78738

Re: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

Dear working interest owner:

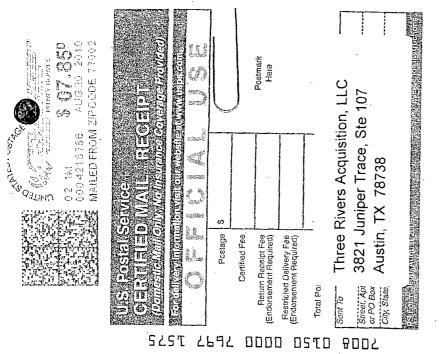
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Chuck L. Reagan



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Three Rivers Acquisition, LLC 3821 Juniper Trace, Ste 107

Austin, T.

Article Number (Transfer from service label)

PS Form 3811, February 2004 Domestic Return Receipt

102595-02-M-1540



Total E&P, USA, Inc. 1201 Louisana Street, Ste 1800 Houston, TX 77002

TRe: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

Dear Sir or Madam:

This letter is to advise you that Lime Rock Resources A, L.P., ("Lime Rock") has filed the enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water into its Aspen 32 State Com No. 1 Well, (API No. 30-015-34148), located 1370 feet from the South line and 1690 feet from the East line of Section 32, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. Lime Rock proposes to dispose of produced water into the Cisco formation through an initial injection interval of 8,198′ – 8,790′. The initial maximum surface injection pressure proposed by Lime Rock is 1,600 pounds and the maximum daily injection rate will be 7,500 barrels of water.

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Sincerely,

Chuck L. Reagan

Sr. Landman for Lime Rock Resources

Chuck L. leager



| A. Signature A. Signature A. Signature A. Signature C. Date of Delivery D. Is delivery address different from item 1? Compare the | If YES, enter delivery address below: | 3. Service Type Certified Mail Express Mail Registered Return Receipt for Merchandise Insured Mail C.O.D. 4. Restricted Delivery? (Extra Fee) | 558 | turn Receipt 102595-02-M-1540 | CONTRACTOR SHAMOS | Posterior S | Certified Fee Return Receipt Fee (Endorsement Required) | Hestricted Delivery Fee (Endorsement Required) Total Postag | Sent To Total E&P, USA, Inc. Sites, Apr. 76, 1201 Louisana Street, Ste 1800 or PO Box No. Houston, TX, 77003 |
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Houston, TX 77002

Street, Apt. No. or PO Box No. City, State, Zif



Harvey E. Yates Co. P. O. Box 1933 Roswell, NM 88201-1933

Re: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

Dear working interest owner:

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Sincerely,

Chuck L. Reagan

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August 18, 2010

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Richard Martin Yates 105 S. 4th Street Artesia, NM 88210

Re: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

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Sincerely,

Chuck L. Reagan



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Richard Martin Yates

Artesia, NM 88210 105 S. 4th Street

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Richard № 105 S. 4^{tt}



St. Clair Peyton Yates 105 S. 4th Street Artesia, NM 88210

Re: Application of Lime Resources for administrative approval

for water disposal, Eddy County, New Mexico

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Sincerely,

Chuck L. Reagan

Sr. Landman for Lime Rock Resources

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☐ Addressee C. Date of Delivery ☐ Agent N N N D. Is delivery address different from item 1? If YES, enter delivery address below: B. Received by (Printed Name) A. Signature × Attach this card to the back of the mailpiece, or on the front if space permits. Print your name and address on the reverse ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired so that we can return the card to you.

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August 18, 2010

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Yates Petroleum Co. 105 S. 4th Street Artesia, NM 88210

Re: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

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Sincerely,

Chuck L. Reagan





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Yates P 105 S. 4



August 18, 2010

CERTIFIED MAIL RETURN RECEIPT REQUESTED

G. Wilbanks Revocable Trust created by Trust Agreement 1-9-1995 2200 Scurry Big Spring, TX 79720

Re: Application of Lime Resources for administrative approval for water disposal, Eddy County, New Mexico

Dear working interest owner:

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Chuck L. Reagan



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Domestic Return Receipt

PS Form 3811, February 2004

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Big Spring, TX 79720

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created by Trust Agreement 1-9-1995

G. Wilbanks Revocable Trust

Jones, William V., EMNRD

From:

Jones, William V., EMNRD

Sent:

Friday, July 09, 2010 5:27 PM

To:

'jamesbruc@aol.com'

Cc:

Ezeanyim, Richard, EMNRD; Dade, Randy, EMNRD; Gray, Darold, EMNRD; Sanchez, Daniel

J., EMNRD

Subject:

Disposal application from Lime Rock Resources A, L.P.: Aspen 32 State Com #1

30-015-34148 Cisco Disposal interval 8198 - 8790 feet

Hello Jim:

Thank you for the application. What follows are questions after evaluation. Please pass on to Mr. Reagan?

- a. Please send an "After Conversion" wellbore diagram showing the well after it is re-entered and casing is cemented in place and the tubing size, depth, and packer setting. Please put in this diagram the planned depth of any Stage Tool in the casing and the cement volumes (sacks) and cement type both above and below this stage tool.
- b. What formations and/or Pools will be contributing water to this well? Send water analysis... Will water come from off-lease?
- c. The application referred to a well list of AOR wells, but I did not find it. It is possible that no wells in the AOR penetrated the top of the Cisco? If some did, please put in a list with cement placement data and send.
- d. The notices were sent to operators of the shallower Abo formation are the mineral rights in the Cisco also controlled by these operators?
- e. The copies of the certified receipts don't have dates on them were they sent the same date as the date on the notification letters?

Rule 5.9: Review of the web site shows one too many inactive wells at this time for the OCD to issue any disposal permits.

Please send the requested data and let me know when rule 5.9 issues are OK for Lime Rock.

Thanks again,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462



Jones, William V., EMNRD

From:

Chuck Reagan [CReagan@limerockresources.com]

Sent:

Tuesday, August 24, 2010 9:58 AM

To:

Jones, William V., EMNRD

Cc: Subject: jamesbruc@aol.com
FW: Disposal application from Lime Rock Resources A, L.P.: Aspen 32 State Com #1

30-015-34148 Cisco Disposal interval 8198 - 8790 feet

William.

I will be sending you a revised application that addresses your questions/concerns in your email dated June 9, 2010. The revised application address the following:

- a. Our engineer composed a wellbore schematic showing the "after conversion" view of the wellbore which will be enclosed in the revised application.
- b. We obtained water analysis for all of the tanks that will be contributing water to the Aspen disposal Well. The water analysis are enclosed in the revised application.
- c. Address in section VI. of revised application
- d. We researched the county clerk's and abstract records and made a determination of the working interest owners in the Cisco formation. Applications were sent certified mail to the various working interest owners. The complete listing of the working interest owners along with the date sent is shown in the revised application.
- e. The applications sent to the working interest owners show the date.

Thank you for your time and attention to this matter. Please feel free to call either Mike Pippin or myself if you have any questions or concerns.

Sincerely,

Chuck Reagan

From: jarnesbruc@aol.com [mailto:jamesbruc@aol.com]

Sent: Sunday, July 11, 2010 12:17 PM

To: Chuck Reagan

Subject: Fwd: Disposal application from Lime Rock Resources A, L.P.: Aspen 32 State Com #1 30-015-34148 Cisco

Disposal interval 8198 - 8790 feet

Chuck: Some guestions.

Jim

-----Original Message-----

From: Jones, William V., EMNRD, EMNRD < William. V. Jones@state.nm.us>

To: jamesbruc <jamesbruc@aol.com>

Cc: Ezeanyim, Richard, EMNRD, EMNRD <richard.ezeanyim@state.nm.us>; Dade, Randy, EMNRD, EMNRD

<Randy.Dade@state.nm.us>; Gray, Darold, EMNRD, EMNRD < Darold.Gray@state.nm.us>; Sanchez, Daniel J., EMNRD,

EMNRD <daniel.sanchez@state.nm.us>

Sent: Fri. Jul 9, 2010 5:27 pm

Subject: Disposal application from Lime Rock Resources A, L.P.: Aspen 32 State Com #1 30-015-34148 Cisco Disposal

interval 8198 - 8790 feet

Hello Jim:

Thank you for the application. What follows are questions after evaluation. Please pass on to Mr. Reagan?

- a. Please send an "After Conversion" wellbore diagram showing the well after it is re-entered and casing is cemented in place and the tubing size, depth, and packer setting. Please put in this diagram the planned depth of any Stage Tool in the casing and the cement volumes (sacks) and cement type both above and below this stage tool.
- b. What formations and/or Pools will be contributing water to this well? Send water analysis... Will water come from off-lease?
- c. The application referred to a well list of AOR wells, but I did not find it. It is possible that no wells in the AOR penetrated the top of the Cisco? If some did, please put in a list with cement placement data and send.
- d. The notices were sent to operators of the shallower Abo formation are the mineral rights in the Cisco also controlled by these operators?
- e. The copies of the certified receipts don't have dates on them were they sent the same date as the date on the notification letters?

Rule 5.9: Review of the web site shows one too many inactive wells at this time for the OCD to issue any disposal permits.

Please send the requested data and let me know when rule 5.9 issues are OK for Lime Rock.

Thanks again,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462



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Inactive Well List

Total Well Count: 675 Inactive Well Count: 7 Since: 6/3/2009

OK

| Printed | On: | Friday. | Ananct | 27 | 2010 |
|----------|------|---------|--------|----|-----------------------|
| FIIIICCU | O11. | iliuay, | August | ~, | Z U T U |

| District | API | Well | ULSTR | OCD Unit | OGRID | Operator | Lease Type | Well Type | Last Production | Formation/Notes | Status | TA Exp Date |
|----------|--------------|----------------------------|---------------|-------------|--------|-----------------------------------|---------------|--------------|--------------------|------------------------------------|--------|----------------|
| 2 | 30-015-26887 | AZOTEA AJZ FEDERAL #001 | E-9 -23S-24E | Ε | 255333 | LIME ROCK RESOURCES A, L.P. | F | G | 03/2008 | | | |
| 1 | 30-025-02801 | BUFFALO ARU STATE #001 | K-18-16S-35E | К | 255333 | LIME ROCK RESOURCES A, L.P. | S | G | 12/2008 | MORROW 05/13/10 SHUT IN WELL | | |
| 2 | 30-015-29567 | CHALK FEDERAL #001 | K-5 -18S-27E | K | 255333 | LIME ROCK RESOURCES A, L.P. | F | 0 | 04/2006 | SAN ANDRES | Т | 7/1/2008 |
| 1 | 30-025-01404 | DENIUS FEDERAL #004 | L-34-17S-33E | L | 255333 | LIME ROCK RESOURCES A, L.P. | F | 0 | 02/2009 | | | |
| 2 | 30-005-60942 | JESS FEDERAL #003 | 11-1 -06S-24E | 0 | 255333 | LIME ROCK RESOURCES A, L.P. | F | G | 02/2009 | | | |
| 1 | 30-025-29648 | REEVES ADQ STATE #001 | A-14-18S-35E | Α | 255333 | LIME ROCK RESOURCES A, L.P. | S | 0 | 03/2008 | STRAWN | | |
| 2 | 30-015-31193 | TRIGG FEDERAL #002 | G-26-17S-27E | G | 255333 | LIME ROCK RESOURCES A, L.P | F | 0 | 11/2007 | RED LAKE Q-G-SA | | |

WHERE Ogrid:255333, County:All, District:All, Township:All, Range:All, Section:All, Production(months):15, Excludes Wells Under ACOI, Excludes Wells in Approved TA Period

F. A = OK Iso of \$ /27/10

Jones, William V., EMNRD

From:

Richard Ghiselin [RGhiselin@limerockresources.com]

Sent:

Wednesday, September 29, 2010 2:42 PM

To:

Jones, William V., EMNRD

Subject:

RE: Lime Rock Resources - Aspen 32 State Com #1

Will,

That should be fine. Thank you for your help.

Richard

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]

Sent: Wednesday, September 29, 2010 3:38 PM

To: Richard Ghiselin

Subject: RE: Lime Rock Resources - Aspen 32 State Com #1

Richard,

Thank You...

As you know, these disposal permits are "depth specific".

I will finish this permit with those depths as the permitted depths.. Unless you quickly tell me otherwise.

Regards,

Will Jones

New Mexico Oil Conservation Division Images Contacts

From: Richard Ghiselin [mailto:RGhiselin@limerockresources.com]

Sent: Wednesday, September 29, 2010 2:01 PM

To: Jones, William V., EMNRD

Subject: Lime Rock Resources - Aspen 32 State Com #1

Will,

I response to your phone message, our intended perforations are correct on the schematic (8,151'-8,578'). I apologize for the confusion. Please let me know if you have any additional questions or concerns.

Thanks,

Richard

Richard Ghiselin

Production Engineer Lime Rock Resources 1111 Bagby Street, Suite 4600 Houston, Texas 77584 713-345-2136 [office] 281-507-0386 [mobile] rghiselin@limerockresources.com

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| | Injection Permit Checklist | (07/9/2010) | | | (1. | | |
|----------|--|-------------------------|--|------------------------|---------------------------------------|--|----------|
| | WFX PMX | SWD 1247 PR | ermit Date | UIC QI | TAS) | 1. The second se | |
| | , , | SPEN 32 | STate C | on#1 | 41/ | | |
| | API Num: 30-0 15-344 | • | te: 921 05 | | (UIC primacy March | 7, 1982) | |
| | Footages 1370 FSL /1609 | | J Sec 32 Tsp | 17.5 Rge | ZZE County | EPPY | |
| | General Location: N, L | he McMuzi | EMP | INE AB | 5 UNITO | ara | |
| | Operator: Lime Rock | Resources A | | | AUCK L. | _ | (/ |
| | OGRID 255353 RULE | 5.9 Compliance (Wells)_ | 8/875 | > 7 (Finan Assur) | (_IS 5.9 OK? | X- | 1 |
| | Well File Reviewed Current S | tatus: PEA(10) | 18/05) WSH | FRE PRO | 25 EZE. | | |
| | Planned Work to Well: | | | | | | |
| | Diagrams: Before Conversion | After Conversion E | | / | | | |
| | Well Details: | Sizes HolePipe | Setting Depths | Stage Tool | Cement Sx -or-CF | Cement Top and Determination Method | |
| | NewExisting Surface | 17/2 133/8 | 428 | | 400 | CIRC. | |
| | New_Existing Linterm | 1 | 2660 | 7 | // 00 | CIRC. | |
| | New Existing LongSt | 374 7 | 9400 | | 900 | CIRC | |
| | New_ExistingLiner_New_ExistingOpenHole | | | | | |) |
| | Depths/Formations: | Depths, Ft. | Formation | Tops? | · · · · · · · · · · · · · · · · · · · | QC56 | = 10,y |
| Pal | Tree S | 3412 | GLORIETA | | | Soot | YLA |
| Vaei | Formation(s) Above | 718,40 | (Dico) | | | | |
| | Injection TOP: | 8 31 | | | OpenHole | Perfs_ | |
| C. T. S. | Injection BOTTOM: | 9096 | - STrown | Tubing Size 3 | Packer Depth | 2100 | |
| 16423 | Formation(s) Below | 9293 | ATOKA | | | | |
| 252 | | ash?Noticed? |) [WIPP?Notice | d?] Salado | Top/Bot | Cliff House? | |
| 13° v | Fresh Water: Depths: 0—1 | Formation | Wells? | NO NE Analysi | s? Affirmative S | Statement | |
| 16, | | Sources: | *************************************** | • | | | _ |
| | Disposal Interval: Analysis? | | Tasting: | CIRC /T | atal Int | Browde will | |
| | i | (| | 1 | | 510 | <i>S</i> |
| | Notice: Newspaper Date 5/1 | V/ V | 1.1 | 1/4 | Mineral Owner(s) | 1 /- 2 | 1 |
| | RULE 26.7(A) Affected Persons: | BP/DORAL | /Marbolt/a | 100 pol | THE CIBOLE | (COG/ Jolepur | Vega |
| | AOR: Map? Well List? | Active Wells Pro | oducing in Interval? | | WhichWells? | | |
| | P&A Wells Diagrams? | Repairs OWhice | h Wells? 34148 | - | | | |
| | A | | The same of the sa | 2 (). | alon | | |
| | Questions: | و کی کی | e cirpe | - 600 N | Request Sent | Reply: | _ |