



Partner - Drilling

Well Name: Fcu 7520

Date: 4/16/2017

Well Name Fcu 7520	API/UWI 4200347444	State/Province Texas	County Andrews
Permit Number 821057	Spud Date 4/17/2017 02:15	Ground/Corrected Ground Elevation (ft) 3,306.00	KB-Ground Distance (ft) 13.00

Mud Properties

Dens (lb/gal)	Vis (s/qt)
8.40	20

Rig Info

Rig
Basic, 37

Rig Release Date

RR Date

Survey Information

Date 4/16/2017	Description MWD	EW Tie In (ft) 0.00	NS Tie In (ft) 0.00	Azimuth Tie In (°) 0.0	Inclination Tie In (°) 0.0	MD Tie In (ftKB) 0.00	TVD Tie In (ftKB) 0.00
MD (ftKB) 231.00	Incl (°) 0.60	Azm (°) 0.00	TVD (ftKB) 231.00	NS (ft) 1.21	EW (ft) 0.00	VS (ft) 1.21	DLS (°/100ft) 0.26

Daily Summary

Report Start Date 4/16/2017 08:00	Report End Date 4/17/2017 06:00	Footage (ftKB) 367.00	End Depth (ftKB) 420.0	Daily Field Est Total (Cost) 102,989.15	Cum Field Est To Date (Cost) 102,989.15
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Activity
Drilling Surface Hole @ 420'

24hr Activity

Com
Move Rig & Rig Up Basic Rig 37, Raise Derrick @ 14:15 hrs, Weld on conductor pipe, Rig up, Slip & Cut 90' of drill line, Strap & Caliper DC's, Install Flow line, Pre-spud Rig inspection. P/U & M/U 11" CapRock PDC Bit, Bit Sub w/ solid float, Inclination tool & 1 x 8" DC Rot Drlg f/ 53' - 420', 367', avg rop 97 fph, 15K wob, 120 rpm, 418 gpm, 350 psi SPP. (Spud @ 02:15 hr, 4/17/2017)

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Mud Properties

Dens (lb/gal)	Vis (s/qt)
8.50	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)
4/16/2017	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)
231.00	0.60	0.00	231.00	1.21	0.00	1.21	0.26
428.00	0.30	0.00	427.99	2.76	0.00	2.76	0.15
915.00	0.30	0.00	914.98	5.31	0.00	5.31	0.00
1,401.00	0.10	0.00	1,400.98	7.00	0.00	7.00	0.04
1,716.00	0.30	0.00	1,715.98	8.10	0.00	8.10	0.06

Daily Summary

Report Start Date 4/17/2017 06:00	Report End Date 4/18/2017 06:00	Footage (ftKB) 1,304.00	End Depth (ftKB) 1,724.0	Daily Field Est Total (Cost) 44,055.24	Cum Field Est To Date (Cost) 147,044.39
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Activity
Welding on Casing Head

24hr Activity

Com
Rot Drlg f/ 420' - 968', 548', avg rop 146 fph, 15-25K wob, 120 rpm, 418 gpm, 870 psi SPP Recycle Pumps for Survey @ 915' - inc = 0.3 deg. Lubricate Rig Rot Drlg f/ 968' - 1,724', 756', avg rop 137 fph, 20-30K wob, 115 rpm, 418 gpm, 1,030 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, RR & 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 (42.10'), 1 - 8 5/8" Float Collar (1.15'), 40 - joints 8 5/8" 24 lb/ft J-55 STC (1,683.84'), Ran a total of 41 joints 1,727.89'. Set @ 1,724'. Top of Guide Shoe @ 1,723' & Top of FC @ 1,680', Dressed w/ Weatherford Float Equipment & Centralizers, Thread Locked GS, SJ, FC, & 2nd joint, Torque Casing to Opt 2,440 ft/lb, Place 11 Centralizers as per Program. Washed and Worked joint, 40 & 41 to bottom. Circulate wellbore @ 293 gpm w/ 250 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 395 sxs Lead Econocem Class "C" Cement Mixed @ (Density 12.50 ppg, Yield 2.109 cu.ft/sk, Water 11.52 gal/sk Total 148 bbls/slurry = 825 cu/ft), Pumped @ 4 bbl/min, w/ 210 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 @ 4 bbl/min, w/ 160 psig, Release Plug & Displace with 107 bbls of 8.3 ppg FW @ 6 bbls/min, @ 597 psig, Bump Plug 515 psig over @ 3 bbls a min to Final Bump 1,112 psig @ 02:23 hrs. 4/18/2017, Release Pressure Bleed Back 1/2 bbl to Tank. Float Held, Full returns entire job, circulated 60 bbls = 159 sks of cement to surface, RD Halliburton Equipment. Remove Flowline, Jet and Clean Cellar PJSM, Cut off Conductor & 8 5/8" Casing, Weld on 11" 3M x 8 5/8" SOW GE Casing Head.



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Mud Properties

Dens (lb/gal)	Vis (s/qt)
10.00	28

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)
4/16/2017	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)
1,862.00	0.60	0.00	1,861.97	9.25	0.00	9.25	0.21
2,052.00	0.10	0.00	2,051.97	10.41	0.00	10.41	0.26
2,242.00	0.80	0.00	2,241.96	11.90	0.00	11.90	0.37
2,368.00	1.50	0.00	2,367.94	14.43	0.00	14.43	0.56
2,495.00	1.30	0.00	2,494.90	17.53	0.00	17.53	0.16

Daily Summary

Report Start Date 4/18/2017 06:00	Report End Date 4/19/2017 06:00	Footage (ftKB) 840.00	End Depth (ftKB) 2,564.0	Daily Field Est Total (Cost) 24,366.80	Cum Field Est To Date (Cost) 171,411.19
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Activity
Drilling Production Hole @ 2,564'

24hr Activity

Com
Finish Welding on 11" 3M x 8 5/8" SOW GE Casing Head. Test to 1000 psig / 5 min. (Test Good).
Safety Meeting, Nipple up Shaffer 11"5M Double Ram BOP, Annular Hydrillill , 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)
Strap and Caliper & Pick up BHA Motor, IBS, Surefire Inclination tool, Pony Collar, IBS.
Trip in Hole w/ Bit #2 CapRock CR616SRK
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 & 44' of Cement. Tagged Cement @ 1,680'. wob: 10-12, rpm: 55, motor 107 rpm, spm 110 spp: 1,220 psi.
Rot Drlg f/ 1,724' - 2,564', 840', avg rop 70 fph,12-15K wob, Rotary 70 rpm, Motor 146 rpm, Total rpm 216. spp 2,250 psi. 522 gpm.

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Mud Properties

Dens (lb/gal)	Vis (s/qt)
10.10	28

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)
4/16/2017	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)
3,126.00	0.90	0.00	3,125.72	32.29	0.00	32.29	0.24
3,284.00	0.90	0.00	3,283.70	34.77	0.00	34.77	0.00
3,442.00	1.10	0.00	3,441.68	37.53	0.00	37.53	0.13
3,600.00	1.00	0.00	3,599.65	40.42	0.00	40.42	0.06
3,758.00	0.80	0.00	3,757.63	42.91	0.00	42.91	0.13

Daily Summary

Report Start Date 4/19/2017 06:00	Report End Date 4/20/2017 06:00	Footage (ftKB) 1,264.00	End Depth (ftKB) 3,828.0	Daily Field Est Total (Cost) 17,037.16	Cum Field Est To Date (Cost) 188,448.35
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Activity
Drilling Production Hole @ 3,828'

24hr Activity

Com
Rot Drlg f/ 2,564' - 2,911', 347', avg rop 57 fph, 15-25K wob, Rotary 75 rpm, Motor 146 rpm, Total rpm 221. spp 2,357 psi. 522 gpm. Recycle Pumps for Survey @ 2,873' - inc = 1.5 deg. Rot Drlg f/ 2,911' - 3,101', 190', avg rop 54 fph, 25-28K wob, Rotary 75 rpm, Motor 146 rpm, Total rpm 221. spp 2,370 psi. 522 gpm. Lubricate Rig Rot Drlg f/ 3,101' - 3,828', 727', avg rop 53.8 fph, 28K wob, Rotary 75 rpm, Motor 146 rpm, Total rpm 221. spp 2,64070 psi. 522 gpm.



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Mud Properties

Dens (lb/gal)	Vis (s/qt)
10.10	28

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)
4/16/2017	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)
4,138.00	0.50	0.00	4,137.61	47.30	0.00	47.30	0.09
4,294.00	0.70	0.00	4,293.60	48.93	0.00	48.93	0.13
4,482.00	0.50	0.00	4,481.59	50.90	0.00	50.90	0.11
4,737.00	0.10	0.00	4,736.58	52.24	0.00	52.24	0.16
5,085.00	0.30	0.00	5,084.58	53.45	0.00	53.45	0.06

Daily Summary

Report Start Date 4/20/2017 06:00	Report End Date 4/21/2017 06:00	Footage (ftKB) 1,643.00	End Depth (ftKB) 5,471.0	Daily Field Est Total (Cost) 18,016.75	Cum Field Est To Date (Cost) 206,465.10
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Activity
Drilling Production Hole @ 5,471'.

24hr Activity

Com
Rot Drlg f/ 3,828' - 4,300', 472', avg rop 49.6 fph, 35-40K wob, Rotary 70 rpm, Motor 138 rpm, Total rpm 208. spp 2,596 psi. 495 gpm. Lubricate Rig.
Rot Drlg f/ 4,300' - 5,471', 1,171', avg rop 83.6 fph, 35K wob, Rotary 70 rpm, Motor 138 rpm, Total rpm 208. spp 2,600 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)
4/16/2017	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)
5,781.00	0.30	0.00	5,780.57	56.49	0.00	56.49	0.03
6,224.00	0.20	0.00	6,223.57	58.42	0.00	58.42	0.02
6,699.00	0.50	0.00	6,698.56	61.32	0.00	61.32	0.06
7,173.00	0.40	0.00	7,172.55	65.04	0.00	65.04	0.02
7,288.00	0.20	0.00	7,287.54	65.65	0.00	65.65	0.17

Daily Summary

Report Start Date 4/21/2017 06:00	Report End Date 4/22/2017 06:00	Footage (ftKB) 1,855.00	End Depth (ftKB) 7,326.0	Daily Field Est Total (Cost) 13,830.25	Cum Field Est To Date (Cost) 225,095.35
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Activity
Laying Down Drill Pipe

24hr Activity

Com
Rot Drilg f/ 5,471' - 7,326', 1,855', avg rop 85.3 fph, 38K wob, Rotary 75 rpm, Motor 117 rpm, Total rpm 192. spp 2,630 psi. 418 gpm. Pump 60 bbl high vis Sweep & Circulate, PJSM R/U Thompson Lay Down Machine Lay Down Drill Pipe Freely from 7,326' to 5,756', L/D 50 jts of 4-1/2" DP,



Partner - Drilling

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Date: 4/22/2017

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Mud Properties

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

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)
4/16/2017	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)
5,781.00	0.30	0.00	5,780.57	56.49	0.00	56.49	0.03
6,224.00	0.20	0.00	6,223.57	58.42	0.00	58.42	0.02
6,699.00	0.50	0.00	6,698.56	61.32	0.00	61.32	0.06
7,173.00	0.40	0.00	7,172.55	65.04	0.00	65.04	0.02
7,288.00	0.20	0.00	7,287.54	65.65	0.00	65.65	0.17

Daily Summary

Report Start Date 4/22/2017 06:00	Report End Date 4/23/2017 06:00	Footage (ftKB) 0.00	End Depth (ftKB) 7,326.0	Daily Field Est Total (Cost) 109,785.73	Cum Field Est To Date (Cost) 334,881.08
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Activity
Rigging Down Halliburton Cement Equipment

24hr Activity

Com
Lay Down Drill Pipe Freely from 5,756' to 663', L/D 160 jts of 4-1/2" DP, Break Kelly
Lay Down BHA from 663' to 335'.
Circulate due to Salt Ring.
Lay Down BHA from 335' to Surface, Lay Down BHA Motor, 2 x 7 7/8" IBS, Pony Collar & Invicis Survey Tool. Lay Down Kelly.
Rig Down Thompson Laydown Machine.
PJSM, Rig up Halliburton Logging Unit, Logged in hole w/ Dual Laterolog Microguard, Dual Spaced Neutron, Gamma Ray, Tool. 8 5/8" Csg Shoe located @ 1,719' WLM. Wireline tag bottom at 7,319' WLM. AHVT = 1,610 cu/ft, R/D Halliburton Logging Unit.
PJSM, Rig up Thompson Casing Crew & Lay Down Machine.
Emergency Kill Switch Not Working on Power Tong Unit, Wait on New Unit.
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 (45.15'), 1- 5 1/2" Float Collar (1.21'), 39 jnts 5 1/2" J-55 17# LTC (1,759.50'), 1- Marker jnt 5 1/2" J-55 17# LTC (23.77'), 112 jnts 5 1/2" J-55 17# LTC (5,498.29'), Ran a Total of 163 jnts, (7,329.23') Set @ (7,326'), Dressed w/ Weatherford Float Equipment, Top of Float Shoe @ 7,324', Float Collar @ 7,278', Marker jnt @ 5,495', 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. 315 gpm at 203 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 645 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 + 0.05 lbm SA-1015 Mixed @ Density 11.5 ppg, Yield 2.94 cu.ft/sk, Water 17.3 gal/sk, Total 337 bbls/slurry = 1,896 cu/ft Pumped @ 7 bbl/min, w/ 290 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 1.36 cu.ft/sk, Water 6.35 gal/sk, Total 195 bbls/slurry = 1,093 cu/ft, Pumped @ 7 bbl/min, w/ 450. Release Plug & Displace with 169 bbls of 8.4 ppg FW Pumped @ 7 bbl/min, w/ 2,000 psig. Bump plug 670 psig Over @ 3 bbl/min, Final Bump 2,670 psig, Plug Down @ 05:48 hr 4/23/2017, Release Pressure Bleed Back 2 bbls to Tanks, Float Held, Full returns during cement job, Circulate 118 bbls = 225 sx of Cement to Surface. Start Rig Down Halliburton Equipment.