

FORGE Energy
UL 23 Mercury 1H
API Number: 42-371-39447

11/15/2016

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 Location is approved for permitting and construction
Directions: From Hwy. 385 and IH10, go east on north service road to FM 2023,
go south on 2023 for 3.9 miles, turn west through cattle guard, go to Vega
location, continue west for 0.7 to location.

11/22/2016

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 drove to UL Mercury 1H and met with Child's construction company. discuss
road, cattle guard, caliche pit, water for project. set up tentative dates and
times for equipment deployment awaiting the green light from Forge and UL.
call and discuss road and pad construction with Lazaro from UL. Lazaro
informed me that UL has shut down construction until some preliminary actions
were taken. calls and emails were sent to Forge relaying the message
appropriately and accurately to appropriate personnel.
there are no cost occurring at this time.

12/08/2016

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 meet UL rep Lazaro and inspect completed cattleguard to meet UL specs.
all is good.
Childs construction starting to clear right of way for road to location

12/10/2016

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 meet UL rep Lazaro and inspect completed cattleguard to meet UL specs.
all is good.
Childs construction starting to clear right of way for road to location

12/15/2016

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 haul caliche for road, continue to clear pad, start building drlg pits,

12/17/2016

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 pack and roll road, finish digging drilling pits, set cellar - 6' wide x 8' long vdoor
to pits x 6' deep wood cellar,

12/22/2016

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 continue to haul and pack drilling pad, line drilling pits, lay 3" poly line from
water well near frac pit

12/24/2016

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 drill 20" x 140' and cement conductor and 80' mouse hole.
construction is 100% complete. pad is complete. road is complete. there is 10
loads of 10# bw in the outside reserve. there is 18" of FW in the inside reserve.
there is a fw poly line run from the water well near the frac pit to the drilling
pits. there is barb wire fence around the reserve pits and cellar.

01/12/2017

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 Poly pipe rental

02/13/2017

Rig Name:

Depth = 0.0 Progress = 0.0

07:00 Poly pipe and meter rental

03/06/2017

Rig Name:

Depth = 0.0 Progress = 0.0

18:00 RIG DOWN & PREP H&P 490 TO MOVE F/ UL 20 SUNLIGHT 1H T/ UL 23
MERCURY 1H

03/07/2017

Rig Name: H&P 490

Depth = 0.0 Progress = 0.0

06:00 RIGGING DOWN H&P 490 : DOCK TDS & UNSPOOL, RIG DOWN FLOOR & ALL
HOIST, RIG DOWN DRILLERS CABIN, RIG DOWN PITS & LOAD OUT SAME,
SHUT DOWN & RIG DOWN GEN PACKAGE & VFD HOUSE, SCOPE IN WIRE TRAY
& L/D DEFUB ARM, WORK MRC'S & PIN TO DERRICK, L/D DERRICK @ 12:00,
L/D SUBS, MOVE RIG COMPONENTS TO NEW LOCATION
18:00 POLICE OLD LOCATION, FINISH LOADING OUT ITEMS IN PREP FOR NEXT DAY
MOB, SDFN WAITING ON DAYLIGHT

03/08/2017

Rig Name: H&P 490

Depth = 0.0 Progress = 0.0

06:00 PLUG WIRES ON GEN #1, #2 & #3, NUMBER MUD PUMP WIRES, PLUG WIRE
TRAY TO MUD PITS, PIN TOP OF DERRICK TO BOTTOM SECTION, PIN BLOCKS,
DRESS DERRICK, SCOPE MAST CYLINDERS & PIN SAME, R/U HOSES, SET
TRIP TANK, RAISE GAS BUSTER, PLUG IN DRAW WORKS & DERRICK LIGHTS,
R/U DIESEL LINES TO MOTOR PACKAGE, INSTALL FLOW LINE, SET; CATWALK,
DIESEL TANK, CHANGE HOUSE & CONEX
18:00 RAISE & PIN DERRICK, R/U RIG FLOOR, SPOOL UP DRAW WORKS, HOOK UP
DISCHARGE VIBRATOR HOSE, CHECK GROUND RODS, POWER UP

03/09/2017

Rig Name: H&P 490

Depth = 0.0 Progress = 0.0

06:00 INSTALL DRAIN HOSES UNDER RIG FLOOR, INSTALL NEW AIR HOIST (OFF
DRILLERS SIDE), INSTALL CHAINS ON SHAKER SLIDE, REPAIRED SHAKER
HAND RAILS, INSTALLED V-DOOR, INSTALL RETRO FIT ON PDS, ORGANIZE
SUB BOX, HUNG OFF ANGLE LIFT & GERONIMO LINES, WORK ON STRUCTURE
AUDIT ITEMS, DRESS #2 & #3 SHAKERS, INSTALL EQUALIZER LINES, C/O
VALVE ON WATER LINE, ORGANIZE DOG HOUSE
18:00 SPOOL UP CABLE ON AIR HOIST, SPOOL UP DRILL LINE ON DRAWWORKS, C/O
SAVER SUB ON TOP DRIVE, R/U BACKYARD PVC & TRANSFER PUMPS
FROM RESERVE PIT, START C/O PUMP LINERS TO 6", WELDER ON LOCATION @
05:00 & STARTED PREP CONDUCTOR TO WELD ON

03/10/2017

Rig Name: H&P 490

Depth = 0.0 Progress = 0.0

06:00 C/O SAVER SUB & STABBING GUIDES ON TOP DRIVE, WELD RISER, C/O ALL
MUD PUMP LINERS TO 6", INSTALL BAILS & ELEVATORS ON TOP DRIVE,
SERVICE TOP DRIVE, SERVICE & C/O DIES ON ST-80, C/O DRAIN HOSE UNDER
RIG FLOOR, PERFORMED PRE SPUD INSPECTION, ACCEPTED RIG ON DAYRATE
@ 00:00 ON 3/10/17, NOTIFIED TRRC WITH INTENT TO SPUD & RUN SURFACE
CASING, SPOKE WITH SARA = JOB#74649
00:00 N/U FLOWLINE & INSTALL TURN BUCKLES ON CONDUCTOR & CENTER OVER
HOLE & LOAD PIPE RACKS WITH BHA & TALLEY/CALIPER

03/11/2017

Rig Name: H&P 490

Depth = 520.0 Progress = 355.0

06:00 TEST MUD PUMPS #1, #2, & #3, TEST STAND PIPE TO 3,500 PSI
07:00 P/U BHA #1 CONSISTING OF 17 1/2" SMITH GS18 BIT JETTED W/ 3-20'S, B/S,
SHOCK SUB, TRUE SHOT MANLESS MWD SURVEY TOOL, 17 3/8 IBS, 8" DC, 17
3/8" IBS, 2-8" DC'S, X-O, TAG @ 158', M/U KELLY STD
10:30 SPUD @ 10:30 HRS 3/10/2017, ROT DRLG. 17 1/2" SURFACE F/ 165' - T/195'
= 30' @ 10' FT/HR; WOB: 10/15K ; RPM: 40/60 ; TORQUE ON BTM: 3/5K;
GPM: 460/500; SPP: 350; PU- 55K; SO- 55K; ROT- 55K; FULL RETURNS;
PUMPING 10 BBL 60 VIS GEL SWEEPS EVERY CONN
14:30 ROT DRLG. 17 1/2" SURFACE F/ 195' - T/235' = 40' @ 11 FT/HR; WOB: 10/15K
; RPM: 40/60 ; TORQUE ON BTM: 3/5K; GPM: 460/500; SPP: 350; PU- 55K;
SO- 55K; ROT- 55K; FULL RETURNS; PUMPING 10 BBL 60 VIS GEL SWEEPS
EVERY CONN.
18:00 ROT DRLG. 17 1/2" SURFACE F/235' - T/330' = 95' @ 24 FT/HR; WOB: 30K ;
RPM: 60/80 ; TORQUE ON BTM: 8/10K; GPM: 600; SPP: 700; PU- 100K; SO-
100K; ROT- 100K; FULL RETURNS; PUMPING 20 BBL 60 VIS GEL SWEEPS
EVERY CONN.
22:00 ROT DRLG. 17 1/2" SURFACE F/330' - T/425' = 95' @ 24 FT/HR; WOB: 30K ;
RPM: 60/80 ; TORQUE ON BTM: 8/10K; GPM: 600; SPP: 700; PU- 100K; SO-
100K; ROT- 100K; FULL RETURNS; PUMPING 20 BBL 60 VIS GEL SWEEPS
EVERY CONN.
02:00 ROT DRLG. 17 1/2" SURFACE F/425' - T/452' = 27' @ 18 FT/HR; WOB: 30K ;
RPM: 60/80 ; TORQUE ON BTM: 8/10K; GPM: 600; SPP: 700; PU- 100K; SO-

100K; ROT- 100K; FULL RETURNS; PUMPING 20 BBL 60 VIS GEL SWEEPS EVERY CONN.

- 03:30 TIGHTEN BOLTS ON TOP DRIVE MOTOR THAT HAD VIBRATED LOOSE
04:30 ROT DRLG. 17 1/2" SURFACE F/452' - T/520' = 68' @ 45 FT/HR; WOB: 30K ; RPM: 60/80 ; TORQUE ON BTM: 8/10K; GPM: 600; SPP: 700; PU- 100K; SO- 100K; ROT- 100K; FULL RETURNS; PUMPING 20 BBL 60 VIS GEL SWEEPS EVERY CONN.

Vis (s/qt): 28, Dens (lb/gal): 8.40, pH: 9.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
240.0	239.99	0.90	101.80	-0.39	0.38	-0.39	1.85
331.0	330.98	0.20	0.89	-0.38	1.05	-0.38	2.55

03/12/2017

Rig Name: H&P 490

Depth = 855.0 Progress = 335.0

- 06:00 ROTATE DRILL F/ 520' TO 855', 335' @ 55.8 FPH, WOB 35/45K, RPM 70/80, TQ 7/8K, GPM 690, SPP 1120 PSI, PUMP 20 BBL GEL SWEEP W/ 15 PPB LCM EACH CONNECTION
- 12:00 CBU @ 855', RPM 40, GPM 690, SPP 1,120 PSI, TQ 1/2K, WORK DRILL STRING ONE STD, PUMP 60 BBL GEL SWEEP W/ 15 PPB LCM STS, HAD FINE CUTTINGS TO SURFACE, CBU, ALL CIRCULATIONS HAD FULL RTS
- 14:00 POOH (SLM), L/D 2 - 17 3/8" IBS, 17 1/2" BIT, B/S, SHOCK SUB & TRUE SHOT MONEL, NO CORRECTIONS ON SLM, NORMAL DRAG, TOOH ON TRIP TANK W/ NORMAL FILL, DULL GRADE BIT T-1, B-1, IN GAUGE
- 19:00 HPJSM W/ CSG CREW, RIG CREW, FORGE, RUN 13 3/8" CASING AS FOLLOWS: 1 TEXAS PATTERN SHOE, 1 JT 13 3/8" 48# H-40 STC, FC, THREAD LOCKED SHOE TRACK, FLOW TESTED THROUGH FLOATS, TEST GOOD, P/U & RUN 20 MORE JTS 13 3/8" 48# H-40 STC CASING, PLACED CENT 10' ABOVE SHOE, 10' ABOVE FC, CENT EVERY 3RD JT T/ SURFACE, TAGGED @ 855', HARD BOTTOM, SHOE @ 855', FC @ 820.62'
- 23:30 CIRC 2 FULL CIRCULATIONS @ 75 SPM = 7 BPM, @ 150 PSI, FULL RETURNS, R/D CSG EQUIP & VOLANT CRT TOOL, R/U CMT EQUIP, HPJSM W/ HOWCO, H&P, AND FORGE
- 01:00 CEMENT 13 3/8" CSG AS FOLLOWS: PRESSURE TEST LINES TO 1,500 PSI, PUMPED 20 BBL FRESH WATER GEL SPACER W/ RED DYE, PUMPED 550 SX (185 BBLS) 12.9 PPG LEAD ECONOCHEM @ 1.892 YIELD W/ 200% XS PUMPED AT 6 BPM, PUMPED 185 SX (46 BBLS) 14.8 PPG TAIL HALCEM @ 1.347 YIELD W/ 0% XS PUMPED AT 5 BPM, DROPPED NON ROTATING TOP PLUG, PUMPED 130 BBLS OF DISPLACEMENT WITH 8.3# FRESH WATER, SLOWED T/ 3 BPM, PUMPED FINAL 17 BBLS DISPLACEMENT, BUMPED PLUG, PRESSURED UP 500 PSI OVER, HELD PRESSURE 5 MINUTES, BLEED OFF, FLOATS HOLDING, 40 BBLS CEMENT BACK TO SURFACE, GOOD RETURNS THROUGHOUT JOB
NOTE DAYLIGHT SAVINGS TIME CHANGED @ 02:00
- 03:30 R/D CMT HEAD & STEEL LINES, CENTERED CSG IN ROTARY, FLUSHED CONDUCTOR & FLOWLINE, REMOVED TURNBUCKLES, FLOWLINE, HOSES

Vis (s/qt): 27, Dens (lb/gal): 8.40, pH: 9.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
481.0	480.98	0.60	74.40	0.09	0.38	0.09	3.31
571.0	570.97	0.80	114.20	-0.04	0.57	-0.04	4.34
605.0	604.97	1.10	152.60	-0.43	2.02	-0.43	4.71
667.0	666.96	0.90	186.70	-1.44	0.99	-1.44	4.93
758.0	757.94	1.20	203.00	-3.03	0.46	-3.03	4.47
825.0	824.93	1.10	219.10	-4.17	0.50	-4.17	3.79

03/13/2017

Rig Name: H&P 490

Depth = 855.0 Progress = 0.0

- 06:00 CUT OFF & LAY OUT CONDUCTOR, MAKE FINAL CUT, INSTALL 13 5/8" 5M X 13 3/8" SOW STARTING HEAD WITH TOP FLANGE 10" BELOW GL, INSTALL BASE PLATE, TEST VOID TO 600 PSI FOR 10 MIN, GOOD TEST
- 10:30 N/U: 13 3/8 5M X 13 5/8 10M UPPER DRILLING HOUSING, 13 5/8 10M 30" SPACER SPOOL, BOP'S
- 15:00 N/U FLOWLINE & VENT LINE TO GAS BUSTER, INSTALL TURNBUCKLES & CONNECT HYDR. LINES TO ACCUMULATOR & KILL LINE TO RIG FLOOR
- 20:30 INSTALL 13 5/8" TESTR PLUG & TEST BOP'S & CHOKE MANIFOLD TO 250/5000, TESTED FLOOR VALVES & BACK TO MUD PUMPS TO 250/5000 - ALL GOOD TEST
- 04:30 TESTED 13.375" SURFACE CASING @ 1400psi & HELD FOR 30/MIN
- 05:00 INSTALL WEAR BUSHING
- 05:30 P/U 12.25" BHA

Vis (s/qt): 27, Dens (lb/gal): 8.40, pH: 9.0

03/14/2017

Rig Name: H&P 490

Depth = 2,420.0 Progress = 1565.0

06:00 M/U BHA #2 & 12.25 BIT
08:00 TIH TO 762'
10:30 RIG SERVICE
11:00 WASH DOWN F/ 762' TO 818' TAG CMT
11:30 TAG CMT @ 818', ROT DRILL FC & CMT, FC @ 820', SHOE @ 855', 5-15 WOB, 36 BIT RPM, 30 RPM, 66 TOTAL RPM, 400 GPM, 750 PSI, 3-5 TORQ
13:30 ROTATE F/ 855' T/ 1,036', 181' @ 90.5'/HR, 15K WOB, 40 ROT, 50 BIT RPM, 90 TOTAL RPM, 550 GPM, 1,250 PUMP PSI, 6-8 TORQ
15:30 INSTALL ROTATING HEAD
16:00 ROTATE F/ 1,036' T/ 1,162", 126' @ 63'/HR, 25-30 WOB, 55 ROT, 63 BIT RPM, 118 TOTAL RPM, 700 GPM, 1,730 PUMP PSI, 178 DIFF, 6-8K TORQ
18:00 ROT F/1,162' - T/1,610' = 448' @ 112'/HR, WOB: 40/45K, GPM: 700, PSI: 2050, DIFF: 300, TOP DRIVE RPM: 75/90, M.MTR RPM: 63, OFF BTM TQR: 4K, ON BTM TQR: 7/10K, ROT WT: 130K, PU WT: 135, SO WT: 125, 100% RETURNS & WELL STATIC ON CONNECTION. PUMPING 20 BBL 60 VIS SWEEP EVERY CONNECTION
22:00 ROT F/1,610' - T/2,020' = 410' @ 103' /HR, WOB: 40/45K, GPM: 730, PSI: 2050, DIFF: 300, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 4K, ON BTM TQR: 7/10K, ROT WT: 130K, PU WT: 135, SO WT: 125, 100% RETURNS & WELL STATIC ON CONNECTION. PUMPING 20 BBL 60 VIS SWEEP EVERY CONNECTION
02:00 ROT F/2,020' - T/2,420' = 400' @ 100'/HR, WOB: 40/45K, GPM: 730, PSI: 2050, DIFF: 300, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 4K, ON BTM TQR: 7/10K, ROT WT: 140K, PU WT: 150, SO WT: 135, 100% RETURNS & WELL STATIC ON CONNECTION. PUMPING 20 BBL 60 VIS SWEEP EVERY CONNECTION

Vis (s/qt): 27, Dens (lb/gal): 8.40, pH: 9.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
968.0	967.87	1.33	235.10	4.37	0.29	-6.21	1.97
1,062.0	1,061.85	1.19	252.63	6.08	0.43	-7.13	0.14
1,157.0	1,156.82	1.46	265.53	7.50	0.42	-7.52	-2.01
1,252.0	1,251.79	1.48	255.19	9.07	0.28	-7.93	-4.40
1,347.0	1,346.76	1.38	248.28	10.84	0.21	-8.67	-6.65
1,441.0	1,440.74	1.08	241.98	12.49	0.35	-9.51	-8.48
1,536.0	1,535.73	0.89	237.74	13.91	0.21	-10.32	-9.89
1,631.0	1,630.72	0.14	220.29	14.67	0.80	-10.80	-10.59
1,725.0	1,724.72	0.50	165.59	15.08	0.46	-11.28	-10.56
1,820.0	1,819.72	0.60	125.68	15.41	0.41	-11.97	-10.05
1,915.0	1,914.72	0.45	122.02	15.46	0.16	-12.46	-9.33
2,009.0	2,008.71	0.94	98.67	15.19	0.59	-12.77	-8.25
2,104.0	2,103.69	1.12	92.04	14.46	0.23	-12.92	-6.55
2,293.0	2,292.65	1.10	105.48	13.12	0.14	-13.47	-2.96

03/15/2017

Rig Name: H&P 490

Depth = 4,350.0 Progress = 1930.0

06:00 ROT F/ 2,420' - T/ 2,835' = 415' @ 103.7'/HR, WOB: 40/45K, GPM: 730, PSI: 2050, DIFF: 210, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 134K, PU WT: 151, SO WT: 140, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
10:00 ROT F/ 2,835' - T/ 3,118' = 283' @ 70.7'/HR, WOB: 40/45K, GPM: 730, PSI: 2050, DIFF: 190, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 156K, PU WT: 160, SO WT: 149, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
15:00 ROT F/ 3,118' - T/ 3,208' = 90' @ 90'/HR, WOB: 40/45K, GPM: 730, PSI: 2050, DIFF: 190, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 156K, PU WT: 160, SO WT: 149, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
15:00 C/O SWIVEL PACKING ON TOP DRIVE & TESTED NEW PACKING-NO GOOD STILL LEAKING. TOOK SWIVEL PACKING OFF AND FOUND O-RING WAS DAMAGED, REPLACED O-RING & RETESTED - GOOD TEST
16:00 C/O SWIVEL PACKING ON TOP DRIVE & TESTED NEW PACKING-NO GOOD STILL LEAKING. TOOK SWIVEL PACKING OFF AND FOUND O-RING WAS DAMAGED, REPLACED O-RING & RETESTED - GOOD TEST
18:30 ROT F/ 3,208' - T/3,525' = 317' @ 90'/HR, WOB: 40/45K, GPM: 730, PSI: 2050, DIFF: 190, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 165K, PU WT: 170, SO WT: 160, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
22:00 ROT F/3,525' - T/3885' = 360' @ 103'/HR, WOB: 40/45K, GPM: 730, PSI: 2050, DIFF: 190, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 165K, PU WT: 170, SO WT: 160, 100%

RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION

- 01:30 SLD DRILL F/3,885' - T/3900' = 15' @ 30'/HR, WOB: 35K, GPM: 730, PSI: 2100, DIFF: 200, M.MTR RPM: 66, MTF: 270
- 02:00 ROT F/3,900' - T/3,992' = 92' @ 184'/HR, WOB: 40/45K, GPM: 730, PSI: 2050, DIFF: 190, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 165K, PU WT: 170, SO WT: 160, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
- 02:30 SLD DRILL F/3,992' - T/4,022' = 30' @ 60'/HR, WOB: 35K, GPM: 730, PSI: 2100, DIFF: 200, M.MTR RPM: 66, MTF: 270
- 03:00 ROT F/4,022' - T/4,350' = 328' @ 109'/HR, WOB: 40/45K, GPM: 730, PSI: 2150, DIFF: 250, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 185K, PU WT: 190, SO WT: 180, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION

Vis (s/qt): 28, Dens (lb/gal): 8.60, pH: 10.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
2,388.0	2,387.63	1.05	93.10	12.49	0.25	-13.76	-1.21
2,483.0	2,482.61	1.49	101.23	11.68	0.50	-14.05	0.87
2,578.0	2,577.58	1.26	97.60	10.88	0.26	-14.43	3.12
2,672.0	2,671.55	1.47	95.47	9.97	0.23	-14.68	5.34
2,767.0	2,766.52	1.36	90.12	8.89	0.18	-14.80	7.68
2,862.0	2,861.49	1.27	83.02	7.69	0.20	-14.67	9.85
2,956.0	2,955.47	1.30	88.76	6.49	0.14	-14.52	11.95
3,050.0	3,049.44	1.37	93.55	5.43	0.14	-14.57	14.14
3,145.0	3,144.40	1.83	100.40	4.40	0.52	-14.91	16.77
3,239.0	3,238.35	1.74	96.76	3.31	0.15	-15.35	19.66
3,334.0	3,333.31	1.78	98.66	2.19	0.07	-15.74	22.55
3,428.0	3,427.27	1.54	104.33	1.30	0.31	-16.27	25.22
3,523.0	3,522.23	1.93	99.31	0.37	0.44	-16.84	28.04
3,618.0	3,617.19	1.56	101.12	-0.64	0.40	-17.35	30.89
3,712.0	3,711.15	1.63	91.57	-1.70	0.29	-17.63	33.48
3,807.0	3,806.11	1.73	100.07	-2.85	0.28	-17.92	36.24
3,901.0	3,900.07	1.60	107.33	-3.63	0.26	-18.56	38.89
3,996.0	3,995.05	0.57	166.59	-3.59	1.47	-19.41	40.27
4,090.0	4,089.04	1.04	258.05	-2.49	1.28	-20.07	39.19

03/16/2017

Rig Name: H&P 490

Depth = 5,102.0 Progress = 752.0

- 06:00 ROT F/4,350' - T/4,630' = 280' @ 80'/HR, WOB: 40/45K, GPM: 730, PSI: 2150, DIFF: 250, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 190K, PU WT: 195, SO WT: 180, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
- 09:30 RIG SERVICE
- 10:00 ROT F/4,630' - T/4,802' = 172' @ 86'/HR, WOB: 40/45K, GPM: 730, PSI: 2150, DIFF: 250, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 190K, PU WT: 195, SO WT: 180, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
- 12:00 CIRCULATE WITH ONE PUMP @ 307 GPM & RECIPRICATE DRILL STRING WHILE C/O SWAB & LINERS ON #1 & #2 MUD PUMP
- 15:30 ROT F/4,802' - T/4,915' = 113' @ 45.2'/HR, WOB: 40/45K, GPM: 730, PSI: 2150, DIFF: 250, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 190K, PU WT: 195, SO WT: 180, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
- 18:00 ROT F/4,915' - T/5,102' = 187' @ 53.4'/HR, WOB: 40/45K, GPM: 730, PSI: 2150, DIFF: 250, TOP DRIVE RPM: 75/90, M.MTR RPM: 66, OFF BTM TQR: 5K, ON BTM TQR: 8/12K, ROT WT: 190K, PU WT: 195, SO WT: 180, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION. LOST DIFFERENTIAL PRESSURE FROM 200 PSI T/ 50 PSI.
- 21:30 CIRCULATE 50 BBL HIGH VIS SWEEP TO CLEAN HOLE, SWEEP CAME BACK WITH 5-10% SCREEN COVERAGE - HOLE IS CLEAN
- 23:00 TOOH F/5102' - T/ SURFACE WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN TRIP TANK. DUE TO LOSS OF DIFF PRESSURE AND LOW ROP. L/D BIT AND MOTOR. BIT GRADE 8/6 CORED (DBR), MUD MOTOR DRAINED WITHOUT ROTATION.
- 03:30 M/UP NEW 8" 7/8 4.0 STAGE, ABH 1.5° MUD MOTOR AND SMITH 12.25" Z716 PDC BIT.

Vis (s/qt): 28, Dens (lb/gal): 8.60, pH: 9.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
4,185.0	4,184.09	1.01	244.15	-1.21	0.26	-20.61	37.60
4,280.0	4,279.07	1.03	240.75	0.21	0.07	-21.39	36.10
4,374.0	4,373.06	0.89	256.36	1.45	0.31	-21.97	34.66
4,469.0	4,468.05	1.03	266.71	2.44	0.23	-22.20	33.08
4,658.0	4,657.01	1.11	251.15	4.77	0.16	-22.89	29.65
4,752.0	4,751.00	0.83	263.15	5.87	0.37	-23.26	28.11
4,847.0	4,845.99	0.91	300.81	6.28	0.60	-22.96	26.78
4,942.0	4,940.98	0.57	318.04	6.13	0.42	-22.22	25.82

03/17/2017

Rig Name: H&P 490

Depth = 6,325.0 Progress = 1223.0

- 06:00 TIH W/ BHA #3 F/ SURFACE - T/5,102', WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN TRIP TANK.
- 11:00 ROT F/5,102' - T/5,460' = 358' @ 90'/HR, WOB: 40K, GPM: 730, PSI: 2550, DIFF: 250/400, TOP DRIVE RPM: 50/80, M.MTR RPM: 125, OFF BTM TQR: 6K, ON BTM TQR: 10/12K, ROT WT: 195K, PU WT: 200, SO WT: 190, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
- 15:00 ROT F/5,460' - T/5,661' = 201' @ 67'/HR, WOB: 40K, GPM: 730, PSI: 2550, DIFF: 250/400, TOP DRIVE RPM: 50/80, M.MTR RPM: 125, OFF BTM TQR: 6K, ON BTM TQR: 10/12K, ROT WT: 195K, PU WT: 200, SO WT: 190, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 20 BBL 60 VIS SWEEP EVERY OTHER CONNECTION
- 18:00 ROT F/5,661' - T/5,915' = 254' @ 63.5'/HR, WOB: 30-40K, GPM: 730, PSI: 2550, DIFF: 250/400, TOP DRIVE RPM: 50/80, M.MTR RPM: 125, OFF BTM TQR: 6K, ON BTM TQR: 10/12K, ROT WT: 195K, PU WT: 200, SO WT: 190, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 1 QT EZ-MUD DOWN DP EVERY CONNECTION FOR VISC SWEEPS.
- 22:00 ROT F/5,915' - T/6,130' = 215' @ 53.7'/HR, WOB: 30-40K, GPM: 730, PSI: 2550, DIFF: 250/400, TOP DRIVE RPM: 50/80, M.MTR RPM: 125, OFF BTM TQR: 6K, ON BTM TQR: 10/12K, ROT WT: 220K, PU WT: 225, SO WT: 185, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 1 QT EZ-MUD DOWN DP EVERY CONNECTION FOR VISC SWEEPS.
- 02:00 ROT F/6,130' - T/6,325' = 195' @ 48.7'/HR, WOB: 30-40K, GPM: 730, PSI: 2550, DIFF: 250/400, TOP DRIVE RPM: 50/80, M.MTR RPM: 125, OFF BTM TQR: 6K, ON BTM TQR: 10/12K, ROT WT: 220K, PU WT: 225, SO WT: 185, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 1 QT EZ-MUD DOWN DP EVERY CONNECTION FOR VISC SWEEPS.

Vis (s/qt): 28, Dens (lb/gal): 8.70, pH: 9.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
5,131.0	5,129.97	0.80	319.96	5.40	0.12	-20.51	24.34
5,225.0	5,223.96	0.88	345.83	4.67	0.41	-19.31	23.74
5,320.0	5,318.95	0.98	359.09	3.45	0.25	-17.79	23.55
5,414.0	5,412.93	1.16	345.93	2.09	0.32	-16.06	23.31
5,509.0	5,507.91	0.88	15.59	0.69	0.62	-14.42	23.27
5,698.0	5,696.87	1.35	15.53	-2.87	0.25	-10.88	24.26
5,887.0	5,885.83	0.99	21.93	-6.64	0.20	-7.22	25.47
6,076.0	6,074.81	0.54	57.98	-9.04	0.34	-5.23	26.83

03/18/2017

Rig Name: H&P 490

Depth = 6,450.0 Progress = 125.0

- 06:00 ROT F/6,325' - T/6,450' = 125' @ 42'/HR, WOB: 30-40K, GPM: 730, PSI: 2550, DIFF: 250/400, TOP DRIVE RPM: 50/80, M.MTR RPM: 125, OFF BTM TQR: 6K, ON BTM TQR: 10/12K, ROT WT: 220K, PU WT: 225, SO WT: 185, 100% RETURNS & WELL STATIC ON CONNECTION. PUMP 1 QT EZ-MUD DOWN DP EVERY CONNECTION FOR VISC SWEEPS.
- 09:00 CIRCULATE 2 60BBL HIGH VIS SWEEP AROUND TO CLEAN HOLE. BOTH SWEEPS BROUGHT BACK MIN DRILL CUTTING & HAD 5-10% SCREEN COVERAGE-HOLE IS CLEAN (@ 6450' CAL STKS = 9850, ACTUAL STKS = 11,800, EST. WASH OUT 20%)
- 11:00 TOOH (SLM OUT) F/6450' - T/SURFACE; L/D 6.5" & 8" DC's & 12.25" DIRECTIONAL BHA, WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN TRIP TANK, DULL GRADE BIT 2/2 IN GAUGE. (@ 6450' CAL STKS = 9850, ACTUAL STKS = 11,800, EST. WASH OUT 20%) (@ 3700' CAL. STKS = 5635, ACTUAL STKS = 6800, EST. WASH OUT = 20%)
- 23:00 PULL WEAR BUSHING
- 23:30 PJSM R/UP H&P CRT TOOL AND FUNCTION TEST.
- 01:30 PJSM, M/UP AND THREAD LOCK 9 5/8" SINGLE JT SHOE TRACK WHICH CONSISTED OF; 9 5/8" SHOE, 1 JT 9 5/8" 40# HCL-80 LTC CASING, 9 5/8" FLOAT COLLAR, BOW SPRING CENT 10' ABOVE SHOE AND 10' ABOVE FLOAT

COLLAR. PUMP AND CIRC THRU SHOE TRACK OK. CONTINUE RUNNING 9 5/8" 40# HCL-80 LTC CASING TO 2211', PLACING 1 BOW SPRING CENT EVERY 3RD COLLAR, TORQUE CASING TO 7270 FT- LBS, TOTAL OF 50 JOINTS RAN @ REPORT TIME

Vis (s/qt): 28, Dens (lb/gal): 8.70, pH: 9.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
6,170.0	6,168.80	0.74	57.43	-9.98	0.21	-4.67	27.72
6,265.0	6,263.79	0.76	18.32	-11.14	0.53	-3.74	28.44
6,360.0	6,358.78	0.77	48.61	-12.37	0.42	-2.72	29.12

03/19/2017

Rig Name: H&P 490

Depth = 6,450.0 Progress = 0.0

- 06:00 M/UP AND THREAD LOCK 9 5/8" SINGLE JT SHOE TRACK WHICH CONSISTED OF; 9 5/8" SHOE, 1 JT 9 5/8" 40# HCL-80 LTC CASING, 9 5/8" FLOAT COLLAR, BOW SPRING CENT 10' ABOVE SHOE AND 10' ABOVE FLOAT COLLAR. PUMP AND CIRC THRU SHOE TRACK OK. CONTINUE RUNNING 9 5/8" 40# HCL-80 LTC CASING & LANDING JOINT F/2211' - T/6440.75', PLACING 1 BOW SPRING CENT EVERY 3RD COLLAR, TORQUE CASING TO 7270 FT- LBS, TOTAL OF 49 JOINTS RAN OF HCL-80, TOTAL OF 94 JOINTS RAN OF J-55, PLACING 1 BOW SPRING CENT EVERY 3RD JOINT. DV TOOL @ 3686', FLT.C. @ 6398.80', SHOE @ 6440.75'
 - 14:30 CIRCULATE 2 BTMS UP CLOSED LOOP @ 10 BPM WITH 165 PSI WHILE PJSM WITH HALLIBURTON & R/U STEEL LINES TO RIG FLOOR
 - 16:30 PJSM; HALLIBURTON TESTED LINES TO 3,000 PSI, THEN PUMP 1ST STAGE CMT JOB- PUMPED 20 BBLS FW SPACER , FOLLOWED BY LEAD CEMENT- 400 SACKS (200 BBLS) OF NEOCEM @ 11.0 PPG, YIELD 2.806, GAL/SACK 17.35, FOLLOWED BY TAIL CEMENT- 120 SACKS (31 BBLS) OF NEOCEM @ 13.2PPG, YIELD 1.463, GAL/SACK 7.47. SHUT DOWN AND DROP WIPER PLUG, DISPLACED W/ 485 BBLS FW. BUMPED PLUG ON SCHEDULE WITH 700 PSI RAISE TO 1365 PSI. SHUT DOWN AND HELD FOR 5 MINUTES. OPENED VALVE AND BLED BACK 3.5 BBLS TO TRUCK, FLOATS ARE HOLDING. HAD FULL RETURNS THRU OUT JOB. DROP 9.625" OPENING CONE AND ALLOW TO FREE FALL FOR 20 MINS, PRESSURE UP TO 850 PSI TO OPEN DV TOOL - DV OPENED & ESTABLISHED FULL RETURNS
 - 18:00 CIRCULATE OFF DV TOOL @ 3686' @ 8 BPM WITH INITAL 200 PSI & END 50 PSI ONCE CMT WAS CIRC OUT OF THE HOLE, CIRC. 25 BBLS OF CMT TO SURFACE. CONTINUE TO CIRCULATE @ 8 BPM WITH 50 PSI, MONITORING GAIN/LOSS IN STEEL PITS - WELL STATIC
 - 22:00 PJSM; HALIBURTON PUMP 2ND STAGE CMT JOB- PUMPED 20 BBLS FW GEL SPACER W/RED DYE , FOLLOWED BY LEAD CEMENT- 530 SACKS (265 BBLS) OF NEOCEM @ 11.0 PPG, YIELD 2.805, GAL/SACK 17.35, FOLLOWED BY TAIL CEMENT- 120 SACKS (28 BBLS) OF HALCEM-C @ 14.8PPG, YIELD 1.333, GAL/SACK 6.42. SHUT DOWN AND DROP CLOSING PLUG, DISPLACED W/ 279 BBLS FW. BUMPED PLUG ON SCHEDULE WITH 450 PSI RAISE TO 2920 PSI AND CLOSED DV TOOL. SHUT DOWN AND HELD FOR 5 MINUTES. OPENED VALVE AND BLED BACK 4.0 BBLS TO TRUCK. HAD FULL RETURNS THRU OUT JOB, GOT 5 BBLS OF RED DYE BACK BEFORE BUMPING PLUG. EST TOP OF CMT @ 390'
 - 00:00 R/D HALIBURTON CEMENT LINES, WASH & CLEAN BOP STACK W/ SUGAR WATER, PULL LANDING JT, P/U WASH TOOL & WASH TOP OF HANGER, SET PACK OFF IN HGR PROFILE AND TEST TO 5000 PSI, HELD FOR 10 MIN. PULLED 40K OVER
 - 03:00 INSTALL WEAR BUSHING
 - 03:30 TEST CASING T/1500 PSI HELD FOR 30 MIN
 - 04:00 P/UP 8 3/4" DIRECTIONAL DRILLING ASSY. 6 1/2" 7/8 5.0 FXD 2.0° MUD MOTOR, NMDC, PULSAR SUB, NMDC, INSTALL MWD AND SCRIBE T/ MOTOR. TEST SAME. M/UP 8 3/4" HALLIBURTON MM55DC BIT.
 - 05:30 TIH F/95' T/ 1104'
- Vis (s/qt): 28, Dens (lb/gal): 8.70, pH: 9.0

03/20/2017

Rig Name: H&P 490

Depth = 7,044.0 Progress = 594.0

- 06:00 TIH F/1104' - T/3686', WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN STEEL PITS. TAGED DV TOOL @ 3686'
- 07:30 DRILL OUT DV TOOL F/3686' - T/3689', WOB: 15K, GPM: 330, PSI: 850, DIFF: 150/200, TD RPM: 20, M.MTR RPM: 92, TQR: 2/3K. BACK REAM DV TOOL SERVAL TIMES-CLEAN
- 08:00 TIH F/3686' - T/6398', WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN STEEL PITS. TAGED FC @ 6398'
- 12:30 DRILL SHOE TRACK & CEMENT F/6398' - T/6450'; WOB: 20K, GPM: 500, PSI: 1100, DIFF: 150/200, TD RPM: 20, M.MTR RPM: 140, TQR: 3/5K
- 13:30 ROT DRILL F/6450 - T/6540' = 90' @ 90'/HR, WOB:25K, GPM:500, PSI:1950, DIFF:400/600, TD RPM:30, M.MTR RPM:140, OFF BTM TQR:3K, ON BTM TQR:7/8K, 100% RETURNS
- 14:30 BUILD CURVE; SLD DRILL F/6540' - T/6717' = 177' @ 51'/HR, WOB:35/40K,

GPM:500, PSI:2150, DIFF:500/600, TD RPM:0, M.MTR RPM:140, GTF: HS, 100% RETURNS

18:00 ROT DRILL F/6714' - T/6729' = 15' @ 30'/HR, WOB:42K, GPM:554, PSI:1820, DIFF:420, TD RPM:30, M.MTR RPM:155, GTF: , 100% RETURNS

18:30 SLD DRILL F/6729' - T/6760' = 31' @ 62'/HR, WOB:43K, GPM:554, PSI:1910, DIFF:420, TD RPM:0, M.MTR RPM:155, GTF: HS, 100% RETURNS.

19:00 ROT DRILL F/6760' - T/6777' = 17' @ 34'/HR, WOB:42K, GPM:554, PSI:1820, DIFF:420, TD RPM:30, M.MTR RPM:155, GTF: , 100% RETURNS

19:30 SLD DRILL F/6777' - T/6792' = 15' @ 30'/HR, WOB:43K, GPM:554, PSI:1910, DIFF:420, TD RPM:0, M.MTR RPM:155, GTF: HS, 100% RETURNS.

20:00 ROT DRILL F/6792' - T/6808' = 16' @ 32'/HR, WOB:42K, GPM:554, PSI:1820, DIFF:420, TD RPM:30, M.MTR RPM:155, GTF: , 100% RETURNS

20:30 SLD DRILL F/6808' - T/7044' = 236' @ 78.6'/HR, WOB:43K, GPM:554, PSI:1910, DIFF:420, TD RPM:0, M.MTR RPM:155, GTF: HS, 100% RETURNS.
MOTOR WAS FAILING TO YIELD/ INSUFFICIENT BUILD RATES

23:00 CIRC AND COND MUD, MAKE AND PUMP SLUG

01:30 POOH F/7044 T/ BHA

05:00 L/D BIT AND MOTOR. BIT SHOWED TO BE DBR. P/UP NEW MOTOR 7/8 5.0 2.5° W/8.5" NEAR BIT STAB.

Vis (s/qt): 30, Dens (lb/gal): 9.80, pH: 0.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
6,541.0	6,539.78	0.65	96.85	-14.77	0.33	-1.70	32.14
6,573.0	6,571.76	3.26	193.95	-13.97	10.63	-2.61	32.10
6,604.0	6,602.62	7.44	202.02	-11.14	13.66	-5.33	31.14
6,636.0	6,634.16	11.81	205.53	-5.82	13.78	-10.21	28.95
6,668.0	6,665.09	17.66	206.62	2.30	18.29	-17.51	25.36
6,699.0	6,694.15	22.98	209.00	13.05	17.37	-27.01	20.31
6,731.0	6,723.39	24.96	210.77	26.04	6.57	-38.28	13.83
6,762.0	6,751.37	26.10	212.07	39.40	4.10	-49.68	6.86
6,794.0	6,780.02	26.75	213.19	53.63	2.56	-61.67	-0.82
6,825.0	6,807.42	29.05	212.69	67.12	7.47	-73.84	-8.70
6,857.0	6,835.14	30.87	211.95	84.09	5.79	-87.35	-17.24
6,888.0	6,861.64	31.67	210.91	100.18	3.11	-101.08	-25.63
6,920.0	6,888.50	34.16	212.16	117.56	7.79	-115.97	-34.60
6,951.0	6,913.80	36.45	212.26	135.47	7.66	-131.21	-44.02
6,983.0	6,939.30	37.85	213.32	154.78	4.82	-147.45	-54.49

03/21/2017

Rig Name: H&P 490

Depth = 7,155.0 Progress = 111.0

06:00 P/U & M/U BHA #5 AS FOLLOWS: 8.75" HALLIBURTON MMD55DC BIT DRESSED WITH 6/18's, 6.5" SDI TITAN 7/8 5.0 0.29 ADJ SET @ 2.5° W/8.5" NBS (BIT-BEND:5.63,BIT-SURVEY:46.0°)(FLOW RATE: 300-600gpm), 6.5" NMDC, 6.5" PULSAR SUB, 6.5" NMFC, CROSSOVER SUB, 51 STANDS OF 5" DP, 12 STANDS OF 5" HWDP.
SCRIBE M.MTR & INSTALLED MWD & TEST @ SURFACE - GOOD TEST, M/U BIT#5

TIH F/SURFACE - T/7044', WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN TRIP TANK

13:30 SLD DRILL F/7044' - T/7155' = 111' @ 44'/HR, WOB:35/40K, GPM:500, PSI:2125, DIFF:300/400, TD RPM:0, M.MTR RPM:145, GTF: HS, 100% RETURNS

16:00 RIG SERVICE

16:30 TAKE SURVEYS AT 7124' AND 7152',CIRCULATE & RECIPROCATATE DRILL STRING WHILE DISCUSS FURTHER ACTION DUE TO LOW BUILD RATES, BUILD AND PUMP SLUG

19:30 POOH F/ 7155' T/ BHA, L/D BIT AND MUD MOTOR. BIT GRADE 1/1

00:00 P/UP NEW 6 1/2" TITAN 7/0 5.0 MOTOR W/ 8 1/2" NB STAB. DIAL IN MOTOR T/ 3.0°. SCRIBE MOTOR AND MWD AND TEST SAME. M/UP 8 3/4" BAKER KYMERA KM524 BIT W/ 4-18'S=.99TFA.

02:00 TIH W/ 8 3/4" CURVE BUILDING ASSY T/6700'

Vis (s/qt): 30, Dens (lb/gal): 9.80, pH: 11.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
7,014.0	6,963.52	39.40	212.76	174.11	5.13	-163.67	-65.04
7,046.0	6,987.93	41.17	211.74	194.78	5.89	-181.17	-76.07
7,078.0	7,011.51	43.91	211.50	216.41	8.58	-199.59	-87.41
7,109.0	7,033.77	44.32	211.67	237.98	1.40	-217.98	-98.72

03/22/2017

Rig Name: H&P 490

Depth = 7,282.0 Progress = 127.0

06:00 CONTINUE TO TIH F/6700' - T/7155', WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN TRIP TANK

07:00 SLD DRILL F/7155' - T/7219' = 64' @ 21'/HR, WOB:40/50K, GPM:500,

PSI:2050, DIFF:300/400, TD RPM:0, M.MTR RPM:145, GTF: HS, 100% RETURNS

10:00 ATTEMPT TO GET SURVEY @ 7219' MD & COULD NOT GET DATA DECODED AT SURFACE-MWD WAS PULSING GOOD. WE HAD SWAPED MUD PUMPS DUE TO BLOWN SWAB IN #1, AND AFTER TROUBLE SHOOTING SURFACE EQUIPMENT WE FOUND THAT WE DID NOT HAVE PUMP SENSOR R/U ON #3, SO WE TOOK SENSOR OFF OF #1 & INSTALLED ON #3 AND WE WERE ABLE TO GET SURVEY DATA.

10:30 SLD DRILL F/7219' - T/7282' = 63' @ 25'/HR, WOB:40/50K, GPM:440, PSI:1700, DIFF:200/300, TD RPM:0, M.MTR RPM:127, GTF: HS, 100% RETURNS

13:00 CIRCULATE HIGH VIS SWEEP AROUND TO CLEAN HOLE, SWEEP BROUGHT BACK MIN DRILL CUTTINGS WITH 5-10% SCREEN COVERAGE-HOLE CLEAN

14:00 TOO H F/7282' - T/5900', WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN TRIP TANK.- TOO H TO P/U LATERAL ASSY.

15:00 RIG SERVICE (C/O BLOWN HYDRAULIC HOSE ON ST-80)

15:30 CONTINUE TO WORK ON BLOWN ST-80 HOSE

16:00 TOO H F/5900' - T/4947', WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN TRIP TANK.- TOO H TO P/U LATERAL ASSY.

18:00 PTSM W/ DRILL CREW; TOO H F/4947' - T/BHA', WITH NORMAL DRAG & WELL STATIC MONITORING DISPLACEMENT IN TRIP TANK. L/D MOTOR AND BIT. BIT GRADE I/1/1

20:00 M/UP 6 1/2" BICO 7/8 LOBE/3.1 STAGE FBH 1.5° MOTOR, SCRIBE TO MWD AND TEST SAME, M/UP 8 3/4" HALLIBURTON RR MMD55DC BIT.

21:00 TIH W/ 8 3/4" DIRECTIONAL BHA F/ 95' TO 2177'

22:00 AT 2177' PERFORM AGITATION TEST AS FOLLOWS: PUMP @ 143 SPM = 550 GPM @ 750 PSI, P/UP AND TEST NOV AGITATOR @ 143 SPM = 550 GPM @ 1060 PSI, GOOD TEST. 310 PSI PRESSURE DROP

23:00 TIH F/ 2177' T/6423'

00:30 SLIP AND CUT 78' OF DRILL LINE

02:30 TIH F/ 6423 T/ 7282'

04:00 TROUBLE SHOOT MUD PUMPS,ISSUES WITH ALL THREE MUD PUMPS SURGING AND UNABLE TO HOLD CONSTANT PRESSURE.

04:30 POOH F/ 7282' T/6440'

05:00 WORK ON ALL 3 MUD PUMPS.

Vis (s/qt): 30, Dens (lb/gal): 9.80, pH: 11.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
7,141.0	7,056.27	46.29	211.40	260.73	6.19	-237.36	-110.61
7,172.0	7,076.64	51.51	212.11	284.07	16.91	-257.22	-122.91
7,204.0	7,094.66	59.90	212.50	310.47	26.23	-279.54	-137.03
7,235.0	7,107.97	69.16	212.55	338.40	29.89	-303.11	-152.06

03/23/2017

Rig Name: H&P 490

Depth = 7,656.0 Progress = 374.0

06:00 WORK ON MUD PUMPS 1,2&3.PUMPS SURGING AND FAILING TO PRODUCE CORRECT PRESSURES.

12:30 TIH F/6440' T/7277'

13:00 ATTEMPT TO ACHIEVE DRILLING PUMP RATES, FAILED. NO 1 & 3 MUD PUMPS SURGING AND FAILING TO PRODUCE STEADY PRESSURES. NO 2 MUD PUMP OK.

14:30 POOH 10 STDS INTO CASING SHOE, AND WORK ON 1 & 3 MUD PUMP. DISASSEMBLE FLUID END AND CHECK PULSASION DAMPNERS, CLEAN SUCTION AND DISCHARGE SCREENS.

21:00 TIH F/6440' T/7277'

21:30 SLIDE F/ 7,282' T/ 7,380' = 98' @ 33'/HR, WOB:40/50K, GPM:575, PSI:2250, DIFF:200/350, TD RPM:0, M.MTR RPM:103, GTF: HS, 100% RETURNS, LANDED CURVE @ 7,380'

00:30 ROTATE F/ 7,380' T/ 7,420' = 40' @ 80'/HR, WOB:20/25K, GPM:575, PSI:2400, DIFF:700, TD RPM:80, TORQ:7-12K, M.MTR RPM:103, 100% RETURNS

01:00 SLIDE F/ 7,420' T/ 7,434' = 14' @ 28'/HR, WOB:35/40K, GPM:575, PSI:2250, DIFF:200/350, TD RPM:0, M.MTR RPM:103, GTF: LS, 100% RETURNS

01:30 ROTATE F/ 7,434' T/ 7,498' = 64' @ 43'/HR, WOB:20/25K, GPM:575, PSI:2400, DIFF:700, TD RPM:80, TORQ:7-12K, M.MTR RPM:103, 100% RETURNS

03:00 SLIDE F/ 7,498' T/ 7,522' = 24' @ 48'/HR, WOB:35/40K, GPM:575, PSI:2250, DIFF:200/350, TD RPM:0, M.MTR RPM:103, GTF: LS, 100% RETURNS

03:30 ROTATE F/ 7,522' T/ 7,561' = 39' @ 78'/HR, WOB:20/25K, GPM:575, PSI:2400, DIFF:700, TD RPM:90, TORQ:7-12K, M.MTR RPM:103, 100% RETURNS

04:00 SLIDE F/ 7,561' T/ 7,587' = 26' @ 26'/HR, WOB:35/40K, GPM:575, PSI:2250, DIFF:200/350, TD RPM:0, M.MTR RPM:103, GTF: LS, 100% RETURNS

05:00 ROTATE F/ 7,587' T/ 7,656' = 69' @ 69'/HR, WOB:20/25K, GPM:575, PSI:2400, DIFF:700, TD RPM:100, TORQ:8-13K, M.MTR RPM:103, 100% RETURNS

Vis (s/qt): 30, Dens (lb/gal): 9.80, pH: 11.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
7,262.0	7,115.80	77.11	212.68	364.20	29.44	-324.86	-165.98

7,294.0	7,121.33	82.97	212.46	395.68	18.32	-351.41	-182.94
7,325.0	7,124.16	86.57	211.31	426.54	12.20	-377.61	-199.24
7,420.0	7,124.90	92.53	210.45	521.49	6.33	-459.11	-247.98
7,515.0	7,121.42	91.68	211.13	616.42	1.14	-540.66	-296.58
7,610.0	7,121.14	88.66	212.17	711.38	3.37	-621.52	-346.41

03/24/2017

Rig Name: H&P 490

Depth = 9,170.0 Progress = 1514.0

06:00 ROTATE F/ 7,656' T/ 7,845' = 189' @ 94.5'/HR, WOB:20/28K, GPM:575, PSI:2400, DIFF:350, TD RPM:100, TORQ:8-13K, M.MTR RPM:103, 100% RETURNS

08:00 SLIDE F/ 7,845' T/ 7,880' = 35' @ 70'/HR, WOB:35/40K, GPM:575, PSI:2250, DIFF:200/350, TD RPM:0, M.MTR RPM:103, GTF: LS, 100% RETURNS

08:30 ROTATE F/ 7,880' T/ 7,939' = 59' @ 118'/HR, WOB:20/28K, GPM:575, PSI:2400, DIFF:350, TD RPM:100, TORQ:15-17K, M.MTR RPM:103, 100% RETURNS

09:00 SLIDE F/ 7,939' T/ 7,954' = 15' @ 70'/HR, WOB:35/40K, GPM:575, PSI:2250, DIFF:200/350, TD RPM:0, M.MTR RPM:103, GTF: LS, 100% RETURNS

09:30 ROTATE F/ 7,954' T/ 8,128' = 174' @ 70'/HR, WOB:20/28K, GPM:600, PSI:2600, DIFF:375, TD RPM:85, TORQ:15-17K, M.MTR RPM:107, 100% RETURNS

12:00 SLIDE F/ 8,128' T/ 8,168' = 40' @ 40'/HR, WOB:40/45K, GPM:600, PSI:2250, DIFF:200/350, TD RPM:0, M.MTR RPM:107, GTF: 150L, 100% RETURNS

13:00 ROTATE F/ 8,168' T/ 8,315' = 147' @ 98'/HR, WOB:30/35K, GPM:600, PSI:2600, DIFF:375, TD RPM:85, TORQ:12K, M.MTR RPM:107, 100% RETURNS

14:30 SLIDE F/ 8,315' T/ 8,348' = 33' @ 33'/HR, WOB:40/45K, GPM:600, PSI:2250, DIFF:400, TD RPM:0, M.MTR RPM:107, GTF: 140L, 100% RETURNS

15:30 ROTATE F/ 8,348' T/ 8,507' = 159' @ 106'/HR, WOB:30/35K, GPM:600, PSI:2600, DIFF:400, TD RPM:85, TORQ:10/13K, M.MTR RPM:107, 100% RETURNS

17:00 SERVICED RIG & TOP DRIVE

17:30 SLIDE F/ 8,507' T/ 8,532' = 25' @ 25'/HR, WOB:40/45K, GPM:600, PSI:2350, DIFF:400, TD RPM:0, M.MTR RPM:107, GTF: 90L, 100% RETURNS

18:30 ROTATE F/ 8,532' T/ 8,791' = 259' @ 57'/HR, WOB:18/25K, GPM:600, PSI:2550, DIFF:300, TD RPM:85, TORQ:10/13K, M.MTR RPM:107, 100% RETURNS

23:00 SLIDE F/ 8,791' T/ 8,820' = 29' @ 29'/HR, WOB:40/45K, GPM:600, PSI:2600, DIFF:400, TD RPM:0, M.MTR RPM:107, GTF: 120L, 100% RETURNS

00:00 ROTATE F/ 8,820' T/ 8,886' = 66' @ 66'/HR, WOB:18/25K, GPM:600, PSI:2600, DIFF:300, TD RPM:85, TORQ:10/13K, M.MTR RPM:107, 100% RETURNS

01:00 SLIDE F/ 8,886' T/ 8,910' = 24' @ 48'/HR, WOB:40/45K, GPM:600, PSI:2650, DIFF:400, TD RPM:0, M.MTR RPM:107, GTF: LS, 100% RETURNS

01:30 ROTATE F/ 8,910' T/ 8,981' = 71' @ 71'/HR, WOB:18/25K, GPM:600, PSI:2650, DIFF:300, TD RPM:85, TORQ:10/13K, M.MTR RPM:107, 100% RETURNS

02:30 SLIDE F/ 8,981' T/ 9,009' = 28' @ 56'/HR, WOB:40/45K, GPM:600, PSI:2700, DIFF:400, TD RPM:0, M.MTR RPM:107, GTF: LS, 100% RETURNS

03:00 ROTATE F/ 9,009' T/ 9,170' = 161' @ 54'/HR, WOB:18/25K, GPM:600, PSI:2650, DIFF:300, TD RPM:85, TORQ:10/13K, M.MTR RPM:107, 100% RETURNS

Vis (s/qt): 31, Dens (lb/gal): 10.00, pH: 0.0

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
7,704.0	7,122.24	90.00	211.43	805.34	1.63	-701.41	-395.93
7,799.0	7,120.51	92.08	211.75	900.30	2.22	-782.32	-445.68
7,893.0	7,119.39	89.29	212.45	994.24	3.05	-861.93	-495.63
7,988.0	7,121.42	88.25	212.47	1,088.15	1.09	-942.07	-546.61
8,082.0	7,123.18	89.60	212.74	1,183.06	1.46	-1,021.24	-597.25
8,177.0	7,126.41	86.51	212.40	1,277.92	3.27	-1,101.24	-648.35
8,272.0	7,131.50	87.35	212.92	1,372.71	1.04	-1,181.11	-699.54
8,366.0	7,138.16	84.53	212.17	1,466.39	3.11	-1,260.14	-749.98
8,461.0	7,146.81	85.02	212.18	1,560.95	0.52	-1,340.21	-800.36
8,556.0	7,155.72	84.22	210.45	1,655.51	2.00	-1,421.01	-849.52
8,650.0	7,164.25	85.36	210.78	1,749.12	1.26	-1,501.57	-897.20
8,745.0	7,170.90	86.61	210.34	1,843.89	1.39	-1,583.17	-945.38
8,840.0	7,176.58	86.55	209.21	1,938.71	1.19	-1,665.47	-992.48
8,935.0	7,183.39	85.22	209.34	2,033.45	1.40	-1,748.13	-1,038.81
9,029.0	7,192.70	83.41	209.62	2,126.97	1.95	-1,829.55	-1,084.84
9,124.0	7,202.91	84.25	209.69	2,221.41	0.89	-1,911.63	-1,131.57

03/25/2017

Rig Name: H&P 490

Depth = 10,700.0 Progress = 1530.0

06:00 PTSM W/ DRILL CREW; ROTATE F/ 9,170' T/ 9,359' = 189' @ 75.6'/HR, WOB:25/30K, GPM:600, PSI:2650, DIFF:300, TD RPM:85, TORQ:17K, M.MTR

RPM:107, 100% RETURNS

08:30 SLIDE F/ 9,359' T/ 9,384' = 25' @ 25'/HR, WOB:40K, GPM:600, PSI:2700, DIFF:300, TD RPM:0, M.MTR RPM:107, GTF: 150L, 100% RETURNS

09:30 ROTATE F/ 9,384' T/ 9,650' = 266' @ 66.5'/HR, WOB:10/40K, GPM:600, PSI:2650, DIFF:300, TD RPM:10/85, TORQ:17-18K, M.MTR RPM:107, 100% RETURNS. ROTATED 10 RPM WHILE AGITATOR PASSING THRU HIGH DOGLEG IN CURVE.

13:30 ROTATE F/ 9,650' T/ 9,735' = 85' @ 85'/HR, WOB:35/40K, GPM:600, PSI:2720, DIFF:400, TD RPM:85, TORQ:17-18K, M.MTR RPM:107, 100% RETURNS.

14:30 SLIDE F/ 9,735' T/ 9,760' = 25' @ 50'/HR, WOB:40/45K, GPM:600, PSI:2900, DIFF:230, TD RPM:0, M.MTR RPM:107, GTF: 150L, 100% RETURNS

15:00 SLIDE F/ 9,760' T/ 9,780' = 20' @ 40'/HR, WOB:40/45K, GPM:600, PSI:2900, DIFF:230, TD RPM:0, M.MTR RPM:107, GTF: 150L, 100% RETURNS

15:30 ROTATE F/ 9,780' T/ 9,830' = 50' @ 100'/HR, WOB:35/40K, GPM:600, PSI:2720, DIFF:400, TD RPM:85, TORQ:17-18K, M.MTR RPM:107, 100% RETURNS

16:00 SLIDE F/ 9,830' T/ 9,860' = 30' @ 30'/HR, WOB:40/45K, GPM:600, PSI:2900, DIFF:300, TD RPM:0, M.MTR RPM:107, GTF: 120L, 100% RETURNS

17:00 ROTATE F/ 9,860' T/ 9,925' = 65' @ 130'/HR, WOB:35/40K, GPM:600, PSI:2720, DIFF:400, TD RPM:85, TORQ:15-16K, M.MTR RPM:107, 100% RETURNS

17:30 SERVICED RIG & TOP DRIVE

18:00 ROTATE F/ 9,925' T/ 10,020' = 95' @ 63'/HR, WOB:35/40K, GPM:600, PSI:2750, DIFF:400, TD RPM:85, TORQ:16-18K, M.MTR RPM:107, 100% RETURNS

19:30 COULD NOT GET SURVEY, TRY DIFFERENT PUMPS & VARIOUS FLOW RATES, GOT SURVEY

20:30 ROTATE F/ 10,020' T/ 10,209' = 189' @ 94'/HR, WOB:45/50K, GPM:600, PSI:2850, DIFF:550, TD RPM:85, TORQ:16-19K, M.MTR RPM:107, 100% RETURNS

22:30 SLIDE F/ 10,209' T/ 10,250' = 41' @ 41'/HR, WOB:40/45K, GPM:600, PSI:3000, DIFF:300, TD RPM:0, M.MTR RPM:107, GTF: LS, 100% RETURNS

23:30 ROTATE F/ 10,250' T/ 10,493' = 243' @ 81'/HR, WOB:45/50K, GPM:600, PSI:2900, DIFF:550, TD RPM:85, TORQ:17-20K, M.MTR RPM:107, 100% RETURNS

02:30 SLIDE F/ 10,493' T/ 10,535' = 42' @ 28'/HR, WOB:40/45K, GPM:600, PSI:3000, DIFF:300, TD RPM:0, M.MTR RPM:107, GTF: 150L, 100% RETURNS

04:00 ROTATE F/ 10,535' T/ 10,700' = 165' @ 83'/HR, WOB:45/50K, GPM:600, PSI:3000, DIFF:500, TD RPM:85, TORQ:18-22K, M.MTR RPM:107, 100% RETURNS

Vis (s/qt): 31, Dens (lb/gal): 10.30, pH: 9.5

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
9,218.0	7,211.36	85.43	209.84	2,315.02	1.27	-1,992.90	-1,178.04
9,313.0	7,217.65	86.98	210.52	2,409.81	1.78	-2,074.84	-1,225.70
9,407.0	7,223.70	85.63	210.01	2,503.61	1.53	-2,155.85	-1,272.97
9,502.0	7,229.60	87.24	209.81	2,598.42	1.71	-2,238.04	-1,320.25
9,596.0	7,233.32	88.22	210.13	2,692.35	1.09	-2,319.41	-1,367.17
9,691.0	7,234.83	89.97	211.43	2,787.33	2.29	-2,401.01	-1,415.77
9,785.0	7,236.39	88.12	211.16	2,881.30	1.99	-2,481.32	-1,464.59
9,879.0	7,240.88	86.41	209.63	2,975.18	2.44	-2,562.30	-1,512.09
9,974.0	7,246.25	87.12	209.99	3,070.03	0.84	-2,644.60	-1,559.24
10,069.0	7,250.30	87.99	210.23	3,164.94	0.95	-2,726.71	-1,606.86
10,163.0	7,252.17	89.73	209.66	3,258.91	1.95	-2,808.14	-1,653.77
10,258.0	7,254.01	88.05	209.67	3,353.89	1.77	-2,890.67	-1,700.77
10,352.0	7,256.87	88.46	209.71	3,447.84	0.43	-2,972.29	-1,747.31
10,447.0	7,258.65	89.40	210.21	3,542.82	1.12	-3,054.58	-1,794.75
10,541.0	7,261.84	86.71	209.79	3,636.75	2.89	-3,135.93	-1,841.73
10,636.0	7,266.93	87.14	209.20	3,731.60	0.77	-3,218.49	-1,888.44

03/26/2017

Rig Name: H&P 490

Depth = 12,005.0 Progress = 1305.0

06:00 ROTATE F/ 10,700' T/ 10,777' = 77' @ 154'/HR, WOB:44K, GPM:600, PSI:3000, DIFF:600, TD RPM:85, TORQ:18-22K, M.MTR RPM:107, 100% RETURNS

06:30 SLIDE F/ 10,777' T/ 10,807' = 30' @ 30'/HR, WOB:40/45K, GPM:600, PSI:3000, DIFF:200, TD RPM:0, M.MTR RPM:107, GTF: 120R, 100% RETURNS

07:30 ROTATE F/ 10,807' T/ 10,871' = 64' @ 64'/HR, WOB:40/454K, GPM:600, PSI:3000, DIFF:500, TD RPM:85, TORQ:18-22K, M.MTR RPM:107, 100% RETURNS

08:30 SAVER SUB OVER TORQUED, OPEN UP DP GRABBER AND CHANGE OUT SAVER SUB.

10:00 SERVICED RIG & TOP DRIVE

10:30 ROTATE F/ 10,871' T/ 10,965' = 94' @ 94'/HR, WOB:40/454K, GPM:600,

PSI:3000, DIFF:500, TD RPM:85, TORQ:18-22K, M.MTR RPM:107, 100% RETURNS

11:30 SLIDE F/ 10,965' T/ 11,008' = 43' @ 43'/HR, WOB:45/50K, GPM:600, PSI:3000, DIFF:200, TD RPM:0, M.MTR RPM:107, GTF: 180, 100% RETURNS

13:00 ROTATE F/ 11,008' T/ 11,154' = 146' @ 9.3'/HR, WOB:40/454K, GPM:600, PSI:3000, DIFF:500, TD RPM:85, TORQ:18-22K, M.MTR RPM:107, 100% RETURNS

14:30 SLIDE F/ 11,154' T/ 11,194' = 40' @ 40'/HR, WOB:45/50K, GPM:600, PSI:3000, DIFF:200, TD RPM:0, M.MTR RPM:107, GTF: 180, 100% RETURNS

15:30 ROTATE F/ 11,194' T/ 11,400' = 206' @ 82.4'/HR, WOB:35/54K, GPM:600, PSI:3000, DIFF:500, TD RPM:85, TORQ:18-22K, M.MTR RPM:107, 100% RETURNS.

18:00 SAFETY MEETING ON RIG FLOOR ON FINGER AND LADDER INCIDENTS.
ROTATE F/ 11,400' T/ 11,626' = 226' @ 90'/HR, WOB:45/50K, GPM:600, PSI:3050, DIFF:500, TD RPM:85, TORQ:18-22K, M.MTR RPM:107, 100% RETURNS

20:30 SLIDE F/ 11,626' T/ 11,672' = 46' @ 46'/HR, WOB:45/50K, GPM:600, PSI:3050, DIFF:250, TD RPM:0, M.MTR RPM:107, GTF: LS, 100% RETURNS

21:30 ROTATE F/ 11,672' T/ 12,005' = 333' @ 74'/HR, WOB:45/50K, GPM:600, PSI:3050, DIFF:500, TD RPM:85, TORQ:18-22K, M.MTR RPM:107, 100% RETURNS

02:00 BEGAN CLEAN UP CYCLE, PUMPED 1 HI-VIS SWEEP AT TD, MINIMAL CUTTINGS INCREASE ON SHAKERS, RACKED BACK 1 STAND, CIRC 3 B/U & RACK BACK 1 STAND PER B/U, PUMPED @ 600 GPM & 85 RPM'S

MD (ft)	TVD (ft)	Incl (°)	Azi (°)	VS (ft)	DLS (°/100ft)	N/S (ft)	E/W (ft)
10,731.0	7,270.75	88.25	208.21	3,826.48	1.57	-3,301.75	-1,934.03
10,825.0	7,273.67	88.19	210.06	3,920.41	1.97	-3,383.81	-1,979.77
10,919.0	7,275.24	89.90	209.89	4,014.40	1.83	-3,465.22	-2,026.73
11,014.0	7,277.18	87.75	211.50	4,109.37	2.82	-3,546.89	-2,075.21
11,109.0	7,279.74	89.16	211.60	4,204.31	1.49	-3,627.81	-2,124.89
11,203.0	7,283.56	86.18	211.01	4,298.21	3.24	-3,708.05	-2,173.69
11,297.0	7,289.40	86.70	210.57	4,392.02	0.73	-3,788.64	-2,221.72
11,392.0	7,293.38	88.49	210.21	4,486.93	1.92	-3,870.52	-2,269.73
11,486.0	7,294.95	89.60	209.08	4,580.91	1.68	-3,952.21	-2,316.21
11,580.0	7,294.87	90.50	209.39	4,674.89	1.02	-4,034.23	-2,362.12
11,675.0	7,296.04	88.09	210.07	4,769.87	2.64	-4,116.71	-2,409.22
11,769.0	7,298.35	89.09	209.99	4,863.84	1.07	-4,198.07	-2,456.25
11,863.0	7,298.60	90.61	210.55	4,957.84	1.72	-4,279.25	-2,503.63
11,959.0	7,295.50	93.09	211.17	5,053.77	2.66	-4,361.61	-2,552.84

03/27/2017

Rig Name: H&P 490

Depth = 12,005.0 Progress = 0.0

06:00 CIRC AND COND HOLE/PERFORM CLEAN UP CYCLE, 600 GPM AT 85 RPM RECIPROCATING PIPE

07:30 POOH 5 STANDS ON ELEVATORS F/ 11721' T/ 11,154', NO EXCESSIVE DRAG. PUMP SLUG

08:00 POOH LAYING DOWN DRILL PIPE F/ 11,154' T/2,500', NO EXCESSIVE DRAG. SOME CONNECTIONS TIGHT NEEDING TONGS TO BREAK LOOSE.

22:30 SERVICED RIG

23:00 CATWALK SKATE BELT BROKE, REPAIR SAME

00:00 POOH LDDP F/ 2,500' T/158', SOME CONNECTIONS TIGHT NEEDING TONGS TO BREAK LOOSE

02:30 L/D BHA, BREAK & GRADE BIT 1-1-WT, MOTOR HAD 1/4" SQUAT BEARING SLACK, FREELY TURNED & DRAINED ITSELF, L/D MWD TOOLS

04:00 CLEANED & CLEARED RIG FLOOR, PULLED WEAR BUSHING

Vis (s/qt): 37, Dens (lb/gal): 10.45, pH: 10.0

03/28/2017

Rig Name: H&P 490

Depth = 12,005.0 Progress = 0.0

06:00 TIH W/ 9 STDS DRILL PIPE F/ DERRICK. POOH L/DOWN 27 JTS DRILL PIPE

07:30 REMOVE DP ELEVATORS, P/UP AND R/UP H&P CRT, NOTIFIED TRRC (SARA) 3-27-17 14 OF RUNNING AND CEMENTING 5.5" PRODUCTION CASING

09:30 M/UP 5.5" PROD CASING SHOE TRACK & THREAD LOCK SAME WHICH CONSISTED OF: 5.5" BTC FLOAT SHOE, 1 JT 5.5" 20# L-80 BTC CASING & 5.5" BTC FLOAT COLLAR; THEN 2 JTS 5.5" 20# L-80 BTC CASING, 5.5" SLB KICKSTART RDV. RUN 275 JTS AND 2- MARKER JTs OF 5.5" 20# L-80 BTC CASING T/11,959'

Vis (s/qt): 38, Dens (lb/gal): 10.50, pH: 10.5

03/29/2017

Rig Name: H&P 490

Depth = 12,005.0 Progress = 0.0

06:00 FINISH RUNNING PRODUCTION CASING WHICH CONSISTED OF: 5.5" BTC FLOAT SHOE, 1- JT 5.5" 20# L-80 BTC CASING & 5.5" BTC FLOAT COLLAR; THEN 2- JTS 5.5" 20# L-80 BTC CASING, 5.5" SLB KICKSTART RDV. RUN 270 JTS AND 2- MARKER JTS OF 5.5" 20# L-80 BTC CASING T/11,995'. SHOE @ 11,995', FLOAT COLLAR @ 11,946', KICKSTART RDV @ 11,854', LAT MARKER JT @ 9,684', KOP MARKER JT @ 6,508'. CENTRALIZERS PLACED: 1-5' AND 1-20' ABOVE SHOE W/ STOP COLLARS, 1- FLOATING ON JT BELOW AND 1-FLOATING ON JT ABOVE KICKSTART, 1 FLOATING ON EVERY OTHER JT F/11,809' TO 7,367', 1-FLOATING ON EVERY JT THRU CURVE F/ 7,367' TO 6,528' ABOVE KOP, 1- FLOATING ON EVERY THIRD JT F/ 6528' T/5937', AND 1- EACH ON 2 JTS BELOW WELL HEAD.

06:30 CIRC TWO B/UP 90 SPM = 8 BPM = 345 GPM @ 350 PSI

08:00 SAFETY MEETING W/ HALLIBURTON AND RIG CREW, INSTALL HALLIBURTON CEMENT HEAD AND TEST LINES TO 8000 PSI.

08:30 CEMENT 5.5" PRODUCTION CASING; PUMP TUNED SPACER 40 BBLS,11.0 PPG,YLD 3.32; VERSACEM (TM) CEMENT 1490 SKS, 325 BBLS, 14.5 PPG, YLD 1.225, CLEANED LINES, DROPPED 5.5" SCHLUMBERGER LATCH DOWN WIPER PLUG AND DISPLACE W/ 265 BBLS FRESH WATER, BUMPED PLUG ON SCHEDULE WITH 2132 PSI=602 PSI OVER CIRC PRESS OF 1530 PSI, HELD PRESSURE FOR 10 MIN,OK. BLEED PRESSURE GOT 2 BBLS BACK, FLOATS HELD. HAD FULL RETURNS THRU OUT JOB. NO RED DYE BACK. EST TOP OF CEMENT AT 4803'

11:30 FLUSH BOP STACK AND FLOWLINE, N/DOWN AND LIFT BOPS, CREWS STARTED CLEANING MUD PITS, CREWS ON DAY 2 OF INSPECTING TUBULARS

14:30 INSTALL & SET CASING SLIPS WITH 130K WEIGHT, WELLHEAD REP ROUGH CUT CSG, REMOVED FLOWLINE FLANGE & DOCKED BOP STACK, N/D SPOOL & UPPER DRILLING HOUSING, WELLHEAD REP MADE FINAL CUT, N/U 13 5/8" 5M X 7 1/16" 10M TUBING HEAD W/ ABANDONMENT CAP, TESTED VOID T/ 5,000 PSI FOR 15 MIN, GOOD TEST

20:00 LAID OVER BOP STACK, REMOVED ROTATING HEAD, CREWS CONTINUED CLEANING MUD PITS, WASHED LINES & R/D CRT TOOL, RELEASED RIG @ 22:00 ON 3/28/17

22:00 RIG DOWN H&P 490 PREP FOR RIG MOVE
*NOTE THIS IS LAST WELL FOR FORGE FOR H&P 490

03/30/2017

Rig Name: H&P 490

Depth = 12,005.0 Progress = 0.0

06:00 HPJSM, CONTINUED R/D H&P 490 PREP FOR RIG MOVE, WASHED RIG COMPONENTS AS R/D, LOWERED DERRICK @ 18:00, CONTINUED INSPECTING DRILL STRING, RELEASED RENTAL EQUIPMENT, 60% R/D, 0% MOVED

20:00 SDFN, WILL RDMO IN THE AM

03/31/2017

Rig Name: H&P 490

Depth = 12,005.0 Progress = 0.0

06:00 RDMO H&P 490, 100% RIGGED DOWN, 90% MOVED, INSPECTED TUBULARS & WASHED RIG COMPONENTS WHILE R/D

20:00 SDFN, WILL FINISH MOVE IN THE AM

04/01/2017

Rig Name: H&P 490

Depth = 12,005.0 Progress = 0.0

06:00 FINISHED MOVING RIG OFF LOCATION, CONTINUED INSPECTING TUBULARS ON NEW DIAMONDBACK LOCATION, CLEANED & CLEARED LOCATION, FINAL REPORT