

8/19/2015 DATE IN	SUSPENSE	M A M ENGINEER	8/19/2015 LOGGED IN	IPI TYPE	PMAM1520157663 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



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 _____

- IPI 494
- ConocoPhillips Company
217817
Well
- Buck 17 Federal Swd41
30-025-40482
Pool Cherry Canyon
Swd; Detention
97803

[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

[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.

Ashley Bergen
Print or Type Name

Ashley Bergen
Signature

Regulatory Specialist
Title

8-10-15
Date

ashley.bergen@conocophillips.com
e-mail Address

Buck Federal 17-1 SWD Step Rate Test Summary

The Buck test was completed on July 24, 2015. The well was shut-in Tuesday, the 21th and a chart recorder was connected to the well at 10:00. Chart recorder was removed 72 hours later. The chart recorder was a two day recorder and a one day chart was used. The recorder pen overlayed one day of data. The test was scheduled for Thursday morning but due to equipment availability was moved to Friday morning. Service equipment was hooked up and gauge was run in hole and landed at the top of perf, 5410ft. With no flow, a BHP gauge reading of 3248 psi and a surface pressure of 585 psi was recorded. The targeted max injection rate was estimated at 11,000 b/d. An anticipated bottom hole fracture pressure was 3787 psi. The injection test started at 13:40 with a rate of 5% of max flow, 550 b/d rate. Every five minutes the surface and BHP pressure was recorded. See data sheet for results. Each step took 30 minutes as per BLM conditions. Thirty minutes into step 1 the surface pressure was not within 15 psi of last interval so I continued for another 5 minutes. At that time pressure was within 15 psi and I continued to step 2. Between each step, rate was stabilized in less than one minute. On step 6, between the 10 minute and 15 minute interval the pump rate was slightly interrupted due to changing water tanks. The pressure went down 13 psi but then continued to stabilize. Step 6 extended an extra 10 minutes to verify pressure stability and then went to step 7. At step 7, the pressure on the surface and BHP slightly decrease throughout the test by 2-3 psi. The test was complete. The pump was shut down and instantaneous pressure readings were taken. The line to the pump could not be shut in because the pressure transmitter was upstream of valve and the surface reading of the well would be blocked in. 5, 10 and 15 minute shut-in pressures were recorded. Test complete.

The test reached the targeted injection rate. The BHP started showing signs of decreasing by 3 psi. The BHP at max injection rate was 3489 psi.

STEP RATE TEST DATA FOR BLM

OPERATOR: CONOCOPHILLIPS WELL: BUCK FEDERAL SWD 1

DATA COLLECTION DATE: 07/24/15 API#: 3002540482 LEASE: NM495931

Sfc Loc: T26S-R32E, SEC 17, 2284FNL&1940FWL

TBG O.D.: 3-1/2" TBG WT: 9.3 GRADE: L-80 COUPLING: 8 rd EUE Packer at : 5387'

Top Injection Depth: 5410FT X .2 PSIG/F=EXPECTED SURFACE FRACTURE: 1082PSI

WITH MUD WT SCALE: 9.09 lbs/gal Msrd NO Flow Formation PSIG: 3248

INJECTION FLUID LBS/GAL: 9.09 Hydrostatic press of fluid at top depth of injection: 3248

Beginning well head pressure: 585 Target max rate bbl/d: 11,000

1. Take a charted recorder of shut-in pressure for no less than 48 hrs. If the shut-in pressure is above the expected fracture pressure, the well head pressure will need to be bled off before beginning the step rate test.
2. Perform a minimum of 7 steps, recording rate to ± 0.1 bpm and surface pressure to ± 10 psig in five minute intervals. The first two step rate pressures must be below .2 psig/ft x depth at top of injection.
3. The last two 5 minute surface pressure readings of each (minimum 30 minute) steps are to be within 15 psig of each other. If not, hold that step injection rate past the 30 minute step until two consecutive pressure readings are within 15 psig. Record the average of those two readings as the data point for that step.



Ashley Bergen
Regulatory Specialist
Phone: (432) 688-6938

ConocoPhillips Company
P.O. Box 51810
Midland, TX 79710-1810

August 10, 2015

State of New Mexico
Oil Conservation Division
Attn: Mr. Phillip Goetze
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

SUBJECT: REQUEST FOR APPROVAL OF PRESSURE INCREASE FOR BUCK 17 FEDERAL SWD 1

Dear Mr. Goetze:

ConocoPhillips Company respectfully requests to increase the pressure at the Buck 17 Federal SWD 1 (API# 30-025-40482) based on step rate test results. The well is currently authorized to inject at no more than 1082 psi under SWD-1316-B. The surface hole location is on the NMLC068281B lease in UL F, 2284' FNL & 1950' FWL, Section 17, 26S, 32E.

Enclosed are the following documents in support of this request.

- Administrative Application Checklist
- Copy of Step Rate Results
- Copy of MIT- 48 hour chart
- A copy of this submittal has been sent to the district office in Hobbs, NM

If you have questions regarding this request, I can be reached at 432-688-6938 or via email at ashley.bergen@conocophillips.com.

Sincerely,


Ashley Bergen
Regulatory Specialist

Buck Step Rate Test

Step 1

TARGET TEST RATE TARGET TEST RATE (5% of 11,000 b/d= 0.38 bpm

START TIME:	1:40												
END TIME:	2:15												
TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN	
SURFACE PRESSURE PSI	627	646	674	691	703	721	731						
Formation Pressure PSI	3264	3269	3275	3279	3283	3285	3288						

Step 2

TARGET TEST RATE TARGET TEST RATE (10% of 11,000b/d= 0.76 bpm

START TIME:	2:15												
END TIME:	2:45												
TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN	
SURFACE PRESSURE PSI	751	763	766	769	771	774							
Formation Pressure PSI	3292	3295	3297	3299	3301	3303							

Step 3

TARGET TEST RATE TARGET TEST RATE (20% of 11,000b/d= 1.53 bpm

START TIME:	2:45												
END TIME:	3:15												
TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN	
SURFACE PRESSURE PSI	825	832	840	848	855	862							
Formation Pressure PSI	3318	3323	3326	3328	3331	3333							

Step 4

TARGET TEST RATE TARGET TEST RATE (40% of 11,000b/d= 3.1 bpm

START TIME:	3:15												
END TIME:	3:45												
TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN	
SURFACE PRESSURE PSI	1057	1073	1077	1081	1080	1082							
Formation Pressure PSI	3373	3381	3387	3390	3393	3396							

Step 5

TARGET TEST RATE TARGET TEST RATE (60% of 11,000b/d= 4.58 bpm

START TIME:	3:45												
END TIME:	4:15												
TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN	
SURFACE PRESSURE PSI	1312	1315	1319	1321	1323	1324							
Formation Pressure PSI	3428	3433	3436	3439	3441	3442							

Step 6

TARGET TEST RATE TARGET TEST RATE (80% of 11,000b/d= 6.1 bpm

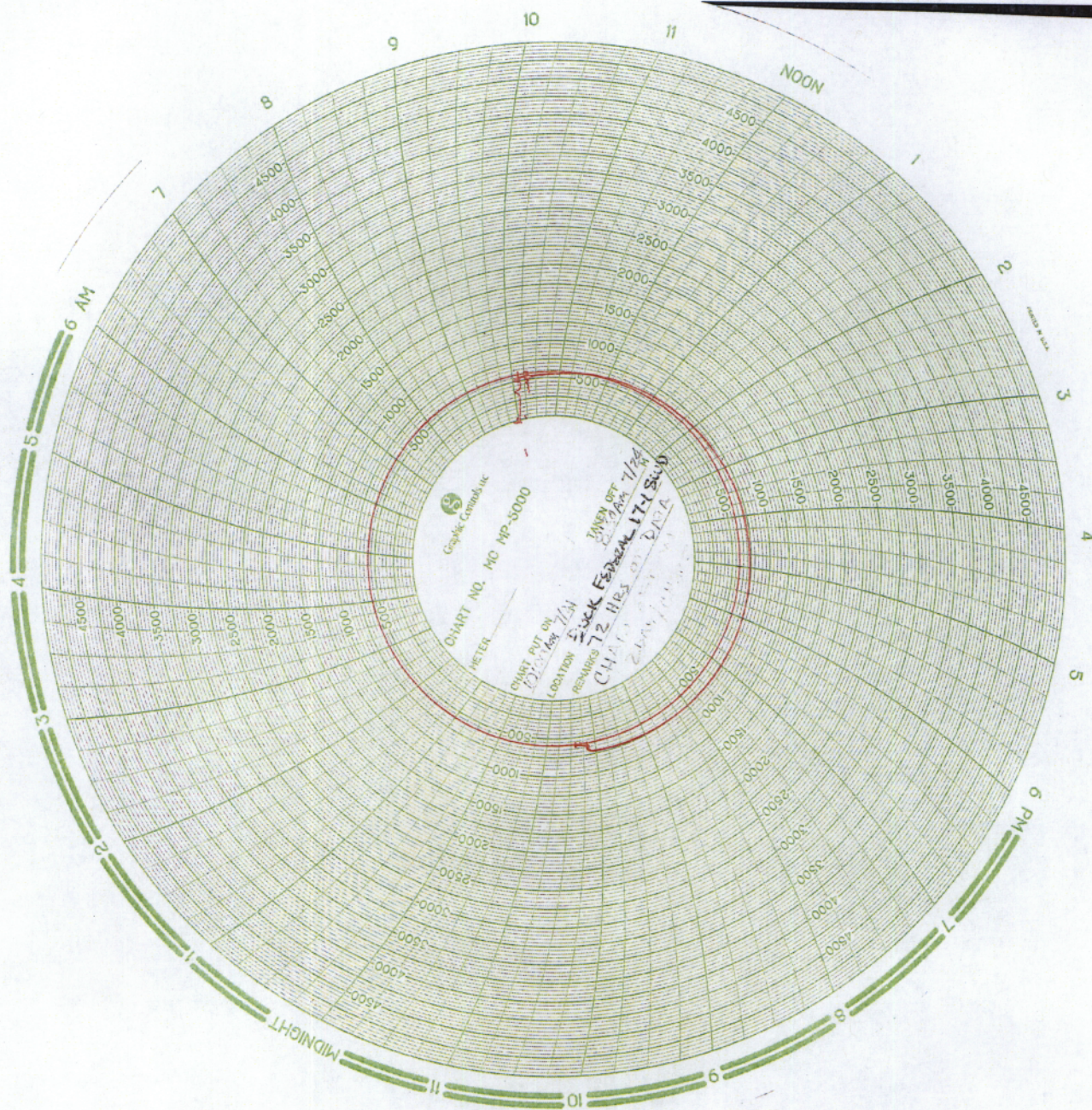
START TIME:	4:15												
END TIME:	4:55	I extended this step due to opening water tanks in between 15 and 20 min intervals. Affected the flow rate slightly.											
TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN	
SURFACE PRESSURE PSI	1640	1642	1629	1635	1632	1639	1640	1632					
Formation Pressure PSI	3470	3473	3475	3477	3478	3478	3477	3478					

Step 7

TARGET TEST RATE TARGET TEST RATE (100% of 11,000b/d= 7.6 bpm

START TIME:	4:55												
END TIME:	5:25												
TIME	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN	35 MIN	40 MIN	45 MIN	50 MIN	55 MIN	60 MIN	
SURFACE PRESSURE PSI	2000	1994	1997	1995	1997	1996							
Formation Pressure PSI	3492	3492	3488	3488	3489	3489							

Time: 5:25	Surface	Formation	
INSTANT SHUT-IN:	990	3489	PSI
5 MINUTE SHUT-IN:	890	3405	PSI
10 MINUTE SHUT-IN:	876	3391	PSI
15 MINUTE SHUT-IN:	868	3384	PSI



State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John Bemis
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Balley
Division Director
Oil Conservation Division



Administrative Order SWD-1316-B
March 17, 2013

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Under the provisions of 19.15.26.8B NMAC, ConocoPhillips Company seeks an administrative order to utilize its Buck 17 Federal SWD Well No. 1 (API 30-025-40482) located 2284 feet from the North line and 1950 feet from the West line, Unit letter F of Section 17, Township 26 South, Range 32 East, NMPM, Lea County, New Mexico, for produced water disposal purposes.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of 19.15.26.8B NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, ConocoPhillips Company, is hereby authorized to utilize its Buck 17 Federal SWD Well No. 1 (API 30-025-40482) located 2284 feet from the North line and 1950 feet from the West line, Unit letter F of Section 17, Township 26 South, Range 32 East, NMPM, Lea County, New Mexico, for disposal of oil field produced water (UIC Class II only) into the Cherry Canyon member of the Delaware Mountain Group through a perforated interval from 5410 feet to 5932 feet through internally coated tubing and a packer set within 100 feet of the permitted interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the proposed disposal interval and is not permitted to escape to other formations or onto the surface.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT testing procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A, NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 1082 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate-Test.

The operator shall notify the supervisor of the Division's district office of the date and time of the installation of disposal equipment and of any MIT test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's district office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's district office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

The injection authority granted under this order is not transferable except upon division approval. The division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.


JAMI BAILEY
Director

JB/wvjj

cc: Oil Conservation Division – Hobbs
Bureau of Land Management – Carlsbad Field Office

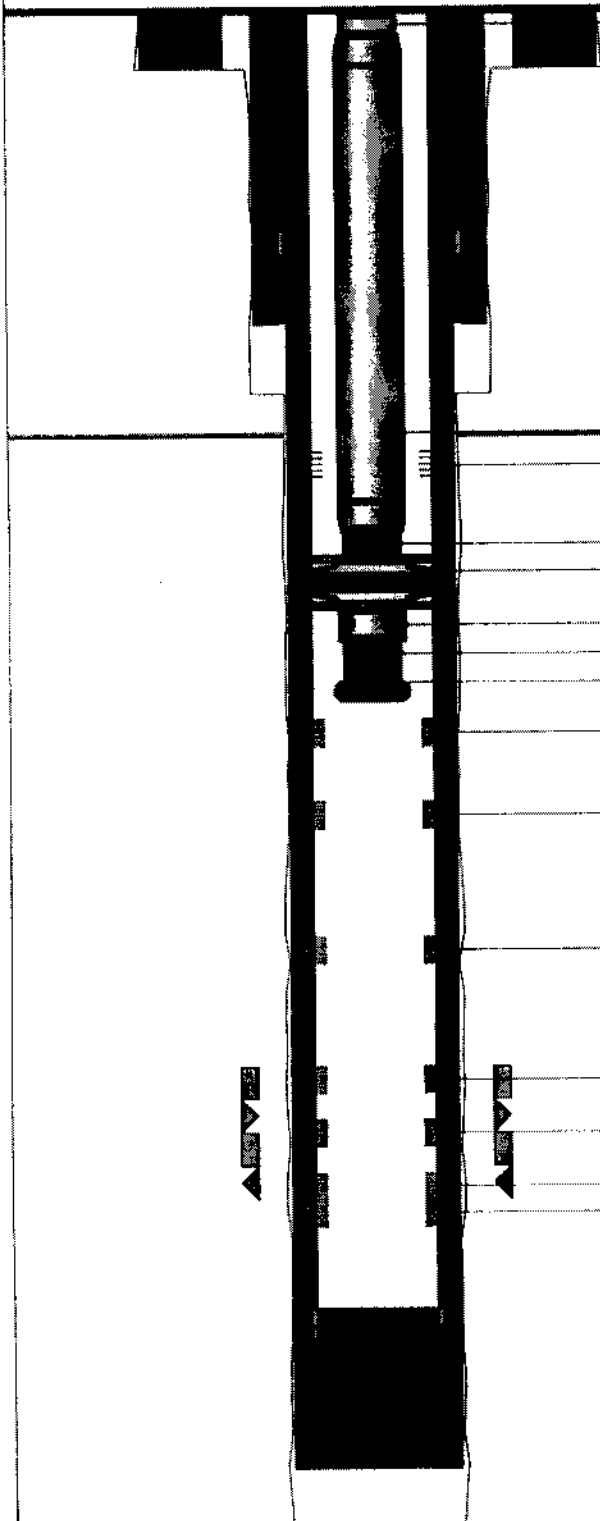
District PERMIAN	Field Name RED HILLS WEST	API / UWI 3002540482	County LEA	State/Province NEW MEXICO	
Original Spud Date 4/7/2012	Surface Legal Location Section 17, Township 26S, Range 32E	East/West Distance (ft) 1,940.00	East/West Reference FWL	North/South Distance (ft) 2,284.00	North/South Reference FNL

Well Config: VERTICAL - Original Hole, 2/15/2013

Schematic - Proposed

RKB (MD)

0
13
14
96
167
240
382
972
974
1,050
1,052
1,091
1,094
1,094
1,104
1,105
1,115
4,654
4,655
4,665
5,355
5,357
5,365
5,365
5,398
5,399
5,400
5,410
5,460
5,668
5,686
5,700
5,712
5,714
5,722
5,733
5,742
5,755
5,756
5,757
5,762
5,794
5,816
5,859
5,890
5,905
5,932
6,167
6,215
6,221
6,221
6,223
6,231
6,241
6,267
6,268
6,277
6,278



2-1, Tubing Hanger, 3, 2,640, 13, 0.5

2-2, Tubing- Injection (IPC), 3 1/2, 2,640, 14, 5,341.5
Des:SQUEEZE PERFS, Date:8/10/2012, Top (MD):4,654, Btm (MD):4,655

2-3, On/Off tool w/ 2.31" "F" nipple, 3, 2,310, 5,355, 1.7

2-4, 3-1/2x7" 26# Packer (Mesquite AS-1X), 6,260, 2,992, 5,357, 8.3

2-5, Tubing- Injection (IPC), 3 1/2, 2,640, 5,365, 32.7

2-6, 2.25" "R" nipple, 3, 2,225, 5,398, 1.6

2-7, Re-entry Guide w/ pump out plug, 3, 2,992, 5,399, 0.6

Des:Perforated, Top (MD):5,410, Btm (MD):5,460

Des:Perforated, Top (MD):5,686, Btm (MD):5,700

Des:Perforated, Top (MD):5,733, Btm (MD):5,742

Des:Perforated, Date:8/20/2012, Top (MD):5,762, Btm (MD):5,794

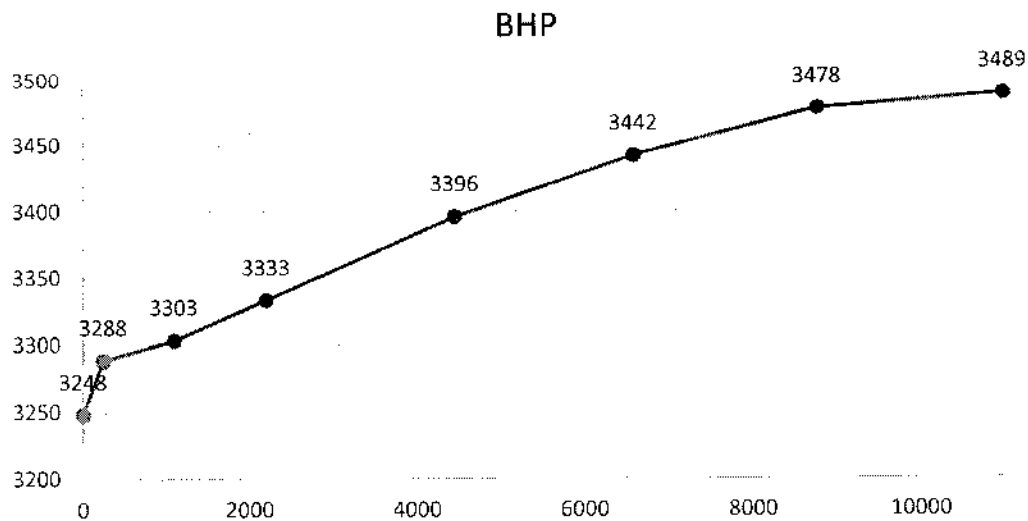
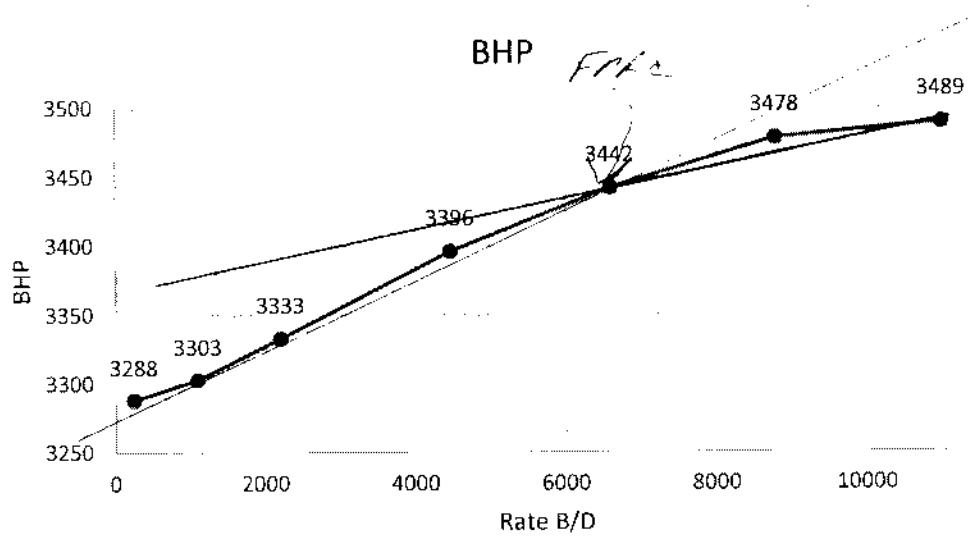
Des:Perforated, Date:8/20/2012, Top (MD):5,816, Btm (MD):5,859

Des:Perforated, Date:8/20/2012, Top (MD):5,890, Btm (MD):5,905

Des:Perforated, Top (MD):5,905, Btm (MD):5,932

Des:P8TD, Depth (MD):6,167, Date:4/23/2012

Rate B/M	Rate B/D	BHP	surface	Time	comments	Gradient
0	0	3248	585	0		
0.38	240	3288	731	35		
0.76	1095	3303	774	30		
1.53	2203	3333	862	30		
3.1	4464	3396	1082	30		
4.58	6595	3442	1324	30	Frac	0.24
6.1	8784	3478	1632	40		
7.6	11000	3489	1996	30		



Rate B/M	Rate B/D	BHP	surface	Time	comments
0	0	3248	585	0	
0.38	240	3288	731	35	
0.76	1095	3303	774	30	
1.53	2203	3333	862	30	
3.1	4464	3396	1082	30	
4.58	6595	3442	1324	30	Frac
6.1	8784	3478	1632	40	
7.6	11000	3489	1996	30	

