

County: Andrews, TX		Permit #: 807893		Proposed Wellbore Schematic		NAD 83 SL: x = 673901.0' , y = 6759207.0'		Geologist: Josh Hughes	
Field: Fuhrman - Mascho		AFE #: O - 14097		Well Name: UL 10 Livingston 2H		BHL: x = 675574.3' , y = 6752015.3'		Project Manger/Supt: Matt Hood	
API #: 42-003-47192		Rig Name & #: H&P 361		Operator: Forge Energy		GL: 3207' KB: 3225' (18')		Drilling Engineer: Michael Johnson	
11" 5M x 7 1/16" 10M 9 5/8" SOW x 11" 5M									
TVD/MD	GEOL	Hol Size/Casing Program		Drilling Fluids	Bits and BHA	Cementing		Notes	
80'		20" x 16" Conductor		n/a	n/a	n/a			
	Red Beds			Sweep every 90' w/ FW gel & MF-55					
1300-1700' 1525'	Santa Rosa GAU Depth			Yellow Starch prior to TD	D516S Bit, 8" Shock Sub, 8" Survey Sub, IBS, 8" DC, IBS, 8" DC, 9 – 6.5" DCs, 15 – HWDP	Lead: 560 sks, 12.9 ppg, 194% OH excess, TOC - 0 Tail: 130 sks, 14.8 ppg, 0% OH excess, TOC - 1200'			
1625'		12.25" x 9 5/8" (8.921" ID) 36# J-55, LTC		8.5 - 9.0 FW					
	Anyhydrite/Salts			Treat system with surfactant					
2931' 3155' 3485'	Yates Seven Rivers Queen			Sweep every 120' w/ Paper & Salt Gel	Vertical/Curve/Lateral AT606X (6" Gauge) (X20641) AT Curve Assembly 6 - 4.5" HWDP Back Up Bit: DPD506X (6" Gauge) (X21552)				
3762' KOP		Build 8°/100 to 12° Then 10°/100 @ 58° Drill 180' Tangent							
4185' 4317' 4425'	Grayburg L.Grayburg San Andres	Build 8°/100 to 80° Then 6°/100 to landing		After KOP is established sweep every 120' w/Tex-Xan PX				Target Window: 50' L and 50'R +/- 20' Up/Down	
4485'/5005' EOC	San Andres Target					4406'/11521' VS = 7374'			
					Contingency BHA for Lateral AT606X 6" Gauge M1XL 1.5° Motor (.33 RPG) XRV+ Vibratory Tool ≈ 2000' behind bit	Lead: 705 sks, 11.5 ppg, 163% OH excess, TOC - 0 Tail: 1900 sks, 14.2 ppg, 25% OH excess, TOC - 3843' *Use Kol-Seal LCM additive bc of the unfamiliarity of this area			
		8.75" x 5.5" (4.892" ID) 17# L-80 BTC Rupture Disc/Toe Sleeve 2 jts behind FC Utilize Halliburton BACE tool (Placement TBD based on Simulation)		10.0-10.1 Brine		Displacement 3000 gallons of 10% MSA Acid Spot		Michael Johnson (D.E.) Prepared (Revised): 07.29.2015 (08/10/2015)	