*Hydro Resources*
*13027 County Rd 18*
*FT Lupton, CO 80621*
*Phone: 303-857-4171*

*Version 1.25.1*

Hydro resources

| DRILLING MUD REPORT | | 2 |
|---|---|---|
| Date | Measured Depth | T.V. Depth |
| 07/17/14 | 2,024 ft. | |
| Spud Date | Present Activity | Rig No. |
| 07/16/14 | Drilling | 2 |

| | | | |
|---|---|---|---|
| OPERATOR: | Augustus Energy | CONTRACTOR: | Excell |
| Operator's Representative: | | Contractor's Representative: | Mark |
| Well Name & No. | Field: Vernon 86500 | County, Parish: | Yuma — State: CO |
| Hays 14-35 1s44w | Legal: SWSW,Sec35,Twp1s,Rng44w | | |

| BIT DATA | | CASING & DRILLING ASSEMBLY | | | | |
|---|---|---|---|---|---|---|
| Bit Size | 6.25 | Size | 7.25 | set @ | 453 | Ft |
| Bit Type | MI516 | Size | | set @ | | Ft |
| Bit No. | | Size | | set @ | | Ft |
| Jets (32nd) | | Size | | set @ | | Ft |
| 13 | 13 | Drill Collar | | 5.78 | 2.5 | 337 |
| 13 | 12 | Drill Collar | | | | |
| 12 | | Drill Pipe | | 3.5 | 2.74 | 1687 |
| | | H.W. Drill Pipe | | | | |

| VOLUMES | PUMP INFORMATION | | HYDRAULICS | |
|---|---|---|---|---|
| Pit Vol. | PUMP #1 | PUMP #2 | ANNULAR VELOCITY | |
| Pipe Capacity | 200FXN | | Drill Pipe | 262 ft/min |
| 14 bbls | 5.25 x14 | | Drill Collar | 1244 ft/min |
| Ann Volume | 63 SPM | | CIRCULATING PRESSURE | |
| 50 bbls | 4.56 G/ST | | 1405 psi | |
| Hole Volume | 287 GPM | | BOT. UP | 7 min |
| 64 bbls | 6.83 BPM | | SURF. TO BIT | 2.0 min |
| Total Cir Vol | Total GPM | Total BPM | TOT. CIR TIME | 31 min |
| 214 bbls | 287 | 6.83 | | |

| Sample Fro ☐ Flowline ☐ Pit | Mud Properties |
|---|---|
| Flowline Temperature (°F) | 86 |
| Time Sample Taken | 7:45pm |
| Depth (ft) | 2024 |
| Mud Weight (ppg) | 8.7 |
| Mud Gradient (psi/ft) | 0.4524 |
| Funnel Viscosity @ °F | 29 |
| Plastic Visc.cp @ 75 °F | 5 |
| Yield Point (lb/100ft2) | 0 |
| Gel Strength (lb/100ft2) 10-sec | 0 |
| Gel Strength (lb/100ft$^2$) 10-min | 0 |
| Gel Strength (lb/100ft$^2$) 30-min | x |
| Filtrate API (cm3/30 min) | 8 |
| Filtrate API HTHP (cm3/30 min) | x |
| Cake Thickness (/32nds) | 1 |
| Solids Content (% by vol) | 2.8 |
| Water Content (% by Vol.) | 97.2 |
| Sand Content (% by vol) | .1 |
| Bentonite Content ( lb/bbl) | x |
| pH ☑ Strip ☐ Meter | 7 |
| Alkalinity Mud (Pm) cm3 N/50 Acid | x |
| Alkalinity, Pf / Mf | 0/1.2 |
| Chloride (mg/l) | 14500 |
| Total Hardness as Calcium (mg/l) | 700 |
| Oil Content (% by vol) | 0 |
| LCM (lb/bbl) | x |
| Excess Lime (lb/bbl) | x |

| Calculate Alkalinity ☐ Check | | |
|---|---|---|
| HYDRAULICS | | |
| Jet Velocity | 151 Ft/Sec | Nozzle Area |
| Horsepower | 1 HP/SQ.In | 0.61 Sq In |
| Impact Force | 6.3 lbf/Sq. In | ECD |
| Press Loss at Bit | 177psi | 10.25 ppg |
| Press Loss at Bit | 13% | |

**Recommended Equipment**

Cntrfuge ☑ Shaker ☑ Desander ☐
Degasser ☐ Desilter ☐ Other ☐

**Recommended Mud Properties**

By Authority of: ☐ Company Representative ☑ Drilling Contractor

| Mud Wt: | 8.5-9.2 | Filtrate: | 6-8cc | Viscosity: | 28-32 | |
|---|---|---|---|---|---|---|
| LCM: | | | | Excess Lime: | | lb/bbl |

**RECOMMENDED TOURLY TREATMENT**

Mud looks good for TD.

If you have any questions please give me a call @ (970)302-3793, Thank you.

**DAILY REMARKS**

**Solids Analysis**

| | | | | | |
|---|---|---|---|---|---|
| L.G. Solids | | % | H.G. Solids | | % |
| L.G. Solids | | ppb | H.G. Solids | | ppb |
| Corrected Solids | | % | Average Sp. Gr. | | |

| CHEMICALS | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starting Inventory | | | | | | | | | | | | | | | |
| Chemicals Received | | | | | | | | | | | | | | | |
| Closing Inventory | | | | | | | | | | | | | | | |
| Chemicals Used | | | | | | | | | | | | | | | |
| Daily Cost | | | | | | | | | | | | | | | |

| CHEMICALS | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starting Inventory | | | | | | | | | | | | | | | |
| Chemicals Received | | | | | | | | | | | | | | | |
| Closing Inventory | | | | | | | | | | | | | | | |
| Chemicals Used | | | | | | | | | | | | | | | |
| Daily Cost | | | | | | | | | | | | | | | |

| | |
|---|---|
| Est. Drayage: | |
| Est. Taxes: | $ - |
| Est. Daily Cost: | $ 100.00 |
| Est. Cumulative Cost: | $ 100.00 |

| | | | | | |
|---|---|---|---|---|---|
| TECHNICAL REP: | Jeramy Cigich | WAREHOUSE | 13027 CR 18 | NAME: | |
| CELL PHONE NO. | (970)302-3793 | ADDRESS: | Ft. Lupton, CO 80621 | PHONE: | |
| ANS. SERVICE: | | PHONE: | (303) 857-4171 | PHONE: | |

IN CONSIDERATION OF THE FURNISHING OF THIS REPORT AND ORAL SUGGESTIONS, IT IS AGREED THAT NO RECOMMENDATIONS MADE HEREON SHALL BE CONSTRUED AS AUTHORIZING THE INFRINGMENT OF ANY VALID PATENT, AND IT IS AGREED THAT SHALL NOT BE LIABLE FOR ANY DAMAGES RESULTING FROM THE FURNISHING OF THIS REPORT AND ORAL SUGGESTIONS, AND IS TO BE HELD HARMLESS.