

DATE IN 4-15-10	SUSPENSE	ENGINEER TW	LOGGED IN 7-15-10	TYPE IPI	APP NO. 10 10541942
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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



Beach Exp.
(1903)
7 wells -

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]

IPI-368

[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 _____

R-12833

WFX-851

curver/
1000 PSZ

[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

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[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.

James Bruce
Print or Type Name

James Bruce
Signature

Attorney for Applicant
Title Date

10/5/09

jamesbruc@aol.com
e-mail Address

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruc@aol.com

October 5, 2009

Mark E. Fesmire, P.E.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Eastland Queen Unit

Dear Mr. Fesmire:

Pursuant to Ordering Paragraph 17 in Order No. R-12833, Beach Exploration, Inc. requests an injection pressure increase in certain wells in the above unit. A letter from Mr. Jack Rose, Beach's engineer, explaining the request, is attached hereto as Exhibit A. Beach has notified offset operators of this request, as shown on Exhibit B.

Very truly yours,



James Bruce

Attorney for Beach Exploration, Inc.

September 22, 2009

EXHIBIT

A

Mr. William Jones
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

RE: Request for increased injection pressure on select wells
Eastland Queen Unit (Order R-12833)✓
Eddy County, New Mexico

Dear Mr. Jones:

Beach Exploration Inc. respectfully requests administrative approval to increase the surface injection pressure on seven wells in the Eastland Queen Unit.

R-

Beach estimates that to reach peak oil response in this project that a fill-up volume of 1,195,000 barrels of water will have to be injected. In our Unit hearing (Case #'s 13972 & 13973), we estimated that this volume could be reached in thirty months by injecting an estimated 1,300 barrels of water per day. After five months, we have injected 136,000 barrels of water and are only injecting about 700 barrels of water per day. At this rate we will reach fill-up and corresponding peak oil response in over four years versus an original projection of two and one-half years. This will significantly impact our economics.

Beach is currently focused on increasing water injection. We have run step-rate-tests on seven unit wells that fracture above the current authorized pressure of 1,000 psi. The results of those tests are summarized below and the individual step-rate-tests are enclosed for your review.

Beach would like to inject up to, but not beyond, surface fracture pressure in these wells. The technical literature indicates that when fracture gradients approach overburden pressure (1 psi/ft) that fracture planes occur horizontally versus vertically. With our fracture gradient averaging 0.97 psi/ft (normal frac gradients are 0.7 psi/ft) it is very probable that induced fractures in the Queen will be horizontal and will not pose a threat to other zones. In addition, these horizontal fractures in the water-flood interval would allow water to bypass a significant amount of oil and would be extremely detrimental to our flood results. Fracturing is a function of pressure and cumulative volume injected. We are able to detect fracturing through the use of Hall plots. These plots are prepared and monitored monthly on each of our injection wells and, if we see any evidence of fracturing, the injection pressure is reduced to prevent the fracture growth.

X

30-015

Eddy

Eastland Queen Unit Step-Rate-Tests

Well #	Date	Surface Frac Press (psi)	Bottom Hole Frac Press (psi)	Top perft	Mid Perf	Frac-Gradient (PSI / FT)
27830 - EQU # 1	9-Sep-2009	1,100	2,100	2306	2,324	0.90
24911 - EQU # 2	8-Sep-2009	1,150	2,160	2328	2,349	0.92
25794 - EQU # 4	8-Sep-2009	1,240	2,280	2398	2,408	0.95
26444 - EQU # 8	9-Sep-2009	1,380	2,360	2344	2,269	1.04
26235 - EQU # 23	24-Apr-2009	1,025	1,975	2216	2,227	0.89
26095 - EQU # 24	23-Apr-2009	1,500	2,470	2229	2,238	1.10
61120 - EQU # 26	24-Apr-2009	1,300	2,290	2268	2,285	1.00
Avg		1,275			Avg	0.97

Handwritten notes and signatures at the bottom of the page.

Thank you for your consideration. If you have any questions please call me at (432) 683-6226.

Yours truly,

Jack M. Rose, Engineer
Beach Exploration, Inc.

JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
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(505) 982-2151 (Fax)

jamesbruc@aol.com

October 5, 2009

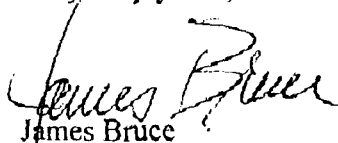
CERTIFIED MAIL – RETURN RECEIPT REQUESTED

To: Persons on Exhibit A

Ladies and gentlemen:

Enclosed is a copy of an application to increase injection pressures in the Eastland Queen Unit, filed with the New Mexico Oil Conservation Division by Beach Exploration, Inc. The Eastland Queen Unit covers parts of Sections 1, 2, and 11, Township 19 South, Range 29 East, N.M.P.M., Eddy County, New Mexico. If you object to the hearing, you must notify the Division (1220 South St. Francis Drive, Santa Fe, New Mexico 87505) within 15 days of the date of receipt of this letter. Failure to appear will preclude you from contesting this matter at a later date.

Very truly yours,


James Bruce

Attorney for Beach Exploration, Inc.

EXHIBIT

B

EXHIBIT A

Offset operators:

MYCO Industries, Inc.
P.O. Box 840
Artesia, New Mexico 88211

Mewbourne Oil Company
Suite 1020
500 West, Texas
Midland, Texas 79701

JKM Energy, LLC
26 East Compress Road
Artesia, New Mexico 88210

Chisos, Ltd.
670 S.W. Dona Ana Road
Deming, New Mexico 88030

H. Dwayne & Rhonda K. Parish
1306 South Ninth Street
Artesia, New Mexico 88210

Jim Pierce
Suite 859
200 West First Street
Roswell, New Mexico 88203

Robinson Oil, Inc.
P.O. Box 1829
Eunice, New Mexico 88231

Edge Petroleum Operating Company, Inc.
Suite 2000
1301 Travis
Houston, Texas 77002

Chi Operating, Inc.
P.O. Box 1799
Midland, Texas 79702

Bold Energy, LP
Suite 500
415 W. Wall
Midland, TX 79701

Morexco, Inc.
PO Box 1591
Roswell, NM 88202-1591

Zimmerman Oil & Gas Exploration, Inc.
2009 South Main Street
Lovington, NM 88260

JAMES BRUCE
ATTORNEY AT LAW

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SANTA FE, NEW MEXICO 87504

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SANTA FE, NEW MEXICO 87501

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jamesbruc@aol.com

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April 13, 2010

Tony -

I had filed the enclosed application last fall,
but Beach tells me the Division hadn't
received it. I dug up my old file and
found it, so I ask the Division to consider it.

Jim

Beach Exploration, Inc.

Eastland Queen Unit

Eddy County, New Mexico

April 16, 2010

Administrative Injection Pressure Increase

Well Information - Step Rate Wells

<u>UNIT DESIGNATION</u>	<u>PERFORATIONS</u>	<u>FOOTAGE</u>	<u>SEC-UNIT</u>	<u>TWP</u>	<u>RNG</u>	<u>API</u>
EQU # 1	2,306' - 2,341'	990' FNL 990' FWL	1-D	19S	29E	30-015-25655
EQU # 2	2,328' - 2,370'	660' FNL 1,980' FWL	1-C	19S	29E	30-015-24911
EQU # 4	2,398' - 2,418'	330' FNL 990' FEL	1-A	19S	29E	30-015-25794
EQU # 8	2,244' - 2,294'	2,310' FNL 330' FEL	2-H	19S	29E	30-015-26444
EQU #23	2,216' - 2,237'	990' FNL 990' FWL	11-D	19S	29E	30-015-26235
EQU #24	2,229' - 2,247'	330' FNL 2,310' FWL	11-C	19S	29E	30-015-26095
EQU #26	2,268' - 2,301'	330' FNL 990' FEL	11-A	19S	29E	30-015-26120

Beach Exploration, Inc.

Eastland Queen Unit

Eddy County, New Mexico

April 16, 2010

Administrative Injection Pressure Increase

Well Information - Step Rate Wells

<u>UNIT DESIGNATION</u>	<u>PERFORATIONS</u>	<u>FOOTAGE</u>	<u>SEC-UNIT</u>	<u>TWP</u>	<u>RNG</u>	<u>API</u>
EQU # 1	2,306' - 2,341'	990' FNL 990' FWL	1-D	19S	29E	30-015-25655
EQU # 2	2,328' - 2,370'	660' FNL 1,980' FWL	1-C	19S	29E	30-015-24911
EQU # 4	2,398' - 2,418'	330' FNL 990' FEL	1-A	19S	29E	30-015-25794
EQU # 8	2,244' - 2,294'	2,310' FNL 330' FEL	2-H	19S	29E	30-015-26444
EQU #23	2,216' - 2,237	990' FNL 990' FWL	11-D	19S	29E	30-015-26235
EQU #24	2,229' - 2,247'	330' FNL 2,310' FWL	11-C	19S	29E	30-015-26095
EQU #26	2,268' - 2,301'	330' FNL 990' FEL	11-A	19S	29E	30-015-26120

STEP RATE TEST

EQU #1

9/9/2009

Perforations

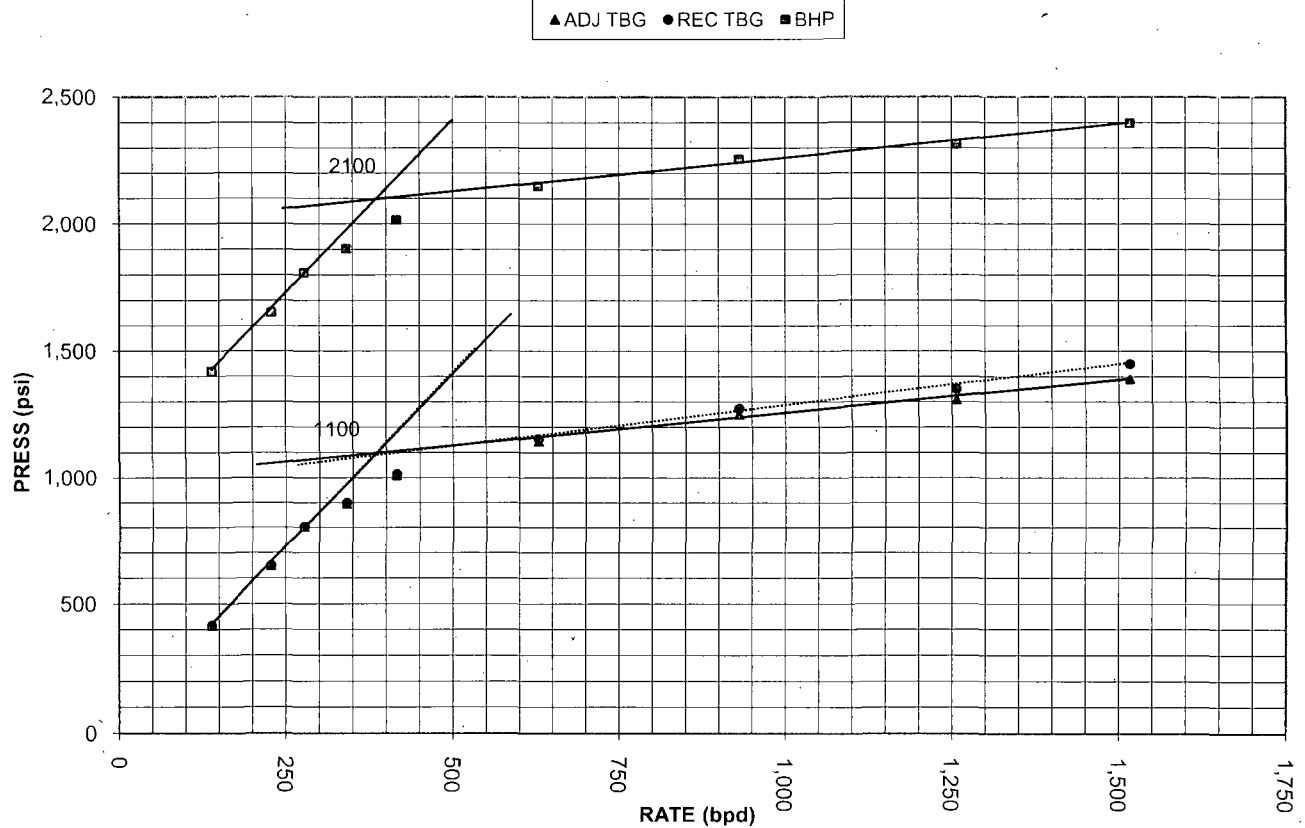
Top
2306

Bot
2341

2246 Packer Depth
2324 Mid Perf

SITP 50 psi

MIN	REC TBG PRESS	REC RATE BPD	CUM BBL PUMP	15 MIN AVG BPD	REC TBG PRESS	RATE GPM	FRICT LOSS PSI	ADJ TBG PRESS	CALC BHP
5	250	140							
10	350	138							
15	415	139	1.45	139	415	4.1	0.7	414	1,421
20	525	221							
25	590	259							
30	650	228	3.83	228	650	6.7	1.8	648	1,655
35	730	297							
40	760	274							
45	805	277	6.72	277	805	8.1	2.6	802	1,809
50	830	322							
55	880	336							
60	900	340	10.27	341	900	9.9	3.7	896	1,903
65	950	397							
70	980	413							
75	1,015	415	14.60	416	1,015	12.1	5.4	1,010	2,016
80	1,100	660							
85	1,130	620							
90	1,155	629	21.15	629	1,155	18.3	11.6	1,143	2,150
95	1,240	881							
100	1,250	917							
105	1,275	931	30.85	931	1,275	27.2	24.0	1,251	2,257
110	1,325	1,252							
115	1,325	1,260							
120	1,350	1,257	43.95	1,258	1,350	36.7	41.8	1,308	2,314
125	1,420	1,483							
130	1,450	1,504							
135	1,450	1,517	59.75	1,517	1,450	44.2	59.1	1,391	2,397



EQU #1 Step Rate Test

STEP RATE TEST

EQU #2

9/8/2009

Perforations

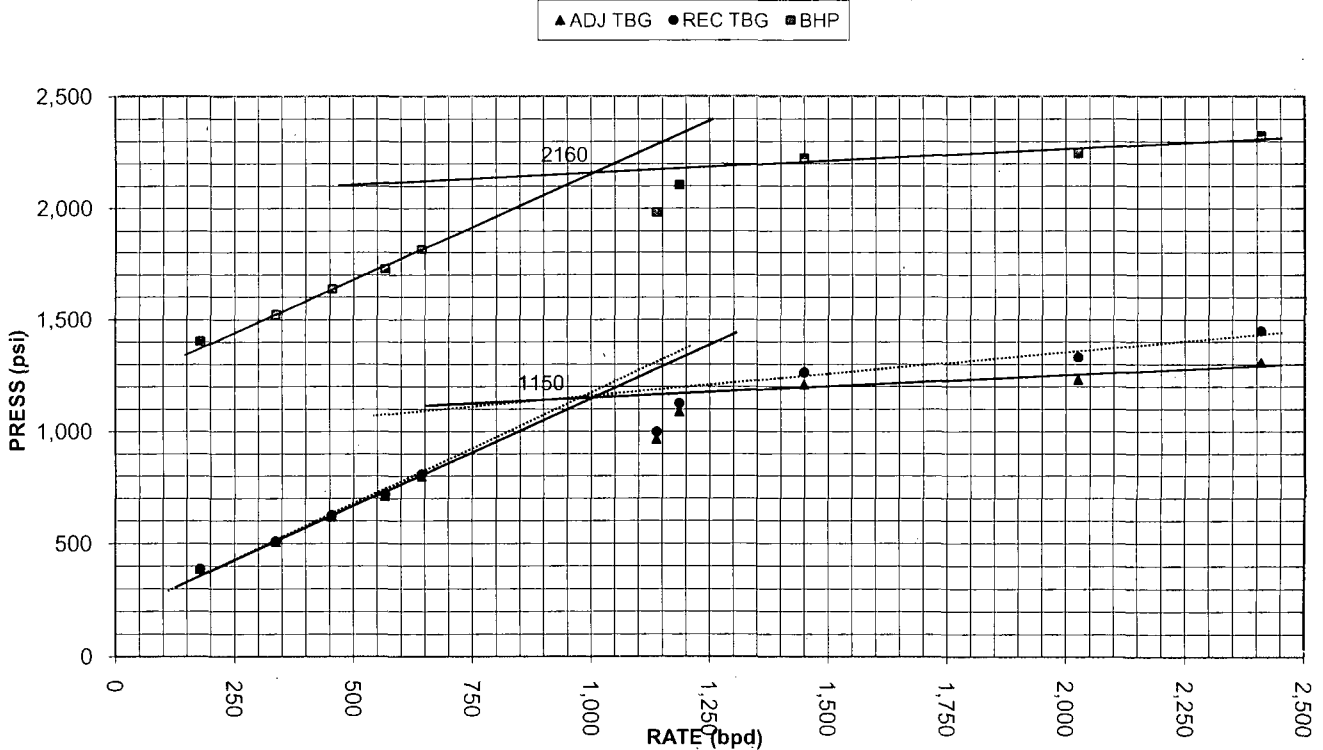
Top
2328

Bot
2370

2287 Packer Depth
2349 Mid Perf

SITP 205 psi

MIN	REC TBG PRESS	REC RATE BPD	CUM BBL PUMP	15 MIN AVG BPD	REC TBG PRESS	RATE GPM	FRICT LOSS PSI	ADJ TBG PRESS	CALC BHP
5	325	176							
10	365	180							
15	388	178	1.85	178	388	5.2	1.1	387	1,404
20	425	340							
25	475	341							
30	510	337	5.36	337	510	9.8	3.7	506	1,523
35	575	480							
40	600	475							
45	625	455	10.10	455	625	13.3	6.5	619	1,636
50	650	576							
55	725	576							
60	720	566	16.00	566	720	16.5	9.7	710	1,727
65	725	785							
70	765	650							
75	810	643	22.70	643	810	18.8	12.3	798	1,815
80	900	1,094							
85	925	1,143							
90	1,000	1,138	34.55	1,138	1,000	33.2	35.4	965	1,982
95	1,050	1,224							
100	1,100	1,206							
105	1,125	1,186	46.90	1,186	1,125	34.6	38.2	1,087	2,104
110	1,175	1,425							
115	1,225	1,440							
120	1,263	1,450	62.00	1,450	1,263	42.3	55.4	1,208	2,225
125	1,320	2,045							
130	1,325	2,045							
135	1,332	2,025	83.10	2,026	1,332	59.1	102.8	1,229	2,246
140	1,400	2,419							
145	1,425	2,405							
150	1,450	2,410	108.20	2,410	1,450	70.3	141.8	1,308	2,325



EQU #2 Step Rate Test

STEP RATE TEST

EQU #4

9/8/2009

Perforations

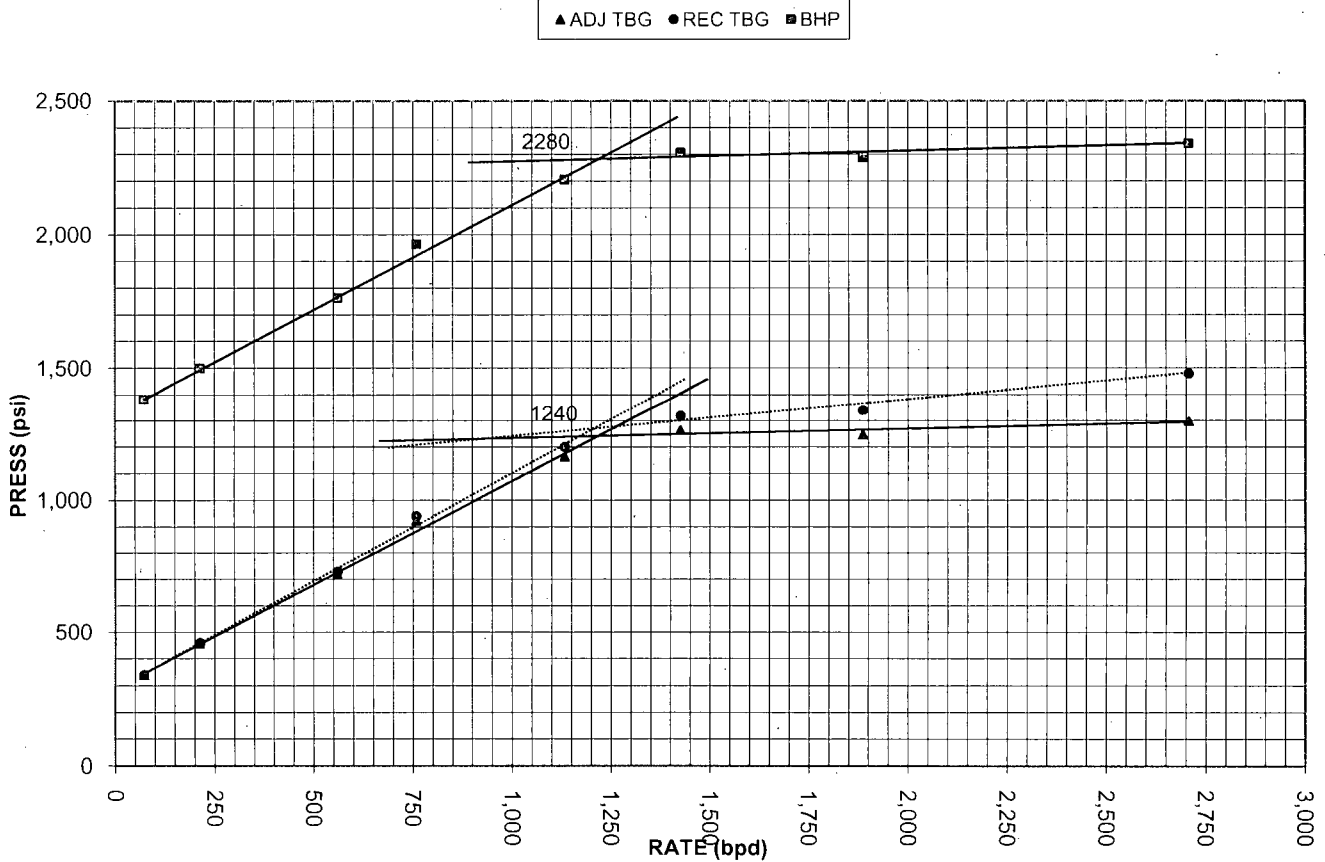
Top
2398

Bot
2418

2359 Packer Depth
2408 Mid Perf

SITP 200 psi

MIN	REC TBG PRESS	REC RATE BPD	CUM BBL PUMP	15 MIN AVG BPD	REC TBG PRESS	RATE GPM	FRICT LOSS PSI	ADJ TBG PRESS	CALC BHP
5	280	170							
10	310	150							
15	340	135	0.75	72	340	2.1	0.2	340	1,382
20	400	330							
25	440	288							
30	460	213	2.97	213	460	6.2	1.6	458	1,501
35	580	527							
40	640	558							
45	730	560	8.80	560	730	16.3	9.8	720	1,763
50	850	785							
55	890	777							
60	940	758	16.70	758	940	22.1	17.2	923	1,965
65	1,080	1,110							
70	1,150	1,123							
75	1,200	1,132	28.50	1,133	1,200	33.0	36.2	1,164	2,206
80	1,280	1,411							
85	1,300	1,425							
90	1,320	1,425	43.35	1,426	1,320	41.6	55.4	1,265	2,307
95	1,320	1,915							
100	1,310	1,894							
105	1,340	1,886	63.00	1,886	1,340	55.0	93.0	1,247	2,290
110	1,420	2,362							
113	1,480	2,256	77.10	2,707	1,480	79.0	181.4	1,299	2,341



EQU #4 Step Rate Test

STEP RATE TEST

EQU #8

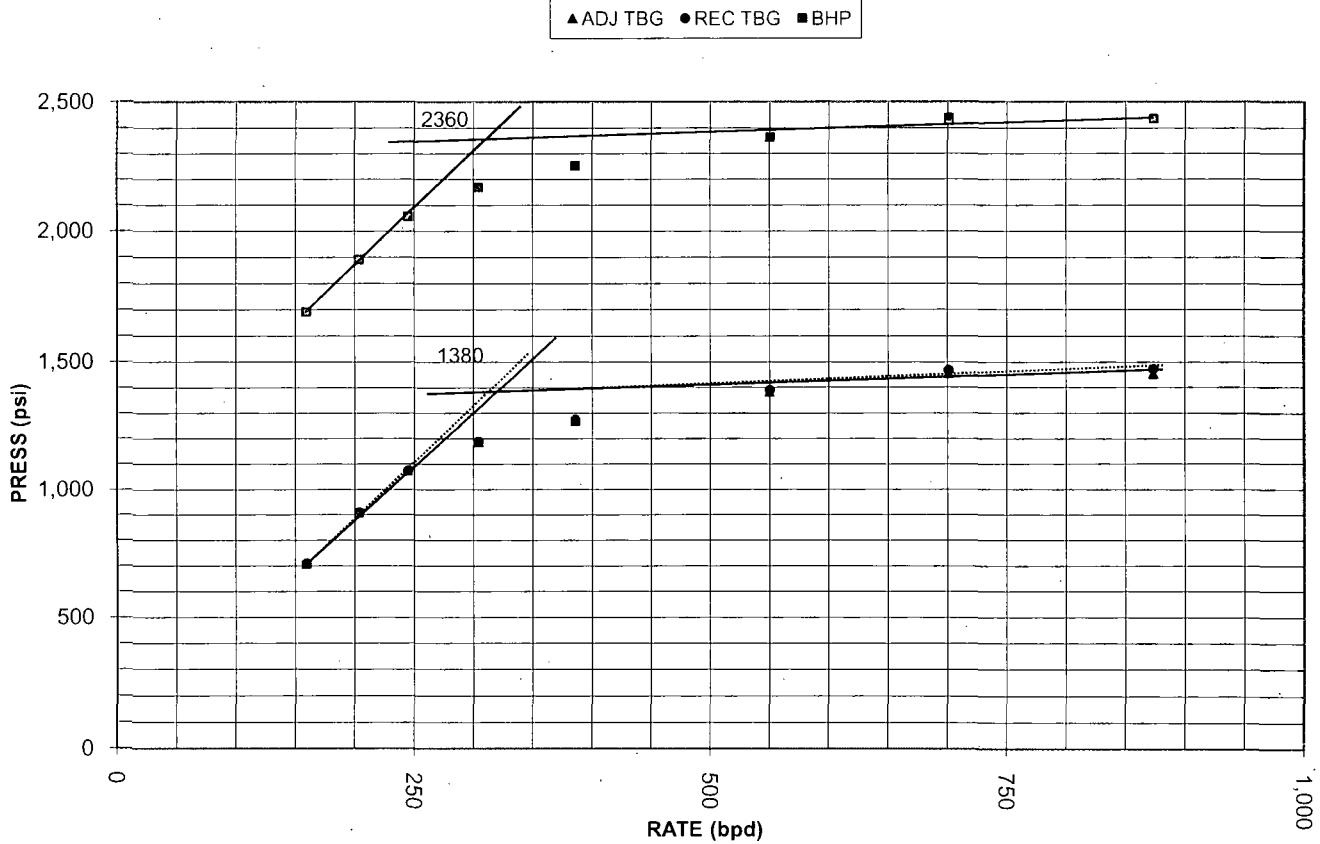
9/9/2009

Perforations Top Bot
2244 2294

2218 Packer Depth
2269 Mid Perf

SITP 250 psi

MIN	REC TBG PRESS	REC RATE BPD	CUM BBL PUMP	15 MIN AVG BPD	REC TBG PRESS	RATE GPM	FRICT LOSS PSI	ADJ TBG PRESS	CALC BHP
5	500	163							
10	635	160							
15	710	160	1.66	159	710	4.6	0.9	709	1,692
20	775	201							
25	870	203							
30	910	203	3.78	204	910	5.9	1.4	909	1,891
35	975	233							
40	1,050	240							
45	1,075	244	6.33	245	1,075	7.1	2.0	1,073	2,055
50	1,125	290							
55	1,135	299							
60	1,190	304	9.50	304	1,190	8.9	3.0	1,187	2,169
65	1,225	374							
70	1,260	384							
75	1,275	385	13.52	386	1,275	11.3	4.6	1,270	2,253
80	1,350	540							
85	1,350	544							
90	1,390	550	19.25	550	1,390	16.0	8.9	1,381	2,364
95	1,450	676							
100	1,480	696							
105	1,470	700	26.55	701	1,470	20.4	14.0	1,456	2,438
110	1,480	858							
115	1,500	871							
120	1,475	873	35.65	874	1,475	25.5	21.0	1,454	2,436



EQU #8 Step Rate Test

STEP RATE TEST

EQU #23

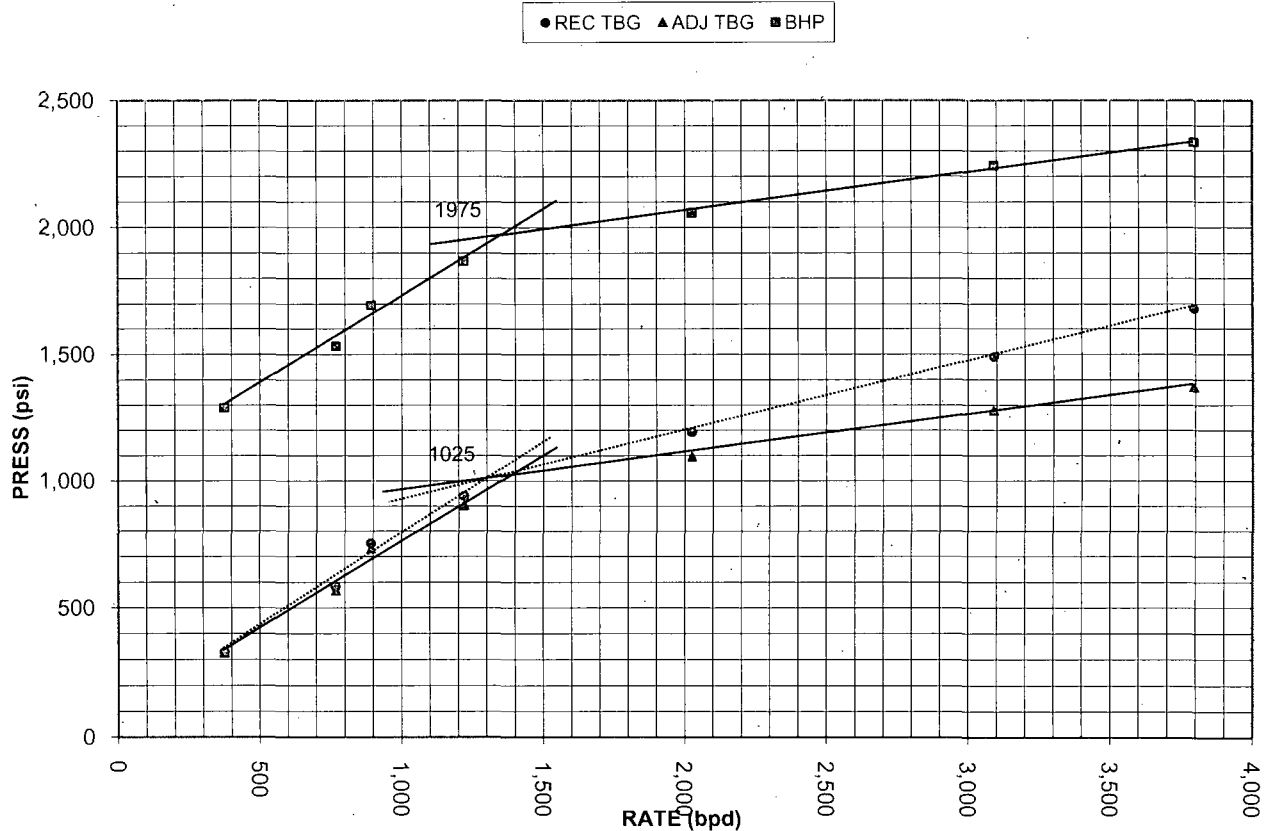
4/24/2009

Perforations Top Bot
2216 2237

2162 Packer Depth
2227 Mid Perf

SITP 0

MIN	REC TBG PRESS	REC RATE BPD	CUM BBL PUMP	15 MIN AVG BPD	REC TBG PRESS	RATE GPM	FRICT LOSS PSI	ADJ TBG PRESS	CALC BHP
0	210	380							
5	260	372							
10	290	372							
15	330	372	3.9	374	330	10.9	4.3	326	1,290
20	455	760							
25	530	760							
30	584	760	11.9	768	584	22.4	16.2	568	1,532
35	680	910							
40	715	910							
45	753	910	21.2	893	753	26.0	21.4	732	1,696
50	830	1,230							
55	905	1,230							
60	941	1,230	33.9	1,219	941	35.6	38.0	903	1,867
65	1,150	2,025							
70	1,168	2,025							
75	1,192	2,025	54.3	2,025	1,192	59.1	97.2	1,095	2,059
80	1,420	3,110							
85	1,471	3,090							
90	1,491	3,090	85.7	3,090	1,491	90.1	212.3	1,279	2,243
95	1,679	3,794							
100	1,682	3,794							
105	1,681	3,794	124.2	3,794	1,681	110.7	310.4	1,371	2,335



EQU #23 Step Rate Test

EQU #24

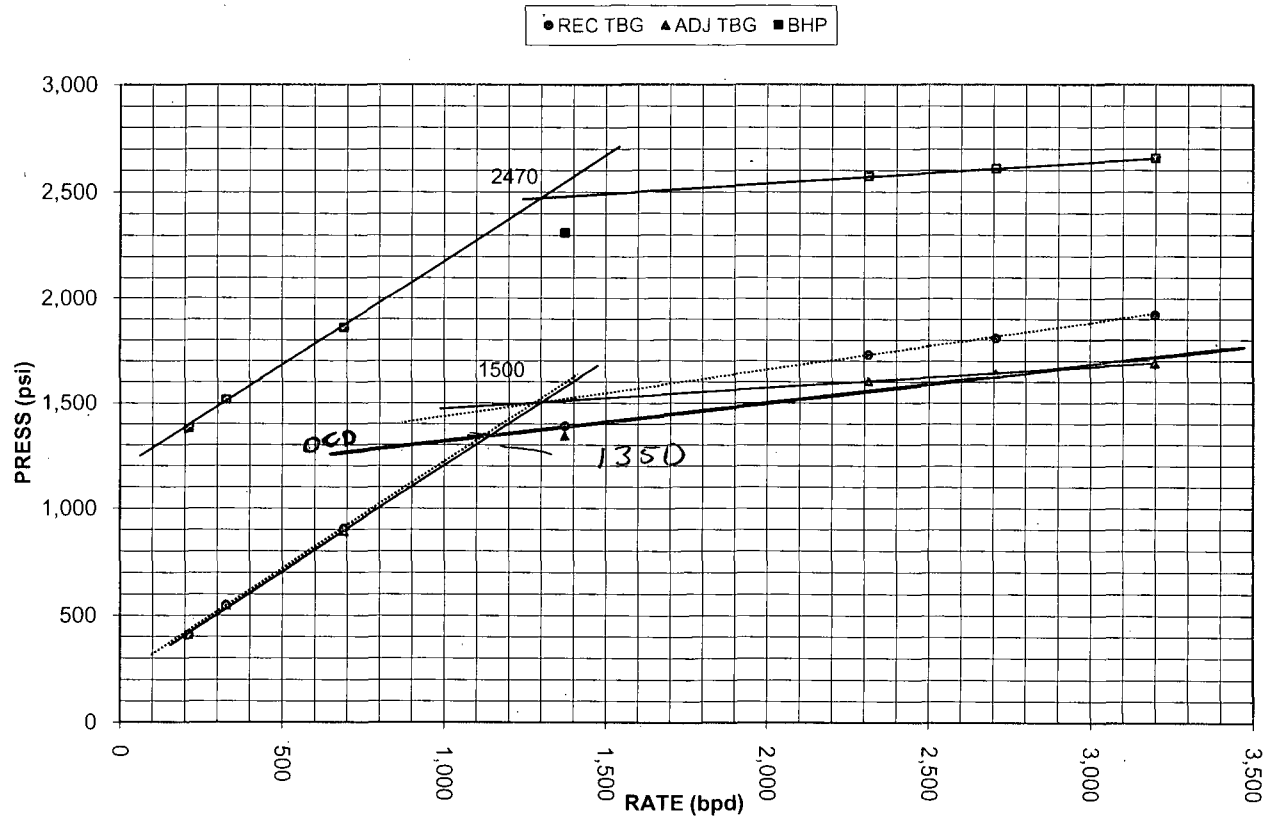
4/23/2009

Perforations

<u>Top</u>	<u>Bot</u>
2229	2247

2208 Packer Depth
2238 Mid Perf

SITP 50

[illegible]

EQU #24 Step Rate Test

4/24/2009

[illegible]