ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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



THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATION FOR EXCEPTIONS TO DIVISION RULES AND REGULATION ACTONYMS: [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication [DHC-Downhole Commingling] [CTB-Lease Commingling] [PC-Pool/Lease Commingling] [PC-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 SD SD SD SD SD SD	
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	
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[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	1)
[B] Commingling - Storage - Measurement DHC CTB PLC PC OLS OLM And [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery WFX PMX SWD IPI EOR PPR 30-	
☐ WFX ☐ PMX ☐ SWD X IPI ☐ EOR ☐ PPR 50°	operating gell #3
[D] Other: Specify PMX / 13361	-025-39690
Diana	setim.
[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply [A] Working, Royalty or Overriding Royalty Interest Owners	750 PSI
[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 OF APPLICATION INDICATED ABOVE.	Е ТҮРЕ
[4] CERTIFICATION: I hereby certify that the information submitted with this application for administration approval is accurate and complete to the best of my knowledge. I also understand that no action will be take 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 Signature Denations Manager Title JWacker Dbc operation	10/7/2013
Wacker aboperation	ig.com
e-mail Address 432 - 684 - 9696 / pstevens	<u> </u>



P.O. Box 50820 Midland, Texas 79710 Phone (432) 684-9696

4000 N Big Spring, Ste. # 310 Midland, Texas 79705 Fax (432) 686-0600

September 3, 2013

Jami Bailey - Division Director New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505

Request IPI - Case No. 14571 - Order No. R-13361 - Angell #3 Re:

B.C. Operating, Inc. requests an injection pressure-limit increase to 2750 psig at surface for the subject well. The Hobbs District office was notified prior to conducting the step rate test. The attached supporting documentation is listed as follows:

1. Administrative Checklist - Injection pressure-limit increase

2. Step-rate test results 3. Wellbore diagram K No Keryester

Please contact our office at 432-684-9696 if any further information is needed to complete this request.

Sincerely,

Jason Wacker Operations Manager

Lavington, GR-SA

Cc: Elido Gonzales – NMOCD Hobbs District Supervisor

Angell #3 wbs.xls

LEASE & WELL NO.

Angell #3

FIELD NAME LOCATION

San Andres (Guadalupian, Permian Age) 1650' FNL & 660 FEL Sec 11, T-17S, R-36E **FORMER NAME**

API NO.

COMPLETION

COUNTY & STATE Lea County, New Mexico 30-025-39690

K.B. ELEV.

D.F. ELEV.

GROUND LEVEL

3827'

SURFACE CASING

SIZE 8-5/8" GRADE

32# **DEPTH 1974**' SX. CMT. 975 sx TOC @ Surf.

WEIGHT

WELL HISTORY

COMPLETION DATE:

5/22/2010

Perf 5418-5432' 2 spf, 28 holes, 60 degree phasing 05/10

168 jts 2 7/8" 6.5# SN set @ 5479',

03/11 Perf 4802-5218' 2 spf, 176 holes, 60 degree phasing

Acdz w/2,000 gals 20% HCl

Formation Tops MD

TOC @ 490' by CBL

TUBING DETAIL 2-3/8", 4.7#, J-55, Fiberglass Lined

PRODUCTION CASING

5-1/2" SIZE GRADE

WEIGHT 15.5# 500 sx SX. CMT.

DEPTH 5640' TOC @ 490'

PBTD@ 5560' TD@ 5650' Packer @ +/- 4750'

Perfs 4802'-4812' Perfs 4860'-4870'

Perfs 5140'-5168'

Perfs 5218'-5258'

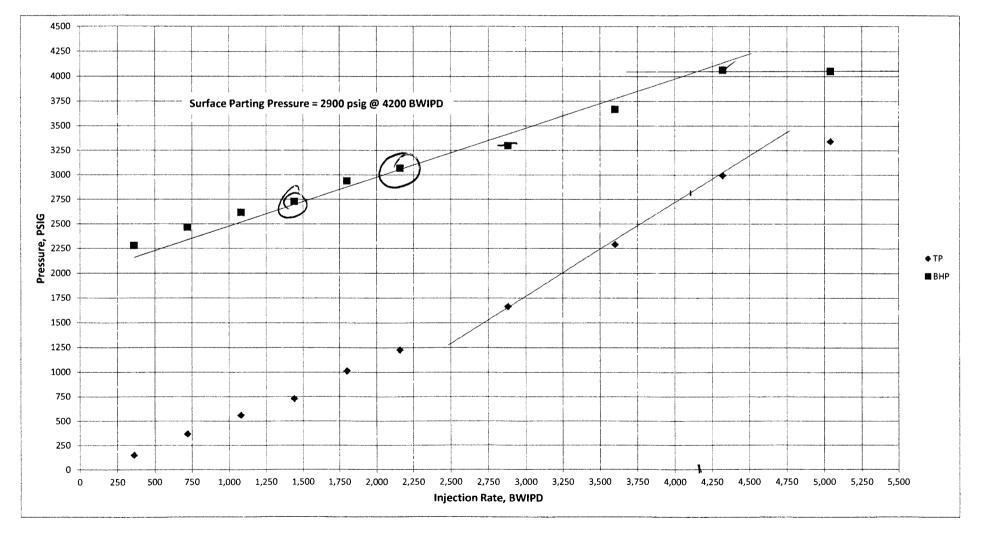
Perfs 5418'-5432'

Angell #3 Step Rate Injection Test 8-2013.xlsx

278

Step	Rate, BPM	Inj Rate, BPD	TP	Friction	Hydrostatic Head	ВНР
1	0.25	360	150	12	2142	2280
2	0.50	720	365	41	2142	2466
3	0.75	1080	560	85	2142	2617
4	1.00	1440	729	142	2142	2729
5	1.25	1800	1012	214	2142	2940
6	1.50	2160	1227	299	2142	3070
7	2.00	2880	1663	506	2142	3299
8	2.50	3600	2290	764	2142	3668
9	3.00	4320	2995	1072	2142	4065
10	3.50	5040	3340	1429	2142	4053







Ticket Number:

H2013-0638

		Lease:	ANGELL	
Customer:	BC OPERATING	Well:	3	
Date	8/26/2013	Job Type:		_

, , , , , , , , , , , , , , , , , , , ,	Inject	ion Rate:	Job Pr	essures	Joh Log Romarko:
Time	Rate:	Bbls in	Thg psi.	Csq nsi	Job Log Remarks:
11:12 AM	2	10	1663	4	
7777		1		 	
11:17 AM	2.5	13	2290	3	GET INJECTION RATE@2.5 BBLS A MIN
11:22 AM	3	15	2995	3	GET INJECTION RATE @3.0 BBLS A MIN
11:27 AM	3.5	18	3340	3	GET INJECTION RATE @ 3.5 BBLS A MIN
11:33 AM		81			SHUT DOWN TOTAL FLUID PUMPED
11:33 AM		+	1532	t	ISIP
11:38 AM			762		5 MIN
11:43 AM			532		10 MIN
11:48 AM		1	428		15 MIN
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Thank you	for your business	your patrona	se is greativ apprecia	ted!!l	
SERVICE I	REPRESENTATIVE	Signature	ge is greatly apprecia Please		CUSTOMER REPRESENATIVE: Signature Please
JOHN	FRANKLIN				X

			Clean	Fluid	Fluid	Stage	Tubing
Stage #	Stage Name	Fluid Type	Rate	Volume	Volume	Time	Pressure
			BPM	GAL	BBL	Mins	psig
0	Catch Pressure	Water	1.00	1,000	24	24	
1	Step Rate 1	Water	0.25	53	1	5	150
2	Step Rate 2	Water	0.50	105	3	5	365
3	Step Rate 3	Water	0.75	158	4	. 5	560
4	Step Rate 4	Water	1.00	210	5	. 5	729
5	Step Rate 5	Water	1.25	263	6	· 5	1012
6	Step Rate 6	Water	1.50	315	8	, 5	1227
7	Step Rate 7	Water	2.00	420	10	' 5	1663
8	Step Rate 8	Water	2.50	525	13	5	2290
9	Step Rate 9	Water	3.00	630	15	5	2995
10	Step Rate 10	Water	3.50	735	18	5	3340
	Step Rate Totals			3,413	81	50	

Flow well back to injection facility or frac tanks for at least 24 hours before the injection test. Catch injected water sample and send to Martin Water Labs in Midland for analysis.



	Date:	Time:
Truck Called:	8/26/2013	9:00 AM
Arrived at location:	8/26/2013	9:30 AM
Start Job:	8/26/2013	10:00 AM
Finish Job:	8/26/2013	12:00 PM
Leave Location:	8/26/2013	12:30 PM

Job Log

RISING S											·	
	STAR SERV	ICES LP.	Custom	er Name:		BC OF	PERATING	}	Ticket Nu	ımber		
P.	O. BOX 611	93	Lea	se Name:		A٨	IGELL		I REACT NU	iiiiDei .	H201	3-0638
MIDLA	ND, TEXAS	79711		Well #:			3		Superv	isor:	JOHN F	RANKLIN
	E#432-61		Tyn	e of Job:		STE	PRATE		County:		LEA	
	(#432-339-		· · · · · ·	Date:	8/26	/2013	CUSTOMER REPRES			,	VAL SAE	NZ
	ıbing Size:				sing size:	<u> </u>	1000.0		Tbg Capacity:			1
	ng weight:			1	ng weight:	 			Top Perf:			On Form:
	ing bbl/inft				ng bbl/inft:	 			Bottom Perf:			10
	ker depth:			Casii	Annulus:	-			lush Top Perf:			
	·			-					-			
	ind of Tbg:		L		tal Depth:				Bottom Perf:			
	Top Perf:				pen Hole:			Ann	ular Capacity:	2	500	2.1
	ttom Perf:				iner Size:				Maximum:	3		Psl
	les in Csg:	L		•	p of Liner	<u> </u>						
Max psi:	3340	Min psi:	150	Avg psi:	2560	Max rate:	3.5	Avg rate:	2	18	BIP	153
Load to re	cover						5 MIN	762	10 MIN	532	15 MIN	428
					Δc	id Sv	stems	<u> </u>				
		<u> </u>		T	70	iu Oy	361116					
Acid S	ystem:	i		Gallons	1							
	7.5.5.						Coarse					
1												
Dive	erter:			Balls			Rock Salt					
Dive	erter:	L		Balls	Job Pn	essures	Rock Salt					
		Injectio	on Rate:	Balis			Rock Salt	Log	Rema	arks	•	
Time	Rate:	injectio	on Rate:	Balls		essures Csg psi	Rock Salt		Rema		:	
		Injectio		Balls			Rock Salt	C	Rema	TRUCKS		
Time 9:00 AM		Injectio		Balls			Rock Salt	HAVE PRE	ALL OUT FOR	TRUCKS SAFETY	MEETING	
Time 9:00 AM 9:05 AM		Injectio		Balls			Rock Salt	HAVE PRE	ALL OUT FOR -DEPARTURE	TRUCKS SAFETY I RD FOR L	MEETING	
Time 9:00 AM 9:05 AM 9:10 AM		Injectio		Balls			Rock Salt	HAVE PRE	CALL OUT FOR E-DEPARTURE HOBBS NM YAR	TRUCKS SAFETY I RD FOR L CATION	MEETING OCATION	
9:00 AM 9:05 AM 9:10 AM 9:30 AM		Injectic		Balls			Rock Salt	HAVE PRE DEPART I	CALL OUT FOR E-DEPARTURE HOBBS NM YAN ARRIVE ON LO	TRUCKS SAFETY I RD FOR L ICATION FETY MEI	MEETING OCATION ETING	
9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM		Injectio		Balls			Job	HAVE PRE DEPART I HAVE P SAFELY	CALL OUT FOR E-DEPARTURE HOBBS NM YAN ARRIVE ON LO PRE RIG UP SA RIG UP FROM	TRUCKS SAFETY I RD FOR LI CATION FETY MEI PUMP TO	MEETING OCATION ETING	WS
9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM		Injectio		Balls			Job	HAVE PRE DEPART I HAVE P SAFELY	CALL OUT FOR E-DEPARTURE HOBBS NM YAR ARRIVE ON LO PRE RIG UP SA	TRUCKS SAFETY I RD FOR LI CATION FETY MEI PUMP TO H RSS AN	MEETING OCATION ETING	ws
71me 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM	Rate:		Bbis in	Balls	Tbg psi.	Csg psi	Job	HAVE PRE DEPART I HAVE F SAFELY AVE SAFETY	CALL OUT FOR E-DEPARTURE HOBBS NM YAR ARRIVE ON LOPER RIG UP SA RIG UP FROM MEETING WIT TEST LIN START J	TRUCKS SAFETY I RD FOR LI CATION FETY MEI PUMP TO H RSS AN ES OB	MEETING OCATION ETING O WELL ID PU CRE	ws
71me 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM	Rate:	Injectic	Bbis in	Balls	Tbg psi.		Job	HAVE PRE DEPART I HAVE F SAFELY AVE SAFETY	CALL OUT FOR E-DEPARTURE HOBBS NM YAR ARRIVE ON LOPER RIG UP SARIG UP FROM MEETING WITTEST LIN	TRUCKS SAFETY I RD FOR LI CATION FETY MEI PUMP TO H RSS AN ES OB	MEETING OCATION ETING O WELL ID PU CRE	ws
Time 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM	Rate:	.2	Bbis in	Balls 1	6100 74	Csg psi	Job	HAVE PRE DEPART H HAVE F SAFELY AVE SAFETY	CALL OUT FOR E-DEPARTURE HOBBS NM YAR ARRIVE ON LOPERING UP SA RIG UP FROM MEETING WIT TEST LIN START J NJECTION AT	TRUCKS SAFETY I RD FOR LI CATION FETY MEI PUMP TO H RSS AN ES OB	MEETING OCATION ETING D WELL ID PU CRE	ws
Time 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM 10:36 AM	Rate:		Bbis in	Balls 1	Tbg psi.	Csg psi	Job	HAVE PRE DEPART H HAVE F SAFELY AVE SAFETY	CALL OUT FOR E-DEPARTURE HOBBS NM YAR ARRIVE ON LOPER RIG UP SA RIG UP FROM MEETING WIT TEST LIN START J	TRUCKS SAFETY I RD FOR LI CATION FETY MEI PUMP TO H RSS AN ES OB	MEETING OCATION ETING D WELL ID PU CRE	ws
Time 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM	Rate:	.2	Bbis in	Balls 1	6100 74	Csg psi	Job	HAVE PRE DEPART H HAVE P SAFELY AVE SAFETY GET I	CALL OUT FOR E-DEPARTURE HOBBS NM YAR ARRIVE ON LOPERING UP SA RIG UP FROM MEETING WIT TEST LIN START J NJECTION AT	TRUCKS SAFETY I RD FOR LI CATION FETY MEI PUMP TO H RSS AN ES OB .2 BBLS A	MEETING OCATION ETING D WELL ID PU CRE	ws
Time 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM 10:36 AM 10:43 AM	Rate:	.2 .5 .7	O 3	Balls	6100 74 242	11 11	Job	HAVE PRE DEPART H HAVE P SAFELY AVE SAFETY GET I GET INJ	CALL OUT FOR E-DEPARTURE HOBBS NM YAF ARRIVE ON LOPERING UP SA RIG UP FROM MEETING WIT TEST LIN START J NJECTION AT INJECTION AT	TRUCKS SAFETY I RD FOR LI CATION FETY MEI PUMP TO H RSS AN ES OB 2 BBLS A 5 BBS A	MEETING OCATION ETING WELL ID PU CRE	WS
Time 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM 10:36 AM	Rate:	.2	Bbis in O	Balls	6100 74 242	Csg psi	Job	HAVE PRE DEPART H HAVE P SAFELY AVE SAFETY GET I GET INJ	CALL OUT FOR E-DEPARTURE HOBBS NM YAF ARRIVE ON LO PRE RIG UP SA RIG UP FROM MEETING WIT TEST LIN START J NJECTION AT	TRUCKS SAFETY I RD FOR LI CATION FETY MEI PUMP TO H RSS AN ES OB 2 BBLS A 5 BBS A	MEETING OCATION ETING WELL ID PU CRE	WS
Time 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM 10:36 AM 10:43 AM	Rate:	.2 .5 .7	O 3	Balis	6100 74 242 535	11 11	Job	HAVE PRE DEPART H HAVE P SAFELY AVE SAFETY GET I GET INJ	CALL OUT FOR C-DEPARTURE HOBBS NM YAF ARRIVE ON LOPERING UP SA RIG UP FROM MEETING WIT TEST LIN START J NJECTION AT INJECTION AT ECTION RATE	TRUCKS SAFETY I RD FOR LU CATION FETY MEI PUMP TO H RSS AN ES OB .2 BBLS A .5 BBS A Ø .7 BBLS	MEETING OCATION ETING WELL ID PU CRE MIN MIN S A MIN	ws
Time 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM 10:36 AM 10:43 AM 10:50 AM 10:55 AM	Rate:	.5 .7	O 3 3 4 5 6	Balls 1	6100 74 242 535 729	11 11 10 10 6	Job	HAVE PRE DEPART H HAVE P SAFELY AVE SAFETY GET INJ GET INJE	CALL OUT FOR CALL	TRUCKS SAFETY I RD FOR LO CATION FETY MEI PUMP TO H RSS AN ES OB .2 BBLS A .5 BBS A Ø .7 BBLS Ø 1.25 BBI	MEETING OCATION ETING WELL ID PU CRE MIN MIN S A MIN S A MIN	ws
Time 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM 10:36 AM 10:43 AM 10:50 AM	Rate:	.5 .7	O 3 4 5	Balls	6100 74 242 535	11 11 10	Job	HAVE PRE DEPART H HAVE P SAFELY AVE SAFETY GET INJ GET INJE	CALL OUT FOR C-DEPARTURE HOBBS NM YAF ARRIVE ON LOPERING UP SA RIG UP FROM MEETING WIT TEST LIN START J NJECTION AT INJECTION AT ECTION RATE	TRUCKS SAFETY I RD FOR LO CATION FETY MEI PUMP TO H RSS AN ES OB .2 BBLS A .5 BBS A Ø .7 BBLS Ø 1.25 BBI	MEETING OCATION ETING WELL ID PU CRE MIN MIN S A MIN S A MIN	WS
Time 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM 10:36 AM 10:50 AM 10:55 AM 11:02 AM	0 0 0	.2 .5 .7 .7555	O 3 3 4 5 6 8 8	1	6100 74 242 535 729	11 11 10 10 6	HA	HAVE PRE DEPART H HAVE P SAFELY AVE SAFETY GET INJ GET INJE GET INJE GET INJE	CALL OUT FOR CALL OUT FOR CALL OUT FOR CALL OUT FOR CALL CALL CALL CALL CALL CALL CALL CAL	TRUCKS SAFETY I RD FOR LO CATION FETY MEI PUMP TO H RSS AN ES OB .2 BBLS A .5 BBS A Ø .7 BBLS Ø 1.0 BBL Ø 1.25 BBL	MEETING DOCATION ETING WELL ID PU CRE MIN MIN S A MIN S A MIN S A MIN	WS
71me 9:00 AM 9:05 AM 9:10 AM 9:30 AM 9:35 AM 9:40 AM 10:13 AM 10:50 AM 10:55 AM 11:02 AM	Rate:	.2 .5 .7 .1 .255	O 3 3 4 5 6	1	6100 74 242 535 729	11 11 10 10 6	HA	HAVE PRE DEPART H HAVE P SAFELY AVE SAFETY GET INJ GET INJE	CALL OUT FOR CALL OUT FOR CALL OUT FOR CALL OUT FOR CALL CALL CALL CALL CALL CALL CALL CAL	TRUCKS SAFETY I RD FOR LO CATION FETY MEI PUMP TO H RSS AN ES OB .2 BBLS A .5 BBS A Ø .7 BBLS Ø 1.25 BBI	MEETING DOCATION ETING WELL ID PU CRE MIN MIN S A MIN S A MIN S A MIN	WS

			Clean	Fluid	Fluid	Stage	Tubing
Stage #	Stage Name	Fluid Type	Rate	Volume	Volume	Time	Pressure
			ВРМ	GAL	BBL	Mins	psig
0	Catch Pressure	Water	1.00	1,000	24	24	
1	Step Rate 1	Water	0.25	53	1	5	150
2	Step Rate 2	Water	0.50	105	3	5	365
3	Step Rate 3	Water	0.75	158	4	. 5	560
4	Step Rate 4	Water	1.00	210	5	5	729
5	Step Rate 5	Water	1.25	263	6	5	1012
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9	Step Rate 9	Water	3.00	630	15	5	2995
10	Step Rate 10	Water	3.50	735	18	5	2340
	Step Rate Totals			3,413	81	50	

Flow well back to injection facility or frac tanks for at least 24 hours before the injection test. Catch injected water sample and send to Martin Water Labs in Midland for analysis.



Customer Name:

RISING STAR SERVICES LP.

Date: Time: 8/26/2013 9:00 AM Truck Called: 8/26/2013 9:30 AM Arrived at location: 8/26/2013 10:00 AM Start Job: 8/26/2013 12:00 PM Finish Job: 12:30 PM 8/26/2013 Leave Location:

BC OPERATING

Job Log

Ticket Number:

P.	O. BOX 611	193	Lea	se Name:		ANGELL			ricket number.		H2013-0638	
MIDLA	ND, TEXAS	5 79711		Well #:			3		Superv	risor:	JOHN F	RANKLIN
OFFIC	Æ # 432-61	7-0114	Тур	e of Job:		STE	P RATE		County:		LEA	
FAX	(#432-339-	0140		Date:	8/26	/2013	CUSTON	ER REPRE	SENTATIVE:	1	/AL SAE	NZ
Tu	ıbing Size:			Ca	asing size:				Tbg Capacity:			
	ng weight:			Casi	ng weight:				Top Perf:			On Form
	ing bbl/inft				ng bbl/inft:				Bottom Perf:			
	ker depth:				Annulus:			F	lush Top Perf:			
E	nd of Tbg:			To	otal Depth:			Flush	Bottom Perf:			
	Top Perf:			-	pen Hole:			Ann	ular Capacity:			
Во	ttom Perf:				Liner Size:				Maximum:	35	500	Psi
Ho	les in Csg:			To	op of Liner							
Max psi:	3340	Min psi:	150	Avg psi:	2560	Max rate:	3.5	Avg rate:	2	15	SIP	153
Load to re	cover						5 MIN	762	10 MIN	532	15 MIN	42
					Ac	id Sy	stems					
Acid				0-11								
Acid 5	ystem:			Gallons			Coarse					
Dive	erter:	1		Balls			Rock Salt					
		Injectio	on Rate:		Job Pr	essures	loh	Loa	Rema	rke		
Time	Rate:		Bbis in		Tbg psi.	Csg psi	JOD				<u> </u>	
9:00 AM 9:05 AM									ALL OUT FOR -DEPARTURE		AEETING.	
9:10 AM	 		 	-					OBBS NM YA			
9:30 AM			<u> </u>		 		+		ARRIVE ON LC		30/11/011	
9:35 AM									RE RIG UP SA		ETING	
9:40 AM								SAFELY	RIG UP FROM	PUMP TO	WELL	
							H	AVE SAFETY	MEETING WIT	H RSS AN	D PU CRE	NS
10:13 AM			0		6100				TEST LIN			
									START J			
10:36 AM	0	.2		1	74	11		GET	NJECTION AT	.2 BBLS A	MIN	
10:43 AM	0	.5	3		242	11		GET	NJECTION AT	.5 BBS A	MIN	-
10:50 AM	0	.7	4		535	10	ļ	GET INJ	ECTION RATE	@ .7 BBLS	S A MIN	
10:55 AM		1	5		729	10	<u> </u>	GET INJE	CTION RATE	20 1.0 BBL	S A MIN	
11:02 AM	1.	25	6		1007	6		GET INJE	CTION RATE	2 1.25 BBL	S A MIN	
11:06 AM	1	.5	8		1227	5	1	GET IN IE	CTION RATE	@1.5 RRI :	S A MIN	
71.00 718	<u>'</u>				ILLI		 	OLI MAJE	. CHOR RAIE	- 1.0 DDL	N MIN	
SERVICE	REPRESEN	ITATIVE:	Signature	Please			CUSTOME	R REPRESEN	NATIVE:	Signature	Please	
JOHN	FRAN	IKLIN					X					

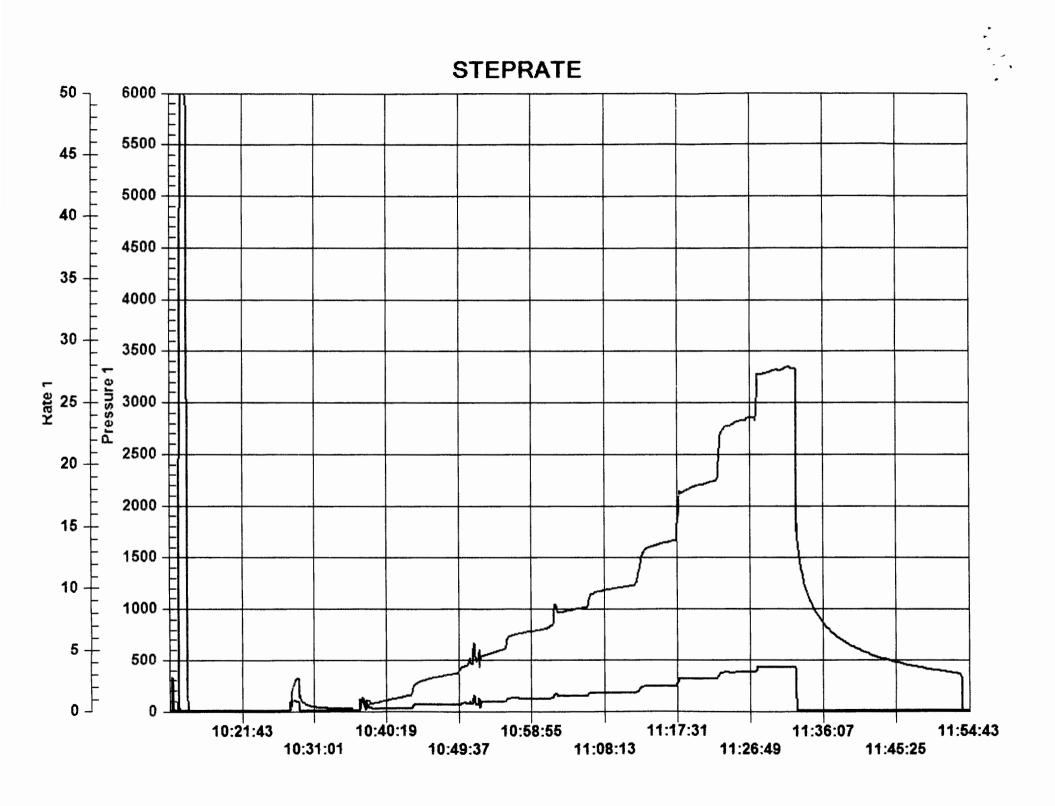


Ticket Number:

H2013-0638

Elerines, Acid	NZING / CATRACTORING	Lease:	ANGELL	
Customer:	BC OPERATING	Well:	3	
Date	8/26/2013	Job Type:		

Injection Rate: Time Rate: Bbls in Tbg psi. Csg 11:12 AM 2 10 1663	Job Log Remarks: g psi GET INJECTION RATE @ 2.0 BBLS A MIN
	4 GET INJECTION RATE @ 2.0 BBLS A MIN
11:17 AM 2.5 13 2290	3 GET INJECTION RATE@2.5 BBLS A MIN
11:22 AM 3 15 2995	3 GET INJECTION RATE @3.0 BBLS A MIN
11:27 AM 3.5 18 3340	3 GET INJECTION RATE @ 3.5 BBLS A MIN
44.00 011	SHUT DOWN TOTAL FLUID PUMPED
11:33 AM 81 11:33 AM 1532	ISIP
11.33 AM	1011
11:38 AM 762	5 MIN
11.50 7.111	
11:43 AM 532	10 MIN
11:48 AM 428	15 MIN
Thank you for your business, your patronage is greatly appreciated!	
ERVICE REPRESENTATIVE: Signature Please	CUSTOMER REPRESENATIVE: Signature Please
JOHN FRANKLIN	X





P.O.Box 61193 Midland, Texas 79711 Office# 432-617-0114 Fax # 432-339-0140 • OIL WELL CEMENTING • ACID SERVICES

TURNKEY ABANDONMENTS

• FRACTURING SERVICES

JOSE RAMERIZ

Acid Field Invoice:

H2013-0638

Old Well: Date of Job 8/26/2013 District: Hobbs New Well: Well #: 3 **ANGELL** Lease: **Customer: BC OPERATING** County/ LEA NM Address: PO BOX 50820 State: Parrish Field: MIDLAND **TEXAS** State: City: 50 Zip Code: 79701 API#: Mileage: **JAMIE PACHECO** Salesman: Contact Person/Company man: VAL SAENZ Service Supervisor: JOHN FRANKLIN Contact Number: Tractor: Trailer: **Equipment Operators:** Rig Contractor: NO RIG PK1098 SCOTTY CHAVEZ Rig Number: PK 1055 JOHN FRANKLIN Head & Manifold **ANDREW ARANDA** AP5001 T1113 **CHRIS ZACARIS** Gals. **Acid System KELLY CROW** PK1119

Description	Quantity	Cost per Unit	Unit cost after Discount	List of Price of Services	Discounted Price of Services
Acid Pump 0-5000 psi, 4 hr min	1	2,000.0000	\$1,700.0000	\$2,000.0000	\$1,700.0000
Acid Pump Truck Mileage	50	\$6.7500	\$5.7375	\$337.5000	\$286.8750
Acid Treating Van Mileage	50	\$5.2500	\$4.4625	\$262.5000	\$223.1250
Data Acquisition	1	\$1,000.0000	\$850.0000	\$1,000.0000	\$850.0000
Enviromental Charge	1	\$125.0000	\$106.2500	\$125.0000	\$106.2500
Valve & Swedge Rental 2"	1	\$450.0000	\$382.5000	\$450.0000	\$382.5000

Price Book Total Discount 15% Job Total

\$4,175.0000 \$626.2500

\$3,548.7500

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced).

The undersigned, as authorized agent of the customer, agrees and acknowledges that the services, materials, products and supplies provided for in this order shall be subject to the terms and conditions attached <u>Including Indementy and waiver of warranty provisions</u>, No additional terms and conditions shall apply to this order.

Signed: X

Well Owner, Operator, or Agent

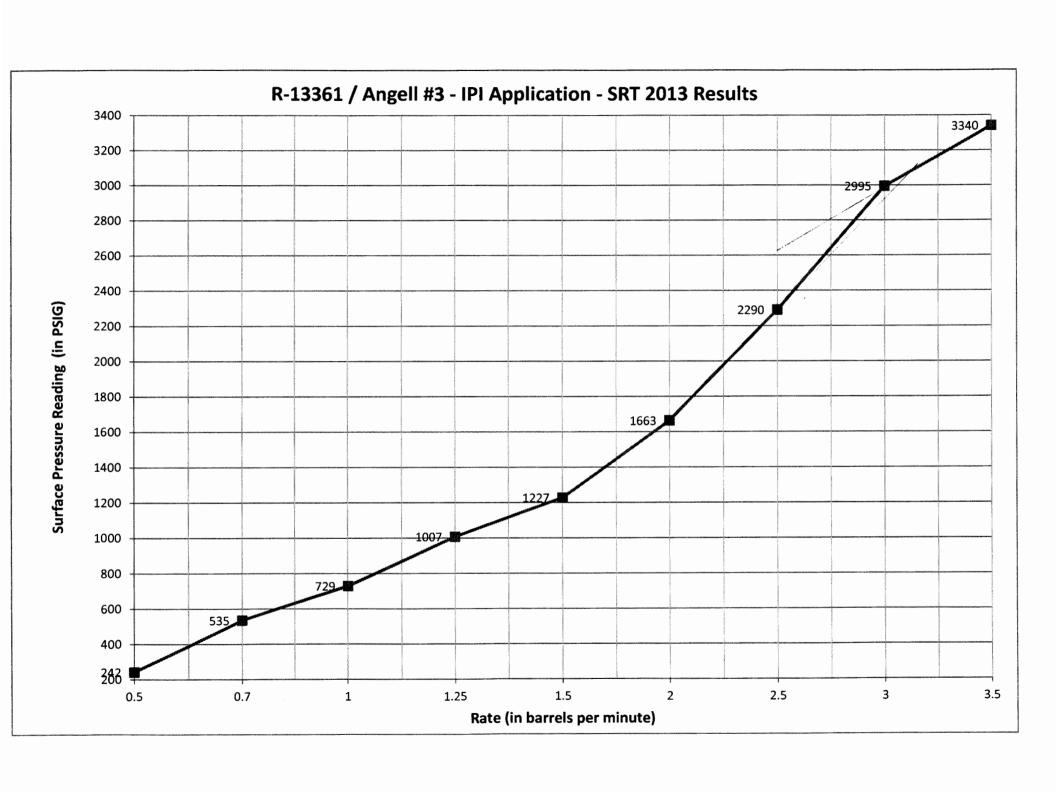
Terms-Net

Payable on Receipt

Over 30 Days, Discount Voids

Supervisor:

JOHN FRANKLIN



STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING THE:

APPLICATION OF BC OPERATING, INC. FOR AUTHORIZATION TO INJECT WATER FOR LEASE PRESSURE MAINTENANCE OPERATIONS AND DESIGNATION OF A PROJECT AREA, LEA COUNTY, NEW MEXICO

CASE NO. 14571 ORDER NO. R-13361

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on December 2, 2010, at Santa Fe, New Mexico before Examiner William V. Jones.

NOW, on this 11th day of March, 2011, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

FINDS THAT:

- (1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.
- (2) BC Operating, Inc. ("BC Operating" or "applicant") seeks approval to implement pressure maintenance operations by injection of produced water into the San Andres formation within the Angell Lease containing 80 acres, more or less, of the following lands within Lea County, New Mexico:

Township 17 South, Range 36 East, NMPM

Section 11: E/2 NE/4

(3) The project would initially consist of one injection well and one producing well as follows:

30-025-39690 Angell Well No. 3 <u>Subject Well</u> Unit H 30-025-37902 Angell Well No. 1 Producer Unit A

- (4) The vertical extent of the proposed Pressure Maintenance Project underlying the Angell Lease Area is the productive interval within the San Andres formation. The San Andres formation top is at approximately 4740 feet and it extends to the Glorieta formation at approximately 6150 feet. Injection is proposed into the Angell Well No. 3 from 4802 to 5432 feet.
- (5) BC Operating presented exhibits and testimony from a professional engineer indicating the following:
 - (a) Vanguard Permian, LLC was not formally notified of this application, but is a business partner in the subject well and an operator of lands directly to the east.
 - (b) The offsetting lease operated by BC Operating is owned identically to the subject lease, the same owners in the same percentages.
 - (c) The Project Area should include the 80 acres consisting of the E/2 NE/4 of Section 11. These lands are under a common lease held by BC Operating.
 - (d) The San Andres formation in this area dips gently to the east. The San Andres is being waterflooded successfully in this area and has favorable reservoir and fluid characteristics for waterflooding. Re-injecting water into this reservoir downdip from the producing well is expected to improve oil recovery. Another benefit will be reduced water hauling costs from this lease, extending the life of the production well.
 - (e) The operator intends to only use the proposed injection well for reinjection of produced water. The source of this produced water is expected to be from the Angell B Well No. 2 and from the Angell Well No. 1.
 - (f) The fresh water aquifer in this area is the Ogallala reservoir and extends from 50 feet to 200 feet below surface.
 - (g) All wells within the ½ mile area of review are adequately cemented in order to isolate the injection to the intended injection interval. There are no faults or conduits which could transport injected waters out of the injection interval. Any fresh water sands will be protected from this injection operation, and fresh water will not be endangered.
- (6) This area is on the southwestern edge of the productive San Andres reservoir. Chevron Midcontinent, L.P. operates the Lovington San Andres Unit waterflood located directly northeast in offsetting Section 1. BC Operating operates a San Andres/Paddock downhole commingled producer in Unit B of Section 11 called the Angell B Well No. 2. Vanguard Permian, LLC controls offsetting acreage within Section 12 containing an unsuccessful San Andres/Paddock well located in Unit E of Section 12. The Angell Federal Well No. 3 or "subject well" was drilled in 2010 as an unsuccessful

San Andres well.

- (7) The subject well appears to be adequately cased and cemented, in order to confine injection to the proposed interval. Within the Area of Review, all five active wells and the one plugged well appear to be adequately cased, cemented, or plugged to prevent movement of injection fluids out of zone and to protect any underground sources of drinking water.
- (8) The proposed Angell Lease Pressure Maintenance Project is wholly contained within the Lovington-Grayburg-San Andres Pool (Pool Code 40580). Wells completed within this pool are governed by statewide rules, including those specific to oil well spacing and setbacks.
- (9) BC Operating, Inc. (OGRID 160825) is the operator of record of the wells located on this acreage. BC Operating is in compliance with Division Rule 5.9 and therefore eligible for approval of disposal and injection permits.
- (10) The applicant has notified affected parties of the intent to inject into the proposed injection well and has received no objections. No other parties appeared in this case or otherwise opposed this application.
- (11) The proposed Pressure Maintenance Project within this lease is feasible and should result in the recovery of additional oil and gas that would not otherwise be recovered.
- (12) The estimated additional costs of the proposed Pressure Maintenance operations will not exceed the estimated value of the additional oil and gas recovered plus a reasonable profit.
- (13) The Project Area should include the 80 acres consisting of the E/2 NE/4 of Section 11. The proposed project will prevent waste, protect correlative rights, and should be approved and called the Angell Lease Pressure Maintenance Project.
- (14) BC Operating should be approved to inject into the San Andres formation within the Angell Federal Well No. 3 from depths of 4802 to 5432 feet. Provisions should be made for the operator of the Angell Lease to apply administratively for additional or alternative injection wells as needed within this lease.

IT IS THEREFORE ORDERED THAT:

- (1) BC Operating, Inc. ("BC Operating") is <u>hereby authorized</u> to implement pressure maintenance operations within the Angell Lease by injection of produced water into the productive interval of the San Andres formation.
- (2) The Angell Lease acreage, all of which is approved as the "Project Area", consists of 80 acres, more or less, defined as follows:

Township 17 South, Range 36 East, NMPM, Lea County, New Mexico

Section 11: E/2 NE/4

- (3) BC Operating is approved to utilize the Angell Federal Well No. 3 (API No. 30-025-39690), located 1650 feet from the North line and 660 feet from the East line, Unit H, of Section 11, Township 17 South, Range 36 East, NMPM, Lea County, New Mexico, for injection of produced water (UIC Class II only) into the San Andres formation from 4802 feet to 5432 feet for purposes of pressure maintenance.
- (4) The Division Director may administratively authorize an alternative injection well or additional injection wells within this lease as provided in 19.15.26.8F. NMAC.
- (5) The <u>Angell Lease Pressure Maintenance Project</u> is hereby approved and shall initially consist of one injection well and one producing well, all contained in the 80-acre lease.
- (6) The operator of the Angell Lease shall be BC Operating, Inc. (OGRID 160825).
- (7) BC Operating shall take all steps necessary to ensure that the injected water enters only the permitted injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.
- (8) Injection into any approved injection well or wells within this project shall be accomplished through plastic-lined tubing installed in a packer located within 100 feet of the uppermost injection perforation. The casing-tubing annulus shall be filled with an inert fluid, and a gauge or approved leak-detection device shall be attached to the annulus in order to detect any leakage in the casing, tubing, or packer.
- (9) The injection well or pressurization system shall be equipped with a pressure control device or acceptable substitute that will <u>limit the maximum surface</u> injection pressure to 960 psi.
- (10) The Division Director may administratively authorize a pressure limitation in excess of the above, upon a showing by the operator, supported by an approved Step Rate Test, that such higher pressure will not result in the fracturing of the injection formation or confining strata or damage to the reservoir.
- (11) The operator shall provide notice, 72 hours in advance, to the supervisor of the Division's district office of the date and time of the installation of injection equipment and of any mechanical integrity test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of injection 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

26.13 and 7.24.

- (12) Without limitation on the duties of the operator as provided in Division Rules 30 and 29, 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 or 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.
- (13) 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.
- (14) The Division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.
- (15) In accordance with Division Rule No 26.12.C., the disposal authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request, mailed by the operator prior to the termination date, may grant an extension thereof for good cause. One year after injection into the Project Area has ceased or not been reported, the authority to inject will terminate *ipso facto*.
- (16) 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.
- (17) 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 (or without prior notice and hearing in case of emergency), terminate the injection authority granted herein.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

DANIEL SANCHEZ
Acting Director

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

SEAL

