

# Warren American Oil Company

## University of Texas 245 #5

250' FEL, 350' FNL of Survey Lines

Section 4, Blk. 46; UL Survey

API #: 42-105-42254

Crockett County, Texas

Farmer (San Andres) Field

Daily Drilling Reports History

### 07-23-2015

**Day #1: Depth:** 510' BGL; **Ftg Past 24 hrs:** 510'. RRC District 7C previously notified of planned spud, Job #6410, notified RRC of upcoming surface cmt job. MIRU Latzell Drilling Rig #1. Drilled & set 10' 16" conductor, cmt w/ 10 sks. Installed diverter & blooey line. PU 12-1/4" PDC (Bit #1), bit sub, IBS, drill collar, roller reamer & x-over; MU BHA. Spud @ 11:45 AM. Drilled to 510' in 4 hrs, hit redbeds ~500'. Blew hole clean, TOOH 4 jts, SDFN.

### 07-24-2015

**Day #2: Depth:** 525' BGL; **Ftg Past 24 hrs:** 15'. TIH 4 jts, resumed drilling. Drilled 15', then hydraulics went out on rig. TOOH 4 jts & blow hole clean. KC Pipe delivered 18 jts 8-5/8" 24# STC J55 csg, unloaded & tallied, brought 2 jts over from #6 location (756.1' off truck, 840.2' total). Troubleshooted problem & waited for new hydraulic pump which arrived @ 2:00. Hydraulics still not working. Mechanic en route to fix rig. Drilling will resume Monday 7-27.

### 07-27-2015

**Day #3: Depth:** 852' BGL; **Ftg Past 24 hrs:** 327'. Installed hydraulic fitting on rig. TIH 4 jts. Resumed drilling @ 8:30 AM, drilled from 525' – 852' (redbeds) in 3 hrs; reached surface hole TD @ 11:30. Soaped & blew hole clean, TOOH, broke off bit, LD BHA. Started running casing @ 1:00 PM. Ran 18 jts casing smooth, worked jt # 19 down, PU jt # 20, worked for 30 min, could only get 11' of jt #20 down (EOC @ 810', 42' above TD); break off & LD jt #20 (& centralizer on collar), PU landing jt & landed csg 1' 10" BGL. Ran 19 jts 8-5/8" 24# STC J55 csg (new from KC Pipe in Midland) as follows: Texas pattern shoe, 19 jts csg w/ insert float in 1<sup>st</sup> collar (total length 798.8'), installed centralizers on 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup>, then every 3<sup>rd</sup> collar (7 total, centralizers @ 758', 716', 632', 506', 380', 254', 128'), ran cmt basket 7 jts down @ 296'. Csg set @ 801' (51' off btm), finished running csg @ 3:00 PM. MIRU Basic Energy Svcs cementers. Waited 30 min on water trucks. Attempted to install cmt head, but unable to make head up onto landing jt due to plug releaser hitting hydraulic cylinders on rig; install circ swage & hook up line. Started cmt job @ 4:00 PM. Pumped 80 bbl fresh wtr spacer. Pumped 230 sks (77 bbl slurry vol) lead slurry: 'Class C Lite' w/ ¼# celloflake; mixed @ 12.9 ppg, SY 1.88 cuft/sk. Pumped 200 sks (47 bbl slurry vol) tail slurry: 'Class C' w/ 2% CaCl & ¼# celloflake; mixed @ 14.8 ppg, SY 1.34 cuft/sk. Unhooked line, broke off swage, dropped plug, re-installed swage, installed valve & hooked up line. Displaced w/ 48 bbl fresh wtr & bumped plug to 660 psi, pressure held; plug landed @ 5:00 PM; 210 psi final lift pressure. Had partial returns starting 90 bbl into job, then lost returns again, had no returns thru rest of job. Bled off pressure & checked float, very slight flow, shut valve while washing out; opened valve, heard float close, float holding. RDMO cementers. Notified RRC District 7C that cement did not circulate. Set up temp survey for tomorrow morning. SDFN.

### 07-28-2015

**Day #4: Depth:** 852' BGL; **Ftg Past 24 hrs:** 0'. MIRU Casparis Wireline. Ran temperature survey, est TOC 225'. Notified RRC District 7C of TOC & inspector approved topping out. Break off & LD Idg jt RDMO Latzell Drilling. Top out cmt job planned after #6 longstring cmt job. Drop from report pending move in of Blueline Drilling.

#### 08-07-2015

**Day #5: Depth:** 852' BGL; **Ftg Past 24 hrs:** 0'. Cut off conductor. Ran 200' 1" PVC w/ muleshoe on bottom. MIRU Basic Energy Svcs. Mixed & pumped 150 sks (36 bbl slurry vol) 'Class C' w/ ¼# celloflake; mixed @ 14.8 ppg, SY 1.34 cuft/sk. Cmt came up to ~40' from surface. Topped out with cement. Washed out cmt unit to pit, RDMO cementers.

DROP FROM REPORT PENDING FURTHER DRILLING ACTIVITY

#### 08-11-15 (Report Date 08-10-15)

**Day #6: Depth:** 1252'; **Ftg Past 24 Hrs:** 400' in 6.25 hrs drilling; **Present Activity:** Drilling Ahead: 10k# WOB, 65 RPM, 60 SPM on pump #1 (368 GPM), 660 psi SPP; **Daily Activity:** MIRU Blue Line Drilling Rig #1. Filled pits & wtr tank w/ fresh wtr. RU Geosite mudlogger. NU BOP. PU 7- 7/8" Baker Hughes T605X Serial # 7153752 w/ 5-13s (Bit #2), MU bit onto DC, PU & TIH bit, 16 6" DC, 4-1/2" DP. Took survey. TIH & tag cmt @ 770'. PU kelly & break circ, test BOP. Started drilling cmt @ 7:30 PM, drilled 15' cmt, flowline started leaking, fixed flowline, centered & tightened turnbuckles on BOP, resumed drilling cmt. Started drilling out of csg @ 10:00 PM, drilled down to 833', swivel leaking, found threads on swivel gooseneck were bad & fluid was coming around swage to Kelly hose. Pumped sweep, LD 1 jt, pulled back into csg, set kelly down into bushing, changed out swivels. Resumed drilling @ 12:00 AM, washed down to bottom 861', started drilling new hole, drilled 915', took survey, drilled from 915' to 1252'. Surveys: 0.5° @ 450', 0.5° @ 915'.

#### 08-12-15 (Report Date 08-11-15)

**Day #7: Depth:** 2245'; **Ftg Past 24 Hrs:** 993' in 22 hrs drilling; **Present Activity:** Drilling Ahead: 20k# WOB, 65 RPM, 60 SPM on pump #1 (368 GPM), 690 psi SPP; **Daily Activity:** Drilled from 1252' to 1275', worked on pump #1, swapped over to pump #2. KC Pipe delivered 58 jts + marker jt 5-1/2" 15.5# LTC J55 csg. Unloaded, & tallied csg: 2407.45' total. Drilled from 1275' to 1424', took survey. Drilled from 1424' to 1575'. Drilled from 1575' to 1934', took survey, serviced rig. Drilled from 1940' to 2245', serviced rig. Lith: 100% Dolomite; BG 80 units, 950 unit gas show @ 2008'. Surveys: 0.5° @ 1390', 0.5° @ 1894'.

#### 08-13-15 (Report Date 08-12-15)

**Day #8: Depth:** 2313'; **Ftg Past 24 Hrs:** 99' in 2.5 hrs drilling; **Present Activity:** Rigging Down; **Daily Activity:** Drilled from 2214' to 2313', serviced rig. Reached TD of 2313' @ 9:30 AM. 10.1 ppg & 34 visc @ TD. Pumped sweep, circulated hole clean, ratholed kelly @ prepared floor for short trip. Made 10 stand short trip w/ no issues. Picked up kelly, pumped sweep, circ 2 bottoms up, spotted visc pill, ratholed kelly, TOOH for logs. On way out of the hole, discovered drill pipe count did not agree w/ tally: tally had one more jt than was actually in the hole—TD was believed to be 2344', but was 2313' upon investigation found pipe tally was incorrect before drilling began (all reports have been corrected to actual depths). Finished TOOH, broke bit. RU Tucker Wireline, ran quint-combo, logs on bottom @ 2:00 PM (logger's TD 2313'). Logged to csg shoe, POOH. Made second logging run for sonic tool. RDMO Tucker. MU insert bit & TIH. Sat down @ 1830', picked up kelly, washed & reamed down, worked through bridge from 1830' to 1845', fell free after that. Ratholed kelly, finished TIH to TD, broke circ, circulated for 45 min while rigging up to LDDP. TOOH LDDP, LD Collars. RU Byrd casing crew, started running 5-1/2" csg @ 11:15 PM. Ran 57 jts 5-1/2" 15.5# LTC J55 csg (new from KC Pipe in Midland) as follows: guide shoe, 13' jt w/ insert auto-fill float in 1<sup>st</sup> collar, 12 jts csg, marker jt, 43 jts (total

length 2297.83), installed centralizers above shoe, then every other collar to jt #15, then on jt #19, 23, 27, 34, 38 (13 total, centralizers @ 2282', 2200', 2117', 2035', 1953', 1871', 1789', 1725', 1561', 1397', 1232', 944' 780'), ran cmt basket on jt # 14 @ 1766'. Casing ran smooth. Csg set @ 2296' w/ float @ 2282'. Broke circ & circulate while rigging down csg crew & rigging up cementers. Casing on bottom @ 2296' w/ full returns @ 1:00 AM. RD csg crew. RU Basic Energy Svcs cementers. Loaded plug & installed cmt head. Started cmt job @ 1:55 AM. Pumped 12 bbl mud flush, 10 bbl fresh wtr spacer. Pumped 110 sks (40 bbl slurry vol) lead slurry: 'Class C Lite' w/ ¼# celloflake; mixed @ 12.5 ppg, SY 2.06 cuft/sk. Pumped 150 sks (35 bbl slurry vol) tail slurry: 'Class C' w/ 2% CaCl & ¼# celloflake; mixed @ 14.8 ppg, SY 1.34 cuft/sk. Washed out lines, dropped plug & displaced w/ 54 bbl 2% KCL & bumped plug to 1500 psi, pressure held; plug landed @ 2:35 AM. Had full returns thru job w/ good lift pressure (520 psi final lift pressure), did not circ cmt. Bled off pressure & checked float, float held. Washed up, RD Basic. Broke off cmt head, removed flowline, broke off companion flange. ND BOP & set slips, made rough cut on csg, pulled stack out of way & made final cut & welded on bell nipple. Installed swage & valve on csg, packed off csg head. Jetted pits, started rigging down. Rig released @ 6:30 AM . Rig set to move to MWS location Friday 8-14.

DROP FROM REPORT UNTIL FURTHER ACTIVITY

**08-31-15** MIRU PSI Wireline. RIH w/ GR/CCL/CBL and correlate to the Tucker Wireline log dated 08-12-15. Tag PBD @ 2275' KB Depth. TOC @ 1093'. Good bond. RIH and perforate Grayburg 1968-74' and 2002-2008', 1 SPF, 60 Deg phasing. All shots fired. Total 14 holes. POH. RDMO PSI. SWIFN. Note: Short Jt located 1766' to 1788'.

**09-01-15** MIRU Big Lake Services pole rig. Unload new 2-3/8" 4.7# J55 EUE 8Rd tbg (purchased from Smith Brothers). PU 6 jts tbg, Pkr, SN, on 2-3/8" tbg so that EOT @ 2012'. MIRU Basic Energy Services. Spot 2 Bbls 15% HCL NeFe Acid across perfs. PU 6 Jts. Set Pkr. Breakdown Grayburg perfs at 1860 PSIG. Acidize Grayburg w/ total of 1500 Gal 15% HCL NeFe acid @ AIR 3.8 BPM @ 1900 PSIG. Space 25 BS evenly through acid. Ball off to 4000 PSIG. Surge balls off and re-start pumping acid. Ball off again to 4300 PSIG. Surge balls off and finish acid job. Flush to perfs w/ 17.5 Bbls LSW. ISIP 1400 PSIG, 5M 1340 PSIG, 10M 1340 PSIG, 15 Min 1310 PSIG. Total 64 BLWTR. Open to tank and flowback 2 BW. RIH w/ swab and swab total 11 BLW. Last 2 pulls had 20% oil cut w/ 400' entry in 30 min. Pulling from SN. 51 BLWTR. SWIFN.