DRILLING OPERATIONS OVERNIGHT...

Depth: 11,500' (overnight)

Well Name:	Bird Turkey 36-7		
Current Operation:	Drilling ahead @ 11,500'		
Rotary on @:	08:00		
Casing Run/Depth:	9 5/8" @ 10,000'		
Liner Run/Depth:	7" @ 11,500'	Time:	3:00 PM
Drilling Ahead @:	08:00 AM	Time:	3:00 PM
Current Activity:	Drilling ahead @ 11,500' MD, TD		
Bottom Hole Formation:	Wolf Camp		
Last Casing Shoe:	10,000' MD		
Last Casing Shoe:	9,500' TVD	To:	4:00 AM
Liner Hanger:	9,500' MD		
Liner Hanger:	9,500' TVD		
Mud Weight:	10.1 ppg		
Mud Type:	Diesel/Fresh Water Gel		

OPERATOR

Company:	Bird Turkey Operating LLC
Address:	1234 Bird St, Suite 100 Midland, TX 79705
Contact:	Bird Turkey
Contact Number:	(432) 555-1234
Well Planner:	Bird Turkey
Well Planner:	(432) 555-1234
Email:	bird.turkey@birdturkeyoperating.com

Email: Sophie Wood
Email: Jack Hawk

LOGGED BY

Company:	Eagle Operating Consultants, LLC
Address:	1234 Eagle Dr Midland, TX 79705
Phone No:	(432) 555-1234
Email:	Derek.W.Patterson@eagleoperating.com

Name: Derek W. Patterson

REMARKS

After reviewing all the geological data, DST results, and the open hole logs for the Bird Turkey 36-7 7-1 we have decided upon the following casing point selections. Please see the attached casing point selection sheet.

Respectfully Submitted,

Derek W. Patterson

GENERAL INFORMATION

Drilling Contractor:	Bird Drilling Co.	Rig Type:	Bird Land Rig
Rig Number:	Bird Rig #1	Spud Date/Time:	08:00 AM 10/1/2019
Pumps #1 Info:	Triplex Mud Pump	Pumps #2 Info:	Triplex Mud Pump
Pumps #3 Info:	None	Pump #4 Info:	None
Drilling Engineer:	Bird Turkey	Company Man:	Bird Turkey
Logging Engineer:	Derek W. Patterson	Mud Logger:	Derek W. Patterson
Toolpusher:	Bird Turkey	Tool Pusher:	Bird Turkey
Directional Driller:	Bird Turkey	Directional Co.:	Bird Turkey
Tubular Goods Inspection:	Eagle Testing	Testing Company:	Eagle Testing
Operations Mgr:	Bird Turkey	Safety Mgr:	Bird Turkey

Fuel Usage		Water Usage	
Current:	1,000 gal	Current:	1,000 bbls
Used Today:	1,000 gal	Used Today:	1,000 bbls
Received Today:	0 gal	Received Today:	0 bbls
Total Usage:	1,000 gal	Total Usage:	1,000 bbls

Personnel On Site					
Company	Service	Number	Company	Service	Number
Bird Turkey Operating LLC	Company Man	1	Eagle Operating Consultants, LLC	Mud Logger	1
Bird Drilling Co.	Drilling Crew	12	Eagle Testing	Tubular Goods Inspection	2
Bird Turkey Operating LLC	Directional Driller	1	Eagle Testing	Testing Company	2
Bird Turkey Operating LLC	Toolpusher	1			

Total Personnel On Site	20

Safety Info			
Last Safety Meeting:	10/1/2019	Last BOP Test:	10/1/2019
Last Safety Drill:	10/1/2019	Last Fire Drill:	10/1/2019
Last Spill Drill:	10/1/2019	Last Evac Drill:	10/1/2019

Bit Info													
Bit #	Size	Type	Manufacturer	Serial #	Jets	TFA	MD In	MD Out	TVD In	TVD Out	Total Footage	Total Hours	Total Rotating Hours
1	17.5"	Tricone	Bird Bits	12345	20/20/20/20/20	1.178	0'	1,500'	0'	1,500'	1,500'	24.0	18.0
2	12.25"	PDC	Bird Bits	67890	18/18/18/18/18	1.035	1,500'	10,000'	1,500'	9,500'	8,500'	72.0	60.0
3	8.5"	PDC	Bird Bits	54321	16/16/16/16/16	0.785	10,000'	11,500'	9,500'	11,000'	1,500'	24.0	18.0

Mud Info			
Mud Type:	Diesel/Fresh Water Gel	Mud Weight:	10.1 ppg
Viscosity:	45 sec/qt	Plastic Viscosity:	18 cP
Yield Point:	12 lb/100 ft²	Gel Strength:	8/12 lb/100 ft²
Filtrate:	6.0 cc/30 min	Cake Thickness:	2/32"
Solids:	8%	Oil/Water Ratio:	70/30
Sand:	0.5%	MBT:	15 ppb
pH:	9.5	Pm:	1.2
Pf/Mf:	0.8/1.5	Chlorides:	45,000 mg/L
Calcium:	1,200 mg/L	Hardness:	1,800 mg/L

Mud Volumes			
Active Volume:	1,200 bbls	Reserve Volume:	800 bbls
Total Volume:	2,000 bbls	Lost Circulation:	0 bbls
Lost Downhole:	0 bbls	Lost Surface:	0 bbls
Built Today:	0 bbls	Dumped:	0 bbls

Daily Mud Cost		Cumulative Mud Cost	
Daily Mud Cost:	$2,500	Cumulative Mud Cost:	$45,000

Daily Cost Breakdown			
Description	Cost	Description	Cost
Base Oil	$1,200	Barite	$0
Gel	$300	Chemicals	$500
Lime	$0	Salt	$0
Lost Circulation Material	$0	Other	$500

Cumulative Cost Breakdown			
Description	Cost	Description	Cost
Base Oil	$18,000	Barite	$0
Gel	$4,500	Chemicals	$7,500
Lime	$0	Salt	$0
Lost Circulation Material	$0	Other	$15,000

Solids Control Equipment			
Shakers:	3	Shaker Screens:	210
Desander:	1	Desander Cones:	2
Desilter:	1	Desilter Cones:	16
Centrifuge:	1	Mud Cleaner:	1
Degasser:	1	Trip Tank:	1

DAILY OPERATIONS

From	To	Hours	Activity	Comments
12:00 AM	06:00 AM	6.0	Drilling	Drilling 8.5" production hole from 10,000' MD to 11,500' MD. Rotating and sliding as required. Maintaining 10.1 ppg mud weight. Pumping 40 bbl high-vis sweeps every 500'. Pulling connection gas to 1,850 units.
06:00 AM	08:00 AM	2.0	Circulate & Condition	Circulate and condition mud at TD. Pump 40 bbl high-vis sweep. Reciprocate pipe 90' while circulating. Mud weight 10.1 ppg in and out. Prepare for wiper trip.
08:00 AM	10:00 AM	2.0	Wiper Trip	Pull 15 stands (1,500') to 9,500' inside 9 5/8" casing shoe. Hole in good condition, no tight spots. Run back to bottom, no fill on bottom.
10:00 AM	11:00 AM	1.0	Circulate & Condition	Circulate bottoms up. Pump 40 bbl high-vis sweep. Reciprocate pipe 90'. Mud weight 10.1 ppg in and out. Prepare for casing run.
11:00 AM	02:00 PM	3.0	Run Casing	Rig up casing crew. Run 7" 29# P-110 HC liner as follows: 1 jt 7" 29# P-110 HC shoe track, 1 jt 7" 29# P-110 HC, float collar, 42 jts 7" 29# P-110 HC, 7" x 9 5/8" liner hanger/packer assembly. Total liner length 1,500'. Top of liner at 9,500' MD. Shoe at 11,500' MD. Fill casing every 10 joints. Circulate 1 casing volume at 9,500' shoe. Mud weight 10.1 ppg in and out.
02:00 PM	04:00 PM	2.0	Cement Casing	Rig up cementing head. Pump 20 bbl fresh water spacer. Pump 50 bbl (280 sx) 15.8 ppg Class H cement with 0.3% CFR-3, 0.2% HR-5, 35% SSA-1. Displace with 10.1 ppg mud. Bump plug with 1,500 psi over final circulating pressure. Hold 5 min, bleed off, check floats. Floats holding. Set liner hanger per procedure. Release setting tool. Circulate 1 casing volume to clear excess cement. Rig down cementing head.
04:00 PM	06:00 PM	2.0	Rig Down	Rig down casing crew and cementing equipment. Lay down 7" liner running tool. Clean rig floor. Prepare for BOP test.
06:00 PM	12:00 AM	6.0	Nipple Up & Test BOP	Nipple up 13 5/8" 10M annular, double ram, mud cross, single ram BOP stack. Test BOP to 250 psi low / 5,000 psi high. Test annular to 250 psi low / 3,500 psi high. Test choke manifold, kill line, choke line, floor valves, and TIW valve to 250 psi low / 5,000 psi high. Test 9 5/8" casing to 1,500 psi for 30 min. Record all tests on chart. Rig down test equipment.
12:00 AM	06:00 AM	6.0	Drilling	Drilling 8.5" production hole from 11,500' MD to 12,000' MD. Rotating and sliding as required. Maintaining 10.1 ppg mud weight. Pumping 40 bbl high-vis sweeps every 500'. Pulling connection gas to 1,850 units. Drilling parameters: WOB 15-25 klbs, RPM 120-140, SPP 3,200 psi, ROP 60-80 fph.

CASING/TUBULARS

Casing Strings										
Type	Size	Weight	Grade	Connection	Set MD	Set TVD	Shoe Test	Cement Top	Cement Bottom	Cement Volume
Surface	13.375"	54.5 ppf	J-55	BTC	1,500'	1,500'	12.5 ppg	Surface	1,500'	1,200 sx
Intermediate	9.625"	40 ppf	P-110	LTC	10,000'	9,500'	14.0 ppg	Surface	10,000'	1,800 sx
Liner	7"	29 ppf	P-110 HC	BTC	11,500'	11,000'	14.5 ppg	9,500'	11,500'	280 sx

Tubing Strings										
Type	Size	Weight	Grade	Connection	Set MD	Set TVD	Packer Type	Packer Set MD	Packer Set TVD	Notes
Production	4.5"	12.6 ppf	P-110	BTC	9,500'	9,000'	Hydraulic Set	9,500'	9,000'	4.5" x 7" Hydraulic Set Packer

Tubular Goods Inspection			
Inspection Company:	Eagle Testing	Inspection Date:	10/1/2019
Joints Inspected:	42	Joints Rejected:	0
Inspection Method:	Visual / Drift / Gauge		

DRILLING FLUIDS

Mud Properties													
Time	Depth	Mud Type	MW (ppg)	Vis (sec/qt)	PV (cP)	YP (lb/100 ft²)	Gels 10s/10m	Filtrate (cc/30 min)	Cake (32nds)	pH	Pm	Pf/Mf	Chlorides (mg/L)
06:00 AM	10,000'	Diesel/Fresh Water Gel	10.1	45	18	12	8/12	6.0	2	9.5	1.2	0.8/1.5	45,000
12:00 PM	10,500'	Diesel/Fresh Water Gel	10.1	46	19	13	8/12	5.8	2	9.5	1.2	0.8/1.5	46,000
06:00 PM	11,000'	Diesel/Fresh Water Gel	10.1	47	19	13	9/13	5.6	2	9.4	1.1	0.7/1.4	47,000
12:00 AM	11,500'	Diesel/Fresh Water Gel	10.1	45	18	12	8/12	6.0	2	9.5	1.2	0.8/1.5	45,000

Mud Solids Control													
Time	Depth	Mud Type	MW (ppg)	Solids (%)	Sand (%)	MBT (ppb)	Oil/Water Ratio	Shaker Screens	Desander	Desilter	Centrifuge	Mud Cleaner	Degasser
06:00 AM	10,000'	Diesel/Fresh Water Gel	10.1	8%	0.5%	15	70/30	210	On	On	On	On	On
12:00 PM	10,500'	Diesel/Fresh Water Gel	10.1	8%	0.5%	15	70/30	210	On	On	On	On	On
06:00 PM	11,000'	Diesel/Fresh Water Gel	10.1	8%	0.5%	15	70/30	210	On	On	On	On	On
12:00 AM	11,500'	Diesel/Fresh Water Gel	10.1	8%	0.5%	15	70/30	210	On	On	On	On	On

BHA / DRILLSTRING

BHA Components							
Component	OD	ID	Length	Weight	Connection	Top MD	Bottom MD
8.5" PDC Bit	8.5"		1.0'			10,000'	10,001'
6.75" Mud Motor (7/8 lobe, 5.0 stage)	6.75"		30.0'			10,001'	10,031'
8.5" Stabilizer	8.5"		6.0'			10,031'	10,037'
6.5" Drill Collar	6.5"	2.813"	30.0'			10,037'	10,067'
8.5" Stabilizer	8.5"		6.0'			10,067'	10,073'
6.5" Drill Collar	6.5"	2.813"	30.0'			10,073'	10,103'
6.5" Drill Collar	6.5"	2.813"	30.0'			10,103'	10,133'
6.5" Drill Collar	6.5"	2.813"	30.0'			10,133'