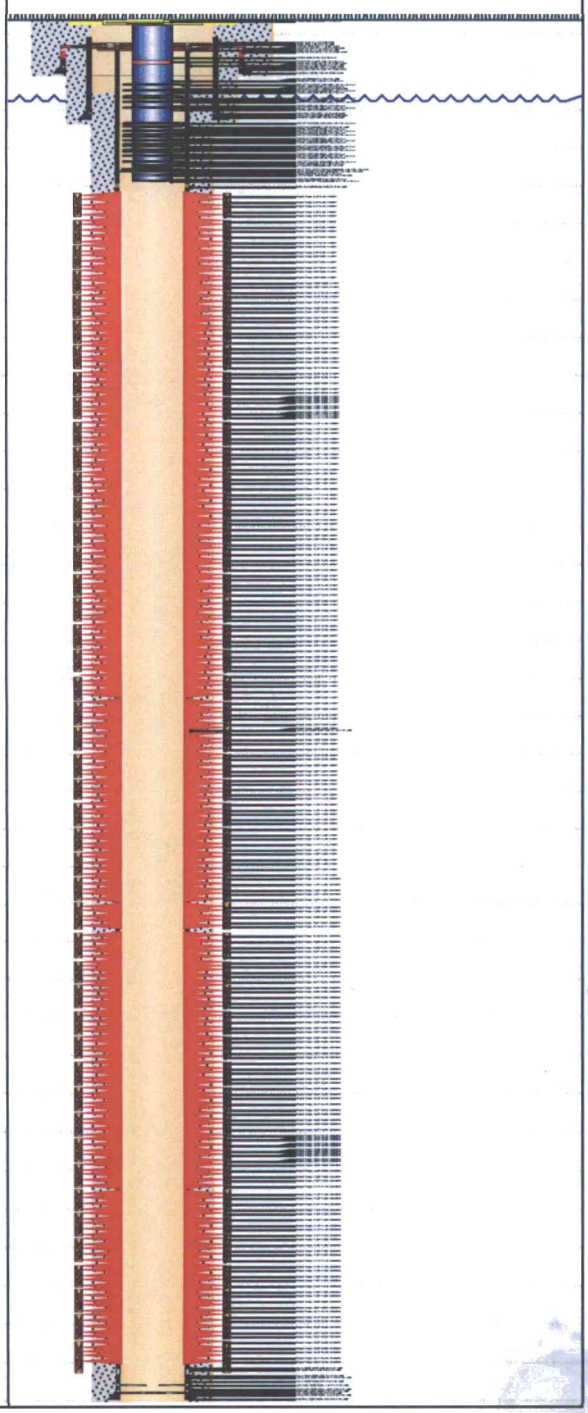
Wellbore Schematic

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Land - Original Hole, 3/1/2017 8:20:35 AM

MD (ftKB)	Vertical schematic (actual)
3.5	
7.3	
11.1	
14.9	
18.7	
22.5	
26.3	
30.1	
33.9	
748.4	
4,061.0	
6,826.8	
8,595.8	
9,559.1	
9,877.0	
10,159.1	
10,477.0	
10,758.9	
11,077.1	
11,358.9	
11,676.8	
11,959.0	
12,276.9	
12,559.1	
12,877.0	
13,157.2	
13,439.0	
13,756.9	
14,039.0	
14,357.0	
14,639.1	
14,957.0	
15,200.1	
15,479.0	
15,796.9	
16,079.1	
16,397.0	
16,679.1	
16,997.0	
17,316.9	
17,599.1	
17,917.0	
18,199.1	
18,517.1	
18,693.9	



Job Details

Job Category	Start Date	Rig/Unit End Date
Completion	12/10/2016	12/17/2016
Completion	12/17/2016	1/17/2017
Completion	1/18/2017	1/24/2017
Completion	2/10/2017	2/15/2017

Casing Strings

Csg Des	OD (in)	Wt/Len (lb/ft)	Grade	Top Thread	Set Depth (MD) (ftKB)
Surface	13 3/8	54.50	J-55	ST&C	750
Intermediate Casing 1	9 5/8	40.00	HCK-55	LT&C	4,605
Production Casing	5 1/2	20.00	P-110	TXP-BTC	18,694

Tubing Strings

Tubing - Production set at 8,588.5ftKB on 2/13/2017 16:30

Tubing Description	Run Date	String Length (ft)	Set Depth (MD) (ftKB)
Tubing - Production	2/13/2017	8,555.88	8,588.5

Item Des	Jts	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Btm (ftKB)
Tubing Hanger	1	2 7/8			0.50	33.1
TUBING	1	2 7/8	6.50	L-80	31.52	64.6
TUBING SUB- 2'	1	2 7/8	6.50	L-80	2.00	66.6
TUBING	56	2 7/8	6.50	L-80	1,729.43	1,796.1
GAS LIFT VALVE #13	1	4.335			4.10	1,800.2
TUBING	18	2 7/8	6.50	L-80	562.44	2,362.6
GAS LIFT VALVE #12	1	4.335			4.10	2,366.7
TUBING	18	2 7/8	6.50	L-80	565.70	2,932.4
GAS LIFT VALVE #11	1	4.335			4.10	2,936.5
TUBING	18	2 7/8	6.50	L-80	560.93	3,497.4
GAS LIFT VALVE #10	1	4.335			4.10	3,501.5
TUBING	18	2 7/8	6.50	L-80	555.42	4,057.0
GAS LIFT VALVE #9	1	4.335			4.10	4,061.1
TUBING	18	2 7/8	6.50	L-80	550.80	4,611.9
GAS LIFT VALVE #8	1	4.335			4.10	4,616.0
TUBING	17	2 7/8	6.50	L-80	532.08	5,148.0
GAS LIFT VALVE #7	1	4.335			4.10	5,152.1
TUBING	18	2 7/8	6.50	L-80	554.55	5,706.7
GAS LIFT VALVE #6	1	4.335			4.10	5,710.8
TUBING	18	2 7/8	6.50	L-80	549.64	6,260.4
GAS LIFT VALVE #5	1	4.335			4.10	6,264.5
TUBING	18	2 7/8	6.50	L-80	558.30	6,822.8
GAS LIFT VALVE #4	1	4.335			4.10	6,826.9
TUBING	18	2 7/8	6.50	L-80	547.29	7,374.2
GAS LIFT VALVE #3	1	4.335			4.10	7,378.3
TUBING	18	2.785	6.50	L-80	550.01	7,928.3
GAS LIFT VALVE #2	1	4.335			4.10	7,932.4
TUBING	19	2.785	6.50	L-80	591.26	8,523.7
GAS LIFT VALVE #1	1	4.335			4.10	8,527.8
TUBING	1	2 7/8	6.50	L-80	31.25	8,559.0
Jet Pump BHA	1	2 7/8			6.30	8,565.3
ON-OFF TOOL, 2.313 X PROFILE	1	4 1/2			1.50	8,566.8
450 WL HORNET PACKER	1	4 1/2			7.75	8,574.6
Tubing	1	2 7/8	6.50	L-80	6.16	8,580.8
2.313 XN Nipple	1	2 7/8			1.15	8,581.9
Tubing Sub	1	2 7/8	6.50	L-80	6.16	8,588.1
Tubing PUMP OUT Plug	1	2 7/8			0.44	8,588.5

Perforations

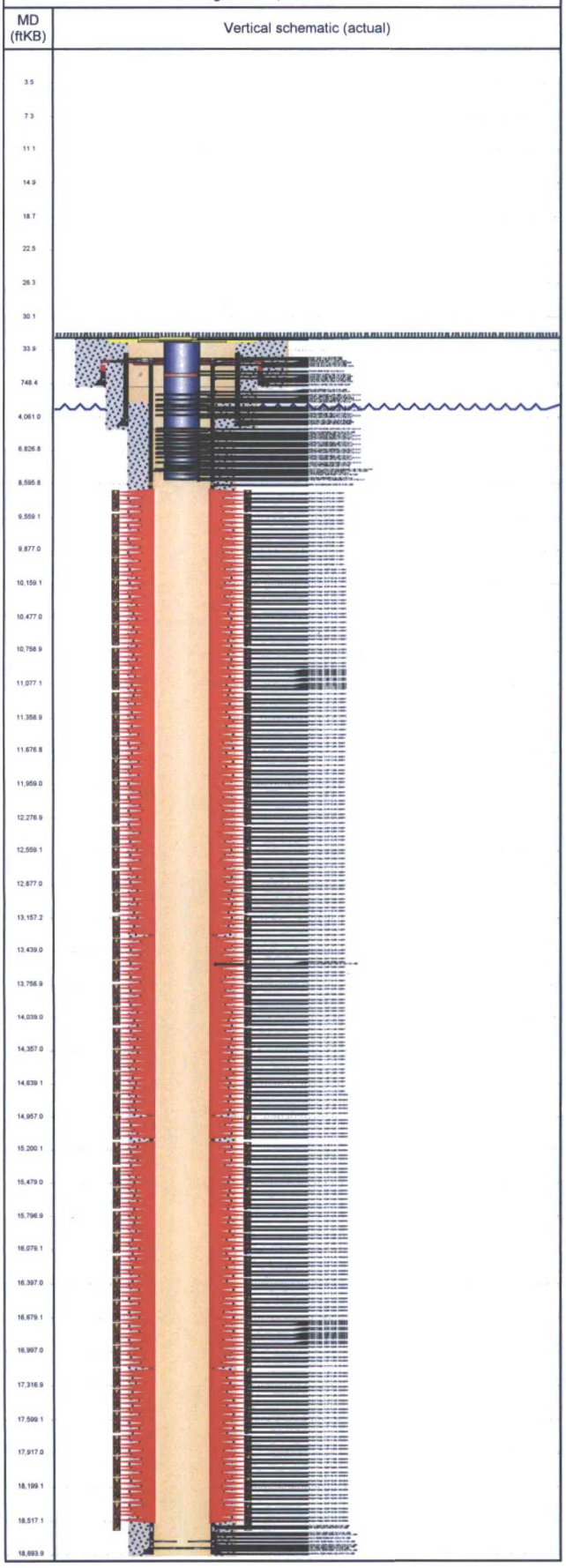
Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
1/15/2017	9,437.0	9,439.0	6.0	8	Avalon, Original Hole
1/15/2017	9,457.0	9,459.0	6.0	8	Avalon, Original Hole
1/15/2017	9,477.0	9,479.0	6.0	8	Avalon, Original Hole
1/15/2017	9,497.0	9,499.0	6.0	8	Avalon, Original Hole

Report Printed: 3/1/2017

Wellbore Schematic

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Land - Original Hole, 3/1/2017 8:20:35 AM



Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
1/15/2017	9,517.0	9,519.0	6.0	8	Avalon, Original Hole
1/15/2017	9,557.0	9,559.0	6.0	8	Avalon, Original Hole
1/15/2017	9,597.0	9,599.0	6.0	8	Avalon, Original Hole
1/15/2017	9,637.0	9,639.0	6.0	8	Avalon, Original Hole
1/15/2017	9,677.0	9,679.0	6.0	8	Avalon, Original Hole
1/15/2017	9,717.0	9,719.0	6.0	8	Avalon, Original Hole
1/14/2017	9,757.0	9,759.0	6.0	8	Avalon, Original Hole
1/14/2017	9,797.0	9,799.0	6.0	8	Avalon, Original Hole
1/14/2017	9,837.0	9,839.0	6.0	8	Avalon, Original Hole
1/14/2017	9,877.0	9,879.0	6.0	8	Avalon, Original Hole
1/14/2017	9,917.0	9,919.0	6.0	8	Avalon, Original Hole
1/14/2017	9,957.0	9,959.0	6.0	8	Avalon, Original Hole
1/14/2017	9,997.0	9,999.0	6.0	8	Avalon, Original Hole
1/14/2017	10,037.0	10,039.0	6.0	8	Avalon, Original Hole
1/14/2017	10,077.0	10,079.0	6.0	8	Avalon, Original Hole
1/14/2017	10,117.0	10,119.0	6.0	8	Avalon, Original Hole
1/13/2017	10,157.0	10,159.0	6.0	8	Avalon, Original Hole
1/13/2017	10,197.0	10,199.0	6.0	8	Avalon, Original Hole
1/13/2017	10,237.0	10,239.0	6.0	8	Avalon, Original Hole
1/13/2017	10,277.0	10,279.0	6.0	8	Avalon, Original Hole
1/13/2017	10,317.0	10,319.0	6.0	8	Avalon, Original Hole
1/12/2017	10,357.0	10,359.0	6.0	8	Avalon, Original Hole
1/12/2017	10,397.0	10,399.0	6.0	8	Avalon, Original Hole
1/12/2017	10,437.0	10,439.0	6.0	8	Avalon, Original Hole
1/12/2017	10,477.0	10,479.0	6.0	8	Avalon, Original Hole
1/12/2017	10,517.0	10,519.0	6.0	8	Avalon, Original Hole
1/12/2017	10,557.0	10,559.0	6.0	8	Avalon, Original Hole
1/12/2017	10,597.0	10,599.0	6.0	8	Avalon, Original Hole
1/12/2017	10,637.0	10,639.0	6.0	8	Avalon, Original Hole
1/12/2017	10,677.0	10,679.0	6.0	8	Avalon, Original Hole
1/12/2017	10,717.0	10,719.0	6.0	8	Avalon, Original Hole
1/11/2017	10,757.0	10,759.0	6.0	8	Avalon, Original Hole
1/11/2017	10,797.0	10,799.0	6.0	8	Avalon, Original Hole
1/11/2017	10,837.0	10,839.0	6.0	8	Avalon, Original Hole
1/11/2017	10,877.0	10,879.0	6.0	8	Avalon, Original Hole
1/11/2017	10,917.0	10,919.0	6.0	8	Avalon, Original Hole
1/11/2017	10,957.0	10,959.0	6.0	8	Avalon, Original Hole
1/11/2017	10,957.0	10,959.0	6.0	8	Avalon, Original Hole
1/11/2017	10,997.0	10,999.0	6.0	8	Avalon, Original Hole
1/11/2017	10,997.0	10,999.0	6.0	8	Avalon, Original Hole
1/11/2017	11,037.0	11,039.0	6.0	8	Avalon, Original Hole
1/11/2017	11,037.0	11,039.0	6.0	8	Avalon, Original Hole
1/11/2017	11,077.0	11,079.0	6.0	8	Avalon, Original Hole
1/11/2017	11,077.0	11,079.0	6.0	8	Avalon, Original Hole
1/11/2017	11,117.0	11,119.0	6.0	8	Avalon, Original Hole
1/11/2017	11,117.0	11,119.0	6.0	8	Avalon, Original Hole
1/10/2017	11,157.0	11,159.0	6.0	8	Avalon, Original Hole
1/10/2017	11,197.0	11,199.0	6.0	8	Avalon, Original Hole
1/10/2017	11,237.0	11,239.0	6.0	8	Avalon, Original Hole
1/10/2017	11,277.0	11,279.0	6.0	8	Avalon, Original Hole
1/10/2017	11,317.0	11,319.0	6.0	8	Avalon, Original Hole
1/10/2017	11,357.0	11,359.0	6.0	8	Avalon, Original Hole
1/10/2017	11,397.0	11,399.0	6.0	8	Avalon, Original Hole
1/10/2017	11,437.0	11,439.0	6.0	8	Avalon, Original Hole
1/10/2017	11,477.0	11,479.0	6.0	8	Avalon, Original Hole
1/10/2017	11,517.0	11,519.0	6.0	8	Avalon, Original Hole
1/9/2017	11,557.0	11,559.0	6.0	8	Avalon, Original Hole
1/9/2017	11,597.0	11,599.0	6.0	8	Avalon, Original Hole

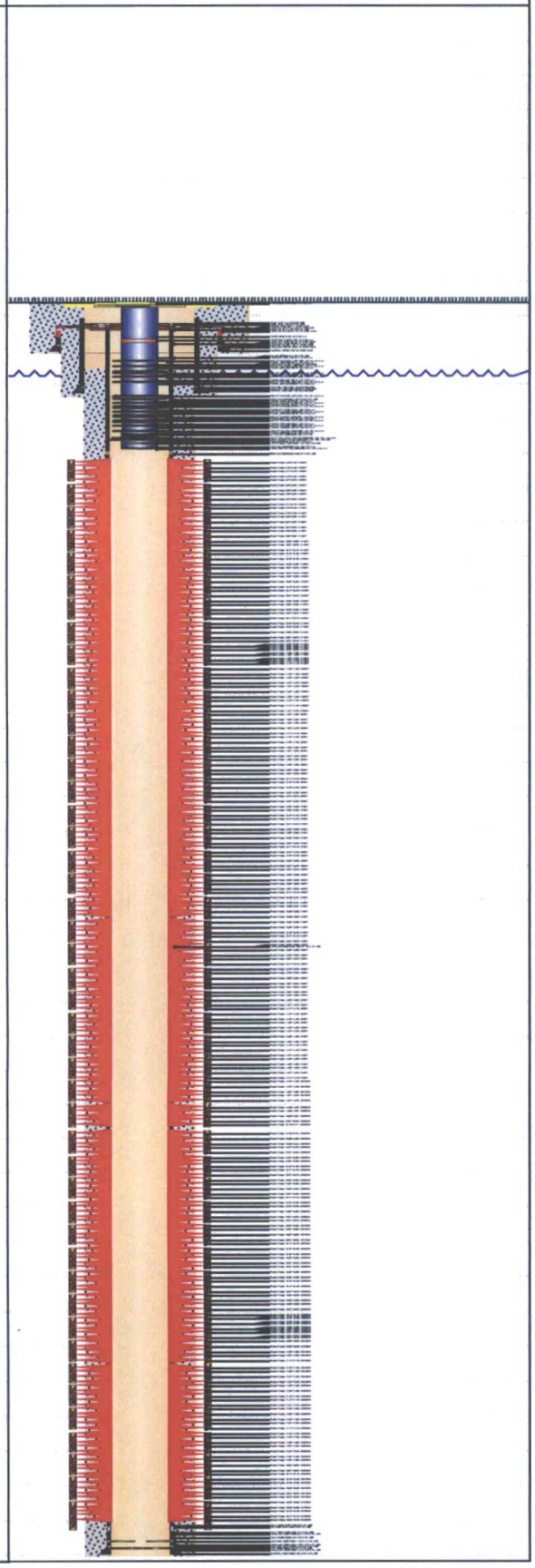
Report Printed: 3/1/2017

Wellbore Schematic

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Land - Original Hole, 3/1/2017 8:20:36 AM

MD (ftKB)	Vertical schematic (actual)



Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
1/9/2017	11,637.0	11,639.0	6.0	8	Avalon, Original Hole
1/9/2017	11,677.0	11,679.0	6.0	8	Avalon, Original Hole
1/9/2017	11,717.0	11,719.0	6.0	8	Avalon, Original Hole
1/9/2017	11,757.0	11,759.0	6.0	8	Avalon, Original Hole
1/9/2017	11,797.0	11,799.0	6.0	8	Avalon, Original Hole
1/9/2017	11,837.0	11,839.0	6.0	8	Avalon, Original Hole
1/9/2017	11,877.0	11,879.0	6.0	8	Avalon, Original Hole
1/9/2017	11,917.0	11,919.0	6.0	8	Avalon, Original Hole
1/8/2017	11,957.0	11,959.0	6.0	8	Avalon, Original Hole
1/8/2017	11,997.0	11,999.0	6.0	8	Avalon, Original Hole
1/8/2017	12,037.0	12,039.0	6.0	8	Avalon, Original Hole
1/8/2017	12,077.0	12,079.0	6.0	8	Avalon, Original Hole
1/8/2017	12,117.0	12,119.0	6.0	8	Avalon, Original Hole
1/8/2017	12,157.0	12,159.0	6.0	8	Avalon, Original Hole
1/8/2017	12,197.0	12,199.0	6.0	8	Avalon, Original Hole
1/8/2017	12,237.0	12,239.0	6.0	8	Avalon, Original Hole
1/8/2017	12,277.0	12,279.0	6.0	8	Avalon, Original Hole
1/8/2017	12,317.0	12,319.0	6.0	8	Avalon, Original Hole
1/7/2017	12,357.0	12,359.0	6.0	8	Avalon, Original Hole
1/7/2017	12,397.0	12,399.0	6.0	8	Avalon, Original Hole
1/7/2017	12,437.0	12,439.0	6.0	8	Avalon, Original Hole
1/7/2017	12,477.0	12,479.0	6.0	8	Avalon, Original Hole
1/7/2017	12,517.0	12,519.0	6.0	8	Avalon, Original Hole
1/7/2017	12,557.0	12,559.0	6.0	8	Avalon, Original Hole
1/7/2017	12,597.0	12,599.0	6.0	8	Avalon, Original Hole
1/7/2017	12,637.0	12,639.0	6.0	8	Avalon, Original Hole
1/7/2017	12,677.0	12,679.0	6.0	8	Avalon, Original Hole
1/7/2017	12,717.0	12,719.0	6.0	8	Avalon, Original Hole
1/6/2017	12,757.0	12,759.0	6.0	8	Avalon, Original Hole
1/6/2017	12,797.0	12,799.0	6.0	8	Avalon, Original Hole
1/6/2017	12,837.0	12,839.0	6.0	8	Avalon, Original Hole
1/6/2017	12,877.0	12,879.0	6.0	8	Avalon, Original Hole
1/6/2017	12,917.0	12,919.0	6.0	8	Avalon, Original Hole
1/5/2017	12,957.0	12,959.0	6.0	8	Avalon, Original Hole
1/5/2017	12,997.0	12,999.0	6.0	8	Avalon, Original Hole
1/5/2017	13,037.0	13,039.0	6.0	8	Avalon, Original Hole
1/5/2017	13,077.0	13,079.0	6.0	8	Avalon, Original Hole
1/5/2017	13,117.0	13,119.0	6.0	8	Avalon, Original Hole
1/4/2017	13,155.0	13,157.0	6.0	8	Avalon, Original Hole
1/4/2017	13,192.0	13,194.0	6.0	8	Avalon, Original Hole
1/4/2017	13,229.0	13,231.0	6.0	8	Avalon, Original Hole
1/4/2017	13,266.0	13,268.0	6.0	8	Avalon, Original Hole
1/4/2017	13,303.0	13,305.0	6.0	8	Avalon, Original Hole
1/4/2017	13,357.0	13,359.0	6.0	8	Avalon, Original Hole
1/4/2017	13,397.0	13,399.0	6.0	8	Avalon, Original Hole
1/4/2017	13,437.0	13,439.0	6.0	8	Avalon, Original Hole
1/4/2017	13,477.0	13,479.0	6.0	8	Avalon, Original Hole
1/4/2017	13,517.0	13,519.0	6.0	8	Avalon, Original Hole
1/3/2017	13,557.0	13,559.0	6.0	12	Avalon, Original Hole
1/3/2017	13,597.0	13,599.0	6.0	12	Avalon, Original Hole
1/3/2017	13,637.0	13,639.0	6.0	12	Avalon, Original Hole
1/3/2017	13,677.0	13,679.0	6.0	12	Avalon, Original Hole
1/3/2017	13,717.0	13,719.0	6.0	12	Avalon, Original Hole
1/3/2017	13,757.0	13,759.0	6.0	8	Avalon, Original Hole
1/3/2017	13,797.0	13,799.0	6.0	8	Avalon, Original Hole
1/3/2017	13,837.0	13,839.0	6.0	8	Avalon, Original Hole
1/3/2017	13,877.0	13,879.0	6.0	8	Avalon, Original Hole
1/3/2017	13,917.0	13,919.0	6.0	8	Avalon, Original Hole

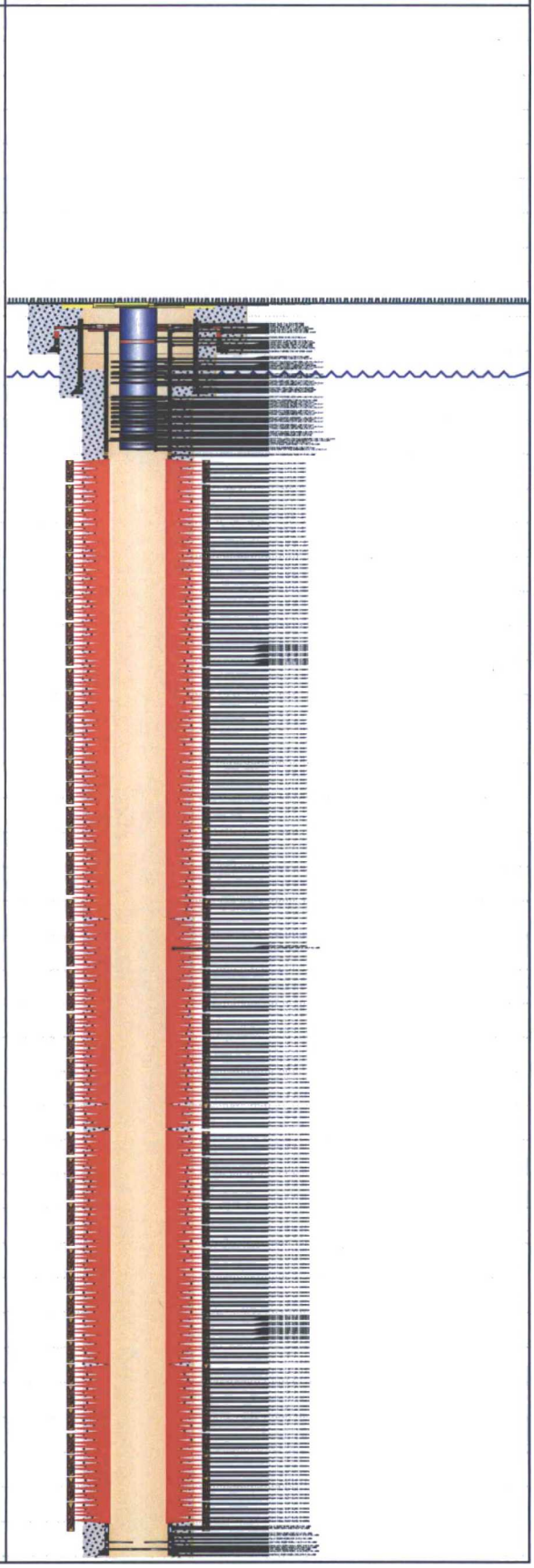
Report Printed: 3/1/2017

Wellbore Schematic

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Land - Original Hole, 3/1/2017 8:20:37 AM

MD (ftKB)	Vertical schematic (actual)
3.5	
7.3	
11.1	
14.9	
18.7	
22.5	
26.3	
30.1	
33.9	
748.4	
4,061.0	
6,826.8	
8,595.8	
9,559.1	
9,877.0	
10,159.1	
10,477.0	
10,758.9	
11,077.1	
11,358.9	
11,676.8	
11,959.0	
12,276.9	
12,559.1	
12,877.0	
13,157.2	
13,439.0	
13,756.9	
14,039.0	
14,357.0	
14,639.1	
14,957.0	
15,200.1	
15,479.0	
15,796.9	
16,079.1	
16,397.0	
16,679.1	
16,997.0	
17,316.9	
17,599.1	
17,917.0	
18,199.1	
18,517.1	
18,693.9	



Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
1/2/2017	13,957.0	13,959.0	6.0	8	Avalon, Original Hole
1/2/2017	13,997.0	13,999.0	6.0	8	Avalon, Original Hole
1/2/2017	14,037.0	14,039.0	6.0	8	Avalon, Original Hole
1/2/2017	14,077.0	14,079.0	6.0	8	Avalon, Original Hole
1/2/2017	14,117.0	14,119.0	6.0	8	Avalon, Original Hole
1/2/2017	14,157.0	14,159.0	6.0	8	Avalon, Original Hole
1/2/2017	14,197.0	14,199.0	6.0	8	Avalon, Original Hole
1/2/2017	14,227.0	14,229.0	6.0	8	Avalon, Original Hole
1/2/2017	14,237.0	14,239.0	6.0	8	Avalon, Original Hole
1/2/2017	14,317.0	14,319.0	6.0	8	Avalon, Original Hole
1/1/2017	14,357.0	14,359.0	6.0	8	Avalon, Original Hole
1/1/2017	14,397.0	14,399.0	6.0	8	Avalon, Original Hole
1/1/2017	14,437.0	14,439.0	6.0	8	Avalon, Original Hole
1/1/2017	14,477.0	14,479.0	6.0	8	Avalon, Original Hole
1/1/2017	14,517.0	14,519.0	6.0	8	Avalon, Original Hole
1/1/2017	14,557.0	14,559.0	6.0	8	Avalon, Original Hole
1/1/2017	14,597.0	14,599.0	6.0	8	Avalon, Original Hole
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1/1/2017	14,717.0	14,719.0	6.0	8	Avalon, Original Hole
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12/31/2016	14,837.0	14,839.0	6.0	8	Avalon, Original Hole
12/31/2016	14,877.0	14,879.0	6.0	8	Avalon, Original Hole
12/31/2016	14,917.0	14,919.0	6.0	8	Avalon, Original Hole
12/30/2016	14,960.0	14,962.0	6.0	8	Avalon, Original Hole
12/30/2016	14,995.0	14,997.0	6.0	8	Avalon, Original Hole
12/30/2016	15,035.0	15,037.0	6.0	8	Avalon, Original Hole
12/30/2016	15,077.0	15,079.0	6.0	8	Avalon, Original Hole
12/30/2016	15,115.0	15,117.0	6.0	8	Avalon, Original Hole
12/29/2016	15,162.0	15,164.0	6.0	8	Avalon, Original Hole
12/29/2016	15,200.0	15,202.0	6.0	8	Avalon, Original Hole
12/29/2016	15,232.0	15,234.0	6.0	8	Avalon, Original Hole
12/29/2016	15,277.0	15,279.0	6.0	8	Avalon, Original Hole
12/29/2016	15,317.0	15,319.0	6.0	8	Avalon, Original Hole
12/29/2016	15,357.0	15,359.0	6.0	8	Avalon, Original Hole
12/29/2016	15,397.0	15,399.0	6.0	8	Avalon, Original Hole
12/29/2016	15,437.0	15,439.0	6.0	8	Avalon, Original Hole
12/29/2016	15,477.0	15,479.0	6.0	8	Avalon, Original Hole
12/29/2016	15,517.0	15,519.0	6.0	8	Avalon, Original Hole
12/28/2016	15,557.0	15,559.0	6.0	8	Avalon, Original Hole
12/28/2016	15,597.0	15,599.0	6.0	8	Avalon, Original Hole
12/28/2016	15,637.0	15,639.0	6.0	8	Avalon, Original Hole
12/28/2016	15,677.0	15,679.0	6.0	8	Avalon, Original Hole
12/28/2016	15,717.0	15,719.0	6.0	8	Avalon, Original Hole
12/28/2016	15,757.0	15,759.0	6.0	8	Avalon, Original Hole
12/28/2016	15,797.0	15,799.0	6.0	8	Avalon, Original Hole
12/28/2016	15,837.0	15,839.0	6.0	8	Avalon, Original Hole
12/28/2016	15,877.0	15,879.0	6.0	8	Avalon, Original Hole
12/28/2016	15,917.0	15,919.0	6.0	8	Avalon, Original Hole
12/27/2016	15,957.0	15,959.0	6.0	8	Avalon, Original Hole
12/27/2016	15,997.0	15,999.0	6.0	8	Avalon, Original Hole
12/27/2016	16,037.0	16,039.0	6.0	8	Avalon, Original Hole
12/27/2016	16,077.0	16,079.0	6.0	8	Avalon, Original Hole
12/27/2016	16,117.0	16,119.0	6.0	8	Avalon, Original Hole
12/26/2016	16,157.0	16,159.0	6.0	8	Avalon, Original Hole
12/26/2016	16,197.0	16,199.0	6.0	8	Avalon, Original Hole
12/26/2016	16,237.0	16,239.0	6.0	8	Avalon, Original Hole

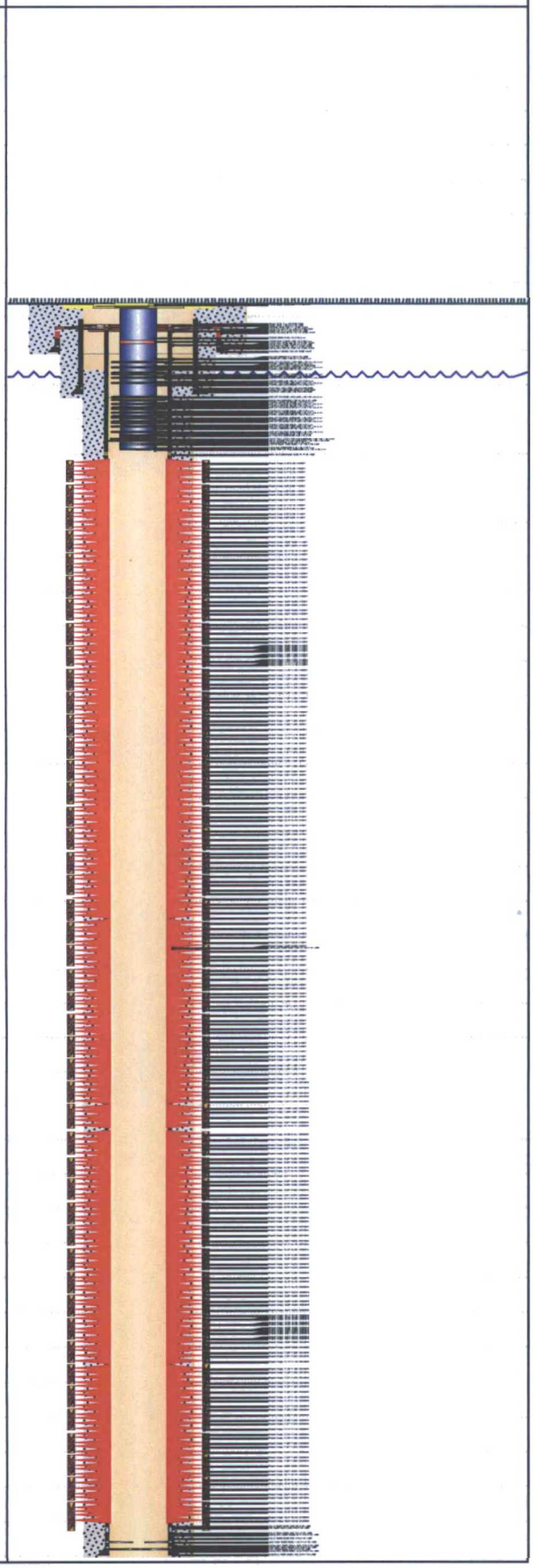
Report Printed: 3/1/2017

Wellbore Schematic

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Land - Original Hole, 3/1/2017 8:20:37 AM

MD (ftKB)	Vertical schematic (actual)



Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
12/26/2016	16,277.0	16,279.0	6.0	8	Avalon, Original Hole
12/26/2016	16,317.0	16,319.0	6.0	8	Avalon, Original Hole
12/26/2016	16,357.0	16,359.0	6.0	8	Avalon, Original Hole
12/26/2016	16,397.0	16,399.0	6.0	8	Avalon, Original Hole
12/26/2016	16,437.0	16,439.0	6.0	8	Avalon, Original Hole
12/26/2016	16,477.0	16,479.0	6.0	8	Avalon, Original Hole
12/26/2016	16,517.0	16,519.0	6.0	8	Avalon, Original Hole
12/25/2016	16,557.0	16,559.0	6.0	8	Avalon, Original Hole
12/25/2016	16,597.0	16,599.0	6.0	8	Avalon, Original Hole
12/25/2016	16,637.0	16,639.0	6.0	8	Avalon, Original Hole
12/25/2016	16,677.0	16,679.0	6.0	8	Avalon, Original Hole
12/25/2016	16,717.0	16,719.0	6.0	8	Avalon, Original Hole
12/25/2016	16,757.0	16,759.0	6.0	8	Avalon, Original Hole
12/25/2016	16,757.0	16,759.0	6.0	8	Avalon, Original Hole
12/25/2016	16,797.0	16,799.0	6.0	8	Avalon, Original Hole
12/25/2016	16,797.0	16,799.0	6.0	8	Avalon, Original Hole
12/25/2016	16,837.0	16,839.0	6.0	8	Avalon, Original Hole
12/25/2016	16,837.0	16,839.0	6.0	8	Avalon, Original Hole
12/25/2016	16,877.0	16,879.0	6.0	8	Avalon, Original Hole
12/25/2016	16,877.0	16,879.0	6.0	8	Avalon, Original Hole
12/25/2016	16,917.0	16,919.0	6.0	8	Avalon, Original Hole
12/25/2016	16,917.0	16,919.0	6.0	8	Avalon, Original Hole
12/24/2016	16,957.0	16,959.0	6.0	8	Avalon, Original Hole
12/24/2016	16,997.0	16,999.0	6.0	8	Avalon, Original Hole
12/24/2016	17,037.0	17,039.0	6.0	8	Avalon, Original Hole
12/24/2016	17,077.0	17,079.0	6.0	8	Avalon, Original Hole
12/24/2016	17,117.0	17,119.0	6.0	8	Avalon, Original Hole
12/24/2016	17,197.0	17,199.0	6.0	8	Avalon, Original Hole
12/24/2016	17,237.0	17,239.0	6.0	8	Avalon, Original Hole
12/24/2016	17,277.0	17,279.0	6.0	8	Avalon, Original Hole
12/24/2016	17,317.0	17,319.0	6.0	8	Avalon, Original Hole
12/23/2016	17,357.0	17,359.0	6.0	8	Avalon, Original Hole
12/23/2016	17,397.0	17,399.0	6.0	8	Avalon, Original Hole
12/23/2016	17,437.0	17,439.0	6.0	8	Avalon, Original Hole
12/23/2016	17,477.0	17,479.0	6.0	8	Avalon, Original Hole
12/23/2016	17,517.0	17,519.0	6.0	8	Avalon, Original Hole
12/22/2016	17,557.0	17,559.0	6.0	8	Avalon, Original Hole
12/22/2016	17,597.0	17,599.0	6.0	8	Avalon, Original Hole
12/22/2016	17,637.0	17,639.0	6.0	8	Avalon, Original Hole
12/22/2016	17,677.0	17,679.0	6.0	8	Avalon, Original Hole
12/22/2016	17,717.0	17,719.0	6.0	8	Avalon, Original Hole
12/22/2016	17,757.0	17,759.0	6.0	8	Avalon, Original Hole
12/22/2016	17,797.0	17,799.0	6.0	8	Avalon, Original Hole
12/22/2016	17,837.0	17,839.0	6.0	8	Avalon, Original Hole
12/22/2016	17,877.0	17,879.0	6.0	8	Avalon, Original Hole
12/22/2016	17,917.0	17,919.0	6.0	8	Avalon, Original Hole
12/22/2016	17,957.0	17,959.0	6.0	8	Avalon, Original Hole
12/22/2016	17,997.0	17,999.0	6.0	8	Avalon, Original Hole
12/22/2016	18,037.0	18,039.0	6.0	8	Avalon, Original Hole
12/22/2016	18,077.0	18,079.0	6.0	8	Avalon, Original Hole
12/22/2016	18,117.0	18,119.0	6.0	8	Avalon, Original Hole
12/21/2016	18,157.0	18,159.0	6.0	8	Avalon, Original Hole
12/21/2016	18,197.0	18,199.0	6.0	8	Avalon, Original Hole
12/21/2016	18,237.0	18,239.0	6.0	8	Avalon, Original Hole
12/21/2016	18,277.0	18,279.0	6.0	8	Avalon, Original Hole
12/21/2016	18,317.0	18,319.0	6.0	8	Avalon, Original Hole
12/13/2016	18,357.0	18,358.3	6.0	8	Avalon, Original Hole
12/13/2016	18,397.0	18,398.3	6.0	8	Avalon, Original Hole

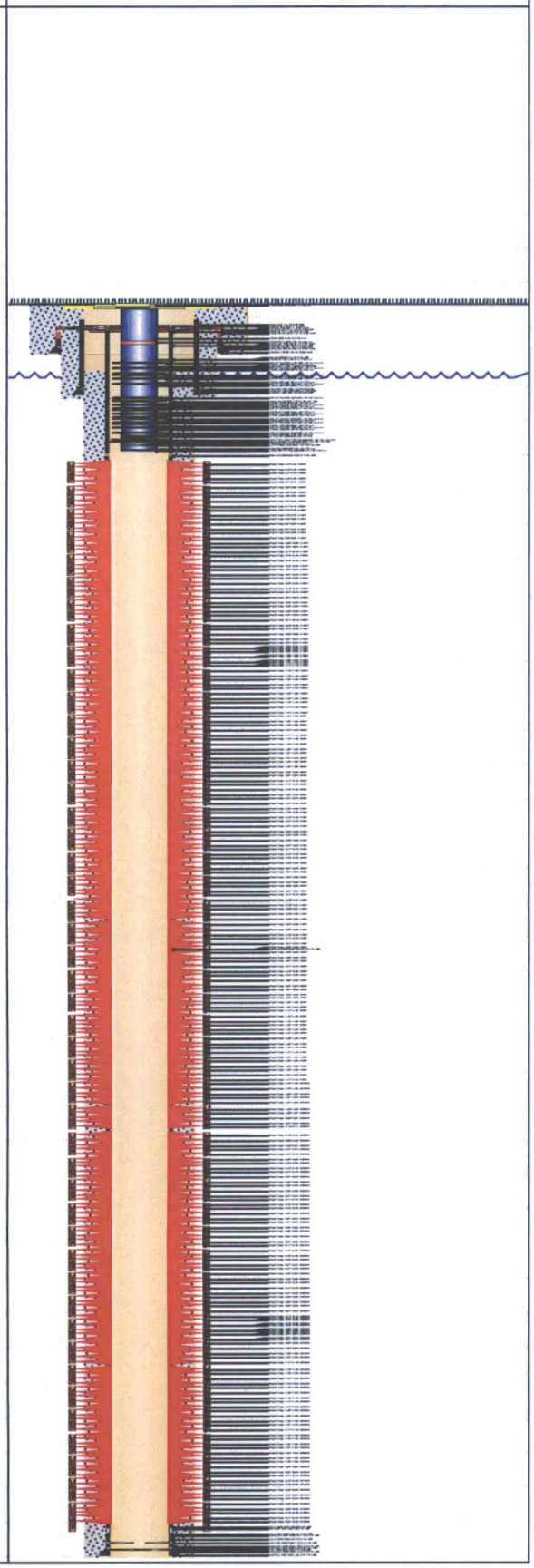
Report Printed: 3/1/2017

Wellbore Schematic

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Land - Original Hole, 3/1/2017 8:20:38 AM

MD (ftKB)	Vertical schematic (actual)



Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
12/13/2016	18,437.0	18,438.3	6.0	8	Avalon, Original Hole
12/13/2016	18,477.0	18,478.3	6.0	8	Avalon, Original Hole
12/13/2016	18,517.0	18,518.3	6.0	8	Avalon, Original Hole

Other Strings

Run Date	Pull Date	Set Depth (ftKB)	Com

Other In Hole

Des	Top (ftKB)	Btm (ftKB)	Run Date	Pull Date	Com
Composite Frac Plug (drop ball)	9,537.0	9,539.0	1/15/2017	1/22/2017	Stage 46
Composite Frac Plug (drop ball)	9,737.0	9,739.0	1/15/2017	1/22/2017	Stage 45
Composite Frac Plug (drop ball)	9,937.0	9,939.0	1/14/2017	1/22/2017	Stage 44
Composite Frac Plug (drop ball)	10,137.0	10,139.0	1/14/2017	1/22/2017	Stage 43
Composite Frac Plug (drop ball)	10,337.0	10,339.0	1/13/2017	1/22/2017	Stage 42
Composite Frac Plug (drop ball)	10,537.0	10,539.0	1/12/2017	1/22/2017	Stage 41
Composite Frac Plug (drop ball)	10,737.0	10,739.0	1/12/2017	1/22/2017	Stage 40
Composite Frac Plug (drop ball)	10,937.0	10,939.0	1/11/2017	1/22/2017	Stage 39
Composite Frac Plug (drop ball)	11,137.0	11,139.0	1/11/2017	1/22/2017	Stage 38
Composite Frac Plug (drop ball)	11,337.0	11,339.0	1/10/2017	1/22/2017	Stage 37
Composite Frac Plug (drop ball)	11,537.0	11,539.0	1/10/2017	1/22/2017	Stage 36
Composite Frac Plug (drop ball)	11,737.0	11,739.0	1/9/2017	1/22/2017	Stage 35
Composite Frac Plug (drop ball)	11,937.0	11,939.0	1/9/2017	1/22/2017	Stage 34
Composite Frac Plug (drop ball)	12,137.0	12,139.0	1/8/2017	1/22/2017	Stage 33
Composite Frac Plug (drop ball)	12,337.0	12,339.0	1/8/2017	1/22/2017	Stage 32
Composite Frac Plug (drop ball)	12,537.0	12,539.0	1/7/2017	1/22/2017	Stage 31
Composite Frac Plug (drop ball)	12,737.0	12,739.0	1/7/2017	1/22/2017	Stage 30
Composite Frac Plug (drop ball)	12,937.0	12,939.0	1/6/2017	1/22/2017	Stage 29
Composite Frac Plug (drop ball)	13,137.0	13,139.0	1/5/2017	1/22/2017	Stage 28
Composite Frac Plug (drop ball)	13,337.0	13,339.0	1/4/2017	1/23/2017	Stage 27
Composite Frac Plug (drop ball)	13,537.0	13,539.0	1/4/2017	1/23/2017	Stage 26
Composite Frac Plug (drop ball)	13,737.0	13,739.0	1/3/2017	1/23/2017	Stage 25
Composite Frac Plug (drop ball)	13,940.0	13,942.0	1/3/2017	1/23/2017	Stage 24
Composite Frac Plug (drop ball)	14,137.0	14,139.0	1/2/2017	1/23/2017	Stage 23
Composite Frac Plug (drop ball)	14,337.0	14,339.0	1/2/2017	1/23/2017	Stage 22
Composite Frac Plug (drop ball)	14,537.0	14,539.0	1/1/2017	1/23/2017	Stage 21
Composite Frac Plug (drop ball)	14,737.0	14,739.0	1/1/2017	1/23/2017	Stage 20

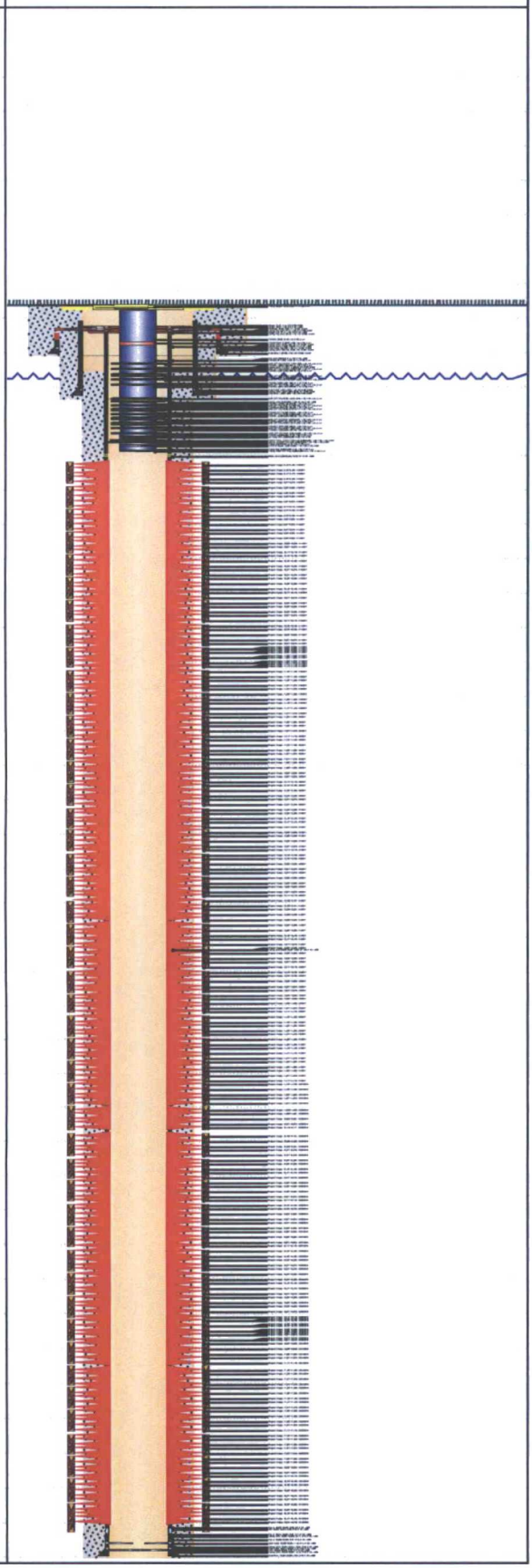
Report Printed: 3/1/2017

Wellbore Schematic

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Land - Original Hole, 3/1/2017 8:20:39 AM

MD (ftKB)	Vertical schematic (actual)



Other In Hole

Des	Top (ftKB)	Btm (ftKB)	Run Date	Pull Date	Com
Composite Frac Plug (drop ball)	14,937.0	14,939.0	12/31/2016	1/23/2017	Stage 19
Composite Frac Plug (drop ball)	15,137.0	15,139.0	12/30/2016	1/23/2017	Stage 18
Composite Frac Plug (drop ball)	15,337.0	15,339.0	12/29/2016	1/23/2017	Stage 17
Composite Frac Plug (drop ball)	15,537.0	15,539.0	12/29/2016	1/23/2017	Stage 16
Composite Frac Plug (drop ball)	15,737.0	15,739.0	12/28/2016	1/23/2017	Stage 15
Composite Frac Plug (drop ball)	15,937.0	15,939.0	12/28/2016	1/23/2017	Stage 14
Composite Frac Plug (drop ball)	16,137.0	16,139.0	12/27/2016	1/23/2017	Stage 13
Composite Frac Plug (drop ball)	16,337.0	16,339.0	12/26/2016	1/23/2017	Stage 12
Composite Frac Plug (drop ball)	16,537.0	16,539.0	12/26/2016	1/23/2017	Stage 11
Composite Frac Plug (drop ball)	16,737.0	16,739.0	12/25/2016	1/23/2017	Stage 10
Composite Frac Plug (drop ball)	16,937.0	16,939.0	12/25/2016	1/23/2017	Stage 9
Composite Frac Plug (drop ball)	17,137.0	17,139.0	12/24/2016	1/23/2017	Stage 8
Composite Frac Plug (drop ball)	17,337.0	17,339.0	12/24/2016	1/23/2017	Stage 7
Composite Frac Plug (drop ball)	17,537.0	17,539.0	12/23/2016	1/23/2017	Stage 6
Composite Frac Plug (drop ball)	17,737.0	17,739.0	12/22/2016	1/23/2017	Stage 5
Composite Frac Plug (drop ball)	17,937.0	17,939.0	12/22/2016	1/23/2017	Stage 4
Composite Frac Plug (drop ball)	18,137.0	18,139.0	12/22/2016	1/23/2017	Stage 3
Composite Frac Plug (drop ball)	18,337.0	18,339.0	12/21/2016	1/23/2017	Stage 2

Report Printed: 3/1/2017

Tubing Summary

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

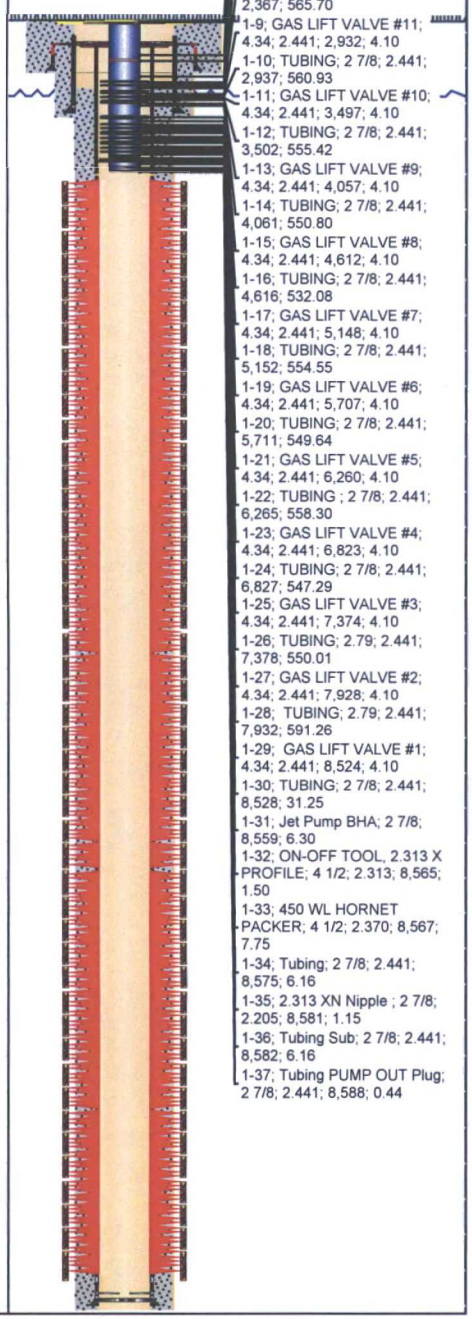
Ground Elevation (ft)	Original RKB Elevation (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)
3,133.00	3,165.60	3,165.60, 8/15/2016		

Current KB to Ground (ft)	Current KB to Mud Line (ft)	Current KB to Csg Flange (ft)	Current KB to Tubing Head (ft)
32.60			

Land - Original Hole, 2/13/2017 4:30:00 PM

MD (ftKB)	TVD (ftKB)	Incl (°)
3.5	3.5	0.0
7.3	7.3	0.0
11.1	11.1	0.0
14.9	14.9	0.1
18.7	18.7	0.1
22.5	22.5	0.1
26.3	26.3	0.1
30.1	30.1	0.1
33.9	33.9	0.1
749.4	748.3	0.9
4,061.0	4,018.7	11.9
6,626.9	6,746.1	6.2
8,595.8	8,511.9	5.5
9,559.1	9,051.6	90.7
9,677.8	9,045.0	91.9
10,155.1	9,041.6	89.2
10,477.9	9,036.7	95.8
10,756.5	9,022.6	92.4
11,077.1	9,021.4	87.9
11,356.5	9,029.2	90.4
11,676.8	9,028.3	89.9
11,955.9	9,020.1	93.0
12,276.5	9,013.2	89.7
12,555.1	9,025.2	85.5
12,877.8	9,048.4	87.8
13,157.2	9,064.3	86.3
13,476.8	9,066.9	85.8
13,756.5	9,102.4	90.9
14,076.8	9,097.8	91.0
14,357.6	9,091.1	92.3
14,676.1	9,085.5	90.1
14,957.6	9,084.7	89.9
15,276.1	9,085.4	89.4
15,476.8	9,087.1	89.9
15,756.5	9,118.6	90.4
16,076.1	9,106.5	92.3
16,357.6	9,094.4	92.3
16,676.1	9,085.9	90.1
16,957.6	9,085.5	89.7
17,276.5	9,087.5	89.8
17,556.1	9,088.4	89.8
17,917.8	9,088.0	90.4
18,196.1	9,086.5	90.1
18,517.1	9,085.5	89.6
18,653.9	9,086.8	89.6

Vertical schematic (actual)



1-1; Tubing Hanger; 2 7/8; 2.441; 33; 0.50
1-2; TUBING; 2 7/8; 2.441; 33; 31.52
1-3; TUBING SUB- 2'; 2 7/8; 2.441; 65; 2.00
1-4; TUBING; 2 7/8; 2.441; 67; 1,729.43
1-5; GAS LIFT VALVE #13; 4.34; 2.441; 1,796; 4.10
1-6; TUBING; 2 7/8; 2.441; 1,800; 562.44
1-7; GAS LIFT VALVE #12; 4.34; 2.441; 2,363; 4.10
1-8; TUBING; 2 7/8; 2.441; 2,367; 565.70
1-9; GAS LIFT VALVE #11; 4.34; 2.441; 2,932; 4.10
1-10; TUBING; 2 7/8; 2.441; 2,937; 560.93
1-11; GAS LIFT VALVE #10; 4.34; 2.441; 3,497; 4.10
1-12; TUBING; 2 7/8; 2.441; 3,502; 555.42
1-13; GAS LIFT VALVE #9; 4.34; 2.441; 4,057; 4.10
1-14; TUBING; 2 7/8; 2.441; 4,061; 550.80
1-15; GAS LIFT VALVE #8; 4.34; 2.441; 4,612; 4.10
1-16; TUBING; 2 7/8; 2.441; 4,616; 532.08
1-17; GAS LIFT VALVE #7; 4.34; 2.441; 5,148; 4.10
1-18; TUBING; 2 7/8; 2.441; 5,152; 554.55
1-19; GAS LIFT VALVE #6; 4.34; 2.441; 5,707; 4.10
1-20; TUBING; 2 7/8; 2.441; 5,711; 549.64
1-21; GAS LIFT VALVE #5; 4.34; 2.441; 6,260; 4.10
1-22; TUBING ; 2 7/8; 2.441; 6,265; 558.30
1-23; GAS LIFT VALVE #4; 4.34; 2.441; 6,823; 4.10
1-24; TUBING; 2 7/8; 2.441; 6,827; 547.29
1-25; GAS LIFT VALVE #3; 4.34; 2.441; 7,374; 4.10
1-26; TUBING; 2.79; 2.441; 7,378; 550.01
1-27; GAS LIFT VALVE #2; 4.34; 2.441; 7,928; 4.10
1-28; TUBING; 2.79; 2.441; 7,932; 591.26
1-29; GAS LIFT VALVE #1; 4.34; 2.441; 8,524; 4.10
1-30; TUBING; 2 7/8; 2.441; 8,528; 31.25
1-31; Jet Pump BHA; 2 7/8; 8,559; 6.30
1-32; ON-OFF TOOL, 2.313 X PROFILE; 4 1/2; 2.313; 8,565; 1.50
1-33; 450 WL HORNET PACKER; 4 1/2; 2.370; 8,567; 7.75
1-34; Tubing; 2 7/8; 2.441; 8,575; 6.16
1-35; 2.313 XN Nipple ; 2 7/8; 2.205; 8,581; 1.15
1-36; Tubing Sub; 2 7/8; 2.441; 8,582; 6.16
1-37; Tubing PUMP OUT Plug; 2 7/8; 2.441; 8,588; 0.44

Tubing Strings

Tubing Description	Planned Run?	Set Depth (MD) (ftKB)	Set Depth (TVD) (ftKB)
Tubing - Production	N	8,588.5	8,505.0

Run Date	Run Job	Pull Date	Pull Job
2/13/2017	Complete, 12/10/2016 12:00		

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Len (ft)	Top (ftKB)	Btm (ftKB)
1	Tubing Hanger	2 7/8	2.441			8RD	0.50	32.6	33.1
1	TUBING	2 7/8	2.441	6.50	L-80	8RD	31.52	33.1	64.6
1	TUBING SUB- 2'	2 7/8	2.441	6.50	L-80	8RD	2.00	64.6	66.6
56	TUBING	2 7/8	2.441	6.50	L-80	8RD	1,729.43	66.6	1,796.1
1	GAS LIFT VALVE #13	4.335	2.441			8RD	4.10	1,796.1	1,800.2
18	TUBING	2 7/8	2.441	6.50	L-80	8RD	562.44	1,800.2	2,362.6
1	GAS LIFT VALVE #12	4.335	2.441			8RD	4.10	2,362.6	2,366.7
18	TUBING	2 7/8	2.441	6.50	L-80	8RD	565.70	2,366.7	2,932.4
1	GAS LIFT VALVE #11	4.335	2.441			8RD	4.10	2,932.4	2,936.5
18	TUBING	2 7/8	2.441	6.50	L-80	8RD	560.93	2,936.5	3,497.4
1	GAS LIFT VALVE #10	4.335	2.441			8RD	4.10	3,497.4	3,501.5
18	TUBING	2 7/8	2.441	6.50	L-80	8RD	555.42	3,501.5	4,057.0
1	GAS LIFT VALVE #9	4.335	2.441			8RD	4.10	4,057.0	4,061.1
18	TUBING	2 7/8	2.441	6.50	L-80	8RD	550.80	4,061.1	4,611.9
1	GAS LIFT VALVE #8	4.335	2.441			8RD	4.10	4,611.9	4,616.0
17	TUBING	2 7/8	2.441	6.50	L-80	8RD	532.08	4,616.0	5,148.0
1	GAS LIFT VALVE #7	4.335	2.441			8RD	4.10	5,148.0	5,152.1
18	TUBING	2 7/8	2.441	6.50	L-80	8RD	554.55	5,152.1	5,706.7
1	GAS LIFT VALVE #6	4.335	2.441			8RD	4.10	5,706.7	5,710.8
18	TUBING	2 7/8	2.441	6.50	L-80	8RD	549.64	5,710.8	6,260.4
1	GAS LIFT VALVE #5	4.335	2.441			8RD	4.10	6,260.4	6,264.5
18	TUBING	2 7/8	2.441	6.50	L-80	8RD	558.30	6,264.5	6,822.8
1	GAS LIFT VALVE #4	4.335	2.441			8RD	4.10	6,822.8	6,826.9
18	TUBING	2 7/8	2.441	6.50	L-80	8RD	547.29	6,826.9	7,374.2
1	GAS LIFT VALVE #3	4.335	2.441			8TRD	4.10	7,374.2	7,378.3
18	TUBING	2.785	2.441	6.50	L-80	8RD	550.01	7,378.3	7,928.3
1	GAS LIFT VALVE #2	4.335	2.441			8RD	4.10	7,928.3	7,932.4
19	TUBING	2.785	2.441	6.50	L-80	8RD	591.26	7,932.4	8,523.7
1	GAS LIFT VALVE #1	4.335	2.441			8RD	4.10	8,523.7	8,527.8
1	TUBING	2 7/8	2.441	6.50	L-80	8RD	31.25	8,527.8	8,559.0
1	Jet Pump BHA	2 7/8				8RD	6.30	8,559.0	8,565.3
1	ON-OFF TOOL, 2.313 X PROFILE	4 1/2	2.313			8RD	1.50	8,565.3	8,566.8
1	450 WL HORNET PACKER	4 1/2	2.370			8RD	7.75	8,566.8	8,574.6

Report Printed: 3/1/2017

Tubing Summary

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

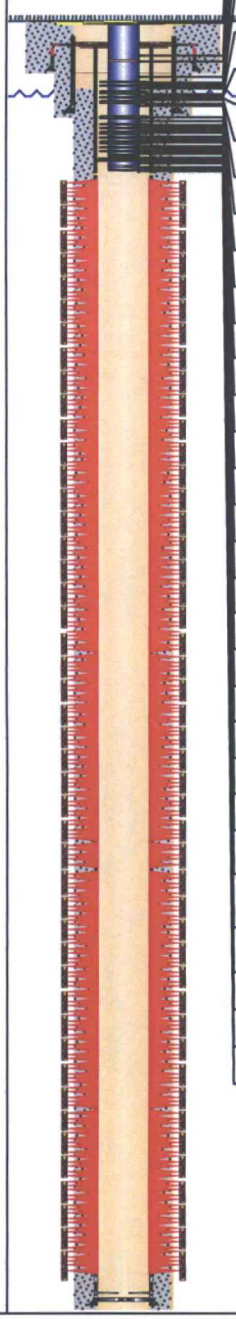
Ground Elevation (ft)	Original RKB Elevation (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)
3,133.00	3,165.60	3,165.60, 8/15/2016		

Current KB to Ground (ft)	Current KB to Mud Line (ft)	Current KB to Csg Flange (ft)	Current KB to Tubing Head (ft)
32.60			

Land - Original Hole, 2/13/2017 4:30:00 PM

MD (ftKB)	TVD (ftKB)	Incl (°)
3.5	3.5	0.0
7.3	7.3	0.0
11.1	11.1	0.0
14.9	14.9	0.1
18.7	18.7	0.1
22.5	22.5	0.1
26.3	26.3	0.1
30.1	30.1	0.1
33.9	33.9	0.1
748.4	748.3	0.9
4,061.9	4,018.7	11.9
6,628.8	6,748.1	6.2
8,595.8	8,511.9	5.5
8,559.1	8,051.8	90.7
8,677.8	8,045.0	91.9
10,158.1	8,041.6	89.2
10,477.8	8,035.7	95.8
10,758.9	8,022.6	92.4
11,077.1	8,021.4	87.9
11,358.8	8,029.2	90.4
11,676.8	8,028.3	89.9
11,958.8	8,020.1	93.0
12,276.9	8,013.2	89.7
12,559.1	8,025.2	85.5
12,877.8	8,048.4	87.8
13,157.2	8,064.3	86.3
13,439.8	8,086.9	85.8
13,756.8	8,102.4	90.9
14,039.8	8,097.8	91.0
14,357.8	8,091.1	92.3
14,639.1	8,085.5	90.1
14,957.8	8,084.7	89.9
15,238.1	8,085.4	89.4
15,476.8	8,087.1	89.9
15,796.9	8,118.6	90.4
16,079.1	8,108.5	92.3
16,397.8	8,094.4	92.3
16,679.1	8,085.9	90.1
16,997.8	8,085.5	89.7
17,316.9	8,087.5	89.8
17,598.1	8,088.4	89.8
17,917.8	8,088.0	90.4
18,198.1	8,086.5	90.1
18,517.1	8,085.5	89.6
18,803.9	8,086.8	89.6

Vertical schematic (actual)



1-1; Tubing Hanger; 2 7/8; 2.441; 33; 0.50
1-2; TUBING; 2 7/8; 2.441; 33; 31.52
1-3; TUBING SUB- 2'; 2 7/8; 2.441; 65; 2.00
1-4; TUBING; 2 7/8; 2.441; 67; 1,729.43
1-5; GAS LIFT VALVE #13; 4.34; 2.441; 1,796; 4.10
1-6; TUBING; 2 7/8; 2.441; 1,800; 562.44
1-7; GAS LIFT VALVE #12; 4.34; 2.441; 2,363; 4.10
1-8; TUBING; 2 7/8; 2.441; 2,367; 565.70
1-9; GAS LIFT VALVE #11; 4.34; 2.441; 2,932; 4.10
1-10; TUBING; 2 7/8; 2.441; 2,937; 560.93
1-11; GAS LIFT VALVE #10; 4.34; 2.441; 3,497; 4.10
1-12; TUBING; 2 7/8; 2.441; 3,502; 555.42
1-13; GAS LIFT VALVE #9; 4.34; 2.441; 4,057; 4.10
1-14; TUBING; 2 7/8; 2.441; 4,061; 550.80
1-15; GAS LIFT VALVE #8; 4.34; 2.441; 4,612; 4.10
1-16; TUBING; 2 7/8; 2.441; 4,616; 532.08
1-17; GAS LIFT VALVE #7; 4.34; 2.441; 5,148; 4.10
1-18; TUBING; 2 7/8; 2.441; 5,152; 554.55
1-19; GAS LIFT VALVE #6; 4.34; 2.441; 5,707; 4.10
1-20; TUBING; 2 7/8; 2.441; 5,711; 549.64
1-21; GAS LIFT VALVE #5; 4.34; 2.441; 6,260; 4.10
1-22; TUBING ; 2 7/8; 2.441; 6,265; 558.30
1-23; GAS LIFT VALVE #4; 4.34; 2.441; 6,823; 4.10
1-24; TUBING; 2 7/8; 2.441; 6,827; 547.29
1-25; GAS LIFT VALVE #3; 4.34; 2.441; 7,374; 4.10
1-26; TUBING; 2.79; 2.441; 7,378; 550.01
1-27; GAS LIFT VALVE #2; 4.34; 2.441; 7,928; 4.10
1-28; TUBING; 2.79; 2.441; 7,932; 591.26
1-29; GAS LIFT VALVE #1; 4.34; 2.441; 8,524; 4.10
1-30; TUBING; 2 7/8; 2.441; 8,528; 31.25
1-31; Jet Pump BHA; 2 7/8; 8,559; 6.30
1-32; ON-OFF TOOL, 2.313 X PROFILE; 4 1/2; 2.313; 8,565; 1.50
1-33; 450 WL HORNET PACKER; 4 1/2; 2.370; 8,567; 7.75
1-34; Tubing; 2 7/8; 2.441; 8,575; 6.16
1-35; 2.313 XN Nipple ; 2 7/8; 2.205; 8,581; 1.15
1-36; Tubing Sub; 2 7/8; 2.441; 8,582; 6.16
1-37; Tubing PUMP OUT Plug; 2 7/8; 2.441; 8,588; 0.44

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Len (ft)	Top (ftKB)	Btm (ftKB)
1	Tubing	2 7/8	2.441	6.50	L-80	8RD	6.16	8,574.6	8,580.8
1	2.313 XN Nipple	2 7/8	2.205			8RD	1.15	8,580.8	8,581.9
1	Tubing Sub	2 7/8	2.441	6.50	L-80	8RD	6.16	8,581.9	8,588.1
1	Tubing PUMP OUT Plug	2 7/8	2.441			8RD	0.44	8,588.1	8,588.5

Rod Strings

Rod Description	Planned Run?	Set Depth (ftKB)	Set Depth (TVD) (ftKB)

Run Date	Run Job	Pull Date	Pull Job

Rod Components

Jts	Item Des	OD (in)	Grade	Model	Len (ft)	Top (ftKB)	Btm (ftKB)

Report Printed: 3/1/2017

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)

Wellbore Name	Parent Wellbore	Min Kick Off Depth (ftKB)	Vertical Section Direction (°)
Original Hole	Original Hole	8,600.0	359.71

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

Date	Definitive?	Description	Planned?
9/7/2016	N	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
0	0.00	360.00	0.00	0.00	0.00	0.00	0.00	Magn MS		0.00	0.00	0.00	N
162	0.60	30.30	162.00	0.73	0.43	0.73	0.37	Magn MS		0.37	0.85	-203.52	N
205	0.40	320.30	205.00	1.04	0.45	1.04	1.39	Magn MS		-0.47	1.13	674.42	N
237	0.40	318.30	236.99	1.21	0.30	1.21	0.04	Magn MS		0.00	1.25	-6.25	N
298	0.50	33.30	297.99	1.59	0.30	1.59	0.91	Magn MS		0.16	1.62	-467.21	N
346	0.10	209.30	345.99	1.73	0.40	1.73	1.25	Magn MS		-0.83	1.78	366.67	N
385	0.40	317.30	384.99	1.80	0.29	1.80	1.13	Magn MS		0.77	1.83	276.92	N
445	0.30	100.30	444.99	1.93	0.30	1.93	1.11	Magn MS		-0.17	1.95	-361.67	N
476	0.30	332.30	475.99	1.99	0.34	1.98	1.74	Magn MS		0.00	2.01	748.39	N
530	0.20	287.30	529.99	2.14	0.19	2.14	0.39	Magn MS		-0.19	2.15	-83.33	N
621	0.60	220.30	620.99	1.82	-0.27	1.82	0.61	Magn MS		0.44	1.84	-73.63	N
801	0.99	190.21	800.97	-0.43	-1.16	-0.42	0.31	Magn MS	Baker Hughes	0.22	1.23	-16.72	N
983	2.41	120.58	982.90	-3.92	1.86	-3.93	1.24	Magn MS	Baker Hughes	0.78	4.34	-38.26	N
1,165	5.13	102.89	1,164.50	-7.68	13.09	-7.75	1.61	Magn MS	Baker Hughes	1.49	15.18	-9.72	N
1,347	5.65	103.72	1,345.69	-11.62	29.72	-11.77	0.29	Magn MS	Baker Hughes	0.29	31.92	0.46	N
1,525	8.22	101.84	1,522.37	-16.31	50.69	-16.57	1.45	Magn MS	Baker Hughes	1.44	53.25	-1.06	N
1,701	8.66	104.18	1,696.47	-22.14	75.85	-22.53	0.32	Magn MS	Baker Hughes	0.25	79.02	1.33	N
1,878	8.55	108.61	1,871.48	-29.61	101.24	-30.12	0.38	Magn MS	Baker Hughes	-0.06	105.48	2.50	N
2,054	9.71	96.66	2,045.26	-35.50	128.39	-36.15	1.26	Magn MS	Baker Hughes	0.66	133.21	-6.79	N
2,231	10.07	100.86	2,219.63	-40.15	158.41	-40.95	0.46	Magn MS	Baker Hughes	0.20	163.42	2.37	N
2,408	10.20	103.62	2,393.87	-46.76	188.84	-47.71	0.28	Magn MS	Baker Hughes	0.07	194.54	1.56	N
2,586	11.04	94.86	2,568.83	-51.91	221.14	-53.03	1.02	Magn MS	Baker Hughes	0.47	227.15	-4.92	N
2,763	11.71	84.17	2,742.37	-51.52	255.90	-52.82	1.25	Magn MS	Baker Hughes	0.38	261.04	-6.04	N
2,940	11.47	86.00	2,915.77	-48.47	291.33	-49.94	0.25	Magn MS	Baker Hughes	-0.14	295.33	1.03	N
3,117	10.41	90.99	3,089.55	-47.52	324.87	-49.16	0.80	Magn MS	Baker Hughes	-0.60	328.33	2.82	N
3,295	10.40	97.23	3,264.63	-49.82	356.89	-51.62	0.63	Magn MS	Baker Hughes	-0.01	360.35	3.51	N
3,472	9.74	104.75	3,438.91	-55.64	387.22	-57.60	0.83	Magn MS	Baker Hughes	-0.37	391.20	4.25	N
3,649	8.76	117.17	3,613.62	-65.61	413.69	-67.70	1.25	Magn MS	Baker Hughes	-0.55	418.86	7.02	N
3,827	10.47	123.66	3,789.12	-80.76	439.22	-82.99	1.14	Magn MS	Baker Hughes	0.96	446.58	3.65	N
4,004	11.32	121.77	3,962.93	-98.82	467.37	-101.19	0.52	Magn MS	Baker Hughes	0.48	477.71	-1.07	N
4,180	13.05	99.76	4,135.05	-111.30	501.66	-113.83	2.80	Magn MS	Baker Hughes	0.98	513.86	-12.51	N
4,357	14.38	99.96	4,307.00	-118.48	543.01	-121.23	0.75	Magn MS	Baker Hughes	0.75	555.78	0.11	N
4,546	12.28	96.74	4,490.90	-124.90	586.09	-127.87	1.18	Magn MS	Baker Hughes	-1.11	599.25	-1.70	N
4,708	10.37	98.28	4,649.74	-129.03	617.63	-132.15	1.19	Magn MS	Baker Hughes	-1.18	630.96	0.95	N
4,885	9.77	98.69	4,824.01	-133.59	648.24	-136.87	0.34	Magn MS	Baker Hughes	-0.34	661.86	0.23	N
5,062	9.53	97.41	4,998.51	-137.75	677.61	-141.18	0.18	Magn MS	Baker Hughes	-0.14	691.47	-0.72	N
5,238	9.18	97.31	5,172.17	-141.41	705.99	-144.98	0.20	Magn MS	Baker Hughes	-0.20	720.01	-0.06	N
5,416	8.86	96.66	5,347.96	-144.81	733.68	-148.52	0.19	Magn MS	Baker Hughes	-0.18	747.84	-0.37	N
5,594	8.24	95.11	5,523.99	-147.54	760.00	-151.38	0.37	Magn MS	Baker Hughes	-0.35	774.19	-0.87	N
5,771	7.07	95.01	5,699.41	-149.62	783.49	-153.58	0.66	Magn MS	Baker Hughes	-0.66	797.65	-0.06	N
5,948	6.52	93.45	5,875.16	-151.17	804.37	-155.24	0.33	Magn MS	Baker Hughes	-0.31	818.45	-0.88	N
6,125	8.73	100.08	6,050.59	-154.13	827.63	-158.32	1.34	Magn MS	Baker Hughes	1.25	841.86	3.75	N
6,302	8.32	98.06	6,225.63	-158.28	853.54	-162.59	0.29	Magn MS	Baker Hughes	-0.23	868.09	-1.14	N
6,478	7.78	95.86	6,399.90	-161.28	877.99	-165.72	0.35	Magn MS	Baker Hughes	-0.31	892.68	-1.25	N
6,832	6.14	100.41	6,751.28	-167.14	920.45	-171.80	0.49	Magn MS	Baker Hughes	-0.46	935.51	1.29	N
7,009	5.33	100.03	6,927.39	-170.29	937.86	-175.03	0.46	Magn MS	Baker Hughes	-0.46	953.19	-0.21	N
7,186	4.92	94.57	7,103.69	-172.32	953.52	-177.15	0.36	Magn MS	Baker Hughes	-0.23	968.97	-3.08	N
7,362	2.29	90.78	7,279.32	-172.97	964.56	-177.85	1.50	Magn MS	Baker Hughes	-1.49	979.95	-2.15	N

Report Printed: 10/6/2016

Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	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)	Unused data
7,541	1.97	87.06	7,458.20	-172.86	971.21	-177.78	0.19	Magn MS	Baker Hughes	-0.18	986.47	-2.08	N
7,613	1.66	83.46	7,530.16	-172.68	973.48	-177.61	0.46	Magn MS	Baker Hughes	-0.43	988.68	-5.00	N
7,789	0.16	87.19	7,706.14	-172.38	976.26	-177.32	0.85	Magn MS	Baker Hughes	-0.85	991.36	2.12	N
7,966	0.38	122.19	7,883.13	-172.68	977.00	-177.62	0.15	Magn MS	Baker Hughes	0.12	992.15	19.77	N
8,143	5.50	284.28	8,059.88	-170.90	969.27	-175.80	3.31	Magn MS	Baker Hughes	2.89	984.22	91.58	N
8,320	0.51	251.93	8,236.58	-169.05	960.30	-173.91	2.87	Magn MS	Baker Hughes	-2.82	975.06	-18.28	N
8,497	0.20	289.17	8,413.58	-169.19	959.26	-174.05	0.21	Magn MS	Baker Hughes	-0.18	974.06	21.04	N
8,674	9.75	354.52	8,589.72	-154.14	957.53	-158.98	5.46	Magn MS	Baker Hughes	5.40	969.86	36.92	N
8,763	18.47	352.13	8,675.95	-132.63	954.88	-137.46	9.82	Magn MS	Baker Hughes	9.80	964.04	-2.69	N
8,851	28.39	345.16	8,756.61	-98.50	947.59	-103.30	11.69	Magn MS	Baker Hughes	11.27	952.70	-7.92	N
8,940	36.57	338.81	8,831.65	-53.24	932.56	-57.96	9.95	Magn MS	Baker Hughes	9.19	934.07	-7.13	N
9,029	43.85	344.19	8,899.59	1.23	914.54	-3.40	9.06	Magn MS	Baker Hughes	8.18	914.54	6.04	N
9,117	52.70	351.71	8,958.15	65.37	901.16	60.81	11.90	Magn MS	Baker Hughes	10.06	903.52	8.55	N
9,206	64.17	355.78	9,004.67	140.62	893.07	136.10	13.46	Magn MS	Baker Hughes	12.89	904.08	4.57	N
9,294	75.24	359.63	9,035.16	222.95	889.87	218.44	13.23	Magn MS	Baker Hughes	12.58	917.38	4.38	N
9,383	85.65	4.79	9,049.92	310.50	893.31	305.97	13.02	Magn MS	Baker Hughes	11.70	945.74	-398.70	N
9,472	90.77	6.61	9,052.70	398.98	902.15	394.41	6.10	Magn MS	Baker Hughes	5.75	986.43	2.04	N
9,560	90.74	7.40	9,051.54	486.31	912.88	481.69	0.90	Magn MS	Baker Hughes	-0.03	1,034.33	0.90	N
9,649	90.86	4.34	9,050.30	574.83	921.98	570.15	3.44	Magn MS	Baker Hughes	0.13	1,086.50	-3.44	N
9,737	90.77	5.14	9,049.05	662.52	929.25	657.81	0.91	Magn MS	Baker Hughes	-0.10	1,141.24	0.91	N
9,826	92.16	5.07	9,046.77	751.13	937.17	746.38	1.56	Magn MS	Baker Hughes	1.56	1,201.03	-0.08	N
9,915	91.76	4.19	9,043.73	839.79	944.35	835.00	1.09	Magn MS	Baker Hughes	-0.45	1,263.74	-0.99	N
10,004	91.35	4.40	9,041.31	928.51	951.01	923.68	0.52	Magn MS	Baker Hughes	-0.46	1,329.11	0.24	N
10,092	89.38	359.60	9,040.75	1,016.42	954.08	1,011.58	5.90	Magn MS	Baker Hughes	-2.24	1,394.05	403.64	N
10,181	89.17	355.64	9,041.88	1,105.32	950.38	1,100.50	4.46	Magn MS	Baker Hughes	-0.24	1,457.72	-4.45	N
10,269	90.37	357.41	9,042.23	1,193.15	945.05	1,188.35	2.43	Magn MS	Baker Hughes	1.36	1,522.08	2.01	N
10,358	88.86	354.48	9,042.83	1,281.92	938.76	1,277.15	3.70	Magn MS	Baker Hughes	-1.70	1,588.89	-3.29	N
10,446	96.54	354.18	9,038.69	1,369.32	930.08	1,364.60	8.73	Magn MS	Baker Hughes	8.73	1,655.32	-0.34	N
10,535	94.56	0.21	9,030.07	1,457.75	925.76	1,453.05	7.10	Magn MS	Baker Hughes	-2.22	1,726.87	-397.72	N
10,624	91.02	3.92	9,025.74	1,546.56	928.96	1,541.84	5.76	Magn MS	Baker Hughes	-3.98	1,804.11	4.17	N
10,715	90.55	3.10	9,024.49	1,637.38	934.53	1,632.63	1.04	Magn MS	Baker Hughes	-0.52	1,885.30	-0.90	N
10,806	94.35	1.06	9,020.60	1,728.22	937.83	1,723.45	4.74	Magn MS	Baker Hughes	4.18	1,966.28	-2.24	N
10,897	91.45	1.42	9,016.00	1,819.07	939.80	1,814.29	3.21	Magn MS	Baker Hughes	-3.19	2,047.49	0.40	N
10,988	86.83	358.58	9,017.36	1,910.02	939.80	1,905.24	5.96	Magn MS	Baker Hughes	-5.08	2,128.71	392.48	N
11,079	87.97	355.45	9,021.49	2,000.79	935.07	1,996.03	3.66	Magn MS	Baker Hughes	1.25	2,208.51	-3.44	N
11,170	88.03	355.51	9,024.67	2,091.46	927.90	2,086.73	0.09	Magn MS	Baker Hughes	0.07	2,288.05	0.07	N
11,261	87.90	356.30	9,027.90	2,182.16	921.41	2,177.47	0.88	Magn MS	Baker Hughes	-0.14	2,368.72	0.87	N
11,352	90.43	358.56	9,029.23	2,273.05	917.33	2,268.38	3.73	Magn MS	Baker Hughes	2.78	2,451.17	2.48	N

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Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	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)	Unused data
11,443	90.46	356.45	9,028.52	2,363.96	913.37	2,359.30	2.32	Magn MS	Baker Hughes	0.03	2,534.27	-2.32	N
11,534	90.06	356.33	9,028.11	2,454.77	907.64	2,450.15	0.46	Magn MS	Baker Hughes	-0.44	2,617.20	-0.13	N
11,623	89.85	356.22	9,028.18	2,543.59	901.85	2,538.99	0.27	Magn MS	Baker Hughes	-0.24	2,698.74	-0.12	N
11,712	89.97	355.22	9,028.32	2,632.34	895.21	2,627.77	1.13	Magn MS	Baker Hughes	0.13	2,780.40	-1.12	N
11,800	92.28	355.73	9,026.59	2,720.04	888.27	2,715.51	2.69	Magn MS	Baker Hughes	2.63	2,861.41	0.58	N
11,889	91.97	357.56	9,023.29	2,808.82	883.07	2,804.32	2.08	Magn MS	Baker Hughes	-0.35	2,944.37	2.06	N
11,977	93.27	0.88	9,019.26	2,896.71	881.87	2,892.21	4.05	Magn MS	Baker Hughes	1.48	3,027.97	-405.32	N
12,065	92.19	1.70	9,015.07	2,984.58	883.85	2,980.07	1.54	Magn MS	Baker Hughes	-1.23	3,112.70	0.93	N
12,154	90.37	2.08	9,013.09	3,073.51	886.78	3,068.98	2.09	Magn MS	Baker Hughes	-2.04	3,198.88	0.43	N
12,242	89.69	2.19	9,013.04	3,161.45	890.06	3,156.90	0.78	Magn MS	Baker Hughes	-0.77	3,284.35	0.13	N
12,331	89.72	1.94	9,013.50	3,250.39	893.27	3,245.83	0.28	Magn MS	Baker Hughes	0.03	3,370.90	-0.28	N
12,419	87.62	3.29	9,015.54	3,338.27	897.28	3,333.68	2.84	Magn MS	Baker Hughes	-2.39	3,456.75	1.53	N
12,508	85.14	4.14	9,021.16	3,426.89	903.04	3,422.28	2.95	Magn MS	Baker Hughes	-2.79	3,543.88	0.96	N
12,596	85.68	3.70	9,028.20	3,514.41	909.03	3,509.76	0.79	Magn MS	Baker Hughes	0.61	3,630.07	-0.50	N
12,685	84.95	2.52	9,035.47	3,602.98	913.84	3,598.30	1.56	Magn MS	Baker Hughes	-0.82	3,717.06	-1.33	N
12,773	85.59	1.46	9,042.73	3,690.62	916.88	3,685.93	1.41	Magn MS	Baker Hughes	0.73	3,802.81	-1.22	N
12,862	87.97	2.84	9,047.73	3,779.41	920.21	3,774.70	3.10	Magn MS	Baker Hughes	2.67	3,889.82	1.56	N
12,951	86.89	4.34	9,051.72	3,868.14	925.78	3,863.41	2.08	Magn MS	Baker Hughes	-1.21	3,977.38	1.69	N
13,039	86.28	3.80	9,056.96	3,955.76	932.01	3,951.00	0.93	Magn MS	Baker Hughes	-0.69	4,064.08	-0.61	N
13,128	86.95	3.23	9,062.21	4,044.44	937.46	4,039.64	0.99	Magn MS	Baker Hughes	0.75	4,151.67	-0.64	N
13,216	85.00	1.87	9,068.39	4,132.13	941.36	4,127.31	2.70	Magn MS	Baker Hughes	-2.22	4,238.00	-1.55	N
13,305	85.11	1.73	9,076.06	4,220.76	944.15	4,215.92	0.20	Magn MS	Baker Hughes	0.12	4,325.07	-0.16	N
13,394	85.20	0.50	9,083.58	4,309.42	945.87	4,304.58	1.38	Magn MS	Baker Hughes	0.10	4,412.00	-1.38	N
13,482	86.36	359.32	9,090.06	4,397.18	945.74	4,392.33	1.88	Magn MS	Baker Hughes	1.32	4,497.73	407.75	N
13,571	82.46	355.65	9,098.73	4,485.64	941.86	4,480.81	6.00	Magn MS	Baker Hughes	-4.38	4,583.45	-4.12	N
13,659	90.77	355.09	9,103.92	4,573.12	934.77	4,568.33	9.46	Magn MS	Baker Hughes	9.44	4,667.68	-0.64	N
13,748	90.95	356.49	9,102.58	4,661.87	928.24	4,657.11	1.59	Magn MS	Baker Hughes	0.20	4,753.38	1.57	N
13,836	90.92	357.72	9,101.15	4,749.74	923.80	4,745.00	1.40	Magn MS	Baker Hughes	-0.03	4,838.74	1.40	N
13,925	90.92	357.37	9,099.72	4,838.65	919.98	4,833.93	0.39	Magn MS	Baker Hughes	0.00	4,925.33	-0.39	N
14,014	90.99	359.34	9,098.23	4,927.59	917.43	4,922.89	2.21	Magn MS	Baker Hughes	0.08	5,012.27	2.21	N

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Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	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)	Unused data
14,102	91.11	359.54	9,096.62	5,015.58	916.57	5,010.87	0.27	Magn MS	Baker Hughes	0.14	5,098.64	0.23	N
14,192	91.02	359.73	9,094.95	5,105.56	916.00	5,100.86	0.23	Magn MS	Baker Hughes	-0.10	5,187.08	0.21	N
14,280	90.92	358.58	9,093.46	5,193.53	914.70	5,188.84	1.31	Magn MS	Baker Hughes	-0.11	5,273.47	-1.31	N
14,369	92.56	358.88	9,090.76	5,282.47	912.73	5,277.78	1.87	Magn MS	Baker Hughes	1.84	5,360.74	0.34	N
14,457	91.05	358.57	9,087.98	5,370.40	910.77	5,365.72	1.75	Magn MS	Baker Hughes	-1.72	5,447.08	-0.35	N
14,546	91.02	358.10	9,086.38	5,459.35	908.18	5,454.68	0.53	Magn MS	Baker Hughes	-0.03	5,534.37	-0.53	N
14,634	90.15	358.96	9,085.48	5,547.31	905.93	5,542.66	1.39	Magn MS	Baker Hughes	-0.99	5,620.80	0.98	N
14,723	89.91	3.65	9,085.43	5,636.26	907.95	5,631.60	5.28	Magn MS	Baker Hughes	-0.27	5,708.93	-399.22	N
14,811	90.68	358.41	9,084.98	5,724.22	909.54	5,719.54	6.02	Magn MS	Baker Hughes	0.88	5,796.03	403.14	N
14,899	89.78	359.91	9,084.62	5,812.20	908.25	5,807.53	1.99	Magn MS	Baker Hughes	-1.02	5,882.74	1.70	N
14,988	90.03	0.65	9,084.77	5,901.20	908.68	5,896.53	0.88	Magn MS	Baker Hughes	0.28	5,970.75	-403.66	N
15,076	90.09	2.30	9,084.68	5,989.17	910.95	5,984.48	1.88	Magn MS	Baker Hughes	0.07	6,058.05	1.88	N
15,165	89.41	2.49	9,085.07	6,078.09	914.66	6,073.38	0.79	Magn MS	Baker Hughes	-0.76	6,146.53	0.21	N
15,253	89.41	0.33	9,085.97	6,166.05	916.83	6,161.33	2.45	Magn MS	Baker Hughes	0.00	6,233.84	-2.45	N
15,342	89.38	359.51	9,086.91	6,255.05	916.71	6,250.33	0.92	Magn MS	Baker Hughes	-0.03	6,321.87	403.57	N
15,430	90.40	355.58	9,087.08	6,342.95	912.94	6,338.25	4.61	Magn MS	Baker Hughes	1.16	6,408.31	-4.47	N
15,519	89.57	355.59	9,087.11	6,431.68	906.09	6,427.02	0.93	Magn MS	Baker Hughes	-0.93	6,495.19	0.01	N
15,607	78.94	354.79	9,095.90	6,518.81	898.76	6,514.18	12.11	Magn MS	Baker Hughes	-12.08	6,580.47	-0.91	N
15,695	80.50	356.80	9,111.61	6,605.16	892.42	6,600.55	2.86	Magn MS	Baker Hughes	1.77	6,665.17	2.28	N
15,784	90.09	3.18	9,118.91	6,693.71	892.43	6,689.10	12.92	Magn MS	Baker Hughes	10.78	6,752.94	-397.33	N
15,873	92.43	3.73	9,116.95	6,782.52	897.80	6,777.89	2.70	Magn MS	Baker Hughes	2.63	6,841.68	0.62	N
15,961	92.40	0.96	9,113.24	6,870.36	901.39	6,865.71	3.15	Magn MS	Baker Hughes	-0.03	6,929.24	-3.15	N
16,050	92.13	357.63	9,109.72	6,959.27	900.30	6,954.62	3.75	Magn MS	Baker Hughes	-0.30	7,017.26	400.75	N
16,138	92.59	356.10	9,106.10	7,047.06	895.49	7,042.44	1.81	Magn MS	Baker Hughes	0.52	7,103.73	-1.74	N
16,226	92.65	358.58	9,102.08	7,134.86	891.41	7,130.26	2.82	Magn MS	Baker Hughes	0.07	7,190.33	2.82	N
16,315	92.68	358.93	9,097.94	7,223.75	889.48	7,219.15	0.39	Magn MS	Baker Hughes	0.03	7,278.30	0.39	N
16,403	92.25	358.80	9,094.15	7,311.65	887.74	7,307.06	0.51	Magn MS	Baker Hughes	-0.49	7,365.34	-0.15	N
16,492	92.46	359.43	9,090.50	7,400.56	886.36	7,395.98	0.75	Magn MS	Baker Hughes	0.24	7,453.45	0.71	N
16,580	91.69	358.65	9,087.31	7,488.49	884.89	7,483.92	1.25	Magn MS	Baker Hughes	-0.87	7,540.59	-0.89	N
16,668	90.12	356.63	9,085.92	7,576.40	881.27	7,571.84	2.91	Magn MS	Baker Hughes	-1.78	7,627.48	-2.30	N

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Directional Survey

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	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)	Unused data
16,758	90.00	357.07	9,085.83	7,666.26	876.32	7,661.73	0.51	Magn MS	Baker Hughes	-0.13	7,716.18	0.49	N
16,848	90.25	0.11	9,085.63	7,756.22	874.11	7,751.70	3.39	Magn MS	Baker Hughes	0.28	7,805.32	-396.62	N
16,936	90.15	1.98	9,085.32	7,844.20	875.71	7,839.67	2.13	Magn MS	Baker Hughes	-0.11	7,892.93	2.13	N
17,025	89.48	1.35	9,085.61	7,933.16	878.30	7,928.62	1.03	Magn MS	Baker Hughes	-0.75	7,981.64	-0.71	N
17,113	89.57	357.65	9,086.34	8,021.14	877.53	8,016.60	4.21	Magn MS	Baker Hughes	0.10	8,069.00	404.89	N
17,202	89.57	355.53	9,087.01	8,109.98	872.24	8,105.46	2.38	Magn MS	Baker Hughes	0.00	8,156.75	-2.38	N
17,290	89.91	358.22	9,087.41	8,197.84	867.44	8,193.34	3.08	Magn MS	Baker Hughes	0.39	8,243.60	3.06	N
17,379	89.63	3.19	9,087.76	8,286.80	868.53	8,282.30	5.59	Magn MS	Baker Hughes	-0.31	8,332.19	-398.91	N
17,468	89.97	4.93	9,088.08	8,375.58	874.84	8,371.04	1.99	Magn MS	Baker Hughes	0.38	8,421.14	1.96	N
17,556	89.82	4.55	9,088.24	8,463.27	882.11	8,458.70	0.46	Magn MS	Baker Hughes	-0.17	8,509.12	-0.43	N
17,645	89.78	0.82	9,088.55	8,552.16	886.28	8,547.56	4.19	Magn MS	Baker Hughes	-0.04	8,597.96	-4.19	N
17,733	89.66	357.91	9,088.98	8,640.14	885.30	8,635.55	3.31	Magn MS	Baker Hughes	-0.14	8,685.38	405.78	N
17,822	90.55	359.04	9,088.81	8,729.11	882.93	8,724.53	1.62	Magn MS	Baker Hughes	1.00	8,773.65	1.27	N
17,910	90.46	359.67	9,088.04	8,817.10	881.94	8,812.52	0.72	Magn MS	Baker Hughes	-0.10	8,861.10	0.72	N
17,999	89.85	1.45	9,087.80	8,906.09	882.81	8,901.51	2.11	Magn MS	Baker Hughes	-0.69	8,949.74	-402.49	N
18,087	90.74	2.74	9,087.34	8,994.03	886.03	8,989.43	1.78	Magn MS	Baker Hughes	1.01	9,037.57	1.47	N
18,176	90.34	359.48	9,086.51	9,083.00	887.75	9,078.39	3.69	Magn MS	Baker Hughes	-0.45	9,126.28	400.83	N
18,265	89.60	0.21	9,086.55	9,171.99	887.51	9,167.39	1.17	Magn MS	Baker Hughes	-0.83	9,214.83	-403.67	N
18,353	90.65	359.85	9,086.36	9,259.99	887.56	9,255.38	1.26	Magn MS	Baker Hughes	1.19	9,302.43	408.68	N
18,442	90.49	359.93	9,085.48	9,348.99	887.39	9,344.38	0.20	Magn MS	Baker Hughes	-0.18	9,391.01	0.09	N
18,530	89.41	356.35	9,085.55	9,436.93	884.53	9,432.33	4.25	Magn MS	Baker Hughes	-1.23	9,478.29	-4.07	N
18,619	89.60	358.61	9,086.32	9,525.83	880.62	9,521.25	2.55	Magn MS	Baker Hughes	0.21	9,566.45	2.54	N
18,709	89.60	358.61	9,086.95	9,615.80	878.44	9,611.23	0.00	Extrap.	Baker Hughes	0.00	9,655.84	0.00	N

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Casing Summary

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)

Surface, Planned?-N, 750ftKB

Set Depth (MD) (ftKB)	Set Tension (kips)	String Nominal OD (in)	String Min Drift (in)	Centralizers	Scratchers
750		13 3/8		7	

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		13 3/8	12.615	54.50	J-55	ST&C	36	39	2.90		1,130.0
1	Casing Pup Joint	13 3/8	12.615	54.50	J-55	ST&C	39	43	4.13		1,130.0
16	Casing Joint	13 3/8	12.615	54.50	J-55	ST&C	43	704	661.19		1,130.0
1	Float Collar	13 3/8	12.615	54.50	J-55	ST&C	704	705	1.38		
1	Casing Joint	13 3/8	12.615	54.50	J-55	ST&C	705	748	42.89		1,130.0
1	Float Shoe	13 3/8	12.615	54.50	J-55	ST&C	748	750	1.78		

Intermediate Casing 1, Planned?-N, 4,605ftKB

Set Depth (MD) (ftKB)	Set Tension (kips)	String Nominal OD (in)	String Min Drift (in)	Centralizers	Scratchers
4,605		9 5/8	8.688	30	

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)
0	Casing Joint	9 5/8	8.835	40.00	HCK-55	LT&C	34	34	0.00	3,950.0	4,230.0
0	Landing Joint	9 5/8	8.835	40.00	HCK-55	LT&C	34	34	0.00	3,950.0	4,230.0
1	Hanger	9 5/8	8.835	40.00	HCK-55	LT&C	34	37	2.44	3,950.0	4,230.0
1	Casing Pup Joint	9 5/8	8.835	40.00	HCK-55	LT&C	37	41	4.20	3,950.0	4,230.0
108	Casing Joint	9 5/8	8.835	40.00	HCK-55	LT&C	41	4,521	4,480.03	3,950.0	4,230.0
1	Float Collar	9 5/8	8.835			LT&C	4,521	4,523	1.49		
2	Casing Joint	9 5/8	8.835	40.00	HCK-55	LT&C	4,523	4,603	80.86	3,950.0	4,230.0
1	Float Shoe	9 5/8	8.835			LT&C	4,603	4,605	1.62		

Production Casing, Planned?-N, 18,694ftKB

Set Depth (MD) (ftKB)	Set Tension (kips)	String Nominal OD (in)	String Min Drift (in)	Centralizers	Scratchers
18,694		5 1/2		171	

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	Landing Joint	5 1/2	4.800	20.00	P-110	TXP-BTC	-7	34	40.66		
1	Hanger	5 1/2	4.800	20.00	P-110	TXP-BTC	34	35	1.28		
1	Hanger Pup	5 1/2	4.800	20.00	P-110	TXP-BTC	35	40	4.35		
20	Casing Joint	5 1/2	4.800	20.00	P-110	TXP-BTC	40	834	793.98		
1	Pup Joint	5 1/2	4.800	20.00	P-110	TXP-BTC	834	839	5.17		
198	Casing Joint	5 1/2	4.800	20.00	P-110	TXP-BTC	839	8,594	7,755.15		
1	Marker Joint	5 1/2	4.800	20.00	P-110	TXP-BTC	8,594	8,604	10.31		
254	Casing Joint	5 1/2	4.800	20.00	P-110	TXP-BTC	8,604	18,527	9,922.85		
1	Pup Jt	5 1/2	4.800	20.00	P-110	TXP-BTC	18,527	18,537	9.86		
1	RSI	5 1/2	4.800	20.00	P-110	TXP-BTC	18,537	18,544	6.66		
1	Pup Jt	5 1/2	4.800	20.00	P-110	TXP-BTC	18,544	18,554	9.87		
1	Casing Joint	5 1/2	4.800	20.00	P-110	TXP-BTC	18,554	18,593	39.17		
1	Pup Jt	5 1/2	4.800	20.00	P-110	TXP-BTC	18,593	18,602	9.67		
1	Land Collar	5 1/2	4.800	20.00	P-110	TXP-BTC	18,602	18,604	1.46		
1	Casing Joint	5 1/2	4.800	20.00	P-110	TXP-BTC	18,604	18,644	40.01		
1	Float Collar	5 1/2	4.800	20.00	P-110	TXP-BTC	18,644	18,646	2.42		
1	XRV	5 1/2	4.800	20.00	P-110	TXP-BTC	18,646	18,649	2.22		
1	Casing Joint	5 1/2	4.800	20.00	P-110	TXP-BTC	18,649	18,691	42.42		
1	Float Shoe	5 1/2	4.800	20.00	P-110	TXP-BTC	18,691	18,694	3.04		

Report Printed: 10/6/2016

Cement Summary

Surface Casing Cement

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)

Original Hole

Wellbore Name	Directional Type	Min Kick Off Depth (ftKB)	Vertical Section Direction (°)
Original Hole	Horizontal	8,600.0	359.71

Hole Size (in)	Act Top (ftKB)	Act Btm (ftKB)
17 1/2	155.0	760.0
12 1/4	760.0	4,615.0
8 3/4	4,615.0	18,709.0

Multi-bowl, FMC on 8/19/2016 04:30

Sub-Type	Install Date
Multi-bowl	8/19/2016

Des	Make	Model	WP (psi)	Service	SN

Surface, Planned?-N, 750ftKB

Casing Description	Wellbore	Run Date	Set Depth (MD) (ftKB)	Stick Up (ftKB)	Set Tension (kips)
Surface	Original Hole	8/19/2016	750	-35.7	

Centralizers	Scratchers
7	

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		13 3/8	12.615	54.50	J-55	13 3/8	ST&C	2.90	36	39
1	Casing Pup Joint	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	4.13	39	43
16	Casing Joint	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	661.19	43	704
1	Float Collar	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	1.38	704	705
1	Casing Joint	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	42.89	705	748
1	Float Shoe	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	1.78	748	750

Intermediate Casing 1, Planned?-N, 4,605ftKB

Casing Description	Wellbore	Run Date	Set Depth (MD) (ftKB)	Stick Up (ftKB)	Set Tension (kips)
Intermediate Casing 1	Original Hole	9/8/2016	4,605	-34.4	

Centralizers	Scratchers
30	

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)
0	Casing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	0.00	34	34
0	Landing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	0.00	34	34
1	Hanger	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	2.44	34	37
1	Casing Pup Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	4.20	37	41
108	Casing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	4,480.03	41	4,521
1	Float Collar	9 5/8	8.835			9 5/8	LT&C	1.49	4,521	4,523
2	Casing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	80.86	4,523	4,603
1	Float Shoe	9 5/8	8.835			9 5/8	LT&C	1.62	4,603	4,605

Production Casing, Planned?-N, 18,694ftKB

Casing Description	Wellbore	Run Date	Set Depth (MD) (ftKB)	Stick Up (ftKB)	Set Tension (kips)
Production Casing	Original Hole	9/29/2016	18,694	6.5	

Centralizers	Scratchers
171	

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	Landing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	40.66	-7	34
1	Hanger	5 1/2	4.800	20.00	P-110		TXP-BTC	1.28	34	35
1	Hanger Pup	5 1/2	4.800	20.00	P-110		TXP-BTC	4.35	35	40
20	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	793.98	40	834
1	Pup Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	5.17	834	839
198	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	7,755.15	839	8,594
1	Marker Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	10.31	8,594	8,604
254	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	9,922.85	8,604	18,527
1	Pup Jt	5 1/2	4.800	20.00	P-110		TXP-BTC	9.86	18,527	18,537

Report Printed: 10/6/2016

Cement Summary

Surface Casing Cement

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	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)	Btm Depth (MD) (ftKB)
1	RSI	5 1/2	4.800	20.00	P-110		TXP-BTC	6.66	18,537	18,544
1	Pup Jt	5 1/2	4.800	20.00	P-110		TXP-BTC	9.87	18,544	18,554
1	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	39.17	18,554	18,593
1	Pup Jt	5 1/2	4.800	20.00	P-110		TXP-BTC	9.67	18,593	18,602
1	Land Collar	5 1/2	4.800	20.00	P-110		TXP-BTC	1.46	18,602	18,604
1	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	40.01	18,604	18,644
1	Float Collar	5 1/2	4.800	20.00	P-110		TXP-BTC	2.42	18,644	18,646
1	XRV	5 1/2	4.800	20.00	P-110		TXP-BTC	2.22	18,646	18,649
1	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	42.42	18,649	18,691
1	Float Shoe	5 1/2	4.800	20.00	P-110		TXP-BTC	3.04	18,691	18,694

Surface Casing Cement, Casing, 8/19/2016 12:30

Cementing Start Date	Cementing End Date	Wellbore
8/19/2016	8/19/2016	Original Hole

Evaluation Method	Cement Evaluation Results
Returns to Surface	85 bbls of cement to surface.

Comment

1, 35.8-750.0ftKB

Top Depth (ftKB)	Bottom Depth (ftKB)	Full Return?	Vol Cement Ret (bbl)	Top Plug?	Bottom Plug?
35.8	750.0	N	85.0	Y	N

Initial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)	Avg Pump Rate (bbl/min)	Final Pump Pressure (psi)	Plug Bump Pressure (psi)
5	2.3	5	280.0	829.0

Pipe Reciprocated?	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)	Pipe Rotated?	Pipe RPM (rpm)
N			N	

Depth Tagged (MD) (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)	Drill Out Diameter (in)	Drill Out Date

Preflush

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Preflush				50.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)

Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)
	8.40			

Cement Fluid Additives

Add	Type	Conc

Tail

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Tail		844	C	200.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)
35.8	750.0	125.0	1.33	6.36

Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)
	14.80		4.13	93.0

Cement Fluid Additives

Add	Type	Conc

Displacement

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Displacement				109.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)

Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)
	10.00			

Cement Fluid Additives

Add	Type	Conc

Report Printed: 10/6/2016

Cement Summary

Intermediate Casing Cement

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)

Original Hole

Wellbore Name	Directional Type	Min Kick Off Depth (ftKB)	Vertical Section Direction (°)
Original Hole	Horizontal	8,600.0	359.71

Hole Size (in)	Act Top (ftKB)	Act Btm (ftKB)
17 1/2	155.0	760.0
12 1/4	760.0	4,615.0
8 3/4	4,615.0	18,709.0

Multi-bowl, FMC on 8/19/2016 04:30

Sub-Type	Install Date
Multi-bowl	8/19/2016

Des	Make	Model	WP (psi)	Service	SN

Surface, Planned?-N, 750ftKB

Casing Description	Wellbore	Run Date	Set Depth (MD) (ftKB)	Stick Up (ftKB)	Set Tension (kips)
Surface	Original Hole	8/19/2016	750	-35.7	

Centralizers	Scratchers
7	

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		13 3/8	12.615	54.50	J-55	13 3/8	ST&C	2.90	36	39
1	Casing Pup Joint	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	4.13	39	43
16	Casing Joint	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	661.19	43	704
1	Float Collar	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	1.38	704	705
1	Casing Joint	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	42.89	705	748
1	Float Shoe	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	1.78	748	750

Intermediate Casing 1, Planned?-N, 4,605ftKB

Casing Description	Wellbore	Run Date	Set Depth (MD) (ftKB)	Stick Up (ftKB)	Set Tension (kips)
Intermediate Casing 1	Original Hole	9/8/2016	4,605	-34.4	

Centralizers	Scratchers
30	

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)
0	Casing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	0.00	34	34
0	Landing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	0.00	34	34
1	Hanger	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	2.44	34	37
1	Casing Pup Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	4.20	37	41
108	Casing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	4,480.03	41	4,521
1	Float Collar	9 5/8	8.835			9 5/8	LT&C	1.49	4,521	4,523
2	Casing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	80.86	4,523	4,603
1	Float Shoe	9 5/8	8.835			9 5/8	LT&C	1.62	4,603	4,605

Production Casing, Planned?-N, 18,694ftKB

Casing Description	Wellbore	Run Date	Set Depth (MD) (ftKB)	Stick Up (ftKB)	Set Tension (kips)
Production Casing	Original Hole	9/29/2016	18,694	6.5	

Centralizers	Scratchers
171	

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	Landing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	40.66	-7	34
1	Hanger	5 1/2	4.800	20.00	P-110		TXP-BTC	1.28	34	35
1	Hanger Pup	5 1/2	4.800	20.00	P-110		TXP-BTC	4.35	35	40
20	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	793.98	40	834
1	Pup Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	5.17	834	839
198	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	7,755.15	839	8,594
1	Marker Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	10.31	8,594	8,604
254	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	9,922.85	8,604	18,527
1	Pup Jt	5 1/2	4.800	20.00	P-110		TXP-BTC	9.86	18,527	18,537

Report Printed: 10/6/2016

Cement Summary

Intermediate Casing Cement

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	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)	Btm Depth (MD) (ftKB)
1	RSI	5 1/2	4.800	20.00	P-110		TXP-BTC	6.66	18,537	18,544
1	Pup Jt	5 1/2	4.800	20.00	P-110		TXP-BTC	9.87	18,544	18,554
1	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	39.17	18,554	18,593
1	Pup Jt	5 1/2	4.800	20.00	P-110		TXP-BTC	9.67	18,593	18,602
1	Land Collar	5 1/2	4.800	20.00	P-110		TXP-BTC	1.46	18,602	18,604
1	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	40.01	18,604	18,644
1	Float Collar	5 1/2	4.800	20.00	P-110		TXP-BTC	2.42	18,644	18,646
1	XRV	5 1/2	4.800	20.00	P-110		TXP-BTC	2.22	18,646	18,649
1	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	42.42	18,649	18,691
1	Float Shoe	5 1/2	4.800	20.00	P-110		TXP-BTC	3.04	18,691	18,694

Intermediate Casing Cement, Casing, 9/8/2016 05:00

Cementing Start Date	Cementing End Date	Wellbore
9/8/2016	9/8/2016	Original Hole

Evaluation Method	Cement Evaluation Results
Returns to Surface	226 bbls of cement to surface

Comment

1, 32.6-4,605.0ftKB

Top Depth (ftKB)	Bottom Depth (ftKB)	Full Return?	Vol Cement Ret (bbl)	Top Plug?	Bottom Plug?
32.6	4,605.0	Y	226.0	Y	N

Initial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)	Avg Pump Rate (bbl/min)	Final Pump Pressure (psi)	Plug Bump Pressure (psi)
4.8	2.5	6.5	1,179.0	1,750.0

Pipe Reciprocated?	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)	Pipe Rotated?	Pipe RPM (rpm)
N			N	

Depth Tagged (MD) (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)	Drill Out Diameter (in)	Drill Out Date

Spacer

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Spacer	30 bbl dyed spacer			30.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)

Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)
	8.33			

Cement Fluid Additives

Add	Type	Conc

Lead

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Lead	3% BWOB D020 + 5% BWOB D044 + 0.2% BWOB D046 + 10% BWOB D154	1,001	C	453.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)
35.4	3,600.0	150.0	2.54	13.86

Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)
	11.90		7.00	

Cement Fluid Additives

Add	Type	Conc

Tail

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Tail	0.01 gal/sk D177 Spike	426	C	106.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)
3,600.0	4,605.0	85.0	1.33	6.37

Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)
	14.80		3.50	

Report Printed: 10/6/2016

Cement Summary

Intermediate Casing Cement

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)

Cement Fluid Additives

Add	Type	Conc

Displacement

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Displacement	Oil Based Mud			334.0
Estimated Top (ftKB)	**Estimated Bottom Depth (ftKB)**	**Percent Excess Pumped (%)**	**Yield (ft³/sack)**	**Fluid Mix Ratio (gal/sack)**
Free Water (%)	**Density (lb/gal)**	**Zero Gel Time (min)**	**Thickening Time (hr)**	**1st Compressive Strength (psi)**
	9.00			

Cement Fluid Additives

Add	Type	Conc

Report Printed: 10/6/2016

Cement Summary

Production Casing Cement

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)

Original Hole

Wellbore Name	Directional Type	Min Kick Off Depth (ftKB)	Vertical Section Direction (°)
Original Hole	Horizontal	8,600.0	359.71

Hole Size (in)	Act Top (ftKB)	Act Btm (ftKB)
17 1/2	155.0	760.0
12 1/4	760.0	4,615.0
8 3/4	4,615.0	18,709.0

Multi-bowl, FMC on 8/19/2016 04:30

Sub-Type	Install Date
Multi-bowl	8/19/2016

Des	Make	Model	WP (psi)	Service	SN

Surface, Planned?-N, 750ftKB

Casing Description	Wellbore	Run Date	Set Depth (MD) (ftKB)	Stick Up (ftKB)	Set Tension (kips)
Surface	Original Hole	8/19/2016	750	-35.7	

Centralizers	Scratchers
7	

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	12.615	54.50	J-55	13 3/8	ST&C	2.90	36	39
1	Casing Pup Joint	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	4.13	39	43
16	Casing Joint	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	661.19	43	704
1	Float Collar	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	1.38	704	705
1	Casing Joint	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	42.89	705	748
1	Float Shoe	13 3/8	12.615	54.50	J-55	13 3/8	ST&C	1.78	748	750

Intermediate Casing 1, Planned?-N, 4,605ftKB

Casing Description	Wellbore	Run Date	Set Depth (MD) (ftKB)	Stick Up (ftKB)	Set Tension (kips)
Intermediate Casing 1	Original Hole	9/8/2016	4,605	-34.4	

Centralizers	Scratchers
30	

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	Casing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	0.00	34	34
1	Landing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	0.00	34	34
1	Hanger	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	2.44	34	37
1	Casing Pup Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	4.20	37	41
108	Casing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	4,480.03	41	4,521
1	Float Collar	9 5/8	8.835			9 5/8	LT&C	1.49	4,521	4,523
2	Casing Joint	9 5/8	8.835	40.00	HCK-55	9 5/8	LT&C	80.86	4,523	4,603
1	Float Shoe	9 5/8	8.835			9 5/8	LT&C	1.62	4,603	4,605

Production Casing, Planned?-N, 18,694ftKB

Casing Description	Wellbore	Run Date	Set Depth (MD) (ftKB)	Stick Up (ftKB)	Set Tension (kips)
Production Casing	Original Hole	9/29/2016	18,694	-35.7	

Centralizers	Scratchers
170	

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)
24	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	0.00	36	36
1	Hanger	5 1/2	4.800	20.00	P-110		TXP-BTC	1.28	36	37
1	Hanger Pup	5 1/2	4.800	20.00	P-110		TXP-BTC	4.35	37	41
20	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	793.98	41	835
1	Pup Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	5.14	835	840
198	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	7,755.15	840	8,596
1	Marker Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	10.28	8,596	8,606
254	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	9,921.27	8,606	18,527
1	Pup Jt	5 1/2	4.800	20.00	P-110		TXP-BTC	9.86	18,527	18,537

Report Printed: 10/28/2016

Cement Summary

Production Casing Cement

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	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)	Btm Depth (MD) (ftKB)
1	RSI	5 1/2	4.800	20.00	P-110		TXP-BTC	6.66	18,537	18,544
1	Pup Jt	5 1/2	4.800	20.00	P-110		TXP-BTC	9.87	18,544	18,554
1	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	39.17	18,554	18,593
1	Pup Jt	5 1/2	4.800	20.00	P-110		TXP-BTC	9.67	18,593	18,602
1	Land Collar	5 1/2	4.800	20.00	P-110		TXP-BTC	1.46	18,602	18,604
1	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	40.01	18,604	18,644
1	Float Collar	5 1/2	4.800	20.00	P-110		TXP-BTC	2.42	18,644	18,646
1	XRV	5 1/2	4.800	20.00	P-110		TXP-BTC	2.22	18,646	18,649
1	Casing Joint	5 1/2	4.800	20.00	P-110		TXP-BTC	42.42	18,649	18,691
1	Float Shoe	5 1/2	4.800	20.00	P-110		TXP-BTC	3.04	18,691	18,694

Production Casing Cement, Casing, 9/30/2016 07:00

Cementing Start Date	Cementing End Date	Wellbore
9/30/2016	9/30/2016	Original Hole

Evaluation Method	Cement Evaluation Results
Lift Pressure	1650 FCP at 4 bpm

Comment

1, 2,901.0-18,709.0ftKB

Top Depth (ftKB)	Bottom Depth (ftKB)	Full Return?	Vol Cement Ret (bbl)	Top Plug?	Bottom Plug?
2,901.0	18,709.0	N	0.0	Y	Y

Initial Pump Rate (bbl/min)	Final Pump Rate (bbl/min)	Avg Pump Rate (bbl/min)	Final Pump Pressure (psi)	Plug Bump Pressure (psi)
4.2	4	6.5	1,650.0	2,200.0

Pipe Reciprocated?	Reciprocation Stroke Length (ft)	Reciprocation Rate (spm)	Pipe Rotated?	Pipe RPM (rpm)
N			N	

Depth Tagged (MD) (ftKB)	Tag Method	Depth Plug Drilled Out To (ftKB)	Drill Out Diameter (in)	Drill Out Date

Spacer

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Spacer	50 bbl MPE 114 bbl MRF			164.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)
0.0	2,901.0			

Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Add	Type	Conc

Lead

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Lead	Lead 1 spiked 0.5/10 bbl D177 and CemNet added - 301 bbl, 621 sx, 11.5 ppg	621	H	301.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)
2,901.0	49,558.0	50.0	2.72	15.89

Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)
	11.50			

Cement Fluid Additives

Add	Type	Conc

Lead

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Lead	Lead 2 spiked 0.5/10 bbl D177 - 575 bbl, 1993 sx, 12.5 ppg	1,993	H	575.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Fluid Mix Ratio (gal/sack)
49,558.0	17,738.0	35.0	1.62	8.48

Free Water (%)	Density (lb/gal)	Zero Gel Time (min)	Thickening Time (hr)	1st Compressive Strength (psi)
	12.50			

Report Printed: 10/28/2016

Cement Summary

Production Casing Cement

Well Name	Lease	Field Name	Business Unit
SALADO DRAW WE 24 FED P23 004H		JENNINGS	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)

Cement Fluid Additives

Add	Type	Conc

Tail

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Tail	Tail - 43 bbl, 111 sx, 15 ppg	111	H	43.0
Estimated Top (ftKB)	**Estimated Bottom Depth (ftKB)**	**Percent Excess Pumped (%)**	**Yield (ft³/sack)**	**Fluid Mix Ratio (gal/sack)**
17,738.0	18,709.0	0.0	2.18	9.56
Free Water (%)	**Density (lb/gal)**	**Zero Gel Time (min)**	**Thickening Time (hr)**	**1st Compressive Strength (psi)**
	15.00			

Cement Fluid Additives

Add	Type	Conc

Displacement

Fluid Type	Fluid Description	Quantity (sacks)	Class	Volume Pumped (bbl)
Displacement	411 bbl fresh water			411.0
Estimated Top (ftKB)	**Estimated Bottom Depth (ftKB)**	**Percent Excess Pumped (%)**	**Yield (ft³/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

Report Printed: 10/28/2016

Chevron U.S.A. Inc.

Location:	Lea County, NM	Slot:	SD WE 24 Fed P23 No. 4H
Field:	Jennings; Upper Bone Spring (Lea County, NM)	Well:	SD WE 24 Fed P23 No. 4H
Facility:	SD WE 24 Fed P23	Wellbore:	SD WE 24 Fed P23 No. 4H (PWB)

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	32.60	0.000	99.169	32.60	0.00	0.00	0.00	0.00
Start Nudge	900.00	0.000	99.169	900.00	0.00	0.00	0.00	0.00
EOB/SOH	1900.00	10.000	99.169	1894.93	-13.87	85.93	1.00	-14.30
EOH/SOD	6336.10	10.000	99.169	6263.64	-136.61	846.41	0.00	-140.87
Drop to Vertical	7336.10	0.000	359.712	7258.57	-150.48	932.34	1.00	-155.17
KOP: 100' FSL, 2290' FWL	8634.45	0.000	359.712	8556.92	-150.48	932.34	0.00	-155.17
Landing Point: 576' FSL, 2290' FWL	9382.12	89.720	359.712	9034.38	324.64	929.96	12.00	319.96
BHL: 180' FNL, 2290' FWL	19332.12	89.720	359.712	9083.00	10274.40	880.03	0.00	10269.85

Wellpath Comments

MD (ft)	X (ft)	Y (ft)	TVD (ft)	Inclination (°)	Azimuth (°)	VS (ft)	Comment
9124.00	931.19	79.26	8965.09	58.746	359.712	74.57	FTP: 330' HL @ 9124' MD 75' VS
19182.00	880.79	10124.29	9082.27	89.720	359.712	10119.73	LTP: 330' HL @ 19182' MD 10119' VS

Location Information

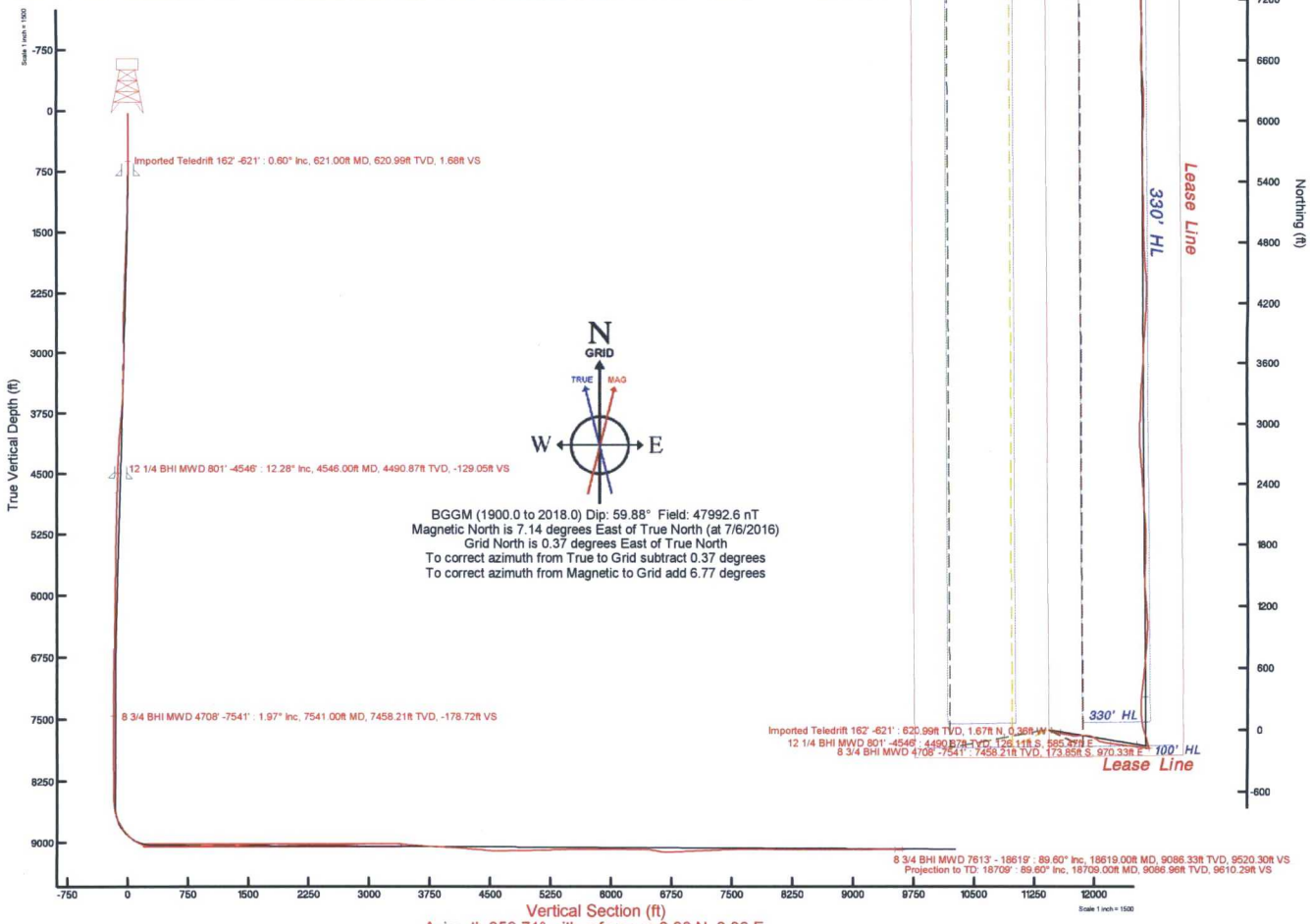
Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SD WE 24 Fed P23			717226.000	372252.000	32°01'17.393"N	103°37'56.771"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SD WE 24 Fed P23 No. 4H	1.00	75.00	717301.000	372253.000	32°01'17.398"N	103°37'55.900"W
Nabors X-30 (KB) to Mud line (At Slot: SD WE 24 Fed P23 No. 4H)					32.6ft	
Mean Sea Level to Mud line (At Slot: SD WE 24 Fed P23 No. 4H)					-3133ft	
Nabors X-30 (KB) to Mean Sea Level					3165.6ft	

Rig: Nabors X30
Location: Lea Co., NM
API: 30-025-43298-00
9/05/2016-9/27/2016
SO#: 8111305
Projection to TD: 18709'

Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
18709.00	89.600	358.610	9086.96	9614.82	877.55	718178.52	381867.45	32°02'52.486"N	103°37'44.980"W

Plot reference wellpath is SD WE 24 Fed P23 No. 4H (PWP) Rev A.1	Grid System: NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet
True vertical depths are referenced to Nabors X-30 (KB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Nabors X-30 (KB)	North Reference: Grid north
Nabors X-30 (KB) to Mean Sea Level: 3165.6 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SD WE 24 Fed P23 No. 4H): -3133 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: fontante on 2016-08-02
	Database: WA_HOU_Midland_Defn



Actual Wellpath Report

SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Chevron U.S.A. Inc.**	Slot	**SD WE 24 Fed P23 No. 4H**
Area	**Lea County, NM**	Well	**SD WE 24 Fed P23 No. 4H**
Field	**Jennings; Upper Bone Spring (Lea County, NM)**	Wellbore	**SD WE 24 Fed P23 No. 4H (AWB)**
Facility	**SD WE 24 Fed P23**		

REPORT SETUP INFORMATION			
Projection System	**NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet**	Software System	**WellArchitect® 5.0**
North Reference	**Grid**	User	**Buiduyh**
Scale	**0.999963**	Report Generated	**10/5/2016 at 10:45:57 AM**
Convergence at slot	**0.38° East**	Database/Source file	**WA_Midland/SD_WE_24_Fed_P23_No._4H_awp_162__-18619__Proj__18709_.xml**

WELLPATH LOCATION						
	Local coordinates		**Grid coordinates**		**Geographic coordinates**	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	1.00	75.00	**717301.00**	**372253.00**	32°01'17.398"N	103°37'55.900"W
Facility Reference Pt			**717226.00**	**372252.00**	32°01'17.393"N	103°37'56.771"W
Field Reference Pt			**152400.30**	**0.00**	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Nabors X-30 (KB) to Facility Vertical Datum	**3165.60ft**
Horizontal Reference Pt	**Slot**	Nabors X-30 (KB) to Mean Sea Level	**3165.60ft**
Vertical Reference Pt	**Nabors X-30 (KB)**	Nabors X-30 (KB) to Ground Level at Slot (SD WE 24 Fed P23 No. 4H)	**32.60ft**
MD Reference Pt	**Nabors X-30 (KB)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**359.71°**

Actual Wellpath Report

SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 Fed P23 No. 4H
Area	Lea County, NM	Well	SD WE 24 Fed P23 No. 4H
Field	Jennings; Upper Bone Spring (Lea County, NM)	Wellbore	SD WE 24 Fed P23 No. 4H (AWB)
Facility	SD WE 24 Fed P23		

WELLPATH DATA (172 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	30.300	0.00	0.00	0.00	0.00	717301.00	372253.00	32°01'17.398"N	103°37'55.900"W	0.00	
32.60	0.000	30.300	32.60	0.00	0.00	0.00	717301.00	372253.00	32°01'17.398"N	103°37'55.900"W	0.00	
162.00	0.600	30.300	162.00	0.58	0.58	0.34	717301.34	372253.58	32°01'17.404"N	103°37'55.896"W	0.46	
205.00	0.400	320.300	205.00	0.89	0.89	0.36	717301.36	372253.89	32°01'17.407"N	103°37'55.896"W	1.39	
237.00	0.400	318.300	237.00	1.06	1.06	0.21	717301.21	372254.06	32°01'17.409"N	103°37'55.897"W	0.04	
298.00	0.500	33.300	297.99	1.44	1.45	0.22	717301.22	372254.45	32°01'17.413"N	103°37'55.897"W	0.91	
346.00	0.100	209.300	345.99	1.58	1.58	0.31	717301.31	372254.58	32°01'17.414"N	103°37'55.896"W	1.25	
385.00	0.400	317.300	384.99	1.65	1.65	0.20	717301.20	372254.65	32°01'17.415"N	103°37'55.897"W	1.13	
445.00	0.300	100.300	444.99	1.78	1.78	0.22	717301.22	372254.78	32°01'17.416"N	103°37'55.897"W	1.11	
476.00	0.300	332.300	475.99	1.84	1.84	0.26	717301.26	372254.84	32°01'17.417"N	103°37'55.897"W	1.74	
530.00	0.200	287.300	529.99	1.99	1.99	0.10	717301.10	372254.99	32°01'17.418"N	103°37'55.899"W	0.39	
621.00	0.600	220.300	620.99	1.68	1.67	-0.36	717300.64	372254.67	32°01'17.415"N	103°37'55.904"W	0.61	mported Teledrift 162' -621'
801.00	0.990	190.210	800.97	-0.57	-0.57	-1.24	717299.76	372252.43	32°01'17.393"N	103°37'55.914"W	0.31	
983.00	2.410	120.580	982.90	-4.08	-4.07	1.77	717302.77	372248.93	32°01'17.358"N	103°37'55.880"W	1.24	
1165.00	5.130	102.890	1164.50	-7.90	-7.83	13.00	717314.00	372245.17	32°01'17.320"N	103°37'55.749"W	1.61	
1347.00	5.650	103.720	1345.69	-11.92	-11.77	29.64	717330.64	372241.23	32°01'17.280"N	103°37'55.557"W	0.29	
1525.00	8.220	101.840	1522.38	-16.72	-16.46	50.61	717351.61	372236.54	32°01'17.232"N	103°37'55.313"W	1.45	
1701.00	8.660	104.180	1696.47	-22.67	-22.29	75.77	717376.77	372230.71	32°01'17.173"N	103°37'55.022"W	0.32	
1878.00	8.550	108.610	1871.48	-30.26	-29.75	101.16	717402.15	372223.25	32°01'17.098"N	103°37'54.727"W	0.38	
2054.00	9.710	96.660	2045.26	-36.29	-35.65	128.30	717429.30	372217.35	32°01'17.037"N	103°37'54.412"W	1.26	
2231.00	10.070	100.860	2219.63	-41.09	-40.30	158.33	717459.32	372212.71	32°01'16.990"N	103°37'54.064"W	0.46	
2408.00	10.200	103.620	2393.87	-47.85	-46.90	188.75	717489.75	372206.10	32°01'16.922"N	103°37'53.711"W	0.28	
2586.00	11.040	94.860	2568.83	-53.17	-52.06	221.06	717522.05	372200.94	32°01'16.869"N	103°37'53.336"W	1.02	
2763.00	11.710	84.170	2742.38	-52.95	-51.67	255.82	717556.81	372201.33	32°01'16.871"N	103°37'52.933"W	1.25	
2940.00	11.470	86.000	2915.77	-50.08	-48.62	291.24	717592.23	372204.38	32°01'16.899"N	103°37'52.521"W	0.25	
3117.00	10.410	90.990	3089.55	-49.30	-47.67	324.79	717625.77	372205.34	32°01'16.906"N	103°37'52.131"W	0.80	
3295.00	10.400	97.230	3264.63	-51.76	-49.97	356.81	717657.79	372203.04	32°01'16.881"N	103°37'51.760"W	0.63	
3472.00	9.740	104.750	3438.91	-57.73	-55.79	387.13	717688.12	372197.21	32°01'16.821"N	103°37'51.408"W	0.83	
3649.00	8.760	117.170	3613.62	-67.83	-65.76	413.61	717714.59	372187.25	32°01'16.721"N	103°37'51.101"W	1.25	
3827.00	10.470	123.660	3789.12	-83.12	-80.91	439.13	717740.11	372172.09	32°01'16.570"N	103°37'50.806"W	1.14	

Actual Wellpath Report

SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 Fed P23 No. 4H
Area	Lea County, NM	Well	SD WE 24 Fed P23 No. 4H
Field	Jennings; Upper Bone Spring (Lea County, NM)	Wellbore	SD WE 24 Fed P23 No. 4H (AWB)
Facility	SD WE 24 Fed P23		

WELLPATH DATA (172 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3915.00	11.000	126.700	3875.58	-92.63	-90.36	452.52	717753.50	372162.64	32°01'16.475"N	103°37'50.651"W	0.88	
4004.00	11.320	121.770	3962.90	-102.38	-100.03	466.75	717767.73	372152.97	32°01'16.379"N	103°37'50.486"W	1.13	
4180.00	13.050	99.760	4135.02	-115.02	-112.51	501.04	717802.02	372140.50	32°01'16.253"N	103°37'50.089"W	2.80	
4357.00	14.380	99.960	4306.97	-122.42	-119.69	542.38	717843.36	372133.31	32°01'16.179"N	103°37'49.609"W	0.75	
4546.00	12.280	96.740	4490.87	-129.05	-126.11	585.47	717886.44	372126.89	32°01'16.113"N	103°37'49.109"W	1.18	12 1/4 BHI MWD 801' -4546'
4708.00	10.370	98.280	4649.71	-133.34	-130.24	617.01	717917.98	372122.77	32°01'16.070"N	103°37'48.743"W	1.19	
4885.00	9.770	98.690	4823.98	-138.05	-134.80	647.62	717948.59	372118.21	32°01'16.023"N	103°37'48.388"W	0.34	
5062.00	9.530	97.410	4998.48	-142.36	-138.96	676.99	717977.97	372114.05	32°01'15.980"N	103°37'48.047"W	0.18	
5238.00	9.180	97.310	5172.14	-146.17	-142.62	705.36	718006.34	372110.38	32°01'15.942"N	103°37'47.718"W	0.20	
5416.00	8.860	96.660	5347.94	-149.70	-146.02	733.06	718034.04	372106.99	32°01'15.906"N	103°37'47.397"W	0.19	
5594.00	8.240	95.110	5523.96	-152.56	-148.75	759.38	718060.35	372104.26	32°01'15.878"N	103°37'47.091"W	0.37	
5771.00	7.070	95.010	5699.38	-154.76	-150.83	782.87	718083.84	372102.18	32°01'15.856"N	103°37'46.819"W	0.66	
5948.00	6.520	93.450	5875.13	-156.42	-152.38	803.75	718104.72	372100.62	32°01'15.839"N	103°37'46.576"W	0.33	
6125.00	8.730	100.080	6050.56	-159.49	-155.34	827.01	718127.98	372097.67	32°01'15.808"N	103°37'46.306"W	1.34	
6302.00	8.320	98.060	6225.61	-163.77	-159.49	852.92	718153.88	372093.52	32°01'15.765"N	103°37'46.006"W	0.29	
6478.00	7.780	95.860	6399.87	-166.89	-162.49	877.37	718178.34	372090.52	32°01'15.734"N	103°37'45.722"W	0.35	
6655.00	6.860	97.360	6575.43	-169.58	-165.06	899.78	718200.74	372087.94	32°01'15.707"N	103°37'45.462"W	0.53	
6832.00	6.140	100.410	6751.29	-172.75	-168.13	919.57	718220.53	372084.88	32°01'15.676"N	103°37'45.232"W	0.45	
7009.00	5.330	100.030	6927.40	-175.98	-171.27	936.98	718237.94	372081.74	32°01'15.643"N	103°37'45.030"W	0.46	
7186.00	4.920	94.570	7103.69	-178.09	-173.31	952.64	718253.60	372079.70	32°01'15.622"N	103°37'44.849"W	0.36	
7362.00	2.290	90.780	7279.33	-178.80	-173.96	963.68	718264.64	372079.05	32°01'15.615"N	103°37'44.720"W	1.50	
7541.00	1.970	87.060	7458.21	-178.72	-173.85	970.33	718271.29	372079.16	32°01'15.616"N	103°37'44.643"W	0.19	8 3/4 BHI MWD 4708' -7541'
7613.00	1.660	83.460	7530.17	-178.55	-173.67	972.60	718273.56	372079.34	32°01'15.617"N	103°37'44.617"W	0.46	
7789.00	0.160	87.190	7706.14	-178.26	-173.36	975.38	718276.34	372079.64	32°01'15.620"N	103°37'44.584"W	0.85	
7966.00	0.380	122.190	7883.14	-178.57	-173.66	976.12	718277.08	372079.34	32°01'15.617"N	103°37'44.576"W	0.15	
8143.00	5.500	284.280	8059.89	-176.75	-171.88	968.39	718269.35	372081.12	32°01'15.635"N	103°37'44.666"W	3.31	
8320.00	0.510	251.930	8236.59	-174.85	-170.03	959.42	718260.38	372082.97	32°01'15.654"N	103°37'44.770"W	2.87	
8497.00	0.200	289.170	8413.59	-174.99	-170.18	958.37	718259.34	372082.83	32°01'15.653"N	103°37'44.782"W	0.21	
8674.00	9.750	354.520	8589.73	-159.93	-155.12	956.65	718257.61	372097.89	32°01'15.802"N	103°37'44.801"W	5.46	
8763.00	18.470	352.130	8675.96	-138.41	-133.61	953.99	718254.96	372119.39	32°01'16.015"N	103°37'44.830"W	9.82	

Actual Wellpath Report

SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 Fed P23 No. 4H
Area	Lea County, NM	Well	SD WE 24 Fed P23 No. 4H
Field	Jennings; Upper Bone Spring (Lea County, NM)	Wellbore	SD WE 24 Fed P23 No. 4H (AWB)
Facility	SD WE 24 Fed P23		

WELLPATH DATA (172 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8851.00	28.390	345.160	8756.62	-104.25	-99.49	946.71	718247.67	372153.52	32°01'16.353"N	103°37'44.912"W	11.69	
8940.00	36.570	338.810	8831.65	-58.91	-54.23	931.67	718232.64	372198.78	32°01'16.802"N	103°37'45.083"W	9.95	
9029.00	43.850	344.190	8899.60	-4.35	0.25	913.66	718214.63	372253.25	32°01'17.342"N	103°37'45.288"W	9.06	
9117.00	52.700	351.710	8958.15	59.86	64.39	900.27	718201.24	372317.39	32°01'17.978"N	103°37'45.439"W	11.90	
9206.00	64.170	355.780	9004.68	135.15	139.64	892.19	718193.16	372392.63	32°01'18.723"N	103°37'45.527"W	13.46	
9294.00	75.240	359.630	9035.16	217.49	221.97	888.99	718189.96	372474.96	32°01'19.538"N	103°37'45.558"W	13.23	
9383.00	85.650	4.790	9049.93	305.02	309.51	892.43	718193.40	372562.50	32°01'20.404"N	103°37'45.511"W	13.02	
9472.00	90.770	6.610	9052.71	393.46	397.99	901.26	718202.23	372650.98	32°01'21.279"N	103°37'45.402"W	6.10	
9560.00	90.740	7.400	9051.55	480.74	485.33	912.00	718212.96	372738.31	32°01'22.142"N	103°37'45.271"W	0.90	
9649.00	90.860	4.340	9050.30	569.21	573.84	921.10	718222.06	372826.82	32°01'23.018"N	103°37'45.158"W	3.44	
9737.00	90.770	5.140	9049.05	656.86	661.53	928.37	718229.33	372914.51	32°01'23.885"N	103°37'45.067"W	0.91	
9826.00	92.160	5.070	9046.78	745.43	750.15	936.28	718237.25	373003.12	32°01'24.761"N	103°37'44.969"W	1.56	
9915.00	91.760	4.190	9043.73	834.05	838.81	943.46	718244.43	373091.77	32°01'25.638"N	103°37'44.879"W	1.09	
10004.00	91.350	4.400	9041.32	922.74	927.52	950.13	718251.09	373180.49	32°01'26.516"N	103°37'44.794"W	0.52	
10092.00	89.380	359.600	9040.76	1010.63	1015.44	953.20	718254.16	373268.40	32°01'27.385"N	103°37'44.752"W	5.90	
10181.00	89.170	355.640	9041.88	1099.55	1104.34	949.50	718250.46	373357.29	32°01'28.265"N	103°37'44.788"W	4.46	
10269.00	90.370	357.410	9042.24	1187.41	1192.17	944.17	718245.13	373445.12	32°01'29.135"N	103°37'44.844"W	2.43	
10358.00	88.860	354.480	9042.83	1276.20	1280.93	937.87	718238.84	373533.88	32°01'30.014"N	103°37'44.910"W	3.70	
10446.00	96.540	354.180	9038.69	1363.65	1368.34	929.20	718230.16	373621.28	32°01'30.879"N	103°37'45.004"W	8.73	
10535.00	94.560	0.210	9030.08	1452.10	1456.77	924.87	718225.84	373709.71	32°01'31.754"N	103°37'45.048"W	7.10	
10624.00	91.020	3.920	9025.74	1540.89	1545.58	928.08	718229.04	373798.52	32°01'32.633"N	103°37'45.004"W	5.76	
10715.00	90.550	3.100	9024.50	1631.68	1636.40	933.65	718234.61	373889.33	32°01'33.531"N	103°37'44.932"W	1.04	
10806.00	94.350	1.060	9020.61	1722.50	1727.23	936.95	718237.91	373980.16	32°01'34.430"N	103°37'44.887"W	4.74	
10897.00	91.450	1.420	9016.00	1813.34	1818.08	938.92	718239.88	374071.01	32°01'35.329"N	103°37'44.857"W	3.21	
10988.00	86.830	358.580	9017.37	1904.30	1909.04	938.92	718239.88	374161.96	32°01'36.229"N	103°37'44.850"W	5.96	
11079.00	87.970	355.450	9021.50	1995.09	1999.81	934.18	718235.15	374252.73	32°01'37.128"N	103°37'44.898"W	3.66	
11170.00	88.030	355.510	9024.68	2085.78	2090.47	927.02	718227.98	374343.39	32°01'38.025"N	103°37'44.975"W	0.09	
11261.00	87.900	356.300	9027.91	2176.53	2181.18	920.52	718221.49	374434.10	32°01'38.923"N	103°37'45.043"W	0.88	
11352.00	90.430	358.560	9029.23	2267.43	2272.07	916.44	718217.41	374524.98	32°01'39.823"N	103°37'45.084"W	3.73	
11443.00	90.460	356.450	9028.53	2358.36	2362.97	912.48	718213.45	374615.88	32°01'40.723"N	103°37'45.123"W	2.32	

Actual Wellpath Report

SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 Fed P23 No. 4H
Area	Lea County, NM	Well	SD WE 24 Fed P23 No. 4H
Field	Jennings; Upper Bone Spring (Lea County, NM)	Wellbore	SD WE 24 Fed P23 No. 4H (AWB)
Facility	SD WE 24 Fed P23		

WELLPATH DATA (172 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11534.00	90.060	356.330	9028.11	2449.20	2453.79	906.75	718207.72	374706.69	32°01'41.622"N	103°37'45.183"W	0.46	
11623.00	89.850	356.220	9028.18	2538.04	2542.60	900.97	718201.94	374795.50	32°01'42.501"N	103°37'45.243"W	0.27	
11712.00	89.970	355.220	9028.32	2626.82	2631.35	894.33	718195.30	374884.25	32°01'43.380"N	103°37'45.314"W	1.13	
11800.00	92.280	355.730	9026.60	2714.56	2719.06	887.39	718188.35	374971.95	32°01'44.248"N	103°37'45.387"W	2.69	
11889.00	91.970	357.560	9023.29	2803.37	2807.84	882.18	718183.15	375060.73	32°01'45.127"N	103°37'45.441"W	2.08	
11977.00	93.270	0.880	9019.27	2891.26	2895.72	880.99	718181.95	375148.61	32°01'45.997"N	103°37'45.448"W	4.05	
12065.00	92.190	1.700	9015.08	2979.12	2983.60	882.97	718183.93	375236.48	32°01'46.866"N	103°37'45.419"W	1.54	
12154.00	90.370	2.080	9013.09	3068.03	3072.52	885.90	718186.87	375325.41	32°01'47.746"N	103°37'45.378"W	2.09	
12242.00	89.690	2.190	9013.05	3155.95	3160.46	889.18	718190.14	375413.34	32°01'48.616"N	103°37'45.333"W	0.78	
12331.00	89.720	1.940	9013.50	3244.88	3249.40	892.39	718193.35	375502.28	32°01'49.496"N	103°37'45.289"W	0.28	
12419.00	87.620	3.290	9015.55	3332.73	3337.28	896.40	718197.36	375590.15	32°01'50.365"N	103°37'45.236"W	2.84	
12508.00	85.140	4.140	9021.17	3421.33	3425.91	902.15	718203.12	375678.78	32°01'51.242"N	103°37'45.162"W	2.95	
12596.00	85.680	3.700	9028.21	3508.81	3513.42	908.15	718209.11	375766.29	32°01'52.107"N	103°37'45.086"W	0.79	
12685.00	84.950	2.520	9035.48	3597.36	3601.99	912.96	718213.93	375854.85	32°01'52.983"N	103°37'45.024"W	1.56	
12773.00	85.590	1.450	9042.73	3684.99	3689.64	916.00	718216.96	375942.49	32°01'53.851"N	103°37'44.982"W	1.41	
12862.00	87.970	2.840	9047.73	3773.76	3778.43	919.33	718220.29	376031.28	32°01'54.729"N	103°37'44.936"W	3.10	
12951.00	86.890	4.340	9051.72	3862.46	3867.16	924.89	718225.86	376120.01	32°01'55.607"N	103°37'44.865"W	2.08	
13039.00	86.280	3.800	9056.97	3950.05	3954.78	931.13	718232.09	376207.63	32°01'56.473"N	103°37'44.786"W	0.93	
13128.00	86.950	3.230	9062.22	4038.70	4043.46	936.57	718237.54	376296.30	32°01'57.350"N	103°37'44.716"W	0.99	
13216.00	85.000	1.870	9068.40	4126.37	4131.15	940.48	718241.44	376383.99	32°01'58.218"N	103°37'44.664"W	2.70	
13305.00	85.110	1.730	9076.07	4214.98	4219.77	943.27	718244.23	376472.61	32°01'59.095"N	103°37'44.625"W	0.20	
13394.00	85.200	0.500	9083.59	4303.63	4308.43	944.99	718245.95	376561.27	32°01'59.972"N	103°37'44.598"W	1.38	
13482.00	86.360	359.320	9090.06	4391.39	4396.19	944.85	718245.82	376649.02	32°02'00.840"N	103°37'44.593"W	1.88	
13571.00	82.460	355.650	9098.73	4479.87	4484.65	940.98	718241.94	376737.48	32°02'01.716"N	103°37'44.631"W	6.00	
13659.00	90.770	355.090	9103.92	4567.38	4572.13	933.89	718234.85	376824.96	32°02'02.582"N	103°37'44.707"W	9.46	
13748.00	90.950	356.490	9102.59	4656.16	4660.88	927.36	718228.32	376913.70	32°02'03.461"N	103°37'44.776"W	1.59	
13836.00	90.920	357.720	9101.15	4744.06	4748.76	922.91	718223.88	377001.57	32°02'04.331"N	103°37'44.821"W	1.40	
13925.00	90.920	357.370	9099.72	4832.98	4837.66	919.10	718220.07	377090.48	32°02'05.211"N	103°37'44.859"W	0.39	
14014.00	90.990	359.340	9098.24	4921.94	4926.61	916.55	718217.51	377179.42	32°02'06.091"N	103°37'44.882"W	2.21	
14102.00	91.110	359.540	9096.63	5009.92	5014.59	915.69	718216.65	377267.40	32°02'06.962"N	103°37'44.885"W	0.27	

Actual Wellpath Report

SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 Fed P23 No. 4H
Area	Lea County, NM	Well	SD WE 24 Fed P23 No. 4H
Field	Jennings; Upper Bone Spring (Lea County, NM)	Wellbore	SD WE 24 Fed P23 No. 4H (AWB)
Facility	SD WE 24 Fed P23		

WELLPATH DATA (172 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14192.00	91.020	359.730	9094.95	5099.91	5104.57	915.11	718216.08	377357.38	32°02'07.852"N	103°37'44.885"W	0.23	
14280.00	90.920	358.580	9093.46	5187.89	5192.55	913.82	718214.78	377445.35	32°02'08.723"N	103°37'44.893"W	1.31	
14369.00	92.560	358.880	9090.76	5276.83	5281.48	911.84	718212.81	377534.28	32°02'09.603"N	103°37'44.909"W	1.87	
14457.00	91.050	358.570	9087.99	5364.77	5369.42	909.89	718210.85	377622.21	32°02'10.473"N	103°37'44.925"W	1.75	
14546.00	91.020	358.100	9086.38	5453.73	5458.36	907.30	718208.27	377711.15	32°02'11.354"N	103°37'44.949"W	0.53	
14634.00	90.150	358.960	9085.48	5541.71	5546.33	905.04	718206.01	377799.11	32°02'12.224"N	103°37'44.968"W	1.39	
14723.00	89.910	3.650	9085.44	5630.65	5635.28	907.07	718208.04	377888.06	32°02'13.104"N	103°37'44.938"W	5.28	
14811.00	90.680	358.410	9084.98	5718.59	5723.23	908.65	718209.62	377976.01	32°02'13.975"N	103°37'44.913"W	6.02	
14899.00	89.780	359.910	9084.63	5806.59	5811.22	907.36	718208.33	378063.99	32°02'14.845"N	103°37'44.921"W	1.99	
14988.00	90.030	0.650	9084.78	5895.58	5900.22	907.80	718208.76	378152.99	32°02'15.726"N	103°37'44.910"W	0.88	
15076.00	90.090	2.300	9084.69	5983.54	5988.19	910.06	718211.03	378240.95	32°02'16.596"N	103°37'44.877"W	1.88	
15165.00	89.410	2.490	9085.08	6072.44	6077.11	913.78	718214.75	378329.87	32°02'17.476"N	103°37'44.827"W	0.79	
15253.00	89.410	0.330	9085.98	6160.39	6165.07	915.95	718216.91	378417.83	32°02'18.346"N	103°37'44.795"W	2.45	
15342.00	89.380	359.510	9086.92	6249.38	6254.06	915.82	718216.79	378506.82	32°02'19.227"N	103°37'44.790"W	0.92	
15430.00	90.400	355.580	9087.09	6337.30	6341.96	912.05	718213.02	378594.72	32°02'20.097"N	103°37'44.827"W	4.61	
15519.00	89.570	355.590	9087.11	6426.07	6430.70	905.20	718206.17	378683.45	32°02'20.976"N	103°37'44.900"W	0.93	
15607.00	78.940	354.790	9095.91	6513.23	6517.82	897.88	718198.84	378770.57	32°02'21.838"N	103°37'44.978"W	12.11	
15695.00	80.500	356.800	9111.62	6599.61	6604.17	891.53	718192.50	378856.92	32°02'22.693"N	103°37'45.045"W	2.86	
15784.00	90.090	3.180	9118.91	6688.16	6692.72	891.55	718192.52	378945.46	32°02'23.569"N	103°37'45.038"W	12.92	
15873.00	92.430	3.730	9116.96	6776.94	6781.53	896.91	718197.88	379034.27	32°02'24.448"N	103°37'44.969"W	2.70	
15961.00	92.400	0.960	9113.25	6864.76	6869.37	900.51	718201.47	379122.10	32°02'25.317"N	103°37'44.921"W	3.15	
16050.00	92.130	357.630	9109.73	6953.67	6958.28	899.42	718200.38	379211.01	32°02'26.197"N	103°37'44.927"W	3.75	
16138.00	92.590	356.100	9106.11	7041.49	7046.07	894.61	718195.57	379298.80	32°02'27.066"N	103°37'44.976"W	1.81	
16226.00	92.650	358.580	9102.08	7129.31	7133.88	890.53	718191.49	379386.60	32°02'27.935"N	103°37'45.017"W	2.82	
16315.00	92.680	358.930	9097.95	7218.20	7222.76	888.60	718189.56	379475.48	32°02'28.814"N	103°37'45.032"W	0.39	
16403.00	92.250	358.800	9094.16	7306.11	7310.66	886.85	718187.82	379563.38	32°02'29.684"N	103°37'45.046"W	0.51	
16492.00	92.460	359.430	9090.50	7395.03	7399.58	885.48	718186.45	379652.29	32°02'30.564"N	103°37'45.055"W	0.75	
16580.00	91.690	358.650	9087.32	7482.97	7487.51	884.01	718184.97	379740.22	32°02'31.435"N	103°37'45.066"W	1.25	
16668.00	90.120	356.630	9085.93	7570.89	7575.41	880.38	718181.35	379828.12	32°02'32.305"N	103°37'45.101"W	2.91	
16758.00	90.000	357.070	9085.83	7660.78	7665.28	875.44	718176.40	379917.98	32°02'33.194"N	103°37'45.152"W	0.51	

Actual Wellpath Report

SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 Fed P23 No. 4H
Area	Lea County, NM	Well	SD WE 24 Fed P23 No. 4H
Field	Jennings; Upper Bone Spring (Lea County, NM)	Wellbore	SD WE 24 Fed P23 No. 4H (AWB)
Facility	SD WE 24 Fed P23		

WELLPATH DATA (172 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16848.00	90.250	0.110	9085.64	7750.75	7755.24	873.22	718174.19	380007.94	32°02'34.085"N	103°37'45.171"W	3.39	
16936.00	90.150	1.980	9085.33	7838.72	7843.22	874.83	718175.80	380095.92	32°02'34.955"N	103°37'45.145"W	2.13	
17025.00	89.480	1.350	9085.62	7927.67	7932.18	877.42	718178.38	380184.87	32°02'35.835"N	103°37'45.109"W	1.03	
17113.00	89.570	357.650	9086.35	8015.65	8020.16	876.65	718177.61	380272.85	32°02'36.706"N	103°37'45.111"W	4.21	
17202.00	89.570	355.530	9087.01	8104.51	8108.99	871.35	718172.32	380361.68	32°02'37.585"N	103°37'45.166"W	2.38	
17290.00	89.910	358.220	9087.41	8192.39	8196.85	866.56	718167.52	380449.54	32°02'38.455"N	103°37'45.215"W	3.08	
17379.00	89.630	3.190	9087.77	8281.35	8285.82	867.65	718168.62	380538.50	32°02'39.335"N	103°37'45.195"W	5.59	
17468.00	89.970	4.930	9088.08	8370.09	8374.59	873.95	718174.92	380627.27	32°02'40.213"N	103°37'45.115"W	1.99	
17556.00	89.820	4.550	9088.24	8457.75	8462.29	881.22	718182.19	380714.96	32°02'41.081"N	103°37'45.024"W	0.46	
17645.00	89.780	0.820	9088.55	8546.62	8551.18	885.39	718186.36	380803.84	32°02'41.960"N	103°37'44.969"W	4.19	
17733.00	89.660	357.910	9088.98	8634.61	8639.16	884.42	718185.38	380891.82	32°02'42.831"N	103°37'44.974"W	3.31	
17822.00	90.550	359.040	9088.82	8723.58	8728.13	882.05	718183.02	380980.79	32°02'43.711"N	103°37'44.994"W	1.62	
17910.00	90.460	359.670	9088.05	8811.58	8816.12	881.06	718182.02	381068.77	32°02'44.582"N	103°37'44.999"W	0.72	
17999.00	89.850	1.450	9087.80	8900.56	8905.11	881.93	718182.89	381157.76	32°02'45.463"N	103°37'44.982"W	2.11	
18087.00	90.740	2.740	9087.35	8988.48	8993.05	885.15	718186.11	381245.70	32°02'46.333"N	103°37'44.938"W	1.78	
18176.00	90.340	359.480	9086.51	9077.44	9082.01	886.87	718187.83	381334.66	32°02'47.213"N	103°37'44.912"W	3.69	
18265.00	89.600	0.210	9086.56	9166.44	9171.01	886.63	718187.59	381423.65	32°02'48.094"N	103°37'44.908"W	1.17	
18353.00	90.650	359.850	9086.37	9254.44	9259.01	886.67	718187.64	381511.65	32°02'48.964"N	103°37'44.900"W	1.26	
18442.00	90.490	359.930	9085.48	9343.43	9348.00	886.50	718187.47	381600.64	32°02'49.845"N	103°37'44.896"W	0.20	
18530.00	89.410	356.350	9085.56	9431.38	9435.94	883.65	718184.61	381688.58	32°02'50.715"N	103°37'44.922"W	4.25	
18619.00	89.600	358.610	9086.33	9520.30	9524.85	879.74	718180.70	381777.48	32°02'51.595"N	103°37'44.961"W	2.55	8 3/4 BHI MWD 7613' - 18619'
18709.00	89.600	358.610	9086.96	9610.29	9614.82	877.55	718178.52	381867.45	32°02'52.486"N	103°37'44.980"W	0.00	Projection to TD: 18709'

Actual Wellpath Report

SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD WE 24 Fed P23 No. 4H
Area	Lea County, NM	Well	SD WE 24 Fed P23 No. 4H
Field	Jennings; Upper Bone Spring (Lea County, NM)	Wellbore	SD WE 24 Fed P23 No. 4H (AWB)
Facility	SD WE 24 Fed P23		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
3400'VS	9035.00	3405.45	914.50	718215.46	375658.32	32°01'51.038"N	103°37'45.021"W	rectangle
5000'VS	9080.00	5005.41	906.47	718207.43	377258.22	32°02'06.871"N	103°37'44.993"W	rectangle
SD WE 24 Fed P23 No. 4H BHL rev 2	9080.00	10274.40	880.03	**718181.00**	**382527.00**	32°02'59.013"N	103°37'44.901"W	rectangle

WELLPATH COMPOSITION - Ref Wellbore: SD WE 24 Fed P23 No. 4H (AWB) Ref Wellpath: SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	621.00	Wolff and de Wardt (good magnetic)	Imported Teledrift 162' -621'	SD WE 24 Fed P23 No. 4H (AWB)
621.00	4546.00	BHI NaviTrak (Axial)	12 1/4 BHI MWD 801' -4546'	SD WE 24 Fed P23 No. 4H (AWB)
4546.00	7541.00	BHI NaviTrak (Axial)	8 3/4 BHI MWD 4708' -7541'	SD WE 24 Fed P23 No. 4H (AWB)
7541.00	18619.00	BHI AutoTrak Curve (Short)	8 3/4 BHI MWD 7613' - 18619'	SD WE 24 Fed P23 No. 4H (AWB)
18619.00	18709.00	Blind Drilling (std)	Projection to bit	SD WE 24 Fed P23 No. 4H (AWB)

Actual Wellpath Report

SD WE 24 Fed P23 No. 4H awp 162' -18619' Proj: 18709'

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Chevron U.S.A. Inc.**	Slot	**SD WE 24 Fed P23 No. 4H**
Area	**Lea County, NM**	Well	**SD WE 24 Fed P23 No. 4H**
Field	**Jennings; Upper Bone Spring (Lea County, NM)**	Wellbore	**SD WE 24 Fed P23 No. 4H (AWB)**
Facility	**SD WE 24 Fed P23**		

COMMENTS

Wellpath general comments

Well: SD WE 24 Fed P23 No. 4H
Field: Jennings; Upper Bone Spring
Rig: Nabors X30
Location: Lea Co., NM
API: 30-025-43298-00
Latitude: 32° 01' 17.398" N
Longitude: 103° 37' 55.900" W
DF Elevation: 3165.6 feet
Elev. GL: 3133 feet
Proposed Direction: 359.71°
PBHL: 18709 feet
Duration: 9/05/2016-9/27/2016
FSE's: D. Hardeman
SO#: 8111305
Imported Teledrift 162' -621'
12 1/4 BHI MWD 801' -4546'
8 3/4 BHI MWD 4708' -7541'
8 3/4 BHI MWD 7613' - 18619'
Projection to TD: 18709'