

9/23/09 DATE IN	 SUSPENSE	JW ENGINEER	9/23/09 LOGGED IN	IPF TYPE	PUNK092854040 APP NO.
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ABOVE THIS LINE FOR DIVISION USE ONLY

# NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



*Lime Rock*

*Delaware*

*30-615-35341*

KARLSBAD CORRAL SWD #1

Order: SWD-1062-A

## ADMINISTRATIVE APPLICATION CHECKLIST

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]**  
**[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]**  
**[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]

[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 - Pressure Increase - Enhanced Oil Recovery  
☐ WFX ☐ PMX ☐ SWD ☒ IPI ☐ EOR ☐ PPR

[D] Other: Specify \_\_\_\_\_

### [2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners  
 [B] ☐ Offset Operators, Leaseholders or Surface Owner  
 [C] ☐ Application is One Which Requires Published Legal Notice  
 [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

RECEIVED OOD  
SEP 23 A 11:24

### [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.

Mike Pippin Print or Type Name	 Signature	Petroleum Engineer Title	September 22, 2009 Date
		mike@pippinllc.com e-mail Address	

LIME ROCK RESOURCES, L.P.  
Mike Pippin  
3104 N. Sullivan Avenue  
Farmington, NM 87401  
505-327-4573 (phone) mike@pippinllc.com

September 22, 2009

Terry G. Wamell  
Engineer  
Oil Conservation Division  
New Mexico Department of Energy,  
Minerals and Natural Resources  
1220 South St. Francis Drive  
Santa Fe, NM 87505

**RE: Injection Pressure Increase Request**  
Administrative Order SWD-1062-A  
Karlsbad Corral SWD Well #1  
API#: 30-015-35341  
Unit Letter "J" Section 11 T25S R29E  
Eddy County, New Mexico

Dear Mr. Wamell:

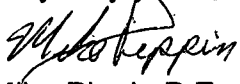
By administrative order SWD-1062-A, dated February 25, 2007, the NMOCD authorized water injection into Karlsbad Corral SWD #1 (API No. 30-015-35341) for the disposal of produced water. The order provides for a wellhead injection pressure of "no more than 640 psi". Lime Rock believes that this maximum pressure of 640 psi is significantly below the formation frac pressure.

On 9/1/09, a step rate test was run to determine the actual formation frac pressure. The bottom hole pressure curve versus rate shows a change in slope at 2497 psi (984 psi surface), which indicates that the formation frac pressure was exceeded at that point. Therefore, the actual formation frac pressure is 2497 psi at bottom hole and 984 psi at the surface.

Lime Rock Resources therefore requests that the maximum wellhead injection pressure be increased to at least 950 psi. A summary of the step rate test data is attached along with a diskette, which includes the detailed data.

Please contact me at 505-327-4573 should you have any questions.

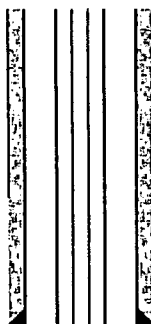
Very truly yours,

  
Mike Pippin P.E.  
Petroleum Engineer

Enclosures

$3280 \times .29 = 950$

$3652 \times .2 =$



9-5/8", 36#, J-55, ST&C Surface Casing @ 766'

TOC @ 800' (by CBL)

Elevation: 3,093' GL	
Date Spud: 01/31/07	
Date TD'd: 02/08/07	
Date Completed: 02/27/07	
<u>Zone</u>	<u>Frac</u>
Bell Canyon (3,280-604')	57,000 gals x-linked gel w/ 95,000# 16-30 sand
Bell Canyon (3,280-604')	5,000 gals 15% HCl
Bell Canyon (3,652-821')	57,000 gals x-linked gel w/ 87,000# 16-30 sand
Bell Canyon (3,652-821')	4,700 gals 15% HCl
<u>Recompletions &amp; Workovers</u>	
<u>Date</u>	
08/28/07	Pulled tubing and perforated/fraced additional Bell Canyon intervals (3,280-604'). Reran tubing.
<u>Current Status:</u>	
<u>Last Well Test:</u>	

2-7/8", 6.4#, J-55 IC Tubing w/ 1.875" ID on-off tool

Arrow AS-1 Packer @ 3,234'

Bell Canyon Perfs (added in Aug 2007): 3,280-92'; 3,315-59'; 3,406-46'; 3,499-07' & 3,530-04'

Bell Canyon Perfs (original): 3,652-82'; 3,711-19'; 3,753-57'; 3,784-16'; 3,832-74' & 3,881-21'

*April 07*

PBTD @ 3,950'

5-1/2", 17#, N-80, LT&C, Casing @ 3,993'

TD @ 4,000'

*3280-3921*

*3921*

**Lime Rock Resources  
Karlsbad Corral SWD 1  
Sec 11-25S-29E  
Eddy County, NM  
Updated: 11 Aug 2009 SJH**

## Step Rate Test



### Cardinal Surveys Company

September 1, 2009

Lime Rock Resources  
Karlsbad Corral SWD # 1  
Field:  
Eddy County, New Mexico  
SC 58484  
File # 19529

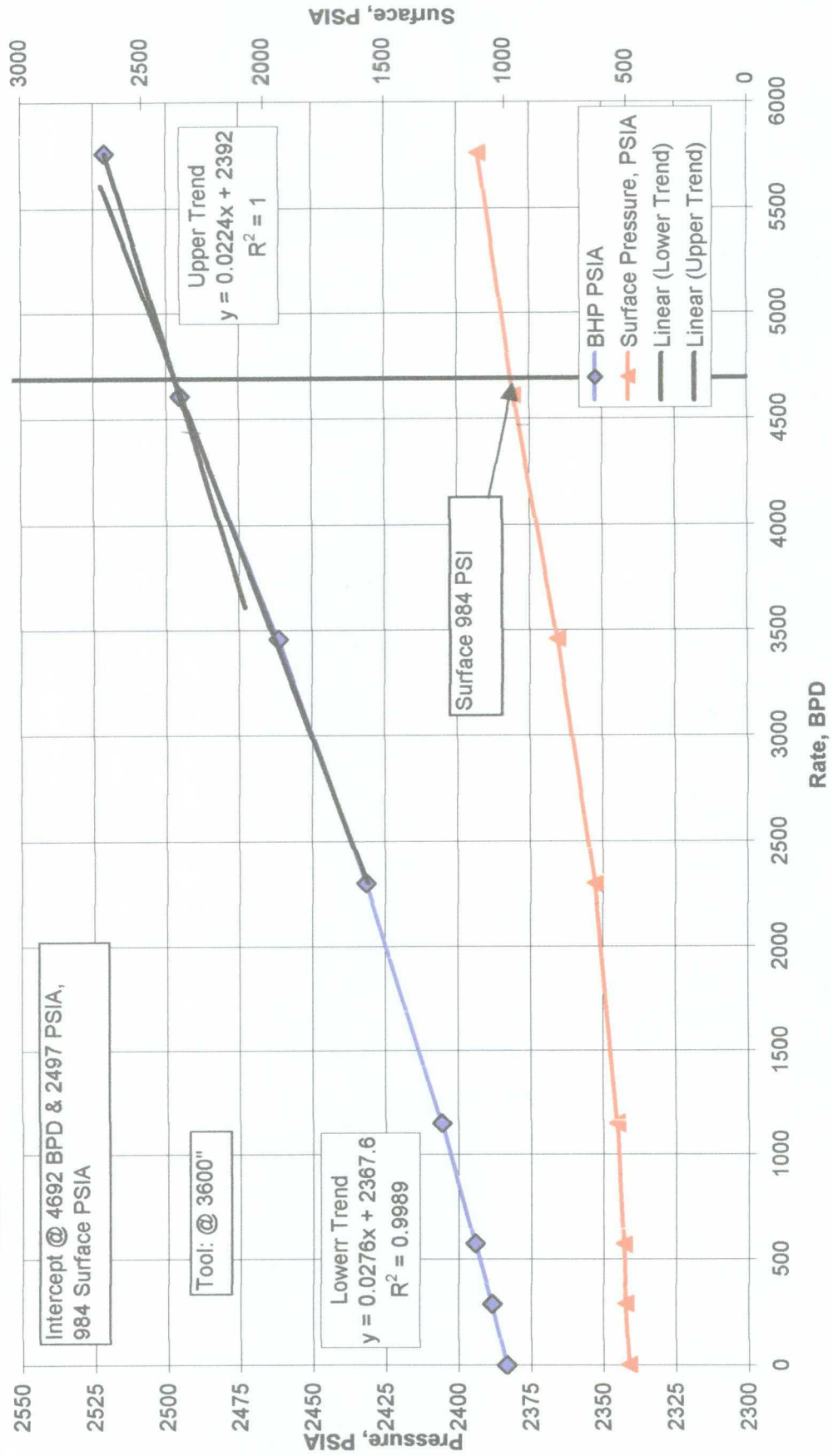
Intercept @ 4692 BPD  
& 2497 PSIA, 984  
Surface PSIA

Downhole PSI Tool Ser. No.  
Surface PSI Gauge Ser. No.  
Tool @ 3600'

Start Time	End Time	Rate BPD	Comments
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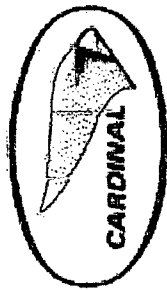


# Lime Rock Resources Karlsbad Corral SWD # 1 Step Rate Test 09-01-2009



# Step Rate Test

Lime Rock Resources  
Karlsbad Corral SWD # 1  
Field:  
Eddy County, New Mexico



	S Time	E Time	D Time	Last Rate	Step B. H. Pressure	Surf	Cum	Delta	Avg.	Lower	Upper
			Min	BPD	PSIA	PSIA	BBL	BBL	BPD	Trend	Trend
1	8:59 AM	9:15 AM	16	0	0	494.5	0	0.00	0		
2	9:15 AM	10:15 AM	60	288	2388.4	509.1	13.1	13.10	314		
3	10:15 AM	11:15 AM	60	576	2394.3	517.9	37.3	24.20	581		
4	11:15 AM	12:15 PM	60	1152	2405.6	543.1	85.1	47.80	1147		
5	12:15 PM	1:15 PM	60	2304	2431.7	635	182.8	97.70	2395	2431.7	
6	1:15 PM	2:15 PM	60	3456	2461.6	787.4	308.1	125.30	1325	2461.6	
7	2:15 PM	3:15 PM	60	4608	2495.2	964.4	505.2	197.10	4730	2495.2	
8	3:15 PM	4:15 PM	60	5760	2521	1109.4	740.3	235.10	5642	2495.2	2495.2
10	4:15 PM	4:20 PM	5	0	2499.6	617	740.3	0.00	0		
11	4:20 PM	4:25 PM	5	0	2496.6	614	740.3	0.00	0		
12	4:25 PM	4:30 PM	5	0	2492.8	610	740.3	0.00	0		

0.0276 2367.6  
0.0224 2392

int point: 4692.3077 BPD  
2497.1077 Psia



Lime Rock Resources Karlsbad Corral SWD # 1  
Step Rate Test 09-01-2009

