



## Partner - Drilling

Well Name: Fcu 2515

Date: 4/11/2017

Well Name Fcu 2515	API/UWI 4200347440	State/Province Texas	County Andrews
Permit Number 821051	Spud Date 4/11/2017 03:30	Ground/Corrected Ground Elevation (ft) 3,292.00	KB-Ground Distance (ft) 13.00

### Mud Properties

Dens (lb/gal)	Vis (s/qt)
8.40	29

### Rig Info

Rig
Basic, 37

### Rig Release Date

RR Date

### Survey Information

Date	Description	EW Tie In (ft)	NS Tie In (ft)	Azimuth Tie In (°)	Inclination Tie In (°)	MD Tie In (ftKB)	TVD Tie In (ftKB)
4/11/2017	MWD	0.00	0.00	0.0	0.0	0.00	0.00
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)
230.00	0.20	0.00	230.00	0.40	0.00	0.40	0.09
706.00	0.30	0.00	705.99	2.48	0.00	2.48	0.02
1,177.00	0.20	0.00	1,176.99	4.53	0.00	4.53	0.02
1,653.00	0.10	0.00	1,652.99	5.78	0.00	5.78	0.02
1,729.00	0.20	0.00	1,728.99	5.98	0.00	5.98	0.13

### Daily Summary

Footage (ftKB)	End Depth (ftKB)	Daily Field Est Total (Cost)	Cum Field Est To Date (Cost)
1,381.00	1,740.0	45,415.61	152,231.23

Activity  
Nipple up BOP

### 24hr Activity

Com
Rot Drilg f/ 359' - 1,740', 1,381', avg rop 191 fph, 35K wob, 115 rpm, 520 gpm, 1,460 psi SPP. Pump 50 bbls high vis sweep & circulate wellbore clean. Held PJSM. Trip out Hole racking back 4-1/2" DP & 6-1/4" DC's in derrick. L/D 11" CapRock PDC Bit, Bit Sub w/ Solid float, Invictus Inclination Tool, IBS & 3 x 8" DC's. Held PJSM, Rig up Thompson Csg Crew and Lay Down Machine. Run 8-5/8" Surface Csg. as follows: 1 - 8 5/8" Guide Shoe ( 0.80' ), 1 - joint 8 5/8" 24 lb/ft J-55 STC ( 40.01' ), 1 - 8 5/8" Float Collar ( 1.15' ), 42 - joints 8 5/8" 24 lb/ft J-55 STC ( 1,701.48' ), Ran a total of 43 joints 1,743.44'. Set @ 1,740'. Top of Guide Shoe @ 1,739' & Top of FC @ 1,698', Dressed w/ Weatherford Float Equipment & Centralizers, Thread Locked GS, SJ, FC, & 2nd joint, Torque Casing to Opt 2,440 ft/lb, Place 12 Centralizers as per Program. Washed and Worked joint 42, 43 to bottom. Circulate wellbore @ 250 gpm w/ 117 psi SPP. While circulating R/D Thompson Casing Crew & Laydown Machine. Held PJSM w/ Halliburton. Rig up Halliburton Cement Equipment, Cement 8 5/8" Casing as follows, Test Lines to 2,000 psig, Pump 20 bbls/ Gel Spacer Ahead of 410 sxs Lead Econocem Class "C" Cement Mixed @ (Density 12.50 ppg, Yield 2.11 cu.ft/sk, Water 11.54 gal/sk Total 154 bbls/slurry = 865 cu/ft ), Pumped @ 6.5 bbl/min, w/ 120 psig, Followed by 220 sxs Tail Halcem Class "C" Cement Mixed @ ( Density 14.80 ppg, Yield 1.34 cu.ft/sk, Water 6.51 gal/sk, Total 53 bbls/slurry = 308 cu/ft ), Pumped @ 6 bbl/min, w/ 154 psig, Release Plug & Displace with 108 bbls of 8.3 ppg FW @ 6 bbls/min, @ 550 psig, Bump Plug 459 psig over @ 3 bbls a min to Final Bump 1,009 psig @ 23:11 hrs. 4/11/2017, Release Pressure Bleed Back 1/2 bbl to Tank. Float Held, Full returns entire job, circulated 108 bbls = 287 sks of cement to surface, RD Halliburton Equipment. PJSM, Cut off Conductor & 8 5/8" Casing, Weld on 11" 3M x 8 5/8" SOW GE Casing Head. Safety Meeting, Nipple up Shaffer 11"5M Double Ram BOP, Annular Hydrill , Rotating Head & 3 1/8"5M x 2 1/16"5M Choke Manifold & Kill Lines, Connected the Accumulator Closing Unit. Fuction Test BOP.

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**Mud Properties**

Dens (lb/gal)	Vis (s/qt)
10.00	29

**Rig Info**

Rig
Basic, 37

**Rig Release Date**

RR Date

**Survey Information**

Date	Description	EW Tie In (ft)	NS Tie In (ft)	Azimuth Tie In (°)	Inclination Tie In (°)	MD Tie In (ftKB)	TVD Tie In (ftKB)
4/11/2017	MWD	0.00	0.00	0.0	0.0	0.00	0.00
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)
2,220.00	0.60	0.00	2,219.98	8.69	0.00	8.69	0.16
2,411.00	1.40	0.00	2,410.95	12.03	0.00	12.03	0.42
2,570.00	1.50	0.00	2,569.90	16.05	0.00	16.05	0.06
2,726.00	1.50	0.00	2,725.84	20.13	0.00	20.13	0.00
2,885.00	1.30	0.00	2,884.80	24.02	0.00	24.02	0.13

**Daily Summary**

Footage (ftKB)	End Depth (ftKB)	Daily Field Est Total (Cost)	Cum Field Est To Date (Cost)
1,345.00	3,085.0	19,777.15	172,008.38

Activity  
Drilling Production Hole @ 3,085'

**24hr Activity**

Com
Finish Nipple up Shaffer 11"5M Double Ram BOP, Annular Hydrill , Rotating Head & 3 1/8"5M x 2 1/16"5M Choke Manifold & Kill Lines, Connected the Accumulator Closing Unit. Fuction Test BOP.
Pump through BOP & Choke Manifold, Test w/ Rig Pump, Test Blind Rams, 4" Manual Valve, Upper Kelly Valve & Choke Manifold 250 psig low & 1,500 psig high. Test each for 5 minutes. ( Test ok )
Test 8 5/8" Surface Casing to 1,000 psig for 30 minutes per TRRC. (Test ok)
Pick up BHA Motor and Surefire Inclination tool, IBS,
Trip in Hole w/ Bit #2 CapRock 616SRK
Rig Repair, Replace Hydraulic Lines in Sub.
Finish Trip in Hole w/ Bit #2 CapRock 616SRK
Install Rotating Head
Displace hole to 10# brine.
Test Pipe Rams & Annular @ 250 psig low & 1,500 psig high ( Test ok )
Drlg Plug, Float Collar & 40' of Cement. Tagged Cement @ 1,697'. wob: 10, rpm: 50, motor 97 rpm, spm100, spp 1,105 psi.
Rot Drlg f/ 1,740' - 3,085', 1,345', avg rop 88 fph, 12-15K wob, Rotary 80 rpm, Motor 138 rpm, Total rpm 218. spp 2,390 psi. 495 gpm.



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### Mud Properties

Dens (lb/gal)	Vis (s/qt)
10.10	29

### Rig Info

Rig
Basic, 37

### Rig Release Date

RR Date

### Survey Information

Date	Description	EW Tie In (ft)	NS Tie In (ft)	Azimuth Tie In (°)	Inclination Tie In (°)	MD Tie In (ftKB)	TVD Tie In (ftKB)
4/11/2017	MWD	0.00	0.00	0.0	0.0	0.00	0.00
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)
3,773.00	0.50	0.00	3,772.66	39.21	0.00	39.21	0.16
4,052.00	0.50	0.00	4,051.65	41.64	0.00	41.64	0.00
4,273.00	0.60	0.00	4,272.64	43.76	0.00	43.76	0.05
4,525.00	0.40	0.00	4,524.63	45.96	0.00	45.96	0.08
4,810.00	0.40	0.00	4,809.62	47.95	0.00	47.95	0.00

### Daily Summary

Report Start Date 4/13/2017 06:00	Report End Date 4/14/2017 06:00	Footage (ftKB) 1,894.00	End Depth (ftKB) 4,979.0	Daily Field Est Total (Cost) 21,245.81	Cum Field Est To Date (Cost) 193,254.19
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Activity  
Drilling Production Hole @ 4,979'

### 24hr Activity

Com
Rot Drlg f/ 3,085' - 3,369', 284', avg rop 75 fph, 20K wob, Rotary 80 rpm, Motor 136 rpm, Total rpm 216. spp 2,515 psi. 488 gpm.
Lubricate Rig.
Rot Drlg f/ 3,369' - 3,905', 536', avg rop 93 fph, 25K wob, Rotary 80 rpm, Motor 136 rpm, Total rpm 216. spp 2,515 psi. 488 gpm.
Rig Repair - Repair Hydromatic.
Rot Drlg f/ 3,905' - 4,979', 1,074', avg rop 84 fph, 25K wob, Rotary 80 rpm, Motor 136 rpm, Total rpm 216. spp 2,650 psi. 488 gpm.



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### Mud Properties

Dens (lb/gal)	Vis (s/qt)
10.20	29

### Rig Info

Rig
Basic, 37

### Rig Release Date

RR Date

### Survey Information

Date	Description	EW Tie In (ft)	NS Tie In (ft)	Azimuth Tie In (°)	Inclination Tie In (°)	MD Tie In (ftKB)	TVD Tie In (ftKB)
4/11/2017	MWD	0.00	0.00	0.0	0.0	0.00	0.00
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)
5,416.00	0.30	0.00	5,415.61	52.46	0.00	52.46	0.07
5,700.00	0.20	0.00	5,699.60	53.70	0.00	53.70	0.04
5,979.00	0.30	0.00	5,978.60	54.92	0.00	54.92	0.04
6,263.00	0.10	0.00	6,262.60	55.91	0.00	55.91	0.07
6,642.00	0.30	0.00	6,641.60	57.24	0.00	57.24	0.05

### Daily Summary

Report Start Date 4/14/2017 06:00	Report End Date 4/15/2017 06:00	Footage (ftKB) 2,052.00	End Depth (ftKB) 7,031.0	Daily Field Est Total (Cost) 13,201.90	Cum Field Est To Date (Cost) 206,456.09
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Activity  
Drilling Production Hole @ 7,031'

### 24hr Activity

Com
Rot Drlg f/ 4,979' - 5,516', 537', avg rop 85.9 fph, 28K wob, Rotary 80 rpm, Motor 136 rpm, Total rpm 216. spp 2,650 psi. 488 gpm.
Lubricate Rig
Rot Drlg f/ 5,516' - 7,031', 1,515', avg rop 86 fph, 28-30K wob, Rotary 70 rpm, Motor 122 rpm, Total rpm 192. spp 2,485 psi. 439 gpm.



## Partner - Drilling

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### Mud Properties

Dens (lb/gal)	Vis (s/qt)
10.20	30

### Rig Info

Rig
Basic, 37

### Rig Release Date

RR Date

### Survey Information

Date	Description	EW Tie In (ft)	NS Tie In (ft)	Azimuth Tie In (°)	Inclination Tie In (°)	MD Tie In (ftKB)	TVD Tie In (ftKB)
4/11/2017	MWD	0.00	0.00	0.0	0.0	0.00	0.00
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)
5,979.00	0.30	0.00	5,978.60	54.92	0.00	54.92	0.04
6,263.00	0.10	0.00	6,262.60	55.91	0.00	55.91	0.07
6,642.00	0.30	0.00	6,641.60	57.24	0.00	57.24	0.05
7,025.00	0.40	0.00	7,024.59	59.58	0.00	59.58	0.03
7,268.00	0.80	0.00	7,267.57	62.12	0.00	62.12	0.16

### Daily Summary

Report Start Date 4/15/2017 06:00	Report End Date 4/16/2017 06:00	Footage (ftKB) 281.00	End Depth (ftKB) 7,312.0	Daily Field Est Total (Cost) 101,697.28	Cum Field Est To Date (Cost) 308,153.37
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Activity  
Nipple Down BOP Set Slips Cut Off

### 24hr Activity

Com
Rot Drilg f/ 7,031' - 7,312', 281', avg rop 74.9 fph, 30-34K wob, Rotary 70 rpm, Motor 122 rpm, Total rpm 192. spp 2,665 psi. 439 gpm. Pump 60 bbl high vis Sweep & Circulate, PJSM R/U Thompson Lay Down Machine Lay Down Drill Pipe Freely from 7,312' to 672', L/D 209 jts of 4-1/2" DP, Break Kelly Lay Down BHA from 672' to Surface, Lay Down BHA Motor, 2 x 7 7/8" IBS & Invicus Survey Tool. Lay Down Kelly. PJSM, Rig up Thompson Casing Crew Run 5 1/2" J-55 17# LT&C Csg As Follows 1- 5 1/2" Float Shoe (1.31'), 1- jnt 5 1/2" J-55 17# LTC (44.06'), 1- 5 1/2" Float Collar (1.21'), 40 jnts 5 1/2" J-55 17# LTC (1,760.25'), 1- Marker jnt 5 1/2" J-55 17# LTC (21.54'), 125 jnts 5 1/2" J-55 17# LTC (5,487.08'), Ran a Total of 167 jnts,(7,315.00') Set @ (7,312'), Dressed w/ Weatherford Float Equipment, Top of Float Shoe @ 7,310', Float Collar @ 7,265', Marker jnt @ 5,483', Thd Locked FS, SJ, FC/ Torqued csg to Opt 2,470 ft/lb. Place 53 Cent. as per program. Circulate Casing on Bottom with Full Returns. 316 gpm at 367 psi. Rig Down Thompson Casing Crew & Laydown Machine. Held PJSM w/ Halliburton personnel. R/U Halliburton Cement Head and Cement 5 1/2" Csg as Follows, Test Lines to 4,000 psig, Pump 20 bbls FW w/ Gel Spacer containing 2.50 lbm/bbl CHEM,FDP-S1050-12 + 0.10 lbm/bbl Red Liquid Dye # 2 Pump Ahead of 650 sxs Lead Econocem Class "C" Cement containing + 5 lbm Microbond + 0.125 lbm Poly-E-Flake + .3% Halad R-322 + 0.25 lbm D-Air 5000 + 3 lbm Kol-Seal. Mixed @ Density 11.5 ppg, Yield 2.943 cu.ft/sk, Water 17.3 gal/sk, Total 341 bbls/slurry = 1,913 cu/ft Pumped @ 6 bbl/min, w/ 320 psig. Followed by 800 sxs Tail, Versacem Class "C" Cement containing + 0.20% CFR-3 + 0.30% Halad R-344 + 5 lbm Microbond + 1 lbm Salt + 0.10% HR-800 Mixed @ Density 14.2 ppg, Yield 1.366 cu.ft/sk, Water 6.35 gal/sk, Total 195 bbls/slurry= 1,093 cu/ft, Pumped @ 6 bbl/min, w/ 430. Release Plug & Displace with 168.5 bbls of 8.4 ppg FW Pumped @ 6 bbl/min, w/ 2350 psig. Bump plug 530 psig Over @ 3 bbl/min, Final Bump 2,880 psig, Plug Down @ 03:51 hr 4/16/2017, Release Pressure Bleed Back 2 bbls to Tanks, Float Held, Full returns during cement job, Circulate 139 bbls = 265 sx of Cement to Surface. Rig Down Halliburton Equipment. PJSM, Nipple Down & Hang BOP, Set Slips w/ 110K Tension, Cut off 5 1/2" Csg