

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Transfer No. 82856

MINIMUM REQUIREMENTS CHECKLIST
TO BE SUBMITTED WITH APPLICATION FOR TRANSFER

RECEIVED
OCT 10 2018

Department of Water Resources

An application for transfer must be prepared in accordance with the minimum requirements listed below to be acceptable for processing by the Department. Incomplete applications will be returned. The instructions, fee schedule, Part 2A reports and additional Part 2B forms are available from any Department office or on the Department's website at www.idwr.idaho.gov.

Name of Applicant(s) City of Soda Springs

Check whether each item below is *attached* (Yes) or *not applicable* (N/A) for the proposed transfer.

Yes N/A * Means the item is always required and must be included with the application.

- ☒ * Completed Application for Transfer of Water Right form, Part 1.
- ☒ * Signature of applicant(s) or applicant's authorized representative on Application for Transfer Part 1. Include evidence of authority labeled Attachment #3 (see below) if signed by representative.
- ☒ * Application for Transfer Part 2A. Attach a Part 2A report describing each water right in the transfer as currently recorded.
- ☐ ☒ Complete and attach an Application for Transfer Part 2B for each water right for which only a portion is proposed to be changed through this transfer application.
- ☒ * Application for Transfer Part 3A is always required (see Attachment #7a below); Parts 3B and 3C must be completed for transfer applications proposing to change the nature of use of the water right(s) or proposing changes to supplemental right(s).
- ☒ * Correct fee submitted with transfer application form. (Fee schedule is on website and instructions for application for transfer.)

Attachments to Application - Label each attachment with the corresponding number shown below as Attachment #1-10.

- ☐ ☒ #1 If the applicant is a business, partnership, organization, or association, and not currently registered in the State of Idaho as a business entity, attach documentation identifying officers authorized to sign or act on behalf of right holder. (See Part 1.)
- ☐ ☒ #2a Water Right ownership documentation if Dept. records do not show the applicant as the current water right owner. **
- ☐ ☒ #2b If the ownership of the water right will change as a result of the proposed transfer to a new place of use, attach documentation showing land and water right ownership at the new place of use. Include documentation for all affected land and owner(s). **
** Additional fee(s) required for water right ownership changes; see fee schedule.
- ☐ ☒ #3 Documentation of authority to make the change if the applicant is not the water right owner.
- ☐ ☒ #4 Power of Attorney or documentation providing authority to sign or act on the applicant's behalf. (See Part 1.)
- ☐ ☒ #5 If the transfer application proposes to change the point of diversion for a water right affecting the Eastern Snake Plain Aquifer (ESPA), attach the results of an ESPA analysis and a detailed mitigation plan to offset any depletions to hydraulically connected reaches of the Snake River. ESPA transfer spreadsheet and model grid labeled cells are available on the Department's website at www.idwr.idaho.gov/WaterManagement/WaterRights/WaterRightTransfers/resources.htm.
- ☐ ☒ #6 Notarized statement of agreement or a statement on official letterhead signed by an authorized representative from each lien holder or other entity with financial interest in the water right(s) or land affected by the proposed transfer. (See Part 1.5.c.)
- ☐ * #7a Attach a map identifying the proposed point(s) of diversion, place(s) of use, and water diversion and distribution system details as described on the application. Include legal description labels. If only a portion of the right is proposed to be changed, identify the current location of the part of the existing right(s) proposed to be changed. (See Part 3A.)
- ☐ ☒ #7b If the transfer application proposes to change the place or purpose of use of an irrigation right attach a Geographic Information System (GIS) shape file, or an aerial photo or other image clearly delineating the location and extent of existing acres and changes to the place of use. If some or all of any right is leased to the Water Supply Bank, you must also show the the specific location and/or acres to be idled at the new, proposed place of use to satisfy lease requirements.
- ☐ ☒ #8a If the transfer application proposes to change the nature of use or period of use for one or more rights, provide documentation describing the extent of historic beneficial use for the water rights proposed to be transferred and document how enlargement will be avoided. (See Part 3B.) Additional fee required for proposed changes to nature of use; see fee schedule.
- ☐ ☒ #8b If the transfer application proposes to change the place of use of a supplemental irrigation right, provide documentation regarding the historic use of the supplemental right(s) and availability or reliability of the primary right(s) being supplemented, both before and after the proposed change. (See Part 3C.)
- ☐ ☒ #9 Water Supply Bank information for all rights proposed for transfer and currently leased to the Bank. (Attachment WSB)
- ☐ ☒ #10 Other. Please describe: _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

RECEIVED
OCT 10 2018

Department of Water Resources
Eastern Region

APPLICATION FOR TRANSFER OF WATER RIGHT PART 1

Name of Applicant(s) City of Soda Springs Phone 208-547-2600
Mailing address 9 West 2nd South Soda Springs, ID 83276 Email askinner@silverstar.com

- ☐ If applicant is not an individual and not registered to do business in the State of Idaho, attach documentation identifying officers authorized to sign or act on behalf of the applicant. Label it **Attachment #1**.
- ☐ Attach water right ownership documentation if Department records do not show the transfer applicant as the current water right owner. Label it **Attachment #2a**.
- ☐ If the ownership of the water right will change as a result of the proposed transfer to a new place of use, attach documentation showing land and water right ownership at the new place of use. Include documentation for all affected land and owner(s). Label it **Attachment #2b**.
- ☐ Attach documentation of authority to make the proposed change if the applicant is not the water right owner. Label it **Attachment #3**.

Provide contact information below if a consultant, attorney, or any other person is representing the applicant in this transfer process.

☐ No Representative

Name of Representative _____ Phone _____
Mailing address _____ Email _____

- ☐ Send all correspondence for this application to the representative and not to the applicant.
OR
- ☐ Send original correspondence to the applicant and copies to the representative.
- ☐ The representative may submit information for the applicant but is not authorized to sign for the applicant.
OR
- ☐ The representative is authorized to sign for the applicant. Attach a Power of Attorney or other documentation providing authority to sign for the applicant and label it **Attachment #4**.

I hereby assert that no one will be injured by the proposed changes and that the proposed changes do not constitute an enlargement in use of the original right(s). The information contained in this application is true to the best of my knowledge. I understand that any willful misrepresentations made in this application may result in rejection of the application or cancellation of an approval.


Signature of Applicant or Authorized Representative

AUSTIN W. ROBINSON, Mayor 9/20/2018
Print Name and Title if applicable Date

Signature of Applicant or Authorized Representative

Print Name and Title if applicable

Date

A. PURPOSE OF TRANSFER

- ☒ Change point of diversion
☐ Change nature of use

☐ Add diversion point(s)
☐ Change period of use

☐ Change place of use
☒ Other Surface water to groundwater
- Describe your proposal in narrative form, including a detailed description of non-irrigation uses to justify amounts transferred (i.e. number of stock, etc.), and provide additional explanation of any other items on the application. Attach additional pages if necessary and label it **Part 1A.2**.
Water Right 11-994 is currently owned and used by the City of Soda Springs. Due to a recent reclassification by IDEQ, the water is currently classified as surface water. The City has completed a study to modify the method of diversion from an open pipe to a well casing, thus the need to convert the water right to a groundwater source.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 1 Continued

B. DESCRIPTION OF RIGHTS AFTER THE REQUESTED CHANGES. IF THE RIGHTS ARE BEING SPLIT, DESCRIBE PORTIONS TO BE CHANGED AS THEY WOULD APPEAR AFTER THE REQUESTED CHANGES.

1.	Right Number	Amount (cfs/ac-ft)	Nature of Use	Period of Use	Source & Tributary
All or Part ☒ ☐	11-994	5.5 cfs	MUNICIPAL	1/1 to 12/31	Formation Spring
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	

Total authorized under rights 5.5 cfs and/or _____ acre-feet.

2. Total amount of water proposed to be transferred or changed 5.5 cubic feet per second and/or _____ acre-feet per year.

3. Point(s) of Diversion:

- ☐ No changes to point(s) of diversion are proposed - the following chart is therefore not completed. (Proceed to #4.)
- ☐ Attach Eastern Snake Plain Aquifer analysis if this transfer proposes to change a point of diversion affecting the ESPA. Label it **Attachment #5**.

New ?	Lot	¼	¼	¼	Sec	Twp	Rge	County	Source	Local name or tag #
		NW	SW		27	T8S	42E	CARIBOU	FORMATION SPRING	

4. Place of use: (If irrigation, identify with number of acres irrigated per ¼ ¼ tract.)

- ☒ No changes to place of use are proposed - the following chart is therefore not completed. (Proceed to #5.)

Twp	Rge	Sec	NE ¼				NW ¼				SW ¼				SE ¼				Acre Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
Total Acres (for irrigation use)																			

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 1 Continued

5. General Information:

- a. Describe the complete diversion system, including how you will accommodate a measuring device and lockable controlling works should they be required now or in the future:

The new diversion system will be accomplished by installing a well casing into the same aquifer that is currently being used. The water diversion system will include a flow meter and a lockable flow control valve.

- b. Who owns the property at the point(s) of diversion? Formation Springs Ranch, LLC

If other than the applicant, describe the arrangement enabling the applicant to access the property for the diversion system:
An agreement between Formation Springs Ranch, LLC and the City of Soda Springs for permanent easements to the well site, well lot, discharge line and power to the well house.

- c. Are the lands from which you propose to transfer the water right subject to any liens, deeds of trust, mortgages, or contracts?

If yes, ☐ attach a notarized statement from the holder of the lien, deed of trust, mortgage or contract agreeing to the proposed changes on official letterhead signed by an authorized representative. Label it **Attachment #6**. List the name of the entity and type of lien: N/A

It is the applicant's responsibility to provide notice to lien holder, trustee, mortgagor, or contract holder of the proposed changes that may impact or change the value of the water rights or affected real property. Any misrepresentation of legal encumbrance on this application may result in rejection of the application or cancellation of an approval.

- d. Are any of the water rights proposed for transfer currently leased to the Water Supply Bank?

If yes, ☐ complete Attachment WSB.

- e. Describe the effect on the land now irrigated if the place or purpose of use is changed pursuant to this transfer:

N/A

- f. Describe the use of any other water right(s) for the same purpose or land, or the same diversion system as right(s) proposed to be transferred at both the existing and proposed point(s) of diversion and place(s) use:

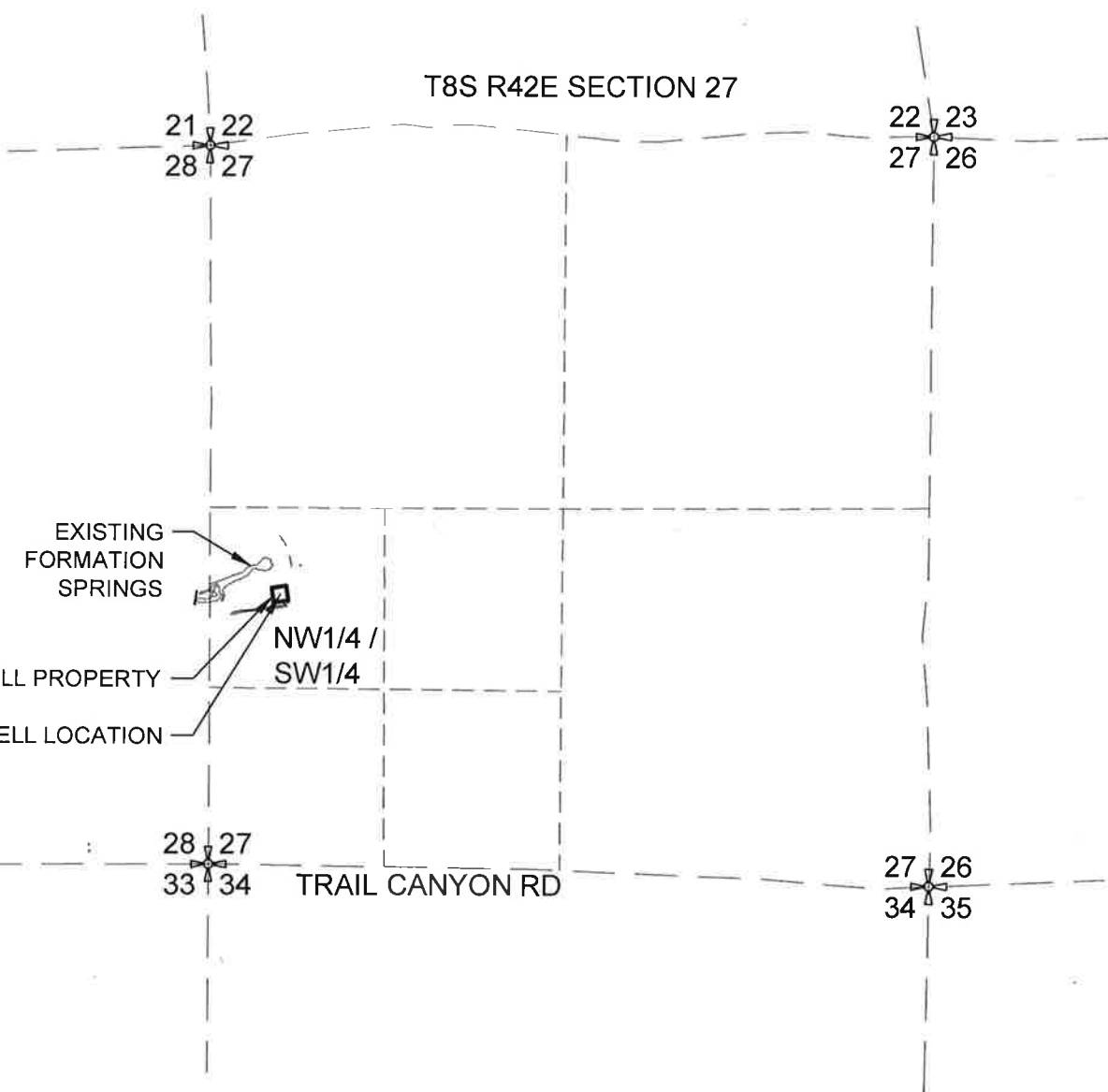
11-40, 11-41, 11-42

- g. To your knowledge, has/is any portion of the water right(s) proposed to be changed:

Yes No

- | | | |
|--------------------------|-------------------------------------|---|
| ☐ | ☒ | undergone a period of five or more consecutive years of non-use, |
| ☐ | ☒ | currently leased to the Water Supply Bank, |
| ☐ | ☒ | currently used in a mitigation plan limiting the use of water under the right, or |
| ☐ | ☒ | currently enrolled in a Federal set-aside program limiting the use of water under the rights? |

If yes, describe:



FORSGREN
Associates Inc.

350 NORTH 2ND EAST, REXBURG, ID 83440
PH: 208.356.9201 FAX: 208.356.0206

**FORMATION SPRINGS
LOCATION MAP
NW 1/4, SW 14,
SEC 27, T8S R42 E**

PROJECT NO:

01-13-0980

DATE:

9-13-2018

82856

January 4, 2016

Justin Beard, P.E.
Project Engineer
Forsgren Associates, Inc.
350 North 200 East
Rexburg, ID 83440

Re: Willowstick Geophysical Investigation of Formation Spring, Soda Springs, Idaho
Sub: Final Report

Dear Mr. Beard:

Introduction and Purpose for Investigation

This report presents the results of a Willowstick® geophysical investigation to identify subsurface flow paths and patterns influencing the flow of water out of the ground at Formation Spring. Formation Spring is a natural water supply that produces thousands of gallons per minute of high quality drinking water for the City of Soda Springs, Idaho. Recently, the spring was deemed suspect to potential surface contamination (i.e., plant and animal life and/or other potential near-surface contaminants that could impact water quality). The purpose of the geophysical investigation is to identify flow paths and patterns at depth so that groundwater can be intercepted and conveyed to the surface without coming in contact with potential near-surface contaminants.

The application of the Willowstick technology, as applied to Formation Spring, is based on the principle that groundwater substantially increases the conductivity of subsurface earthen materials through which it flows as a general rule. As the signature electric current flows between strategically placed electrodes it concentrates in the more conductive zones (i.e., in areas of highest saturation and transport porosity) where groundwater flows relatively freely through the subsurface. Preferential electric current flow paths and patterns were detected by measuring their signature magnetic fields. The measured magnetic field was compared to the predicted magnetic field (based on a homogeneous environment) in order to highlight variations from the homogeneous background model. The results were further analyzed by inversion modeling to characterize the distribution of electric current in three dimensional space to detect where groundwater preferentially flows up from depth.

Survey Layout and Study Area

The study area targets a 23-acre expanse surrounding the spring. Due to limited access to regional groundwater in the vicinity of the spring site, only one survey configuration was employed for the investigation (see Figure 1).

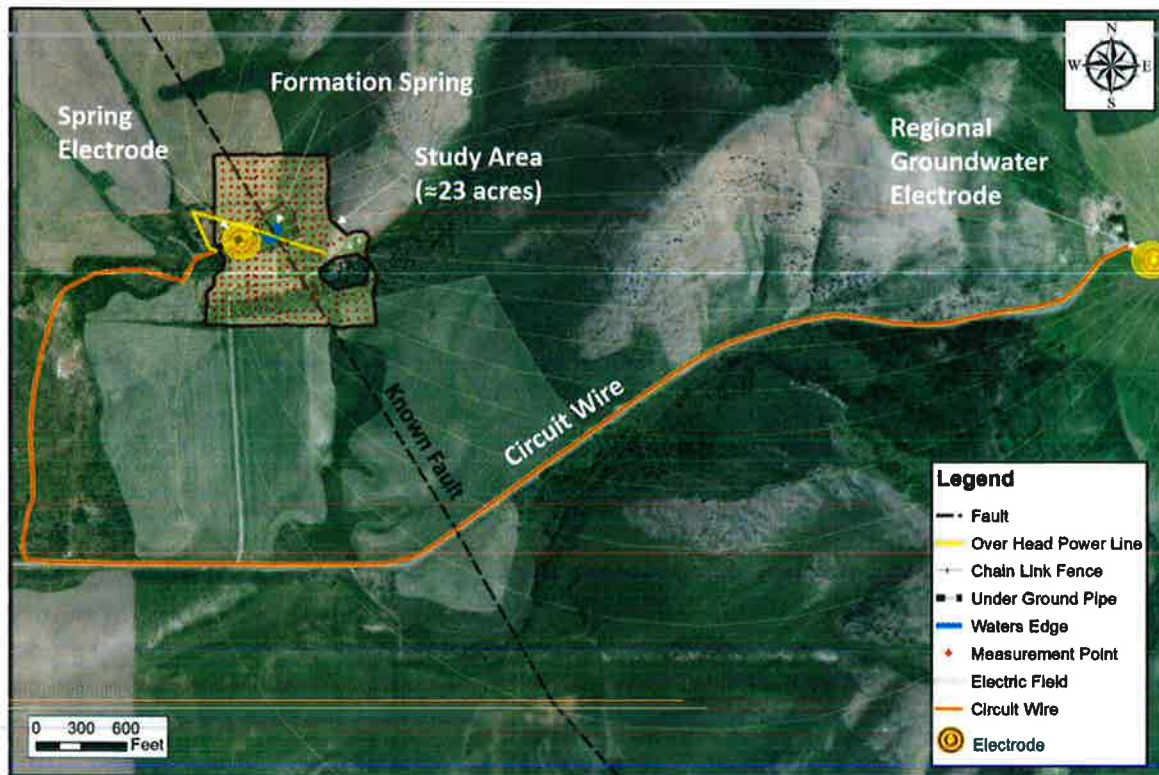


Figure 1 – Survey Layout and Study Area

For the survey configuration shown, an electrode was placed near the spring in contact with water flowing from the ground. A second electrode was placed in a well located nearly a mile to the east in contact with regional groundwater. The overall approach to the survey configuration involved injecting and driving AC electric current with a specific signature frequency of 380 Hertz between the strategically placed electrodes. As electric current flowed out and away from the spring site, it concentrated in the more conductive zones (i.e., in areas of highest saturation and transport porosity) where groundwater flows relatively freely through the subsurface. As the signature electric current flowed through the subsurface, it generated a recognizable magnetic field that was measured from the earth's surface over the study area. Numerous small red "+" symbols denote measurement stations, which were established on a 50 foot grid. Some measurement stations were occupied repeatedly for quality control purposes. The position and elevation of each measurement station was recorded as part of the fieldwork, which is critical to quality control measures, data processing, modeling and interpretation. The grid spacing was adequate to obtain sufficient detail and resolution for identifying preferential electric current flow paths while at the same time optimizing funds available for the investigation in order to adequately explore areas of interest. The red/orange circuit wire connecting the strategically placed electrodes was positioned in a large loop around the study area. The electrodes and circuit wire are located outside the study area as much as possible due to the strong magnetic

field influence around them. Because 100% of the electric current must pass through the circuit wire and electrodes, the magnetic field intensifies near these appurtenances. The general distribution of electric current through the subsurface—based on a homogeneous earth model—is portrayed by the faint yellow lines.

Observed Magnetic Field Contour Map

Figure 2 presents the observed magnetic field contour map created from the injected electric current through the subsurface study area.

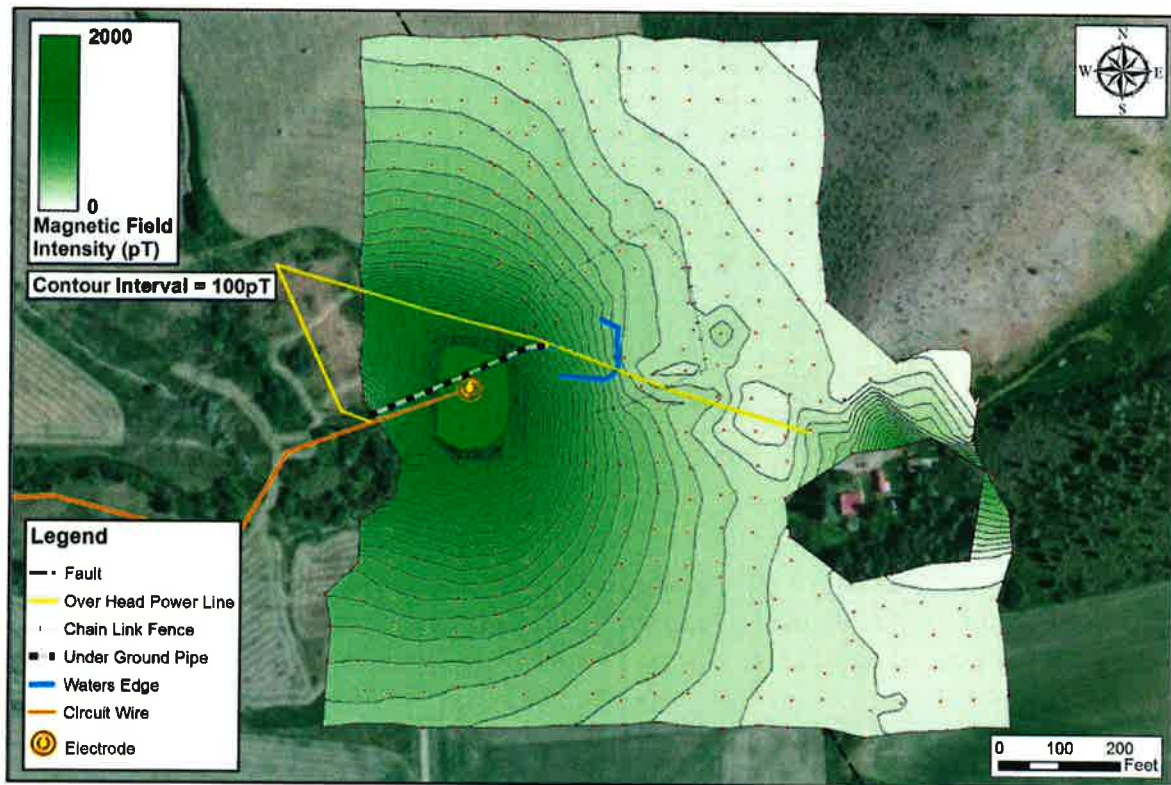


Figure 2 – Observed Magnetic Field Contour Map

This “observed” magnetic field data is not meant to be interpreted directly. To interpret the data, it must be compared to the predicted magnetic field model based on uniform flow in an electrically homogeneous earth. This causes the concentration of electric current due to heterogeneity—or changes in subsurface conductivity (such as preferential groundwater flow paths)—to stand out, which greatly facilitates interpretation and modeling.

Predicted Magnetic Field Contour Map

To identify areas of greater or lesser conductivity through the subsurface study area, a model was created to predict the magnetic field response expected at each measurement station given the position of the circuit wire and electrodes. This prediction is made under the assumption of a homogenous subsurface conductivity environment. The prediction also includes the effects of the electrodes, circuit wire, and topography on the magnetic field (see Figure 3).

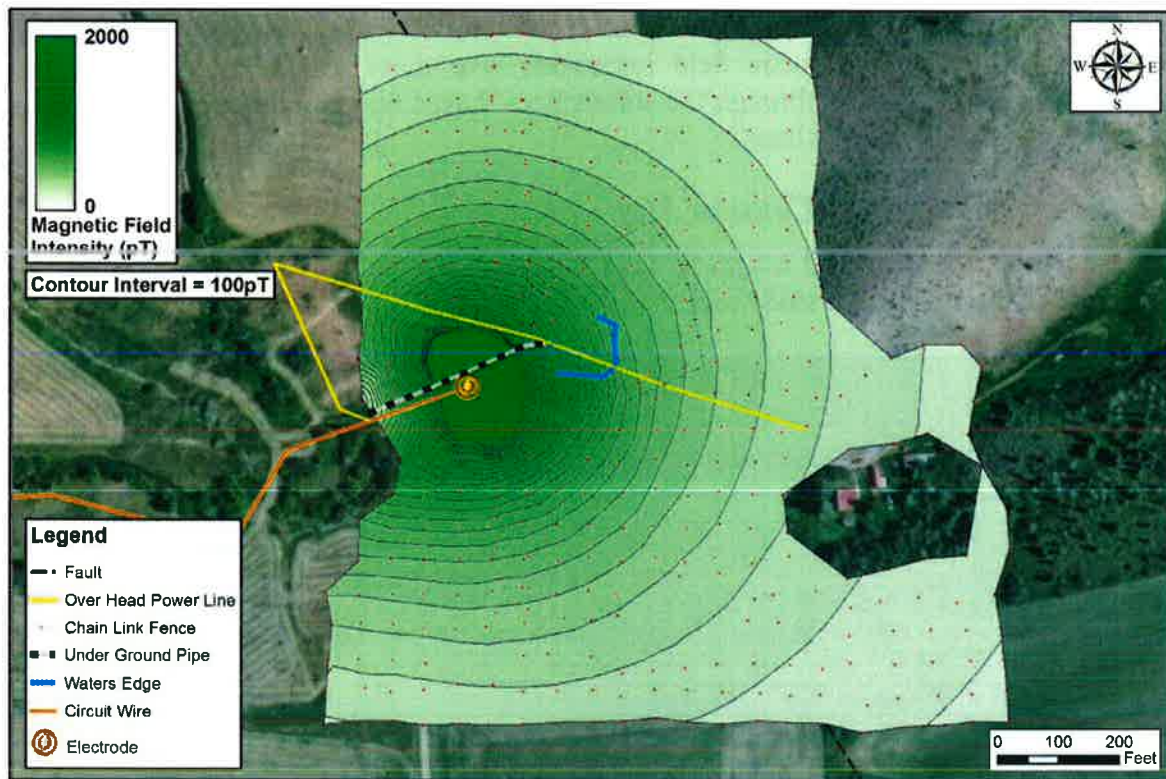


Figure 3 – Predicted Magnetic Field Contour Map

Ratio Response Map

By computing the ratio of the observed magnetic field to the predicted magnetic field for each measurement, a ratio response map is created which corrects for the circuit wire and electrode effect and shows areas of anomalous electric current flow—greater or lesser than predicted (see Figure 4).

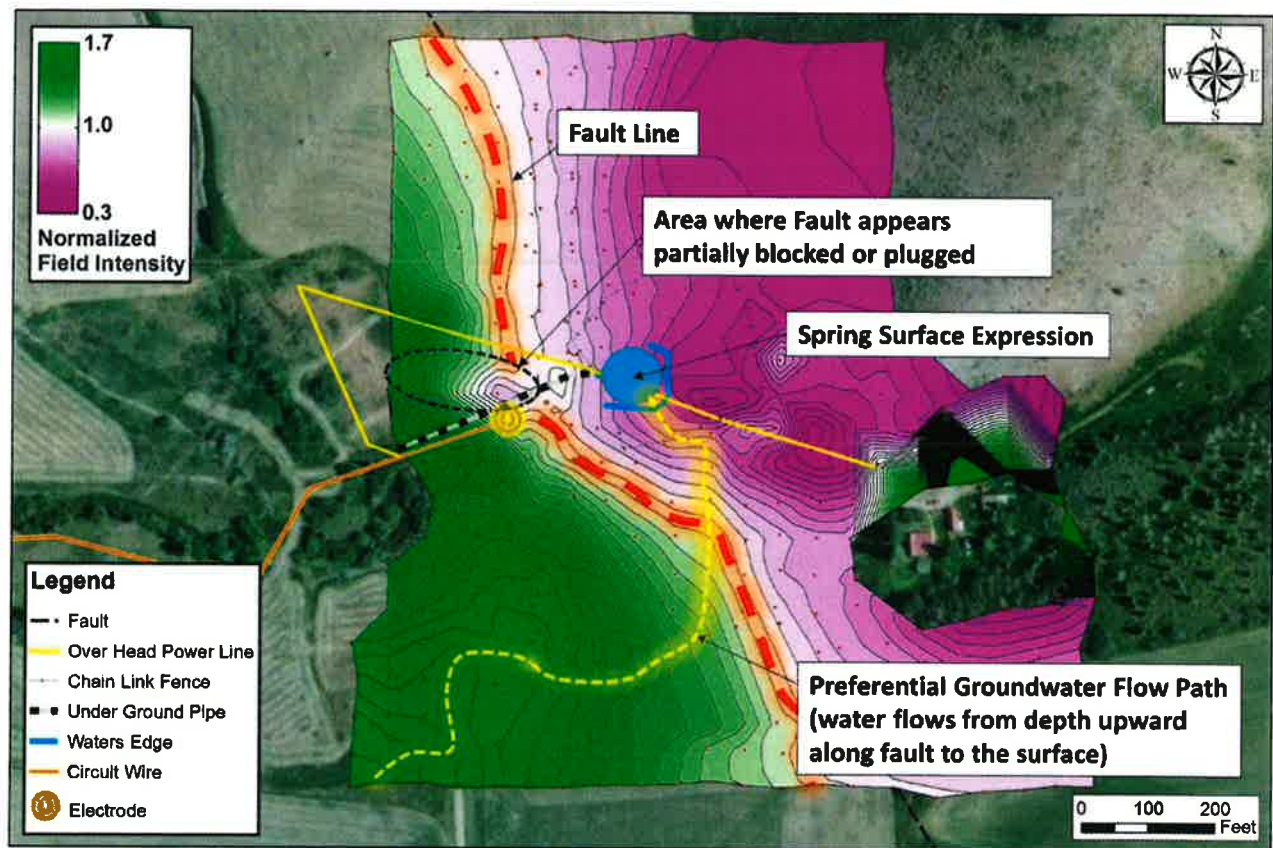


Figure 4 – Ratio Response Map

In Figure 4, the white shaded contours (where the ratio is approximately 1:1) show where the magnetic field intensity is equivalent to that predicted by the model. Areas shaded purple indicate the magnetic field is less than predicted, and areas shaded green indicate the magnetic field is greater than predicted. It is important to emphasize that the white and purple shaded areas can provide insightful information, and that preferential flow paths are revealed more by the shape of contours than by the color of shading in any given area.

Interpretive markings have been added to the figure to help explain the distribution of electric current (see yellow and red dashed lines). The red dashed line highlights a fairly sharp transition between a more conductive zone to the west and a much less conductive zone to the east. It correlates strongly with the upper reaches of a range-front normal fault as identified on USGS maps. This fault appears to be a primary structural control for groundwater movement and surface manifestation. Published information indicates that the fault dips to the west as confirmed in the magnetic field data. Note how the green shading highlights this geologic feature which acts as a conduit for water to collect and preferentially flow in. The yellow dashed line highlights a preferential flow path that electric current follows as it flows from depth toward the surface. This is not obvious and is only identified by a trained eye. Nevertheless, this will become clearer when modeling results are presented. Even though the distribution of electric current is homogenous to a large degree (compare Figures 2 and 3) the yellow dashed line identifies a preferential flow path in the faulted zone where electric current is slightly more concentrated as it flows toward the surface. Also of notable interest is a blockage observed

along the alignment of the fault. It is theorized that this blockage aids as another structural control that helps to convey water to the surface as will be shown more clearly with modeling.

To better interpret the ratio response map and understand the location (vertical and horizontal alignment) of preferential electric current flow along the alignment of the faulted zone and up to the spring, the data was subjected to an inversion algorithm (mathematical model) designed to predict the distribution of electric current flow in three dimensional space. The inversion model is referred to as an Electric Current Distribution (ECD) model, the results of which are presented next.

Electric Current Distribution or ECD Model

Because the magnetic field is only measured at the ground surface, it is difficult to ascertain the depth of preferential electric current flow without modeling. To determine a more accurate location and depth, the ratio response data is processed by an inversion algorithm designed to predict the distribution of electric current flow in three dimensional space within the subsurface study area. The inversion result is referred to as an Electric Current Distribution or ECD model. Figure 5 presents a 3D view of the ECD model created for the investigation.

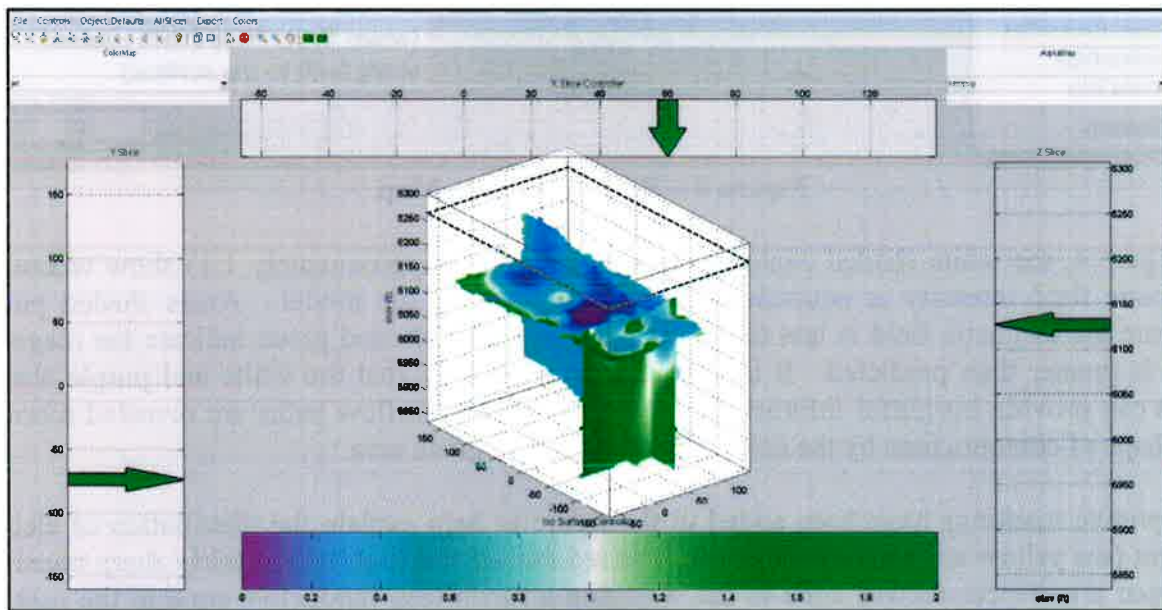


Figure 5 – ECD Model Viewer

In the model, dark green shading identifies areas where electric current density is more concentrated than predicted. On the other end of the scale, the dark purple shading identifies areas where electric current is less concentrated. Willowstick uses MATLAB software to generate and analyze ECD inversion model volume data. The ECD model viewer can generate slices at any elevation or cross-section position within the volume as demonstrated in Figure 5. Also, isosurfaces can be created, which reveal 3D surfaces of equal electric current density.

3D Site Model

A 3D *site model* was created to show pertinent site features in relation to ECD model slices and isosurfaces. Its purpose, in other words, is to show ECD slices and isosurfaces in context. Figure 6 presents a view of the 3D site model. This site model includes the following features for presentation:

- Aerial Photograph
- Surface Contours
- Spring Surface Expression
- Spring Fence
- Supply Pipeline
- Access Road
- Residential Home

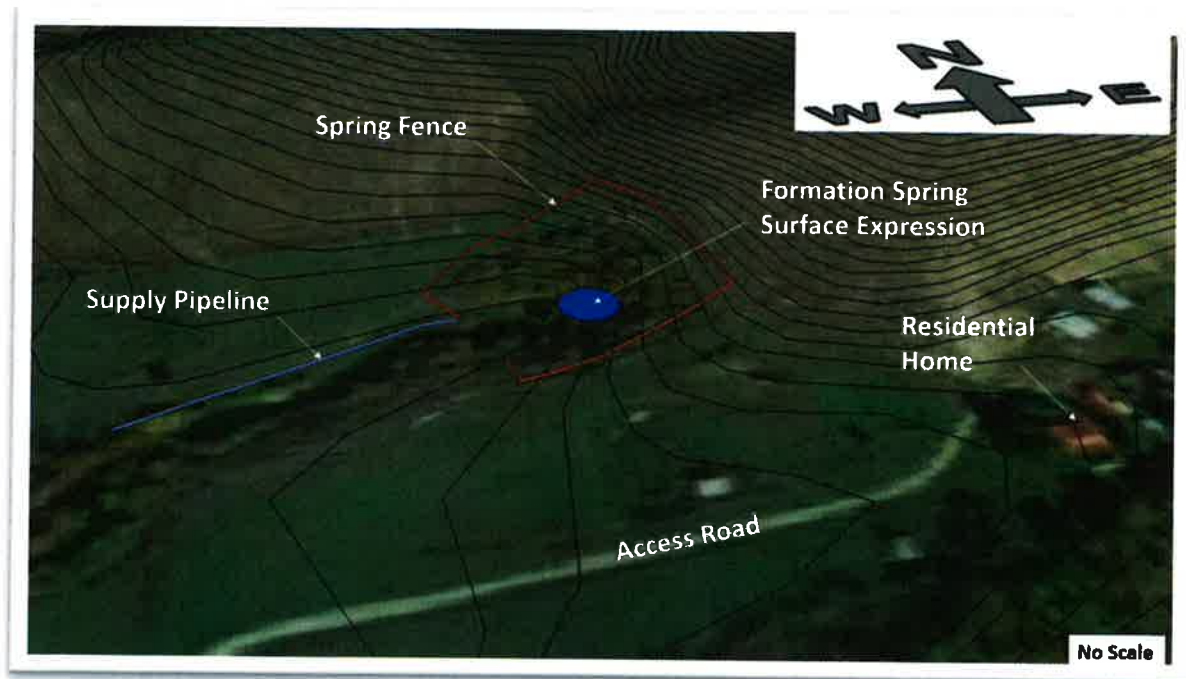


Figure 6 – 3D Site Model (looking north from above)

EDC Modeling Results

Figure 7 presents a view of the 3D Site Model with an ECD isosurface inserted in the model at level 1.2 (normalized electric current 20% above normal).

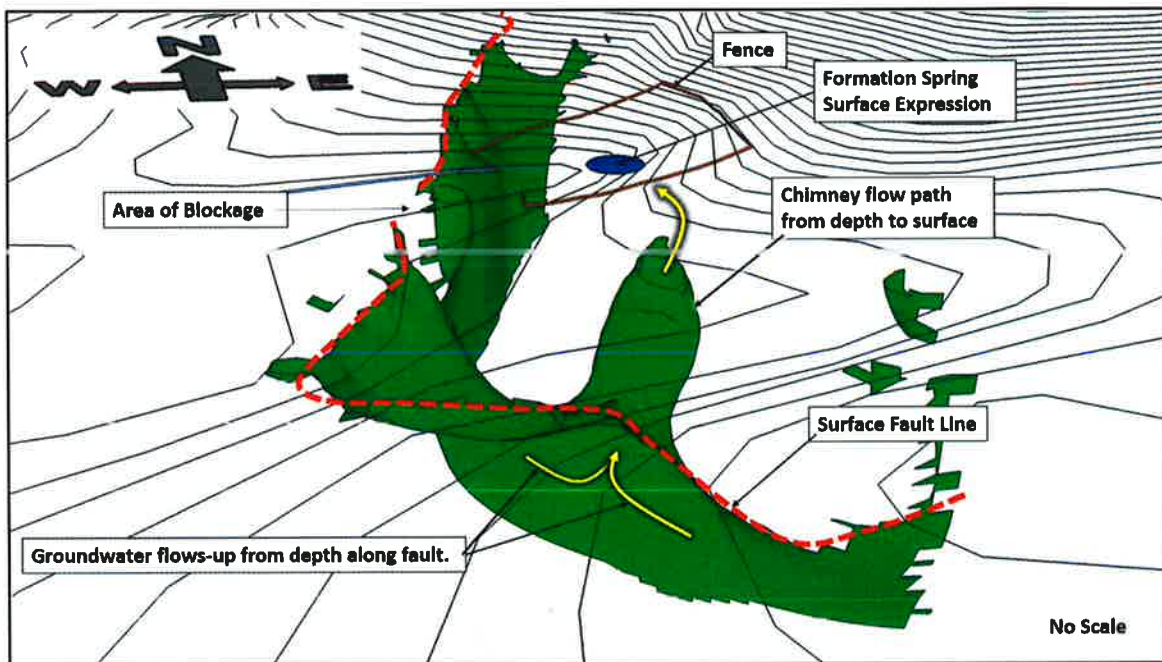


Figure 7 – 3D Site Model with ECD Isosurface at value 1.2

Note the “chimney” flow path connecting the deeper reaches of the faulted area with the shallower reaches of the spring just south-southwest of Formation Spring. This chimney flow path identifies where groundwater flows up from depth toward the spring. Also, the vertical green shaded areas (where electric current is highly concentrated) identifies the faulted zone that traverses the subsurface study area. Note the break in the vertical green shading—this is where blockage occurs along the fault. To further explain the distribution of electric current along the faulted zone and up to the surface, Figure 8 presents a cross-sectional sketch of the spring site which illustrates how the fault influences groundwater flow.

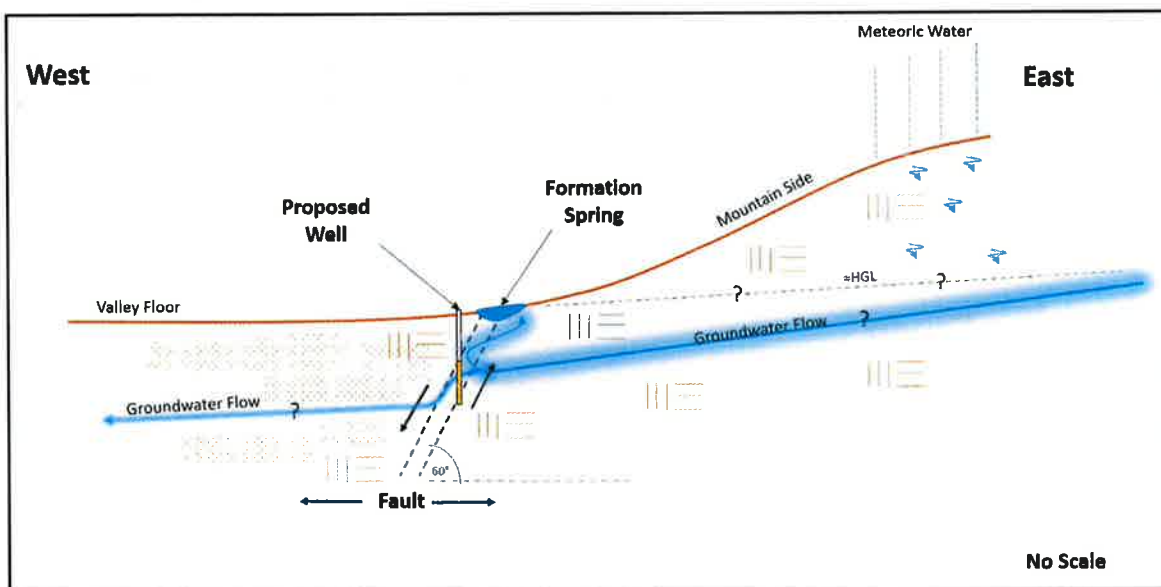


Figure 8 – Cross Sectional Sketch of Fault

The black arrows in the figure illustrate fault movement. Published information suggests that the valley floor and east mountain range were pulled apart. This movement created an opening (or conduit) in which meteoric and groundwater collects and concentrates as it flows off from the east mountain range. Due to the semi-impermeable silts and clays most prevalent in the valley floor and because of the offset between the raising mountains and dropping valley floor, water mostly concentrates in the fault, although some escapes into the valley floor. As water preferentially collects, concentrates and flows along the faulted zone, it backs up underneath the east mountain range. It is theorized that as water backs up beneath the mountains—and because groundwater cannot flow laterally along the fault due to the blockage—groundwater is forced up out of the ground at the spring.

Well Site

In order to intercept the targeted groundwater at depth, before coming in contact with near-surface contaminants, it is recommended that the well be located as shown in Figures 9 and 10. Coordinates for the well site are given in Figure 10.

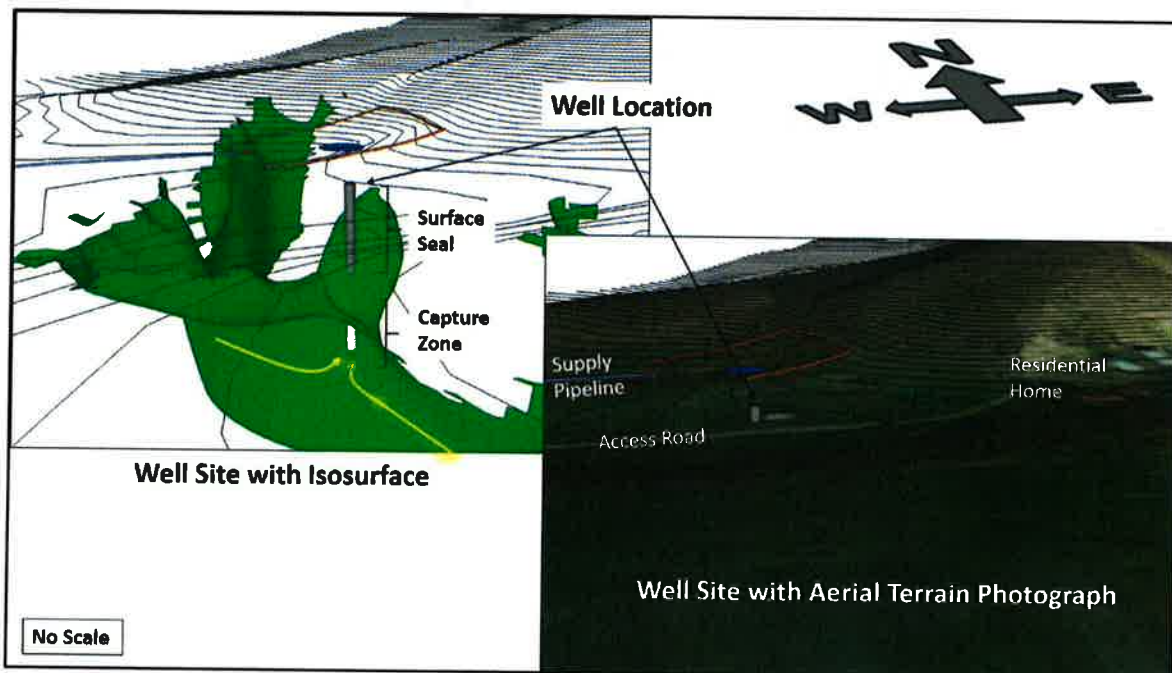


Figure 9 – Well Location in Site Model

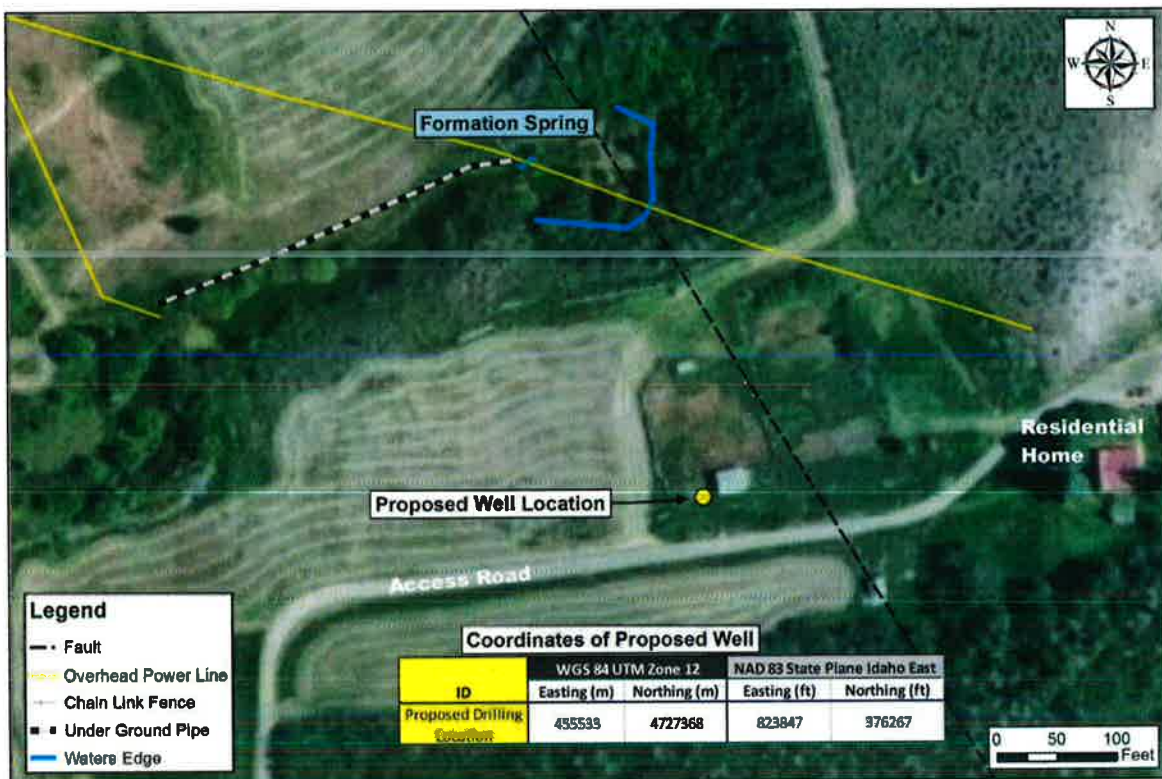


Figure 10 – Well Location and Coordinates

Reasons for considering the recommended well location for development are as follows:

1. The proposed well is located in the center of the electric current chimney flow path wherein high quality and quantity of groundwater is most likely to exist.
2. Because the fault dips to the west, the well should be located on the downstream side (west side) of the upper reaches of the fault to insure that the well intersects the fault at depth.
3. It is suggested that the well be drilled to a depth of approximately 175 feet (down through the noted chimney flow path and into the faulted area. Although a specific depth is given, drilling may necessitate slightly different depths in order to optimize water development.
4. It is suggested that the upper 100 feet of the well be sealed. Although the State of Idaho requires only a 58 foot surface seal, the area in which the well has been sited is likely highly fractured. Therefore, a deeper surface seal is justified. Also, based on the slope of the fault and the depth of the targeted water zone, there is no need to perforate the top 100 foot of the well. Keep in mind, this is just a suggestion and actual findings may indicate otherwise.
5. The well is located in close proximity to an access road and power line but far enough away from the spring and residential home that it is unlikely to have much of an effect. It is possible that the access road may need to be shifted and improved for added traffic required of construction, operation and maintenance. Also, the supply pipeline is not too far from the well site to connect at a reasonable cost.

6. There were no other anomalous zones (chimney flow paths) found in the geophysical data that would suggest a better or alternative well site for water production and development.

Well coordinates

In Figure 10 the exact location of the proposed well is provided—in both UTM and Idaho State Plane Coordinates (see rectangular box at the bottom of the figure). In order to optimize placement of the well to intercept the flow path at depth (before coming to the surface), the electric current distribution (ECD) model slices were carefully analyzed to best locate the well. The well should be placed as recommended. To understand the accuracy of the ECD model and the preferential chimney flow path identified by model analysis, a few considerations must be kept in mind. The maximum horizontal error in the position of preferential flow is $\frac{1}{4}$ to $\frac{1}{2}$ the spacing between data stations. For this investigation, a 50 foot grid spacing was used. Therefore, the horizontal error would be within 12.5 to 25 feet, maximum. The ECD model provides an estimation of depth, but the accuracy of depth estimation depends on some factors that should be more carefully considered. The ability to estimate depth accurately is primarily dependent upon the degree of channelization or “focusing” of electric current. For example, experience with modeling shows that the depth accuracy can be as good as 5-10% (of the depth in question) where a high degree of channelization of electric current exists along well-defined flow paths. On the other hand, if electric current is distributed or dispersed evenly without any “channeling”, then it has no preferential depth. Willowstick groundwater studies always fall somewhere between these two extremes. In this investigation, the noted flow paths manifest as fairly strong heterogeneity (more so along the chimney flow path). Therefore, the depth accuracy is expected to be fairly good (~15 to 20%). The chimney flow path is not perfectly vertical but angles slightly and its diameter is not much greater than 50 to 75 feet. Therefore, in order to intercept the flow path at depth, and due to the inaccuracies of the ECD model, it is important not to move from the targeted well coordinates very much.

Summary

In summary, the Willowstick investigation has identified a prime location for the purpose of establishing a production well wherein high quality and quantity groundwater may be intercepted at depth and brought to the surface before coming in contact with potential near-surface contaminants. It is believed that this can be done without the aid of a pump, however, this cannot be fully determined until after the well is completed. It is recommended that this report and its accompanying information be compared with all known site information to substantiate the findings and to make the most cost-effective decisions regarding drilling and developing a high quality and quantity production well for the City of Soda Springs, Idaho.

Sincerely,



Val O. Kofoed, P.E.

President

Willowstick Technology, LLC

*Patent Process No. US 8,688,423 B2

Attached Figures

Figure 1.1 – Survey Layout

Figure 1.2 – Observed Magnetic Field Map

Figure 1.3 – Predicted Magnetic Field Map

Figure 1.4 – Ratio Response Map with Interpretive Markings

Figure 1.5 – 3D Site Model with ECD Isosurface and Interpretation

Figure 1.6 – Proposed Well Location and Coordinates

EASEMENT AGREEMENT

This Easement Agreement (hereinafter referred to as "Agreement") made and entered into this 13th day of August, 2018, by and between Rauln Panting and his spouse Nancy Panting, of 6325 N 2100 W, Malad City, Idaho 83252, and Mary Jensen and her spouse Matt Jensen, of 1907 Ovid Road, Montpelier, Idaho 83254 (herein collectively referred to as "Grantors") and the City of Soda Springs, Idaho, a municipal corporation and political subdivision of the State of Idaho, 9 W 2nd South St., Soda Springs, Idaho 83276 (herein referred to as "Grantee").

RECITALS

I.

The Grantors own real property located in Caribou County, Idaho, more specifically described in Exhibit "A" (hereinafter referred to as "Property") attached hereto and made a part of this Agreement.

II.

The Grantee requires easements from Grantors over, across and through the Property to locate and drill a well for access to and use of Grantee's water rights in Formation Springs, a spring located in Caribou County, Idaho, providing municipal and culinary water for the residents of the City of Soda Springs, Idaho, for ingress and egress to the well site property, for a power line to provide electrical power to the well site, and for a water line from the well site to the existing city water main from Formation Springs to the city.

III.

In consideration of the [REDACTED] other good and valuable consideration paid to the Grantors by the Grantee, receipt of which is hereby acknowledged, the Grantors grant, bargain, sell, warrant and convey to the Grantee the easements hereinafter set forth on the terms and conditions as contained in the Agreement which shall be binding upon the parties hereto, their heirs, successors and assigns.

AGREEMENT

SECTION 1. All of the terms and conditions as set forth in the Recitals to this Agreement are included in and made a part of this Agreement.

SECTION 2. The Grantors do hereby grant, bargain, sell, convey and warrant to the Grantee, a permanent and perpetual easement as more specifically described in Exhibit "B" attached to and made a part of this Agreement, over, under, through, and across Grantors' property for the sole and exclusive use and occupancy by the Grantee, its officers, agents, contractors and employees, to construct, reconstruct, drill, replace, repair and maintain a well and all appurtenances thereto; to also construct a well house

upon said property; to also fence and gate the perimeter of said property; to also locate a power line on said property; and to also construct a water line on, over, through and under said property from the well site to the water transmission line described in Section 5 of this Agreement together with the right to use, construct, reconstruct, replace, repair and maintain all of the same. Said easement is exclusive to the occupancy of the Grantor, its officers, agents, employees and assigns, and the Grantors, their heirs successors and assigns, shall not enter upon or in any way interfere with Grantee's use of said property.

Well water caused by drilling shall be directed down the easement (Exhibit "B") so as to not disturb the road described in Exhibit "F", and drill mud shall be tanked and removed from the easement (Exhibit "B") by the Grantee. Grantee may construct the well house of concrete or other materials deemed suitable to it, but shall install log wood siding or artificial siding with a log siding appearance on the outside thereof. Grantee shall construct a "buck and rail" fence on the perimeter of said property, unless a metal security fence is required by state or federal authorities, and if so required, said metal fence shall meet the specifications of said agencies, but if possible shall be a decorative metal fence and not a chain link fence, and may install a metal or wood gate in the fence to access its property. During initial drilling of the well and construction of the well house, the Grantee shall cause to be constructed a temporary silt barrier on the perimeter of said easement property where needed. The silt barrier shall be removed after completion of initial construction. The Grantee shall maintain the well house, fence and gate in a good condition of repair, and shall plant native grasses on unimproved portions of the property. Grantee shall also have the right to construct, reconstruct, repair and maintain a gravel driveway on said property to provide vehicular and pedestrian access to the well house. The Grantee shall be the sole owner of all improvements, buildings, equipment, well and appurtenances thereto located on said property.

SECTION 3. Grantors grant, bargain sell, convey and warrant to Grantee a permanent and perpetual easement as more specifically described in Exhibit "C" attached hereto and made a part of this Agreement, over, across and through Grantors' Property for the exclusive use and occupancy of the Grantee, its officers, agents, contractors and employees to use, construct, reconstruct, replace, maintain and repair an access driveway leading from the access road as described in Exhibit "F", attached hereto, to the well site property as described in Exhibit "B" and for the operation of motor vehicles and pedestrian traffic thereon, to use, construct, reconstruct, repair, replace and maintain the property described in Exhibit "B" and the improvements thereon. Grantee may place a gravel base on said easement (Exhibit "C") and shall thereafter maintain the same in a good condition of repair. The Grantors, their heirs, successors and assigns, shall not enter upon or in any way interfere with Grantee's use of said property.

SECTION 4. The Grantors grant, bargain, sell, convey and warrant to Grantee a permanent and perpetual easement, as more specifically described in Exhibit "D" attached hereto and made a part of this Agreement, to construct, reconstruct, replace, repair, use, operate, test, maintain, remove and/or abandon in place an electrical power line and attachments, equipment, and appurtenances thereto, all at the expense of Grantee, over, across, under and through Grantors' Property, together with reasonable rights of ingress and egress across adjoining lands of Grantors, necessary for the exercise of the rights granted herein, said easement to supply electrical power from existing power lines located on Grantors'

Property to the well house located on the property described in Exhibit "B". Said power line, and appurtenances thereto, shall be the sole property of the Grantee.

If the surface of said Grantors' Property is disturbed as a result of Grantee's actions in constructing, repairing or maintaining said power line, the Grantee shall cause the surface to be restored by smoothing disturbed areas and by replanting native grasses on the disturbed soil. The Grantors may use the easement property in a manner that will not prevent or interfere with the exercise by the Grantee of the rights granted herein, provided, however, that Grantors shall not in any manner disturb, damage, destroy, injure, obstruct, or permit to be obstructed, the easement described in Exhibit "D" or to the power line or appurtenances located thereon, or construct any buildings, structures, or other improvements over, across, or under the easement described in Exhibit "D" at any time whatsoever, without the express written consent of the Grantee. In this regard, the parties acknowledge that the Grantors have a culinary water line located across said easement, which the Grantors shall have the right to maintain, repair or replace so long as the action taken by Grantors does not damage, destroy, injure, or obstruct Grantee's easement or its water transmission line or appurtenances thereto located therein.

SECTION 5. The Grantors grant, bargain, sell, convey and warrant to Grantee, its successors and assigns, a permanent and perpetual easement as more specifically described in Exhibit "E" attached hereto and made a part of this Agreement, to survey, construct, reconstruct, use, operate, maintain, test, inspect, repair, replace, alter, remove or abandon in place a water transmission line, together with related attachments, equipment and appurtenances thereto, in, upon, under, along and across Grantors' Property together with reasonable rights of ingress and egress across adjoining lands of Grantors necessary for the exercise of the rights granted herein. The water transmission line shall be constructed and completed in a good and workmanlike manner at the sole expense of the Grantee, and said water transmission line and all appurtenances thereto shall be the sole and exclusive property of Grantee. During construction a temporary silt barrier shall be constructed along the edges of said easement, where necessary, which silt barrier shall be removed upon completion of construction. Upon construction of the water transmission line, and acceptance by appropriate federal and state agencies, the existing water main running from Formation Springs to the point where the water transmission line will connect to the existing city water main will be capped by Grantee and may be abandoned in place by the Grantee. The Grantee shall also cause to be removed to ground level any of Grantee's fence, screen box, or spring house which may be located at the beginning of the water main running from Formation Springs to the point where the new water transmission line shall connect to the city water main.

If the surface of Grantors' Property is disturbed as a result of Grantee's construction, reconstruction, replacement, repair or maintenance of said water transmission line, the Grantee shall cause the surface to be smoothed and replanted with native grasses. Grantors reserve the right to use the easement property and its adjacent property in any manner that will not prevent or interfere with the exercise by the Grantee of the rights granted hereunder; provided, however, that Grantors shall not in any manner disturb, damage, destroy, injure, obstruct, or permit to be obstructed, the easement described in Exhibit "E" or the water transmission line located therein, or construct any buildings, structures, or other improvements over, across, or under the easement described in Exhibit "E" at any time whatsoever, without the express written permission of the Grantee. In this regard, the Grantors presently own an irrigation water line located underground and across said easement, and the Grantors shall have the right to continue to use, operate, maintain, repair and replace said irrigation water line so long as the action

taken by Grantors does not damage, destroy, injure or obstruct Grantee's easement or its power line or appurtenances thereto located therein.

SECTION 6. The Grantors grant, bargain sell, convey and warrant to Grantee, its successors and assigns, a permanent and perpetual easement as more specifically described in Exhibit "F" attached hereto and made a part of this Agreement on an existing roadway over and across Grantors' Property for use by Grantee, its officers, agents, contractors and employees, for vehicular and pedestrian traffic, which roadway provides access to the well lot described in Exhibit "B" and the access driveway described in Exhibit "C". Said easement (Exhibit "F") shall be for the joint use and occupancy of the Grantors and Grantee.

Once the Grantors' mother (Margaret Panting) no longer occupies Grantors' Property, the Grantee shall be responsible for maintaining and removing snow from said roadway described in Exhibit "F" as it requires. Grantee shall also have the right to place gravel on said easement. Once the Grantors' mother (Margaret Panting) no longer occupies Grantors' Property, the Grantee shall install a gate at the point where said roadway (Exhibit "F") intersects with the Caribou County road known as Trail Canyon Road. Grantee shall also install a gate at a point approximately one-quarter mile north of the intersection of said roadway (Exhibit "F") and Trail Canyon Road in conjunction with an existing fence line. Both gates shall be kept locked with both parties having a key to said lock or locks in order to allow both parties access along said roadway.

The Grantors wish to eventually construct, at their own cost and expense, a pivot irrigation line on Grantors' property which may extend over the access easement (Exhibit "F"). If constructed, the pivot line shall be constructed and located at a height and in a manner so that the same does not interfere or obstruct Grantee's vehicular and pedestrian ingress and egress along said roadway. Furthermore, neither party shall obstruct, delay or interfere with the other party's use of said roadway for vehicular and pedestrian purposes.

SECTION 7. As additional consideration for the granting of the easements set forth above and in the Exhibits attached hereto, the Grantee shall construct a forty (40) foot by sixty (60) foot corral on property belonging to the Grantors as described in Exhibit "A" and in reasonably close proximity to the road described in Exhibit "F", but not on any of the easements granted by Grantors to Grantee, which corral shall be constructed of five (5) rail continuous panels. In addition thereto, Grantee agrees to spray and control noxious weeds on all easements granted in this Agreement until such time as native grasses have been established. Contractors working for the Grantee shall access the easements described herein at the entry and exit points of said easements.

SECTION 8. Grantors represent and warrant that the Property is free and clear of all liens and encumbrances, and shall execute all such documents as may be reasonably necessary to perfect the Grantee's right, title and interest granted in this Agreement.

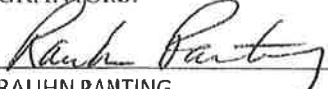
SECTION 9. All rights, title and privileges herein granted, including all benefits and burdens, shall run with the land and shall be binding upon and inure to the benefit of the parties hereto, their respective heirs, executors, administrators, grantees, successors, assigns and legal representatives.

SECTION 10. If either party is required to bring legal action to enforce the terms and conditions of this Agreement, the non-prevailing party shall reimburse the prevailing party for its costs and expenses so incurred, to include, but not be limited to, reasonable attorney fees and costs.

SECTION 11. Time is of the essence of this Agreement. All representations and warranties contained herein shall survive the execution of this Agreement and the recordation thereof and shall not be merged.

IN WITNESS WHEREOF, THE PARTIES HAVE EXECUTED OR HAVE CAUSED
THIS INSTRUMENT TO BE EXECUTED AS OF THE DATE FIRST HEREIN WRITTEN.

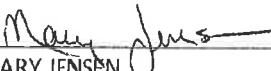
GRANTORS:



RAUHN PANTING



NANCY PANTING



MARY JENSEN



MATT JENSEN

GRANTEE: CITY OF SODA SPRINGS, IDAHO

BY: 

AUSTIN ROBINSON-MAYOR

ATTEST:

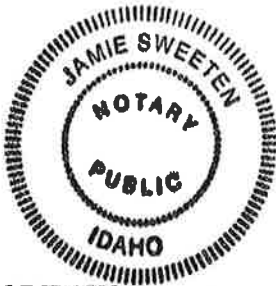


TAUSHA VORWALLER-CITY CLERK

STATE OF IDAHO)
 : SS
COUNTY OF ~~CARIBOU~~ ONEIDA

On this 13th day of August, 2018, before me, the undersigned Notary Public, personally appeared Rauln Panting and Nancy Panting, spouses, and Mary Jensen and Matt Jensen, spouses, known to me to be the persons that executed the foregoing instrument and acknowledged to me that they executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal the day and year first above written.



Jamie Sweeten
NOTARY PUBLIC FOR IDAHO
RESIDING AT: 1586 N 3400 W - Malad Id 83252
COMM. EXP: 6-04-2021

STATE OF IDAHO)
 : SS
COUNTY OF CARIBOU)

On this 24 day of September, 2018, before me, the undersigned Notary Public, personally appeared Austin Robinson and Tausha Vorwaller, known to me to be the Mayor and City Clerk of the City of Soda Springs, Idaho, and the persons that executed the foregoing instrument and acknowledged to me that they executed the same in their official capacities on behalf of said city.



Lynda L. Lewis
NOTARY PUBLIC FOR IDAHO
RESIDING AT: 9th. 2nd S. Soda Springs Id 83276
COMM. EXP: 6.30.2020

Exhibit "A"

Real property in the County of Caribou, State of Idaho, described as follows:

Township 8 South, Range 42 East of the Boise Meridian:

Section 27: $S\frac{1}{2}SW\frac{1}{4}$, $S\frac{1}{2}NW\frac{1}{4}$, $NW\frac{1}{4}SW\frac{1}{4}$.

Section 28: $SE\frac{1}{4}NE\frac{1}{4}$, $E\frac{1}{2}SE\frac{1}{4}$, EXCEPT THEREFROM, Beginning at a point on the North right of way line of Trail Canyon Road, said point being 4362.1 feet East of the Southwest corner of Section 28, and running

Thence North at right angles to the right of way 150 feet;

Thence East 100 feet;

Thence South 150 feet to said right of way;

Thence West 100 feet, to the Point of Beginning.

EXHIBIT B

A tract of land being for the purpose of an easement for a municipal well lot lying entirely within the Northwest One-Quarter of the Southwest One-Quarter of Section 27, Township 8 South, Range 42 East of the Boise Meridian, Caribou County, Idaho, and being more particularly described as follows:

Commencing at the SW corner of said Section 27, being a 1/4 inch rebar with aluminum cap bearing the PLS no. 1252, as described at Instrument no. 151077 in the office of the Caribou County Recorder;

Thence N 13°47'16" E a distance of 1970.25 feet to the POINT OF BEGINNING;

Thence N 07°35'30" W a distance of 110.00 feet;

Thence N 82°24'30" E a distance of 110.00 feet;

Thence S 07°05'30" E a distance of 110.00 feet;

Thence S 82°24'30" W a distance of 110.00 feet to the POINT OF BEGINNING;

Containing 12,100 square feet, or 0.28 acre.

Basis of Bearings: The South line of Section 28, T8S, R42E, as defined by two found monuments as shown on Corner Perpetuation and Filing records filed at instrument numbers 143744 and 151077 in said Caribou County records, and measured per the Idaho State Plane Coordinate System, East Zone. (N 89°44'15" E)

EXHIBIT C

A tract of land being for the purpose of an access easement adjacent to a municipal well lot, lying entirely within the Northwest One-Quarter of the Southwest One-Quarter of Section 27, Township 8 South, Range 42 East of the Boise Meridian, Caribou County, Idaho, and being more particularly described as follows:

Commencing at the SW corner of said Section 27, being a ¼ inch rebar with aluminum cap bearing the PLS no. 1252, as described at instrument no. 151077 in the office of the Caribou County Recorder;

Thence N 13°47'16" E a distance of 1970.25 feet to the SW corner of said municipal well lot easement being the POINT OF BEGINNING;

Thence N 82°24'30" E along the southerly line of said well lot easement a distance of 110.00 feet;

Thence S 07°35'30" E a distance of 20.27 feet;

Thence S 82°24'30" W along the northerly line of an access road easement a distance of 110.00 feet;

Thence N 07°35'30" W a distance of 20.27 feet to the POINT OF BEGINNING;

Containing 2,229 square feet, or 0.05 acre,

Basis of Bearings: The South line of Section 28, T8S, R42E, as defined by two found monuments as shown on Corner Perpetuation and Filing records filed at instrument numbers 143744 and 151077 in said Caribou County records, and measured per the Idaho State Plane Coordinate System, East Zone. (N 89°44'15" E)

EXHIBIT D

A strip of land being 30 feet in width, lying 15 feet on each side of the following described centerline, being for the purpose of the installation and maintenance of an electric power line and its appurtenances across a portion of the Southeast One-Quarter of Section 28, Township 8 South, Range 42 East of the Boise Meridian, Caribou County, Idaho, and the centerline of which being more particularly described as follows:

Commencing at the SW corner of said Section 27, being a ¼ inch rebar with aluminum cap bearing the PLS no. 1252, as described at instrument no. 151077 in the office of the Caribou County Recorder;

Thence N 16°42'16" E a distance of 2,012.96 feet to the SE corner of a well lot easement;

Thence N 07°35'30" W along the Easterly line of said well lot easement a distance of 63.17 feet to the POINT OF BEGINNING;

Thence N 73°57'38" E a distance of 241.57 feet to the POINT OF TERMINUS.

Basis of Bearings: The South line of Section 28, T8S, R42E, as defined by two found monuments as shown on Corner Perpetuation and Filing records filed at instrument numbers 143744 and 151077 in said Caribou County records, and measured per the Idaho State Plane Coordinate System, East Zone. (N 89°44'15" E)

EXHIBIT E

A strip of land being 30 feet in width, lying 15 feet on each side of the following described centerline, being for the purpose of the installation and maintenance of a water line and its appurtenances across a portion of the Southwest One-Quarter of Section 27 and a portion of the Southeast One-Quarter of Section 28, Township 8 South, Range 42 East of the Boise Meridian, Caribou County, Idaho, and the centerline of which being more particularly described as follows:

Commencing at the SW corner of said Section 27, being a 1/4 inch rebar with aluminum cap bearing the PLS no. 1252, as described at instrument no. 151077 in the office of the Caribou County Recorder;

Thence N 13°47'16" E a distance of 1970.23 feet to the SW corner of a well lot easement;

Thence N 07°35'30" W along the Westerly line of said well lot easement a distance of 52.73 feet to the POINT OF BEGINNING;

Thence S 80°02'30" W a distance of 650.00 feet to the POINT OF TERMINUS.

Basis of Bearings: The South line of Section 28, T8S, R42E, as defined by two found monuments as shown on Corner Perpetuation and Filing records filed at instrument numbers 143744 and 151077 in said Caribou County records, and measured per the Idaho State Plane Coordinate System, East Zone. (N 89°44'15" E)

EXHIBIT F

A strip of land being 30 feet in width, lying 15 feet on each side of the following described centerline, being for the purpose of ingress and egress across a portion of the Southwest One-Quarter of Section 27, Township 8 South, Range 42 East of the Boise Meridian, Caribou County, Idaho, and the centerline of which being more particularly described as follows:

Commencing at the SW corner of said Section 27, being a 1/4 inch rebar with aluminum cap bearing the PLS no. 1252, as described at instrument no. 151077 in the office of the Caribou County Recorder;

Thence Easterly along the South line of said Section 27 a distance of 222.20 feet to the POINT OF BEGINNING;

Thence along the following six courses:

1. N 21°00'00" E a distance of 22.02 feet;
2. 115.06 feet along the arc of a curve to the left having a central angle of 24°52'00", a radius of 265.11 feet, and a chord which bears N 08°34'00" E 114.16 feet;
3. N 03°52'00" W a distance of 1623.79 feet;
4. 127.90 feet along the arc of a curve to the right having a central angle of 86°16'30", a radius of 84.94 feet, and a chord which bears N 39°16'15" E 116.15 feet;
5. N 82°24'30" E a distance of 375.43 feet to the POINT OF TERMINUS, from which the SE corner of a municipal well lot easement bears N 07°35'30" W 35.27 feet distant.

Basis of Bearings: The South line of Section 28, T8S, R42E, as defined by two found monuments as shown on Corner Perpetuation and Filing records filed at instrument numbers 143744 and 151077 in said Caribou County records, and measured per the Idaho State Plane Coordinate System, East Zone. (N 89°44'15" E)