# Daily Drilling Report

LIME ROCK RESOURCES

**Report #: 13.0, DFS: 9.50**

**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 | 8/12/2017 06:00 | 21.00 | |

## Daily Operations

| Report Start Date | Weather | Temperature (°F) | Road Condition | Hole Condition |
|---|---|---|---|---|
| 8/12/2017 | | | STABLE | Good |

Operations 24 Hour Summary
RELEASE RIG @ 0600, R/D PREPPARE TO MOVE TO THE UL 10 HARMON 2H

Operations Next Report Period
MOB RIG TO UL 10 HAMRON 2H

Remarks
R/D PREPPARE TO MOVE TO THE UL 10 HARMON 2H

## Time Log of Operations

| Start Time | Dur (hr) | Cum Dur (hr) | End Time | Code 1 | Code 2 | Com |
|---|---|---|---|---|---|---|
| 06:00 | 24.00 | 24.00 | 06:00 | Rig Down Move out | . | R/D, PREPARE TO MOVE TO THE UL 10 HARMON 2H |

## 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

## 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 |

## Jobs

| Job Category | Sum of Total Fld Est (C… |
|---|---|
| Drilling | 674,946.00 |
| **Total (Sum)** | **674,946.00** |

| AFE Number | AFE+Supp Amt (Cost) |
|---|---|
| D17084R | 2,603,135.00 |
| **Day Total (Cost)** | **Cum To Date (Cost)** |
| 17,900.00 | 674,946.00 |
| **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 | |
|---|---|---|
| Depth (ftKB) | Density (lb/gal) | Wellbore |
| H20 (%) | Percent Oil (%) | Electric Stab (V) |
| Vis (s/qt) | PV OR (cP) | YP OR (lbf/10… |
| Gel (10s) (lbf/… | Gel (10m) (lbf/… | Gel (30m) (lbf/… |
| Solids (%) | Chlorides (mg/L) | |
| 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 | 8/12/2017 |

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 |
|---|---|---|
| | | |

## Wellbores

Wellbore Name
Original Hole

LIME ROCK RESOURCES

# Daily Drilling Report

**Report #: 13.0, DFS: 9.50**

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

**Acqusition: Shafter Lake**

## Daily Costs

| Cost Des | Vendor | Code 1 | Code 2 | Field Est (Cost) |
|---|---|---|---|---|
| Office, Sewage and Misc Rentals: | PEAK | 380 | 155 | 700.00 |

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

### 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 | | | |

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