NMOCD
Hobbs

HOBBS OCD
DEC 02 2016
RECEIVED

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. NMNM118723

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 23 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. 30-025-43089-00-S1

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface SESE 215FSL 623FEL Sec 14 T26S R32E Mer NMP
At top prod interval reported below SESE 102FSL 307FEL Sec 23 T26S R32E Mer NMP
At total depth SESE 102FSL 307FEL Sec 23 T26S R32E Mer NMP

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 04/19/2016

15. Date T.D. Reached 05/01/2016

16. Date Completed ☐ D & A ☒ Ready to Prod. 06/29/2016

17. Elevations (DF, KB, RT, GL)* 3165 GL

18. Total Depth: MD 14002 TVD 9030

19. Plug Back T.D.: MD 13951 TVD 9030

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	831		960		0	
12.250	9.625 HCK-55	40.0	0	4577		1517		0	
8.750	5.500 P-110	20.0	0	13995		1699		4076	

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	8465	8443						

25. Producing Intervals

Formation	Top	Bottom
A) BONE SPRINGS UPPER SHAL	9367	13807
B)		
C)		
D)		

26. Perforation Record

Perforated Interval	Size	No. Holes	Perf. Status
9367 TO 13807			PRODUCING ***DETAILED PERF

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

Depth Interval	Amount and Type of Material
9367 TO 13807	FRAC W/TOTAL SAND (100 MESH & 40/70) = 6,292,245 LBS

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	09/13/2016	24	→	1033.0	1759.0	1129.0			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	940	140.0	→	1033	1759	1129	1703	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 #353514 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	2835	4579	ANHYDRITE	CASTILE	2835
DELAWARE	4580	4644	LIMESTONE	DELAWARE	4580
BELL CANYON	4645	5694	SANDSTONE	BELL CANYON	4645
CHERRY CANYON	5695	7284	SANDSTONE	CHERRY CANYON	5695
BRUSHY CANYON	7285	8829	SANDSTONE	BRUSHY CANYON	7285
BONE SPRING LIME	8830	8874	SHALE/LIMESTONE	BONE SPRING LIME	8830
BONE SPRINGS UPPER SHAL	8875	14002	SHALE/LIMESTONE	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 #353514 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 (17DMH0013SE)

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

Signature (Electronic Submission) Date 10/04/2016

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 ****

SD WE 23 P7 #004H

PERF & FRAC INFORMATION

STAGE 1: 13807, 13747, 13687, 13627, 13567
6 spf, .41 dia hole. Total bbls pumped: 1056 bbls. Max pressure: 8376 psi
PUMP STAGE 1:
Sand in formation 419,808 lbs 100% Prime up & test lines to 9500psi.
Equalize/open well @ 1421 psi. Avg Rate 86.0 bpm. Avg press:5712 psi.
Max Rate: 86.0 bpm Max Press:8342 psi. ISIP:1931 psi
Pump Time 117 mins Total clean fluid 9719 bbls Total slurry volume 10176 bbls
Sand pumped: Sand 100 – 31,885 lbs Sand 40/70 – 388,983 lbs TOTAL:420,868 lbs

STAGE 2: 13507, 13447, 13387, 13327, 13267
6 jspf, .41 dia hole. Total bbls pmpd: 541 bbls, max pressure 2497 psi
PUMP STAGE 2:
Sand in formation 419,808 lbs: 100% Test lines to 9500 psi.
Equalize/open well @ 1557 psi. Avg Rate: 90.1 bpm Avg Pressure 5733 psi
Max rate: 91.3 bpm Max Pressure 8617 psi ISIP 2048 psi
Pump Time: 116 mins. Total clean fluid:9115 bbls Total Slurry volume:9575 bbls
Sand pumped: Sand 100 – 33,501 lbs, Sand 40/70: 389,559 lbs TOTAL: 423,060 lbs

STAGE 3: 13205, 13147, 13087, 13027, 12967
6 jspf, .41 dia hole. Total bbls pmpd: 240 bbls. Max pressure: 2390 psi
PUMP STAGE 3
Sand in formation 419,808 lbs, 100% Prime up & test lines to 9500psi.
Equalize/open well @ 1554 psi. Ave Rate: 86.0 bpm Ave Pressure: 5760 psi
Max Rate:90.0 bpm, Max Pressure: 9013 psi. ISIP: 2461 psi.
Pump Time: 124 mins. Total clean fluid: 9008 bbls. Total slurry volume:9458 bbls
Sand Pumped: Sand 100 –32,765 lbs, Sand 40/70: 385,012 lbs. TOTAL: 417,777 lbs

STAGE 4: 12907, 12847, 12787, 12727, 12667
6 JSPF, .41 dia hole. . Max press of 2819 psi w/297 bbls pumped.
PUMP STAGE 4:
Sand in formation 419,808 lbs, 100% Prime up & test lines to 9500 psi.
Equalize/open well @ 1647 psi. Avg Rate: 89.9 bpm, Avg Pressure: 6183 psi.
Max Rate: 90.2 bpm, Max Pressure: 8705 psi. ISIP:2099 psi.
Pump Time: 117 mins. Total clean fluid: 9071 bbls, Total slurry volume: 9525 bbls
Sand pumped: Sand 100: 32,123 lbs, Sand 40/70L 388,413 lbs, TOTAL: 421,536 lbs

STAGE 5: 12607, 12547, 12487, 12423, 12367
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. . Max pressure of 2494psi w/276 bbls pumped.
PUMP STAGE 5:
Sand in formation: 419,808 lbs, 100%, Prime up & test lines to 9500psi.
Equalize/open well @165 psi. Ave Rate: 86.0 bpm, Avg pressure:5442 psi
Max Rate:86.0 bpm, Max Pressure: 8642 psi. ISIP: 2177 psi.
Pump Time: 120 mins. Total clean fluid:8902 bbls, Total Slurry volume:9354 bbls
Sand pumped: Sand 100:32,628 lbs, Sand 40/70:387,683 lbs, TOTAL: 420,311 lbs

STAGE 6: 12307, 12247, 12187, 12127, 12067
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max Pressure of 2361 psi w/228 bbls pumped.
PUMP STAGE 6:
Sand in formation: 419,808 lbs, 100%. Prime up & test lines to 9500 psi.
Equalize/open well @ 1588 psi. Ave Rate:90.0 bpm, Ave Pressure: 5840 psi.
Max rate:90.0 bpm, Max Pressure:8686 psi. ISIP:2485 psi.
Pump time:117 mins. Total clean fluid: 9217 bbls, Total Slurry volume:9669 bbls
Sand pumped: sand 100: 32,178 lbs, sand 40/70:388,331 lbs. TOTAL:420,509 lbs

STAGE 7: 12004, 11947, 11887, 11827, 11767
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. . Max pressure of 2865 psi w/173 bbls pumped.
PUMP STAGE 7:
Sand in formation: 419,808 lbs101 %, Prime up & test lines to 9500 psi.
Equalize/open hole @1651 psi. Ave rate:84.6 bpm, Ave Pressure:5677 psi
Max rate: 85.7 bpm, Max Pressure:8330 psi. ISIP: 2058 psi.
Pump time:125 mins. Total clean fluid:8913 bbls, Total slurry volume:9366 bbls.
Sand Pumped: Sand 100:32,586 lbs, Sand 40/70: 388,215 lbs, TOTAL:420,801 lbs

STAGE 8: 11707, 11647, 11587, 11527, 11467
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max pressure of 3252psi w/212 bbls pumped.
PUMP STAGE 8:
Sand in formation: 419,808 lbs, 100%, Prime up & test lines to 9500 psi.
Equalize/open hole @ 1632 psi. Ave Rate: 85.0 bpm, Ave pressure: 5883 psi
Max Rate: 86.0 bpm, Max pressure: 8518 psi. ISIP: 2395 psi.
Pump time: 121 mins. Total clean fluid: 8900 bbls, Total slurry volume: 9354 bbls
Sand pumped: Sand 100: 32,718 lbs, Sand 40/70: 388,309 lbs. TOTAL 421,027 lbs

STAGE 9: 11407, 11347, 11287, 11221, 11167
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max pressure of 2277 psi w/142 bbls pumped.
PUMP STAGE 9:
Sand in Formation: 419,808 lbs, 100% Prime up & test lines to 9500 psi.
Equalize/open well @ 1677psi. Ave Rate: 89.9 bpm, Ave Pressure: 5541 psi.
Max rate: 90.2 bpm, Max pressure: 8708 psi. ISIP: 2275 psi.
Pump time: 118 mins. Total Clean fluid: 9033 bbls, Total slurry volume: 9486 bbls
Sand pumped: Sand 100: 33,030 lbs, Sand 40/70: 387,446 lbs. TOTAL: 420,476 lbs

STAGE 10: 11107, 11047, 10989, 10927, 10867
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max press of 2451 psi w/135 bbls pumped.
PUMP STAGE 10:
Sand in formation: 419,808 lbs, 100% Prime up and test lines to 9500 psi.
Equalize/open well @ 1580 psi. Ave Rate: 89.8 bpm, Ave Pressure: 6173 psi.
Max Rate: 90.5 bpm, Max pressure: 8554 psi. ISIP: 2210 psi.
Pump time: 115 mins. Total clean fluid: 8965 bbls, Total slurry volume: 9416 bbls
Sand pumped: Sand 100: 32,620 lbs, Sand 40/70: 387,187 lbs. TOTAL 419,807 lbs

STAGE 11: 10807, 10747, 10687, 10627, 10567
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max Press 2562 psi w/122 bbls pumped.
PUMP STAGE 11:
Sand in formation: 419,808 lbs, 100%, Prime up and test lines to 9500 psi.
Equalize/open well @ 1593 psi. Ave Rate: 84.6 bpm. Ave Pressure: 6162 psi.
Max rate: 85.6 bpm, Max pressure: 8237 psi. ISIP: 2277 psi.
Pump time: 121 mins. Total clean fluid: 8880 bbls, total slurry volume 9330 bbls.
Sand pumped: Sand 100: 32,579 lbs, Sand 40/70: 385,898 lbs, TOTAL: 418,877 lbs

STAGE 12: 10507, 10447, 10387, 10327, 10267
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max Pressure of 2665 psi w/159 bbls pmped.
PUMP STAGE 12:
Sand in formation: 419,808 lbs, 99% Prime up and test lines to 9500 psi.
Equalize/open well @ 1628 psi. Ave Rate: 85.0 bpm, Ave pressure: 5719 psi
Max rate: 85.0 bpm, Max pressure: 8168 psi, ISIP: 2200 psi.
Pump time: 120 mins, Total clean fluid: 8864 bbls, Total slurry volume: 9316 bbls.
Sand pumped: Sand 100: 32,566 lbs, Sand 40/70: 387,370 lbs, TOTAL: 419,936 lbs.

STAGE 13: 10207, 10145, 10087, 10027, 9967
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max pressure of 2549 psi w/95 bbls pumped.
PUMP STAGE 13:
Sand in formation: 419,808 lbs, 99%, Prime up & test lines to 9500 psi.
Equalize/open well @ 1618 psi. Ave Rate: 88.5 bpm, Ave Pressure: 5550 psi.
Max Rate: 89.6 bpm, Max Pressure: 9134 psi. ISIP: 2246 psi.
Pump time: 117 mins. Total clean fluid: 8970 bbls, Total slurry volume: 9423 bbls.
Sand pumped: Sand 100: 33,608 lbs, Sand 40/70: 386,834 lbs TOTAL: 420,442 lbs

STAGE 14: 9908, 9847, 9790, 9727, 9669
6 JSPF, .41 dia hole. Pump down @ 15 bpm. Max press of 2915 psi w/71 bbls pumped.
PUMP STAGE 14:
Sand in formation: 419,808lbs 100%. Prime up & test lines to 9500 psi.
Equalize/open hole W 1975 psi. Ave rate: 87.6 bpm, Ave Press: 5169 psi
Max Rate: 89.0 bpm, Max pressure: 8916 psi. ISIP: 2253 psi.
Pump time: 118 mins. Total clean fluid: 8912 bbls, Total slurry volume: 9363 bbls.
Sand pumped: Sand 100: 32,033 lbs, Sand 40/70: 387,065 lbs, TOTAL 419,098 lbs.

STAGE 15: 9607, 9547, 9487, 9427, 9367
6 JSPF, .41 dia hole. Pump dn @ 12 bpm. Max press 2600 psi @ 60 bbls pumped.
PUMP STAGE 15:
Sand in formation: 419808 lbs, 100%. Prime up & test lines to 9500 psi.
Equalize/open well @ 1601 psi. Ave Rate: 89.3 bpm, Ave Pressure: 5047 psi.
Max Rate: 89.8 bpm, Max pressure: 8593 psi, ISIP:2206 psi.
Pump time 121 mins, Total clean fluid: 8868 bbls, Total slurry volume: 9307 bbls
Sand pumped: Sand 100: 32,678 lbs, Sand 40/70: 375,442 lbs, TOTAL 408,120 lbs

Phoenix Technology Services
SURVEY DATA CERTIFICATION

PHOENIX TECHNOLOGY SERVICES

PHOENIX JOB NUMBER	60049	OPERATOR	Chevron
WELL NAME	SD WE 23 FED P7 4H	COUNTY & STATE	Lea County, NM
API WELL NUMBER	30-025-43089	PROPOSED DIRECTION	176.7

TIE-IN DATA

MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
816.00 ft	815.81 ft	2.7°	249.0°	7.88 S	9.61 W	Teledrift

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
22-Apr	949 ft	2.5°	233.8°

SURVEY INSTRUMENT TYPE
Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
26-Apr-16	8,409 ft	2.1	202.6

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
26-Apr-16	8,466 ft	2.1	202.6

Robert Brewer

PRINT YOUR NAME ABOVE

Robert Brewer

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	6.60
DECLINATION OR GRID	GRID

04/26/16

TODAY'S DATE

MWD SUPERVISOR 1	Robert Brewer	DIRECTIONAL DRILLER 1	Casey Tubbe
MWD SUPERVISOR 2	Lance Mosby	DIRECTIONAL DRILLER 2	Monte Gordon

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

Chevron

Lea County, NM (NAD27 NME)
SD WE 23 Fed
P7 4H

OH / Job 60049

Survey: Phoenix MWD Surveys

Standard Survey Report

11 May, 2016

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 23 Fed	**MD Reference:**	RKB @ 3198.00usft (Pace X30)
Well:	P7 4H	**North Reference:**	Grid
Wellbore:	OH / Job 60049	**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 23 Fed

Site Position:		**Northing:**	377,312.00 usft	**Latitude:**	32° 2' 7.84590 N
From:	Map	**Easting:**	711,242.00 usft	**Longitude:**	103° 39' 5.90418 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:**	377,549.00 usft	**Latitude:**	32° 2' 9.93548 N
	+E/-W	0.00 usft	**Easting:**	715,298.00 usft	**Longitude:**	103° 38' 18.76898 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,165.00 usft

Wellbore OH / Job 60049

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	176.66

Survey Program **Date** 5/11/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
165.00	816.00	Teledrift MWD Surveys (OH / Job 60049)	MWD	MWD - Standard
949.00	8,409.00	Phoenix MWD Surveys (OH / Job 60049)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM
8,466.00	14,002.00	Baker Hughes MWD Surveys (OH / Job 60	MWD	MWD - Standard

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)
816.00	2.70	249.00	815.81	-7.88	-9.61	7.31	0.00	0.00	0.00
Tie-in to Teledrift Surveys									
949.00	2.50	233.80	948.67	-10.72	-14.88	9.83	0.54	-0.15	-11.43
First Phoenix MWD Survey									
1,126.00	3.20	188.50	1,125.47	-17.88	-18.72	16.76	1.29	0.40	-25.59
1,303.00	5.00	141.80	1,302.06	-28.83	-14.68	27.93	2.06	1.02	-26.38
1,480.00	7.80	108.80	1,477.99	-38.77	1.47	38.79	2.55	1.58	-18.64
1,658.00	7.10	105.90	1,654.49	-45.68	23.48	46.97	0.45	-0.39	-1.63

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 23 Fed	**MD Reference:**	RKB @ 3198.00usft (Pace X30)
Well:	P7 4H	**North Reference:**	Grid
Wellbore:	OH / Job 60049	**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)
1,835.00	7.10	105.40	1,830.13	-51.58	44.55	54.09	0.03	0.00	-0.28
2,014.00	6.50	106.20	2,007.87	-57.34	64.94	61.03	0.34	-0.34	0.45
2,192.00	6.20	109.00	2,184.78	-63.28	83.71	68.06	0.24	-0.17	1.57
2,369.00	6.60	110.90	2,360.68	-70.02	102.25	75.87	0.26	0.23	1.07
2,546.00	7.20	109.90	2,536.40	-77.43	122.18	84.42	0.35	0.34	-0.56
2,724.00	7.60	113.00	2,712.91	-85.82	143.50	94.05	0.32	0.22	1.74
2,901.00	6.70	112.40	2,888.54	-94.33	163.82	103.73	0.51	-0.51	-0.34
3,079.00	6.20	111.90	3,065.41	-101.87	182.34	112.34	0.28	-0.28	-0.28
3,256.00	6.80	110.10	3,241.27	-109.04	201.05	120.58	0.36	0.34	-1.02
3,434.00	7.90	108.20	3,417.81	-116.48	222.57	129.27	0.63	0.62	-1.07
3,611.00	6.80	111.70	3,593.35	-124.16	243.86	138.17	0.67	-0.62	1.98
3,789.00	6.40	113.80	3,770.17	-132.06	262.73	147.16	0.26	-0.22	1.18
3,967.00	6.40	113.40	3,947.06	-140.00	280.91	156.15	0.03	0.00	-0.22
4,144.00	3.40	121.30	4,123.40	-146.65	294.45	163.57	1.73	-1.69	4.46
4,322.00	1.90	119.10	4,301.20	-150.82	301.54	168.15	0.84	-0.84	-1.24
4,499.00	0.90	124.60	4,478.14	-153.04	305.25	170.58	0.57	-0.56	3.11
4,529.00	0.70	124.50	4,508.14	-153.28	305.60	170.84	0.67	-0.67	-0.33
4,688.00	0.70	132.90	4,667.13	-154.49	307.11	172.14	0.06	0.00	5.28
4,865.00	1.50	220.10	4,844.11	-157.00	306.41	174.60	0.92	0.45	49.27
5,043.00	1.60	280.60	5,022.05	-158.32	302.46	175.69	0.88	0.06	33.99
5,220.00	1.60	274.90	5,198.98	-157.66	297.57	174.74	0.09	0.00	-3.22
5,397.00	1.90	271.10	5,375.90	-157.39	292.18	174.16	0.18	0.17	-2.15
5,575.00	1.90	270.60	5,553.80	-157.30	286.28	173.73	0.01	0.00	-0.28
5,751.00	0.80	234.50	5,729.75	-157.99	282.36	174.18	0.76	-0.63	-20.51
5,928.00	0.70	328.60	5,906.74	-157.78	280.79	173.89	0.62	-0.06	53.16
6,105.00	1.00	350.30	6,083.72	-155.33	279.96	171.40	0.25	0.17	12.26
6,283.00	1.00	347.30	6,261.70	-152.29	279.36	168.32	0.03	0.00	-1.69
6,461.00	0.70	340.20	6,439.68	-149.75	278.65	165.75	0.18	-0.17	-3.99
6,638.00	0.80	313.30	6,616.66	-147.89	277.39	163.81	0.20	0.06	-15.20
6,816.00	0.50	98.50	6,794.66	-147.15	277.25	163.07	0.70	-0.17	81.57
6,993.00	0.20	102.00	6,971.65	-147.33	278.32	163.31	0.17	-0.17	1.98
7,171.00	0.30	160.30	7,149.65	-147.83	278.78	163.84	0.15	0.06	32.75
7,348.00	0.30	157.30	7,326.65	-148.69	279.11	164.72	0.01	0.00	-1.69
7,526.00	0.70	202.20	7,504.64	-150.13	278.88	166.14	0.30	0.22	25.22
7,703.00	0.90	197.90	7,681.63	-152.45	278.05	168.41	0.12	0.11	-2.43
7,881.00	1.40	188.80	7,859.59	-155.93	277.28	171.84	0.30	0.28	-5.11
8,058.00	2.00	191.40	8,036.51	-161.10	276.34	176.94	0.34	0.34	1.47
8,235.00	2.30	188.50	8,213.39	-167.64	275.21	183.40	0.18	0.17	-1.64
8,409.00	2.10	202.60	8,387.26	-174.03	273.47	189.69	0.33	-0.11	8.10
Final Phoenix MWD Survey									
8,466.00	2.10	202.60	8,444.22	-175.96	272.66	191.56	0.00	0.00	0.00
Projection to TD									

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 23 Fed	**MD Reference:**	RKB @ 3198.00usft (Pace X30)
Well:	P7 4H	**North Reference:**	Grid
Wellbore:	OH / Job 60049	**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
816.00	815.81	-7.89	-9.60	Tie-in to Teledrift Surveys
949.00	948.67	-10.73	-14.87	First Phoenix MWD Survey
8,409.00	8,387.26	-174.05	273.47	Final Phoenix MWD Survey
8,466.00	8,444.22	-175.97	272.67	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 23 FED P7 004H	SD 23 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	Min Kick Off Depth (ftKB)	Vertical Section Direction (°)
Original Hole	Original Hole	6,510.0	176.66

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

Date	Definitive?	Description	Planned?
4/20/2016	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)	Unused data
165	0.40	176.00	165.00	-0.57	0.04	0.58	0.24	Magn MWD	Rig	0.24	0.58	106.67	N
255	0.50	173.00	255.00	-1.28	0.11	1.28	0.11	Magn MWD	Rig	0.11	1.28	-3.33	N
346	1.00	214.00	345.99	-2.33	-0.29	2.31	0.77	Magn MWD	Rig	0.55	2.35	45.05	N
436	0.70	192.00	435.98	-3.52	-0.84	3.46	0.49	Magn MWD	Rig	-0.33	3.62	-24.44	N
532	0.80	208.00	531.97	-4.68	-1.28	4.60	0.24	Magn MWD	Rig	0.10	4.85	16.67	N
625	1.30	254.00	624.96	-5.55	-2.59	5.39	1.01	Magn MWD	Rig	0.54	6.13	49.46	N
717	2.40	252.00	716.91	-6.43	-5.43	6.10	1.20	Magn MWD	Rig	1.20	8.42	-2.17	N
816	2.70	249.00	815.81	-7.91	-9.58	7.34	0.33	Magn MWD	Rig	0.30	12.42	-3.03	N
949	2.50	233.80	948.67	-10.74	-14.84	9.86	0.54	Magn MWD	Phoenix Directional	-0.15	18.32	-11.43	N
1,126	3.20	188.50	1,125.47	-17.91	-18.69	16.79	1.29	Magn MWD	Phoenix Directional	0.40	25.89	-25.59	N
1,303	5.00	141.80	1,302.06	-28.86	-14.65	27.96	2.06	Magn MWD	Phoenix Directional	1.02	32.37	-26.38	N
1,480	7.80	108.80	1,477.99	-38.80	1.50	38.82	2.55	Magn MWD	Phoenix Directional	1.58	38.83	-18.64	N
1,658	7.10	105.90	1,654.49	-45.71	23.51	47.00	0.45	Magn MWD	Phoenix Directional	-0.39	51.40	-1.63	N
1,835	7.10	105.40	1,830.13	-51.61	44.58	54.12	0.03	Magn MWD	Phoenix Directional	0.00	68.20	-0.28	N
2,014	6.50	106.20	2,007.87	-57.37	64.98	61.06	0.34	Magn MWD	Phoenix Directional	-0.34	86.68	0.45	N
2,192	6.20	109.00	2,184.78	-63.31	83.74	68.08	0.24	Magn MWD	Phoenix Directional	-0.17	104.98	1.57	N
2,369	6.60	110.90	2,360.68	-70.05	102.28	75.89	0.26	Magn MWD	Phoenix Directional	0.23	123.97	1.07	N
2,546	7.20	109.90	2,536.40	-77.46	122.21	84.44	0.35	Magn MWD	Phoenix Directional	0.34	144.69	-0.56	N
2,724	7.60	113.00	2,712.91	-85.85	143.54	94.07	0.32	Magn MWD	Phoenix Directional	0.22	167.25	1.74	N
2,901	6.70	112.40	2,888.54	-94.36	163.86	103.75	0.51	Magn MWD	Phoenix Directional	-0.51	189.08	-0.34	N
3,079	6.20	111.90	3,065.41	-101.90	182.37	112.35	0.28	Magn MWD	Phoenix Directional	-0.28	208.91	-0.28	N
3,256	6.80	110.10	3,241.27	-109.07	201.08	120.60	0.36	Magn MWD	Phoenix Directional	0.34	228.76	-1.02	N
3,434	7.90	108.20	3,417.81	-116.51	222.60	129.28	0.63	Magn MWD	Phoenix Directional	0.62	251.25	-1.07	N
3,611	6.80	111.70	3,593.35	-124.19	243.89	138.18	0.67	Magn MWD	Phoenix Directional	-0.62	273.69	1.98	N
3,789	6.40	113.80	3,770.17	-132.08	262.76	147.17	0.26	Magn MWD	Phoenix Directional	-0.22	294.09	1.18	N
3,967	6.40	113.40	3,947.06	-140.03	280.94	156.16	0.03	Magn MWD	Phoenix Directional	0.00	313.91	-0.22	N
4,144	3.40	121.30	4,123.40	-146.67	294.49	163.58	1.73	Magn MWD	Phoenix Directional	-1.69	328.99	4.46	N

Report Printed: 10/4/2016

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 23 FED P7 004H	SD 23 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
4,322	1.90	119.10	4,301.20	-150.85	301.57	168.17	0.84	Magn MWD	Phoenix Directional	-0.84	337.20	-1.24	N
4,499	0.90	124.60	4,478.14	-153.07	305.28	170.59	0.57	Magn MWD	Phoenix Directional	-0.56	341.51	3.11	N
4,529	0.70	124.50	4,508.14	-153.31	305.63	170.85	0.67	Magn MWD	Phoenix Directional	-0.67	341.92	-0.33	N
4,688	0.70	132.90	4,667.13	-154.52	307.14	172.15	0.06	Magn MWD	Phoenix Directional	0.00	343.82	5.28	N
4,865	1.50	220.10	4,844.10	-157.03	306.44	174.61	0.92	Magn MWD	Phoenix Directional	0.45	344.33	49.27	N
5,043	1.60	280.60	5,022.05	-158.35	302.50	175.71	0.88	Magn MWD	Phoenix Directional	0.06	341.44	33.99	N
5,220	1.60	274.90	5,198.98	-157.68	297.60	174.76	0.09	Magn MWD	Phoenix Directional	0.00	336.80	-3.22	N
5,397	1.90	271.10	5,375.90	-157.42	292.21	174.17	0.18	Magn MWD	Phoenix Directional	0.17	331.91	-2.15	N
5,575	1.90	270.60	5,553.80	-157.33	286.31	173.74	0.01	Magn MWD	Phoenix Directional	0.00	326.69	-0.28	N
5,751	0.80	234.50	5,729.75	-158.01	282.39	174.20	0.76	Magn MWD	Phoenix Directional	-0.63	323.59	-20.51	N
5,928	0.70	328.60	5,906.74	-157.81	280.82	173.90	0.62	Magn MWD	Phoenix Directional	-0.06	322.12	53.16	N
6,105	1.00	350.30	6,083.72	-155.36	280.00	171.41	0.25	Magn MWD	Phoenix Directional	0.17	320.21	12.26	N
6,283	1.00	347.30	6,261.70	-152.32	279.39	168.34	0.03	Magn MWD	Phoenix Directional	0.00	318.22	-1.69	N
6,461	0.70	340.20	6,439.68	-149.78	278.68	165.76	0.18	Magn MWD	Phoenix Directional	-0.17	316.38	-3.99	N
6,638	0.80	313.30	6,616.66	-147.91	277.42	163.82	0.20	Magn MWD	Phoenix Directional	0.06	314.39	-15.20	N
6,816	0.50	98.50	6,794.66	-147.18	277.28	163.08	0.70	Magn MWD	Phoenix Directional	-0.17	313.92	-120.67	N
6,993	0.20	102.00	6,971.65	-147.35	278.35	163.32	0.17	Magn MWD	Phoenix Directional	-0.17	314.95	1.98	N
7,171	0.30	160.30	7,149.65	-147.86	278.81	163.85	0.15	Magn MWD	Phoenix Directional	0.06	315.59	32.75	N
7,348	0.30	157.30	7,326.65	-148.72	279.14	164.73	0.01	Magn MWD	Phoenix Directional	0.00	316.29	-1.69	N
7,526	0.70	202.20	7,504.64	-150.16	278.91	166.15	0.30	Magn MWD	Phoenix Directional	0.22	316.76	25.22	N
7,703	0.90	197.90	7,681.63	-152.48	278.08	168.42	0.12	Magn MWD	Phoenix Directional	0.11	317.14	-2.43	N
7,881	1.40	188.80	7,859.59	-155.96	277.31	171.85	0.30	Magn MWD	Phoenix Directional	0.28	318.16	-5.11	N
8,058	2.00	191.40	8,036.51	-161.13	276.37	176.95	0.34	Magn MWD	Phoenix Directional	0.34	319.91	1.47	N
8,235	2.30	188.50	8,213.39	-167.67	275.24	183.42	0.18	Magn MWD	Phoenix Directional	0.17	322.29	-1.64	N
8,409	2.10	202.60	8,387.26	-174.06	273.50	189.70	0.33	Magn MWD	Phoenix Directional	-0.11	324.19	8.10	N
8,466	2.29	199.61	8,444.22	-176.10	272.71	191.69	0.39	Magn MWD	Baker Hughes	0.33	324.63	-5.25	N
8,510	3.81	195.55	8,488.15	-178.34	272.03	193.88	3.49	Magn MWD	Baker Hughes	3.45	325.27	-9.23	N
8,555	10.64	182.64	8,532.77	-183.93	271.43	199.43	15.51	Magn MWD	Baker Hughes	15.18	327.88	-28.69	N
8,599	17.29	178.43	8,575.45	-194.54	271.43	210.02	15.28	Magn MWD	Baker Hughes	15.11	333.94	-9.57	N
8,644	24.12	176.80	8,617.52	-210.42	272.12	225.92	15.23	Magn MWD	Baker Hughes	15.18	343.99	-3.62	N

Report Printed: 10/4/2016

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 23 FED P7 004H	SD 23 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
8,688	27.65	173.93	8,657.10	-229.56	273.70	245.11	8.51	Magn MWD	Baker Hughes	8.02	357.23	-6.52	N
8,732	31.62	173.56	8,695.34	-251.18	276.08	266.84	9.03	Magn MWD	Baker Hughes	9.02	373.24	-0.84	N
8,777	36.99	172.84	8,732.49	-276.35	279.09	292.14	11.97	Magn MWD	Baker Hughes	11.93	392.76	-1.60	N
8,821	40.31	173.83	8,766.85	-303.64	282.27	319.57	7.67	Magn MWD	Baker Hughes	7.55	414.58	2.25	N
8,909	46.56	175.05	8,830.72	-363.83	288.09	380.00	7.17	Magn MWD	Baker Hughes	7.10	464.08	1.39	N
8,954	47.44	175.94	8,861.41	-396.64	290.68	412.90	2.43	Magn MWD	Baker Hughes	1.96	491.75	1.98	N
8,998	49.55	175.97	8,890.57	-429.51	293.00	445.85	4.80	Magn MWD	Baker Hughes	4.80	519.93	0.07	N
9,043	52.07	175.72	8,919.00	-464.29	295.53	480.72	5.62	Magn MWD	Baker Hughes	5.60	550.37	-0.56	N
9,087	56.56	176.31	8,944.66	-499.94	298.01	516.45	10.26	Magn MWD	Baker Hughes	10.20	582.02	1.34	N
9,131	61.56	178.29	8,967.28	-537.62	299.77	554.17	12.00	Magn MWD	Baker Hughes	11.36	615.54	4.50	N
9,176	67.01	177.38	8,986.80	-578.12	301.31	594.69	12.25	Magn MWD	Baker Hughes	12.11	651.92	-2.02	N
9,220	72.84	177.77	9,001.89	-619.39	303.05	635.99	13.28	Magn MWD	Baker Hughes	13.25	689.55	0.89	N
9,264	78.47	179.83	9,012.79	-661.99	303.93	678.57	13.57	Magn MWD	Baker Hughes	12.80	728.43	4.68	N
9,309	84.01	180.13	9,019.64	-706.45	303.95	722.95	12.33	Magn MWD	Baker Hughes	12.31	769.06	0.67	N
9,353	88.74	181.71	9,022.42	-750.34	303.24	766.73	11.33	Magn MWD	Baker Hughes	10.75	809.30	3.59	N
9,397	89.51	180.45	9,023.10	-794.32	302.41	810.59	3.36	Magn MWD	Baker Hughes	1.75	849.94	-2.86	N
9,486	89.29	183.26	9,024.03	-883.26	299.53	899.21	3.17	Magn MWD	Baker Hughes	-0.25	932.67	3.16	N
9,575	91.20	185.90	9,023.65	-971.97	292.43	987.35	3.66	Magn MWD	Baker Hughes	2.15	1,015.00	2.97	N
9,660.05	90.77	183.32	9,022.19	-1,056.72	285.59	1,071.57	3.07	Magn MWD	Baker Hughes	-0.51	1,094.63	-3.03	N
9,752	87.26	177.80	9,023.77	-1,148.60	284.69	1,163.24	7.11	Magn MWD	Baker Hughes	-3.82	1,183.36	-6.00	N
9,841	87.84	174.35	9,027.57	-1,237.30	290.78	1,252.14	3.93	Magn MWD	Baker Hughes	0.65	1,271.01	-3.88	N
9,932	87.54	176.55	9,031.24	-1,327.93	297.99	1,343.04	2.44	Magn MWD	Baker Hughes	-0.33	1,360.96	2.42	N
10,021	89.38	178.33	9,033.63	-1,416.81	301.96	1,431.99	2.88	Magn MWD	Baker Hughes	2.07	1,448.63	2.00	N
10,110	90.00	178.23	9,034.11	-1,505.76	304.64	1,520.95	0.71	Magn MWD	Baker Hughes	0.70	1,536.27	-0.11	N
10,198	89.75	178.37	9,034.31	-1,593.72	307.25	1,608.92	0.33	Magn MWD	Baker Hughes	-0.28	1,623.07	0.16	N
10,287	89.94	179.06	9,034.55	-1,682.70	309.24	1,697.86	0.80	Magn MWD	Baker Hughes	0.21	1,710.88	0.78	N
10,376	89.97	180.25	9,034.62	-1,771.70	309.78	1,786.74	1.34	Magn MWD	Baker Hughes	0.03	1,798.58	1.34	N
10,464	89.85	180.30	9,034.76	-1,859.70	309.36	1,874.56	0.15	Magn MWD	Baker Hughes	-0.14	1,885.25	0.06	N
10,553	89.78	179.54	9,035.04	-1,948.70	309.48	1,963.42	0.86	Magn MWD	Baker Hughes	-0.08	1,973.12	-0.85	N
10,642	90.00	181.00	9,035.21	-2,037.69	309.06	2,052.24	1.66	Magn MWD	Baker Hughes	0.25	2,061.00	1.64	N

Report Printed: 10/4/2016

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 23 FED P7 004H	SD 23 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
10,730	89.82	182.17	9,035.35	-2,125.66	306.63	2,139.91	1.35	Magn MWD	Baker Hughes	-0.20	2,147.66	1.33	N
10,820	90.03	184.87	9,035.47	-2,215.48	301.10	2,229.26	3.01	Magn MWD	Baker Hughes	0.23	2,235.85	3.00	N
10,908	89.82	189.03	9,035.59	-2,302.81	290.46	2,315.82	4.73	Magn MWD	Baker Hughes	-0.24	2,321.06	4.73	N
10,997	90.80	185.47	9,035.10	-2,391.08	279.23	2,403.29	4.15	Magn MWD	Baker Hughes	1.10	2,407.33	-4.00	N
11,086	90.74	185.70	9,033.91	-2,479.65	270.56	2,491.21	0.27	Magn MWD	Baker Hughes	-0.07	2,494.37	0.26	N
11,175	90.12	179.64	9,033.24	-2,568.51	266.42	2,579.67	6.84	Magn MWD	Baker Hughes	-0.70	2,582.29	-6.81	N
11,264	89.82	174.35	9,033.29	-2,657.36	271.08	2,668.64	5.95	Magn MWD	Baker Hughes	-0.34	2,671.15	-5.94	N
11,352	89.69	174.79	9,033.66	-2,744.96	279.41	2,756.58	0.52	Magn MWD	Baker Hughes	-0.15	2,759.15	0.50	N
11,441	89.82	176.40	9,034.04	-2,833.70	286.25	2,845.56	1.81	Magn MWD	Baker Hughes	0.15	2,848.12	1.81	N
11,530	89.01	176.90	9,034.95	-2,922.54	291.45	2,934.55	1.07	Magn MWD	Baker Hughes	-0.91	2,937.03	0.56	N
11,618	89.60	178.59	9,036.02	-3,010.46	294.91	3,022.53	2.03	Magn MWD	Baker Hughes	0.67	3,024.87	1.92	N
11,707	89.48	179.99	9,036.73	-3,099.45	296.01	3,111.43	1.58	Magn MWD	Baker Hughes	-0.13	3,113.55	1.57	N
11,796	89.72	181.52	9,037.35	-3,188.44	294.84	3,200.20	1.74	Magn MWD	Baker Hughes	0.27	3,202.04	1.72	N
11,884	89.66	184.20	9,037.83	-3,276.32	290.45	3,287.67	3.05	Magn MWD	Baker Hughes	-0.07	3,289.17	3.05	N
11,973	89.66	184.67	9,038.36	-3,365.05	283.57	3,375.85	0.53	Magn MWD	Baker Hughes	0.00	3,376.98	0.53	N
12,062	88.92	181.71	9,039.46	-3,453.89	278.62	3,464.26	3.43	Magn MWD	Baker Hughes	-0.83	3,465.11	-3.33	N
12,150	89.04	178.46	9,041.03	-3,541.87	278.49	3,552.08	3.70	Magn MWD	Baker Hughes	0.14	3,552.80	-3.69	N
12,240	88.83	176.19	9,042.70	-3,631.75	282.68	3,642.05	2.53	Magn MWD	Baker Hughes	-0.23	3,642.73	-2.52	N
12,328	88.89	178.71	9,044.45	-3,719.64	286.60	3,730.02	2.86	Magn MWD	Baker Hughes	0.07	3,730.66	2.86	N
12,417	90.15	179.64	9,045.20	-3,808.62	287.88	3,818.92	1.76	Magn MWD	Baker Hughes	1.42	3,819.49	1.04	N
12,506	91.26	179.19	9,044.10	-3,897.61	288.79	3,907.81	1.35	Magn MWD	Baker Hughes	1.25	3,908.29	-0.51	N
12,595	90.71	180.34	9,042.57	-3,986.59	289.15	3,996.67	1.43	Magn MWD	Baker Hughes	-0.62	3,997.07	1.29	N
12,683	90.18	179.99	9,041.89	-4,074.59	288.90	4,084.50	0.72	Magn MWD	Baker Hughes	-0.60	4,084.82	-0.40	N
12,772	90.18	177.92	9,041.61	-4,163.57	290.52	4,173.42	2.33	Magn MWD	Baker Hughes	0.00	4,173.69	-2.33	N
12,861	90.28	176.08	9,041.25	-4,252.44	295.18	4,262.42	2.07	Magn MWD	Baker Hughes	0.11	4,262.67	-2.07	N
12,949	90.74	175.34	9,040.47	-4,340.19	301.76	4,350.40	0.99	Magn MWD	Baker Hughes	0.52	4,350.67	-0.84	N
13,038	90.25	176.31	9,039.70	-4,428.95	308.24	4,439.39	1.22	Magn MWD	Baker Hughes	-0.55	4,439.66	1.09	N
13,127	90.25	178.72	9,039.31	-4,517.86	312.10	4,528.37	2.71	Magn MWD	Baker Hughes	0.00	4,528.63	2.71	N
13,215	90.31	180.06	9,038.88	-4,605.85	313.04	4,616.27	1.52	Magn MWD	Baker Hughes	0.07	4,616.48	1.52	N
13,304	90.59	178.71	9,038.18	-4,694.84	313.99	4,705.16	1.55	Magn MWD	Baker Hughes	0.31	4,705.33	-1.52	N

Report Printed: 10/4/2016

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 23 FED P7 004H	SD 23 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
13,393	90.80	179.20	9,037.10	-4,783.62	315.62	4,794.08	0.60	Magn MWD	Baker Hughes	0.24	4,794.22	0.55	N
13,482	90.52	180.11	9,036.08	-4,872.61	316.15	4,882.95	1.07	Magn MWD	Baker Hughes	-0.31	4,883.06	1.02	N
13,571	90.86	180.96	9,035.01	-4,961.60	315.32	4,971.74	1.03	Magn MWD	Baker Hughes	0.38	4,971.81	0.96	N
13,659	90.52	180.87	9,033.95	-5,049.78	313.92	5,059.49	0.40	Magn MWD	Baker Hughes	-0.39	5,059.53	-0.10	N
13,749	90.52	180.32	9,033.13	-5,139.77	312.98	5,149.28	0.61	Magn MWD	Baker Hughes	0.00	5,149.29	-0.61	N
13,838	90.52	178.21	9,032.32	-5,228.76	314.12	5,238.18	2.37	Magn MWD	Baker Hughes	0.00	5,238.18	-2.37	N
13,926	91.08	179.29	9,031.09	-5,316.73	316.04	5,326.11	1.38	Magn MWD	Baker Hughes	0.64	5,326.11	1.23	N
13,977	90.74	180.55	9,030.28	-5,367.72	316.11	5,377.02	2.56	Magn MWD	Baker Hughes	-0.67	5,377.02	2.47	N
14,002	90.74	180.55	9,029.96	-5,392.72	315.87	5,401.96	0.00	Magn MWD	Baker Hughes	0.00	5,401.96	0.00	N

Report Printed: 10/4/2016