



Daily Drilling Report

Well Name: UL 10 NELSON 3H

Report #: 6.0, DFS: 2.50

Acquisition: Shafter Lake

API/UWI 42-003-47550	Surface Legal Location	License #	State/Province Texas
Spud Date 8/3/2017 18:00	Rig Release Date	KB-Ground Distance (ft) 21.00	KB-Casing Flange Distance (ft)

Daily Operations

Report Start Date 8/5/2017	Weather Clear	Temperature (°F)	Road Condition STABLE	Hole Condition GOOD
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Operations 24 Hour Summary
N/U BOP & PSI TEST, P/U DIRECTIONAL ASSEMBLY & TIH, DRLG PRODUCTION

Operations Next Report Period
DRLG TO KICK OFF POINT, BUILD CURVE

Remarks
LITHOLOGY 40% ANYHYDRITE, 10% RED SHALE, 50% SALT

Time Log of Operations

Start Time	Dur (hr)	Cum Dur (hr)	End Time	Code 1	Code 2	Com
06:00	3.50	3.50	09:30	Nipple up BOP	.	P/U, N/U BOPE, INSTALL FLOW LINE/FILL LINE
09:30	4.00	7.50	13:30	Pressure Test BOP's	.	PRESSURE UP ACCUMULATOR, FUNCTION TEST BOP, TEST CSG, BLIND, HCR, 4" MANUAL, INSIDE/OUTSIDE CHOKE, MANUAL CHOKE, PIPE RAMS, 250 LOW/1500 HIGH
13:30	1.00	8.50	14:30	Nipple up BOP	.	FINISH N/U, FIX ROT HEAD BOWL
14:30	2.00	10.50	16:30	Pick up	BHA	INSTALL WEAR BUSHING, P/U M/U BHA
16:30	2.00	12.50	18:30	Trip In Hole	BHA	TIH TO 1,500'
18:30	0.50	13.00	19:00	Drill cement/drill out cement/drill float & shoe	.	WASH & TAG CMT @ 1,525', FLOAT @ 1,531', DRLG TRACK SHOE
19:00	11.00	24.00	06:00	Slide & Rotate	While Drilling	DRLG F/ 1,580' T/ 3,321', 1,741', 158'/HR WOB: 28-32, ROT: 55-60, GPM: 600, DIFF: 400-550, SLIDES F /2,466' T/ 2,476', 2,561' T/ 2,571', 2,656' T/ 2,666', (DRIFTED 13' FROM CENTER)

Mud Volumes

Active Volume (bbl)	Var Active Vol (bbl)	Balance (bbl)	Tank Volume (bbl)	Additions (bbl)	Losses (bbl)	Hole Volume (bbl)
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Tank/Addition/Loss	Type	Volume (bbl)	Subtype

Drill Strings

BHA #2, Lateral

Bit Run 1	Drill Bit 7 7/8in, DF513T3, 13543	IADC Bit Dull -----	TFA (incl Noz) (in²) 1.64
Nozzles (1/32") 18/18/18/18/18/16/16		String Length (ft) 94.19	String Wt (1000lbft) 8
		BHA ROP (ft/hr) 158.3	

Drill String Components

Item Des	Jts	OD (in)	ID (in)	Len (ft)	Top Thread
NMDC	1	6 1/2	3.00	29.22	XH
NMDC	1	6 1/2	3.00	28.61	XH
Orientation Sub	1	6 1/2	3.00	3.43	XH
Stabilizer	1	6 1/2	3.00	4.84	XH
Mud Motor - Bent Housing	1	6 1/2	3.00	27.09	XH

Drilling Parameters

Wellbore Original Hole	Start Depth (ftKB) 1,580.0	End Depth (ftKB) 3,321.0	Cum Depth (ft) 1,741.00	Drilling Time (hr) 11.00	Cum Drill Time (hr) 11.00	Interval ROP (ft/hr) 158.3	Flow Rate (gpm) 600
WOB (1000lbft) 28	RPM (rpm) 55	SPP (psi) 1,975.0	Drill Str Wt (1000... 80	PU Str Wt (1000lbft) 90	SO Str Wt (1000lbft) 75	Drilling Torque 4,400.0	Off Btm Tq 200.0
Q Gas Inj (ft³/min)	T Inj (°F)	P BH Ann (psi)	T BH (°F)	P Surf Annulus (...)	T Surf Annulus (°F)	Q Liq Return (gpm)	Q Gas Return (f...

Hydraulic Calculations

Bit Hydraulic Power (hp) 43.9	HP/Area (hp/in²) 0.9	Bit Jet Velocity (ft/s) 117.7	Bit Pressure Drop (psi) 125.5	% P @ bit (%) 6
Max Casing AV (ft/min) 774.8	Max Open Hole AV (ft/min) 744.0	Min Casing AV (ft/min) 690.3	Min Open Hole AV (ft/min) 744.0	ECD End (lb/gal)

Error
Unable to calculate annular pressure drop because pressure drop data is missing from AV calc

Jobs	
Job Category Drilling	Sum of Total Fld Est (C... 272,498.00

Total (Sum)	Sum of Total Fld Est (C... 272,498.00
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AFE Number D17084R	AFE+Supp Amt (Cost) 2,603,135.00
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Day Total (Cost) 27,619.00	Cum To Date (Cost) 272,498.00
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Mud Field Est (Cost)	Cum Mud Field Est (Co...
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Start Depth (ftKB) 1,580.0	End Depth (ftKB) 3,321.0
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Depth Progress (ft) 1,741.00	Avg ROP (ft/hr) 158.3
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Target Formation SAN ANDRES	Target Depth (ftKB)
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Last Casing String Surface, 1,580.0ftKB
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Daily Contacts

Job Contact	Mobile
PRESTON ELLIS, ENGINEER	281-638-7731
JOSHUA STEPHENS, CONSULTANT	817-262-8785
ADAM GARZA, CONSULTANT	806-786-3022

Mud Checks

Date 8/6/2017		Type Salt Base	
Depth (ftKB) 3,100.0	Density (lb/gal) 10.00	Wellbore Original Hole	
H2O (%) 89.7	Percent Oil (%)	Electric Stab (V)	
Vis (s/qt) 29	PV OR (cP)	YP OR (lb/10... 1.000	
Gel (10s) (lb/ft...)	Gel (10m) (lb/ft...)	Gel (30m) (lb/ft...)	
Solids (%) 10.3		Chlorides (mg/L) 178,000.000	
Filtrate (mL/30min)		Filter Cake (1/32")	

Rigs

SENDERO DRILLING COMPANY, 9

Contractor SENDERO DRILLING COMPANY	Rig Number 9
Rig Supervisor ADAM VILLA, RIG MANAGER	Phone Mobile 325-450-8810

Rig Start Date 7/31/2017	Rig Release Date
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Rig Rate (ref) (Cost/day) 14,000.00
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1, Continental-Emsco, F-1600

Pump # 1	Pwr (hp) 1,600.0	Rod Dia (in) 6
Liner Size (in) 6	Stroke (in) 12.00	Vol/Stk OR (b... 0.100
P (psi) 375.0	Slow Spd Yes	Strokes (s... Eff (%) 30 95

2, Continental-Emsco, F-1600

Pump # 2	Pwr (hp) 1,600.0	Rod Dia (in) 6
Liner Size (in) 6	Stroke (in) 12.00	Vol/Stk OR (b... 0.100
P (psi) 375.0	Slow Spd Yes	Strokes (s... Eff (%) 30 95

Safety JSA's

Time	Type	Des
06:00	Safety Meeting	PRE-TOUR



**LIME ROCK
RESOURCES**

Daily Drilling Report

Well Name: UL 10 NELSON 3H

Report #: 6.0, DFS: 2.50

Acquisition: Shafter Lake

Kicks						
Kick Date	Kick Depth (ftKB)	Control Date	Control Depth (ftKB)	Kick Class		
Kill Notes						
Lost Circulation						
Start Date	Top (ftKB)	Btm (ftKB)	Ops In Prog	Vol Lost Tot (bbl)	End Date	
Interval Problems						
Problem Type	Problem Subtype	Start Date	Start Depth (ftKB)	End Depth (ftKB)	Est Cost (Cost)	Est Lost Time (hr)
Comment						
Interval Lessons						
Lesson Type	Start Date	End Date	Start Depth (ftKB)	End Depth (ftKB)	Est Cost Saving (Co..)	Est Time Saving (hr)
Comment						
Safety Incidents						
Time	Category	Type	Subtype	Cause	Lost time?	Severity
Daily Costs						
Cost Des	Vendor			Code 1	Code 2	Field Est (Cost)
Contract Drlg- Daywork	SANDERA DRILLING CO.			322	125	14,000.00
Supervision - Contract	OCTANE ENERGY			322	212	3,200.00
Office, Sewage and Misc Rentals:	PEAK			380	155	700.00
Directional Tools & Services, Inspect, Repairs, & Replace	TDS			380	152	7,500.00
Office, Sewage and Misc Rentals:	PEAK			380	155	769.00
Office, Sewage and Misc Rentals:	PEAK			380	155	950.00
Well Control Rentals (BOPs, Frac, Valve, Water ETC.)	ADS			380	154	500.00
Cement						
Conductor Cement, Casing, 8/1/2017 06:00						
Type	Cementing Start Date	Cementing End Date	Wellbore	String Table		
Casing	8/1/2017	8/1/2017	Original Hole	Casing String		
Cementing Company	Evaluation Method	Cement Evaluation Results				
Comment						
Cement Stages						
Stg #	Description	Objective	Comment			
1	Conductor Cement					
Top Depth (ftKB)	Bottom Depth (ftKB)	Full Return?	Top Plug?	Bottom Plug?	Cement Volume Return (bbl)	
0.0	90.0	No	No	No		
Plug Bump Pressure (psi)	Recip?	Pipe Rotated?	Tagged Depth (ftKB)	Depth Plug Drilled Out To (ft...)	Drill Out Date	
	No	No				
Cement Fluids						
Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)		
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H2O Ratio (gal/sack)		
Free Water (%)	Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)		
Cement Fluid Additives						
Additive	Type	Amount	Amount Units	Concentration	Conc Unit label	
Surface Casing Cement, Casing, 8/5/2017 11:00						
Type	Cementing Start Date	Cementing End Date	Wellbore	String Table		
Casing	8/5/2017	8/5/2017	Original Hole	Casing String		
Cementing Company	Evaluation Method	Cement Evaluation Results				
UNIVERSAL PUMPING	Returns to Surface	30 BBLs/90 SX CIRC TO SURFACE				
Comment						
PUMPPED 30 BBLs SPACER, 570SX 12.8PPG LEAD, 210SX 14.8 TAIL, DISPLACED W/97 BBLs FRESH WATER, CIRC 30 BBLs/90SX CMT TO SURFACE, BUMP PLUG W/1300 PSI, HELD 5 MINS, 1 BBL BACK, FLOATS HELD						

Wellbores		
Wellbore Name		
Original Hole		
Wellbore Sections		
Section Des	Size (in)	Act Top (ftKB)
Conductor	24	0.0
Act Btm (ftKB)	Start Date	End Date
90.0	7/31/2017	7/31/2017
Section Des	Size (in)	Act Top (ftKB)
Surface	12 1/4	90.0
Act Btm (ftKB)	Start Date	End Date
1,580.0	7/31/2017	8/4/2017
Section Des	Size (in)	Act Top (ftKB)
Production	7 7/8	1,580.0
Act Btm (ftKB)	Start Date	End Date
3,321.0	8/5/2017	8/6/2017
Kick Offs & Key Depths		
Type	Top Depth (ftKB)	
Plug Back Total Depths		
Date	Type	
Depth (ftKB)	Depth (TVD) (ftKB)	
Comment		

**Cement Stages**

Stg # 1	Description Surface Casing Cement	Objective CMT SURFACE CSG		Comment		
Top Depth (ftKB) 0.0	Bottom Depth (ftKB) 681.0	Full Return? No	Top Plug? No	Bottom Plug? No	Cement Volume Return (bbl) 30.0	
Plug Bump Pressure (psi)	Recip? No	Pipe Rotated? No	Tagged Depth (ftKB)	Depth Plug Drilled Out To (ft...)	Drill Out Date	

Cement Fluids

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft ³ /sack)	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Additive		Type		Amount	Amount Units	Concentration	Conc Unit label
Stg # 2	Description		Objective			Comment	
Top Depth (ftKB) 681.0		Bottom Depth (ftKB) 1,580.0		Full Return? Yes	Top Plug? No	Bottom Plug? No	Cement Volume Return (bbl)
Plug Bump Pressure (psi) 1,300.0		Recip? No	Pipe Rotated? No	Tagged Depth (ftKB)		Depth Plug Drilled Out To (ft...	Drill Out Date

Cement Fluids

Fluid Type Lead	Fluid Description 570SX 12.8PPG LEAD	Amount (sacks) 570	Class C	Volume Pumped (bbl) 190.0
Estimated Top (ftKB) 0.0	Estimated Bottom Depth (ftKB) 681.0	Percent Excess Pumped (%) 100.0	Yield (ft ³ /sack) 1.87	Mix H2O Ratio (gal/sack)
Free Water (%)	Density (lb/gal) 12.80	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)

Cement Fluid Additives

Additive	Type	Amount	Amount Units	Concentration	Conc Unit label
Fluid Type Tail	Fluid Description 210SX 14.8 PPG TAIL	Amount (sacks) 210	Class C	Volume Pumped (bbl) 50.0	
Estimated Top (ftKB) 681.0	Estimated Bottom Depth (ftKB) 681.0	Percent Excess Pumped (%) 100.0	Yield (ft³/sack) 1.34	Mix H2O Ratio (gal/sack)	
Free Water (%)	Density (lb/gal) 14.80	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)	

Cement Fluid Additives

Additive	Type	Amount	Amount Units	Concentration	Conc Unit label
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