LIME ROCK RESOURCES

Daily Drilling Report

Report #: 12.0, DFS: 8.50

Well Name: UL 10 NELSON 3H

Acqusition: Shafter Lake

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

Daily Operations

Report Start Date	Weather	Temperature (°F)	Road Condition	Hole Condition
8/11/2017	Rain		STABLE	Good

Operations 24 Hour Summary
FINISH LDDP, RIH W/ 5.5" PROD CSG, CMT SAME, SET SLIPS, CUT CSG, N/D BOP

Operations Next Report Period
R/D PREPARE TO MOVE TO THE UL 10 HARMON

Remarks
PREP RIG FOR RIG MOVE

Time Log of Operations

Start Time	Dur (hr)	Cum Dur (hr)	End Time	Code 1	Code 2	Com
06:00	2.00	2.00	08:00	Trip Out Of Hole	BHA	LDDP TO RUN 5.5 CSG
08:00	0.50	2.50	08:30	Rig Down	Laydown Machine	R/D L/D MACHINE
08:30	0.50	3.00	09:00	Lay down	Drill Pipe	RIHDP IN DERICK, POOH, L/D
09:00	0.50	3.50	09:30	Rig up	Laydown Machine	R/U L/D MACHINE
09:30	1.50	5.00	11:00	Lay down	Drill Pipe	LDDP
11:00	8.50	13.50	19:30	Run	Casing & Cement	R/U CSG CREW, RUN 5-1/2" PROD CSG
19:30	0.50	14.00	20:00	Run	Casing & Cement	WASH 45' TO BOTTOM, TAG & VERIFY DEPTH @8,903',NO FILL
20:00	1.00	15.00	21:00	Safety meeting	.	CIRC CSG, SAFETY MEETING & R/D CSG CREW, SAFET MEETING & R/U CMTRS
21:00	3.00	18.00	00:00	Cement	Casing	PUMP 30 BBLS SPACER, 520 SKS 11.80 LEAD, 1050 SKS 14.40 TAIL, DISPLACE WITH 196 BBLS FRESH WATER, CIRC 7 BBLS CMT, 15 SKS TO SURFACE, HELD 2000 FOR 5 MINUTE, 2BBLS BACK, FLOATS HELD.
00:00	0.50	18.50	00:30	Safety meeting	.	SAFETY MEETING & R/D CMTRS
00:30	3.00	21.50	03:30	Rig Down	Other	WASH THROUGH BOP W/ FRESH WATER, N/D BOP,HANG BOP & SET SLIPS, ROUGH CUT CSG
03:30	2.50	24.00	06:00	Lock Wellhead & Secure	.	MAKE FINAL CUT ON CSG, INSTAL TUB HEAD,TEST 5000 PSI, TEST GOOD

Mud Volumes

Active Volume (bbl)	Var Active Vol (bbl)	Balance (bbl)	Tank Volume (bbl)	Additions (bbl)	Losses (bbl)	Hole Volume (bbl)

Tank/Addition/Loss	Type	Volume (bbl)	Subtype

Drill Strings

BHA #<stringno>, <des>

Bit Run	Drill Bit	IADC Bit Dull	TFA (incl Noz) (in²)

Nozzles (1/32")	String Length (ft)	String Wt (1000lbf)	BHA ROP (ft/hr)

Drill String Components

Item Des	Jts	OD (in)	ID (in)	Len (ft)	Top Thread

Drilling Parameters

Wellbore	Start Depth (ftKB)	End Depth (ftKB)	Cum Depth (ft)	Drilling Time (hr)	Cum Drill Time (hr)	Interval ROP (ft/hr)	Flow Rate (gpm)
WOB (1000lbf)	RPM (rpm)	SPP (psi)	Drill Str Wt (1000…	PU Str Wt (1000lbf)	SO Str Wt (1000lbf)	Drilling Torque	Off Btm Tq
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)	HP/Area (hp/in²)	Bit Jet Velocity (ft/s)	Bit Pressure Drop (psi)	% P @ bit (%)
Max Casing AV (ft/min)	Max Open Hole AV (ft/min)	Min Casing AV (ft/min)	Min Open Hole AV (ft/min)	ECD End (lb/gal)

Error

Jobs

Job Category	Sum of Total Fld Est (C…
Drilling	657,046.00
Total (Sum)	**657,046.00**

AFE Number	AFE+Supp Amt (Cost)
D17084R	2,603,135.00
Day Total (Cost)	**Cum To Date (Cost)**
213,371.00	657,046.00
Mud Field Est (Cost)	Cum Mud Field Est (Co…
Start Depth (ftKB)	**End Depth (ftKB)**
8,903.0	8,903.0
Depth Progress (ft)	**Avg ROP (ft/hr)**
0.00	
Target Formation	**Target Depth (ftKB)**
SAN ANDRES	

Last Casing String
Production, 8,903.0ftKB

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	Type
8/11/2017	Salt Base

Depth (ftKB)	Density (lb/gal)	Wellbore
8,903.0	10.00	Original Hole
H20 (%)	Percent Oil (%)	Electric Stab (V)
88.1		
Vis (s/qt)	PV OR (cP)	YP OR (lbf/10…
29		
Gel (10s) (lbf/…	Gel (10m) (lbf/…	Gel (30m) (lbf/…

Solids (%)	Chlorides (mg/L)
11.9	189,000.000
Filtrate (mL/30min)	Filter Cake (1/32")

Rigs

SENDERO DRILLING COMPANY, 9

Contractor	Rig Number
SENDERO DRILLING COMPANY	9
Rig Supervisor	**Phone Mobile**
ADAM VILLA, RIG MANAGER	325-450-8810
Rig Start Date	**Rig Release Date**
7/31/2017	

Rig Rate (ref) (Cost/day)
14,000.00

1, Continental-Emsco, F-1600

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

2, Continental-Emsco, F-1600

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

Safety JSA's

Time	Type	Des

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	8,634.00
Safety / Medical / H2S equipment Rental	DXP SAFETY	380	157	60.00
Mud Logging	Quality Logging Inc.	380	183	1,000.00
Casing Crews / Tong Services / Laydown / Pickup Services	BOND COAT	380	251	800.00
Casing Crews / Tong Services / Laydown / Pickup Services	RIG MASTERS	380	251	6,250.00
Cement & Services	UNIVERSAL PRESSURE PUMPING	380	161	35,322.00
Cementing Equipment (Centralizers, Floats, Etc…)	CHOICE COMPLETIONS	380	311	9,350.00
Wellhead Equipment :	WEIR	380	331	4,873.00
Production:	ATLAS TUBULAR	380	298	129,182.00

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 H20 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

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
8,903.0	8/5/2017	8/10/2017

Kick Offs & Key Depths

Type	Top Depth (ftKB)

Plug Back Total Depths

Date	Type

Depth (ftKB)	Depth (TVD) (ftKB)

Comment

Cement

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
PUMMPED 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

Cement Stages

Stg #	Description	Objective	Comment
1	Surface Casing Cement	CMT SURFACE CSG	

Top Depth (ftKB)	Bottom Depth (ftKB)	Full Return?	Top Plug?	Bottom Plug?	Cement Volume Return (bbl)
0.0	681.0	Yes	Yes	No	30.0

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 H20 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 #	Description	Objective	Comment
2			

Top Depth (ftKB)	Bottom Depth (ftKB)	Full Return?	Top Plug?	Bottom Plug?	Cement Volume Return (bbl)
681.0	1,580.0	Yes	Yes	No	

Plug Bump Pressure (psi)	Recip?	Pipe Rotated?	Tagged Depth (ftKB)	Depth Plug Drilled Out To (ft…	Drill Out Date
1,300.0	No	No			

Cement Fluids

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Lead	570SX 12.8PPG LEAD	570	C	190.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)
0.0	681.0	100.0	1.87	

Free Water (%)	Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
	12.80			

Cement Fluid Additives

Additive	Type	Amount	Amount Units	Concentration	Conc Unit label

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Tail	210SX 14.8 PPG TAIL	210	C	50.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)
681.0	681.0	100.0	1.34	

Free Water (%)	Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
	14.80			

Cement Fluid Additives

Additive	Type	Amount	Amount Units	Concentration	Conc Unit label

Production Casing Cement, Casing, 8/11/2017 21:30

Type	Cementing Start Date	Cementing End Date	Wellbore	String Table
Casing	8/11/2017	8/12/2017	Original Hole	Casing String

Cementing Company	Evaluation Method	Cement Evaluation Results
UNIVERSAL PRESSURE PUMPING	Returns to Surface	7 BBLS/15 SX CIRC TO SURFACE

Comment
30 BBLS SPACER, 510 SX 11.80 LEAD, 1050 SX 14.40 TAIL, DISPLACE WITH 196 BBLS FRESH WATER, CIRC 7 BBLS CMT TO SURFACE, HELD 2000 FOR 5 MINUTE, 2BBLS BACK, FLOATS HELD.

Cement Stages

Stg #	Description	Objective	Comment
1	Production Casing Cement	CMT PRODUCTION CSG	

Top Depth (ftKB)	Bottom Depth (ftKB)	Full Return?	Top Plug?	Bottom Plug?	Cement Volume Return (bbl)
0.0	7,515.0	Yes	Yes	No	7.0

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)
Lead	520SX 12.8PPG LEAD	520	C	235.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)
0.0	7,515.0	10.0	2.54	14.30

Free Water (%)	Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
	11.80			

Cement Fluid Additives

Additive	Type	Amount	Amount Units	Concentration	Conc Unit label

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Tail	1050SX 14.8 PPG TAIL	1,050	C	232.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)
7,515.0	8,903.0	10.0	1.24	5.19

Free Water (%)	Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
	14.40			

Cement Fluid Additives

Additive	Type	Amount	Amount Units	Concentration	Conc Unit label

Fluid Type	Fluid Description	Amount (sacks)	Class	Volume Pumped (bbl)
Displacement	169 BBLS FRESH WATER	0	Thermal	196.0

Estimated Top (ftKB)	Estimated Bottom Depth (ftKB)	Percent Excess Pumped (%)	Yield (ft³/sack)	Mix H20 Ratio (gal/sack)
8,903.0	8,903.0			

Free Water (%)	Density (lb/gal)	Plastic Viscosity (cP)	Thickening Time (hr)	1st Compressive Strength (psi)
	8.34			

Cement Fluid Additives

Additive	Type	Amount	Amount Units	Concentration	Conc Unit label

Stg #	Description	Objective	Comment
2	Production Casing Cement	CMT PRODUCTION CSG	

Top Depth (ftKB)	Bottom Depth (ftKB)	Full Return?	Top Plug?	Bottom Plug?	Cement Volume Return (bbl)
7,515.0	8,903.0	Yes	Yes	No	

Plug Bump Pressure (psi)	Recip?	Pipe Rotated?	Tagged Depth (ftKB)	Depth Plug Drilled Out To (ft…	Drill Out Date
2,000.0	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 H20 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