

Submit To Appropriate District Office
Two Copies
District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources
HOBBS OGD
Oil Conservation Division
SEP 07 2012
300 South St. Francis Dr.
Santa Fe, NM 87505

Form C-105
Revised August 1, 2011

1. WELL API NO.
30-025-40181
2. Type of Lease
☒ STATE ☐ FEE ☐ FED/INDIAN
3. State Oil & Gas Lease No
38679

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

4. Reason for filing:

☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only)

☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.15.K NMAC)

7. Type of Completion:

☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER

8. Name of Operator
VPR OPERATING, LLC

10. Address of Operator
1406 CAMP CRAFT ROAD, SUITE 106, AUSTIN, TX 78746

5. Lease Name or Unit Agreement Name
RETAIL STATE COM

6. Well Number:
1H

9. OGRID
266091

11. Pool name or Wildcat
RED TANK DELEWARE EAST Bone Spring

12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	A	2	23 S	32 E	NE/NE	330	N	660	E	LEA
BH:	P	2	23 S	32 E	SE/SE	330	N	327	E	LEA

13. Date Spudded	14. Date T.D. Reached	15. Date Rig Released	16. Date Completed (Ready to Produce)	17. Elevations (DF and RKB, RT, GR, etc.) KB 3754.5
11/15/11	1/18/12	01/22/12	4/15/12	

18. Total Measured Depth of Well	19. Plug Back Measured Depth	20. Was Directional Survey Made?	21. Type Electric and Other Logs Run
14600	14600	Yes	1) Caliper Log 2) Dipole Sonic Gamma Ray 3) Platform Express Hi-Res Laterolog Array Micro-CFL/GR 4) Platform Express Three Detector Litho-Density Compensated Neutron/GR

22. Producing Interval(s), of this completion - Top, Bottom, Name
Top 9089, Bottom 14600, 3rd Bone Springs

23. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB /FT	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	54.5	MD: 1188 TVD: 1188	17 1/2"	L: 1000 sks C-Premium Plus	n/a
9 5/8"	40	MD: 4966 TVD: 4966	12 1/4"	L: 1100 SKS C-PREMIUM PLUS T: 300 SKS C-PREMIUM PLUS	n/a
7"	26	MD: 10520 TVD: 10000	12 1/4"	L: 700 SKS 50/50 POZ T: 275 SKS C-PREMIUM PLUS	n/a
4 1/2"	11.6	MD: 14600 TVD: 9960	6 1/8"	L: 500 SKS 50-50-POZ, H	n/a

24. LINER RECORD				25. TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET
4 1/2"	9089	14600	500sks	n/a	2 7/8"	8991'
						Pump

26. Perforation record (interval, size, and number)

10 Stage Frac
Bottom: 14304
Shallowest: 10490

See attached Modified Frac Design and Perforation Schedule

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
	See attached Modified Frac Design and Perforation Schedule

28. PRODUCTION

Date First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)			Well Status (Prod. or Shut-in)		
4/16/12		ESP 540 150hp			Production		
Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
4/15/12	24 hrs	42/64	840bbl/day	150bbl	1000mcf	690bbl	150 bbl/day - 1000mcf
Flow Tubing Press	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)	
100psi	60psi	8.8 bbl/hr	213bbl	1028mcf	1694bbl	44.5%	

29. Disposition of Gas (Sold, used for fuel, vented, etc.)
Vented for flaring

30. Test Witnessed By
Matt Miranda

31. List Attachments
Modified Frac Designs for 10 Stages

32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit
n/a

33. If an on-site burial was used at the well, report the exact location of the on-site burial.
n/a

Latitude

Longitude

NAD 1927 1983

SEP 24 2012

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature [Signature] Printed Name Robert B. Pullen, Sr. Title President Date September 6, 2012
E-mail Address bob@vproperating.com

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy 1236'	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt 1450'	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt 4850'	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers	T. Devonian	T. Cliff House	T. Leadville
T. Queen	T. Silurian	T. Menefee	T. Madison
T. Grayburg	T. Montoya	T. Point Lookout	T. Elbert
T. San Andres	T. Simpson	T. Mancos	T. McCracken
T. Glorieta	T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddock	T. Ellenburger	Base Greenhorn	T. Granite
T. Blinbry	T. Gr. Wash	T. Dakota	
T. Tubb	T. Delaware Sand 5000'	T. Morrison	
T. Drinkard	T. Bone Springs 8800'	T. Todilto	
T. Abo	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from...9938'.....to.....10040'.....

No. 3, from.....to.....

No. 2, from...9700'.....to.....9860'.....

No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology	From	To	Thickness In Feet	Lithology
0	1236	1236'	Redbeds & Anhydrite				
1236	4850	3614'	Salt & Anhydrite				
4850	5000	150'	Limestone & Shale				
5000	8800	3800'	Sandstone				
8800	9938	1138'	Limestone & Shale				
9938	10040	102'	Sandstone				
10040	10413	373'	Sandstone & Shale				



T-S Petroleum Consulting
9400 Hwy 377 S.
Brooksmith, TX 76827

HOBBS OCD

SEP 10 2012

RECEIVED

**VPR Operating LLC
Redtail State com #1
Modified Frac Designs for 10 Stages**

**Sec 2A, T23S, R32E
Red Tank West Field
API: 30-025-40181-0000
Lea County, NM**

**For:
VPR Operating LLC**

March 8, 2012 - Revised

Prepared by: Prentice Creel, PE
T-S Petroleum Consulting
IPhone: 432-770-2265
Cell: 432-413-9043
Home: 432-362-1101
p.creel@t-sconsulting.com

Well Data:

Field Red Tank West field
 County Lea
 State NM
 Formations: Bone Springs
 Kb Elev 3754.5
 DF Elev 37353.5
 Ground Level 3735
 BHT: $\pm 146^{\circ}\text{F}$
 VTD: 9700 ft
 MTD: 14,600 ft
 PBMTD 14,600 ft
 7" Casing M Depth 10360
 Top of 4-1/2" Liner 9,089 ft
 4-1/2" Liner VD Depth: 10,000 ft
 4-1/2" Liner M Depth: 14,600 ft

Discussions:

Included are designs for 10 frac stages via the 7" casing and 4-1/2" liner.

Well Data:**Production Casing:**

SIZE	7"	WEIGHT	26#	DEPTH	MD @ 10360'
GRADE	L-80	SX. CMT.	sks	TOC @	
ID	6.276"	Yield	7,240#0	Max Press	6,200#

Production Liner:

SIZE	4-1/2"	WEIGHT	11.6#	M DEPTH	14,600'
GRADE	L-80	SX. CMT.	500 sks	TOC @?	MD Liner Top 9089'
ID	4.000"	Yield	7,780#	Max Press	6,200#

1st stage will be perfed with a tubing conveyed perforating gun. (3-1/8" X 20' gun) on 2-3/8" tubing.

2nd thru 10th stages will be perforated with a pump-down technique using 2-3/4" X 20 ft long guns with 80 shots after setting composite plugs. Each zone (2) thru (8) will be perforated after setting a Composite Plug. Once the zones are perforated, a pump down ball will seal off the composite plugs. Acid spearhead may be pumped down behind the balls. (Ball sealing composite plugs will be used in case the guns don't fire and have to be re-run).

Perforations:

	Pay Intervals		Perfed ft	Cntr Pt	top perf	bottom perf	Perfs
	top	bottom					
1	14038	14600	20	14350	14340	14360	80
2	13925	13945	20	13935	13925	13945	80
3	13475	14038	20	13500	13490	13510	80
4	12913	13475	20	13275	13265	13285	80
5	12350	12913	20	12750	12740	12760	80
6	12370	12390	20	12380	12370	12390	80
7	11788	12350	20	11975	11965	11985	80
8	11225	11788	20	11675	11665	11685	80
9	10663	11225	20	11350	11340	11360	80
10	10360	10650	20	10500	10490	10510	80

Guns will be ordered for the 20 ft shot array – capable of making the curve on a pump-in process on stages 2 thru 10.

Stage Plugs

Composite Plugs	Depth
2	14280
3	13865
4	13430
5	13205
6	12680
7	12310
8	11905
9	11605
10	11280
Safety	Not run

Fracture Recommendations:

Prior to fracing, rig up Sleeved Frac Stack on WH for safety and connections or replace WH with one capable of 8000# and ID large enough for running perf guns and composite plugs. Determine if Frac Stack can be ordered with one Master Valve and capable of stinging through the Casing Valve for abrasion and pressure requirements. Maximum WHTP can be set @ 6,200 psi if Frac Stack with protective sleeve is lowered through the well head.

Fracture down casing @ designed rates under max pressure of 6200 psi with an 8K frac sleeved stack to protect the well-head. Top pressure may need to be raised but not to exceed 6,200 psi. The fractures are designed to gain maximum formation depth of entry to maximize production.

Stage volumes and proppant concentration may be changed due to well treating reactions and net pressure response. The gels will be modified to be X-Linked with a delayed system allowing for a better stability at temperatures and reduce the loading to 20#/M.

Zone	Pay Interval		BHP (psi)	Frac Gradient	BHTP (psi)	Closure Pressure
	Top	Bottom				
1	14341	14359	3000	0.62	7560	4600
2	13925	13945	3000	0.62	7560	4600
3	13475	14038	3000	0.62	7560	4600
4	12913	13475	3000	0.62	7560	4600
5	12370	12390	3000	0.62	7560	4600
6	12350	12913	3000	0.62	7560	4600
7	11788	12350	3000	0.62	7560	4600
8	11225	11788	3000	0.62	7560	4600
9	10663	11225	3000	0.62	7560	4600
10	10360	10650	3000	0.62	7560	4600

Zone	Pay Interval		Young's Mod	Bottom Hole 9F	Porosity (%)	Permeability (md)	Frac Height	Estimated WHTP	Maximum Allowable	Mid Zone
	Top	Bottom								
1	14038	14600	5.70E+06	138				6100 @ 50 bpm	6,200	14350
2	13925	13945	5.70E+06	138				5950 @ 50 bpm	6,200	13935
3	13475	14038	5.70E+06	138				5800 @ 50 bpm	6,200	13500
4	12913	13475	5.70E+06	138				5650 @ 50 bpm	6,200	13275
5	12370	12390	5.70E+06	138				5650 @ 50 bpm	6,200	12380
6	12350	12913	5.70E+06	138				5650 @ 50 bpm	6,200	12750
7	11788	12350	5.70E+06	138				5650 @ 50 bpm	6,200	11975
8	11225	11788	5.70E+06	138				5650 @ 50 bpm	6,200	11675
9	10663	11225	5.70E+06	138				5650 @ 50 bpm	6,200	11350
10	10360	10650	5.70E+06	138				5650 @ 50 bpm	6,200	10175

Day 1:
Stage 1

	Size OD	ID	Wt/Grade	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	4	11.6# L-80	9089	14340	5251	0.6528	3428	82
								18034	429

Stage 1 perforating will be done prior to frac with Tubing Conveyed Guns

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol	Slurry Vol	Prop.	Prop	Prop	Prop	Cum Prop
		Rate	Treating	Rate		Volume	Stage	Cum.	Stage	Cum.	Type and Mesh	Conc	Stage	Cum.	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(Lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	10800	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	18034	429	3501	429	3642					
	Totals					147034	3501		3642				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	18034

Rig to pump in WL w/ CP & Guns -set CP at selected interval -PU to fire perforating guns -Rig to Frac next Stage

Day 1:
Stage 2

	Size OD	ID	Wt/Grade	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	11.6# L-80	17# L-80	9089	13925	4836	0.6528	3157	75
								17763	423

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol.	Slurry Vol.	Prop.	Prop	Prop	Prop	Cum Prop
		Rate	Treating	Rate		Volume	Stage	Cum.	Stage	Cum.	Type and Mesh	Conc	Stage	Cum.	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(Lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	12200	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	17763	423	3494	423	3635					
	Totals					146763	3494		3635				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	17763

Rig to pump in WL w/ CP & Guns - set CP at selected interval - PU to fire perforating guns - Rig to Frac next Stage

Day 1:
Stage
3

	Size OD	ID	Wt/Grade	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	11.6# L-80	11.6# L-80	9089	13490	4401	0.6528	2873	68
								17479	416

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol.	Slurry Vol.	Prop.	Prop	Prop	Prop	Cum Prop
		Rate	Treating	Rate		Volume	Stage	Cum.	Stage	Cum.	Type and Mesh	Conc	Stage	Cum.	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(Lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	5400	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	17479	416	3488	416	3629					
	Totals					146479	3488		3629				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	17479

Rig to pump in WL w/ CP & Guns - set CP at selected interval - PU to fire perforating guns - Rig to Frac next Stage.

Day 2:
Stage
4

	Size OD	ID	Wt/Grade	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	11.6# L-80	17# L-80	9089	13265	4176	0.6528	2726	65
								17332	413

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol	Slurry Vol	Prop.	Prop	Prop	Prop	Cum Prop
		Rate	Treating	Rate		Volume	Stage	Cum.	Stage	Cum.	Type and Mesh	Conc	Stage	Cum.	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(Lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	5400	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	17332	413	3484	413	3625					
	Totals					146332	3484		3625				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	17332

Rig to pump in WL w/ CP & Guns - set CP at selected interval - PU to fire perforating guns - Rig to Frac next Stage

Day 2:
Stage
5

	Size OD	ID	Wt/Grade	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	11.6# L-80	17# L-80	9089	12740	3651	0.6528	2383	57
								16989	405

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol.	Slurry Vol.	Prop.	Prop	Prop	Prop	Cum Prop
		Rate	Treating	Rate		Volume	Stage	Cum.	Stage	Cum.	Type and Mesh	Conc	Stage	Cum.	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(Lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	5400	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	16989	405	3476	405	3617					
	Totals					145989	3476		3617				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	16989

Rig to pump in WL w/ CP & Guns - set CP at selected interval - PU to fire perforating guns - Rig to Frac next Stage

Day 2:
Stage 6

	Size OD	ID	Wt/Grade	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	11.6# L-80	17# L-80	9089	12370	3281	0.6528	2142	51
								16748	399

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol.	Slurry Vol.	Prop.	Prop	Prop	Prop	Cum Prop
		Rate	Treating	Rate		Volume	Stage	Cum.	Stage	Cum.	Type and Mesh	Conc	Stage	Cum.	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(Lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	5400	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	16748	399	3470	399	3611					
	Totals					145748	3470		3611				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	16748

Rig to pump in WL w/ CP & Guns - set CP at selected interval - PU to fire perforating guns - Rig to Frac next Stage

Day 3:
Stage
7

	Size OD	ID	Wt/Grade	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	11.6# L-80	17# L-80	9089	11965	2876	0.6528	1877	45
					Mid Perf			16483	392

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol	Slurry Vol	Prop.	Prop	Prop	Prop	Cum. Prop
		Rate	Treating	Rate		Volume	Stage	Cum.	Stage	Cum.	Type and Mesh	Conc	Stage	Cum.	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(Lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	5400	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	16483	392	3464	392	3605					
	Totals					145483	3464		3605				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	16483

Rig to pump in WL w/ CP & Guns - set CP at selected interval - PU to fire perforating guns - Rig to Frac next Stage

Day 3:
Stage
8

	Size OD	ID	Wt/Grad e	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	11.6# L-80	17# L-80	9089	11665	2576	0.6528	1682	40
								16288	388

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol.	Slurry Vol.	Prop.	Prop	Prop	Prop	Cum Prop
		Rate	Treating	Rate		Volume	Stage	Cum.	Stage	Cum.	Type and Mesh	Conc	Stage	Cum.	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(Lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	5400	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	16288	388	3459	388	3600					
	Totals					145288	3459		3600				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	16288

Rig to pump in WL w/ CP & Guns - set CP at selected interval - PU to fire perforating guns - Rig to Frac next Stage

Day 3:
Stage
9

	Size OD	ID	Wt/Grade	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	11.6# L-80	17# L-80	9089	11340	2251	0.6528	1469	35
								16075	383

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol.	Slurry Vol.	Prop.	Prop	Prop	Prop	Cum Prop
		Rate	Treating	Rate		Volume	Stage	Cum.	Stage	Cum.	Type and Mesh	Conc	Stage	Cum.	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	5400	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	16075	383	3454	383	3595					
	Totals					145075	3454		3595				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	16075

Rig to pump in WL w/ CP & Guns - set CP at selected interval - PU to fire perforating guns - Rig to Frac next Stage

Day 3:
Stage
10

	Size OD	ID	Wt/Grad e	Top	Bottom	Length	Factor	Vol (gals)	Vol (bbls)
Casing	7" OD	6.276" ID	26# L-80	0	9089	9089	1.607	14606	348
Liner	4.5" OD	11.6# L-80	17# L-80	9089	10490	1401	0.6528	915	22
								15521	370

Stage	Stage Name	Rates			Fluid Name	Volumes					Proppant				
		Pump	Est. Surface	Clean		Stage Fluid	Clean Vol	Clean Vol	Slurry Vol	Slurry Vol	Prop	Prop	Prop	Prop	Cum Prop
		Rate	Treating	Rate		Volume	Stage	Cum	Stage	Cum	Type and Mesh	Conc	Stage	Cum	
		(bpm)	(psi)	(bpm)		(gal)	(bbls)	(bbls)	(bbls)	(bbls)		PPG	(lbs)	(Lbs)	(sks)
1	Spearhead	30	3550	30	7.5% HCL	1000	24	24	24	24					
2	Spacer	50	5400	50	25# Linear Gel	1000	24	48	24	48					
3	Pre-pad	50	6200	50	25# XL Gel	4000	95	143	95	143					
4	Pad	50	6100	50	25# XL Gel	45000	1071	1214	1071	1214					
5	0.5 PPA	50	6050	48.9	25# XL Gel	10000	238	1452	244	1458	20/40 White	0.5	5000	5000	50
6	1.0 PPA	50	6000	47.8	20# XL Gel	16000	381	1833	398	1856	20/40 White	1	16000	21000	210
7	1.5 PPA	50	5900	46.8	20# XL Gel	16000	381	2214	407	2263	20/40 White	1.5	24000	45000	450
8	2.0 PPA	50	5800	45.8	20# XL Gel	18000	429	2643	468	2731	20/40 White	2	36000	81000	810
9	2.5 PPA	50	5700	44.9	20# XL Gel	10000	238	2881	265	2996	20/40 White	2.5	25000	106000	1060
10	3.0 PPA	50	5600	44.0	20# XL Gel	8000	190	3071	217	3213	20/40 Super LC	3	24000	130000	1300
11	Flush	50	5400	50	20# Linear Gel	15521	370	3441	370	3582					
	Totals					144521	3441		3582				130000		

Total Acid	1000
Total 25# Linear	1000
Total 25# XL Gel	59000
Total 20# XL Gel	68000
Total 20# Gel	15521

RIH w/ WL and set safety CP @ 10,050'

Zone & Stage Details:

Summary	Fluids	(gals)	(bbls)	Gals w/ excess	w/ excess(bbls)
	Total Acid	10,000	238	10,000 gals w/o excess	238
	Total 25# Linear	10,000	238	12,000 gals w/ excess	286
	Total 25# XL Gel	590,000	14,048	600,000 gals w/ excess	14,286
	Total 20# XL Gel	680,000	16,190	690,000 gals w/ excess	16,429
	Total 20# Linear Gel	168,500	4,012	170,000 gals w/ excess	4,048
				35,048	Total FW
	Proppant	(lbs)	(sks)CW		
	Total 20/40 White	1,060,000	10,600		
	Total 20/40 Super LC	240,000	2,400		

Fluid Specifics:

Frac Fluid	25# & 20# Linear Gel	182,000 gals w/ excess
6.25 & 5.00	gpt	Gelling Agent
1	gpt	Clay Stabilization Product
1	gpt	Gel Breaker - Enzyme
1	gpt	Surface Tension Reducer
1	gpt	Non-Emulsifier
1	ppt	Gel Breaker - Oxidizer
0.3	gpt	Bacteria Control Product

Frac Fluid	25# XL Gel	600,000 gals w/ excess
6.25	gpt	Gelling Agent
1	gpt	XL - Crosslinker
1	gpt	Clay Stabilization Product
1	gpt	Gel Breaker - Enzyme
1	gpt	Surface Tension Reducer
1	gpt	Non-Emulsifier
1	ppt	Gel Breaker - Oxidizer
0.3	gpt	Bacteria Control Product

Frac Fluid	20# XL Gel	690,000 gals w/ excess
5	gpt	Gelling Agent
5	gpt	Resin Activator - w/ RCS only
1	gpt	XL - Crosslinker
1	gpt	Clay Stabilization Product
1	gpt	Gel Breaker - Enzyme
1	gpt	Surface Tension Reducer
1	gpt	Non-Emulsifier
1	ppt	Gel Breaker - Oxidizer
0.3	gpt	Bacteria Control Product

Acid:	7.5% HCL	10,000 gals w/ excess
4	gpt	Iron Control Product
3	gpt	Corrosion Inhibitor
1	gpt	Friction Reducer
1	gpt	Non-emulsifier

Laboratory analysis per Service Company to determine the system additives. Excess gel and additives should be on location so that extended volumes may be pumped or if gel quality needs to be raised. Desired 2 hr break. Fluids to address paraffin and scale issues.