

AE Order Number Banner

Application Number: pMSG2406952503

IPI-547

Spur Energy Partners LLC [328947]

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & 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

Applicant: _____ OGRID Number: _____
 Well Name: _____ API: _____
 Pool: _____ Pool Code: _____

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

1) TYPE OF APPLICATION: Check those which apply for [A]

A. Location – Spacing Unit – Simultaneous Dedication

☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]

[I] Commingling – Storage – Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery

☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

2) NOTIFICATION REQUIRED TO: Check those which apply.

- A. ☐ Offset operators or lease holders
 B. ☐ Royalty, overriding royalty owners, revenue owners
 C. ☐ Application requires published notice
 D. ☐ Notification and/or concurrent approval by SLO
 E. ☐ Notification and/or concurrent approval by BLM
 F. ☐ Surface owner
 G. ☐ For all of the above, proof of notification or publication is attached, and/or,
 H. ☐ No notice required

FOR OCD ONLY

- ☐ Notice Complete
☐ Application Content Complete

3) 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.

 Print or Type Name

Signature

 Date

 Phone Number

 e-mail Address



January 25, 2024

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Attn: Mr. Phillip Goetze, Engineering Bureau

Re: Request of Spur Energy Partners, LLC for an injection pressure increase on its Lakewood Farms 18 No.1 SWD (API No.30-015-28164) located in Section 18, Township 19 South, Range 26 East, NMPM, Eddy County, New Mexico.

Dear Mr. Goetze,

Spur Energy Partners acquired the Lakewood Farms 18 No.1 SWD from COG Operating, LLC in November 2019. The well was drilled in 1994 by Nearburg Producing Company as an Morrow gas well to a depth of 9,650 feet. It was subsequently P&A'd six months later. In 2018, the well was permitted, reentered and configured for salt water disposal by COG Operating under SWD-1544 prior to being acquired by Spur Energy. It was completed and configured with 3-1/2" tubing and is currently authorized for disposal into the Cisco and Canyon formations utilizing perforations from 7,760 feet to 8,037 feet with a maximum surface injection pressure of 1552 psi (0.2 psi/ ft.). The SWD has been in continuous use since originally permitted in 2018. The well is currently an active SWD for Spur's private use and is critical to its area operations.

Spur submitted a notice of intent sundry report which was approved by OCD in August 2023. The step rate was performed in November of last year and executed as proposed in the sundry. The test went smoothly with no equipment issues and an adequate supply of water was on hand. All steps were completed mostly as designed however, pressures and rates were eased for the last 3 stages as the job was reaching maximum permitted testing pressures. The BHP indicates a probable break around 5470 psi (~.704 psi/ ft. gradient) which equates to approximately 2150 psi surface injection pressure.

Based on the results of the step-rate test, we hereby request that maximum permitted surface injection pressure may safely be increased to 1987 psi (~0.256 psi/ ft. gradient). I respectfully request that the approval of this injection pressure increase proceed swiftly and if you require additional information or have any questions, please do not hesitate to call or email me.

Best regards,



Ben Stone, Partner
SOS Consulting, LLC
Agent for Spur Energy Partners, LLC

Cc: Project file

Spur Energy Partners, LLC
Lakewood Farms 18 SWD #1

Step-Rate Test Conducted 11/15/2023.

API# 30-015-28164, I-18-19S-26E, Eddy County, New Mexico

Background

The Lakewood Farms 18 #1 was originally drilled in December 1994 to a depth of 9,550 feet as a Morrow gas well by Nearburg Producing Company. The well was subsequently plugged and abandoned (P&A) six months later in May 1995.

In April 2018, COG Operating acquired the well and received approval to reenter and configure it as a salt water disposal well. Originally proposed as a Devonian SWD, COG altered the planned C-108 and targeted the Cisco/ Canyon and received approval with OCD permit SWD-1544. The order authorized a perforated disposal interval into the Cisco and Canyon formations from 7760 feet to 8037 feet. In June 2015, COG Operating perforated as designed and ran 3-1/2" tubing set in a packer at 7700 feet and otherwise configured the well for SWD. Upon completion, the well was acidized with 20,000 gallons of 15% HCl and later in 2018 with 4,500 gallons of 15% HCl with additives at 2 bpm. The well has been in regular use since originally configured for SWD. Daily average rates into 2016 were as high as 6000 bwpd average but have generally trended downward since the last acid job, about mid-2018. Through 2023 rates have averaged just under 2800 bwpd and injection pressure has been at or near the allowable calculated surface pressure of 1552 psi. *(0.2 psi/ ft to uppermost injection depth of 7760 feet.)*

Spur Energy Partners, LLC acquired the well in November 2019 and the well remains an active SWD for Spur Energy in support of its area operations.

Spur Energy Partners expects that an increase in this SWD's capacity would result in the well's longevity and value as a reliable disposal asset for future years. A NOI sundry was submitted to outline the step-rate test which would be performed consistent with OCD guidelines to acquire suitable SRT data so that an increase in pressure could be approved. OCD approved that sundry on August 16, 2023. Disposal operations continued and the SRT delayed in favor of other operational necessities as well as disposal scheduling concerns. The well was shut-in for 48+ hours of pre-test static observation on 11/13/2023 and the test conducted on 11/15/2023. *(See job data and charts contained herein.)*

History

The salt water disposal well history has been uneventful. It has operated normally with standard reports of bradenhead test and successful MITs performed as required. The daily injection rate has generally and gradually trended downward and is the impetus for Spur Energy to make the request for increased injection pressure.

The procedure, job summary and all appropriate test data follow this page. A copy of the NOI sundry which includes the wellbore diagram, the original permit and other supporting documents are included herein.

Lakewood Farms SWD SRT Job Report

11/9/2023

2 frac tanks set and filled with produced water from battery. Same produced water that is currently being injected at this facility.

11/10/2023

Set BHPG with slickline. Tandem BHPG set on 1 second data, have 1mm data point capturing capability - enough for 11.5 days.

11/13/2023

Well shut in at 8am – 48hrs prior to SRT

11/15/2023

Arrived on location, Acid tech already on location. Rig up iron. Rig up hose to casing, pressure up to 531 psi and monitor pressure with transducer, can be seen on pump chart. 10 psi lost during the beginning of test and held flat for the remainder of the test. Casing integrity confirmed. Bleed casing off and monitor via transducer for entire job. Rig up pumps back to iron and after 30 minutes, pressure tested up to Acid Tech's valve to 3800 psi, tubing transmitter located on the tubing right above master valve. Began SRT.

Due to the increased rate seen the day before at the Osage SWD SRT, steps were adjusted to more quickly increase rate.

SITP to start 220 psi

Step 1: .4 BPM for 45 mins - tubing pressure at the end of the stage - 336

Step 2: .8 BPM for 45 mins - tubing pressure at the end of the stage - 477

Step 3: 1.6 BPM for 45 mins - tubing pressure at the end of the stage - 862

Step 4: 3.2 BPM for 45 mins - tubing pressure at the end of the stage - 1860

Adjustment made on the fly due to approaching max pressure for this job. Decrease step 5, 6 and 7 rates.

Step 5: 3.8 BPM for 45 mins - tubing pressure at the end of the stage – 2155

Step 6: 4.4 BPM for 45 mins - tubing pressure at the end of the stage - 2401

Step 7: 5 BPM for 45 mins - tubing pressure at the end of the stage – 2614

ISIP - 1904

5 min shut in pressure - 1734

10 min shut in pressure - 1576

15 min shut in pressure - 1414

Rig down and move out pumps.

11/16/2023

RU slickline truck and retrieve BHPG. Data sent to engineer to begin processing.

Original Proposed Steps:

Step Rate Test - 3k Well Head					
Step	Time Start (mins)	Time End (mins)	Rate (BPM)	Stage Volume (Bbl)	Cumulative Volume (Bbl)
1	0	45	0.25	11	11
2	45	90	0.45	20	32
3	90	135	0.90	41	72
4	135	180	1.80	81	153
5	180	225	2.70	122	275
6	225	270	3.60	162	437
7	270	315	4.50	203	639

Adjusted Steps due to rapid rate increase seen and Osage Boyd SWD SRT:

Step Rate Test - Proposed					
Step	Time Start (mins)	Time End (mins)	Rate (BPM)	Stage Volume (Bbl)	Cumulative Volume (Bbl)
1	0	45	0.40	18	18
2	45	90	0.80	36	54
3	90	135	1.60	72	126
4	135	180	3.20	144	270
5	180	225	4.80	216	486
6	225	270	6.40	288	774
7	270	315	8.00	360	1134

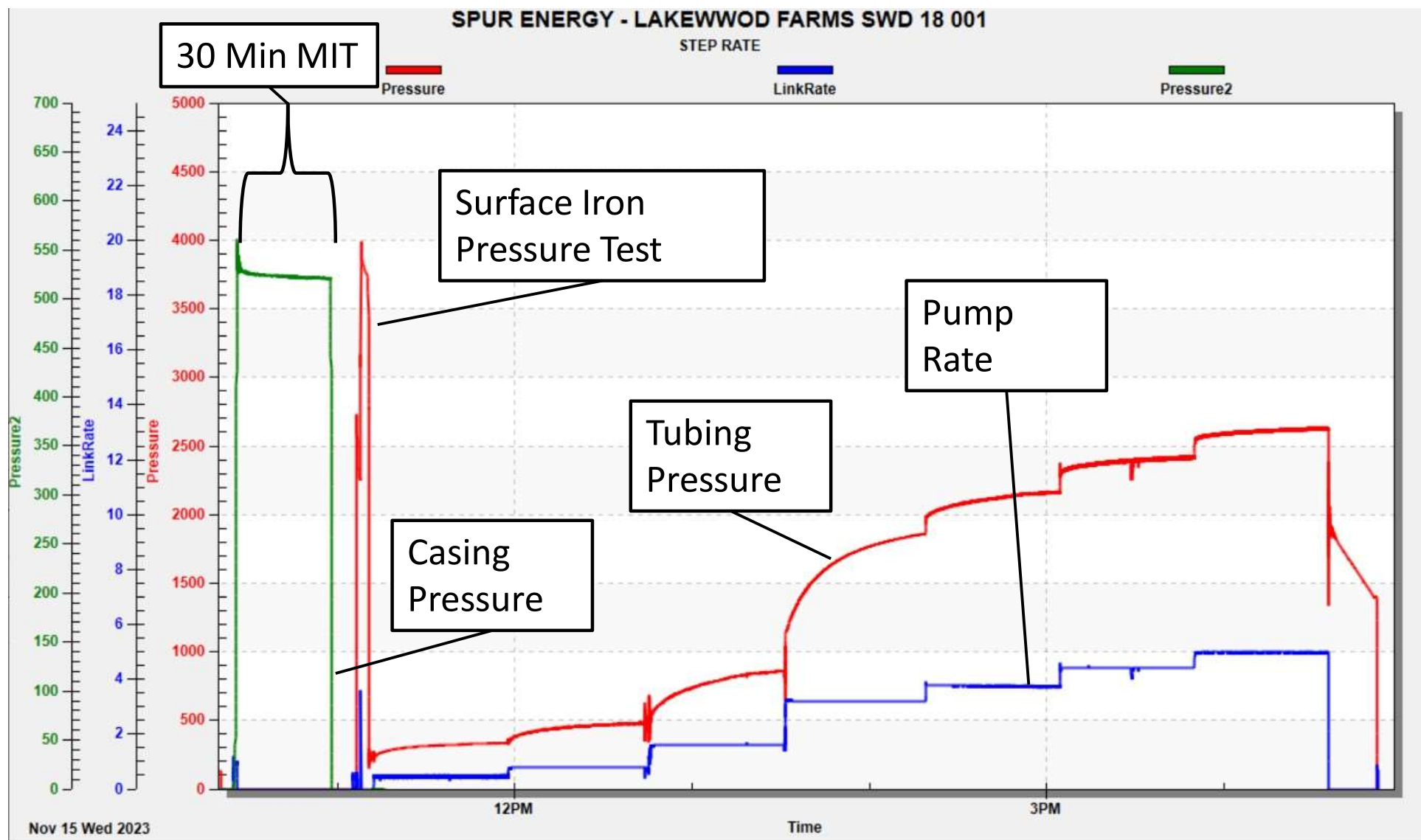
Actual Steps due to standard pressure increase:

Step Rate Test - Actual					
Step	Time Start (mins)	Time End (mins)	Rate (BPM)	Stage Volume (Bbl)	Cumulative Volume (Bbl)
1	0	45	0.40	18	18
2	45	90	0.80	36	54
3	90	135	1.60	72	126
4	135	180	3.20	144	270
5	180	225	3.80	171	441
6	225	270	4.40	198	639
7	270	315	5.00	225	864



Lakewood Farms SWD – Step Rate Test Analysis

Pump Chart

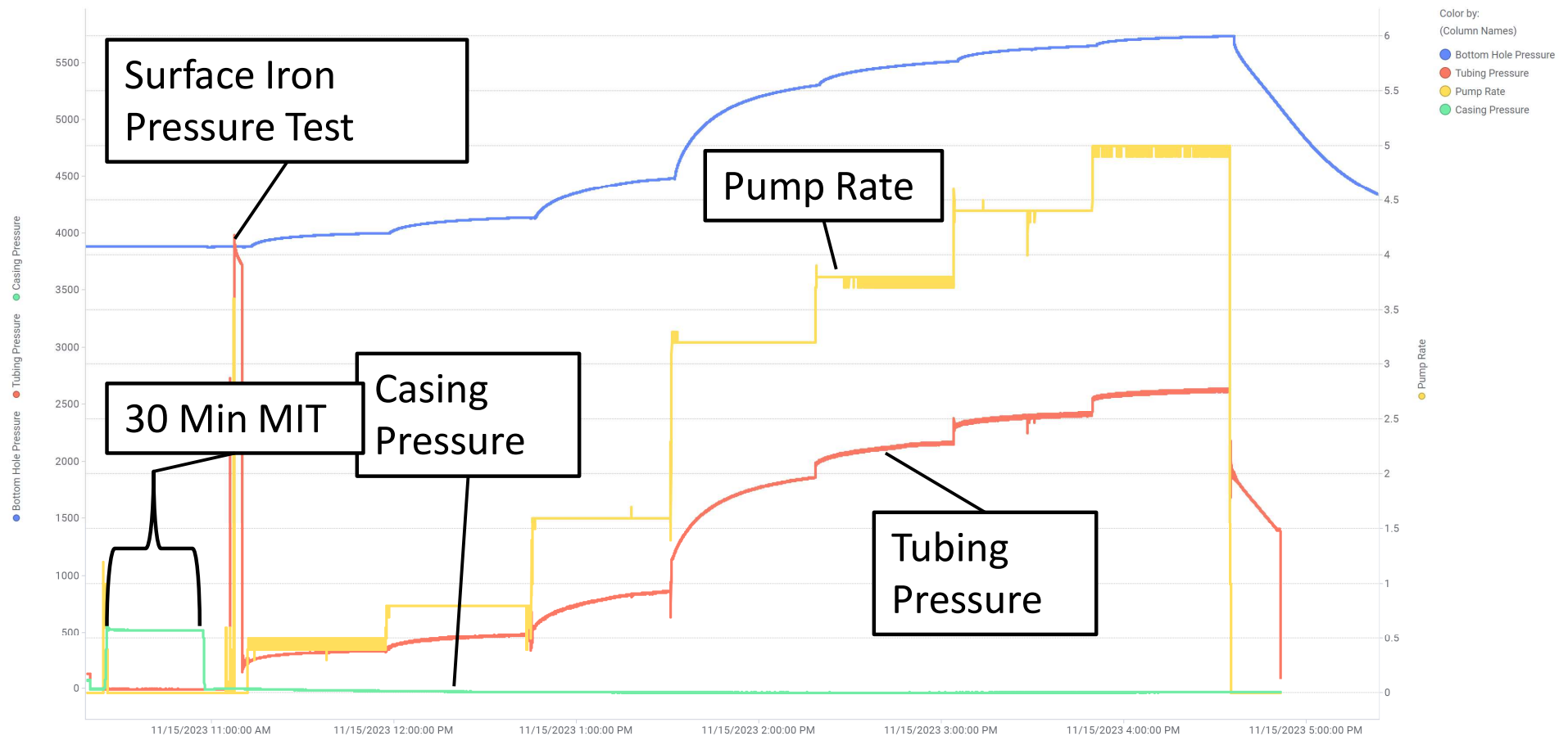


Combined Chart



- ★ Tubing transducer moved to casing for MIT and back to tubing for SRT
- ★ Final 3 stages had to be adjusted due to surface pressure reaching the limit

Bottom Hole Pressure, Tubing Pressure, Pump Rate, Casing Pressure – Date and Time



SIBHP



★ 48hr SIBHP 3881 psi

Bottom Hole Pressure, Tubing Pressure, Pump Rate, Casing Pressure – Date and Time

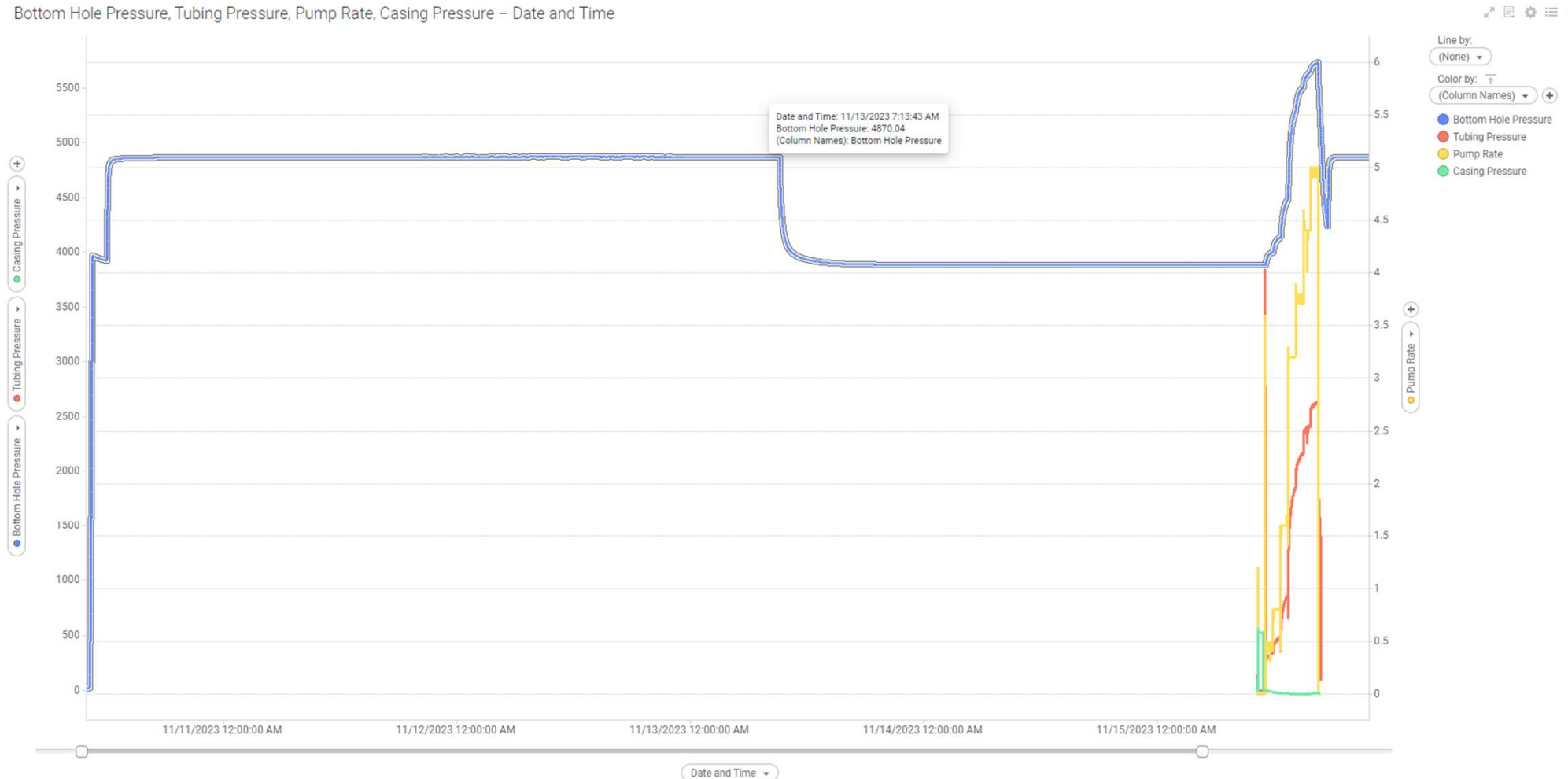


BHP with normal pump cycles



- ★ 4870 psi BHP during normal pump cycles with surface pump injecting at 2600 BWPD @ 1,280 psi
- ★ Little pressure loss due to friction, majority of surface pressure making it to the reservoir

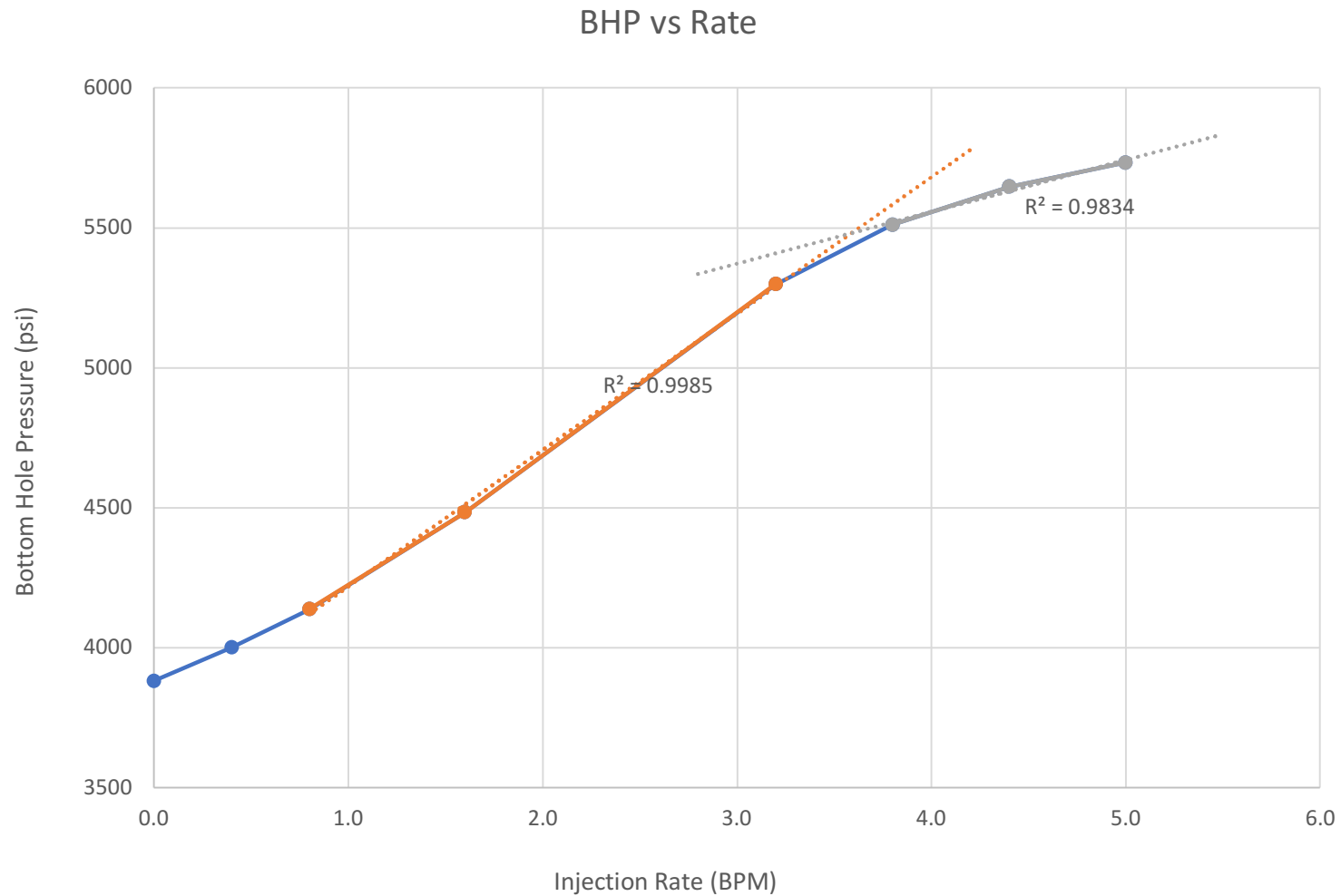
Bottom Hole Pressure, Tubing Pressure, Pump Rate, Casing Pressure – Date and Time



BHP vs Rate



- ★ Possible break observed between 3.2 and 3.6 BPM step at a BHP estimated at 5470 psi



Rate, BHP and Injection Pressure Table



Step	Rate (BPM)	Bottom Hole Pressure (psi)	Injection Pressure (psi)
0	0.0	3881	253
1	0.4	4001	336
2	0.8	4138	477
3	1.6	4484	826
4	3.2	5299	1860
5	3.8	5511	2155
6	4.4	5647	2401
7	5	5733	2614





Date:	11/15/2023	Time:	5:00 AM
Truck Called:	11/15/2023	Arrived at location:	8:00 AM
Start Job:	11/15/2023	Finish Job:	11:10 AM
Finish Job:	11/15/2023	Leave Location:	4:50 PM
Leave Location:	11/15/2023		5:10 PM

Job Log

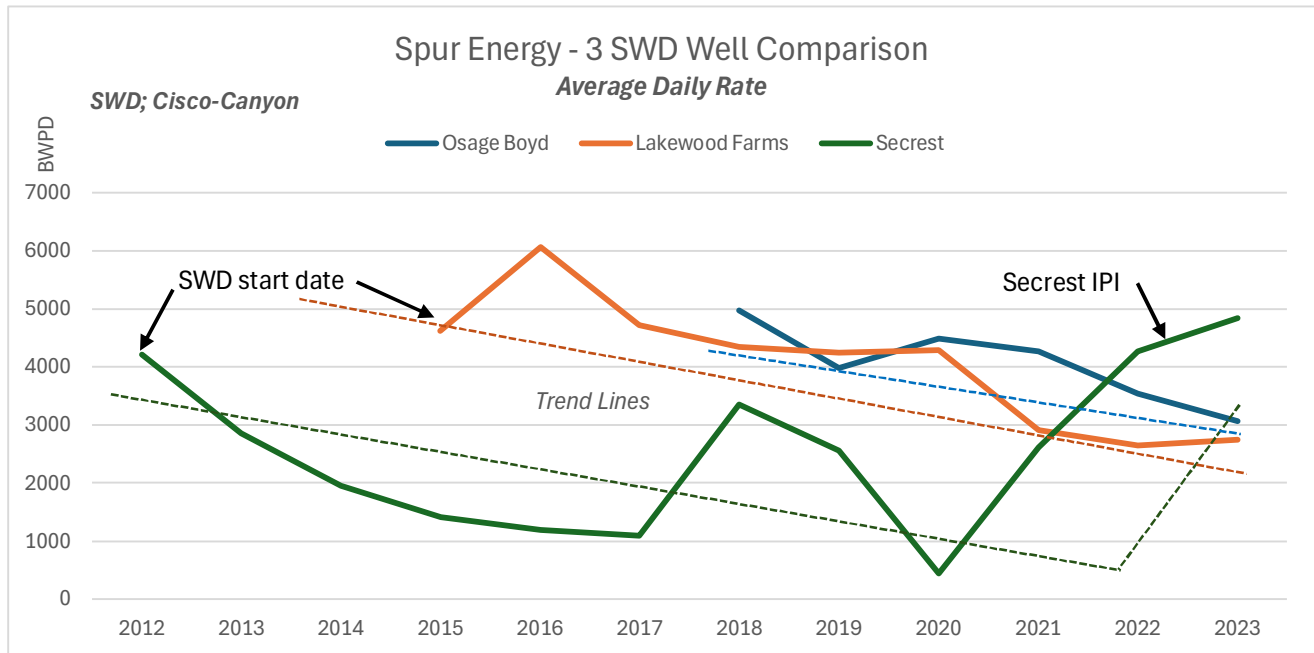
Acid Tech Services	Customer Name:	SPUR ENERGY			
P.O. BOX	Lease Name:	LAKEWOOD FARMS			23AA1115-A
MIDLAND, TEXAS 79711	Well #:	SWD 18 001		Supervisor:	ANGEL ARANGO
OFFICE # 432-563-2243	Type of Job:	STEP RATE		County:	EDDY
FAX #432-563-0449	Date:	11/15/2023	CUSTOMER REPRESENTATIVE:		
Tubing Size:	Casing size:	Tbg Capacity:			
Tubing weight:	Casing weight:	Top Perf:		On Form:	
Tubing bbl/Inft	Casing bbl/Inft:	Bottom Perf:			
Packer depth:	Annulus:	Flush Top Perf:			
End of Tbg:	Total Depth:	Flush Bottom Perf:			
Top Perf:	Open Hole:	Annular Capacity:			
Bottom Perf:	Liner Size:	Maximum:		Psi	
Holes in Csg:	Top of Liner				
Max psi: 2,620	Min psi: 220	Avg psi: 1,438	Max rate: 5	Avg rate: 2.6	ISIP 1904
Load to recover	881 BBLs		1,734	5 min	1,576
				10 min	1,414
				15 min	

Acid Systems

Acid System:	N/A	Gallons	N/A		
Diverter:	N/A	Balls	N/A	Coarse Rock Salt	N/A
				Arrive on Loc:	
				Safety Meeting:	

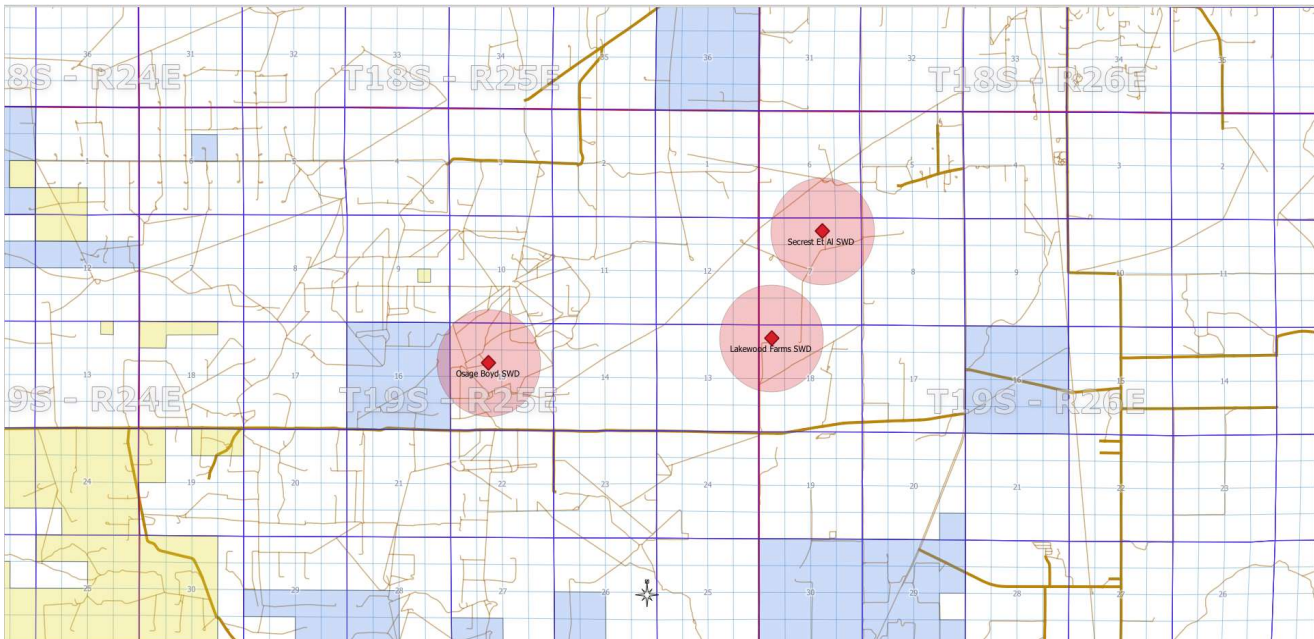
	Injection Rate:			Job Pressures		Job Log Remarks:
Time	Rate:	Bbls in		Tbg psi.	Csg psi	
10:05 AM						RIG UP AND CONNECT TO WELL
11:09 AM						PRIME AND PRESSURE TEST LINES
11:10 AM				220	O	OPEN WELL @ 220 PSI
11:12 AM	0.4	O		228	O	ESTABLISH RATE AND PSI ON WATER @ 0.4 BPM
11:22 AM	0.4	4		300	O	RATE/PSI CHECK
11:32 AM	0.4	9		317	O	RATE/PSI CHECK
11:42 AM	0.4	13		325	O	RATE/PSI CHECK
11:52 AM	0.4	17		331	O	RATE/PSI CHECK
11:57 AM	0.4	19		336	O	RATE/PSI CHECK
11:58 AM	0.8	20		368	O	INCREASE RATE 0.8 BPM
12:08 PM	0.8	28		431	O	RATE/PSI CHECK
12:18 PM	0.8	36		447	O	RATE/PSI CHECK
12:29 PM	0.8	45		470	O	RATE/PSI CHECK
12:38 PM	0.8	52		471	O	RATE/PSI CHECK
12:43 PM	0.8	56		477	O	RATE/PSI CHECK
12:46 PM	1.6	59		553	O	INCREASE RATE 1.6 BPM
12:56 PM	1.6	75		710	O	RATE/PSI CHECK
1:07 PM	1.6	92		781	O	RATE/PSI CHECK
1:16 PM	1.6	107		830	O	RATE/PSI CHECK
1:26 PM	1.6	122		847	O	RATE/PSI CHECK
1:31 PM	1.6	130		862	O	RATE/PSI CHECK
1:31 PM	3.2	132		1,154	O	INCREASE RATE 3.2 BPM

SERVICE REPRESENTATIVE:	Signature Please	CUSTOMER REPRESENTATIVE:	Signature Please
ANGEL ARANGO		X	



Note: Trend lines show similar rates of decline of daily injection rates into Cisco-Canyon completions.

Map showing proximity of subject wells.



Office
 District I – (575) 393-6161
 1625 N. French Dr., Hobbs, NM 88240
 District II – (575) 748-1283
 811 S. First St., Artesia, NM 88210
 District III – (505) 334-6178
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV – (505) 476-3460
 1220 S. St. Francis Dr., Santa Fe, NM
 87505

State of New Mexico
 Energy, Minerals and Natural Resources

Form C-103
 Revised July 18, 2013

OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-28164
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other SWD		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator SPUR ENERGY PARTNERS LLC		6. State Oil & Gas Lease No.
3. Address of Operator 9655 KATY FREEWAY, SUITE 500, HOUSTON, TX 77024		7. Lease Name or Unit Agreement Name LAKEWOOD FARMS SWD 18
4. Well Location Unit Letter D : 660 feet from the NORTH line and 660 feet from the WEST line Section 18 Township 19S Range 26E NMPM EDDY County		8. Well Number 1
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3385' GR		9. OGRID Number 328947
10. Pool name or Wildcat SWD; CISCO-CANYON		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Spur Energy Partners LLC requests to perform a step rate test to determine if injection pressure can be raised without fracturing the formation.

Proposed procedures and other documentation attached for your review.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Sarah Chapman TITLE REGULATORY DIRECTOR DATE 06/08/2023

Type or print name SARAH CHAPMAN E-mail address: SCHAPMAN@SPURENERGY.COM PHONE: 832-930-8613

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

Eddy County, NM
API# 30-015-28164

CURRENT WBD

SPUD DATE: 12/26/1994
RE-ENTERED AND Cased JAN 2010
ELEV: 3385' GL

9-5/8" 36# J-55 @ 1112'

CMT W/ 150 SX CLASS C 2% CaCl₂
TAILED W/ 800 SX CLASS C 35:65:6
CIRC 123 SX TO SURF

DV TOOL @922'

9-5/8" 1ST SQUEEZE 1/13/2015 – LEAK AROUND 400'
LEAD CMT W/ 200 SX CLASS C 10% GEL, 2% CaCl₂,
12.5 PPG
TAIL CMT W/ 200 SX CLASS C 3% CaCl₂ 14.8 PPG

9-5/8" 2ND SQUEEZE 1/16/2015
CMT W/ 200 SX CLASS C 3% CaCl₂ 14.8 PPG

TUBING DETAIL (6/11/2015)

12' KB

235 JTS 3-1/2" 9.3# L-80 TUBING CLS LINED
T2 ON/OFF TOOL NIC COATED
INJECTION PACKER 2-7/8" X 7" @7,709'
NI. COAT TBG SUB

DV TOOL @6,394'

7 " 26# HCL-80 @ 8,359'

STAGE 1: CMT W/ 375 SX
STAGE 2: CMT W/ 400 SX CLASS C+
400 SX CALSS C BLEND
STAGE 3: CMT W/ 125 SX CLASS C

CISCO/CANYON PERFS (7,760' – 8,037')

- 6/9/2015: PERFS, 2 SPF, 366 HOLES

8 3/4" HOLE DRILLED TO 8,512'

7 7/8" HOLE DRILLED TO 9,200'

CEMENT PLUG FROM 8,650'-8,400'

CEMENT PLUG FROM 8,950'-9,200'

TD @ 9,550'
PBTD @ 8,336'

Lakewood Farms SWD 18 #1**Step Rate Test**

Hunter Spragg - 817.914.0987

AFE - TBD


NW Shelf
Eddy County, NM
OBJECTIVES

Perform a step rate test on the Lakewood Farms SWD to determine if injection pressure can be raised without fracturing the formation. 45-minute steps chosen due to lower permeability. Literature suggests Cisco/Canyon averages 5-10 md.

- Estimated BHP Bomb set date - 4 days before the job
- Estimated Well SI date - 2 days before the job
- Estimated SRT Date - TBD
- Pressure Bomb retrieval date - the day after the job

Well Information	
Surface Location (NAD83)	Latitude: 32.6662407° / Longitude: -104.4276733°
Ground Elevation / KB	3,385' / 12'
API Number	30-015-28164
AFE Number	TBD - \$75,000

Wellbore Details	
TVD / PBTD	TVD: 9,550' / PBTD: 8,336'
Perforations MD'	7,760' - 8,037'

Casing & Tubing Details - Current/Planned										
Size	Depth (MD)	Weight lb/ft	Grade	ID In	Drift In	Thread	Burst psi	Collapse psi	Yield Mlbs	Cap bbl/ft
7" csg	0' - 8,359'	26	HCL-80	6.276	6.151	?	7,240	7,800	604	0.0383
3.5" CLS tbg	0' - 7,709'	9.3	L-80	2.750	2.440	EUE 8RD	10,540	10,160	207	0.0073

PROCEDURE

Spur Energy Partners LLC is committed to providing a safe working environment for all personnel. A safety meeting will be held prior to commencing each operation in order to define/clarify objectives, roles and responsibilities, identify all potential risk/hazards and establish a work procedure that is safe and environmentally sound. Meetings are to be documented on the reports returned to Spur Energy Partners LLC.

PERFORM SAFETY CHECKS AND SAFETY MEETING

1. Perform a safety meeting prior to rigging up ANY equipment on location. Discuss the job procedure and objective with all personnel on location. Document the safety meeting on the daily report sent to Spur. Make note of all potential risks/hazards, and clearly identify an emergency route and emergency vehicle. Also make note of any new or inexperienced personnel on location. Ensure proper Personal Protective Equipment (PPE) is used during the job. Minimums are hard hats, steel toes, safety glasses, H₂S monitors, and FR certified clothing as required. Designate a smoking area off location and 100' from any potential hydrocarbons.

Preparation

1. Set 2 - 500 bbl Frac tanks on location and begin filling with produced water from the facility. Do not use fresh water or produced water from any of the other surrounding facilities. Fill completely. Leave hoses attached to water tanks at the facility so water in water tanks can be utilized at the end of the test if needed.
2. Wellhead is shown to be rated to 5k psi with 2k wing valves. Ensure wing valves have been upsized all remaining wellhead valves have the same or higher rating.

72 hours before SRT

3. Notify OCD representative that SRT is planned to occur in 72 hours.
4. Notify OCD that a MIT will be ran with the pump truck and recorded in the data van on the date of the SRT. Ask if a chart recorder is required, if so, ensure one is on location for the day of the SRT.
5. Ensure well is on a vacuum; MIRU Precision Pressure Data Slickline truck and crane, utilize a pack-off for well control.
6. Run in hole with BHP Bomb and set at 7,705' from surface on top of the 2 7/8" X 3 1/2" XO.
 - a) Ensure bomb is rated to 10k psi or greater and can collect 1 million data points and is set to collect data 1 time every second. This will give us 11.5 days of data collection in case we occur any delays.

48 hours before SRT

7. Shut in well and isolate injection line. Ensure 0 injection is able to occur.

Step Rate Test Procedure

8. RU pump and manifold frac tanks together. Run 1 - 2" injection lines - unless pump company recommends 2 lines.
 - a) RU an injection line and pressure transmitter to the production casing-tubing annulus and pressure up to 500 psi and preform an MIT.
 - i. Have the service company save and export this data, call this file "Lakewood Farms MIT prior to SRT" and clear the data and prepare for SRT data collection.
 - b) Ensure pumps can pump can output 5 bpm at 4000 psi.
 - c) Max pressure limit for this job is 3300 psi.
 - d) Install pressure transmitters on the tubing, not the discharge of the pump, and another transmitter on the production casing.
 - e) A turbine meter is to be used to measure injection rate.
 - f) Rig injection line up to the tubing.
9. Close bottom master valve and open all other valves and test Iron and tubing master valve to 3700 psi.

10. Open lower master valve and begin step rate test. Follow the below schedule exactly. Do not stop injection. Do not alter schedule unless breakdown is observed. Steps need to be exactly at prescribed rates and for exactly 45 minutes unless:

- a) Breakdown is observed and 2 more steps passed that are not in the schedule.
 - i. If this is the case and there is pressure headroom, we will divide the remaining pressure rating of the wellhead by number of remaining steps needed to get to 3 and add 1 - target a starting pressure for those remaining step instead of rate.
 1. I.e. Stage 6 break is observed at 2500 psi and wellhead is rated to 3000 psi. $3000-2500 = 500$ psi. 2 more stages needed, add one. $500/3 = 166$ psi. Stage 7 should be started at 2666 psi and stage 8 started at the end of stage 7 pressure plus 166 psi. Rate is to be held steady through the remainder of the stage. Stage duration is to be the same as the previous stages.
 - ii. If there is no more pressure headroom available, hold the rate steady for the amount of time equivalent to running the needed number of extra stages add notes in stage notes.
 1. I.e. if breakdown is observed on stage 6, and the ending pressure of stage 6 is 2950 psi and wellhead is rated to 3000 psi, keep the same rate for the duration of stage 6 for stage 7 and 8.

Step Rate Test - 3k Well Head					
Step	Time Start (mins)	Time End (mins)	Rate (BPM)	Stage Volume (Bbl)	Cumulative Volume (Bbl)
1	0	45	0.25	11	11
2	45	90	0.45	20	32
3	90	135	0.90	41	72
4	135	180	1.80	81	153
5	180	225	2.70	122	275
6	225	270	3.60	162	437
7	270	315	4.50	203	639

11. RD pump and iron.

12. MIRU Slickline unit and crane if required.

13. RIH to 7,705' to retrieve the BHP Bomb. Send all data to Engineer.

Appendix**Current Tubing Detail**

Current Tubing String									
Tubing Description					Set Depth (ftKB)		Run Date		
Production Tubing					7,716.1		12/4/2021		
Item Des	Grade	Wt (lb/ft)	OD (in)	ID (in)	Len (ft)	Jts	Cum Len (ft)	Top (ftKB)	Btm (ftKB)
KB Correction				0.00	12.00		7,716.17	-0.1	11.9
Tubing 3 1/2 Duo-Lined				2.50	7,688.12	235	7,704.17	11.9	7,700.1
X/O 3 1/2 - 2 7/8				2.50	0.50	1	16.05	7,700.1	7,700.6
On & Off Tool				2.31	2.00	1	15.55	7,700.6	7,702.6
ASI Arrow Set PKR 7"				2.44	7.00	1	13.55	7,702.6	7,709.6
Pup Joint				2.44	6.05	1	6.55	7,709.6	7,715.6
Pump Out Plug Collar					0.50	1	0.50	7,715.6	7,716.1

Current Wellhead

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 225364

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 225364
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	please limit your max pressure for your test to 3k x 0.95= 2850 psi 5% safety factor has been deducted. Thanks.	8/16/2023

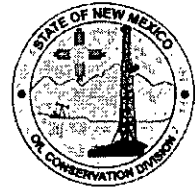
State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

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

David R. Catanach, Division Director
Oil Conservation Division



Administrative Order SWD-1544
April 8, 2015

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8B. NMAC, COG Operating LLC (the "operator") seeks an administrative order to re-enter and re-complete its Lakewood Farms SWD 18 Well No. 1 located 660 feet from the North line and 660 feet from the West line, Lot 1 of Section 18, Township 19 South, Range 26 East, NMPM, Eddy County, New Mexico, for produced water disposal purposes.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division Rule 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. The applicant has presented satisfactory evidence that all requirements prescribed in Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Rule 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, COG Operating LLC (OGRID 229137) is hereby authorized to utilize its Lakewood Farms SWD 18 Well No. 1 (API No. 30-015-28164) located 660 feet from the North line and 660 feet from the West line, Lot 1 of Section 18, Township 19 South, Range 26 East, NMPM, Eddy County, New Mexico, for disposal of oil field produced water (UIC Class II only) through perforations within Cisco-Canyon formations from 7760 feet to 8037 feet. Injection shall occur through internally-coated tubing and a packer set a maximum of 100 feet above the top perforations within the approved interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the well construction proposed and described in the application.

The operator shall run a cement bond log (or equivalent) to determine the quality of cement placement for the 7-inch casing.

Administrative Order SWD-1544
COG Operating LLC
April 8, 2015
Page 2 of 3

Within one year after commencing disposal, the operator shall submit to the Division copies of an injection survey over the entire injection interval run on this well consisting of a temperature log, or equivalent, run under representative disposal rates.

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 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 1552 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. At the discretion of the supervisor of the Artesia district office, the operator shall install and maintain a chart recorder showing casing and tubing pressures during disposal operations.

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 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.

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 order after notice and hearing if the operator is in violation of Rule 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two (2) 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

Administrative Order SWD-1544
COG Operating LLC
April 8, 2015
Page 3 of 3

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.



DAVID R. CATANACH
Director

DRC/mam

cc: Oil Conservation Division – Artesia District Office
Well File 30-015-28164

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CONDITIONS

Action 321884

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 321884
	Action Type: [IM-SD] Admin Order Support Doc (ENG) (IM-AAO)

CONDITIONS

Created By	Condition	Condition Date
mgebremichael	None	3/9/2024