NMOCD
Hobbs
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DEC 02 2016
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Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. NMNM118722

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

2. Name of Operator CHEVRON USA INC
Contact: DENISE PINKERTON
E-Mail: leakejd@chevron.com

8. Lease Name and Well No. SD WE 14 FEDERAL P7 4H

3. Address 1616 W. BENDER BLVD HOBBS, NM 88240
3a. Phone No. (include area code) Ph: 432-687-7375

9. API Well No. 30-025-43087-00-S1

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface SESE 215FSL 648FEL
At top prod interval reported below NENE 108FNL 369FEL
At total depth NENE 108FNL 369FEL

10. Field and Pool, or Exploratory JENNINGS-UPPER BONE SPRING SHA

11. Sec., T., R., M., or Block and Survey or Area Sec 14 T26S R32E Mer NMP

12. County or Parish LEA
13. State NM

14. Date Spudded 04/18/2016
15. Date T.D. Reached 05/13/2016
16. Date Completed ☐ D & A ☒ Ready to Prod. 08/01/2016
17. Elevations (DF, KB, RT, GL)* 3165 GL

18. Total Depth: MD 13816 TVD 9079
19. Plug Back T.D.: MD 13750 TVD 9079
20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
CBL

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J-55	54.5	0	830		960		0	
12.250	9.625 HCK-55	40.0	0	4557		1517		0	
8.750	5.500 HCP-110	20.0	0	13800		1649		3270	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	8511	8511						

25. Producing Intervals

Formation	Top	Bottom
A) BONE SPRINGS UPPER SHAL	9470	13608
B)		
C)		
D)		

26. Perforation Record

Perforated Interval	Size	No. Holes	Perf. Status
9470 TO 13608			PRODUCING ***SEE DETAILED P

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
9470 TO 13608	FRAC W/TOTAL SAND (100 MESH & 40/70) = 5,881,875 LBS ***SEE DETAILED FRAC REPORT ATTACHED

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
08/01/2016	09/09/2016	24	→	970.0	1836.0	1662.0			FLOWS FROM WELL

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
36/64	880	445.0	→	970	1836	1662	1893	POW

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

ACCEPTED FOR RECORD
/S/ DAVID R. GLASS
NOV 04 2016

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #353380 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

DAVID R. GLASS
PETROLEUM ENGINEER

RECLAMATION DUE:
FEB 01 2017

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
CASTILE	2845	4574	ANHYDRITE	CASTILE	2845
DELAWARE	4575	4644	LIMESTONE	DELAWARE	4575
BELL CANYON	4645	5719	SANDSTONE	BELL CANYON	4645
CHERRY CANYON	5720	7284	SANDSTONE	CHERRY CANYON	5720
BRUSHY CANYON	7285	8829	SANDSTONE	BRUSHY CANYON	7285
BONE SPRING LIME	8830	8874	LIMESTONE	BONE SPRING LIME	8830
BONE SPRINGS UPPER SHAL	8875	13816	SHALE	BONE SPRINGS UPPER SHAL	8875

32. Additional remarks (include plugging procedure):

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #353380 Verified by the BLM Well Information System.
For CHEVRON USA INC, sent to the Hobbs
Committed to AFMSS for processing by DEBORAH HAM on 10/26/2016 (17DMH0011SE)

Name *(please print)* DENISE PINKERTON Title PERMITTING SPECIALIST

Signature (Electronic Submission) Date 10/03/2016

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

Chevron

Phoenix Technology Services

Survey Report

PHOENIX TECHNOLOGY SERVICES

Company:	Chevron	**Local Co-ordinate Reference:**	Well P7 4H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	RKB @ 3198.00usft (Pace X30)
Site:	SD WE 14 Fed	**MD Reference:**	RKB @ 3198.00usft (Pace X30)
Well:	P7 4H	**North Reference:**	Grid
Wellbore:	OH / Job 60048	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Pace X30)	**Database:**	Compass 5000 GCR

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,014.00	6.30	78.20	2,011.42	0.60	38.02	2.81	0.62	-0.11	5.47
2,192.00	6.60	81.00	2,188.29	4.20	57.66	7.55	0.24	0.17	1.57
2,370.00	6.80	87.60	2,365.08	6.24	78.31	10.78	0.45	0.11	3.71
2,547.00	5.50	92.20	2,541.05	6.36	97.26	12.00	0.78	-0.73	2.60
2,724.00	5.40	93.30	2,717.25	5.55	114.05	12.17	0.08	-0.06	0.62
2,901.00	5.40	91.20	2,893.47	4.90	130.69	12.48	0.11	0.00	-1.19
3,079.00	5.50	91.00	3,070.66	4.57	147.59	13.14	0.06	0.06	-0.11
3,257.00	5.90	86.20	3,247.76	4.71	165.27	14.31	0.27	0.22	-1.57
3,434.00	6.60	87.10	3,423.73	5.51	184.52	15.23	0.40	0.40	-0.62
3,611.00	5.50	88.00	3,599.74	6.32	203.15	16.12	0.62	-0.62	0.51
3,790.00	5.40	89.50	3,777.93	6.70	220.15	16.48	0.10	-0.06	0.84
3,967.00	5.80	90.40	3,954.09	6.71	237.42	20.49	0.23	0.23	0.51
4,144.00	6.10	89.30	4,130.13	6.76	255.77	21.61	0.18	0.17	-0.62
4,322.00	6.80	95.70	4,307.01	5.83	275.71	21.84	0.56	0.39	3.60
4,499.00	6.90	95.40	4,482.75	3.79	296.72	21.02	0.06	0.06	-0.17
4,509.00	6.90	96.10	4,492.67	3.67	297.92	20.97	0.84	0.00	7.00
4,598.00	6.70	96.60	4,581.05	2.50	308.39	20.42	0.23	-0.22	0.56
4,776.00	4.20	100.10	4,758.23	0.16	325.13	19.06	1.42	-1.40	1.97
4,953.00	1.20	100.50	4,935.01	-1.31	333.33	18.06	1.69	-1.69	0.23
5,131.00	1.10	304.30	5,113.00	-0.69	333.75	18.71	1.26	-0.06	-87.75
5,308.00	1.20	284.20	5,289.98	0.72	330.55	19.93	0.23	0.06	-11.36
5,485.00	1.50	284.30	5,466.91	1.75	326.51	20.72	0.17	0.17	0.06
5,662.00	1.60	282.00	5,643.85	2.84	321.85	21.54	0.07	0.06	-1.30
5,839.00	1.10	305.60	5,820.80	4.36	318.07	22.54	0.43	-0.28	13.90
6,016.00	0.90	291.00	5,997.78	5.86	315.41	24.20	0.19	-0.11	-8.81
6,194.00	0.90	308.80	6,175.75	7.25	313.01	25.43	0.16	0.00	10.00
6,371.00	0.90	310.40	6,352.73	9.02	310.87	27.08	0.01	0.00	0.90
6,549.00	1.00	285.40	6,530.71	10.34	308.31	28.24	0.24	0.06	-14.04
6,726.00	0.60	265.30	6,707.69	10.68	305.90	28.44	0.27	-0.23	-11.35
6,904.00	1.00	253.50	6,885.67	10.16	303.48	27.78	0.24	0.22	-6.63
7,082.00	1.00	243.90	7,063.65	9.03	300.59	26.49	0.09	0.00	-5.39
7,259.00	1.00	257.20	7,240.62	8.01	297.70	25.30	0.13	0.00	7.51
7,436.00	0.60	239.60	7,417.60	7.20	295.39	24.36	0.26	-0.23	-9.94
7,614.00	0.30	203.40	7,595.60	6.30	294.41	23.40	0.22	-0.17	-20.34
7,791.00	0.30	210.40	7,772.59	5.48	293.99	22.55	0.02	0.00	3.95
7,969.00	0.50	212.40	7,950.59	4.42	293.33	21.46	0.11	0.11	1.12
8,146.00	0.80	210.00	8,127.58	2.70	292.30	19.68	0.17	0.17	-1.38
8,323.00	1.20	211.50	8,304.55	0.05	290.72	16.94	0.23	0.23	0.85
8,500.00	1.20	211.80	8,481.51	-3.11	288.77	13.68	0.00	0.00	0.17
8,510.00	1.00	214.10	8,491.51	-3.27	288.67	13.51	2.05	-2.00	23.00
Final Phoenix MWD Survey									
8,567.00	1.00	214.10	8,548.50	-4.09	288.11	12.68	0.00	0.00	0.00
Projection to TD									

Phoenix Technology Services
Survey Report

Company:	Chevron	**Local Co-ordinate Reference:**	Well P7 4H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	RKB @ 3198.00usft (Pace X30)
Site:	SD WE 14 Fed	**MD Reference:**	RKB @ 3198.00usft (Pace X30)
Well:	P7 4H	**North Reference:**	Grid
Wellbore:	OH / Job 60048	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Pace X30)	**Database:**	Compass 5000 GCR

Project Lea County, NM (NAD27 NME)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site SD WE 14 Fed

Site Position:		**Northing:**	377,311.00 usft	**Latitude:**	32° 2' 7.83756 N
From:	Map	**Easting:**	711,217.00 usft	**Longitude:**	103° 39' 6.19467 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.36 °

Well P7 4H

Well Position	**+N/-S**	0.00 usft	**Northing:**	377,548.00 usft	**Latitude:**	32° 2' 9.92717 N
	+E/-W	0.00 usft	**Easting:**	715,273.00 usft	**Longitude:**	103° 38' 19.05848 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,165.00 usft

Wellbore OH / Job 60048

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/18/2016	6.97	59.75	48,036

Design Surveys (Pace X30)

Audit Notes:

Version:	1.0	**Phase:**	ACTUAL	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	3.33

Survey Program **Date** 5/9/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
165.00	815.00	Teledrift MWD Surveys (OH / Job 60048)	MWD	MWD - Standard
949.00	8,567.00	Phoenix MWD Surveys (OH / Job 60048)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
815.00	1.80	260.00	814.88	-5.02	-8.68	-5.51	0.00	0.00	0.00
Tie-in to Teledrift Surveys									
949.00	1.60	271.30	948.81	-5.34	-12.86	-6.07	0.26	0.00	8.43
First Phoenix MWD Survey									
1,126.00	1.60	175.40	1,125.77	-7.74	-15.44	-8.62	1.43	-0.11	-54.18
1,303.00	1.80	127.40	1,302.70	-11.89	-13.04	-12.63	0.79	0.11	-27.12
1,481.00	3.20	76.80	1,480.54	-12.45	-5.98	-12.79	1.40	0.79	-28.43
1,658.00	3.60	77.00	1,657.23	-10.07	4.25	-9.81	0.23	0.23	0.11
1,835.00	6.50	68.40	1,833.53	-5.13	16.98	-4.02	1.69	1.64	-4.86

Chevron

Chevron

Lea County, NM (NAD27 NME)
SD WE 14 Fed
P7 4H

OH / Job 60048

Survey: Phoenix MWD Surveys

Standard Survey Report

09 May, 2016

PHOENIX
TECHNOLOGY SERVICES

Phoenix Technology Services
SURVEY DATA CERTIFICATION

PHOENIX TECHNOLOGY SERVICES

PHOENIX JOB NUMBER	60048	OPERATOR	Chevron
WELL NAME	SD WE 14 FED P7 4H	COUNTY & STATE	Lea County, NM
API WELL NUMBER	30-025-43087	PROPOSED DIRECTION	3.33

TIE-IN DATA

MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
815.00 ft	814.88 ft	1.8°	260.0°	5.02 S	8.68 W	Teledrift

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
4-May-16	949 ft	1.8°	271.3°

SURVEY INSTRUMENT TYPE: Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
9-May-16	8,510 ft	1.0°	214.1°

TO THE BEST OF MY KNOWLEDGE I CERTIFY THIS SURVEY DATA TO BE TRUE AND CORRECT.

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH	INCLIN	AZIMUTH
9-May-16	8,567 ft	1.0°	214.1°

Benjamin J. Maulding
PRINT YOUR NAME ABOVE

Benjamin Maulding
SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	6.60
DECLINATION OR GRID	GRID

Monday, May 09, 2016
TODAY'S DATE

MWD SUPERVISOR 1	Robert Brewer	DIRECTIONAL DRILLER 1	Casey Tubbe
MWD SUPERVISOR 2	Benjamin Maulding	DIRECTIONAL DRILLER 2	Monte Gordon

12329 Cutten Rd., Houston, Texas 77066 (713)337-0600 (Voice), (713)337-0599 (Fax)

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 14 FED P7 004H	SD 14 FED P7	JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)
3,165.00	3,197.60	3,197.60, 3/28/2016		

Wellbore Name	Parent Wellbore	Kick Off Depth (ftKB)	Vertical Section Direction (°)
Original Hole	Original Hole	8,567.0	359.66

Northing (Y) (ft)	Easting (X) (ft)	UTM Grid Zone

Date	Definitive?	Description	Planned?
4/18/2016	Y	MWD	N

MD Tie In (ftKB)	TVDTie In (ftKB)	Inclination Tie In (°)	Azimuth Tie In (°)	NSTie In (ft)	EWTie In (ft)

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unusable data
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Magn MWD	Phoenix Directional	0.00	0.00	0.00	N
165	0.30	263.00	165.00	-0.05	-0.43	-0.05	0.18	Magn MWD	Phoenix Directional	0.18	0.43	159.39	N
255	0.10	28.00	255.00	0.01	-0.63	-0.01	0.41	Magn MWD	Phoenix Directional	-0.22	0.63	-261.11	N
343	0.50	243.00	343.00	0.12	-0.93	-0.11	0.66	Magn MWD	Phoenix Directional	0.45	0.94	244.32	N
436	0.60	249.00	435.99	-0.48	-1.75	-0.47	0.12	Magn MWD	Phoenix Directional	0.11	1.81	6.45	N
532	1.00	223.00	531.98	-1.27	-2.79	-1.25	0.55	Magn MWD	Phoenix Directional	0.42	3.06	-27.08	N
625	1.40	239.00	624.96	-2.45	-4.32	-2.42	0.56	Magn MWD	Phoenix Directional	0.43	4.96	17.20	N
717	1.80	247.00	716.93	-3.59	-6.61	-3.55	0.50	Magn MWD	Phoenix Directional	0.43	7.52	8.70	N
815	1.80	260.00	814.88	-4.46	-9.54	-4.40	0.42	Magn MWD	Phoenix Directional	0.00	10.53	13.27	N
949	1.80	271.30	948.81	-4.78	-13.72	-4.70	0.26	Magn MWD	Phoenix Directional	0.00	14.53	8.43	N
1,126	1.60	175.40	1,125.76	-7.18	-16.30	-7.08	1.43	Magn MWD	Phoenix Directional	-0.11	17.81	-54.18	N
1,303	1.80	127.40	1,302.70	-11.33	-13.89	-11.25	0.79	Magn MWD	Phoenix Directional	0.11	17.93	-27.12	N
1,481	3.20	76.80	1,480.54	-11.89	-6.83	-11.85	1.40	Magn MWD	Phoenix Directional	0.79	13.72	-28.43	N
1,658	3.60	77.00	1,657.23	-9.52	3.39	-9.54	0.23	Magn MWD	Phoenix Directional	0.23	10.10	0.11	N
1,835	6.50	66.40	1,833.53	-4.58	18.12	-4.68	1.69	Magn MWD	Phoenix Directional	1.64	18.69	-4.86	N
2,014	6.30	78.20	2,011.41	1.16	37.16	0.94	0.62	Magn MWD	Phoenix Directional	-0.11	37.18	5.47	N
2,192	6.60	81.00	2,188.29	4.76	56.82	4.42	0.24	Magn MWD	Phoenix Directional	0.17	57.02	1.57	N
2,370	6.80	87.80	2,365.08	6.60	77.45	6.34	0.45	Magn MWD	Phoenix Directional	0.11	77.75	3.71	N
2,547	5.50	92.20	2,541.05	6.91	96.40	6.34	0.78	Magn MWD	Phoenix Directional	-0.73	96.85	2.80	N
2,724	5.40	93.30	2,717.25	6.11	113.19	5.44	0.08	Magn MWD	Phoenix Directional	-0.06	113.36	0.62	N
2,901	5.40	91.20	2,893.47	5.45	129.83	4.68	0.11	Magn MWD	Phoenix Directional	0.00	129.95	-1.19	N
3,079	5.50	91.00	3,070.66	5.13	146.74	4.26	0.06	Magn MWD	Phoenix Directional	0.06	146.82	-0.11	N
3,257	5.90	88.20	3,247.78	5.27	164.41	4.29	0.27	Magn MWD	Phoenix Directional	0.22	164.49	-1.57	N
3,434	6.60	87.10	3,423.73	6.07	183.66	4.98	0.40	Magn MWD	Phoenix Directional	0.40	183.76	-0.62	N
3,611	5.50	88.00	3,599.74	6.88	202.30	5.68	0.62	Magn MWD	Phoenix Directional	-0.62	202.41	0.51	N
3,790	5.40	89.50	3,777.93	7.25	219.29	5.95	0.10	Magn MWD	Phoenix Directional	-0.06	219.41	0.84	N
3,967	5.80	90.40	3,954.09	7.26	236.56	5.86	0.23	Magn MWD	Phoenix Directional	0.23	236.68	0.51	N

Report Printed: 9/30/2016

Chevron

Phoenix Technology Services

Survey Report

PHOENIX TECHNOLOGY SERVICES

Company:	Chevron	**Local Co-ordinate Reference:**	Well P7 4H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	RKB @ 3198.00usft (Pace X30)
Site:	SD WE 14 Fed	**MD Reference:**	RKB @ 3198.00usft (Pace X30)
Well:	P7 4H	**North Reference:**	Grid
Wellbore:	OH / Job 60048	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Pace X30)	**Database:**	Compass 5000 GCR

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
815.00	814.88	-5.02	-8.68	Tie-in to Teledrift Surveys
949.00	948.81	-5.34	-12.86	First Phoenix MWD Survey
8,510.00	8,491.51	-3.27	286.67	Final Phoenix MWD Survey
8,567.00	8,548.50	-4.09	288.11	Projection to TD

Checked By _____ Approved By _____ Date _____

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 14 FED P7 004H	SD 14 FED P7	JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)
3,165.00	3,197.60	3,197.60, 3/28/2016		

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unused data
8,737	24.67	4.86	8,713.33	32.22	291.11	30.49	14.67	Magn MWD	Baker Hughes	14.83	292.89	-3.94	N
8,826	35.19	357.20	8,790.36	76.48	291.44	74.75	12.55	Magn MWD	Baker Hughes	11.82	301.30	395.89	N
8,914	43.82	349.40	8,858.25	131.89	284.58	130.20	11.30	Magn MWD	Baker Hughes	9.81	313.65	-8.86	N
8,959	47.48	353.20	8,889.71	163.69	279.74	162.03	10.13	Magn MWD	Baker Hughes	8.13	324.12	8.44	N
9,004	47.06	359.40	8,920.26	196.64	277.61	194.99	10.16	Magn MWD	Baker Hughes	0.93	340.20	13.78	N
9,048	45.60	2.43	8,950.65	228.46	278.10	226.80	5.96	Magn MWD	Baker Hughes	3.32	359.91	-811.30	N
9,093	47.70	0.84	8,981.54	261.16	279.03	259.50	5.33	Magn MWD	Baker Hughes	4.67	382.18	-3.53	N
9,137	55.41	359.46	9,008.87	295.60	279.10	293.94	17.69	Magn MWD	Baker Hughes	17.52	406.54	815.05	N
9,181	63.10	357.75	9,031.35	333.37	278.16	331.72	17.79	Magn MWD	Baker Hughes	17.48	434.17	-3.89	N
9,226	71.03	356.16	9,048.88	374.72	275.95	373.08	17.91	Magn MWD	Baker Hughes	17.62	465.36	-3.49	N
9,270	75.36	357.35	9,061.59	416.76	273.58	415.13	10.16	Magn MWD	Baker Hughes	9.84	498.53	2.66	N
9,314	79.63	358.28	9,071.12	459.58	271.94	458.06	9.92	Magn MWD	Baker Hughes	9.70	534.09	2.11	N
9,359	87.84	358.34	9,076.03	504.35	270.62	502.74	18.24	Magn MWD	Baker Hughes	18.24	572.37	0.13	N
9,403	89.35	359.76	9,077.10	548.33	269.89	546.72	4.71	Magn MWD	Baker Hughes	3.43	611.15	3.23	N
9,447	89.32	0.51	9,077.82	592.33	270.00	590.71	1.71	Magn MWD	Baker Hughes	-0.07	650.96	-816.48	N
9,536	89.68	1.22	9,078.41	681.31	271.34	679.69	0.88	Magn MWD	Baker Hughes	0.38	733.36	0.80	N
9,625	90.15	4.03	9,078.56	770.21	275.42	768.56	3.20	Magn MWD	Baker Hughes	0.55	817.97	3.16	N
9,714	90.43	3.01	9,078.10	859.04	280.88	857.35	1.19	Magn MWD	Baker Hughes	0.31	903.79	-1.15	N
9,802	90.74	1.69	9,077.21	946.96	284.49	945.25	1.54	Magn MWD	Baker Hughes	0.35	988.77	-1.50	N
9,892	90.25	357.78	9,076.43	1,036.94	284.07	1,035.23	4.38	Magn MWD	Baker Hughes	-0.54	1,075.14	395.66	N
9,981	90.49	357.67	9,075.85	1,125.88	280.54	1,124.18	0.30	Magn MWD	Baker Hughes	0.27	1,160.29	-0.12	N
10,069	90.25	3.69	9,075.28	1,213.82	281.58	1,212.12	6.85	Magn MWD	Baker Hughes	0.27	1,246.05	-402.25	N
10,158	90.59	2.48	9,074.63	1,302.68	286.37	1,300.96	1.41	Magn MWD	Baker Hughes	0.38	1,333.79	-1.36	N
10,247	90.46	3.70	9,073.82	1,391.55	291.17	1,389.80	1.38	Magn MWD	Baker Hughes	-0.15	1,421.68	1.37	N
10,336	89.66	5.54	9,073.72	1,480.25	298.34	1,478.46	2.25	Magn MWD	Baker Hughes	-0.90	1,510.02	2.07	N
10,425	89.75	2.65	9,074.16	1,569.01	304.85	1,567.17	3.02	Magn MWD	Baker Hughes	0.10	1,598.35	-3.02	N
10,513	89.78	359.49	9,074.54	1,656.97	306.65	1,655.13	3.82	Magn MWD	Baker Hughes	0.03	1,685.11	405.27	N
10,602	89.88	359.49	9,074.81	1,745.97	305.85	1,744.13	0.11	Magn MWD	Baker Hughes	0.11	1,772.56	0.00	N
10,690	89.85	1.38	9,075.01	1,833.96	306.52	1,832.11	2.15	Magn MWD	Baker Hughes	-0.03	1,859.40	-406.94	N
10,779	89.88	1.44	9,075.22	1,922.94	308.71	1,921.07	0.08	Magn MWD	Baker Hughes	0.03	1,947.56	0.07	N

Report Printed: 9/30/2016

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 14 FED P7 004H	SD 14 FED P7	JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)
3,165.00	3,197.60	3,197.60, 3/28/2016		

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unused data
4,144	6.10	89.30	4,130.13	7.32	254.91	5.80	0.18	Magn MWD	Phoenix Directional	0.17	255.02	-0.62	N
4,322	6.80	95.70	4,307.01	6.38	274.85	4.75	0.56	Magn MWD	Phoenix Directional	0.39	274.93	3.60	N
4,499	6.90	95.40	4,482.75	4.34	295.87	2.59	0.06	Magn MWD	Phoenix Directional	0.06	295.90	-0.17	N
4,509	6.90	96.10	4,492.67	4.22	297.06	2.46	0.84	Magn MWD	Phoenix Directional	0.00	297.09	7.00	N
4,598	6.70	96.60	4,581.05	3.06	307.53	1.23	0.23	Magn MWD	Phoenix Directional	-0.22	307.55	0.56	N
4,775	4.20	100.10	4,758.23	0.72	324.27	-1.20	1.42	Magn MWD	Phoenix Directional	-1.40	324.27	1.97	N
4,953	1.20	100.50	4,935.01	-0.75	332.47	-2.73	1.69	Magn MWD	Phoenix Directional	-1.69	332.48	0.23	N
5,131	1.10	304.30	5,113.00	-0.13	332.90	-2.11	1.25	Magn MWD	Phoenix Directional	-0.06	332.90	114.49	N
5,308	1.20	284.20	5,289.96	1.28	329.70	-0.67	0.23	Magn MWD	Phoenix Directional	0.06	329.70	-11.36	N
5,485	1.50	284.30	5,466.91	2.31	325.65	0.38	0.17	Magn MWD	Phoenix Directional	0.17	325.66	0.06	N
5,662	1.60	282.00	5,643.85	3.39	320.99	1.49	0.07	Magn MWD	Phoenix Directional	0.06	321.01	-1.30	N
5,839	1.10	306.60	5,820.80	4.92	317.21	3.04	0.43	Magn MWD	Phoenix Directional	-0.28	317.25	13.90	N
6,016	0.90	291.00	5,997.77	6.43	314.55	4.57	0.19	Magn MWD	Phoenix Directional	-0.11	314.61	-8.81	N
6,194	0.90	306.80	6,175.75	7.81	312.15	5.96	0.16	Magn MWD	Phoenix Directional	0.00	312.25	10.00	N
6,371	0.90	310.40	6,352.73	9.58	310.01	7.74	0.01	Magn MWD	Phoenix Directional	0.00	310.16	0.90	N
6,549	1.00	285.40	6,530.71	10.90	307.45	9.08	0.24	Magn MWD	Phoenix Directional	0.06	307.64	-14.04	N
6,726	0.60	265.30	6,707.69	11.23	305.04	9.42	0.27	Magn MWD	Phoenix Directional	-0.23	305.24	-11.36	N
6,904	1.00	253.50	6,885.67	10.72	302.62	8.92	0.24	Magn MWD	Phoenix Directional	0.22	302.81	-6.63	N
7,082	1.00	243.90	7,063.65	9.59	299.74	7.81	0.09	Magn MWD	Phoenix Directional	0.00	299.89	-5.39	N
7,259	1.00	257.20	7,240.62	8.57	296.84	6.81	0.13	Magn MWD	Phoenix Directional	0.00	296.97	7.51	N
7,436	0.80	239.60	7,417.60	7.76	294.54	6.01	0.26	Magn MWD	Phoenix Directional	-0.23	294.64	-9.94	N
7,614	0.30	203.40	7,595.60	6.86	293.55	5.12	0.22	Magn MWD	Phoenix Directional	-0.17	293.63	-20.34	N
7,791	0.30	210.40	7,772.59	6.03	293.13	4.30	0.02	Magn MWD	Phoenix Directional	0.00	293.19	3.95	N
7,969	0.50	212.40	7,950.59	4.98	292.46	3.24	0.11	Magn MWD	Phoenix Directional	0.11	292.52	1.12	N
8,146	0.80	210.00	8,127.58	3.26	291.45	1.53	0.17	Magn MWD	Phoenix Directional	0.17	291.46	-1.36	N
8,323	1.20	211.50	8,304.55	0.60	289.86	-1.12	0.23	Magn MWD	Phoenix Directional	0.23	289.86	0.85	N
8,500	1.20	211.80	8,481.51	-2.55	287.91	-4.26	0.00	Magn MWD	Phoenix Directional	0.00	287.93	0.17	N
8,510	1.00	214.10	8,491.51	-2.71	287.81	-4.42	2.05	Magn MWD	Phoenix Directional	-2.00	287.82	23.00	N
8,560	1.02	211.55	8,541.50	-3.45	287.33	-5.16	0.10	Magn MWD	Phoerax Directional	0.04	287.35	-5.10	N
8,646	11.65	8.37	8,628.94	4.70	288.22	2.99	14.31	Magn MWD	Baker Hughes	12.08	288.26	-230.89	N

Report Printed: 9/30/2016

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 14 FED P7 004H	SD 14 FED P7	JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)
3,165.00	3,197.60	3,197.60, 3/28/2016		

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unused data
10,868	89.60	359.21	9,075.63	2,011.93	309.22	2,010.06	2.53	Magn MWD	Baker Hughes	-0.31	2,035.55	401.99	N
10,956	89.78	358.10	9,076.10	2,099.90	307.15	2,098.04	1.28	Magn MWD	Baker Hughes	0.20	2,122.25	-1.26	N
11,044	90.09	358.40	9,076.20	2,187.86	304.46	2,186.02	0.49	Magn MWD	Baker Hughes	0.35	2,208.94	0.34	N
11,133	90.12	358.64	9,076.04	2,276.83	302.16	2,275.00	0.27	Magn MWD	Baker Hughes	0.03	2,296.79	0.27	N
11,222	90.28	359.28	9,075.73	2,365.81	300.53	2,363.99	0.72	Magn MWD	Baker Hughes	0.18	2,384.83	0.70	N
11,310	90.18	2.35	9,075.38	2,453.79	301.77	2,451.96	3.51	Magn MWD	Baker Hughes	-0.11	2,472.28	405.58	N
11,399	90.00	0.79	9,075.24	2,542.76	304.21	2,540.91	1.76	Magn MWD	Baker Hughes	-0.20	2,560.89	-1.75	N
11,487	90.03	359.74	9,075.21	2,630.76	304.62	2,628.90	1.19	Magn MWD	Baker Hughes	0.03	2,648.33	407.90	N
11,576	90.06	358.91	9,075.14	2,719.75	303.57	2,717.90	0.93	Magn MWD	Baker Hughes	0.03	2,736.64	-0.93	N
11,665	90.09	358.53	9,075.03	2,808.73	301.58	2,806.89	0.43	Magn MWD	Baker Hughes	0.03	2,824.87	-0.43	N
11,754	90.06	357.75	9,074.91	2,897.68	298.69	2,895.86	0.88	Magn MWD	Baker Hughes	-0.03	2,913.03	-0.88	N
11,842	89.97	359.01	9,074.89	2,985.64	296.20	2,983.83	1.44	Magn MWD	Baker Hughes	-0.10	3,000.30	1.43	N
11,931	90.00	0.40	9,074.91	3,074.64	295.74	3,072.83	1.56	Magn MWD	Baker Hughes	0.03	3,088.89	402.93	N
12,020	89.94	0.24	9,074.96	3,163.64	296.24	3,161.82	0.19	Magn MWD	Baker Hughes	-0.07	3,177.48	-0.18	N
12,109	89.88	0.86	9,075.10	3,252.63	297.10	3,250.81	0.70	Magn MWD	Baker Hughes	-0.07	3,266.17	0.70	N
12,198	90.00	2.15	9,075.19	3,341.60	299.43	3,339.78	1.46	Magn MWD	Baker Hughes	0.13	3,354.99	1.45	N
12,286	89.91	2.45	9,075.26	3,429.53	302.96	3,427.67	0.36	Magn MWD	Baker Hughes	-0.10	3,442.89	0.34	N
12,375	89.97	4.04	9,075.35	3,518.38	308.00	3,516.49	1.79	Magn MWD	Baker Hughes	0.07	3,531.84	1.79	N
12,464	89.94	2.13	9,075.42	3,607.25	312.79	3,605.33	2.15	Magn MWD	Baker Hughes	0.00	3,620.79	0.00	N
12,464	89.94	2.13	9,075.42	3,607.25	312.79	3,605.33	2.15	Magn MWD	Baker Hughes	-0.03	3,620.79	-2.15	N
12,553	89.97	358.44	9,075.49	3,696.23	313.23	3,694.31	4.15	Magn MWD	Baker Hughes	0.00	3,709.48	0.00	N
12,553	89.97	358.44	9,075.49	3,696.23	313.23	3,694.31	4.15	Magn MWD	Baker Hughes	0.03	3,709.48	400.35	N
12,641	90.00	356.80	9,075.52	3,784.15	309.58	3,782.25	1.86	Magn MWD	Baker Hughes	0.03	3,796.80	-1.86	N
12,641	90.00	356.80	9,075.52	3,784.15	309.58	3,782.25	1.86	Magn MWD	Baker Hughes	0.00	3,796.80	0.00	N
12,730	89.97	355.00	9,075.54	3,872.92	303.22	3,871.06	2.02	Magn MWD	Baker Hughes	-0.03	3,884.78	-2.02	N
12,730	89.97	355.00	9,075.54	3,872.92	303.22	3,871.06	2.02	Magn MWD	Baker Hughes	0.00	3,884.78	0.00	N
12,818	89.85	354.17	9,075.68	3,960.53	294.91	3,958.71	0.95	Magn MWD	Baker Hughes	0.00	3,971.49	0.00	N
12,818	89.85	354.17	9,075.68	3,960.53	294.91	3,958.71	0.95	Magn MWD	Baker Hughes	-0.14	3,971.49	-0.94	N
12,908	90.00	354.39	9,075.80	4,050.08	285.94	4,048.31	0.30	Magn MWD	Baker Hughes	0.00	4,060.16	0.00	N
12,908	90.00	354.39	9,075.80	4,050.08	285.94	4,048.31	0.30	Magn MWD	Baker Hughes	0.17	4,060.16	0.24	N

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Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 14 FED P7 004H	SD 14 FED P7	JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)
3,165.00	3,197.60	3,197.60, 3/28/2016		

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unreviewed data
12,998	89.91	355.57	9,075.86	4,137.74	276.24	4,136.02	1.34	Magn MWD	Baker Hughes	-0.10	4,147.09	1.34	N
12,998	89.91	355.57	9,075.86	4,137.74	276.24	4,136.02	1.34	Magn MWD	Baker Hughes	0.00	4,147.09	0.00	N
13,085	90.15	357.09	9,075.82	4,226.56	272.55	4,224.87	1.73	Magn MWD	Baker Hughes	0.27	4,235.34	1.71	N
13,085	90.15	357.09	9,075.82	4,226.56	272.55	4,224.87	1.73	Magn MWD	Baker Hughes	0.00	4,235.34	0.00	N
13,174	90.22	358.04	9,075.53	4,315.48	268.76	4,313.80	1.07	Magn MWD	Baker Hughes	0.00	4,323.84	0.00	N
13,174	90.22	358.04	9,075.53	4,315.48	268.76	4,313.80	1.07	Magn MWD	Baker Hughes	0.08	4,323.84	1.07	N
13,262	90.40	0.59	9,075.05	4,403.46	267.71	4,401.79	2.90	Magn MWD	Baker Hughes	0.00	4,411.59	0.00	N
13,262	90.40	0.59	9,075.05	4,403.46	267.71	4,401.79	2.90	Magn MWD	Baker Hughes	0.20	4,411.59	406.19	N
13,351	90.22	1.42	9,074.57	4,492.44	269.27	4,490.77	0.95	Magn MWD	Baker Hughes	-0.20	4,500.51	0.93	N
13,351	90.22	1.42	9,074.57	4,492.44	269.27	4,490.77	0.95	Magn MWD	Baker Hughes	0.00	4,500.51	0.00	N
13,440	90.12	0.33	9,074.31	4,581.43	270.63	4,579.75	1.23	Magn MWD	Baker Hughes	-0.11	4,589.42	-1.22	N
13,440	90.12	0.33	9,074.31	4,581.43	270.63	4,579.75	1.23	Magn MWD	Baker Hughes	0.00	4,589.42	0.00	N
13,529	90.37	1.19	9,073.93	4,670.42	271.81	4,668.73	1.01	Magn MWD	Baker Hughes	0.00	4,678.33	0.00	N
13,529	90.37	1.19	9,073.93	4,670.42	271.81	4,668.73	1.01	Magn MWD	Baker Hughes	0.28	4,678.33	0.97	N
13,617	90.09	0.10	9,073.58	4,758.42	272.60	4,756.71	1.28	Magn MWD	Baker Hughes	-0.32	4,766.23	-1.24	N
13,706	90.22	2.52	9,073.33	4,847.39	274.84	4,845.67	2.72	Magn MWD	Baker Hughes	0.15	4,855.17	2.72	N
13,791	90.22	3.21	9,073.01	4,932.28	279.09	4,930.53	0.81	Magn MWD	Baker Hughes	0.00	4,940.17	0.81	N
13,806	86.92	359.66	9,073.38	4,947.26	279.46	4,945.52	32.30	Magn MWD	Baker Hughes	-22.00	4,955.15	2,376.33	N
13,816	90.22	3.21	9,073.63	4,957.25	279.71	4,955.51	48.46	Extrap	Baker Hughes	33.00	4,965.14	-3,564.50	N

Report Printed: 9/30/2016

SD WE 14 FED P7 #004H

PERF & FRAC INFORMATION

STAGE 1: 13843, 13783, 13723, 13663, 13603
6 spf, .41 dia hole. Total bbls pumped: 617 bbls. Max pressure: 5920 psi
PUMP STAGE 1:
Sand in formation 419,808 lbs 100% Prime up & test lines to 9500psi.
Equalize/open well @ 1443 psi. Avg Rate 86.0 bpm. Avg press:5214 psi.
Max Rate: 86.0 bpm Max Press:8060 psi. ISIP:1924 psi
Pump Time 124 mins Total clean fluid 9064 bbls Total slurry volume 9278 bbls
Sand pumped: Sand 100 – 31,889 lbs Sand 40/70 – 388,951 lbs TOTAL:420,840 lbs

STAGE 2: 13308, 13248, 13188, 13128, 13068
6 jspf, .41 dia hole. Total bbls pmpd: 336 bbls, max pressure 2360 psi
PUMP STAGE 2:
Sand in formation 419,808 lbs: 100% Test lines to 9500 psi.
Equalize/open well @ 1433 psi. Avg Rate: 90.7 bpm Avg Pressure 5423 psi
Max rate: 91.0 bpm Max Pressure 7882 psi ISIP 1791 psi
Pump Time: 116 mins. Total clean fluid:9291 bbls Total Slurry volume:9749 bbls
Sand pumped: Sand 100 – 32,737 lbs, Sand 40/70: 388,673 lbs TOTAL: 421,410 lbs

STAGE 3: 13012, 12948, 12890, 12828, 12768
6 jspf, .41 dia hole. Total bbls pmpd: 221 bbls. Max pressure: 2198 psi
PUMP STAGE 3
Sand in formation 419,808 lbs, 100% Prime up & test lines to 9500psi.
Equalize/open well @ 1420 psi. Ave Rate: 90.0 bpm Ave Pressure: 5257 psi
Max Rate:90.5 bpm, Max Pressure: 8508 psi. ISIP: 1876 psi.
Pump Time: 122 mins. Total clean fluid: 8929 bbls. Total slurry volume:9381 bbls
Sand Pumped: Sand 100 –32,524 lbs, Sand 40/70:387,443 lbs. TOTAL: 419,967 lbs

STAGE 4: 12708, 12648, 12586, 12528, 12468
6 JSPF, .41 dia hole. . Max press of 2369 psi w/273 bbls pumped.
PUMP STAGE 4:
Sand in formation 419,808 lbs, 100% Prime up & test lines to 9500 psi.
Equalize/open well @ 1437 psi. Avg Rate: 89.7 bpm, Avg Pressure: 5595 psi.
Max Rate: 90.7 bpm, Max Pressure: 8556 psi. ISIP:1962 psi.
Pump Time: 118 mins. Total clean fluid: 9120 bbls, Total slurry volume: 9573 bbls
Sand pumped: Sand 100: 32,746 lbs, Sand 40/70L 387,883 lbs, TOTAL: 420,629 lbs

STAGE 5: 12408, 12350, 12288, 12228, 12168
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. . Max pressure of 2165psi w/183 bbls pumped.
PUMP STAGE 5:
Sand in formation: 419,808 lbs, 100%, Prime up & test lines to 9500psi.
Equalize/open well @1404 psi. Ave Rate: 86.0 bpm, Avg pressure:5736 psi
Max Rate:86.0 bpm, Max Pressure: 8061 psi. ISIP: 2040 psi.
Pump Time: 120 mins. Total clean fluid:8881 bbls, Total Slurry volume:9334 bbls
Sand pumped: Sand 100:32,522 lbs, Sand 40/70:388,734 lbs, TOTAL: 421,256 lbs

STAGE 6: 12108, 12048, 11988, 11928, 11868
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max Pressure of 2553 psi w/226 bbls pumped.
PUMP STAGE 6:
Sand in formation: 419,808 lbs, 100%. Prime up & test lines to 9500 psi.
Equalize/open well @ 1435 psi. Ave Rate:89.7 bpm, Ave Pressure: 6412 psi.
Max rate:90.4 bpm, Max Pressure:8858 psi. ISIP:2179 psi.
Pump time:116 mins. Total clean fluid: 9033 bbls, Total Slurry volume:9486 bbls
Sand pumped: sand 100:33,157 lbs, sand 40/70:387,193 lbs. TOTAL:420,350 lbs

STAGE 7: 11808, 11748, 11688, 11626, 11568
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. . Max pressure of 3126 psi w/158 bbls pumped.
PUMP STAGE 7:
Sand in formation: 419,808 lbs101 %, Prime up & test lines to 9500 psi.
Equalize/open hole @1450 psi. Ave rate:85.0 bpm, Ave Pressure:5674 psi
Max rate: 85.5 bpm, Max Pressure:8287 psi. ISIP: 2554 psi.
Pump time:124 mins. Total clean fluid:8911 bbls, Total slurry volume:9366 bbls.
Sand Pumped: Sand 100:32,541 lbs, Sand 40/70: 389,684 lbs, TOTAL:422,225 lbs

STAGE 8: 11508, 11448, 11388, 11328, 11268
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max pressure of 3022 psi w/160 bbls pumped.
PUMP STAGE 8:
Sand in formation: 419,808 lbs, 100%, Prime up & test lines to 9500 psi.
Equalize/open hole @ 1411 psi. Ave Rate: 85.0 bpm, Ave pressure: 5215 psi
Max Rate: 86.0 bpm, Max pressure: 8637 psi. ISIP: 1983 psi.
Pump time: 120 mins. Total clean fluid: 8853 bbls, Total slurry volume: 9306 bbls
Sand pumped: Sand 100: 32,493 lbs, Sand 40/70: 387,714 lbs. TOTAL 420,207 lbs

STAGE 9: 11208, 11148, 11088, 11028, 10968
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max pressure of 2106 psi w/152 bbls pumped.
PUMP STAGE 9:
Sand in Formation: 419,808 lbs, 100% Prime up & test lines to 9500 psi.
Equalize/open well @ 1529 psi. Ave Rate: 89.7 bpm, Ave Pressure: 5209 psi.
Max rate: 90.0 bpm, Max pressure: 8510 psi. ISIP: 2086 psi.
Pump time: 115 mins. Total Clean fluid: 9018 bbls, Total slurry volume: 9471 bbls
Sand pumped: Sand 100: 32,917 lbs, Sand 40/70: 387,559 lbs. TOTAL: 420,476 lbs

STAGE 10: 10908, 10858, 10788, 10728, 10668
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max press of 2138 psi w/110 bbls pumped.
PUMP STAGE 10:
Sand in formation: 419,808 lbs, 100% Prime up and test lines to 9500 psi.
Equalize/open well @ 1410 psi. Ave Rate: 85.0 bpm, Ave Pressure: 5664 psi.
Max Rate: 86.0 bpm, Max pressure: 8166 psi. ISIP: 2526 psi.
Pump time: 113 mins. Total clean fluid: 8818 bbls, Total slurry volume: 9272 bbls
Sand pumped: Sand 100: 32,540 lbs, Sand 40/70: 389,027 lbs. TOTAL 421,567 lbs

STAGE 11: 10608, 10548, 10486, 10428, 10370
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max Press 2150 psi w/104 bbls pumped.
PUMP STAGE 11:
Sand in formation: 419,808 lbs, 100%, Prime up and test lines to 9500 psi.
Equalize/open well @ 1410 psi. Ave Rate: 85.0 bpm. Ave Pressure: 5664 psi.
Max rate: 86.0 bpm, Max pressure: 8166 psi. ISIP: 2526 psi.
Pump time: 113 mins. Total clean fluid: 8818 bbls, total slurry volume 9272 bbls.
Sand pumped: Sand 100: 32,540 lbs, Sand 40/70: 389,027 lbs, TOTAL: 421,567 lbs

STAGE 12: 10308, 10248, 10188, 10128, 10068
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max Pressure of 2601 psi w/95 bbls pmped.
PUMP STAGE 12:
Sand in formation: 419,808 lbs, 99% Prime up and test lines to 9500 psi.
Equalize/open well @ 1577 psi. Ave Rate: 89.5 bpm, Ave pressure: 5869 psi
Max rate: 90.1 bpm, Max pressure: 8262 psi, ISIP: 2282 psi.
Pump time: 114 mins, Total clean fluid: 8911 bbls, Total slurry volume: 9357 bbls.
Sand pumped: Sand 100: 33,024 lbs, Sand 40/70: 381,494 lbs, TOTAL: 414,518 lbs.

STAGE 13: 10008, 9946, 9888, 9825, 9768
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max pressure of 2262 psi w/71 bbls pumped.
PUMP STAGE 13:
Sand in formation: 419,808 lbs, 99%, Prime up & test lines to 9500 psi.
Equalize/open well @ 1525 psi. Ave Rate: 85.0 bpm, Ave Pressure: 4721 psi.
Max Rate: 85.5 bpm, Max Pressure: 8413 psi. ISIP: 1969 psi.
Pump time: 125 mins. Total clean fluid: 8872 bbls, Total slurry volume: 9321 bbls.
Sand pumped: Sand 100: 32,568 lbs, Sand 40/70: 385,022 lbs TOTAL: 417,590 lbs

STAGE 14: 9705, 9648, 9591, 9528, 9470
6 JSPF, .41 dia hole. Pump down @ 15 bpm. Max press of 2227 psi w/62 bbls pumped.
PUMP STAGE 14:
Sand in formation: 419,808lbs 100%. Prime up & test lines to 9500 psi.
Equalize/open hole W 1611 psi. Ave rate: 84.9 bpm, Ave Press: 5284 psi
Max Rate: 85.5 bpm, Max pressure: 8482 psi. ISIP: 2295 psi.
Pump time: 123 mins. Total clean fluid: 8891 bbls, Total slurry volume: 9344 bbls.
Sand pumped: Sand 100: 32,670 lbs, Sand 40/70: 387,553 lbs, TOTAL 420,223 lbs.