

### Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGF

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 1         |                      |                   |                 |                 |             |          |                 | Report For | 27-Jun-21   |
|----------------------|----------------------|-------------------|-----------------|-----------------|-------------|----------|-----------------|------------|-------------|
| Operator:            | University of Utah   | Rig:              | Frontier Rig 1  | 6 Spud Date:    | 28-         | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ff   | i <b>):</b> 128      | Last Casing:      |                 | Wellbore:       | Original V  | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft): |                      | Next Casing:      | 24.000 at 12    | 9 RKB Elevation | n (ft):     | 30.40    |                 |            |             |
| Proposed TD (ft):    | 9500                 | Last BOP Tes      | t:              | Job Reference   | e RKB (ft): |          |                 |            |             |
| Hole Made (ft) / Hrs | 0 / 0.0              | Next BOP Tes      | t:              | Working Inte    | rest:       |          | Totals:         |            |             |
| Average ROP (ft/hr   | ):                   |                   |                 |                 |             |          | Well Cost (\$): |            |             |
| Drilling Days (act./ | olan): 1/21 <b>F</b> | lat Days (act./pl | <b>an):</b> 0/9 | Total Days (ac  | t./plan):   | 1/30     | Days On Loca    | ition:     | 1           |
| Pers/Hrs: Opera      | ator: 3 / 36         | Contractor:       | 12 / 144        | Service:        | 8 / 96      | Other:   | 1 / 12          | Total:     | 24 / 288    |
| Safaty Summary       | No incidente er ev   | ente reported 0 d | lovo cinco I TI | Conducted Safe  | ty Mooting  |          |                 |            |             |

Safety Summary: No incidents or events reported. 0 days since LTI. Conducted Safety Meeting.

Current Operations: Finished drilling 22 in hole to 421 ft

Circulating hole clean at 421 ft.

Planned Operations: POH and run 16 in casing and cement in place.

Nipple up and test 20 in BOP.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary   |          |
|-------|-------|---------|------------|--------|--|----------|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description   | Non-Prod |
| 0:00  | 6:00  | 6.00    | 128        | WOD    | Wait on daylight.  |          |
| 6:00  | 9:00  | 3.00    | 128        | RIGU   | Pre-Spud Inspection.   |          |
| 9:00  | 16:00 | 7.00    | 128        | 1-01   | Cut and removed conductor pipe at 4" above ground level. Rigged up cellar pump. Set pipe racks in place. Strapped 105 joints of 5" drill pipe 9 joints of 5" HWDP and readied for pick up. Mixed spud mud. |          |
| 16:00 | 17:00 | 1.00    | 128        | 10-341 | Pick up and make up 5 stands of 5" HWDP.   |          |
| 17:00 | 22:30 | 5.50    | 128        | 10-341 | Pick up 114 joints of 5" drill pipe and rack back in derrick.  |          |
| 22:30 | 0:00  | 1.50    | 128        | 3-34-3 | Make up 22" surface hole assembly.   |          |

#### **Management Summary**

Waited on Day Light and conducted Pre-Spud Rig Inspection.

Strapped, OD, ID and Fishing Neck of HWDP.

Picked up 5 stands of HWDP and stood back in Derrick.

Picked up 114 joints (38 Stands) of 5" DP and stood back in derrick.

Cleaned and strapped 16 in Casing.

Made up Directional tools.

#### Comments

Rig on "Day Rate" at 0900 hours of June 27,2021.

Note: Spoke to Jim Goddard with Department of Water Resources. Jim had received our start casing, cementing, and BOP testing schedule and waived witnessing of the 20 in BOP test provided testing to be done by a 3rd party. Results to be documented and sent to DWR. Fuel on hand 7.637.

Activities prior to Rig Move/ Spud

#### June 8, 2021

- Drill 36" hole from surface to 100'. All material was alluvium (decomposed granite). Experienced no hole cave or sluff.
- weld lifting eyes on 24", move all dirt out of the way and prep to run conductor and cement same in the morning

#### June 9, 2021

- Check hole for fill / clean out to 100' / welding 3 joints of 24", ½" wall. 125.5#/ft conductor casing / set on bottom / pull rig forward / center and level conductor (102' total)
- From surface pour 14 cu. Yds (2 trucks) in annulus. Cement came to within 33' of surface.

Cement is 4000 psi mix with 3/4" rock

- Prep 14" casing for mouse hole. Will top off conductor cement @ 8:00 tomorrow morning prior to drilling service hole. Crew released for the day. No accidents, incidents or injuries

#### June 10, 2021

- Dump 6 cu. Yds of 4000 psi w/ ¾ rock ready mix around conductor bringing the level from 33'bgl to 5'bgl. Used another 2 cu yds to cement tower foundation on 78-32
- Let cement around conductor thicken
- Drill 26" mouse hole to 75' bgl
- Weld 3 each 25' long 14" line pipe pieces for the mouse hole and lower in the ground
- Cement the mouse shuck with 7 cu. Yds of 4000 psi mix w/ 3/4" rock. Level 5' bgl
- Using excavator dig hole for cellar and install 10'OD x 5' deep cellar ring
- Pour 1 foot of 4000 psi, w/ 3/4" rock in bottom of cellar

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Report No: 1 Report For 27-Jun-21

- Clean up site and release Wyoming Casing

#### June 21,2021

- With H&B move company man quarters, tool pusher quarters, septic system, fresh water system, power distribution panel and generator from 56-32 to 78B-32 and rig up same. Move Command center from 16A to 78B-32 and rig up same

#### June 22, 2021

- MSE training with all 4 Frontier crews, and 3 pushers, 3 GRG supervisors, 2 GRG office staff, 1 mud man, 2 mud loggers, 2 solids control

#### June 23, 2021

- MSE training with all contractors

#### June 24, 2021

- Tear down and move everything off 56-32 location except for subbase, On 78B-32 set and rig up pump package and mud pits, solids equipment, SCR and motor package, derrick, tool house. Removed monkey board from derrick and welder cut all racking fingers out of board and re-install to accept 5.5" drill pipe

#### June 25,2021

- Hold JSA with all crews involved with rig move, On 56-32 rig down subbase and load out same, clean location and call for dumpster pick up, 56-32 completed. On 78B-32 set matting boards and build subbase, install drawworks, hang derrick and string blocks, welder completed modifing racking board to accommodate 5.5" drill pie, install modified racking board and raise A-Legs, set mud loggers trailer, set solids equipment, unload 16", set 2 mud coolers, received 1st load of diesel, finish setting top dog houses and hanging wind walls, rig up Pason NOTE: Spoke to Jim Goddard with Department of Water Resources Jim had received messages of our start casing, cementing and BOP testing schedule and waived witnessing of the 20" BOP test provided testing be done by a 3rd party and results be documented and sent to DWR

#### June 26, 2021

- Raise derrick and unbridal
- Rig up Top drive, mud coolers, fill tanks w/ water prepare to PUDP

|                    |            |            |            |              |       | Bit/BHA | \/Work   | string  | Inform  | nation  | 1      |       |              |         |         |        |       |      |
|--------------------|------------|------------|------------|--------------|-------|---------|----------|---------|---------|---------|--------|-------|--------------|---------|---------|--------|-------|------|
|                    |            |            |            | Depth        | This  | Run     | R.C      | ).P.    |         |         |        | M     | ud           | Pump    | )       |        |       |      |
| No Run N           |            | Model      | Diam       | In           | Dist  | Hrs     | Avg      | Max     | WOB     | RPM     | Torque | Wt    | Flow         | Press   | J. Vel  | P. Drp | HHP   | JIF  |
| 1 1 Sm             | nith       | XR-C       | 22.000     | 128          |       |         |          |         |         |         |        |       |              |         |         |        |       |      |
| <b>Jets:</b> 28 2  |            |            |            | Out: 421     |       | Grade:  |          |         | Dι      |         | /      | Wear: | Br           | gs:     | Gge:    |        | Pull: |      |
| <b>BHA -</b> No. 1 | 1 - B      | IT, BS, XC | , MWD, X   | O, MONEL     | , FLO | AT, OTH | ER, XO   | , HWD   | P = 314 | .30     |        |       |              |         |         |        |       |      |
|                    |            |            |            |              |       |         | Rig Ir   | nforma  | ation   |         |        |       |              |         |         |        |       |      |
| Equipment          | t Probl    | ems:       |            |              |       |         |          |         |         |         |        |       |              |         |         |        |       |      |
| Location C         | onditi     | on:        |            |              |       |         |          |         |         |         |        |       |              |         |         |        |       |      |
| Transport:         |            |            |            |              |       |         |          |         |         |         |        |       |              |         |         |        |       |      |
|                    |            |            |            |              |       | Solid   | ds Con   | trol In | forma   | tion    |        |       |              |         |         |        |       |      |
| Screen Siz         | es:        | Тор        | Middl      | e 1 Midd     | le 2  | Bottom  | Eq       | uipme   | nt Usaç | ge (Hrs | s):    |       |              |         |         |        |       |      |
| Shaker             | No 1:      | 6          | 0          | 60           | 60    | 60      | )        |         |         |         |        |       |              |         |         |        |       |      |
| Shaker             | No 2:      | 6          | 0          | 60           | 60    | 60      | ) Ce     | ntrifug | je 1: 4 |         |        |       | С            | entrifu | ge 2: 4 |        |       |      |
| Shaker             | No 3:      | 6          | 0          | 60           | 60    | 60      | )        |         |         |         |        |       |              |         |         |        |       |      |
|                    |            |            |            |              |       |         | Bulk     | Inven   | tory    |         |        |       |              |         |         |        |       |      |
|                    |            | Item T     | уре        |              |       | Uni     | ts       | Begi    | nning   |         | Used   |       | eceive       | -       | On Har  |        | Ne    |      |
| Diesel (OBM        | <i>1</i> ) |            |            |              |       |         |          |         | 1,000   |         | 73     | 5     | 7,           | 372     | 7       | ,637   |       | 6,63 |
|                    |            |            |            |              |       |         | Prill Pi |         |         |         |        |       |              |         |         |        |       |      |
| DP Size            |            | oints      | Weight     | Gra          | de    |         | read     |         | DP Size | •       | Joints | W     | eight        |         | Grade   |        | Threa | d    |
| 5'                 | <u>"</u>   | 114        | 19.        | 5 S-135      |       | 4.5IF   |          |         |         |         |        |       |              |         |         |        |       |      |
|                    |            |            |            |              |       |         | Safety   |         |         |         |        |       |              |         |         |        |       |      |
| Meetings/D         | Orills     | Time       |            |              |       |         |          | ription |         |         |        |       |              |         |         |        |       |      |
| Safety             |            |            |            | emicals, pir |       |         |          |         |         |         |        |       |              |         |         |        |       |      |
|                    |            | ents:      | 0 <b>M</b> | edical Tre   |       | ts:     | (        | Los     | t Time  | Incide  | nts:   |       | 0 <b>D</b> a | ays Sin | ce LTI: |        |       | 0    |
| First Aid T        |            |            | Crownama   |              |       |         |          |         |         |         |        |       |              |         |         |        |       |      |



## Daily Drilling Report Well ID: Forge 78B-32

Geothermal Resource Group, Inc.

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Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 1 Report For 27-Jun-21

| vveatner                 | mormation            |
|--------------------------|----------------------|
| Sky Condition: Clear     | Visibility: 10       |
| Air Temperature: 56 degF | Bar. Pressure: 29.87 |
| Wind Speed/Dir: 10 / SE  | Wind Gusts: 12       |



Report No: 2

## **Daily Drilling Report**

Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Sect: 32

Report For 28-Jun-21

| Operator:             | University of Utah  | Rig: Frontier          | Rig 16         | Spud Date:            | 28-Jun-21      | Daily Cost / M  | ud (\$): |             |
|-----------------------|---------------------|------------------------|----------------|-----------------------|----------------|-----------------|----------|-------------|
| Measured Depth (ft)   | : 421               | Last Casing: 16.000    | at 416         | Wellbore: Orig        | ginal Wellbore | AFE No.         | AFE (\$) | Actual (\$) |
| Vertical Depth (ft):  |                     | Next Casing: 11.750 at | 3,300          | RKB Elevation (ft)    | : 30.40        |                 |          |             |
| Proposed TD (ft):     | 9500                | Last BOP Test: 28-     | Jun-21         | Job Reference RK      | B (ft):        |                 |          |             |
| Hole Made (ft) / Hrs: | 293 / 4.0           | Next BOP Test: 19-     | Jul-21         | Working Interest:     |                | Totals:         |          |             |
| Average ROP (ft/hr)   | 73.25               |                        |                |                       |                | Well Cost (\$): |          |             |
| Drilling Days (act./p | lan): 2/21 <b>F</b> | lat Days (act./plan):  | 0/9            | Total Days (act./plai | n): 2/30       | Days On Loca    | tion:    | 2           |
| Pers/Hrs: Operat      | or: 3/36 C          | contractor: 14 /       | 168 <b>S</b> e | ervice:               | 4 / 48 Other:  | 3 / 36          | Total:   | 24 / 288    |

Safety Summary: No incidents or events reported. Conducted BOP Test, Crown Check, Safety Meeting.

Current Operations: Testing out choke manifold at report time.

Planned Operations: Test casing along with BOPE.

Pick up 8" drill collars.

Trip in the hole with tri-cone bit.

Drill out shoe track and 10 ft of new formation to perform LOT

Pull out of the hole and lay down tricone bit

Make up 14 3/4" BHA with PDC and continue drilling 14 3/4" section.

**Toolpusher:** Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary  |          |
|-------|-------|---------|------------|--------|---|----------|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description  | Non-Prod |
| 0:00  | 1:00  | 1.00    | 128        | 3-34-3 | Make up 22" surface hole assembly.  |          |
| 1:00  | 1:30  | 0.50    | 128        | 03-051 | Filled pipe and hole.   |          |
| 1:30  | 5:00  | 3.50    | 421        | 03-021 | Drilled 22" hole from 128' to 421'.   |          |
| 5:00  | 5:30  | 0.50    | 421        | 03-051 | Circulated well bore clean.   |          |
| 5:30  | 6:00  | 0.50    | 421        | 3-27   | Wiped hole f/ 421' t/ 100' with no issues. No fill on bottom.   |          |
| 6:00  | 6:30  | 0.50    | 421        | 3-6-2  | Pull out of the hole f/ 421'  |          |
| 6:30  | 7:00  | 0.50    | 421        | 3-34-4 | Lay down NMDC and bit   |          |
| 7:00  | 8:00  | 1.00    | 421        | 4-56   | Rig up casing crew.   |          |
| 8:00  | 10:00 | 2.00    | 421        | 4-12-1 | Rigged up and Ran 9 joints of 16" k-55 64# BTC casing (382.89') of total casing. Landed out with 33' landing joint. Shoe set at 416' KB. Float collar at 372' KB.   |          |
| 10:00 | 11:00 | 1.00    | 421        | 4-56   | Rig down casing crew  |          |
| 11:00 | 12:30 | 1.50    | 421        | 4-12-1 | Land casing with well head 3' below ground level.   |          |
| 12:30 | 13:00 | 0.50    | 421        | 5-56   | RIH with stab-in and stab into float collar at 378  |          |
| 13:00 | 14:30 | 1.50    | 421        | 5-56   | Rig up cement crew  |          |
| 14:30 | 16:00 | 1.50    | 421        | 5-99   | Pressure test to 1500 psi, Pump 20 bbl fresh water, pump 50 bbls of sepiolite, pum 5 bbl of fresh water, pump 13 bbl od sodium silkicate, pump 5 bbls fresh water, Miz and pump 146 bbl of 13.88 RC Theremelite w/ 2% CC, displace w/ 6 bbls fresh water, believed the floats CIP @ 16:00 | x        |
| 16:00 | 16:30 | 0.50    | 421        | 5-56   | Rig down cement crew  |          |
| 16:30 | 17:00 | 0.50    | 421        | 5-6-2  | POH with stab-in  |          |
| 17:00 | 0:00  | 7.00    | 421        | 1-14   | Installed BOP as followed. 16" x 20" 2M DSA, 20" 2M spacer spool, 20" 2M x 20" 3 DSA, 20" 3M mud cross, 20" 3M X 20" 2M DSA, 20" 2M double gates, 20" 2M annular, 20" 2M flow spool.  | ЗМ       |

#### **Management Summary**

Drilled 22" hole from 128' to 421'. Circulated hole clean. Wiped hole from 421' to 100'.

Pulled out laying down tools.

Rigged up and ran 9 joints of 65 ppf, K-55 16" Buttress casing setting shoe at 416' KB.

Ran in the hole with stab-in tool.

Rigged up Resource cementing and cemented casing in place CIP @ 16:00.

Rigged down Resource cementing.

Pulled out of the hole with stab-in tool.

Installed 20" BOPE. Nippled up BOPE.

### Comments

Good cement to surface.



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Field: UTAHFORGE

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Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| _                          | Size            | Top MI               |                   |           |                   | D Bottom              |                               |                   |            | •                        | Nominal       | LOT      |
|----------------------------|-----------------|----------------------|-------------------|-----------|-------------------|-----------------------|-------------------------------|-------------------|------------|--------------------------|---------------|----------|
| Type<br>ULL                | (ins)<br>16.000 | (ft)                 | 0                 | (ft)      | <b>(ft)</b><br>41 | (ft)                  | Secti                         | ion (             | 22.000     | (lbs)<br>65              | Grade<br>K-55 | (lbs/gal |
| JLL                        | 10.000          |                      | 0                 |           |                   | o<br>Nud Inforr       |                               | JOIN              | 22.000     | 00                       | 11-55         |          |
|                            |                 |                      |                   |           | %                 |                       |                               |                   |            | Gels                     | Tem           | p Mu     |
| ens. Vis P                 | V YP F          | ilt. Cak             | e pH/ES           | Solids (  | Dil Wat           | er Sand L             | .GS CI                        | Ca Ca             | CI 10s     | 10m 30m                  |               | Out Los  |
| 28-Jun-21 05:1             | 5 at Depth      | 421 ft Mu            | ud Pits           |           |                   |                       |                               |                   |            |                          |               |          |
| 8.90 51                    | 19 22 1         | 12.2                 | 1 9               | 11        | 0 8               | 9 2.5                 | 800                           | 120               | 0 9        | 16 2                     | 5 85          | 85 10    |
|                            |                 |                      |                   |           |                   |                       | g Informat                    | ion               |            |                          |               |          |
| de Boos Made               |                 | . Di                 | Depth             |           |                   | R.O.P.                | WOD DE                        |                   | Mud        | Pump                     | /- L D. D     |          |
| No Run Mak                 | xR-C            | 1 <b>Diam</b> 22.000 | <b>In</b><br>) 12 | Dist 293  |                   | Avg Max<br>83.7 250.0 | <b>WOB RP</b>                 | 90 7              | 9 80       | v Press J. v<br>00 576 1 | 42 161        | 75 5     |
| Jets: 28 28                |                 | 22.000               | Out: 4            |           | rade: C           |                       |                               |                   |            | Brgs: 0 Gge              |               | Pull: TD |
| BHA - No. 1 -              |                 | O. MWD.              |                   |           |                   |                       | OP = 314.30                   | 1107110           | rreal. A   | orgs. ∪ Oge              | . 0           | r un. 1D |
|                            |                 | ,                    | ,                 |           |                   | illing Para           |                               |                   |            |                          |               |          |
| Depth (ft                  | )               | ROP (ft/             | hr)               | WOB       |                   |                       | RPM                           | Torqu             | e (ft lbs) | Flow (ga                 | ls/min)       | Pressure |
| From                       | To A            | vg                   | Max               | Avg       | Max               | Avg                   | Max                           | Avg               | Max        | Avg                      | Max           | (psi)    |
| 128                        | 421             | 0.08                 | 120.0             | 15        |                   | 0 7                   | 5 80                          | 3                 | 8          | 650                      | 800           | 1,100    |
| Annular Veloc              | ity: Drill C    | ollars:              | 37.               |           | <u> </u>          | 34.7                  |                               |                   |            |                          |               |          |
|                            |                 |                      |                   |           |                   |                       | ing Parame                    |                   |            |                          |               |          |
| Hook Loads (I              |                 | Off Botto            |                   |           | Pick Up           |                       | Slack Off:                    | 78                | Drag Avg/  | Max:                     | 3/5           |          |
| Hours on BHA               | <b>\</b> :      | Since i              | nspection         | n: 3.5    | Tota              |                       | Jars:                         |                   |            |                          |               |          |
| Sı                         | ırvey M         | Meas.                |                   |           | 31                | irvey Info            | rmation                       | Vertical          | Cor        | ordinates                |               |          |
|                            |                 | Depth                | Inc.              | Azimutl   | 1 7               | VD .                  | Closure                       | Section           | N-S        | E-W                      | D.L           | .S.      |
|                            | WD              | 241.0                | 0.69              | 358.      | 3                 | 241.0                 | 1.5                           | 1.5               | N 1.       | 5 W 0                    | .0 0.         | 286      |
| М                          | WD              | 337.0                | 1.04              | 359.      | 5                 | 337.0                 | 2.9                           | 2.9               | N 2.9      | 9 W 0                    | .1 0.         | 365      |
|                            |                 |                      |                   |           | l                 | Rig Inforn            | nation                        |                   |            |                          |               |          |
| Equipment Pr               | oblems: N       | lone                 |                   |           |                   |                       |                               |                   |            |                          |               |          |
| Location Con               | dition: G       | Good.                |                   |           |                   |                       |                               |                   |            |                          |               |          |
| Transport:                 |                 |                      |                   |           | <u> </u>          | <u> </u>              | • 41                          |                   |            |                          |               |          |
| <u> </u>                   |                 |                      |                   |           |                   |                       | nformation                    |                   |            |                          |               |          |
| Screen Sizes:<br>Shaker No |                 |                      |                   |           | Sottom            | Equipm                | ent Usage (I                  | Hrs):<br>Desilter |            | Damasaari                | 0             |          |
| Shaker No                  |                 | 60                   | 60<br>60          | 60<br>60  | 60<br>60          |                       | er: 4<br><b>ge 1</b> : 4 (Sol |                   |            | Degasser:                | U             |          |
| Shaker No                  |                 | 60                   | 60                | 60        | 60                | Centino               | ge 1. 4 (50)                  | ius i terriova    | 11)        |                          |               |          |
| Onditor 110                | <u> </u>        | 00                   | 00                | 00        | 00                | Bulk Inve             | ntorv                         |                   |            |                          |               |          |
|                            | Item            | Туре                 |                   |           | Units             |                       | ginning                       | Used              | Receiv     | red On                   | Hand          | Net      |
| Diesel (OBM)               |                 |                      |                   |           |                   |                       | 7,637                         | 94                | 0          |                          | 6,697         |          |
|                            |                 |                      |                   |           | Dr                | ill Pipe In           | ventory                       |                   |            |                          |               |          |
| DP Size                    | Joints          | Weigh                | nt (              | Grade     | Thre              | ead                   | DP Size                       | Joints            | Weigh      | t Grad                   | de            | Thread   |
| 5"                         | 114             | 1                    | 19.5 S-13         | 35        | 4.5IF             |                       |                               |                   |            |                          |               |          |
|                            |                 |                      |                   |           | Sa                | afety Infor           |                               |                   |            |                          |               |          |
| Meetings/Drill             |                 |                      |                   |           |                   | Descriptio            |                               |                   |            |                          |               |          |
| Safety                     | 60              |                      |                   |           |                   | ipple up, Pi          |                               |                   | 0          |                          |               |          |
|                            |                 |                      |                   | reatments | 5;                | U LC                  | st Time Inci                  | aents:            | 0          | Days Since I             | -11:          |          |
| First Aid Trea             | <b>✓</b>        | Crowna               | matic Che         | eck       |                   |                       |                               |                   |            |                          |               |          |
| ✓ BOP Test                 |                 |                      |                   |           |                   |                       |                               |                   |            |                          |               |          |
|                            |                 |                      |                   |           |                   |                       |                               |                   |            |                          |               |          |



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Well Name: 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 2 Report For 28-Jun-21

| vveatn                   | er information       |
|--------------------------|----------------------|
| Sky Condition: Clear     | Visibility: 10       |
| Air Temperature: 66 degF | Bar. Pressure: 29.96 |
| Wind Speed/Dir: 8 / NNE  | Wind Gusts: 2        |



## **Geothermal Resource Group, Inc.**

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Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 3       |                      |                      |                |                 |             |          |                 | Report For | 29-Jun-21   |
|--------------------|----------------------|----------------------|----------------|-----------------|-------------|----------|-----------------|------------|-------------|
| Operator:          | University of Uta    | h <b>Rig</b> : F     | rontier Rig 16 | Spud Date:      | 28-         | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth     | (ft): 43             | 3 Last Casing:       | 16.000 at 416  | Wellbore:       | Original V  | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft | ): 43                | 3 Next Casing: 11    | 1.750 at 3,300 | RKB Elevatio    | n (ft):     | 30.40    |                 |            |             |
| Proposed TD (ft):  | 950                  | 0 Last BOP Test:     | 29-Jun-21      | Job Reference   | e RKB (ft): |          |                 |            |             |
| Hole Made (ft) / H | Irs: 12 / 1.         | 5 Next BOP Test:     | 19-Jul-21      | Working Inter   | rest:       |          | Totals:         |            |             |
| Average ROP (ft/   | <b>hr):</b> 8.       | 0                    |                | LOT (lbs/gal):  | •           | 19.20    | Well Cost (\$): |            |             |
| Drilling Days (act | t./plan): 3/21       | Flat Days (act./plan | n): 0/9        | Total Days (act | t./plan):   | 3/30     | Days On Loca    | ition:     | 3           |
| Pers/Hrs: Ope      | erator: 3 / 36       | Contractor:          | 14 / 168       | Service:        | 4 / 48      | Other:   | 3 / 36          | Total:     | 24 / 288    |
| Safety Summary:    | : No incidents or ev | ents reported. Cond  | ucted BOP T    | est, Crown Chec | k, Safety M | eeting.  |                 |            |             |

Current Operations: Picked up RSS and ran in the hole. Drilled 14 3/4" hole section from 433' to 1,524' (report time)

Planned Operations: Drill 14 3/4" section.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary  |
|-------|-------|---------|------------|--------|---|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description Non-Prod   |
| 0:00  | 3:00  | 3.00    | 421        | 3-15   | Installed inner and outer choke and kill valves. Installed choke and kill lines. Torqued all flanges.   |
| 3:00  | 6:00  | 3.00    | 421        | 3-15   | Attempted to Test BOPE system to 300 psi low to 1,000 psi high. First Low test of 300 psi testing against the pipe rams held. Stepped pressure up to 1,000 psi and pressure bleed back down to 500 psi. Attempted to pressure back up to 1,000 psi, pressure bleed back down to 500 psi. Inspected all surface equipment for leaks. No leaks were found. Decision was made to test choke manifold while allowing more time for cement to set. Tested out all valves on choke manifold to 300 psi low for 5 mins and 1,000 psi high for 10 mins. |
| 6:00  | 9:00  | 3.00    | 421        | 2-14   | Nipple up Flow nipple w/ rotating head to flow line   |
| 9:00  | 10:00 | 1.00    | 421        | 2-14   | Walk catwalk into place and raise V-Door  |
| 10:00 | 11:30 | 1.50    | 421        | 3-34-3 | Set racks and move and strap 15 each 8" DCS   |
| 11:30 | 14:30 | 3.00    | 421        | 3-34-3 | Pick up 15 each 8" DCS and stand back in Derrick  |
| 14:30 | 16:30 | 2.00    | 421        | 3-15   | Test Blind rams to 250 psi for 5 min low & 1000 psi for 10 min high / test good / PU stand of drill pipe and test pipe rams to 250 psi for 5 min & 1000 psi for 10 min test good, test bag to 250 psi for 5 min low & 1000 psi high for 10 min  |
| 16:30 | 18:00 | 1.50    | 421        | 3-34-3 | PU 14-3/4" bit, bit sub, 3 stands of DCS and 1 stand of HWDP and RIH to drill float, cement and shoe  |
| 18:00 | 18:30 | 0.50    | 421        | 2-14   | Installed rotating rubber bushing to bearing assembly. Installed rotating rubber.   |
| 18:30 | 19:30 | 1.00    | 421        | 3-28   | Drilled out shoe track from 370' to 416'. Good cement Throughout shoe track.  |
| 19:30 | 20:00 | 0.50    | 421        | SERV   | Serviced rig.   |
| 20:00 | 20:45 | 0.75    | 421        | 3-28   | Cleaned out rat hole to 421'. Drilled new formation to 433'   |
| 20:45 | 21:00 | 0.25    | 421        | 3-5-1  | Circulated hole clean for FIT.  |
| 21:00 | 22:00 | 1.00    | 421        | 3-46   | Performed FIT.  |
| 22:00 | 23:30 | 1.50    | 421        | 3-6-2  | Pulled out of the hole from 433' to surface. Broke out bit along with bit sub.  |
| 23:30 | 0:00  | 0.50    | 421        | 3-98   | Held detailed safety meeting with all involved personal on picking up BHA.  |

#### **Management Summary**

Installed inner and outer choke and kill valves.

Torqued up all breaks on BOPE.

Attempted to test BOPE. High pressure test leaked off. Decision was made to allow more time for cement to set.

Tested out choke manifold.

Nippled up riser and installed flowline.

Walked catwalk into place and raised V-Door.

Set racks in place. Strapped 15-8" drill collars. Picked up 5 stands of 8" drill collars and racked back in the derrick.

Tested out BOPE. Good test.

Made up 14 3/4" slick assembly.

Tripped in the hole.

Drilled out shoe track from 370' to 416'.

Drilled new formation to 433'.

Circulated hole clean.

Performed FIT to a 1 psi/ft. Good test.

Pulled out of the hole.

Held detailed safety meeting with all involved personal on picking up BHA.



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32 Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 3 Report For 29-Jun-21

| Report No: 3   | )  |  |   |  |  |  |                |  |                                   |                    |                  |                    |           |           |                       |        | r 29-J     |           |
|--|--|--|---|--|--|--|----------------|--|-----------------------------------|--------------------|------------------|--------------------|-----------|-----------|-----------------------|--------|------------|-----------|
|  |  |  |   |  |  |  | Com            | ments  |                                   |                    |                  |                    |           |           |                       |        |            |           |
| Test out all BOF   | PE to 300  | osi low ar   | d 1,00  | 0 psi high                               | . All tes                                      | t good   | d              |  |                                   |                    | -                |                    |           |           |                       |        |            |           |
|  |  |  |   |  | (  | Casin  | ıg/Tubul       | ar Info  | rmatio                            | on                 |                  |                    |           |           |                       |        |            |           |
|  | Size   | Top N  | 1D  | Top TVD                                  | Bot  | tom N  | ID Botto       | m TVD  |                                   | ole                | OH Dia           | m. N               | lom. W    | /gt.      |                       | ninal  |            | .OT       |
| Туре   | (ins)  | (ft)   |   | (ft)                                     |  | (ft)   |                | ft)  |                                   | tion               | (ins)            | 1                  | (lbs)     |           | Gra                   | ade    |            | s/gal)    |
| FULL   | 16.000   |  | 0   |  |  | -  | 16             |  |                                   | SURF               | 22.              | 000                |           | 65        |                       | K-55   |            | 19.2      |
|  |  |  |   |  |  | %  | Mud Inf        | ormatio  | on                                |                    |                  |                    |           |           |                       |        |            |           |
| ) \/:- D\  | , vp i   |  |   | VEO 0-11                                 | ı. O''   |  |                |  | 01                                | 0-                 | 0-01             | 40-                | Gels      |           |                       | Ten    | •          | Mud       |
| Dens. Vis PV   |  |  |   | I/ES Solid                               |  |  | iter Sand      | LGS  | CI                                | Ca                 | CaCI             | 10s                | 10m       | 1 3       | 30m                   | In     | Out        | Los       |
| 29-Jun-21 21:00<br>8.60 36   |  | 18.8   |   | s, Type: S<br>11.5                       | •  | a<br>0   | 95 0.5         | 0.6  | 000                               | 240                | `                | 1                  |           | c         | 11                    | 0E     | 97         |           |
| 8.60 36  | 8 7  | 10.0   | I   | 11.5                                     | 5  | -  | lud Con        |  | 900                               | 240                | ,                | 4                  |           | 6         | 11                    | 85     | 91         |           |
| 14   | em Descr   | intion   |   |  | Qty.   | IV   | Cost           | Suman  | ies                               | Itom               | Descript         | ion                |           |           |                       | ty.    |            | ost       |
| Bicarb - 50#SK   | eili Desci   | iption   |   |  | 10   |  |                | Descr  | CF -                              | 25#SK              | Descript         | 1011               |           |           | Q                     | 3      |            | -<br>-    |
| Engineering - E  | ΔСН  |  |   |  | 10   |  |                |  | em - O                            |                    |                  |                    |           |           |                       | 1      |            |           |
| wraps - OTHER  |  |  |   |  | 2  |  |                | perdic   | )III - O                          | 111111             |                  |                    |           |           |                       | '      |            |           |
| wiaps - OTTIET   |  |  |   |  |  | ВНУ  | /Workst        | ring In  | forma                             | tion               |                  |                    |           |           |                       |        |            |           |
|  |  |  |   | epth                                     | This R   |  | R.O.P          |  | Omma                              | LIOII              |                  | Mud                | Pu        | mp        |                       |        |            |           |
| No Run Make  | . Mod  | el Dian  |   | ~ p                                      | Dist H   |  |                |  | OB R                              | РМ То              | rque W           |                    |           | -         | J. Vel                | P. Dru | ННР        | JII       |
| 2 1 BAKEF  | GT-C1  | 14.75  | 0   | 360                                      | 93   | 1.5  |                | 30.0   | 10                                | 50                 | 3                |                    |           | 184       | 194                   | 289    | 76         | _         |
| Jets: 18 18 1  | 8  |  | 0   | ut: 433                                  | Gra  | de: (  | Cutter:        | 1/1  | Dull:                             | NO/N               | O Wea            | ar: A              | Brgs:     | 0 0       | Gge:                  |        | Pull:      | вна       |
|  |  |  | 5 A 4\A7  | D 4 OTH                                  | R MM   | ITR. F   | RR, FLOA       | T, 2 OTI   | HER, D                            | C, XO,             |                  |                    |           |           | •                     |        |            |           |
| <b>BHA -</b> No. 3 -   | BIT, OTH   | ER, STA  | 3, IVIVV  | D, 4 O I I I                             | 、,   |  |                |  |                                   |                    |                  |                    |           |           |                       |        |            |           |
| BHA - No. 3 -  | BIT, OTH   | ER, STA  | B, IVIVV  | D, 4 OTT                                 | =1 1, 14114                                    |  |                |  | tion                              |                    |                  |                    |           |           |                       |        |            |           |
| Depth (ft)   | BIT, OTH   | TVD (1   |   | D, 4 OTTI                                |  | Mι   | ıd Log I       | nforma   | tion<br>Gas                       |                    | Orilling         | Pore               | M         | ud        | Shale                 |        | RO         | P         |
|  |  |  |   | Avg                                      | Gas (l   | Μι<br>Jnits)   | ıd Log I       | nforma   | Gas                               | l<br>rip           | Orilling<br>Exp. | Pore<br>Press      |           | ud<br>ns. | Shale<br>Dens.        |        | RO<br>nale | P<br>Sand |
| Depth (ft)   |  | TVD (1   | t)  |  | Gas (l   | Μι<br>Jnits)   | ıd Log I       | nforma   | Gas                               |                    | _                |                    |           |           |                       |        |            |           |
| Depth (ft)<br>From T<br>422  | o F  | TVD (f   | t)<br>To  | Avg                                      | Gas (l   | Μι<br>Jnits)   | ıd Log I       | nforma   | Gas                               |                    | _                |                    |           |           |                       |        |            |           |
| From T<br>422<br>Formation Nan   | o F<br>436<br>ne: Alluvi   | TVD (f   | t)<br>To<br>-cobble                                 | Avg                                      | Gas (l   | Μι<br>Jnits)   | ıd Log I       | nforma   | Gas                               |                    | _                |                    |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan  | o F<br>436<br>ne: Alluvi   | TVD (f   | t)<br>To<br>-cobble                                 | Avg                                      | Gas (l   | Μι<br>Jnits)   | ıd Log I       | nforma<br>(<br>Connec  | Gas<br>et. Ti                     |                    | _                |                    |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology:   | o F<br>436<br>ne: Alluvi<br>100%   | TVD (form)  um (sand) Alluvium                                       | t)<br>To<br>-cobble                                 | Avg                                      | Gas (l   | Μι<br>Jnits)   | t Depth        | nforma<br>(<br>Connec  | Gas<br>et. Ti                     |                    | _                |                    |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology:   | o F 436 ne: Alluvi 100%  | TVD (form)  um (sand) Alluvium                                       | t)<br>To<br>-cobble                                 | Avg                                      | Gas (l   | Μι<br>Jnits)   | t Depth        | nforma<br>(<br>Connec  | Gas<br>et. Ti                     |                    | _                |                    |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology: Equipment Pro Location Cond   | o F 436 ne: Alluvi 100%  | TVD (forom  um (sand Alluvium  | t)<br>To<br>-cobble                                 | Avg                                      | Gas (l   | Μι<br>Jnits)   | t Depth        | nforma<br>(<br>Connec  | Gas<br>et. Ti                     |                    | _                |                    |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology: Equipment Pro Location Cond   | o F 436 ne: Alluvi 100%  | TVD (forom  um (sand Alluvium  | t)<br>To<br>-cobble                                 | Avg                                      | Gas (U   | Mu<br>Jnits)   | t Depth        | nforma<br>(<br>Connec  | Gas<br>et. Ti                     | rip                | _                |                    |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:   | o F 436 ne: Alluvi 100%  | TVD (forom  um (sand Alluvium  None. Good.                           | t)<br>To<br>-cobble                                 | Avg                                      | Gas (U   | Mu<br>Jnits)   | Depth Rig Info | nforma<br>(<br>Connec  | Gas ct. Tr                        | nip                | _                |                    |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:   | o F 436 ne: Alluvi 100% blems: ition:  | TVD (forom  um (sand Alluvium  None. Good.                           | t)<br>To<br>-cobble<br>(grani                       | Avg<br>es)<br>tic)                       | Gas (U   | Mu<br>Jnits)<br>at   | Depth Rig Info | ormatic  | Gas ct. Tr on matio               | on<br>(Hrs):       | _                | Press              |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:   | o F 436 ne: Alluvi 100% blems: ition: To                                       | TVD (form)  um (sand) Alluvium  None. Good.                          | t)<br>To<br>-cobble<br>(grani                       | Avg es) tic)  Middle                     | Gas (UMAX                                      | Mu<br>Jnits)<br>c at   | Rig Info       | ormatic  | Gas ct. Tr on matio               | on<br>(Hrs):       | Exp.             | Press              |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No  | o F 436 ne: Alluvi 100% blems: ition: To                                       | TVD (form)  um (sand) Alluvium  None. Good.                          | t)<br>To<br>-cobble<br>(grani                       | Avg es) tic)  Middle 66                  | Gas (UMAX)                                     | Mu<br>Jnits)<br>at<br>Solid<br>ttom  | Rig Info       | ormatic  | Gas ct. Tr on matio               | on<br>(Hrs):       | Exp.             | Press              |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No 2  | o F 436 ne: Alluvi 100% blems: ition: To                                       | TVD (form)  um (sand) Alluvium  None. Good.                          | t) To -cobble (grani                                | Avg es) tic)  Middle 66                  | Gas (UMAX)  2 Bo 0 0                           | Mu<br>Jnits)<br>at<br>Solid<br>ttom<br>60  | Rig Info       | ormatic  | Gas ct. Ti on cmatic Jsage        | on<br>(Hrs):       | Exp.             | Press              |           |           |                       |        |            |           |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shak | o F 436 ne: Alluvi 100% blems: ition: To                                       | TVD (form)  um (sand) Alluvium  None. Good.                          | t) To -cobble (grani                                | Avg es) tic)  Middle 66                  | Gas (UMAX)  2 Bo 0 0                           | Mu<br>Jnits)<br>at<br>Solid<br>ttom<br>60  | Rig Info       | ormatic<br>ormatic<br>ol Infor<br>oment U  | Gas ct. Ti on cmatic Jsage        | on<br>(Hrs):       | Exp.             | Press              | S De      | ns.       |                       | Sr     | nale       |           |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shak | o F 436 ne: Alluvi 100% blems: ition: To                                       | TVD (for om sum (sand Alluvium None. Good.                           | t) To -cobble (grani                                | Avg es) tic)  Middle 66                  | Gas (UMAX)  2 Bo 0 0                           | Multiplication Miles (Market Market M | Rig Info       | ormatic  ormatic  ormatic  ormatic  ormatic  ormatic  ormatic  | Gas ct. Ti on cmatic Jsage        | on<br>(Hrs):       | Exp.             | Press              | S De      | ns.       | Dens.                 | Sr     | nale       | Sand      |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shak | o F 436 ne: Alluvi 100% blems: ition: To                                       | TVD (for om sum (sand Alluvium None. Good.                           | t) To -cobble (grani                                | Avg es) tic)  Middle 66                  | Gas (UMAX)  2 Bo 0 0                           | Multiplication Market M | Rig Info       | ormatic   | matio                             | on<br>(Hrs):       | Exp.             | Press              | S De      | ns.       | Dens.                 | Sh     | nale       | Sand      |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shak | o F 436 ne: Alluvi 100% blems: ition: To                                       | TVD (for om sum (sand Alluvium None. Good.                           | t) To -cobble (grani                                | Avg es) tic)  Middle 66                  | Gas (UMAX)  2 Boo 0 0 0 0                      | Multis) Solid ttom 60 60 Unit  | Rig Info       | ormatic  | matio                             | on<br>(Hrs):<br>De | Exp.             | Press              | ved       | ns.       | Dens.                 | Sh     | nale       | Sand      |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No 3 Shaker No 3  | o F 436 ne: Alluvi 100% blems: ition: To 1: 2: 3:                              | TVD (form)  um (sand) Alluvium  None. Good.  p Mi 60 60 60 Type      | t) To -cobble (grani  ddle 1 60 60 60               | Avg es) tic)  Middle 6666                | Gas (UMAX)  2 Bo 0 0 0                         | Multis) Solid ttom 60 60 Unit  | Rig Info       | ormatic  | matio                             | on<br>(Hrs):<br>De | silter: (        | Press              | ved       | ns.       | On Han                | Sh     | N          | et        |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No 3 Shaker No 3  | o F 436 ne: Alluvi 100% blems:   ition:   1: 2: 3: Item                        | TVD (form)  um (sand) Alluvium  None. Good.  p Mi 60 60 60 Type      | t) To -cobble (grani  ddle 1 60 60 60               | Avg es) tic)  Middle 66666               | Gas (UMAX)  2 Bo 0 0 0                         | Solid ttom 60 60 Unit D Thi  | Rig Info       | ormatic   | matio                             | on<br>(Hrs):<br>De | silter: (        | Press              | ved       | ns.       | On Han                | Sh     | N          | et        |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shak | o F 436 ne: Alluvi 100% blems: lition: To 1: 2: 3: Item Joints 114             | TVD (form)  um (sand) Alluvium  None. Good.  p Mi 60 60 60 Type      | t) To -cobble (grani  ddle 1 60 60 60               | Avg es) tic)  Middle 66666               | Gas (UMAX)  2 Bo 0 0 0                         | Solid ttom 60 60 Unit D Thi  | Rig Info       | ormatic   | matio                             | on<br>(Hrs):<br>De | silter: (        | Press              | ved       | ns.       | On Han                | Sh     | N          | et        |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No 2 Shaker No 2 Shaker No 3  Rig Fuel  DP Size 5"  | o F 436 ne: Alluvi 100% blems: ition: To 1: 2: 3: Item Joints 114              | TVD (forom  um (sand Alluvium  None. Good.  p Mi 60 60 60 Type  Weig | ddle 1 60 60 11 11 11 11 11 11 11 11 11 11 11 11 11 | Avg es) tic)  Middle 66666               | Gas (U Max | Multiplication Multip | Rig Info       | ormatic  orm | matio sage 0 sage 0 sage ony Size | on<br>(Hrs):<br>De | silter: (        | Press              | ved       | G G       | On Han                | Sh     | N          | et        |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No 3 Shaker No 3 Rig Fuel  DP Size 5"  Meetings/Drills Safety   | o F 436 ne: Alluvi 100% blems: ition:  Tc 1: 2: 3:  Item  Joints  114  Time 60 | TVD (1 rom  um (sand Alluvium  None. Good.  p Mi 60 60 60 Type  Weig | ddle 1 60 60 9ht                                    | Avg ess) tic)  Middle 66 66  Grade S-135 | Gas (UMAX)  2 Boo 0 0 4.                       | Multiplication Multip | Rig Info       | ormatic  orm | matio  sage  on  on  Cover        | on<br>(Hrs):<br>De | silter: (        | Press  Recei  Weig | ved<br>ht | G G       | On Han                | Sh     | N          | et        |
| Depth (ft) From T 422 Formation Nan Lithology:  Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No 3 Shaker No 3  | o F 436 ne: Alluvi 100% blems: ition:  Tc 1: 2: 3:  Item  Joints  114  Time 60 | TVD (from  um (sand Alluvium  None. Good.  p Mi 60 60 60 Type  Weig  | ddle 1 60 60 60 19ht 19.5                           | Avg es) tic)  Middle 6 6 6 Grade S-135   | Gas (UMAX)  2 Boo 0 0 4.                       | Multiplication Multip | Rig Info       | ormation  ormation  ormation  ormation  ormation  format  ormation  orcews.  | matio  sage  on  on  Cover        | on<br>(Hrs):<br>De | silter: (        | Press  Recei  Weig | ved<br>ht | G G       | On Han<br>6,<br>Grade | Sh     | N          | et        |



## **Geothermal Resource Group, Inc.**

Well Name: 78B-32

Well ID: Forge 78B-32 Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 3 Report For 29-Jun-21

| Weather Information |               |                |       |  |  |  |  |  |  |
|---------------------|---------------|----------------|-------|--|--|--|--|--|--|
| Sky Condition:      | Partly Cloudy | Visibility:    | 10    |  |  |  |  |  |  |
| Air Temperature:    | 61 degF       | Bar. Pressure: | 29.94 |  |  |  |  |  |  |
| Wind Speed/Dir:     | 4 / NW        | Wind Gusts:    | 1     |  |  |  |  |  |  |



Pers/Hrs:

### **Daily Drilling Report**

Geothermal Resource Group, Inc.

3 / 36 **Total**:

Well Name: 78B-32

24 / 288

Χ

Χ

Well ID: Forge 78B-32

Field: UTAHFORGF

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 4          |                      |                      |               |                      |                   |                 | Report For | 30-Jun-21   |
|-----------------------|----------------------|----------------------|---------------|----------------------|-------------------|-----------------|------------|-------------|
| Operator:             | University of Utah   | Rig: Fr              | ontier Rig 16 | Spud Date:           | 28-Jun-21         | Daily Cost / Mu | d (\$):    |             |
| Measured Depth (ft)   | ): 2699              | Last Casing: 1       | 6.000 at 416  | Wellbore:            | Original Wellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 2699                 | Next Casing: 11.     | .750 at 3,300 | <b>RKB Elevation</b> | (ft): 30.40       |                 |            |             |
| Proposed TD (ft):     | 9500                 | Last BOP Test:       | 29-Jun-21     | Job Reference        | RKB (ft):         |                 |            |             |
| Hole Made (ft) / Hrs  | : 2,266 / 15.0       | Next BOP Test:       | 19-Jul-21     | Working Interes      | st:               | Totals:         |            |             |
| Average ROP (ft/hr)   | : 151.07             |                      |               | LOT (lbs/gal):       | 0.58              | Well Cost (\$): |            |             |
| Drilling Days (act./p | olan): 4/21 <b>F</b> | lat Days (act./plan) | ): 0/9        | Total Days (act./p   | olan): 4/30       | Days On Locati  | on:        | 4           |

3 / 36 Contractor: Safety Summary: No incidents or events reported. Conducted Safety Meeting.

**Current Operations:** Pulled out of the hole from 951' to Surface.

Changed bit. Tipped in the hole to 2,699'.

2,359 3-2-3

2,359 REPR

2,399 3-2-3

2,399 REPR

2,399 3-2-3

2,399 3-5-1

2,399 3-6-4

Drilled 14 3/4" hole section from 2,699' to 2,818' (report time)

Drill 14 3/4" section to casing point. **Planned Operations:** 

Toolpusher: Steve Caldwell . Justin Bristol

Operator:

Virgil Welch, Brian Gresham Tel No.: 7132807438 Wellsite Supervisors:

14 / 168 Service:

|       | Operations Summary |         |            |        |   |         |  |  |  |  |  |  |
|-------|--------------------|---------|------------|--------|---|---------|--|--|--|--|--|--|
| From  | То                 | Elapsed | End MD(ft) | Code   | Operations Description No   | on-Prod |  |  |  |  |  |  |
| 0:00  | 3:30               | 3.50    | 433        | 3-34-3 | Picked up 14 3/4" RSS BHA to 433'.  |         |  |  |  |  |  |  |
| 3:30  | 4:15               | 0.75    | 665        | 3-2-3  | Drilled 14 3/4" hole from 433' to 665' with full returns.   |         |  |  |  |  |  |  |
| 4:15  | 4:30               | 0.25    | 665        | 03-051 | Circulated hole clean to rack back HWDP and place 3 stands of 8" drill collars into BHA.  |         |  |  |  |  |  |  |
| 4:30  | 5:30               | 1.00    | 665        | 3-34-3 | Pulled out of the hole from 665' to 389'. Racked back 3 stands of HWDP. Installed 3 stands of 8" drill collars into the BHA. Tripped in the hole to 665'. |         |  |  |  |  |  |  |
| 5:30  | 6:00               | 0.50    | 858        | 3-2-3  | Drilled 14 3/4" hole from 665' to 858 with full returns.  |         |  |  |  |  |  |  |
| 6:00  | 10:00              | 4.00    | 2,077      | 3-2-3  | Drilled 14-3/4" hole from 858' to 2,077' with full returns.   |         |  |  |  |  |  |  |
| 10:00 | 10:30              | 0.50    | 2,077      | SERV   | Serviced rig / torqued saver sub  |         |  |  |  |  |  |  |
| 10:30 | 11:00              | 0.50    | 2,232      | 3-2-3  | Drilled 14-3/4" hole from 2,077' to 2,232' with full returns.   |         |  |  |  |  |  |  |
| 11:00 | 11:30              | 0.50    | 2,232      | REPR   | Rig blacked out/ cleaned #2 generator radiator due to overheating.  | Х       |  |  |  |  |  |  |

Drilled 14-3/4" hole from 2,232' to 2,359' with full returns.

Drilled 14-3/4" hole from 2,359' to 2,399' with full returns.

Drilled 14-3/4" hole from 2,399' to 2,699' with full returns.

Rig Repair cleaned #1 generator radiator due to overheating.

Rig Repairs cleaned #3 generator radiator due to overheating.

#### Circulate hole clean. Pump 15 bbl slug. Pull out of the hole from 2,699' to 951'. Tight hole encountered from 2,351' to 1,799' 50-100k over string weight. Extended trip time due to tight connections and using rig tongs. Removed rotating rubber at 850'.

4 / 48 Other:

Picked up 14 3/4" RSS BHA to 433'.

12:30

13:30

14:00

15:30

21:15 22:00

0:00

Drilled 14 3/4" hole from 433' to 665' with full returns.

1.00

1.00

0.50

1.50

5.75

0.75

2.00

Circulated hole clean.

11:30

12:30

13:30

14:00

15:30

21:15

22:00

Pulled out of the hole from 665' to 389'.

Racked back 3 stands of HWDP.

Installed 3 stands of 8" drill collars into the BHA.

Tripped in the hole to 665'.

Drilled 14 3/4" hole from 665' to 2,077' with full returns. Serviced rig.

Drilled 14-3/4" hole from 2,077' to 2,232' with full returns. Circulated while cleaning radiator on gen #2 due to overheating.

Drilled 14-3/4" hole from 2,232' to 2,359' with full returns. Circulated while cleaning radiator on gen #1 due to overheating.

Drilled 14-3/4" hole from 2,359' to 2,399' with full returns. Circulated while cleaning radiator on gen #3 due to overheating.

Drilled 14-3/4" hole from 2,399' to 2,699' with full returns. Circulated hole clean. Tripped out of the hole to 951'.

#### Comments

**Management Summary** 

BOPE test results emailed DWR (Jim Goddard).

|  | Casing/Tubular Information |        |     |     |     |     |         |        |       |       |           |  |
|--|----------------------------|--------|-----|-----|-----|-----|---------|--------|-------|-------|-----------|--|
|  | <b>T</b>                   |        |     |     |     |     |         |        |       |       | LOT       |  |
| TILL 16 000 0 146 CUDE 22 000 65 1/ 55 | туре                       | (ins)  | (π) | (π) | (π) | (π) | Section | (Ins)  | (IDS) | Grade | (lbs/gal) |  |
| FULL 10.000 0 410 SURF 22.000 05 K-55  | FULL                       | 16.000 | 0   |     | 416 |     | SURF    | 22.000 | 65    | K-55  | 0.58      |  |



## Daily Drilling Report Well ID: Forge 78B-32

Geothermal Resource Group, Inc.

Well Name: 78B-32

Field: UTAHFORGF

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 4  |  |   |  |   |   |   |  |  |  |   |  |   |                               |   |   | t Fa.                                       | - 00 1                     | un-21 |  |
|---|--|---|--|---|---|---|--|--|--|---|--|---|-------------------------------|---|---|---|----------------------------|-------|--|
|   | ·  |   |  |   |   |   |  |  |  |   |  |   |                               |   |   |   |                            |       |  |
|   | Mud Information  |   |  |   |   |   |  |  | n  |   |  |   |                               |   |   |   |                            |       |  |
|   |  |   |  |   |   | %   |  |  |  |   |  |   | Gels                          |   |   | Ten   | ıp                         | Mud   |  |
| Dens. Vis PV  | YP   | Filt. (   | Cake   | pH/ES                                       | Solids (  | Oil W                                     | ater Sand  | LGS  | CI   | Ca  | CaCI   | 10s   | 10m                           | 30r   | m   | In  | Out                        | Loss  |  |
| 30-Jun-21 21:00   | at Depth   | 1 2,697   | ft Mu  | ud Pits, T                                  | ype: Low  | Solids                                    | Non-Dispe  | rsed   |  |   |  |   |                               |   |   |   |                            |       |  |
| 9.10 42 14  | T i  | 9.4   | 1  |   | 9   | 0   | 91 12.5  |  | 800  | 120   |  | 3   | 7                             | 7   | 11  | 110   | 118                        |       |  |
|   |  |   |  |   |   |   | Mud Con  |  | es   |   |  |   |                               |   |   |   |                            |       |  |
| Ite   | m Desci  | iption  |  |   | Qty.  |   | Cost   |  |  | Item D  | escripti   | on  |                               |   | Q   | ty.   | С                          | ost   |  |
| Barite - 100#SK   |  | •   |  |   |   | :0  |  | Desco  | CF - 2   |   | •  |   |                               |   |   | 1   |                            |       |  |
| DMA - 50#SK   |  |   |  |   |   | 5   |  | Drispad  |  |   |  |   |                               |   |   | 5   |                            |       |  |
| Engineering - EA  | СН   |   |  |   |   | 1   |  | FlowZa   |  |   |  |   |                               |   |   | 10  |                            |       |  |
| Gel - 100#SK  |  |   |  |   | 7   | 0   |  | Micro C  | C - 50#  | SK  |  |   |                               |   |   | 50  |                            |       |  |
| pallets - OTHER   |  |   |  |   |   | 3   |  | perdier  | n - OTI  | HER   |  |   |                               |   |   | 1   |                            |       |  |
| Trucking - EACH   |  |   |  |   |   | 1   |  | <b>'</b>   |  |   |  |   |                               |   |   |   |                            |       |  |
| Tracking Extern   |  |   |  |   |   |   | A/Workst   | rina Infa  | rmati  | ion   |  |   |                               |   |   |   |                            |       |  |
|   |  |   |  | Depth                                       |   |   | R.O.P  |  | Jilliati   | 1011  |  | Mud   | Pui                           | mn  |   |   |                            |       |  |
| No Run Make   | Mod  | ol Di   | am   | In  | Dist  | Hrs                                       |  | lax WO   | R RP   | M Tord  | nue Wi   |   |                               | •   | Vel   | P. Drp                                      | ННР                        | JIF   |  |
| 2 1 BAKER   |  |   | 750  | 360   |   | 3   |  |  |  |   | 15   |   |                               |   |   | 1361  | 754                        |       |  |
| Jets: 18 18 18  |  |   |  | Out: 4                                      |   |   | Cutter:  |  |  | NO/NO   |  | -   | Brgs: (                       |   |   |   | Pull:                      |       |  |
| 3 1 NOV   | TKC66  | 14  | 750  | 433   |   |   | 151.1  | .,,  |  | 107110  | 1100   |   | 50 30                         |   | 281   | 645   |                            | 1259  |  |
| <b>Jets</b> : 15 15 15  |  |   | ., 00  | Out: 20                                     |   |   | Cutter:  | 3/1  | Dull-  | LT/CT   | Wea  |   | 3rgs: >                       |   |   | 0.10  | Pull:                      |       |  |
|   |  |   | ΓΔR N  |   |   |   | RR, FLOA   |  |  |   |  |   | _                             | · Og  | О.  |   | ı uıı.                     | 111   |  |
| DITA NO. 0  | 511, 011   | LIX, 01   | 710, 1   | VIVID, 4 (                                  | J 111LTX, 1X  |   | Orilling Pa  |  |  | J, 7(O, 1   | 100  | 000.01  |                               |   |   |   |                            |       |  |
|   |  |   |  |   |   |   |  | arannete   | 13   |   |  |   |                               |   |   |   |                            |       |  |
| Denth (ft)  |  | P∩D   | /ft/hr   | ٠,  | WOR   |   |  |  |  | To  | raua (ft   | lhe\  | FI                            | w las   | ale/m   | nin\  | Dros                       | CUITO |  |
| Depth (ft)  | <u> </u>   |   | •  | •   |   | (lbs)                                     |  | RPM  |  |   |  |   |                               |   |   |   |                            |       |  |
| From To   |  | Avg   | M  | lax   | Avg   |   | c Av   | RPM<br>g I   | <b>Max</b>   | Av  | 9  | Max   | A۱                            | /g  | M   | lax   | (p                         | si)   |  |
| From To 433 2,  | 699  | <b>Avg</b><br>174.3   | 1,   | 300.0                                       | <b>Avg</b> 40   | (lbs)<br>Max                              | <b>6</b> 5   | RPM  | <b>Max</b><br>120  | Av  |  |   | A۱                            |   | M   | ,   | (p                         |       |  |
| From To   | 699  | <b>Avg</b><br>174.3   | 1,   | lax   | <b>Avg</b><br>40<br>7 <b>Drill F</b>  | (lbs)<br>Max<br>Pipe:                     | 65 128.2   | <b>RPM</b><br><b>g !</b>                                 | 120  | Av  | 9  | Max   | A۱                            | /g  | M   | lax   | (p                         | si)   |  |
| From To 433 2, Annular Velocity   | 699<br>y: <b>Drill</b>   | Avg<br>174.3<br>Collars   | 1,   | 300.0<br>197.7                              | Avg<br>40<br>7 Drill F<br>Mi  | (lbs)<br>Max<br>Pipe:<br>scella           | 65  <br>128.2  | RPM<br>g I<br>70<br>rilling Pa                           | 120<br>arame   | Ave   | 13   | <b>Max</b> 22   | A                             | <b>/g</b><br>950  | M   | 1,050                                       | (p                         | si)   |  |
| From To 433 2, Annular Velocity Hook Loads (lbs   | 699<br>y: <b>Drill</b>   | Avg<br>174.3<br>Collars   | 1,   | 300.0                                       | Avg<br>40<br>7 Drill F<br>Mi  | (lbs)<br>Max<br>Pipe:                     | 65  <br>128.2  | <b>RPM</b><br><b>g !</b>                                 | 120<br>arame   | Ave   | 13   | Max   | A                             | <b>/g</b><br>950  | M   | 1,050                                       | (p                         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation   | 699<br>y: Drill<br>s):<br>n Data:                              | Avg<br>174.3<br>Collars<br>Off Bo   | 1,   | 300.0<br>197.7                              | 40 40 7 Drill F Mi 125  | (lbs)<br>Max<br>Pipe:<br>scella           | 65   128.2   100   150   | RPM<br>g I<br>70<br>rilling Pa                           | 120<br>arame<br>k Off:   | Ave<br>eters                                      | 13 Dra   | Max<br>22<br>ag Avg   | A                             | <b>/g</b><br>950  | <b>M</b>                                      | 1,050                                       | (p                         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1  | 699<br>y: Drill<br>s):<br>n Data:                              | Avg<br>174.3<br>Collars<br>Off Bo   | 1, s:  | 300.0<br>197.7                              | 40 40 7 <b>Drill I</b> 125 95 psi   | (lbs)<br>Max<br>Pipe:<br>scella           | 65 128.2 neous Di  | RPM<br>g I<br>70<br>rilling Pa                           | 120<br>arame<br>k Off:<br>210 p                                    | Ave   | 13  <br>00   <b>Dra</b>                              | Max 22 ag Avg   | A                             | <b>/g</b> 950  1  | 10 / 1 psi                                    | 1,050                                       | (p                         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1 Pump 2   | 699 y: Drill s): n Data:                                       | Avg<br>174.3<br>Collars<br>Off Bo<br>35 s<br>35 s                         | 1, ottom   | 300.0<br>197.7                              | 40 40 7 Drill F Mi 125 95 psi 95 psi  | (lbs)<br>Max<br>Pipe:<br>scella           | 65   128.2   1 | RPM<br>g I<br>70<br>rilling Pa                           | 120<br>arame<br>k Off:<br>210 p                                    | eters<br>10                                       | 13  <br>00   <b>Dra</b><br>60<br>60                  | Max 22 ag Avg   | A                             | 950<br>950<br>1<br>375<br>375   | M<br>10 / 1<br>psi<br>psi                     | 1,050                                       | (p                         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1 Pump 2 Pump 3  | 699 y: Drill s): n Data:                                       | Avg<br>174.3<br>Collars<br>Off Bo<br>35 s<br>35 s<br>35 s                 | 1, s:  | 1ax<br>300.0<br>197.1<br>Rotate:            | 40 40 7 Drill F Mi 125 95 psi 95 psi 95 psi   | (lbs)<br>Max<br>Pipe:<br>scella<br>Pick ( | 65 128.2 Ineous DI Up: 19 45 spm 45 spm 45 spm   | RPM<br>g /<br>70<br>rilling Pa<br>50 Slaci               | 120  arame  k Off:  210 p  210 p                                   | Ave   | 13  <br>00   <b>Dra</b><br>60<br>60                  | Max 22 ag Avg   | A                             | <b>/g</b> 950  1  | M<br>10 / 1<br>psi<br>psi                     | 1,050                                       | (p                         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1 Pump 2 Pump 3 Hours on BHA:                                  | 699 y: Drill s): n Data: :                                     | 174.3<br>Collars<br>Off Bo<br>35 s<br>35 s<br>35 s                        | ottom spm spm spm ce Ins                                 | lax<br>300.0<br>197.7<br>Rotate:            | 40 40 7 Drill F Mi 125 95 psi | (lbs)<br>Max<br>Pipe:<br>scella<br>Pick ( | 65 128.2 Ineous DI Up: 15 45 spm 45 spm 45 spm tal:  | RPM<br>g I<br>70<br>rilling Pa<br>50 Slact               | 120  arame  k Off:  210   210   210   210   3::                    | Ave   | 13   00   <b>Dra</b>                                 | Max 22 ag Avg   | Av                            | 950  <br>950  <br>375<br>375<br>375   | M<br>10 / 1<br>psi<br>psi<br>psi              | 1,050                                       | (p                         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1 Pump 2 Pump 3  | 699 y: Drill s): n Data: :                                     | 174.3<br>Collars<br>Off Bo<br>35 s<br>35 s<br>35 s                        | 1, s:  | lax<br>300.0<br>197.7<br>Rotate:            | 40 40 7 Drill F Mi 125 95 psi 95 psi 95 psi   | (lbs)<br>Max<br>Pipe:<br>scella<br>Pick t | 65   128.2   1 | RPM g / 70 70 filling Pa 50 Slact 9 Jars ng:             | 120  arame  k Off:  210 p  210 p  210 p  310                       | Ave   | 13   00   <b>Dra</b>                                 | Max 22 ag Avg   | Av                            | 950  <br>950  <br>375<br>375<br>375   | M<br>10 / 1<br>psi<br>psi<br>psi              | 1,050                                       | (p                         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1 Pump 2 Pump 3 Hours on BHA: Hours on Casing                  | 699   y: Drill s): n Data: : : : : : : : : : : : : : : : : : : | 174.3<br>Collars<br>Off Bo<br>35 s<br>35 s<br>35 s<br>Since<br>Rote       | ottom spm spm spm ce Ins                                 | lax<br>300.0<br>197.7<br>Rotate:            | 40 40 7 Drill F Mi 125 95 psi | (lbs)<br>Max<br>Pipe:<br>scella<br>Pick t | 65 128.2 Ineous DI Up: 15 45 spm 45 spm 45 spm tal:  | RPM g / 70 70 filling Pa 50 Slact 9 Jars ng:             | 120  arame  k Off:  210 p  210 p  210 p  310                       | eters 10 osi osi osi osi osi osi                  | 13   13   13   16   16   16   16   16                | ag Avg  | Av//Max:                      | 950   1   375   375   375   375   Insta   | M<br>10 / 1<br>psi<br>psi<br>psi              | 1,050                                       | (p                         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1 Pump 2 Pump 3 Hours on BHA: Hours on Casing                  | 699   y: Drill s): n Data: : : : : : : : : : : : : : : : : : : | 174.3 Collars Off Bo 35 s 35 s Since Rote Meas.                           | ottom spm spm ce Ins                                     | lax<br>300.0 197.1<br>Rotate:               | 95 psi 95 psi 9 9 / 0   | (lbs) Max Pipe: Scella Pick I             | 45 spm 45 spm 45 spm tal: Trippir  | RPM g / 70 70 rilling Pa 50 Slact 9 Jars ng: formati     | 120  arame  x Off:  210 p  210 p  210 p  3 / 0  on                 | eters 10 osi osi osi osi osi Vertica              | 13   13   13   16   16   16   16   16                | ag Avg  | Av                            | 950   1   375   375   375   1   1   1   1   1   1   1   1   1   | M<br>10 / 1<br>psi<br>psi<br>psi              | 1,050                                       | <b>q)</b>                  | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1: Pump 2: Pump 3: Hours on BHA: Hours on Casing               | 699 y: Drill s): n Data: : : : g/Liner:                        | Off Bo<br>35 s<br>35 s<br>35 s<br>Sinc<br>Rota                            | ottom spm spm ce Ins                                     | Rotate:                                     | 40 40 7 Drill F Mi 125 95 psi 95 psi 95 psi 97 0  | (lbs) Max Pipe: Scella Pick I             | 45 spm 45 spm 45 spm 45 spm 5 spm 45 spm 5 spm 45 spm 7 spm Trippir  | RPM g f 70 rilling Pa 50 Slaci 9 Jars ng: formati        | 120  arame  k Off:  210 p  210 p  210 p  3 / 0  on                 | eters 10 osi osi osi osi Verticc Section          | 13   13   10   10   10   10   10   10                | ag Avg  | Av//Max:                      | 950   1   375   375   375   Insta   | M  10 / 1  psi psi psi psi                    | 1,050<br>1,050<br>D.L                       | S.                         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1: Pump 2: Pump 3: Hours on BHA: Hours on Casing               | 699 y: Drill s): n Data: : : : : cycy                          | 174.3<br>Collars Off Bo 35 s 35 s Sinc Rote Meas. Depth 545.6             | MM 1,  | Spection                                    | 95 psi 95 psi 9 9 / 0  Azimutl 93.  | (lbs) Max Pipe: Scella Pick I             | 45 spm 45 spm 45 spm 45 spm 55 spm 45 spm 45 spm 45 spm 45 spm 45 spm  | RPM g 70 70 rilling Pa 50 Slaci 9 Jars ng: formati       | 120  arame  k Off:  210 p  210 p  210 p  3 / 0  on                 | eters 10 psi  | 9 13 13 100 Dra 60 60 60 10 N                        | ag Avg  | Av/Max:                       | 950   1   375   375   375   375   4   4   4   4   4   4   4   4   4   | M psi psi psi psi psi                         | 1,050<br>1,050<br>D.L                       | <b>S</b> .                 | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1; Pump 2; Pump 3; Hours on BHA: Hours on Casing  Surv Typ MWI | 699 y: Drill s): n Data: : : : cyey pee D D                    | 174.3 Collars Off Bo 35 s 35 s Sinc Rot: Meas. Depth 545.0 731.0          | MM 1, 1, s:: spm spm spm ce Insating                     | Section                                     | 95 psi 95 psi 97 0 97 0 97 0 97 0 97 0 97 1 97 1 97 1   | (lbs) Max Pipe: scella Pick I             | 45 spm 45 spm 45 spm 45 spm 545 spm 45 spm  | RPM g 70 70 rilling Pa 50 Slaci 9 Jars ng: formati Closu | 120  arame k Off:  210 p 210 p 210 p 3 / 0  on                     | eters  10  psi   psi   psi   psi   psi   psi   44 | 13   13   13   14   15   15   15   15   15   15   15 | ag Avg  | /Max: ushing                  | 950   1   375   375   375   375   4   1   1   1   1   1   1   1   1   1   | M psi psi psi psi psi psi                     | 1,050<br>15<br>D.L<br>0                     | <b>S</b> .<br>.513         | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1 Pump 2 Pump 3 Hours on BHA: Hours on Casing  MWI MWI         | 699 y: Drill s): n Data: : : : pg/Liner: pee D D D             | 174.3<br>Collars Off Bo 35 s 35 s Sinc Rot  Meas. Depth 545.0 731.0 822.0 | MM 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1              | Sepection                                   | 95 psi 95 psi 97 0 97 0 97 0 97 0 97 0 97 0 97 0 97   | (lbs) Max Pipe: Scella Pick I             | 45 spm 45 spm 45 spm 45 spm 545.0  TVD  545.0  731.0 822.0   | RPM g / 70 70 rilling Pa 50 Slaci 9 Jars ng: formati     | 120  arame k Off:  210 g 210 g 210 g 3 / 0 on  re  1.8 1.8         | eters  10  psi psi psi psi psi 44 44              | 13   13   13   14   15   15   15   15   15   15   15 | ag Avga<br>) spm<br>) spm<br>) spm<br>Vear B<br>Co<br>N-S<br>N 4.<br>N 4. | /Max: ushing ordina           | 950   1   375   375   375   1   1   1   1   1   1   1   1   1   | my my man | D.L<br>0.0000000000000000000000000000000000 | <b>S</b> . 513 .129 .187   | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1 Pump 2 Pump 3 Hours on BHA: Hours on Casing  MWI MWI MWI     | 699 y: Drill s): n Data: : : : //ey pee D D D D                | 174.3<br>Collars Off Bo 35 s 35 s Sinc Rots Depth 545.0 731.0 822.0       | MM 1, 1, sepon spm spm ce Insample spm 0 0 0 0 0 0 0 0 0 | Rotate:    Inc.   0.17   0.07   0.12   0.15 | 95 psi 95 psi 97 0 97 0 97 0 97 0 97 0 97 0 97 0 97   | (lbs) Max Pipe: scella Pick I             | 45 spm 45 spm 45 spm 45 spm 545.0  TVD  545.0  731.0  822.0  914.0   | RPM g f 70 rilling Pa 50 Slaci 9 Jars ng: formati        | 120  arame k Off:  210 p 210 p 210 p 3 / 0  on  re 4.8 4.8 4.8 5.0 | Ave   | 60 Dra 60 60 60 60 60 80 60 60                       | 22 ag Avg. ) spm ) spm ) spm ) spm  Near B  Co N-S N 4. N 4. N 5.         | Avushing                      | 950   1   375   375   375   375   E C C E C E C C E | M psi     | D.L<br>0<br>0<br>0                          | <b>S</b> . 513 129 187 138 | si)   |  |
| From To 433 2, Annular Velocity  Hook Loads (lbs Slow Circulation Pump 1 Pump 2 Pump 3 Hours on BHA: Hours on Casing  MWI MWI         | 699 y: Drill s): n Data: : : : cey D D D D D D                 | 174.3<br>Collars Off Bo 35 s 35 s Sinc Rot  Meas. Depth 545.0 731.0 822.0 | MM 1, 1, separating                                      | Sepection                                   | 95 psi 95 psi 97 0 97 0 97 0 97 0 97 0 97 0 97 0 97   | Max Pipe: Scella Pick I  Tot  h 9 8 4 6 3 | 45 spm 45 spm 45 spm 45 spm 545.0  TVD  545.0  731.0 822.0   | RPM g f 70 rilling Pa 50 Slaci 9 Jars ng: closu          | 120  arame k Off:  210 g 210 g 210 g 3 / 0 on  re  1.8 1.8         | Ave   | 13   13   13   14   15   15   15   15   15   15   15 | ag Avga<br>) spm<br>) spm<br>) spm<br>Vear B<br>Co<br>N-S<br>N 4.<br>N 4. | /Max: ushing ordina 8 8 8 8 8 | 950   1   375   375   375   1   1   1   1   1   1   1   1   1   | min       | D.L<br>0.0000000000000000000000000000000000 | <b>S</b> . 513 .129 .187   | si)   |  |



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Well Name: 78B-32

Field: UTAHFORGE Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No:     | 4       |             |             |              |            |             |               |           |              |           |            | Report  | For 30- | Jun-21 |
|----------------|---------|-------------|-------------|--------------|------------|-------------|---------------|-----------|--------------|-----------|------------|---------|---------|--------|
|                |         |             |             |              |            | Mud Log     | Information   | on        |              |           |            |         |         |        |
| Depth (f       |         |             | D (ft)      |              | Gas (Unit  |             | Ga            |           | Drilling     | Pore      | Mud        | Shale   |         | OP     |
| From           | То      | From        | То          | Avg          | Max        | at Depth    | Connect.      | Trip      | Ехр.         | Press     | Dens.      | Dens.   | Shale   | Sand   |
| 0              | 430     | 0           | 430         | 0 0          | 0          |             |               |           |              |           | 9.10       |         |         |        |
| Formation Na   |         |             |             |              |            |             |               |           |              |           |            |         |         |        |
| Lithology:     |         | 00% Alluv   |             |              |            |             |               |           |              |           |            |         |         |        |
| 430            | 2,430   | 430         | 2,430       | 0 0          | 0          |             |               |           |              |           |            |         |         |        |
| Formation Na   |         |             |             |              |            |             |               |           |              |           |            |         |         |        |
| Lithology:     |         | 00% Alluv   |             |              |            |             |               |           |              |           |            |         |         |        |
| 2,440          | 2,630   | 2,430       |             |              | 0          |             |               |           |              |           |            |         |         |        |
| Formation Na   |         |             |             |              |            |             |               |           |              |           |            |         |         |        |
| Lithology:     |         |             | 0% Alluviu  |              |            |             |               |           |              |           |            |         |         |        |
| 2,630          | 2,650   | 2,440       |             |              | 0          |             |               |           |              |           |            |         |         |        |
| Formation Na   | ame: 90 | )% Clay 1   | 0% Alluviu  | m            |            |             |               |           |              |           |            |         |         |        |
| Lithology:     | 10      | 00% Alluv   | ium         |              |            |             |               |           |              |           |            |         |         |        |
| 2,650          | 2,670   | 2,570       | ,           |              | 0          |             |               |           |              |           |            |         |         |        |
| Formation Na   | ame: 70 | )% Clay, 3  | 30% Rhyol   | ite          |            |             |               |           |              |           |            |         |         |        |
| Lithology:     | 10      | )-50% Rh    | yolite 50-9 | 0% Alluviu   | m          |             |               |           |              |           |            |         |         |        |
| 2,670          | 2,700   | 2,580       | 2,640       | 0            | 0          |             |               |           |              |           |            |         |         |        |
| Formation Na   | ame: 90 | )\$ Rhyolit | e, 10% Cla  | ay           |            |             |               |           |              |           |            |         |         |        |
| Lithology:     | 10      | 00% Alluv   | ium         |              |            |             |               |           |              |           |            |         |         |        |
|                |         |             |             |              |            | Rig In      | formation     |           |              |           |            |         |         |        |
| Equipment P    | roblems | : Gener     | ators overl | neating. cle | aned rad   | iators on a | ıll 3 gens.   |           |              |           |            |         |         |        |
| Location Con   | dition: | Good.       |             |              |            |             |               |           |              |           |            |         |         |        |
| Transport:     |         |             |             |              |            |             |               |           |              |           |            |         |         |        |
|                |         |             |             |              | Sol        | ids Cont    | rol Inform    | ation     |              |           |            |         |         |        |
| Screen Sizes   | :       | Тор         | Middle 1    | Middle 2     | Botto      | m           |               |           |              |           |            |         |         |        |
| Shaker No      | 1:      | 60          | 60          | 60           |            | 30          |               |           |              |           |            |         |         |        |
| Shaker No      | 2:      | 60          | 60          | 60           |            | 30          |               |           |              |           |            |         |         |        |
| Shaker No      | 3:      | 60          | 60          | 60           |            | 30          |               |           |              |           |            |         |         |        |
|                |         |             |             |              |            | Bulk        | Inventory     |           |              |           |            |         |         |        |
|                | li      | tem Type    | •           |              | U          | nits        | Beginning     | ı (       | Jsed         | Receive   | ed (       | On Hand |         | Net    |
| Rig Fuel       |         |             |             |              |            |             | 6,22          |           | 1,624        | 3         | ,500       | 8,0     | 96      | 1,876  |
|                |         |             |             |              |            | Drill Pip   | e Inventor    | У         | ·            |           | ·          |         |         |        |
| DP Size        | Joint   | s V         | /eight      | Grade        | 1          | hread       | DP Si         | ze        | Joints       | Weight    | : G        | Frade   | Thr     | ead    |
| 5"             |         | 114         | 19.5        | S-135        | 4.5IF      |             |               |           |              |           |            |         |         |        |
|                |         | 1           |             |              |            | Safety I    | nformatio     | n         |              |           |            |         |         |        |
| Meetings/Dril  | ls Tir  | me          |             |              |            | Descr       |               |           |              |           |            |         |         |        |
| Safety         |         |             | o 30 min P  | re tour safe | ety meetir |             | oth crews. Ti | rip hazar | ds, pinch po | ints, Wor | king at he | eights. |         |        |
| First Aid Trea | atments |             |             | al Treatm    | •          | •           | Lost Time     |           | •            |           | ays Sind   | _       |         |        |
| BOP Test       |         |             | wnamatic    |              |            |             |               |           |              | , L       |            |         |         |        |
|                |         |             |             | - CHOOK      | ,          | Weather     | Information   | nn .      |              |           |            |         |         |        |
| Sky Condition  | n· Pr   | artly Cloud | dv          |              |            |             | Visibility    |           | 10           |           |            |         |         |        |
| Air Temperat   |         | degF        | ч           |              |            |             | Bar. Pre      |           | 29.94        |           |            |         |         |        |
|                |         |             |             |              |            |             |               |           |              |           |            |         |         |        |
| Wind Speed/I   | oir: 10 | ) / W       |             |              |            |             | Wind Gu       | มรเร:     | 2            |           |            |         |         |        |
|                |         |             |             |              |            |             |               |           |              |           |            |         |         |        |
|                |         |             |             |              |            |             |               |           |              |           |            |         |         |        |
|                |         |             |             |              |            |             |               |           |              |           |            |         |         |        |
|                |         |             |             |              |            |             |               |           |              |           |            |         |         |        |
|                |         |             |             |              |            |             |               |           |              |           |            |         |         |        |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

| Report No: 5          |                     |                       |           |                    |            |          |                 | Report For | 01-Jul-21   |
|-----------------------|---------------------|-----------------------|-----------|--------------------|------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utah  | Rig: Fronti           | er Rig 16 | 6 Spud Date:       | 28-        | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft)   | : 2699              | Last Casing: 16.00    | 00 at 416 | 6 Wellbore:        | Original W | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 2699                | Next Casing: 11.750   | at 3,300  | 0 RKB Elevation    | (ft):      | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500                | Last BOP Test: 2      | 9-Jun-2   | 1 Job Reference    | RKB (ft):  |          |                 |            |             |
| Hole Made (ft) / Hrs: | 310 / 22.75         | Next BOP Test:        | 19-Jul-2  | 1 Working Interes  | st:        |          | Totals:         |            |             |
| Average ROP (ft/hr)   | : 13.63             | 3                     |           | LOT (lbs/gal):     |            | 0.58     | Well Cost (\$): |            |             |
| Drilling Days (act./p | lan): 5/21 <b>F</b> | lat Days (act./plan): | 0/9       | Total Days (act./p | olan):     | 5/30     | Days On Loca    | ition:     | 5           |
| Pers/Hrs: Opera       | tor: 3 / 36 C       | Contractor: 14        | 1 / 148   | Service:           | 4 / 48     | Other:   | 3 / 36          | Total:     | 24 / 268    |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Cleaned and cleared rig floor. Rigged up and ran 11 3/4" casing to 2,800' (report time)

**Planned Operations:** Run 11 3/4" casing to set depth. Rig down Casing crew.

Run in the hole with stab-in tool. Circulate and cement 11 3/4" casing.

Nipple down 20" BOPE. Steve Caldwell , Justin Bristol

Toolpusher: Virgil Welch, Brian Gresham Tel No.: 7132807438 Wellsite Supervisors:

|       |       |         |            |        | Operations Summary   |          |
|-------|-------|---------|------------|--------|--|----------|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description   | Non-Prod |
| 0:00  | 2:00  | 2.00    | 2,699      | 3-6-2  | Pulled out of the hole from 951' to Surface. Broke out bit and inspected MWD. No visible wear on roller reamer or stabs. Motor had minimal movement in bearing assembly. cleaned and cleared rig floor.  |          |
| 2:00  | 4:00  | 2.00    | 2,699      | 3-6-1  | Make up 14 3/4" Bit and trip in the hole with BHA to 951'.   |          |
| 4:00  | 5:15  | 1.25    | 2,699      | 10-6-3 | Trip in the hole from 951' to 2,699'.  |          |
| 5:15  | 15:30 | 10.25   | 3,009      | 3-2-3  | Drilled 14-3/4" hole from 2,699' to 3,009' with full returns.  |          |
| 15:30 | 16:00 | 0.50    | 3,009      | 3-2-3  | After making a hook ROP dropped from 15'/hour to 0'/hour. Perform step test from 5 to 30K no ROP / No change in diff pressure and no pressure loss and no hook load change but found excessive amounts of metal on ditch magnet mix dry job.   |          |
| 16:00 | 19:30 | 3.50    | 3,009      | 3-6-2  | Pulled out of the hole from 3,009' to 951' with no issues. hoe taking proper fill. Stopped and removed rotating rubber at 1,100'.  |          |
| 19:30 | 0:00  | 4.50    | 3,009      | 3-6-2  | Racked back HWDP. Racked back 8" drill collars. Laid out Cubic sensor, Diffuser st along with float sub. Pulled up and broke out bit. laid out the remaining RSS tools. (Note: Bit was 3.75" under gage, 3.5" of the center of the bit was washed out with 4 jets missing. RSS had signs of wear below the pads approximately .25" wide by .25 deep. No signs of wear on the stabilizers or roller reamer. Motor had approximately .25" of play in bearing assembly. | ,        |

#### **Management Summary**

Pulled out of the hole from 951' to Surface.

Picked up 14 3/4" PDC bit.

Tripped in the hole to 2,699'.

Drilled 14-3/4" hole from 2,699' to 3,009' with full returns. Decision was made to pull out of the hole at 3,009' due to low ROP.

Pulled out of the hole from 3,009' to surface.

Laid out RSS assembly. cleaned and cleared rig floor for casing run.

### Comments

Bit was 3.75" under gage with 3.5" of the center of the bit was washed out with 4 jets missing. RSS had signs of wear below the pads approximately 0.25" wide by 0.25" deep. No signs of wear on the stabilizers or roller reamer.

|        |        |        |              |         |              |           |             | C      | asing/1       | Γubula       | ır Info | rmatio       | n   |                  |       |                 |     |                 |     |               |
|--------|--------|--------|--------------|---------|--------------|-----------|-------------|--------|---------------|--------------|---------|--------------|-----|------------------|-------|-----------------|-----|-----------------|-----|---------------|
| Тур    | эе     |        | Size<br>ins) | To      | p MD<br>(ft) |           | TVD<br>(ft) |        | om MD<br>(ft) | Bottor<br>(f |         | Hol<br>Secti |     | OH Diaı<br>(ins) | m. No | om. Wg<br>(lbs) |     | ominal<br>Grade |     | LOT<br>s/gal) |
| FULL   |        |        | 16.00        | 00      |              | 0         |             |        | 416           |              |         | S            | URF | 22.0             | 000   | 6               | 35  | K-5             | 5   | 0.58          |
|        |        |        |              |         |              |           |             |        | Mu            | d Info       | rmatio  | n            |     |                  |       |                 |     |                 |     |               |
|        |        |        |              |         |              |           |             |        | %             |              |         |              |     |                  |       | Gels            |     | Te              | mp  | Mud           |
| Dens.  | Vis    | PV     | ΥP           | Filt.   | Cake         | pH/ES     | Solids      | Oil    | Water         | Sand         | LGS     | CI           | Ca  | CaCl             | 10s   | 10m             | 30m | ln              | Out | Loss          |
| 01-Jul | -21 20 | ):00 a | t Dept       | h 3,009 | ft Mu        | d Pits, T | ype: Lov    | v Soli | ds Non-l      | Dispers      | ed      |              |     |                  |       |                 |     |                 |     |               |
| 9.00   | 42     | 14     | 15           | 7.8     | 1            | 11        | 9           | 0      | 92            | 1            | 3.2     | 800          | 120 |                  | 5     | 9               | 16  | 116             | 109 |               |
|        |        |        |              |         |              |           |             |        |               |              |         |              |     |                  |       |                 |     |                 |     |               |



Well ID: Forge 78B-32

Field: UTAHFORGE

## **Geothermal Resource Group, Inc.**

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

|  |   |  |  |   |   |  |                                     |                 |               |             |                      | Repo            | rt Fo | r 01-J  | uI-Z |
|--|---|--|--|---|---|--|-------------------------------------|-----------------|---------------|-------------|----------------------|-----------------|-------|---------|------|
| Report No: 5   |   |  |  | N   | /lud Con                                    | sumables   |                                     |                 |               |             |                      | Поро            |       |         |      |
| Item D   | escription  | <br>າ  | Q  | ty.   | Cost  |  |                                     | m Desc          | ription       |             |                      | Qt              | y.    | Co      | st   |
| Barite - 100#SK  | •   |  |  | 20  |   | Engineer   | ing - EA                            | CH              | •             |             |                      |                 | 1     |         | _    |
| Gel - 100#SK   |   |  |  | 96  |   | perdiem  |                                     |                 |               |             |                      |                 | 1     |         | -    |
| Zanflow - 25#SK  |   |  |  | 5   |   | '  |                                     |                 |               |             |                      |                 |       |         |      |
|  |   |  |  | -   | /Worksti                                    | ring Infor   | mation                              |                 |               |             |                      |                 |       |         |      |
|  |   | Dr   | epth Th                                  | is Run  | R.O.P                                       |  | mation                              |                 | Mud           | Pı          | ımp                  |                 |       |         |      |
| No Run Make I  | Model D   |  | -  | t Hrs   |   | lax WOB  | RPM                                 | Torque          |               |             | •                    | l. Vel F        | . Drp | ННР     | JI   |
|  |   | 4.750  | 433 2,26                                 |   | 251.8                                       | 1102   |                                     | 4               |               |             |                      | 267             | 572   | 301     |      |
| ets: 15 15 15 15   |   |  | ıt: 2699                                 | Grade:  |   | 3/1 <b>D</b>   | ull: LT                             | /CT \           | Wear: N       | Brgs:       | X G                  |                 |       | Pull: F |      |
|  |   |  |  | 0 10.25   |   | 75.0 40  |                                     | 15              |               | 900 2       |                      | 267             | 572   | 301     |      |
| ets: 15 15 15 15   |   |  | ut: 3009                                 | Grade:  |   |  | ull: RG                             |                 | Wear: A       |             |                      |                 |       | Pull: F |      |
|  |   |  | ), 4 OTHER                               |   |   |  |                                     |                 |               | _           | ^ G                  | ge. s.          | 75    | ruii. r | -11  |
| DIA - NO. 4 - DII,   | OTHER, S  | OTAD, WIVVL  | J, 4 OTHER                               |   |   |  |                                     | O, HVVL         | JF - 930.0    | )           |                      |                 |       |         |      |
| B (1 (6)   |   | D (5(1) )  | 1000                                     |   | rilling Pa                                  | arameters  | •                                   |                 | (6( 11 )      |             | . ,                  | . , .           |       |         |      |
| Depth (ft)   |   | P (ft/hr)  |  | OB (lbs)  | A   | RPM  |                                     |                 | e (ft lbs)    |             |                      | gals/mi         | •     | Press   |      |
| From To  | Avg   | Max  | Avg                                      | Max   |   |  |                                     | Avg             | Max           |             | Avg                  | Ma              |       | (ps     |      |
| 2,699 3,009  |   |  |  | -   |   | 188  | 220                                 | 15              | 2             | 1           | 900                  |                 | 950   | 2       | ,587 |
| Annular Velocity: [  | Orill Collar  | rs:  |  | II Pipe:  | 129.3                                       |  |                                     |                 |               |             |                      |                 |       |         |      |
|  |   |  |  | _   |   | rilling Par  |                                     |                 |               |             |                      |                 |       |         |      |
| look Loads (lbs):  |   | ottom Rot  | ate: 14                                  | 45 Pick L   | Jp: 16                                      | 65 Slack (   | Off:                                | 135             | Drag Av       | g/Max:      |                      | 10 / 15         | 5     |         |      |
| Slow Circulation Da  |   |  |  |   |   |  |                                     |                 |               |             |                      |                 |       |         |      |
| Pump 1:  | 30  | spm  | 95 ps                                    |   | 45 spm                                      |  | 210 psi                             |                 | 60 spm        |             |                      | 0 psi           |       |         |      |
| Pump 2:  | 30  | spm  | 95 ps                                    | si  | 45 spm                                      | 2  | 210 psi                             |                 | 60 spm        |             | 35                   | 0 psi           |       |         |      |
| Pump 3:  | 30  | spm  | 95 ps                                    | si  | 45 spm                                      | :  | 210 psi                             |                 | 60 spm        |             | 35                   | 0 psi           |       |         |      |
| lours on BHA:  | Siı   | nce Inspec   | tion: 19.                                | 25 <b>Tot</b>                                     | <b>al:</b> 19.2                             | 25 Jars:   | C                                   |                 |               |             |                      |                 |       |         |      |
|  |   |  |  |   |   | ouis.  |                                     |                 |               |             |                      |                 |       |         |      |
| Hours on Casing/Lir  | ner: Ro   | tating:  | 19.25 <i>l</i> 1                         | 10.25   | Trippir                                     |  | 11/8                                |                 | Wear          | Bushin      | ng Insi              | talled          |       |         |      |
| Hours on Casing/Lir  |   |  | 19.25 <i>l</i> 1                         |   |   |  | 11/8                                |                 | Wear          | Bushin      | ng Ins               | talled          |       |         |      |
| Depth (ft)   |   | tating:  |  | Mı<br>as (Units)                                  | ud Log Ir                                   | ng:<br>nformatio<br>Gas  | 11/8<br>n                           | Drillin         |               |             |                      | talled<br>Shale |       | ROF     | •    |
| •  |   | D (ft)   | G<br>Avg                                 | Mı<br>as (Units)                                  | ud Log Ir                                   | ng:<br>nformatio   | 11/8<br><b>n</b>                    |                 | ng Por        | e M         | lud                  |                 | Sh    |         |      |
| Depth (ft)<br>  From   To   2,650   2,670  | TV<br>From<br>2,650   | To (ft) To 2,670   | Avg                                      | Mı<br>as (Units)                                  | ud Log Ir                                   | ng:<br>nformatio<br>Gas  | 11/8<br>n                           | Drillin<br>Exp. | ng Por        | e M<br>s De | lud                  | Shale           | Sh    |         |      |
| Depth (ft)<br>  From   To   2,650   2,670  | TV<br>From<br>2,650   | To (ft) To 2,670   | Avg                                      | Mı<br>as (Units)<br>Max a                         | ud Log Ir<br>t Depth                        | ng:<br>nformatio<br>Gas<br>Connect.  | n<br>Trip                           | Drillin<br>Exp. | ng Pore       | e M<br>s De | lud<br>ens.          | Shale           | Sha   |         |      |
| Depth (ft)<br>  From   To   2,650   2,670     Formation Name: 1  | TV<br>From<br>2,650   | To (ft) To 2,670   | Avg                                      | Mı<br>as (Units)<br>Max a                         | ud Log Ir<br>t Depth                        | ng:<br>nformatio<br>Gas<br>Connect.  | n<br>Trip                           | Drillin<br>Exp. | ng Pore       | e M<br>s De | lud<br>ens.          | Shale           | Sha   |         |      |
| Depth (ft)<br>  From   To   2,650   2,670     Formation Name: 1  | TV<br>From<br>2,650   | To (ft) To 2,670 yolite 50-90  | Avg 0 0 % Granite                        | Mı<br>as (Units)<br>Max a                         | ud Log Ir<br>t Depth                        | ng:<br>nformatio<br>Gas<br>Connect.  | n<br>Trip                           | Drillir<br>Exp  | ng Pore       | e M<br>s De | lud<br>ens.          | Shale           | Sh    |         |      |
| Depth (ft)  <br>  From   To  <br>  2,650   2,670  <br>  Formation Name: 1<br>  Lithology:   2,700  | TV<br>From<br>2,650<br>050% Rhy   | To (ft) To 2,670 yolite 50-90  | Avg 0 0 % Granite                        | Mu<br>as (Units)<br>Max a                         | t Depth                                     | ng:<br>nformatio<br>Gas<br>Connect.  | 11 / 8<br>n<br>s<br>Trip            | Drillir<br>Exp  | ng Poro       | e M<br>s De | lud<br>ens.<br>9.00  | Shale           | Sha   |         |      |
| Depth (ft)   From   To   2,650   2,670   | TV<br>From<br>2,650<br>050% Rhy   | To To 2,670 (rollite 50-90) 2,700  | Avg 0 0 % Granite                        | Mu<br>as (Units)<br>Max a                         | t Depth                                     | ng:<br>nformatio<br>Gas<br>Connect.  | 11 / 8<br>n<br>s<br>Trip            | Drillir<br>Exp  | ng Poro       | e M<br>s De | lud<br>ens.<br>9.00  | Shale           | Sha   |         |      |
| Depth (ft)   From   To   2,650   2,670   | TV<br>From<br>2,650<br>050% Rhy<br>2,670  | D (ft) To 2,670 /olite 50-90 2,700   | Avg 0 0 0 % Granite                      | Muas (Units) Max a 0                              | t Depth                                     | ng: nformatio Gas Connect. 0   | 11 / 8<br>n<br>s<br>Trip            | Drillir<br>Exp. | ng Poro       | e M<br>s De | 9.00                 | Shale           | Sh    |         |      |
| Depth (ft)   From   To   2,650   2,670   | TV<br>From<br>2,650<br>050% Rhy<br>2,670  | D (ft) To 2,670 /olite 50-90 2,700   | Avg 0 0 0 % Granite                      | Mu<br>as (Units)<br>Max a                         | t Depth                                     | ng:<br>nformatio<br>Gas<br>Connect.  | 11/8<br>n<br>s<br>Trip<br>0         | Drillir<br>Exp. | ng Pores      | e M<br>s De | lud<br>ens.<br>9.00  | Shale           | Sha   |         |      |
| Depth (ft)   From   To   2,650   2,670   | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700                                 | To To 2,670 colite 50-90 2,700 colite 50-90 3,000 colite 50-90 3,000 colite 50-90 c | Avg 0 0 0 % Granite                      | Muas (Units) Max a 0                              | t Depth                                     | ng: nformatio Gas Connect. 0   | 11/8<br>n<br>s<br>Trip<br>0         | Drillir<br>Exp. | ng Pores      | e M<br>s De | 9.00                 | Shale           | Sh    |         |      |
| Depth (ft)   From   To   2,650   2,670   Cormation Name: 1.ithology: 2,670   2,700   Cormation Name: 1.ithology: 1   2,700   3,000   Cormation Name: 1   2,700 | TV<br>From<br>2,650<br>050% Rhy<br>2,670  | To To 2,670 colite 50-90 2,700 colite 50-90 3,000 colite 50-90 3,000 colite 50-90 c | Avg 0 0 0 % Granite                      | Muas (Units) Max a 0                              | t Depth 0                                   | ng: nformatio Gas Connect. 0   | 11/8<br>n<br>s<br>Trip<br>0         | Drillir<br>Exp. | ng Pores      | e M<br>s De | 9.00                 | Shale           | Sha   |         |      |
| Depth (ft)   From   To   2,650   2,670   | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700                                 | D (ft) To 2,670 /olite 50-90 2,700 iite 3,000  | Avg 0 0 0 % Granite 0 0                  | Muas (Units) Max a  0  0                          | t Depth  0  0  Rig Info                     | ng: nformatio Gas Connect. 0 0   | 11 / 8<br>n<br>s<br>Trip<br>0       | Drillir<br>Exp. | ng Pores      | e M<br>s De | 9.00                 | Shale           | Sha   |         |      |
| Depth (ft)   From   To   2,650   2,670   | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran                     | D (ft) To 2,670 /olite 50-90 2,700 iite 3,000  | Avg 0 0 0 % Granite                      | Muas (Units) Max a  0  0                          | t Depth  0  0  Rig Info                     | ng: nformatio Gas Connect. 0 0   | 11 / 8<br>n<br>s<br>Trip<br>0       | Drillir<br>Exp. | ng Pores      | e M<br>s De | 9.00                 | Shale           | Sha   |         |      |
| Depth (ft) From To 2,650 2,670 Formation Name: 1 Lithology: 2,670 2,700 Formation Name: Lithology: 1 2,700 3,000 Formation Name: Lithology: 1 Equipment Problem Location Condition:  | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran                     | D (ft) To 2,670 /olite 50-90 2,700 iite 3,000  | Avg 0 0 0 % Granite 0 0                  | Muas (Units) Max a  0  0                          | t Depth  0  0  Rig Info                     | ng: nformatio Gas Connect. 0 0   | 11 / 8<br>n<br>s<br>Trip<br>0       | Drillir<br>Exp. | ng Pores      | e M<br>s De | 9.00                 | Shale           | Sha   |         |      |
| Depth (ft) From To 2,650 2,670 Formation Name: 1 Lithology: 2,670 2,700 Formation Name: Lithology: 1 2,700 3,000 Formation Name: Lithology: 1 Equipment Problem Location Condition:  | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran                     | D (ft) To 2,670 /olite 50-90 2,700 iite 3,000  | Avg 0 0 0 % Granite 0 0                  | as (Units) Max a 0 0 0                            | t Depth 0 0 Rig Info                        | ng: nformatio Gas Connect. 0 0 0 ormation higher pum                       | 11 / 8 n 5 Trip 0 0                 | Drillir<br>Exp. | ng Pores      | e M<br>s De | 9.00                 | Shale           | Sh    |         |      |
| Depth (ft) From To 2,650 2,670 Formation Name: 1 Lithology: 2,670 2,700 Formation Name: Lithology: 1 2,700 3,000 Formation Name: Lithology: 1 Equipment Problem Location Condition: Fransport:   | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran<br>s: Gener<br>Good | To   2,670   2,670   2,700   2,700     3,000   | Avg 0 % Granite 0 0 0 g issues with      | Muas (Units) Max a 0 0 0 th over hea              | t Depth 0 0 Rig Info                        | ng: nformatio Gas Connect. 0 0 ormation higher pum                         | Trip 0 0 p rates.                   | Drillin Exp.    | ng Pores      | e M<br>s De | 9.00                 | Shale           | Sha   |         |      |
| Depth (ft) From To 2,650 2,670 Formation Name: 1 Lithology: 2,670 2,700 Formation Name: Lithology: 1 2,700 3,000 Formation Name: Lithology: 1 Equipment Problem Location Condition: Fransport:  Screen Sizes:  | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran<br>S: Gener<br>Good | D (ft) To 2,670 /olite 50-90 2,700 iite 3,000 materials and selection an | Avg 0 0 0 % Granite 0 0 0 Middle 2       | as (Units) Max a  0  0  th over hea  Solid Bottom | t Depth 0 0 Rig Info                        | ng: nformatio Gas Connect. 0 0 0 ormation higher pum                       | Trip 0 0 p rates.                   | Drillin Exp.    | ng Pores      | e M<br>s De | 9.00                 | Shale           | Sha   |         |      |
| Depth (ft) From To 2,650 2,670 Formation Name: 1 Lithology: 2,670 2,700 Formation Name: Lithology: 1 2,700 3,000 Formation Name: Lithology: 1 Equipment Problem Location Condition: Transport: Screen Sizes: Shaker No 1:  | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran<br>Good             | D (ft) To 2,670 /olite 50-90 2,700 iite 3,000 iite Tators havin Middle 1   | Avg  O O  % Granite  O O  Middle 2       | th over heat                                      | t Depth  0  0  Rig Info                     | ng: nformatio Gas Connect. 0 0 ormation higher pum ol Informatopment Usa   | n Trip 0 0 p rates.                 | Drillin Exp.    | ng Pore. Pres | e M<br>s De | 9.00<br>9.00         | Shale<br>Dens.  |       |         |      |
| Depth (ft) From To 2,650 2,670 Formation Name: 1 Lithology: 2,670 2,700 Formation Name: Lithology: 1 2,700 3,000 Formation Name: Lithology: 1 Equipment Problem Location Condition: Fransport:  Screen Sizes:  | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran<br>S: Gener<br>Good | D (ft) To 2,670 /olite 50-90 2,700 iite 3,000 materials and selection an | Avg 0 0 0 % Granite 0 0 0 Middle 2       | as (Units) Max a  0  0  th over hea  Solid Bottom | t Depth  0  0  Rig Info                     | ng: nformatio Gas Connect. 0 0 ormation higher pum                         | n Trip 0 0 p rates.                 | Drillin Exp.    | ng Pore. Pres | e M<br>s De | 9.00<br>9.00         | Shale           |       |         |      |
| Depth (ft) From To 2,650 2,670 Formation Name: 1 Lithology: 2,670 2,700 Formation Name: Lithology: 1 2,700 3,000 Formation Name: Lithology: 1 Equipment Problem Location Condition: Fransport: Screen Sizes: Shaker No 1:  | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran<br>Good             | D (ft) To 2,670 /olite 50-90 2,700 iite 3,000 iite Tators havin Middle 1   | Avg  O O  % Granite  O O  Middle 2       | th over heat                                      | t Depth  O  Rig Info ating with I           | ng: nformatio Gas Connect. 0 0 ormation higher pum ol Informatopment Usa   | n Trip 0 0 p rates.                 | Drillin Exp.    | ng Pore. Pres | e M<br>s De | 9.00<br>9.00         | Shale<br>Dens.  |       |         |      |
| Depth (ft) From To 2,650 2,670 Formation Name: 1 Lithology: 2,670 2,700 Formation Name: Lithology: 1 2,700 3,000 Formation Name: Lithology: 1 Equipment Problem Location Condition: Transport: Screen Sizes: Shaker No 1: Shaker No 2:   | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran<br>S: Gener<br>Good | D (ft) To 2,670 colite 50-90 2,700 dite 3,000 dite material material for the following for the following for the following following for the following for t | Avg 0 0 0 % Granite 0 0 0 Middle 2 60 60 | th over heat                                      | Rig Info                                    | ng: nformatio Gas Connect. 0 0 ormation higher pum ol Informatopment Usa   | n Trip 0 0 p rates.                 | Drillin Exp.    | ng Pore. Pres | e M<br>s De | 9.00<br>9.00         | Shale<br>Dens.  |       |         |      |
| Depth (ft) From To 2,650 2,670 Formation Name: 1 Lithology: 2,670 2,700 Formation Name: Lithology: 1 2,700 3,000 Formation Name: Lithology: 1 Equipment Problem Location Condition: Transport: Screen Sizes: Shaker No 1: Shaker No 2:   | TV<br>From<br>2,650<br>050% Rhy<br>2,670<br>00% Gran<br>2,700<br>00% Gran<br>S: Gener<br>Good | To   | Avg 0 0 0 % Granite 0 0 0 Middle 2 60 60 | th over heat                                      | t Depth 0 0 Rig Info ating with Equip Centr | ng: nformatio Gas Connect.  0  0  ormation higher pum ol Informa oment Usa | n Trip 0 0 p rates.  ation ge (Hrs) | Drillin Exp.    | ng Pore. Pres | e M<br>s De | 9.00<br>9.00<br>9.00 | Shale<br>Dens.  |       |         | San  |



**Geothermal Resource Group, Inc.** 

Well ID: Forge 78B-32

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Sect: 32 Town: 26 Rng: 9W Cour

| Report No: 5 Report For 01-Jul-21 |          |            |                 |                      |                  |               |                 |                |             |  |
|-----------------------------------|----------|------------|-----------------|----------------------|------------------|---------------|-----------------|----------------|-------------|--|
| Drill Pipe Inventory              |          |            |                 |                      |                  |               |                 |                |             |  |
| DP Size Jo                        | oints    | Weight     | Grade           | Thread               | DP Size          | Joints        | Weight          | Grade          | Thread      |  |
| 5"                                | 114      | 19.5       | S-135           | 4.5IF                |                  |               |                 |                |             |  |
|                                   |          |            |                 | Safety In            | formation        |               |                 |                |             |  |
| Meetings/Drills                   | Time     |            |                 | Descrip              | tion             |               |                 |                |             |  |
| Safety                            | 60       | Two 30 min | Pre tour safety | y meetings with both | n crews. Handlin | g BHA, Trippi | ing pipe, Riggi | ng up and runn | ing casing. |  |
| First Aid Treatme                 | nts:     | 0 Med      | ical Treatmei   | nts: 0               | Lost Time Incid  | lents:        | 0 <b>Days</b>   | Since LTI:     |             |  |
| BOP Test                          | <b>✓</b> | Crownamati | c Check         |                      |                  |               |                 |                |             |  |
|                                   |          |            |                 | Weather In           | nformation       |               |                 |                |             |  |
| Sky Condition:                    | Clear    |            |                 |                      | Visibility:      | 10            | 1               |                |             |  |
| Air Temperature:                  | 70 degF  | =          |                 |                      | Bar. Pressure    | : 29.83       |                 |                |             |  |
| Wind Speed/Dir:                   | 6 / NNV  | V          |                 |                      | Wind Gusts:      | 1             |                 |                |             |  |



**Geothermal Resource Group, Inc.** 

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

Report For 02-Jul-21

Well Name: 78B-32

| Report No: 6         |                    |                  |                   |                  |             |         |                 | Report For | 02-Jui-21   |
|----------------------|--------------------|------------------|-------------------|------------------|-------------|---------|-----------------|------------|-------------|
| Operator:            | University of Uta  | ah <b>Rig</b> :  | Frontier Rig 1    | 6 Spud Date:     | 28-J        | un-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (f    | t): 300            | 09 Last Casing   | : 11.750 at 2,99  | 0 Wellbore:      | Original We | ellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft): | 300                | 09 Next Casing   | : 7.000 at 8,50   | 0 RKB Elevation  | າ (ft):     | 30.40   |                 |            |             |
| Proposed TD (ft):    | 950                | 00 Last BOP Te   | est: 29-Jun-2     | 1 Job Reference  | RKB (ft):   |         |                 |            |             |
| Hole Made (ft) / Hrs | s: 0/0             | 0.0 Next BOP To  | est: 19-Jul-2     | 1 Working Inter  | est:        |         | Totals:         |            |             |
| Average ROP (ft/h    | r):                |                  |                   |                  |             |         | Well Cost (\$): |            |             |
| Drilling Days (act./ | <b>plan):</b> 6/21 | Flat Days (act./ | <b>plan):</b> 0/9 | Total Days (act. | /plan):     | 6/30    | Days On Loca    | ition:     | 6           |
| Pers/Hrs: Oper       | ator: 3 / 36       | Contractor:      | 14 / 168          | Service:         | 4 / 48      | Other:  | 7 / 84          | Total:     | 28 / 336    |
|                      |                    |                  |                   |                  |             |         |                 |            |             |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Installing 13 5/8" 5M BOPE. (report time) Nipple up 13 5/8" 5M BOPE. Test BOPE. **Planned Operations:** Run in the hole and lay down 5" drill pipe. Pick up and rack back 5.5" drill pipe.

Toolpusher: Steve Caldwell, Justin Bristol

Wellsite Supervisors: Virgil Welch, Brian Gresham Tel No.: 7132807438

| Operat | ions S | Summarv |  |
|--------|--------|---------|--|
|        |        |         |  |

| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description Non-  | -Proc |
|-------|-------|---------|------------|--------|--|-------|
| 0:00  | 0:30  | 0.50    | 3,009      | 3-97   | Cleaned and cleared rig floor of 14 3/4" handling tools.   |       |
| 0:30  | 1:00  | 0.50    | 3,009      | 10-98  | Hold detailed safety meeting with Wyoming Casing Service/Rig crew along with GRG representative.   |       |
| 1:00  | 2:00  | 1.00    | 3,009      | CASE   | Rig up 11 3/4" casing running equipment.   |       |
| 2:00  | 8:30  | 6.50    | 3,009      | CASE   | Run 11 3/4", 54 lbs/ft, J-55 BTC casing as follows:. Float Shoe, 2-joints, Float collar followed by 71-joints. Landed out with 31' landing joint to set depth of 2,989.99' Total casing ran 2,958.99' Shoe set 2,984.70 KB. Float Collar 2,903.97' KB.   |       |
| 8:30  | 9:00  | 0.50    | 3,009      | CASE   | Rig down casing crew   |       |
| 9:00  | 9:30  | 0.50    | 3,009      | SERV   | Service rig  |       |
| 9:30  | 11:30 | 2.00    | 3,009      | CMTP   | Install valve in wellhead, rig up pumps in cellar, 4 bolt BOP  |       |
| 11:30 | 12:30 | 1.00    | 3,009      | TRPI   | Trip in hole with stab-in  |       |
| 12:30 | 13:30 | 1.00    | 3,009      | CIRC   | Circulate bottoms upo  |       |
| 13:30 | 14:30 | 1.00    | 3,009      | CMTP   | Rig up cement crew and held JSA  |       |
| 14:30 | 16:30 | 2.00    | 3,009      | CMTP   | Pump 2 bbl water, pressure test lines to 3000 psi, pump 52 bbls fresh water, @ 6bpm, 20 bbl mud clean, @ 6 bpm, 10 bbl fresh water @ 6bpm-HTHSLD atr 6 bpm, nix and pump 315 bbl RC-Thermalite (cement to surface at 300 bbl, Displace with 3 bbl water and 47 bbl drilling mud, check floats, CIP @ 16:00 |       |
| 16:30 | 18:00 | 1.50    | 3,009      | CMTP   | Un-sting and trip out of the hole with stab-in to surface.   |       |
| 18:00 | 21:00 | 3.00    | 3,009      | ВОРО   | Nipple down 21-1/4" BOPE and set out.  |       |
| 21:00 | 23:45 | 2.75    | 3,009      | WELLHD | Installed temporary 11 3/4" x 13 5/8 " SOW flange. Test to 1,000 psi. Good test.   |       |
| 23:45 | 0:00  | 0.25    | 3,009      | 2-14   | Installed 13 5/8" 5M BOPE stack.   |       |

#### **Management Summary**

Cleaned and cleared rig floor.

Held safety meeting.

Rigged up and ran 11 3/4" casing with shoe depth of 2,899.99' KB.

Rigged down casing crew.

Ran in the hole with stab-in tool.

Rigged up Resource cementing and cemented casing with 315 bbl RC-Thermalite cement. Had good cement to surface. CIP @ 16:00.

Rigged down Resource cementing.

Pulled out of the hole with stab-in tool.

Nippled down 21-1/4" BOPE.

Installed temporary 11 3/4" x 13 5/8 " SOW flange. Test to 1,000 psi. Good test. Installed 13 5/8" 5m BOPE stack.

### Comments

CIP @ 1600 HRS.

Good cement to surface.



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Sect: 32 Town: 26 Rng: 9W County: Beaver St

| Report No  | : 6           |                |                 |                   |                    |                |            |               |                   | Rep       | ort F         | or 02- | Jul-21        |
|--|---------------|----------------|-----------------|-------------------|--------------------|----------------|------------|---------------|-------------------|-----------|---------------|--------|---------------|
|  |               |                |                 | Casing/           | Tubular Info       | mation         |            |               |                   |           |               |        |               |
| Туре   | Size<br>(ins) | Top MD<br>(ft) | Top TVD<br>(ft) | Bottom MD<br>(ft) | Bottom TVD<br>(ft) | Hole<br>Sectio |            | Diam.<br>ins) | Nom. Wgt<br>(lbs) |           | minal<br>rade |        | LOT<br>s/gal) |
| FULL   | 16.000        | 0              |                 | 416               |                    | SU             | IRF        | 22.000        | 6                 | 55        | K-5           | 5      | 0.58          |
| FULL   | 11.750        | 0              |                 | 2,990             |                    | II             | NT1        | 14.750        | 5                 | 54        | J-5           | 5      |               |
|  |               |                |                 |                   | ud Informatio      | n              |            |               |                   |           |               |        |               |
|  |               |                |                 | %                 |                    |                |            |               | Gels              |           | Ter           | np     | Mud           |
| Dens. Vis  |               | •              |                 |                   | r Sand LGS         | CI             | Ca C       | CI 10         | )s 10m            | 30m       | ln            | Out    | Loss          |
|  |               | 3,009 ft Mud P | • •             |                   |                    |                |            |               |                   |           |               |        |               |
| 8.90 43  | 43 29         | 7.8 1          | 10.5 7          | 93 0              |                    | 900            | 120        |               | 5 9               | 16        | 109           | 118    |               |
|  |               |                |                 |                   | d Consumab         |                |            |               |                   |           |               |        |               |
|  | Item Desc     | ription        | Qt              | •                 | ost                |                | tem Desc   | ription       |                   |           | Qty.          |        | Cost          |
| Engineering  | - EACH        |                |                 | 1                 |                    | m - OTH        | ER         |               |                   |           | 1             |        |               |
|  |               |                |                 | Ri                | ig Informatio      | n              |            |               |                   |           |               |        |               |
| Equipment Problems: Replaced HYD hose on top drive.  |               |                |                 |                   |                    |                |            |               |                   |           |               |        |               |
| Location Condition: Good.  |               |                |                 |                   |                    |                |            |               |                   |           |               |        |               |
| Transport:   |               | Received 2- 10 | 5/8" nov bit's. |                   |                    |                | V. sent in | 20" dou       | ble gate alo      | ng with s | spacer        | spools |               |
|  |               |                |                 |                   | Control Infor      |                |            |               |                   |           |               |        |               |
| Screen Size  |               | p Middle 1     |                 | Bottom            | Equipment U        | sage (Hr       | s):        |               |                   |           |               |        |               |
| Shaker I   |               | 60 60          |                 | 60                |                    |                |            |               |                   |           |               |        |               |
| Shaker I   |               | 60 60          |                 | 60                | Centrifuge 1:      | 6 (Solid       | s Remov    | al)           | Centrif           | uge 2:    | 6 (Solid      | is Rem | noval)        |
| Shaker I   | No 3:         | 60 60          | 60              | 60                |                    |                |            |               |                   |           |               |        |               |
|  | 14            | . <b></b> .    |                 |                   | Bulk Inventory     |                | 11         |               | ! !               | 0:: 11-   |               |        | 1 - 4         |
| Dia Fuel   | Iten          | n Type         |                 | Units             | Beginnir           | ıg             | Used       | Ke            | ceived            | On Ha     |               | N      | let           |
| Rig Fuel   |               |                |                 | Drill             | l Pipe Invente     | 2 K2 /         |            |               | 3,500             | •         | 3,500         |        |               |
| DP Size  | Joints        | Weight         | Grade           | Threa             |                    | •              | Joints     | \/\/          | eight             | Grade     |               | Thre   | ad            |
| 5"   |               |                | S-135           | 4.5IF             | iu Dr              | J126           | Jonnes     | ***           | rigint            | Grade     |               | 11116  | au            |
|  | 11            | 10.0           | 0 100           |                   | ety Informati      | on             |            |               |                   |           |               |        |               |
| Meetings/D   | rills Time    |                |                 |                   | escription         | 011            |            |               |                   |           |               |        |               |
| Safety   | 60            | Two 30 min F   | Pre tour safet  |                   | •                  | Running        | casing C   | ementin       | a Handling        | BOPE      |               |        |               |
| Safety 60 Two 30 min Pre tour safety meetings with both crews. Running casing, Cementing, Handling BOPE.  First Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Days Since LTI: |               |                |                 |                   |                    |                |            |               |                   |           |               |        |               |
| BOP Te   |               | _              |                 |                   | o Lost III         | ne mora        | U1110.     |               | o Days or         |           | •             |        |               |
|  | [V            |                |                 | Wea               | ther Informat      | ion            |            |               |                   |           |               |        |               |
| Sky Condit   | ion: Clear    |                |                 | 1100              | Visibil            |                |            | 10            |                   |           |               |        |               |
| Air Temper   |               |                |                 |                   |                    | ressure:       | 29         |               |                   |           |               |        |               |
| Wind Speed   |               | •              |                 |                   | Wind (             |                | 20         | 2             |                   |           |               |        |               |
|  | , -,          |                |                 |                   |                    |                |            | -             |                   |           |               |        |               |



## Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 7          |                   |                |              |                 |                |               |          |                 | Report For | <sup>r</sup> 03-Jul-21 |
|-----------------------|-------------------|----------------|--------------|-----------------|----------------|---------------|----------|-----------------|------------|------------------------|
| Operator:             | University of Uta | h <b>Ri</b> ç  | g:           | Frontier Rig 1  | 6 Spud Date:   | 28-           | Jun-21   | Daily Cost / M  | lud (\$):  |                        |
| Measured Depth (ft    | ): 300            | 9 <b>La</b> :  | st Casing:   | 11.750 at 2,99  | 00 Wellbore:   | Original V    | Vellbore | AFE No.         | AFE (\$)   | Actual (\$)            |
| Vertical Depth (ft):  | 300               | 9 <b>Ne</b>    | xt Casing:   | 7.000 at 8,50   | 00 RKB Elevat  | ion (ft):     | 30.40    |                 |            |                        |
| Proposed TD (ft):     | 950               | 00 <b>La</b> s | st BOP Test  | t: 03-Jul-2     | Job Refere     | nce RKB (ft): |          |                 |            |                        |
| Hole Made (ft) / Hrs  | : 0/0             | .0 <b>Ne</b>   | xt BOP Tes   | t: 24-Jul-2     | 21 Working Int | erest:        |          | Totals:         |            |                        |
| Average ROP (ft/hr)   | ):                |                |              |                 | LOT (lbs/ga    | l):           | 11.70    | Well Cost (\$): |            |                        |
| Drilling Days (act./p | olan): 7/21       | Flat D         | ays (act./pl | <b>an):</b> 0/9 | Total Days (a  | ct./plan):    | 7/30     | Days On Loca    | ation:     | 7                      |
| Pers/Hrs: Opera       | tor: 3 / 36       | Contr          | ractor:      | 14 / 168        | Service:       | 4 / 48        | Other:   | 7 / 84          | Total:     | 28 / 336               |
|                       |                   |                |              |                 |                |               |          |                 |            |                        |

Safety Summary: No incidents or events reported. Conducted BOP Test, Crown Check, Safety Meeting.

**Current Operations:** Picked up 5.5" drill pipe from 740' to 2,900'.

Filled Pipe.

Drilled out shoe track from 2,902' to 2,989'.

Perform FIT. **Planned Operations:** 

Pull out of the hole.

Pick up 10 5/8" RSS assembly.

Trip in the hole. Drill 10 5/8" hole.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary  |
|-------|-------|---------|------------|--------|---|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description Non-Pro  |
| 0:00  | 7:00  | 7.00    | 3,009      | 2-14   | Installed BOP as followed. 11.75" x 13 5/8" 2M Spacer spool. 13 5/8" 5M mud cross, 5M Double gates, 13 5/8" 5M Annular, 13 5/8" Riser with rotating head. Installed inner and outer choke and kill valves. Installed choke and kill lines. Torqued all flanges. (Note: removed variable 3.5"x 5" ram blocks and installed 5.5" ram blocks)  |
| 7:00  | 11:30 | 4.50    | 3,009      | 2-15   | #1 Test Blind rams, check valve, casing and 3 choke valves to 250 low pressure for 5 min and 1000 psi high pressure for 30 min, #2 Test pipe rams, outside kill side mud cross and 3 choke valves to 250 psi low pressure for 5 min and 1000 psi high pressure for 10 min, #3Test Bag, inside kill mud cross and 3 choke valves to 250 psi low pressure for 5 min and 1000 psi high pressure for 10 min #4 Test HCR valve to 250 psi low pressure for 5 min and 1000 psi high pressure for 10 min #5 Test inside choke side mud cross valve to 250 psi for 5 min and 1000 psi for 10 min. All test are good   |
| 11:30 | 15:00 | 3.50    | 3,009      | 3-34-2 | RIH with 5 stands of 5" HWDP and 20 stands of 5" DP / POH laying down DP and transporting to 16A for inspection / excessive over torque.  |
| 15:00 | 17:30 | 2.50    | 3,009      | 4-34-2 | RIH with same 5 stands of HWDP and remaining 18 stands of 5" drill pipe / Laid down 54 joints of 5" drill pipe and 15 joints of 5" HWDP and transport to 16A for inspection / excessive over torque  Note: When laying down 5" DP every 3rd joint that had not been serviced ( due to making only 2 trips ) was extremely over torqued (55-70K) more than double max torque due to extreme drilling parameters.  SD-80 unable to break so manual tongs were utilized teamed by 2 air tuggers to break the connection and ultimately had to go to a 4 part break line after the torque cylinder was destroyed. |
| 17:30 | 18:00 | 0.50    | 3,009      | SERV   | Serviced rig.   |
| 18:00 | 21:00 | 3.00    | 3,009      | OTHER  | Rebuild I-BOP with new 6 5/8" X 6 5/8" sub. Installed 6 5/8" X 5.5" X/O lower Valve. Installed saver sub. Installed torque clamps.  |
| 21:00 | 23:00 | 2.00    | 3,009      | 3-34-1 | Transport 5.5" HWDP along with 71-joints of 5.5" drill pipe from 16A location to rig site. Load racks and strap same.   |
| 23:00 | 0:00  | 1.00    | 3,009      | 3-34-3 | Make up 10 5/8" drill out assembly as followed. 10 5/8" Mill Tooth. 8 1/8" Junk Basket. 3-Stands of 8" DC. 5-Stands of 5.5" HWDP.   |

#### **Management Summary**

Nipple up and test 13 5/8' 5M BOPE.

Ran in the hole with 5" HWDP and 5" drill pipe to 2,327'.

Laid out 5" drill pipe to HWDP.

Ran in the hole with remaining 18 stands of drill pipe and laid out same.

Serviced rig.

Changed out saver sub.



Well ID: Forge 78B-32

Field: UTAHFORGE

## **Geothermal Resource Group, Inc.**

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 7 Report For 03-Jul-21

Transported 5.5" drill pipe from 16A to rig site. Loaded racks with 5.5" drill pipe, strapped same. Made up 10 5/8" drill out assembly.

#### Comments

Test out all BOPE to 300 psi low and 1,000 psi high, all test good. Pressure test results were sent to Jim Goddard (State Engineer)

| Pressur   | re tes                     | t resu | lts wer      | e sent  | to Jim       | Goddard   | d (State    | Engin  | eer)          |              |        |              |      |        |      |                  |     |                 |     |               |
|---|----------------------------|--------|--------------|---------|--------------|-----------|-------------|--------|---------------|--------------|--------|--------------|------|--------|------|------------------|-----|-----------------|-----|---------------|
|   | Casing/Tubular Information |        |              |         |              |           |             |        |               |              |        |              |      |        |      |                  |     |                 |     |               |
| Туре  | е                          |        | Size<br>ins) | To      | p MD<br>(ft) | •         | TVD<br>(ft) |        | om MD<br>(ft) | Bottor<br>(f |        | Hol<br>Secti |      | OH Dia | m. N | lom. Wg<br>(lbs) |     | ominal<br>Grade |     | LOT<br>s/gal) |
| FULL  |                            |        | 16.00        | 0       | (            | )         |             |        | 416           |              |        | S            | URF  | 22.0   | 000  | 6                | 35  | K-5             | 5   | 0.58          |
| FULL  |                            |        | 11.75        | 0       | (            | )         |             |        | 2,990         |              |        |              | INT1 | 14.7   | 750  | 5                | 54  | J-5             | 5   | 11.70         |
|   | Mud Information            |        |              |         |              |           |             |        |               |              |        |              |      |        |      |                  |     |                 |     |               |
|   | % Gels Temp Mud            |        |              |         |              |           |             |        |               |              |        |              |      |        |      |                  |     |                 |     |               |
| Dens.   | Vis                        | PV     | ΥP           | Filt.   | Cake         | pH/ES     | Solids      | Oil    | Water         | Sand         | LGS    | CI           | Ca   | CaCl   | 10s  | 10m              | 30m | In              | Out | Loss          |
| 03-Jul-2  | 21 14                      | :00 a  | t Deptl      | า 3,009 | ft Mud       | l Pits, T | ype: Lov    | w Soli | ds Non-       | Dispers      | sed    |              |      |        |      |                  |     |                 |     |               |
| 8.80  | 41                         | 15     | 9            | 8.8     | 1            | 10        | 6           | 0      | 94            | 0.25         | 2.1    | 800          | 120  |        | 3    | 6                | 8   | 85              | 85  |               |
|   | Mud Consumables            |        |              |         |              |           |             |        |               |              |        |              |      |        |      |                  |     |                 |     |               |
| Item Description Qty. Cost Item Description Qty. Cost |                            |        |              |         |              |           |             |        |               |              |        |              |      |        |      |                  |     |                 |     |               |
| Engine  | ering                      | - EAC  | H            |         |              |           |             | 1      |               |              | perdie | m - OTI      | HER  |        |      |                  |     | 1               |     |               |
| Truckin   | g - E/                     | 4CH    |              |         |              |           |             | 1      |               |              |        |              |      |        |      |                  |     |                 |     |               |

#### **Bit/BHA/Workstring Information**

**BHA -** No. 5 - BIT, JUNK, 9 DC, XO, 15 HWDP = 739.12

#### Rig Information

**Equipment Problems:** None. **Location Condition:** Good.

Transport:

| Solids | Control | Information |
|--------|---------|-------------|
|--------|---------|-------------|

| Screen Sizes: | Тор | Middle 1 | Middle 2 | Bottom |  |
|---------------|-----|----------|----------|--------|--|
| Shaker No 1:  | 60  | 60       | 60       | 60     |  |
| Shaker No 2:  | 60  | 60       | 60       | 60     |  |
| Shaker No 3:  | 60  | 60       | 60       | 60     |  |

| Bulk In | ventory |
|---------|---------|
|---------|---------|

| Item Type | Units | Beginning | Used | Received | On Hand | Net |
|-----------|-------|-----------|------|----------|---------|-----|
| Rig Fuel  |       | 8,752     |      |          | 8,752   |     |

|  |  | Drill Pipe | inventory |
|--|--|------------|-----------|
|  |  |            |           |

| DP Size | Joints | Weight | Grade | Thread | DP Size | Joints | Weight | Grade | Thread |  |  |
|---------|--------|--------|-------|--------|---------|--------|--------|-------|--------|--|--|
| 5"      | 114    | 19.5   | S-135 | 4.5IF  |         |        |        |       |        |  |  |
|         |        |        |       |        |         |        |        |       |        |  |  |

### **Safety Information**

| I | Meetings/Drills   | Time  |        |                             | Descri      | otion                         |          |                            |
|---|-------------------|-------|--------|-----------------------------|-------------|-------------------------------|----------|----------------------------|
|   | Safety            | 60    | Two 30 | min Pre tour safety meeting | gs with bot | h crews. Cementing, laying do | wn drill | pipe, forklift operations. |
|   | First Aid Treatme | ents: | 0      | Medical Treatments:         | 0           | Lost Time Incidents:          | 0        | Days Since LTI:            |

**✓** BOP Test **✓** Crownamatic Check

| Weather Information |         |                      |  |  |  |  |  |  |  |  |  |
|---------------------|---------|----------------------|--|--|--|--|--|--|--|--|--|
| Sky Condition:      | Clear   | Visibility: 10       |  |  |  |  |  |  |  |  |  |
| Air Temperature:    | 75 degF | Bar. Pressure: 29.78 |  |  |  |  |  |  |  |  |  |
| Wind Speed/Dir:     | 10 / S  | Wind Gusts: 2        |  |  |  |  |  |  |  |  |  |



**Geothermal Resource Group, Inc.** 

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 8          |                    |                    |                |                 |             |          |                 | Report For | 04-Jul-21   |
|-----------------------|--------------------|--------------------|----------------|-----------------|-------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utah | n Rig:             | Frontier Rig 1 | 6 Spud Date:    | 28-         | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft    | 3456               | Last Casing:       | 11.750 at 2,99 | 0 Wellbore:     | Original W  | /ellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 3009               | Next Casing:       | 7.000 at 8,50  | 0 RKB Elevation | n (ft):     | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500               | Last BOP Tes       | t: 03-Jul-2    | 1 Job Reference | e RKB (ft): |          |                 |            |             |
| Hole Made (ft) / Hrs  | 447 / 10.5         | Next BOP Tes       | t: 24-Jul-2    | 1 Working Inter | est:        |          | Totals:         |            |             |
| Average ROP (ft/hr)   | : 42.57            | 7                  |                | LOT (lbs/gal):  |             | 11.70    | Well Cost (\$): |            |             |
| Drilling Days (act./p | lan): 8/21 F       | Flat Days (act./pl | lan): 0/9      | Total Days (act | ./plan):    | 8/30     | Days On Loca    | ition:     | 8           |
| Pers/Hrs: Opera       | tor: 3 / 36 C      | Contractor:        | 14 / 168       | Service:        | 6 / 72      | Other:   | 2 / 24          | Total:     | 25 / 300    |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Drilling 10 5/8" hole section at 3,628'.

Planned Operations: Drill 10 5/8" hole section to 3,622'. Possibly trip to pick up conventional assembly with 1.5 deg motor due to build in angle.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

| Operations Summary |       |         |            |        |   |         |  |  |  |  |  |
|--------------------|-------|---------|------------|--------|---|---------|--|--|--|--|--|
| From               | То    | Elapsed | End MD(ft) | Code   | Operations Description N  | on-Prod |  |  |  |  |  |
| 0:00               | 4:00  | 4.00    | 3,009      | 3-34-1 | Picked up 5.5" drill pipe from 740' to 2,900'.  |         |  |  |  |  |  |
| 4:00               | 4:15  | 0.25    | 3,009      | 3-5-1  | Lined up mud pumps and shakers. Filled pipe.  |         |  |  |  |  |  |
| 4:15               | 6:00  | 1.75    | 3,009      | 3-28   | Drilled out shoe track from 2,902' to 2,989'. Good cement in shoe track from 2,922' to shoe. Observed 4' off good cement outside of the shoe. Cleaned out rat hole from 2,989' to 3,009'. | )       |  |  |  |  |  |
| 6:00               | 7:00  | 1.00    | 3,009      | 3-46   | Perform FIT. Gradient of 0.61 psi/ft with EQM of 11.7 ppg   |         |  |  |  |  |  |
| 7:00               | 9:30  | 2.50    | 3,009      | 3-6-4  | POH and lay down junk sub and bit.  Junk basket had nine pieces of metal, small in size 0.5" by .5".  |         |  |  |  |  |  |
| 9:30               | 10:00 | 0.50    | 3,009      | 4-34-3 | Picked up Directional Tools and PDC   |         |  |  |  |  |  |
| 10:00              | 11:00 | 1.00    | 3,009      | OTHER  | Repaired depth tracker in crown with Pason  |         |  |  |  |  |  |
| 11:00              | 12:00 | 1.00    | 3,009      | 4-34-3 | Picked up directional Tools and PDC   |         |  |  |  |  |  |
| 12:00              | 12:30 | 0.50    | 3,009      | SERV   | Serviced Rig.   |         |  |  |  |  |  |
| 12:30              | 13:30 | 1.00    | 3,009      | OTHER  | Broke off TIW and saver sub / welded saver sub to TIW and reinstalled same.   |         |  |  |  |  |  |
| 13:30              | 16:00 | 2.50    | 3,009      | TRPI   | Triped in hole to 3,009'. torqued every connection to 42K on 5.5" drill pipe.   |         |  |  |  |  |  |
| 16:00              | 0:00  | 8.00    | 3,456      | 3-2-3  | Drilled 10 5/8" section from 3,009' to 3,456'. Performed rotary step from 3,230' to 3,260'. Performed weight on bit step test from 3,265' to 3,291'.                                      |         |  |  |  |  |  |

#### **Management Summary**

Picked up 5.5" drill pipe from 740' to 2,900'.

Lined up mud pumps and shakers. Filled pipe.

Drilled out shoe track from 2,902' to 2,989'.

Performed FIT.

Pulled out of the hole and laid out bit and junk basket. Found a few small pieces of bit debris in junk basket from last 14 3/4" bit run.

Picked up 10 5/8" RSS assembly.

Repaired depth tracker in crown with Pason.

Continued picking up 10 5/8" RSS assembly.

Broke off TIW and saver sub and tack welded saver sub to TIW and reinstalled same.

Tripped in hole to 3,009'.

Drilled 10 5/8" section from 3,009' to 3,456'.

#### Comments

Observed 70' of good cement throughout shoe track.

4' of good cement outside of shoe track.

Torque all 5.5" drill pipe to 42K.

Performed rotary step from 3,230' to 3,260'.

Performed weight on bit step test from 3,265' to 3,291'.

Pumped 100 bbl's of fresh water down at 3,430' with ROP increased 85-95% once water hit the bit. ROP dropped back down once water cleared the



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Report For 04-Jul-21

| Report No          | ): 8   |            |                |               |             |                |           |            |         |                 |         |       |         |       |                 | Re     | port Fo       | or 04-J | ul-21        |
|--------------------|--|------------|----------------|---------------|-------------|----------------|-----------|------------|---------|-----------------|---------|-------|---------|-------|-----------------|--------|---------------|---------|--------------|
| bit.<br>Lost commu | ınicatio   | n with N   | //WD at 3,3    | 346'. Trou    | ble shoo    | t commu        | ınicatior | issue:     | S.      |                 |         |       |         |       |                 |        |               |         |              |
|                    |  |            | <u> </u>       |               |             | Cas            | ing/Tu    | bular      | Inforr  | natio           | n       |       |         |       |                 |        |               |         |              |
| Туре               |  | ize<br>ns) | Top ME<br>(ft) |               | TVD<br>(ft) | Bottom<br>(ft) | MD B      | ottom (ft) | TVD     | Hole<br>Section |         | OH [  |         |       | n. Wgt.<br>Ibs) |        | minal<br>rade |         | OT<br>s/gal) |
| FULL               |  | 16.000     | , ,            | 0             |             | •              | 416       |            |         | S               | URF     | 2     | 2.000   |       | 65              | 5      | K-55          | 5       | 0.61         |
| FULL               |  | 11.750     |                | 0             |             | 2              | ,990      |            |         |                 | INT1    | 1     | 4.750   |       | 54              | 4      | J-55          | 5       | 11.70        |
|                    |  |            |                | <u> </u>      | ,           |                | Mud       | Inforn     | natior  | 1               |         |       |         |       |                 |        |               |         |              |
|                    |  |            |                |               |             | %              |           |            |         |                 |         |       |         |       | Gels            |        | Ten           | np      | Mud          |
| Dens. Vis          | PV   | YP F       | ilt. Cake      | pH/ES         | Solids      | Oil W          | later S   | and L      | .GS     | CI              | Ca      | Ca    | CI 10   | 0s    | 10m             | 30m    | In            | Out     | Loss         |
| 04-Jul-21 20       | 0:30 at  | Depth :    | 3,341 ft M     | ud Pits, T    | ype: Lov    | v Solids       | Non-Dis   | spersed    | t       |                 |         |       |         |       |                 |        |               |         |              |
| 8.70 39            | 9  | 10         | 9.4            | 1 10.5        | 6           | 0              | 94 (      | 0.25       | 1.6     | 900             | 250     |       |         | 4     | 5               | 11     | 105           | 114     |              |
|                    |  |            |                |               |             |                | Mud C     | onsu       | mable   | s               |         |       |         |       |                 |        |               |         |              |
|                    | Item   | Descri     | ption          |               | Qt          | y.             | Cost      |            |         |                 | Item I  | Descr | ption   |       |                 |        | Qty.          | C       | ost          |
| Bicarb - 50#       | <sup>‡</sup> SK  |            |                |               |             | 12             |           | C          | austic  | Soda -          | - 50#S  | K     |         |       |                 |        | 2             |         |              |
| DeFoam 14          | - GAL  |            |                |               |             | 2              |           | [          | Desco ( | CF - 25         | 5#SK    |       |         |       |                 |        | 2             |         |              |
| Engineering        | - EAC  | Н          |                |               |             | 1              |           | F          | lowZa   | n - 25#         | #SK     |       |         |       |                 |        | 6             |         |              |
| pallets - OT       | HER  |            |                |               |             | 1              |           | p          | erdien  | ı - OTH         | HER     |       |         |       |                 |        | 1             |         |              |
|                    |  |            |                |               | ·           | Bit/BH         | A/Wor     | kstrin     | g Info  | rmati           | on      |       |         |       |                 |        |               |         |              |
|                    | Bit/BHA/Workstring Information  Depth This Run R.O.P. Mud Pump |            |                |               |             |                |           |            |         |                 |         |       |         |       |                 |        |               |         |              |
| No Run M           | lake   | Mode       | l Diam         | In            | Dis         | t Hrs          | Avg       | Max        | WO      | B RP            | M To    | que   | Wt      | Flow  | Press           | J. Ve  | I P. Dr       | HHP     | JIF          |
| 5 1 VA             | REL \  | √M-1       | 10.625         | 300           | 9           | 0 1.5          | 0.0       |            | 1       | 0               | 50      | 6     | 9       | 600   | 1300            | 107    | 88            | 31      | 285          |
| Jets: 28 2         |  |            |                | Out: 3        | 3009        | Grade:         | Cutter    | : 1.       | /1 I    | Dull: V         | VT / No | O   W | lear: A |       | <b>gs</b> : 0   | _      |               | Pull: I | BHA          |
| 6 1 NO             | V -  | TKC83      | 10.625         | 300           | 9 28        | 2 8            | 35.2      |            |         |                 |         |       | 9       | 800   | 2330            | 278    | 596           | 278     | 991          |
| <b>Jets:</b> 12 1: | 2 12   | 12 12      | 12 13 1        | 3 <b>Out:</b> |             | Grade:         | Cutter    | : .        | / I     | Dull:           | /       | W     | ear:    | Br    | gs:             | Gge:   |               | Pull:   |              |
| <b>BHA -</b> No. 6 | S - BI   | T, OTHI    | ER, STAB,      | MWD, 4        | OTHER       | , MMTR,        | RR, FL    | OAT, 2     | 2 OTH   | ER, DO          | C, XO,  | HWDI  | P = 966 | 6.88  |                 |        |               |         |              |
|                    |  |            |                |               |             |                | Drilling  | g Para     | mete    | rs              |         |       |         |       |                 |        |               |         |              |
| Depth              | (ft)   |            | ROP (ft/h      | ır)           | WC          | B (lbs)        |           | ı          | RPM     |                 | To      | orque | (ft lbs | )     |                 | (gals/ | min)          | Pres    | sure         |
| From               | То   |            |                | Max           | Avg         | Ma             | x         | Avg        | N       | lax             | A۱      | /g    | Max     | x     | Avg             |        | Max           | (p:     | si)          |
| 3,009              | 3,4  |            | 35.0           | 150.0         | 5           | 5              | 65        | 4          | 5       | 65              |         | 7     |         | 9     | 8               | 00     | 815           | 2       | 2,181        |
| Annular Ve         | locity:  | Drill C    | Collars:       | 478.          |             | I Pipe:        | 23        |            |         |                 |         |       |         |       |                 |        |               |         |              |
|                    |  |            |                |               | ı           | Viscella       | aneous    | Drilli     | ing Pa  | arame           | ters    |       |         |       |                 |        |               |         |              |
| Hook Load          | s (lbs):   |            | Off Bottor     | n Rotate      | : 18        | 5 Pick         | Up:       | 195        | Slack   | Off:            | 1       | 75    | Drag A  | Avg/M | lax:            | 5 /    | 10            |         |              |
| Slow Circu         | lation I   | Data:      |                |               |             |                |           |            |         |                 |         |       |         |       |                 |        |               |         |              |
| Pu                 | mp 1:  |            | 30 spm         |               | 110 ps      |                | 40 s      | pm         |         | 215 p           |         |       | 50 sp   | m     |                 | 311 ps |               |         |              |
| Pu                 | mp 2:  |            | 30 spm         |               | 110 ps      | i              | 40 s      | pm         |         | 215 p           |         |       | 50 sp   | m     |                 | 311 ps | i             |         |              |
| Pu                 | mp 3:  |            | 30 spm         |               | 110 ps      | i              | 40 s      | pm         |         | 215 p           | osi     |       | 50 sp   | m     | ;               | 311 ps | i             |         |              |
| Hours on B         | HA:  |            | Since Ir       | spection      | n: 27.      | 25 <b>T</b> o  | tal: 2    | 27.25      | Jars    | :               | 0       |       |         |       |                 |        |               |         |              |
| Hours on E         |  |            |                |               |             | -              |           | -          |         | •               | -       |       |         |       |                 |        |               |         |              |



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 8

Report For 04-Jul-21

| Report No     | : 8       |            |             |             |           |               |               |           |                |          |          | Repoi                   | t For 04  | -Jul-21 |
|---------------|-----------|------------|-------------|-------------|-----------|---------------|---------------|-----------|----------------|----------|----------|-------------------------|-----------|---------|
|               |           |            |             |             |           |               | Informatio    | n         |                |          |          |                         |           |         |
| Depth         | (ft)      | TV         | D (ft)      |             | Gas (Ur   |               | Ga            |           | Drilling       | Pore     | Mud      | Shale                   | R         | OP      |
| From          | То        | From       | То          | Avg         | Max       | at Depth      | Connect.      | Trip      | Exp.           | Press    | Dens.    | Dens.                   | Shale     | Sand    |
| 2,700         | 3,040     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Formation N   | lame:     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Lithology:    | 10        | 00% Gran   | ite         |             |           |               |               |           |                |          |          |                         |           |         |
| 3,040         | 3,190     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Formation N   | lame:     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Lithology:    | 60        | )-100% H   | ornblende   | Quartz Mo   | onzodiori | ite, 0-40% G  | Granite       |           |                |          |          |                         |           |         |
| 3,190         | 3,330     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Formation N   | lame:     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Lithology:    | 10        | 00% Gran   | iite        |             |           |               |               |           |                |          |          |                         |           |         |
| 3,330         | 3,380     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Formation N   | lame:     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Lithology:    | 10        | 00% Quai   | tz Monzod   | iorite      |           |               |               |           |                |          |          |                         |           |         |
| 3,380         | 3,420     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Formation N   |           |            |             |             | 1         | 1             |               |           |                |          |          |                         |           |         |
| Lithology:    |           | 00% Gran   | odiorite    |             |           |               |               |           |                |          |          |                         |           |         |
| 3,420         | 3,470     |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Formation N   |           |            |             |             |           |               |               |           |                |          |          |                         |           |         |
| Lithology:    |           | 00% Quai   | tz Monzod   | iorite      |           |               |               |           |                |          |          |                         |           |         |
|               |           | 70 70 Quai | LE IVIONEO  |             |           | Ria In        | formation     |           |                |          |          |                         |           |         |
| Equipment     | Drobloms  | · None     |             |             |           | i tig iii     | ioiiiiatioii  |           |                |          |          |                         |           |         |
| Location Co   |           | Good.      |             |             |           |               |               |           |                |          |          |                         |           |         |
| Transport:    | manuon.   |            | ved 7" floa | t oguinmoi  | nt        |               |               |           |                |          |          |                         |           |         |
| ransport:     |           | Recei      | ved / IIOa  | t equipmei  |           | alida Cant    | rol Inform    | -4!       |                |          |          |                         |           |         |
| 00'           |           | T          | Mariana 4   | NA1-1-11-   |           |               |               |           | \-             |          |          |                         |           |         |
| Screen Size   |           | Тор        | Middle 1    | Middle      |           |               | ipment Usa    | ige (Hrs  | ) <del>:</del> |          |          |                         |           |         |
| Shaker N      |           | 60         | 60          | 60          |           | 60            |               | 0 (0 1: 1 | <b>D</b> "     |          |          | • 40                    | (O II I D |         |
| Shaker N      |           | 120        | 120         | 80          |           |               | ntrifuge 1: 1 | 2 (Solid  | s Removal)     |          | Centrifu | ge 2: 12                | (Solids R | emoval) |
| Shaker N      | 10 3:     | 120        | 120         | 80          | )         | 80            | _             |           |                |          |          |                         |           |         |
|               |           |            |             |             |           |               | Inventory     |           |                |          |          |                         |           |         |
|               | Į:        | tem Type   | )           |             |           | Units         | Beginning     |           | Jsed           | Receive  |          | On Hand                 |           | Net     |
| Rig Fuel      |           |            |             |             |           |               | 8,75          |           | 1,711          | 3        | ,502     | 10,5                    | 43        | 1,791   |
|               |           |            |             |             |           |               | e Inventor    |           |                |          |          |                         |           |         |
| DP Size       | Joint     |            | Veight      | Grade       |           | Thread        | DP Siz        | ze        | Joints         | Weight   | : (      | Brade                   | Thr       | ead     |
| 5.5           |           | 194        | 24.7        | S-135       | 5.5       |               |               |           |                |          |          |                         |           |         |
|               |           |            |             |             |           | Safety I      | nformation    | 1         |                |          |          |                         |           |         |
| Meetings/Dr   | rills Tii | me         |             |             |           | Descr         | iption        |           |                |          |          |                         |           |         |
| Safety        |           | 60 Tw      | o 30 min P  | re tour sat | ety mee   | tings with bo | oth crews. Tr | ipping p  | ipe, Handlin   | g BHA, H | ouse kee | eping, Tri <sub>l</sub> | o hazards |         |
| First Aid Tre | eatments  | •          | 0 Medi      | cal Treatn  | nents:    | 0             | Lost Time     | Incide    | nts:           | 0 🗖      | ays Sin  | ce LTI:                 |           |         |
| BOP Tes       | st        | ✓ Cro      | wnamatic    | Check       |           |               |               |           |                |          |          |                         |           |         |
|               |           |            |             |             |           | Weather       | Informatio    | n         |                |          |          |                         |           |         |
| Sky Conditi   | on: Pa    | artly Clou | dy          |             |           |               | Visibility    |           | 10             |          |          |                         |           |         |
| Air Tempera   |           | degF       |             |             |           |               | Bar. Pres     |           | 29.78          |          |          |                         |           |         |
| Wind Speed    |           | / SW       |             |             |           |               | Wind Gu       |           | 2              |          |          |                         |           |         |
| -             |           |            |             |             |           |               |               |           |                |          |          |                         |           |         |



Pers/Hrs:

### **Daily Drilling Report**

Geothermal Resource Group, Inc.

6 / 72 **Total**:

Well Name: 78B-32

29 / 348

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

6 / 72 Other:

| Report No: 9            |                    |                      |               |                      |                  |                 | Report For | 05-Jul-21   |
|-------------------------|--------------------|----------------------|---------------|----------------------|------------------|-----------------|------------|-------------|
| Operator:               | University of Utah | Rig: Fro             | ontier Rig 16 | Spud Date:           | 28-Jun-21        | Daily Cost / Mu | d (\$):    |             |
| Measured Depth (ft):    | 3730               | Last Casing: 11.     | 750 at 2,990  | Wellbore: O          | riginal Wellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):    | 3009               | Next Casing: 7.      | 000 at 8,500  | RKB Elevation (f     | t): 30.40        |                 |            |             |
| Proposed TD (ft):       | 9500               | Last BOP Test:       | 03-Jul-21     | Job Reference R      | KB (ft):         |                 |            |             |
| Hole Made (ft) / Hrs:   | 274 / 14.0         | Next BOP Test:       | 24-Jul-21     | Working Interest     | :                | Totals:         |            |             |
| Average ROP (ft/hr):    | 19.57              |                      |               | LOT (lbs/gal):       | 11.70            | Well Cost (\$): |            |             |
| Drilling Days (act./pla | an): 9/21 <b>F</b> | lat Days (act./plan) | : 0/9         | Total Days (act./pla | an): 9/30        | Days On Locati  | ion:       | 9           |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

3 / 36 Contractor:

Current Operations: Drilling 10 5/8" hole section at 4,260'.

Planned Operations:Drill 10 5/8" hole section.Toolpusher:Steve Caldwell , Justin Bristol

Operator:

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

14 / 168 **Service**:

| Operations Summary |       |         |            |        |   |          |  |  |  |  |  |  |
|--------------------|-------|---------|------------|--------|---|----------|--|--|--|--|--|--|
| From               | То    | Elapsed | End MD(ft) | Code   | Operations Description N  | lon-Prod |  |  |  |  |  |  |
| 0:00               | 5:00  | 5.00    | 3,582      | 3-2-3  | Drilled 10 5/8" section from 3,456' to 3,582'.  Pumped 100 bbl's of fresh water down at 3,557', ROP increased 85-95% once water hit the bit. ROP dropped back down once water cleared the bit. Reduced pump rate from 800 to 775 per Texas A&M advisor. |          |  |  |  |  |  |  |
| 5:00               | 5:30  | 0.50    | 3,582      | 3-5-1  | Circulated while discussing survey of 3.75 deg with team. Decision was made to drill 40' of new hole and take a check shoot.  |          |  |  |  |  |  |  |
| 5:30               | 6:00  | 0.50    | 3,602      | 3-2-3  | Drilled 10 5/8" section from 3,582' to 3,602'.  |          |  |  |  |  |  |  |
| 6:00               | 7:30  | 1.50    | 3,651      | 3-2-3  | Drilled 10-5/8" hole from 3,602' to 3,651'.   |          |  |  |  |  |  |  |
| 7:30               | 8:00  | 0.50    | 3,651      | CIRC   | Take check shot and confirm steerable not working / circ and pump slug  |          |  |  |  |  |  |  |
| 8:00               | 12:00 | 4.00    | 3,651      | 3-6-4  | POH to change out directional assembly.   |          |  |  |  |  |  |  |
| 12:00              | 13:30 | 1.50    | 3,651      | 4-34-4 | Lay down rotary steerable assembly and bit  |          |  |  |  |  |  |  |
| 13:30              | 14:30 | 1.00    | 3,651      | 4-34-3 | Picked up 1.5 deg bent assembly   |          |  |  |  |  |  |  |
| 14:30              | 16:00 | 1.50    | 3,651      | 3-6-3  | RIH to shoe   |          |  |  |  |  |  |  |
| 16:00              | 21:30 | 5.50    | 3,651      | OTHER  | Transferred mud from 78B-32 to sump @ 58-32 / cleaned pits / filled pits with water to prepare for change over.   |          |  |  |  |  |  |  |
| 21:30              | 22:00 | 0.50    | 3,651      | 3-6-3  | RIH from 2900' to 3,645'.   |          |  |  |  |  |  |  |
| 22:00              | 23:00 | 1.00    | 3,651      | 3-5-1  | Filled pipe and change hole over to fresh water with a total of 3,800 strokes at 486 gpm.   |          |  |  |  |  |  |  |
| 23:00              | 23:30 | 0.50    | 3,681      | 3-2-3  | Slide drill 10 5/8" hole from 3,651' to 3,681'.   |          |  |  |  |  |  |  |
| 23:30              | 0:00  | 0.50    | 3,730      | 3-2-3  | Drilled 10-5/8" hole from 3,681' to 3,730'  |          |  |  |  |  |  |  |

#### **Management Summary**

Drilled 10 5/8" section from 3,456' to 3,582'.

Circulated while discussing survey of 3.75 deg with team.

Drilled 10 5/8" section from 3,582' to 3,651'.

Took check shot and confirm steerable not working.

Circulated and pumped slug.

Pulled out of the hole to change out directional assembly.

Laid down rotary steer-able assembly and bit.

Picked up 1.5 deg bent assembly.

Tripped in the hole to 2,900'.

Transferred mud from 78B-32 to sump @ 58-32 / cleaned pits / filled pits with water to prepare for change over.

Tripped in the hole from 2900' to 3,645'.

Filled pipe and change hole over to fresh water.

Slide drilled 10 5/8" hole with water from 3,651' to 3,681'.

Drilled 10-5/8" hole from 3,681' to 3,730'.

### Comments

Performed weight on bit step test at 3,711'.

Performed RPM step test at 3,820'.



**MWD** 

**MWD** 

3,642.0

3,737.0

3.93

1.10

218.3

218.9

3,641.6

3,736.5

9.4

13.4

-4.7

-8.0

S 4.7

S 8.0

W 8.2

W 10.8

0.498

2.979

## **Daily Drilling Report**

Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Well Name: 78B-32 Field: UTAHFORGF Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT Report No: 9 Report For 05-Jul-21 Casing/Tubular Information Size Top MD Top TVD Bottom MD Bottom TVD OH Diam. Nom. Wgt. Nominal LOT Type (ins) Section (ins) (lbs) Grade (lbs/gal) FULL 16.000 0 416 SURF 22.000 65 K-55 0.61 0 2.990 **FULL** 11.750 INT1 14.750 54 J-55 11.70 **Mud Information** Gels Temp Mud Filt. Cake pH/ES Solids Oil Water Sand LGS CaCI 10s 10m 30m Out Ca In Loss 05-Jul-21 23:00 at Depth 3,651 ft Mud Pits, Type: Low Solids Non-Dispersed 600 90 8.30 0 120 1 1 1 114 **Mud Consumables Item Description** Item Description Qty. Cost Qty. Cost Barite - 100#SK 40 Engineering - EACH FlowZan - 25#SK 22 pallets - OTHER 2 perdiem - OTHER **Bit/BHA/Workstring Information** R.O.P. Mud Pump Depth This Run No Run Make Model Diam In Dist Hrs WOB RPM Torque Wt Flow Press J. Vel P. Drp HHP Avg Max 25.8 1 NOV 15 800 2495 278 278 TKC83 10.625 3009 387 65.0 65 40 991 Wear: A Jets: 12 12 12 12 12 13 13 Out: 3651 Grade: Cutter: 1/1 Dull: WT/NO Brgs: X Gge: 0 Pull: DTF 7 1 NOV TKC83 10.625 79.0 79.0 2510 278 265 3651 79 55 60 11 8 800 569 945 Jets: 13 13 12 12 12 12 12 12 Out: Grade: Cutter: 1 Dull: Wear: Brgs: Gge: Pull: BHA - No. 7 - BIT, MMTR, STAB, MWD, 2 OTHER, STAB, MONEL, 3 OTHER, DC, XO, HWDP = 960.36 **Drilling Parameters** Depth (ft) ROP (ft/hr) WOB (lbs) Torque (ft lbs) Flow (gals/min) **Pressure RPM** Avg From To Max Max Max Avg Max Avg Max (psi) Avg Avg 3,651 3,730 130.0 157.0 45 65 60 60 12 14 800 830 2,460 Annular Velocity: Drill Collars: 478.0 **Drill Pipe:** 231.0 Slide drilled 10 5/8" hole from 3,651' to 3,681'. Comments: Miscellaneous Drilling Parameters Hook Loads (lbs): Off Bottom Rotate: 196 **Pick Up**: 199 Slack Off: Drag Avg/Max: 5000 / 8000 **Slow Circulation Data:** 30 spm 40 spm Pump 1: 110 psi 215 psi 50 spm 311 psi Pump 2: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi 50 spm Pump 3: 30 spm 110 psi 40 spm 215 psi 311 psi Hours on BHA: Since Inspection: 35.25 Total: 35.25 0 Jars: Hours on Casing/Liner: Rotating: 18 *I* Tripping: Wear Bushing Installed 14 *I* **Survey Information** Survey Meas. Vertical Coordinates Type Depth Inc. **Azimuth** TVD Closure Section N-S E-W D.L.S. 3,384.0 0.76 3,384.0 N 4.1 0.794 **MWD** 228.4 4.2 4.1 E 0.9 **MWD** 3,480.0 2.55 232.0 3,479.9 2.7 2.4 N 2.4 W 1.3 1.867 S 1.3 **MWD** 3.93 223.2 3,574.8 5.3 -1.3 W 5.2 1.539 3,575.0



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Report For 05-Jul-21

|  |  |  |  |  |  | u Log                       | Informatio  | n  |   |                   |                       |                         |           |                  |
|--|--|--|--|--|--|-----------------------------|---|--|---|-------------------|-----------------------|-------------------------|-----------|------------------|
| Depth (f   |  |  | D (ft)                                   |  | Gas (Units)  |                             | Gas   |  | Drilling  | Pore              | Mud                   | Shale                   |           | ROP              |
| From   | То   | From   | То                                       | Avg  | Max at I   | Depth                       | Connect.  | Trip   | Exp.  | Press             | Dens.                 | Dens.                   | Shale     | Sand             |
| 3,520  | 3,560  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ormation Na  |  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ithology:  |  | 0-60% Qu                                       | artz Monzo                               | diorite 40   | -80% Granod  | iorite                      |   |  |   |                   |                       |                         |           |                  |
| 3,570  | 3,580  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ormation Na  |  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ithology:  |  | 00% Quar                                       | tz Monzodi                               | orite  |  |                             |   |  |   |                   |                       |                         |           |                  |
| 3,590  | 3,630  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ormation Na  |  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ithology:  |  | 0% Quartz                                      | z Monzodio                               | rite 80% (   | Grandodiorite  |                             |   |  |   |                   |                       |                         |           |                  |
| 3,640  | 3,730  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ormation Na  | ame:   |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ithology:  |  | 00% Quar                                       | tz Monzodi                               | orite  |  |                             |   |  |   |                   |                       |                         |           |                  |
| 3,330  | 3,380  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ormation Na  | ame:   |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ithology:  |  | 00% Quar                                       | tz Monzodi                               | orite  |  |                             |   |  |   |                   |                       |                         |           |                  |
| 3,380  | 3,420  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ormation Na  | ame:   |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ithology:  | 10   | 00% Gran                                       | odiorite                                 |  |  |                             |   |  |   |                   |                       |                         |           |                  |
|  | 3,510  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| 3,420  | 3,310  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
|  |  |  |  |  |  |                             |   |  |   |                   |                       |                         |           |                  |
| ormation Naithology:   | ame:   |  | tz Monzodi                               | orite  | F  | Rig Inf                     | ormation  |  |   |                   |                       |                         |           |                  |
| Formation Na<br>Lithology:<br>Equipment P<br>Location Cor  | ame:   | S: None.                                       |  | orite  |  |                             |   | ntion.   |   |                   |                       |                         |           |                  |
| Formation Nation National Property of the Internation Conference o | ame:<br>10<br>Problems<br>ndition:   | S: None.<br>Good.                              |  |  | Solids   | Cont                        | rol Informa   |  | ۸.  |                   |                       |                         |           |                  |
| Formation Na<br>Lithology:<br>Equipment P<br>Location Cor<br>Transport:<br>Screen Sizes  | ame: 10 Problems ndition:  | S: None. Good.                                 | Middle 1                                 | Middle 2   | Solids<br>2 Bottom   | Cont                        | rol Informa<br>ipment Usa   | ge (Hrs  |   |                   | Dogasso               |                         |           |                  |
| Formation Na<br>Lithology:<br>Equipment P<br>Location Cor<br>Transport:<br>Screen Sizes<br>Shaker No   | ame: 10 Problems ndition: 3: 0: 11   | Good.  Top                                     | Middle 1 100                             | Middle 2   | Solids 2 Bottom 100  | Contraction Contraction     | rol Informa<br>ipment Usa<br>ander: 0   | ge (Hrs  | Desilter:   | -                 | Degasse               |                         | (Solide P | Pamoval          |
| Formation Na<br>Lithology:<br>Equipment P<br>Location Cor<br>Transport:<br>Screen Sizes<br>Shaker No<br>Shaker No  | ame: 10 Problems ndition: 3: 0 1: 0 2:   | For 100 120                                    | Middle 1 100 120                         | Middle 2<br>100<br>80                                | Solids 2 Bottom 100 80   | Contraction Contraction     | rol Informa<br>ipment Usa   | ge (Hrs  | Desilter:   | -                 |                       | or: 0<br>ge 2: 10       | (Solids R | demoval)         |
| Equipment P Location Cor Fransport: Screen Sizes Shaker No   | ame: 10 Problems ndition: 3: 0 1: 0 2:   | Good.  Top                                     | Middle 1 100                             | Middle 2   | Solids 2 Bottom 100 80   | Equ<br>Des<br>Cen           | rol Informa<br>ipment Usa<br>ander: 0<br>trifuge 1: 1   | ge (Hrs  | Desilter:   | -                 |                       |                         | (Solids R | demoval)         |
| Equipment P Location Cor Fransport:  Screen Sizes Shaker No  | Problems ndition:  | Top 100 120 120                                | Middle 1 100 120 120                     | Middle 2<br>100<br>80                                | Solids 2 Bottom 100 80 80  | Equ<br>Des<br>Cen           | rol Informa<br>ipment Usa<br>ander: 0<br>trifuge 1: 1<br>nventory   | ge (Hrs  | Desilter: (<br>s Removal)                                     |                   | Centrifu              | ge 2: 10                | `         | ,                |
| Equipment P Location Cor Transport: Screen Sizes Shaker No   | Problems ndition:  | For 100 120                                    | Middle 1 100 120 120                     | Middle 2<br>100<br>80                                | Solids 2 Bottom 100 80   | Equ<br>Des<br>Cen           | rol Informa<br>ipment Usa<br>ander: 0<br>trifuge 1: 1<br>nventory<br>Beginning  | ge (Hrs  | Desilter: (s Removal)   | -                 | Centrifug             | ge 2: 10 On Hand        |           | Net              |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No  | Problems ndition:  | Top 100 120 120                                | Middle 1 100 120 120                     | Middle 2<br>100<br>80                                | Solids 2 Bottom 100 80 80 Units  | Equ<br>Des<br>Cen           | rol Informa<br>ipment Usa<br>ander: 0<br>trifuge 1: 1<br>nventory<br>Beginning  | ge (Hrs<br>0 (Solid                                  | Desilter: (<br>s Removal)                                     |                   | Centrifu              | ge 2: 10                |           | ,                |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No Shaker No  | ame:  10 Problems ndition:  3: 0 1: 0 2: 0 3:  | Top 100 120 120                                | Middle 1 100 120 120                     | Middle 2<br>100<br>80<br>80                          | Solids 2 Bottom 100 80 0 80 Units  | Equ<br>Des<br>Cen<br>Bulk I | rol Informa ipment Usa ander: 0 trifuge 1: 1 nventory Beginning 10,54   | ge (Hrs 0 (Solid                                     | Desilter: (s Removal)  Jsed 2,147                             | Receive           | ed 0                  | <b>On Hand</b>          | 96        | Net<br>-2,14     |
| Equipment P Location Cor Transport: Screen Sizes Shaker No Shaker No   | Problems ndition:  | Top 100 120 120 1tem Type                      | Middle 1 100 120 120                     | Middle 2<br>100<br>80<br>80                          | Solids   2   Bottom   100   80   80  | Equ<br>Des<br>Cen<br>Bulk I | rol Informa<br>ipment Usa<br>ander: 0<br>trifuge 1: 1<br>nventory<br>Beginning  | ge (Hrs 0 (Solid                                     | Desilter: (s Removal)   |                   | ed 0                  | ge 2: 10 On Hand        | 96        | Net              |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No Shaker No  | ame:  10 Problems ndition:  3: 0 1: 0 2: 0 3:  | Top 100 120 120                                | Middle 1 100 120 120                     | Middle 2<br>100<br>80<br>80                          | Solids 2 Bottom 100 80 0 80 Units Dr Thre  | Equ<br>Des<br>Cen<br>Bulk I | rol Informa ipment Usa ander: 0 trifuge 1: 1 nventory Beginning 10,54: e Inventory  | ge (Hrs 0 (Solid                                     | Desilter: (s Removal)  Jsed 2,147                             | Receive           | ed 0                  | <b>On Hand</b>          | 96        | Net<br>-2,14     |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No Shaker No Shaker No  | Problems ndition:  10 2: 0 1: 0 2: 0 3:  Joint   | Top 100 120 120 120 14tem Type                 | Middle 1 100 120 120                     | Middle 2<br>100<br>80<br>80                          | Solids   Solids  | Equ<br>Des<br>Cen<br>Bulk I | rol Informa ipment Usa ander: 0 trifuge 1: 1 nventory Beginning 10,54: Elinventory DP Siz   | ge (Hrs 0 (Solid                                     | Desilter: (s Removal)  Jsed 2,147                             | Receive           | ed 0                  | <b>On Hand</b>          | 96        | Net<br>-2,14     |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No Shaker No Shaker No Shaker No Shaker No  | Problems ndition:  10 2: 0 1: 0 2: 0 3:  Joint   | Top 100 120 120 120 14em Type                  | Middle 1  100 120 120 120  Veight 24.7 S | Middle 2<br>100<br>80<br>80<br><b>Grade</b><br>6-135 | Solids   Solids  | Equ<br>Des<br>Cen<br>Bulk I | rol Information ipment Usa ander: 0 trifuge 1: 1  nventory Beginning 10,54: e Inventory DP Siz information                          | ge (Hrs  | Desilter: (s Removal)  Jsed 2,147  Joints                     | Receive           | ed 0                  | On Hand<br>8,3<br>Grade | 96 Thi    | Net<br>-2,14     |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No Shaker No Shaker No Shaker No DP Size 5.5  Meetings/Dri Safety   | ame:  10 Problems ndition:  3: 0 1: 0 2: 0 3:  Joint                                     | Top 100 120 120 120 14tem Type 194 194         | Middle 1 100 120 120 120  Veight 24.7 S  | Middle 2<br>100<br>80<br>80<br>Grade<br>6-135        | Solids   2   Bottom   100   80   80  | Equ<br>Des<br>Cen<br>Bulk I | rol Information ipment Usa ander: 0 trifuge 1: 1  nventory Beginning 10,54: e Inventory DP Siz nformation ption th crews. Tri       | ge (Hrs 0 (Solid                                     | Desilter: ( s Removal)  Jsed 2,147  Joints                    | Receive<br>Weight | Centrifue  ed  0  t ( | On Hand<br>8,3<br>Grade | 96 Thi    | Net<br>-2,14     |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No  | ame:  10 Problems ndition:  3: 0 1: 0 2: 0 3:  Joint  Ills Ti                            | Top 100 120 120 120 14tem Type 194  me 60 Two: | Middle 1 100 120 120 120  Veight 24.7 S  | Middle 2 100 80 80 Grade 6-135                       | Solids   2   Bottom   100   80   80  | Equ<br>Des<br>Cen<br>Bulk I | rol Information ipment Usa ander: 0 trifuge 1: 1  nventory Beginning 10,54: e Inventory DP Siz information                          | ge (Hrs 0 (Solid                                     | Desilter: ( s Removal)  Jsed 2,147  Joints                    | Receive<br>Weight | ed 0                  | On Hand<br>8,3<br>Grade | 96 Thi    | Net<br>-2,14     |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No Shaker No Shaker No Shaker No DP Size 5.5  | ame:  10 Problems ndition:  3: 0 1: 0 2: 0 3:  Joint  Ills Ti                            | Top 100 120 120 120 14tem Type 194  me 60 Two: | Middle 1 100 120 120 120  Veight 24.7 S  | Middle 2 100 80 80 Grade 6-135                       | Solids  Do Solids  Sol | Equ<br>Des<br>Cen<br>Bulk I | rol Informa ipment Usa ander: 0 trifuge 1: 1  nventory Beginning 10,54: Elinventory DP Siz nformation ption th crews. Tri Lost Time | ge (Hrs 0 (Solid                                     | Desilter: ( s Removal)  Jsed 2,147  Joints                    | Receive<br>Weight | Centrifue  ed  0  t ( | On Hand<br>8,3<br>Grade | 96 Thi    | <b>Net</b> -2,14 |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No  | ame:  10 Problems Indition:  3: 0 1: 0 2: 0 3:  Joint Ills Ti atments                    | Top 100 120 120 120 14tem Type 194  me 60 Two: | Middle 1 100 120 120 120  Veight 24.7 S  | Middle 2 100 80 80 Grade 6-135                       | Solids  Do Solids  Sol | Equ<br>Des<br>Cen<br>Bulk I | rol Informa ipment Usa ander: 0 trifuge 1: 1  nventory Beginning 10,54: e Inventory DP Siz nformation ption th crews. Tri Lost Time | ge (Hrs 0 (Solid                                     | Desilter: (s Removal)  Jsed 2,147  Joints  ipe, Handlin  nts: | Receive<br>Weight | Centrifue  ed  0  t ( | On Hand<br>8,3<br>Grade | 96 Thi    | <b>Net</b> -2,14 |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No  | ame:  10 Problems ndition:  3: 0 1: 0 2: 0 3:  Joint  Ills Ti atments t                  | Top 100 120 120 120 14tem Type 194  me 60 Two: | Middle 1 100 120 120 120  Veight 24.7 S  | Middle 2 100 80 80 Grade 6-135                       | Solids  Do Solids  Sol | Equ<br>Des<br>Cen<br>Bulk I | rol Information prior DP Siz Information th crews. Trime Informatio Visibility:   | ge (Hrs 0 (Solid                                     | Desilter: (s Removal)  Jsed 2,147  Joints  ipe, Handlin nts:  | Receive<br>Weight | Centrifue  ed  0  t ( | On Hand<br>8,3<br>Grade | 96 Thi    | <b>Net</b> -2,14 |
| Equipment P Location Cor Transport:  Screen Sizes Shaker No Shaker No Shaker No Shaker No DP Size 5.5  Meetings/Dri Safety First Aid Trea  | ame:  10 Problems ndition:  3: 0 1: 0 2: 0 3:  Joint  Ills Ti atments t  con: C ture: 7: | Top 100 120 120 120 14tem Type 194  me 60 Two: | Middle 1 100 120 120 120  Veight 24.7 S  | Middle 2 100 80 80 Grade 6-135                       | Solids  Do Solids  Sol | Equ<br>Des<br>Cen<br>Bulk I | rol Informa ipment Usa ander: 0 trifuge 1: 1  nventory Beginning 10,54: e Inventory DP Siz nformation ption th crews. Tri Lost Time | ge (Hrs 0 (Solid 1 3 7 e pping pi Incider n : ssure: | Desilter: (s Removal)  Jsed 2,147  Joints  ipe, Handlin  nts: | Receive<br>Weight | Centrifue  ed  0  t ( | On Hand<br>8,3<br>Grade | 96 Thi    | Net<br>-2,14     |



Pers/Hrs:

### **Daily Drilling Report**

Geothermal Resource Group, Inc.

4 / 48 **Total**:

Well Name: 78B-32

27 / 324

Well ID: Forge 78B-32 Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

6 / 72 Other:

Report No: 10 Report For 06-Jul-21 Operator: University of Utah Rig: Frontier Rig 16 Spud Date: 28-Jun-21 Daily Cost / Mud (\$): Measured Depth (ft): 5334 Last Casing: 11.750 at 2,990 Wellbore: Original Wellbore AFE No. AFE (\$) Actual (\$) Vertical Depth (ft): 5333 Next Casing: 7.000 at 8.500 RKB Elevation (ft): 30.40 ---Proposed TD (ft): 9500 Last BOP Test: 03-Jul-21 Job Reference RKB (ft): Hole Made (ft) / Hrs: 1.604 / 23.0 **Next BOP Test:** 24-Jul-21 Working Interest: Totals: 69.74 11.70 Well Cost (\$): Average ROP (ft/hr): LOT (lbs/gal): 0/9 Total Days (act./plan): 10/21 Flat Days (act./plan): Drilling Days (act./plan): 10/30 Days On Location: 10

14 / 168 Service:

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Drilling 10 5/8" hole section at 5,717'. (report time) **Current Operations: Planned Operations:** Drill 10 5/8" hole section until ROP drops below 30 ft/hr.

3 / 36 Contractor:

Trip out of the hole for new bit.

Continue to drill 10 5/8" hole section to coring point (6,700')

Toolpusher: Steve Caldwell . Justin Bristol

Operator:

Virgil Welch, Brian Gresham Tel No.: 7132807438 Wellsite Supervisors:

#### Operations Summary

| From  | То    | Elapsed | End MD(ft) | Code  | Operations Description  | Non-Prod |
|-------|-------|---------|------------|-------|---|----------|
| 0:00  | 0:30  | 0.50    | 3,765      | 3-2-3 | Drilled 10-5/8" hole from 3,730' to 3,765'  |          |
| 0:30  | 0:45  | 0.25    | 3,780      | 3-2-3 | Slide drill 10 5/8" hole from 3,765' to 3,780'.   |          |
| 0:45  | 1:30  | 0.75    | 3,927      | 3-2-3 | Drilled 10-5/8" hole from 3,780' to 3,927'.   |          |
| 1:30  | 2:00  | 0.50    | 3,947      | 3-2-3 | Slide drill 10 5/8" hole from 3,927' to 3,947'.   |          |
| 2:00  | 3:00  | 1.00    | 4,060      | 3-2-3 | Drilled 10-5/8" hole from 3,947' to 4,060'.   |          |
| 3:00  | 3:30  | 0.50    | 4,085      | 3-2-3 | Slide drill 10 5/8" hole from 4,060' to 4,085'.   |          |
| 3:30  | 4:15  | 0.75    | 4,153      | 3-2-3 | Drilled 10-5/8" hole from 4,085' to 4,153'. Performed weight on bit step test at 4,099' per Texas A&M advisor 50-70k.             |          |
| 4:15  | 4:45  | 0.50    | 4,168      | 3-2-3 | Slide drill 10 5/8" hole from 4,153' to 4,168'.   |          |
| 4:45  | 11:45 | 7.00    | 4,753      | 3-2-3 | Drilled 10-5/8" hole from 4,168' to 4,753   |          |
| 11:45 | 12:15 | 0.50    | 4,773      | 3-2-3 | Slide drill 10-5/8" hole from 4,753' to 4,773'.   |          |
| 12:15 | 16:30 | 4.25    | 5,036      | 3-2-3 | Drilled 10-5/8" hole from 4,773' to 5,036'.   |          |
| 16:30 | 17:00 | 0.50    | 5,036      | SERV  | Serviced Rig.   |          |
| 17:00 | 17:30 | 0.50    | 5,036      | OTHER | Replaced stroke counter on # 2 mud pump.  |          |
| 17:30 | 18:15 | 0.75    | 5,051      | 3-2-3 | Slide drill 10-5/8" hole from 5,036' to 5,051'.   |          |
| 18:15 | 0:00  | 5.75    | 5,334      | 3-2-3 | Drilled 10-5/8" hole from 5,051' to 5,334'.  Dump and diluted system with 200 bbl's of fresh water while drilling ahead at 5,166' | 1.       |

#### **Management Summary**

Drilled 10 5/8" section from 3,730' to 5,036'.

Serviced rig.

Replaced stroke counter on #2 mud pump. Drilled 10 5/8" section from 5.036' to 5.334'.

#### Comments

Performed weight on bit step test at 4,099'.

Dump and diluted system with 200 bbl's of fresh water while drilling ahead at 5,166'.

|      |        |         | Casing/Tubular Infor | mation |
|------|--------|---------|----------------------|--------|
| Size | Top MD | Top TVD | Bottom MD Bottom TVD | Hole   |

Nom. Wgt. Hole OH Diam. Nominal LOT Type (ins) (ft) (ft) Section (ins) (lbs) Grade (lbs/gal) **FULL** 16.000 0 416 SURF 22.000 65 K-55 0.61 FULL 11.750 0 2,990 14.750 54 J-55 11.70 INT1

|     |        | %     |      |      |         |         |           |          |        |         |         |     | Gels |     |      |     | Temp |     |    |     |      |
|-----|--------|-------|------|------|---------|---------|-----------|----------|--------|---------|---------|-----|------|-----|------|-----|------|-----|----|-----|------|
| Den | s. Vis | s P\  | / Y  | Έ    | Filt.   | Cake    | pH/ES     | Solids   | Oil    | Water   | Sand    | LGS | CI   | Ca  | CaCl | 10s | 10m  | 30m | ln | Out | Loss |
| 06- | Jul-21 | 18:00 | at [ | Dept | h 5,051 | l ft Mu | d Pits, T | ype: Lov | v Soli | ds Non- | Dispers | sed |      |     |      |     |      |     |    |     |      |
| 8.4 | 0 2    | 6     | 0    | 1    | 0       | 1       | 11        | 3        | 0      | 97      | 0.01    | 0.6 | 600  | 120 |      | 1   | 1    | 1   | 97 | 109 |      |



Field: UTAHFORGE

Well ID: Forge 78B-32

## **Geothermal Resource Group, Inc.**

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

|   |  |   |   | Mud Con  | sumables   |  |   |   |   |  |  |
|---|--|---|---|--|--|--|---|---|---|--|--|
|   | scription  |   | Qty.  | Cost   |  | Item Desc  | ription   |   | Qty.  | Cost   |  |
| Barite - 100#SK   |  |   | 80  |  | caustic Sod  |  |   |   | 2   |  |  |
| Engineering - EACH  |  |   | 1   |  | pallets - OT   | HER  |   |   | 4   |  |  |
| perdiem - OTHER 1   |  |   |   |  |  |  |   |   |   |  |  |
| Bit/BHA/Workstring Information  |  |   |   |  |  |  |   |   |   |  |  |
| Na Dana Malaa M   | Ladal Blans  | Depth   | This Ru   |  |  | DM T   | Mud   | Pump  |   |  |  |
|   | lodel Diam   | In<br>3651  | Dist Hr   |  | <b>Max WOB F</b><br>75.0 65  |  |   | Press J. Ve   |   |  |  |
|   |  |   |   |  |  |  |   |   | 5 605   | 289 10   |  |
| Jets: 13 13 12 12   |  |   |   | de: Cutter:  | / Dull   |  |   | gs: Gge:  |   | Pull:  |  |
| BHA - No. 7 - BIT, MMTR, STAB, MWD, 2 OTHER, STAB, MONEL, 3 OTHER, DC, XO, HWDP = 960.36  Drilling Parameters   |  |   |   |  |  |  |   |   |   |  |  |
| Depth (ft) ROP (ft/hr) WOB (lbs) RPM Torque (ft lbs) Flow (gals/min) Pressi   |  |   |   |  |  |  |   |   |   |  |  |
| From To   | Avg  | Max   | •   | Max Av   |  | Avg  | Max   | Avg   | Max   | (psi)  |  |
| 3,730 5,334   | 65.0   | 175.0   | 65  | 70   | <u> </u>   | 30 8   |   | 820   | 830   | 2,68   |  |
| Annular Velocity: D   |  | 478.5   |   |  | -  |  |   |   |   | ,  |  |
| Comments: Slide drill 10 5/8" hole from 3,765' to 3,780'. Slide drill 10 5/8" hole from 3,927' to 3,947'. Slide drill 10 5/8" hole from 4,060' to 4,085'. Slide drill 10 5/8" hole from 4,153' to 4,168'. Slide drill 10-5/8" hole from 4,753' to 4,773'. Slide drill 10-5/8" hole from 5,036' to 5,051'. |  |   |   |  |  |  |   |   |   |  |  |
| Siluo u   | 1111 10 0/0 11010  | 3 110111 0,00   |   | ellaneous D  | rilling Parar  | neters   |   |   |   |  |  |
| Hook Loads (lbs):   | Off Botto  | m Rotate:   | 236 <b>Pi</b>   |  | 55 Slack Off   |  | Drag Avg/N  | lax: 10   | / 15  |  |  |
| Slow Circulation Data   | a:   |   |   | •  |  |  |   |   |   |  |  |
| <b>Pump 1:</b> 30 spm   |  |   | 110 psi   | 40 spm   | 21   | 5 psi  | 50 spm  | 311 ps  | i   |  |  |
| Pump 2:   | <b>Pump 2</b> : 30 spm   |   | 110 psi   | 40 spm   | 21   | 5 psi  | 50 spm  | 311 ps  | i   |  |  |
|   |  |   | 440   | 4.0  |  |  |   |   |   |  |  |
| Pump 3:   | 30 spm   |   | 110 psi   | 40 spm   | 21   | 5 psi  | 50 spm  | 311 ps  | il  |  |  |
| •   | •  | nspection:  | •   | 40 spm <b>Total:</b> 58.2  |  | 5 psi<br>0   | 50 spm  | 311 ps  | si  |  |  |
| Hours on BHA:   | Since I  | nspection:  | •   | •  | 25 <b>Jars</b> :   | 0  |   | 311 ps<br>shing Installe  |   |  |  |
| Hours on BHA:   | Since I  | nspection:  | 58.25   | Total: 58.2  | 25 <b>Jars</b> :   | 0  | Wear Bus  | shing Installe  |   |  |  |
| Hours on BHA: Hours on Casing/Lin Survey  | Since I<br>er: Rotatin<br>Meas.  | nspection:  | 58.25<br>41 /   | Total: 58.2 Trippi Survey In   | Jars: ng: 14 nformation  | 0 / Vertical   | Wear Bus  | shing Installe  | d   |  |  |
| Hours on BHA:<br>Hours on Casing/Lin<br>Survey<br>Type  | Since I<br>er: Rotatin<br>Meas.<br>Depth   | nspection:<br>g:<br>Inc.  | 58.25<br>41 /<br>Azimuth  | Total: 58.2 Trippi Survey In   | Jars: ng: 14 nformation Closure  | 0 / Vertical Section   | Wear Bus  | shing Installe<br>dinates<br>E-W  | d<br>D.L  | S.   |  |
| Hours on BHA: Hours on Casing/Lin Survey Type MWD   | Since II er: Rotatin  Meas. Depth 3,832.0  | Inc.  | 58.25<br>41 /<br><b>Azimuth</b><br>93.7   | Total: 58.2 Trippi Survey In  TVD  3,831.5   | 25 Jars: ng: 14 nformation Closure 13.6  | Vertical Section -8.8  | Coor<br>N-S<br>S 8.8  | ching Installer dinates E-W W 10.4  | D.L<br>2  | .065   |  |
| Hours on BHA: Hours on Casing/Lin Survey Type MWD MWD   | Since  | Inc. 1.11 1.83  | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4  | Total: 58.2  | 25 Jars: ng: 14 nformation Closure 13.6 11.9   | Vertical Section -8.8  | Coor<br>N-S<br>S 8.8<br>S 8.8   | rdinates E-W W 10.4 W 8.0   | D.L<br>2  | .065<br>.766   |  |
| Hours on BHA: Hours on Casing/Lin  Survey Type  MWD  MWD  MWD   | Meas. Depth 3,832.0 3,927.0 4,022.0  | Inc. 1.11 1.83 3.01   | 58.25<br>41 /<br><b>Azimuth</b><br>93.7<br>89.4<br>85.3   | Total: 58.2 Trippi Survey In  TVD  3,831.5 3,926.5 4,021.4   | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5   | Vertical Section -8.8 -8.6   | Coor<br>N-S<br>S 8.8<br>S 8.8<br>S 8.6  | ching Installe dinates E-W W 10.4 W 8.0 W 4.0   | D.L<br>2.<br>0.   | .065<br>.766<br>.255   |  |
| Hours on BHA: Hours on Casing/Lin Survey Type MWD MWD MWD MWD MWD   | Meas. Depth 3,832.0 3,927.0 4,022.0 4,117.0  | Inc. 1.11 1.83 3.01 1.92  | 58.25<br>41 /<br><b>Azimuth</b><br>93.7<br>89.4<br>85.3<br>159.4  | Total: 58.2 Trippi Survey Ir  TVD 3,831.5 3,926.5 4,021.4 4,116.3  | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9   | Vertical Section -8.8 -8.6 -9.9  | Coor<br>N-S<br>S 8.8<br>S 8.8<br>S 8.6<br>S 9.9   | rdinates E-W W 10.4 W 8.0 W 4.0 W 0.9   | D.L<br>2<br>0<br>1  | .065<br>.766<br>.255   |  |
| Hours on BHA: Hours on Casing/Lin  Survey Type MWD MWD MWD MWD MWD MWD MWD MWD  | Since II er: Rotatin  Meas. Depth  3,832.0  3,927.0  4,022.0  4,117.0  4,181.0   | Inc. 1.11 1.83 3.01 1.92 1.19   | 58.25<br>41 /<br><b>Azimuth</b><br>93.7<br>89.4<br>85.3<br>159.4<br>199.7   | Total: 58.2 Trippi Survey Ir  TVD 3,831.5 3,926.5 4,021.4 4,116.3 4,180.3  | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5  | Vertical Section -8.8 -8.8 -8.6 -9.9 -11.5   | Coor<br>N-S<br>S 8.8<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5   | w 4.0<br>W 0.9<br>W 0.8   | D.L<br>2<br>0<br>1<br>3   | .065<br>.766<br>.255<br>.259   |  |
| Hours on BHA: Hours on Casing/Lin  Survey Type MWD  | Since I<br>er: Rotatin  Meas. Depth  3,832.0  3,927.0  4,022.0  4,117.0  4,181.0  4,213.0  | Inc. 1.11 1.83 3.01 1.92 1.19 0.99  | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1   | Total: 58.2 Trippii Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3  | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1   | Vertical Section -8.8 -8.8 -8.6 -9.9 -11.5 -12.0   | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0  | w 10.4<br>W 10.4<br>W 8.0<br>W 4.0<br>W 0.9<br>W 0.8<br>W 1.1   | D.L<br>2<br>0<br>1<br>3<br>1.   | .065<br>.766<br>.255<br>.259<br>.987   |  |
| Hours on BHA: Hours on Casing/Lin  Survey Type MWD  | Meas. Depth 3,832.0 4,022.0 4,117.0 4,181.0 4,213.0 4,308.0  | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86   | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3  | Total: 58.2 Trippi Survey In  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3   | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1 13.4                                    | Vertical Section -8.8 -8.8 -8.6 -9.9 -11.5 -12.0 -13.3   | Coor<br>N-S<br>\$ 8.8<br>\$ 8.6<br>\$ 9.9<br>\$ 11.5<br>\$ 12.0<br>\$ 13.3  | w 10.4<br>W 10.4<br>W 8.0<br>W 4.0<br>W 0.9<br>W 0.8<br>W 1.1<br>W 1.9  | D.L<br>2<br>0<br>1<br>3<br>3<br>1   | .065<br>.766<br>.255<br>.259<br>.987<br>.354   |  |
| Hours on BHA: Hours on Casing/Lin  Survey Type MWD  | Meas. Depth  3,832.0  3,927.0  4,022.0  4,117.0  4,181.0  4,213.0  4,308.0  4,403.0  | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86 0.40                                    | 58.25<br>41 /<br><b>Azimuth</b><br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3<br>258.7  | Total: 58.2 Trippi Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3 4,402.3   | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1 13.4 14.2                               | Vertical Section -8.8 -8.8 -8.6 -9.9 -11.5 -12.0 -13.3 -14.0                                   | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0<br>S 13.3<br>S 14.0  | w 10.4<br>W 10.4<br>W 8.0<br>W 4.0<br>W 0.9<br>W 0.8<br>W 1.1<br>W 1.9<br>W 2.6   | D.L. 22 0 11 3 1 1 0 0  | .065<br>.766<br>.255<br>.259<br>.987<br>.354<br>.229   |  |
| Hours on BHA: Hours on Casing/Lin  Survey Type MWD  | Meas. Depth  3,832.0  3,927.0  4,022.0  4,117.0  4,181.0  4,213.0  4,308.0  4,403.0  4,498.0   | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86 0.40 0.66                               | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3<br>258.7<br>264.5  | Total: 58.2 Trippi Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3 4,402.3 4,497.3   | 25 Jars: ng: 14 nformation  Closure  | Vertical Section -8.8 -8.6 -9.9 -11.5 -12.0 -13.3 -14.0 -14.1                                  | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0<br>S 13.3<br>S 14.0<br>S 14.1  | w 1.0.4  W 10.4  W 8.0  W 4.0  W 0.9  W 0.8  W 1.1  W 1.9  W 2.6  W 3.5   | D.L<br>2<br>0<br>1<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | .065<br>.766<br>.255<br>.259<br>.987<br>.354<br>.229<br>.708   |  |
| Hours on BHA: Hours on Casing/Lin Survey Type MWD   | Meas. Depth  3,832.0  3,927.0  4,022.0  4,117.0  4,181.0  4,213.0  4,308.0  4,403.0  4,498.0  4,593.0  | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86 0.40 0.66 1.33                          | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3<br>258.7<br>264.5<br>319.3   | Total: 58.2 Trippi Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3 4,402.3 4,497.3 4,592.2   | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1 13.4 14.2 14.5 14.1                     | Vertical Section -8.8 -8.8 -8.6 -9.9 -11.5 -12.0 -13.3 -14.0 -14.1 -13.3                       | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0<br>S 13.3<br>S 14.0<br>S 14.1  | ## Shing Installe  ## Colorates  ## E-W    W 10.4   W 8.0   W 4.0   W 0.9   W 0.8   W 1.1   W 1.9   W 2.6   W 3.5   W 4.8   | D.L<br>2<br>0<br>1<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1      | .065<br>.766<br>.255<br>.259<br>.987<br>.354<br>.229<br>.708<br>.279   |  |
| Hours on BHA: Hours on Casing/Lin Survey Type MWD   | Meas. Depth  3,832.0  3,927.0  4,022.0  4,117.0  4,181.0  4,213.0  4,308.0  4,403.0  4,498.0  4,593.0  4,688.0                                     | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86 0.40 0.66 1.33 1.75                     | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3<br>258.7<br>264.5<br>319.3<br>318.6                                  | Total: 58.2 Trippi Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3 4,402.3 4,497.3 4,592.2 4,687.2                                 | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1 13.4 14.2 14.5 14.1 13.1                | Vertical Section  -8.8 -8.8 -8.6 -9.9 -11.5 -12.0 -13.3 -14.0 -14.1 -13.3 -11.4                | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0<br>S 13.3<br>S 14.0<br>S 14.1<br>S 13.3<br>S 11.4                            | ## Shing Installe  ## Colorates   E-W   | D.L<br>2<br>0<br>1<br>1<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | .065<br>.766<br>.255<br>.259<br>.987<br>.354<br>.229<br>.708<br>.279<br>.148   |  |
| Hours on BHA: Hours on Casing/Lin Survey Type MWD   | Meas. Depth  3,832.0  3,927.0  4,022.0  4,117.0  4,181.0  4,213.0  4,308.0  4,403.0  4,498.0  4,593.0  4,688.0  4,783.0                            | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86 0.40 0.66 1.33 1.75 1.48                | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3<br>258.7<br>264.5<br>319.3<br>318.6<br>0.5                           | Total: 58.2 Trippi Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3 4,402.3 4,497.3 4,497.3 4,592.2 4,687.2 4,782.2                 | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1 13.4 14.2 14.5 14.1 13.1 11.7           | Vertical Section  -8.8 -8.8 -8.6 -9.9 -11.5 -12.0 -13.3 -14.0 -14.1 -13.3 -11.4 -9.1           | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0<br>S 13.3<br>S 14.0<br>S 14.1<br>S 13.3<br>S 11.4                            | W 10.4 W 8.0 W 4.0 W 0.9 W 1.1 W 1.9 W 2.6 W 3.5 W 4.8 W 6.4 W 7.4  | D.L<br>2<br>0<br>1<br>1<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>1<br>1<br>1<br>0<br>0<br>0<br>0 | .065<br>.766<br>.255<br>.259<br>.987<br>.354<br>.229<br>.708<br>.279<br>.148<br>.443                                 |  |
| Hours on BHA: Hours on Casing/Lin  Survey Type  MWD  MWD  MWD  MWD  MWD  MWD  MWD  MW   | Meas. Depth  3,832.0 3,927.0 4,022.0 4,117.0 4,181.0 4,213.0 4,308.0 4,403.0 4,498.0 4,593.0 4,688.0 4,783.0 4,879.0                               | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86 0.40 0.66 1.33 1.75 1.48 1.68           | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3<br>258.7<br>264.5<br>319.3<br>318.6<br>0.5<br>339.3                  | Total: 58.2 Trippi Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3 4,402.3 4,497.3 4,592.2 4,687.2 4,782.2 4,878.1                 | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1 13.4 14.2 14.5 14.1 13.1 11.7 10.2      | Vertical Section -8.8 -8.8 -8.6 -9.9 -11.5 -12.0 -13.3 -14.0 -14.1 -13.3 -11.4 -9.1 -6.5       | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0<br>S 13.3<br>S 14.0<br>S 14.1<br>S 13.3<br>S 11.4<br>S 9.1<br>S 6.5          | ## Shing Installe  ## Colorates  ## E-W    W 10.4   W 8.0   W 4.0   W 0.9   W 0.8   W 1.1   W 1.9   W 2.6   W 3.5   W 4.8   W 6.4   W 7.4   W 7.9                 | D.L<br>2<br>0<br>1<br>1<br>3<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | .065<br>.766<br>.255<br>.259<br>.987<br>.354<br>.229<br>.708<br>.279<br>.148<br>.443<br>.246                         |  |
| Hours on BHA: Hours on Casing/Lin Survey Type MWD   | Meas. Depth  3,832.0 3,927.0 4,022.0 4,117.0 4,181.0 4,213.0 4,308.0 4,403.0 4,498.0 4,593.0 4,688.0 4,783.0 4,879.0 4,974.0                       | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86 0.40 0.66 1.33 1.75 1.48 1.68 1.65      | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3<br>258.7<br>264.5<br>319.3<br>318.6<br>0.5<br>339.3<br>322.9         | Total: 58.2 Trippi Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3 4,402.3 4,497.3 4,592.2 4,687.2 4,782.2 4,878.1 4,973.1         | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1 13.4 14.2 14.5 14.1 13.1 11.7 10.2 10.1 | Vertical Section -8.8 -8.8 -8.6 -9.9 -11.5 -12.0 -13.3 -14.0 -14.1 -13.3 -11.4 -9.1 -6.5 -4.1  | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0<br>S 13.3<br>S 14.0<br>S 14.1<br>S 13.3<br>S 11.4<br>S 9.1<br>S 6.5<br>S 4.1 | W 10.4 W 8.0 W 4.0 W 0.9 W 0.8 W 1.1 W 1.9 W 2.6 W 3.5 W 4.8 W 6.4 W 7.4 W 7.9 W 9.2  | D.L<br>2<br>0<br>1<br>1<br>3<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | .065<br>.766<br>.255<br>.259<br>.987<br>.354<br>.229<br>.708<br>.279<br>.148<br>.443<br>.246<br>.641                 |  |
| Hours on BHA: Hours on Casing/Lin  Survey Type MWD  | Meas. Depth  3,832.0  3,927.0  4,022.0  4,117.0  4,181.0  4,213.0  4,308.0  4,403.0  4,498.0  4,593.0  4,688.0  4,783.0  4,879.0  4,974.0  5,069.0 | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86 0.40 0.66 1.33 1.75 1.48 1.68 1.65 0.45 | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3<br>258.7<br>264.5<br>319.3<br>318.6<br>0.5<br>339.3<br>322.9<br>52.1 | Total: 58.2 Trippi Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3 4,402.3 4,497.3 4,592.2 4,687.2 4,782.2 4,878.1 4,973.1 5,068.1 | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1 13.4 14.2 14.5 14.1 13.1 11.7 10.2 10.1 | Vertical Section  -8.8 -8.6 -9.9 -11.5 -12.0 -13.3 -14.0 -14.1 -13.3 -11.4 -9.1 -6.5 -4.1 -2.8 | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0<br>S 13.3<br>S 14.0<br>S 14.1<br>S 13.3<br>S 11.4<br>S 9.1<br>S 6.5<br>S 4.1 | ## Shing Installe  ## Colorates  ## E-W    W 10.4   W 8.0   W 4.0   W 0.9   W 0.8   W 1.1   W 1.9   W 2.6   W 3.5   W 4.8   W 6.4   W 7.4   W 7.9   W 9.2   W 9.7 | D.L<br>2<br>0<br>1<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0      | .065<br>.766<br>.255<br>.259<br>.987<br>.354<br>.229<br>.708<br>.279<br>.148<br>.443<br>.246<br>.641<br>.498<br>.794 |  |
| Hours on BHA: Hours on Casing/Lin  Survey Type MWD  | Meas. Depth  3,832.0 3,927.0 4,022.0 4,117.0 4,181.0 4,213.0 4,308.0 4,403.0 4,498.0 4,593.0 4,688.0 4,783.0 4,879.0 4,974.0                       | Inc. 1.11 1.83 3.01 1.92 1.19 0.99 0.86 0.40 0.66 1.33 1.75 1.48 1.68 1.65      | 58.25<br>41 /<br>Azimuth<br>93.7<br>89.4<br>85.3<br>159.4<br>199.7<br>220.1<br>209.3<br>258.7<br>264.5<br>319.3<br>318.6<br>0.5<br>339.3<br>322.9         | Total: 58.2 Trippi Survey Ir  TVD  3,831.5 3,926.5 4,021.4 4,116.3 4,180.3 4,212.3 4,307.3 4,402.3 4,497.3 4,592.2 4,687.2 4,782.2 4,878.1 4,973.1         | 25 Jars: ng: 14 nformation  Closure  13.6 11.9 9.5 9.9 11.5 12.1 13.4 14.2 14.5 14.1 13.1 11.7 10.2 10.1 | Vertical Section -8.8 -8.8 -8.6 -9.9 -11.5 -12.0 -13.3 -14.0 -14.1 -13.3 -11.4 -9.1 -6.5 -4.1  | Coor<br>N-S<br>S 8.8<br>S 8.6<br>S 9.9<br>S 11.5<br>S 12.0<br>S 13.3<br>S 14.0<br>S 14.1<br>S 13.3<br>S 11.4<br>S 9.1<br>S 6.5<br>S 4.1 | W 10.4 W 8.0 W 4.0 W 0.9 W 0.8 W 1.1 W 1.9 W 2.6 W 3.5 W 4.8 W 6.4 W 7.4 W 7.9 W 9.2  | D.L<br>2<br>0<br>1<br>3<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>1<br>0<br>0<br>0<br>0<br>1<br>0<br>0<br>0<br>0      | .065<br>.766<br>.255<br>.259<br>.987<br>.354<br>.229<br>.708<br>.279<br>.148<br>.443<br>.246<br>.641                 |  |



**Geothermal Resource Group, Inc.** 

Well ID: Forge 78B-32

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Sect: 32 Town: 26 Rng: 9W County: Beaver State:

| Report No: 10 Report For 06-Jul-21   |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
|--|---------|------------|--------------|--------------|----------|----------------|--|------------|--------------|----------|------------|-------------|-----------|------|
| Mud Log Information  |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
| Depth  | (ft)    |            | TVD (ft)     | (            | Gas (Un  |                | Gas  | S          | Drilling     | Pore     | Mud        | Shale       | R         | OP   |
| From   | То      | Fron       |              | Avg          | Max      | at Depth       | Connect.   | Trip       | Exp.         | Press    | Dens.      | Dens.       | Shale     | Sand |
| 3,990  | 4,77    | 0 3,9      | 989 4,769    | 9            |          |                |  |            |              |          |            |             |           |      |
| Formation Name:  |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
| Lithology:   |         |            | uartz Monzod |              |          |                |  |            |              |          |            |             |           |      |
| 4,770  | 4,79    | 0 4,7      | 69 4,789     | 9            |          |                |  |            |              |          |            |             |           |      |
| Formation I  | Name:   |            |              |              |          |                |  |            |              |          |            |             |           |      |
| Lithology: 60-80% Granite, 20-40% Quartz Monzodiorite  |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
| 4,790  | 5,33    | 3 4,7      | 789 5,332    | 2            |          |                |  |            |              |          |            |             |           |      |
| Formation I  | Name:   |            |              |              |          |                |  |            |              |          |            |             |           |      |
| Lithology: 100% Quartz Monzodiorite  |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
| Rig Information  |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
| Equipment  | Proble  | ms: Nor    | ne.          |              |          |                |  |            |              |          |            |             |           |      |
| Location Co  | onditio | n: God     | od.          |              |          |                |  |            |              |          |            |             |           |      |
| Transport:   |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
| Solids Control Information   |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
| Screen Size  | es:     | Тор        | Middle 1     | Middle 2     | Bott     | om Equ         | ıipment Usa  | ge (Hrs    | ):           |          |            |             |           |      |
| Shaker No 1:         120         120         120         Desander:         0         Desilter:         0         Degasser:         0 |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
| Shaker I   | No 2:   | 12         | 0 120        | 120          |          | 120 <b>Cer</b> | entrifuge 1: 24 (Solids Removal) Centrifuge 2: 24 (Solids Removal) |            |              |          |            |             | emoval)   |      |
| Shaker I   | No 3:   | 12         | 0 120        | 120          |          | 120            |  |            |              |          |            |             |           |      |
|  |         |            |              |              |          | Bulk           | Inventory  |            |              |          |            |             |           |      |
|  |         | Item Ty    | /pe          |              |          | Jnits          | Beginning  | , l        | Jsed         | Receiv   | ed         | On Hand Net |           | Net  |
| Rig Fuel   |         |            |              |              |          |                | 8,39   |            | 1,858        |          |            | 6,5         | 38        |      |
|  |         |            |              |              |          | -              | e Inventor   |            |              |          |            |             |           |      |
| DP Size  |         | ints       | Weight       | Grade        |          | Thread         | DP Siz   | e          | Joints       | Weigh    | t (        | Grade       | Thr       | ead  |
| 5.5"   |         | 258        | 24.7         | S-135        | 5.51     | •              |  |            |              |          |            |             |           |      |
|  |         |            |              |              |          | Safety I       | nformatior   | 1          |              |          |            |             |           |      |
| Meetings/D   | rills   | Time       |              |              |          | Descr          | •  |            |              |          |            |             |           |      |
| Safety   |         | 60         | Γwo 30 min P | re tour safe | ety meet | ings with bo   | oth crews. Fo  | rklift ope | erations, Ho | use keep | oing, Prop | er lifting  | technique | s.   |
| First Aid Tr   | eatmen  | its:       | 0 Medi       | cal Treatm   | ents:    | 0              | Lost Time  | Incider    | nts:         | 0 1      | Days Sin   | ce LTI:     |           |      |
| BOP Tes  | st      | <b>√</b> C | rownamatic   | Check        |          |                |  |            |              |          |            |             |           |      |
|  |         |            |              |              |          | Weather        | Informatio   | n          |              |          |            |             |           |      |
| Sky Conditi  | ion:    | Clear      |              |              |          |                | Visibility   | :          | 10           |          |            |             |           |      |
| Air Tempera  | ature:  | 75 degF    |              |              |          |                | Bar. Pres  | ssure:     | 29.89        |          |            |             |           |      |
| Wind Speed   | d/Dir:  | 8 / SE     |              |              |          |                | Wind Gu  | sts:       | 2            |          |            |             |           |      |
|  |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
|  |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
|  |         |            |              |              |          |                |  |            |              |          |            |             |           |      |
|  |         |            |              |              |          |                |  |            |              |          |            |             |           |      |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 11 Report For 07-Jul-21

| Operator:             | University of Utah   | Rig:              | Frontier Rig 1  | 6 Spud Date:     | 28-         | Jun-21   | Daily Cost / M  | lud (\$): |             |
|-----------------------|----------------------|-------------------|-----------------|------------------|-------------|----------|-----------------|-----------|-------------|
| Measured Depth (ft    | 5761                 | Last Casing:      | 11.750 at 2,99  | 00 Wellbore:     | Original V  | Vellbore | AFE No.         | AFE (\$)  | Actual (\$) |
| Vertical Depth (ft):  | 5760                 | Next Casing:      | 7.000 at 8,50   | 00 RKB Elevation | n (ft):     | 30.40    |                 |           |             |
| Proposed TD (ft):     | 9500                 | Last BOP Tes      | t: 03-Jul-2     | Job Reference    | e RKB (ft): |          |                 |           |             |
| Hole Made (ft) / Hrs  | 427 / 12.0           | Next BOP Tes      | t: 24-Jul-2     | 21 Working Inter | est:        |          | Totals:         |           |             |
| Average ROP (ft/hr)   | : 35.58              |                   |                 | LOT (lbs/gal):   |             | 11.70    | Well Cost (\$): |           |             |
| Drilling Days (act./p | lan): 11/21 <b>F</b> | lat Days (act./pl | <b>an):</b> 0/9 | Total Days (act  | ./plan):    | 11/30    | Days On Loca    | ation:    | 11          |
| Pers/Hrs: Opera       | tor: 3 / 36 C        | ontractor:        | 14 / 168        | Service:         | 6 / 72      | Other:   | 5 / 60          | Total:    | 28 / 336    |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Changing out motor from 1.5 deg, 0.111 rev/gal to 1.25 deg, 0.116 rev/gal.

Planned Operations: Swap out motor from 0.111 rev/gal to 0.116 rev/gal.

Trip in the hole to 2,946'.

Wait on SCR electrician to arrive from Vernal, estimated arrival time 0900 HRS.

Troubleshoot issues with traction A motor on drawworks and repair.

Trip in the hole to 5,761'.

Continue to drill 10-5/8" hole section from 5,761' to 6,700' (coring depth)

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       | Operations Summary |         |            |        |  |          |  |  |  |  |
|-------|--------------------|---------|------------|--------|--|----------|--|--|--|--|
| From  | То                 | Elapsed | End MD(ft) | Code   | Operations Description   | Non-Prod |  |  |  |  |
| 0:00  | 4:30               | 4.50    | 5,628      | 3-2-3  | Drilled 10-5/8" hole from 5,334' to 5,628'.  |          |  |  |  |  |
| 4:30  | 5:00               | 0.50    | 5,628      | 3-2-3  | Slide drill 10 5/8" hole from 5,628' to 5,643'.  |          |  |  |  |  |
| 5:00  | 7:30               | 2.50    | 5,761      | 3-2-3  | Drilled 10-5/8" hole from 5,628' to 5,761'   |          |  |  |  |  |
| 7:30  | 11:00              | 3.50    | 5,761      | 3-6-4  | ROP dropped to 30%, POH for Bit  |          |  |  |  |  |
| 11:00 | 12:30              | 1.50    | 5,761      | 10-6-2 | POH w/BHA / found 2 jets plugged with motor rubber and bit DBR'd. NOTE: no over torqued connections.   |          |  |  |  |  |
| 12:30 | 13:00              | 0.50    | 5,761      | 10-344 | Lay down NMDC, Motor and bit.  |          |  |  |  |  |
| 13:00 | 15:30              | 2.50    | 5,761      | CUTDL  | Slipped and Cut drilling line while waiting on Schlumberger tools to arrive.  Note: Dumped and diluted system with 250 bbl's of fresh water. |          |  |  |  |  |
| 15:30 | 16:00              | 0.50    | 5,761      | SERV   | Serviced rig while waiting on Schlumberger tools to arrive.  |          |  |  |  |  |
| 16:00 | 19:00              | 3.00    | 5,761      | 3-34-1 | Picked up 5.5" drill pipe and standing back in derrick while waiting on Schlumberge tools to arrive. Motor arrived on location at 19:10 HRS. | er       |  |  |  |  |
| 19:00 | 19:30              | 0.50    | 5,761      | 3-34-3 | Strap Motor prior to picking up.   |          |  |  |  |  |
| 19:30 | 22:30              | 3.00    | 5,761      | 3-34-3 | Picked up 1.50 deg bent assembly. Scribe Motor.<br>Run in the hole with BHA to 1,042'.   |          |  |  |  |  |
| 22:30 | 23:30              | 1.00    | 5,761      | 3-6-3  | Ran in the hole from 1,042' to 2,946'. Installed TIW valve in sting. Picked up and racked back 6 stands of 5.5" drill pipe.                  |          |  |  |  |  |
| 23:30 | 0:00               | 0.50    | 5,761      | 3-34-1 | Picked up and racked back 6 stands of 5.5" drill pipe out of the mouse hole.   |          |  |  |  |  |

#### **Management Summary**

Drilled 10-5/8" hole from 5,334' to 5,761'.

Tripped out of the hole from 5,761' to surface due to low ROP.

Laid down NMDC, Motor and bit.

Slipped and Cut drilling line.

Serviced rig.

Picked up and racked back 5 stands of drill pipe while waiting on Schlumberger tools to arrive.

Motor arrived on location at 19:10 HRS.

Picked up 1.25 deg bent assembly and tripped in the hole to 2,926'.

Picked up and racked back 6 stands of 5.5" drill pipe.

### Comments

Found 2 jets plugged with rubber the stator section of the motor.

Bit was DBR'd.

No over torqued connections.

Dumped and diluted system with 250 bbl's of fresh water while out of the hole.



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Casing/Tubular Information   | mp Mud Out Loss  105  Cost   |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|
| Size   | (lbs/gal) 5 0.61 5 11.70  mp Mud Out Loss  105  Cost  p HHP JIF 5 289 1005 |  |  |  |  |  |  |  |  |  |
| Type   | (lbs/gal) 5 0.61 5 11.70  mp Mud Out Loss  105  Cost  p HHP JIF 5 289 1005 |  |  |  |  |  |  |  |  |  |
| FULL   16.00   0   | 5 0.61 5 11.70  mp Mud Out Loss  105  Cost  p HHP JIF 5 289 1005           |  |  |  |  |  |  |  |  |  |
| Multiple   Multiple  | mp Mud Out Loss  105  Cost  p HHP JIF 5 289 1005                           |  |  |  |  |  |  |  |  |  |
| Dens.   Vis   PV   VP   Filt.   Cake   pH/ES   Solids   Cake   Solids   Cake   Cake  | Out Loss  105  Cost  p HHP JIF 5 289 1005                                  |  |  |  |  |  |  |  |  |  |
| Dens   | Out Loss  105  Cost  p HHP JIF 5 289 1005                                  |  |  |  |  |  |  |  |  |  |
| 07-Jul-21 16:00 at Depth 5,761 ft Mud Pits, Type: Low Solids Non-Dispersed   8.30   26   0   1   0   1   9.5   2   0   98   0.01   0   800   120   1   1   1   1   9.5 | Cost p HHP JIF 5 289 1005  |  |  |  |  |  |  |  |  |  |
|  | Cost p HHP JIF 5 289 1005  |  |  |  |  |  |  |  |  |  |
| No Run   Make   Model   Diam   In   Depth   This Run   R.O.P.   Mud   Pump   Press   J. Vel   P. I.  | Cost p HHP JIF 5 289 1005  |  |  |  |  |  |  |  |  |  |
| Item Description   | p HHP JIF<br>5 289 1005  |  |  |  |  |  |  |  |  |  |
| Caustic Soda - 50#SK   September   Flow    | p HHP JIF<br>5 289 1005  |  |  |  |  |  |  |  |  |  |
| Depth   Properties   | 289 1005   |  |  |  |  |  |  |  |  |  |
| Bit/BHA/Workstring Information   | 289 1005   |  |  |  |  |  |  |  |  |  |
| No Run   Make   Model   Diam   In   In   In   In   In   In   In   I  | 289 1005   |  |  |  |  |  |  |  |  |  |
| No Run   Make   Model   Diam   In   Dist   Hrs   Avg   Max   WOB   RPM   Torque   Wt   Flow   Press   J. Vel   P. I.   | 289 1005   |  |  |  |  |  |  |  |  |  |
| Torque   T | 289 1005   |  |  |  |  |  |  |  |  |  |
| S  | Pull: PR   |  |  |  |  |  |  |  |  |  |
| Jets: 13 13 12 12 12 12 12 12 12 0ut: 5761   Grade: Cutter: 0 / 0   Dull: NO / NO   Wear: A   Brgs: X   Gge: 0   |  |  |  |  |  |  |  |  |  |  |
| BHA - No. 8 -   BIT, MMTR, STAB, MWD, 2 OTHER, STAB, MONEL, 3 OTHER, DC, XO, HWDP = 962.49   |  |  |  |  |  |  |  |  |  |  |
| Depth (ft)   | Pull: BHA  |  |  |  |  |  |  |  |  |  |
| Depth (ft)   |  |  |  |  |  |  |  |  |  |  |
| From   To   Avg   Max   5,334   5,761   57.0   70.0   60   65   40   45   9   10   810   83  | ·  |  |  |  |  |  |  |  |  |  |
| 5,334         5,761         57.0         70.0         60         65         40         45         9         10         810         83           Annular Velocity: Drill Collars: 478.5 Drill Pipe: 247.2           Comments: Slide drill 10 5/8" hole from 5,628' to 5,643'.           Miscellaneous Drilling Parameters           Hook Loads (lbs): Off Bottom Rotate: 248 Pick Up: 257 Slack Off: 235 Drag Avg/Max: 10 / 15           Slow Circulation Data:           Pump 1: 30 spm         110 psi         40 spm         215 psi         50 spm         311 psi           Pump 2: 30 spm         110 psi         40 spm         215 psi         50 spm         311 psi           Pump 3: 30 spm         110 psi         40 spm         215 psi         50 spm         311 psi           Hours on BHA: Since Inspection: 65.75 Total: 65.75 Jars: 0           Hours on Casing/Liner: Rotating: 48.5 / Tripping: 22 / Wear Bushing Installed           Mud Log Information           Depth (ft) TVD (ft) Gas (Units) Gas         Gas         Drilling Pore Exp.         Mud Shale Dens.         Dens.         Dens.         Dens.         Dens.  | Pressure   |  |  |  |  |  |  |  |  |  |
| Annular Velocity: Drill Collars: 478.5   Drill Pipe: 247.2    Comments: Slide drill 10 5/8" hole from 5,628' to 5,643'.      Wiscellaneous Drilling Parameters   | ( <b>psi</b> ) 2,550   |  |  |  |  |  |  |  |  |  |
| Comments: Slide drill 10 5/8" hole from 5,628' to 5,643'.           Miscellaneous Drilling Parameters           Hook Loads (lbs): Off Bottom Rotate: 248 Pick Up: 257 Slack Off: 235 Drag Avg/Max: 10 / 15           Slow Circulation Data:           Pump 1:         30 spm         110 psi         40 spm         215 psi         50 spm         311 psi           Pump 2:         30 spm         110 psi         40 spm         215 psi         50 spm         311 psi           Pump 3:         30 spm         110 psi         40 spm         215 psi         50 spm         311 psi           Hours on BHA: Since Inspection: 65.75 Total: 65.75 Jars: 0           Hours on Casing/Liner: Rotating: 48.5 / Tripping: 22 / Wear Bushing Installed           Mud Log Information           Depth (ft) TVD (ft) Gas (Units) Gas         Drilling Pore Mud Shale           From To Avg Max at Depth Connect. Trip Exp. Press Dens. Dens.  |  |  |  |  |  |  |  |  |  |  |
| Hook Loads (lbs): Off Bottom Rotate: 248   Pick Up: 257   Slack Off: 235   Drag Avg/Max: 10 / 15   |  |  |  |  |  |  |  |  |  |  |
| Hook Loads (lbs): Off Bottom Rotate: 248   Pick Up: 257   Slack Off: 235   Drag Avg/Max: 10 / 15   |  |  |  |  |  |  |  |  |  |  |
| Slow Circulation Data:   Pump 1:   |  |  |  |  |  |  |  |  |  |  |
| Pump 2:         30 spm         110 psi         40 spm         215 psi         50 spm         311 psi           Pump 3:         30 spm         110 psi         40 spm         215 psi         50 spm         311 psi           Hours on BHA:         Since Inspection:         65.75         Total:         65.75         Jars:         0           Hours on Casing/Liner:         Rotating:         48.5 /         Tripping:         22 /         Wear Bushing Installed           Mud Log Information           Depth (ft)         TVD (ft)         Gas (Units)         Gas         Drilling         Pore         Mud         Shale           From         To         Avg         Max         at Depth         Connect.         Trip         Exp.         Press         Dens.         Dens.   |  |  |  |  |  |  |  |  |  |  |
| Pump 3:         30 spm         110 psi         40 spm         215 psi         50 spm         311 psi           Hours on BHA:         Since Inspection:         65.75         Total:         65.75         Jars:         0           Hours on Casing/Liner:         Rotating:         48.5 /         Tripping:         22 /         Wear Bushing Installed           Mud Log Information           Depth (ft)         TVD (ft)         Gas (Units)         Gas         Drilling         Pore         Mud Shale           From         To         From         To         Avg         Max         at Depth         Connect.         Trip         Exp.         Press         Dens.         Dens.  |  |  |  |  |  |  |  |  |  |  |
| Hours on BHA: Since Inspection: 65.75 Total: 65.75 Jars: 0  Hours on Casing/Liner: Rotating: 48.5 / Tripping: 22 / Wear Bushing Installed  Mud Log Information  Depth (ft) TVD (ft) Gas (Units) Gas Drilling Pore Mud Shale From To From To Avg Max at Depth Connect. Trip Exp. Press Dens. Dens.  |  |  |  |  |  |  |  |  |  |  |
| Hours on Casing/Liner: Rotating: 48.5 / Tripping: 22 / Wear Bushing Installed  Mud Log Information  Depth (ft) TVD (ft) Gas (Units) Gas Drilling Pore Mud Shale From To From To Avg Max at Depth Connect. Trip Exp. Press Dens. Dens.  |  |  |  |  |  |  |  |  |  |  |
| Mud Log Information  Depth (ft) TVD (ft) Gas (Units) Gas Drilling Pore Mud Shale From To From To Avg Max at Depth Connect. Trip Exp. Press Dens. Dens.   |  |  |  |  |  |  |  |  |  |  |
| Depth (ft) TVD (ft) Gas (Units) Gas Drilling Pore Mud Shale From To From To Avg Max at Depth Connect. Trip Exp. Press Dens. Dens.  |  |  |  |  |  |  |  |  |  |  |
| From To From To Avg Max at Depth Connect. Trip Exp. Press Dens. Dens.  |  |  |  |  |  |  |  |  |  |  |
|  | ROP<br>hale Sand   |  |  |  |  |  |  |  |  |  |
| 5,334 5,761 5,333 5,760  | nale Saliu   |  |  |  |  |  |  |  |  |  |
| Formation Name:  |  |  |  |  |  |  |  |  |  |  |
| Lithology: 100% Granodiorite   |  |  |  |  |  |  |  |  |  |  |
| Rig Information  |  |  |  |  |  |  |  |  |  |  |
| Equipment Problems: Traction motor A on drawworks kicking SCR breaker. Electrician in route to troubleshoot.   |  |  |  |  |  |  |  |  |  |  |
| Location Condition: Good.  |  |  |  |  |  |  |  |  |  |  |
| Transport: Received 8" 1.25 deg motor along with RSS tool. Back hauled 2 dirty motors along with dirty RSS tool.   |  |  |  |  |  |  |  |  |  |  |
| Solids Control Information   |  |  |  |  |  |  |  |  |  |  |
| Screen Sizes: Top Middle 1 Middle 2 Bottom Equipment Usage (Hrs):  |  |  |  |  |  |  |  |  |  |  |
| Shaker No 1:         120         120         120         Desander:         0         Desilter:         0         Degasser:         0   |  |  |  |  |  |  |  |  |  |  |
| Shaker No 2:         120         120         120         Centrifuge 1: 24 (Solids Removal)         Centrifuge 2: 24 (Solids Removal)   |  |  |  |  |  |  |  |  |  |  |
| Shaker No 3:         120         120         120         120   | lids Removal)  |  |  |  |  |  |  |  |  |  |
| Bulk Inventory   | lids Removal)  |  |  |  |  |  |  |  |  |  |



## Daily Drilling Report Well ID: Forge 78B-32

Geothermal Resource Group, Inc.

Well Name: 78B-32

Field: UTAHFORGF

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 1     | 1  |                |              |          |                   |  |          | Report Fo | or 07-Jul-21 |  |
|------------------|--|----------------|--------------|----------|-------------------|--|----------|-----------|--------------|--|
|                  |  |                |              | Bull     | k Inventory       |  |          | -         |              |  |
|                  | Item 1   | Гуре           |              | Units    | Beginning         | Used                                   | Received | On Hand   | Net          |  |
| Rig Fuel         |  |                |              |          | 6,538             | 2,452                                  | 4,459    | 8,545     | 2,00         |  |
|                  |  |                |              | Drill Pi | pe Inventory      |  |          |           |              |  |
| DP Size          | Joints   | Weight         | Grade        | Thread   | DP Size           | Joints                                 | Weight   | Grade     | Thread       |  |
| 5.5"             | 258  | 24.7           | S-135        | 5.5IF    |                   |  |          |           |              |  |
| ·                |  |                |              | Safety   | Information       |  |          |           |              |  |
| Meetings/Drills  | Time   |                |              | Desc     | ription           |  |          |           |              |  |
| Safety           | Safety 60 Two 30 min Pre tour safety meetings with both crews. Forklift operations, Handling BHA, Tripping pipe. |                |              |          |                   |  |          |           |              |  |
| First Aid Treatn | nents:   | 0 Med          | ical Treatme | nts:     | 0 Lost Time Incid | Lost Time Incidents: 0 Days Since LTI: |          |           |              |  |
| Accident Descr   | iption: No   | one to report. |              |          | '                 |  | '        |           |              |  |
| BOP Test         | <b>V</b>   | Crownamati     | c Check      |          |                   |  |          |           |              |  |
| _                |  |                |              | Weathe   | r Information     |  |          |           |              |  |
| Sky Condition:   | Partly (   | Cloudy         |              |          | Visibility:       | 10                                     |          |           |              |  |
| Air Temperatur   | e: 75 deg  | F              |              |          | Bar. Pressure     | : 29.89                                |          |           |              |  |
| Wind Speed/Dir   | r: 8/SW  |                |              |          | Wind Gusts:       | 2                                      |          |           |              |  |



**Geothermal Resource Group, Inc.** 

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 12 Report For 08-Jul-21 |                              |                               |                               |  |  |  |  |  |  |  |
|------------------------------------|------------------------------|-------------------------------|-------------------------------|--|--|--|--|--|--|--|
| Operator: University of Utal       | Rig: Frontier Rig 16         | <b>Spud Date:</b> 28-Jun-21   | Daily Cost / Mud (\$):        |  |  |  |  |  |  |  |
| Measured Depth (ft): 576           | Last Casing: 11.750 at 2,990 | Wellbore: Original Wellbore   | AFE No. AFE (\$) Actual (\$)  |  |  |  |  |  |  |  |
| Vertical Depth (ft): 5760          | Next Casing: 7.000 at 8,500  | RKB Elevation (ft): 30.40     |                               |  |  |  |  |  |  |  |
| Proposed TD (ft): 9500             | Last BOP Test: 03-Jul-2      | Job Reference RKB (ft):       |                               |  |  |  |  |  |  |  |
| Hole Made (ft) / Hrs: 0 / 0.0      | Next BOP Test: 24-Jul-2      | Working Interest:             | Totals:                       |  |  |  |  |  |  |  |
| Average ROP (ft/hr):               |                              | <b>LOT (lbs/gal):</b> 11.70   | Well Cost (\$):               |  |  |  |  |  |  |  |
| Drilling Days (act./plan): 12/21   | lat Days (act./plan): 0/9    | Total Days (act./plan): 12/30 | Days On Location: 12          |  |  |  |  |  |  |  |
| Pers/Hrs: Operator: 3 / 36         | Contractor: 14 / 168         | Service: 6 / 72 Other:        | 2 / 24 <b>Total:</b> 25 / 300 |  |  |  |  |  |  |  |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Waiting on SCR technician to arrive.

Planned Operations: Wait on SCR technician to arrive.

troubleshoot SCR. Trip in the hole.

Drill 10-5/8" hole section from 5,761' to 6,700' (coring depth).

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

| *************************************** | upo. 1.00 | 10. 1191 | TTOIOIT, DITE | ar Oroonam | Terrior Treasuring  |        |
|---|-----------|----------|---------------|------------|---|--------|
|   |           |          |               |            | Operations Summary  |        |
| From                                    | То        | Elapsed  | End MD(ft)    | Code       | Operations Description No   | n-Prod |
| 0:00                                    | 1:00      | 1.00     | 5,761         | 3-34-1     | Continue picking up and racking back 6 stands of 5.5" drill pipe out of the mouse hole.   |        |
| 1:00                                    | 2:00      | 1.00     | 5,761         | 3-5-1      | Tripped in one stand to 3,030'. Circulate bottoms up to cool wellbore while waiting on electrician to arrive to troubleshoot issue with drawworks A traction motor. Max temperature observed at the flow line was 105 deg.  |        |
| 2:00                                    | 6:00      | 4.00     | 5,761         | 3-34-3     | Tripped out of the hole from 2,946' to Surface. break out bit and swap motor from 1.5 deg, .111 rev to 1.25 deg .166 rev.  Note: first motor arrived on location at 1915 HRS on 7-7. No paper work was provided with the motor when it arrived. Motor was made up and ran in the hole to 2,946'. Second motor arrived at 0100 HRS on 7-8. Once paper work was provided to the on-site GRG supervisor it was discovered that the first motor ran in the hole was a low speed high torque motor with a .111 rev. conversation was had with GRG team and decision was made to pull out of the hole and swap motors to the high speed low torque .166 rev that was delivered at 0100 HRS while waiting on electrician to arrive to troubleshoot drawworks A traction motor. | X      |
| 6:00                                    | 6:30      | 0.50     | 5,761         | 3-34-4     | Lay down MWD, NMDC and motor  | Х      |
| 6:30                                    | 11:30     | 5.00     | 5,761         | 9-32       | Waiting on Schlumberger to rebuild MWD  | Х      |
| 11:30                                   | 13:00     | 1.50     | 5,761         | 3-34-3     | Picked up Directional tools and RIH with same.  | Х      |
| 13:00                                   | 14:00     | 1.00     | 5,761         | OTHER      | Changed Pason sensor in crown.  |        |
| 14:00                                   | 15:00     | 1.00     | 5,761         | 3-34-3     | RIH to 1135'.   | Х      |
| 15:00                                   | 0:00      | 9.00     | 5,761         | REPR       | Repair Rig / Work on rig SCR system. Electrician was unable to locate issue with drawwork traction motor A. Wait on SCR tech to arrive.   | Х      |

#### **Management Summary**

Continued picking up and racking back 6 stands of 5.5" drill pipe out of the mouse hole.

Tripped in one stand to 3,030'. Circulate bottoms up to cool wellbore while waiting on electrician to arrive to troubleshoot issue with drawworks A traction motor.

Tripped out of the hole from 2,946' to Surface. break out bit and swap motor from 1.5 deg, .111 rev to 1.25 deg 0.166 rev/gal.

Laid down MWD, NMDC and motor.

Rebuild MWD.

Picked up Directional tools and RIH with same.

Changed Pason sensor in crown.

RIH to 1135'.

Repair Rig / Work on rig SCR system.

#### Comments

Total hours of NPT on daily report 13 due to Schlumberger 12.0 HRS.

Total hours for well to Schlumberger 16.5 HRS.

Total hours of NPT on daily report 13 due to Frontier 9 HRS.

Total hours for well to Schlumberger 9.0 HRS.



**Geothermal Resource Group, Inc.** 

Well ID: Forge 78B-32

Well Name: 78B-32

Field: UTAHFORGF Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT Report No: 12 Report For 08-Jul-21 Casing/Tubular Information Size Top MD Top TVD Bottom MD Bottom TVD OH Diam. Nom. Wgt. Nominal LOT Type (ins) Section (ins) (lbs) Grade (lbs/gal) **FULL** 16.000 0 416 SURF 22.000 65 K-55 0.61 0 2.990 **FULL** 11.750 INT1 14.750 54 J-55 11.70 **Mud Information** Gels Temp Mud Filt. Cake pH/ES Solids Oil Water Sand LGS CaCI 10s 10m 30m Out Loss 08-Jul-21 15:30 at Depth 5,761 ft Mud Pits, Type: Low Solids Non-Dispersed 700 95 8.30 10 2 0.01 120 1 1 1 95 **Mud Consumables Item Description** Qty. Item Description Cost Qty. Cost Engineering - EACH perdiem - OTHER 1 **Bit/BHA/Workstring Information** Depth This Run R.O.P. Mud Pump Dist Hrs Max WOB RPM Torque Wt No Run Make Model Diam In Avg Flow Press J. Vel P. Drp HHP 1 NOV TCK83 10.625 5761 0/0 Jets: 13 13 12 12 12 12 12 12 Out: 5761 Grade: Cutter: Dull: NO/NO Wear: A Brgs: X Gge: 0 Pull: BHA BIT, MMTR, STAB, MWD, 2 OTHER, STAB, MONEL, 3 OTHER, DC, XO, HWDP = 962.49 **BHA -** No. 9 -**Miscellaneous Drilling Parameters** Hook Loads (lbs): Off Bottom Rotate: Pick Up: Slack Off: Drag Avg/Max: **Slow Circulation Data:** 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Pump 1: Pump 2: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi 110 psi 40 spm Pump 3: 30 spm 215 psi 50 spm 311 psi 65.75 65.75 Hours on BHA: Since Inspection: Total: Jars: 0 Hours on Casing/Liner: Rotating: 48.5 *I* Tripping: 28 / Wear Bushing Installed **Rig Information Equipment Problems:** Traction motor A on drawwoks tripping SCR breaker. **Location Condition:** Transport: Received 7" wellhead, 2- X/O from Dynasty. Solids Control Information **Screen Sizes:** Top Middle 1 Middle 2 **Bottom** Equipment Usage (Hrs): Shaker No 1: 120 120 120 120 Desander: 0 Desilter: 0 Degasser: 0 Shaker No 2: 120 120 120 120 Centrifuge 1: 24 (Solids Removal) Centrifuge 2: 24 (Solids Removal) Shaker No 3: 120 120 120 120 **Bulk Inventory** Units Beginning Used Received On Hand Net **Item Type** Rig Fuel 8,545 449 8,096 **Drill Pipe Inventory DP Size** Joints Weight Grade **Thread DP Size Joints** Weight Grade Thread 5.5IF 5.5" 258 24.7 S-135 **Safety Information** Meetings/Drills Time Description Safety 60 Two 30 min Pre tour safety meetings with both crews. Forklift operations, LOTO, Working with electrician. First Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Days Since LTI: **Accident Description:** None to report. BOP Test ✓ Crownamatic Check



## Daily Drilling Report Well ID: Forge 78B-32

Geothermal Resource Group, Inc.

Well Name: 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 12 Report For 08-Jul-21

| Weather information |         |                |       |  |  |  |  |  |  |  |
|---------------------|---------|----------------|-------|--|--|--|--|--|--|--|
| Sky Condition:      | Clear   | Visibility:    | 10    |  |  |  |  |  |  |  |
| Air Temperature:    | 78 degF | Bar. Pressure: | 29.98 |  |  |  |  |  |  |  |
| Wind Speed/Dir:     | 10 / SW | Wind Gusts:    | 2     |  |  |  |  |  |  |  |



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Field: UTAHFORGE

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Vertical Depth (ft):   | 9-Jul-21<br><br>ctual (\$)<br><br><br>13<br>47 / 276 |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
| Measured Depth (fft):   5761   Last Casing: 11.750 at 2,990   Wellbore: Original Wellbore   AFE No.   AFE (\$)   A   | <br><br><br>13                                       |  |  |  |  |  |  |  |  |
| Vertical Depth (ft):   | <br><br><br>13                                       |  |  |  |  |  |  |  |  |
| Proposed TD (ft):  | <br><br>13   |  |  |  |  |  |  |  |  |
| Hole Made (ft) / Hrs:  | <br><br>13   |  |  |  |  |  |  |  |  |
| Average ROP (ft/hr):  Drilling Days (act./plan): 13/21 Flat Days (act./plan): 0/9 Total Days (act./plan): 13/30 Days On Location:  Pers/Hrs: Operator: 3 / 36 Contractor: 14 / 168 Service: 6 / 72 Other: 24 / 0 Total:  Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.  Current Operations: Waitting on SCR technician to arrive.  Planned Operations: Wait on SCR technician to arrive.  Planned Operations: Wait on SCR technician to arrive.  Trip in the hole.  Drill 10-5/8" hole section from 5,761' to 6,700' (coring depth).  Toolpusher: Steve Caldwell , Justin Bristol  Wellsite Supervisors: Virgil Welch , Brian Gresham  Operations Summary  From To Elapsed End MD(ft) Code Operations Description  O:00 0:00 24.00 5,761 REPR Wait on SCR technician to arrive.  Management Summary  Waited on SCR technician to arrive. | <br>13   |  |  |  |  |  |  |  |  |
| Drilling Days (act./plan): 13/21   Flat Days (act./plan): 0/9   Total Days (act./plan): 13/30   Days On Location:  | 13   |  |  |  |  |  |  |  |  |
| Pers/Hrs: Operator: 3 / 36 Contractor: 14 / 168 Service: 6 / 72 Other: 24 / 0 Total:  Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.  Current Operations: Waitting on SCR technician to arrive.  Planned Operations: Wait on SCR technician to arrive.  Planned Operations: Wait on SCR technician to arrive.  Trip in the hole.  |  |  |  |  |  |  |  |  |  |
| Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.  Current Operations: Waitting on SCR technician to arrive.  Planned Operations: Wait on SCR technician to arrive.  troubleshoot SCR.  Trip in the hole.  Drill 10-5/8" hole section from 5,761' to 6,700' (coring depth).  Toolpusher: Steve Caldwell , Justin Bristol  Wellsite Supervisors: Virgil Welch , Brian Gresham  Tel No.: 7132807438  Prom To Elapsed End MD(ft) Code Operations Description  0:00 0:00 24.00 5,761 REPR Wait on SCR technician to arrive.  Management Summary  Waited on SCR technician to arrive.   | 47 / 276   |  |  |  |  |  |  |  |  |
| Current Operations: Waitting on SCR technician to arrive.  Planned Operations: Wait on SCR technician to arrive.  troubleshoot SCR. Trip in the hole. Drill 10-5/8" hole section from 5,761' to 6,700' (coring depth).  Toolpusher: Steve Caldwell , Justin Bristol  Wellsite Supervisors: Virgil Welch , Brian Gresham  Tel No.: 7132807438   Operations Summary  From To Elapsed End MD(ft) Code Operations Description  0:00 0:00 24:00 5,761 REPR Wait on SCR technician to arrive.  Management Summary  Waited on SCR technician to arrive.   |  |  |  |  |  |  |  |  |  |
| Planned Operations: Wait on SCR technician to arrive. troubleshoot SCR. Trip in the hole. Drill 10-5/8" hole section from 5,761' to 6,700' (coring depth).  Toolpusher: Steve Caldwell , Justin Bristol  Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438  Toperations Summary  From To Elapsed End MD(ft) Code Operations Description  0:00 0:00 24:00 5,761 REPR Wait on SCR technician to arrive.  Management Summary  Waited on SCR technician to arrive.  |  |  |  |  |  |  |  |  |  |
| troubleshoot SCR. Trip in the hole. Drill 10-5/8" hole section from 5,761' to 6,700' (coring depth).  Toolpusher: Steve Caldwell , Justin Bristol  Wellsite Supervisors: Virgil Welch , Brian Gresham  Operations Summary  From To Elapsed End MD(ft) Code Operations Description  0:00 0:00 24.00 5,761 REPR Wait on SCR technician to arrive.  Management Summary  Waited on SCR technician to arrive.   |  |  |  |  |  |  |  |  |  |
| Wellsite Supervisors: Virgil Welch , Brian Gresham  Operations Summary  From To Elapsed End MD(ft) Code Operations Description  0:00 0:00 24.00 5,761 REPR Wait on SCR technician to arrive.  Management Summary  Waited on SCR technician to arrive.  |  |  |  |  |  |  |  |  |  |
| From To Elapsed End MD(ft) Code Operations Description I  0:00 0:00 24.00 5,761 REPR Wait on SCR technician to arrive.  Management Summary  Waited on SCR technician to arrive.  |  |  |  |  |  |  |  |  |  |
| From To Elapsed End MD(ft) Code Operations Description  0:00 0:00 24.00 5,761 REPR Wait on SCR technician to arrive.  Management Summary  Waited on SCR technician to arrive.  |  |  |  |  |  |  |  |  |  |
| 0:00 0:00 24.00 5,761 REPR Wait on SCR technician to arrive.  Management Summary  Waited on SCR technician to arrive.  | Non-Prod   |  |  |  |  |  |  |  |  |
| Management Summary  Waited on SCR technician to arrive.  | X  |  |  |  |  |  |  |  |  |
| Waited on SCR technician to arrive.  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Comments   |  |  |  |  |  |  |  |  |  |
| Total house of NDT are delivered at 4.4 due to Frentier 0.4 LDC  |  |  |  |  |  |  |  |  |  |
| Total hours of NPT on daily report 14 due to Frontier 24 HRS.  Total hours of NPT on Frontier to date 33 HRS.  |  |  |  |  |  |  |  |  |  |
| Casing/Tubular Information   |  |  |  |  |  |  |  |  |  |
| Size Top MD Top TVD Bottom MD Bottom TVD Hole OH Diam. Nom. Wgt. Nominal Type (ins) (ft) (ft) (ft) Section (ins) (lbs) Grade (   | LOT  |  |  |  |  |  |  |  |  |
| FULL 16.000 0 416 SURF 22.000 65 K-55  | Ibs/gal)<br>0.61                                     |  |  |  |  |  |  |  |  |
| FULL 11.750 0 2,990 INT1 14.750 54 J-55  | 11.70  |  |  |  |  |  |  |  |  |
| Mud Information  |  |  |  |  |  |  |  |  |  |
| % Gels Temp  | Mud  |  |  |  |  |  |  |  |  |
| Dens. Vis PV YP Filt. Cake pH/ES Solids Oil Water Sand LGS Cl Ca CaCl 10s 10m 30m In Out   |  |  |  |  |  |  |  |  |  |
| 09-Jul-21 14:00 at Depth 5,761 ft Mud Pits, Type: Low Solids Non-Dispersed   |  |  |  |  |  |  |  |  |  |
| 8.30 26 0 1 0 1 10 2 0 98 0.01 0 800 120 1 1 1 90 90   | 0  |  |  |  |  |  |  |  |  |
| Mud Consumables  |  |  |  |  |  |  |  |  |  |
| Item Description Qty. Cost Item Description Qty.   | Cost   |  |  |  |  |  |  |  |  |
| Engineering - EACH         1          perdiem - OTHER         1  |  |  |  |  |  |  |  |  |  |
| Bit/BHA/Workstring Information   |  |  |  |  |  |  |  |  |  |
| BHA - No. 9 - BIT, MMTR, STAB, MWD, 2 OTHER, STAB, MONEL, 3 OTHER, DC, XO, HWDP = 962.49   |  |  |  |  |  |  |  |  |  |
| Miscellaneous Drilling Parameters  |  |  |  |  |  |  |  |  |  |
| Hook Loads (lbs): Off Bottom Rotate: Pick Up: Slack Off: Drag Avg/Max: /   |  |  |  |  |  |  |  |  |  |
| Slow Circulation Data:   |  |  |  |  |  |  |  |  |  |
| Pump 1:         30 spm         110 psi         40 spm         215 psi         50 spm         311 psi   |  |  |  |  |  |  |  |  |  |
| Pump 2:         30 spm         110 psi         40 spm         215 psi         50 spm         311 psi   |  |  |  |  |  |  |  |  |  |
| Pump 3:         30 spm         110 psi         40 spm         215 psi         50 spm         311 psi   |  |  |  |  |  |  |  |  |  |
| Hours on BHA: Since Inspection: 65.75 Total: 65.75 Jars: 0   |  |  |  |  |  |  |  |  |  |
| Hours on Casing/Liner: Rotating: 48.5 / Tripping: 28 / Wear Bushing Installed  |  |  |  |  |  |  |  |  |  |
| Rig Information  |  |  |  |  |  |  |  |  |  |
| Equipment Problems: Traction motor A on drawwoks tripping SCR breaker.   |  |  |  |  |  |  |  |  |  |
| Location Condition: Good.  |  |  |  |  |  |  |  |  |  |
| Transport: Received 2 loads of 7" casing.  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Printed: 07:37 10-1ul-21 RIMBase 7.5.582.0 Printed: 07:37 10-1ul-21  |  |  |  |  |  |  |  |  |  |



## **Geothermal Resource Group, Inc.**

Well ID: Forge 78B-32

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Tissue of the country country country country country country. |            |             |               |              |          |                    |               |          |                        |               |
|--|------------|-------------|---------------|--------------|----------|--------------------|---------------|----------|------------------------|---------------|
| Report No: 13 Report For 09-Jul-21                             |            |             |               |              |          |                    |               |          |                        |               |
| Solids Control Information                                     |            |             |               |              |          |                    |               |          |                        |               |
| Screen Sizes:  | Тор        | Middle 1    | Middle 2      | Bottom       | Equip    | ment Usage (H      | rs):          |          |                        |               |
| Shaker No 1:   | 120        | 120         | 120           | 120          | Desai    | nder: 0            | Desilter:     | 0        | Degasser: 0            |               |
| Shaker No 2:   | 120        | 120         | 120           | 120          | Centr    | ifuge 1: 24 (So    | lids Removal) | )        | Centrifuge 2: 24 (So   | lids Removal) |
| Shaker No 3:   | 120        | 120         | 120           | 120          |          |                    |               |          |                        |               |
| Bulk Inventory   |            |             |               |              |          |                    |               |          |                        |               |
|  | Item Type  | е           |               | Units        | Е        | Beginning          | Used          | Receiv   | ed On Hand             | Net           |
| Rig Fuel   |            |             |               |              |          | 8,096              | 720           |          | 7,376                  |               |
| Drill Pipe Inventory   |            |             |               |              |          |                    |               |          |                        |               |
| DP Size Jo   | oints V    | Veight      | Grade         | Threa        | d        | DP Size            | Joints        | Weigh    | t Grade                | Thread        |
| 5.5"   | 258        | 24.7        | S-135         | 5.5IF        |          |                    |               |          |                        |               |
|  |            |             |               | Safe         | ety Inf  | ormation           |               |          |                        |               |
| Meetings/Drills  | Time       |             |               | D            | escrip   | tion               |               |          |                        |               |
| Safety   | 60 Tw      | o 30 min Pı | re tour safet | y meetings w | ith both | crews. Forklift of | perations, LO | OTO, Wor | king with electrician. |               |
| First Aid Treatme  | nts:       | 0 Medic     | al Treatme    | nts:         | 0        | Lost Time Incid    | lents:        | 0 [      | Days Since LTI:        |               |
| Accident Descrip   | tion: None | to report.  |               |              |          |                    |               |          |                        |               |
| BOP Test   | ✓ Cro      | ownamatic   | Check         |              |          |                    |               |          |                        |               |
|  |            |             |               | Wea          | ther In  | formation          |               |          |                        |               |
| Sky Condition:   | Clear      |             |               |              |          | Visibility:        | 10            |          |                        |               |
| Air Temperature:   | 66 degF    |             |               |              |          | Bar. Pressure:     | 29.89         |          |                        |               |
| Wind Speed/Dir:  | 5 / SW     |             |               |              |          | Wind Gusts:        | 2             |          |                        |               |
|  |            |             |               |              |          |                    |               |          |                        |               |



#### Geothermal Resource Group, Inc.

Well Name: 78B-32

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Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 14         |                     |                     |                |                  |            |          |                 | Report For | 10-Jul-21   |
|-----------------------|---------------------|---------------------|----------------|------------------|------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utal  | n Rig:              | Frontier Rig 1 | 6 Spud Date:     | 28-        | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft    | ): 582 <sup>-</sup> | 1 Last Casing: 1    | 11.750 at 2,99 | 0 Wellbore:      | Original V | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 5820                | Next Casing:        | 7.000 at 8,50  | 0 RKB Elevation  | ո (ft)։    | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500                | Last BOP Test       | : 03-Jul-2     | 1 Job Reference  | RKB (ft):  |          |                 |            |             |
| Hole Made (ft) / Hrs  | : 60 / 8.5          | Next BOP Test       | : 24-Jul-2     | 1 Working Inter  | est:       |          | Totals:         |            |             |
| Average ROP (ft/hr)   | 7.00                | 6                   |                | LOT (lbs/gal):   |            | 11.70    | Well Cost (\$): |            |             |
| Drilling Days (act./p | olan): 14/21 l      | Flat Days (act./pla | an): 0/9       | Total Days (act. | /plan):    | 14/30    | Days On Loca    | ition:     | 14          |
| Pers/Hrs: Opera       | tor: 3 / 36         | Contractor:         | 14 / 168       | Service:         | 6 / 72     | Other:   | 3 / 38          | Total:     | 26 / 314    |
| 0.64.0                |                     |                     |                | 01 1 0 5 1 14    |            |          |                 |            |             |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Staged in the hole cooling the directional drilling assembly.

Drilled 10-5/8" hole section from 5821' to 6,107'.

Planned Operations: Drill 10-5/8" hole section to 6,700' (coring depth).

**Toolpusher:** Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

| velisite Si | uperviso | rs: virgii | i weich , Bria | in Gresnam | Iel No.: /13280/438   |          |
|-------------|----------|------------|----------------|------------|---|----------|
|             |          |            |                |            | Operations Summary  |          |
| From        | То       | Elapsed    | End MD(ft)     | Code       | Operations Description N  | lon-Prod |
| 0:00        | 10:00    | 10.00      | 5,761          | REPR       | Wait on SCR technician to arrive.   | X        |
| 10:00       | 13:00    | 3.00       | 5,761          | REPR       | Diagnose issues with SCR house and repair same. Rig back on Dayrate @ 13:00 hours on 7/10/2021  Note: SCR tech found two bare wires between SCR bays causing system to short out.   | Х        |
| 13:00       | 15:30    | 2.50       | 5,761          | 10-6-3     | RIH to bottom / fill pipe   |          |
| 15:30       | 16:30    | 1.00       | 5,821          | 3-2-3      | Drill 10-5/8" hole from 5,761' to 5,821'.  Dumped and diluted 100 bbl's of fresh water while drilling ahead.  Note: Observed pressure spike while drilling ahead at 5,806' along with motor stall.  Pressure reached 4,158 psi at surface blowing pop-off on mud pump. Picked up off bottom and rest pop off. Once back on bottom differential pressure fell to 198 psi and continued dropping. large pieces of rubber observed at the shakers from stator indicating motor failed. Upon discussion with Schlumberger, it was discovered that the motor in the hole had a temperature rating of 208 deg. Max temperature on bottom was 300 deg. | d        |
| 16:30       | 19:30    | 3.00       | 5,821          | 3-6-4      | Trip out of the hole from 5,821' to surface with no issues.  Dumped and diluted 100 bbl's of fresh water while tripping out of the hole.  | X        |
| 19:30       | 22:00    | 2.50       | 5,821          | 3-6-2      | Rack back HWDP along with 8' drill collars. Broke out bit and laid out motor. Note: Motor rotated with no resistance, no fluid in motor. Bit had 2 plugged jets with stator rubber. Stabilizer above the motor at 41' was 3/4" under-gagged.  | X        |

# Tripped in the hole with BHA to 1,000'. Management Summary

Picked up new 10-5/8" NOV bit. Picked up new top 10-3/8" stab. Made up and scribed tools.

Picked up new (NOV) motor 1.5 deg, 0.111 rev.

Waited on SCR technician to arrive.

0:00

Diagnose issues with SCR house and repaired same. Rig back on Dayrate @ 13:00 hours on 7/10/2021.

5.821 3-6-1

RIH to bottom / fill pipe.

22:00

Drill 10-5/8" hole from 5,761' to 5,821'.

Tripped out of the hole from 5,821' due to motor failure.

2.00

Laid out motor and bit.

Picked up new (NOV) motor 1.5 deg and 0.111 rev.

Picked up new 10-5/8" NOV bit.

Picked up new top 10-3/8" stab.

#### Comments

Note: Observed pressure spike along with motor stall while drilling ahead at 5,806'. Pressure reached 4,158 psi at surface blowing pop-off on mud pump. Picked up off bottom and rest pop off. Once back on bottom differential pressure fell to 198 psi and continued dropping. large pieces of rubber observed at the shakers from stator indicating motor failed. Upon discussion with Schlumberger, it was discovered that the motor in the hole had a temperature rating of 208 deg. Max temperature on bottom was 300 deg while tripping in the hole.

Total hours of NPT on daily report 15 due to Frontier 13 HRS.

Total hours of NPT on Frontier to date 46 HRS.



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGF

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 14 Report For 10-Jul-21 Total hours of NPT on daily report 15 due to Schlumberger 7.5 HRS. Total hours for well to date for Schlumberger 24 HRS. Casing/Tubular Information Size Top MD Top TVD **Bottom MD Bottom TVD** Nom. Wgt. OH Diam. **Nominal** LOT Type (ins) (ft) (ft) (ft) (ft) Section (ins) (lbs) Grade (lbs/gal) FULL 16.000 22.000 0 416 **SURF** 65 K-55 0.61 **FULL** 11.750 0 2 990 INT1 14.750 54 J-55 11.70 **Mud Information** Gels Temp Mud Filt. Cake pH/ES Solids Oil Water Sand LGS Ca CaCI 10s 10m 30m In Out Loss 10-Jul-21 19:30 at Depth 5,821 ft Mud Pits, Type: Low Solids Non-Dispersed 9.5 98 0.01 800 120 1 1 98 105 **Mud Consumables Item Description** Qty. Cost **Item Description** Qty. Cost Engineering - EACH perdiem - OTHER **Bit/BHA/Workstring Information** Depth This Run  $R \cap P$ Mud Pump No Run Model Diam In Max WOB RPM Torque Wt Flow Press J. Vel P. Drp HHP 2 NOV **TCK83** 10.625 60.0 65.0 40 3000 269 957 Jets: 13 13 12 12 12 12 12 12 Out: 5821 Grade: Cutter: 1/3 Dull: WT/NO Wear: S Pull: DMF BIT, MMTR, STAB, MWD, 2 OTHER, STAB, MONEL, 3 OTHER, DC, XO, HWDP = 962.49 **Drilling Parameters** ROP (ft/hr) WOB (lbs) Torque (ft lbs) Depth (ft) RPM Flow (gals/min) **Pressure** From To Avg Max Avg Max Avg Max Max Avg Max (psi) 5,821 65.0 5,761 40 O 65 65 40 40 16 16 800 800 3,000 Annular Velocity: Drill Collars: 478.5 **Drill Pipe:** 247.2 Tripped out of the hole due to motor failure. Miscellaneous Drilling Parameters Hook Loads (lbs): Off Bottom Rotate: 231 Pick Up: 245 Slack Off: 225 Drag Avg/Max: 3/5 **Slow Circulation Data:** 30 spm 110 psi 215 psi Pump 1: 40 spm 50 spm 311 psi Pump 2: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Pump 3: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Hours on BHA: Since Inspection: 66.75 Total: 66.75 Jars: Hours on Casing/Liner: Rotating: 49.5*I* Wear Bushing Installed Tripping: 37 I **Mud Log Information** Depth (ft) TVD (ft) Mud ROP Shale Gas (Units) Gas Drilling Pore **Press** Dens. From To From To Max at Depth Connect. Trip Exp. Dens. **Shale** Sand 4.790 5.821 4.789 5.820 0 0 0 0 0 0 0.00 8.30 **Formation Name:** 100% Granodiorite Lithology: Rig Information **Equipment Problems:** SCR tech found two wires shorted out on SCR system. **Location Condition:** Good. Received 2 loads of 7" casing. Transport: Solids Control Information Middle 2 Screen Sizes: qoT Middle 1 **Bottom** Equipment Usage (Hrs): Shaker No 1: 120 120 120 120 Desander: 0 Desilter: 0 Degasser: Shaker No 2: 120 120 120 120 Centrifuge 1: 24 (Solids Removal) Centrifuge 2: 24 (Solids Removal) 120 Shaker No 3: 120 120 120 **Bulk Inventory Item Type** Units **Beginning** Used Received On Hand Net Rig Fuel 7.376 7.376



# Daily Drilling Report Well ID: Forge 78B-32

# Geothermal Resource Group, Inc.

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

|                      | 1 10.u. U 1 | .,             |                |                      | 0000              | . 02 . 0      |           | g. ovv ocumy. Bu   | davor Otato. O r |
|----------------------|-------------|----------------|----------------|----------------------|-------------------|---------------|-----------|--------------------|------------------|
| Report No:           | 14          |                |                |                      |                   |               |           | Repo               | rt For 10-Jul-21 |
|                      |             |                |                | Water / Flui         | ds Inventory      |               |           |                    |                  |
|                      |             |                |                | Drill Pipe           | Inventory         |               |           |                    |                  |
| DP Size              | Joints      | Weight         | Grade          | Thread               | DP Size           | Joints        | Weigl     | ht Grade           | Thread           |
| 5.5"                 | 258         | 24.7           | S-135          | 5.5IF                |                   |               |           |                    |                  |
|                      |             |                |                | Safety In            | formation         |               |           |                    |                  |
| Meetings/Drills      | Time        |                |                | Descrip              | tion              |               |           |                    |                  |
| Safety               | 60          | Two 30 min     | Pre tour safet | y meetings with both | n crews. Handling | BHA, forklift | operation | ons, LOTO, working | in the heat.     |
| First Aid Treati     | ments:      | 0 Med          | ical Treatme   | <b>nts:</b> 0        | Lost Time Incid   | ents:         | 0         | Days Since LTI:    |                  |
| <b>Accident Desc</b> | ription: No | one to report. |                |                      |                   |               |           |                    |                  |
| BOP Test             | <b>✓</b>    | Crownamati     | c Check        |                      |                   |               |           |                    |                  |
|                      |             |                |                | Weather In           | nformation        |               |           |                    |                  |
| Sky Condition:       | Clear       |                |                |                      | Visibility:       | 10            |           |                    |                  |
| Air Temperatur       | re: 76 deg  | F              |                |                      | Bar. Pressure:    | 29.89         |           |                    |                  |
| Wind Speed/Di        | r: 10 / NE  |                |                |                      | Wind Gusts:       | 3             |           |                    |                  |
| Comments:            | Smoky       |                |                |                      |                   |               |           |                    |                  |
|                      |             |                |                |                      |                   |               |           |                    |                  |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Report For 11-Jul-21

| Report No. 15         |                    |                    |                |                  |            |         |                 | Report For | 11-5ul-21   |
|-----------------------|--------------------|--------------------|----------------|------------------|------------|---------|-----------------|------------|-------------|
| Operator:             | University of Utah | Rig:               | Frontier Rig 1 | 6 Spud Date:     | 28-0       | Jun-21  | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft)   | : 6700             | Last Casing:       | 11.750 at 2,99 | 0 Wellbore:      | Original W | ellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 6699               | Next Casing:       | 7.000 at 8,50  | 0 RKB Elevation  | ո (ft):    | 30.40   |                 |            |             |
| Proposed TD (ft):     | 9500               | Last BOP Test      | : 03-Jul-2     | Job Reference    | RKB (ft):  |         |                 |            |             |
| Hole Made (ft) / Hrs: | 879 / 14.5         | Next BOP Test      | :: 24-Jul-2    | 21 Working Inter | est:       |         | Totals:         |            |             |
| Average ROP (ft/hr)   | : 60.62            |                    |                | LOT (lbs/gal):   |            | 11.70   | Well Cost (\$): |            |             |
| Drilling Days (act./p | lan): 15/21 F      | lat Days (act./pla | an): 0/9       | Total Days (act. | /plan):    | 15/30   | Days On Loca    | ition:     | 15          |
| Pers/Hrs: Opera       | tor: 3 / 36 C      | ontractor:         | 14 / 168       | Service:         | 6 / 72     | Other:  | 3 / 36          | Total:     | 26 / 312    |

Safety Summary: No incidents or events reported. Conducted BOP Drill, Crown Check, Safety Meeting.

**Current Operations:** Held safety meeting with all involved personal on picking up coring assembly.

Made up 8-3/4" coring assembly. Picked up 15 joints of 5.5" drill pipe.

Tripping in the hole with 8-3/4" coring assembly at 4,000'.

**Planned Operations:** Trip in the hole with 8-3/4" coring assembly.

Core 8-3/4" hole from 6,700'. Steve Caldwell , Justin Bristol

Toolpusher: Wellsite Supervisors: Virgil Welch , Brian Gresham

| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description No  | n-Prod |
|-------|-------|---------|------------|--------|--|--------|
| 0:00  | 1:15  | 1.25    |            | 3-6-3  | Tripped in the hole from 1,000' to 3,245'.   | X      |
| 1:15  | 1:30  | 0.25    | 5,821      |        | Broke circulation at 3,245' to cool tools.  Max temp observed at MWD was 189 deg.  Max temp at surface was 103 deg.  | X      |
| 1:30  | 2:00  | 0.50    | 5,821      | 3-6-3  | Tripped in the hole from 3,245' to 4,192'.   | Х      |
| 2:00  | 2:15  | 0.25    | 5,821      | 3-5-1  | Broke circulation at 4,192' to cool tools.  Max temp observed at MWD was 214 deg.  Max temp at surface was 107 deg.  | Х      |
| 2:15  | 2:45  | 0.50    | 5,821      | 3-6-3  | Tripped in the hole from 4,192' to 5,200'.   | Х      |
| 2:45  | 3:00  | 0.25    | 5,821      | 3-5-1  | Broke circulation at 5,200' to cool tools.  Max temp observed at MWD was 222 deg.  Max temp at surface was 109 deg.  | Х      |
| 3:00  | 3:15  | 0.25    | 5,821      | 3-6-3  | Tripped in the hole from 5,200' to 5,710'.   | Х      |
| 3:15  | 3:30  | 0.25    | 5,821      | 3-5-1  | Broke circulation at 5,710' to cool tools. Washed down from 5,710' to 5,821' Max temp observed at MWD was 254 deg.  Max temp at surface was 135 deg.   | Х      |
| 3:30  | 6:00  | 2.50    | 6,087      | 3-2-3  | Drill 10-5/8" hole from 5,821' to 6,087' Performed WOB step test @ 5,900'. Performed RPM step test @ 5,920'.   |        |
| 6:00  | 6:30  | 0.50    | 6,108      | 3-2-3  | Slide Drill from 6,087' to 6,108'  |        |
| 6:30  | 14:00 | 7.50    | 6,561      | 3-2-3  | Drill 10-5/8" hole from 6,108' to 6,561' with 65K WOB, 800 GPM and 40-50 surface RPM, Dump 180 bbl from active system and add 150 bbl fresh water to system                                  |        |
| 14:00 | 14:30 | 0.50    | 6,561      | SERV   | Service rig and top drive while circulating on bottom with 1 pump to keep MWD cool   |        |
| 14:30 | 16:00 | 1.50    | 6,700      | 3-2-3  | Drill 10-5/8" hole from 6,561' to 6,700' with 65K WOB, 820 GPM and 51 surface RPM with no losses or hole issues: MWD temp has risen from 170F to 176F in the last 500' of drilling           |        |
| 16:00 | 16:30 | 0.50    | 6,700      | 3-5-1  | Circulate bottoms up while allowing weight to drill off  |        |
| 16:30 | 20:00 | 3.50    | 6,700      | 10-6-4 | Trip out of the hole from 6,700' to BHA. 30-40k over-pull.   |        |
| 20:00 | 23:30 | 3.50    | 6,700      | 3-34-4 | Racked back HWDP along with 8' drill collars. Laid out all dir tools. Motor drained good with minimal movement in bearing assembly.  Sleeve stab on motor had one blade completely worn off. |        |
| 23:30 | 0:00  | 0.50    | 6,700      | OTHER  | Cleaned and cleared rig floor. Laid out 15 joints of 5.5" drill pipe on racks and strapped same.   |        |

#### **Management Summary**

Staged in the hole from 1.000' to 5,821'.

Drilled 10-5/8" hole from 5,821' to 6,700' (core point).

Circulated bottoms up.

Tripped out of the hole from 6,700' to BHA.

Racked back HWDP along with 8' drill collars. Laid out all directional tools.

Cleaned and cleared rig floor.



Well ID: Forge 78B-32

Field: UTAHFORGE

# Geothermal Resource Group, Inc.

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report For 11-Jul-21 Report No: 15

| Laid out 15 | joints of 5.5 | " drill pipe | on racks. |
|-------------|---------------|--------------|-----------|
|             |               |              |           |

#### Comments

|                     |                |                    |              |              |              | Comr                  | nents        | <b>;</b>  |         |                 |         |         |       |                 |           |              |
|---------------------|----------------|--------------------|--------------|--------------|--------------|-----------------------|--------------|-----------|---------|-----------------|---------|---------|-------|-----------------|-----------|--------------|
|                     | of NPT on dai  |                    |              | umberg       | er 3.5 H     | IRS.                  |              |           |         |                 |         |         |       |                 |           |              |
|                     | or well to Sch |                    |              |              |              |                       |              |           |         |                 |         |         |       |                 |           |              |
| Total Hours (       | DINFI OII FIC  | onlier to date     | 2 40 HKS.    |              | Coolin       | a/Tubul               | au los       | a rmatia  |         |                 |         |         |       |                 |           |              |
|                     | Size           | Top MD             | Top T        | VD B         |              | ng/Tubula<br>MD Botto |              |           |         | OH Di           | am      | Nom. Wo | nt    | Nominal         | 1         | .OT          |
| Type                | (ins)          | (ft)               | (ft)         |              | (ft)         |                       | ft)          | Sect      |         | (ins            |         | (lbs)   |       | Grade           | (lbs/gal) |              |
| FULL                | 16.000         |                    | 0            |              | 4            | 16                    |              |           | SURF    | 22              | 2.000   | . ,     | 65    | K-55            | 5         | 0.61         |
| FULL                | 11.750         |                    | 0            |              | 2,9          | 90 INT1               |              |           |         |                 | 1.750   |         | 54    | J-55            | 5         | 11.70        |
|                     |                |                    |              |              |              | Mud Info              | rmati        | ion       |         |                 |         |         |       |                 |           |              |
|                     |                |                    |              |              | %            |                       |              |           |         |                 |         | Gels    |       | Ter             | np        | Mud          |
| Dens. Vis           | PV YP I        | Filt. Cake         | pH/ES So     | olids (      | Dil Wa       | iter Sand             | LGS          | CI        | Ca      | CaC             | 10:     | s 10m   | 30n   | n In            | Out       | Loss         |
| 11-Jul-21 16        | :30 at Depth   | 6,700 ft Mu        | ud Pits, Typ | e: Low S     | Solids N     | on-Dispers            | sed          |           |         |                 |         |         |       |                 |           |              |
| 8.30 26             | 0 1            | 0 1                | 10           | 2            | 0            | 98 0.01               | 0            | 900       | 12      | 0               |         | 1 1     |       | 1 114           | 123       |              |
|                     |                |                    |              |              | N            | lud Cons              | suma         | bles      |         |                 |         |         |       |                 |           |              |
|                     | Item Descr     | iption             |              | Qty.         |              | Cost                  |              |           |         | Descrip         | tion    |         |       | Qty.            | С         | ost          |
| caustic Soda        | ı - 50#SK      |                    |              |              | 2            |                       | Engi         | neering - | - EAC   | Н               |         |         |       | 1               |           |              |
| perdiem - O         | THER           |                    |              |              | 1            |                       |              |           |         |                 |         |         |       |                 |           |              |
|                     |                |                    |              |              |              | /Workstr              |              | nformat   | ion     |                 |         |         |       |                 |           |              |
|                     |                |                    | Depth        | This         |              | R.O.P.                |              |           |         | _               | Mud     |         | •     |                 |           |              |
|                     | ake Mode       | -                  | In<br>5004   | Dist         |              |                       |              | OB RE     | _       |                 |         |         | _     | Vel P. Dr       |           | _            |
| 9 1 NO              |                | 10.625             | 5821         | 879          | 12           |                       | 5.0          | 65        | 50      | 15              | 8       | 800 26  |       | 278 576         |           |              |
|                     | 12 12 12       |                    |              |              | Grade: (     |                       | 3/6          | Dull:     |         |                 | ear: S  | Brgs: X | Gge   | <b>e:</b> 0     | Pull:     | BHA          |
| <b>ВПА -</b> NO. 11 | O - BIT, MMT   | IK, STAD, I        | VIVVD, 2 OTI | TER, SI      |              |                       |              |           | ν, Πννι | JP - 903        | 0.10    |         |       |                 |           |              |
| Donth               | /£4\           | DOD /ft/b          | \            | WOB          |              | rilling Pa            |              |           |         | Fara /          | ft Iba\ | Fla     | /     | la/min)         | Dres      | sure         |
| Depth<br>From       | ` '            | ROP (ft/h<br>Avg l |              | Avg          | (IDS)<br>Max | Avg                   | RPN          | л<br>Мах  |         | Γorque (<br>Avg | Max     | Av      |       | ıls/min)<br>Max |           | ssure<br>si) |
| 5.821               | 6.700          | 75.0               | 165.0        | 65           |              | 75                    | <b>5</b> 0   | 70        | _       | 15              |         | 17      | 800   | 820             |           | 2.670        |
| - , -               | ocity: Drill   |                    | 478.5        | Drill F      |              | 247.2                 | 00           |           |         | 10              |         |         | 000   | 020             |           | _,070        |
| Comments:           | •              | from 6,087'        |              | <b>5</b> 1 1 | .po.         |                       |              |           |         |                 |         |         |       |                 |           |              |
|                     |                |                    | ,            | Mi           | scellar      | neous Dr              | illina       | Param     | eters   |                 |         |         |       |                 |           |              |
| Hook Loads          | (lbs):         | Off Botton         | n Rotate:    |              | Pick U       |                       |              | ack Off:  | 010.0   |                 | rag A   | /g/Max: | 1     | 10 / 15         |           |              |
| Slow Circul         | • •            | J., 2000.          |              |              |              | · P·                  | 70   0.10    |           |         |                 |         | · g     | •     |                 |           |              |
| Pur                 | np 1:          | 30 spm             | 1            | 10 psi       |              | 40 spm                |              | 215       | psi     |                 | 50 spm  | 1       | 311   | psi             |           |              |
| Pur                 | np 2:          | 30 spm             | 1            | 10 psi       |              | 40 spm                |              | 215       | psi     |                 | 50 spn  | 1       | 311   | psi             |           |              |
| Pur                 | np 3:          | 30 spm             | 1            | 10 psi       |              | 40 spm                |              | 215       | psi     |                 | 50 spn  | 1       | 311   | psi             |           |              |
| Hours on B          | HA:            | Since In           | spection:    | 78.75        | Tota         | <b>al:</b> 78.7       | 5 <b>J</b> a | ars:      | 0       |                 |         |         |       |                 |           |              |
| Hours on Ca         | asing/Liner:   | Rotating           | <b>g:</b> 6  | 1.5 <i>1</i> |              | Trippin               | g:           | 49 /      |         |                 | Wear    | Bushing | Insta | lled            |           |              |
|                     |                |                    |              |              |              |                       |              |           |         |                 |         |         |       |                 |           |              |



Geothermal Resource Group, Inc. Well Name: 78B-32

Well ID: Forge 78B-32 Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 15 Report For 11-Jul-21

| Report No   | <b>o:</b> 15 |           |              |            |         |               |              |            |             |            |           | Repo             | rt For 11  | -Jul-21 |
|-------------|--------------|-----------|--------------|------------|---------|---------------|--------------|------------|-------------|------------|-----------|------------------|------------|---------|
|             |              |           |              |            |         | Survey I      | nformatio    | n          |             |            |           |                  |            |         |
|             | Survey       | Meas      |              |            |         |               |              |            | Vertical    |            | rdinates  |                  |            |         |
|             | Туре         | Depth     |              |            | nuth    | TVD           | Closur       |            | Section     | N-S        |           | -W               | D.L.S.     |         |
|             | MWD          | 5,354     |              |            | 247.8   | 5,353.1       | 11.          |            | -2.8        | S 2.8      |           | 11.0             | 0.590      |         |
|             | MWD          | 5,499     |              |            | 260.8   | 5,498.0       | 14.          |            | -3.7        | S 3.7      |           | 14.2             | 0.308      |         |
|             | MWD          | 5,545     |              |            | 268.4   | 5,544.0       | 16.          |            | -3.8        | S 3.8      |           | 15.6             | 1.293      |         |
|             | MWD          | 5,640     |              |            | 247.9   | 5,639.0       | 19.          |            | -4.5        | S 4.5      |           | 18.7             | 0.745      |         |
|             | MWD          | 5,736     |              |            | 198.0   | 5,734.9       | 21.          |            | -6.3        | S 6.3      |           | 20.7             | 1.598      |         |
|             | MWD          | 5,832     |              |            | 189.1   | 5,830.9       | 23.          |            | -8.9        | S 8.9      |           | 21.3             | 0.256      |         |
|             | MWD          | 5,927     |              |            | 197.9   | 5,925.8       | 24.          |            | -11.5       | S 11.5     |           | 21.9             | 0.344      |         |
|             | MWD          | 6,022     |              |            | 189.1   | 6,020.8       | 26.          |            | -14.1       | S 14.1     |           | 22.6             | 0.410      |         |
|             | MWD          | 6,117     |              |            | 155.5   | 6,115.8       | 27           |            | -16.2       | S 16.2     |           | 22.4             | 0.867      |         |
|             | MWD          | 6,307     |              |            | 132.5   | 6,305.7       | 27           |            | -19.0       | S 19.0     |           | 20.4             | 0.227      |         |
|             | MWD          | 6,402     |              |            | 123.7   | 6,400.7       | 27           |            | -20.1       | S 20.1     |           | 19.0             | 0.173      |         |
|             | MWD          | 6,497     |              |            | 100.2   | 6,495.7       | 27           |            | -20.7       | S 20.7     |           | 17.6             | 0.532      |         |
|             | MWD          | 6,592     |              |            | 33.2    | 6,590.7       | 26.          |            | -20.2       | S 20.2     |           | 16.7             | 0.935      |         |
|             | MWD          | 6,635     | .0 0.77      | <u></u>    | 56.7    | 6,633.7       | 25.          |            | -19.8       | S 19.8     | W         | 16.2             | 0.820      |         |
|             |              |           |              |            |         |               | Information  |            |             |            |           |                  |            |         |
| Depth       |              |           | D (ft)       |            | Gas (Un |               | Ga           |            | Drilling    | Pore       | Mud       | Shale            |            | OP      |
| From        | To           | From      | То           | Avg        | Max     | at Depth      | Connect.     | Trip       | Exp.        | Press      | Dens.     | Dens.            | Shale      | Sand    |
| 5,820       | 6,700        | 5,819     | 6,699        |            |         |               |              |            |             |            |           |                  |            |         |
| Formation   |              | 1000/ 0   |              |            |         |               |              |            |             |            |           |                  |            |         |
| Lithology:  |              | 100% Gran | odionite     |            |         | <b>-</b>      |              |            |             |            |           |                  |            |         |
|             |              |           |              |            |         | Rig ini       | ormation     |            |             |            |           |                  |            |         |
| Equipment   |              |           |              |            |         |               |              |            |             |            |           |                  |            |         |
| Location C  |              |           |              |            |         |               |              |            |             |            |           |                  |            |         |
| Transport:  |              | Recei     | ed 7 loads   | of water t |         |               |              |            |             |            |           |                  |            |         |
|             |              |           |              |            |         | olids Cont    |              |            |             |            |           |                  |            |         |
| Screen Siz  |              | Тор       | Middle 1     | Middle 2   |         |               | ipment Usa   | ige (Hr    |             | _   _      | _         |                  |            |         |
| Shaker      |              | 120       | 120          | 120        |         |               | ander: 0     |            | Desilter:   |            | Degasse   |                  |            |         |
| Shaker      |              | 120       | 120          | 120        |         |               | trifuge 1: 2 | 24 (Soli   | ds Removal) | (          | Centrifuç | ge <b>2</b> : 24 | (Solids Re | emoval) |
| Shaker      | No 3:        | 120       | 120          | 120        | )       | 120           |              |            |             |            |           |                  |            |         |
|             |              |           |              |            |         |               | nventory     |            |             | _          |           |                  |            |         |
|             |              | Item Type | 1            |            |         | Units         | Beginning    |            | Used        | Receive    |           | On Hand          |            | Net     |
| Rig Fuel    |              |           |              |            | GAL     |               | 7,37         |            | 2,336       | 4,         | 500       | 9,5              | 539        | 2,164   |
|             |              |           |              |            |         | •             | e Inventor   |            |             |            |           |                  |            |         |
| DP Size     | Joi:         |           | /eight       | Grade      |         | Thread        | DP Si        | ze         | Joints      | Weight     | C         | Brade            | Thr        | ead     |
| 5.5         | <u>"   </u>  | 258       | 24.7 S       | -135       | 5.5     |               |              |            |             |            |           |                  |            |         |
|             |              |           |              |            |         |               | nformatio    | 1          |             |            |           |                  |            |         |
| Meetings/D  | Orills T     | Time      |              |            |         | Descri        | •            |            |             |            |           |                  |            |         |
| Safety      |              |           |              |            | -       | tings with bo | th crews. H  | andling    | BHA, workin | g in the h | eat, good | commu            | ınication. |         |
| BOP         |              |           | crews to sta | tions in 8 | 0 sec.  |               |              |            |             |            |           |                  |            |         |
| First Aid T |              |           |              | al Treatm  | ents:   | 0             | Lost Time    | Incid      | ents:       | 0 <b>D</b> | ays Sin   | ce LTI:          |            |         |
| Accident D  | escription   |           | o report.    |            |         |               |              |            |             |            |           |                  |            |         |
| BOP Te      | est          | ✓ Cro     | wnamatic (   | Check      |         |               |              |            |             |            |           |                  |            |         |
|             |              |           |              |            |         | Weather       | Informatio   | n          |             |            |           |                  |            |         |
| Sky Condit  | tion:        | Clear     |              |            |         |               | Visibility   | <b>'</b> : | 10          |            |           |                  |            |         |
| Air Temper  | rature:      | 72 degF   |              |            |         |               | Bar. Pre     | ssure:     | 29.89       |            |           |                  |            |         |
| Wind Spee   | d/Dir:       | 8 / SE    |              |            |         |               | Wind Gu      | ısts:      | 2           |            |           |                  |            |         |
|             |              |           |              |            |         |               |              |            |             |            |           |                  |            |         |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

| Report No: 16         |                    |                   |                |                 |              |          |                 | Report For | · 12-Jul-21 |
|-----------------------|--------------------|-------------------|----------------|-----------------|--------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utal | h <b>Rig:</b>     | Frontier Rig 1 | 6 Spud Date:    | 28-          | Jun-21   | Daily Cost / M  | lud (\$):  |             |
| Measured Depth (ft    | ): 6728            | 8 Last Casing:    | 11.750 at 2,99 | 0 Wellbore:     | Original V   | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 672                | 7 Next Casing:    | 7.000 at 8,50  | 0 RKB Elevation | on (ft):     | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500               | 0 Last BOP Tes    | t: 03-Jul-2    | 1 Job Referen   | ce RKB (ft): |          |                 |            |             |
| Hole Made (ft) / Hrs  | : 28 / 3.          | 5 Next BOP Tes    | st: 24-Jul-2   | 1 Working Inte  | rest:        |          | Totals:         |            |             |
| Average ROP (ft/hr)   | : 8.0              | 0                 |                | LOT (lbs/gal)   | :            | 11.70    | Well Cost (\$): |            |             |
| Drilling Days (act./p | olan): 16/21 I     | Flat Days (act./p | lan): 0/9      | Total Days (ac  | t./plan):    | 16/30    | Days On Loca    | ation:     | 16          |
| Pers/Hrs: Opera       | tor: 3 / 36        | Contractor:       | 14 / 168       | Service:        | 6 / 72       | Other:   | 3 / 36          | Total:     | 26 / 312    |
|                       |                    |                   |                |                 |              |          |                 |            |             |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Tripped in the hole with 8-3/4" core assembly to 6,728'.

Fill pipe and established circulation.

Cut core from 6,728' to 6,740'.

Tripped out of the hole from 6,740' to 1,300' at report time.

**Planned Operations:** Trip out of the hole with core assembly.

Make up 10-5/8" TCI bit. Trip in the hole to 6,740'.

Open 8-3/4" hole from 6,700' to 6,740' to 10-5/8"

Trip out of the hole.

Toolpusher: Steve Caldwell , Justin Bristol

Tel No.: 7132807438 Wellsite Supervisors: Virgil Welch , Brian Gresham

| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description  | Non-Proc  |
|-------|-------|---------|------------|--------|---|-----------|
| 0:00  | 0:30  | 0.50    |            | SAFE   | Held safety meeting with all involved personal on picking up coring assembly.   | 110111100 |
| 0:30  | 3:00  | 2.50    |            | 3-34-3 | Made up 8-3/4" coring assembly as followed. 8-3/4" x 4" core bit. Stabilizer 8-15/32" Core barrel 7-1/4" Stabilizer 8-15/32" Lower sub Upper sub Float sub X/O 10-5/8" roller reamer 1-stand 8" drill collars 5-stands HWDP |           |
| 3:00  | 4:30  | 1.50    | 6,700      | 3-34-1 | Picked up 15 joints of 5.5" drill pipe from pipe rack and trip in the hole.   |           |
| 4:30  | 8:00  | 3.50    | 6,700      | 3-6-3  | Tripped in the hole with 8-3/4" core assembly. Filling pipe every 1,000'.   |           |
| 8:00  | 8:30  | 0.50    | 6,700      | 3-4    | Tag bottom while circulating @ 400 GPM, drop ball and slow pump to 300 GPM, be seated   | all       |
| 8:30  | 10:00 | 1.50    | 6,728      | 3-4    | Cut core from 6700' to 6728'  |           |
| 10:00 | 15:30 | 5.50    | 6,728      | 3-4    | POH with core @ controlled speed  |           |
| 15:30 | 18:00 | 2.50    | 6,728      | 3-4    | Laid down Reamer, X/O, Float sub. Break down core barrel and collect core. Recovered 12' of core.   |           |
| 18:00 | 20:00 | 2.00    | 6,728      | 3-34-4 | Run in the hole with 5-stands of 8" drill collars. Remove lifting sub that belonged to Schlumberger and replace with lifting subs that belong to Frontier. Rack 8" drill coll back in derrick.                              |           |
| 20:00 | 21:00 | 1.00    | 6,728      | 3-4    | Made up 8-3/4" coring assembly as followed. 8-3/4" x 4" core bit. Stabilizer 8-15/32". Core barrel 7-1/4" (dressed with aluminum barrel). Stabilizer 8-15/32". Lower sub. Upper sub. Float sub. X/O. 5-stands HWDP.         |           |
| 21:00 | 0:00  | 3.00    | 6,728      | 3-4    | Tripped in the hole with 8-3/4" core assembly to 5,623' at report time . Filling pipe every 1,000'.   |           |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report For 12-Jul-21 Report No: 16

Held safety meeting with all involved personal on picking up coring assembly.

Made up 8-3/4" coring assembly.
Picked and racked back 5 stands of drill pipe.

Tripped in the hole with 8-3/4" core assembly.

Tag bottom while circulating @ 400 GPM, dropped ball and slowed pump to 300 GPM, ball seated.

Cut core from 6,700' to 6,728'.

Tripped out of the hole with core from 6,728'.

Tripped in the hole with 8" collars, removed Schlumberger lifter and replaced with rig lifter.

Made up 8-3/4" coring assembly.

Tripped in the hole with 8-3/4" core assembly.

|                       |               |          |                |             |               |                  | Comi           | ment          | S            |       |                 |       |                 |        |            |       |         |              |
|-----------------------|---------------|----------|----------------|-------------|---------------|------------------|----------------|---------------|--------------|-------|-----------------|-------|-----------------|--------|------------|-------|---------|--------------|
| First core rui        | n recovere    | ed 12' o | f core.        |             |               |                  |                |               |              |       |                 |       |                 |        |            |       |         |              |
|                       |               |          |                |             |               | Casin            | g/Tubul        | ar Inf        | formatio     | n     |                 |       |                 |        |            |       |         |              |
| Туре                  | Size<br>(ins) |          | Top MD<br>(ft) | Top<br>(f   |               | Bottom M<br>(ft) | ID Botto       | m TV<br>ft)   | D Ho<br>Sect |       | OH Dia<br>(ins) |       | Nom. W<br>(lbs) | •      | Nom<br>Gra |       | _       | OT<br>:/gal) |
| FULL                  | 16.           | 000      |                | 0           |               | 4                | 16             |               |              | SURF  | 22.             | 000   |                 | 65     |            | K-55  |         | 0.61         |
| FULL                  | 11.           | 750      |                | 0           |               | 2,99             | 90             |               |              | INT1  | 14.             | 750   |                 | 54     |            | J-55  |         | 11.70        |
|                       |               |          |                |             |               |                  | Mud Info       | orma          | tion         |       |                 |       |                 |        |            |       |         |              |
|                       |               |          |                |             |               | %                |                |               |              |       |                 |       | Gels            |        |            | Tem   | •       | Mud          |
| Dens. Vis             | PV YP         | Filt.    |                | •           |               |                  | ter Sand       |               | S CI         | Ca    | CaCI            | 10s   | s 10m           | 30     | m          | In    | Out     | Loss         |
| 12-Jul-21 16          |               |          |                |             | •             |                  |                |               |              |       |                 |       |                 |        |            |       |         |              |
| 8.30 26               | 0 1           |          | 0 1            | 10          | 2             |                  | 98 0.01        |               | 008 0        | 120   |                 |       | 1               | 1      | 1          | 89    | 99      |              |
|                       |               |          |                |             |               |                  | lud Con        | suma          | ables        |       |                 |       |                 |        |            |       |         |              |
| For other consists of | Item De       | escripti | on             |             | Qty           |                  | Cost           |               | diama OT     |       | Descript        | ion   |                 |        | Q          | ty.   | C       | ost          |
| Engineering           | - EACH        |          |                |             |               | 1                |                | <u> </u>      | diem - OT    |       |                 |       |                 |        |            | 1     |         |              |
|                       |               |          |                |             |               |                  |                |               | Informat     | ion   |                 |       |                 |        |            |       |         |              |
| No Run M              | ake N         | lodel    | Diam           | Depth<br>In | I nis<br>Dist | Run              | R.O.P<br>Avg N | -             | WOB RE       | M To  | raua W          | Muc   | low Pre         | mp     | Val        | D Drn | шпр     | JIF          |
|                       | LB1 FC3       |          | 8.750          | 6700        |               | 1.5              |                | 9.0           | 22           | 50    | 9               | 8     | 300             | 75 J.  | 54         | 22    | 4       | 70           |
| Jets: 17 17           |               |          |                |             |               | Grade: C         | -              | 8/4           |              | RO/W  | -               | ar: S | Brgs:           |        |            |       | Pull: I |              |
| 11 1 H&F              |               | 8843     | 8.750          | 6723        |               |                  |                | 25.0          | 14           | 55    | 7               | 8     | 281             | 0      | 51         | 19    |         | 61           |
| Jets: 17 17           | 7 17 17       | 17 17    | 7 17 17        | Out:        |               | Grade: C         | Cutter:        | 1             | Dull:        | 1     | Wea             | ar:   | Brgs:           | Go     | ie:        |       | Pull:   |              |
| <b>BHA -</b> No. 1    | 2 - CORI      | BIT, ST  | AB, COF        | E, STAB     | , 2 OTHE      | R, FLOA          | T, XO, 1       | 5 HWE         | OP = 509.    | 79    |                 |       |                 |        |            |       |         |              |
|                       |               |          |                |             |               | Dı               | rilling Pa     | aram          | eters        |       |                 |       |                 |        |            |       |         |              |
| Depth                 | (ft)          | R        | OP (ft/hi      | .)          | WOE           | (lbs)            |                | RP            | М            | T     | orque (ft       | lbs)  | FI              | ow (g  | als/m      | in)   | Pres    | sure         |
| From                  | То            | Avg      | , N            | lax         | Avg           | Max              | Av             | g             | Max          | A     | vg              | Max   | A               | vg     | М          | ax    | (p:     | si)          |
| 6,700                 | 6,728         | 2        | 5.0            | 59.0        | 22            | 3                | 30             | 50            | 50           |       | 10              |       | 12              | 309    |            | 400   |         | 75           |
| Annular Vel           |               |          |                | 250.0       | Drill         | Pipe:            | 175.0          |               |              |       |                 |       |                 |        |            |       |         |              |
| Comments:             | Cored         | from 67  | '00' to 6,     | 728'.       |               |                  |                |               |              |       |                 |       |                 |        |            |       |         |              |
|                       |               |          |                |             |               |                  |                |               | g Param      | eters |                 |       |                 |        |            |       |         |              |
| Hook Loads            | . ,           |          | Bottom         | Rotate:     | 217           | Pick U           | <b>p</b> : 2:  | 25 <b>S</b> I | lack Off:    | 2     | 210 <b>Dr</b>   | ag Av | /g/Max:         |        | 5/8        |       |         |              |
| Slow Circul           |               |          |                |             |               |                  |                |               |              |       |                 | _     |                 |        |            |       |         |              |
|                       | mp 1:         |          | 30 spm         |             | 110 psi       |                  | 40 spm         |               | 215          |       |                 | 0 spm |                 |        | psi        |       |         |              |
|                       | mp 2:         |          | 30 spm         |             | 110 psi       |                  | 40 spm         |               | 215          |       |                 | 0 spm |                 |        | psi        |       |         |              |
|                       | mp 3:         |          | 30 spm         |             | 110 psi       |                  | 40 spm         |               | 215          |       | 5               | 0 spm | 1               | 311    | psi        |       |         |              |
| Hours on B            |               |          |                | spection:   |               | 5 Tota           |                | -             | Jars:        | 0     |                 |       |                 |        |            |       |         |              |
| Hours on C            | asing/Lin     | er: l    | Rotating       | :           | 63 <i>l</i>   |                  | Trippir        | ng:           | 61 <i>I</i>  |       |                 | Wear  | Bushing         | g Inst | alled      |       |         |              |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32 Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 16 Report For 12-Jul-21 Mud Log Information

|               |                  |           |             |            |         | Mud Log      | Information   | n        |            |        |          | <u> </u> |            |         |
|---------------|------------------|-----------|-------------|------------|---------|--------------|---------------|----------|------------|--------|----------|----------|------------|---------|
| Depth         | (ft)             | TV        | D (ft)      | G          | as (Uni | ts)          | Ga            | S        | Drilling   | Pore   | Mud      | Shale    | R          | OP      |
| From          | То               | From      | То          | Avg        | Max     | at Depth     | Connect.      | Trip     | Ехр.       | Press  | Dens.    | Dens.    | Shale      | Sand    |
| 6,700         | 6,728            | 6,699     | 6,727       | 7          |         |              |               |          |            |        |          |          |            |         |
| Formation N   | lame:            |           |             |            |         |              |               |          |            |        |          |          |            |         |
| Lithology:    | 1                | 00% Grar  | nodiorite   |            |         |              |               |          |            |        |          |          |            |         |
|               |                  |           |             |            |         | Rig Ir       | formation     |          |            |        |          |          |            |         |
| Equipment I   | Problem          | s: None   | •           |            |         |              |               |          |            |        |          |          |            |         |
| Location Co   | ndition:         | Good      | •           |            |         |              |               |          |            |        |          |          |            |         |
| Transport:    |                  | Recei     | ved SDI dir | tools.     |         |              |               |          |            |        |          |          |            |         |
|               |                  |           |             |            | So      | lids Con     | trol Inform   | ation    |            |        |          |          |            |         |
| Screen Size   | s:               | Тор       | Middle 1    | Middle 2   | Botto   | m Eq         | uipment Usa   | ge (Hrs  | s):        |        |          |          |            |         |
| Shaker N      | lo 1:            | 120       | 120         | 120        | 1       | 20 <b>De</b> | sander: 0     |          | Desilter:  | -      | Degasse  |          |            |         |
| Shaker N      | lo 2:            | 120       | 120         | 120        | 1       | 20 <b>Ce</b> | ntrifuge 1: 2 | 4 (Solid | s Removal) |        | Centrifu | ge 2: 24 | (Solids Re | emoval) |
| Shaker N      | lo 3:            | 120       | 120         | 120        | 1       | 20           |               |          |            |        |          |          |            |         |
|               |                  |           |             |            |         |              | Inventory     |          |            |        |          |          |            |         |
|               |                  | Item Type | 9           |            | U       | nits         | Beginning     |          | Used       | Receiv | ed       | On Hand  |            | Net     |
| Rig Fuel      |                  |           |             |            |         |              | 9,63          | -        | 847        |        |          | 8,7      | 92         |         |
|               |                  |           |             |            |         |              | e Inventor    | ,        |            |        |          |          |            |         |
| DP Size       | Join             |           | Veight      | Grade      |         | Thread       | DP Siz        | e        | Joints     | Weight | t (      | Grade    | Thr        | ead     |
| 5.5"          |                  | 258       | 24.7        | S-135      | 5.5IF   |              |               |          |            |        |          |          |            |         |
|               |                  |           |             |            |         |              | Information   | 1        |            |        |          |          |            |         |
| Meetings/Dr   | ills T           | ime       |             |            |         |              | ription       |          |            |        |          |          |            |         |
| Safety        |                  |           |             |            |         |              | oth crews. Ha |          |            | -      |          |          | nication.  |         |
| First Aid Tre |                  |           |             | al Treatme | ents:   | (            | Lost Time     | Incide   | nts:       | 0 [    | Days Sin | ce LTI:  |            |         |
| Accident De   |                  |           |             |            |         |              |               |          |            |        |          |          |            |         |
| BOP Tes       | t                | ✓ Cro     | wnamatic    | Check      |         |              |               |          |            |        |          |          |            |         |
|               |                  |           |             |            |         | Weathe       | Informatio    |          |            | 1      |          |          |            |         |
| Sky Condition |                  | Clear     |             |            |         |              | Visibility    |          | 10         |        |          |          |            |         |
| Air Tempera   |                  | 4 degF    |             |            |         |              | Bar. Pre      |          | 29.89      |        |          |          |            |         |
| Wind Speed    | / <b>Dir</b> : 6 | / SE      |             |            |         |              | Wind Gu       | sts:     | 2          |        |          |          |            |         |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 17 Report For 13-Jul-21 Operator: University of Utah Rig: Frontier Rig 16 Spud Date: 28-Jun-21 Daily Cost / Mud (\$): Measured Depth (ft): 6742 Last Casing: 11.750 at 2,990 Wellbore: Original Wellbore AFE No. AFE (\$) Actual (\$) Vertical Depth (ft): 6741 Next Casing: 7.000 at 8.500 RKB Elevation (ft): 30.40 ---Proposed TD (ft): 9500 Last BOP Test: 03-Jul-21 Job Reference RKB (ft): Hole Made (ft) / Hrs: 14 / 10.5 Next BOP Test: 24-Jul-21 Working Interest: Totals: Average ROP (ft/hr): 1.33 LOT (lbs/gal): 11.70 Well Cost (\$): 17/21 Flat Days (act./plan): 0/9 Total Days (act./plan): Drilling Days (act./plan): 17/30 Days On Location: 17 Pers/Hrs: Operator: 3 / 36 Contractor: 14 / 168 Service: 6 / 72 Other: 3 / 36 **Total**: 26 / 312

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Made up 10-5/8" directional assembly and tripped in the hole to 1,036'.

Slip and cut drilling line.

Trip in the hole from 1,036' to 3,100'. Shallow tested MWD tool @ 3,100'. Tripped in the hole from 3,100' to 4,100'. (Stage in hole and circulate every 1,000')

Planned Operations: Continue to trip in the hole to 6,742'.

Drill 10-5/8" hole section from 6,742'.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary  |
|-------|-------|---------|------------|--------|---|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description Non-Prod   |
| 0:00  | 1:00  | 1.00    | 6,728      | 3-4    | Tripped in the hole with 8-3/4" core assembly to 6,728' . Filling pipe every 1,000'.  |
| 1:00  | 1:30  | 0.50    | 6,728      | 3-5-1  | Filled pipe and established circulation. Record up and down weights. Tagged bottom while circulating @ 400 GPM, dropped ball and slowed pump to 300 GPM, ball seated. |
| 1:30  | 2:30  | 1.00    | 6,740      | 3-4    | Cut core from 6,728' to 6,740'. Core barrel jammed up at 6,738', drilled down to 6,740' with no change. Decision was made to pull out of the hole.                    |
| 2:30  | 6:00  | 3.50    | 6,740      | 3-4    | Tripped out with core assembly from 6,740' to 1,300'.   |
| 6:00  | 7:00  | 1.00    | 6,740      | 3-4    | Tripped out with core assembly from 1,300' to BHA   |
| 7:00  | 8:00  | 1.00    | 6,740      | 3-34-4 | Laid down core and coring assembly / Recovered 9.5' of core   |
| 8:00  | 9:00  | 1.00    | 6,740      | 3-34-3 | Made up bit and bit sub / pick up reamer at 30' off the bit   |
| 9:00  | 14:30 | 5.50    | 6,740      | 3-6-3  | RIH with clean out run to open hole to 10-5/8"  |
| 14:30 | 15:00 | 0.50    | 6,740      | SERV   | Serviuce rig and change tong dies in SD80   |
| 15:00 | 16:00 | 1.00    | 6,740      | 3-21   | Open 8-3/4" core hole to 10-5/8" from 6,700' to 6,740'  |
| 16:00 | 16:30 | 0.50    | 6,742      | 3-2-1  | Drilled 10-5/8" hole from 6,740' to 6,742'.   |
| 16:30 | 17:00 | 0.50    | 6,742      | 3-5-1  | Circulated hole clean @ 6,742'.   |
| 17:00 | 20:00 | 3.00    | 6,742      | 3-6-4  | Tripped out of the hole from 6,742' to BHA.   |
| 20:00 | 21:30 | 1.50    | 6,742      | 3-6-2  | Racked back HWDP along with 8' drill collars. Broke out bit and laid out.   |
| 21:30 | 0:00  | 2.50    | 6,742      | 3-34-3 | Picked up 1.15 deg bent motor 0.166 rev/gal. Scribe Motor. Make up dir assembly.  |

#### **Management Summary**

Tripped in the hole with 8-3/4" core assembly to 6,728'.

Filled pipe and established circulation.

Dropped ball.

Cut core from 6,728' to 6,740'.

Tripped out with core assembly from 6,740' to BHA.

Laid down core and coring assembly.

Made up 10-5/8" TCI bit and tripped in the hole to 6,700'.

Serviced rig.

Open 8-3/4" core hole to 10-5/8" from 6,700' to 6,740'.

Drilled 10-5/8" hole from 6,740' to 6,742'.

Circulated hole clean @ 6,742'

Tripped out of the hole from 6,742' to BHA.

Racked back HWDP along with 8' drill collars.

Laid out bit.

Picked up 1.15 deg bent motor 0.166 rev/gal. Scribe Motor. Make up drilling assembly.



Well ID: Forge 78B-32

Field: UTAHFORGE

# Geothermal Resource Group, Inc.

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report For 13-Jul-21 Report No: 17

|   |  |  |  |                              |  |                                   | Co   | mmen   | its  |                        |                       |                                   |                   |                                  |                      |         |             |
|---|--|--|--|------------------------------|--|-----------------------------------|--|--|--|------------------------|-----------------------|-----------------------------------|-------------------|----------------------------------|----------------------|---------|-------------|
| Core barrel j   |  |  | drilled d  | own to 6                     | 6,740' wi  | th no ch                          | nange. De  | cision v   | was made t   | o pull o               | out of the            | hole.                             |                   |                                  |                      |         |             |
| Recovered 9   | 9.5' of co   | e.   |  |                              |  |                                   |  |  |  |                        |                       |                                   |                   |                                  |                      |         |             |
|   | 0!-  |  | T 14D  | <b>.</b>                     | TVD.   |                                   |  |  | nformatio  |                        | OU Di-                |                                   | I \A/-            | - A                              |                      |         | <u> </u>    |
| Type  | Size<br>(ins   |  | Top MD<br>(ft)   |                              | TVD<br>(ft)  | Botton<br>(ft                     | n MD Bo  | ttom IV  | VD Hol<br>Secti  |                        | OH Dia<br>(ins)       |                                   | lom. Wo<br>(lbs)  | •                                | lominal<br>Grade     |         | OT<br>/gal) |
| FULL  |  | .000   | _ ` ,  | 0                            | ,  | (                                 | 416  | ()   |  | URF                    | . ,                   | .000                              |                   | 65                               | K-55                 |         | 0.61        |
| FULL  | 11   | .750   |  | 0                            |  | 2                                 | 2,990  |  |  | INT1                   | 14.                   | 750                               |                   | 54                               | J-55                 |         | 11.70       |
|   |  |  |  |                              |  |                                   | Mud I  | nforma   | ation  |                        |                       |                                   |                   |                                  |                      |         |             |
|   |  |  |  |                              |  | %                                 |  |  |  |                        |                       |                                   | Gels              |                                  | Ten                  | np      | Mud         |
| Dens. Vis   | PV Y   | Filt.  | Cake   | pH/ES                        | Solids   | Oil \                             | Nater Sa   | ınd LG   | S CI   | Ca                     | CaCl                  | 10s                               | 10m               | 30m                              | In                   | Out     | Loss        |
| 13-Jul-21 16  | 6:30 at D  | epth 6,7   | 42 ft Mu   | d Pits, T                    | ype: Lov   | v Solids                          | Non-Dis  | persed   |  |                        |                       |                                   |                   |                                  |                      |         |             |
| 8.30 26   | 0  | 1 (  | ) 1  | 9.5                          | 1  | 0                                 | 99 0   | .01  | 0 800  | 120                    | )                     | 1                                 | 1                 | 1                                | 104                  | 124     |             |
|   |  |  |  |                              |  |                                   | Mud C  | onsum  | nables   |                        |                       |                                   |                   |                                  |                      |         |             |
|   | Item D   | escripti   | on   |                              | Qt   | y.                                | Cost   |  |  | Item                   | Descript              | tion                              |                   |                                  | Qty.                 | C       | ost         |
| caustic Soda  | a - 50#Sk  |  |  |                              |  | 1                                 |  | En   | ngineering -   | EACH                   | l                     |                                   |                   |                                  | 1                    |         |             |
| perdiem - O   | THER   |  |  |                              |  | 1                                 |  |  |  |                        |                       |                                   |                   |                                  |                      |         |             |
|   |  |  |  |                              |  | Bit/BF                            | IA/Work  | string   | Informat   | ion                    |                       |                                   |                   |                                  |                      |         |             |
|   |  |  |  | Depth                        | 1 Th   | is Run                            |  | D.P.   |  |                        |                       | Mud                               | Pun               | •                                |                      |         |             |
|   |  | Model  | Diam   | In                           | Dis  |                                   | Avg  |  | WOB RP   |                        |                       |                                   |                   |                                  | el P. Drp            |         | JIF         |
| 11 1 H&I  |  | 3843   | 8.750  | 672                          | 3 2  |                                   | 2 12.0   | 25.0   | 14   | 55                     | 7                     |                                   |                   | -                                | 58 25                | 5       | 80          |
| Jets: 17 17   |  |  |  |                              | -  | 1                                 | : Cutter:  |  |  |                        |                       |                                   | Brgs: X           |                                  |                      | Pull: I |             |
|   | KER MX   | (-1  | 10.625   | 674                          | -  | _                                 | 1 2.0  | 5.0  |  | 61                     | 11                    |                                   | 12                |                                  |                      | 270     | 959         |
| <b>Jets</b> : 20 20   |  |  |  | Out: 6                       |  |                                   | : Cutter:  | 1/3  | B Dull: \  | VT / N                 | O Wea                 | ar: G                             | Brgs: 0           | Gge:                             | 0                    | Pull:   | ЗНА         |
| <b>BHA</b> - No. 1  | 3 - BIT,   | DC, RR,  | DC, XO   | , HWDP                       | = 845.7  | 3                                 |  |  |  |                        |                       |                                   |                   |                                  |                      |         |             |
|   |  |  |  |                              |  |                                   | Drilling   |  |  |                        |                       |                                   |                   |                                  |                      |         |             |
| Depth   | ` '  |  | OP (ft/hr  | •                            |  | B (lbs)                           |  |  | PM   |                        | orque (fi             |                                   |                   | w (gals                          | •                    | Pres    |             |
| From  | <b>To</b> 6,740  | Avg  |  | lax                          | Avg  | Ma                                |  | Avg  | Max  | 1                      | <b>vg</b> 7           | Max                               | Av                |                                  | Max                  | (p:     | •           |
| 6,728   |  |  | 0.0  | 25.0<br>250.                 | 1-   |                                   | 16<br>175  | 55   | 55   |                        | /                     | •                                 | <b>)</b>          | 400                              | 320                  |         | 75          |
| Annular Vel   | iocity: i  | Jriii Goii   | ars:   |                              | 2  | I Pipe:                           | 25   | 61   | 61   |                        | 11                    | 1                                 | 1                 | 800                              | 829                  |         |             |
| 0.740   | 6 7/2  |  | 2.0  | 5 O                          |  |                                   | 20   | 01   |  |                        |                       | - 1                               |                   | OUU                              | 029                  |         |             |
| ,   | 6,742  | ;  | 3.0  | 5.0                          |  |                                   | 247  | 0  | 01   |                        |                       |                                   | •                 |                                  |                      |         |             |
| Annular Ve  |  | ;  |  | 5.0<br>478                   | 0 <b>Dri</b> l   | l Pipe:                           | 247  |  |  | toro                   | •••                   |                                   |                   |                                  |                      |         |             |
| Annular Vel   | locity: I  | Drill Coll   | ars:   | 478.                         | 0 <b>Dri</b> l   | l Pipe:<br>Viscell                | aneous   | Drillin  | ıg Parame  |                        |                       | 20 Av                             |                   |                                  | 1.0                  |         |             |
| Annular Vel   | locity: I  | Orill Coll   |  | 478.                         | 0 <b>Dri</b> l   | l Pipe:                           | aneous   | Drillin  |  |                        |                       | ag Avç                            |                   |                                  | 18                   |         |             |
| Annular Vel Hook Loads Slow Circul  | locity: I<br>s (lbs):<br>lation Da   | Orill Coll Off   | ars:<br>Bottom   | 478.                         | 0 <b>Dri</b> l   | l Pipe:<br>Viscell                | aneous<br>(Up:   | Drillin<br>225   | ng Parame<br>Slack Off:  | 2                      | 210 <b>D</b> r        |                                   |                   | 5                                |                      |         |             |
| Annular Vel Hook Loads Slow Circul Pui  | locity: I<br>s (Ibs):<br>lation Da<br>mp 1:                                      | Orill Coll Off ta:   | Bottom 30 spm  | 478.                         | 0 <b>Dri</b> ll  | I Pipe:<br>Miscell<br>7 Pick      | aneous<br>( Up:<br>40 sp   | Drillin<br>225 S   | ng Parame<br>Slack Off:<br>215 p   | osi 2                  | 210 <b>Dr</b>         | 0 spm                             |                   | 5<br>311 p                       | si                   |         |             |
| Hook Loads<br>Slow Circul<br>Pui  | s (lbs):<br>ation Da<br>mp 1:<br>mp 2:   | Orill Coll Off ta:   | Bottom 30 spm 30 spm   | 478.                         | 0 <b>Dri</b> l<br>21<br>110 ps<br>110 ps               | I Pipe: Miscell 7 Pick            | uneous<br>Up:<br>40 sp<br>40 sp  | Drillin<br>225 S   | ng Parame<br>Slack Off:<br>215 p   | osi<br>osi             | 210 <b>Dr</b> 5       | 0 spm<br>0 spm                    |                   | 311 p                            | si<br>si             |         |             |
| Hook Loads<br>Slow Circul<br>Pui<br>Pui   | s (lbs):<br>lation Da<br>mp 1:<br>mp 2:<br>mp 3:                                 | Orill Coll Off ta:   | Bottom 30 spm 30 spm 30 spm  | 478.                         | 0 <b>Dri</b> i<br>21<br>110 ps<br>110 ps<br>110 ps     | I Pipe: Miscell Pick              | up: 40 sp 40 sp 40 sp  | Drillin<br>225 \$<br>om<br>om                              | ng Parame<br>Slack Off:<br>215 p<br>215 p  | osi<br>osi<br>osi      | 210 <b>Dr</b> 5       | 0 spm                             |                   | 5<br>311 p                       | si<br>si             |         |             |
| Hook Loads<br>Slow Circul<br>Pui<br>Pui<br>Hours on B   | s (lbs):<br>lation Da<br>mp 1:<br>mp 2:<br>mp 3:<br>HA:                          | Offita:  | Bottom 30 spm 30 spm 30 spm Since Ins  | A78. Rotate                  | 0 <b>Dri</b> ii 21 110 ps 110 ps 110 ps 110 ps         | I Pipe: Miscell Pick              | 40 sp<br>40 sp<br>40 sp<br>40 sp<br>otal: 8                              | Drillin<br>225 \$<br>om<br>om<br>om<br>1.25                | ng Parame<br>Slack Off:<br>215  <br>215  <br>215  <br>Jars:  | osi<br>osi             | 210 <b>Dr</b> 5 5 5   | 0 spm<br>0 spm<br>0 spm           | g/Max:            | 311 p<br>311 p<br>311 p          | si<br>si<br>si       |         |             |
| Hook Loads<br>Slow Circul<br>Pui<br>Pui   | s (lbs):<br>lation Da<br>mp 1:<br>mp 2:<br>mp 3:<br>HA:                          | Offita:  | Bottom 30 spm 30 spm 30 spm  | A78. Rotate                  | 0 <b>Dri</b> i<br>21<br>110 ps<br>110 ps<br>110 ps     | I Pipe: Miscell 7 Pick i i 25 T   | 40 sp<br>40 sp<br>40 sp<br>40 sp<br>otal: 8                              | Drillin<br>225 \$<br>om<br>om<br>om<br>1.25<br>oping:      | 215  <br>215  <br>215  <br>215  <br>215  <br>215   | osi<br>osi<br>osi      | 210 <b>Dr</b> 5 5 5   | 0 spm<br>0 spm<br>0 spm           |                   | 311 p<br>311 p<br>311 p          | si<br>si<br>si       |         |             |
| Hook Loads<br>Slow Circul<br>Pui<br>Pui<br>Hours on B<br>Hours on C                           | s (lbs):<br>ation Da<br>mp 1:<br>mp 2:<br>mp 3:<br>HA:<br>asing/Li               | Office Of | Bottom  Bo spm Bo spm Bo spm Since Ins   | A78. Rotate                  | 0 Dril 110 ps 110 ps 110 ps 110 ps 110 ps 64 /         | I Pipe: Miscell 7 Pick i i i 7 T  | 40 sp<br>40 sp<br>40 sp<br>40 sp<br>otal: 8<br>Trip                      | Drillin<br>225 \$<br>om<br>om<br>om<br>1.25<br>oping:      | ng Parame<br>Slack Off:<br>215  <br>215  <br>215  <br>3  <br>3  <br>4  <br>5  <br>75  <br>75   | psi<br>psi<br>psi      | 210 <b>Dr</b> 5 5 5   | 0 spm<br>0 spm<br>0 spm<br>Wear E | g/Max:<br>Bushing | 311 p<br>311 p<br>311 p          | si<br>si<br>si       | RO      |             |
| Hook Loads<br>Slow Circul<br>Pui<br>Pui<br>Pui<br>Hours on B                                  | s (lbs):<br>ation Da<br>mp 1:<br>mp 2:<br>mp 3:<br>HA:<br>asing/Li               | Office Of | Bottom  Bo spm Bo spm Bo spm Bo spm Cotating  TVD (ft)   | 478. Rotate                  | 0 Dril 110 ps 110 ps 110 ps 110 ps 110 ps 64 /         | I Pipe: Miscell 7 Pick i i 25 T   | 40 sp<br>40 sp<br>40 sp<br>40 sp<br>otal: 8<br>Trip                      | Drillin<br>225 S   | ng Parame<br>Slack Off:<br>215 p<br>215 p<br>215 p<br>215 p<br>3 p<br>3 p<br>3 p<br>3 p<br>3 p<br>4 p<br>3 p<br>3 p<br>4 p<br>3 p<br>3 p<br>4 p<br>4 p<br>5 p<br>4 p<br>5 p<br>5 p<br>5 p<br>6 p<br>7   | psi<br>psi<br>psi<br>0 | 210 <b>Dr</b> 5 5 5   | 0 spm<br>0 spm<br>0 spm           | g/Max:<br>Bushing | 311 p<br>311 p<br>311 p<br>311 p | si<br>si<br>si<br>ed | ROI     | o<br>Sand   |
| Hook Loads Slow Circul Pui Pui Hours on B Hours on C  | s (lbs):<br>ation Da<br>mp 1:<br>mp 2:<br>mp 3:<br>HA:<br>asing/Li               | Office Of | Bottom  Bo spm Bo spm Bo spm Bo spm Bo spm Cotating  TVD (ft) T  | 478. Rotate                  | 110 ps<br>110 ps<br>110 ps<br>110 ps<br>110 ps<br>64 / | I Pipe: Miscell 7 Pick i i i 25 T | 40 sp 40 sp 40 sp 40 sp total: 8 Trip Mud Log                            | Drillin<br>225 S   | ng Parame<br>Slack Off:<br>215 p<br>215 p<br>215 p<br>215 p<br>3 p<br>3 p<br>3 p<br>3 p<br>3 p<br>4 p<br>3 p<br>3 p<br>4 p<br>3 p<br>3 p<br>4 p<br>4 p<br>5 p<br>4 p<br>5 p<br>5 p<br>5 p<br>6 p<br>7   | psi<br>psi<br>psi<br>0 | 210 <b>Dr</b> 5 5 5 5 | 0 spm<br>0 spm<br>0 spm<br>Wear E | g/Max:<br>Bushing | 311 p<br>311 p<br>311 p<br>311 p | si<br>si<br>si<br>ed |         |             |
| Hook Loads Slow Circul Pur Pur Hours on B Hours on C  | s (lbs):<br>lation Da<br>mp 1:<br>mp 2:<br>mp 3:<br>HA:<br>asing/Liu             | Offill Coll Offita:  | Bottom  Bo spm Bo spm Bo spm Bo spm Bo spm Cotating  TVD (ft) T  | 478. Rotate                  | 110 ps<br>110 ps<br>110 ps<br>110 ps<br>110 ps<br>64 / | I Pipe: Miscell 7 Pick i i i 25 T | 40 sp 40 sp 40 sp 40 sp total: 8 Trip Mud Log                            | Drillin<br>225 S   | ng Parame<br>Slack Off:<br>215 p<br>215 p<br>215 p<br>215 p<br>3 p<br>3 p<br>3 p<br>3 p<br>3 p<br>4 p<br>3 p<br>3 p<br>4 p<br>3 p<br>3 p<br>4 p<br>4 p<br>5 p<br>4 p<br>5 p<br>5 p<br>5 p<br>6 p<br>7   | psi<br>psi<br>psi<br>0 | 210 <b>Dr</b> 5 5 5 5 | 0 spm<br>0 spm<br>0 spm<br>Wear E | g/Max:<br>Bushing | 311 p<br>311 p<br>311 p<br>311 p | si<br>si<br>si<br>ed |         |             |
| Hook Loads Slow Circul Pur Pur Hours on B Hours on C  Depth From 6,728                        | locity: I s (lbs): lation Da mp 1: mp 2: mp 3: HA: asing/Lii f(t) To 6,742 Name: | Offita:  | Bottom  Bo spm Bo spm Bo spm Bo spm Bo spm Cotating  TVD (ft) T  | Rotate  spection:            | 110 ps<br>110 ps<br>110 ps<br>110 ps<br>110 ps<br>64 / | I Pipe: Miscell 7 Pick i i i 25 T | 40 sp 40 sp 40 sp 40 sp total: 8 Trip Mud Log                            | Drillin<br>225 S   | ng Parame<br>Slack Off:<br>215 p<br>215 p<br>215 p<br>215 p<br>3 p<br>3 p<br>3 p<br>3 p<br>3 p<br>4 p<br>3 p<br>3 p<br>4 p<br>3 p<br>3 p<br>4 p<br>4 p<br>5 p<br>4 p<br>5 p<br>5 p<br>5 p<br>6 p<br>7   | psi<br>psi<br>psi<br>0 | 210 <b>Dr</b> 5 5 5 5 | 0 spm<br>0 spm<br>0 spm<br>Wear E | g/Max:<br>Bushing | 311 p<br>311 p<br>311 p<br>311 p | si<br>si<br>si<br>ed |         |             |
| Hook Loads Slow Circul Pui Pui Hours on B Hours on C  Depth From 6,728 Formation I            | locity: I s (lbs): lation Da mp 1: mp 2: mp 3: HA: asing/Lii f(t) To 6,742 Name: | Offita:  | Bottom  Bo spm Bo spm Bo spm Bo spm Bo spm Bo spm Botating  VD (ft) Bottom  T contains   | Rotate  spection:            | 110 ps<br>110 ps<br>110 ps<br>110 ps<br>110 ps<br>64 / | I Pipe: Miscell 7 Pick i i i 25 T | 40 sp<br>40 sp<br>40 sp<br>otal: 8<br>Trip<br>Mud Log<br>ts)<br>at Depth | Drillin<br>225 S   | g Parame<br>Slack Off:<br>215 p<br>215 p<br>215 p<br>3 p<br>3 p<br>3 p<br>4 p<br>4 p<br>5 p<br>4 p<br>5 p<br>6 p<br>6 p<br>6 p<br>7 5 p<br>7 6 p<br>7 | psi<br>psi<br>psi<br>0 | 210 <b>Dr</b> 5 5 5 5 | 0 spm<br>0 spm<br>0 spm<br>Wear E | g/Max:<br>Bushing | 311 p<br>311 p<br>311 p<br>311 p | si<br>si<br>si<br>ed |         |             |
| Hook Loads Slow Circul Pui Pui Hours on B Hours on C  Depth From 6,728 Formation I            | s (lbs): lation Da mp 1: mp 2: mp 3: HA: asing/Lin  (ft) To 6,742 Name:          | Offita:  | Bottom  Bo spm Bo spm Bo spm Bo spm Bo spm Bo spm Botating  VD (ft) Bottom  T contains   | Rotate  spection:  oo. 5,741 | 110 ps<br>110 ps<br>110 ps<br>110 ps<br>110 ps<br>64 / | I Pipe: Miscell 7 Pick i i i 25 T | 40 sp<br>40 sp<br>40 sp<br>otal: 8<br>Trip<br>Mud Log<br>ts)<br>at Depth | Drillin<br>225 \$<br>om<br>om<br>1.25<br>oping:<br>g Infor | g Parame<br>Slack Off:<br>215 p<br>215 p<br>215 p<br>3 p<br>3 p<br>3 p<br>4 p<br>4 p<br>5 p<br>4 p<br>5 p<br>6 p<br>6 p<br>6 p<br>7 5 p<br>7 6 p<br>7 | psi<br>psi<br>psi<br>0 | 210 <b>Dr</b> 5 5 5 5 | 0 spm<br>0 spm<br>0 spm<br>Wear E | g/Max:<br>Bushing | 311 p<br>311 p<br>311 p<br>311 p | si<br>si<br>si<br>ed |         |             |
| Hook Loads Slow Circul Pui Pui Hours on B Hours on C  Depth From 6,728 Formation I Lithology: | s (lbs): ation Da mp 1: mp 2: mp 3: HA: asing/Li  (ft) To 6,742 Name:            | Offill Coll  Offita:   | Bottom  Bo spm Bo spm Bo spm Bo spm TVD (ft) T 27 Bottom  To bottom  To bottom  To bottom  To bottom  Bo spm Bo sp | Rotate  spection:  oo. 5,741 | 110 ps<br>110 ps<br>110 ps<br>110 ps<br>110 ps<br>64 / | I Pipe: Miscell 7 Pick i i i 25 T | 40 sp<br>40 sp<br>40 sp<br>otal: 8<br>Trip<br>Mud Log<br>ts)<br>at Depth | Drillin<br>225 \$<br>om<br>om<br>1.25<br>oping:<br>g Infor | g Parame<br>Slack Off:<br>215 p<br>215 p<br>215 p<br>3 p<br>3 p<br>3 p<br>4 p<br>4 p<br>5 p<br>4 p<br>5 p<br>6 p<br>6 p<br>6 p<br>7 5 p<br>7 6 p<br>7 | psi<br>psi<br>psi<br>0 | 210 <b>Dr</b> 5 5 5 5 | 0 spm<br>0 spm<br>0 spm<br>Wear E | g/Max:<br>Bushing | 311 p<br>311 p<br>311 p<br>311 p | si<br>si<br>si<br>ed |         |             |
| Hook Loads Slow Circul Pui Pui Hours on B Hours on C  Depth From 6,728 Formation I Lithology: | s (lbs): ation Da mp 1: mp 2: mp 3: HA: asing/Li  (ft) To 6,742 Name:            | Offill Coll Offita:  Grant Street Str | Bottom  Bo spm Bo spm Bo spm Bo spm TVD (ft) T 27 Bottom  To bottom  To bottom  To bottom  To bottom  Bo spm Bo sp | Rotate  spection:  o  7,741  | 0  | I Pipe: Miscell 7 Pick i i i 25 T | 40 sp<br>40 sp<br>40 sp<br>otal: 8<br>Trip<br>Mud Log<br>ts)<br>at Depth | Drillin<br>225 \$<br>om<br>om<br>1.25<br>oping:<br>g Infor | g Parame<br>Slack Off:<br>215 p<br>215 p<br>215 p<br>3 p<br>3 p<br>3 p<br>4 p<br>4 p<br>5 p<br>4 p<br>5 p<br>6 p<br>6 p<br>6 p<br>7 5 p<br>7 6 p<br>7 | psi<br>psi<br>psi<br>0 | 210 <b>Dr</b> 5 5 5 5 | 0 spm<br>0 spm<br>0 spm<br>Wear E | g/Max:<br>Bushing | 311 p<br>311 p<br>311 p<br>311 p | si<br>si<br>si<br>ed |         |             |



**Geothermal Resource Group, Inc.** 

Well ID: Forge 78B-32

Well Name: 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 17     |             |                      |              |              |          |                          |              |          |            | Report F             | or 13-Jul-21    |
|-------------------|-------------|----------------------|--------------|--------------|----------|--------------------------|--------------|----------|------------|----------------------|-----------------|
|                   |             |                      |              | Solids       | Contro   | ol Information           |              |          |            |                      |                 |
| Screen Sizes:     | Тор         | Middle 1             | Middle 2     | Bottom       | Equip    | oment Usage (H           | rs):         |          |            |                      |                 |
| Shaker No 1:      | 120         | 120                  | 120          | 120          | Desa     | nder: 0                  | Desilter:    | 0        | Degasse    | <b>r</b> : 0         |                 |
| Shaker No 2:      | 120         | 120                  | 120          | 120          | Centr    | <b>ifuge 1</b> : 18 (Sol | ids Removal) |          | Centrifuç  | <b>ge 2</b> : 18 (Sc | olids Removal)  |
| Shaker No 3:      | 120         | 120                  | 120          | 120          |          |                          |              |          |            |                      |                 |
|                   |             |                      |              |              | Bulk In  | ventory                  |              |          |            |                      |                 |
|                   | Item Type   | 9                    |              | Units        | E        | Beginning                | Used         | Recei    | ved (      | On Hand              | Net             |
| Rig Fuel          |             |                      |              |              |          | 8,792                    | 901          |          |            | 7,891                |                 |
|                   |             |                      |              | Dril         | I Pipe   | Inventory                |              |          |            |                      |                 |
| DP Size J         | oints V     | Veight               | Grade        | Threa        | ad       | DP Size                  | Joints       | Weig     | ht G       | Grade                | Thread          |
| 5.5"              | 258         | 24.7                 | S-135        | 5.5IF        |          |                          |              |          |            |                      |                 |
|                   |             |                      |              | Saf          | ety In   | formation                |              |          |            |                      |                 |
| Meetings/Drills   | Time        |                      |              |              | Descrip  | tion                     |              |          |            |                      |                 |
| Safety            |             | o 30 min Prerations. | e tour safet | y meetings w | ith both | n crews. Handling        | BHA, workin  | g in the | heat, good | d communica          | ition. Forklift |
| First Aid Treatme | ents:       | 0 Medic              | al Treatme   | nts:         | 0        | <b>Lost Time Incid</b>   | ents:        | 0        | Days Sind  | ce LTI:              |                 |
| Accident Descrip  | tion: None  | to report.           |              |              |          |                          |              |          |            |                      |                 |
| ■ BOP Test        | ✓ Cro       | wnamatic             | Check        |              |          |                          |              |          |            |                      |                 |
|                   |             |                      |              | Wea          | ther Ir  | nformation               |              |          |            |                      |                 |
| Sky Condition:    | Cloudy      |                      |              |              |          | Visibility:              | 10           |          |            |                      |                 |
| Air Temperature:  | 70 degF     |                      |              |              |          | Bar. Pressure:           | 29.87        |          |            |                      |                 |
| Wind Speed/Dir:   | 4 / SE      |                      |              |              |          | Wind Gusts:              | 2            |          |            |                      |                 |
| Comments:         | Light rain. |                      |              |              |          |                          |              |          |            |                      |                 |
|                   |             |                      |              |              |          |                          |              |          |            |                      |                 |



**Geothermal Resource Group, Inc.** 

Well ID: Forge 78B-32

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 18 Report For 14-Jul-21

| Operator:             | University of Utah    | Rig:             | Frontier Rig 1 | 6 Spud Date:     | 28-         | Jun-21   | Daily Cost / M  | ud (\$): |             |
|-----------------------|-----------------------|------------------|----------------|------------------|-------------|----------|-----------------|----------|-------------|
| Measured Depth (ft    | <b>):</b> 7613        | Last Casing:     | 11.750 at 2,99 | 00 Wellbore:     | Original V  | Vellbore | AFE No.         | AFE (\$) | Actual (\$) |
| Vertical Depth (ft):  | 7611                  | Next Casing:     | 7.000 at 8,50  | 0 RKB Elevation  | n (ft):     | 30.40    |                 |          |             |
| Proposed TD (ft):     | 9500                  | Last BOP Tes     | t: 03-Jul-2    | Job Reference    | e RKB (ft): |          |                 |          |             |
| Hole Made (ft) / Hrs  | : 871 / 17.75         | Next BOP Tes     | st: 24-Jul-2   | 21 Working Inter | est:        |          | Totals:         |          |             |
| Average ROP (ft/hr)   | <b>49.07</b>          | 7                |                | LOT (lbs/gal):   |             | 11.70    | Well Cost (\$): |          |             |
| Drilling Days (act./p | olan): 18/21 <b>F</b> | lat Days (act./p | lan): 0/9      | Total Days (act  | ./plan):    | 18/30    | Days On Loca    | ition:   | 18          |
| Pers/Hrs: Opera       | tor: 3/36 C           | Contractor:      | 14 / 168       | Service:         | 6 / 72      | Other:   | 3 / 360         | Total:   | 26 / 636    |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Waiting on hydraulic hose for top drive to arrive.

Planned Operations: Install topdrive hydraulic service link hose.

Pull out of the hole from 6,599' to BHA.

Swap out motor and bit. Trip in the hole to 7,613'.

Continue to drill 10-5/8" hole section from 7,613'.

**Toolpusher:** Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary  |          |
|-------|-------|---------|------------|--------|---|----------|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description N  | Ion-Prod |
| 0:00  | 2:00  | 2.00    | 6,742      | 3-34-3 | Made up 10-5/8" directional assembly and trip in the hole to 1,036'.  |          |
| 2:00  | 3:30  | 1.50    | 6,742      | CUTDL  | Slipped and cut drilling line.  |          |
| 3:30  | 8:30  | 5.00    | 6,742      | 3-6-3  | Tripped in the hole from 1,036' to 4,100'. Shallow test MWD tool @ 3,100' Filling pipe and breaking circulation every 1,000' from 3,100' to 6,742'. Once on bottom when filling pipe got pipe stuck. Work loose shortly afterwards  |          |
| 8:30  | 10:30 | 2.00    | 6,946      | 3-2-3  | Rotate drilling 10-5/8" hole from 6,742' to 6,946'  |          |
| 10:30 | 11:00 | 0.50    | 6,970      | 3-2-3  | Slide drilling 10-5/8" hole from 6,946' to 6,970'.  |          |
| 11:00 | 13:00 | 2.00    | 7,158      | 3-2-3  | Rotate drilling 10-5/8" hoe from 6,970' to 7,158'   |          |
| 13:00 | 13:30 | 0.50    | 7,183      | 3-2-3  | Slide drilling 10-5/8" hole from 7,158' to 7,183'   |          |
| 13:30 | 15:45 | 2.25    | 7,316      | 3-2-3  | Rotary drilling 10-5/.8" hole from 7,183' to 7,316' preforming step down test on WOB and RPM in an attempt to lower vibration on MWD  |          |
| 15:45 | 16:00 | 0.25    | 7,316      | SERV   | Service Rig   |          |
| 16:00 | 16:15 | 0.25    | 7,326      | 3-2-3  | Rotate drilling 10-5/8" hoe from 7,316' to 7,326"   |          |
| 16:15 | 17:00 | 0.75    | 7,350      | 3-2-3  | Slide drilling 10-5/8" hole from 7,326' to 7,350'.  |          |
| 17:00 | 18:00 | 1.00    | 7,424      | 3-2-3  | Rotate drilling 10-5/8" hoe from 7,350' to 7,424'.  |          |
| 18:00 | 20:30 | 2.50    | 7,613      | 3-2-3  | Rotate drilling 10-5/8" hoe from 7,424' to 7,613'.  |          |
| 20:30 | 21:00 | 0.50    | 7,613      | OTHER  | While drilling ahead at 7,613' differential pressure jumped from 350 psi to 1,199 psi. Killed mud pumps and picked up off bottom. Brought pumps back online at 830 GPM slacked back off to bottom. Differential pressure jumped up to 1,000 psi with 25k weight on bit and would not drill off. Killed mud pumps and picked up off bottom. Brought pumps back online at 830 GPM slacked back off to bottom. Differential pressure jumped up to 1,356 psi with 30k weight on bit and would not drill off. Decision was made to trip out of the hole. |          |
| 21:00 | 22:00 | 1.00    | 7,613      | 3-6-3  | Tripped out of the hole from 7,613' to 6,559'.  |          |
| 22:00 | 0:00  | 2.00    | 7,613      | REPR   | While tripping out of the hole service loop came into contact with top drive damaging the main hydraulic return line. Wait on hydraulic hose to arrive. Pump down the string to cool tools every hour at 300 gpm.   | ı X      |

### **Management Summary**

Made up 10-5/8" directional assembly and trip in the hole to 1,036'.

Slipped and cut drilling line.

Tripped in the hole from 1,036' to 6,742'.

Filled pipe and broke circulation every 1,000' from 3,100' to 6,742'.

Drilled 10-5/8" hole from 6,742' to 7,316'.

Serviced rig.

Drilled 10-5/8" hole from 7,316' to 7,613'.

Tripped out of the hole due to high mud motor differential pressure. POH from 7,613' to 6,559'.

Found damaged top drive hydraulic service link hose.

Wait on hydraulic hose for top drive to arrive.



Well ID: Forge 78B-32

Field: UTAHFORGE

### Geothermal Resource Group, Inc.

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report For 14-Jul-21 Report No: 18

#### Comments

While tripping out of the hole service loop came into contact with top drive damaging the main hydraulic return line. Waited on hydraulic hose to arrive.

Pump down the string to cool tools every 45 mins at 300 gpm max temperature observed at tools 245 deg.

|   |  |  |   | C   | Casing/Tub   | oular In   | formation   | 1  |                                  |  |                                    |  |                  |                          |             |
|---|--|--|---|---|--|--|---|--|----------------------------------|--|------------------------------------|--|------------------|--------------------------|-------------|
| Type  | Size<br>(ins)  | Top MD<br>(ft)   | Top T\<br>(ft)  |   | tom MD Bo  |  |   | . 0  | H Diam.<br>(ins)                 |  | n. Wgt.<br>lbs)                    |  | ninal<br>ade     |                          | OT<br>/gal) |
| ULL   | 16.00  | 0  | 0   |   | 416  |  | Sl  | JRF  | 22.000                           |  | 65                                 |  | K-55             | ,                        | 0.6         |
| ULL   | 11.75  | 0  | 0   |   | 2,990  |  | ll ll   | NT1  | 14.750                           |  | 54                                 |  | J-55             |                          | 11.7        |
|   |  |  |   |   | Mud I  | nforma   | tion  |  |                                  |  |                                    |  |                  |                          |             |
|   |  |  |   |   | %  |  |   |  |                                  | (                                      | Gels                               |  | Tem              | p                        | Mud         |
| ens. Vis  | PV YP  | Filt. Cake   | pH/ES So  | lids Oil  | Water Sa   | and LGS  | S CI  | Ca   | CaCl 10                          | )s ′                                   | 10m 3                              | 30m  | In (             | Out                      | Los         |
| 14-Jul-21 1   | 18:00 at Dept  | h 7,423 ft Mu  | d Pits, Type  | e: Low Sol  | ids Non-Dis  | persed   |   |  |                                  |  |                                    |  |                  |                          |             |
| 8.30 26   | 0 1  | 0 1  | 10  | 2 (   | 0 98 0   | .01  | 0 700   | 120  |                                  | 1                                      | 1                                  | 1  | 113              | 112                      |             |
|   |  | ·  |   |   | Mud C  | onsuma   | ables   |  |                                  |  |                                    |  |                  |                          |             |
|   | Item Des   | cription   |   | Qty.  | Cost   |  |   | Item De  | scription                        |  |                                    | Q  | ty.              | Co                       | ost         |
| caustic So  | da - 50#SK   |  |   | 1   |  | Eng  | jineering - E   | EACH   |                                  |  |                                    |  | 1                |                          | -           |
| perdiem - 0   | OTHER  |  |   | 1   |  |  |   |  |                                  |  |                                    |  |                  |                          |             |
|   |  |  |   | Bit/  | BHA/Work   | string   | Informatio  | on   |                                  |  |                                    |  |                  |                          |             |
|   |  |  | Depth   | This Ru   |  | D.P.   |   |  | Μι                               | ıd                                     | Pump                               |  |                  |                          |             |
| No Run  | Make Mo  | del Diam   | In  | Dist H  | rs Avg   | Max  | WOB RPM   | / Torqu  | ie Wt                            | Flow                                   | Press                              | J. Vel   | P. Drp           | HHP                      | JIF         |
| 13 1 NO   | OV TKC8  | 3 10.625   | 6742  | 871 ′   | 12.5 69.7  | 105.0  | 65 4  | 15 13  | 3 8                              | 830                                    | 2630                               | 289  | 620              | 300                      | 103         |
| Jets: 12  | 12 12 12 1   | 2 12 13 13   | Out:  | Gra   | de: Cutter:  | . /  | Dull:   | 1  | Wear:                            | Br                                     | gs: (                              | Gge:   |                  | Pull:                    |             |
| BHA - No.   | 14 - BIT, MN   | ITR, STAB, M   | ONEL, 2 O   | THER, ST  | AB, MONE   | L, OTHE  | R, DC, XO,  | HWDP   | = 1035.59                        |  |                                    | _  |                  |                          |             |
|   |  |  |   |   | Drilling   | Param  | eters   |  |                                  |  |                                    |  |                  |                          |             |
| Depti   | h (ft)   | ROP (ft/hr   | )   | WOB (II   |  | RP   |   | Toro   | ue (ft lbs                       | )                                      | Flow                               | gals/m   | in)              | Press                    | sure        |
| From  | To   | •  |   | Avg   |  | Avg  | Max   | Avg  | . ` Max                          |  | Avg                                | M  | lax              | (ps                      | si)         |
| 6,742   | 7,613  |  |   |   |  |  |   |  |                                  |  |                                    |  |                  |                          |             |
|   | 7,010  | 75.0   | 110.0   | 65  | 70   | 45   | 45  | ,  | 13                               | 18                                     | 83                                 | 0  | 850              |                          |             |
| Annular V   | elocity: Dril  |  | 110.0<br>478.0  | 65<br><b>Drill Pip</b>  | -  | - 1  | 45  | ,  | 13                               | 18                                     | 83                                 | 0  | 850              |                          |             |
| Annular V   | elocity: Dril<br>s: Slide drill  | I Collars:<br>ing 10-5/8" ho   | 478.0<br>le from 6,94   | <b>Drill Pip</b><br>46' to 6,97   | e: 247   | - 1  | 45  | ,  | 13                               | 18                                     | 83                                 | 0  | 850              |                          |             |
|   | elocity: Dril<br>s: Slide dril<br>Slide dril   | I Collars:<br>ing 10-5/8" ho<br>ing 10-5/8" ho   | 478.0<br>le from 6,94<br>le from 7,19   | <b>Drill Pip</b><br>46' to 6,97<br>58' to 7,18  | e: 247<br>'0'.   | - 1  | 45  | ,  | 13                               | 18                                     | 83                                 | 0  | 850              |                          |             |
|   | elocity: Dril<br>s: Slide dril<br>Slide dril   | I Collars:<br>ing 10-5/8" ho   | 478.0<br>le from 6,94<br>le from 7,19   | <b>Drill Pip</b><br>46' to 6,97<br>58' to 7,18<br>26' to 7,35   | e: 247<br>'0'.<br>33'.<br>50'.   | 7.0  |   |  | 13                               | 18                                     | 83                                 | 0  | 850              |                          |             |
| Comment   | elocity: Dril<br>s: Slide drill<br>Slide drill   | I Collars:<br>ing 10-5/8" ho<br>ing 10-5/8" ho<br>ing 10-5/8" ho   | 478.0<br>le from 6,94<br>le from 7,13<br>le from 7,32   | Drill Pip<br>46' to 6,97<br>58' to 7,18<br>26' to 7,35<br>Misc  | e: 247<br>'0'.<br>33'.<br>50'.<br>ellaneous  | .0  Drilling   | g Paramet   | ters   |                                  |  |                                    |  |                  |                          |             |
| Comments Hook Load  | elocity: Dril<br>s: Slide dril<br>Slide drill<br>Slide drill   | I Collars:<br>ing 10-5/8" ho<br>ing 10-5/8" ho   | 478.0<br>le from 6,94<br>le from 7,13<br>le from 7,32   | Drill Pip<br>46' to 6,97<br>58' to 7,18<br>26' to 7,35<br>Misc  | e: 247<br>'0'.<br>33'.<br>50'.   | .0  Drilling   |   |  |                                  |  |                                    | 5 / 1  |                  |                          |             |
| Comments Hook Load Slow Circu   | elocity: Dril<br>s: Slide dril<br>Slide dril<br>Slide drill<br>ds (lbs):<br>ulation Data:  | I Collars:<br>ing 10-5/8" ho<br>ing 10-5/8" ho<br>ing 10-5/8" ho   | 478.0<br>le from 6,9de from 7,11<br>le from 7,32  | Drill Pip<br>46' to 6,97<br>58' to 7,18<br>26' to 7,35<br>Misc<br>285 P   | e: 247<br>70'.<br>33'.<br>50'.<br>eellaneous   | Drilling   | g Paramet<br>lack Off:  | <b>ters</b><br>265                             | Drag A                           | \vg/M                                  | ax:                                | 5/1  |                  |                          |             |
| Hook Load<br>Slow Circu   | elocity: Dril s: Slide dril Slide dril Slide dril ds (lbs): ulation Data: ump 1:   | I Collars:<br>ing 10-5/8" ho<br>ing 10-5/8" ho<br>ing 10-5/8" ho<br>Off Bottom   | 478.0<br>le from 6,9<br>le from 7,1!<br>le from 7,3:  | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P   | e: 247<br>70'.<br>33'.<br>50'.<br>cellaneous<br>rick Up:   | Drilling 310 S   | <b>y Parame</b> t<br>lack Off:<br>215 ps  | <b>ters</b><br>265                             | 5 <b>Drag</b> <i>A</i> 50 sp     | Avg/M                                  | <b>ax</b> :                        | 5 / 1<br>11 psi  |                  |                          |             |
| Hook Load<br>Slow Circu<br>Po   | elocity: Dril s: Slide drill Slide drill Slide drill ds (Ibs): ulation Data: ump 1: ump 2:   | I Collars:<br>ing 10-5/8" ho<br>ing 10-5/8" ho<br>ing 10-5/8" ho<br>Off Bottom<br>30 spm<br>30 spm   | 478.0<br>le from 6,94<br>le from 7,15<br>le from 7,32<br><b>Rotate:</b>   | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi  | e: 247 '0'. 131'. 100'. 101'. 101'. 101'. 102'. 103'. 104'. 105'. 105'. 106'. 107'. 108'.  | Drilling 310 S   | g Paramet<br>lack Off:<br>215 ps<br>215 ps  | ters<br>265<br>si                              | 50 sp<br>50 sp                   | Avg/M<br>m<br>m                        | ax:<br>3                           | 5 / 1<br>11 psi<br>11 psi                                |                  |                          |             |
| Hook Load<br>Slow Circl<br>Pl   | elocity: Dril s: Slide drill Slide drill Slide drill ds (Ibs): ulation Data: ump 1: ump 2: ump 3:  | I Collars:<br>ing 10-5/8" ho<br>ing 10-5/8" ho<br>ing 10-5/8" ho<br>Off Bottom<br>30 spm<br>30 spm<br>30 spm   | 478.0 le from 6,94 le from 7,15 le from 7,32 Rotate:  | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi  | e: 247 70'. 13'. 100'. 1 | Drilling 310 S   | <b>y Paramet</b><br>lack Off:<br>215 ps<br>215 ps<br>215 ps   | ters 265                                       | 5 <b>Drag</b> <i>A</i> 50 sp     | Avg/M<br>m<br>m                        | ax:<br>3                           | 5 / 1<br>11 psi  |                  |                          |             |
| Hook Load<br>Slow Circu<br>Property Property | elocity: Dril s: Slide dril Slide dril Slide dril ds (Ibs): ulation Data: ump 1: ump 2: ump 3: BHA:  | I Collars: ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho Off Bottom  30 spm 30 spm 30 spm Since Ins   | 478.0 le from 6,94 le from 7,15 le from 7,32  Rotate:  11 12 5pection:  | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P  10 psi 10 psi 10 psi 93.75                                 | e: 247 70'. 13'. 10'. 13'. 10'. 10'. 10'. 10'. 10'. 10'. 10'. 10   | Drilling 310 S om om om om 33.75                       | g Paramet<br>lack Off:<br>215 ps<br>215 ps<br>215 ps<br>215 ps  | ters<br>265<br>si                              | 50 sp<br>50 sp<br>50 sp          | Mvg/M<br>m<br>m<br>m                   | ax:<br>3<br>3<br>3                 | 5 / 1<br>11 psi<br>11 psi<br>11 psi                      |                  |                          |             |
| Hook Load<br>Slow Circu<br>Pr<br>Pr<br>Pr<br>Hours on   | elocity: Dril s: Slide drill Slide drill Slide drill ds (Ibs): ulation Data: ump 1: ump 2: ump 3:  | I Collars: ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho Off Bottom  30 spm 30 spm 30 spm Since Ins   | 478.0 le from 6,94 le from 7,15 le from 7,32  Rotate:  11 12 5pection:  | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi  | e: 247 '0': 133': 130': 150':  | Drilling 310 S om om om om om om opping:               | <b>g Paramet g Paramet</b> 215 ps  215 ps  215 ps  215 ps  33 /   | ters 265                                       | 50 sp<br>50 sp<br>50 sp          | Mvg/M<br>m<br>m<br>m                   | ax:<br>3                           | 5 / 1<br>11 psi<br>11 psi<br>11 psi                      |                  |                          |             |
| Hook Load<br>Slow Circu<br>Pr<br>Pr<br>Pr<br>Hours on   | elocity: Dril s: Slide dril Slide dril Slide dril ds (lbs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner   | I Collars: ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho Off Bottom  30 spm 30 spm 30 spm Since Ins   | 478.0 le from 6,94 le from 7,15 le from 7,32  Rotate:  11 12 5pection:  | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P  10 psi 10 psi 10 psi 93.75                                 | e: 247 '0': 133': 130': 150':  | Drilling 310 S om om om om 33.75                       | g Paramet<br>lack Off:<br>215 ps<br>215 ps<br>215 ps<br>Jars:<br>83 /   | ters 265 si si si si 0                         | 50 sp<br>50 sp<br>50 sp          | Mvg/M<br>m<br>m<br>m                   | 3<br>3<br>3<br>hing Ins            | 5 / 1<br>11 psi<br>11 psi<br>11 psi                      |                  |                          |             |
| Hook Load<br>Slow Circu<br>Pr<br>Pr<br>Pr<br>Hours on   | elocity: Dril s: Slide dril Slide dril Slide dril ds (lbs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner   | I Collars: ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho Off Bottom  30 spm 30 spm 30 spm Since Ins : Rotating:   | 478.0 le from 6,94 le from 7,15 le from 7,35  Rotate:  11 12 spection: 66   | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi 93.75                                  | e: 247 70': 133': 100':  | Drilling 310 S om om om om om oping:                   | g Paramet<br>lack Off:<br>215 ps<br>215 ps<br>215 ps<br>31 Jars:<br>83 /  | ters 265 si si si o                            | 50 sp<br>50 sp<br>50 sp          | m<br>m<br>m<br>m                       | ax: 3 3 3 hing Ins                 | 5 / 1<br>11 psi<br>11 psi<br>11 psi<br>stalled           | 0                |                          |             |
| Hook Load<br>Slow Circu<br>Pr<br>Pr<br>Pr<br>Hours on   | elocity: Dril s: Slide dril Slide dril Slide dril Slide dril ds (Ibs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner Survey Type                                      | I Collars: ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho Off Bottom  30 spm 30 spm 30 spm Since Ins Rotating:  Meas. Depth  | 478.0 le from 6,94 le from 7,15 le from 7,35  Rotate:  11 12 spection: 16 66  | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi 93.75 6.5 /                            | e: 247 '0': 33': 30': sellaneous 'ick Up: 40 sp 40 sp 40 sp Total: 9  Trip Survey  | Drilling 310 S om om om om om oping:                   | g Paramet<br>lack Off:<br>215 ps<br>215 ps<br>215 ps<br>3 / Jars:<br>83 / sation                                  | ters 265 si   si   o   Vertical Section        | 50 sp<br>50 sp<br>50 sp<br>50 sp | m<br>m<br>m<br>cr Bus                  | ax:  3 3 3 hing Installation       | 5 / 1<br>11 psi<br>11 psi<br>11 psi<br>stalled           | D.L.             |                          |             |
| Hook Load<br>Slow Circu<br>Pr<br>Pr<br>Pr<br>Hours on   | elocity: Dril s: Slide dril Slide dril Slide dril Slide dril ds (Ibs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner Survey Type MWD                                  | I Collars: ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho Off Bottom  30 spm 30 spm 30 spm Since Ins: Rotating:  Meas. Depth 6,675.0   | 478.0 le from 6,94 le from 7,15 le from 7,32 Rotate:  11 11 12 13 14 15 16 16 16 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18 | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi 93.75 6.5 /  Azimuth 44.2              | e: 247 '0': 33': 30': sellaneous 'ick Up: 40 sp 40 sp 40 sp Total: 9  Total: 9  Tvp 5  TVD 6,673.  | Drilling 310 S  Dom Dom Dom Dom Dom Dom Dom Dom Dom Do | 215 ps<br>215 ps<br>215 ps<br>215 ps<br>215 ps<br>3 / sation  | ters 265 si   si   0   Vertical Section -19.3  | 50 sp 50 sp 50 sp Wea            | m m m m m Coords S 19.3                | ax: 3 3 3 hing Instances E-        | 5 / 1 11 psi 11 psi 11 psi 11 psi stalled                | D.L.             | 149                      |             |
| Hook Load<br>Slow Circt<br>Pr<br>Pr<br>Hours on   | elocity: Dril s: Slide dril Slide dril Slide dril Slide dril ds (Ibs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner Survey Type                                      | I Collars: ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho Off Bottom  30 spm 30 spm 30 spm Since Ins Rotating:  Meas. Depth  | 478.0 le from 6,94 le from 7,15 le from 7,35  Rotate:  11 12 spection: 16 66  | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi 93.75 6.5 /                            | e: 247 70'. 13'. 13'. 13'. 150'. 1ck Up: 40 sp 40 sp 40 sp Total: 9 Trip Survey  TVD 6,673. 6,768.   | Drilling 310 S om om om om om right inform Clo         | 215 ps<br>215 ps<br>215 ps<br>215 ps<br>215 ps<br>3 / Station   | ters 265 si   si   o   Vertical Section        | 50 sp 50 sp 50 sp Wea            | m<br>m<br>m<br>cr Bus                  | ax: 3 3 3 hing In: dinates E-      | 5 / 1<br>11 psi<br>11 psi<br>11 psi<br>stalled           | D.L.             |                          |             |
| Hook Load<br>Slow Circu<br>Po<br>Po<br>Hours on<br>Hours on   | elocity: Dril s: Slide drill Slide drill Slide drill ds (lbs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner  Survey Type  MWD  MWD                                   | I Collars: ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho Off Bottom  30 spm 30 spm 30 spm Since Ins: Rotating:  Meas. Depth 6,675.0 6,770.0   | 478.0 le from 6,94 le from 7,15 le from 7,32 Rotate:  11 11 12 13 14 15 16 16 16 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18 | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi 93.75 6.5 /  Azimuth 44.2              | e: 247 '0': 33': 30': sellaneous 'ick Up: 40 sp 40 sp 40 sp Total: 9  Total: 9  Tvp 5  TVD 6,673.  | Drilling 310 S om om om om om right inform Clo         | 215 ps<br>215 ps<br>215 ps<br>215 ps<br>215 ps<br>3 / Station   | ters 265 si   si   si   si   si   si   si   si | 50 sp<br>50 sp<br>50 sp<br>Wea   | m m m m m Coords S 19.3                | ax:  3 3 3 hing Ins                | 5 / 1<br>11 psi<br>11 psi<br>11 psi<br>11 psi<br>stalled | D.L.<br>1.       | 149<br>412               |             |
| Hook Load<br>Slow Circu<br>Pr<br>Pr<br>Hours on<br>Hours on   | elocity: Dril s: Slide drill Slide drill Slide drill Slide drill ds (Ibs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner  Survey Type MWD MWD h (ft)                  | I Collars: ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho  Off Bottom  30 spm 30 spm 30 spm Since Ins : Rotating:  Meas. Depth 6,675.0 6,770.0   | 478.0 le from 6,94 le from 7,14 le from 7,32  Rotate:  11 12 spection: : 66  Inc. 4 1.18 1.25                                       | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi 93.75 5.5 /  Azimuth 44.2 26.0  Gas (U | e: 247 70': 133': 150': rellaneous rick Up: 40 sp 40 sp 40 sp Total: 9 Trip Survey TVD 6,673. 6,768. Mud Log   | Drilling 310 S om om om om i3.75 ping: r Inform Clo    | g Paramet<br>lack Off:<br>215 ps<br>215 ps<br>215 ps<br>215 ps<br>33 /<br>sation<br>24.9<br>22.9<br>nation<br>Gas | ters 265 si   si   si   si   si   si   si   si | 50 sp 50 sp 50 sp Wea  N 3 S 7 S | m m m m Coores 19.3 17.7               | ax:  3 3 3 hing In: dinates E- W W | 5 / 1 11 psi 11 psi 11 psi 11 psi 15.7 14.6              | D.L.<br>1.<br>0. | 149<br>412<br><b>ROF</b> |             |
| Hook Load<br>Slow Circu<br>Pr<br>Pr<br>Hours on<br>Hours on   | elocity: Dril s: Slide dril Slide dril Slide dril Slide dril Slide dril ds (Ibs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner  Survey Type MWD MWD h (ft) To        | Collars:   ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho   Off Bottom   30 spm   30 spm   30 spm   Since Ins  : Rotating:   Meas.   Depth   6,675.0   6,770.0   TVD (ft)   From   To | 478.0 le from 6,94 le from 7,14 le from 7,32  Rotate:  11 12 spection: : 66  Inc. 4 1.18 1.25                                       | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi 10 psi 44.2 26.0  Gas (Ug              | e: 247 70': 133': 150': sellaneous rick Up: 40 sp 40 sp 40 sp 70 survey  TVD 6,673. 6,768. Mud Log Inits) at Depth   | Drilling 310 S om om om om i3.75 ping: r Inform Clo    | g Paramet<br>lack Off:<br>215 ps<br>215 ps<br>215 ps<br>31 years:<br>83 / sation<br>soure<br>24.9<br>22.9         | ters 265 si   si   si   si   si   si   si   si | 50 sp 50 sp 50 sp Wea  N 3 S 7 S | mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm | ax:  3 3 3 hing Ins                | 5 / 1<br>11 psi<br>11 psi<br>11 psi<br>11 psi<br>stalled | D.L.<br>1<br>0.  | 149<br>412<br><b>ROF</b> | Sand        |
| Hook Load Slow Circu Pr Pr Hours on Hours on Dept From 6,742  | elocity: Dril s: Slide drill Slide drill Slide drill Slide drill dds (lbs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner  Survey Type MWD MWD h (ft) To 7,613        | Collars:   ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho   Off Bottom   30 spm   30 spm   30 spm   Since Ins   Rotating:   Meas.   Depth   6,675.0   6,770.0   TVD (ft)   From   To  | 478.0 le from 6,94 le from 7,14 le from 7,32  Rotate:  11 12 spection: : 66  Inc. 4 1.18 1.25                                       | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi 10 psi 44.2 26.0  Gas (Ug              | e: 247 70': 133': 150': rellaneous rick Up: 40 sp 40 sp 40 sp Total: 9 Trip Survey TVD 6,673. 6,768. Mud Log   | Drilling 310 S om om om om i3.75 ping: r Inform Clo    | g Paramet<br>lack Off:<br>215 ps<br>215 ps<br>215 ps<br>215 ps<br>33 /<br>sation<br>24.9<br>22.9<br>nation<br>Gas | ters 265 si   si   si   si   si   si   si   si | 50 sp 50 sp 50 sp Wea  N 3 S 7 S | m m m m Coores 19.3 17.7               | ax:  3 3 3 hing In: dinates E- W W | 5 / 1 11 psi 11 psi 11 psi 11 psi 15.7 14.6              | D.L.<br>1.<br>0. | 149<br>412<br><b>ROF</b> |             |
| Hook Load<br>Slow Circu<br>Pr<br>Pr<br>Hours on<br>Hours on   | elocity: Dril s: Slide drill Slide drill Slide drill Slide drill dds (lbs): ulation Data: ump 1: ump 2: ump 3: BHA: Casing/Liner  Survey Type MWD MWD  h (ft) To 7,613 Name: | Collars:   ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho ing 10-5/8" ho   Off Bottom   30 spm   30 spm   30 spm   Since Ins  : Rotating:   Meas.   Depth   6,675.0   6,770.0   TVD (ft)   From   To | 478.0 le from 6,94 le from 7,15 le from 7,35  Rotate:  11 12 spection: 1.18 1.25  0 Av. 612   | Drill Pip 46' to 6,97 58' to 7,18 26' to 7,35  Misc 285 P 10 psi 10 psi 10 psi 10 psi 44.2 26.0  Gas (Ug              | e: 247 70': 133': 150': sellaneous rick Up: 40 sp 40 sp 40 sp 70 survey  TVD 6,673. 6,768. Mud Log Inits) at Depth   | Drilling 310 S om om om om i3.75 ping: r Inform Clo    | g Paramet<br>lack Off:<br>215 ps<br>215 ps<br>215 ps<br>215 ps<br>33 /<br>sation<br>24.9<br>22.9<br>nation<br>Gas | ters 265 si   si   si   si   si   si   si   si | 50 sp 50 sp 50 sp Wea  N 3 S 7 S | m m m m Coores 19.3 17.7               | ax:  3 3 3 hing In: dinates E- W W | 5 / 1 11 psi 11 psi 11 psi 11 psi 15.7 14.6              | D.L.<br>1.<br>0. | 149<br>412<br><b>ROF</b> |             |



Comments:

Light rain.

# **Daily Drilling Report**

Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

| Report No: 18      |            |              |              |        |         |                  |               |          | R             | eport For  | 14-Jul-21 |
|--------------------|------------|--------------|--------------|--------|---------|------------------|---------------|----------|---------------|------------|-----------|
|                    |            |              |              | R      | ig Info | rmation          |               |          |               |            |           |
| Equipment Probl    | ems: Leaki | ng house o   | n top drive. |        |         |                  |               |          |               |            |           |
| Location Condition | on: Good   |              |              |        |         |                  |               |          |               |            |           |
| Transport:         | Recei      | ived 7 loads | of water.    |        |         |                  |               |          |               |            |           |
|                    |            |              |              | Solids | Contro  | ol Information   |               |          |               |            |           |
| Screen Sizes:      | Тор        | Middle 1     | Middle 2     | Bottom | Equip   | oment Usage (H   | lrs):         |          |               |            |           |
| Shaker No 1:       | 120        | 120          | 120          | 120    | Desa    | nder: 0          | Desilter:     | 0        | Degasser:     | 0          |           |
| Shaker No 2:       | 120        | 120          | 120          | 120    | Centr   | rifuge 1: 24 (So | lids Removal) |          | Centrifuge 2: | 24 (Solids | Removal)  |
| Shaker No 3:       | 120        | 120          | 120          | 120    |         |                  |               |          |               |            |           |
|                    |            |              |              |        | Bulk In | ventory          |               |          |               |            |           |
|                    | Item Typ   | е            |              | Units  | E       | Beginning        | Used          | Recei    | ved On F      | land       | Net       |
| Rig Fuel           |            |              |              |        |         | 7,891            | 2,344         |          | 2,700         | 8,247      | 356       |
|                    |            |              |              |        |         | Inventory        |               |          |               |            |           |
|                    |            | Veight       | Grade        | Threa  | ad      | DP Size          | Joints        | Weig     | ht Grad       | e T        | Thread    |
| 5.5                | 258        | 24.7         | S-135        | 5.5IF  |         |                  |               |          |               |            |           |
|                    |            |              |              | Sat    | ety In  | formation        |               |          |               |            |           |
| Meetings/Drills    | Time       |              |              |        | Descrip |                  |               |          |               |            |           |
| Safety             |            |              |              |        |         | n crews. Handlin | •             | g in the |               |            | ١.        |
| First Aid Treatme  |            | -            | al Treatme   | nts:   | 0       | Lost Time Incid  | dents:        | 0        | Days Since L  | ГІ:        |           |
| Accident Descrip   |            | to report.   |              |        |         |                  |               |          |               |            |           |
| BOP Test           | ✓ Cro      | ownamatic    | Check        |        |         |                  |               |          |               |            |           |
|                    |            |              |              | Wea    | ther Ir | nformation       |               |          |               |            |           |
| Sky Condition:     | Cloudy     |              |              |        |         | Visibility:      | 10            |          |               |            |           |
| Air Temperature:   | 72 degF    |              |              |        |         | Bar. Pressure    | : 29.89       |          |               |            |           |
| Wind Speed/Dir:    | 6 / SE     |              |              |        |         | Wind Gusts:      | 2             |          |               |            |           |



**Geothermal Resource Group, Inc.** 

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

| Report No: 19            |                      |                   |                 |                 |             |          |                 | Report For | 15-Jul-21   |
|--------------------------|----------------------|-------------------|-----------------|-----------------|-------------|----------|-----------------|------------|-------------|
| Operator: Ur             | niversity of Utah    | Rig:              | Frontier Rig 1  | 6 Spud Date:    | 28-         | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft):     | 7613                 | Last Casing:      | 11.750 at 2,99  | 0 Wellbore:     | Original V  | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):     | 7611                 | Next Casing:      | 7.000 at 8,50   | 0 RKB Elevatio  | n (ft):     | 30.40    |                 |            |             |
| Proposed TD (ft):        | 9500                 | Last BOP Test     | :: 03-Jul-2     | 1 Job Referenc  | e RKB (ft): |          |                 |            |             |
| Hole Made (ft) / Hrs:    | 0 / 9.5              | Next BOP Tes      | t: 24-Jul-2     | 1 Working Inter | est:        |          | Totals:         |            |             |
| Average ROP (ft/hr):     | 0.0                  |                   |                 | LOT (lbs/gal):  |             | 11.70    | Well Cost (\$): |            |             |
| Drilling Days (act./plan | i): 19/21 <b>F</b> I | lat Days (act./pl | <b>an):</b> 0/9 | Total Days (act | ./plan):    | 19/30    | Days On Loca    | ition:     | 19          |
| Pers/Hrs: Operator       | : 3 / 36 <b>C</b>    | ontractor:        | 14 / 168        | Service:        | 6 / 72      | Other:   | 3 / 36          | Total:     | 26 / 312    |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Tripped in the hole from 2,613' to 7,072'.

Filled pipe and broke circulation every 1,000'.

Took weight at 7,072'. Work string free with 90k in over-pull. Ream from 7,072' to 7,231'.

Ream from 7,231' to 7,613' as needed. **Planned Operations:** 

Drilled 10-5/8" hole to 8,500'.

Steve Caldwell, Justin Bristol Toolpusher:

Wellsite Supervisors: Virgil Welch, Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary   |          |
|-------|-------|---------|------------|--------|--|----------|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description   | Non-Prod |
| 0:00  | 8:00  | 8.00    | 7,613      | REPR   | Waited on hydraulic hose to arrive. Pumping down the string to cool tools every hour at 300 gpm.   | Х        |
| 8:00  | 13:00 | 5.00    | 7,613      | 3-6-4  | POH from 6,559' to 629'  |          |
| 13:00 | 16:30 | 3.50    | 7,613      | 3-6-2  | Racked back HWDP along with 8' drill collars. Laid out motor, bit, stabs. Motor took a high amount of torque to drain 45 kft/lbs. Bit had 3-plugged jets with pieces of rubber from the stator bit was also DBR'ed. Motor Stabilizer was 0.5" under-gauged Stabilizer above the motor was 0.75" under-gauged. Top Stabilizer was 1.25" under-gauged. |          |
| 16:30 | 22:30 | 6.00    | 7,613      | 3-34-3 | Picked up new (Bico) motor 1.5 deg, 0.160 rev/gal. Picked up new 10-5/8" NOV bit. Picked up 1- Re-Run Roller Reamers 10-3/8" stab placed at 39.53'. Picked up new 10-1/2" spiral stab placed at 100.82'. Placed cubic sensors at 50.96', 132.86'. Made up and scribed tools. Tripped in the hole with BHA to 1,000'.                                 |          |
| 22:30 | 23:30 | 1.00    | 7,613      | 3-6-3  | Tripped in the hole from 1,000' to 2,613'.   |          |
| 23:30 | 0:00  | 0.50    | 7,613      | SERV   | Serviced rig. Adjusted service loop.   |          |

#### **Management Summary**

Waited on hydraulic hose to arrive.

Installed new top-drive service link hydraulic hose.

Tripped out of the hole from 6,559' to BHA.

Racked back HWDP along with 8' drill collars.

Laid out motor, bit, stabs.

Made up 10-5/8" directional assembly.

Tripped in the hole from 1,000' to 2,613'.

Serviced rig. Adjusted service loop.

#### Comments

Motor took a high amount of torque to drain 45 kft/lbs. Bit had 3-plugged jets with pieces of rubber from the stator bit was also DBR'ed.

Motor Stabilizer was 0.5" under-gauged

Stabilizer above the motor was 0.75" under-gauged.

Top Stabilizer was 1.25" under-gauged.

Total hours of NPT on report 8.0 HRS

Total hours of NPT on Frontier to date 56 HRS.



Well ID: Forge 78B-32

Field: UTAHFORGE

# **Geothermal Resource Group, Inc.**

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 19                             |               |               |                 | Casino            | g/Tubular In              | formation              | 1                 |                  |            |                  |          | · 15-Jul-2      |
|---|---------------|---------------|-----------------|-------------------|---------------------------|------------------------|-------------------|------------------|------------|------------------|----------|-----------------|
|   | Size T<br>ns) | op MD<br>(ft) | Top TVD<br>(ft) |                   | D Bottom TV<br>(ft)       |                        | e OH              | l Diam.<br>(ins) | Nom. Wg    | t. Nom<br>Gra    |          | LOT<br>(lbs/gal |
|   | 16.000        | 0             | ` '             | 41                | 6                         | S                      | URF               | 22.000           | (          | 55               | K-55     | 0.              |
| ULL                                       | 11.750        | 0             |                 | 2,99              | 0                         | I                      | NT1               | 14.750           | 5          | 54               | J-55     | 11.             |
|   |               |               |                 |                   | lud Informa               | ition                  |                   |                  |            |                  |          |                 |
|   |               |               |                 | %                 |                           |                        |                   |                  | Gels       |                  | Tem      | p Mu            |
| <b>Dens. Vis PV</b><br>15-Jul-21 16:00 at |               |               |                 |                   | er Sand LG<br>n-Dispersed | S CI                   | Ca C              | aCI 10s          | s 10m      | 30m              | ln (     | Out Los         |
| 8.30 26 0                                 | 1 0           |               | 10 2            |                   |                           | 0 700                  | 120               |                  | 1 1        | 1                | 86       | 87              |
|   | ·             |               |                 | Mu                | ud Consum                 | ables                  |                   | ·                |            | ·                | ·        | ·               |
|   | Description   | n             | Qt              | ty. (             | Cost                      |                        | Item Desc         | cription         |            | Q                | ty.      | Cost            |
| Engineering - EAC                         | H             |               |                 | 1                 |                           | ner - EACH             |                   |                  |            |                  | 1        | -               |
| perdiem - OTHER                           |               |               |                 | 1                 |                           | icking - EA            |                   |                  |            |                  | 1        |                 |
|   |               |               |                 |                   | Workstring                | Informati              | on                |                  |            |                  |          |                 |
| No Run Make                               | Model         | Diam D        | •               | is Run<br>t Hrs A | R.O.P.<br>Vg Max          | WOB RPI                | M Torque          | Mud              |            |                  | D Drn    | HHP JI          |
|   |               | 10.625        | 6742 87         |                   | 0.0 0.0                   | 0                      | 0 13              | 8                | 830 273    |                  | 620      | 300 103         |
| Jets: 12 12 12                            |               |               |                 | Grade: C          |                           |                        |                   |                  | Brgs: X    |                  |          | Pull: DMF       |
| BHA - No. 14 - BI                         |               |               |                 |                   |                           |                        |                   |                  | Digo. A    | Ogo. Z           |          | i un. Divii     |
|   | .,            | ,             |                 |                   | eous Drillin              |                        |                   |                  |            |                  |          |                 |
| Hook Loads (lbs)                          | : Off         | Bottom Ro     |                 | Pick Up           |                           | Black Off:             | 10.0              | Drag Av          | /ɑ/Max:    | 1                |          |                 |
| Slow Circulation                          |               |               |                 |                   |                           |                        |                   |                  | 3          |                  |          |                 |
| Pump 1:                                   | 3             | 0 spm         | 110 ps          | i                 | 40 spm                    | 215 p                  | si                | 50 spm           | 1          | 311 psi          |          |                 |
| Pump 2:                                   | 3             | 0 spm         | 110 ps          | i                 | 40 spm                    | 215 p                  | si                | 50 spm           | 1          | 311 psi          |          |                 |
| Pump 3:                                   | 3             | 0 spm         | 110 ps          | i                 | 40 spm                    | 215 p                  | si                | 50 spm           | 1          | 311 psi          |          |                 |
|   |               |               |                 | Su                | rvey Inform               | nation                 | <u> </u>          |                  | ·          | ·                |          |                 |
| Surve                                     | y Mea         | s.            |                 |                   | <u> </u>                  |                        | Vertical          | C                | Coordinate | s                |          |                 |
| Туре                                      | Dep           | th Inc        | . Azim          | uth T             | VD CI                     | osure                  | Section           | N-S              | 3          | E-W              | D.L.     | S.              |
| MWD                                       |               |               |                 |                   | ,863.7                    | 20.8                   | -15.7             |                  |            | W 13.6           |          | 221             |
| MWD                                       |               |               |                 |                   | ,958.6                    | 18.7                   | -13.9             |                  |            | W 12.5           |          | 186             |
| MWD                                       |               |               |                 |                   | ,054.6                    | 19.0                   | -14.3             |                  |            | W 12.5           |          | 754             |
| MWD                                       |               |               |                 |                   | ,149.6                    | 21.7                   | -17.1             |                  |            | W 13.5           |          | 533             |
| MWD                                       |               |               |                 |                   | ,244.5                    | 24.3                   | -19.7             |                  |            | W 14.2           |          | 579             |
| MWD                                       |               |               |                 |                   | ,339.5                    | 26.0                   | -21.4             |                  |            | W 14.8           |          | 592             |
| MWD                                       |               |               |                 |                   | ,434.5                    | 27.4                   | -22.7             |                  |            | W 15.4           |          | 079             |
| MWD                                       | 7,53          | 31.0 0.9      | 95 20           |                   | ,529.5                    | 28.9                   | -24.1             | \$ 2             | 24.1       | W 16.0           | 0.       | 149             |
|   | _             | 110/5:        | <u> </u>        |                   | Rig Informa               | tion                   |                   |                  |            |                  |          |                 |
| Equipment Proble                          |               |               | e on Service    | юор.              |                           |                        |                   |                  |            |                  |          |                 |
| Location Condition                        |               |               | f 7ll '         | 4 40 5/0"         | DDC hit                   |                        |                   |                  |            |                  |          |                 |
| Transport:                                | Kece          | erved 2 load  | s of 7" casing  |                   |                           | [a wm c t   a          |                   |                  |            |                  |          |                 |
| Saraan Sizaa                              | Ton           | Middle 4      | Middle          |                   | Control Inf               |                        |                   |                  |            |                  |          |                 |
| Screen Sizes:<br>Shaker No 1:             | <b>Top</b>    | Middle 1      |                 | Bottom            | Desander:                 | it Usage (H<br>·     ∩ | ırs):<br>Desiltei | r. 0             | Degass     | ser: 0           |          |                 |
| Shaker No 1:                              | 120           |               |                 | 120               | Centrifuge                |                        |                   |                  |            |                  | 1 (Salid | s Remova        |
| Shaker No 2:                              | 120<br>120    |               |                 | 120<br>120        | Genunuge                  | , i. 24 (SO            | iius Relli0       | vaij             | Centriff   | uge <b>z</b> . 2 | + (30110 | s izeiliova     |
| GHAREI NO 3.                              | 120           | 120           | 120             | 120               | Bulk Invente              | orv                    |                   |                  |            |                  |          |                 |
|   | 14 T          | 10            |                 | Units             |                           |                        | Used              | Rec              | eived      | On Han           | d        | Net             |
|   | ITEM IV       |               |                 | Units             | Degii                     | ····iy                 | UJEU              | IVEC             | C. V G G   |                  |          | 1401            |
| Ria Fuel                                  | Item Typ      | ,,,           |                 |                   |                           | 8.247                  |                   |                  |            | 8                | 247      |                 |
| Rig Fuel                                  | item i yr     |               |                 | Dri               | ill Pipe Inve             | 8,247<br>entory        |                   |                  |            | 8,:              | 247      |                 |
| Rig Fuel  DP Size Jo                      |               | Weight        | Grade           | Dri<br>Thre       | ill Pipe Inve             | · .                    | Joints            | Wei              | aht        | 8,               |          | Thread          |



# Geothermal Resource Group, Inc.

Well ID: Forge 78B-32 Field: UTAHFORGE Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 19 Report For 15-Jul-21

| Report No: 19     | ,        |                                    |              |                       |          |         | Report For 15-Jui-21                    |
|-------------------|----------|------------------------------------|--------------|-----------------------|----------|---------|---|
|                   |          |                                    | Safety In    | formation             |          |         |   |
| Meetings/Drills   | Time     |                                    | Descri       | otion                 |          |         |   |
| Safety            | 60       | Two 30 min Pre tour safety meeting | ngs with bot | h crews. Handling BHA | , Workin | g at he | eights. Looking up while tripping pipe. |
| First Aid Treatme | ents:    | 0 Medical Treatments:              | 0            | Lost Time Incidents:  |          | 0       | Days Since LTI:                         |
| Accident Descrip  | otion: N | lone to report.                    |              |                       |          |         |   |
| ■ BOP Test        | <b>✓</b> | Crownamatic Check                  |              |                       |          |         |   |
|                   |          | ,                                  | Weather I    | nformation            |          |         |   |
| Sky Condition:    | Cloudy   | /                                  |              | Visibility:           | 10       |         |   |
| Air Temperature   | : 70 deg | jF                                 |              | Bar. Pressure:        | 29.89    |         |   |
| Wind Speed/Dir:   | 8 / SE   |                                    |              | Wind Gusts:           | 2        |         |   |
| Comments:         | Light ra | ain with some wind.                |              |                       |          |         |   |
|                   |          |                                    |              |                       |          |         |   |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 20         |                    |                   |                |                 |             |          |                 | Report For | r 16-Jul-21 |
|-----------------------|--------------------|-------------------|----------------|-----------------|-------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utal | h <b>Rig:</b>     | Frontier Rig 1 | 6 Spud Date:    | 28-         | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft    | ): 8500            | 0 Last Casing:    | 11.750 at 2,99 | 0 Wellbore:     | Original V  | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 8498               | 8 Next Casing:    | 7.000 at 8,50  | 0 RKB Elevation | on (ft):    | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500               | 0 Last BOP Tes    | t: 03-Jul-2    | 1 Job Referen   | e RKB (ft): |          |                 |            |             |
| Hole Made (ft) / Hrs  | : 887 / 18.0       | 0 Next BOP Tes    | st: 24-Jul-2   | 1 Working Inte  | rest:       |          | Totals:         |            |             |
| Average ROP (ft/hr)   | ): 49.28           | 8                 |                | LOT (lbs/gal)   | :           | 11.70    | Well Cost (\$): |            |             |
| Drilling Days (act./p | olan): 20/21 l     | Flat Days (act./p | lan): 0/9      | Total Days (ac  | t./plan):   | 20/30    | Days On Loca    | ition:     | 20          |
| Pers/Hrs: Opera       | tor: 3 / 36        | Contractor:       | 14 / 168       | Service:        | 6 / 72      | Other:   | 3 / 36          | Total:     | 26 / 312    |
|                       |                    |                   |                |                 |             |          |                 |            |             |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** 

Tripped out of the hole from 4,000' to BHA with no issues. Racked back HWDP. Laid out 15X8" drill collars and all directional tools.

**Planned Operations:** 

Finish laying out directional tools. Make up 8-3/4" coring assembly. Trip in the hole to 8,500'. Cut core from 8,500'.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

| From  | То    | Elapsed | End MD(ft) | Code  | Operations Description No   | on-Pro |
|-------|-------|---------|------------|-------|---|--------|
| 0:00  | 0:30  | 0.50    | 7,613      | 3-6-3 | Tripped in the hole from 2,613' to 3,145'.  |        |
| 0:30  | 0:45  | 0.25    | 7,613      | 3-5-1 | Broke circulation at 3,145' to cool tools. Shallow tested tools.  |        |
| 0:45  | 1:15  | 0.50    | 7,613      | 3-6-3 | Tripped in the hole from 3,145' to 4,129'.  |        |
| 1:15  | 1:30  | 0.25    | 7,613      | 3-5-1 | Broke circulation at 4,129' to cool tools.  Max temp observed at MWD was 201 deg.  Max temp at surface was 98 deg.  |        |
| 1:30  | 2:00  | 0.50    | 7,613      | 3-6-3 | Tripped in the hole from 4,129' to 5,078'.  |        |
| 2:00  | 2:15  | 0.25    | 7,613      | 3-5-1 | Broke circulation at 5,078' to cool tools.  Max temp observed at MWD was 228 deg.  Max temp at surface was 98 deg.  |        |
| 2:15  | 2:30  | 0.25    | 7,613      | 3-6-3 | Tripped in the hole from 5,078' to 6,025'.  |        |
| 2:30  | 3:00  | 0.50    | 7,613      | 3-5-1 | Broke circulation at 6,025' to cool tools.  Max temp observed at MWD was 260 deg.  Max temp at surface was 103 deg.   |        |
| 3:00  | 3:30  | 0.50    | 7,613      | 3-6-3 | Tripped in the hole from 6,025 to 6,974'.   |        |
| 3:30  | 4:00  | 0.50    | 7,613      | 3-5-1 | Broke circulation at 6,974' to cool tools.  Max temp observed at MWD was 292 deg.  Max temp at surface was 108 deg.   |        |
| 4:00  | 4:15  | 0.25    | 7,613      | 3-6-3 | Tripped in the hole from 6,974' to 7,072'.  |        |
| 4:15  | 6:00  | 1.75    | 7,613      | 3-3   | Took weight at 7,072'. Work string free with 90k in over-pull. Ream from 7,072' to 7,231'.  |        |
| 6:00  | 8:00  | 2.00    | 7,613      | 3-3   | Ream from 7,231' to 7,260'. Ran one stand from 7,260' to 7,340'. Ream from 7,260' to 7,613'.  |        |
| 8:00  | 13:00 | 5.00    | 8,091      | 3-2-3 | Rotate drilling 10-5/8" hole from 7,613' to 8,091' Conduct RPM step test @ 35,40,45,50 Conduct GPM step test at 700,800,900 GPM Best results were what we were running 50 RPM 800 GPM Conducted a water sweep test showing less ROP | •      |
| 13:00 | 13:45 | 0.75    | 8,111      | 3-2-3 | Slid Drill from 8,091' to 8,111'.   |        |
| 13:45 | 16:15 | 2.50    | 8,282      | 3-2-3 | Rotate drilling 10-5/8" hole from 8,111' to 8,282'  |        |
| 16:15 | 16:45 | 0.50    | 8,303      | 3-2-3 | Slide drill from 8,282' to 8,303'.  |        |
| 16:45 | 18:00 | 1.25    | 8,377      | 3-2-3 | Rotate drill from 8,303' to 8,377'.   |        |
| 18:00 | 18:30 | 0.50    | 8,395      | 3-2-3 | Slide drill from 8,377' to 8,395'.  |        |
| 18:30 | 20:00 | 1.50    | 8,500      | 3-2-3 | Rotate drill from 8,395' to 8,500' (Core point).  |        |
| 20:00 | 20:30 | 0.50    | 8,500      | 3-5-1 | Circulate bottoms up at 8,500'.   |        |
| 20:30 | 0:00  | 3.50    | 8,500      | 3-6-4 | Tripped out of the hole from 8,500' to 4,000' with no issues.   |        |
|       |       |         |            |       | Management Summary  |        |



**Geothermal Resource Group, Inc.** 

Well ID: Forge 78B-32

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 20 Report For 16-Jul-21

Breaking circulation every 1,000' to cool tools.

Reamed from 7,707' to 7,613'.

Drilled 10-5/8" hole from 7,613' to 8,500' (Core point).

Circulated bottoms up at 8,500'.

Tripped out of the hole from 8,500' to 4,000'.

| Cc           | mn      | 1en  | te  |
|--------------|---------|------|-----|
| $\mathbf{c}$ | ,,,,,,, | ICII | ıισ |

Slid Drill from 8,091' to 8,111'. Slide Drill from 8,282' to 8,303'. Slide Drill from 8,377' to 8,395'.

| Casing/Tubular Information |               |                |                 |                   |                    |                 |                   |                    |                  |                  |  |
|----------------------------|---------------|----------------|-----------------|-------------------|--------------------|-----------------|-------------------|--------------------|------------------|------------------|--|
| Type                       | Size<br>(ins) | Top MD<br>(ft) | Top TVD<br>(ft) | Bottom MD<br>(ft) | Bottom TVD<br>(ft) | Hole<br>Section | OH Diam.<br>(ins) | Nom. Wgt.<br>(lbs) | Nominal<br>Grade | LOT<br>(lbs/gal) |  |
| FULL                       | 16.000        | 0              |                 | 416               |                    | SURF            | 22.000            | 65                 | K-55             | 0.61             |  |
| FULL                       | 11.750        | 0              |                 | 2.990             |                    | INT1            | 14.750            | 54                 | J-55             | 11.70            |  |

|        |        |        |        |          |         |           |          |        | IVIU    | ia into | rmati | on  |     |      |     |      |     |     |     |      |
|--------|--------|--------|--------|----------|---------|-----------|----------|--------|---------|---------|-------|-----|-----|------|-----|------|-----|-----|-----|------|
|        |        |        |        |          |         |           |          |        | %       |         |       |     |     |      |     | Gels |     | Te  | mp  | Mud  |
| Dens.  | Vis    | PV     | ΥP     | Filt.    | Cake    | pH/ES     | Solids   | Oil    | Water   | Sand    | LGS   | CI  | Ca  | CaCl | 10s | 10m  | 30m | In  | Out | Loss |
| 16-Jul | -21 20 | ):15 a | at Dep | th 8,500 | ) ft Mu | d Pits, T | ype: Lov | v Soli | ds Non- | Dispers | sed   |     |     |      |     |      |     |     |     |      |
| 8.30   | 26     | 0      | 1      | 0        | 1       | 11        | 2        | 0      | 98      | 0.01    | 0     | 700 | 120 |      | 1   | 1    | 1   | 118 | 130 |      |

|                      |      | Mud Cons | sumables           |      |      |
|----------------------|------|----------|--------------------|------|------|
| Item Description     | Qty. | Cost     | Item Description   | Qty. | Cost |
| caustic Soda - 50#SK | 4    |          | Engineering - EACH | 1    |      |
| Other - EACH         | 1    |          | perdiem - OTHER    | 1    |      |

|   |      |     |     |    |       |         |                 | ı    | Bit/BH/ | 4/Work | string | <b>Infor</b> r | natior | 1      |       |      |       |        |        |       |      |
|---|------|-----|-----|----|-------|---------|-----------------|------|---------|--------|--------|----------------|--------|--------|-------|------|-------|--------|--------|-------|------|
|   |      |     |     |    |       |         | Depth           | This | Run     | R.C    | D.P.   |                |        |        | N     | /lud | Pump  |        |        |       |      |
| N | o R  | un  | Mal | ke | Mode  | el Diam | In              | Dist | Hrs     | Avg    | Max    | WOB            | RPM    | Torque | Wt    | Flow | Press | J. Vel | P. Drp | HHP   | JIF  |
| 1 | 4    | 1 1 | NOV |    | TCK83 | 10.62   | 7613            | 887  | 12      | 73.9   | 230.0  | 65             | 50     | 16     | 8     | 830  | 2750  | 289    | 620    | 300   | 1030 |
| J | ets: | 12  | 12  | 12 | 12 12 | 12 13   | 13 <b>Out</b> : |      | Grade:  | Cutter | . /    | Dι             | all:   | 1      | Wear: | Br   | gs:   | Gge:   |        | Pull: |      |

| DILA  | NI. 45   | DIT MANATO | OTAR A OTHER    | MACNIEL | 0.071.150  | OTAB  | NACNIEL | O OTLIED | DO VO  | LIMPD    | 4040.00 |
|-------|----------|------------|-----------------|---------|------------|-------|---------|----------|--------|----------|---------|
| BHA - | NO. 15 - | BII, MIMIR | , STAB, 2 OTHER | , MONEL | , 2 OTHER, | STAB, | MONEL,  | 2 OTHER, | DC, XO | , HWUP = | 1049.30 |

|       |        |      |         |     | Drill | ing Paran | neters |        |          |         |          |          |
|-------|--------|------|---------|-----|-------|-----------|--------|--------|----------|---------|----------|----------|
| Depth | n (ft) | ROP  | (ft/hr) | WOB | (lbs) | RI        | PM     | Torque | (ft lbs) | Flow (g | als/min) | Pressure |
| From  | То     | Avg  | Max     | Avg | Max   | Avg       | Max    | Avg    | Max      | Avg     | Max      | (psi)    |
| 7,613 | 8,500  | 73.9 | 230.0   | 65  | 70    | 50        | 53     | 16     | 18       | 800     | 830      | 2,750    |

Annular Velocity: Drill Collars: 478.0 Drill Pipe: 247.0

Comments: Slid Drill from 8,091' to 8,111'. Slide Drill from 8,282' to 8,303'. Slide Drill from 8,377' to 8,395'.

| Miscellaneous Drilling Parameters |            |                  |                     |                   |             |                   |  |  |  |  |  |
|-----------------------------------|------------|------------------|---------------------|-------------------|-------------|-------------------|--|--|--|--|--|
| Hook Loads (lbs):                 | Off Bottom | Rotate: 302      | Pick Up: 33         | 30 Slack Off:     | 250 Drag Av | g/Max: 15 / 20    |  |  |  |  |  |
| Slow Circulation Data:            |            |                  |                     |                   |             |                   |  |  |  |  |  |
| Pump 1:                           | 30 spm     | 110 psi          | 40 spm              | 215 psi           | 50 spm      | 311 psi           |  |  |  |  |  |
| Pump 2:                           | 30 spm     | 110 psi          | 40 spm              | 215 psi           | 50 spm      | 311 psi           |  |  |  |  |  |
| Pump 3:                           | 30 spm     | 110 psi          | 40 spm              | 215 psi           | 50 spm      | 311 psi           |  |  |  |  |  |
| Hours on BHA:                     | Since Ins  | spection: 105.75 | <b>Total:</b> 105.7 | 5 <b>Jars</b> : 0 | )           |                   |  |  |  |  |  |
| Hours on Casing/Liner:            | Rotating   | : 82.5 <i>l</i>  | Trippin             | <b>g</b> : 99 /   | Wear        | Bushing Installed |  |  |  |  |  |



**Geothermal Resource Group, Inc.** 

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

| Note      | D 1 E 10 1 1 0  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|--|--|--|--|--|--|
| Survey   | Report For 16-Jul-2   |  |  |  |  |  |  |  |  |  |  |  |  |
| Note   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| MWD  | rdinates  |  |  |  |  |  |  |  |  |  |  |  |  |
| MWD  | E-W D.L.S.  |  |  |  |  |  |  |  |  |  |  |  |  |
| MWD  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| MWD  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| MWD  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| MMVD   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| MMD  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| MWD  | W 28.5 0.440  |  |  |  |  |  |  |  |  |  |  |  |  |
| MWD  | W 31.1 0.553  |  |  |  |  |  |  |  |  |  |  |  |  |
| Depth   (ft)   TVD   (ft)   From   To   To   To   To   To   To   To  | W 33.0 0.821  |  |  |  |  |  |  |  |  |  |  |  |  |
| Depth (ff)   From   To   From   To   Avg   Max   at Depth   Connect.   Trip   Exp.   Press   | W 33.5 2.002  |  |  |  |  |  |  |  |  |  |  |  |  |
| From   To   From   To   Avg   Max   at Depth   Connect.   Trip   Exp.   Press  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| From   To   From   To   Avg   Max   at Depth   Connect.   Trip   Exp.   Press  | Mud Shale ROP   |  |  |  |  |  |  |  |  |  |  |  |  |
| T,613  | Dens. Dens. Shale San   |  |  |  |  |  |  |  |  |  |  |  |  |
| Lithology:   100% Granodiorite   Rig Information   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Companie    |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Equipment Problems:   None to report.  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Equipment Problems:   None to report.  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Cocation Condition:   Good.   Received 8.75" core bit along with 10-5/8" NOV PDC bit. Received 2-loads of 7" casing.,  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Transport:   Received 8.75" core bit along with 10-5/8" NOV PDC bit. Received 2-loads of 7" casing.,   Solids Control Information  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Screen Sizes:   Top   Middle 1   Middle 2   Bottom   Equipment Usage (Hrs):  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Screen Sizes:   Top   Middle 1   Middle 2   Bottom   Equipment Usage (Hrs):  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Shaker No 1:   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Shaker No 2:         120 <td colspan="13">Screen Sizes: Top Middle 1 Middle 2 Bottom Equipment Usage (Hrs):</td>   | Screen Sizes: Top Middle 1 Middle 2 Bottom Equipment Usage (Hrs): |  |  |  |  |  |  |  |  |  |  |  |  |
| Shaker No 3:   120   120   120   120   | Degasser: 0   |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Centrifuge 2: 24 (Solids Remova                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Rig Fuel   8,247   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Rig Fuel 8,247  Drill Pipe Inventory  DP Size Joints Weight Grade Thread DP Size Joints Weight  5.5" 258 24.7 S-135 5.5IF  Safety Information  Meetings/Drills Time Description  Safety 60 Two 30 min Pre tour safety meetings with both crews. Handling BHA, good communication First Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Description:  Accident Description: None to report.  BOP Test Vertical Properties Service Servic |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Drill Pipe Inventory  DP Size Joints Weight Grade Thread DP Size Joints Weight  5.5" 258 24.7 S-135 5.5IF  Safety Information  Meetings/Drills Time Description  Safety 60 Two 30 min Pre tour safety meetings with both crews. Handling BHA, good communication  First Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Description:  Accident Description: None to report.  BOP Test V Crownamatic Check  Weather Information  | ed On Hand Net  |  |  |  |  |  |  |  |  |  |  |  |  |
| DP Size Joints Weight Grade Thread DP Size Joints Weight  5.5" 258 24.7 S-135 5.5IF  Safety Information  Meetings/Drills Time Description  Safety 60 Two 30 min Pre tour safety meetings with both crews. Handling BHA, good communication  First Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Description:  Accident Description: None to report.  BOP Test V Crownamatic Check  Weather Information  | 8,247   |  |  |  |  |  |  |  |  |  |  |  |  |
| Safety Information  Meetings/Drills Time Description  Safety 60 Two 30 min Pre tour safety meetings with both crews. Handling BHA, good communication  First Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Description:  Accident Description: None to report.  BOP Test Vertical Treatments:  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Safety Information  Meetings/Drills Time Description  Safety 60 Two 30 min Pre tour safety meetings with both crews. Handling BHA, good communication prices Accident Description: None to report.  BOP Test Vertical Safety Safety Safety Meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meetings with both crews. Handling BHA, good communication prices of the safety meeting with prices of the safety meeting with pric | Grade Thread  |  |  |  |  |  |  |  |  |  |  |  |  |
| Safety Information   Safety Information  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Meetings/Drills     Time     Description       Safety     60     Two 30 min Pre tour safety meetings with both crews. Handling BHA, good communical prices of the properties of the propertie  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Safety 60 Two 30 min Pre tour safety meetings with both crews. Handling BHA, good communication first Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Date of the Communication of the  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| First Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Data Content Description: None to report.  BOP Test Crownamatic Check  Weather Information  | ation Forklift operations   |  |  |  |  |  |  |  |  |  |  |  |  |
| Accident Description: None to report.  BOP Test  | Days Since LTI:   |  |  |  |  |  |  |  |  |  |  |  |  |
| ☐ BOP Test ✓ Crownamatic Check  Weather Information  | ays office E11.   |  |  |  |  |  |  |  |  |  |  |  |  |
| Weather Information  |   |  |  |  |  |  |  |  |  |  |  |  |  |
|  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Sky Condition: Cloudy Visibility: 7  |   |  |  |  |  |  |  |  |  |  |  |  |  |
|  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Air Temperature:70 degFBar. Pressure:29.84   |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Wind Speed/Dir: 8 / SSE Wind Gusts: 2  |   |  |  |  |  |  |  |  |  |  |  |  |  |
| Comments: Light rain.  |   |  |  |  |  |  |  |  |  |  |  |  |  |
|  |   |  |  |  |  |  |  |  |  |  |  |  |  |



**Geothermal Resource Group, Inc.** 

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 21         |                    |                    |                 |                  |             |         |                 | Report For | 17-Jul-21   |
|-----------------------|--------------------|--------------------|-----------------|------------------|-------------|---------|-----------------|------------|-------------|
| Operator:             | University of Utah | Rig:               | Frontier Rig 16 | Spud Date:       | 28-J        | un-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft    | ): 8530            | Last Casing: 1     | 11.750 at 2,990 | Wellbore:        | Original We | ellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 8528               | Next Casing:       | 7.000 at 8,500  | RKB Elevation    | (ft):       | 30.40   |                 |            |             |
| Proposed TD (ft):     | 9500               | Last BOP Test      | : 03-Jul-2      | 1 Job Reference  | RKB (ft):   |         |                 |            |             |
| Hole Made (ft) / Hrs  | : 30 / 7.5         | Next BOP Test      | : 24-Jul-2      | 1 Working Intere | est:        |         | Totals:         |            |             |
| Average ROP (ft/hr)   | 4.0                | )                  |                 | LOT (lbs/gal):   |             | 11.70   | Well Cost (\$): |            |             |
| Drilling Days (act./p | olan): 21/21 F     | lat Days (act./pla | an): 0/9        | Total Days (act. | plan):      | 21/30   | Days On Loca    | ition:     | 21          |
| Pers/Hrs: Opera       | tor: 0/0 C         | Contractor:        | 0/0             | Service:         | 0/0         | Other:  | 0/0             | Total:     | 0/0         |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Made up 8-3/4" core assembly.

Tripped in the hole with 8-3/4" core assembly to 6,495'.

Planned Operations: Trip in the hole with 8-3/4" core assembly to 8,530'.

Core from 8,530' to 8,560'.

Trip out of the hole with core assembly. Make up 10-5/8" reaming assembly.

**Toolpusher:** Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       | Operations Summary |         |            |        |  |          |  |  |  |  |
|-------|--------------------|---------|------------|--------|--|----------|--|--|--|--|
| From  | То                 | Elapsed | End MD(ft) | Code   | Operations Description   | Non-Prod |  |  |  |  |
| 0:00  | 2:00               | 2.00    | 8,500      | 3-6-4  | Tripped out of the hole from 4,000' to BHA with no issues.   |          |  |  |  |  |
| 2:00  | 7:00               | 5.00    | 8,500      | 3-34-4 | Racked back HWDP. Laid out 15-8" drill collars and all directional tools.  Motor had approximately .5" of squat in bearing assembly. Kick pad was wore smooth.  Roller reamer above the motor had heavy wear on all buttons, 2 of the rollers had bad bearings.  Top Stabilizer was .75" under-gauged. |          |  |  |  |  |
| 7:00  | 8:30               | 1.50    | 8,500      | 3-4    | Picked up 8-3/4" Coring assembly / RIH 5 HWDP  |          |  |  |  |  |
| 8:30  | 9:00               | 0.50    | 8,500      | 3-4    | Pick up 18 jts of 5.5" drill pipe to replace DCS and Directional Tools   |          |  |  |  |  |
| 9:00  | 13:30              | 4.50    | 8,500      | 3-4    | RIH to 8,500' filling pipe every 20 stands with 8-3/4" core head   |          |  |  |  |  |
| 13:30 | 17:30              | 4.00    | 8,530      | 3-4    | Drop ball and core from 8,500' to 8,530'.<br>No over-pull observed when pulling off bottom.  |          |  |  |  |  |
| 17:30 | 23:00              | 5.50    | 8,530      | 3-6-4  | Tripped out of the hole from 8,530' with core assembly.  |          |  |  |  |  |
| 23:00 | 0:00               | 1.00    | 8,530      | 3-4    | Handled BHA. Laid out core barrel. Recovered 23.7' of core. 50% 2-3" in length with the other 50% 9-12" in length.  Note: Inner barrel assembly was pushed up inside of core barrel approximately 3"   |          |  |  |  |  |

#### **Management Summary**

Tripped out of the hole from 4,000' with BHA and no issues.

Racked back HWDP. Laid out 15X8" drill collars and all directional tools.

Picked up 8-3/4" Coring assembly.

Tripped in the hole to 8,500' filling pipe every 1,000'.

Cored from 8,500' to 8,530'.

Tripped out of the hole from 8,530' with core assembly.

Handled BHA. Laid out core barrel. Recovered 23.7' of core. 50% 2-3" in length with the other 50% 9-12" in length.

### Comments

Drilling assembly motor had approximately .5" of squat in bearing assembly.

Kick pad was wore smooth.

Roller reamer above the motor had heavy wear on all buttons and 2 of the rollers had bad bearings.

Top Stabilizer was .75" under-gauged.

After core run laid out the core barrel.

Recovered 23.7' of core.

50% 2-3" in length with the other 50% 9-12" in length.

Note: The inner barrel assembly was pushed up inside of core barrel approximately 3".

|      | Casing/Tubular Information   |      |      |       |      |         |        |       |       |           |  |  |  |
|------|--|------|------|-------|------|---------|--------|-------|-------|-----------|--|--|--|
|      | Size Top MD Top TVD Bottom MD Bottom TVD Hole OH Diam. Nom. Wgt. Nominal LOT |      |      |       |      |         |        |       |       |           |  |  |  |
| Type | (ins)  | (ft) | (ft) | (ft)  | (ft) | Section | (ins)  | (lbs) | Grade | (lbs/gal) |  |  |  |
| FULL | 16.000   | 0    |      | 416   |      | SURF    | 22.000 | 65    | K-55  | 0.61      |  |  |  |
| FULL | 11.750   | 0    |      | 2,990 |      | INT1    | 14.750 | 54    | J-55  | 11.70     |  |  |  |



Well ID: Forge 78B-32

Field: UTAHFORGE

# Geothermal Resource Group, Inc.

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| 1 101  | iu. OTATII  | 0.10_   |  |                                       |  |  |   |               |        |                    | ,              |              | olai    | e. U i      |
|--|---|---|--|---------------------------------------|--|--|---|---------------|--------|--------------------|----------------|--------------|---------|-------------|
| Report No: 21  |   |   |  |                                       |  |  |   |               |        |                    | Rep            | ort Fo       | or 17-J | lul-21      |
|  |   |   |  | N                                     | Mud Info   | rmation  |   |               |        |                    |                |              |         |             |
|  |   |   |  | %                                     |  |  |   |               |        | Gels               |                | Ten          | np      | Mud         |
| Dens. Vis PV YP  | Filt.   | Cake pH/  | ES Solids                              | Oil Wat                               | er Sand  | LGS C  | Ca  | CaCI          | 10s    | 10m                | 30m            | In           | Out     | Loss        |
| 17-Jul-21 15:45 at De  | epth 8,517  | ft Mud Pits   | s, Type: Low                           | v Solids No                           | n-Dispers  | sed  |   |               |        |                    |                |              |         |             |
| 8.30 29 2  | 1 32  | 1   | 10 2                                   | 0 9                                   | 98 0.01  | 8  | 00 120                                      |               | 2      | 2                  | 2              | 81           | 109     |             |
|  |   |   |  | М                                     | ud Cons  | sumables   | <u> </u>                                    |               |        |                    | '              |              |         |             |
| Item De  | escription  |   | Qt                                     |                                       | Cost   |  | Item D                                      | escripti      | on     |                    | (              | Qty.         | С       | ost         |
| caustic Soda - 50#SK   | -   |   |  | 2                                     |  | Engineerir   | g - EACH                                    | -             |        |                    |                | 1            |         |             |
| Other - EACH   |   |   |  | 1                                     |  | perdiem -  | OTHER                                       |               |        |                    |                | 1            |         |             |
| polyvis - 5GAL   |   |   |  | 12                                    |  | TORKeas  | concentr                                    | ate - 5GA     | ٨L     |                    |                | 6            |         |             |
| · ,  |   |   |  | Rit/RHA/                              | Workstr  | ing Inforn   | ation                                       |               |        |                    |                |              |         |             |
|  |   | De  |  | s Run                                 | R.O.P.   |  | ution                                       |               | Mud    | Pump               | )              |              |         |             |
| No Run Make M  | Model Di  |   |  |                                       |  | ax WOB   | RPM Tor                                     | aue Wt        |        | •                  |                | P. Dr        | о ННР   | JIF         |
|  |   |   | 7613 887                               |                                       | 73.9 230   |  | 50  | 400 111       |        | 00 2750            | _              |              | 1       | 1           |
| Jets: 12 12 12 12  |   |   |  | Grade: C                              |  |  | I: WT/LT                                    | Wea           |        | Brgs: X            |                |              | Pull:   |             |
| 15 1 HALLB1 FC   |   |   | 3500                                   | Grade. G                              | attor.   | 0/2   50   | I. VVI./EI                                  | 7704          |        | J. 95. A           | Ogc.           |              |         | <u> </u>    |
| Jets: 17 17 17 17  |   |   |  | Grade: C                              | uttor  | 1/1 <b>Du</b>  | I: WT/NO                                    | Wea           | r. C E | Brgs: 0            | Gao:           | 0            | Pull:   | ВΠУ         |
| BHA - No. 16 - COR   |   |   |  |                                       |  |  |   | vvea          | 1. 3   | orgs. ∪            | Gge.           | U            | ruii.   | DIIA        |
| <b>DIA-NO.</b> 10- CON   | DIT, 01AD   | , COIL, 3   | 170, 2 0111                            |                                       |  |  |   |               |        |                    |                |              |         |             |
| Donth (ft)   | POF   | ) (ft/low)  | WO                                     |                                       | illing Pa  | rameters   | т.  | / <b>£</b> 4  | lba\   | Flan               | . /aala/a      | mim\         | Dres    |             |
| Depth (ft)<br>From To  |   | P (ft/hr)<br>Max  |  | B (lbs)<br>Max                        | Avg  | RPM<br>Max   |   | rque (ft      | Max    | Avg                | gals/n ()<br>۱ | nin)<br>/lax |         | sure<br>si) |
| 8,500 8,530  | Avg<br>8.0  |   | Avg                                    |                                       | 0  | 65 Wa  | 65  | 9<br>11       | 12     |                    | 90             | 290          | (μ      | 31)<br>10   |
| Annular Velocity: D  |   |   |  |                                       | 197.0  | 03   | 03  | 11            | 12     |                    | 90             | 290          |         | 10          |
| Comments: Cored  |   |   |  | l Pipe:                               | 197.0  |  |   |               |        |                    |                |              |         |             |
| Comments: Cored  | 110111 8,500  | J 10 8,530 .  |  |                                       |  |  |   |               |        |                    |                |              |         |             |
|  |   |   |  |                                       |  | illing Para  |   |               |        |                    |                |              |         |             |
| Hook Loads (lbs):  |   | ottom Rota  | ate: 27                                | 3 Pick Up                             | <b>):</b> 28   | 5 Slack O  | ff: 2                                       | 65 <b>Dra</b> | g Avg/ | мах:               | 10 <i>l</i>    | 15           |         |             |
| Slow Circulation Dat   |   |   | 440                                    |                                       | 40   |  |   |               |        |                    | 044 :          |              |         |             |
| Pump 1:  |   | spm   | 110 psi                                |                                       | 40 spm   |  | l5 psi                                      |               | ) spm  |                    | 311 psi        |              |         |             |
| Pump 2:  |   | spm   | 110 psi                                |                                       | 40 spm   |  | l5 psi                                      |               | ) spm  |                    | 311 psi        |              |         |             |
| Pump 3:  |   | spm   | 110 psi                                |                                       | 40 spm   |  | l5 psi                                      | 50            | spm    |                    | 311 psi        |              |         |             |
| Hours on BHA:  |   | -   | tion: 109.7                            | 75 <b>Tota</b>                        | l: 109.75  |  | 0   |               |        |                    |                |              |         |             |
| Hours on Casing/Lin  | ier: Rof  | tating:   | 86.5 <i>l</i>                          |                                       | Tripping   |  |   | \_\           | Vear B | ushing l           | nstalled       |              |         |             |
|  |   |   |  | Mu                                    | d Log In   | formation  |   |               |        |                    |                |              |         |             |
| Depth (ft)   | TVI   | D (ft)  | Ga                                     | as (Units)                            |  | Gas  | D   | rilling       | Pore   | Mud                | Shal           |              | RO      |             |
|  |   |   |  |                                       |  |  |   |               |        | Dama               | . Dens         | s. Sh        | nale    | Sand        |
| From To  | From  | То  | Avg                                    | Max at                                | Depth C  | Connect.   | Trip  | Ехр.          | Press  | Dens               | . Della        |              |         |             |
| 8,500 8,530  |   |   | Avg                                    | Max at                                | Depth (  | Connect.   | Trip  | Ехр.          | Press  | Dens               | . Dens         |              |         |             |
| 8,500 8,530 Formation Name:  | <b>From</b> 8,498   | 8,528   | Avg                                    | Max at                                | Depth (  | Connect.   | Trip  | Ехр.          | Press  | Dens               | . Della        |              |         |             |
| 8,500 8,530 Formation Name:  | From  | 8,528   | Avg                                    |                                       |  |  | Trip  | Exp.          | Press  | Dens               | . Della        |              |         |             |
| 8,500 8,530 Formation Name:  | <b>From</b> 8,498   | 8,528   | Avg                                    |                                       | Depth C  |  | Trip  | Ехр.          | Press  | Dens               | . Della        |              |         |             |
| 8,500 8,530 Formation Name:  | From<br>8,498<br>00% Grand                                | 8,528   | Avg                                    |                                       |  |  | Trip  | Ехр.          | Press  | Dens               | . Della        |              |         |             |
| 8,500 8,530 Formation Name: Lithology: 1   | 8,498<br>00% Grand<br>s: None to                          | 8,528<br>odiorite   | Avg                                    |                                       |  |  | Trip  | Exp.          | Press  | Dens               | . Della        |              |         |             |
| 8,500 8,530 Formation Name: Lithology: 1   | From 8,498 00% Grand s: None to Good.                     | 8,528 odiorite to report.                                     | Avg                                    |                                       | Rig Info   | rmation  |   | Exp.          | Press  | Dens               | . Della        |              |         |             |
| 8,500 8,530  Formation Name: Lithology: 1  Equipment Problems Location Condition:  | From 8,498 00% Grand s: None to Good.                     | 8,528 odiorite to report.                                     | Avg                                    | Back haul                             | Rig Infor  | rmation  | ls.   | Exp.          | Press  | Dens               | . Della        |              |         |             |
| 8,500 8,530  Formation Name: Lithology: 1  Equipment Problems Location Condition:  | 8,498 00% Grand s: None to Good. Receiv                   | 8,528 odiorite to report.                                     | Avg                                    | Back haul                             | Rig Information of the second  | rmation  | s.  | Exp.          | Press  | Dens               | . Della        |              |         |             |
| 8,500 8,530  Formation Name: Lithology: 1  Equipment Problems Location Condition: Transport:   | 8,498 00% Grand s: None to Good. Receiv                   | 8,528 odiorite to report.                                     | Avg                                    | Back haule                            | Rig Informed 1 load S Contro   | rmation of 8" dir toc  | is.<br>ion<br>e (Hrs):                      | ilter: 0      |        | Degass             |                |              |         |             |
| 8,500 8,530  Formation Name: Lithology: 1  Equipment Problems Location Condition: Transport:  Screen Sizes:  | 8,498 00% Grand s: None to Good. Receiv                   | 8,528 odiorite to report.  yed 1-load o                       | Avg of 7" casing. Middle 2             | Back hauld Solids Bottom              | Rig Information   Rig Informat | rmation of 8" dir too I Informat ment Usag                         | s.<br>ion<br>e (Hrs):                       | ilter: 0      |        |                    | er: (          | )            | ids Rer | noval       |
| 8,500 8,530  Formation Name: Lithology: 1  Equipment Problems Location Condition: Transport:  Screen Sizes: Shaker No 1:                           | From 8,498 00% Grand s: None to Good. Receiv Top 120      | 8,528 odiorite to report.  /ed 1-load of Middle 1 120 120     | Avg  of 7" casing.  Middle 2  120  120 | Back hauld Solids Bottom 120          | Rig Information   Rig Informat | rmation  of 8" dir too I Informat ment Usag nder: 0                | s.<br>ion<br>e (Hrs):                       | ilter: 0      |        | Degass             | er: (          | )            | ids Rer | noval       |
| 8,500 8,530  Formation Name: Lithology: 1  Equipment Problems Location Condition: Transport:  Screen Sizes: Shaker No 1: Shaker No 2:              | ## From 8,498   00% Grand                                 | 8,528 odiorite to report.  yed 1-load c  Middle 1 120         | Avg of 7" casing.  Middle 2 120        | Back hauld<br>Solids<br>Bottom<br>120 | ed 1 load<br>s Contro<br>Equip<br>Desan<br>Centri  | of 8" dir too<br>I Informat<br>ment Usag<br>nder: 0<br>ifuge 1: 24 | s.<br>ion<br>e (Hrs):                       | ilter: 0      |        | Degass             | er: (          | )            | ids Rer | noval       |
| 8,500 8,530  Formation Name: Lithology: 1  Equipment Problems Location Condition: Transport:  Screen Sizes: Shaker No 1: Shaker No 2: Shaker No 3: | ## From 8,498   8,498   8   8   8   8   8   8   8   8   8 | 8,528 odiorite to report.  /ed 1-load c  Middle 1 120 120 120 | Avg  of 7" casing.  Middle 2  120  120 | Back hauld Solids Bottom 120 120      | ed 1 load s Contro Equip Desan Centri  | of 8" dir too<br>I Informat<br>ment Usag<br>nder: 0<br>ifuge 1: 24 | s.<br>ion<br>e (Hrs):                       | ilter: 0      |        | Degass<br>Centrifu | er: (          | )<br>24 (Sol |         | noval)      |
| 8,500 8,530  Formation Name: Lithology: 1  Equipment Problems Location Condition: Transport:  Screen Sizes: Shaker No 1: Shaker No 2: Shaker No 3: | ## From 8,498   00% Grand                                 | 8,528 odiorite to report.  /ed 1-load c  Middle 1 120 120 120 | Avg  of 7" casing.  Middle 2  120  120 | Back hauld<br>Solids<br>Bottom<br>120 | ed 1 load s Contro Equip Desan Centri  | of 8" dir too<br>I Informat<br>ment Usag<br>nder: 0<br>ifuge 1: 24 | ls.<br>ion<br>e (Hrs):<br>Des<br>(Solids Re | ilter: 0      |        | Degass<br>Centrifu | er: (cuge 2: 2 | )<br>24 (Sol |         | •           |



# Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Report For 17-Jul-21

| Report No. 21   |                   |                |         |            |                |        |        |       |        |  |  |  |  |
|---|-------------------|----------------|---------|------------|----------------|--------|--------|-------|--------|--|--|--|--|
| Drill Pipe Inventory  |                   |                |         |            |                |        |        |       |        |  |  |  |  |
| DP Size   | Joints            | Weight         | Grade   | Thread     | DP Size        | Joints | Weight | Grade | Thread |  |  |  |  |
| 5.5"  | 258               | 24.7           | S-135   | 5.5IF      |                |        |        |       |        |  |  |  |  |
|   |                   |                |         | Safety Int | formation      |        |        |       |        |  |  |  |  |
| Meetings/Drills Time Description  |                   |                |         |            |                |        |        |       |        |  |  |  |  |
| Safety 60 Two 30 min Pre tour safety meetings with both crews. Handling BHA, good communication, Forklift operations. |                   |                |         |            |                |        |        |       |        |  |  |  |  |
| First Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Days Since LTI:                                  |                   |                |         |            |                |        |        |       |        |  |  |  |  |
| Accident Desc   | ription: N        | one to report. |         |            |                |        |        |       |        |  |  |  |  |
| BOP Test  | <b>✓</b>          | Crownamati     | c Check |            |                |        |        |       |        |  |  |  |  |
|   |                   |                |         | Weather Ir | nformation     |        |        |       |        |  |  |  |  |
| Sky Condition:  | : Partly          | cloudy         |         |            | Visibility:    | 10     |        |       |        |  |  |  |  |
| Air Temperatui  | <b>re:</b> 75 deg | F              |         |            | Bar. Pressure: | 29.89  |        |       |        |  |  |  |  |
| Wind Speed/Di   | ir: 7/SE          |                |         |            | Wind Gusts:    | 2      |        |       |        |  |  |  |  |
|   |                   |                |         |            |                |        |        |       |        |  |  |  |  |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

| Report No: 22         |                    |                   |                |                 |             |          |                 | Report For | 18-Jul-21   |
|-----------------------|--------------------|-------------------|----------------|-----------------|-------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utal | h <b>Rig:</b>     | Frontier Rig 1 | 6 Spud Date:    | 28-0        | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft    | ): 854             | 0 Last Casing:    | 11.750 at 2,99 | 0 Wellbore:     | Original W  | 'ellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 843                | 8 Next Casing:    | 7.000 at 8,50  | 0 RKB Elevation | n (ft):     | 30.40    |                 |            |             |
| Proposed TD (ft):     | 950                | 0 Last BOP Tes    | t: 03-Jul-2    | 1 Job Reference | e RKB (ft): |          |                 |            |             |
| Hole Made (ft) / Hrs  | : 10 / 3.0         | 0 Next BOP Tes    | st: 24-Jul-2   | 1 Working Inte  | rest:       |          | Totals:         |            |             |
| Average ROP (ft/hr)   | 3.3                | 3                 |                | LOT (lbs/gal)   | :           | 11.70    | Well Cost (\$): |            |             |
| Drilling Days (act./p | olan): 22/21       | Flat Days (act./p | lan): 0/9      | Total Days (ac  | t./plan):   | 22/30    | Days On Loca    | ition:     | 22          |
| Pers/Hrs: Opera       | tor: 3 / 36        | Contractor:       | 14 / 168       | Service:        | 6 / 72      | Other:   | 3 / 36          | Total:     | 26 / 312    |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Tripped in the hole with 10-5/8" clean out assembly to 8,500'.

> Open 8-3/4" core hole to 10-5/8" from 8,500' to 8,514'. Rerun PDC bit failed. Circulate surface to surface strokes to cool well bore prior to logs. Tripped out of the hole with clean out assembly from 8,514' to 1,947'.

**Planned Operations:** Trip out of the hole from 1,947' to surface.

Rig up loggers.

Log well.

Steve Caldwell , Justin Bristol Toolpusher:

Wellsite Supervisors: Virgil Welch . Brian Gresham Tel No.: 7132807438

|       | Operations Summary |         |            |        |  |          |  |  |  |  |  |  |
|-------|--------------------|---------|------------|--------|--|----------|--|--|--|--|--|--|
| From  | То                 | Elapsed | End MD(ft) | Code   | Operations Description   | Non-Prod |  |  |  |  |  |  |
| 0:00  | 2:30               | 2.50    | 8,530      | 3-4    | Made up 8-3/4" core assembly.  |          |  |  |  |  |  |  |
| 2:30  | 7:30               | 5.00    | 8,530      | 3-4    | Tripped in the hole with 8-3/4" core assembly to 8,530'.   |          |  |  |  |  |  |  |
| 7:30  | 10:30              | 3.00    | 8,540      | 3-4    | Cored with 8-3/4" assembly from 8,530' to 8,540'. Core barrel jammed up at 8,540'.                                   |          |  |  |  |  |  |  |
| 10:30 | 15:00              | 4.50    | 8,540      | 3-4    | POH with coring assembly as per trip out schedule.   |          |  |  |  |  |  |  |
| 15:00 | 16:00              | 1.00    | 8,540      | WOW    | Shut down for high winds and thunder storm.  |          |  |  |  |  |  |  |
| 16:00 | 17:00              | 1.00    | 8,540      | 3-4    | Continue to POH with coring assembly   |          |  |  |  |  |  |  |
| 17:00 | 19:30              | 2.50    | 8,540      | 3-4    | Laid down all coring tools. Recovered 8.7' of core.  |          |  |  |  |  |  |  |
| 19:30 | 20:00              | 0.50    | 8,540      | OTHER  | Cleaned and cleared floor.  Laid out and lifting subs for 8" drill collars for inspection along with crossover subs. |          |  |  |  |  |  |  |
| 20:00 | 21:00              | 1.00    | 8,540      | 3-34-3 | Make up 10-5/8" clean out assembly.  |          |  |  |  |  |  |  |
| 21:00 | 0:00               | 3.00    | 8,540      | 3-6-3  | Tripped in the hole with 10-5/8" clean out assembly to 6,454'. Filled pipe every 3,000'.                             |          |  |  |  |  |  |  |

#### **Management Summary**

Made up 8-3/4" core assembly.

Tripped in the hole with 8-3/4" core assembly to 8,530'.

Cored with 8-3/4" assembly from 8,530' to 8,540'. Core barrel jammed up at 8,540'.

Pulled out of the hole with coring assembly as per trip out schedule.

Shut down for high winds and thunder storm.

Continue Pulling out of the hole with coring assembly as per trip out schedule.

Laid down all coring tools.

Cleaned and cleared floor.

Make up 10-5/8" clean out assembly.

Tripped in the hole with 10-5/8" clean out assembly to 6,454'.

#### Comments

Core barrel jammed at 8,540'. Recovered 8.7' of core on run #4.

|      | Casing/Tubular Information |        |         |           |                   |         |          |           |         |           |  |  |  |  |
|------|----------------------------|--------|---------|-----------|-------------------|---------|----------|-----------|---------|-----------|--|--|--|--|
|      | Size                       | Top MD | Top TVD | Bottom MD | <b>Bottom TVD</b> | Hole    | OH Diam. | Nom. Wgt. | Nominal | LOT       |  |  |  |  |
| Type | (ins)                      | (ft)   | (ft)    | (ft)      | (ft)              | Section | (ins)    | (lbs)     | Grade   | (lbs/gal) |  |  |  |  |
| FULL | 16.000                     | 0      |         | 416       |                   | SURF    | 22.000   | 65        | K-55    | 0.61      |  |  |  |  |
| FULL | 11.750                     | 0      |         | 2,990     |                   | INT1    | 14.750   | 54        | J-55    | 11.70     |  |  |  |  |



# Daily Drilling Report Well ID: Forge 78B-32

Geothermal Resource Group, Inc.

Well Name: 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 22              | 2           |            |            |              |             |             |         |                                       |               |           |              |              |          | Rep            | ort Fo  | or 18-J | ul-21       |
|----------------------------|-------------|------------|------------|--------------|-------------|-------------|---------|---------------------------------------|---------------|-----------|--------------|--------------|----------|----------------|---------|---------|-------------|
| Mud Information            |             |            |            |              |             |             |         |                                       |               |           |              |              |          |                |         |         |             |
|                            |             |            |            |              | %           |             |         |                                       |               |           |              |              | Gels     |                | Ten     | np      | Mud         |
| Dens. Vis PV               |             |            | pH/ES S    |              |             |             |         |                                       | CI            | Ca C      | aCI          | 10s          | 10m      | 30m            | In      | Out     | Loss        |
| 18-Jul-21 11:00            |             |            |            |              |             | Non-Dis     | persec  | t                                     |               |           |              |              |          |                |         |         |             |
| 8.30 39 2                  | 2           | 34 1       | 10         | 2            | 0           |             | .01     | 0                                     | 800           | 120       |              | 2            | 2        | 2              | 98      | 109     |             |
|                            |             |            |            |              |             | Mud C       | onsu    | mable                                 |               |           |              |              |          |                |         |         |             |
|                            | m Descrip   | tion       |            | Qty          |             | Cost        |         |                                       |               | em Des    | cription     | า            |          | (              | Qty.    | С       | ost         |
| caustic Soda - 50          | #SK         |            |            |              | 1           |             |         | _                                     | ring - E      |           |              |              |          |                | 1       |         |             |
| Other - EACH               |             |            |            |              | 1           |             |         |                                       | - OTHE        |           |              |              |          |                | 1       |         |             |
| polyvis - 5GAL             |             |            |            | _            | 5           |             |         |                                       |               | centrate  | - 5GAL       | •            |          |                | 2       |         |             |
|                            |             |            |            |              |             | A/Work      |         | g Info                                | rmatio        | n         |              |              |          |                |         |         |             |
| No Book Males              | N41 - 1     | D!         | Depth      |              | Run         |             | D.P.    | WOF                                   |               | <b>-</b>  |              | /lud         | Pump     |                |         |         |             |
| No Run Make                | Model       | Diam       | In<br>0540 | Dist         | Hrs         | Avg         | Max     | WOE                                   | S RPM         | Torque    | e Wt         | Flow         | Press    | J. Vel         | P. Drp  | ) ННР   | JIF         |
| 14 2 NOV                   | TCK83       | 10.625     | 8540       |              | O           | 044         |         | / -                                   | \II.          | ,         | VA/          | ь.           |          | C              |         | D. III  |             |
| Jets: 12 12 12 15 1 HALLB1 |             |            |            |              |             | Cutter:     |         |                                       | Oull:<br>0 55 | ,<br>5 11 | Wear:        |              | rgs:     | Gge:           |         | Pull:   |             |
|                            |             | 8.750      | 8500       | 30           |             |             | 12.0    |                                       |               |           |              | 300          |          |                |         | Pull:   | DLIA        |
| Jets: 17 17 17 15 2 HALLB1 |             | 8.750      | Out: 853   | 10           |             | Cutter: 3.3 | 7.0     |                                       | Oull: W7      |           | Wear:        |              | -        | <b>Gge:</b> 54 |         | 1       | вна<br>70   |
| Jets: 17 17 17             |             |            |            |              | _           | Cutter:     |         |                                       |               |           | _            |              |          |                |         | Pull:   |             |
| BHA - No. 18 - E           |             |            |            | FU           | Grade:      | Cutter.     |         | /3 [                                  | Oull: W       | I / NO    | Wear:        | 3 <b>D</b> I | gs: 0    | Gge:           | U       | Pull:   | ВΠΑ         |
| <b>DIA</b> - NO. 10 - 1    | 511, 53, 13 | חווער – י  | +09.42     |              |             | Drilling    | Doro    | · · · · · · · · · · · · · · · · · · · | · •           |           |              |              |          |                |         |         |             |
| Depth (ft)                 |             | ROP (ft/hr | `          | WOE          | B (lbs)     | Drilling    |         | RPM                                   | S             | Torqu     | ue (ft lb    | c)           | Flow     | / (gals/ı      | min)    | Dros    | sure        |
| From To                    |             | •          | •          | Avg          | Ma)         | v.          | Avg     |                                       | ax            | Avg       |              | ax           | Avg      |                | Max     |         | sure<br>si) |
|                            | 540         | 3.0        | 7.0        | 10           | _           | 16          | 5:      |                                       | 65            | 1         |              | 12           |          | 00             | 300     | \P      | 16          |
| Annular Velocity           |             |            | 150.0      |              | Pipe:       | 110         |         |                                       |               |           |              |              |          |                |         |         |             |
|                            |             |            |            |              |             | neous       | Drilli  | ing Pa                                | ramete        | ers       |              |              |          |                |         |         |             |
| Hook Loads (lbs            | s): C       | off Bottom | Rotate:    |              | Pick        |             |         | Slack                                 |               | 265       | Drag         | Avg/N        | /lax:    | 5/             | 10      |         |             |
| Slow Circulation           | •           |            |            |              |             | •           |         |                                       |               |           |              |              |          |                |         |         |             |
| Pump 1                     | :           | 30 spm     | 1          | 10 psi       |             | 40 sp       | om      |                                       | 215 psi       |           | 50 s         | pm           |          | 311 psi        |         |         |             |
| Pump 2                     | :           | 30 spm     | 1          | 10 psi       |             | 40 sp       | om      |                                       | 215 psi       |           | 50 s         | pm           |          | 311 psi        |         |         |             |
| Pump 3                     | :           | 30 spm     | 1          | 10 psi       |             | 40 sp       | m       |                                       | 215 psi       |           | 50 s         | pm           |          | 311 psi        |         |         |             |
| Hours on BHA:              |             | Since Ins  | pection:   | 112.7        | 5 <b>To</b> | tal: 11     | 2.75    | Jars:                                 |               | 0         |              |              |          |                |         |         |             |
| Hours on Casing            | g/Liner:    | Rotating   | 8          | 9.5 <i>1</i> |             | Trip        | ping:   | 1                                     | 29 <i>I</i>   |           | We           | ar Bu        | shing l  | nstalle        | d       |         |             |
|                            |             |            |            |              |             | Rig Ir      | nform   | nation                                |               |           |              |              |          |                |         |         |             |
| Equipment Prob             | lems: No    | ne to repo | rt.        |              |             |             |         |                                       |               |           |              |              |          |                |         |         |             |
| Location Condit            | ion: Go     | ood.       |            |              |             |             |         |                                       |               |           |              |              |          |                |         |         |             |
| Transport:                 | No          | ne to repo | rt.        |              |             |             |         |                                       |               |           |              |              |          |                |         |         |             |
|                            |             |            |            |              | Soli        | ds Cor      | itrol l | nform                                 | ation         |           |              |              |          |                |         |         |             |
| Screen Sizes:              | Тор         | Middl      | e 1 Midd   | lle 2        | Botton      | n Eq        | uipm    | ent Usa                               | age (Hr       | s):       |              |              |          |                |         |         |             |
| Shaker No 1:               | 1:          | 20 1       | 20         | 120          | 12          | 0 <b>De</b> | sand    | <b>er:</b> 0                          |               | Desilte   | <b>r</b> : 0 |              | Degass   | er:            | 0       |         |             |
| Shaker No 2:               | 1:          | 20 1       | 20         | 120          | 12          | 0 Ce        | ntrifu  | ge 1: 2                               | 24 (Solid     | ds Remo   | oval)        | (            | Centrifu | ıge 2:         | 24 (Sol | ids Ren | noval)      |
| Shaker No 3:               | 1:          | 20 1       | 20         | 120          | 12          | 0           |         |                                       |               |           |              |              |          |                |         |         |             |
|                            |             |            |            |              |             |             | Inve    | -                                     |               |           |              |              |          |                |         |         |             |
|                            | Item T      | уре        |            |              | Un          | its         | Beg     | ginning                               |               | Used      |              | eceive       | ed       | On Ha          |         | N       | et          |
| Rig Fuel                   |             |            |            |              |             |             |         | 8,79                                  |               | 1,1       | 54           |              |          |                | 7,637   |         |             |
|                            |             |            |            |              |             | Drill Pi    | pe In   |                                       |               |           |              |              |          |                |         |         |             |
|                            | Joints      | Weight     | Gra        | ade          |             | hread       |         | DP Si                                 | ze            | Joints    | V            | Veight       |          | Grade          |         | Threa   | ad          |
| 5.5"                       | 258         | 24         | .7 S-135   |              | 5.5IF       |             |         |                                       |               |           |              |              |          |                |         |         |             |
|                            |             |            |            |              |             |             |         |                                       |               |           |              |              |          |                |         |         |             |
|                            |             |            |            |              |             |             |         |                                       |               |           |              |              |          |                |         |         |             |
|                            |             |            |            |              |             |             |         |                                       |               |           |              |              |          |                |         |         |             |
|                            |             |            |            |              |             |             |         |                                       |               |           |              |              |          |                |         |         |             |
|                            |             |            |            |              |             |             |         |                                       |               |           |              |              |          |                |         |         |             |



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32 Well Name: 78B-32

Field: UTAHFORGE Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 22 Report For 18-Jul-21 |                            |           |                               |             |                       |             |          |                 |  |  |  |  |  |  |
|------------------------------------|----------------------------|-----------|-------------------------------|-------------|-----------------------|-------------|----------|-----------------|--|--|--|--|--|--|
|                                    | Safety Information         |           |                               |             |                       |             |          |                 |  |  |  |  |  |  |
| Meetings/Drills                    | Time                       |           |                               | Descri      | ption                 |             |          |                 |  |  |  |  |  |  |
| Safety                             | 60                         | Two 3     | 0 min Pre tour safety meeting | gs with bot | th crews. Handling Bh | IA, working | g in hig | jh winds.       |  |  |  |  |  |  |
| First Aid Treatme                  | ents:                      | 0         | <b>Medical Treatments:</b>    | 0           | Lost Time Incident    | s:          | 0        | Days Since LTI: |  |  |  |  |  |  |
| Accident Descrip                   | otion: N                   | lone to r | eport.                        |             |                       |             |          |                 |  |  |  |  |  |  |
| BOP Test                           | BOP Test Crownamatic Check |           |                               |             |                       |             |          |                 |  |  |  |  |  |  |
|                                    | ·                          |           | V                             | Veather I   | nformation            |             |          |                 |  |  |  |  |  |  |
| Sky Condition:                     | Cloudy                     | /         |                               |             | Visibility:           | 8           |          |                 |  |  |  |  |  |  |
| Air Temperature                    | : -70 de                   | gF        |                               |             | Bar. Pressure:        | 29.89       |          |                 |  |  |  |  |  |  |
| Wind Speed/Dir:                    | 10 / SE                    | Ξ         |                               |             | Wind Gusts:           | 4           |          |                 |  |  |  |  |  |  |
| Comments:                          | Heavy                      | rain dur  | ring the day. shut down for 1 | hour due t  | to high winds.        |             |          |                 |  |  |  |  |  |  |
| 1                                  |                            |           |                               |             |                       |             |          |                 |  |  |  |  |  |  |



**Geothermal Resource Group, Inc.** 

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 23         |                    |                     |                |                   |            |          |                 | Report For | 19-Jul-21   |
|-----------------------|--------------------|---------------------|----------------|-------------------|------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utah | Rig: F              | rontier Rig 16 | Spud Date:        | 28-        | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft)   | ): 8540            | Last Casing: 11     | 1.750 at 2,990 | Wellbore:         | Original W | /ellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 8438               | Next Casing: 7      | 7.000 at 8,500 | RKB Elevation     | (ft):      | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500               | Last BOP Test:      | 03-Jul-2       | 1 Job Reference   | RKB (ft):  |          |                 |            |             |
| Hole Made (ft) / Hrs  | 0 / 7.25           | Next BOP Test:      | 24-Jul-2       | 1 Working Intere  | st:        |          | Totals:         |            |             |
| Average ROP (ft/hr)   | : 0.0              | )                   |                | LOT (lbs/gal):    |            | 11.70    | Well Cost (\$): |            |             |
| Drilling Days (act./p | olan): 23/21 F     | lat Days (act./plan | <b>1):</b> 0/9 | Total Days (act./ | plan):     | 23/30    | Days On Loca    | tion:      | 23          |
| Pers/Hrs: Opera       | tor: 3 / 36 C      | Contractor:         | 14 / 168       | Service:          | 3 / 36     | Other:   | 3 / 36          | Total:     | 23 / 276    |

Safety Summary: No incidents or events reported. Conducted Safety Meeting.

Current Operations: Slipped and cut drilling line.

Tripped in the hole with 10-5/8" clean out assembly from 2,900' to 8,514'.

Opened 8-3/4" core hole to 10-5/8" from 8,514' to 8,540'.

Circulated surface to surface strokes to cool well bore prior to logs.

Planned Operations: Trip out of the hole to surface.

Rig up loggers. Log well. Rig down loggers.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

| From         To         Elapsed         En           0:00         1:15         1.25           1:15         2:00         0.75 | 8,540<br>8,540 |       | Operations Description Non Tripped in the hole with 10-5/8" clean out assembly to 8,500'. Filled pipe and broke circulation.    | n-Prod |
|--|----------------|-------|---|--------|
|  | ·              |       |   |        |
| 1.15 2.00 0.75   | 8,540          |       | . mea bibe and an energy on energy on   |        |
| 1.13 2.00 0.73   |                | 3-21  | Open 8-3/4" core hole to 10-5/8" from 8,500' to 8,514'. ROP dropped off from 50 ft/hr to 5 f/thr.                               |        |
| 2:00 3:00 1.00   | 8,540          | 3-5-1 | Circulated surface to surface strokes to cool well bore prior to logs.  |        |
| 3:00 6:00 3.00   | 8,540          | 3-6-4 | Tripped out of the hole with 10-5/8" clean out assembly from 8,514' to 1,947'.  |        |
| 6:00 7:00 1.00   | 8,540          | 3-6-4 | Tripped out of the hole with clean out assembly from 1,947' to surface  |        |
| 7:00 15:00 8.00  | 8,540          | LOG   | Rigged up and ran Sonic Scanner and borehole formation Imager / max temperature was 321 F @ 8,520' / good log / lay down tools. |        |
| 15:00 20:30 5.50   | 8,540          | LOG   | Rig up and run Triple-Combo / Max BHT was 354 F / Logging upwards   |        |
| 20:30 21:00 0.50   | 8,540          | LOG   | Laid down logging tools.  |        |
| 21:00 21:30 0.50   | 8,540          | 3-6-1 | Make up 10-5/8" clean out assembly with TCl bit.  |        |
| 21:30 23:00 1.50   | 8,540          | 3-6-3 | Tripped in the hole with 10-5/8" clean out assembly to 2,900'.  |        |
| 23:00 0:00 1.00  | 8,540          | CUTDL | Slipped and cut drilling line.  |        |

#### **Management Summary**

Tripped in the hole with 10-5/8" rerun PDC bit on clean out assembly to 8,500'.

Open 8-3/4" core hole to 10-5/8" from 8,500' to 8,514'. Bit DBR,ed.

Circulate surface to surface strokes to cool well bore prior to logs.

Tripped out of the hole with 10-5/8" clean out assembly from 8,514' to surface.

Rigged up and ran Sonic Scanner and Borehole Formation Imager. Max bottom hole BHT was 321 deg F.

Rigged down logging tools.

Rigged up and ran Triple-Combo / Max BHT was 354 deg F / Logged upwards.

Rigged down loggers.

Ran in the hole with 10-5/8" rerun TCI bit on clean out assembly to 2,900'.

#### Comments

Open 8-3/4" core hole to 10-5/8" from 8,500' to 8,514'. ROP dropped off from 50 ft/hr to 5 f/tht. Decision was made to complete opening the hole on cool down run with a TCI bit.

|      | Casing/Tubular Information |        |         |           |                   |         |          |           |         |           |  |  |  |  |
|------|----------------------------|--------|---------|-----------|-------------------|---------|----------|-----------|---------|-----------|--|--|--|--|
|      | Size                       | Top MD | Top TVD | Bottom MD | <b>Bottom TVD</b> | Hole    | OH Diam. | Nom. Wgt. | Nominal | LOT       |  |  |  |  |
| Type | (ins)                      | (ft)   | (ft)    | (ft)      | (ft)              | Section | (ins)    | (lbs)     | Grade   | (lbs/gal) |  |  |  |  |
| FULL | 16.000                     | 0      |         | 416       |                   | SURF    | 22.000   | 65        | K-55    | 0.61      |  |  |  |  |
| FULL | 11.750                     | 0      |         | 2,990     |                   | INT1    | 14.750   | 54        | J-55    | 11.70     |  |  |  |  |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGF Report No: 23 Report For 19-Jul-21 **Mud Information** Gels Temp Mud 10m Filt. Cake pH/ES Solids Oil Water Sand LGS CaCI 10s 30m Out Loss PV Ca In 19-Jul-21 11:00 at Depth 8,540 ft Mud Pits, Type: Low Solids Non-Dispersed 8.30 0.01 800 120 2 2 2 98 105 **Mud Consumables Item Description** Qty. Cost **Item Description** Qty. Cost Engineering - EACH Other - EACH perdiem - OTHER **Bit/BHA/Workstring Information** Depth This Run R.O.P. Mud Pump No Run Make Model Diam In Dist Hrs Max WOB RPM Torque Wt Flow Press J. Vel P. Drp HHP Avg 12 2 BAKER MX-1 10.625 8415 Jets: 20 20 20 Out: Grade: Cutter: Dull: Wear: Gge: Pull: Brgs: 14 2 NOV 820 1200 285 289 **TCK83** 10.625 8500 1 14.0 75.0 25 55 16 8 605 1005 Jets: 12 12 12 12 12 13 13 Out: 8514 Grade: Cutter: 3/8 Dull: RO/WT Wear: S Brgs: 0 Gge: 20 Pull: LOG **BHA -** No. 19 - BIT, BS, 15 HWDP = 469.42 Miscellaneous Drilling Parameters Hook Loads (lbs): Off Bottom Rotate: 271 Pick Up: 285 Slack Off: Drag Avg/Max: 10 / 15 **Slow Circulation Data:** 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Pump 1: Pump 2: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Pump 3: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Hours on BHA: Since Inspection: 113.75 **Total:** 113.75 Jars: Hours on Casing/Liner: Rotating: 90.5/ Tripping: 141/ Wear Bushing Installed **Rig Information Equipment Problems:** None to report, **Location Condition:** Good. Transport: None **Solids Control Information** Screen Sizes: Top Middle 1 Middle 2 **Bottom Equipment Usage (Hrs):** Shaker No 1: Desander: 0 Degasser: 120 120 120 120 Desilter: 0 Shaker No 2: 120 120 120 120 Centrifuge 1: 24 (Solids Removal) Centrifuge 2: 24 (Solids Removal) Shaker No 3: 120 120 120 120 **Bulk Inventory** Used Item Type Units Beginning Received On Hand Net Rig Fuel 7,637 940 0 6.697 -940 **Drill Pipe Inventory** DP Size Joints Weight Grade DP Size Joints Grade Thread Thread Weight 24.7 S-135 5.5" 258 5.5IF Safety Information Meetings/Drills Time Description Safety Two 30 min Pre tour safety meetings with both crews. Rigging up loggers. Handling BHA. Working in weather. **First Aid Treatments:** 0 Medical Treatments: 0 Lost Time Incidents: 0 Days Since LTI: **Accident Description:** None to report. BOP Test Crownamatic Check Weather Information **Sky Condition:** Cloudy Visibility: 7 Air Temperature: 68 degF Bar. Pressure: 29.96 Wind Speed/Dir: 11 / S Wind Gusts: 5 Comments: Light rain



**Geothermal Resource Group, Inc.** 

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 24         |                    |                  |                |                  |            |          |                 | Report For | 20-Jul-21   |
|-----------------------|--------------------|------------------|----------------|------------------|------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utah | Rig:             | Frontier Rig 1 | 6 Spud Date:     | 28-        | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft)   | : 8540             | Last Casing:     | 11.750 at 2,99 | 0 Wellbore:      | Original W | /ellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 8438               | Next Casing:     | 7.000 at 8,50  | 0 RKB Elevation  | ո (ft)։    | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500               | Last BOP Tes     | t: 03-Jul-2    | Job Reference    | RKB (ft):  |          |                 |            |             |
| Hole Made (ft) / Hrs: | 0 / 9.5            | Next BOP Tes     | st: 24-Jul-2   | 1 Working Inter  | est:       |          | Totals:         |            |             |
| Average ROP (ft/hr)   | : 0.0              | )                |                | LOT (lbs/gal):   |            | 11.70    | Well Cost (\$): |            |             |
| Drilling Days (act./p | lan): 24/21 F      | lat Days (act./p | lan): 0/9      | Total Days (act. | /plan):    | 24/30    | Days On Loca    | ition:     | 24          |
| Pers/Hrs: Opera       | tor: 3 / 36 C      | Contractor:      | 14 / 168       | Service:         | 6 / 72     | Other:   | 3 / 36          | Total:     | 26 / 312    |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Tripped in the hole with 10-5/8" clean out assembly to 8,540'.

Drilled 10-5/8" hole from 8,540' to 8,545'.

Circulated surface to surface strokes to clean the well bore prior to running casing.

Pull out of the hole laying down 5.5" drill pipe from 8,545' to 6,300'.

Planned Operations: Lay out 5.5" drill string.

Rig up and run 7" casing.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |       | Operations Summary  |          |
|-------|-------|---------|------------|-------|---|----------|
| From  | То    | Elapsed | End MD(ft) | Code  | Operations Description  | Non-Prod |
| 0:00  | 1:00  | 1.00    | 8,540      | CUTDL | Slipped and cut drilling line.  |          |
| 1:00  | 4:00  | 3.00    | 8,540      | 3-6-3 | Tripped in the hole with 10-5/8" clean out assembly from 2,900' to 8,514'. Filled pipe and broke circulation. Filled pipe every 3,000'.  Strapped all drill pipe while running in the hole. |          |
| 4:00  | 5:00  | 1.00    | 8,540      | OPEN  | Opened 8-3/4" core hole to 10-5/8" from 8,514' to 8,540'.   |          |
| 5:00  | 6:00  | 1.00    | 8,540      | 3-5-1 | Circulated surface to surface strokes to cool well bore prior to logs.  |          |
| 6:00  | 10:00 | 4.00    | 8,540      | 3-6-4 | Tripped out of the hole for Schlumberger logs.  |          |
| 10:00 | 21:30 | 11.50   | 8,540      | LOG   | Rigged up Schlumberger . Ran UBI log.<br>Rigged down loggers.   |          |
| 21:30 | 22:00 | 0.50    | 8,540      | 3-6-1 | Made up 10-5/8" clean out assembly with TCI bit.  |          |
| 22:00 | 0:00  | 2.00    | 8,540      | 3-6-3 | Tripped in the hole with 10-5/8" clean out assembly to 4,657'. Filled pipe very 3,000'.   |          |

#### **Management Summary**

Slipped and cut drilling line.

Tripped in the hole with 10-5/8" clean out assembly from 2,900' to 8,514'.

Opened 8-3/4" core hole to 10-5/8" from 8,514' to 8,540'.

Circulated surface to surface strokes to cool well bore prior to logs.

Tripped out of the hole for Schlumberger logs.

Rigged up Schlumberger .

Ran UBI log.

Rigged down loggers.

Made up 10-5/8" clean out assembly with TCI bit.

Tripped in the hole with 10-5/8" clean out assembly to 4,657'

#### **Comments**

Strapped all drill pipe on trip in and compared to tally. Tally was good.

Five foot was drilled to fit casing and provide 13' of rat hole.

|      | Casing/Tubular Information |                |                 |                   |                    |                 |                   |                    |                  |                  |  |
|------|----------------------------|----------------|-----------------|-------------------|--------------------|-----------------|-------------------|--------------------|------------------|------------------|--|
| Туре | Size<br>(ins)              | Top MD<br>(ft) | Top TVD<br>(ft) | Bottom MD<br>(ft) | Bottom TVD<br>(ft) | Hole<br>Section | OH Diam.<br>(ins) | Nom. Wgt.<br>(lbs) | Nominal<br>Grade | LOT<br>(lbs/gal) |  |
| FULL | 16.000                     | 0              |                 | 416               |                    | SURF            | 22.000            | 65                 | K-55             | 0.61             |  |
| FULL | 11.750                     | 0              |                 | 2,990             |                    | INT1            | 14.750            | 54                 | J-55             | 11.70            |  |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGF Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT Report No: 24 Report For 20-Jul-21 **Mud Information** Gels Temp Mud 10m Filt. Cake pH/ES Solids Oil Water Sand LGS Ca CaCI 10s 30m Out Loss PV In 20-Jul-21 11:00 at Depth 8,540 ft Mud Pits, Type: Low Solids Non-Dispersed 8.30 0.01 800 120 2 2 2 98 105 **Mud Consumables Item Description** Qty. Cost **Item Description** Qty. Cost Engineering - EACH Other - EACH perdiem - OTHER **Bit/BHA/Workstring Information** This Run R.O.P. Mud Pump Depth No Run Make Model Diam ln Dist Hrs Max WOB RPM Torque Wt Flow Press J. Vel P. Drp HHP Avg 12 2 BAKER MX-1 10.625 8415 26 26.0 23 8 800 1300 279 578 270 959 75.0 50 13 Jets: 20 20 20 Out: Grade: Cutter: Dull: Wear: Gge: Pull: Brgs: 12 3 BAKER MX-1 10.625 8540 Wear: Jets: 20 20 20 Out: Grade: Cutter: / Dull: Brgs: Gge: Pull: **BHA -** No. 20 - BIT, BS, 15 HWDP = 469.42 Miscellaneous Drilling Parameters Hook Loads (lbs): Off Bottom Rotate: 271 Pick Up: 285 Slack Off: Drag Avg/Max: 5 / 10 **Slow Circulation Data:** 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Pump 1: Pump 2: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Pump 3: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Hours on BHA: Since Inspection: 114.75 **Total:** 114.75 Jars: Hours on Casing/Liner: Rotating: 92.51 Tripping: 149 *I* Wear Bushing Installed **Rig Information Equipment Problems:** None to report. **Location Condition:** Good Transport: Back hauled 8" dir tools. **Solids Control Information** Screen Sizes: Top Middle 1 Middle 2 **Bottom Equipment Usage (Hrs):** Shaker No 1: Desander: 0 Degasser: 120 120 120 120 Desilter: 0 Shaker No 2: 120 120 120 120 Centrifuge 1: 18 (Solids Removal) Centrifuge 2: 18 (Solids Removal) Shaker No 3: 120 120 120 120 **Bulk Inventory** Item Type Units Beginning Used Received On Hand Net Rig Fuel 6,697 3,702 10.399 **Drill Pipe Inventory** DP Size Joints Weight Grade DP Size Joints Weight Grade Thread Thread 24.7 S-135 5.5" 258 5.5IF Safety Information Meetings/Drills Time Description Safety Two 30 min Pre tour safety meetings with both crews. Rigging up loggers. Forklift operations. Working in weather. **First Aid Treatments:** 0 Medical Treatments: 0 Lost Time Incidents: 0 Days Since LTI: **Accident Description:** None to report. BOP Test ✓ Crownamatic Check Weather Information **Sky Condition:** Cloudy Visibility: 8 Air Temperature: 72 degF Bar. Pressure: 29.98 Wind Speed/Dir: 7 / SE Wind Gusts: 3 Comments: Light rain during the day.



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32
Field: UTAHFORGF

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 25        |                    |                      |                 |               |                      |                 | Report For | 21-Jul-21   |
|----------------------|--------------------|----------------------|-----------------|---------------|----------------------|-----------------|------------|-------------|
| Operator:            | University of Utah | Rig:                 | Frontier Rig 16 | Spud Date:    | 28-Jun-21            | Daily Cost / Mu | d (\$):    |             |
| Measured Depth (ft)  | : 8545             | Last Casing:         | 7.000 at 8,532  | Wellbore:     | Original Wellbore    | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft): | 8543               | Next Casing:         |                 | RKB Elevation | <b>n (ft):</b> 30.40 |                 |            |             |
| Proposed TD (ft):    | 9500               | Last BOP Test:       | : 03-Jul-21     | Job Reference | e RKB (ft):          |                 |            |             |
| Hole Made (ft) / Hrs | 5 / 2.5            | <b>Next BOP Test</b> | : 24-Jul-21     | Working Inter | est:                 | Totals:         |            |             |
| Average BOD (ft/hr)  | . 20               |                      |                 |               |                      | Wall Cost (\$): |            |             |

 Average ROP (ft/hr):
 2.0
 Well Cost (\$):
 -- 

 Drilling Days (act./plan):
 25/21
 Flat Days (act./plan):
 0/9
 Total Days (act./plan):
 25/30
 Days On Location:
 25

 Pers/Hrs:
 Operator:
 4 / 36
 Contractor:
 14 / 168
 Service:
 8 / 96
 Other:
 4 / 36
 Total:
 30 / 336

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Running 7" casing to 2,514'.

**Planned Operations:** Run 7" casing to set depth of 8,531'.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary  |          |
|-------|-------|---------|------------|--------|---|----------|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description  | Non-Prod |
| 0:00  | 2:00  | 2.00    | 8,540      | 3-6-3  | Tripped in the hole with 10-5/8" clean out assembly to 8,540'. Filled pipe very 3,000'.   |          |
| 2:00  | 2:30  | 0.50    | 8,540      | 3-2-1  | Drilled 10-5/8" hole from 8,540' to 8,545'.  Note: Five foot was drilled to fit casing and provide 13' of rat hole.   |          |
| 2:30  | 3:30  | 1.00    | 8,540      | 3-5-1  | Circulated surface to surface strokes to clean the wellbore prior to running casing.  |          |
| 3:30  | 6:00  | 2.50    | 8,540      | 3-34-2 | Pull out of the hole laying down 5.5" drill pipe from 8,545' to 6,300'.   |          |
| 6:00  | 14:00 | 8.00    | 8,540      | 3-34-2 | Pull out of the hole laying down 5.5" drill pipe from 6,300' to HWDP, Lay down HW   | DP       |
| 14:00 | 17:00 | 3.00    | 8,540      | 4-12-1 | Changed out IBOP valve for CRT. Install saver sub. Laid down all handling tools.  |          |
| 17:00 | 18:00 | 1.00    | 8,540      | OTHER  | Removed 5.5" ram blocks. Installed Frontiers 5" ram blocks back into double gate.   |          |
| 18:00 | 21:00 | 3.00    | 8,540      | OTHER  | Load racks with 7" casing. Cleaned threads on casing and prep to run.   |          |
| 21:00 | 23:30 | 2.50    | 8,540      | 4-12-1 | Held detailed safety meeting with all involved personal. Rigged up Wyoming Casin Service. Rigged up Silixa.  Loaded out floor with Silixa centralizes.  | g        |
| 23:30 | 0:00  | 0.50    | 8,540      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing as followed. 7"- float shoe. 2-joints of 7", 41#, T-110SS. 7"- float collar at report time. Note: Casing was ran with torque turn system. All joints were torqued to manufactures recommendation of 17,070 FT/LBS. |          |

### Management Summary

Tripped in the hole with 10-5/8" clean out assembly to 8,540'.

Drilled 10-5/8" hole from 8,540' to 8,545'.

Circulated surface to surface strokes to clean the wellbore prior to running casing.

Pulled out of the hole laying down 5.5" drill pipe.

Laid out all BHA.

Changed out IBOP valve for CRT. Install saver sub. Laid down all handling tools.

Removed 5.5" ram blocks. Installed Frontiers 5" ram blocks into double gate.

Load racks with 7" casing. Cleaned threads on casing and prepared to  $\bar{\text{run}}$ .

Held detailed safety meeting with all involved personal. Rigged up Wyoming Casing Service. Rigged up Silixa.

Loaded out floor with Silixa centralizes.

Ran 7", 41#, T-110SS, Tenaris casing.

#### Comments

Five foot was drilled to fit casing and provide 13' of rat hole.

BHA on fiber optics was placed to be landed at 8,389' top of third full joint.

All 7" casing joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS.

|      | Casing/Tubular Information |                |                 |                   |                    |                 |                   |                    |                  |                  |  |  |
|------|----------------------------|----------------|-----------------|-------------------|--------------------|-----------------|-------------------|--------------------|------------------|------------------|--|--|
| Туре | Size<br>(ins)              | Top MD<br>(ft) | Top TVD<br>(ft) | Bottom MD<br>(ft) | Bottom TVD<br>(ft) | Hole<br>Section | OH Diam.<br>(ins) | Nom. Wgt.<br>(lbs) | Nominal<br>Grade | LOT<br>(lbs/gal) |  |  |
| FULL | 16.000                     | 0              |                 | 416               |                    | SURF            | 22.000            | 65                 | K-55             | 0.61             |  |  |
| FULL | 11.750                     | 0              |                 | 2,990             |                    | INT1            | 14.750            | 54                 | J-55             | 11.70            |  |  |
| FULL | 7.000                      | 0              |                 | 8,532             |                    | PROD            |                   | 41                 |                  |                  |  |  |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

| Rep   | ort No       | : 25   | 5               |          |                       |                 |           |              |           |                 |          |         |          |         |          |          |                    | Rej             | ort Fo   | r 21-    | lul-21 |
|---|--------------|--------|-----------------|----------|-----------------------|-----------------|-----------|--------------|-----------|-----------------|----------|---------|----------|---------|----------|----------|--------------------|-----------------|----------|----------|--------|
|   |              |        |                 |          |                       |                 |           |              | Mud I     | nform           | ation    |         |          |         |          |          |                    |                 |          |          |        |
|   |              |        |                 |          |                       |                 |           | %            |           |                 |          |         |          |         |          |          | Gels               |                 | Ten      | •        | Mud    |
| Dens.   |              | PV     |                 | Filt.    |                       |                 | Solids    |              |           |                 |          | CI      | Са       | CaCl    | 10       | s        | 10m                | 30m             | In       | Out      | Loss   |
|   |              |        |                 |          |                       |                 | Type: Lo  |              |           |                 |          |         |          |         |          |          |                    |                 |          |          |        |
| 8.30  | 38           | 2      | 2               | 34       | 1                     | 10              | 2         | 0            |           | .01             |          | 800     | 12       |         |          | 2        | 2                  | 2               | 98       | 105      |        |
|   |              |        |                 |          |                       |                 |           |              | Mud C     | onsur           | nables   |         |          |         |          |          |                    |                 |          |          |        |
|   |              |        | n Des           | criptic  | n                     |                 | Q         |              | Cost      |                 |          |         | tem De   | escrip  | tion     |          |                    |                 | Qty.     | С        | ost    |
|   | neering      |        | CH              |          |                       |                 |           | 1            |           |                 | el - 100 |         |          |         |          |          |                    |                 | 10       |          |        |
|   | C - 50       |        |                 |          |                       |                 |           | 17           |           | 0               | ther - E | ACH     |          |         |          |          |                    |                 | 1        |          |        |
| perdi   | em - O       | THER   | · · · · · · · · |          |                       |                 |           | 1            |           |                 |          | -       |          |         |          |          |                    |                 |          |          |        |
|   |              |        |                 |          |                       |                 |           |              | A/Work    |                 | Infor    | matio   | n        |         |          |          |                    |                 |          |          |        |
| No D  | B/           | مادم   | Ma              | اماما    | Diam                  | Dept            |           | is Run       |           | D.P.            | WOR      | DDM     | Tava     | \       | Mu       |          | Pump               |                 | I D D    | цць      |        |
| <b>No R</b>   | un w<br>2 BA | lake   | Mo<br>MX-1      |          | <b>Diam</b><br>10.625 | In 84           | Dis       | <b>t Hrs</b> | Avg       | wax             | WOB      | KPIV    | lorq     | ue v    | Vt r     | low      | Press              | J. ve           | l P. Drp | ННР      | JIF    |
|   | 20 2         |        | IVIX-I          |          | 10.023                | Out:            | 10 2      |              | Cutter    | . /             |          | ull:    | ,        | 10/0    | ar:      | D.       | <b>~~</b> .        | Cası            |          | Pull:    |        |
|   | 3 BA         |        | MV 1            |          | 10.625                | 85 <sub>4</sub> | 10        | 5 0.5        |           | 25.0            |          |         | ,<br>5   | 7       | 8 8      |          | <b>gs:</b><br>1800 | <b>Gge:</b> 286 | 607      |          | 1007   |
|   | 20 2         |        | IVIX- I         |          | 10.023                | Out:            |           |              | Cutter:   |                 |          | ull: W  |          | _       | ar: S    |          |                    | Gge:            |          | Pull:    |        |
|   |              |        | RIT RS          | 15 H     | WDP =                 |                 | 0040      | Graue.       | outler.   |                 | ט ט      | uii. VV | 1 / 01   | we      | aı. 3    | ום       | ys. ∪              | oge.            | J        | r ull.   | טו     |
| BHA - No. 20 - BIT, BS, 15 HWDP = 469.42  Rig Information |              |        |                 |          |                       |                 |           |              |           |                 |          |         |          |         |          |          |                    |                 |          |          |        |
| Faui  | nment        | Proh   | lems:           | None     | to repo               | rt              |           |              | ixig ii   | 1101111         | ation    |         |          |         |          |          |                    |                 |          |          |        |
|   | tion C       |        |                 | Good     |                       | ,, t.           |           |              |           |                 |          |         |          |         |          |          |                    |                 |          |          |        |
|   | sport:       | onani  | OII.            |          |                       | 4 loads         | of 5.5" o | Irill nine   |           |                 |          |         |          |         |          |          |                    |                 |          |          |        |
| TT GIT  | эрогс.       |        |                 | Dack     | Haulcu                | + loads         | 010.0     |              | ids Cor   | trol Ir         | nforms   | ation   |          |         |          |          |                    |                 |          |          |        |
| Scree   | en Size      |        | -               | Гор      | Midd                  | 1 N             | liddle 2  | Bottor       |           |                 | nt Usa   |         | .e).     |         |          |          |                    |                 |          |          |        |
|   | haker        |        |                 | 120      |                       | 120             | 120       | 12           |           | sande           |          | ge (iii | Desil    | ter:    | 0        | Г        | )egass             | er.             | 0        |          |        |
|   | haker        |        |                 | 120      |                       | 120             | 120       | 12           | -         |                 | ge 1: 1  | 2 (Soli |          |         |          |          | _                  |                 | 12 (Soli | ds Rer   | noval) |
|   | haker        |        |                 | 120      |                       | 120             | 120       | 12           |           | , i i i i i i i | , · · ·  | 2 (0011 | uo i toi | ilovai, | <u>'</u> |          | , circi ii c       |                 | 12 (0011 | 40 1 (0) | novai, |
|   | i i di i di  |        |                 | 120      |                       | 120             | 120       | 12           |           | Inven           | torv     |         |          |         |          |          |                    |                 |          |          |        |
|   |              |        | Ite             | т Тур    | )e                    |                 |           | Ur           | nits      |                 | inning   |         | Used     |         | Red      | eive     | d                  | On Ha           | ınd      | N        | et     |
| Rig F   | uel          |        |                 |          |                       |                 |           |              |           |                 | 9,40     | 4       |          | 898     |          |          |                    |                 | 8,506    | ••       |        |
|   |              |        |                 |          |                       |                 |           |              | Drill Pi  | pe Inv          | entory   | ,       |          |         |          |          |                    |                 | ,        |          |        |
| DP  | Size         | J      | loints          |          | Weight                |                 | Grade     |              | hread     |                 | DP Siz   |         | Joint    | s       | We       | ight     |                    | Grade           |          | Thre     | ad     |
|   | 5.5'         |        | 25              | 58       |                       | .7 S-1          | 35        | 5.5IF        |           |                 |          |         |          |         |          |          |                    |                 |          |          |        |
|   |              |        |                 |          |                       |                 |           |              | Safety    | Inforr          | nation   | )       |          |         |          |          |                    |                 |          |          |        |
| Meet  | ings/D       | rills  | Time            | e        |                       |                 |           |              |           | ription         |          |         |          |         |          |          |                    |                 |          |          |        |
| Safet   | y            |        | 6               |          | vo 30 m<br>sing.      | in Pre t        | our safet | y meetin     | gs with b | oth cre         | ews. La  | ying do | own dri  | ll pipe | . Forl   | dift o   | peratio            | ns. Rig         | ging up  | and ru   | inning |
| First   | Aid Tr       | eatm   | ents:           |          | 0 <b>M</b>            | edical          | Treatme   | nts:         |           | 0 Los           | st Time  | Incide  | ents:    |         |          | <b>D</b> | ays Siı            | nce LTI         | :        |          |        |
| Acci  | dent D       | escrip | otion:          | None     | to repo               | ort.            |           |              |           |                 |          |         |          |         |          |          |                    |                 |          |          |        |
| В   | OP Te        | st     |                 | ✓ Cr     | ownam                 | atic Ch         | eck       |              |           |                 |          |         |          |         |          |          |                    |                 |          |          |        |
|   |              |        |                 |          |                       |                 |           | 1            | Neathe    | r Info          | rmatio   | n       |          |         |          |          |                    |                 |          |          |        |
| Sky (   | Condit       | ion:   | Part            | tly clou | ıdy                   |                 |           |              |           | Vi              | sibility |         |          | 8       |          |          |                    |                 |          |          |        |
| Air T   | emper        | ature  | : 70 c          | degF     |                       |                 |           |              |           | Ва              | ar. Pres | sure:   | :        | 29.98   |          |          |                    |                 |          |          |        |
| Wind  | Spee         | d/Dir: | 7/5             | SE       |                       |                 |           |              |           | W               | ind Gu   | sts:    |          | 2       |          |          |                    |                 |          |          |        |
| Com   | ments        |        | Ligh            | nt rain  | during t              | he day.         |           |              |           |                 |          |         |          |         |          |          |                    |                 |          |          |        |
|   |              |        |                 |          |                       |                 |           |              |           |                 |          |         |          |         |          |          |                    |                 |          |          |        |



Operator:

Pers/Hrs:

Report No: 26

### **Daily Drilling Report**

University of Utah Rig:

Geothermal Resource Group, Inc.

3 / 36 **Total**:

Well Name: 78B-32

28 / 336

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

8 / 96 Other:

Field: UTAHFORGF

Frontier Rig 16 Spud Date: 28-Jun-21 Daily Cost / Mud (\$): ---

 Measured Depth (ft):
 8545
 Last Casing:
 7.000 at 8,532
 Wellbore:
 Original Wellbore
 AFE No.
 AFE (\$)
 Actual (\$)

 Vertical Depth (ft):
 8543
 Next Casing:
 RKB Elevation (ft):
 30.40
 --

 Hole Made (ft) / Hrs:
 0 / 0.0
 Next BOP Test:
 24-Jul-21
 Working Interest:
 Totals:
 -- -- 

 Average ROP (ft/hr):
 Well Cost (\$):
 -- Drilling Days (act./plan):
 26/21
 Flat Days (act./plan):
 0/9
 Total Days (act./plan):
 26/30
 Days On Location:
 26

14 / 168 Service:

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Pulled out of the hole with 7" casing from 5,477' to 1,212' removing damaged fiber optic cable'.

**Planned Operations:** Continue pulling 7" casing and fiber optic cable.

3 / 36 Contractor:

**Toolpusher:** Steve Caldwell , Justin Bristol

Operator:

Wellsite Supervisors: Virgil Welch, Brian Gresham Tel No.: 7132807438

| wellsite 3 | upei viso | is. Viigii | Welch, bha | iii Oresiiaiii | lei No 7 132007430   |          |
|------------|-----------|------------|------------|----------------|--|----------|
|            |           |            |            |                | Operations Summary   |          |
| From       | То        | Elapsed    | End MD(ft) | Code           | Operations Description   | Non-Prod |
| 0:00       | 6:00      | 6.00       | 8,540      | 4-12-1         | Run 7", 41#, T-110SS, Tenaris casing from 94' to 2,514'.  Note: BHA on fiber optics was placed at 8,389' top of third full joint. Stopped and  |          |
|            |           |            |            |                | tested continuity every 15 joints while running casing. All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS.   |          |
| 6:00       | 15:00     | 9.00       | 8,540      | 4-12-1         | Run 7", 41#, T-110SS, Tenaris casing from 2,514'. to 6,178'.   |          |
| 15:00      | 15:30     | 0.50       | 8,540      | 4-12-1         | Stopped to test fibers AT 6,178'. Breakage in fiber optic cable detected; decision we made to continue running in hole with remaining intact fiber/casing and monitor for cable quality.   |          |
| 15:30      | 16:00     | 0.50       | 8,540      | 4-12-1         | Ran 7", 41#, T-110SS, Tenaris casing from 6,178' to 6,517'.  |          |
| 16:00      | 18:30     | 2.50       | 8,540      | 4-12-1         | Stopped at joint 6,517' to run Fiber optic tests- the measured fiber length shortened by approximately 500ft on the fibers. Meeting was held to decide plan moving forth the decision was made to run 5 more joints in the hole and assess the fiber quality afterwards. | ;        |
| 18:30      | 19:15     | 0.75       | 8,540      | 4-12-1         | Ran 7", 41#, T-110SS, Tenaris casing from 6,517' to 6,753'.  |          |
| 19:15      | 20:30     | 1.25       | 8,540      | 4-12-1         | Tested fibers; fibers shortened by 500ft. The decision was made to pull casing out hole.   | of       |
| 20:30      | 0:00      | 3.50       | 8,540      | 4-99           | Pull out of the hole with 7" casing from 6,753' to 5,447'. Note: While pulling the first joint of 7" casing fiber optic got cut pulling through the bushings.  |          |

#### **Management Summary**

Ran 7", 41#, T-110SS, Tenaris casing with fiber optic cable from 94' to 6,178' testing cable approximately every 650'.

When testing fiber optic cable at 6,178' breakage in fiber optic cable was detected approximately 800' up from cable BHA.

Continued running in the hole with the 7"casing from 6,178' to 6,517'. Retest cable and OTDR tests results indicated continuity fiber length had shortened by approximately additional 500 ft.

Ran 7" casing from 6,517' to 6,753'. Cable test indicated fiber optic cable continuity had shortened by another 500 ft.

During conference call decision was made to pull the casing out of hole.

Pulled out of the hole with 7" casing removing fiber optic cable from 6,753' to 5,447' at report time.

#### Comments

Tested out fiber optic cable every 15 joints while running 7" casing.

Tested fibers at 6,178'. Breakage in fiber optic cable detected.

Decision was made to continue running in hole with remaining intact fiber/casing and monitor for cable quality.

Tested fibers at 6.517'.

The measured fiber length shortened by approximately 500ft on the fibers.

Meeting was held to decide plan moving forward, Decision was made to run 5 more joints in the hole to 6,753' and assess the fiber quality.

Test indicated fibers had shortened another 500 ft. Decision was made to pull the casing out of hole to determine cause of continuing cable failure.



#### **Geothermal Resource Group, Inc.**

Well ID: Forge 78B-32

Field: UTAHFORGF

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 26 Report For 22-Jul-21 Casing/Tubular Information Size Top MD Top TVD Bottom MD Bottom TVD OH Diam. Nom. Wgt. Nominal Hole LOT Type (ins) Section (ins) (lbs) Grade (lbs/gal) **FULL** 16.000 0 416 SURF 22.000 65 K-55 0.61 0 2,990 **FULL** 11.750 INT1 14.750 54 J-55 11.70 7.000 0 8,532 **PROD** 41 **FULL Mud Information** Gels Temp Mud Cake pH/ES Solids Oil Water Sand LGS 10m ΥP Filt. CI CaCI 10s 30m Out Loss PV Ca In 22-Jul-21 11:00 at Depth 8,540 ft Mud Pits, Type: Low Solids Non-Dispersed 8.30 98 0.01 800 120 2 2 2 105 98 **Mud Consumables Item Description** Qty. Cost **Item Description** Qty. Cost Barite - 100#SK 80 Engineering - EACH 1 Gel - 100#SK 4 Other - EACH pallets - OTHER 2 perdiem - OTHER 1 polyvis - 5GAL **Bit/BHA/Workstring Information** Depth This Run Mud Pump Flow Press J. Vel P. Drp HHP No Run Make Model Diam Dist Hrs Max WOB RPM Torque Wt In Avg 12 2 BAKER MX-1 10.625 8415 28 3 9.3 Jets: 20 20 20 Out: 8417 Grade: Cutter: Dull: Wear: Gge: Pull: Brgs: **Rig Information Equipment Problems:** None to report. **Location Condition:** Good. Transport: Back hauled 4 loads of 5.5" pipe. **Solids Control Information** Тор Screen Sizes: Middle 1 Middle 2 **Bottom** Equipment Usage (Hrs): Shaker No 1: 120 120 120 120 Desander: 0 Desilter: 0 Degasser: Shaker No 2: 120 120 120 120 Centrifuge 1: 8 (Solids Removal) Centrifuge 2: 8 (Solids Removal) Shaker No 3: 120 120 120 120 **Bulk Inventory** Beginning Item Type Units Used Received On Hand Net Rig Fuel 8.506 8.506 **Drill Pipe Inventory DP Size** Joints Weight Grade Thread **DP Size** Joints Weight Grade Thread 5.5" 258 24.7 S-135 5.5IF **Safety Information** Meetings/Drills Time Description 60 Two 30 min Pre tour safety meetings with both crews. Running 7" casing. Laying out 7" casing. Safety 0 Medical Treatments: 0 Lost Time Incidents: 0 Days Since LTI: **First Aid Treatments:** Accident Description: None to report. BOP Test ✓ Crownamatic Check **Weather Information Sky Condition:** Cloudy Visibility: 10 Air Temperature: 68 degF Bar. Pressure: 29.89 Wind Speed/Dir: Wind Gusts: 5 / SE 2 Comments: Light rain



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

|        | _   |     |    |      |
|--------|-----|-----|----|------|
| Report | For | 23- | Ju | I-21 |

Well Name: 78B-32

| Report No: 27        |                            |                      |               |                 |             |          |                 | Report For | 23-Jul-21   |
|----------------------|----------------------------|----------------------|---------------|-----------------|-------------|----------|-----------------|------------|-------------|
| Operator:            | University of Utah         | n <b>Rig:</b> Fro    | ontier Rig 16 | 6 Spud Date:    | 28-         | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ff   | :): 8545                   | Last Casing: 7.      | 000 at 8,532  | 2 Wellbore:     | Original V  | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft): | 8543                       | Next Casing:         |               | RKB Elevatio    | n (ft):     | 30.40    |                 |            |             |
| Proposed TD (ft):    | 9500                       | Last BOP Test:       | 03-Jul-2      | 1 Job Reference | e RKB (ft): |          |                 |            |             |
| Hole Made (ft) / Hrs | 0 / 0.0                    | Next BOP Test:       | 24-Jul-2      | 1 Working Inter | rest:       |          | Totals:         |            |             |
| Average ROP (ft/hr   | ):                         |                      |               |                 |             |          | Well Cost (\$): |            |             |
| Drilling Days (act./ | olan): 27/21 F             | lat Days (act./plan) | : 0/9         | Total Days (act | t./plan):   | 27/30    | Days On Loca    | ition:     | 27          |
| Pers/Hrs: Opera      | ator: 3 / 36               | Contractor:          | 14 / 168      | Service:        | 8 / 96      | Other:   | 3 / 36          | Total:     | 28 / 336    |
| 0-6-4-0              | Nie terstelen 4 er en er e | 4 4 1 . 0 1          |               | 011-0-6-6-1     |             |          |                 |            |             |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Ran 7", 41#, T-110SS, Tenaris casing from 2,380' to 3,722'. Install splice on fiber-optic cable at 3,722'.

**Planned Operations:** Run 7" casing to set depth of 8,531'.

Circulate to cool well bore prior to cement job.

Toolpusher: Steve Caldwell, Justin Bristol

Virgil Welch, Brian Gresham Tel No.: 7132807438 Wellsite Supervisors:

#### **Operations Summary**

| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description  | Non-Prod |  |  |  |
|-------|-------|---------|------------|--------|---|----------|--|--|--|
| 0:00  | 6:00  | 6.00    | 8,540      | 4-99   | Pulled out of the hole with 7" casing from 5,477' to 1,212'.  Note: Fiber-optic cable was broke from 3,017' down to 1,212' in multiple place ranging from 40' to 160' foot sections.  |          |  |  |  |
| 6:00  | 7:30  | 1.50    | 8,540      | 4-99   | Pulled out of hole with 7" casing from 1212' to 120' NOTE: Fiber optic had no breaks from 1212' to 120'   |          |  |  |  |
| 7:30  | 10:00 | 2.50    | 8,540      | WOO    | Waited on Orders while Silixa measured and determines usable length of fiber op Determined 3,686' of usable fiber-optic.  | tic.     |  |  |  |
| 10:00 | 18:00 | 8.00    | 8,540      | WOE    | Silixa shipping a 5,000' cable from Montana to splice / Continue wiring 3,686' piec BHA   | e to     |  |  |  |
| 18:00 | 20:00 | 2.00    | 8,540      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 94' to 685'.  Note: BHA on fiber optics was placed at 8,389' top of third full joint. All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Pumped through shoe track to verify no blockage. Remaining joints were not filled. | <b>3</b> |  |  |  |
| 20:00 | 20:30 | 0.50    | 8,540      | 4-99   | Performed continuity test on fiber optics at 6,85'. Test was good.  |          |  |  |  |
| 20:30 | 21:45 | 1.25    | 8,540      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 685' to 1,376'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling.  | )        |  |  |  |
| 21:45 | 22:00 | 0.25    | 8,540      | 4-99   | Performed continuity test on fiber optics at 1,376'. Test was good.   |          |  |  |  |
| 22:00 | 23:15 | 1.25    | 8,540      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 1,376' to 2,060'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling.  | )        |  |  |  |
| 23:15 | 23:30 | 0.25    | 8,540      | 4-98   | Performed continuity test on fiber optics at 2,060'. Test was good.   |          |  |  |  |
| 23:30 | 0:00  | 0.50    | 8,540      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 2,060' to 2,380'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling.  |          |  |  |  |

#### **Management Summary**

Pulled out of the hole with 7" casing from 5,477' to 120'.

Multiple breaks in fiber-optic cable from 3,017' to 1,212'.

Removed Silixa Fiber-optic BHA from casing.

Waited on Orders while Silixa measured usable length of fiber-optic cable. Determined 3,686' of usable fiber-optic cable.

Installed fiber-optic BHA on casing.

Ran 7", 41#, T-110SS, Tenaris casing from 94' to 2,380.

Performed continuity test on fiber optics every 15-joints while running 7" casing.

#### Comments

Fiber-optic cable was broke from 3,017' up to 1,212' in multiple places ranging from 40' to 160' sections.

Silixa shipped 5,000' of fiber-optic cable from Montana.

Cable arrived on location at 0030 hrs on 7-24-2021.



Geothermal Resource Group, Inc.

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE

| Report No    | : 27     |            |                    |          |                                     |                |      |                       |                  |               |        |                 |          |         |               | Rep                | ort F         | or 23- | Jul-21        |
|--------------|----------|------------|--------------------|----------|-------------------------------------|----------------|------|-----------------------|------------------|---------------|--------|-----------------|----------|---------|---------------|--------------------|---------------|--------|---------------|
|              |          |            |                    |          |                                     | Casi           | ng/  | Tubular               | nfor             | matio         | n      |                 |          |         |               | •                  |               |        |               |
| Type         |          | ize<br>ns) | Top MI<br>(ft)     | ) .      | Fop TVD<br>(ft)                     | Bottom<br>(ft) | MD   | Bottom 7<br>(ft)      | ΓVD              | Hol<br>Secti  |        | OH Dia<br>(ins) |          |         | . Wgt.<br>bs) |                    | minal<br>rade |        | ₋OT<br>s/gal) |
| FULL         |          | 16.000     | •                  | 0        | ` '                                 | .              | 416  |                       |                  | S             | URF    | 22.             | 000      |         | 65            |                    | K-5           | 1      | 0.61          |
| FULL         |          | 11.750     |                    | 0        |                                     | 2,             | 990  |                       |                  |               | INT1   | 14.             | 750      |         | 54            | ı                  | J-5           | 5      | 11.70         |
| FULL         |          | 7.000      |                    | 0        |                                     | 8,             | 532  |                       |                  | Pl            | ROD    |                 |          |         | 41            |                    |               |        |               |
|              | <u>'</u> |            |                    | <u>'</u> |                                     |                | Mι   | ıd Inforn             | natio            | n             |        |                 |          |         |               | ·                  |               | '      |               |
|              |          |            |                    |          |                                     | %              |      |                       |                  |               |        |                 |          | G       | els           |                    | Tei           | np     | Mud           |
|              | PV       |            |                    | •        | ES Solids                           |                |      |                       |                  | CI            | Ca     | CaCl            | 10:      | s 1     | 0m            | 30m                | ln            | Out    | Loss          |
| 23-Jul-21 11 | :00 at   | Depth 8    | 5,540 ft M         |          |                                     | w Solids N     | Non- |                       |                  |               |        |                 |          |         |               |                    |               |        |               |
| 8.30 38      | 2        | 2          | 34                 | 1        | 10 2                                | 0              | 98   |                       | 0                | 800           | 120    | )               |          | 2       | 2             | 2                  | 98            | 105    |               |
|              |          |            |                    |          |                                     |                |      | Consu                 | nabl             | es            |        |                 |          |         |               |                    |               |        |               |
|              |          | Descri     | otion              |          | Q                                   | ty.            | Co   | ost                   |                  |               |        | Descript        | ion      |         |               | (                  | Qty.          |        | Cost          |
| Engineering  |          | Н          |                    |          |                                     | 1              |      |                       |                  | - EACH        |        |                 |          |         |               |                    | 1             |        |               |
| perdiem - O  | THER     |            |                    |          |                                     | 1              |      |                       |                  | ng - EA       |        |                 |          |         |               |                    | 1             |        |               |
|              |          |            |                    |          |                                     |                |      | us Drilli             |                  |               | ters   | _               | _        |         |               |                    |               |        |               |
| Hook Loads   |          |            | Off Botto          | n Rota   | ate:                                | Pick I         | Up:  |                       | Slac             | k Off:        |        | Dr              | ag A     | vg/Ma   | ax:           |                    |               |        |               |
| Slow Circul  |          | Data:      | 00                 |          | 440                                 |                |      | 0                     |                  | 045           |        |                 | <b>^</b> | .       |               | 144!               |               |        |               |
|              | mp 1:    |            | 30 spm             |          | 110 ps                              |                |      | 0 spm                 |                  | 215 p         |        |                 | 0 spn    |         |               | 311 psi<br>311 psi |               |        |               |
|              | mp 2:    |            | 30 spm             |          | 110 ps                              |                |      | 0 spm                 |                  | 215 p         |        |                 | 0 spm    |         |               | •                  |               |        |               |
| Hours on B   | mp 3:    |            | 30 spm             |          | 110 ps                              |                |      | 0 spm                 | 1                | 215 p         | 0      | 3               | 0 spm    | 1       | •             | 311 psi            |               |        |               |
| Hours on C   |          | linor      | Rotatin            | -        | t <b>ion:</b> 114.<br>92.5 <i>1</i> | ./5 10         |      | 114.75                | Jar              | 197 /         | U      |                 | Moor     | Buol    | hina Ir       | otallar            |               |        |               |
| Hours on C   | asing    | Liller.    | Kotatiii           | g.       | 92.37                               |                | _    | Γripping:<br>g Inform | otio             |               |        |                 | vveai    | Dusi    | illig ii      | stalled            | <u> </u>      |        |               |
| Equipment    | Droble   | ma: N      | one to rer         | ort      |                                     |                | KI   | g iiiioiiii           | atioi            | <u>I</u>      |        |                 |          |         |               |                    |               |        |               |
| Location Co  |          |            | one to rep<br>ood. | ort.     |                                     |                |      |                       |                  |               |        |                 |          |         |               |                    |               |        |               |
| Transport:   | Jiiditio |            |                    | d rema   | aining 5.5"                         | drill nine l   | Racl | c hauled re           | ıllar r          | aamare        | alon   | a with cu       | hic sc   | neore   | •             |                    |               |        |               |
| Transport.   |          |            | ack riadic         | u reme   | aning 5.5                           |                |      | Control I             |                  |               |        | g with cu       | 510 30   | ,113013 | ·.            |                    |               |        |               |
| Screen Size  |          | Top        | ) Mid              | dle 1    | Middle 2                            | Bottom         |      | Equipme               |                  |               |        |                 |          |         |               |                    |               |        |               |
| Shaker N     |          |            | 20                 | 120      | 120                                 | 120            |      | Desande               |                  |               |        | silter: (       | )        | De      | gasse         | er (               | )             |        |               |
| Shaker N     |          |            | 20                 | 120      | 120                                 | 120            |      |                       |                  |               |        |                 | •        |         | -9            |                    | -             |        |               |
| Shaker N     |          |            | 20                 | 120      | 120                                 | 120            |      |                       |                  |               |        |                 |          |         |               |                    |               |        |               |
|              |          |            |                    |          |                                     |                |      | Bulk Inver            | itory            |               |        |                 |          |         |               |                    |               |        |               |
|              |          | Item '     | Туре               |          |                                     | Uni            |      |                       | innin            | g             | Use    | ed              | Rec      | eived   | ı             | On Ha              | nd            | N      | let           |
| Rig Fuel     |          |            | -                  |          |                                     |                |      |                       | 7,7              | 791           |        | 621             |          |         |               | 7                  | 7,170         |        |               |
|              |          |            |                    |          |                                     | ;              | Safe | ety Infor             | mati             | on            |        |                 |          |         |               |                    |               |        |               |
| Meetings/D   | rills    | Time       |                    |          |                                     |                | D    | escriptio             | 1                |               |        |                 |          |         |               |                    |               |        |               |
| Safety       |          | 60         | Two 30 placeme     |          | e tour safe                         | ty meeting     | gs w | ith both cr           | ews.             | Laying        | out 7" | casing. F       | Runni    | ng 7"   | casing        | ı. hand            | and bo        | ody    |               |
| First Aid Tr | eatme    | nts:       | 0                  | Medic    | al Treatme                          | ents:          |      | 0 <b>Lo</b> :         | st Tin           | ne Inci       | dents  | :               | 0        | Da      | ys Sin        | ce LTI             |               |        |               |
| Accident De  | escript  | ion: N     | one to rep         | ort.     |                                     |                |      |                       |                  |               |        |                 |          |         |               |                    |               |        |               |
| BOP Tes      | st       | <b>✓</b>   | Crowna             | natic (  | Check                               |                |      |                       |                  |               |        |                 |          |         |               |                    |               |        |               |
|              |          |            |                    |          |                                     | V              | Veat | ther Info             | rmat             | ion           |        |                 |          |         |               |                    |               |        |               |
| Sky Conditi  | ion:     | Cloudy     | •                  |          |                                     |                |      | Vi                    | sibili           | ty:           |        | 10              |          |         |               |                    |               |        |               |
| Air Tempera  | ature:   | 70 deg     | F                  |          |                                     |                |      | В                     | ar. Pr           | essure        | :      | 29.89           |          |         |               |                    |               |        |               |
| Wind Speed   | d/Dir:   | 8 / SE     |                    |          |                                     |                |      | W                     | ind G            | Busts:        |        | 2               |          |         |               |                    |               |        |               |
| Air Tempera  | ature:   | 70 deg     |                    |          |                                     |                |      | Vi<br>Ba              | sibili<br>ar. Pr | ty:<br>essure | :      | 29.89           |          |         |               |                    |               |        |               |



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Sect: 32 Town: 26 Rng: 9

Well Name: 78B-32

| Report No. 20         |                       |                       |               |                  |            |          |                 | Report For | 27-0ui-2 i  |
|-----------------------|-----------------------|-----------------------|---------------|------------------|------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utah    | Rig: Fro              | ontier Rig 16 | Spud Date:       | 28-        | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft    | ): 8545               | Last Casing: 7.0      | 000 at 8,509  | Wellbore:        | Original W | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 8543                  | Next Casing:          |               | RKB Elevation    | (ft):      | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500                  | Last BOP Test:        | 03-Jul-21     | Job Reference    | RKB (ft):  |          |                 |            |             |
| Hole Made (ft) / Hrs  | 0 / 0.0               | Next BOP Test:        | 24-Jul-21     | Working Interes  | est:       |          | Totals:         |            |             |
| Average ROP (ft/hr)   | :                     |                       |               |                  |            |          | Well Cost (\$): |            |             |
| Drilling Days (act./p | olan): 28/21 <b>F</b> | lat Days (act./plan): | : 0/9         | Total Days (act. | /plan):    | 28/30    | Days On Loca    | ition:     | 28          |
| Pers/Hrs: Opera       | tor: 3 / 36 C         | Contractor:           | 14 / 168 S    | Service:         | 14 / 168   | Other:   | 2 / 24          | Total:     | 33 / 396    |
| 1                     |                       |                       |               |                  |            |          |                 |            |             |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Circulated at 16 bbl's per min to cool well bore.

Cemented 7" casing in place with 126 bbl's of cement to surface.

Planned Operations: Wait on cement.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

| Operat  | liana | Cum  |      |
|---------|-------|------|------|
| ()norai | none  | Sumr | narv |

| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description   | Non-Prod |
|-------|-------|---------|------------|--------|--|----------|
| 0:00  | 0:45  | 0.75    | 8,540      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 2,380' to 2,742'.  |          |
|       |       |         |            |        | Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling.  |          |
| 0:45  | 1:00  | 0.25    | 8,540      | 4-99   | Performed continuity test on fiber optics at 2,742'. Test was good.  |          |
| 1:00  | 2:00  | 1.00    | 8,540      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 2,742' to 3,428'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling. |          |
| 2:00  | 2:15  | 0.25    | 8,545      | 4-99   | Performed continuity test on fiber optics at 3,428'. Test was good.  |          |
| 2:15  | 2:30  | 0.25    |            | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 3,428' to 3,722'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070  |          |
|       |       |         |            |        | FT/LBS. Ran all 15-joints without filling.   |          |
| 2:30  | 9:00  | 6.50    | 8,545      | 4-99   | Installed new spool of fiber-optic cable on to unit. Ran fiber-optic cable to rig floor. Spliced on new fiber-optic cable at 3,722'.   |          |
| 9:00  | 10:00 | 1.00    | 8,545      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 3,711' to 4,117'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling. |          |
| 10:00 | 10:30 | 0.50    | 8,545      | 4-99   | Performed continuity test on fiber optics at 4,117'. Test was good.  |          |
| 10:30 | 11:30 | 1.00    | 8,545      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 4,117' to 4,803'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling. |          |
| 11:30 | 12:00 | 0.50    | 8,545      | 4-99   | Performed continuity test on fiber optics at 4,803'. Test was good.  |          |
| 12:00 | 13:00 | 1.00    | 8,545      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 4,803' to 5,480'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling. |          |
| 13:00 | 13:30 | 0.50    | 8,545      | 4-99   | Performed continuity test on fiber optics at 5,480'. Test was good.  |          |
| 13:30 | 15:00 | 1.50    | 8,545      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 5,480' to 6,161'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling. |          |
| 15:00 | 15:15 | 0.25    | 8,545      | 4-99   | Performed continuity test on fiber optics at 6,161'. Test was good.  |          |
| 15:15 | 16:00 | 0.75    | 8,545      | 4-12-1 | Run 7", 41#, T-110SS, Tenaris casing from 6,161' to 6,614'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling. |          |
| 16:00 | 16:15 | 0.25    | 8,545      | 4-99   | Performed continuity test on fiber optics at 6,614'. Test was good.  |          |



Well ID: Forge 78B-32

Field: UTAHFORGE

## **Geothermal Resource Group, Inc.**

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 28 Report For 24-Jul-21

|       |       |         |            |        | Operations Summary  |    |
|-------|-------|---------|------------|--------|---|----|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description Non-Pro  | od |
| 16:15 | 17:00 | 0.75    | 8,545      | 4-12-1 | Run 7", 41#, T-110SS, Tenaris casing from 6,614' to 7,070'.  Note: Floats failed at 6,795' while running casing gained 81k in hook load.  All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS.  Ran all 15-joints without filling.  |    |
| 17:00 | 17:30 | 0.50    | 8,545      | 4-99   | Performed continuity test on fiber optics at 7,070'.  Test indicated one of the five fiber-optic had failed at 4,000' from surface.  Decision was made to run in one joint to 7,106' and circulate bottoms up.  |    |
| 17:30 | 19:00 | 1.50    | 8,545      | 3-5-1  | Circulated bottoms up at 7,106'.  Max surface flow temperature was 99 degrees Fahrenheit.  Static temperature reading at 6,966' with fiber-optic cable was 359 degrees Fahrenheit.  |    |
| 19:00 | 19:45 | 0.75    | 8,545      | 4-12-1 | Run 7", 41#, T-110SS, Tenaris casing from 7,070' to 7,812'.  Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling.  |    |
| 19:45 | 20:00 | 0.25    | 8,545      | 4-99   | Performed continuity test on fiber optics at 7,812'. Test indicated all five fiber-optic cables failed from 4,500' to 7,812'. Static temperature was 240 degrees Fahrenheit at 4,500'.  |    |
| 20:00 | 21:15 | 1.25    | 8,545      | 4-12-1 | Ran 7", 41#, T-110SS, Tenaris casing from 7,812' to set depth of 8,508'. Shoe set at 8,508' KB. Float collar at 8,414' KB. Note: All joints were torqued to manufactures optimum recommendation of 17,070 FT/LBS. Ran all 15-joints without filling. Thread locked last 3 joints in the hole below landing joint. |    |
| 21:15 | 21:30 | 0.25    | 8,545      | 4-99   | Performed continuity test on fiber optics at 8,508'. Test indicated all five fiber-optic cables failed from 3,933' to 8508'. Static temperature was 208 degrees Fahrenheit at 3,933'.   |    |
| 21:30 | 22:30 | 1.00    | 8,545      | 4-99   | Rigged down CRT tool. Rigged up cement head. Broke circulation.   |    |
| 22:30 | 0:00  | 1.50    | 8,545      | 3-5-1  | Circulated at 16 bbl's per min to cool well bore.  Mixed and pumped 4ppb Micro C while circulating. Cleaned and cleared floor while circulating.  |    |

## **Management Summary**

Ran 7", 41#, T-110SS, Tenaris casing from 2,380' to 3,722'.

Installed new spool of fiber-optic cable on unit. Ran fiber-optic cable to rig floor.

Spliced on new fiber-optic cable at 3,722'.

Ran 7", 41#, T-110SS, Tenaris casing from 3,711' to set depth of 8,508'. Rigged down CRT tool.

Rigged up cement head.

Broke circulation.

Circulated at 16 bbl's per min to cool well bore.

Mixed and pumped 4ppb Micro C while circulating.

Cleaned and cleared floor while circulating.

## Comments

Splice on new fiber-optic cable at 3,722'.

Performed continuity test on fiber optics every 15 joints while running casing.

Floats failed at 6,795' while running empty casing.

Performed continuity test on fiber optics at 7,070'.

Test indicated one of the five fiber-optic had failed at 4,000' from surface.

Performed continuity test on fiber optics at 7,812'.

Test indicated all five fiber-optic cables failed from 4,500' to 7,812'.

Static temperature was 240 degrees Fahrenheit at 4,500'.

Performed continuity test on fiber optics at 8,508'.

Test indicated all five fiber-optic cables failed from 3,933' to 8508'.

Static temperature was 208 degrees Fahrenheit at 3,933'.



## Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Field: UTAHFORGF

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT Report No: 28 Report For 24-Jul-21 Casing/Tubular Information Size Top MD Top TVD Bottom MD Bottom TVD OH Diam. Nom. Wgt. Nominal LOT Grade Type (ins) Section (ins) (lbs) (lbs/gal) **FULL** 16.000 0 416 SURF 22.000 65 K-55 0.61 11.750 0 2.990 14.750 **FULL** INT1 54 J-55 11.70 7.000 0 8,509 41 **FULL Mud Information** Gels Temp Mud Cake pH/ES Solids Oil Water Sand LGS CaCI 10m 30m ΥP Filt. CI Ca 10s In Out Loss 24-Jul-21 11:00 at Depth 8,540 ft Mud Pits, Type: Low Solids Non-Dispersed 8.30 98 0.01 800 120 2 2 2 98 105 **Mud Consumables Item Description** Qty. Cost **Item Description** Qty. Cost Engineering - EACH Other - EACH perdiem - OTHER **Miscellaneous Drilling Parameters** Slack Off: Hook Loads (lbs): Off Bottom Rotate: Pick Up: Drag Avg/Max: **Slow Circulation Data:** Pump 1: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Pump 2: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Pump 3: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Hours on BHA: Since Inspection: 114.75 **Total:** 114.75 Jars: Hours on Casing/Liner: Rotating: 92.51 Tripping: 197 *I* Wear Bushing Installed **Rig Information** Equipment Problems: None to report. **Location Condition:** Good. Transport: Received all 3.5" drill pipe anlong with handling tools and BHA. **Solids Control Information** Screen Sizes: Top Middle 1 Middle 2 **Bottom** Equipment Usage (Hrs): Shaker No 1: 120 Desander: 0 Desilter: 0 Degasser: 0 120 120 120 Shaker No 2: 120 120 120 120 Shaker No 3: 120 120 120 120 **Bulk Inventory** Item Type On Hand Units Beginning Used Received Net Rig Fuel 7.170 7.170 **Safety Information** Meetings/Drills Time Description Safety Two 30 min Pre tour safety meetings with both crews. Running 7" casing, hand and body placement. Cementing. 0 Lost Time Incidents: 0 Days Since LTI: **First Aid Treatments:** 0 Medical Treatments: **Accident Description:** None to report. ✓ Crownamatic Check BOP Test **Weather Information Sky Condition:** Cloudy Visibility: 10 Air Temperature: 68 degF Bar. Pressure: 28.97 Wind Speed/Dir: 10 / SE Wind Gusts: 2



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 29        |                    |                     |                |                  |                      |                 | Report For | 25-Jul-21   |
|----------------------|--------------------|---------------------|----------------|------------------|----------------------|-----------------|------------|-------------|
| Operator:            | University of Utah | n <b>Rig</b> :      | rontier Rig 1  | 6 Spud Date:     | 28-Jun-21            | Daily Cost / M  | lud (\$):  |             |
| Measured Depth (fi   | t): 8545           | 5 Last Casing:      | 7.000 at 8,50  | 9 Wellbore:      | Original Wellbore    | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft): | 8543               | Next Casing:        |                | RKB Elevation    | n (ft): 30.40        |                 |            |             |
| Proposed TD (ft):    | 9500               | Last BOP Test:      | 03-Jul-2       | 1 Job Reference  | RKB (ft):            |                 |            |             |
| Hole Made (ft) / Hrs | 0 / 0.0            | Next BOP Test:      | 24-Jul-2       | 1 Working Inter  | est:                 | Totals:         |            |             |
| Average ROP (ft/hr   | ·):                |                     |                |                  |                      | Well Cost (\$): |            |             |
| Drilling Days (act./ | plan): 29/21 F     | Flat Days (act./pla | <b>n):</b> 0/9 | Total Days (act. | <b>/plan):</b> 29/30 | Days On Loca    | ation:     | 29          |
| Pers/Hrs: Opera      | ator: 3 / 36 (     | Contractor:         | 14 / 168       | Service:         | 6 / 72 Other         | : 3/36          | Total:     | 26 / 312    |
|                      |                    |                     |                |                  |                      |                 |            |             |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Waited on cement.

Bled back 4 bbl's from casing to cement truck. Slacked off casing and monitored for 5 mins.

Removed cement head and lines. Cut Silixa fiber-optic cable.

Raised rotating head extension and made rough cut on 7" casing.

Planned Operations: Finish nippling down 13-5/8 BOPE. Install the 7" 10K wellhead, nipple up and test the 7-1/16" 10K BOP's.

**Toolpusher:** Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary   |          |
|-------|-------|---------|------------|--------|--|----------|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description   | Non-Prod |
| 0:00  | 2:30  | 2.50    | 8,545      | 3-5-1  | Circulated at 16 bbl's per min to cool well bore. Mixed and pumped 4ppb Micro C while circulating. Cleaned and cleared floor while circulating.  |          |
| 2:30  | 6:00  | 3.50    | 8,545      | 5-12-2 | Held safety meeting with all involved personal. Swapped lines to cement truck. Pumped cement as followed. Fill lines, pressure tested lines to 5,500 psi. Pumped 100 bbls of fresh water spacer@ 5 bpm. Pumped 20 bbls of RC Mud cleaner spacer @ 5 bpm. Pumped 10 bbls of fresh water spacer @ 5 bpm. Mixed and pumped 809 bbls of 12.7 ppg RC ThermaLite-HT cement @ 8 bpm. Note: Last 80 bbls of cement has 1.3% of retarder. Dropped top plug and displace with 273 bbls of fresh water. Bumped plug with 500 psi over circulating pressure a 3385 psi. CIP at 06:16 HRS on 7-25-2021. |          |
| 6:00  | 12:00 | 6.00    | 8,545      | 3-13   | Waited on cement while holding between 2800 psi and 3000 psi pressure on insid casing. Cement fell to 95' below KB.  | e of     |
| 12:00 | 13:00 | 1.00    | 8,545      | 5-12-2 | Mixed and pump 6 bbls of neat cement filling annulus from 95' to surface / CIP 13  | :00      |
| 13:00 | 0:00  | 11.00   | 8,545      | 3-13   | Waited on cement. Monitored cement samples while waiting on cement. Monitored temperature at 3,998' with Silixa fiber-optic cable. Monitored casing pressure with Resources Cementing. Bleeding pressure  Note: Temperature at 4,200' monitored with Silixa cable at 197 degrees fahrenheit 1100 hrs final temp at 0000 hrs reached 208 degrees fahrenheit.  | t. at    |

## **Management Summary**

Circulated at 16 bbl's per min to cool well bore.

Held safety meeting with all involved personal. Swapped lines to cement truck.

Pumped cement as per pump schedule.

Waited on cement .

Cement fell to 95' below KB.

Mixed and pump 6 bbl's of neat cement while waiting on cement.

#### Comments

Bumped plug with 3385 psi, (500 psi over displacement pressure). CIP at 06:16 HRS on 7-25-2021.

Had 126 bbl's of good cement to surface.

Held pressure on casing and bled back as necessary for thermal expansion.

Cement fell to 95' below KB.

Topped out with 6 bbls of neat cement. CIP at 13:00 7-25-2021. WOC.



## **Geothermal Resource Group, Inc.**

Well ID: Forge 78B-32

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 29 Report For 25-Jul-21 Casing/Tubular Information Size Top MD Top TVD Bottom MD Bottom TVD OH Diam. Nom. Wgt. Nominal LOT Grade Type (ins) Section (ins) (lbs) (lbs/gal) **FULL** 16.000 0 416 SURF 22.000 65 K-55 0.61 11.750 0 2,990 14.750 J-55 11.70 **FULL** INT1 54 7.000 0 0 8,509 8,507 **PROD** 41 T-110S **FULL Mud Information** Gels Temp Mud Cake pH/ES Solids Oil Water Sand LGS CI CaCI 10m 30m Out PV ΥP Filt. Ca 10s Loss In 25-Jul-21 11:00 at Depth 8,540 ft Mud Pits, Type: Low Solids Non-Dispersed 8.30 98 0.01 800 120 2 2 2 98 105 Mud Consumables **Item Description** Qty. Cost **Item Description** Qty. Cost Engineering - EACH Micro C - 50#SK 100 Other - EACH perdiem - OTHER **Rig Information Equipment Problems:** None to report. **Location Condition:** Good. Transport: None to report. Solids Control Information **Screen Sizes:** Top Middle 1 Middle 2 **Bottom** Equipment Usage (Hrs): Shaker No 1: Desander: 0 Desilter: 0 Degasser: 120 120 120 120 Shaker No 2: 120 120 120 120 Shaker No 3: 120 120 120 120 **Bulk Inventory** Received Item Type Units Beginning Used On Hand Net Rig Fuel **Safety Information** Meetings/Drills Time Description Safety Two 30 min Pre tour safety meetings with both crews.Pumping Cement. Nippling down BOP. forklift operations. 0 Medical Treatments: 0 Lost Time Incidents: 0 Days Since LTI: First Aid Treatments: **Accident Description:** None to report. **BOP Test** ✓ Crownamatic Check **Weather Information Sky Condition:** Partly cloudy Visibility: 10 Air Temperature: Bar. Pressure: 29.89 75 degF Wind Speed/Dir: 10 / SE Wind Gusts: 2



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 30         |                    |                       |              |                 |             |          |                 | Report For | 26-Jul-21   |
|-----------------------|--------------------|-----------------------|--------------|-----------------|-------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utal | n <b>Rig:</b> Fro     | ontier Rig 1 | 6 Spud Date:    | 28-         | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft    | ): 854             | Last Casing: 7.0      | 000 at 8,50  | 9 Wellbore:     | Original W  | Vellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 854                | Next Casing:          |              | RKB Elevation   | n (ft):     | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500               | Last BOP Test:        | 03-Jul-2     | 1 Job Referenc  | e RKB (ft): |          |                 |            |             |
| Hole Made (ft) / Hrs  | : 0/0.0            | Next BOP Test:        | 24-Jul-2     | 1 Working Inter | est:        |          | Totals:         |            |             |
| Average ROP (ft/hr    | ):                 |                       |              |                 |             |          | Well Cost (\$): |            |             |
| Drilling Days (act./p | olan): 30/21 l     | Flat Days (act./plan) | : 0/9        | Total Days (act | ./plan):    | 30/30    | Days On Loca    | ition:     | 30          |
| Pers/Hrs: Opera       | tor: 3 / 36        | Contractor:           | 14 / 168     | Service:        | 6 / 72      | Other:   | 3 / 36          | Total:     | 26 / 312    |
| Safatu Summanu        | Na incidente er ev | anta ranartad Candu   | atad Craus   | Charle Cafate M | aatina      |          |                 |            |             |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Tested casing along with BOPE.

Made up 5-3/4" TCl clean out assembly. Picked up 4-3/4" drill collars to 900'.

Picked up 3.5" drill pipe from 900' to 1,500' at report time.

**Planned Operations:** Trip in the hole with 5-3/4" clean out assembly to top of float collar.

Slip and cut drilling line.

Test annular along with pipe rams.

Drill out shoe track.

Clean out cement to 8,545'.

Perform xLOT.

Pull out of the hole and pick up 5 3/4" Directional Drilling Assembly.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

| Operations Summary |  |
|--------------------|--|
|--------------------|--|

| From  | То    | Elapsed | End MD(ft) | Code | Operations Description No   | on-Proc |
|-------|-------|---------|------------|------|---|---------|
| 0:00  | 3:00  | 3.00    | 8,545      | 3-13 | Waited on cement.  Monitored cement samples while waiting on cement.  Monitored temperature at 3,998' with Silixa fiber-optic cable.  Monitored casing pressure with Resources Cementing. Bleeding pressure as needed to maintain 2,700 psi on float collar.  | ı       |
| 3:00  | 6:00  | 3.00    | 8,545      | 6-14 | Bled back 4 bbl's from casing to cement truck. Slacked off casing and monitored for 5 mins. Removed cement head and lines. Cut Silixa fiber-optic cable. Raised rotating head extension and made rough cut on 7" casing. Laid out rotating head. Raised annular and made rough cut on 7" casing. Laid out annular.  |         |
| 6:00  | 12:00 | 6.00    | 8,545      | 6-14 | Remove double gate BOP and strip out fiber optic / Remove Drilling spool and strip out fiber optic / Extension spool 11"3000 X 13-5/8" 5000 and 7" cemented together / cut extension spool in half and chip out cement in lower half of spool while protecting the fiber optic.   |         |
| 12:00 | 13:00 | 1.00    | 8,545      | 6-14 | Rig up power tongs underneath substructure and back out landing joint removing the casing collar with it.   |         |
| 13:00 | 14:00 | 1.00    | 8,545      | 6-14 | Installed 7" riser nipple on the well head and torqued the well head to 17,070 ft/lbs to the 7" casing.   |         |
| 14:00 | 15:00 | 1.00    | 8,545      | 6-14 | Removed the riser nipple and install well head side valves with companion flanges   |         |
| 15:00 | 21:30 | 6.50    | 8,545      | 6-14 | Installed drilling spool w/ 2ea 2" 10K valves and 1- 2" 10K check valve on the kill side with a 2" 1502, and 1ea 4"10K manual valve and a 4" 10K hydraulic valve on the choke side / Installed 7-1/16" 10 K double gate BOP, Installed 7-16" 10K X 7-1/16" 15K crossover spool / installed 7-1/16" 10K annular BOP w/ 7-1/16" 15K lower flange and 7-1/16" 10K upper flange / installing 7-1/16" 10K riser nipple. Installed turn buckles. Function test BOP. |         |
| 21:30 | 23:00 | 1.50    | 8,545      | 3-15 | Rigged up pump truck to well head. Attempted to test truck prior to starting test. Unable to get a good test on the pump truck. Pressure leaking at the truck losing approximately 600 psi every 30 mins.   |         |
| 23:00 | 0:00  | 1.00    | 8,545      | 3-15 | Removed Pason transducer from stand-pipe and installed on 2" 10K valve on well head to monitor casing pressure. Tested casing along with inside choke valve and ou side kill check valve to 300 psi. held for 5 mins. good test. All test charted out on Pason.   | ıt      |
|       |       |         |            |      |   |         |



**Geothermal Resource Group, Inc.** 

Well ID: Forge 78B-32

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 30 Report For 26-Jul-21

Waited on cement.

Bled back 4 bbl's from casing to cement truck.

Slacked off casing and monitored for 5 mins.

Removed cement head and lines.

Cut Silixa fiber-optic cable 30' above rig floor.

Removed BOPE.

Rig up power tongs underneath substructure and back out landing joint.

Installed 7" 10k wellhead and torqued to 17,070 ft/lbs.

Set in and nippled up 7-1/16" 10K BOP's.

Tested casing to 300 psi low.

#### Comments

Cement at surface after 6 bbl top job.

Spacer spool on BOP had to be cut off due to being cemented up.

Unable to test BOP'S with cement pump truck due to pressure leaking at the truck and losing approximately 600 psi or 12% every 30 mins. Tested BOP'S with rig pump. Removed Pason transducer from stand-pipe and installed on 2" 10K valve on well head to monitor casing pressure during BOP test. All test were charted out on the Pason and witnessed by GRG supervisor.

| during BOP    | test. All t | est were | charted out    | t on the Paso   | n and witness     |         |             |               |        |                  |         |                  |          |                 |      |                |
|---------------|-------------|----------|----------------|-----------------|-------------------|---------|-------------|---------------|--------|------------------|---------|------------------|----------|-----------------|------|----------------|
|               |             |          |                |                 | Casing/           |         |             |               |        |                  |         |                  |          |                 |      |                |
| Туре          | Siz<br>(ins |          | Top MD<br>(ft) | Top TVD<br>(ft) | Bottom MD<br>(ft) |         | n TVD<br>t) | Hole<br>Secti |        | OH Diar<br>(ins) | n.      | Nom. Wg<br>(lbs) |          | ominal<br>Grade |      | LOT<br>os/gal) |
| FULL          | 16          | 000.6    | 0              |                 | 416               |         |             | S             | URF    | 22.0             | 000     | 6                | 35       | K-5             | 5    | 0.61           |
| FULL          | 11          | .750     | 0              |                 | 2,990             |         |             | -             | INT1   | 14.7             | 750     | 5                | 54       | J-5             | 5    | 11.70          |
| FULL          | 7           | 7.000    | 0              | 0               | 8,509             |         | 8,507       | PI            | ROD    |                  |         | 4                | 11       | T-1109          | 3    |                |
|               |             |          |                |                 |                   | ud Info | rmatio      | n             |        |                  |         |                  |          |                 |      |                |
|               |             |          |                |                 | %                 |         |             |               |        |                  |         | Gels             |          | Tei             | mp   | Mud            |
| Dens. Vis     |             |          | •              |                 | Oil Water         |         |             | CI            | Ca     | CaCl             | 10s     | 10m              | 30m      | ln              | Out  | Loss           |
|               | 1:00 at D   | epth 8,5 | 40 ft Mud F    | its, Type: Lo   | w Solids Non-     | Dispers | sed         |               |        |                  |         |                  |          |                 |      |                |
| 8.30 26       | 1           | 1        | 0 1            | 11 1            | 0 99              |         | 0           | 700           | 120    |                  |         | 1 1              | 1        | 98              | 105  |                |
|               |             |          |                |                 |                   |         | sumabl      | es            |        |                  |         |                  |          |                 |      |                |
|               |             | escripti | on             | Q               | •                 | ost     |             |               |        | Descripti        | on      |                  |          | Qty.            |      | Cost           |
| caustic Sod   |             | (        |                |                 | 2                 |         |             | ering -       |        |                  |         |                  |          | 1               |      |                |
| Other - EAC   | :H          |          |                |                 | 1                 |         |             | m - OTI       | HER    |                  |         |                  |          | 1               |      |                |
|               |             |          |                |                 | Ri                | ig Info | rmatio      | <u> </u>      |        |                  |         |                  |          |                 |      |                |
| Equipment     |             |          | e to report.   |                 |                   |         |             |               |        |                  |         |                  |          |                 |      |                |
| Location C    | ondition    | : God    | od.            |                 |                   |         |             |               |        |                  |         |                  |          |                 |      |                |
| Transport:    |             | Nor      | e to report.   |                 |                   |         |             |               |        |                  |         |                  |          |                 |      |                |
|               |             |          |                |                 | Solids            |         |             |               |        |                  |         |                  |          |                 |      |                |
| Screen Size   |             | Тор      | Middle 1       |                 | Bottom            |         | ment U      |               |        |                  |         |                  |          |                 |      |                |
| Shaker        |             | 120      |                |                 | 120               | Desar   | nder:       | 0             | Des    | silter: 0        |         | Degass           | ser:     | 0               |      |                |
| Shaker        |             | 120      |                |                 | 120               |         |             |               |        |                  |         |                  |          |                 |      |                |
| Shaker        | No 3:       | 120      | 120            | 120             | 120               |         |             |               |        |                  |         |                  |          |                 |      |                |
|               |             |          |                |                 |                   |         | ventory     |               |        |                  |         |                  |          |                 |      |                |
| 5             |             | Item Ty  | pe             |                 | Units             | В       | Beginnir    |               | Use    |                  | Rec     | eived            | On H     |                 | 1    | Net            |
| Rig Fuel      |             |          |                |                 |                   |         |             | 187           |        | 382              |         |                  |          | 9,805           |      |                |
| DD Ci         | la!         | .4-      | VA/a i aula 4  | Ounds           |                   |         | Invento     |               | 1-:    | 4-               | \A/~:   |                  | Cuada    |                 | Thu  |                |
| DP Size       | Joir        |          | Weight         | Grade           | Threa             | ıa      | DP S        | oize          | Joi    | nts              | Wei     | gnt              | Grade    | )               | Thre | ead .          |
| 3.5"          |             | 317      | 13.3           | S-135           | 3.5IF             | -4 I C  | 1°          |               |        |                  |         |                  |          |                 |      |                |
| Ma atimana /D | -:!!- 7     | ·!       |                |                 |                   | _       | ormati      | on            |        |                  |         |                  |          |                 |      |                |
| Meetings/D    | riiis i     | ime      | 20 min l       | Dra taur aafat  |                   | escript |             | linnlina      | down   | DOD for          | ldift o | narationa        | Draggi   | ıra taatiı      | ~~   |                |
| Safety        |             |          |                |                 | ty meetings w     |         |             |               |        |                  |         |                  |          |                 | ıg.  |                |
| First Aid Tr  |             |          |                | ical Treatme    | ents:             | U       | Lost Tir    | ne inci       | aents: |                  | 0       | Days Si          | ince L I | 1:              |      |                |
| Accident D    | •           |          | e to report.   | o Chacle        |                   |         |             |               |        |                  |         |                  |          |                 |      |                |
| BOP Te        | ST          | ✓ C      | rownamati      | ССпеск          |                   |         |             |               |        |                  |         |                  |          |                 |      |                |
|               |             |          |                |                 |                   |         |             |               |        |                  |         |                  |          |                 |      |                |
|               |             |          |                |                 |                   |         |             |               |        |                  |         |                  |          |                 |      |                |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 30 Report For 26-Jul-21

| Weather information |               |                |       |  |  |  |  |  |  |  |
|---------------------|---------------|----------------|-------|--|--|--|--|--|--|--|
| Sky Condition:      | Partly Cloudy | Visibility:    | 10    |  |  |  |  |  |  |  |
| Air Temperature:    | 73 degF       | Bar. Pressure: | 29.89 |  |  |  |  |  |  |  |
| Wind Speed/Dir:     | 6 / SE        | Wind Gusts:    | 3     |  |  |  |  |  |  |  |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 31         |                      |                     |               |                  |                   |                   | Report For | r 27-Jul-21 |
|-----------------------|----------------------|---------------------|---------------|------------------|-------------------|-------------------|------------|-------------|
| Operator:             | University of Utah   | Rig: Fi             | rontier Rig 1 | 6 Spud Date:     | 28-Jun-           | 21 Daily Cost / I | Mud (\$):  |             |
| Measured Depth (ft)   | : 8545               | Last Casing: 7      | .000 at 8,50  | 9 Wellbore:      | Original Wellbo   | ore AFE No.       | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 8543                 | Next Casing:        |               | RKB Elevation    | n (ft): 30.       | 40                |            |             |
| Proposed TD (ft):     | 9500                 | Last BOP Test:      | 27-Jul-2      | 1 Job Reference  | RKB (ft):         |                   |            |             |
| Hole Made (ft) / Hrs  | 0 / 12.0             | Next BOP Test:      | 28-Aug-2      | 1 Working Inter  | est:              | Totals:           |            |             |
| Average ROP (ft/hr)   | : 0.0                | )                   |               |                  |                   | Well Cost (\$)    | :          |             |
| Drilling Days (act./p | lan): 31/21 <b>F</b> | lat Days (act./plan | <b>):</b> 0/9 | Total Days (act. | /plan): 31/       | 30 Days On Loc    | ation:     | 31          |
| Pers/Hrs: Opera       | tor: 3 / 36 C        | Contractor:         | 14 / 168      | Service:         | 3 / 36 <b>Oth</b> | er: 3 / 36        | Total:     | 23 / 276    |

Safety Summary: No incidents or events reported. Conducted BOP Test, Crown Check, Safety Meeting.

Current Operations: Circulated bottoms up Prior to testing casing.

Tested pipe rams along with annular 300 psi low to 5,200 psi high.

Drilled out cement and shoe track from 8,364" to 8,508'.

Drilled 5-3/4" hole from 8,545' to 8,555'. Rigged up Resource cementing pump truck. Troubleshoot pressure gage on truck. Slipped and cut drilling line.

Planned Operations: Perform xLOT.

Trip out of the hole from 8,482'.

Make up 5-3/4" directional assembly.

Trip in the hole to 8,555'.

Drill 5-3/4" hole section from 8,555'.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

| TTOMOREO C | uperviso | 13. vg  | i vvcion , bne | ar Groonam | Operations Summary   |
|------------|----------|---------|----------------|------------|--|
| From       | То       | Elapsed | End MD(ft)     | Code       | Operations Summary  Operations Description  Non-Pr   |
| 0:00       | 3:00     | 3.00    | 8,545          |            | Tested casing along with inside choke valve and out side kill check valve to 5,200 psi. held for 30 mins. good test.  Tested outside valve on mud-cross along with inside kill valve to 300 psi low, 5200 high. Held low test for 5 mins held high test for 10 mins.  Tested 3 outside valves on the choke to 300 psi low, 5200 high. Held low test for 5 mins held high test for 10 mins.  Tested 3 middle valves on the choke to 300 psi low 5200 high. Held low test for 5 mins held high test for 10 mins.  Tested 3 inside valves on choke to 300 psi low 5200 high. Held low test for 5 mins held high test for 10 mins.  All test charted out on Pason. |
| 3:00       | 5:30     | 2.50    | 8,545          | 3-34-3     | Picked up 4 3/4" drill collar. Make up 5-3/4" TCl bit. Picked up 29 joints of 4-3/4" drill collars. Tripped in the hole to 900'.   |
| 5:30       | 7:15     | 1.75    | 8,545          | 3-34-1     | Picked up 3.5" drill pipe from 900' to 2,003' @07:15 noticed a slip die missing from rented slips.   |
| 7:15       | 9:00     | 1.75    | 8,545          | 3-97       | Open doors on BOP and search for slip die  |
| 9:00       | 12:00    | 3.00    | 8,545          | 3-6-4      | Tripped out of the hole with drill pipe from 2,003' with BOP doors open looking for lost slip die.   |
| 12:00      | 14:00    | 2.00    | 8,545          | 6-14       | Once at top of drill collars close blind ram doors, Rigged up slings to lift BOP while pulling drill collars. Pick stack up 1 foot and chained off to sub substructure and block between wellhead and BOP Release pick up slings   |
| 14:00      | 15:00    | 1.00    | 8,545          | 3-6-2      | Pulled out of the hole with 10 stands of drill collars to bit looking for slip die.  |
| 15:00      | 16:00    | 1.00    | 8,545          | 6-14       | Remove BOP hanging system and Nipple BOP back up / Pull last stand of collars / no markings on bit to indicate slip die had passed / close blind rams and function pipe rams and Annular BOP / nothing fell on top of blind rams.  |
| 16:00      | 16:30    | 0.50    | 8,545          | 3-6-1      | RIH w/ bit and drill collars to 900'.  |
| 16:30      | 0:00     | 7.50    | 8,545          | 3-6-3      | Picked up 3.5" drill pipe and run in the hole to 8,400'.   |

## Management Summary

Tested casing along with inside choke valve and out side kill check valve to 300 psi low and 5200 psi high.

Held low test for 5 mins - good test.

Held high test for 30 mins - good test.

Picked up 4 3/4" drill collars.

Made up 5-3/4" TCI bit.



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 31 Report For 27-Jul-21

Picked up 29 joints of 4-3/4" drill collars.

Tripped in the hole to 900'.

Picked up 3 1/2" drill pipe from 900' to 2,003'. Found one 3 1/2" slip insert die missing.

Tripped out of the hole with drill pipe from 2,003' with BOP doors open looking for lost slip die.

Rigged up slings to lift BOP while pulling drill collars.

Picked up stack 1 foot and chained off to sub substructure.

Pulled out of the hole with 10 stands of drill collars to bit looking for slip die with no results.

Remove BOP hanging system and Nippled BOP back up.

Pulled last stand of collars / no markings on bit to indicate slip die had passed.

Closed blind rams and function pipe rams and Annular BOP / no indication of die on top of blind rams.

Ran in hole with bit and drill collars to 900'.

Picked up 3.5" drill pipe and ran in the hole to 8,400'.

#### Comments

At 07:15 noticed a slip die missing from rented slips. Unable to find it on floor or in cellar.

Pulled out of the hole looking for slip die

|                            | No markings on bit to indicate slip die had dropped down the hole.  |      |              |         |               |           |               |        |              |         |             |              |        |           |      |                  |     |                  |     |               |
|----------------------------|---|------|--------------|---------|---------------|-----------|---------------|--------|--------------|---------|-------------|--------------|--------|-----------|------|------------------|-----|------------------|-----|---------------|
| Casing/Tubular Information |   |      |              |         |               |           |               |        |              |         |             |              |        |           |      |                  |     |                  |     |               |
| Туре                       |   |      | Size<br>ins) | T       | op MD<br>(ft) |           | p TVD<br>(ft) |        | om MD<br>ft) |         | n TVD<br>t) | Hol<br>Secti |        | OH Dia    | m. I | Nom. Wo<br>(lbs) | •   | lominal<br>Grade |     | LOT<br>s/gal) |
| FULL                       |   |      | 16.000       | )       |               | 0         |               |        | 416          |         |             | S            | URF    | 22.0      | 000  |                  | 65  | K-5              | 5   | 0.61          |
| FULL                       |   |      | 11.750       | )       |               | 0         |               |        | 2,990        |         |             |              | INT1   | 14.7      | 750  |                  | 54  | J-5              | 5   | 11.70         |
| FULL                       |   |      | 7.000        | )       |               | 0         | 0             |        | 8,509        |         | 8,507       | Р            | ROD    |           |      |                  | 41  | T-110            | 3   |               |
|                            |   |      |              |         |               |           |               |        | Mu           | ıd Info | rmatio      | on           |        |           |      |                  |     |                  |     |               |
|                            |   |      |              |         |               |           |               | (      | %            |         |             |              |        |           |      | Gels             |     | Tei              | np  | Mud           |
| Dens. V                    | 'is   | PV   | YP           | Filt.   | Cake          | pH/ES     | Solids        | Oil    | Water        | Sand    | LGS         | CI           | Ca     | CaCl      | 10s  | 10m              | 30m | In               | Out | Loss          |
| 27-Jul-2                   | 1 11:   | 00 a | t Depth      | า 8,540 | ) ft Mu       | d Pits, 1 | ype: Lo       | w Soli | ds Non-      | Dispers | sed         |              |        |           |      |                  |     |                  |     |               |
| 8.30                       | 26  | 0    | 1            | 0       | 1             | 11        | 1             | 0      | 99           | 0.01    | 0           | 700          | 120    |           | ,    | 1 1              |     | 1 98             | 105 |               |
|                            |   |      |              |         |               |           |               |        | Muc          | Cons    | sumab       | les          |        |           |      |                  |     |                  |     |               |
|                            |   | Iten | n Desc       | riptio  | n             |           | Q             | ty.    | Co           | st      |             |              | Item E | Descripti | ion  |                  |     | Qty.             | (   | Cost          |
| Engineer                   | Item Description         Qty.         Cost         Item Description         Qty.         Cost           ngineering - EACH         1          Other - EACH         1 |      |              |         |               |           |               |        |              |         |             |              |        |           |      |                  |     |                  |     |               |

|                    | inda Consumation |      |                  |      |      |  |  |  |  |  |  |  |  |
|--------------------|------------------|------|------------------|------|------|--|--|--|--|--|--|--|--|
| Item Description   | Qty.             | Cost | Item Description | Qty. | Cost |  |  |  |  |  |  |  |  |
| Engineering - EACH | 1                |      | Other - EACH     | 1    |      |  |  |  |  |  |  |  |  |
| perdiem - OTHER    | 1                |      |                  |      |      |  |  |  |  |  |  |  |  |

### **Rig Information**

**Equipment Problems:** Rental slips from Weatherford missing die segment.

**Location Condition:** Good.

Transport: Received 5-3/4" mill, junk basket,5-3/4" magnet.

|                | Solids Control Information  |     |     |     |           |   |           |   |             |  |  |  |
|----------------|---|-----|-----|-----|-----------|---|-----------|---|-------------|--|--|--|
| Screen Sizes:  | Screen Sizes: Top Middle 1 Middle 2 Bottom Equipment Usage (Hrs): |     |     |     |           |   |           |   |             |  |  |  |
| Shaker No 1:   | 175   | 175 | 175 | 175 | Desander: | 0 | Desilter: | 0 | Degasser: 0 |  |  |  |
| Shaker No 2:   | 175   | 175 | 175 | 175 |           |   |           |   |             |  |  |  |
| Shaker No 3:   | 175   | 175 | 175 | 175 |           |   |           |   |             |  |  |  |
| Bulk Inventory |   |     |     |     |           |   |           |   |             |  |  |  |

|             | Item Type            | Units        | Beginning | Used   | Received | On Hand | Net    |  |  |  |  |  |
|-------------|----------------------|--------------|-----------|--------|----------|---------|--------|--|--|--|--|--|
| Rig Fuel    |                      |              | 9,805     |        |          | 9,805   |        |  |  |  |  |  |
|             | Drill Pipe Inventory |              |           |        |          |         |        |  |  |  |  |  |
| DP Size Joi | nts Weight           | Grade Thread | DP Size   | Joints | Weight   | Grade   | Thread |  |  |  |  |  |

|         | Drill Pipe Inventory |        |       |        |         |        |        |       |        |  |  |  |
|---------|----------------------|--------|-------|--------|---------|--------|--------|-------|--------|--|--|--|
| DP Size | Joints               | Weight | Grade | Thread | DP Size | Joints | Weight | Grade | Thread |  |  |  |
| 3.      | 5" 317               | 13.3   | S-135 | 3.5IF  |         |        |        |       |        |  |  |  |

| Safety Information             |  |  |             |  |  |  |  |  |  |  |  |  |  |
|--------------------------------|--|--|-------------|--|--|--|--|--|--|--|--|--|--|
| Meetings/Drills                | Time   |  | Description |  |  |  |  |  |  |  |  |  |  |
| Safety                         | Safety 60 Two 30 min Pre tour safety meetings with both crews Nippling down BOP. Picking up BHA. Picking up 3.5" drill pipe. |  |             |  |  |  |  |  |  |  |  |  |  |
| First Aid Treatme              | First Aid Treatments: 0 Medical Treatments: 0 Lost Time Incidents: 0 Days Since LTI:   |  |             |  |  |  |  |  |  |  |  |  |  |
| Accident Descrip               | Accident Description: None to report.  |  |             |  |  |  |  |  |  |  |  |  |  |
| ✓ BOP Test ✓ Crownamatic Check |  |  |             |  |  |  |  |  |  |  |  |  |  |
|                                |  |  |             |  |  |  |  |  |  |  |  |  |  |



# Geothermal Resource Group, Inc.

Well Name: 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 31 Report For 27-Jul-21

| weather information |               |                |       |  |  |  |  |  |  |  |
|---------------------|---------------|----------------|-------|--|--|--|--|--|--|--|
| Sky Condition:      | Partly Cloudy | Visibility:    | 10    |  |  |  |  |  |  |  |
| Air Temperature:    | 75 degF       | Bar. Pressure: | 29.89 |  |  |  |  |  |  |  |
| Wind Speed/Dir:     | 6 / SE        | Wind Gusts:    | 2     |  |  |  |  |  |  |  |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report For 28-Jul-21

| Report No. 32         |                    |                     |                 |                  |             |          |                 | Report For | 20-Jui-2 i  |
|-----------------------|--------------------|---------------------|-----------------|------------------|-------------|----------|-----------------|------------|-------------|
| Operator:             | University of Utal | n Rig:              | Frontier Rig 1  | 6 Spud Date:     | 28-         | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (ft)   | ): 8950            | Last Casing:        | 7.000 at 8,50   | 9 Wellbore:      | Original W  | /ellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft):  | 8947               | 7 Next Casing:      |                 | RKB Elevation    | n (ft):     | 30.40    |                 |            |             |
| Proposed TD (ft):     | 9500               | Last BOP Test:      | : 27-Jul-2      | 1 Job Reference  | e RKB (ft): |          |                 |            |             |
| Hole Made (ft) / Hrs  | : 405 / 13.5       | Next BOP Test       | : 24-Jul-2      | 1 Working Inter  | est:        |          | Totals:         |            |             |
| Average ROP (ft/hr)   | : 30.0             | 0                   |                 | LOT (lbs/gal):   |             | 15.00    | Well Cost (\$): |            |             |
| Drilling Days (act./p | lan): 32/21 l      | Flat Days (act./pla | <b>in):</b> 0/9 | Total Days (act. | ./plan):    | 32/30    | Days On Loca    | ition:     | 32          |
| Pers/Hrs: Opera       | tor: 3 / 36        | Contractor:         | 14 / 168        | Service:         | 3 / 36      | Other:   | 3 / 36          | Total:     | 23 / 276    |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Drilled from 8,950 to 9,500' at report time.

Planned Operations: Circulate hole clean.

Trip out of the hole. Lay out drill collars.

Trip in the hole with 3.5" drill pipe.

Rig up logger and log.

Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary   |         |
|-------|-------|---------|------------|--------|--|---------|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description No  | on-Prod |
| 0:00  | 0:30  | 0.50    | 8,545      | 03-051 | Circulated bottoms up Prior to testing.  |         |
| 0:30  | 1:45  | 1.25    | 8,545      | 3-15   | Tested pipe rams to 300 psi low, 5200 high. Held low test for 5 mins held high test fo 10 mins. Good test.  Tested annular to 300 psi low, 5200 high. Held low test for 5 mins held high test for 10 mins. Good test.  | r       |
| 1:45  | 2:30  | 0.75    | 8,545      | 3-28   | Drilled out cement and shoe track from 8,364" to 8,508'. Good cement in shoe.  Observed 1' of good cement outside of the shoe. Cleaned out rat hole from 8,508' to 8,545'.  Note: Float collar did not take any weight while drilling out.  Note: Pumped 2-5 gallon buckets of Poly Vis along with 25 pounds of torkease mixed in 40 bbl's of water.             | I       |
| 2:30  | 3:30  | 1.00    | 8,555      | 3-99   | Drilled 5-3/4" hole from 8,545' to 8,555'.   |         |
| 3:30  | 4:00  | 0.50    | 8,555      | 3-5-1  | Circulated bottoms up prior to performing XLOT.  |         |
| 4:00  | 5:00  | 1.00    | 8,555      | OTHER  | Rigged up Resource cementing pump truck. Troubleshoot pressure gage on truck.  |         |
| 5:00  | 6:00  | 1.00    | 8,555      | CUTDL  | Slipped and cut drilling line.   |         |
| 6:00  | 8:00  | 2.00    | 8,555      | 3-46   | Conducted xLOT with Resource bleed back was 2.5 bbl with both low and high rates   |         |
| 8:00  | 11:30 | 3.50    | 8,555      | 3-6-4  | Pulled out of the hole and lay down bit.   |         |
| 11:30 | 12:00 | 0.50    | 8,555      | SERV   | Serviced Rig.  |         |
| 12:00 | 14:00 | 2.00    | 8,555      | 3-34-3 | Picked up 5-3/4" directional drilling assembly. NOTE: hole took 25 bbls of fluid to fill while picking up tools avg loss is 12.5 bbl/hour  | X       |
| 14:00 | 20:00 | 6.00    | 8,555      | 3-6-3  | Tripped in the hole with drill pipe filling pipe at 4,000' 6,000'. Staged in the hole every 50' from 7,000' to 8,150'. Washed down from 8,150' to 8,555' to keep tools under 345 degrees. Max temperature observed was 345 degrees at MWD. Note: Lost connection with MWD once on bottom. Recycled pump 3 times and was able to regained communication with MWD. |         |
| 20:00 | 20:30 | 0.50    | 8,615      | 3-2-3  | Drilled 5-3/4" hole from 8,555' to 8,615'.   |         |
| 20:30 | 21:30 | 1.00    | 8,654      | 3-2-3  | Slide Drilled 5-3/4" from 8,615' to 8,654'.  |         |
| 21:30 | 22:00 | 0.50    | 8,709      | 3-2-3  | Drilled 5-3/4" hole from 8,654' to 8,709'.   |         |
| 22:00 | 22:30 | 0.50    | 8,742      | 3-2-3  | Slide Drilled 5-3/4" from 8,709' to 8,742'.  |         |
| 22:30 | 0:00  | 1.50    | 8,950      | 3-2-3  | Drilled 5-3/4" hole from 8,742' to 8,950'.   |         |

### **Management Summary**

Circulated bottoms up prior to testing.

Tested pipe rams to 300 psi low, 5200 high. Held low test for 5 mins held high test for 10 mins. Both test good.

Tested annular to 300 psi low, 5200 high. Held low test for 5 mins held high test for 10 mins. Both test good.

Drilled out cement and shoe track from 8,364" to 8,508'.

Drilled 5-3/4" hole from 8,545' to 8,555'.

Circulated bottoms up prior to performing xLOT.



Well ID: Forge 78B-32

Field: UTAHFORGE

# Geothermal Resource Group, Inc.

Well Name: 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 32 Report For 28-Jul-21

Rigged up Resource cementing pump truck.

Troubleshoot pressure gage on truck.

Slipped and cut drilling line.

Conducted xLOT with Resource cementing pump truck.

Pulled out of the hole and lay down bit.

Serviced Rig.

Picked up 5-3/4" directional drilling assembly.

Tripped in the hole with drill pipe filling pipe at 4,000' 6,000'.

Staged in the hole every 500' from 7,000' to 8,150'.

Washed down from 8,150' to 8,555' to keep tools under 345 degrees.

Drilled 5-3/4" hole from 8,555' to 8,950'.

### Comments

Float collar did not take any weight while drilling out.

Pumped 2-5 gallon buckets of Poly Vis along with 25 pounds of Torkease mixed in 40 bbl's of water while drilling 10' rat hole.

Lost connection with MWD once on bottom. Recycled pump 3 times and was able to regained communication with MWD.

Performed WOB step test at 8,555'

Slide drilled 5-3/4" from 8,615' to 8,654'.

Slide drilled 5-3/4" from 8,709' to 8,742'.

Performed RPM step test at 8,835'.

|      |               |                |                 | Casing/           | Tubular Info       | rmation         |                   |                    |                  |                  |
|------|---------------|----------------|-----------------|-------------------|--------------------|-----------------|-------------------|--------------------|------------------|------------------|
| Туре | Size<br>(ins) | Top MD<br>(ft) | Top TVD<br>(ft) | Bottom MD<br>(ft) | Bottom TVD<br>(ft) | Hole<br>Section | OH Diam.<br>(ins) | Nom. Wgt.<br>(lbs) | Nominal<br>Grade | LOT<br>(lbs/gal) |
| FULL | 16.000        | 0              |                 | 416               |                    | SURF            | 22.000            | 65                 | K-55             | 0.61             |
| FULL | 11.750        | 0              |                 | 2,990             |                    | INT1            | 14.750            | 54                 | J-55             | 11.70            |
| FULL | 7.000         | 0              | 0               | 8,509             | 8,507              | PROD            | 10.625            | 41                 | T-110S           | 15.00            |

|        |      |      |        |         |         |                  |         | Mud Inf      | formati | on |    |      |     |      |     |    |     |      |
|--------|------|------|--------|---------|---------|------------------|---------|--------------|---------|----|----|------|-----|------|-----|----|-----|------|
|        |      |      |        |         |         |                  |         | %            |         |    |    |      |     | Gels |     | Te | mp  | Mud  |
| Dens.  | Vis  | PV   | ΥP     | Filt.   | Cake    | pH/ES Solids     | Oil     | Water San    | d LGS   | CI | Ca | CaCl | 10s | 10m  | 30m | ln | Out | Loss |
| 20 111 | 24.2 | 1.00 | ot Dor | th 0 62 | C ft Mu | d Dita. Typo: Lo | 44 Cali | da Non Diana | rood    |    |    |      |     |      |     |    |     |      |

28-Jul-21 21:00 at Depth 8,626 ft Mud Pits, Type: Low Solids Non-Dispersed 8.30 99 0.01 700 120 100 1 82 11

|                           |      | Mud Cons | sumables                    |      |      |
|---------------------------|------|----------|-----------------------------|------|------|
| Item Description          | Qty. | Cost     | Item Description            | Qty. | Cost |
| AIUMINUM sTEARATE - 50#SK | 2    |          | caustic Soda - 50#SK        | 1    |      |
| Engineering - EACH        | 1    |          | MicA - 50#SK                | 5    |      |
| Other - EACH              | 1    |          | perdiem - OTHER             | 1    |      |
| polyvis - 5GAL            | 2    |          | TORKease concentrate - 5GAL | 1    |      |
| Trucking - EACH           | 1    |          |                             |      |      |

|                                |     |         |       |       |          | E    | Bit/BH/ | 4/Work  | string | Infor | matior  | 1      |       |      |               |        |        |         |     |
|--------------------------------|-----|---------|-------|-------|----------|------|---------|---------|--------|-------|---------|--------|-------|------|---------------|--------|--------|---------|-----|
| Depth This Run R.O.P. Mud Pump |     |         |       |       |          |      |         |         |        |       |         |        |       |      |               |        |        |         |     |
| No I                           | Rur | Make    | Model | Diam  | In       | Dist | Hrs     | Avg     | Max    | WOB   | RPM     | Torque | ∍ Wt  | Flow | Press         | J. Vel | P. Drp | HHP     | JIF |
| 16                             | 1   | BAKER   | STX   | 5.750 | 8545     | 10   | 1       | 10.0    | 18.0   | 16    | 45      | 4      | 8     | 300  | 1360          | 129    | 124    | 22      | 166 |
| Jets                           | : 1 | 8 18 18 |       |       | Out: 855 | 5    | Grade:  | Cutter: | 1/     | 1 Du  | ılı: WT | /NO    | Wear: | S Br | <b>gs</b> : 0 | Gge:   | 0      | Pull: E | ЗНА |
| 17                             | 1   | REED    | TKC63 | 5.750 | 8555     | 395  | 3.5     | 112.9   | 278.0  | 30    | 30      | 5      | 8     | 300  | 2760          | )      |        |         |     |
| Jets                           | :   |         |       |       | Out:     |      | Grade:  | Cutter: | 1      | Dι    | ıll:    | 1      | Wear: | Br   | gs:           | Gge:   |        | Pull:   |     |

BHA - No. 22 - BIT, MMTR, 2 MONEL, OTHER, MONEL, 30 DC = 1020.17

|            |  |  |       |     | Drillii | ng Param | eters |     |     |     |          |       |
|------------|--|--|-------|-----|---------|----------|-------|-----|-----|-----|----------|-------|
| Depth      | (ft)   | ROP (ft/hr) WOB (lbs) RPM Torque (ft lbs) Flow (gals/min) Pressu |       |     |         |          |       |     |     |     | Pressure |       |
| From       | То   | Avg  | Max   | Avg | Max     | Avg      | Max   | Avg | Max | Avg | Max      | (psi) |
| 8,555      | 8,950  | 200.0  | 268.0 | 30  | 30      | 30       | 50    | 5   | 6   | 280 | 300      | 2,760 |
| Annular Ve | Annular Velocity: Drill Collars: 681.0 Drill Pipe: 321.0 |  |       |     |         |          |       |     |     |     |          |       |

Annular Velocity: Drill Collars: 681.0 **Drill Pipe:** 

Slide Drilled 5-3/4" from 8,615' to 8,654'. Comments:

Slide Drilled 5-3/4" from 8,709' to 8,742'.



Geothermal Resource Group, Inc.

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No:  |                                      |  |   |   |                 |   |   |                          |                      |                 |              |                  |            |                     |
|---|--------------------------------------|--|---|---|-----------------|---|---|--------------------------|----------------------|-----------------|--------------|------------------|------------|---------------------|
|   | 32                                   |  |   |   | N4:             | -U D  | -:!!!: D  | 4                        |                      |                 |              | Repo             | rt For 28  | -Jul-21             |
| Hook Loods (III   |                                      | Off Bott   | om Doto   | <b>.</b>  |                 |   | rilling Paran   |                          |                      | wa a Arra/M     | <b>-</b>     | 210              |            |                     |
| Hook Loads (II<br>Slow Circulation  |                                      |  | om Rotat  | te:   | 1/8 P           | ick Up: 1   | 85 Slack Off  |                          | 170 <b>D</b>         | rag Avg/M       | ax:          | 3/8              |            |                     |
|   |                                      |  | <b>n</b>  | 110   | noi             | 40 anm  | 21/   | noi                      | 5                    | 0 onm           | 2            | 11 psi           |            |                     |
| Pump  |                                      | 30 spr   |   |   |                 | 40 spm  |   | psi                      |                      | 0 spm           |              |                  |            |                     |
| Pump  |                                      | 30 spr   |   | 110   |                 | 40 spm  |   | psi                      |                      | 0 spm           |              | 11 psi           |            |                     |
| Pump  |                                      | 30 spr   |   | 110   |                 | 40 spm  |   | psi                      | 5                    | 0 spm           | 3            | 11 psi           |            |                     |
| Hours on BHA  |                                      |  | Inspecti  |   | 4.5             |   | .5 <b>Jars:</b>   | 0                        |                      |                 |              |                  |            |                     |
| Hours on Casi   | ng/Line                              | r: Rotat   | ing:  | 4.5   | / 0             | Trippi  |   |                          |                      | Wear Bus        | hing In      | stalled          |            |                     |
|   |                                      |  |   |   |                 | Survey li   | nformation  |                          |                      |                 |              |                  |            |                     |
|   | rvey                                 | Meas.  |   |   |                 |   |   | Vert                     |                      |                 | dinates<br>- |                  |            |                     |
| -   | /pe                                  | Depth  | Inc.  |   | muth            | TVD   | Closure   | Sec                      |                      | N-S             | 1            | -W               | D.L.S.     |                     |
|   | WD                                   | 8,558.0  | 2.78  |   | 264.5           | 8,556.1   | 50.4  |                          | -33.0                | S 33.0          |              | 38.1             | 1.136      |                     |
|   | ND                                   | 8,653.0  | 2.31  |   | 307.2           | 8,651.0   | 52.8  |                          | -32.1                | S 32.1          |              | 42.0             | 2.006      |                     |
|   | WD                                   | 8,743.0  | 0.99  |   | 21.4            | 8,741.0   | 52.7  |                          | -30.2                | S 30.2          |              | 43.1             | 2.501      |                     |
| M\  | WD                                   | 8,843.0  | 0.92  |   | 283.7           | 8,841.0   | 52.5  | -                        | -29.2                | S 29.2          | W            | 43.6             | 1.438      |                     |
|   |                                      |  |   |   |                 | Mud Log I   | nformation  |                          |                      |                 |              |                  |            |                     |
| Depth (ft)  |                                      | TVD (f   |   |   | Gas (U          |   | Gas   |                          | Drilling             | Pore            | Mud          | Shale            |            | OP                  |
|   | o                                    | From   | То  | Avg   | Max             | at Depth  | Connect. T  | rip                      | Ехр.                 | Press           | Dens.        | Dens.            | Shale      | Sand                |
|   | 3,950                                | 8,552  | 8,947   |   |                 |   |   |                          |                      |                 |              |                  |            |                     |
| Formation Nar   | ne:                                  |  |   |   |                 |   |   |                          |                      |                 |              |                  |            |                     |
|   |                                      |  |   |   |                 |   |   |                          |                      |                 |              |                  |            |                     |
| Lithology:  | 10                                   | 0% Granodi   | orite   |   |                 |   |   |                          |                      |                 |              |                  |            |                     |
| Lithology:  | 10                                   | 0% Granodi   | orite   |   |                 | Rig Info  | ormation  |                          |                      |                 |              |                  |            |                     |
|   |                                      |  |   |   |                 | Rig Info  | ormation  |                          |                      |                 |              |                  |            |                     |
|   | blems                                |  |   |   |                 | Rig Info  | ormation  |                          |                      |                 |              |                  |            |                     |
| Equipment Pro   | blems                                | None to re   | eport   | slips fro   | om Wea          |   | ormation  |                          |                      |                 |              |                  |            |                     |
| Equipment Pro<br>Location Cond<br>Transport:  | blems                                | None to r  | eport   | slips fro   |                 | atherford.  |   | on                       |                      |                 |              |                  |            |                     |
| Equipment Pro<br>Location Cond<br>Transport:  | blems                                | None to re<br>Good.<br>Received  | eport<br>new 3.5"   |   |                 | atherford.<br>Solids Contr  | ol Informatio   |                          |                      |                 |              |                  |            |                     |
| Equipment Pro Location Cond Transport: Screen Sizes:  | bblems:                              | None to re<br>Good.<br>Received  | eport new 3.5"  | Middle 2  | 2 Bo            | atherford.<br>Solids Contr<br>ttom Equi   | ol Informatio   | (Hrs):                   | esilter:             | 0 D             | Jegasse      | r: 0             |            |                     |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No   | oblems:<br>lition:                   | None to regord.  Received  Top Mi  | eport  new 3.5"  ddle 1  175                                      | Middle 2  | 2 Bo            | atherford.  Solids Contr  ttom Equi  175 Desa   | ol Information<br>pment Usage<br>under: 0   | (Hrs):<br>De             | esilter:             |                 | egasse       |                  | (Solids R  | emoval              |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No   | bblems:<br>lition:<br>1:             | None to region Good. Received  Top Mi 175 175  | eport  new 3.5"  ddle 1  175  175                                 | <b>Middle 2</b><br>175<br>175                               | 2 Bo            | atherford.  Solids Contr  ttom Equi  175 Desa   | ol Informatio   | (Hrs):<br>De             |                      |                 | _            |                  | (Solids Re | emoval              |
| Equipment Pro<br>Location Cond<br>Transport:<br>Screen Sizes:<br>Shaker No  | bblems:<br>lition:<br>1:             | None to regord.  Received  Top Mi  | eport  new 3.5"  ddle 1  175                                      | Middle 2  | 2 Bo            | atherford.  Solids Contr  ttom Equi  175 Desa  175 Cent   | ol Information<br>pment Usage<br>under: 0<br>rifuge 1: 12 (   | (Hrs):<br>De             |                      |                 | _            |                  | (Solids Re | emoval              |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No   | bblems:<br>lition:<br>1:<br>2:<br>3: | None to region of the second o | eport  new 3.5"  ddle 1  175  175                                 | <b>Middle 2</b><br>175<br>175                               | 2 Bo            | atherford.  Solids Contr  ttom Equi  175 Desa  175 Cent  175 Bulk Ir  | ol Information pment Usage ander: 0 rifuge 1: 12 (  | (Hrs):<br>De<br>Solids F | Removal)             | С               | entrifuç     | <b>ge 2</b> : 12 |            | ,                   |
| Equipment Pro<br>Location Cond<br>Transport:<br>Screen Sizes:<br>Shaker No<br>Shaker No   | bblems:<br>lition:<br>1:<br>2:<br>3: | None to region Good. Received  Top Mi 175 175  | eport  new 3.5"  ddle 1  175  175                                 | <b>Middle 2</b><br>175<br>175                               | 2 Bo            | atherford.  Solids Contr  ttom Equi  175 Desa  175 Cent  175 Bulk Ir  | ol Information pment Usage ander: 0 rifuge 1: 12 (inventory Beginning   | (Hrs):<br>De             | Removal)             |                 | entrifuç     | ge 2: 12         | ı          | emoval <sub>j</sub> |
| Equipment Pro<br>Location Cond<br>Transport:<br>Screen Sizes:<br>Shaker No<br>Shaker No   | bblems:<br>lition:<br>1:<br>2:<br>3: | None to region of the second o | eport  new 3.5"  ddle 1  175  175                                 | <b>Middle 2</b><br>175<br>175                               | 2 Bo            | atherford.  Solids Contr  ttom Equi  175 Desa  175 Cent  175 Bulk In  | ol Information pment Usage ander: 0 rifuge 1: 12 (inventory Beginning 9,123   | (Hrs):<br>De<br>Solids F | Removal)             | С               | entrifuç     | ge 2: 12         |            | ,                   |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No   | oblems:<br>lition:<br>1:<br>2:<br>3: | None to region Good.  Received  Top Mi 175 175 175 175   | eport  new 3.5"  ddle 1  175  175  175                            | Middle :<br>175<br>175<br>175                               | 2 Bo            | atherford.  Solids Contr ttom Equi 175 Desa 175 Cent 175 Bulk In Units  | ol Information pment Usage ander: 0 rifuge 1: 12 (inventory Beginning 9,123   | (Hrs): De Solids F       | Removal)             | Received        | d            | <b>On Hanc</b>   | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No   | oblems: lition:  1: 2: 3: It         | None to region Good.  Received  Top Mi 175 175 175 Weight Type   | eport  new 3.5"  ddle 1  175  175  175                            | Middle : 175 175 175 Grade                                  | 8 Bo            | atherford.  Solids Contr ttom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread                                       | ol Information pment Usage ander: 0 rifuge 1: 12 (inventory Beginning 9,123   | (Hrs): De Solids F       | Removal)             | С               | d            | ge 2: 12         | ı          | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No   | oblems: lition:  1: 2: 3: It         | None to region Good.  Received  Top Mi 175 175 175 175   | eport  new 3.5"  ddle 1  175  175  175                            | Middle : 175 175 175 Grade                                  | 8 Bo            | atherford.  Solids Contr ttom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread                                       | ol Information pment Usage ander: 0 rifuge 1: 12 (conventory Beginning 9,123 Pinventory DP Size   | (Hrs): De Solids F       | Removal)             | Received        | d            | <b>On Hanc</b>   | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No Rig Fuel  DP Size 3.5"  | oblems: lition:  1: 2: 3: It         | None to region of the control of the | eport  new 3.5"  ddle 1  175  175  175                            | Middle : 175 175 175 Grade                                  | 8 Bo            | atherford.  Solids Contritom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread  5IF Safety In                         | ol Information pment Usage ander: 0 rifuge 1: 12 (conventory Beginning 9,123 Inventory DP Size formation                                      | (Hrs): De Solids F       | Removal)             | Received        | d            | <b>On Hanc</b>   | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No Rig Fuel  DP Size 3.5"  | oblems: lition:  1: 2: 3: It         | None to region of the control of the | eport  new 3.5"  ddle 1  175  175  175  175  175  Spht  13.3 S-   | Middle 2<br>175<br>175<br>175<br>175<br><b>Grade</b>        | \$2 Bo          | atherford.  Solids Contritom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread  5IF Safety In Descrip                 | ol Information pment Usage ander: 0 rifuge 1: 12 (inventory Beginning 9,123 Inventory DP Size Information otion                               | (Hrs): De Solids F Us    | ed pints             | Received Weight | d            | <b>On Hanc</b>   | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No Shaker No Shaker No Meetings/Drills Safety                              | Joints  Tin                          | None to region of the control of the | eport  new 3.5"  ddle 1  175  175  175  175  20ht  13.3 S-        | Middle 2<br>175<br>175<br>175<br>175<br><b>Grade</b><br>135 | 2 Bo 5 5 5 3 3. | atherford.  Solids Contritom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread  5IF Safety In Descripetings with both | ol Information pment Usage ander: 0 rifuge 1: 12 (inventory Beginning 9,123 Inventory DP Size Information ption h crews. Makin                | (Hrs): De Solids F Us Jo | ed  bints  HA. Tripp | Received Weight | d (          | On Hance 9,1     | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No Shaker No Meetings/Drills Safety First Aid Treat                        | Joints  Joints  Tin                  | None to region of the control of the | eport  new 3.5"  ddle 1  175  175  175  175  0 min Pre  Medica    | Middle 2<br>175<br>175<br>175<br>175<br><b>Grade</b><br>135 | 2 Bo 5 5 5 3 3. | atherford.  Solids Contritom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread  5IF Safety In Descripetings with both | ol Information pment Usage ander: 0 rifuge 1: 12 (inventory Beginning 9,123 Inventory DP Size Information otion                               | (Hrs): De Solids F Us Jo | ed  bints  HA. Tripp | Received Weight | d            | On Hance 9,1     | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No Shaker No Meetings/Drills Safety First Aid Treat Accident Desc          | Joints  Joints  Tin                  | None to region of the control of the | eport  new 3.5"  ddle 1 175 175 175 175  O min Pre  Medica eport. | Middle 2<br>175<br>175<br>175<br>Grade<br>135               | 2 Bo 5 5 5 3 3. | atherford.  Solids Contritom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread  5IF Safety In Descripetings with both | ol Information pment Usage ander: 0 rifuge 1: 12 (inventory Beginning 9,123 Inventory DP Size Information ption h crews. Makin                | (Hrs): De Solids F Us Jo | ed  bints  HA. Tripp | Received Weight | d (          | On Hance 9,1     | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No Shaker No Meetings/Drills Safety First Aid Treat                        | Joints  Joints  Tin                  | None to region of the control of the | eport  new 3.5"  ddle 1 175 175 175 175  O min Pre  Medica eport. | Middle 2<br>175<br>175<br>175<br>Grade<br>135               | 2 Bo 5 5 5 3 3. | atherford.  Solids Contritom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread  5IF Safety In Descripetings with bot  | ol Information pment Usage ander: 0 rifuge 1: 12 (conventory Beginning 9,123 Inventory DP Size Information potion h crews. Makin Lost Time In | (Hrs): De Solids F Us Jo | ed  bints  HA. Tripp | Received Weight | d (          | On Hance 9,1     | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No Shaker No Meetings/Drills Safety First Aid Treat Accident Desc          | Joints  Joints  Tin                  | None to region of the control of the | eport  new 3.5"  ddle 1 175 175 175 175  O min Pre  Medica eport. | Middle 2<br>175<br>175<br>175<br>Grade<br>135               | 2 Bo 5 5 5 3 3. | atherford.  Solids Contritom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread  5IF Safety In Descripetings with bot  | ol Information pment Usage ander: 0 rifuge 1: 12 (inventory Beginning 9,123 Inventory DP Size Information ption h crews. Makin                | (Hrs): De Solids F Us Jo | ed  bints  HA. Tripp | Received Weight | d (          | On Hance 9,1     | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No Shaker No Meetings/Drills Safety First Aid Treat Accident Desc BOP Test | Joints  Joints  Tin ments:           | None to region of the control of the | eport  new 3.5"  ddle 1 175 175 175 175  O min Pre  Medica eport. | Middle 2<br>175<br>175<br>175<br>Grade<br>135               | 2 Bo 5 5 5 3 3. | atherford.  Solids Contritom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread  5IF Safety In Descripetings with bot  | ol Information pment Usage ander: 0 rifuge 1: 12 (conventory Beginning 9,123 Inventory DP Size Information potion h crews. Makin Lost Time In | (Hrs): De Solids F Us Jo | ed  bints  HA. Tripp | Received Weight | d (          | On Hance 9,1     | 23         | Net                 |
| Equipment Pro Location Cond Transport:  Screen Sizes: Shaker No Shaker No Shaker No Shaker No Meetings/Drills Safety First Aid Treat Accident Desc          | Joints  Joints  Tin ments: ription:  | None to re Good. Received  Top Mi 175 175 175 175  em Type  Weig 117  ne 60 Two 30 0 None to re  Crown   | eport  new 3.5"  ddle 1 175 175 175 175  O min Pre  Medica eport. | Middle 2<br>175<br>175<br>175<br>Grade<br>135               | 2 Bo 5 5 5 3 3. | atherford.  Solids Contritom Equi 175 Desa 175 Cent 175 Bulk In Units  Drill Pipe Thread  5IF Safety In Descripetings with bot  | ol Informatio pment Usage ander: 0 rifuge 1: 12 (inventory Beginning 9,123 Inventory DP Size formation btion h crews. Makin Lost Time In      | (Hrs): De Solids F Us Jo | ed  bints  HA. Tripp | Received Weight | d (          | On Hance 9,1     | 23         | Net                 |



Toolpusher:

## **Daily Drilling Report**

**Geothermal Resource Group, Inc.** 

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 33         |                       |                      |               |                         |                  |                 | Report For | <sup>·</sup> 29-Jul-21 |
|-----------------------|-----------------------|----------------------|---------------|-------------------------|------------------|-----------------|------------|------------------------|
| Operator:             | University of Utah    | Rig: Fro             | ontier Rig 16 | 6 Spud Date:            | 28-Jun-21        | Daily Cost / M  | ud (\$):   |                        |
| Measured Depth (ft    | 9500                  | Last Casing: 7.      | 000 at 8,509  | 9 <b>Wellbore</b> : Ori | ginal Wellbore   | AFE No.         | AFE (\$)   | Actual (\$)            |
| Vertical Depth (ft):  | 9497                  | Next Casing:         |               | RKB Elevation (ft)      | : 30.40          |                 |            |                        |
| Proposed TD (ft):     | 9500                  | Last BOP Test:       | 27-Jul-2      | 1 Job Reference RK      | (B (ft):         |                 |            |                        |
| Hole Made (ft) / Hrs  | 550 / 19.0            | Next BOP Test:       | 24-Jul-2      | 1 Working Interest:     |                  | Totals:         |            |                        |
| Average ROP (ft/hr    | ): 28.95              | 5                    |               | LOT (lbs/gal):          | 15.00            | Well Cost (\$): |            |                        |
| Drilling Days (act./p | olan): 33/21 <b>F</b> | lat Days (act./plan) | : 0/9         | Total Days (act./pla    | <b>n):</b> 33/30 | Days On Loca    | ition:     | 33                     |
| Pers/Hrs: Opera       | tor: 3 / 36 C         | Contractor:          | 14 / 168      | Service:                | 3 / 36 Other:    | 3 / 36          | Total:     | 23 / 276               |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

Current Operations: Rigged up and ran Triple-Combo. Logged up from 9532' to 8530' wire line depth. Max BHT was 416 F. POH with logging

tools and rigged down logging equipment.

Tripped in the hole with 5-3/4" slick assembly to 5,000' at report time.

Planned Operations: Trip in the hole to 6,000'.

Lay out 3.5" drill pipe to BHA.

Trip in the hole with remaining drill pipe and lay out same.

Lay out BHA.

Nipple down 7-1/16" 10K BOP's. Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch , Brian Gresham Tel No.: 7132807438

| Operations Summary  From To Elapsed End MD(ft' Code Operations Description Non-Prod |   |   |   |   |   |  |  |  |  |  |  |
|---|---|---|---|---|---|--|--|--|--|--|--|
| То  | Elapsed   | End MD(ft)  | Code  | Operations Description  | Non-Prod  |  |  |  |  |  |  |
| 0:30  | 0.50  | 8,995   | 3-2-3   | Drilled 5-3/4" hole from 8,950' to 8,995'.  |   |  |  |  |  |  |  |
| 1:00  | 0.50  | 9,031   | 3-2-3   | Slide Drilled 5-3/4" from 8,995' to 9,031'.   |   |  |  |  |  |  |  |
| 2:00  | 1.00  | 9,184   | 3-2-3   | Drilled 5-3/4" hole from 9,031' to 9,184'.  |   |  |  |  |  |  |  |
| 3:00  | 1.00  | 9,225   | 3-2-3   | Slide Drilled 5-3/4" from 9,184' to 9,225'.   |   |  |  |  |  |  |  |
| 4:00  | 1.00  | 9,225   | 3-2-3   | Drilled 5-3/4" hole from 9,225' to 9,373'.  |   |  |  |  |  |  |  |
| 5:00  | 1.00  | 9,225   | 3-2-3   | Slide Drilled 5-3/4" from 9,373' to 9,406'.   |   |  |  |  |  |  |  |
| 6:00  | 1.00  | 9,225   | 3-2-3   | Drilled 5-3/4" hole from 9,406' to 9,500'.  |   |  |  |  |  |  |  |
| 7:00  | 1.00  | 9,225   | 3-5-1   | Circulated hole clean at TD.  |   |  |  |  |  |  |  |
| 12:00   | 5.00  | 9,225   | 3-6-4   | Tripped out of the hole from 9,500' to BHA. Laid down directional tools.  |   |  |  |  |  |  |  |
| 13:00   | 1.00  | 9,225   | 3-34-4  | Lay down all directional tools  |   |  |  |  |  |  |  |
| 13:30   | 0.50  | 9,225   | SERV  | Serviced Rig.   |   |  |  |  |  |  |  |
| 14:00   | 0.50  | 9,225   | 3-6-1   | Tripped in the hole w/ same bit, BS w/ a float and all DCS  |   |  |  |  |  |  |  |
| 17:30   | 3.50  | 9,225   | 3-6-3   | RIH filling pipe @ 4,000' 8,000' and bottom   |   |  |  |  |  |  |  |
| 20:00   | 2.50  | 9,225   | 3-5-1   | Circulated to cool well bore while waiting on loggers.  |   |  |  |  |  |  |  |
| 0:00  | 4.00  | 9,225   | 3-6-4   | Tripped out of the hole from 9,500' to surface with no issues.  |   |  |  |  |  |  |  |
|   | 0:30<br>1:00<br>2:00<br>3:00<br>4:00<br>5:00<br>6:00<br>7:00<br>12:00<br>13:30<br>14:00<br>17:30<br>20:00 | 0:30         0.50           1:00         0.50           2:00         1.00           3:00         1.00           4:00         1.00           5:00         1.00           7:00         1.00           12:00         5.00           13:00         1.00           13:30         0.50           14:00         0.50           17:30         3.50           20:00         2.50 | 0:30         0.50         8,995           1:00         0.50         9,031           2:00         1.00         9,184           3:00         1.00         9,225           4:00         1.00         9,225           5:00         1.00         9,225           6:00         1.00         9,225           7:00         1.00         9,225           12:00         5.00         9,225           13:00         1.00         9,225           13:30         0.50         9,225           14:00         0.50         9,225           17:30         3.50         9,225           20:00         2.50         9,225 | 0:30         0.50         8,995         3-2-3           1:00         0.50         9,031         3-2-3           2:00         1.00         9,184         3-2-3           3:00         1.00         9,225         3-2-3           4:00         1.00         9,225         3-2-3           5:00         1.00         9,225         3-2-3           6:00         1.00         9,225         3-2-3           7:00         1.00         9,225         3-5-1           12:00         5.00         9,225         3-6-4           13:00         1.00         9,225         3-34-4           13:30         0.50         9,225         SERV           14:00         0.50         9,225         3-6-1           17:30         3.50         9,225         3-6-3           20:00         2.50         9,225         3-5-1 | To         Elapsed         End MD(ft)         Code         Operations Description           0:30         0.50         8,995         3-2-3         Drilled 5-3/4" hole from 8,950' to 8,995'.           1:00         0.50         9,031         3-2-3         Slide Drilled 5-3/4" from 8,995' to 9,031'.           2:00         1.00         9,184         3-2-3         Drilled 5-3/4" hole from 9,031' to 9,184'.           3:00         1.00         9,225         3-2-3         Slide Drilled 5-3/4" from 9,184' to 9,225'.           4:00         1.00         9,225         3-2-3         Drilled 5-3/4" hole from 9,225' to 9,373'.           5:00         1.00         9,225         3-2-3         Slide Drilled 5-3/4" from 9,373' to 9,406'.           6:00         1.00         9,225         3-2-3         Drilled 5-3/4" hole from 9,406' to 9,500'.           7:00         1.00         9,225         3-2-3         Drilled 5-3/4" hole from 9,406' to 9,500'.           7:00         1.00         9,225         3-5-1         Circulated hole clean at TD.           12:00         5.00         9,225         3-6-4         Tripped out of the hole from 9,500' to BHA. Laid down directional tools.           13:30         0.50         9,225         SERV         Serviced Rig.           14:00 |  |  |  |  |  |  |

## **Management Summary**

Drilled 5-3/4" hole from 8,950' to 9,500'.

Circulated hole clean at TD.

Tripped out of the hole from 9,500' to BHA.

Laid down directional tools.

Serviced Rig.

Tripped in the hole with 5-3/4" PDC bit to 9,500'.

Circulated to cool well bore while waiting on loggers.

Tripped out of the hole from 9,500' to surface.

#### Comments

Slide Drilled 5-3/4" from 8,995' to 9,031'.

Slide Drilled 5-3/4" from 9,184' to 9,225'.

Slide Drilled 5-3/4" from 9,373' to 9,406'.



Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Field: UTAHFORGF

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Report No: 33 Report For 29-Jul-21 Casing/Tubular Information Size Top MD Top TVD Bottom MD Bottom TVD OH Diam. Nom. Wgt. Nominal LOT **Type** (ins) Section (ins) (lbs) Grade (lbs/gal) **FULL** 16.000 0 416 SURF 22.000 65 K-55 0.61 0 2.990 **FULL** 11.750 INT1 14.750 54 J-55 11.70 7.000 0 0 8,509 8,507 **PROD** 10.625 41 T-110S 15.00 **FULL Mud Information** Gels Temp Mud Cake pH/ES Solids Oil Water Sand LGS CI CaCI 10m 30m ΥP Filt. Ca 10s Out Loss In 29-Jul-21 06:15 at Depth 9,500 ft Mud Pits, Type: Low Solids Non-Dispersed 8.30 0.01 700 120 1 97 1 84 **Mud Consumables Item Description** Qty. Cost **Item Description** Qty. Cost Barite - 100#SK 80 Bicarb - 50#SK 9 caustic Soda - 50#SK 2 Engineering - EACH 1 Other - EACH 1 pallets - OTHER 2 --perdiem - OTHER 1 polyvis - 5GAL 3 2 TORKease concentrate - 5GAL **Bit/BHA/Workstring Information** Depth This Run  $R \cap P$ Mud **Pump** No Run Make Model Diam Dist Max WOB RPM Torque Wt Flow Press J. Vel P. Drp HHP 17 1 REED TKC63 5.750 8555 945 9.5 99.5 230.0 30 30 5 8 300 2760 Jets: Out: Grade: Cutter: Dull: Wear: Brgs: Gge: Pull: BHA - No. 22 - BIT, MMTR, 2 MONEL, OTHER, MONEL, 30 DC = 1020.17 **Drilling Parameters** Depth (ft) ROP (ft/hr) WOB (lbs) **RPM** Torque (ft lbs) Flow (gals/min) **Pressure** То From Avg Max Max Max Max (psi) 9,500 230.0 32 8,950 120.0 30 50 5 6 290 300 2,760 Annular Velocity: Drill Collars: 612.0 **Drill Pipe:** 327.0 Slide Drilled 5-3/4" from 8,995' to 9,031'. Comments: Slide Drilled 5-3/4" from 9,184' to 9,225' Slide Drilled 5-3/4" from 9,373' to 9,406' **Miscellaneous Drilling Parameters** Off Bottom Rotate: Hook Loads (lbs): 186 Pick Up: 222 Slack Off: Drag Avg/Max: 5 / 10 **Slow Circulation Data:** 30 spm 110 psi 40 spm 311 psi Pump 1: 215 psi 50 spm 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi Pump 2: Pump 3: 30 spm 110 psi 40 spm 215 psi 50 spm 311 psi 10.5 Hours on BHA: Since Inspection: 10.5 Total: Jars: Hours on Casing/Liner: Rotating: 10.5 / 6 Tripping: Wear Bushing Installed **Mud Log Information** ROP Depth (ft) TVD (ft) Gas (Units) Gas Drillina Pore Mud Shale Ехр. Trip Press Dens. From То From To Avg Max at Depth Connect. Dens. Shale Sand 8,950 9,500 8,947 9,497 **Formation Name:** Lithology: 100% Granodiorite **Rig Information Equipment Problems:** None to report. **Location Condition:** Good. None to report. Transport:



# Geothermal Resource Group, Inc.

Well ID: Forge 78B-32

Field: UTAHFORGE

Well Name: 78B-32 Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Percent No. 20                                      |             |             |               |               |          |                 |              |            |            |                   |               |  |  |
|---|-------------|-------------|---------------|---------------|----------|-----------------|--------------|------------|------------|-------------------|---------------|--|--|
| Report No: 33                                       |             |             |               |               |          |                 |              |            |            | Report F          | or 29-Jul-21  |  |  |
|   |             |             |               | Solids (      | Contro   | Information     | 1            |            |            |                   |               |  |  |
| Screen Sizes:                                       | Тор         | Middle 1    | Middle 2      | Bottom        | Equip    | ment Usage (F   | lrs):        |            |            |                   |               |  |  |
| Shaker No 1:  | 175         | 175         | 175           | 175           | Desar    | nder: 0         | Desilter:    | 0          | Degasser   | : 0               |               |  |  |
| Shaker No 2:  | 175         | 175         | 175           | 175           | Centr    | ifuge 1: 12 (Sc | lids Removal | )          | Centrifuge | <b>2</b> : 12 (So | lids Removal) |  |  |
| Shaker No 3:  | 175         | 175         | 175           | 175           |          |                 |              |            |            |                   |               |  |  |
|   |             |             |               | E             | Bulk In  | ventory         |              |            |            |                   |               |  |  |
| Item Type Units Beginning Used Received On Hand Net |             |             |               |               |          |                 |              |            |            |                   |               |  |  |
| Rig Fuel  |             |             |               |               |          | 8,323           |              |            |            | 8,323             |               |  |  |
|   |             |             |               | Drill         | Pipe     | Inventory       |              |            |            |                   |               |  |  |
| DP Size Jo  | oints V     | Veight      | Grade         | Threa         | d        | DP Size         | Joints       | Weig       | ht Gı      | rade              | Thread        |  |  |
| 3.5"  | 317         | 13.3        | S-135         | 3.5IF         |          |                 |              |            |            |                   |               |  |  |
|   |             |             |               | Safe          | ety Inf  | ormation        |              |            |            |                   |               |  |  |
| Meetings/Drills                                     | Time        |             |               | D             | escrip   | tion            |              |            |            |                   |               |  |  |
| Safety  | 60 Tw       | o 30 min Pı | re tour safet | y meetings wi | ith both | crews. Making   | up BHA. Trip | ping in th | e hole.    |                   |               |  |  |
| First Aid Treatme                                   | nts:        | 0 Medic     | al Treatme    | nts:          | 0        | Lost Time Incid | dents:       | 0          | Days Since | e LTI:            |               |  |  |
| Accident Descrip                                    | tion: None  | to report.  |               |               |          |                 |              |            |            |                   |               |  |  |
| ■ BOP Test  | ✓ Cro       | wnamatic    | Check         |               |          |                 |              |            |            |                   |               |  |  |
|   |             |             |               | Weat          | ther In  | formation       |              |            |            |                   |               |  |  |
| Sky Condition:                                      | Partly Clou | ıdy         |               |               |          | Visibility:     | 10           |            |            |                   |               |  |  |
| Air Temperature:                                    | 70 degF     |             |               |               |          | Bar. Pressure   | : 29.89      |            |            |                   |               |  |  |
| Wind Speed/Dir:                                     | 5 / SE      |             |               |               |          | Wind Gusts:     | 2            |            |            |                   |               |  |  |
| -   |             |             |               |               |          |                 |              |            |            |                   |               |  |  |



Geothermal Resource Group, Inc.

Well Name: 78B-32

Well ID: Forge 78B-32

Field: UTAHFORGE

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

| Report No: 34        |                    |                      |               |                   |            |          |                 | Report For | 30-Jul-21   |
|----------------------|--------------------|----------------------|---------------|-------------------|------------|----------|-----------------|------------|-------------|
| Operator:            | University of Utal | h <b>Rig:</b> F      | rontier Rig 1 | 6 Spud Date:      | 28-        | Jun-21   | Daily Cost / M  | ud (\$):   |             |
| Measured Depth (fi   | t): 9500           | 0 Last Casing: 7     | 7.000 at 8,50 | 9 Wellbore:       | Original W | /ellbore | AFE No.         | AFE (\$)   | Actual (\$) |
| Vertical Depth (ft): | 949                | 7 Next Casing:       |               | RKB Elevation     | (ft):      | 30.40    |                 |            |             |
| Proposed TD (ft):    | 9500               | D Last BOP Test:     | 27-Jul-2      | 1 Job Reference   | RKB (ft):  |          |                 |            |             |
| Hole Made (ft) / Hrs | 0 / 3.7            | Next BOP Test:       | 24-Jul-2      | 1 Working Intere  | st:        |          | Totals:         |            |             |
| Average ROP (ft/hr   | <b>):</b> 0.0      | 0                    |               | LOT (lbs/gal):    |            | 15.00    | Well Cost (\$): |            |             |
| Drilling Days (act./ | plan): 34/21 I     | Flat Days (act./plan | n): 0/9       | Total Days (act./ | plan):     | 34/30    | Days On Loca    | ition:     | 34          |
| Pers/Hrs: Opera      | ator: 3 / 36       | Contractor:          | 14 / 168      | Service:          | 3 / 36     | Other:   | 2 / 24          | Total:     | 22 / 264    |
|                      |                    |                      |               |                   |            |          |                 |            |             |

Safety Summary: No incidents or events reported. Conducted Crown Check, Safety Meeting.

**Current Operations:** Nipple down 7-1/16" 10K BOP's. Install master valve with 3" 10k spool on top.

**Planned Operations:** Clean pits and release rig. Toolpusher: Steve Caldwell , Justin Bristol

Wellsite Supervisors: Virgil Welch, Brian Gresham Tel No.: 7132807438

|       |       |         |            |        | Operations Summary  |          |
|-------|-------|---------|------------|--------|---|----------|
| From  | То    | Elapsed | End MD(ft) | Code   | Operations Description  | Non-Prod |
| 0:00  | 4:00  | 4.00    | 9,225      | LOG    | Rigged up and run Triple-Combo / Max BHT was 416 F / Logging upwards Note: worked past ledge at 8,555'.   |          |
| 4:00  | 6:00  | 2.00    | 9,225      | 3-6-3  | Tripped in the hole with 5-3/4" slick assembly to 5,000'.   |          |
| 6:00  | 10:30 | 4.50    | 9,225      | 3-34-2 | Laid down 3.5" drill pipe to top of drill collars.  |          |
| 10:30 | 12:15 | 1.75    | 9,225      | 3-6-3  | Tripped in the hole with 3-1/2" drill pipe and slick assembly to 5,500'.  |          |
| 12:15 | 15:30 | 3.25    | 9,225      | 3-34-2 | Laid down 3-1/2" drill pipe to the top of the drill collars.  |          |
| 15:30 | 18:00 | 2.50    | 9,225      | 3-34-4 | Laid down 4-3/4" drill collars.   |          |
| 18:00 | 19:00 | 1.00    | 9,225      | SAFE   | Shut down and test night tour for Covid-19 due to 3 guys on daylights testing positi Night driller tested positive for Covid-19. Resume operations. | ive.     |
| 19:00 | 0:00  | 5.00    | 9,225      | 6-99   | Nippled down 7-1/16" 10K BOP's.   |          |

## **Management Summary**

Rigged up and run Triple-Combo / Max BHT was 416 F.

Tripped in the hole with 5-3/4" slick assembly to 5,000'.

Laid down 3.5" drill pipe to top of drill collars.

Tripped in the hole with 3-1/2" drill pipe and slick assembly to 5,500'.

Laid down 3-1/2" drill pipe to the top of the drill collars.

Laid down 4-3/4" drill collars.

Shut down and tested night tour for Covid-19 due to 3 guys on daylights testing positive. Night driller tested positive for Covid-19. Resume operations shorthanded.

Nipple down 7-1/16" 10K BOP's.

#### Comments

Shorthanded due to 4 of Frontier's employees testing positive for Covid-19: 3 on daylights and one on nights along with mud engineer for a total of 5 people.

GRG site supervisor notified service contractors that had been on location over the past week of the Covid-19 positive test on the rig site.

Weatherized top section of casing by poring 8 gals of vegetable oil down 7" casing. 7" well head was noticed to be down 8" and setting on top of the 11.75" well head.

| Casing/Tubular Information |        |        |         |           |                   |         |          |           |         |           |  |  |  |
|----------------------------|--------|--------|---------|-----------|-------------------|---------|----------|-----------|---------|-----------|--|--|--|
|                            | Size   | Top MD | Top TVD | Bottom MD | <b>Bottom TVD</b> | Hole    | OH Diam. | Nom. Wgt. | Nominal | LOT       |  |  |  |
| Type                       | (ins)  | (ft)   | (ft)    | (ft)      | (ft)              | Section | (ins)    | (lbs)     | Grade   | (lbs/gal) |  |  |  |
| FULL                       | 16.000 | 0      |         | 416       |                   | SURF    | 22.000   | 65        | K-55    | 0.61      |  |  |  |
| FULL                       | 11.750 | 0      |         | 2,990     |                   | INT1    | 14.750   | 54        | J-55    | 11.70     |  |  |  |
| FULL                       | 7.000  | 0      | 0       | 8,509     | 8,507             | PROD    | 10.625   | 41        | T-110S  | 15.00     |  |  |  |

| Mud Consumables  |      |      |                    |      |  |  |  |  |  |
|------------------|------|------|--------------------|------|--|--|--|--|--|
| Item Description | Qty. | Cost | Qty.               | Cost |  |  |  |  |  |
| Barite - 100#SK  | 50   |      | Engineering - EACH | 1    |  |  |  |  |  |
| Other - EACH     | 1    |      | pallets - OTHER    | 2    |  |  |  |  |  |
| perdiem - OTHER  | 1    |      | Trucking - EACH    | 1    |  |  |  |  |  |



Report No: 34

# **Daily Drilling Report**

Geothermal Resource Group, Inc. Well Name: 78B-32

Well ID: Forge 78B-32

Sect: 32 Town: 26 Rng: 9W County: Beaver State: UT

Field: UTAHFORGE Report For 30-Jul-21

|   |  | ·  |   |   | E   | Bit/BHA                             | \/Work  | string   | g Inforn  | nation  |                                    |         |        |           |                                |                 |         |     |
|---|--|--|---|---|---|-------------------------------------|---|--|---|---------|------------------------------------|---------|--------|-----------|--------------------------------|-----------------|---------|-----|
|   |  |  |   | Depth   |   | Run                                 |   | ).P.   |   |         |                                    | Mı      | ıd     | Pump      |                                |                 |         |     |
| No Run I  | Make   | Model  | l Diam  | In  | Dist  | Hrs                                 | Avg   | Max  | WOB   | RPM     | Torque                             | Wt      | Flow   | Press     | J. Vel                         | P. Drp          | HHP     | JII |
| 17 1 RE   | EED  | TKC63  | 5.750   | 8555  | 945   | 9.5                                 | 130.0   |  | 30  | 30      |                                    | 8       | 300    |           | 291                            | 627             | 110     | 37  |
| <b>Jets</b> : 12 1  |  |  |   | <b>Out</b> : 9                                    |   | Grade:                              |   |  | 3 <b>Du</b>   | II: WT  | /CT \                              | Wear: S | Brg    | s: X      | <b>Gge</b> : 0                 |                 | Pull: T | D   |
| <b>BHA -</b> No. 2  | 22 - B   | BIT, MMTF  | R, 2 MONE   | L, OTHE   | R, MONE   | EL, 30 D                            | C = 102   | 0.17   |   |         |                                    |         |        |           |                                |                 |         |     |
|   |  |  |   |   | M   | iscella                             | neous   | Drilli   | ng Para   | mete    | rs                                 |         |        |           |                                |                 |         |     |
| Hook Load   | ds (lbs  | ): (   | Off Bottom  | n Rotate:   |   | Pick l                              | Jp:   |  | Slack O   | ff:     |                                    | Drag A  | Avg/Ma | ax:       | 1                              |                 |         |     |
| Slow Circu  | ulation  | Data:  |   |   |   |                                     |   |  |   |         |                                    |         |        |           |                                |                 |         |     |
| Pι  | ump 1:   |  | 30 spm  |   | 110 psi   |                                     | 40 sp   | m  |   | 15 psi  |                                    | 50 sp   | m      | 3         | 311 psi                        |                 |         |     |
| Pι  | ump 2:   |  | 30 spm  |   | 110 psi   |                                     | 40 sp   | m  | 2   | 15 psi  |                                    | 50 sp   | m      | 3         | 311 psi                        |                 |         |     |
| Pι  | ump 3:   |  | 30 spm  |   | 110 psi   |                                     | 40 sp   | m  | 2   | 15 psi  |                                    | 50 sp   | m      | 3         | 311 psi                        |                 |         |     |
| Hours on BHA: Sin   |  | Since In:  | ice Inspection: 10                                    |   | .5 <b>Total:</b> 10                               |                                     | 10.5  | Jars: 0  |   | )       |                                    |         |        |           |                                |                 |         |     |
| Hours on Casing/Liner: Rotating: 10.5   |  |  |   | 10.5 / 6  | 6 Tripp   |                                     |   | 40   | ) /   |         | Wear Bushing                       |         |        | Installed |                                |                 |         |     |
|   |  |  |   |   |   |                                     | Survey  | Infor  | mation  |         |                                    |         |        |           |                                |                 |         |     |
|   | Surv   | •  |   |   |   |                                     |   |  | Vertical Coordina   |         |                                    | linates |        |           |                                |                 |         |     |
|   | Тур  |  | epth  | Inc.  | Azimut  |                                     | TVD   | _  | Closure   | Se      | ection                             |         | -S     |           | -W                             | D.L             |         |     |
|   | MWE  |  | 3,938.0   | 2.76  | 282   |                                     | 8,935.9   | _  | 54.6  |         | -28.6                              | S       | 28.6   | V         | / 46.6                         |                 | 937     |     |
|   | MWE  |  | 9,033.0   | 1.05  | 250   |                                     | 9,030.9   | _  | 57.1  |         | -28.3                              |         | 28.3   | V         | / 49.6                         |                 | 056     |     |
|   | MWE  |  | 9,127.0   | 2.40  | 258   |                                     | 9,124.8   | _  | 59.9  |         | -29.0                              |         | 29.0   | V         | / 52.4                         |                 | 457     |     |
|   | MWE  |  | 9,222.0   | 1.31  | 284   |                                     | 9,219.8   | _  | 62.6  |         | -29.1                              |         | 29.1   | V         | / 55.4                         |                 | 416     |     |
|   | MWE  |  | 9,317.0   | 3.73  | 270   |                                     | 9,314.7   | _  | 66.1  |         | -28.9                              |         | 28.9   | V         | / 59.5                         |                 | 614     |     |
|   | MWE  |  | 9,412.0   | 3.96  | 251   | .0                                  | 9,409.5   | 5  | 72.2  |         | -29.9                              | S       | 29.9   | V         | / 65.7                         | 1.3             | 360     |     |
|   | MWE  | 9  | 9,444.0   | 3.91  | 235   | 5.5                                 | 9,441.4   | l  | 74.4  |         | -30.9                              | S       | 30.9   | V         | / 67.6                         | 3.              | 322     |     |
|   | MWE  | 9  | 9,500.0   | 3.91  | 235   | 5.5                                 | 9,497.3   | 3  | 78.1  |         | -33.1                              | S       | 33.1   | V         | 70.8                           | 0.0             | 000     |     |
|   |  |  |   |   |   |                                     | Rig Ir  | nform  | ation   |         |                                    |         |        |           |                                |                 |         |     |
| Equipment   | t Probl  | lems: N  | one to repo   | ort.  |   |                                     |   |  |   |         |                                    |         |        |           |                                |                 |         |     |
| Location C  | Conditi  | i <b>on:</b> G   | iood.   |   |   |                                     |   |  |   |         |                                    |         |        |           |                                |                 |         |     |
| Transport:  |  | N  | one to repo   | ort.  |   |                                     |   |  |   |         |                                    |         |        |           |                                |                 |         |     |
|   |  |  |   |   |   | Solid                               | ds Con  | trol Ir  | nformat   | ion     |                                    |         |        |           |                                |                 |         |     |
|   |  |  | o Midd  | lle 1 Mi  | ddle 2  | <b>Bottom</b>                       | Eq  | uipme  | ent Usag  | e (Hrs  | ):                                 |         |        |           |                                |                 |         |     |
| Screen Siz  | zes:   | Top  |   |   |   |                                     |   |  |   |         |                                    |         | De     | gasse     | er: 0                          |                 |         |     |
| Screen Siz<br>Shaker  |  | -  | 175   | 175   | 175   | 175                                 |   | sande  | r: 0  |         | Desilter                           | : 0     |        |           |                                |                 |         |     |
|   | No 1:  | 1  |   | 175<br>175  | 175<br>175  |                                     | De  | sande  |   |         | Desilter                           | : 0     |        |           |                                |                 |         |     |
| Shaker  | No 1:<br>No 2:                                       | 1  | 175   |   |   | 175                                 | De  | sande  |   |         | Desilter                           | : 0     |        |           |                                |                 |         |     |
| Shaker<br>Shaker  | No 1:<br>No 2:                                       | 1  | 175   | 175   | 175   | 175<br>175                          | 5 <b>De</b>                                     | sande  | er: 0   |         | Desilter                           | : 0     |        |           |                                |                 |         |     |
| Shaker<br>Shaker  | No 1:<br>No 2:                                       | 1  | 175<br>175  | 175   | 175   | 175<br>175                          | De Bulk   | Inven  | er: 0   |         | Desilter<br>Jsed                   |         | ceived | l         | On Han                         | d               | Net     |     |
| Shaker<br>Shaker<br>Shaker  | No 1:<br>No 2:                                       | 1 1  | 175<br>175  | 175   | 175   | 175<br>175<br>175<br><b>Uni</b>     | De De Bulk                                      | Inven<br>Beg   | ntory<br>inning<br>7,532  | l       |                                    | Re      | !      | l         |                                | <b>d</b><br>332 | Net     |     |
| Shaker<br>Shaker<br>Shaker  | No 1:<br>No 2:                                       | 1 1  | 175<br>175<br><b>Type</b>                             | 175<br>175  | 175   | 175<br>175<br>175<br><b>Uni</b>     | De De Bulk                                      | Inven<br>Beg   | er: 0   | l       | Jsed                               | Re      | !      | I         |                                |                 | Net     |     |
| Shaker<br>Shaker<br>Shaker  | No 1:<br>No 2:<br>No 3:                              | 1 1  | 175<br>175  | 175<br>175  | 175   | 175<br>175<br>175<br>Uni            | De De Bulk                                      | Inven<br>Beg   | ntory<br>inning<br>7,532  | L       | Jsed                               | Re      | !      |           |                                |                 | Net     |     |
| Shaker<br>Shaker<br>Shaker<br>Rig Fuel  | No 1:<br>No 2:<br>No 3:                              | 1<br>1<br>1<br>Item  | 175<br>175<br>Type<br>Weight                          | 175<br>175  | 175<br>175  | 175<br>175<br>175<br>Uni            | Bulk  | Inven<br>Beg   | ntory<br>inning<br>7,532<br>ventory                                   | L       | <b>Jsed</b><br>1,20                | Re      | ceived |           | 6,                             |                 |         |     |
| Shaker<br>Shaker<br>Shaker<br>Rig Fuel  | No 1:<br>No 2:<br>No 3:                              | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | 175<br>175<br>Type<br>Weight                          | 175<br>175  | 175<br>175  | 175<br>175<br>175<br>Uni<br>E<br>Th | De De Bulk<br>Bulk<br>ts<br>Drill Pi            | Inven<br>Beg   | ntory<br>inning<br>7,532<br>ventory                                   | L       | <b>Jsed</b><br>1,20                | Re      | ceived |           | 6,                             |                 |         |     |
| Shaker<br>Shaker<br>Shaker<br>Rig Fuel<br>DP Size   | No 1:<br>No 2:<br>No 3:                              | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | 175<br>175<br>Type<br>Weight                          | 175<br>175  | 175<br>175  | 175<br>175<br>175<br>Uni<br>E<br>Th | Bulkits  Drill Piperad  Safety                  | Inven<br>Beg   | ntory inning 7,532 ventory DP Size                                    | L       | <b>Jsed</b><br>1,20                | Re      | ceived |           | 6,                             |                 |         |     |
| Shaker<br>Shaker<br>Shaker<br>Rig Fuel<br>DP Size<br>3.5  | No 1:<br>No 2:<br>No 3:                              | Item -   | 175<br>175<br>Type<br>Weight                          | 175<br>175<br>: <b>G</b><br>3.3 S-13              | 175<br>175  | 178<br>178<br>178<br>Uni            | Bulkits  Drill Piperad  Safety  Description     | Beg<br>De Inv  | er: 0  intory inning 7,532 rentory DP Size mation                     | L       | Jsed<br>1,200<br>Joints            | Re<br>0 | ceived |           | 6,<br><b>Grade</b>             | 332             | Thread  | i   |
| Shaker Shaker Shaker Rig Fuel  DP Size 3.5  Meetings/E Safety                                       | No 1:<br>No 2:<br>No 3:                              | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | Type  Weight  13                                      | 175<br>175<br>: <b>G</b><br>3.3 S-13              | 175<br>175<br>Grade<br>5                          | 175 175 175 Uni  Tr 3.5IF           | Bulkits  Prill Piperad  Safety  Descips with be | Beg De Inv Inforr riptior  | er: 0  intory inning 7,532 rentory DP Size mation                     | L I     | Jsed<br>1,200<br>Joints            | Re<br>0 | ceived | ill colla | 6,<br><b>Grade</b>             | 332             | Thread  | i   |
| Shaker Shaker Shaker Rig Fuel  DP Size 3.5  Meetings/E Safety First Aid T                           | No 1: No 2: No 3: Jorills                            | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | Type  Weight  13                                      | 175<br>175<br>3.3 S-13                            | 175<br>175<br>Grade<br>5                          | 175 175 175 Uni  Tr 3.5IF           | Bulkits  Prill Piperad  Safety  Descips with be | Beg De Inv Inforr riptior  | ntory inning 7,532 ventory DP Size mation news. Lay                   | L I     | Jsed<br>1,200<br>Joints            | Re<br>0 | ceived | ill colla | 6,<br><b>Grade</b><br>rs. Nipp | 332             | Thread  | i   |
| Shaker Shaker Shaker Rig Fuel  DP Size 3.5  Meetings/E Safety First Aid T                           | No 1: No 2: No 3: Jorills Creatmo                    | Item -  Item -  Ioints  317  Time  60  ents:  otion: N   | Type  Weight  13  Two 30 m  0 M                       | 175<br>175<br>3.3 S-13<br>nin Pre to<br>Medical T | 175<br>175<br>irade<br>5<br>ur safety<br>reatment | 175 175 175 Uni  Tr 3.5IF           | Bulkits  Prill Piperad  Safety  Descips with be | Beg De Inv Inforr riptior  | ntory inning 7,532 ventory DP Size mation news. Lay                   | L I     | Jsed<br>1,200<br>Joints            | Re<br>0 | ceived | ill colla | 6,<br><b>Grade</b><br>rs. Nipp | 332             | Thread  | i   |
| Shaker Shaker Shaker Rig Fuel  DP Size 3.5  Meetings/E Safety First Aid T Accident E                | No 1: No 2: No 3: Jorills Creatmo                    | Item -  Item -  Ioints  317  Time  60  ents:  otion: N   | Type  Weight 13  Two 30 m 0 M one to repo             | 175<br>175<br>3.3 S-13<br>nin Pre to<br>Medical T | 175<br>175<br>irade<br>5<br>ur safety<br>reatment | 175<br>175<br>175<br>Uni            | Bulk ts  Drill Pip pread  Safety Desc ps with b | Beg De Invention Information Control C | ntory inning 7,532 ventory DP Size mation news. Lay                   | ing out | Jsed<br>1,200<br>Joints            | Re<br>0 | ceived | ill colla | 6,<br><b>Grade</b><br>rs. Nipp | 332             | Thread  | i   |
| Shaker Shaker Shaker Shaker Rig Fuel DP Size 3.5 Meetings/I Safety First Aid T Accident I BOP Te    | No 1: No 2: No 3: Drills  Treatme                    | Item -  Item -  Ioints  317  Time  60  ents:  otion: N   | Type  Weight  13  Two 30 m  0 M one to repo           | 175<br>175<br>3.3 S-13<br>nin Pre to<br>Medical T | 175<br>175<br>irade<br>5<br>ur safety<br>reatment | 175<br>175<br>175<br>Uni            | Bulk ts  Drill Pip pread  Safety Desc ps with b | Invention Beg  | er: 0  intory inning 7,532 rentory DP Size mation n ews. Lay          | ing out | Jsed 1,200 Joints drill pipents:   | Re<br>0 | ceived | ill colla | 6,<br><b>Grade</b><br>rs. Nipp | 332             | Thread  | i   |
| Shaker Shaker Rig Fuel  DP Size 3.5  Meetings/E Safety First Aid T Accident E BOP Te                | No 1: No 2: No 3: Drills Treatmo                     | Item -  Item - | Type  Weight 13  Two 30 m 0 M one to repo             | 175<br>175<br>3.3 S-13<br>nin Pre to<br>Medical T | 175<br>175<br>irade<br>5<br>ur safety<br>reatment | 175<br>175<br>175<br>Uni            | Bulk ts  Drill Pip pread  Safety Desc ps with b | Inven<br>Beg<br>De Inv<br>Inforr<br>ription<br>oth cre<br>D Los  | er: 0  Intory Inning 7,532 Ventory DP Size Mation News. Lay st Time I | ing out | Jsed 1,200 Joints drill pipents:   | Reo W   | ceived | ill colla | 6,<br><b>Grade</b><br>rs. Nipp | 332             | Thread  | i   |
| Shaker Shaker Shaker Shaker  Rig Fuel  DP Size 3.5  Meetings/I Safety First Aid T Accident I BOP Te | PNo 1: No 2: No 3: Prills  Preatmodescripest  Ition: | Item   | Type  Weight  13  Two 30 m  0 M  one to repo  Crownam | 175<br>175<br>3.3 S-13<br>nin Pre to<br>Medical T | 175<br>175<br>irade<br>5<br>ur safety<br>reatment | 175<br>175<br>175<br>Uni            | Bulk ts  Drill Pip pread  Safety Desc ps with b | Invention Beg De Invention Information Control Control Via Ba  | ntory inning 7,532 rentory DP Size mation n ews. Lay st Time I        | ing out | Jsed 1,200  Joints  drill pipents: | Reo W   | ceived | ill colla | 6,<br><b>Grade</b><br>rs. Nipp | 332             | Thread  | i   |



# Geothermal Resource Group, Inc.

Well Name: 78B-32

|                     |                         | Field: UT    | AHFORG         | E                   |                   |                                      | Sect: 32 Town:      | 26 Rng: 9W C       | ounty: Beaver          | State: UT   |  |  |
|---------------------|-------------------------|--------------|----------------|---------------------|-------------------|--------------------------------------|---------------------|--------------------|------------------------|-------------|--|--|
| Report No           | <b>o:</b> 35            | ,            |                |                     |                   |                                      |                     |                    | Report Fo              | r 31-Jul-21 |  |  |
| Operator:           | University of Utah Rig: |              |                |                     | Frontier Rig 16   | Frontier Rig 16 Spud Date: 28-Jun-21 |                     |                    | Daily Cost / Mud (\$): |             |  |  |
| Measured D          | Depth                   | (ft):        | 9500           | Last Casing:        | 7.000 at 8,509    | Wellbore:                            | Original Wellbo     | re AFE No.         | AFE (\$)               | Actual (\$) |  |  |
| Vertical Dep        | pth (ft)                | ):           | 9497           | Next Casing:        |                   | RKB Elevati                          | on (ft): 30.4       | 0                  |                        |             |  |  |
| Proposed T          | D (ft):                 |              | 9500           | Last BOP Tes        | st: 27-Jul-2      | Job Referen                          | ce RKB (ft):        |                    |                        |             |  |  |
| <b>Hole Made</b>    | (ft) / H                | rs:          | 0 / 0.0        | Next BOP Tes        | st: 24-Jul-21     | Working Inte                         | erest:              | Totals:            |                        |             |  |  |
| Average RC          | OP (ft/l                | nr):         |                |                     |                   | LOT (lbs/gal                         | <b>):</b> 15.0      | 0 Well Cost (\$)   |                        |             |  |  |
| <b>Drilling Day</b> | /s (act                 | ./plan):     | 35/21 <b>F</b> | lat Days (act./p    | olan): 0/9        | Total Days (ad                       | ct./plan): 35/3     | 0 Days On Loc      | ation:                 | 35          |  |  |
| Pers/Hrs:           | Ope                     | rator:       | 0/0 <b>C</b>   | ontractor:          | 0/0               | Service:                             | 0 / 0 Othe          | r: 0/0             | Total:                 | 0/0         |  |  |
| Safety Sum          | mary:                   | No incid     | ents or eve    | nts reported.       |                   |                                      |                     |                    |                        |             |  |  |
| Current Op          | eratio                  | ns: Ri       | gging down     | . FINAL REPO        | RT.               |                                      |                     |                    |                        |             |  |  |
| Planned Op          | eratio                  | ns: M        | ove rig to ya  | ard                 |                   |                                      |                     |                    |                        |             |  |  |
| Toolpusher          | :                       | St           | eve Caldwe     | ell , Justin Bristo | ol                |                                      |                     |                    |                        |             |  |  |
| Wellsite Su         | pervis                  | ors: Vi      | rgil Welch ,   | Brian Gresham       | l                 |                                      |                     | Tel No.: 71        | 32807438               |             |  |  |
|                     |                         |              |                |                     | Operati           | ons Summar                           | у                   |                    |                        |             |  |  |
| From                | То                      | Elapse       | d End MI       | D(ft) Code          |                   | C                                    | perations Descri    | ption              |                        | Non-Prod    |  |  |
| 0:00                | 6:00                    | 6.0          | 00 9,          | 225 6-99            | Continued nip     | pling down 7-1                       | /16" 10K BOP's. In  | stalled master va  | lve with 3" 10k        | spool       |  |  |
|                     |                         |              |                |                     | on top.           | rized top coetic                     | on of casing by po  | ing 9 gala of yag  | atable oil down        | 7"          |  |  |
|                     |                         |              |                |                     | casing.           | inzed top section                    | on or casing by por | ing 6 gais or veg  | etable oil down        | ,           |  |  |
| 6:00                | 0:00                    | ) 18.0       | 00 9,          | 225 OTHER           |                   | ads of rental eq                     | uipment 3.5" pipe,  | loaded out 2 load  | ls of cooling tow      | ers         |  |  |
|                     |                         |              |                |                     | to drill cool, lo | aded out mud İ                       | ogging shack, load  | led out centrifuge | tank, clean cell       | ar          |  |  |
|                     |                         |              |                |                     |                   |                                      | Rig released from   | Day rate @ midn    | ight on 7/31/201       | 2           |  |  |
| D: 1                |                         | 10.4.100.0.4 |                |                     | Manage            | ment Summa                           | ry                  |                    |                        |             |  |  |
| Rig release         | d on /                  | /31/2021 a   | at midnight    |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   | omments                              |                     |                    |                        |             |  |  |
|                     |                         |              | ad 6 negati    | ve COVID test.      | Early afternoon   | on 8/1/2021 Fro                      | ontier decided to s | op the rig move a  | and send everyo        | ne home     |  |  |
| for 2 weeks         | anu q                   | uarantine    |                |                     | Coolna/Tu         | hular Inform                         | ntion .             |                    |                        |             |  |  |
|                     |                         | Size         | Top MD         | Top TVD             | Bottom MD Bo      | bular Informa                        | Hole OH Dia         | am. Nom. Wgt       | . Nominal              | LOT         |  |  |
| Type                |                         | ins)         | (ft)           | (ft)                | (ft)              |                                      | ection (ins         |                    | Grade                  | (lbs/gal)   |  |  |
| FULL                |                         | 16.000       | C              | )                   | 416               |                                      | SURF 22             | .000 6             | 5 K-55                 | 0.61        |  |  |
| FULL                |                         | 11.750       | C              | )                   | 2,990             |                                      | INT1 14             | .750 5             | 4 J-55                 | 11.70       |  |  |
| FULL                |                         | 7.000        | C              | 0                   | 8,509             | 8,507                                | PROD 10             | .625 4             | 1 T-110S               | 15.00       |  |  |
|                     |                         |              |                |                     | Bit/BHA/Wor       | kstring Inforr                       | nation              |                    |                        |             |  |  |
| BHA - No. 2         | 22 - E                  | IT, MMTR     | , 2 MONEL      | , OTHER, MON        | IEL, 30 DC = 10   | 20.17                                |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     | Rig I             | nformation                           |                     |                    |                        |             |  |  |
| Equipment           | Prob                    | lems:        |                |                     |                   |                                      |                     |                    |                        |             |  |  |
| Location C          | onditi                  | on:          |                |                     |                   |                                      |                     |                    |                        |             |  |  |
| Transport:          |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     | Safety            | Information                          |                     |                    |                        |             |  |  |
| First Aid T         | reatm                   | ents:        | Me             | dical Treatme       | nts:              | Lost Time                            | Incidents:          | Days Si            | nce LTI:               |             |  |  |
| BOP Te              | est                     |              | Crownama       | tic Check           |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |
|                     |                         |              |                |                     |                   |                                      |                     |                    |                        |             |  |  |