

HOBBS OCD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTNMOCD
HobbsFORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

DEC 02 2016

RECEIVED

SUNDRY NOTICES AND REPORTS ON WELLS
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

5. Lease Serial No.
NNMM118723
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.
8. Well Name and No.
SD WE 23 FEDERAL P5 001H
9. API Well No.
30-025-42802
10. Field and Pool, or Exploratory
BONE SPRING
11. County or Parish, and State
LEA COUNTY, NM

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other
2. Name of Operator
CHEVRON U.S.A. INC. / Contact: DENISE PINKERTON
E-Mail: leakejd@chevron.com
- 3a. Address
6301 DEAUVILLE BLVD
MIDLAND, TX 79706
- 3b. Phone No. (include area code)
Ph: 432-687-7375
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 14 T26S R32E Mer NMP 10FSL 648FWL /

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Drilling Operations
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

06/14/2016: SPUD WELL. DRILL SURFACE HOLE 113-664. RUN 13 3/8" 54.5# J-55 STC SURF CSG & SET @ 654'. FC @ 607'. TEST LINES TO 500/3000PSI. PMP 40 BBLS 8.4PPG FW SPACER. CMT W/845 SX CMT @ 14.8PPG. BUMP PLUG W/520PSI OVER FINAL CIRC PRESS @ 780PSI. FULL RETURNS THROUGHOUT JOB. FINAL CIRC PRESS PRIOR TO BUMPING PLUG 260PSI @ 2.0BPM. 451 SX CMT TO SURF. CMT IN PLACE @ 21:57 HRS.

07/17/2016: TEST BOPE TO 250/5000. TEST 13 3/8" SURF CSG TO 1500PSI FOR 30 MINS. DRILL 10' NEW FORMATION TO 674'. DRILL 674-795, 1645, 2259, 2525, 2969, 3324, 3680, 4390, 4536.

07/20/2016: RAN 9.5/8" 40# HCK-55 LTC INTERMEDIATE CSG SET @ 4526'. FC @ 4440'. TEST LINES TO 500/5000PSI. PMP 30 BBLS 8.4PPG FW SPACER. CMT S/1030 SX LEAD CMT @ 11.9PPG, & 460 SX TAIL CMT @ 14.8PPG. DISPL W/336 BBLS 9.11PPG CUT BRINE. BUMP PLUG W/554PSI OVER FINAL CIRC PRESS @ 1643PSI.

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #353746 verified by the BLM Well Information System
For CHEVRON U.S.A. INC., sent to the Hobbs
Committed to AFMSS for processing by DEBORAH MCKINNEY on 10/07/2016 ()

Name (Printed/Typed) DENISE PINKERTON

Title PERMITTING SPECIALIST

Signature (Electronic Submission)

Date 10/06/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

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 fraudulent statements or representations as to any matter within its jurisdiction.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

KZ

Additional data for EC transaction #353746 that would not fit on the form

32. Additional remarks, continued

FULL RETURNS THROUGHOUT JOB. FINAL CIRC PRESS PRIOR TO BUMPING PLUG 1089PSI @ 2.9BPM. 452 SX CMT TO SURF. CMT IN PLACE @ 23:30 HRS.

07/21/2016: TAG CMT @ 4428'. TEST INTERMEDIATE CSG TO 2765PSI FOR 30 MINS. DRILL 10' NEW FORMATION TO 4546'. DRILL 4546-5373, 5704, 6013, 6881, 7344, 8034, 8256, 8500, 86562, 8738, 8785, 8975, 9124, 9185, 9317, 9424, 9650, 9812, 9982, 10210, 10514, 10691, 10873, 10957, 11025, 11187, 11446, 11852, 12377, 12554, 12806, 12910, 13269, 13500, 13793, 13862. ***TD REACHED ON 07/28/2016.

07/30/2016: RAN 5 1/2", 20# HCP-110 TXP BTC PRODUCTION CSG & SET @ 13847'. LC @ 13757. RSI TOOL @ 13697, MRKR JT @ 8431. TEST 500/7000PSI. CMT W/625 SX CL H LEAD, 960 SX CL H LEAD, & 120 SX CL H TAIL. FINAL CIRC PRESS 1580PSI @ 4.0BPM. BUMP PLUG 570PSI OVER FCP @ 2150PSI. TEST TO 5000PSI FOR 15 MINS. GOOD. ✓

RELEASE RIG @ 18:00 HRS.



Casing Summary

Well Name SALADO DRAW WE 23 FED P5 001H		Lease		Field Name JENNINGS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016				Mud Line Elevation (ft)	Water Depth (ft)

Surface, Planned?N, 654ftKB

Set Depth (MD) (ftKB) 654		Set Tension (kips)		String Nominal OD (in) 13 3/8		String Min Drift (in) 12.469		Centralizers 8		Scratchers	
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	Len (ft)	P Burst (psi)	P Collapse (psi)
1	Wellhead	13 3/8	12.625	54.50	J-55	ST&C	35	38	2.86	2,730.0	1,130.0
1	Pup Joint	13 3/8	12.625	54.50	J-55	ST&C	38	42	4.30	2,730.0	1,130.0
14	Casing Joint	13 3/8	12.625	54.50	J-55	ST&C	42	608	566.53	2,730.0	1,130.0
1	Float Collar	13 3/8	12.625	54.50	J-55	ST&C	608	610	1.31	2,730.0	1,130.0
1	Casing Joint	13 3/8	12.625	54.50	J-55	ST&C	610	652	42.52	2,730.0	1,130.0
1	Float Shoe	13 3/8	12.625	54.50	J-55	ST&C	652	654	1.76	2,730.0	1,130.0

Intermediate Casing 1, Planned?N, 4,526ftKB

Set Depth (MD) (ftKB) 4,526		Set Tension (kips)		String Nominal OD (in) 9 5/8		String Min Drift (in) 8.688		Centralizers 31		Scratchers	
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	Len (ft)	P Burst (psi)	P Collapse (psi)
1	Hanger	9 5/8	8.844	40.00	HCK-55	LT&C	38	39	0.98	3,950.0	4,230.0
1	Pup Joint	9 5/8	8.844	40.00	HCK-55	LT&C	39	43	4.09	3,950.0	4,230.0
10	Casing Joint	9 5/8	8.844	40.00	HCK-55	LT&C	43	4,438	4,395.47	3,950.0	4,230.0
6											
1	Float Collar	9 5/8	8.844	40.00	HCK-55	LT&C	4,438	4,440	1.48	3,950.0	4,230.0
2	Casing Joint	9 5/8	8.844	40.00	HCK-55	LT&C	4,440	4,524	84.63	3,950.0	4,230.0
1	Float Shoe	9 5/8	8.844	40.00	HCK-55	LT&C	4,524	4,526	1.61	3,950.0	4,230.0

Production Casing, Planned?N, 13,847ftKB

Set Depth (MD) (ftKB) 13,847		Set Tension (kips)		String Nominal OD (in) 5 1/2		String Min Drift (in)		Centralizers 102		Scratchers	
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	Len (ft)	P Burst (psi)	P Collapse (psi)
1	Hanger	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	34	35	1.19		
1	Hanger PUP	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	35	39	4.39		
20	Casing Joint	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	39	8,432	8,392.40		
2											
1	Marker Joint	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	8,432	8,441	9.85		
12	Casing Joint	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	8,441	13,681	5,239.18		
6											
1	RSI Pup	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,681	13,690	9.53		
1	RSI	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,690	13,697	6.67		
1	RSI Pup	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,697	13,706	8.67		
1	Casing Joint	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,706	13,748	42.42		
1	LC Pup	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,748	13,758	9.87		
1	Landing Collar	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,758	13,759	1.47		
1	Casing Joint	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,759	13,802	42.55		
1	Float Collar	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,802	13,804	2.42		
1	Casing Joint	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,804	13,844	40.07		
1	Float Shoe	5 1/2	4.781	20.00	HCP-110	TXP-BTC-S	13,844	13,847	2.70		



Cement Summary

Surface Casing Cement

Well Name SALADO DRAW WE 23 FED P5 001H	Lease	Field Name JENNINGS	Business Unit Mid-Continent
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016	Mud Line Elevation (ft) Water Depth (ft)

Original Hole

Wellbore Name Original Hole	Directional Type Horizontal	Min Kick Off Depth (ftKB) 8,500.0	Vertical Section Direction (°) 359.84
Hole Size (in)	Act Top (ftKB)	Act Btm (ftKB)	
17 1/2	112.0	664.0	
12 1/4	664.0	4,536.0	
8 3/4	4,536.0	13,862.0	

Multi-bowl, FMC on 6/14/2016 18:00

Sub-Type Multi-bowl	Install Date 6/14/2016				
Des	Make	Model	WP (psi)	Service	SN

Surface, Planned?-N, 654ftKB

Casing Description Surface	Wellbore Original Hole	Run Date 6/14/2016	Set Depth (MD) (ftKB) 654	Slick Up (ftKB) -34.7	Set Tension (kips)					
Centralizers 8			Scratchers							
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Wellhead	13 3/8	12.625	54.50	J-55		ST&C	2.86	35	38
1	Pup Joint	13 3/8	12.625	54.50	J-55*		ST&C	4.30	38	42
14	Casing Joint	13 3/8	12.625	54.50	J-55		ST&C	566.53	42	608
1	Float Collar	13 3/8	12.625	54.50	J-55		ST&C	1.31	608	610
1	Casing Joint	13 3/8	12.625	54.50	J-55		ST&C	42.52	610	652
1	Float Shoe	13 3/8	12.625	54.50	J-55		ST&C	1.76	652	654

Intermediate Casing 1, Planned?-N, 4,526ftKB

Casing Description Intermediate Casing 1		Wellbore Original Hole	Run Date 7/20/2016	Set Depth (MD) (ftKB) 4,528	Slick Up (ftKB) -37.7	Set Tension (kips)				
Centralizers 31				Scratchers						
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Hanger	9 5/8	8.844	40.00	HCK-55		LT&C	0.98	38	39
1	Pup Joint	9 5/8	8.844	40.00	HCK-55		LT&C	4.09	39	43
106	Casing Joint	9 5/8	8.844	40.00	HCK-55		LT&C	4,395.47	43	4,438
1	Float Collar	9 5/8	8.844	40.00	HCK-55		LT&C	1.48	4,438	4,440
2	Casing Joint	9 5/8	8.844	40.00	HCK-55		LT&C	84.63	4,440	4,524
1	Float Shoe	9 5/8	8.844	40.00	HCK-55		LT&C	1.61	4,524	4,526

Production Casing, Planned?-N, 13,847ftKB

Casing Description Production Casing		Wellbore Original Hole	Run Date	Set Depth (MD) (ftKB) 13,847		Slick Up (ftKB) -33.6		Set Tension (kips)		
Centralizers 102					Scratchers					
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Hanger	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	1.19	34	35
1	Hanger PUP	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	4.39	35	39
202	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	8,392.40	39	8,432
1	Marker Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	9.85	8,432	8,441
126	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	5,239.18	8,441	13,681
1	RSI Pup	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	9.53	13,681	13,690
1	RSI	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	6.67	13,690	13,697
1	RSI Pup	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	8.67	13,697	13,706
1	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	42.42	13,706	13,748
1	LC Pup	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	9.87	13,748	13,758



Cement Summary

Surface Casing Cement

Well Name SALADO DRAW WE 23 FED P5 001H		Lease		Field Name JENNINGS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016				Mud Line Elevation (ft)	Water Depth (ft)

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Blm Depth (MD) (ftKB)
1	Landing Collar	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	1.47	13,758	13,759
1	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	42.55	13,759	13,802
1	Float Collar	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	2.42	13,802	13,804
1	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	40.07	13,804	13,844
1	Float Shoe	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	2.70	13,844	13,847

Surface Casing Cement, Casing, 6/14/2016 20:00

Cementing Start Date 6/14/2016		Cementing End Date 6/14/2016		Wellbore Original Hole	
Evaluation Method Returns to Surface		Cement Evaluation Results 107 bbls cmt to surface			
Comment					

1, 34.6-654.0ftKB

Top Depth (ftKB) 34.6	Bottom Depth (ftKB) 654.0	Full Return? Y	Voi Cement Ret (bbl) 107.0	Top Plug? Y	Bottom Plug? N
Initial Pump Rate (bbl/min) 2.2	Final Pump Rate (bbl/min) 2	Avg Pump Rate (bbl/min) 5.5		Final Pump Pressure (psi) 260.0	Plug Bump Pressure (psi) 780.0
Pipe Reciprocated? N	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)		Pipe Rotated? N	Pipe RPM (rpm)
Depth Tagged (MD) (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)		Drill Out Diameter (in)	Drill Out Date

Spacer

Fluid Type Spacer	Fluid Description FW w/ Dye	Quantity (sacks)	Class	Volume Pumped (bbl) 40.0	
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)	
Free Water (%)	Density (lb/gal) 8.33	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)	

Cement Fluid Additives

Add	Type	Conc

Tail

Fluid Type Tail	Fluid Description	Quantity (sacks) 845	Class C	Volume Pumped (bbl) 199.0	
Estimated Top (ftKB) 34.6	Estimated Bottom Depth (ftKB) 680.0	Percent Excess Pumped (%) 125.0	Yield (ft³/sack) 1.33	Fluid Mix Ratio (gal/sack) 6.37	
Free Water (%)	Density (lb/gal) 14.80	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)	

Cement Fluid Additives

Add	Type	Conc

Displacement

Fluid Type Displacement	Fluid Description Water Base Mud	Quantity (sacks)	Class	Volume Pumped (bbl) 94.7	
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)	
Free Water (%)	Density (lb/gal) 8.60	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)	

Cement Fluid Additives

Add	Type	Conc



Cement Summary

Intermediate Casing Cement

Well Name SALADO DRAW WE 23 FED P5 001H	Lease	Field Name JENNINGS	Business Unit Mid-Continent
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016	Mud Line Elevation (ft) Water Depth (ft)

Original Hole

Wellbore Name Original Hole	Directional Type Horizontal	Min Kick Off Depth (ftKB) 8,500.0	Vertical Section Direction (°) 359.84
Hole Size (in)	Act Top (ftKB)	Act Btm (ftKB)	
17 1/2	112.0	664.0	
12 1/4	664.0	4,536.0	
8 3/4	4,536.0	13,862.0	

Multi-bowl, FMC on 6/14/2016 18:00

Sub-Type Multi-bowl	Install Date 6/14/2016				
Des	Make	Model	WP (psi)	Service	SN

Surface, Planned?-N, 654ftKB

Casing Description Surface		Wellbore Original Hole		Run Date 6/14/2016		Set Depth (MD) (ftKB) 654		Stick Up (ftKB) -34.7		Set Tension (kips)	
Centralizers 8						Scratchers					
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	
1	Wellhead	13 3/8	12.625	54.50	J-55		ST&C	2.86	35	38	
1	Pup Joint	13 3/8	12.625	54.50	J-55		ST&C	4.30	38	42	
14	Casing Joint	13 3/8	12.625	54.50	J-55		ST&C	566.53	42	608	
1	Float Collar	13 3/8	12.625	54.50	J-55		ST&C	1.31	608	610	
1	Casing Joint	13 3/8	12.625	54.50	J-55		ST&C	42.52	610	652	
1	Float Shoe	13 3/8	12.625	54.50	J-55		ST&C	1.76	652	654	

Intermediate Casing 1, Planned?-N, 4,526ftKB

Casing Description Intermediate Casing 1	Wellbore Original Hole	Run Date 7/20/2016	Set Depth (MD) (ftKB) 4,526	Stick Up (ftKB) -37.7	Set Tension (kips)					
Centralizers 31			Scratchers							
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Hanger	9 5/8	8.844	40.00	HCK-55		LT&C	0.98	38	39
1	Pup Joint	9 5/8	8.844	40.00	HCK-55		LT&C	4.09	39	43
106	Casing Joint	9 5/8	8.844	40.00	HCK-55		LT&C	4,395.47	43	4,438
1	Float Collar	9 5/8	8.844	40.00	HCK-55		LT&C	1.48	4,438	4,440
2	Casing Joint	9 5/8	8.844	40.00	HCK-55		LT&C	84.63	4,440	4,524
1	Float Shoe	9 5/8	8.844	40.00	HCK-55		LT&C	1.61	4,524	4,526

Production Casing, Planned?-N, 13,847ftKB

Casing Description Production Casing	Wellbore Original Hole	Run Date	Set Depth (MD) (ftKB) 13,847	Stick Up (ftKB) -33.6	Set Tension (kips)					
Centralizers 102			Scratchers							
Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Hanger	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	1.19	34	35
1	Hanger PUP	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	4.39	35	39
202	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	8,392.40	39	8,432
1	Marker Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	9.85	8,432	8,441
126	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	5,239.18	8,441	13,681
1	RSI Pup	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	9.53	13,681	13,690
1	RSI	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	6.67	13,690	13,697
1	RSI Pup	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	8.67	13,697	13,706
1	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	42.42	13,706	13,748
1	LC Pup	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	9.87	13,748	13,758



Cement Summary

Intermediate Casing Cement

Well Name SALADO DRAW WE 23 FED P5 001H		Lease		Field Name JENNINGS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016				Mud Line Elevation (ft)	Water Depth (ft)

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Bot Depth (MD) (ftKB)
1	Landing Collar	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	1.47	13,758	13,759
1	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	42.55	13,759	13,802
1	Float Collar	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	2.42	13,802	13,804
1	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	40.07	13,804	13,844
1	Float Shoe	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	2.70	13,844	13,847

Intermediate Casing Cement, Casing, 7/20/2016 20:25

Cementing Start Date 7/20/2016		Cementing End Date 7/20/2016		Wellbore Original Hole	
Evaluation Method Returns to Surface		Cement Evaluation Results 194 bbls of cement to surface			
Comment					

1, 34.6-4,536.0ftKB

Top Depth (ftKB) 34.6	Bottom Depth (ftKB) 4,536.0	Full Return? N	Vol Cement Ret (bbl) 194.0	Top Plug? Y	Bottom Plug? N
Initial Pump Rate (bbl/min) 4.7	Final Pump Rate (bbl/min) 2.9	Avg Pump Rate (bbl/min) 6.5		Final Pump Pressure (psi) 1,089.0	
Pipe Reciprocated? N	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)		Pipe Rotated? N	
Depth Tagged (MD) (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)		Drill Out Diameter (in)	
				Drill Out Date	

Spacer

Fluid Type Spacer	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl) 30.0	
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Fluid Mix Ratio (gal/sack)	
Free Water (%)	Density (lb/gal) 8.40	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)	

Cement Fluid Additives

Add	Type	Conc

Lead

Fluid Type Lead	Fluid Description 50/50 POZ/C	Quantity (sacks) 1,030	Class C	Volume Pumped (bbl) 442.0	
Estimated Top (ftKB) 34.5	Estimated Bottom Depth (ftKB) 3,536.0	Percent Excess Pumped (%) 150.0	Yield (ft ³ /sack) 2.41	Fluid Mix Ratio (gal/sack) 13.86	
Free Water (%) 0.00	Density (lb/gal) 11.90	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi) 50.0	

Cement Fluid Additives

Add	Type	Conc

Tail

Fluid Type Tail	Fluid Description Class C + 0.25% D800	Quantity (sacks) 460	Class C	Volume Pumped (bbl) 110.0	
Estimated Top (ftKB) 3,536.0	Estimated Bottom Depth (ftKB) 4,536.0	Percent Excess Pumped (%) 85.0	Yield (ft ³ /sack) 1.33	Fluid Mix Ratio (gal/sack) 6.35	
Free Water (%) 0.00	Density (lb/gal) 14.80	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi) 50.0	

Cement Fluid Additives

Add	Type	Conc

Displacement

Fluid Type Displacement	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)	
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Fluid Mix Ratio (gal/sack)	
Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)	

Cement Fluid Additives

Add	Type	Conc



Cement Summary

Production Casing Cement

Well Name SALADO DRAW WE 23 FED P5 001H		Lease	Field Name JENNINGS	Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016		Mud Line Elevation (ft)	Water Depth (ft)

Original Hole

Wellbore Name Original Hole		Directional Type Horizontal	Min Kick Off Depth (ftKB) 8,500.0		Vertical Section Direction (°) 359.84
Hole Size (in)		Act Top (ftKB)		Act Btm (ftKB)	
17 1/2		112.0		664.0	
12 1/4		664.0		4,536.0	
8 3/4		4,536.0		13,862.0	

Multi-bowl, FMC on 6/14/2016 18:00

Sub-Type Multi-bowl		Install Date 6/14/2016			
Des	Make	Model	WP (psi)	Service	SN

Surface, Planned? - N, 654ftKB

Casing Description Surface	Wellbore Original Hole	Run Date 6/14/2016	Set Depth (MD) (ftKB) 654	Slick Up (ftKB) -34.7	Set Tension (kips)
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Centralizers
8

Scratchers

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Wellhead	13 3/8	12.625	54.50	J-55		ST&C	2.86	35	38
1	Pup Joint	13 3/8	12.625	54.50	J-55		ST&C	4.30	38	42
14	Casing Joint	13 3/8	12.625	54.50	J-55		ST&C	566.53	42	608
1	Float Collar	13 3/8	12.625	54.50	J-55		ST&C	1.31	608	610
1	Casing Joint	13 3/8	12.625	54.50	J-55		ST&C	42.52	610	652
1	Float Shoe	13 3/8	12.625	54.50	J-55		ST&C	1.76	652	654

Intermediate Casing 1, Planned? - N, 4,526ftKB

Casing Description Intermediate Casing 1	Wellbore Original Hole	Run Date 7/20/2016	Set Depth (MD) (ftKB) 4,526	Slick Up (ftKB) -37.7	Set Tension (kips)
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Centralizers
31

Scratchers

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Hanger	9 5/8	8.844	40.00	HCK-55		LT&C	0.98	38	39
1	Pup Joint	9 5/8	8.844	40.00	HCK-55		LT&C	4.09	39	43
106	Casing Joint	9 5/8	8.844	40.00	HCK-55		LT&C	4,395.47	43	4,438
1	Float Collar	9 5/8	8.844	40.00	HCK-55		LT&C	1.48	4,438	4,440
2	Casing Joint	9 5/8	8.844	40.00	HCK-55		LT&C	84.63	4,440	4,524
1	Float Shoe	9 5/8	8.844	40.00	HCK-55		LT&C	1.61	4,524	4,526

Production Casing, Planned? - N, 13,847ftKB

Casing Description Production Casing	Wellbore Original Hole	Run Date	Set Depth (MD) (ftKB) 13,847	Slick Up (ftKB) -33.6	Set Tension (kips)
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Centralizers
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Scratchers

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)
1	Hanger	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	1.19	34	35
1	Hanger PUP	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	4.39	35	39
202	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	8,392.40	39	8,432
1	Marker Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	9.85	8,432	8,441
126	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	5,239.18	8,441	13,681
1	RSI Pup	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	9.53	13,681	13,690
1	RSI	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	6.67	13,690	13,697
1	RSI Pup	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	8.67	13,697	13,706
1	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	42.42	13,706	13,748
1	LC Pup	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	9.87	13,748	13,758



Cement Summary

Production Casing Cement

Well Name SALADO DRAW WE 23 FED P5 001H		Lease JENNINGS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016		Mud Line Elevation (ft)	Water Depth (ft)

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Conn Sz (in)	Top Thread	Len (ft)	Top Depth (MD) (ftKB)	Botm Depth (MD) (ftKB)
1	Landing Collar	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	1.47	13,758	13,759
1	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	42.55	13,759	13,802
1	Float Collar	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	2.42	13,802	13,804
1	Casing Joint	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	40.07	13,804	13,844
1	Float Shoe	5 1/2	4.781	20.00	HCP-110		TXP-BTC-S	2.70	13,844	13,847

Production Casing Cement, Casing, 7/30/2016 08:00

Cementing Start Date 7/30/2016		Cementing End Date 7/30/2016		Wellbore Original Hole	
Evaluation Method Lift Pressure		Cement Evaluation Results FCP of 2,150 psi. Expected lift pressure of 1,018 psi.			
Comment					

1, 3,680.0-13,847.0ftKB

Top Depth (ftKB) 3,680.0	Bottom Depth (ftKB) 13,847.0	Full Return? N	Vol Cement Ret (bbl) 0.0	Top Plug? Y	Bottom Plug? Y
Initial Pump Rate (bbl/min) 4.1	Final Pump Rate (bbl/min) 4	Avg Pump Rate (bbl/min) 6	Final Pump Pressure (psi) 1,580.0	Plug Bump Pressure (psi) 2,150.0	
Pipe Reciprocated? N	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)	Pipe Rotated? N	Pipe RPM (rpm)	
Depth Tagged (MD) (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)	Drill Out Diameter (in)	Drill Out Date	

Spacer

Fluid Type Spacer	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl) 30.0
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%) 0.0	Yield (ft ³ /sack)	Fluid Mix Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 10.00	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Lead

Fluid Type Lead	Fluid Description	Quantity (sacks) 625	Class H	Volume Pumped (bbl) 273.0
Estimated Top (ftKB) 3,680.0	Estimated Bottom Depth (ftKB) 8,516.0	Percent Excess Pumped (%) 50.0	Yield (ft ³ /sack) 2.72	Fluid Mix Ratio (gal/sack) 15.89
Free Water (%)	Density (lb/gal) 11.50	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Lead

Fluid Type Lead	Fluid Description	Quantity (sacks) 960	Class H	Volume Pumped (bbl) 274.0
Estimated Top (ftKB) 8,516.0	Estimated Bottom Depth (ftKB) 12,847.0	Percent Excess Pumped (%) 35.0	Yield (ft ³ /sack) 1.60	Fluid Mix Ratio (gal/sack) 8.62
Free Water (%)	Density (lb/gal) 12.50	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Tail

Fluid Type Tail	Fluid Description	Quantity (sacks) 120	Class H	Volume Pumped (bbl) 46.0
Estimated Top (ftKB) 12,847.0	Estimated Bottom Depth (ftKB) 13,847.0	Percent Excess Pumped (%) 0.0	Yield (ft ³ /sack) 2.18	Fluid Mix Ratio (gal/sack) 9.55
Free Water (%)	Density (lb/gal) 15.00	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc



Cement Summary

Production Casing Cement

Well Name SALADO DRAW WE 23 FED P5 001H		Lease	Field Name JENNINGS	Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016		Mud Line Elevation (ft)	Water Depth (ft)

Displacement				
Fluid Type Displacement	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl) 306.0
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%) 0.0	Yield (ft ³ /sack)	Fluid Mix Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 8.30	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives		
Add	Type	Conc

Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 60133

OPERATOR Chevron

WELL NAME SD WE 23 Fed P5 1H

COUNTY & STATE

Lea County, New Mexico

API WELL NUMBER 30-025-42802

PROPOSED DIRECTION 183.12

TIE-IN DATA

MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
649.00 ft	648.94 ft	0.6°	25.0°	6.09 N	2.97 E	TeleDrift

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
7/18/16	676.00	0.30	38.40

SURVEY INSTRUMENT
TYPE

Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
7/22/16	8441.00	0.60	204.60

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

PROJECTED	PROJECTED		
TD SURVEY	TD SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
7/22/16	8500.00	0.60	204.60

Lance Mosby

PRINT YOUR NAME ABOVE

Lance Mosby

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	6.59
DECLINATION OR GRID	GRID

22-Jul-2016

TODAY'S DATE

MWD SUPERVISOR 1

Lance Mosby

DIRECTIONAL DRILLER 1

Monte Gordon

MWD SUPERVISOR 2

Benjamin Maulding

DIRECTIONAL DRILLER 2

Gustavo Rodriguez

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



Chevron

Lea County, NM (NAD27 NME)

SD WE 23 Fed

P5 1H

OH / Job 60133

Survey: Phoenix MWD Surveys

Standard Survey Report

24 July, 2016





Phoenix Technology Services Survey Report



Company: Chevron
Project: Lea County, NM (NAD27 NME)
Site: SD WE 23 Fed
Well: P5 1H
Wellbore: OH / Job 60133
Design: Surveys (Pace X30)

Local Co-ordinate Reference: Well P5 1H
TVD Reference: RKB @ 3190.00usft (Pace X30)
MD Reference: RKB @ 3190.00usft (Pace X30)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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
From:	Map	Easting:	711,242.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 2' 7.84590 N
		Longitude:	103° 39' 5.90418 W
		Grid Convergence:	0.36 °

Well	P5 1H		
Well Position	+N/-S	0.00 usft	Northing: 377,312.00 usft
	+E/-W	0.00 usft	Easting: 711,242.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 2' 7.84590 N
		Longitude:	103° 39' 5.90418 W
		Ground Level:	3,157.00 usft

Wellbore	OH / Job 60133				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	HDGM	6/15/2016	(°)	(°)	(nT)
			6.95	59.75	48,027

Design	Surveys (Pace X30)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	183.12	

Survey Program	Date 7/24/2016				
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
176.00	649.00	Teledrift MWD Surveys (OH / Job 60133)	MWD	MWD - Standard	
649.00	8,500.00	Phoenix MWD Surveys (OH / Job 60133)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM	

Survey									
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
649.00	0.60	25.00	648.94	6.09	2.97	-6.24	0.00	0.00	0.00
Tie In to Teledrift Surveys									
676.00	0.30	38.40	675.94	6.27	3.07	-6.43	1.17	-1.11	49.63
First Phoenix MWD Survey									
858.00	0.30	1.80	857.94	7.12	3.38	-7.29	0.10	0.00	-20.11
1,040.00	0.70	320.30	1,039.93	8.45	2.69	-8.58	0.28	0.22	-22.80
1,222.00	3.80	271.70	1,221.78	9.49	-4.05	-9.25	1.86	1.70	-26.70
1,402.00	6.90	254.20	1,400.98	6.72	-20.42	-5.59	1.93	1.72	-9.72
1,580.00	7.70	252.20	1,577.54	0.16	-42.06	2.13	0.47	0.45	-1.12



Phoenix Technology Services

Survey Report



Company: Chevron
 Project: Lea County, NM (NAD27 NME)
 Site: SD WE 23 Fed
 Well: P5 1H
 Wellbore: OH / Job 60133
 Design: Surveys (Pace X30)

Local Co-ordinate Reference: Well P5 1H
 TVD Reference: RKB @ 3190.00usft (Pace X30)
 MD Reference: RKB @ 3190.00usft (Pace X30)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)
1,758.00	8.20	252.50	1,753.83	-7.30	-65.52	10.86	0.28	0.28	0.17
1,935.00	8.70	252.60	1,928.91	-15.10	-90.34	20.00	0.28	0.28	0.06
2,112.00	8.60	248.90	2,103.90	-23.87	-115.46	30.13	0.32	-0.06	-2.09
2,290.00	7.40	242.80	2,280.16	-33.90	-138.07	41.37	0.82	-0.67	-3.43
2,467.00	6.30	251.80	2,455.90	-42.14	-157.44	50.66	0.87	-0.62	5.08
2,645.00	6.90	255.90	2,632.72	-47.80	-177.08	57.38	0.43	0.34	2.30
2,822.00	7.70	258.40	2,808.29	-52.77	-199.01	63.54	0.49	0.45	1.41
2,999.00	6.40	252.00	2,983.95	-58.21	-220.01	70.11	0.86	-0.73	-3.62
3,177.00	5.40	247.80	3,161.00	-64.44	-237.20	77.27	0.61	-0.56	-2.36
3,355.00	5.90	259.10	3,338.14	-69.33	-253.94	83.07	0.68	0.28	6.35
3,533.00	5.40	266.80	3,515.28	-71.53	-271.29	86.21	0.51	-0.28	4.33
3,711.00	5.20	264.40	3,692.52	-72.78	-287.68	88.36	0.17	-0.11	-1.35
3,888.00	4.90	263.40	3,868.83	-74.44	-303.17	90.85	0.18	-0.17	-0.56
4,066.00	3.80	253.30	4,046.32	-77.00	-316.37	94.13	0.75	-0.62	-5.67
4,243.00	3.30	230.60	4,222.99	-81.92	-325.93	99.57	0.84	-0.28	-12.82
4,420.00	3.00	213.70	4,399.72	-89.01	-332.43	107.00	0.55	-0.17	-9.55
4,478.00	2.90	212.60	4,457.65	-91.51	-334.07	109.58	0.20	-0.17	-1.90
4,606.00	2.80	223.00	4,585.49	-96.52	-337.94	114.80	0.41	-0.08	8.13
4,783.00	0.50	175.80	4,762.41	-100.46	-340.83	118.89	1.41	-1.30	-26.67
4,961.00	0.60	119.20	4,940.40	-101.69	-339.96	120.07	0.30	0.06	-31.80
5,137.00	1.20	57.70	5,116.38	-101.15	-337.60	119.40	0.60	0.34	-34.94
5,314.00	1.80	51.50	5,293.32	-98.43	-333.86	116.48	0.35	0.34	-3.50
5,492.00	1.90	48.30	5,471.23	-94.73	-329.47	112.54	0.08	0.06	-1.80
5,669.00	1.60	35.90	5,648.15	-90.77	-325.83	108.40	0.27	-0.17	-7.01
5,847.00	1.90	27.70	5,826.06	-86.15	-323.00	103.63	0.22	0.17	-4.61
6,024.00	1.30	58.10	6,003.00	-82.49	-319.93	99.80	0.58	-0.34	17.18
6,201.00	1.50	66.80	6,179.94	-80.51	-316.10	97.62	0.16	0.11	4.92
6,378.00	0.30	88.90	6,356.92	-79.59	-313.50	96.56	0.69	-0.68	12.49
6,555.00	0.30	200.70	6,533.92	-80.02	-313.20	96.97	0.28	0.00	63.16
6,733.00	0.40	238.60	6,711.91	-80.78	-313.90	97.77	0.14	0.06	21.29
6,911.00	0.30	238.80	6,889.91	-81.34	-314.83	98.38	0.06	-0.06	0.11
7,088.00	0.50	236.20	7,066.91	-82.01	-315.87	99.11	0.11	0.11	-1.47
7,265.00	1.00	213.10	7,243.89	-83.73	-317.35	100.91	0.32	0.28	-13.05
7,443.00	1.00	1.00	7,421.88	-83.48	-318.17	100.70	1.08	0.00	83.09
7,620.00	0.70	4.90	7,598.86	-80.86	-318.05	98.08	0.17	-0.17	2.20
7,797.00	0.40	11.20	7,775.85	-79.18	-317.84	96.39	0.17	-0.17	3.56
7,975.00	0.20	293.50	7,953.85	-78.44	-318.01	95.66	0.23	-0.11	-43.65
8,153.00	0.60	175.60	8,131.85	-79.25	-318.22	96.48	0.40	0.22	-66.24
8,330.00	0.60	183.80	8,308.84	-81.10	-318.21	98.32	0.05	0.00	4.63
8,441.00	0.60	204.60	8,419.83	-82.21	-318.49	99.45	0.20	0.00	18.74
Final Phoenix MWD Survey									
8,500.00	0.60	204.60	8,478.83	-82.77	-318.75	100.02	0.00	0.00	0.00
Projection to TD									



Phoenix Technology Services
Survey Report



Company: Chevron
Project: Lea County, NM (NAD27 NME)
Site: SD WE 23 Fed
Well: P5 1H
Wellbore: OH / Job 60133
Design: Surveys (Pace X30)

Local Co-ordinate Reference: Well P5 1H
TVD Reference: RKB @ 3190.00usft (Pace X30)
MD Reference: RKB @ 3190.00usft (Pace X30)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
649.00	648.94	6.09	2.97	Tie In to Teledrift Surveys
676.00	675.94	6.27	3.07	First Phoenix MWD Survey
8441.00	8419.83	-82.21	-318.49	Final Phoenix MWD Survey
8500.00	8478.83	-82.77	-318.75	Projection to TD



Directional Survey

Well Name SALADO DRAW WE 23 FED P5 001H		Lease	Field Name JENNINGS	Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016		Mud Line Elevation (ft)	Water Depth (ft)

Wellbore Name Original Hole	Parent Wellbore Original Hole	Min Kick Off Depth (ftKB) 8,500.0	Vertical Section Direction (°) 359.84
Northing (Y) (ft)	Easting (X) (ft)	UTM Grid Zone	

Date 6/14/2016	Definitive? Y	Description MWD	Planned? N		
MD Tie In (ftKB)	TVD Tie In (ftKB)	Inclination Tie In (°)	Azimuth Tie In (°)	NSTie In (ft)	EW Tie 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)	Unuse d data
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Magn MWD		0.00	0.00	0.00	N
176	1.00	38.70	175.99	1.20	0.96	1.20	0.57	Magn MWD		0.57	1.54	21.99	N
269	1.40	34.70	268.97	2.77	2.11	2.76	0.44	Magn MWD		0.43	3.48	-4.30	N
361	0.90	17.70	360.95	4.38	2.97	4.37	0.65	Magn MWD		-0.54	5.29	-18.48	N
453	0.50	314.70	452.95	5.35	2.91	5.34	0.88	Magn MWD		-0.43	6.09	322.83	N
548	0.10	48.70	547.94	5.70	2.68	5.69	0.54	Magn MWD		-0.42	6.29	-	N
639	0.40	29.70	638.94	6.02	2.89	6.02	0.34	Magn MWD		0.33	6.68	-20.88	N
649	0.60	24.70	648.94	6.10	2.93	6.09	2.05	Magn MWD		2.00	6.77	-50.00	N
676	0.30	38.40	675.94	6.29	3.04	6.28	1.17	Magn MWD	Phoenix Directional	-1.11	6.98	50.74	N
828	0.30	1.80	827.94	6.99	3.29	6.99	0.12	Magn MWD	Phoenix Directional	0.00	7.73	-24.08	N
1,040	0.70	320.30	1,039.93	8.55	2.49	8.54	0.24	Magn MWD	Phoenix Directional	0.19	8.90	150.24	N
1,222	3.80	217.00	1,221.80	4.58	-1.86	4.59	2.21	Magn MWD	Phoenix Directional	1.70	4.95	-56.76	N
1,402	6.90	242.20	1,401.02	-5.23	-15.02	-5.18	2.12	Magn MWD	Phoenix Directional	1.72	15.90	14.00	N
1,580	7.70	252.20	1,577.58	-13.86	-35.83	-13.76	0.84	Magn MWD	Phoenix Directional	0.45	38.42	5.62	N
1,758	8.20	252.50	1,753.87	-21.32	-59.29	-21.16	0.28	Magn MWD	Phoenix Directional	0.28	63.01	0.17	N
1,935	8.70	252.60	1,928.95	-29.12	-84.10	-28.89	0.28	Magn MWD	Phoenix Directional	0.28	89.00	0.06	N
2,112	8.60	248.90	2,103.93	-37.89	-109.22	-37.58	0.32	Magn MWD	Phoenix Directional	-0.06	115.61	-2.09	N
2,290	7.40	242.80	2,280.20	-47.92	-131.84	-47.55	0.82	Magn MWD	Phoenix Directional	-0.67	140.27	-3.43	N
2,467	6.30	251.80	2,455.94	-56.16	-151.20	-55.74	0.87	Magn MWD	Phoenix Directional	-0.62	161.29	5.08	N
2,645	6.90	255.90	2,632.76	-61.82	-170.85	-61.34	0.43	Magn MWD	Phoenix Directional	0.34	181.69	2.30	N
2,822	7.70	258.40	2,808.33	-66.79	-192.78	-66.25	0.49	Magn MWD	Phoenix Directional	0.45	204.02	1.41	N
2,999	6.40	252.00	2,983.99	-72.23	-213.77	-71.63	0.86	Magn MWD	Phoenix Directional	-0.73	225.65	-3.62	N
3,177	5.40	247.80	3,161.04	-78.46	-230.97	-77.81	0.61	Magn MWD	Phoenix Directional	-0.56	243.93	-2.36	N
3,355	5.90	259.10	3,338.18	-83.35	-247.70	-82.66	0.68	Magn MWD	Phoenix Directional	0.28	261.35	6.35	N
3,533	5.40	266.80	3,515.32	-85.55	-265.05	-84.81	0.51	Magn MWD	Phoenix Directional	-0.28	278.51	4.33	N
3,711	5.20	264.40	3,692.56	-86.80	-281.44	-86.02	0.17	Magn MWD	Phoenix Directional	-0.11	294.52	-1.35	N
3,888	4.90	263.40	3,868.87	-88.46	-296.93	-87.63	0.18	Magn MWD	Phoenix Directional	-0.17	309.83	-0.56	N



Directional Survey

Well Name SALADO DRAW WE 23 FED P5 001H		Lease	Field Name JENNINGS	Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016		Mud Line Elevation (ft)	Water Depth (ft)

Survey Data

MD (ft)	Incl (°)	Azm (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unuse d data
4,066	3.80	253.30	4,046.36	-91.02	-310.13	-90.16	0.75	Magn MWD	Phoenix Directional	-0.62	323.22	-5.67	N
4,243	3.30	230.60	4,223.03	-95.94	-319.69	-95.05	0.84	Magn MWD	Phoenix Directional	-0.28	333.78	-12.82	N
4,420	3.00	213.70	4,399.76	-103.03	-326.20	-102.12	0.55	Magn MWD	Phoenix Directional	-0.17	342.08	-9.55	N
4,478	2.90	212.60	4,457.69	-105.53	-327.83	-104.61	0.20	Magn MWD	Phoenix Directional	-0.17	344.40	-1.90	N
4,608	2.80	223.00	4,585.53	-110.54	-331.71	-109.62	0.41	Magn MWD	Phoenix Directional	-0.08	349.64	8.13	N
4,783	0.50	175.80	4,762.45	-114.48	-334.60	-113.54	1.41	Magn MWD	Phoenix Directional	-1.30	353.64	-26.67	N
4,961	0.60	119.20	4,940.44	-115.71	-333.73	-114.77	0.30	Magn MWD	Phoenix Directional	0.06	353.22	-31.80	N
5,137	1.20	57.70	5,116.42	-115.17	-331.37	-114.24	0.60	Magn MWD	Phoenix Directional	0.34	350.81	-34.94	N
5,314	1.80	51.50	5,293.36	-112.45	-327.62	-111.53	0.35	Magn MWD	Phoenix Directional	0.34	346.38	-3.50	N
5,492	1.90	48.30	5,471.27	-108.75	-323.23	-107.84	0.08	Magn MWD	Phoenix Directional	0.06	341.04	-1.80	N
5,669	1.60	35.90	5,648.19	-104.79	-319.59	-103.90	0.27	Magn MWD	Phoenix Directional	-0.17	336.33	-7.01	N
5,847	1.90	27.70	5,826.10	-100.17	-316.76	-99.28	0.22	Magn MWD	Phoenix Directional	0.17	332.22	-4.61	N
6,024	1.30	58.10	6,003.04	-96.51	-313.70	-95.63	0.58	Magn MWD	Phoenix Directional	-0.34	328.20	17.18	N
6,201	1.50	66.80	6,179.98	-94.53	-309.86	-93.67	0.16	Magn MWD	Phoenix Directional	0.11	323.96	4.92	N
6,378	0.30	88.90	6,356.96	-93.61	-307.27	-92.75	0.69	Magn MWD	Phoenix Directional	-0.68	321.21	12.49	N
6,555	0.30	200.70	6,533.96	-94.04	-306.97	-93.18	0.28	Magn MWD	Phoenix Directional	0.00	321.05	63.16	N
6,733	0.40	238.60	6,711.95	-94.80	-307.66	-93.94	0.14	Magn MWD	Phoenix Directional	0.06	321.94	21.29	N
6,911	0.30	238.80	6,889.95	-95.36	-308.59	-94.50	0.06	Magn MWD	Phoenix Directional	-0.06	322.99	0.11	N
7,088	0.50	236.20	7,066.95	-96.03	-309.63	-95.17	0.11	Magn MWD	Phoenix Directional	0.11	324.18	-1.47	N
7,265	1.00	213.10	7,243.93	-97.75	-311.12	-96.89	0.32	Magn MWD	Phoenix Directional	0.28	326.11	-13.05	N
7,443	1.00	1.00	7,421.92	-97.50	-311.94	-96.63	1.08	Magn MWD	Phoenix Directional	0.00	326.82	119.16	N
7,620	0.70	4.90	7,598.90	-94.88	-311.82	-94.01	0.17	Magn MWD	Phoenix Directional	-0.17	325.93	2.20	N
7,797	0.40	11.20	7,775.89	-93.20	-311.61	-92.33	0.17	Magn MWD	Phoenix Directional	-0.17	325.24	3.56	N
7,975	0.20	293.50	7,953.89	-92.46	-311.77	-91.59	0.23	Magn MWD	Phoenix Directional	-0.11	325.19	158.60	N
8,153	0.60	175.60	8,131.89	-93.27	-311.98	-92.40	0.40	Magn MWD	Phoenix Directional	0.22	325.63	-66.24	N
8,330	0.60	183.80	8,308.88	-95.12	-311.97	-94.25	0.05	Magn MWD	Phoenix Directional	0.00	326.15	4.63	N
8,441	0.60	204.60	8,419.87	-96.23	-312.25	-95.35	0.20	Magn MWD	Phoenix Directional	0.00	326.75	18.74	N
8,580	10.95	179.20	8,557.98	-110.13	-312.37	-109.25	7.49	Magn MWD	Baker Hughes	7.45	331.22	-18.27	N
8,627	17.97	177.57	8,603.47	-121.85	-312.00	-120.98	14.96	Magn MWD	Baker Hughes	14.94	334.95	-3.47	N
8,716	31.01	176.66	8,684.28	-158.61	-310.08	-157.75	14.66	Magn MWD	Baker Hughes	14.65	348.29	-1.02	N



Directional Survey

Well Name SALADO DRAW WE 23 FED P5 001H		Lease		Field Name JENNINGS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB Elevation 3,189.60, 6/3/2016				Mud Line Elevation (ft)	Water Depth (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)	Unuse d date
8,804	31.01	176.97	8,759.71	-203.88	-307.56	-203.02	0.18	Magn MWD	Baker Hughes	0.00	369.00	0.35	N
8,893	49.15	176.72	8,827.52	-260.85	-304.39	-260.00	20.38	Magn MWD	Baker Hughes	20.38	400.88	-0.28	N
8,982	54.69	176.27	8,882.39	-330.75	-300.10	-329.91	6.24	Magn MWD	Baker Hughes	6.22	446.61	-0.51	N
9,071	64.42	179.63	8,927.44	-407.33	-297.47	-406.49	11.40	Magn MWD	Baker Hughes	10.93	504.39	3.78	N
9,159	73.71	180.91	8,958.85	-489.42	-297.89	-488.59	10.64	Magn MWD	Baker Hughes	10.56	572.95	1.45	N
9,247	80.85	181.42	8,978.22	-575.19	-299.64	-574.35	8.13	Magn MWD	Baker Hughes	8.11	648.56	0.58	N
9,336	88.46	183.61	8,986.50	-663.65	-303.53	-662.80	8.89	Magn MWD	Baker Hughes	8.55	729.77	2.46	N
9,425	91.54	183.74	8,986.50	-752.45	-309.24	-751.59	3.46	Magn MWD	Baker Hughes	3.46	813.52	0.15	N
9,513	91.11	180.69	8,984.47	-840.35	-312.64	-839.48	3.50	Magn MWD	Baker Hughes	-0.49	896.63	-3.47	N
9,602	91.48	176.77	8,982.46	-929.29	-310.67	-928.42	4.42	Magn MWD	Baker Hughes	0.42	979.85	-4.40	N
9,691	91.26	176.81	8,980.33	-1,018.13	-305.68	-1,017.27	0.25	Magn MWD	Baker Hughes	-0.25	1,063.03	0.04	N
9,780	89.32	176.97	8,979.88	-1,106.99	-300.86	-1,106.15	2.19	Magn MWD	Baker Hughes	-2.18	1,147.14	0.18	N
9,869	90.43	174.42	8,980.07	-1,195.73	-294.18	-1,194.90	3.12	Magn MWD	Baker Hughes	1.25	1,231.39	-2.87	N
9,957	90.55	176.59	8,979.32	-1,283.45	-287.28	-1,282.64	2.47	Magn MWD	Baker Hughes	0.14	1,315.21	2.47	N
10,046	90.15	180.66	8,978.78	-1,372.40	-285.14	-1,371.60	4.59	Magn MWD	Baker Hughes	-0.45	1,401.71	4.57	N
10,135	90.59	182.81	8,978.20	-1,461.36	-287.84	-1,460.55	2.47	Magn MWD	Baker Hughes	0.49	1,489.43	2.42	N
10,223	89.42	183.43	8,978.19	-1,549.22	-292.63	-1,548.40	1.50	Magn MWD	Baker Hughes	-1.33	1,576.62	0.70	N
10,312	90.25	177.99	8,978.45	-1,638.18	-293.73	-1,637.36	6.18	Magn MWD	Baker Hughes	0.93	1,664.31	-6.11	N
10,401	90.15	175.34	8,978.14	-1,727.02	-288.55	-1,726.21	2.98	Magn MWD	Baker Hughes	-0.11	1,750.96	-2.98	N
10,489	91.02	176.95	8,977.24	-1,814.82	-282.64	-1,814.02	2.08	Magn MWD	Baker Hughes	0.99	1,836.69	1.83	N
10,578	91.29	180.28	8,975.45	-1,903.76	-280.49	-1,902.97	3.75	Magn MWD	Baker Hughes	0.30	1,924.31	3.74	N
10,666	90.65	177.77	8,973.96	-1,991.73	-278.99	-1,990.94	2.94	Magn MWD	Baker Hughes	-0.73	2,011.17	-2.85	N
10,755	90.99	177.14	8,972.68	-2,080.63	-275.04	-2,079.85	0.80	Magn MWD	Baker Hughes	0.38	2,098.73	-0.71	N
10,844	91.36	182.28	8,970.86	-2,169.58	-274.59	-2,168.80	5.79	Magn MWD	Baker Hughes	0.42	2,186.89	5.78	N
10,933	91.32	182.67	8,968.77	-2,258.47	-278.43	-2,257.69	0.44	Magn MWD	Baker Hughes	-0.04	2,275.57	0.44	N
11,022	91.35	182.98	8,966.70	-2,347.34	-282.82	-2,346.54	0.35	Magn MWD	Baker Hughes	0.03	2,364.32	0.35	N
11,111	91.36	182.26	8,964.60	-2,436.22	-286.88	-2,435.41	0.81	Magn MWD	Baker Hughes	0.01	2,453.05	-0.81	N
11,199	91.42	181.09	8,962.46	-2,524.16	-289.45	-2,523.34	1.33	Magn MWD	Baker Hughes	0.07	2,540.70	-1.33	N
11,288	90.40	180.24	8,961.05	-2,613.14	-290.49	-2,612.32	1.49	Magn MWD	Baker Hughes	-1.15	2,629.23	-0.96	N
11,376	90.25	180.38	8,960.55	-2,701.13	-290.96	-2,700.31	0.23	Magn MWD	Baker Hughes	-0.17	2,716.76	0.16	N



Directional Survey

Well Name SALADO DRAW WE 23 FED P5 001H		Lease	Field Name JENNINGS	Business Unit Mid-Continent	
Ground Elevation (ft) 3,157.00	Original RKB (ft) 3,189.60	Current RKB/Elevation 3,189.60, 6/3/2016		Mud Line Elevation (ft)	Water Depth (ft)

Survey Data

MD (RKB)	Incl (°)	Azm (°)	TVD (RKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depth (ft)	Turn (°/100ft)	Unuse d data
11,485	90.40	179.50	8,960.04	-2,790.13	-290.87	-2,789.31	1.00	Magn MWD	Baker Hughes	0.17	2,805 25	-0.99	N
11,553	89.88	179.59	8,959.83	-2,878.13	-290.17	-2,877.31	0.60	Magn MWD	Baker Hughes	-0.59	2,892 72	0.10	N
11,642	89.88	179.21	8,960.02	-2,967.12	-289.24	-2,966.30	0.43	Magn MWD	Baker Hughes	0.00	2,981 19	-0.43	N
11,731	89.82	179.29	8,960.25	-3,056.12	-288.07	-3,055.30	0.11	Magn MWD	Baker Hughes	-0.07	3,069 66	0.09	N
11,819	89.91	179.09	8,960.46	-3,144.11	-286.83	-3,143.29	0.25	Magn MWD	Baker Hughes	0.10	3,157 16	-0.23	N
11,908	89.60	178.20	8,960.84	-3,233.08	-284.73	-3,232.27	1.06	Magn MWD	Baker Hughes	-0.35	3,245 59	-1.00	N
11,997	90.06	177.60	8,961.10	-3,322.02	-281.46	-3,321.22	0.85	Magn MWD	Baker Hughes	0.52	3,333 92	-0.67	N
12,085	89.91	178.32	8,961.12	-3,409.96	-278.33	-3,409.17	0.84	Magn MWD	Baker Hughes	-0.17	3,421 30	0.82	N
12,174	90.22	178.42	8,961.02	-3,498.93	-275.80	-3,498.14	0.37	Magn MWD	Baker Hughes	0.35	3,509 78	0.11	N
12,263	90.03	177.68	8,960.83	-3,587.87	-272.77	-3,587.10	0.86	Magn MWD	Baker Hughes	-0.21	3,598 23	-0.83	N
12,352	90.40	177.61	8,960.49	-3,676.80	-269.11	-3,676.03	0.42	Magn MWD	Baker Hughes	0.42	3,686 63	-0.08	N
12,440	90.37	179.42	8,959.90	-3,764.76	-266.83	-3,764.00	2.06	Magn MWD	Baker Hughes	-0.03	3,774 21	2.06	N
12,529	90.40	177.92	8,959.31	-3,853.73	-264.77	-3,852.98	1.69	Magn MWD	Baker Hughes	0.03	3,862 82	-1.69	N
12,617	90.65	178.23	8,958.50	-3,941.68	-261.81	-3,940.93	0.45	Magn MWD	Baker Hughes	0.28	3,950 37	0.35	N
12,705	89.69	181.08	8,958.24	-4,029.67	-261.28	-4,028.92	3.42	Magn MWD	Baker Hughes	-1.09	4,038 13	3.24	N
12,793	89.60	183.24	8,958.78	-4,117.60	-264.60	-4,116.84	2.46	Magn MWD	Baker Hughes	-0.10	4,126 09	2.45	N
12,882	89.69	182.71	8,959.33	-4,206.48	-269.22	-4,205.71	0.60	Magn MWD	Baker Hughes	0.10	4,215 08	-0.60	N
12,971	89.88	181.69	8,959.67	-4,295.41	-272.64	-4,294.63	1.17	Magn MWD	Baker Hughes	0.21	4,304 05	-1.15	N
13,059	90.09	182.91	8,959.69	-4,383.34	-276.17	-4,382.55	1.41	Magn MWD	Baker Hughes	0.24	4,392 03	1.39	N
13,148	89.88	183.98	8,959.71	-4,472.17	-281.51	-4,471.37	1.23	Magn MWD	Baker Hughes	-0.24	4,481 03	1.20	N
13,237	89.91	182.64	8,959.88	-4,561.02	-286.65	-4,560.21	1.51	Magn MWD	Baker Hughes	0.03	4,570 02	-1.51	N
13,325	89.94	177.50	8,959.99	-4,648.99	-286.76	-4,648.18	5.84	Magn MWD	Baker Hughes	0.03	4,657 83	-5.84	N
13,414	89.91	175.38	8,960.11	-4,737.82	-281.23	-4,737.01	2.38	Magn MWD	Baker Hughes	-0.03	4,746 16	-2.38	N
13,502	89.88	176.81	8,960.27	-4,825.61	-275.24	-4,824.82	1.63	Magn MWD	Baker Hughes	-0.03	4,833 45	1.63	N
13,591	90.03	180.04	8,960.34	-4,914.57	-272.80	-4,913.78	3.63	Magn MWD	Baker Hughes	0.17	4,922 13	3.63	N
13,680	90.03	182.95	8,960.29	-5,003.53	-275.12	-5,002.74	3.27	Magn MWD	Baker Hughes	0.00	5,011 08	3.27	N
13,768	89.91	185.63	8,960.34	-5,091.27	-281.70	-5,090.46	3.05	Magn MWD	Baker Hughes	-0.14	5,099 06	3.05	N
13,837	89.91	185.23	8,960.45	-5,159.96	-288.23	-5,159.14	0.58	Magn MWD	Baker Hughes	0.00	5,168 00	-0.58	N
13,862	89.91	185.23	8,960.49	-5,184.86	-290.51	-5,184.03	0.00	Extrap.	Baker Hughes	0.00	5,192 99	0.00	N