LIME ROCK RESOURCES

# Daily Drilling Report

**Report #: 10.0, DFS: 6.50**

**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 |
|---|---|---|---|---|
| 8/9/2017 | Clear | | STABLE | Good |

Operations 24 Hour Summary
DRLG/SLIDE 7-7/8" PROD HOLE F/ 6,708' T/ 7,985"

Operations Next Report Period
CONT DRLG LATERAL & TD WELL, SWEEP HOLE, SPOT LUBE PILL,TOH LDDP

Remarks
LITHOLOGY 100% DOLOMITE @7985'

## Time Log of Operations

| Start Time | Dur (hr) | Cum Dur (hr) | End Time | Code 1 | Code 2 | Com |
|---|---|---|---|---|---|---|
| 06:00 | 8.50 | 8.50 | 14:30 | Slide & Rotate | While Drilling | ROT/SLIDE F/ 6,708' - T/ 7,181', 473', 55'/HR<br>WOB: 32-34<br>ROT: 60-65<br>DIFF: 250-300<br>GPM: 550<br>SPP: 1900 |
| 14:30 | 0.50 | 9.00 | 15:00 | Rig Service | . | RIG SERVICE |
| 15:00 | 10.00 | 19.00 | 01:00 | Slide & Rotate | While Drilling | ROT/SLIDE F/ 7,181' - T/ 7,845',664 ', 66'/HR<br>WOB: 28-32<br>ROT: 60-65<br>DIFF: 250-300<br>GPM: 550<br>SPP: 1900 |
| 01:00 | 3.00 | 22.00 | 04:00 | Downtime | Instrumentation | RIG DOWNTIME - PASON COMPUTER ON RIG FLOOR CRASHED, TECH TROUBLE SHOOT & TESTED, FOUND BLOWN FUSE IN BACK PANEL, POSSIBLE CAUSE, HIGH HERTZ SPIKES FROM SCR HOUSE |
| 04:00 | 2.00 | 24.00 | 06:00 | Slide & Rotate | While Drilling | ROT/SLIDE F/ 7,845' - T/ 7,985',140 ', 70'/HR<br>WOB: 28-32<br>ROT: 60-65<br>DIFF: 250-300<br>GPM: 550<br>SPP: 2750 |

## 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 #2, Lateral

| Bit Run | Drill Bit | IADC Bit Dull | TFA (incl Noz) (in²) |
|---|---|---|---|
| 1 | 7 7/8in, DF513T3, 13543 | ------- | 1.64 |

| Nozzles (1/32") | String Length (ft) | String Wt (1000lbf) | BHA ROP (ft/hr) |
|---|---|---|---|
| 18/18/18/18/18/16/16 | 94.19 | 8 | 63.1 |

### 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 | Start Depth (ftKB) | End Depth (ftKB) | Cum Depth (ft) | Drilling Time (hr) | Cum Drill Time (hr) | Interval ROP (ft/hr) | Flow Rate (gpm) |
|---|---|---|---|---|---|---|---|
| Original Hole | 6,708.0 | 7,985.0 | 6,405.00 | 20.50 | 101.50 | 62.3 | 550 |

| WOB (1000lbf) | RPM (rpm) | SPP (psi) | Drill Str Wt (1000... | PU Str Wt (1000lbf) | SO Str Wt (1000lbf) | Drilling Torque | Off Btm Tq |
|---|---|---|---|---|---|---|---|
| 30 | 60 | 2,750.0 | 118 | 130 | 105 | 15,500.0 | 6,000.0 |

| 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... |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Jobs

| Job Category | Sum of Total Fld Est (C... |
|---|---|
| Drilling | 412,965.00 |
| **Total (Sum)** | **412,965.00** |

| AFE Number | AFE+Supp Amt (Cost) |
|---|---|
| D17084R | 2,603,135.00 |
| **Day Total (Cost)** | **Cum To Date (Cost)** |
| 36,909.00 | 412,965.00 |
| Mud Field Est (Cost) | Cum Mud Field Est (Co... |
| | |
| **Start Depth (ftKB)** | **End Depth (ftKB)** |
| 6,708.0 | 7,985.0 |
| **Depth Progress (ft)** | **Avg ROP (ft/hr)** |
| 1,277.00 | 62.3 |
| **Target Formation** | **Target Depth (ftKB)** |
| SAN ANDRES | |

Last Casing String
Surface, 1,580.0ftKB

## 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 |
|---|---|
| 8/9/2017 | Salt Base |

| Depth (ftKB) | Density (lb/gal) | Wellbore |
|---|---|---|
| 7,654.0 | 10.00 | Original Hole |
| **H20 (%)** | **Percent Oil (%)** | **Electric Stab (V)** |
| 88.1 | | |
| **Vis (s/qt)** | **PV OR (cP)** | **YP OR (lbf/10...** |
| 29 | | 1,063.000 |
| **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 (%) |
|---|---|---|---|
| 200.0 | Yes | 20 | 95 |
| 330.0 | Yes | 40 | 95 |

### 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 (%) |
|---|---|---|---|
| 200.0 | Yes | 20 | 95 |
| 350.0 | Yes | 40 | 95 |

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# Daily Drilling Report

**Report #: 10.0, DFS: 6.50**

**Well Name: UL 10 NELSON 3H**

**Acqusition: Shafter Lake**

## Hydraulic Calculations

| Bit Hydraulic Power (hp) | HP/Area (hp/in²) | Bit Jet Velocity (ft/s) | Bit Pressure Drop (psi) | % P @ bit (%) |
|---|---|---|---|---|
| 33.8 | 0.7 | 107.9 | 105.5 | 4 |
| **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)** |
| 710.2 | 682.0 | 632.8 | 682.0 | |

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

## 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 |
| Safety / Medical / H2S equipment Rental | DXP SAFETY | 380 | 157 | 60.00 |
| Mud Logging | Quality Logging Inc. | 380 | 183 | 1,000.00 |
| Mud & Chemicals / Facility Fluids & Chemicals | Newpark Drilling Fluids LLC | 380 | 141 | 8,884.00 |
| Trucking & Hauling and Cranes | PRADON | 380 | 201 | 280.00 |
| Office, Sewage and Misc Rentals: | PEAK | 380 | 155 | 928.00 |
| Water Transfer / Frac Pit | DAVILAS TRUCKING | 380 | 135 | 357.00 |

## 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 |
|---|---|---|---|---|---|
| | | | | | |

## Safety JSA's

| Time | Type | Des |
|---|---|---|
| 06:00 | Safety Meeting | PRE-TOUR |

## 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** |
| 7,985.0 | 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 | No | No | 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 | No | 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 |
|---|---|---|---|---|---|
| | | | | | |