IPI-386 PTGW

DATE IN 11.29.10	SUSPENSE	ENGINEER TW	LOGGED IN 11.29.10	TYPE IPI	APP NO. 1033328918

ABOVE THIS LINE FOR DIVISION USE ONLY

BOPCO 260737

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

Golden Fed. #1 D

ADMINISTRATIVE APPLICATION CHECKLIST 30-015-27794

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]

17 21S 29E

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

R-10215-✓ Oct 12, 1994 850PSI Waiting for SWD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

PMX-208✓

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☑ SWD ☒ IPI ☐ EOR ☐ PPR

[D] Other: Specify Request pressure increase due to SRT Pool (96100) SWD

[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

- 1150PSI - 4224' 4208' - 4282' perfs.

[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 South Golden Lane Pressure Maintenance Project

[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.

Carlos Cruz	Carlos Cruz	Div. Prod. Supt.	11/24/2010
Print or Type Name	Signature	Title	Date

CCruz@basspet.com
e-mail Address

Warnell, Terry G, EMNRD

From: Warnell, Terry G, EMNRD
Sent: Wednesday, November 24, 2010 11:54 AM
To: 'Cruz, Carlos'
Subject: RE: BOPCO, L.P.....Golden D Federal #1.....request for surface pressure increase on SWD well

Going to need a signed application
http://www.emnrd.state.nm.us/OCD/documents/admnapp.pdf

From: Cruz, Carlos [mailto:ccruz@BassPet.Com]
Sent: Wednesday, November 24, 2010 9:24 AM
To: Warnell, Terry G, EMNRD
Cc: Jones, William V., EMNRD; Truax, Valerie L.
Subject: BOPCO, L.P.....Golden D Federal #1.....request for surface pressure increase on SWD well

Terry,

I have attached a letter requesting a surface pressure increase on the Golden D Federal #1 SWD well; Eddy County, New Mexico. Also attached is the step rate test data and WBD for the captioned well. If you need additional information or if you have any questions please let me know.

Thank You,

Carlos Cruz
BOPCo, L.P.
Division Production Superintendent
(432)683-2277 office
(432)238-9443 cell

BOPCO, L.P.
P. O. BOX 2760
MIDLAND, TEXAS 79702

November 24, 2010

TO: TERRY WARNELL

FROM: CARLOS CRUZ

RE: REQUEST FOR MAXIMUM ALLOWABLE SURFACE PRESSURE INCREASE
GOLDEN "D" FEDERAL #1
SOUTH GOLDEN LANE (DELAWARE)
EDDY COUNTY, NEW MEXICO

Dear Sirs:

BOPCO, L.P. would like to make a formal request to increase the maximum allowable surface injection pressure from 842 psi to 1,150 psi for the Golden "D" Federal #1 disposal well.

The Golden "D" Federal #1 (API 30-015-27294) is located 1980 feet from the West line and 495 feet from the North line, Unit C of Section 17, Township 21 South, Range 29 East, Eddy County, New Mexico. On 11/22/2010 the well was disposing of approximately 325 bbls of water per day at a surface pressure of 840 psi.

As more of our new drills are put on production and our established wells produce more water it becomes paramount that our SWD operations are optimized. Ensuring the greatest volume of water is being disposed of while still remaining under the formation fracture pressure.

Findings from the 11/22/2010 Step Rate Test indicate that 1,287 psi is in fact the formation fracture pressure. It is therefore requested that 1,150 psi be utilized as the surface injection pressure. 1,030 psi is 80% of the formation fracture pressure and is typically requested; however, as indicated by the SRT 1,150 psi is still safely below fracture pressure and would allow for a considerably greater injection volume. Disposing at 1,030 psi would allow for approximately 983 bbls of water disposed per day as seen when interpolating the given SRT data, where as using the requested 1,150 psi injection pressure approximately 1,370 bbls/day could be disposed of. Given current disposal rates this would be an approximate disposal increase of 1,045 bbls/day. Although not eliminating disposal issues the requested pressure amendments would assist in alleviating our water disposal predicament.

We appreciate your time and consideration in the above matters and hope our findings are adequate to warrant the requested pressure amendments.

Along with this letter please find the following attachments:

- Step Rate Test
- Surface Pressure Chart
- Up-to-date Wellbore Diagram
- Copy of the disposal permit

Carlos Cruz

CURRENT WELLBORE DIAGRAM

Lease: GOLDEN "D" FEDERAL **Well No.:** 1
Field: South Golden Lane (Delaware)
Location: 1980' FWL & 495' FNL, Sec 17, T21S, R29E, Unit C
County: Eddy **St:** NM **API:** 30-015-27294

KB: 3378
GL: 3361
Spud Date: 6/14/1993
Compl. Date: 8/4/1993

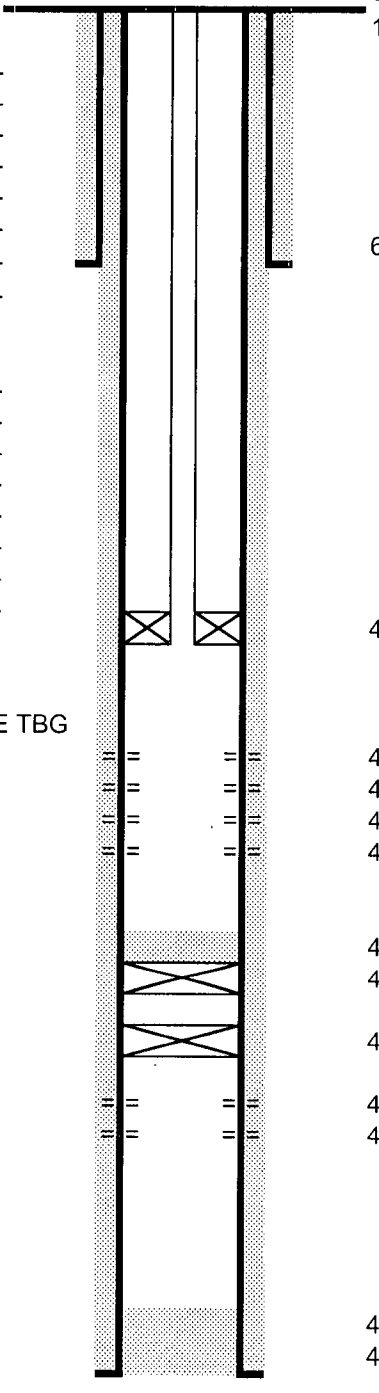
Surface Csg.

Size:	9 5/8"
Wt	36#
Grd	K-55
Set @:	665'
Sxs cmt:	400 sx Cls "C"
Circ:	Y
TOC:	Surface
Hole Size:	12 1/4"

Production Csg.

Size:	5 1/2"
Wt	14#
Grd	K-55
Set @:	4550'
Sxs Cmt:	1370 sx Cls "C"
Circ:	Y
TOC:	Surface
Hole Size:	8 3/4"

Tubing
130 JTS 2 7/8" 6.5# J-55 SEAL-TITE TBG



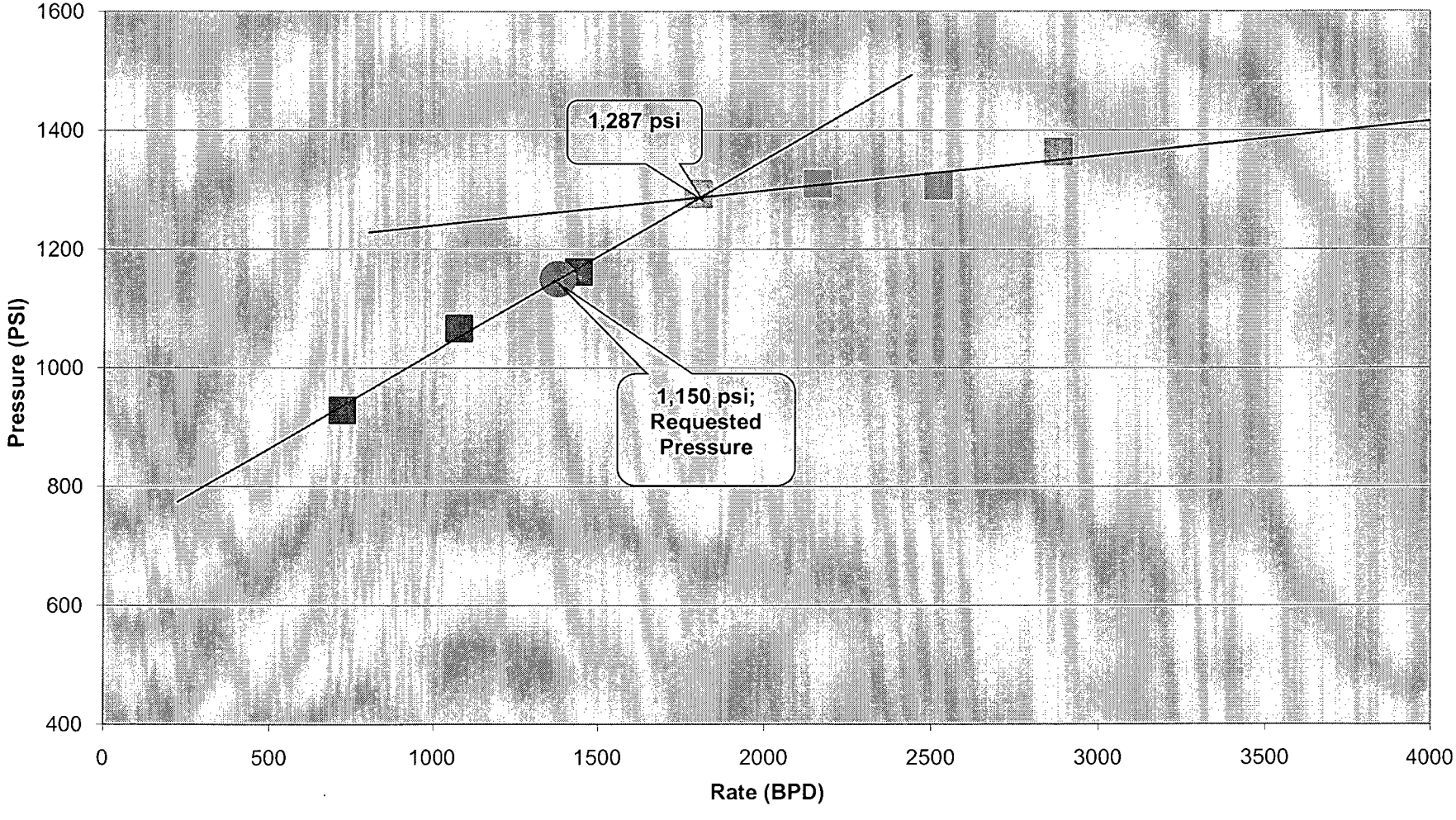
0	KB	
17	GL	
665'	9 5/8"	Csg
4067'		PKR / EOT
4208'	Top Perf	
4218'	Btm Perf	
4220'	Top Perf	
4224'	Btm Perf	
4253'	10' Cmt	
4263'		CIBP
4266'		CIBP
4276'	Top Perf	(25 Shots)
4282'	Btm Perf	
4432'		
4550'	5 1/2"	Csg (4546' LTD)

X: 600227
Y: 540415
Lat: 32.48523
Long: -104.00823

PBTD: 4253'
TD: 4550'

Updated: 12/5/2006
Author: SND
Engr: CC

Step Rate Test
Golden "D" Fed. #1
Delaware (4,208' - 4,218' ; 4,220' - 4,224')



*Step Rate test data sheet

Well Name: Golden "D" Fed. #1
Date: 11/23/2010

1) Input Rate in (BPM) in the GREEN column to have the corresponding Rate in (BPD) calculate automatically
2) Record the rates corresponding injection pressure in the BLUE column
3) If there are excess data points delete the unnecessary values.

Steps (#)	Rate (BPM)	Rate (BPD), x	Injection Pressure (PSI), y
1	0.5	720	929
2	0.75	1080	1067
3	1	1440	1162
4	1.25	1800	1293
5	1.5	2160	1310
6	1.75	2520	1307
7	2	2880	1364
8	2.25	3240	
9	2.5	3600	
10	2.75	3960	
11	3	4320	
12	3.25	4680	
13	3.5	5040	
14	3.75	5400	
15	4		
16	4.25		
17	4.5		
18	4.75		
19	5		
20	5.25		

** Corrected for friction*

First Line
Slope: 0.323611
y-intercept: 703.1667
Correlation: 0.994371

Solve X: 1805.026

Second Line
Slope: 0.058333
y-intercept: 1182
Correlation: 0.868243

Solve Y: 1287.293 psi

ISIP: 1180 psi
5 min: 1036 psi

*Fracture Gradient----> 0.800418 psi/ft

Top Perf @4,208' 3368.16 psi

*Considerations

Both Fracture gradient and friction loss were calculated using 10# NaCl with a top perf depth of 4208'.
tbg. is 2-7/8" 6.5# J-55 IPC (ID---> 2.441")
Current Max Allowable Pressure ---> 842 psi

Linearly Interpolating the given data the anticipated injection rate is approximately 983 psi

Step	(X) BPD	(Y) PSI
1	720	929
2	1080	1067
3	1440	1162
	1377.396246	1150 <---- Requested Allowable Pressure

R^2 Value for data points
0.994371469 <--- *Notates a linear function*