# DAILY DRILLING REPORT

RPT DATE: 11/07/2020
RPT NUM.: 19
RIG: Frontier Rig 16

## WELL/JOB INFORMATION

| | | | | | |
|---|---|---|---|---|---|
| WELL NAME: | FORGE 16A [78]-32 | JOB: | Drilling 65° Tangent | RIG SUPERV: | Leroy Swearingen , Bob Frank, Duane W |
| FIELD: | | LEASE: | | RIG PHONE: | 281-854-6858 |
| AFE #: | | API #: | | EMAIL: | |
| CONTRACTOR: | Frontier Drilling | ELEVATION: | 5415.1 | RKB: | |
| SPUD DATE: | 10/30/2020 | DFS: | 8 | DOL: | 18 |
| MD/TVD: | 4552 | 24 HR FTG: | 568 | HRS DRLG: | 18 |

PRESENT OPERATIONS: Drilling Ahead 4552

ACTIVITY PLANNED: Trip out of hole, Trip back in hole start drilling

## BOP

| LAST BOP TEST: | 11/23/20 | LAST BOP DRILL: | 11/6/20 | NEXT BOP TEST: | 11/3/20 |
|---|---|---|---|---|---|

## CASING

| CASING TYPE | OD | WEIGHT | GRADE | MD | TVD |
|---|---|---|---|---|---|
| Conductor | 20.00 | 54 | A53B | 130 | 130 |
| Surface | 13.38 | 68 | L-80 | 1,629 | 1,629 |
| | | | | | |
| | | | | | |
| | | | | | |

## MUD

| TIME | MW | FV | WL | PH | CAKE | GELS (10s/10m/30m) | | | PV | YP | CL | K | Pf | Mf | Ca | OIL | LGS | HTHP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22:00 | 9.1 | 60.0 | 9.6 | 10.2 | 1 | 12 | 22 | 34 | 17 | 29 | 1,400 | | 0.10 | 0.60 | 120 | | 2.60 | |

## DRILL BITS

| NO. | SIZE | MANUFACTURER | TYPE | SER NO. | JETS | TFA | RE-RUN | IN | OUT | FEET | HRS | WOB | RPM | ROP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 12.25 | NOV | TKC 66 PDC | E266453 | 6x18 | 1.490 | Y | 1,644 | 4,552 | 2,908 | 49.0 | 50 | 84 | 59.3 |
| 3 | 12.25 | Smith | GF 15BODJPS TRI-CONE | RK6139 | 3x20 | 0.920 | N | 1,629 | 1,644 | 15 | 1.0 | | 80 | 15.0 |

BIT NO.: INNER: OUTER: DULL: LOC: SEAL: GAUGE: OTHER: RP:

## PUMPS

| PUMP | MAKE | MODEL | LINER | STK | SPM | PSI | GPM | GPS | EFF % | ECD | AV DP | AV DC | BIT HHP | PUMP HHP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BOMCO | 1600 | 6.000 | 12.000 | 95 | 2800 | 400 | | 95 | 9.17 | 141 | 214 | 92.6 | |
| 2 | BOMCO | 1600 | 6.000 | 12.000 | 95 | 2800 | 400 | | 95 | 91.7 | 141 | 214 | 92.6 | |

## BHA

| # | COMPONENT | OD | ID | LENGTH | # | COMPONENT | OD | ID | LENGTH |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Drill Bit-12 .25" PDC | 12.25 | | 2 | 7 | Monel Collar-8" NMDC | 8.13 | 2.75 | 29.52 |
| 2 | Steerable Assembly-VERTICAL SCOUT | 9.63 | | 20.65 | 8 | Sub-8" HANG OFF SUB | 8.13 | 3.25 | 5.09 |
| 3 | X-Over-6 5/8 REG X 6 5/8 REG PIN - PIN | 8 | 2.75 | 2.16 | 9 | Drill Collar-4 STDS 8" DC | 8 | 2.88 | 366.49 |
| 4 | Motor-7/8, 5.9 STG, 0.155 RPG ,STRAIGHT | 8.13 | | 41.11 | 10 | X-Over-6 5/8 REG PIN X 4 1/2 IF BOX | 8 | 2.75 | 2.8 |
| 5 | Shock Sub-SHOCK SUB | 8.38 | 2.75 | 13.52 | 11 | Drill Pipe-5" HVY WT DP | 5 | 3 | 276.35 |
| 6 | Stabilizer-12 1/8" STABILIZER | 8.06 | 3.25 | 4.97 | 12 | Drill Pipe-5" DP | 5 | 4.28 | 3787.34 |

DESCRIPTION: INTERMEDIATE 3

LENGTH: 4,552.00 BHA WT. AIR: BHA WT. MUD: HRS. ON JARS:

ROT. WT.: P.U. WT.: 154,000 S.O. WT.: 148,000 TORQUE:

## SURVEY DATA

| MD | INCLINATION | AZIMUTH | TVD | N/S COORDINATES | E/W | V. SECTION | DLS |
|---|---|---|---|---|---|---|---|
| 4,069 | 1.23 | 315.43 | 4,068 | -2.9 | 10.3 | 10.7 | 1.1 |
| 4,164 | 0.92 | 263.93 | 4,163 | -2.3 | 8.9 | 9.1 | 1.0 |
| 4,258 | 0.92 | 210.05 | 4,257 | -3.0 | 7.7 | 8.2 | 0.9 |
| 4,354 | 1.14 | 155.47 | 4,353 | -4.5 | 7.7 | 8.7 | 1.0 |

## CONSUMABLES

| CONSUMABLE | DAILY RECEIVED (gal) | DAILY USED (gal) | DAILY ON HAND (gal) |
|---|---|---|---|
| Fuel | 11,892 | 1,591 | 38,111 |
| Potable Water | 13,200 | 13,200 | 13,200 |

## TIME BREAKDOWN

| FROM | TO | HRS | PHASE | CODE | NPT | OPERATIONS |
|---|---|---|---|---|---|---|
| 06:00 | 11:00 | 5.0 | Intermediate Drilling | Drilling | | PJSM (pre job safety meeting) with FORGE DSM's and Frontier Drilling.<br>Drill ahead with BHA #4 from 3,984' - 4,187', 203' at 40.6 FPH<br>WOB: 30-35 K, ROT 40 rpm, 660 gpm, TQ 4,459 ft lbs, SPP 2,100 - 2,250 psi, DIFF 285 psi<br>Last Survey at 4,069 Inc 1.23, AZM 315.63<br>Control drilling to drop angle. |
| 11:00 | 15:00 | 4.0 | Intermediate Drilling | Drilling | | Drill ahead with BHA #4 from 4,187' - 4,258' 71' -at 17.75' FPH<br>WOB: 35- 40 K, ROT 40 rpm, 730 gpm, TQ 4,287 ft lbs, SPP 2,150 - 2,250 psi, DIFF 225 - 260 psi<br>Last Survey at 4,258 Inc 0.0.92, AZM 210.05<br>Lithology at 4,250': 65%, clay and clay stone, 35% fine sand from granite<br>Clay redish brown soft mod soluble, kaolinitic very sandy<br>Sand fine to medium gran, angular to subangular from granite |
| 15:00 | 18:00 | 3.0 | Intermediate Drilling | Drilling | | 15:00 Rig lost power, 15:10 Power back on<br>Drill ahead with BHA #4 from 4,258' - 4,327' 69' -at 23' FPH<br>WOB: 35- 40 K, ROT 40 rpm, 730 gpm, TQ 4,420 ft lbs, SPP 2,150 - 2,250 psi, DIFF 223 psi<br>Last Survey at 4,164 Inc 0.92, AZM 263.33<br>Lithology at 4,300, 65% Sand, Sand fine to medium grain, angular to subangular from granite<br>clay and clay stone, 35% Clay White to light redish brown, soft mod soluble, kaolinitic very sandy |
| 18:00 | 00:00 | 6.0 | Intermediate Drilling | | | PJSM (pre job safety meeting) with FORGE DSM's and Frontier Drilling.<br>Drill ahead with BHA #4 from 4,327' - 4,460' 133' -at 22.2 FPH<br>WOB: 40 - 48 K, ROT 55- 65 rpm, 730 - 850 gpm, TQ 4,6000 ft lbs, SPP 2,700 - 2,800 psi, DIFF 223 psi<br>Last Survey at 4,457 'Inc 1.14, AZM 155.47<br>Lithology at 4,300, 65% Sand, Sand fine to medium grain, angular to subangular from granite<br>clay and clay stone, 35% Clay White to light redish brown, soft mod soluble, kaolinitic very sandy<br>Drilling break at 4,441' 11' total, Peak ROP 112 fph Weathered granite.<br>Inc walked out to 1.14 and AZM swung to 155.47 approaching AZM where inclination rate accelerates, Adjust ROT down to 40. |
| 00:00 | 06:00 | 6.0 | Intermediate Drilling | Drilling | | Drill ahead with BHA #4 from 4,460' - 4,552' 92' -at 15.3 FPH ;<br>Mud Weight 9.0+, viscosity 55, drilling break 4,460 to 4,471<br>Lithology changed from red, white clay and sand to Granodiorite: Med Dark Grey,<br>Mud fluids seepage losses in six hours 9 bbls<br>Speed up centrifuge to lower mud weight to 9.0, viscosity 55<br>WOB: 45 - 48 K, ROT 40 - 55 rpm, 730 - 850 gpm, TQ 3,200 - 4,2000 ft lbs, SPP 2,700 - 2,800 psi, DIFF 150 -223 psi<br>Last Survey at 4,457 'Inc 1.14, AZM 155.47<br>Lithology at 4,460: Granite / Granodiorite: Med Dark Grey, Soft to Mod Firm, 50% Feldspar, 20 - 30 % Cloudy Quartz, 10 - 20 % Black - green Mafic, Typically Biotite<br>Hornblende, Green Epidote, Pyrite .<br>At 06:00 seepage to small to measure<br>Prepare to trip out of hole |

TOTAL HRS 24.0