SUBMISSION OF WATER DEVELOPMENT PROJECTS

| | Throu | ab the development of acceptific studies defining the equifer w | ithis the Coder Basis it has been decumented that additional | FOR AGENCY USE ONLY | | | | | | |
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| | | gh the development of scientific studies defining the aquifer w resources will be necessary to sustain the growth and further | development of the area. Without water the future economic | Application Number | | | | | | |
| | | opment will be impacted by the availability and cost of existing | | Date Filed | | | | | | |
| | | | water budget. This form is being circulated to document additional water supply sources that could be utilized the water deficit in the aquifer, as well as provide water for the future residents of the valley. This form will be | | | | | | | |
| | | ated for completeness of content. Please ensure that the prop | • | | | | | | | |
| | the cla | aim is submitted for a complete evaluation. | | | | | | | | |
| | Nam | e and address of applicant (include zip code) | Name, title, and address of authorized agent if | Telephone (area code) | | | | | | |
| | | F. Player | different from item 1 (include zip code) | | | | | | | |
| | | W 546 S | H. Roice Nelson, Jr. | Applicant | | | | | | |
| | | r City, Utah 84720 yer@kennylakeventures.us | 2155 W 700 S #31 Cedar City, Utah 84720 | · + F · · · · · · · | | | | | | |
| | gipia | ver when the vertical colored | rnelson@walden3d.com | Authorized Agent | | | | | | |
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| _ | Α. | Provide names, addresses, phone numbers and emai | l addresses of those who filled out this form | | This | | | | | |
| | | Gary F. Player | H. Roice Nelson, Jr. | | with | | | | | |
| | | 1671 W 546 S | 2155 W 700 S, No. 31 | | reso | | | | | |
| | | Cedar City, Utah 84720 | Cedar City, Utah 84720 | | The | | | | | |
| | | gfplayer@kennylakeventures.us | rnelson@walden3d.com | | from | | | | | |
| - | | Project Description (Details are Vital) | | | conr | | | | | |
| | В. | roject Description (Details are vital) | | | woul | | | | | |
| | 1. | Scope of Work and Project Description | | | wou | | | | | |
| | 2. 3. | Type of System or Facility Quantity of Water Anticipated | | | T 1 . | | | | | |
| | 4. | Scientific Analysis of Water Resource | | | The | | | | | |
| | 5. | Uses (irrigation, culinary, industrial etc.) | | | is no | | | | | |
| | 6. 7. | Years Resource is Available Constructability | | | Bria | | | | | |
| | 8. | Additional information to describe resource and avail | ilability (utilize additional sheets as necessary) | | belo | | | | | |
| | | Onetana and Mall #1 at Changeborders Oakin Daad | | | canr | | | | | |
| | | Cretaceous Well #1 at Sheepherders Cabin Road | | | | | | | | |
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| | | | water from porous bedrock aquifers within the eastern | | wou wate | | | | | |
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STANDARD FORM 2015-1 (REV 6/2015) PAGE 1 free

B.7. This well could be drilled by local drilling contractors. Power lines are in place near the Sheepherders Cabin Road for easy access to the drill site. Produced water could be piped to a Crow Creek tributary within an economical and short (less than 500 feet) PVC pipeline.

B.8. Summaries of bedrock aquifer studies completed in 2010 are attached to the cover letter referenced above. More detailed reports can be provided when requested.

- C. Attach a map covering the area of development and location of proposed project.
- 1. Identify Property Ownership
- 2. Identify Potential Conflicts
- 3. Provide Details of the Area and Necessary Changes to the Area

A map showing the proposed location for the first well at Sheepherders Cabin road is attached. Also attached is a well log from a well drilled by Brian Head City into rocks overlying the Cretaceous Rocks.

C.1. The first test well would be drilled on lands owned by Southern Utah University.

C.2. Rapid agreement with surface owners at SUU is likely. Power lines and water lines will cross an SUU right of way, requiring negotiated access.

C.3. The proposed test well location is on private, developed lands. A well at Sheepherders Cabin Road would require a power line to be constructed across an SUU road. Produced water could be directed to Crow Creek through a tributary channel, less than 500 feet away from the proposed drill site.

- D. Identify any Federal, State or Local Government Issues
- 1. Federal
 - a. Army Corp of Engineers
 - b. Bureau of Land Management
 - c. Fish and Wildlife
 - d. Forest Service
 - e. Other

Federal issues, such as wetlands, are minimal on private property. Crow Creek and Coal Creek are both certified as having no fishery. The entire proposed area is outside of designated Sage Grouse Habitat.

2. State

- a. Department of Environmental Quality
- b. Division of Water Rights
- c. Other

There are no known State issues. Proposed stream flow maintenance could be done at rates that do not exceed 35 cubic feet per second, rates routinely exceeded naturally during spring run off. Cedar Basin water rights will be transferred by the Utah Division of Water Rights into each well prior to beginning full scale production. The sources of those water rights would be farmers, ranchers, Cedar City Municipal Water Utility, and Southern Utah University. It is at least possible that the wells would discover "new water" that could be appropriated to the District.

- Local
 - a. County
 - b. Municipal
 - c. Other

Approvals were already obtained 1 mile away at Woods Ranch, and so no local issues are anticipated.

E. Provide cost estimates of project

An exploratory well will cost on the order of \$200,000 to complete and equip with pumps and short pipelines to streams. A full scale development of 15 wells would cost approximately \$3,000,000 to produce 12,000 acre-feet per year. The CAPEX for full development of the aquifer would be on the order of \$250 per acre-foot.

F. Describe additional evaluated alternatives, if any

Separate Submissions of Water Development Projects from Player and Nelson include the following: (1) Deepening of the Cedar City Quichapa Creek Number 1 well into the fractured quartz monzonite aquifer; and (3) A re-entry of the ARCo Three Peaks well to test the fractured quartz monzonite aquifer at Iron Springs.

G. Describe any environmental effects the proposed project would have on wildlife and/or plant species

Continuous summertime flow of Coal Creek could possibly allow the establishment of a trout fishery. Eventual construction of off-stream storage at Rock Creek would allow development of both trout and bass fisheries.

H. Provide cultural resource evaluations of proposed area

No cultural or archeological resources are present at the site. For your information, Player served as an environmental inspector during construction of the Kern River Pipeline, and supervised SUU archeologist Barbara Frank as she prepared clearances across a 100-mile segment of the line from Milford to eastern Nevada.

 Provide any additional information deemed necessary in the evaluation of this project to provide future sustainable water resources to the Cedar Basin

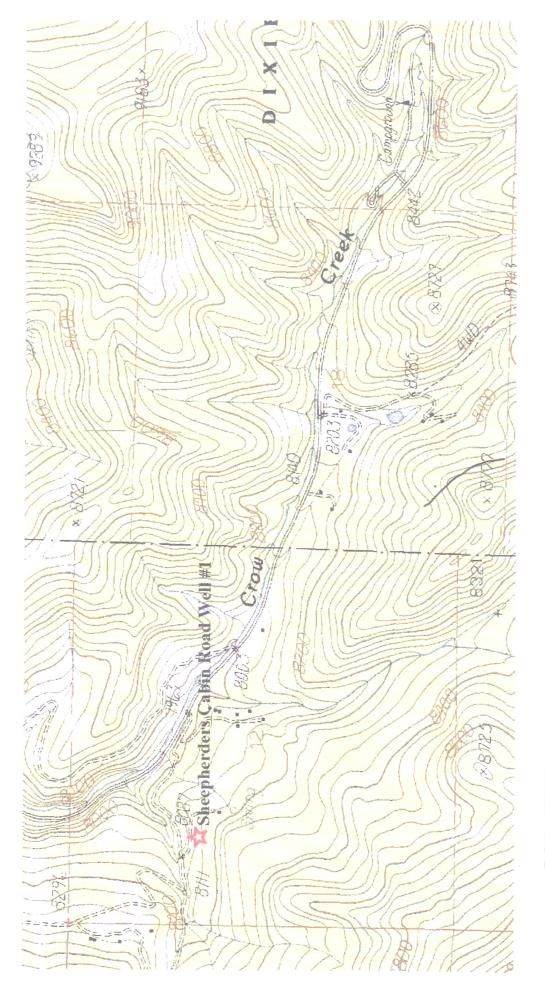
Player reviewed the Markagunt Plateau bedrock aquifer system for Cedar City in 2010. All of his work will be available for review with the permission of the City Engineer's office. For example, additional data includes meteorological studies, summaries of geology, water analyses, aquifer rock properties (matrix porosity and fracture systems), old well records, etc. Summaries of the aquifer study are attached to the cover letter accompanying this Submission.

Respectfully Submitted

Gary Farnsworth Player Utah Professional Geologist No. 5280804-2250 Idaho Professional Geologist No. 1050 Certified Petroleum Geologist No. 3097

H Koree Nelm

H. Roice Nelson, Jr. Texas Professional Geoscientist No. 5120 Louisiana Professional Geoscientist No. 879



PROPOSED SHEEPHERDERS CABIN ROAD EXPLORATORY WELL #1 LOCATION MAP:

Basemap is Webster's Flat Topographic Map

Submitted by G.F. Player and H. Roice Nelson, Jr.

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| DEPTH | | R | Ĕ | | | I.E. | ES | DR | ROCKTITE | COLOR | texture,de | gree of weathering, h | hardness, water quality, etc.) |
| FROM | TO | Hig | h Low | | + | - | 3 | | | BLACK | | | |
| 0 | 5 | | | + | | - | | | LAUS ROCK | BLACE | V | ONS SAND | |
| 5 | 15 | * | * | | × | - | X | | LOUS Ene | eran | Hell | | |
| 15 | 30 | * | × | | | - | ¥ | X | | | | | |
| 30 | 65 | 4 | * | - | | × | × | × | | | | | |
| 65 | 65 93 × × × LAVA | | | | | | | × | LAVA | | VARY | HORD FRAC | Jueso |
| 93 | 96 | × | × | | | × | × | | | BLDCKE | WHITE | ê | |
| 96 | 112 | × | × | | | | | × | LOUD | BLACK | HDRO |) | |
| 112 | 129 | × | × | | | | | X | LAUDE | RED BRON | NO VI | bey Hoed | 13m |
| 129 | 135 | | | X | | | | x" | | 11 | LLAY | 15 TAU ORDI | nee |
| 135 | 146 | | | × | | 1 | - | × | | 1 | 11 | ÖRAUGE | NOV 71 20 |
| Static W | | 21 | | | | | | | | | | | Ale in all |
| | 1-28 | |) | | | | 11/ | ater | Level 137 | feet Flo | wing? | (es 🛛 No | Phone 12 |
| Method | of Water | Lev | el M | easi | uren | nen | t | C | NHERD | If Flowi | ng, Capped | Pressure | PSI |
| Doint to | Which V | Vater | Lev | el N | Apas | SUTE | me | nt u | as Referenced 7 | OP OF LD | SING Tempera | Elevation - | ees C RF |
| Height | of Water | Leve | l refe | eren | ice p | poir | nt a | DOVE | e ground surface | itel | rempera | ture <u>41</u> degre | |

Well Log

| DEDTIT | (fast) | | | CASIN | G | | DEPTH | (feet) | SCREEN T | PERFORATIONS | OPEN BOTTOM |
|--|--|---|---|--|---|---|---|---|--|--|---|
| DEPTH | TO | | CASING TYPE AND | | WALL THICK | NOMINAL DIAM. | FROM | TO | SCREEN SLOT SIZE OR PERF SIZE (in) | | SCREEN TYPE OR NUMBER PERF (per round/interval) |
| 0 | <u>ان</u> | A 53 | MATERIAL/GRA | | (in) .375 | (in) 30 | 520 | 600 | , 050 | 16 | STAILULESS STEE |
| 0 | 115 | | 68000 | 8 | .312 | 24 " | 705 | 745 | .050 | 16" | 304 STANIE |
| +2 | 520 | 153 | 6240E | в | .312 | 16 11 | 735 | 745 | BUDUK .030 | 85/4 85/8 4 | 304 STAWLEY |
| ٥٥. | 205 | ASI | George | в | .312 | 16 11 | 805 | 1200 | 3LANK .050 | 8519" 849" | 304 STOLILLERS |
| 00 | 175 | | 62000 | 8 B B B B B B B B B B B B B B B B B B B | · 2.50 · 2.50 | 442" | 1470 62005 | 1480 | BLOUK ACCESS T | BES | |
| (e)) Head | Configura | Ç | TEEL | PLOT | Ē | | | | Access | Port Provided? 🕱 Ye | es 🗌 No |
| | 0 | | wite | | | | Perforator | Used: | STAILLE | SJ STEEL | 304 |
| | | | (Yes □No | | Depth of S | urface Seal: | 115 | feet | Drive Sł | ioe? 🗆 Yes 🔍 No | |
| urface Sea | al Material | Placement | Method: | - | o 50/ | SO D | BOTTON | r Bo | uk To S | | DC DC |
| | | | used? 🙀 Yes | □No If | yes, depth of c | asing:(| | | iameter: <u>30</u> | | |
| DEPTH | I (feet) | | | | | | VAL SEA | 1 | | ACKER INFORM | |
| FROM | то | | and PAC | KER TYP | AL, FILTER PA | IPTION | | (| y of Material Use | (lbs./gal., # bag | DENSITY mix, gal/sack etc.) |
| 0 | 6 | Cen | ALTER Y | | - | | ielo | | (uBIC FE | | |
| 0 | 115 | 50 | | - | (Entrist | | | | CURIC YOR | | 65 |
| 560 | 750 | -3/8 | Round | | GRAUF | | | 45 | CUBIC Y | | |
| | 1476 | 17 | ~ 0 | | 0 | | | 1 11 | (Z. C. V. | | |
| 140 | | 12 | - 20 Si | uce < | gaag | | ••••• | 16 | CUBIC YA | 203 | |
| 940 | 113 | -+ | BENTON | | | LLLO | | | CUBIC For | | |
| 95 | 113 | 3/8 | BENTON | SITE | HOLE P | | 120 - OL | 13 | CUBIC For | et | |
| 95 PLAC | 113 50 10 | 3/8 | BENTON Hosovy Br | ULTE ENTONC | Hole P Té Deni | | 110 - OL | 13 | CUBIC For | | |
| 95 PLAC | 113 50 10 | 3/8 | BENTON | ULTE ENTONC | Hole P Té Deni | | 110 - OL | 13 | CUBIC For | 57 24 (651,200 | TIME |
| وع Pرمد Well De | 113 50 10 | 3/8 | BENTON Hosebuy Be Vell Yield Te | ULTE ENTONC | Hole P TE Denie mation | | I | 13 | CUBIC For | et | TIME PUMPED (hrs & min) |
| وج PLDC Well Dev DA | velopme | 3/8 4800 (nt and W | BENTON Hosebuy Be Vell Yield Te | ع رتور در مرور st Infor METHO | Hole P TE Denie mation | | | 13 LT Side | Cusic For s up 1000 : Units Check One | DRAWDOWN | PUMPED |
| QS PLDC Well Dev DA | velopme | 3/8 Ween Int and W | BENTON Horsey Br Vell Yield Te | ع رتور در مرور st Infor METHO | Hole P TE Denie mation | | (مو | 13 T Side YIELD | Units Check One GPM CFS | DRAWDOWN (ft) | PUMPED (hrs & min) |
| GS Рсос Well Dev DA рт. Ост. 4= 10-2 | LI 3 velopme TE 11 2-11 | 3/8 New It and W Auz | BENTON Hosovy Br Vell Yield Te | SUTE SUTOUC St Infor METHO | Hous P To Deric mation D | | (e | IZ T Side YIELD | Units Check One GPM CFS | DRAWDOWN (ft) 380 | PUMPED (hrs & min) |
| 95 PLDC Well Dev DA pt. Oct. 97. Oct. 93 20 - | LI 3 So IU velopme II 2-// - | 3/8 Hoor IEST | BENTON Herouy Bo Vell Yield Te DEUELOG PULLOD | SUTE SUTOUC St Infor METHO | Hous P To Deric mation D | | (e | IZ T Side YIELD | Cusic For sup wro : Check One GPM CFS | DRAWDOWN (ft) 3260 326 | PUMPED (hrs & min) 46 WC 184 WS |
| GS PLDC Well Dev DA pr. Qc7. 4= 10-2 8 = 20 - | L 1 3 velopme TE 11 - 12 Permane | 3/8 Hora IEST WELL | BENTON HEBUY BO Vell Yield Te DEUELOJ DEUEL DEUEL | SUTE SUTOUC St Infor METHO | Hole P TE Decie mation D or- | into Fue | رمو ۱۱ ٤ | IZ T Side YIELD 63 325 | Cusic Fee s up wto : Check One GPM CFS X X X | DRAWDOWN (ft) 380 326 304.40 | PUMPED (hrs & min) 46 Wrs 184 Wrs 45.25 |
| 95 PLDC DA DA pT. OCT. 97 97 92 92 92 92 92 92 92 92 92 92 92 92 92 | velopme TE 11 - 12 Permane escription | 3/8 New Contract of the second Auge TEST (WELL (N) (N) | BENTON Horovy Br Vell Yield Te DEUELOG PURD DEUEL | METHO | Hole P TE Denie mation D 27- | into Fue | ريو ۱ \ ٤ Horse | 13 T Side YIELD 63 32-5 | Cusic Face Units Check One GPM CFS X X X F | DRAWDOWN (ft) 3260 326 | PUMPED (hrs & min) 46 Wrs 184 Wrs 45.25 184 feet |
| GS P∟⊳∠ DA pT. Oct. gT. Oct. gT. Oct. G ⇒ 20 - Pump De Approxi | velopme TE 11 - 12 Permane escription mate Ma | 3/8 Hora IEST (JEST (JEST (JEST (JEST (JEST) | BENTON How by Br Vell Yield Te DEUELOG DEUELO DEUEL UEUEL | SUTE SUTOUC SET INFOR METHO OPLES | Hole P TE Denie mation D 27 | iito Fu | L \ E Horse Well | 13 T Side YIELD 63 325 Disinfed | Cusic Fee supurto : Check One GPM CFS X X X F cted upon Com | DRAWDOWN (ft) 380 32.6 304.40 Pump Intake Depth pletion? □Yes [| PUMPED (hrs & min) 46 Wrs 184 Wrs 45.25 184 feet |
| GS P∟⊳∠ DA DA pT. QT. 4= 10-2 8 = 20 - Pump (F Pump Do Approxi Comme | velopme TE 11 - 12 Permane escription mate Ma | 3/8 Next Next Next Next Next Next Next Next | BENTON HENDY BE Vell Yield Te DEOFIOG PLAND DEOEL umping Rate | SUTE SUTO SET INFOR METHO D) ~ Ex OP - ~ Ex | Hole P TE Denie mation D ST ST | nal materials un | L \ E Horse Well sed. problem well data for | 13 T Side YIELD 63 325 Disinfect us encounter m for mor | Cusic Fee s up unto : Check One GPM CFS X X X F eted upon Com ered, extraordinar e space. | DRAWDOWN (ft) 380 32.6 304.40 Pump Intake Depth pletion? □Yes [| PUMPED (hrs & min) 46 W€ 184 WS 45.25 |
| GS $P \downarrow P \downarrow P$ DA $pT \cdot Q = T$ Q = 10 - Z Q = 20 - 2 Q = | velopme TE 11 -12 Permane escription mate Ma nts | 3/8 Wood It and W Auz IEST WENC IEST WENC IEST WENC IEST WENC IEST | BENTON Hereby Be Vell Yield Te DEUELOG DEUELO DEUEL umping Rate ription of const umstances, abai | METHO | Hole P TE Denie mation D T ED T ED E E T E E T E E E E E E E E | nal materials un se additional | Horse Well sed. problem well data for To 54 | 13 T Side YIELD 63 325 Disinfectors as encounter of Fige | Cusic Fee Units Check One GPM CFS X X X Y Feed upon Come ered, extraordinar e space. | DRAWDOWN (ft) 380 32.6 304.40 Pump Intake Depth pletion? □Yes [| PUMPED (hrs & min) Чь ше 18Ч ше 45.25 18Ч. 18Ч. 45.25 18 18 18 45.25 18 18 45.25 18 19 18 18 18 95.25 18 19 10 10 10 10 10 10 110 110 110 110 110 110 110 120 110 110 110 110 110 110 110 110 110 110 110 110 110 110 110 110 |
| Q_{S} $P_{L} = Q_{S}$ $P_{L} = Q_{S}$ $P_{L} = Q_{S}$ DA A DP DDA A P DDDA A P DDA A P DDA A P DDA A P DDA A P DDA A P DDA A P DDA A P DDA A P DDA A P DDA A P DDA A P DA A P DA A P DA A P DA A P DA A P DA A P DA A P A A A A A A A A | velopme TE 11 2-11 Permane escription mate Ma nts | 3/8 1000 100 100 100 100 100 100 100 100 10 | BENTON Herovy Br Vell Yield Te DEOFOG DEOFOG DEOFOG DEOFU UEOFU umping Rate ription of const umstances, abar | SUTE SUTO SET INFOR METHO SOPLES COPLES SUTE D | Hole P TE Denie mation D 27- 20- 27- 20- 20- 20- 20- 20- 20- 20- 20- 20- 20 | nal materials un lise additional | Horsep Well Well sed. problem well data for To 5 G | 13 T Side YIELD 63 32-5 Disinfect m for mor | Cusic Fee Units Check One GPM CFS K X X X F eted upon Com ered, extraordinar e space. T THE | DRAWDOWN (ft) 380 32.6 | PUMPED (hrs & min) 46 Wr 184 Wrs 45.25 184 Wrs 45.25 184 Wrs 5000000000000000000000000000000000000 |
| $\begin{array}{c} \mathbf{GS} \\ \mathbf{P}_{\mathbf{C}\mathbf{D}\mathbf{C}} \\ \mathbf{P}_{\mathbf{C}\mathbf{D}\mathbf{C}} \\ \mathbf{DA} \\ D$ | velopme TE 11 2-11 - 12 eermane escription mate Ma nts 52 52 | 3/8 1000 Aue TEST WELL nt) n: ximum P Desc Circu yell WELL Aue Source S | BENTON HENDY BE Vell Yield Te DEVEROS PARE DEVEROS DEVEL Umping Rate umping Rate stor Sc Stor Sc Stor Sc | METHO COPLEG Truction ac truction ac CTED COPLEG | Hole P TE Denie mation D D D D D D D D D D D D D D D D D D D | nal materials un se additional | Horse Well sed. problem well data for To 54 | 13 T Side YIELD 63 325 Disinfect is encounter for more 0 File PLACE | Cusic Fee Units Check One GPM CFS K X X F Check One GPM CFS K Check One GPM CFS K Check One GPM CFS K Check One GPM CFS K S Check One GPM CFS K S S S S S S S S S S S S S | DRAWDOWN (ft) 380 32.6 32.6 32.6 304.40 Pump Intake Depth pletion? \Box Yes [y $SC E \leq \leq 1.60$ ≤ 40.70 ≤ 40.70 ≤ 40.70 $\leq 52.7.5$ | PUMPED (hrs & min) 46 Wrs 184 Wrs 45.25 |
| 95 PLDC DA DA pt. Oct. pt. Oct. 8 = 20 - 8 = 20 - Pump (F Pump De Approxi Comme P=D Swbw | velopme TE 11 2-11 - 12 eermane escription mate Ma nts 52 52 | 3/8 1000 Aue TEST WELL nt) n: ximum P Desc Circu yell WELL Aue Source S | BENTON HENDY BE Vell Yield Te DEVEROS PARE DEVEROS DEVEL Umping Rate umping Rate stor Sc Stor Sc Stor Sc | METHO COPLEG Truction ac truction ac CTED COPLEG | Hole P TE Denie mation D D D D D D D D D D D D D D D D D D D | nal materials un se additional | Horse Well sed. problem well data for To 54 | 13 T Side YIELD 63 325 Disinfect is encounter for more 0 File PLACE | Cusic Fee Units Check One GPM CFS K X X F Check One GPM CFS K Check One GPM CFS K Check One GPM CFS K Check One GPM CFS K S Check One GPM CFS K S S S S S S S S S S S S S | DRAWDOWN (ft) 380 32.6 34.6 34.6 34.6 34.6 34.6 34.7 35.7 32.7.5 49.5 7EST Res | PUMPED (hrs & min) 46 Wrs 184 Wrs 45.25 184 Wrs 45.25 184 Wrs 5000000000000000000000000000000000000 |
| PLDC Well Dev DA $p_T \cdot Och$. 14 = 10 - 2 18 = 20 Pump (F Pump Do Approxi Comme PED FED SUDE | velopme TE 11 2-11 - 12 eermane escription mate Ma nts 52 52 | 3/8 1000 1 1000 1 1 | BENTON HEDVY BE Vell Yield Te DEVELOG DEVELOG DEVELOG DEVELOG DEVELOG DEVELOG SE SE SE SE SE SE SE SE SE SE SE SE SE | SUTE SUTE SUTE SUTE SUTE METHO D) Ex- OP Ex- OP C | Hole P TE Denie mation D D D D D D D D D D D D D D D D D D D | hal materials un hal materials un like additional stortso ricetteo ricetteo ricetteohar and the suphar additionalfor the | Horse Horse Well sed. problem well data for To 54 de 111 H To 14 IN To 14 bervision, act | 13 T Side YIELD 63 325 Disinfect is encounter m for more 0 File 0 File 0 File 0 File 0 Ties cording to | Cusic Fee Units Check One GPM CFS X X X X F Check One GPM CFS X X F Check One GPM CFS X X F Check One GPM CFS X T F Check One GPM CFS X T F Check One GPM CFS X T F Check One GPM CFS X T F Check One GPM CFS T T Check One GPM CFS T T Check One GPM CFS T Check One GPM CHECK T Check One GPM CHECK Check One Check | DRAWDOWN (ft) 380 32.6 34.6 34.6 34.6 34.6 34.6 34.6 34.6 34.6 34.6 34.7 35.7 35.7 35.7 32.7 35.7 32.7 32.7 32.7 32.7 32.7 32.7 32.7 32.7 32.7 32.7 32.7 32.6 32.5 | PUMPED (hrs & min) 46 Wr 184 Wrs 45.25 |
| $\begin{array}{c} \mathbf{GS} \\ \mathbf{P}_{\mathbf{L}\mathbf{DC}} \\ \mathbf{P}_{\mathbf{L}\mathbf{DC}} \\ \mathbf{DA} \\ \mathbf$ | velopme TE 11 2-11 - 12 Permane escription mate Ma nts - 52 | 3/8 1000 1 1000 1 1 | BENTON HENDY BE Vell Yield Te DEVEROG PULAD DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG DEVEROG | SUTE SUTE SUTE SUTE SUTE METHO D) Ex- OP Ex- OP C | Hole P To Denie mation D D D D D D D D D D D D D D D D D D D | hal materials un hal materials un like additional stortso ricetteo ricetteo ricetteohar and the suphar additionalfor the | Horse Horse Well sed. problem well data for To 54 de 111 H To 14 IN To 14 bervision, act | 13 T Side YIELD 63 32-5 Disinfect is encounter for more o Field PLACE PLACE Cording to cording to | Cusic Fee Units Check One GPM CFS X X X X F Check One GPM CFS X X F Check One GPM CFS X X F Check One GPM CFS X T F Check One GPM CFS X T F Check One GPM CFS X T F Check One GPM CFS X T F Check One GPM CFS T T Check One GPM CFS T T Check One GPM CFS T Check One GPM CHECK T Check One GPM CHECK Check One Check | DRAWDOWN (ft) 380 32.6 34.775 52.7.5 49.577.825 72.57 32.75 32.6 32.6 32.75 32.7 | PUMPED (hrs & min) 46 Wr 184 Wrs 45.25 |

| DEPTH | (fart) | | | | | | | | | |
|----------|-----------------------|----------------------------------|--|--|---|-----------------------------|------------------------|---|-----------------------|---|
| | (leet) | | CASIN | | | DEPTH | (feet) | | | OPEN BOTTOM |
| FROM | то | CASING TYP AND MATERIAL/GR | ADF. | WALL THICK (m) | NOMINAL DIAM. (in) | FROM | то | SCREEN SLOT SIZE OR PERF SIZE (III) | (in) | SCREEN TYPE OR NUMBER PERF (per round/interval) |
| 0 | 6 | A 53 60000 | B | .375 | 30 | 520 | 600 | , 050 | 16" | STANUES STEE |
| 0 | 115 | AS3 GRADE | 8 | .312 | 24 " | 705 | 745 | .050 | 16" | 304 STANK |
| +2 | 520 | 153 6000E | в | .312 | 16 | 735 | 805 | BLADK .030 | 85/24 85/84 | 304 STAWLES |
| 600 | 705 | ASI GEDORE | в | .312 | 16 | 805 | 1470 | 3LANK .050 | 85/81 85/8 | 304 STAILLER |
| 00 | 175 | ASS GRODE | BB | · 2.50 · 2.50 | 4/2" | 14.70 62005 | 1480 | BLANK ACCESS T | BES | |
| | Configurat | 0 | PLOTA | 4 | | | | Access | Port Provided? 🕱Ye | s 🗆 No |
| | t Type: | | | | | Perforator | Used: | STANDLES | | |
| | | stalled? Ves 🗆 No | | Depth of S | urface Seal: | | fcet | Drive Sh | oe? 🗆 Yes 🖾 No | |
| | | Placement Method: | under 1 Ke | | | | a Bo | LL TO SI | | |
| | | ce casing used? A Yes | | 6 | | p" fe | eet d | iameter: <u>30</u> | THIS CASING | 2012 |
| DEPTH | | | | | | | L / FILT | ER PACK / PA | ACKER INFORM | ATION |
| FROM | то | | | L, FILTER PA | | | (i | y of Material Used f applicabi | (lbs./gal., # bag | DENSITY mix, gal./sack etc.) |
| Ô | 6 | CEMENT à | BENTON | othe H | our PL | uelo | 36 | (UBIC FEE | 7 | |
| 0 | 115 | 50/50 St | 200 (| -En Ex | T | | 11 | cueic YAR | 05 18.40 1 | bs |
| 560 | 750 | 3/8 Round | PED | ORAUE | | | 45 | CUBL YO | ras | |
| 740 | 1476 | 12-20 Si | uca S | Qu4 | | | 16 | Cubic You | 25 | |
| 95 | 113 | 3/2 BENTON | SLTE | HOLE PI | _ub | | 13 | CUBIC FEE | π | |
| PLDC | 50 10 | Near Hosoury B | | | the second se | io - 01 | T SIDE | up into 2 | 4" LASIND | |
| Well Dev | elopmen | t and Well Yield Te | st Inform | nation | | | | | | |
| | | | (TTUO) | | | 1 | TELD | Units Check One | DRAWDOWN | TIME PUMPED |
| DA | TE | | METHOD |) | | | ILLD | GPM CFS | (ft) | (hrs & min) |
| рт. Ост. | 11 L | NZ DEUELOJ | THER | 2 | | 60 | O | × | 380 | 46 lure |
| 4= 10-22 | | EST RUND | | | | ١١ | 63 | × | 326 | 184 Ws |
| 8 = 20 - | 12 0 | VELL DEVEL | opues | T | | 8 | 25 | × | 304.40 | 45.25 |
| Dump (P | ermanen | t) | | | a allama anna a' fhirir Raadhina | | | | | |
| | | | | | | Horsep | ower: | Pu | mp Intake Depth: | feet |
| * | scription: | imum Pumping Rate | | | | | | | letion? 🗆 Yes 🗆 | |
| | and the second second | Description of const | and the second | The Color of the Color of the Color of the | al materials us | | | | | |
| Commen | | Circumstances, abar | donment pi | ocedures. Us | ie addiiional w | ell data form | n for more | space. | | . (|
| PEA | GRAU | HAS EXTEN | CTED | FOOLL SU | NEFOLE | TO 56 | O FEE | r. 14E | SCREEN WA | H COLLAPSE |
| From | 524 | 1 TO 540' SCI | 2254 5 | SIZE DIS | FUETED C | e un | 525124 | ED FROM | 2010 320 | THE SUDGEN |
| | | | | | | | | | | |
| TOOL 4 | ups u | WABLE TO GO | BELO | w 541 | 6\$/4 . 1 | NSTALLER |) IEST | Merep To 6 | 195 /EST KESU TEST | NUTS WERE SALL |
| Well Dri | ller State | ment This well wa | drilled and | l constructed i | under my supe to the best of | rvision, acco my knowled | ording to a ge and bel | pplicable rules and ief. | d regulations. | |
| WCH DI | | and and repo | | | | - | | | | |
| | RIMSHA | W DRILLING | | 1 | | | Lic | ense No | 240 | |
| | RIMSHA | W DRILLING | Firm. or Corporation - | i'nai or Type | | | | | 240 14 - 2012 | 2 |

WELL DRILLER'S REPORT ADDTIONAL DATA FORM State of Utah Division of Water Rights

Page Z of 3

Well Identification

Change Application: a37313 (75-661)

Owner Note any changes Town of Brian Head P.O. Box 65 Brian Head UT 84719

Contact Person/Engineer: _

Well Location Note any changes

S 568 E 2182 from the W4 corner of section 02, Township 36S, Range 9W, SL B&M

UNCONSOLIDATED CONSOLIDATED DESCRIPTION AND REMARKS Well Log LURNWARLE (e.g., relative %, grain size, sorting, angularity, bedding, W A T grain composition density, plasticity, shape, cementation. consistancy, water bearing, odor, fracturing, minerology. Ē ROCK TYPE COLOR texture, degree of weathering, hardness, water quality, etc.) DEPTH (feet) FROM TO High Low OZANGE × 146 148 LAUA REO BROWH FORMATION Ison CLAY ORANGE 174 X X 148 RED BROWN & BLAC X LOND 179 × s. 174 HARD User BLACK RED BROWH LOUD 193 y. ¥ 179 2 ۰.(ч ٤ [LAUD & QUARTZ 4 ٨ 193 J. 227 ч ч 11 LOUD × × 393 ¥ 227 HARD MED BLACK X LOUR 489 × X 393 HARD VAR RED BLACK × LOUD × * 509 489 41 11 LOUD BLACK 4 £ 547 s. 509 HARD FEDERURSO BLACK 4 LAUD 551 4 × 1 547 FRAJURE) HORD VARY BLACK LDUD X XX 551 582 HDRO RED BROWH X LAUD X ×. 596 582 RED LOUD × × Ľ 609 596 RED, BROWN & BLACK HARD × LOUD 1 699 4 609 BRITHE Haen 1.54 5 X LAUA × 699 788 × RED, BROWTO & BLACK SOME WHITE Bib FEDRINGE LAUA XX 790 X 788 (LARON FURLATION WHITE, TON MUDSTONE X 790 857 HAROGR WHITE MUDSTONE X 879 857 RED MUDSTONE X 866 879 WHITE MUDSTONE X 886 927 FEACTURED HARDER MUDSTOUR WHUTE × 931 927

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

Well Log

WELL DRILLER'S REPORT ADDTIONAL DATA FORM State of Utah Division of Water Rights

Well Identification

Change Application: a37313 (75-661)

Owner Note any changes Town of Brian Head P.O. Box 65 Brian Head UT 84719

Contact Person/Engineer: ___

Well Location Note any changes

S 568 E 2182 from the W4 corner of section 02, Township 36S, Range 9W, SL B&M

UNCONSOLIDATED CONSOLIDATED CSSSGUDT LLIARABUDH ALLNABLE YTDVBLE SR Well Log DESCRIPTION AND REMARKS W LRMEABLE (e.g., relative %, grain size, sorting, angularity, bedding, ATER grain composition density, plasticity, shape, cementation, consistancy, water bearing, odor, fracturing, minerology. ROCK TYPE COLOR texture, degree of weathering, hardness, water quality, etc.) DEPTH (feet) FROM TO High Low FURLATION LARON MUDSTONE WHITE K 931 1206 BROKEN HORO FRATURED NUDSTONE URDN6F. X 1210 Ł 4 1206 WHITE & GRAY FIZALTURED NALLOSTONE VELLOW X × 1210 1246 × FRACTURED HARD LALLOSTONE GRANGE X 1 1263 × 1246 FEDULLED VARY HARD ORDUGE LLUOSTULE 1263 1294 1 × × HORD ORDNGE LLUOSTONE × 1294 1362 X HAVED FRACTURED BIG FLUID LOSE ORANGE LUDSTONE X 1308 XX 1302 URANGE LLUDSTOLE × X X 1314 1398 BIG FLUD LOSE OPANGE FEDGIUZED X LLUDSTONE 1322 × × 1314 GRADD LASTLE FEDETURAD TAN (ONGLOUSZOTE WHITE X x 1330 × 1322 FURLATION 11 u CONGLOWGEDTE X 1333 1330 L FRACTURED CONGLOWERDIE 5 × × + 1333 1338 11 5 (ONGLOMERATE 1354 1338 LONGLOUGODOFE FZACTURED 11 4 L 1440 × 1354 X CONGLOMERATE 11 15 1440 1480 (LARON FORMATION) ORANGE RED X NUDSTONE 1480 1502

Location Description: (address, proximity to buildings, landmarks, ground elevation, local well #)

Well Log

Page 3 of 3