

MS Directional

3335 Pollok Drive
Conroe, TX 77303
Phone: 936.442.2500
Toll Free: 844.266.6737
www.msdirectional.com

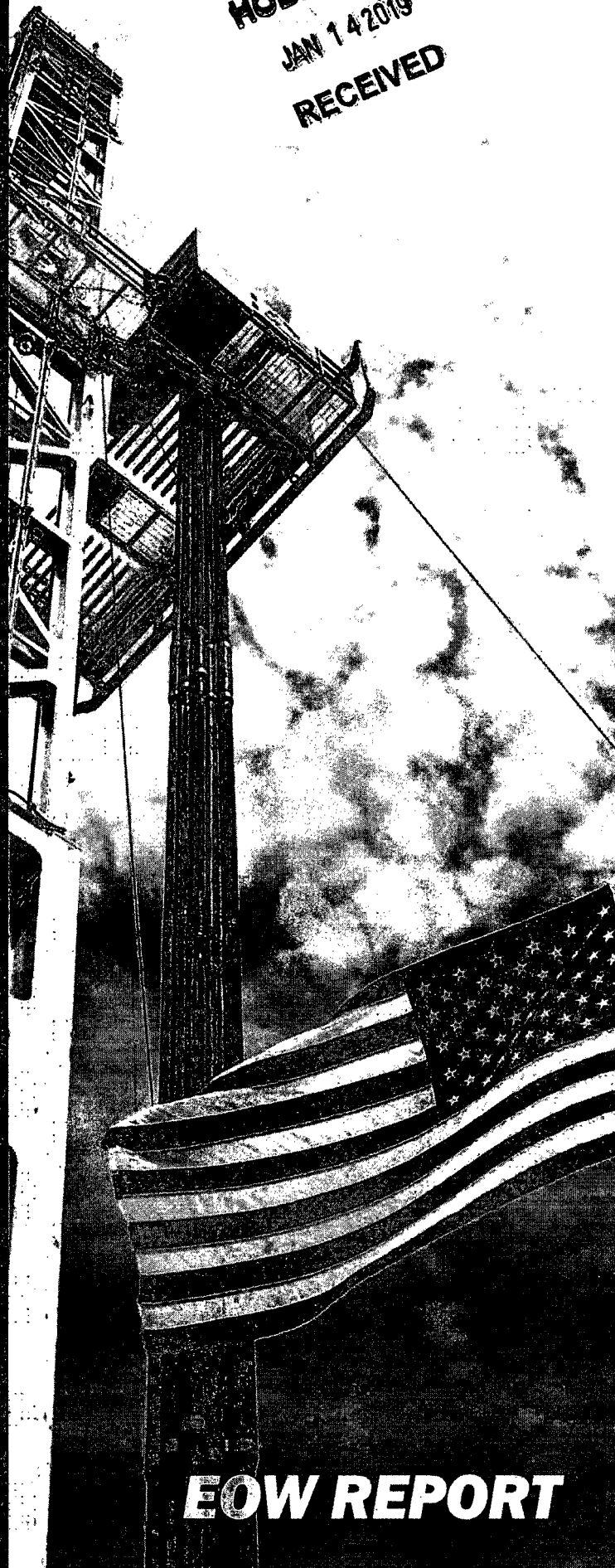
Breitburn Operating

Encore M 21 Fee 002
Lea County, New Mexico
Nabors M10

"This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential."

30-025-44443

HOBBS OCD
JAN 14 2019
RECEIVED



EOW REPORT



HOBBS OCD
JAN 14 2019
RECEIVED

Breitburn Operating

Lea County, New Mexico (NAD 83)

Encore M 21 Fee

Encore M 21 Fee 002

Wellbore #1

Design: Surveys

Standard Survey Report

11 October, 2018





MS Directional Survey Report



Company:	Breitburn Operating	Local Co-ordinate Reference:	Well Encore M 21 Fee 002
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 3383.00usft (Nabors M10)
Site:	Encore M 21 Fee	MD Reference:	Well @ 3383.00usft (Nabors M10)
Well:	Encore M 21 Fee 002	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.14 Conroe Db

Project	Lea County, New Mexico (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Well	Encore M 21 Fee 002			
Well Position	+N/-S	0.00 usft	Northing:	502,457.10 usft
	+E/-W	0.00 usft	Easting:	900,235.80 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft
Grid Convergence:	0.623 °		Ground Level:	3,361.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2018	9/27/2018	6.693	60.223	47,974.54

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

Survey Program	Date 10/11/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
1,205.00	7,634.00	MS MWD (Wellbore #1)	MWD	OWSG MWD - Standard

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,205.00	0.56	196.51	1,204.98	-5.65	-1.67	-5.65	0.05	0.05	0.00
1,260.00	0.20	19.70	1,259.98	-5.81	-1.72	-5.81	1.38	-0.65	-321.47
1,448.00	0.50	20.50	1,447.98	-4.74	-1.32	-4.74	0.16	0.16	0.43
1,637.00	0.50	352.40	1,636.97	-3.15	-1.14	-3.15	0.13	0.00	-14.87
1,825.00	0.30	38.80	1,824.97	-1.95	-0.94	-1.95	0.19	-0.11	24.68
2,014.00	0.60	18.60	2,013.96	-0.63	-0.31	-0.63	0.18	0.16	-10.69
2,201.00	0.50	41.50	2,200.95	0.91	0.54	0.91	0.13	-0.05	12.25
2,390.00	0.70	36.10	2,389.94	2.46	1.77	2.46	0.11	0.11	-2.86
2,578.00	0.90	35.70	2,577.92	4.59	3.30	4.59	0.11	0.11	-0.21
2,766.00	0.90	42.00	2,765.90	6.89	5.15	6.89	0.05	0.00	3.35
2,954.00	1.10	32.30	2,953.87	9.51	7.11	9.51	0.14	0.11	-5.16
3,143.00	1.20	35.80	3,142.83	12.65	9.23	12.65	0.06	0.05	1.85
3,331.00	1.30	33.10	3,330.79	16.03	11.55	16.03	0.06	0.05	-1.44
3,519.00	1.40	31.20	3,518.74	19.78	13.90	19.78	0.06	0.05	-1.01



MS Directional Survey Report



Company:	Breithurn Operating	Local Co-ordinate Reference:	Well Encore M 21 Fee 002
Project:	Lea County, New Mexico (NAD 83)	TVD Reference:	Well @ 3383.00usft (Nabors M10)
Site:	Encore M 21 Fee	MD Reference:	Well @ 3383.00usft (Nabors M10)
Well:	Encore M 21 Fee 002	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.14 Conroe Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,708.00	1.50	26.30	3,707.67	23.97	16.20	23.97	0.08	0.05	-2.59
3,896.00	0.70	191.20	3,895.66	25.05	17.06	25.05	1.16	-0.43	87.71
4,084.00	1.30	189.90	4,083.63	21.83	16.47	21.83	0.32	0.32	-0.69
4,272.00	1.40	187.00	4,271.58	17.45	15.83	17.45	0.06	0.05	-1.54
4,460.00	1.50	193.80	4,459.52	12.78	14.96	12.78	0.11	0.05	3.62
4,480.00	1.60	186.00	4,479.51	12.25	14.87	12.25	1.17	0.50	-39.00
4,558.00	1.60	187.10	4,557.48	10.08	14.62	10.08	0.04	0.00	1.41
4,746.00	0.40	282.40	4,745.45	7.62	13.65	7.62	0.90	-0.64	50.69
4,935.00	0.40	280.60	4,934.45	7.88	12.36	7.88	0.01	0.00	-0.95
5,122.00	0.60	272.40	5,121.44	8.04	10.74	8.04	0.11	0.11	-4.39
5,310.00	0.60	275.80	5,309.43	8.18	8.78	8.18	0.02	0.00	1.81
5,499.00	0.40	298.40	5,498.42	8.60	7.21	8.60	0.15	-0.11	11.96
5,686.00	0.30	277.70	5,685.42	8.97	6.15	8.97	0.09	-0.05	-11.07
5,875.00	0.50	272.00	5,874.42	9.07	4.84	9.07	0.11	0.11	-3.02
6,062.00	0.60	283.70	6,061.41	9.33	3.07	9.33	0.08	0.05	6.26
6,250.00	0.50	250.60	6,249.40	9.29	1.34	9.29	0.17	-0.05	-17.61
6,439.00	0.60	247.60	6,438.39	8.64	-0.35	8.64	0.06	0.05	-1.59
6,627.00	0.60	278.10	6,626.38	8.40	-2.23	8.40	0.17	0.00	16.22
6,815.00	0.50	247.40	6,814.37	8.22	-3.97	8.22	0.16	-0.05	-16.33
7,003.00	0.50	277.90	7,002.37	8.02	-5.54	8.02	0.14	0.00	16.22
7,192.00	0.40	260.40	7,191.36	8.03	-7.00	8.03	0.09	-0.05	-9.26
7,380.00	0.70	140.10	7,379.36	7.04	-6.91	7.04	0.51	0.16	-63.99
7,568.00	0.50	49.60	7,567.35	6.69	-5.55	6.69	0.46	-0.11	-48.14
7,634.00	0.50	49.60	7,633.35	7.06	-5.11	7.06	0.00	0.00	0.00

Projection to TD-7634.00' MD

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,634.00	7,633.35	7.06	-5.11	Projection to TD-7634.00' MD

Daily Report Monday, October 1, 2018

(1 of 9)



Job Number: MSMO-56043	State: New Mexico	Company Man: N/A	Lead Directional: John Hornsby (SDS)
Customer: Breitburn Operating LP	County/Parish: Lea	Coordinator: John McKay	Night Directional: Jarrod Holler
Well Name: M Fee 21-2	Field: Permian Basin	Daily Cost: \$9,000.00	Lead MWD: N/A
Rig Name: Nabors M10	API #: N/A	Cummulative Cost: \$9,000.00	Night MWD: N/A

Drilling Summary

Start Depth: 0	End Depth: 1,220	Below Rotary Hours: 0.00	Circulating Hours: 0.00
Total Footage: 0.00	Total Drilled Hours: 0.00	Avg. Total ROP: 0.00	Percent Drilled: 0.00%
Rotating Footage: 0.00	Rotary Hours: 0.00	Avg. Rotary ROP: 0.00	Percent Rotary: 0.00%
Sliding Footage: 0.00	Sliding Hours: 0.00	Avg. Sliding ROP: 0.00	Percent Sliding: 0.00%

Drilling Parameters

	Min	Max		Min	Max
WOB:	N/A	N/A	SPP Off Bottom:	N/A	N/A
Pick Up:	N/A	N/A	SPP On Bottom:	N/A	N/A
Slack Off:	N/A	N/A	Delta Pressure:	N/A	N/A
Rot. Off Bottom:	N/A	N/A	Flow Rate:	N/A	N/A
Bottom Hole Temp.:	N/A	N/A	SPM:	N/A	N/A

Last Casing	Top: 0.00	Shoe: 1,220.00	ID: 17 1/2	OD: 13 3/8
-------------	-----------	----------------	------------	------------

Surveys	MD In: N/A	Incl. In: N/A	Azm. In: N/A	MD Out: 1,205	Incl. Out: 0.56	Azm. Out: 196.51
---------	------------	---------------	--------------	---------------	-----------------	------------------

BHA's

24 Hours Summary

Stand-by

General Comments

Stand-by

Next 24 Hours Plan

Stand-by, Pick up directional tools

Activity Code	Start Time	End Time	Hours	Start Depth	End Depth	Comments
Stand-by	00:00	24:00	24.00	0	1,220	Drive to Location, Stand-by

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

Job Number: MSMO-56043	State: New Mexico	Company Man: N/A	Lead Directional: John Hornsby (SDS)
Customer: Breitburn Operating LP	County/Parish: Lea	Coordinator: John McKay	Night Directional: Jarrod Hollier
Well Name: M Fee 21-2	Field: Permian Basin	Daily Cost: \$3,000.00	Lead MWD: N/A
Rig Name: Nabors M10	API #: N/A	Cummulative Cost: \$12,000.00	Night MWD: N/A

Drilling Summary

Start Depth: 1,220	End Depth: 1,220	Below Rotary Hours: 0.50	Circulating Hours: 0.00
Total Footage: 0.00	Total Drilled Hours: 0.00	Avg. Total ROP: 0.00	Percent Drilled: 0.00%
Rotating Footage: 0.00	Rotary Hours: 0.00	Avg. Rotary ROP: 0.00	Percent Rotary: 0.00%
Sliding Footage: 0.00	Sliding Hours: 0.00	Avg. Sliding ROP: 0.00	Percent Sliding: 0.00%

Drilling Parameters

	Min	Max		Min	Max
WOB:	N/A	N/A	SPP Off Bottom:	N/A	N/A
Pick Up:	N/A	N/A	SPP On Bottom:	N/A	N/A
Slack Off:	N/A	N/A	Delta Pressure:	N/A	N/A
Rot. Off Bottom:	N/A	N/A	Flow Rate:	N/A	N/A
Bottom Hole Temp.:	N/A	N/A	SPM:	N/A	N/A

Last Casing	Top: 0.00	Shoe: 1,220.00	ID: 17 1/2	OD: 13 3/8		
Surveys	MD In: 1,205	Incl. In: 0.56	Azm. In: 196.51	MD Out: 1,205	Incl. Out: 0.56	Azm. Out: 196.51

BHA's

12 1/4" Bit , 8" 8"-9 5/8" Hybrid Motor 4/5 5.3 ADJ @ 1.5" Motor , 8 1/2" Stabilizer , 8" #1 Muleshoe , 7 15/16" Drill Collar , 8 1/16" Stabilizer , 6 1/2" X/O Sub , 6 1/2" Drill Collar , 6 3/8" Jars , 6 1/2" Drill Collar , 6 3/4" X-Over ,

General Comments

DATE: 10/02/18 MSMO-56043 Breitburn Operating Encore M21 Fee 002 Nabors M10 Lea Co. NM Rig Monitoring System: _____ Drillers on Location Lead Driller : John Hornsby 2nd Driller : Jarrod Hollier Mwd Operators Lead Mwd Marcus Lewis Target changes : Design #1 Current Target = : 0 Projected TD Depth : 7,600 Current Depth : 1,220 Feet Left to Drill : 6,380 Current Activity : Make up Bha - TIH Prev. 24hr Activity : Casing operations-Standby, Make up Bha Daily Cost : \$3,000.00 Cum. Cost : \$18,900.00 Start Date : 10/01/18 Estimated Finish Date : 10/08/18 Depth at Last Survey : 1,205 Current Inc. : 0.56° Current Azm. : 196.51° Current Temp. : N/A Above / Below : 10' South Left / Right : 3.5' West Motor Yield : N/A DLNL : N/A Vert. Sect. : -10.19 Last Csg Depth / O.D. : 1220' 13 3/8" Surface Next Csg Depth / O.D. : 4550' 9 5/8" Intermediate LGS% : Serial# Clean Motor's on Location: D&C Hours 96D300D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" Serial # In Hole: 96D318D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" Serial # Dirty On Rack:

24 Hours Summary

Nipple up, Test Bop's , Only got a few pieces of Bha picked up and and had to shut down due to threads bad on UBHO sub, I charged a standby day for today due to 23.5 hrs were on standby

Next 24 Hours Plan

Drilling vertical hole

Mud Checks

Date	Time	Type	Weight	Viscosity	PV	YP	Temperature	% Water	% Oil	% LGS	Comments
02/Oct/2018	00:00	N/A	0	0	0	0	0	0	0	0	N/A

Activity Code	Start Time	End Time	Hours	Start Depth	End Depth	Comments
Stand-by	00:00	20:00	20.00	1,220	1,220	Stand-by
Stand-by	20:00	21:00	1.00	1,220	1,220	Install wear bushing
Assembling BHA	21:00	23:30	2.50	1,220	1,220	Assembling BHA #1
Other	23:30	24:00	0.50	1,220	1,220	Change out MSS, Bad threads for allen screw.

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

Daily Report Wednesday, October 3, 2018

(3 of 9)



Job Number: MSMO-56043	State: New Mexico	Company Man: N/A	Lead Directional: John Hornsby (SDS)
Customer: Breitburn Operating LP	County/Parish: Lea	Coordinator: John McKay	Night Directional: Jarrod Hollier
Well Name: M Fee 21-2	Field: Permian Basin	Daily Cost: \$6,900.00	Lead MWD: N/A
Rig Name: Nabors M10	API #: N/A	Cummulative Cost: \$18,900.00	Night MWD: N/A

Drilling Summary

Start Depth: 1,220	End Depth: 1,883	Below Rotary Hours: 24.02	Circulating Hours: 13.67
Total Footage: 663.00	Total Drilled Hours: 6.33	Avg. Total ROP: 104.68	Percent Drilled: 26.37%
Rotating Footage: 663.00	Rotary Hours: 6.33	Avg. Rotary ROP: 104.68	Percent Rotary: 100.00%
Sliding Footage: 0.00	Sliding Hours: 0.00	Avg. Sliding ROP: 0.00	Percent Sliding: 0.00%

Drilling Parameters

	Min	Max		Min	Max
WOB:	12	20	SPP Off Bottom:	450	600
Pick Up:	91	100	SPP On Bottom:	650	1100
Slack Off:	88	90	Delta Pressure:	200	500
Rot. Off Bottom:	89	95	Flow Rate:	350	460
Bottom Hole Temp.:	75	75	SPM:	84	110

Last Casing	Top: 0.00	Shoe: 1,220.00	ID: 17 1/2	OD: 13 3/8
Surveys	MD In: 1,205	Incl. In: 0.56	Azm. In: 196.51	MD Out: 1,825
				Incl. Out: 0.30
				Azm. Out: 38.80

BHA's

12 1/4" Bit , 8" 8"- 9 5/8" Hybrid Motor 4/5 5.3 ADJ @ 1.5" Motor , 8 1/2" Stabilizer , 8" #1 Muleshoe , 7 15/16" Drill Collar , 8 1/16" Stabilizer , 6 1/2" X/O Sub , 6 1/2" Drill Collar , 6 3/8" Jars , 6 1/2" Drill Collar , 6 3/4" X-Over ,

General Comments

DATE: 10/03/18 MSMO-56043 Breitburn Operating Encore M21 Fee 002 Nabors M10 Lea Co. NM Rig Monitoring System: Drillers on Location Lead Driller : John Hornsby 2nd Driller : Jarrod Hollier Mwd Operators Lead Mwd Marcus Lewis Target changes : Design #1 Current Target = : 0 Projected TD Depth : 7,600 Current Depth : 1,220 Feet Left to Drill : 6,380 Current Activity : Make up Bha - TIH Prev. 24hr Activity : Casing operations-Standby, Make up Bha Daily Cost : \$3,000.00 Cum. Cost : \$18,900.00 Start Date : 10/01/18 Estimated Finish Date : 10/08/18 Depth at Last Survey : 1,205 Current Inc. : 0.56° Current Azm. : 196.51° Current Temp. : N/A Above / Below : 10' South Left / Right : 3.5' West Motor Yield : N/A DLNL : N/A Vert. Sect. : -10.19 Last Csg Depth / O.D : 1220' 13 3/8" Surface Next Csg Depth / O.D. : 4550' 9 5/8" Intermediate LGS% : Serial# Clean Motor's on Location: D&C Hours 96D300D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" Serial # In Hole: 96D318D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" Serial # Dirty On Rack:

24 Hours Summary

Made up BHA #1, TIH, Drilling Cement, 1,147'/1,174', Collar at 1,174', Drilled cement to 1,198', Circulating, Displace hole with 10.0 ppg brine water, Finished drilling cement and 10' of new formation, Perform FIT Test, Drilling ahead in vertical hole.

Next 24 Hours Plan

Continue to drill ahead in vertical hole.

Mud Checks

Date	Time	Type	Weight	Viscosity	PV	YP	Temperature	% Water	% Oil	% LGS	Comments
03/Oct/2018	00:00	Brine	9.85	28	1	1	80	99.5	0	0	N/A

Activity Code	Start Time	End Time	Hours	Start Depth	End Depth	Comments
Other	00:00	01:00	1.00	1,220	1,220	Making up bha & rescribe motor
Circulating	01:00	01:30	0.50	1,220	1,220	Test Mwd & Motor
Other	01:30	02:00	0.50	1,220	1,220	Make up bit
Other	02:00	04:00	2.00	1,220	1,220	Shock sub wore out. lay down bit, mwd, & shock sub.
Other	04:00	04:30	0.50	1,220	1,220	Rescribe motor & insert mwd tool
Rig repair	04:30	05:30	1.00	1,220	1,220	Broken hydraulic line on tong load cell. Replace line.
Circulating	05:30	05:45	0.25	1,220	1,220	Testing Mwd
Rig repair	05:45	07:15	1.50	1,220	1,220	Rig repair, Working on Tq Gauge
Other	07:15	07:40	0.43	1,220	1,220	Finished M/U BHA #1
TIH	07:40	10:20	2.67	1,220	1,220	TIH
Circulating	10:20	11:15	0.92	1,220	1,220	Circulating, Checking all surface lines, Filled and circulated through gas buster.
Drilling Cement	11:15	14:45	3.50	1,220	1,220	Drilling Cement, 1,147'/1,174', Collar at 1,174', Drilled cement to 1,198'
Circulating	14:45	16:45	2.00	1,220	1,220	Circulating, Displace hole with 10.0 ppg brine water.
Drilling Cement	16:45	16:55	0.17	1,220	1,220	Drilling Cement 1,198'/1,220'
Rotating	16:55	17:05	0.17	1,220	1,223	(WOB=12;GPM=350;RPM=35;DP=200)
Other	17:05	17:40	0.58	1,223	1,223	Install rotating head
Rotating	17:40	17:50	0.17	1,223	1,230	(WOB=12;GPM=350;RPM=35;DP=200)
Other	17:50	18:00	0.17	1,230	1,230	Fit
Rotating	18:00	19:00	1.00	1,230	1,318	(WOB=15;GPM=350;RPM=40;DP=200)
Rotating	19:00	20:00	1.00	1,318	1,412	(WOB=15;GPM=460;RPM=60;DP=300)
Rotating	20:00	21:00	1.00	1,412	1,506	(WOB=20;GPM=460;RPM=60;DP=500)
Rotating	21:00	24:00	3.00	1,506	1,883	(WOB=20;GPM=460;RPM=65;DP=500)

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

Daily Report Thursday, October 4, 2018

(4 of 9)



Job Number: MSMO-56043	State: New Mexico	Company Man: N/A	Lead Directional: John Hornsby (SDS)
Customer: Breitburn Operating LP	County/Parish: Lea	Coordinator: John McKay	Night Directional: Jarrod Hollier
Well Name: M Fee 21-2	Field: Permian Basin	Daily Cost: \$6,900.00	Lead MWD: N/A
Rig Name: Nabors M10	API #: N/A	Cummulative Cost: \$25,800.00	Night MWD: N/A

Drilling Summary				Drilling Parameters					
Start Depth: 1,883	End Depth: 3,600	Below Rotary Hours: 24.02	Circulating Hours: 17.83	Min	Max	Min	Max		
Total Footage: 1,717.00	Total Drilled Hours: 17.08	Avg. Total ROP: 100.51	Percent Drilled: 71.13%	WOB:	15	27	SPP Off Bottom:	600	1700
Rotating Footage: 1,717.00	Rotary Hours: 17.08	Avg. Rotary ROP: 100.51	Percent Rotary: 100.00%	Pick Up:	100	130	SPP On Bottom:	1100	2350
Sliding Footage: 0.00	Sliding Hours: 0.00	Avg. Sliding ROP: 0.00	Percent Sliding: 0.00%	Slack Off:	90	125	Delta Pressure:	500	700
				Rot. Off Bottom:	95	125	Flow Rate:	460	754
				Bottom Hole Temp.:	75	109.6	SPM:	110	180

Last Casing	Top: 0.00	Shoe: 1,220.00	ID: 17 1/2	OD: 13 3/8		
Surveys	MD In: 1,825	Incl. In: 0.30	Azm. In: 38.80	MD Out: 3,519	Incl. Out: 1.40	Azm. Out: 31.20

BHA's	General Comments
12 1/4" Bit , 8" 8"- 9 5/8" Hybrid Motor 4/5 5.3 ADJ @ 1.5" Motor , 8 1/2" Stabilizer , 8" #1 Muleshoe , 7 15/16" Drill Collar , 8 1/16" Stabilizer , 6 1/2" X/O Sub , 6 1/2" Drill Collar , 6 3/8" Jars , 6 1/2" Drill Collar , 6 3/4" X-Over ,	DATE: 10/04/18 MSMO-56043 Breitburn Operating Encore M21 Fee 002 Nabors M10 Lea Co. NM Rig Monitoring System: Drillers on Location Lead Driller : John Hornsby 2nd Driller : Jarrod Hollier Mwd Operators Lead Mwd Marcus Lewis Target changes : Design #1 Current Target = : 0 Projected TD Depth : 7,600 Current Depth : 2,355 Feet Left to Drill : 5,245 Current Activity : Drilling Intermediate Prev. 24hr Activity : Standby - Make up Bha - Drilling Intermediate Daily Cost : \$6,900.00 Cum. Cost : \$25,800.00 Start Date : 10/01/18 Estimated Finish Date : 10/10/18 Depth at Last Survey : 2,201 Current Inc. : 0.50° Current Azm. : 41.50° Current Temp. : 98 °F Above / Below : 3.63S Left / Right : 1.34W Motor Yield : N/A DLNL : N/A Vert. Sect. : N/A Last Csg Depth / O.D. : 1220' 13 3/8" Surface Next Csg Depth / O.D. : 4550' 9 5/8" Intermediate LGS% : Serial# Clean Motor's on Location: D&C Hours 96D300D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" 18 Serial # In Hole: 96D318D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" Serial # Dirty On Rack:

24 Hours Summary	Next 24 Hours Plan
Drilled to 2,355' with one pump, Other pump went down so Breitburn required pooh to the shoe to repair both mud pumps.	Continue to drill ahead in vertical hole.

Date	Time	Type	Weight	Viscosity	PV	YP	Temperature	% Water	% Oil	% LGS	Comments
04/Oct/2018	00:00	Brine	10.1	30	1	1	85	99	0	0	N/A

Activity Code	Start Time	End Time	Hours	Start Depth	End Depth	Comments
Rotating	00:00	04:30	4.50	1,883	2,355	(WOB=20;GPM=460;RPM=65;DP=500)
POOH	04:30	06:20	1.85	2,355	2,355	POOH to the shoe to repair mud pumps
Rig repair	06:20	09:35	3.25	2,355	2,355	Rig repair, Working on both mud pumps
TIH	09:35	10:40	1.08	2,355	2,355	TIH
Rotating	10:40	10:50	0.17	2,355	2,367	(WOB=15;GPM=754;RPM=60;DP=500)
Circulating	10:50	11:35	0.75	2,367	2,367	Circulating, While changing out shaker screens
Rotating	11:35	12:10	0.58	2,367	2,455	(WOB=20;GPM=754;RPM=60;DP=700)
Rotating	12:10	13:45	1.58	2,455	2,640	(WOB=15;GPM=754;RPM=70;DP=550)
Rotating	13:45	16:15	2.50	2,640	2,860	(WOB=26;GPM=754;RPM=70;DP=550)
Rotating	16:15	21:45	5.50	2,860	3,400	(WOB=27;GPM=754;RPM=70;DP=600)
Rotating	21:45	23:00	1.25	3,400	3,500	(WOB=27;GPM=754;RPM=70;DP=650)
Rotating	23:00	24:00	1.00	3,500	3,600	(WOB=25;GPM=754;RPM=70;DP=650)

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

Job Number: MSMO-56043	State: New Mexico	Company Man: N/A	Lead Directional: John Hornsby (SDS)
Customer: Breitburn Operating LP	County/Parish: Lea	Coordinator: John McKay	Night Directional: Jarrod Hollier
Well Name: M Fee 21-2	Field: Permian Basin	Daily Cost: \$6,900.00	Lead MWD: N/A
Rig Name: Nabors M10	API #: N/A	Cumulative Cost: \$32,700.00	Night MWD: N/A

Drilling Summary

Start Depth: 3,600	End Depth: 4,537	Below Rotary Hours: 20.02	Circulating Hours: 15.10
Total Footage: 937.00	Total Drilled Hours: 12.50	Avg. Total ROP: 74.96	Percent Drilled: 52.08%
Rotating Footage: 917.00	Rotary Hours: 11.75	Avg. Rotary ROP: 78.04	Percent Rotary: 97.87%
Sliding Footage: 20.00	Sliding Hours: 0.75	Avg. Sliding ROP: 26.67	Percent Sliding: 2.13%

Drilling Parameters

	Min	Max		Min	Max
WOB:	15	27	SPP Off Bottom:	1700	1700
Pick Up:	135	135	SPP On Bottom:	2000	2350
Slack Off:	130	130	Delta Pressure:	300	650
Rot. Off Bottom:	135	135	Flow Rate:	754	754
Bottom Hole Temp.:	109.6	122.5	SPM:	180	180

Last Casing	Top: 0.00	Shoe: 1,220.00	ID: 17 1/2	OD: 13 3/8		
Surveys	MD In: 3,519	Incl. In: 1.40	Azm. In: 31.20	MD Out: 4,480	Incl. Out: 1.60	Azm. Out: 186.00

BHA's

12 1/4" Bit , 8" 8"- 9 5/8" Hybrid Motor 4/5 5.3 ADJ @ 1.5" Motor , 8 1/2" Stabilizer , 8" #1 Muleshoe , 7 15/16" Drill Collar , 8 1/16" Stabilizer , 6 1/2" X/O Sub , 6 1/2" Drill Collar , 6 3/8" Jars , 6 1/2" Drill Collar , 6 3/4" X-Over ,

General Comments

DATE: 10/05/18 MSMO-56043 Breitburn Operating Encore M21 Fee 002 Nabors M10 Lea Co. NM Rig Monitoring System: Drillers on Location Lead Driller : John Hornsby 2nd Driller : Jarrod Hollier Mwd Operators Lead Mwd Marcus Lewis Target changes : Design #1 Current Target = : 0 Projected TD Depth : 7,600 Current Depth : 3,980 Feet Left to Drill : 3,620 Current Activity : Drilling Intermediate to casing point of 4550' Prev. 24hr Activity : Drilling Intermediate and pooh to casing shoe to work on mud pumps. Tih to drill ahead. Daily Cost : \$6,900.00 Cum. Cost : \$32,700.00 Start Date : 10/01/18 Estimated Finish Date : 10/10/18 Depth at Last Survey : 3,896 Current Inc. : 0.70° Current Azm. : 191.20° Current Temp. : 118 °F Above / Below : 20 N Left / Right : 15 E Motor Yield : 11.00° DLNL : N/A Vert. Sect. : Last Csg Depth / O.D : 1220' 13 3/8" Surface Next Csg Depth / O.D. : 4550' 9 5/8" Intermediate LGS% : Serial# Clean Motor's on Location: D&C Hours 96D300D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" 31.5 Serial # In Hole: 96D318D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" Serial # Dirty On Rack: None

24 Hours Summary

Drilling ahead in vertical hole sliding as needed, T.D Intermediate section at 4,537', Circulated hole clean prior to pooh, Pooh

Next 24 Hours Plan

Lay down directional tools and go on standby for casing and cement operations.

Mud Checks

Date	Time	Type	Weight	Viscosity	PV	YP	Temperature	% Water	% Oil	% LGS	Comments
05/Oct/2018	00:00	Brine	10.2	29	1	1	82	80	0	2.14	N/A

Activity Code	Start Time	End Time	Hours	Start Depth	End Depth	Comments
Rotating	00:00	00:30	0.50	3,600	3,635	(WOB=27;GPM=754;RPM=70;DP=650)
Rotating	00:30	03:30	3.00	3,635	3,859	(WOB=22;GPM=754;RPM=70;DP=650)
Sliding	03:30	04:15	0.75	3,859	3,879	(WOB=15;GPM=754;TFO=200;DP=300)
Rig Service-Inhole	04:15	04:30	0.25	3,879	3,879	Slow Pump Rates
Rotating	04:30	05:00	0.50	3,879	3,900	(WOB=27;GPM=754;RPM=70;DP=650)
Rotating	05:00	08:00	3.00	3,900	4,206	(WOB=25;GPM=754;RPM=70;DP=650)
Rotating	08:00	12:45	4.75	4,206	4,537	(WOB=25;GPM=754;RPM=70;DP=300)
Circulating	12:45	15:20	2.60	4,537	4,537	Circulating to clean hole prior to pooh
POOH	15:20	20:01	4.67	4,537	4,537	POOH
Break Down BHA	20:01	22:00	1.98	4,537	4,537	Break Down BHA #1
Stand-by	22:00	24:00	2.00	4,537	4,537	Stand-by

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

Daily Report Saturday, October 6, 2018
(6 of 9)



Job Number: MSMO-56043	State: New Mexico	Company Man: N/A	Lead Directional: John Hornsby (SDS)
Customer: Breitburn Operating LP	County/Parish: Lea	Coordinator: John McKay	Night Directional: Jarrod Hollier
Well Name: M Fee 21-2	Field: Permian Basin	Daily Cost: \$3,000.00	Lead MWD: N/A
Rig Name: Nabors M10	API #: N/A	Cummulative Cost: \$35,700.00	Night MWD: N/A

Drilling Summary				Drilling Parameters					
Start Depth:	End Depth:	Below Rotary Hours:	Circulating Hours:		Min	Max		Min	Max
4,537	4,537	0.00	0.00	WOB:	N/A	N/A	SPP Off Bottom:	N/A	N/A
Total Footage:	Total Drilled Hours:	Avg. Total ROP:	Percent Drilled:	Pick Up:	N/A	N/A	SPP On Bottom:	N/A	N/A
0.00	0.00	0.00	0.00%	Slack Off:	N/A	N/A	Delta Pressure:	N/A	N/A
Rotating Footage:	Rotary Hours:	Avg. Rotary ROP:	Percent Rotary:	Rot. Off Bottom:	N/A	N/A	Flow Rate:	N/A	N/A
0.00	0.00	0.00	0.00%	Bottom Hole Temp.:	N/A	N/A	SPM:	N/A	N/A
Sliding Footage:	Sliding Hours:	Avg. Sliding ROP:	Percent Sliding:						
0.00	0.00	0.00	0.00%						

Last Casing	Top: 0.00	Shoe: 1,220.00	ID: 17 1/2	OD: 13 3/8
Surveys	MD In: 4,480	Incl. In: 1.60	Azm. In: 186.00	MD Out: 4,480
				Incl. Out: 1.60
				Azm. Out: 186.00

BHA's	General Comments
	DATE: 10/06/18 MSMO-56043 Breitburn Operating Encore M21 Fee 002 Nabors M10 Lea Co. NM Rig Monitoring System: Drillers on Location Lead Driller : John Hornsby 2nd Driller : Jarrod Hollier Mwd Operators Lead Mwd Marcus Lewis Target changes : Design #1 Current Target = : 0 Projected TD Depth : 7,600 Current Depth : 4,537 Feet Left to Drill : 3,063 Current Activity : Stand-by for casing and cement operations. Prev. 24hr Activity : Drilled Intermediate to 4537', Pooh, Laid down directional tools, Standby for casing operations. Daily Cost : \$3,000.00 Cum. Cost : \$35,700.00 Start Date : 10/01/18 Estimated Finish Date : 10/11/18 Depth at Last Survey : 4,480' Current Inc. : 1.60° Current Azm. : 186.00° Current Temp. : N/A Above / Below : 7.7' N Left / Right : 13.0' E Motor Yield : 8/100' DLNL : N/A Vert. Sect. : 7.7' Last Csg Depth / O.D : 1,220' 13 3/8" Surface Next Csg Depth / O.D. : 4,537' 9 5/8" Intermediate LGS% : Serial# Clean Motor's on Location: D&C Hours 96D300D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" 67D16682SB 6 3/4" 7/8 6.4 Fxd @ 1.5" W/8 1/4" NBS CL: .016 67D16672SB 6 3/4" 7/8 6.4 Fxd @ 1.5" W/8 1/4" NBS CL: .012 Serial # In Hole: None Serial # Dirty On Rack: None 96D318D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" 40

24 Hours Summary	Next 24 Hours Plan
Drilled Intermediate to 4537', Pooh, Laid down directional tools, Standby for casing operations.	Standby for casing and cement operations

Mud Checks										
Date	Time	Type	Weight	Viscosity	PV	YP	Temperature	% Water	% Oil	% LGS
06/Oct/2018	00:00	Brine	10.2	29	1	1	82	87.3	0	2.14

Activity Code	Start Time	End Time	Hours	Start Depth	End Depth	Comments
Stand-by	00:00	05:00	5.00	4,537	4,537	Stand-by, For casing and cement operations
Stand-by	05:00	24:00	19.00	4,537	4,537	Stand-by

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

Job Number: MSMO-56043	State: New Mexico	Company Man: N/A	Lead Directional: John Hornsby (SDS)
Customer: Bretburn Operating LP	County/Parish: Lea	Coordinator: John McKay	Night Directional: Jarrod Hollier
Well Name: M Fee 21-2	Field: Permian Basin	Daily Cost: \$12,300.00	Lead MWD: N/A
Rig Name: Nabors M10	API #: N/A	Cummulative Cost: \$48,000.00	Night MWD: N/A

Drilling Summary

Start Depth: 4,537	End Depth: 4,935	Below Rotary Hours: 16.17	Circulating Hours: 10.25
Total Footage: 398.00	Total Drilled Hours: 6.58	Avg. Total ROP: 60.46	Percent Drilled: 27.43%
Rotating Footage: 385.00	Rotary Hours: 6.08	Avg. Rotary ROP: 63.29	Percent Rotary: 96.73%
Sliding Footage: 13.00	Sliding Hours: 0.50	Avg. Sliding ROP: 26.00	Percent Sliding: 3.27%

Drilling Parameters

	Min	Max	Min	Max
WOB:	12	20	SPP Off Bottom:	950 1280
Pick Up:	135	150	SPP On Bottom:	1225 1480
Slack Off:	130	148	Delta Pressure:	120 350
Rot. Off Bottom:	135	150	Flow Rate:	435 500
Bottom Hole Temp.:	122.5	122.5	SPM:	104 120

Last Casing	Top: 0.00	Shoe: 4,537.00	ID: 12 1/4	OD: 9 5/8
Surveys	MD In: 4,480	Incl. In: 1.60	Azm. In: 186.00	MD Out: 4,746
			Incl. Out: 0.40	Azm. Out: 282.40

BHA's

8 3/4" Bit , 6 3/4" Mpack 6 3/4" 7/8 6.4 Fxd @ 1.50" W/ 8 1/4" NBS Motor , 6 3/4" #2 Stabilizer , 6 3/4" Float Sub , 6 3/4" Muleshoe , 6 3/4" Drill Collar , 6 3/4" Stabilizer , 6 3/4" X-Over , 6 1/2" Drill Collar , 6 3/4" Jars , 6 1/2" Drill Collar , 6 3/4" X-Over ,

General Comments

DATE: 10/07/18 MSMO-56043 Bretburn Operating Encore M21 Fee 002 Nabors M10 Lea Co. NM Rig Monitoring System: Drillers on Location Lead Driller : John Hornsby 2nd Driller : Jarrod Hollier Mwd Operators Lead Mwd Marcus Lewis Target changes : Design #1 Current Target = : 0 Projected TD Depth : 7,600 Current Depth : 4,935 Feet Left to Drill : 3,063 Current Activity : Drilling vertical production hole sliding as needed. Drilling with MSE tests. Prev. 24hr Activity : Standby for casing operations / Pick up bha # 2 Daily Cost : \$11,750.00 Cum. Cost : \$47,450.00 Start Date : 10/01/18 Estimated Finish Date : 10/11/18 Depth at Last Survey : 4,746 Current Inc. : 0.40" Current Azm. : 282.40" Current Temp. : 110 °F Above / Below : 3' N Left / Right : 12.0' E Motor Yield : 13/100' DLNL : N/A Vert. Sect. : N/A Last Csg Depth / O.D. : 4,537' 9 5/8" Intermediate Casing Next Csg Depth / O.D. : 7,600' 5 1/2" Production Casing LGS% : Serial# Clean Motor's on Location: D&C Hours 67D16682SB 6 3/4" 7/8 6.4 Fxd @ 1.5" W/8 1/4" NBS CL. :016 Serial # In Hole: None 67D16672SB 6 3/4" 7/8 6.4 Fxd @ 1.5" W/8 1/4" NBS CL. :012 10.5 Serial # Dirty On Rack: None None Shipped Motors: 96D318D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5" 40 96D300D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5"

24 Hours Summary

Standby for casing and cement operations, P/U BHA #2, TIH, Drilled out DV Tool, TIH, Drilled out float collar @ 4,443, Drilled cement to 4,446, Displaced hole with fresh water, Drilled out cement and shoe @ 4,534', Perform FIT Test,

Next 24 Hours Plan

Continue to drill ahead in vertical hole sliding as needed

Mud Checks

Date	Time	Type	Weight	Viscosity	PV	YP	Temperature	% Water	% Oil	% LGS	Comments
07/Oct/2018	00:00	Fresh Water	8.4	28	1	1	80	99.5	0	0.45	N/A

Activity Code	Start Time	End Time	Hours	Start Depth	End Depth	Comments
Stand-by	00:00	06:30	6.50	4,537	4,537	Standby for casing and cement operations.
Assembling BHA	06:30	07:40	1.17	4,537	4,537	Assembling BHA
MWDRUN	07:40	07:50	0.17	4,537	4,537	Test MWD Tool (Good Test)
Other	07:50	08:45	0.92	4,537	4,537	Finish making up BHA #2
TIH	08:45	10:45	2.00	4,537	4,537	TIH to 3,012'
Circulating	10:45	11:15	0.50	4,537	4,537	Circulating to condition mud and perform casing test
Other	11:15	12:00	0.75	4,537	4,537	Drill out DV Tool
TIH	12:00	12:40	0.67	4,537	4,537	TIH to 4,442'
Other	12:40	13:35	0.92	4,537	4,537	Test casing
Drilling Cement	13:35	14:05	0.50	4,537	4,537	Drilling Cement, Collar @ 1,443', Drilled cement to 4,446'
Other	14:05	14:35	0.50	4,537	4,537	Install rotating head
Circulating	14:35	15:45	1.17	4,537	4,537	Circulating, Displacing hole with fresh water
Drilling Cement	15:45	16:50	1.08	4,537	4,537	Drilling Cement and shoe, Shoe @ 4,534'
Rotating	16:50	17:05	0.25	4,537	4,557	(WOB=15;GPM=435;RPM=30;DP=200)
Circulating	17:05	17:30	0.42	4,557	4,557	Circulating bottoms up
Other	17:30	17:40	0.17	4,557	4,557	FIT Test
Rotating	17:40	18:55	1.25	4,557	4,612	(WOB=15;GPM=435;RPM=30;DP=275)
Sliding	18:55	19:25	0.50	4,612	4,625	(WOB=12;GPM=500;TFO=350M;DP=120)
Rotating	19:25	19:40	0.25	4,625	4,636	(WOB=15;GPM=500;RPM=40;DP=200)
Rotating	19:40	20:45	1.08	4,636	4,707	(WOB=18;GPM=500;RPM=50;DP=350)
Rotating	20:45	21:40	0.92	4,707	4,777	(WOB=18;GPM=500;RPM=65;DP=350)
Rotating	21:40	24:00	2.33	4,777	4,935	(WOB=20;GPM=500;RPM=60;DP=350)

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

(8 of 9)



Job Number: MSMO-56043	State: New Mexico	Company Man: N/A	Lead Directional: John Hornsby (SDS)
Customer: Bretburn Operating LP	County/Parish: Lea	Coordinator: John McKay	Night Directional: Jarrod Holler
Well Name: M Fee 21-2	Field: Permian Basin	Daily Cost: \$6,900.00	Lead MWD: N/A
Rig Name: Nabors M10	API #: N/A	Cummulative Cost: \$54,900.00	Night MWD: N/A

Drilling Summary

Start Depth:	End Depth:	Below Rotary Hours:	Circulating Hours:
4,935	7,584	24.02	23.02
Total Footage:	Total Drilled Hours:	Avg. Total ROP:	Percent Drilled:
2,649.00	23.02	115.09	95.84%
Rotating Footage:	Rotary Hours:	Avg. Rotary ROP:	Percent Rotary:
2,649.00	23.02	115.09	100.00%
Sliding Footage:	Sliding Hours:	Avg. Sliding ROP:	Percent Sliding:
0.00	0.00	0.00	0.00%

Drilling Parameters

	Min	Max		Min	Max
WOB:	22	38	SPP Off Bottom:	1100	1725
Pick Up:	150	185	SPP On Bottom:	1400	2400
Slack Off:	148	175	Delta Pressure:	300	700
Rot. Off Bottom:	150	180	Flow Rate:	504	550
Bottom Hole Temp.:	113	122.5	SPM:	120	130

Last Casing **Top: 0.00** **Shoe: 4,537.00** **ID: 12 1/4** **OD: 9 5/8**

Surveys	MD In: 4,746	Incl. In: 0.40	Azm. In: 282.40	MD Out: 7,568	Incl. Out: 0.50	Azm. Out: 49.60
----------------	---------------------	-----------------------	------------------------	----------------------	------------------------	------------------------

BHA's

#2 Stabilizer, 6 3/4" Float Sub, 6 3/4" Muleshoe, 6 3/4" Drill Collar, 6 3/4" Stabilizer, 6 3/4" X-Over, 6 1/2" Drill Collar, 6 3/4" Jars, 6 1/2" Drill Collar, 6 3/4" X-Over,

General Comments

DATE: 10/08/18 MSMO-56043 Breitburn Operating Encore M21 Fee 002 Nabors M10 Lea
Co. NM Rig Monitoring System: _____ Drillers on
Location Lead Driller : John Homsby 2nd Driller : Jarrod Hollier Mwd Operators Lead Mwd
Marcus Lewis Target changes : Design #1 Current Target = : 0 Projected TD Depth : 7,640
Current Depth : 7,584 Feet Left to Drill : 56 Current Activity : Drilling vertical production
hole sliding as needed. Drilling with MSE tests. Prev. 24hr Activity : Drilling vertical
production hole sliding as needed. Drilling with MSE tests. Daily Cost : \$6,900.00 Cum.
Cost : \$54,900.00 Start Date : 10/01/18 Estimated Finish Date : 10/09/18 Depth at Last
Survey : 7,380 Current Inc. : 0.70° Current Azm. : 140.10° Current Temp. : 122 °F Above /
Below : 2' N Left / Right : 8'W Motor Yield : 13/100' DLNL : N/A Vert. Sect. : N/A Last Csg
Depth / O.D. : 4.537' 9 5/8" Intermediate Casing Next Csg Depth / O.D. : 7.600' 5 1/2"
Production Casing LGS% : Serial# Clean Motor's on Location: D&C Hours 67D 16628SB 6
3/4" 7/8 6.4 Fxd @ 1.5" W/8 1/4" NBS CL: .016 Serial # In Hole: None 67D16672SB 6 3/4"
7/8 6.4 Fxd @ 1.5" W/8 1/4" NBS CL: .012 32 Serial # Dirty On Rack: None None Shipped
Motors: 96D318D 9 5/8" Hybrid 4/5 5.3 ADJ 1.5° 40 96D300D 9 5/8" Hybrid 4/5 5.3 ADJ
1.5°

24 Hours Summary

Drill ahead vertical hole f/ 4935' t/5385' sliding as needed.

Next 24 Hours Plan

Continue drilling vertical production hole.

Mud Checks

Date	Time	Type	Weight	Viscosity	PV	YP	Temperature	% Water	% Oil	% LGS	Comments
08/Oct/2018	00:00	Fresh Water	8.4	28	1	1	75	98.8	0	1.18	N/A

Activity Code	Start Time	End Time	Hours	Start Depth	End Depth	Comments
Rotating	00:00	01:45	1.75	4,935	5,075	(WOB=22,GPM=550,RPM=50,DP=350)
Rotating	01:45	06:00	4.25	5,075	5,480	(WOB=25,GPM=550,RPM=40,DP=400)
Rotating	06:00	10:25	4.42	5,480	6,075	(WOB=38,GPM=550,RPM=40,DP=700)
Rotating	10:25	11:45	1.33	6,075	6,230	(WOB=38,GPM=550,RPM=40,DP=700)
Rotating	11:45	12:25	0.67	6,230	6,304	(WOB=25,GPM=504,RPM=40,DP=300)
Rig Service-Inhole	12:25	13:00	0.58	6,304	6,304	Rig Service-Inhole
Rig repair	13:00	13:25	0.42	6,304	6,304	Working on mud pumps.
Rotating	13:25	15:40	2.25	6,304	6,635	(WOB=30,GPM=550,RPM=40,DP=400)
Rotating	15:40	19:00	3.33	6,635	7,120	(WOB=38,GPM=550,RPM=40,DP=550)
Rotating	19:00	20:30	1.50	7,120	7,275	(WOB=38,GPM=550,RPM=40,DP=700)
Rotating	20:30	21:20	0.85	7,275	7,350	(WOB=25,GPM=550,RPM=40,DP=475)
Rotating	21:20	24:00	2.67	7,350	7,584	(WOB=30,GPM=550,RPM=40,DP=625)

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

Daily Report Tuesday, October 9, 2018

(9 of 9)



Job Number: MSMO-56043	State: New Mexico	Company Man: N/A	Lead Directional: John Hornsby (SDS)
Customer: Bretburn Operating LP	County/Parish: Lea	Coordinator: John McKay	Night Directional: Jarrod Holler
Well Name: M Fee 21-2	Field: Permian Basin	Daily Cost: \$6,900.00	Lead MWD: N/A
Rig Name: Nabors M10	API #: N/A	Cummulative Cost: \$61,800.00	Night MWD: N/A

Drilling Summary

Start Depth: 7,584	End Depth: 7,634	Below Rotary Hours: 16.85	Circulating Hours: 7.52
Total Footage: 50.00	Total Drilled Hours: 0.67	Avg. Total ROP: 75.00	Percent Drilled: 2.78%
Rotating Footage: 50.00	Rotary Hours: 0.67	Avg. Rotary ROP: 75.00	Percent Rotary: 100.00%
Sliding Footage: 0.00	Sliding Hours: 0.00	Avg. Sliding ROP: 0.00	Percent Sliding: 0.00%

Drilling Parameters

	Min	Max		Min	Max
WOB:	25	25	SPP Off Bottom:	1725	1725
Pick Up:	185	185	SPP On Bottom:	2200	2200
Slack Off:	175	175	Delta Pressure:	475	475
Rot. Off Bottom:	180	180	Flow Rate:	550	550
Bottom Hole Temp.:	113	113	SPM:	130	130

Last Casing	Top: 0.00	Shoe: 4,537.00	ID: 12 1/4	OD: 9 5/8
-------------	------------------	-----------------------	-------------------	------------------

Surveys	MD In: 7,568	Incl. In: 0.50	Azm. In: 49.60	MD Out: 7,568	Incl. Out: 0.50	Azm. Out: 49.60
---------	---------------------	-----------------------	-----------------------	----------------------	------------------------	------------------------

BHA's

8 3/4" Bit , 6 3/4" Mpack 6 3/4" 7/8 6.4 Fxd @ 1.50" W/ 8 1/4" NBS Motor , 6 3/4" #2 Stabilizer , 6 3/4" Float Sub , 6 3/4" Muleshoe , 6 3/4" Drill Collar , 6 3/4" Stabilizer , 6 3/4" X-Over , 6 1/2" Drill Collar , 6 3/4" Jars , 6 1/2" Drill Collar , 6 3/4" X-Over ,

General Comments

Job complete, All tools shipped back to Midland office and job is closed out, All necessary paperwork is in sharefiles.

24 Hours Summary

Drill ahead vertical hole 1/5385' 1/7584' sliding as needed, TD Well at 7,634', Circulate and condition mud prior to pooh, Pooh to 4,537' and laid down drill pipe from there to BHA, Laid down Directional tools, Loaded out truck and closed out job

Next 24 Hours Plan

Job Complete

Mud Checks

Date	Time	Type	Weight	Viscosity	PV	YP	Temperature	% Water	% Oil	% LGS	Comments
09/Oct/2018	00:00	Fresh Water	8.5	28	0	0	0	0	0	0	N/A
09/Oct/2018	09:00	Fresh Water	9	54	17	24	70	94.6	0	5.33	N/A

Activity Code	Start Time	End Time	Hours	Start Depth	End Depth	Comments
Rotating	00:00	00:40	0.67	7,584	7,634	(WOB=25;GPM=550;RPM=40;DP=475)
Circulating	00:40	07:30	6.85	7,634	7,634	Circulating, condition mud prior to pooh
POOH	07:30	09:20	1.83	7,634	7,634	POOH to 4,537' (Shoe)
L/D DP	09:20	15:30	6.17	7,634	7,634	L/D DP
Break Down BHA	15:30	16:30	1.00	7,634	7,634	Break Down BHA
Other	16:30	24:00	7.50	7,634	7,634	Load out tools and close out job.

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

MSMO-56043: BHA #1 Performance Report



Customer: Brettburn Operating LP	Well Name: M Fee 21-2	Rig Name: Nabors M10
County/Parish: Lea	Target Formation: N/A	Company Man: N/A
Field: Permian Basin	BHA Type: Pendulum Assembly	Lead Directional: John Hornsby (SDS)

BHA Performance Summary

Start Date: 02/Oct/2018 - 21:00	Start Depth: 1,220	Slide Footage: 20	Rotate Footage: 3,297
End Date: 05/Oct/2018 - 22:00	End Depth: 4,537	Slide Hours: 0.75	Rotate Hours: 35.17
Total Time: 73.03	Total Footage: 3,317	Slide %: 0.60%	Rotate %: 99.40%
Below RKB Hours: 68.55	Avg. Total ROP: 92.35	Avg. Slide ROP: 26.67	Avg. Rotate ROP: 93.75
Circ. Only Hours: 7.02	Reason to POOH: Total depth/casing point		

Drilling Parameters	Min	Max		Min	Max		Min	Max
SPP Off Bottom:	450	1700	WOB:	12	27	Flow Rate:	350	754
SPP On Bottom:	650	2350	Pick Up:	91	135	SPM:	84	180
Rot Off Bottom:	89	135	Slack Off:	88	130	Diff Pressure:	200	700

Motor Specs

Size:	Lobes:	Stages:	Bend°:	RPG:	Pad OD:	Bit to Bend:	NB Stab:	Max. Diff:	Rotor Jet:
8	4/5	5.30	1.50	0.25	9 5/8	6.14	12.00	1,195.00	N/A

Description: 8"- 9 5/8" Hybrid Motor 4/5 5.3 ADJ @ 1.5"

Mud Data

Vis:	Min	Max	PV:	Min	Max	MW:	Min	Max	% LGS:	Min	Max	Chlor:	Min	Max	Oil:	Min	Max
T°:	0	30	0	1	10.2	0	0	10.2	0	2.14	0	0	0	0	178000	0	0
	0	0	YP:	0	1	WL:	0	99.5	Solids:	0	12.7	Gas:	0	0	pH:	0	9.5

Type: Brine - BHT°: N/A

Pumps MFG

Model	Type	Liner	GPS	Efficiency %
1 HH HHF1600	Triplex	6	4.1861	95 %
2 HH HHF1600	Triplex	6	4.1861	95 %

Bit Data

Manufacturer: N/A	Model: N/A	Type: N/A
TFA: 1.74	Pressure Drop: 147.19	IADC#: N/A

Jets: 18-18-18-18-18-18

Sensor Offsets

MWD: 57.00	Sonic: N/A	Gamma: N/A	DNSS: N/A	Resist: N/A	Type: Conventional
-------------------	-------------------	-------------------	------------------	--------------------	---------------------------

Bit IADC Code

IR: 0	OR: 0	Dull: N/A	Loc: N/A	BS: N/A	G: N/A	ODL: N/A
--------------	--------------	------------------	-----------------	----------------	---------------	-----------------

Surveys

Incl. In: 0.56	Azm. In: 196.51	Incl. Out: 1.6	Azm. Out: 186
-----------------------	------------------------	-----------------------	----------------------

Description

BHA # 1 - Vertical 12 1/4"

Performance

Good Rop & Motor yield. Surface inspection showed no visible wear and drained as should.

BHA Components

#	Description	S/N	ID	OD	Length	Sum	Top Conn.	Btm. Conn.	FNL	FNOD
1	12 1/4" Ulterra CF516	43082	0	12 1/4	1.00	1.00	6 5/8 Regular Pin	0	0.00	0.00
2	8"- 9 5/8" Hybrid Motor 4/5 5.3 ADJ @ 1.5"	96D318	0	8	30.60	31.60	6 5/8 Regular Box	6 5/8 Regular Box	0.00	7.75
3	12 1/4" -1/16 IB Stabilizer (bff)	800721	2 7/8	8 1/2	8.06	39.66	6 5/8 Regular Box	6 5/8 Regular Pin	3.65	8.50
4	MWD - Mule shoe sub	9231	2 5/16	8	3.04	42.70	6 5/8 Regular Box	6 5/8 Regular Pin	0.00	0.00
5	Non Mag Drill Collar (mwd)	DR35968	3 5/16	7 15/16	30.14	72.84	6 5/8 Regular Box	6 5/8 Regular Pin	0.00	0.00
6	12 1/4" -1/16 IB Stabilizer	12267	2 13/16	8 1/16	5.82	78.66	6 5/8 Regular Box	6 5/8 Regular Pin	1.69	8.06
7	XO - 6 1/2"x8"	ADS8568	2 7/8	6 1/2	2.42	81.08	6 5/8 Regular Box	6 5/8 Regular Pin	1.22	6.50
8	12 JTS - 6 1/2" Drill Collars	RIG	2 13/16	6 1/2	358.33	439.41	4 1/2 XH Box	6 5/8 Regular Pin	2.00	6.50
9	Jars	FX2650386	3	6 3/8	32.23	471.64	4 1/2 XH Box	4 1/2 XH Pin	4.13	0.00
10	3 JTS - 6 1/2" Drill Collars	RIG	2 13/16	6 1/2	90.50	562.14	4 1/2 XH Box	4 1/2 XH Pin	2.00	6.50
11	XO	6812	2 15/16	6 3/4	2.76	564.90	4 1/2 IF Box	4 1/2 XH Pin	0.00	0.00

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

XO	I.D: 2 15/16	O.D: 6 3/4	Length: 2.76
3 JTS - 6 1/2" Drill Collars	I.D: 2 13/16	O.D: 6 1/2	Length: 90.50
Jars	I.D: 3	O.D: 6 3/8	Length: 32.23
12 JTS - 6 1/2" Drill Collars	I.D: 2 13/16	O.D: 6 1/2	Length: 358.33
XO - 6 1/2"x8"	I.D: 2 7/8	O.D: 6 1/2	Length: 2.42
12 1/4" -1/16 IB Stabilizer	I.D: 2 13/16	O.D: 8 1/16	Length: 5.82
Non Mag Drill Collar (mwd)	I.D: 3 5/16	O.D: 7 15/16	Length: 30.14
MWD - Mule shoe sub	I.D: 2 5/16	O.D: 8	Length: 3.04
12 1/4" -1/16 IB Stabilizer (bff)	I.D: 2 7/8	O.D: 8 1/2	Length: 8.06
8"- 9 5/8" Hybrid Motor 4/5 5.3 ADJ @ 1.5"	I.D: 0	O.D: 8	Length: 30.60
12 1/4" Ulterra CF516	I.D: 0	O.D: 12 1/4	Length: 1.00

MSMO-56043: BHA #2 Performance Report



Customer: Bretburn Operating LP	Well Name: M Fee 21-2	Rig Name: Nabors M10
County/Parish: Lea	Target Formation: N/A	Company Man: N/A
Field: Permian Basin	BHA Type: Stabilized Assembly	Lead Directional: John Hornsby (SDS)

BHA Performance Summary

Start Date: 07/Oct/2018 - 06:30	Start Depth: 4,537	Slide Footage: 13	Rotate Footage: 3,084
End Date: 09/Oct/2018 - 24:00	End Depth: 7,634	Slide Hours: 0.50	Rotate Hours: 29.77
Total Time: 65.53	Total Footage: 3,097	Slide %: 0.42%	Rotate %: 99.58%
Below RKB Hours: 57.03	Avg. Total ROP: 102.32	Avg. Slide ROP: 26.00	Avg. Rotate ROP: 103.61
Circ. Only Hours: 8.93	Reason to POOH: Reached TD at 7,634'		

Drilling Parameters	Min	Max		Min	Max		Min	Max
SPP Off Bottom:	950	1725	WOB:	12	38	Flow Rate:	435	550
SPP On Bottom:	1225	2400	Pick Up:	135	185	SPM:	104	130
Rot Off Bottom:	135	180	Slack Off:	130	175	Diff Pressure:	120	700

Motor Specs						Description: Mpact 6 3/4" 7/8 6.4 Fxd @ 1.50" W/ 8 1/4" NBS				
Size: 6 3/4	Lobes: 7/8	Stages: 6.40	Bend°: 1.50	RPG: 0.28	Pad OD: 7 1/16	Bit to Bend: 4.91	NB Stab: 8.75	Max. Diff: 1,587.00	Rotor Jet: N/A	

Mud Data											Type: Fresh Water . BHT*: N/A						
	Min	Max		Min	Max		Min	Max		Min	Max		Min	Max		Min	Max
Vis:	28	54	PV:	0	17	MW:	8.4	9	% LGS:	0	5.33	Chlor:	0	1100	Oil:	0	0
T°:	0	0	YP:	0	24	WL:	0	99.5	Solids:	0	5.4	Gas:	0	0	pH:	0	9.5

Pumps MFG		Model	Type	Liner	GPS	Efficiency %
1	HH	HHF1600	Triplex	6	4.1861	95 %
2	HH	HHF1600	Triplex	6	4.1861	95 %

Bit Data			Jets: 18-18-18-18-18		
Manufacturer: N/A	Model: N/A	Type: N/A			
TFA: 1.49	Pressure Drop: 88.47	IADC#: N/A			

Sensor Offsets					
MWD: 54.00	Sonic: N/A	Gamma: N/A	DNSS: N/A	Resist: N/A	Type: Conventional

Bit IADC Code						
IR: 0	OR: 0	Dull: N/A	Loc: N/A	BS: N/A	G: N/A	ODL: N/A

Surveys	Incl. In: 1.6	Azm. In: 186	Incl. Out: 0.5	Azm. Out: 49.6
---------	----------------------	---------------------	-----------------------	-----------------------

Description

BHA #2

Performance

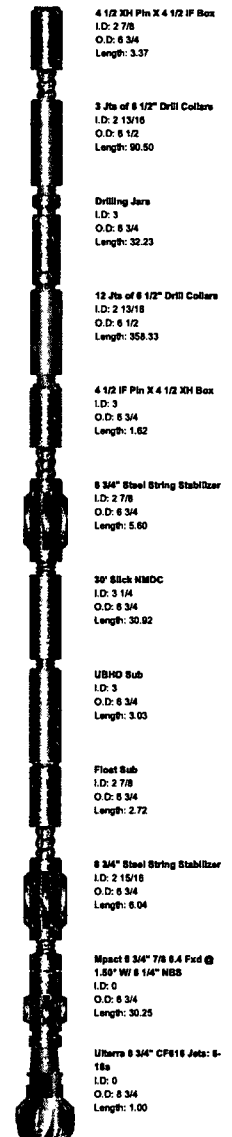
Total Feet: 3,097 Rotary Feet: 3,084 (99.58%) Sliding Feet: 13 (0.42%)
 Jetting Feet: 0 (0.00%) Average ROP: 102.32 Rotary ROP: 103.61 Sliding ROP: 26.00 Jetting ROP: 0.00 Total Time: 30.27 Rotary Time: 29.77 (98.35%) Sliding Time: 0.50 (1.65%) Jetting Time: 0.00 (0.00%) General Summary Total Feet: 6,414 Rotary Feet: 6,381 (99.49%) Sliding Feet: 33 (0.51%) Jetting Feet: 0 (0.00%) Average ROP: 96.91 Rotary ROP: 98.27 Sliding ROP: 26.40 Jetting ROP: 0.00 Total Time: 66.18 Rotary Time: 64.93 (98.11%) Sliding Time: 1.25 (1.89%) Jetting Time: 0.00 (0.00%)

BHA Components

#	Description	S/N	ID	OD	Length	Sum	Top Conn.	Btm. Conn.	FNL	FNOD
1	Ulterra 8 3/4" CF616 Jets: 6-18s	43235	0	8 3/4	1.00	1.00	4 1/2 Regular Pin	4 1/2 Pin	0.00	0.00
2	Mpact 6 3/4" 7/8 6.4 Fxd @ 1.50" W/ 8 1/4" NBS	67D16672	0	6 3/4	30.25	31.25	4 1/2 IF Box	4 1/2 Regular Box	2.82	6.56
3	8 3/4" Steel String Stabilizer	ADS8259	2 15/16	6 3/4	6.04	37.29	4 1/2 IF Box	4 1/2 IF Pin	2.64	6.75
4	Float Sub	DR20404	2 7/8	6 3/4	2.72	40.01	4 1/2 IF Box	4 1/2 IF Pin	0.00	6.69
5	UBHO Sub	7328	3	6 3/4	3.03	43.04	4 1/2 IF Box	4 1/2 IF Pin	0.00	6.44
6	30' Slick NMDC	DR39952	3 1/4	6 3/4	30.92	73.96	4 1/2 IF Box	4 1/2 IF Pin	2.99	6.88
7	8 3/4" Steel String Stabilizer	ADS8203	2 7/8	6 3/4	5.60	79.56	4 1/2 IF Box	4 1/2 IF Pin	2.08	6.75
8	4 1/2 IF Pin X 4 1/2 XH Box	ADS7357	3	6 3/4	1.62	81.18	4 1/2 XH Box	4 1/2 IF Pin	0.00	6.63
9	12 Jts of 6 1/2" Drill Collars	Rig	2 13/16	6 1/2	358.33	439.51	4 1/2 XH Box	4 1/2 XH Pin	2.00	6.50
10	Drilling Jars	FX2650386	3	6 3/4	32.23	471.74	4 1/2 XH Box	4 1/2 XH Pin	4.13	6.38
11	3 Jts of 6 1/2" Drill Collars	Rig	2 13/16	6 1/2	90.50	562.24	4 1/2 XH Box	4 1/2 XH Pin	2.00	6.50
12	4 1/2 XH Pin X 4 1/2 IF Box	DR33914	2 7/8	6 3/4	3.37	565.61	4 1/2 IF Box	4 1/2 XH Pin	0.00	6.56

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

"This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential."



Mud Motor Report: BHA #1



Job Number: MSMO-56043	State: New Mexico	Fail?: No
Customer: Bretburn Operating LP	County/Parish: Lea	Lead Directional: John Hornsby (SDS)
Well Name: M Fee 21-2	Field: Permian Basin	Company Man: N/A
Rig Name: Nabors M10	Location: Permian Basin	

Time and Depths (This BHA)

Date In: 02/Oct/2018	Time In: 21:00	Date Out: 05/Oct/2018	Time Out: 22:00
Hours In Hole: 68.55	Start Depth: 1,220	End Depth: 4,537	Total Drilled: 3,317.00
Avg. Total ROP: 92.35	Circ. Hrs. (Tot./Only): 46.60 / 7.02	Percent Slide: 0.60%	Percent Sliding Hours: 1.03%
Slide Hours: 0.75	Total Sliding: 20.00	Avg. Slide ROP: 26.67	Percent Rotary: 99.40%
Percent Rotary Hours: 48.15%	Rotary Hours: 35.17	Rotary Drilled 3,297.00	Avg. Rotary ROP: 93.75

Reason POOH:
Total depth/casing point

Motor Data

Stall Pressure: 900	MFG: Impact	Motor S/N: 96D318	Pad OD: 9.625
NB Stab: 12	Bit to Bend: 6.14	Bent Hsg/Sub: 1.5	Lobe: 4/5
Stage: 5.3	Rev./GAL: 0.25	Rotor Jet: N/A	Act. BUR: 0.5
Stator Clearance: 0.02	Lower Stab OD: 12	Upper Stab OD: 12.125	Extended Motor?: No
Number of Stalls: 0	Stall Duration: 1	Prop. BUR: 6	

Description:
8"- 9 5/8" Hybrid Motor 4/5 5.3 ADJ @ 1.5"

Drilling Parameters		Min	Max			Min	Max			Min	Max
RPM:		35	70	WOB:		12	27	Flow Rate:		350	754
Flow Temp.°:		0	0	BHT°:		75	122.5	Pick Up:		91	135
Slack Off:		88	130	RAB:		89	135	SPM:		84	180
SPP Off:		450	1700	SPP On:		650	2350	Surface Torque:		0	14000
Delta Press.:		200	700	In Flow Temp.:		0	0	Out Flow Temp.:		0	0

Bit Record

Manufacturer: N/A	Description: N/A	Run #: 0	Type Bit: N/A
IADC#: N/A	TFA#: 1.74	Condition: N/A	Bit Drop: 31.71 - 147.19

Jets: 18-18-18-18-18-18

Formations

Seven Rivers / Yates / Tansil / San Andres / Grayburg / Rustler / Queen / Penrose

BHA Performance

Good Rop & Motor yield. Surface inspection showed no visible wear and drained as should.

Expanded Reason Pulled

Total depth/casing point

Mud Data

Type	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Brine	Wt: 9.85	10.2	Vis: 28	30	WL: 80	99.5	PV: 1	1	T°: 80	85	% LGS: 0	2.14	Chlor: 166000	178000		
	Gas: 0	0	Sol: 0.5	12.7	Oil %: 0	0	YP: 1	1	pH: 0	9.5	BHT°: 122.5	122.5				

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

Mud Motor Report: BHA #2



Job Number: MSMO-56043	State: New Mexico	Fail?: No
Customer: Brettburn Operating LP	County/Parish: Lea	Lead Directional: John Hornsby (SDS)
Well Name: M Fee 21-2	Field: Permian Basin	Company Man: N/A
Rig Name: Nabors M10	Location: Permian Basin	

Time and Depths (This BHA)				Motor Data			
Date In: 07/Oct/2018	Time In: 06:30	Date Out: 09/Oct/2018	Time Out: 24:00	Stall Pressure: 0	MFG: Mpact	Motor S/N: 67D16672	Pad OD: 7.0625
Hours In Hole: 57.03	Start Depth: 4,537	End Depth: 7,634	Total Drilled: 3,097.00	NB Stab: 8.75	Bit to Bend: 4.91	Bent Hsg/Sub: 1.5	Lobe: 7/8
Avg. Total ROP: 102.32	Circ. Hrs. (Tot./Only): 40.78 / 8.93	Percent Slide: 0.42%	Percent Sliding Hours: 0.76%	Stage: 6.4	Rev./GAL: 0.28	Rotor Jet: N/A	Act. BUR: 0.5
Slide Hours: 0.50	Total Sliding: 13.00	Avg. Slide ROP: 26.00	Percent Rotary: 99.58%	Stator Clearance: 0.01	Lower Stab OD: 8.25	Upper Stab OD: N/A	Extended Motor?: No
Percent Rotary Hours: 45.42%	Rotary Hours: 29.77	Rotary Drilled 3,084.00	Avg. Rotary ROP: 103.61	Number of Stalls: 0	Stall Duration: 0	Prop. BUR: 6	
Reason POOH: Reached TD at 7,634'				Description: Mpact 6 3/4" 7/8 6.4 Fxd @ 1.50" W/ 8 1/4" NBS			

Drilling Parameters		Min	Max			Min	Max			Min	Max
RPM:		30	65	WOB:		12	38	Flow Rate:		435	550
Flow Temp.°:		0	0	BHT°:		113	122.5	Pick Up:		135	185
Slack Off:		130	175	RAB:		135	180	SPM:		104	130
SPP Off:		950	1725	SPP On:		1225	2400	Surface Torque:		0	8500
Delta Press.:		120	700	In Flow Temp.:		0	0	Out Flow Temp.:		0	0

Bit Record				Jets: 18-18-18-18-18	Formations
Manufacturer: N/A	Description: N/A	Run #: 0	Type Bit: N/A		Drinkard / Blinberry / Tubb / San Andres / Wolfcamp / Glorieta / Fusselman / Abo
IADC#: N/A	TFA#: 1.49	Condition: N/A	Bit Drop: 55.34 - 88.47		

BHA Performance	Expanded Reason Pulled
Total Feet: 3,097 Rotary Feet: 3,084 (99.58%) Sliding Feet: 13 (0.42%) Jetting Feet: 0 (0.00%) Avera	Reached TD at 7,634'

Mud Data																		
Type		Min	Max		Min	Max		Min	Max		Min	Max		Min	Max		Min	Max
Fresh Water	Wt:	8.4	9	Vis:	28	54	WL:	0	99.5	PV:	0	17	T°:	0	80	% LGS:	0	5.33
	Gas:	0	0	Sol:	0	5.4	Oil %:	0	0	YP:	0	24	pH:	0	9.5	BHT°:	122.5	122.5
																Chlor:	0	1100

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

Slide Sheet



Job Number: MSMO-56043	Customer: Bretburn Operating LP	State: New Mexico	County/Parish: Lea
Well Name: M Fee 21-2	Rig Name: Nabors M10	Field: Permian Basin	Location: Permian Basin

Slide Report for BHA # 1

Motor Description: 8" - 9 5/8" Hybrid Motor 4/5 5.3 ADJ @ 1.5" FIT-.018 - Bent Hsg/Sub: 1.5 - Bit to Bend: 6.14 - Pad O.D.: 9 5/8 - NB Stab: 12

Date	Mode	Start	End	Hours	Start MD	End MD	Feet	WOB (,000)	ROP	RPM TFO	Torque (,000)	Flow Rate	SPP	INC	AZM	DLS	TFO	BUR	TR
03Oct	Rotating	16:55	17:05	0.17	1,220	1,223	3	0.012	18.00	35	5	350	650	0.31	195.84	1.38	-179.16	-1.38	-3.72
03Oct	Rotating	17:40	17:50	0.17	1,223	1,230	7	0.012	41.99	35	5	350	650	0.21	195.16	1.38	-179.16	-1.38	-5.40
03Oct	Rotating	18:00	19:00	1.00	1,230	1,318	88	0.015	88.00	40	5	350	700	0.29	20.12	0.16	1.33	0.16	0.73
03Oct	Rotating	19:00	20:00	1.00	1,318	1,412	94	0.015	94.00	60	5	460	900	0.44	20.43	0.16	1.33	0.16	0.48
03Oct	Rotating	20:00	21:00	1.00	1,412	1,506	94	0.02	94.00	60	5	460	1,100	0.49	11.97	0.13	-104.05	-0.02	-14.71
03Oct	Rotating	21:00	24:00	3.00	1,506	1,883	377	0.02	125.67	65	7	460	1,100	0.39	29.32	0.18	-38.22	0.15	-16.35
04Oct	Rotating	00:00	04:30	4.50	1,883	2,355	472	0.02	104.89	65	7	460	1,100	0.66	36.85	0.11	-18.50	0.11	-3.02
04Oct	Rotating	10:40	10:50	0.17	2,355	2,367	12	0.015	71.99	60	7	754	2,100	0.68	36.59	0.11	-18.50	0.11	-2.96
04Oct	Rotating	11:35	12:10	0.58	2,367	2,455	88	0.02	150.87	60	7	754	2,300	0.77	35.94	0.11	-1.80	0.11	-0.25
04Oct	Rotating	12:10	13:45	1.58	2,455	2,640	185	0.015	116.84	70	10	754	2,150	0.90	37.78	0.05	93.15	0.00	3.35
04Oct	Rotating	13:45	16:15	2.50	2,640	2,860	220	0.026	88.00	70	10	754	2,200	1.00	36.66	0.14	-45.16	0.10	-5.88
04Oct	Rotating	16:15	21:45	5.50	2,860	3,400	540	0.027	98.18	70	12	754	2,300	1.34	32.37	0.06	-25.07	0.05	-1.06
04Oct	Rotating	21:45	23:00	1.25	3,400	3,500	100	0.027	80.00	70	14	754	2,350	1.39	31.38	0.06	-25.07	0.05	-1.02
04Oct	Rotating	23:00	24:00	1.00	3,500	3,600	100	0.025	100.00	70	12	754	2,350	1.44	29.02	0.08	-53.58	0.05	-2.70
05Oct	Rotating	00:00	00:30	0.50	3,600	3,635	35	0.027	70.00	70	8	754	2,350	1.46	28.11	0.08	-53.58	0.05	-2.66
05Oct	Rotating	00:30	03:30	3.00	3,635	3,859	224	0.022	74.67	70	8	754	2,350	0.29	175.69	1.16	175.21	-0.80	98.94
05Oct	Sliding	03:30	04:15	0.75	3,859	3,879	20	0.015	26.67	200	0	754	2,000	0.51	187.20	1.16	175.21	-0.58	94.10
05Oct	Rotating	04:30	05:00	0.50	3,879	3,900	21	0.027	42.00	70	10	754	2,350	0.71	191.15	0.32	-2.82	0.32	-1.26
05Oct	Rotating	05:00	08:00	3.00	3,900	4,206	306	0.025	102.00	70	10	754	2,350	1.36	187.97	0.06	-35.80	0.05	-1.58
05Oct	Rotating	08:00	12:45	4.75	4,206	4,537	331	0.025	69.68	70	10	754	2,000	1.60	186.80	0.04	90.55	0.00	1.41

Summarize

Total Feet: 3,317	Rotary Feet: 3,297 (99.40%)	Sliding Feet: 20 (0.60%)	Jetting Feet: 0 (0.00%)	Average ROP: 92.35	Rotary ROP: 93.75	Sliding ROP: 26.67	Jetting ROP: 0.00	Total Time: 35.92	Rotary Time: 35.17 (97.91%)	Sliding Time: 0.75 (2.09%)	Jetting Time: 0.00 (0.00%)
-----------------------------	--	---------------------------------------	--------------------------------------	------------------------------	-----------------------------	------------------------------	-----------------------------	-----------------------------	--	---	---

Slide Report for BHA # 2

Motor Description: Mpac 6 3/4" 7/8 6.4 Fxd @ 1.50" W/ 8 1/4" NBS - Bent Hsg/Sub: 1.5 - Bit to Bend: 4.91 - Pad O.D.: 7 1/16 - NB Stab: 8.75

Date	Mode	Start	End	Hours	Start MD	End MD	Feet	WOB (,000)	ROP	RPM TFO	Torque (,000)	Flow Rate	SPP	INC	AZM	DLS	TFO	BUR	TR
07Oct	Rotating	16:50	17:05	0.25	4,537	4,557	20	0.015	80.00	30	3.5	435	1,250	1.60	187.09	0.04	90.55	0.00	1.41
07Oct	Rotating	17:40	18:55	1.25	4,557	4,612	55	0.015	44.00	30	4	435	1,225	1.14	192.88	0.90	166.32	-0.86	10.71
07Oct	Sliding	18:55	19:25	0.50	4,612	4,625	13	0.012	26.00	N/A	0	500	1,400	1.03	195.05	0.90	166.32	-0.86	11.87
07Oct	Rotating	19:25	19:40	0.25	4,625	4,636	11	0.015	44.00	40	5	500	1,480	0.94	197.28	0.90	166.32	-0.85	13.05
07Oct	Rotating	19:40	20:45	1.08	4,636	4,707	71	0.018	65.54	50	7	500	1,450	0.44	233.31	0.90	166.32	-0.78	31.01
07Oct	Rotating	20:45	21:40	0.92	4,707	4,777	70	0.018	76.36	65	8	500	1,450	0.40	282.10	0.01	-90.90	0.00	-0.95
07Oct	Rotating	21:40	24:00	2.33	4,777	4,935	158	0.02	67.72	60	7	500	1,450	0.40	280.60	0.01	-90.90	0.00	-0.95
08Oct	Rotating	00:00	01:45	1.75	4,935	5,075	140	0.022	80.00	50	7	550	1,450	0.55	273.90	0.11	-23.82	0.11	-4.79
08Oct	Rotating	01:45	06:00	4.25	5,075	5,480	405	0.025	95.29	40	8	550	1,550	0.42	295.21	0.15	146.33	-0.11	11.42
08Oct	Rotating	06:00	10:25	4.42	5,480	6,075	595	0.038	134.72	40	8	550	1,900	0.59	281.86	0.17	-123.56	-0.09	-14.16
08Oct	Rotating	10:25	11:45	1.33	6,075	6,230	155	0.038	116.25	40	8	550	1,900	0.50	254.59	0.17	-123.56	-0.06	-17.33
08Oct	Rotating	11:45	12:25	0.67	6,230	6,304	74	0.025	110.99	40	8	504	1,400	0.53	249.63	0.06	-17.57	0.05	-1.80
08Oct	Rotating	13:25	15:40	2.25	6,304	6,635	331	0.03	147.11	40	8	550	2,000	0.59	277.05	0.16	-123.67	-0.09	-13.12
08Oct	Rotating	15:40	19:00	3.33	6,635	7,120	485	0.038	145.50	40	8	550	2,200	0.43	268.00	0.09	-134.58	-0.06	-8.46
08Oct	Rotating	19:00	20:30	1.50	7,120	7,275	155	0.038	103.33	40	8.5	550	2,400	0.28	184.59	0.51	-141.25	-0.15	-91.33
08Oct	Rotating	20:30	21:20	0.85	7,275	7,350	75	0.025	88.24	40	7.5	550	2,200	0.56	145.76	0.51	-141.25	0.10	-72.56
08Oct	Rotating	21:20	24:00	2.67	7,350	7,584	234	0.03	87.75	40	7.5	550	2,350	N/A	N/A	N/A	N/A	N/A	N/A
09Oct	Rotating	00:00	00:40	0.67	7,584	7,634	50	0.025	75.00	40	7.5	550	2,200	N/A	N/A	N/A	N/A	N/A	N/A

Summarize

Total Feet: 3,097	Rotary Feet: 3,084 (99.58%)	Sliding Feet: 13 (0.42%)	Jetting Feet: 0 (0.00%)	Average ROP: 102.32	Rotary ROP: 103.61	Sliding ROP: 26.00	Jetting ROP: 0.00	Total Time: 30.27	Rotary Time: 29.77 (98.35%)	Sliding Time: 0.50 (1.65%)	Jetting Time: 0.00 (0.00%)
-----------------------------	--	---------------------------------------	--------------------------------------	-------------------------------	------------------------------	------------------------------	-----------------------------	-----------------------------	--	---	---

General Summary

Total Feet: 6,414	Rotary Feet: 6,381 (99.49%)	Sliding Feet: 33 (0.51%)	Jetting Feet: 0 (0.00%)	Average ROP: 96.91	Rotary ROP: 98.27	Sliding ROP: 26.40	Jetting ROP: 0.00	Total Time: 66.18	Rotary Time: 64.93 (98.11%)	Sliding Time: 1.25 (1.89%)	Jetting Time: 0.00 (0.00%)
-----------------------------	--	------------------------------------	-----------------------------------	------------------------------	-----------------------------	------------------------------	-----------------------------	-----------------------------	---------------------------------------	--------------------------------------	--------------------------------------

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.

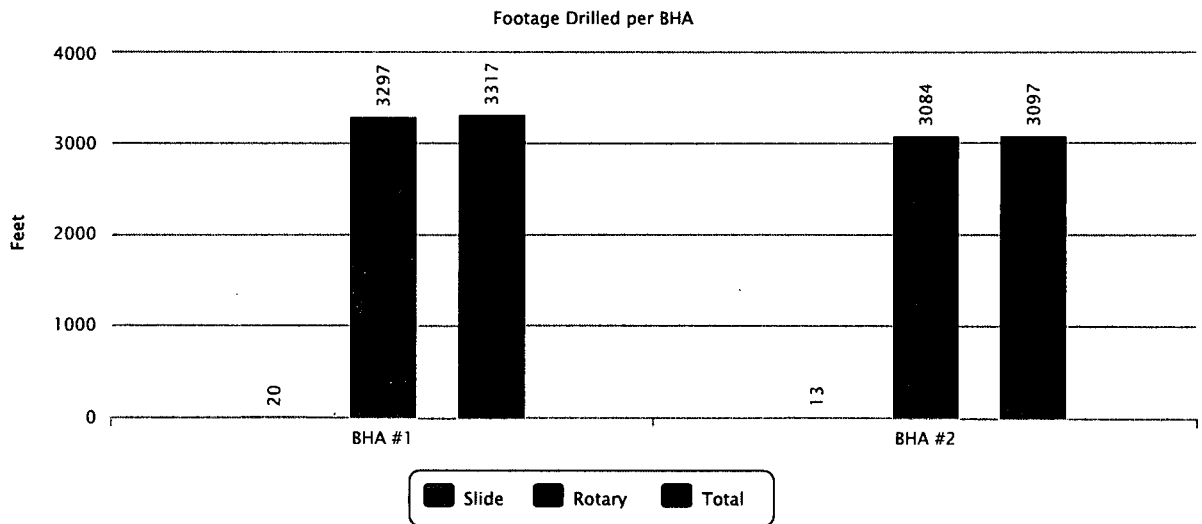
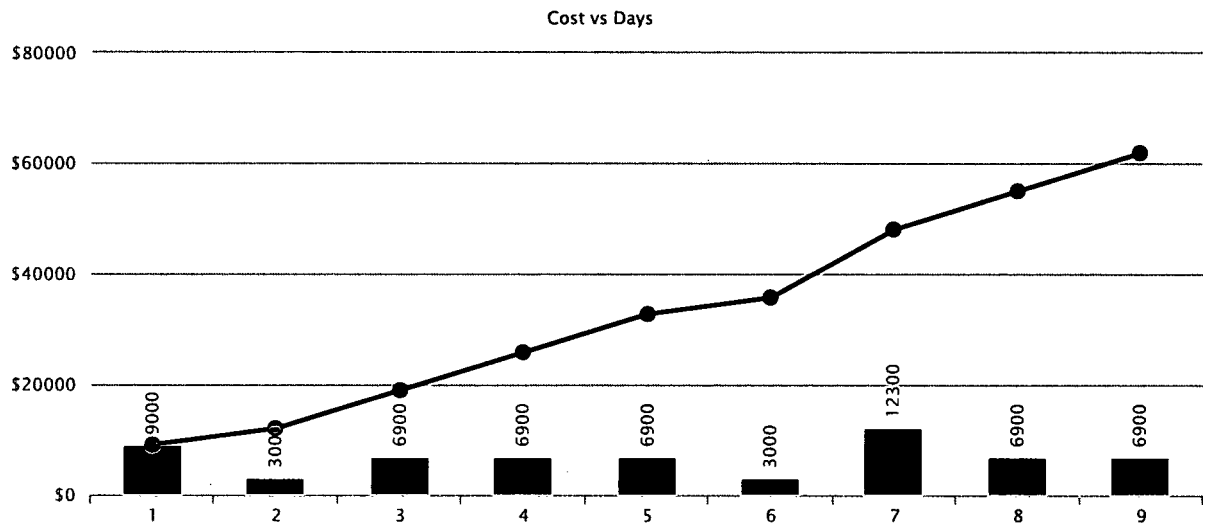
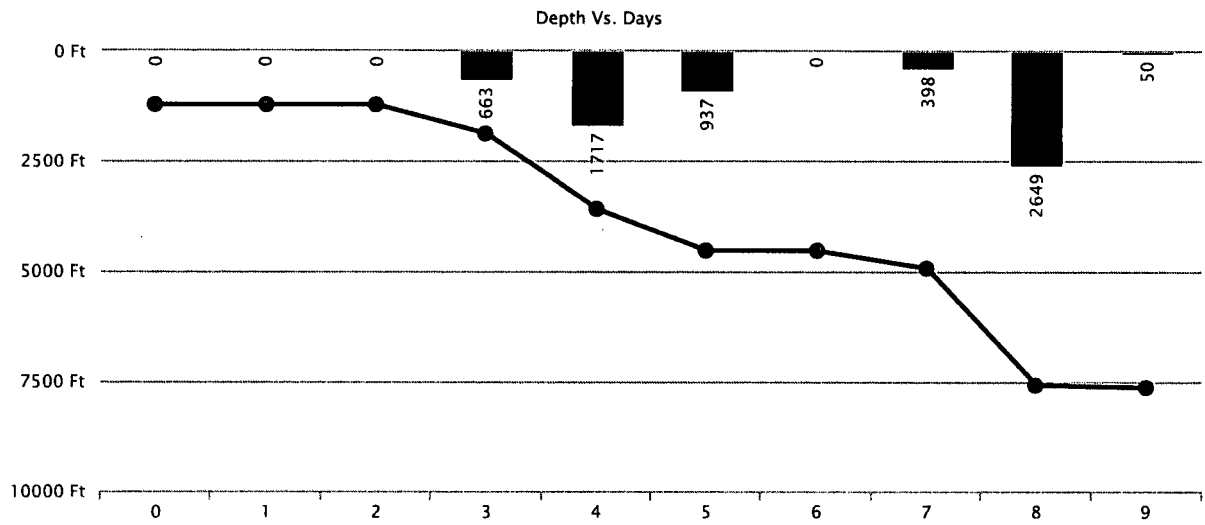
Job Costs

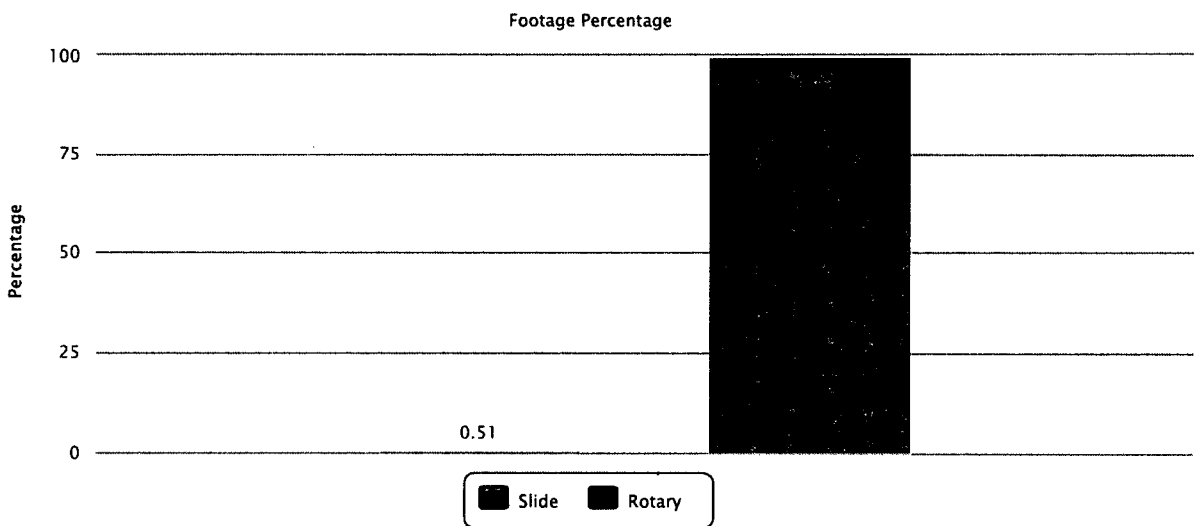
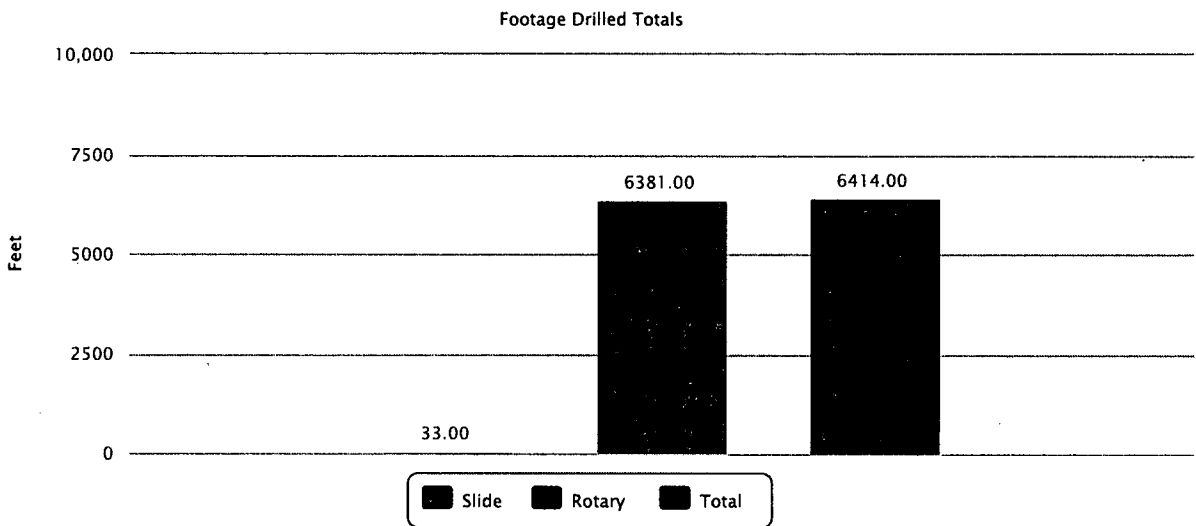
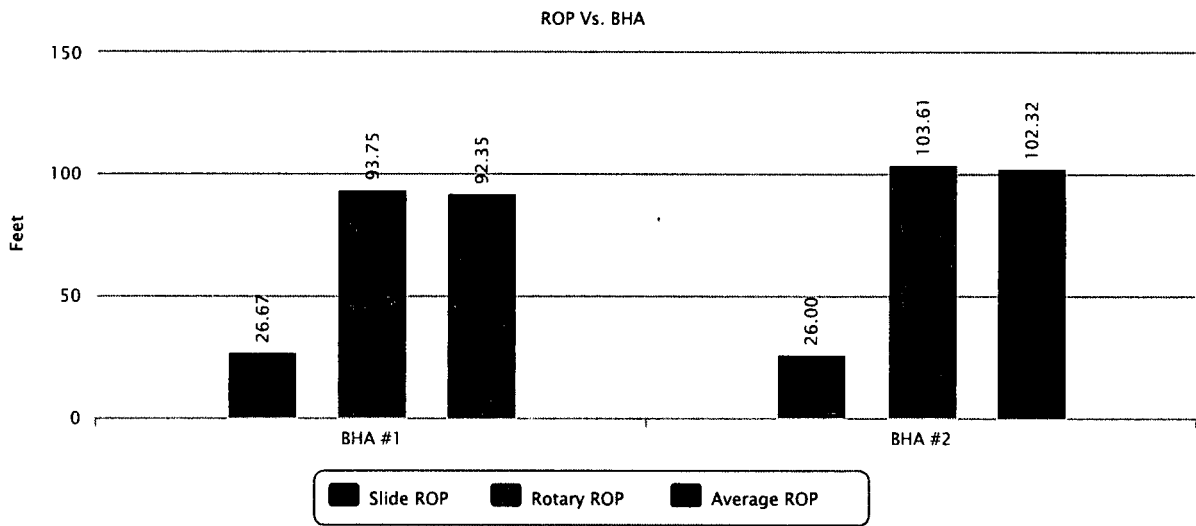


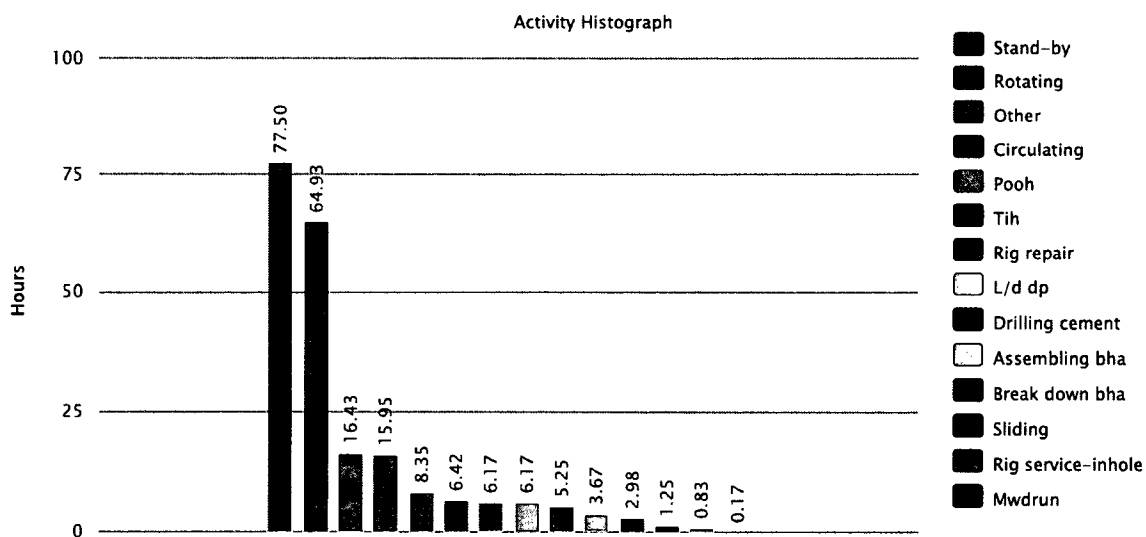
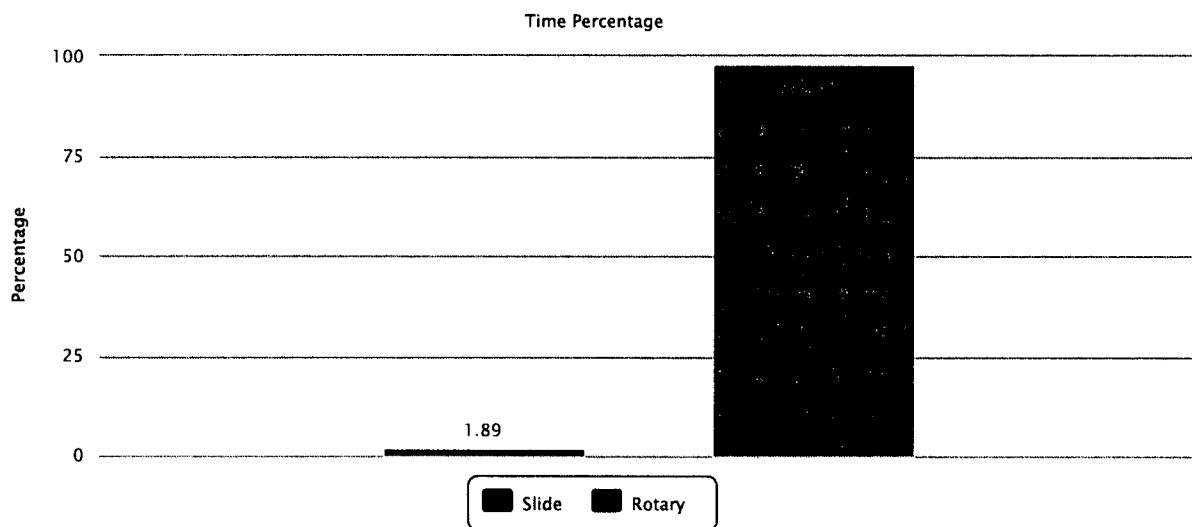
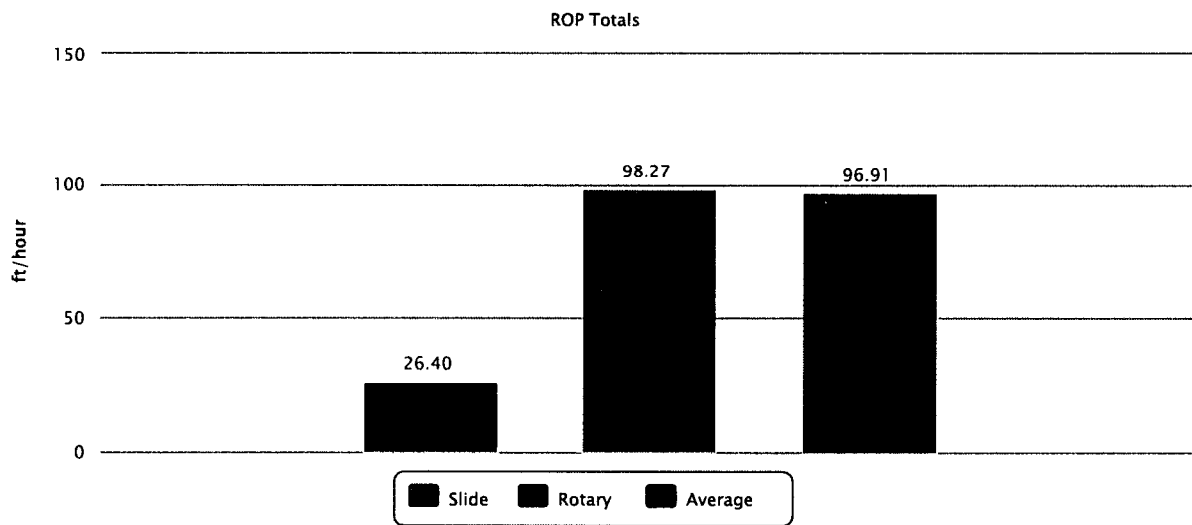
Job Number: MSMO-56043	Customer: Bretburn Operating LP	Well Name: M Fee 21-2	Rig Name: Nabors M10
----------------------------------	---	---------------------------------	--------------------------------

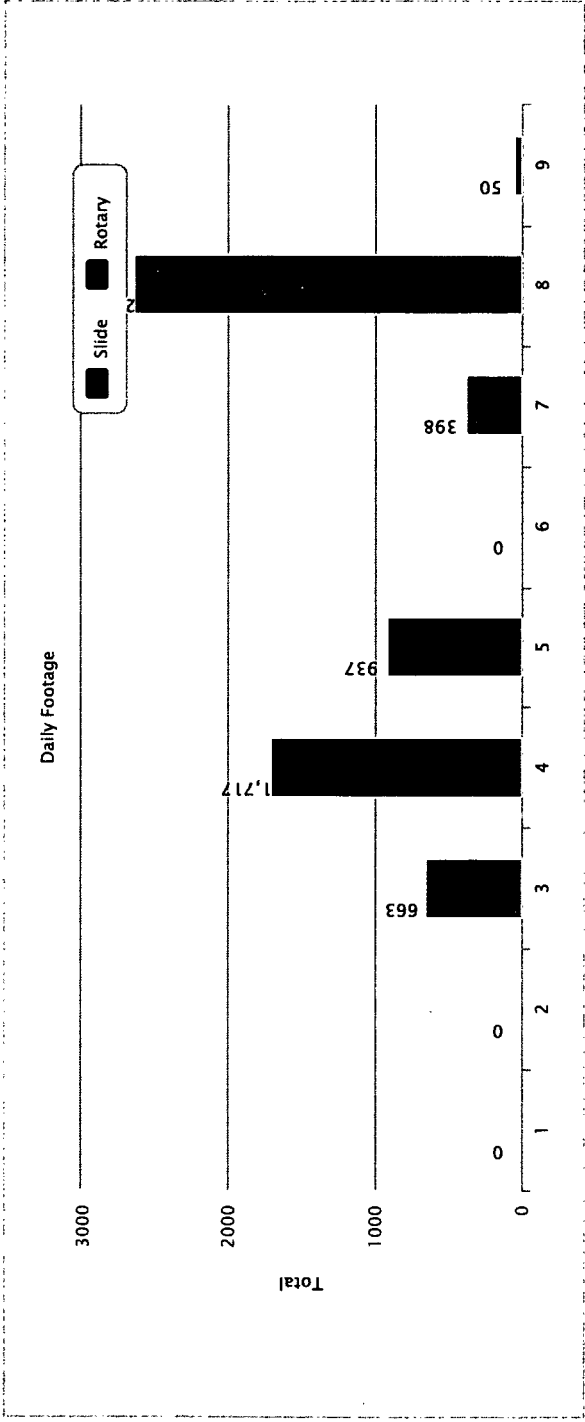
Day	BHA	Wellbore	Section	Phase	Cost Code	Charged By	Units	Unit Cost	Sub-Total
01/Oct/2018	N/A	OH	Intermediate 01	Vertical	standby for equipment +3 Hands	DAY	1	\$3,000.00	\$3,000.00
01/Oct/2018	N/A	OH	Intermediate 01	Vertical	Mob/ Demob	Each	1	\$6,000.00	\$6,000.00
02/Oct/2018	N/A	OH	Intermediate 01	Vertical	standby for equipment +3 Hands	DAY	1	\$3,000.00	\$3,000.00
03/Oct/2018	1	OH	Intermediate 01	Vertical	2DD/1MWD Day Rate	DAY	1	\$6,900.00	\$6,900.00
04/Oct/2018	1	OH	Intermediate 01	Vertical	2DD/1MWD Day Rate	DAY	1	\$6,900.00	\$6,900.00
05/Oct/2018	1	OH	Intermediate 01	Vertical	2DD/1MWD Day Rate	DAY	1	\$6,900.00	\$6,900.00
06/Oct/2018	N/A	OH	Production	Vertical	standby for equipment +3 Hands	DAY	1	\$3,000.00	\$3,000.00
07/Oct/2018	2	OH	Production	Vertical	Additional MWD Inspection/Rebuild	Each	1	\$1,250.00	\$1,250.00
07/Oct/2018	2	OH	Production	Vertical	Additional Inspect/Recut/Redress	Each	3	\$550.00	\$1,650.00
07/Oct/2018	2	OH	Production	Vertical	Additional Motor Rebuild Charge	Each	1	\$2,500.00	\$2,500.00
07/Oct/2018	2	OH	Production	Vertical	2DD/1MWD Day Rate	DAY	1	\$6,900.00	\$6,900.00
08/Oct/2018	2	OH	Production	Vertical	2DD/1MWD Day Rate	DAY	1	\$6,900.00	\$6,900.00
09/Oct/2018	2	OH	Production	Vertical	2DD/1MWD Day Rate	DAY	1	\$6,900.00	\$6,900.00
Total:									\$61,800.00
\$/Ft:									\$9.64
\$/Day:									\$6,866.67

This document contains MS Directional's proprietary and confidential information and may not be copied, published, distributed or transmitted, in whole or in part, by any medium or in any form without MS Directional's prior written consent. The information contained in this document is not to be used by or disclosed to any individuals other than those who need to know such information and who have been given notice that such information is proprietary and confidential.











Conroe, TX
3335 Pollok Drive
Conroe, TX 77303
Phone: 936.442.2500
Toll Free: 844.266.6737
Fax: 936.442.2599

Ft. Worth, TX
7821 Will Rogers Blvd.
Ft. Worth, TX 76140
Phone: 817.568.1038
Toll Free: 844.389.6737
Fax: 817.568.1499

Glendive, MT
123 W. Oregon Lane
Glendive, MT 59330
Phone: 406.365.2030
Toll Free: 844.456.6737
Fax: 406.365.2025

Grand Junction, CO
742 W. White Ave.
Grand Junction, CO 81501
Phone: 970.257.1911
Toll Free: 844.458.6737
Fax: 970.257.1947

Midland, TX
6301 W. Industrial Ave.
Midland, TX 79706
Phone: 432.424.3000
Toll Free: 844.643.6737
Fax: 432.689.3584

Oklahoma City, OK
3800 S. Thomas Rd.
Oklahoma City, OK 73179
Phone: 405.680.7570
Toll Free: 844.652.6737
Fax: 405.680.7576

West Alexander, PA
903 Old Brick Rd.
West Alexander, PA 15376
Phone: 724.484.7550
Toll Free: 844.925.6737
Fax: 724.484.7558