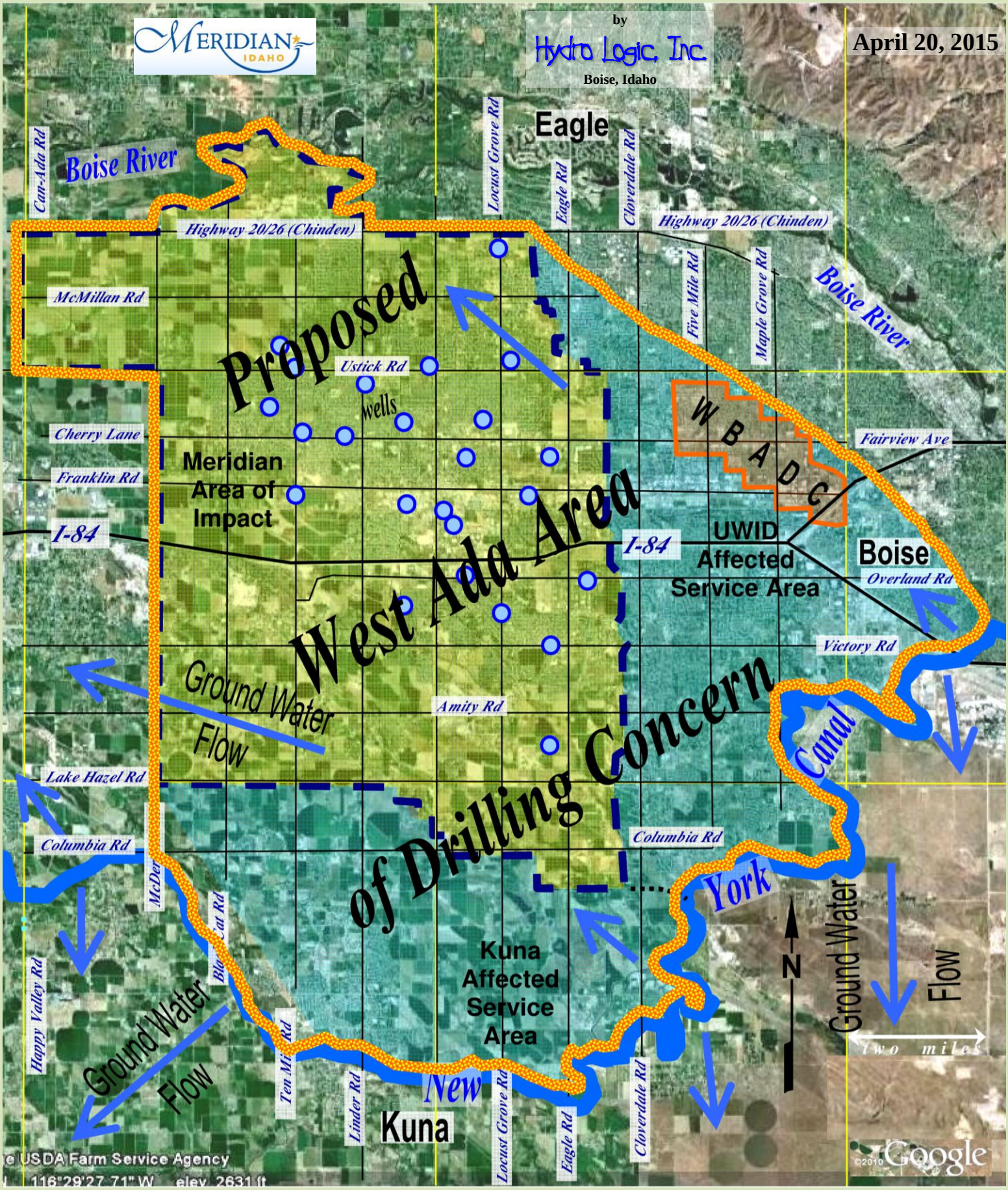
City of Meridian Request to the Director of the Department of water Resources for designation Of A West Ada Area of Drilling Concern



CITY OF MERIDIAN REQUEST TO THE DIRECTOR OF THE IDAHO DEPARTMENT OF WATER RESOURCES FOR A DESIGNATION OF AN AREA OF DRILLING CONCERN WITH SUPPORTING SCIENTIFIC DATA AND CASE STUDIES

April 22, 2015

from:

Tom Barry, Director
Public Works Department
City of Meridian
33 East Broadway Avenue
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With scientific report and case studies by:

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In order to protect its residents and the ground water resource on which it depends, the City of Meridian requests that an Area of Drilling Concern be designated by the Director of the Idaho Department of Water Resources. Ground water is the primary source of potable water for residents in the Treasure Valley, and the <u>only</u> available potable source for the City of Meridian. The protection of this valuable resource is critical to the economic, physical, and social well being for all residents. This Request explains how ground water is threatened by current drilling and well construction practices and how an Area of Drilling Concern will mitigate the threats.

POSITION STATEMENT OF THE CITY OF MERIDIAN

by

Kyle Radek, Assistant City Engineer

The source of potable water for the City of Meridian is threatened.

Through development of water supply infrastructure needed to serve a growing community, specific knowledge of land development and land use activities in the area, ground water development, and monitoring, the City concludes the following to be true:

1. **Natural and human-introduced contaminants that make ground water unsuitable for potable use are present in some aquifers under Meridian.** Naturally-occurring contaminants include the dissolved metal arsenic, and the radionuclide metal uranium. Human-introduced contaminants include nitrates, pesticides, herbicides, chemical solvents such as perchlorethylene, bacteria and other surface water pathogens.

2. **Most problematic naturally-occurring contaminants are present in ground water at relatively shallow depths and human-caused contaminants are introduced at the ground surface.**

3. **The deeper ground waters relied upon for municipal supply are, currently, generally free of contaminants considered hazardous to public health.**

4. **The subsurface geology beneath Meridian includes natural protective layers of clay, silt, or other low-permeability materials that prevent or impede the direct vertical downward movement of shallow contaminants to deeper layers of the aquifer system and vertical movement between aquifer units in the natural system.**

5. **Wells that are constructed or abandoned without fully sealing the annular space between the well casing and the drilled hole serve as conduits that circumvent the low-permeability layers and compromise their ability to provide natural protection to the deeper aquifers.**

These facts lead to the conclusion that construction of inadequately sealed wells in and around the City of Meridian poses the primary threat to the quality of the City's source water by introducing conduits that can allow contaminants to move into otherwise uncontaminated high-quality ground waters. As contamination of the shallower zones becomes more widespread, and more widely recognized, we can expect that at least some drillers will install unsealed casings even deeper into the aquifer system. Residents, domestic well owners, and

the general lay public are unaware of the unsealed nature of the air-rotary and cable-tool domestic wells and the imminent threat these wells pose to the aquifer system.

The primary threats to the City's source water can be mitigated.

The movement of contaminants from shallow to deep ground water through well bores can be impeded and/or stopped. New wells *can* be drilled and constructed in a manner that does not compromise natural protective low-permeability layers and existing inadequately sealed wells *can* be abandoned in such a way as to restore the natural protective layering of the aquifer system. Indeed, the current state wide rules for well construction and abandonment do already require any annular space to be sealed and the installation of annular seals between aquifers of differing pressures, temperatures, and quality. However, without the scientific proof of these sub-surface conditions, the Department has not had the supporting science necessary to enforce the rules to such an extent. The currently allowed well drilling and construction practices are contaminating and commingling ground waters in the hydrogeologic setting beneath the proposed Area of Drilling Concern because the drill-and-drive domestic wells cannot be adequately sealed across the depths of this artesian sedimentary basin. The currently allowed air-rotary drilling methods have not distinguished between differing aquifer pressures, wide variances in ground water chemistry with depth, and/or protective layers of low-permeability, or the need for full-depth casing seals would have been recognized long before now. The rigorous and thorough studies presented in this document are intended to provide the scientific basis for the Idaho Department of Water Resources to impose the more stringent drilling and construction methods contained within the existing rules.

In the Meridian sub-surface hydrogeologic setting, the currently allowed drill-and-drive drilling methods of air-rotary and cable-tool result in unsealed annular spaces between the steel casing and the drilled hole (by their very design) allowing ground waters of different pressure, temperature, and quality to commingle. Because the annular spaces and created voids outside drill-and-drive casings cannot be effectively sealed, they allow contaminants to migrate upwards and downwards, unhindered and unseen, within the aquifer system in response to vertical ground water gradients that have been shown by the City's studies to exist. Although new (since about 1993) municipal wells are required to be sealed through all confining layers above the water production zone in the well, most all other types of new wells and older wells are not sealed through these protective layers.

Therefore changes to the existing statewide well drilling and construction rules are not needed because the provisions necessary to protect this special hydrogeologic setting already exist within the rules. Rather, the City provides the following scientific characterization study explaining why and how the existing rules should be applied to well drilling and well construction in the artesian sedimentary aquifers of the Meridian area. Such standards can best be applied and administered through the designation of an Area of Drilling Concern as is provided for in IC §42-238 (15). The City is requesting the designated area include Meridian's Area of Impact and other adjacent areas of Boise, Kuna, and Ada County upstream in ground water flow path. Specific rules would apply to the construction and abandonment of wells in a hydrogeologically-defined Area of Drilling Concern.

The primary well drilling/construction/abandonment practices the City requests enhanced enforcement of, as part of an Area of Drilling Concern, are:

1. Require the direct mud-rotary drilling method for all domestic wells drilled deeper than 200 feet within the ADC.

2. Require full-depth, continuous casing seals from land surface to the top of the specific sub-aquifer unit to be drawn from by wells.

3. In domestic wells, the screened and/or filter packed interval open to the water-bearing section should not exceed a maximum "spread" of 20 feet.

4. Require plastic casing or high-strength/low-alloy steel casing made in the USA.

5. Require perforation and pressure grout abandonment of the annular spaces of existing and future wells when they are replaced or decommissioned.

6. In place of the current driller Start Card system, which would no longer be allowed inside the ADC, all new wells to be drilled will require the drilling contractor or its consultant to submit a prospectus of the proposed drilling depth and details of well construction to the Idaho Department of Water Resources for review and approval prior to the commencement of drilling.

The needed ADC enforcements, which are described in more detail in the following scientific studies by the City of Meridian's hydrogeologic consultant Hydro Logic, Inc., will accomplish the primary goal of protecting the ground water resource as described in IC §42-238 (15). They also can be expected to result in: better understanding of the ground water resource to provide reliable sources of water well into the future, significantly reduce community investment in water treatment facilities, lower-cost wells from a life cycle perspective, greater well efficiency, and reduced well interference claims and water rights protests to avoid future conflicts over water resources.

This position statement by the City of Meridian is part and parcel of the Request to the Director of the Idaho Department of Water Resources for the Designation of an ADC.

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THE CASE FOR THE DESIGNATION OF A WEST ADA AREA OF DRILLING CONCERN

A presentation of sub-surface scientific data and case studies of the Meridian-Boise-Kuna area of the Treasure Valley in support of requested enhanced requirements and enforcement of the Idaho Department of Water Resources' Well Construction Standards to protect the aquifers relied upon by residents for healthful drinking water, to prevent waste of piezometric head, to prevent the spread of ground water contamination, and to reduce future conflict over water resources in the area.

April 22, 2015

for:

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Tammy deWeerd, Mayor

by

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OVERVIEW

After a 23-year scientific study of its aquifer system by Hydro Logic, Inc. (HLI), the City of Meridian (Meridian or City) recognizes that it sits over a unique geologic section (stratigraphy) and aquifer system that is vulnerable to surface contamination from land use activities through inadequately sealed annular spaces outside the steel casings of domestic water wells and some irrigation and commercial wells. It also has determined that pressure head and ground water geochemistry within the stack of sub-aquifer units[1] beneath the City vary considerably with depth. Potentiometric head differentials between aquifer units of varying depths result in comingling of ground waters of different head, temperature, and chemistries within the unsealed annular spaces outside the casings of water wells, often introducing contaminants into drinking water zones.[2] Sub-surface contamination plumes of natural and anthropogenic origin can be, and are currently being, spread and accelerated by unsealed or inadequately sealed wells. Such commingling is currently taking place in most existing domestic wells in the area and other wells such as Meridian Heights and City of Meridian Well #16-A and Well #18 as is documented in this report.[3]

In cooperation with the Idaho Department of Water Resources (IDWR), the City seeks to promote more rigorous well sealing and well abandonment practices within a proposed West Ada Area of Drilling Concern (WAADC) to protect its current and future ground water supply (Figures 1 and 2). Primary goals are to:

1. Require full-depth casing/borehole annular well seals[4] for all wells greater than 200 feet below ground level (bgl).

2. Require higher quality/more durable materials for construction of water wells.

3. Limit the type of drilling method used to drill domestic wells within the WAADC to direct mud-rotary methods.[5]

4. Require that all wells to be retired, replaced, or decommissioned are abandoned using perforate-and-pressure-grout techniques.

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[1] Sub-aquifer" is an informal term used in this document to indicate a definitive water-bearing stratum that, together with other sub-aquifers, comprises an "aquifer" or even an aquifer system. These are generally thinner water-bearing units that may be separated by equally thin layers of low-permeability lenses but which could easily be combined together with other such units in a recognizable distinct "aquifer" unit.

[2] Vertical commingling that would not otherwise take place in the absence of unsealed well casings.

[3] All three of these wells, that we had previously shown to allow commingling of ground water chemistry and pressure head, have now been modified and/or properly abandoned such that co-mingling is no longer an issue.

[4] These seals are required by the Idaho Department of Environmental Quality's Administrative Rules for Public Drinking Water Systems but domestic, commercial, industrial, and/or irrigation wells are not administered by that agency and rarely utilize full depth annular casing seals.

[5] Irrigation, commercial, and industrial wells may still be drilled using "reverse-rotary" method.

5. Eliminate the "Start Card" drilling permit program and require a prospectus to be reviewed and approved by IDWR for any well drilled within the WAADC.

The City seeks to have all wells to be drilled and/or constructed below 200 feet in depth[6] within the WAADC meet the same requirements as its own municipal wells in terms of drilling, construction, sealing, materials, and abandonment. The City's municipal well construction standards are in place to protect the water resource as a *whole*, and not just the water quality from any particular well. *Every* well has some potential to degrade the water resources relied upon for future water supply if it is not drilled, constructed, and sealed in a way that matches the geology and hydrogeologic setting beneath Meridian. Every well with an unsealed, or partially unsealed, annulus is another hole in the natural protective layering of the aquifer system that allows comingling of ground waters of different pressure, geochemistry, and contaminants under existing natural vertical ground water gradients, under vertical gradients that are driven by diversion and spreading of surface irrigation water, and future gradients that may be induced by pumping. The number of municipal, irrigation, and commercial wells drilled in any given year within the WAADC is *very* small in comparison to the number of domestic wells drilled (Figure 3, Table 1). Therefore, it does little good to seal the casings of the few municipal wells to prevent comingling of differing ground waters if the many drill-and-drive wells, or any other wells, are not similarly sealed from land surface to the top of the targeted water-bearing zone.

The City does not challenge any resident's prerogative to drill and construct a domestic water well, but it is requesting that wells constructed within the proposed WAADC protect the ground water quality to the same extent as municipal wells. The requested WAADC is aimed at eliminating a double standard where public drinking water supplies are at stake. The WAADC also will protect the ground water supplies for private well owners from contamination.

Secondary health, safety, and cost benefits to domestic well owners include:

1. Assurance of safe potable water
2. Sand-free wells
3. Longer well / casing life
4. Longer pump life

The standards requested to be enforced under the proposed WAADC are aimed at the specific hydrogeologic setting beneath the Meridian area and these stated goals.

[6] Although the City of Meridian believes the requested Area of Drilling Concern should apply to *all* depths of the aquifer, the Department of Water Resources requested that the upper 200-feet of geologic section be exempted because there are already so many domestic wells completed within this depth and to continue to allow air-rotary and cable-tool drilling of domestic wells in the area so to lessen the economic effects to the drilling community. Hydro Logic, Inc. counters that most contamination originates at land surface and that the shallower depths of the aquifer are the most critical to seal so that contamination doesn't "start" to infiltrate the aquifer system at the base of a direct conduit (unsealed well). Although the City's municipal wells generally draw from deeper aquifers of known ground water chemistry, the City recommends that all City residents who elect to have their own private well should use the drilling and well construction techniques proposed herein; even for wells completed above 200 ft bgl. The City further believes that domestic wells terminated above 200 ft bgl will yield generally safer and more healthful ground water for its residents.

The City participated in the IDWR's 2008-2009[7] Negotiated Rulemaking to revise the State's Well Construction Standards by providing the hydrogeological expertise of its consultants at

the request of, then, Director David Tuthill. Although that effort improved well construction requirements statewide, the proposed WAADC needs additional protections because of the unique package of sediments, intensive concentrated surface land use activities,[8] and naturally-occuring sub-surface contaminants in some depths of the aquifer. The IDWR's minimum well construction standards already contain the provisions deemed necessary to protect Meridian's aquifer system but the scientific evidence to support regulatory enforcement of those portions of the rules has been missing until now. Meridian's studies of its aquifers have shown that enhanced enforcement of the statewide general rules for well drilling and construction methods are needed for the hydrogeologic setting underlying Meridian to protect public health and to prevent waste or contamination of ground or surface water because of factors such as aquifer pressure, vertical depth of the aquifer, or contaminated ground or surface waters. This report presents the systematic documentation of these conditions and the reasons why additional local area requirements and enhanced enforcement are needed to protect the aquifers and vitally important water resource.

Matching the correct drilling techniques to the hydrogeologic setting is critical to protecting the resource in the Meridian area. The high artesian pressures within the aquifers beneath the proposed WAADC often result in oversized boreholes under air-rotary and cable-tool drilling practices because the higher pressures within the aquifers, coupled with the very low pressures in the borehole induced during air-rotary drilling and cable-tool bailing, cause the unconsolidated sands and gravels to cave into the bore, creating voids, cavities, and oversized borehole in the natural geologic materials along side the well casing. These voids can be very large, requiring many times more the volume of grout to fill than if the bore were drilled only at the outside diameter of the drill bit (Table 4). In drill-and-drive wells (cable-tool and air-rotary), the bores are larger than the well casing by design (at a minimum to the outside diameter of the driveshoe)[9] but these methods *also* cause enlarged voids and cavities larger than the diameter of the drive-shoe outside the installed well casing as described above (Figures 4-7). In all cases, the annular space between the drilled geologic formation (borehole) and the installed well casing must be sealed to prevent commingling of pressure head, contaminated waters, and differing ground water geochemistries including additional unseen erosion of the protective clay layers outside the casing by moving water *after* they are directly hydraulically connected by the borehole during drilling. Grouting of the annular space also increases the useful life of the well[10] and streamlines abandonment procedures

[7] The City's hydrogeologist, Ed Squires, contributed to this effort before the revised rules were implemented in June of 2010.

[8] The Cities of Boise and Meridian are currently Idaho's two largest population centers and Kuna, being one of the fastest growing cities in the nation is the 14th largest city in Idaho. Larger population centers have a much higher concentration of water wells.

[9] Just the oversized diameter of the casing drive shoe in a typical 6-inch diameter domestic well is approximately equivalent to 30 percent of the inside diameter of the steel cased well itself to say nothing of the associated cavities and voids in the drilled boreholes of these wells in artesian sediments.

[10] The City believes that full-depth annular seals also protect a steel well casing from corrosion because in-ground galvanic electrical currents (caused by and focused by subsurface changes in the geologic section), which are largely responsible for casing corrosion, are spread evenly by the uninterrupted seal placement across the entire length of the casing. This contrasts with air-rotary and cable-tool wells,

when a well has outlived its usefulness and when there is no responsible party to abandon the well.[11]

The City believes that "full depth" annular seals (sealing of the entire space outside the well casing, between the drilled hole and the casing from land surface to the top of the targeted water-bearing section) are the only means to restore the natural stratigraphic aquifer protection provided by clay layers, cemented horizons[12], buried soil horizons, and other low-permeability strata after these protective layers are interrupted (compromised) by the drilling and construction of air-rotary-drilled wells. Because these relatively thin natural protective layers, along with the differing aquifer pressures and geochemistry contained within them, are difficult, if not impossible, to recognize during air-rotary drilling[13], we believe grouting the entire annular space is the only way to ensure and to know a well is as sealed as it *can* be. The proposed full-depth annular seals have the further advantage of taking much of the guess work out of regulatory enforcement of well seal installation using current drilling methods. Instead of wondering how to install a short seal at a narrowly defined depth, IDWR could have a high level of confidence that the annular space is sealed into any, and every, layer that is protective. Full depth seals require time to emplace and that extends the time that the sealing process is available for IDWR agents to be able to make site visits to observe seal placements which cannot be investigated after the fact. Eventually, we would expect this to reduce the IDWR manpower required to ensure quality well construction in this area.

IDWR regulates well construction in Idaho and is best equipped to implement and administer enhanced enforcement of special drilling standards in the WAADC. A statutory provision authorizes IDWR to designate an Area of Drilling Concern. IC § 42-238(15) states:

> *Drilling in a designated "area of drilling concern." The director of the department of water resources may designate as he determines necessary, "areas of drilling concern" on an aquifer by aquifer basis within which drillers must comply with the additional requirements of this section. The director shall designate "areas of drilling concern" to protect public health*

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which allow ground water to move against the well casing outside the well and focus the galvanic corrosive currents on shorter segments of the casing.

[11] Grouting extends well life adding value to the other side of the equation of the expense of properly drilled and constructed wells and, more importantly, that these domestic wells are almost always orphans when development comes along and there is no original owner or entity to spend the money to abandon the well properly. Developers, road builders, lenders, etc. need to be put on notice that when you purchase a property with a well, you are responsible for the abandonment of the well. Perhaps existing unused wells should have to be abandoned before the sale of the property. There currently exists widespread ignorance to these complications and liabilities of existing older unsealed wells.

[12] Our studies indicate that considerable portions of the geologic section (and aquifers) are partially-to-moderately cemented. This cementation is not typically reported on Well Driller's Reports because the standard air-rotary and cable-tool domestic well drilling methods pretty much pulverize the drill cuttings such that well drillers report sand and/or clay. The cemented nature of the strata are part of the reason why water-filled void space so often exists outside of well casings after drilling with these methods. The entire geologic section is not cemented, however, as referenced by the many sand-producing wells in the valley.

[13] The violent and nature of the drill cuttings return in explosive bursts of air and water mixture pretty well destroys the cuttings (representative samples of the drilled section) and neither pressure head or ground water geochemistry can be measured during air-rotary drilling. If this were to be otherwise, the annular spaces and resultant commingling would have been recognized by the drilling contractors and IDWR with sealing methods required long before now.

and to prevent waste or contamination of ground or surface water because of factors such as aquifer pressure, vertical depth of the aquifer, warm or hot ground water, or contaminated ground or surface waters. It is unlawful for any person not meeting the requirements of this subsection to drill a well for any purpose in a designated "area of drilling concern". Any person drilling a new well or deepening or modifying an existing well for any purpose in an "area of drilling concern" as designated by the director as herein provided shall comply with the following additional requirements:

(a) Additional bonding requirements, as determined by the director, to insure that the well is constructed or abandoned in compliance with the adopted standards for well construction.
(b) Additional experience and knowledge in drilling wells encountering warm water or pressurized aquifers as required by rules adopted by the water resource board.
(c) Document that specialized equipment needed to drill wells in "areas of drilling concern," as determined by the director, is or will be available to the driller.
(d) Provide a notice of intent to drill, deepen or modify a well, submit plans and specifications for the well and a description of the drilling methods that will be used, as required by the director, and receive the written approval of the director before commencing to drill, deepen, or modify any well in a designated "area of drilling concern."

Prior to designating an "area of drilling concern," the director shall conduct a public hearing in or near the area to determine the public interest concerning the designation. Notice of the hearing shall be published in two (2) consecutive weekly issues of a newspaper of general circulation in the area prior to the date set for hearing.

In May of 2001, IDWR established the West-Boise Area of Drilling Concern (WBADC) (Figure 2, Appendix D) for many of the same reasons cited here.[14] In essence, Meridian seeks to enlarge the WBADC to include a broader area. Indeed, the same contamination addressed in the WBADC continues to move toward Meridian and the City's Well #20 in the ground water flow path.

As the City continues to grow, so do the demands on the ground water underlying Meridian. The City has observed the proliferation of domestic wells in the less populated areas of the City during the unprecedented development period prior to 2007 (Figure 3). Fortunately, for

[14] The West Boise ADC abuts Meridian's Area of Impact and was designated by IDWR, in response to a dumping of the industrial solvent perchlorethylene (PERC) by a chemical distributor in Boise prior to moving its operations, to prevent the resultant ground water contamination plume from being spread via the drilling of additional unsealed water wells (Appendix D). This sub-surface plume was undiscovered underground for ten years during which time it had migrated and spread to approximately three miles long by ¾-mile wide.

the ground water resource, most domestic wells to date have been completed to relatively shallow depths due to a high water table and the increased cost of drilling deeper wells (Figures 8 and Table 1). Sixty-eight percent of all existing wells in the City of Meridian are less than 200 feet deep. Seventy nine percent of all existing wells in the City of Meridian are less than 250 feet deep. Without a designation of a WAADC, the shallowest ground water will slowly degrade in response to land use activities and contamination releases. This shallow ground water contamination will then migrate deeper, and more quickly, into the aquifer via inadequately sealed wells. Once the shallower wells are shown to produce contaminated water, the existing unsealed wells and future new domestic wells will be drilled deeper into the pristine drinking water aquifers relied upon by the City, bringing contaminated waters down with them.[15]

With over twenty years of observations and tests, all relevant existing data show that commingling of ground waters *is* happening[16] and no data disputes it. Action is needed to protect the health of current and future generations from ground water contamination. The current level of enforcement of the statewide drilling regulations and rules are not adequate to protect public health, to prevent waste of the water resource, or to arrest contamination of ground water in the unique hydrogeologic setting underneath Meridian. Therefore the City is requesting that the Director establish a West Ada Area of Drilling Concern that covers the City's Area of Impact and the upstream portions of the aquifer that contribute flows to it (Figure 2) and which addresses the special hydrogeologic setting of this area.

WHY IS A "WEST ADA AREA OF DRILLING CONCERN" NEEDED?

I. The Natural Stratigraphic Protective Layering is Limited in the WAADC Subsurface.

The upper 300-to-400 feet of geologic section underlying the City is sand-dominated with only thin layers of silt and clay (Figure 9). It is the semi-horizontal layering[17] of these sedimentary deposits that provides the natural protection to the aquifers from contamination from surface land use activities. Low-permeability strata that protect downward migration of contamination are not only in the form of clay layers, but also exist in the form of buried soil horizons, cemented sands and/or silt layers, muddy sands, micaceous sands, etc. that are not

[15] Without progressive action by the City and IDWR, the more likely scenario is that the existing wells will be replaced with deeper unsealed wells without the unsealed annular spaces in the original well being sealed adequately (proper abandonment) for the hydrogeologic setting thus increasing contaminant pathways into the subsurface in perpetuity.

[16] The City's Hydrogeologist, Ed Squires, and the IDWR's Well Expert, Rob Whitney, have been comparing notes and holding discussions on the City's sub-surface research with respect to well seals and well abandonments for over twenty years such that the Department has a good understanding of the sub-surface circumstances and the City's concerns. Indeed, Mr. Whitney has been called before the Meridian City Council for questioning about IDWR's understanding of the hydrogeologic setting beneath the City where Mr. Whitney generally confirmed the City's understanding as stated in this report. Mr. Whitney's review and comments to this report are appreciated.

[17] The basin sediments are dipping (sloping) but it is the layered and interbedded nature of low-permeability strata that restrict vertical ground water and contaminant movement vertically across the aquifer system. That the natural stratigraphic layering protects the aquifer system's pressures and ground water chemistry is shown by the high variability in these two parameters in the City's multi-depth monitoring well network (Appendix B).

easily recognized in air-rotary and cable-tool drilling or in the sampled cuttings of those methods.

II. Sealing Air-Rotary and Cable-Tool Well Casings Only at Discrete Depths Where Natural Geologic Protection is Perceived to Exist is Very Difficult in the WAADC.

Owing to the limited number and, often, limited thicknesses of low-permeability strata under the WAADC, annular well seals that are to be effective at protecting the aquifer must take advantage of every possible low-permeability layer by use of a full-depth surface seal from land surface to the top of the targeted water-bearing aquifer unit for the well. In other words, under the requested WAADC area of western Ada County, the thin clay layers that are interspersed throughout the geologic section are difficult to detect in many drilling methods; especially in air-rotary boreholes.[18] In the direct mud rotary drilling method, the borehole remains open during drilling without installed casing so that borehole geophysical logs *can* be used to accurately determine the drilled geology and the size (diameter) of the drilled hole.[19] In many cases, these thin clay layers are not of wide areal extent but their overlapping stratified nature, in composite, retards vertical movement of ground water as long as these thin layers are not interrupted by drilling of unsealed boreholes and placement of well casings that are not sealed with grouts during construction of a well. Even if clay drill-cuttings are observed, it is very difficult to accurately locate the depths of these thin units for seal placement[20] and one or two seals of limited thickness[21] are not sufficient to protect the aquifer (Figure 10, Table 6, and Appendix A). A full depth surface seal, in the form of a pumped grout,[22] ensures that all available, and often unrecognized, low-permeability strata are sealed and that there is no guesswork on the depth of the seal and what stratum it is sealed into because the seal is continuous from land surface to the top of the aquifer.

III. Pressure Head and Geochemistry of Aquifers Vary Widely With Depth Beneath the WAADC.

The City's ground water studies have shown that aquifer pressures, as shown by water levels in wells, vary considerably with depth. An example is City Well #19. Completed to a depth range of 556-to-720 feet bgl, it exhibited a **+22.7**-foot *above* ground water level at completion

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[18] Even if the clay layers were easy to recognize during drilling, it would still not be possible to effectively, physically, or economically seal domestic well casings installed using air-rotary and cable-tool drilling methods as described in detail throughout this report.

[19] Even if geophysical and caliper logs are not used, the full depth sealing procedure ensures that the entire annular space is sealed.

[20] Precisely locating a thin clay layer during drilling with air-rotary and cable-tool wells is difficult at best. In any case, delineating clay layers during drilling with these methods is not helpful if the drilled-and-driven casings cannot be sealed into the low-permeability layers; which they cannot. Borehole geophysical logs can precisely identify and locate low-permeability strata such as clays and silts but only in open boreholes of the direct mud-rotary drilling method which also allow for PVC casing and full-depth annular seals.

[21] Current seal placements in domestic wells of the Treasure Valley most often result in a shallow seal (IDWR's rules stipulate a 38-foot minimum surface seal to the first confining layer) and perhaps another marginal seal at the base of the primary casing. Thus all intermediate strata over the remaining drilled section are not sealed from commingling from one another within the unsealed annular space between the drilled bore and the casing. In some areas the 38-ft seal requirement is inadequate (Figure 10 and Table 5) to even isolate and seal the surface gravel aquifer from the well (and the aquifer).

[22] Effective grout placement requires pumping from the bottom of the section to be sealed (so to be under pressure) to ensure grout displaces water and mud in the space to be sealed. This "pressure-grouting" also lifts cavings from drilling out of the space to be sealed.

(Figure 11 and Appendix B = drillers log). The fully-sealed City #19 Monitoring Well, drilled on the same site and just 50 feet away from the supply well (Figure 12), completed between the depths of 340-to-420 feet bgl, had an *above* ground pressure head of **+5.93** feet; a **16.77**-foot head difference from the supply well in only 136 vertical feet of depth.[23] Variances in ground water pressure head with depth are present everywhere within the aquifer system beneath the WAADC (Appendix B). Regardless of the natural aquifer pressures, these pressures can also be changed in the vicinity of pumping wells which may induce changes to vertical ground water gradients that can also cause contaminants to move within unsealed annular spaces of nearby wells. Therefore, these same protections are needed to prevent contaminants from moving between aquifers under natural and pumping-induced gradients in the future. If a vertical head gradient exists, or is induced where aquifers are connected by unsealed annular spaces, these spaces serve as buried, unseen, and forgotten conduits for commingling of ground waters of different pressure head and chemistry in perpetuity.

Just as differences in pressure head exist within the aquifer system underlying the proposed WAADC, ground water geochemistry varies widely with depth also. An example is the Meridian Heights subdivision well field of three wells (Figure 13 and Appendix B). Two of its three wells (Wells #1 and #2) are completed above 300 feet bgl and one newer replacement well (Well #3-B) is completed between 478-to-528 feet bgl (Figure 14). The pronounced differences in ground water chemistry with depth are shown in Table 2. Divergent ground water chemistries within juxtaposed aquifer units are present everywhere underneath the WAADC. Another example is City Well #8 which was completed between 399-to-481 feet bgl (Figure 15). Just 73 feet away, the City drilled a monitoring well in advance of a new supply well on the site that is screened between 837-to-897 feet bgl (Figure 16). The wide difference in ground water chemistry between 481 and 837 feet of depth, as tabulated on Table 3, is highlighted by an 80% difference in total dissolved solids alone. These chemical differences can, and do, occur across short vertical distances in the aquifer system including within sediments of the same color (Appendix B).

IV. Drill-and-Drive Wells are Essentially Non-Sealable in the WAADC Sub-Surface.

The drill-and-drive methods of air-rotary and cable-tool drilling and well construction result in voids outside the driven casings that cannot be effectively sealed against the migration of natural and manmade contaminants in the ground water for the following reasons:

1) <u>The drilled bores are larger than the driven casings by design.</u>
    a. The hardened drive-shoe at the base of the driven casings has two design purposes. The first is to prevent the leading end of the casing from being bent during the driving of the casing into the ground. The second purpose is to provide a bore hole larger than the casing to alleviate friction on the pipe so that it can be driven into the ground. Figure 4 illustrates the minimum possible borehole annular space created by the drive-shoe outside the casing which is approximately 30 percent of the inside casing volume.

[23] With the high specific capacity exhibited by wells of the City of Meridian, this head differential could easily result in the exchange of hundreds of gallons per minute of ground water behind unsealed well casings; unseen and in perpetuity.

2) <u>The drill-and-drive methods of air-rotary and cable-tool drilling create additional (to the oversized drive shoe volume) voids outside the casing</u>.

   a. The expulsion of air at the bit in air-rotary drilling provides the means for the drill cuttings to be carried out of the bore to facilitate continued drilling. In the WAADC, this is typically accomplished by the rising air bubble pushing a large volume of water out of the bore ahead of it as it rises to land surface. This violent expulsion of air-water-cuttings mixture causes very low pressure down hole at the drill bit (and throughout any exposed section of the bore) as the air bubble rises to the surface which results in the unconsolidated sands and gravels of the natural formations collapsing into the bore creating void space that is later hidden behind the driven steel casing. In cable-tool-drilled wells (also drill-and-drive), the bailing of the cuttings and the down hole suction from the drill bit also cause low-pressure conditions and caving of the borehole wall (Figures 5-7). This void space is in addition to the annular space already created by the drive shoe being larger than the casing over the entire reach of the bore.

   b. The resultant volume of drill-cuttings piles and subsequent down hole voids can be very large as is shown elsewhere in this document by the pumped grout volumes needed to fill these voids during many City-documented well abandonments (Figures 17-20 and Table 4). With the created cavities in the sand layers, the overlying silt and clay layers no longer have support in the geologic section and they, too, can spall or collapse into, and disaggregate within, these voids over time further degrading the natural protective layering and enlarging the (unseen) void space around the casing.

   c. In these drilling methods, the casing *must* be driven as the bore is advanced because the bore would not stay "open" otherwise with the air-lifting action of the drilling collapsing the formation materials such that the hole could not be advanced without creating even larger voids. In some cases, loose sand is collapsed into the open space against the casing but sand is not a sealing material either and still would allow commingling of ground water head and chemistry.

   d. By comparison, the direct mud-rotary drilling method (proposed as the acceptable method for drilling domestic wells in the WAADC) maintains a positive pressure at the bit, and within the entire bore, so that the drilled hole is often very close to the diameter of the drill bit (Figures 12 and 16) and so the mud-filled bore remains "open" under the positive pressure imparted by the weighted drilling mud[24]. In other words, the direct mud-rotary method maintains a uniform and open bore that does not collapse during drilling and

[24] A long (30-year plus) history of borehole caliper logs by HLI show that direct mud-rotary drilled boreholes are much more uniform than air-rotary, cable-tool, or reverse-rotary drilled boreholes.

which can be pumped full of bentonite and cement grout, from the bottom-up, after the centralized casing is installed with a known volume of grout that can be measured (tagged) during installation and verified with volumetric calculations.

3) The oversized drive shoe at the end of the driven casing does not allow the annular space to be sealed.
    a. Because the bore cannot remain open without the driven casing in place, and because the oversized diameter of the drive-shoe does not allow sufficient space for the insertion of a grout tremie pipe, there is no way to pressure grout these casings from the bottom up (the only way of ensuring a full-depth seal of the well casing). Pressure pumping grout slurries from land surface (at the well head) is not either an acceptable or effective means of placing grout because it only generally serves to seal the shallowest zones and there is no way to verify what is sealed and where the grout actually traveled or the actual diameter of the borehole voids to be filled with grout. In other words, pumping from above may pump a large volume of grout that may be interpreted as adequate to fill annular voids spaces but, depending on the size of the voids, often only the upper most casing is sealed with nowhere for the lower water over the remaining deeper reaches of the borehole outside the casing to be displaced to allow entry of the grout.

4) Air-lift pumping of target aquifer zones below the casing creates more voids.
    a. To confirm a producing zone, drillers of domestic wells often air-lift pump open intervals of domestic wells as the casings are advanced. This testing also creates voids because of the air-lifted sands that are removed from the bore with the air-lifted water. This has the effect of removing the lithologic support from beneath the clay and silt layers so that they may also spall and cave in. Additionally, all of these spaces continuously erode over time by the ground water movement[25] from higher head to lower head that is facilitated by the connected void space outside the casings; unseen, forgotten, and in perpetuity.

5) The oversized drive-shoe is approximately 8-inches long, made of corrodible steel and does not serve as a long-term (and in most cases not even short-term) seal of the well casing.
    a. Regardless of the intent of the current statewide drilling rules, new domestic wells within the proposed WAADC are typically sealed with the minimum 38-foot surface seal required by IDWR (Figure 10, Table 5, and Appendix A) and nothing more (which often does not penetrate or seal the shallowest surface gravel unit from the well) and a deeper so-called "shoe-seal"[26] that consists of the drive shoe being driven into a low-permeability unit (clay or silt) above the

[25] Water movement that would not otherwise take place in the absence of unsealed well casings.

[26] The term "shoe-seal" is generally attributed to the drilling community and is not an accepted seal by IDWR.

targeted aquifer prior to screen placement. As such, the entire depth of the drill-and-drive well allows hydraulic communication across all encountered sub-aquifer units between 38-feet and the bottom of the steel casing. Where the 38-foot deep surface seal does not fully penetrate the surficial river gravels, the result is an unsealed well over its entire drilled depth (see Figure 10, Table 6, and Appendix A for examples).

b. These "shoe seals" are generally untested for adequacy. Even if a shoe-seal was to be tested and found to hold back pressure during a bail-down test, any such seal can be later undermined by subsequent air-rotary and/or cable-tool drilling of the aquifer beneath the surface casings (Figures 6 and 7). The City's research with shoe-seals shows that in most cases an adequate seal cannot be obtained and/or maintained by driving the hardened shoe into most low-permeability sediments.[27] Rather, subsequent geophysical caliper logs of the bore diameter and open hole video inspections of the borehole commonly show voids just below the drive-shoe in these driven casings (Figure 6 and 7) which serve to further compromise and so-called "shoe seal".

V. Natural and Anthropogenic Ground Water Contamination is Present at Discrete Depths of the Meridian Sub-Surface.

Elevated concentrations of nitrate, from agricultural fertilizers, are present in the shallower ground waters (Surficial Gravel Aquifer and upper portions of the Alluvial Aquifer) of the WAADC. A large portion of Meridian lies within a Nitrate Priority Area designated by the Idaho Department of Environmental Quality (Figure 21). Nitrate is considered a good ground water contaminant "tracer" constituent because of its high mobility and non-reactive characteristics with the aquifer sand matrix. Therefore, where nitrate is found, it is generally expected that other surficial contaminants will eventually follow. Herbicides, pesticides, septic systems, illegal dumping, accidental spills, agricultural and lawn fertilizers at land surface, including known contaminant plumes like the Westpark perchlorethylene (PERC) plume in West Boise (Figure 2), all pose threats to the underlying aquifer system. If discovered in time, these surficial contaminants can be remediated at land surface and in the shallow sub-surface to prevent spreading but wells with unsealed annular spaces[28] serve as "short-cut" conduits for contaminated water to move deeper (and sometimes shallower) into the aquifer system in such a way that it is difficult-to-impossible to later study and remediate.

Within the 200-to-300-foot depth interval of the Alluvial Aquifer underneath Meridian exists a ground water zone that exhibits elevated concentrations of the radionuclides gross-alpha radiation and dissolved uranium at levels far in excess of the Maximum Contaminant Levels

[27] In advance of its monitoring well constructions, the City often installed an air-rotary or cable-tool steel surface casings through the surface floodplain terrace gravels to occlude those problematic rocks from the drilling and well construction. HLI made many attempts to "test" the effectiveness of the "shoe-seal" using bail-down tests but rarely found an example that would qualify as a seal or that would keep water out of the casing. In most cases, multiple attempts to create a drive-shoe seal resulted only in further deepening the oversized bore with no effective seal resulting.

[28] And also the fully open boreholes of old improperly abandoned wells after the steel casing corrodes away.

set by the USEPA (Figures 13, 22 and 23, Appendix B.). This "zone" of elevated radionuclides appears to us to be present everywhere beneath the City[29] (Figures 24 and 25) and the City takes great care to ensure that its water supply wells, which penetrate this layer and are completed below it, are sealed to prevent drawing the undesirable (and unusable without expensive treatment) water into its municipal water supply. Several of the City's wells (Wells #23, #20-B, and #16-A)[30], that were unknowingly completed within that zone, before radionuclides became a regulated contaminant, have had to be put on "back-up" status (and essentially only pumped in an emergency) to comply with Safe Drinking Water Act restrictions related to radionuclides[31] or, in the case of Well #16-A, abandoned (Figure 26).

Previous studies (Hanson et al, 2011 and Cosgrove, 2007) have suggested that the elevated radionuclide concentrations in the ground waters of the Treasure Valley show no spatial consistency or correlation with depth. It is HLI's opinion that the data bases used for these studies were grossly inadequate to characterize the uranium distribution in the Boise Valley subsurface and/or to reach that conclusion. The studies presented herein, using data from Meridian's proactive exploration drilling and network of multi-depth monitoring well "nests", clearly shows a definable, depth-dependent "plume" of radionuclide-contaminated ground water that is moving in the regional ground water flow path beneath the City (Figures 22-25).[32] We estimate there may be thousands of untested domestic water wells drawing from ground water aquifers with dissolved elevated concentrations of harmful (to health) constituents. This report and request to IDWR is aimed, in part, at bringing this circumstance to the fore and to provide useful information to mitigate consumption of unsafe ground water while attempting to prevent the spread of the sub-surface contamination via inadequately sealed domestic water wells.

Other regulated natural contaminants, such as dissolved arsenic (Donato, M.M., 2004) and uranium (Hanson, 2011), are present at some locations and depths which restrict the use of some ground waters for drinking water purposes without treatment. Finally, the specters of future accidental spills or deliberate illegal dumping (West Park perchlorethylene) cannot be discounted (include the possibility of existing but as yet undiscovered contaminant plumes).[33]

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[29] Wherever we explore for and sample the hydrogeologic section for dissolved radionuclides, we have been able to detect them (Figure 24). This plume is extensive across the proposed WAADC and our depth sampling from nests of monitoring wells shows the classic shape of a large defined plume moving through the aquifer system (Figures 22 and 23, Appendix B).

[30] In the case of Well #16-A, it was determined that the elevated radionuclide ground water was moving into the well through a poorly sealed annulus of the well's original construction. This reverse-rotary drilled well (with an ineffective poured bentonite chip casing seal) has now been properly abandoned by the City. City Wells #23 and #20-B were constructed with full depth seals but with screens in the radionuclide zone.

[31] These wells are now in the process of being replaced or modified to avoid the contaminated ground water at great cost to the City.

[32] Indeed, given that more than 80 percent of existing wells within the proposed WAADC are drill-and-drive air-rotary wells without adequate casing seals, ground water samples of the type used in the Hansen and Cosgrove studies are not meaningful or helpful because it cannot be known with certainty where the sampled ground water is originating and whether commingling, dilution, and/or displacement might be factors affecting samples from such wells. Only wells constructed with full-depth casing seals, such as are used extensively in this study, can give reliable results on ground water chemistry and subsurface contamination.

[33] The Westpark PERC plume remained undiscovered for nearly ten years and after it had moved three miles in the ground water flow direction.

VI. Existing Unsealed Wells are Allowing Contamination of Aquifers

An example how this can occur is provided by the Meridian Heights subdivision well field (Figure 27). Meridian Heights has three Public Drinking Water System wells that it owns and has operated for decades within the City of Meridian as a private water system separate from the City's water distribution system.[34] Ground water pumped from two of these three wells, completed between the depths of 195-to-288 feet bgl (Figure 13), showed concentrations of radionuclides up to three times the regulated Maximum Contaminant Level (MCL). The subdivision's third well, Well #1 (also referred to as the "Harris Well") an older well completed to the same depth as the other two and only used as a back-up well, did not show the same elevated radionuclides when sampled periodically (Figure 28). A continuous two week pumping test of this well by HLI caused the radionuclide concentrations to increase to nearly twice the MCL for uranium (58 µC/L) and three times the MCL for Gross ά radiation (42.3 pCi/L) (Table 2). In this scenario, it was determined that shallow ground water from the surficial gravel aquifer was continuously moving down through the unsealed annular space around the cable-tool-drilled well casing and pushing the radionuclide-laden water aside until the "artificially recharged" shallow ground water was purged from the well (by pumping) and the true nature of elevated radionuclides was then apparent; another documented case of ground water transference between aquifers that caused the problem to be more complex to resolve than necessary. On June 15, 2005, the subdivision was forced into a Consent Order by IDEQ to construct a water treatment facility to remove the dissolved radionuclides from the well water. Instead, though, the subdivision was able to drill and construct a new replacement well to a deeper depth of the aquifer that contained ground water essentially free of radionuclides (Figure 14). This well, drilled using the direct mud-rotary method, was sealed from the overlying radionuclide zone by a full-depth annular casing seal and the well it replaced was abandoned using perforate and pressure grout techniques (Figure 29)[35] to prevent it from being a liability to the ground water resource forever. After five and a half years of continuous pumping, the replacement well remains free of dissolved radionuclides.[36]

In the 9 square mile area surrounding Meridian Heights there are approximately 354 domestic wells completed to the same depth as the original three Meridian Heights wells (Figure 30). Although we have not tested these residential domestic wells for radionuclides, it is a certainty that these wells are drawing from the same radionuclide enriched ground water as the three original MH wells[37] without the well owners even knowing about the danger[38] (Figure 13). The City is concerned about the health of these residents and their untested well water just as it is concerned about 354 essentially unsealed wells being deepened, replaced, or

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[34] The Meridian Heights Development is currently being considered for incorporation into the City of Meridian water distribution system along with the proposed proper abandonment of its water supply wells drawing from uranium-rich ground water.

[35] HLI designed, supervised and documented the construction of the new MH Well #3-B and the abandonment of the old MH Well #3-A.

[36] MH Well #3-B now draws from the aquifer at about the same depth as the nearby City Well #22.

[37] Although the same downward comingling of shallow surface water (discussion above on MH Well #1) through these unsealed air-rotary-drilled domestic wells may be disguising that fact short-term and also providing a head to further spread the plume laterally in the subsurface.

[38] The ground water produced by domestic wells is often not sampled or tested for any constituents beyond bacteria or nitrate and almost never for constituents like radionuclides or other anthropogenic substances that municipal well are required to test for.

inadequately abandoned in the future. Deepening/replacement of these wells under current well drilling and construction practices will allow the radionuclide contamination to move downward through inadequately sealed domestic replacement wells drilled with air-rotary methods that cannot be effectively sealed in this hydrogeologic environment. The City, through the creation of the WAADC, seeks to prevent such migration of contamination, waste of the ground water resource, and a subsequent overall degradation of the ground water resource over time.

VII. Commingling of Aquifer Ground Waters and Wasting of Pressure Head

Just as the unsealed annular spaces of wells can allow ground water contamination to migrate and comingle between sub-aquifer units, aquifer pressures are also allowed to commingle with the result that zones of higher pressure are always flowing into zones of lower pressure. This commingling of pressure results in the waste of pressure head within aquifers as this commingling continues in perpetuity, unseen and unquantified behind well casings. Over time, such wastage (water level decline) could be wrongly attributed to pumping effects leading investigators and administrators to believe an aquifer is over appropriated when, in actuality, the observed declining water levels are simply the equilibration of different aquifer pressures in the commingled situation. In the case of the City's Well #19, cited previously in this report (Figures 11 and 12), the difference in head pressure between the supply well and the nearby monitoring well could easily result in the continuous exchange of hundreds of gallons per minute of ground water transfer between the two zones if the supply well did not have a full depth seal. Such exchanges have been documented with underwater camera surveys in several existing wells of the area (Squires, 2009) including Capitol Water Company Well #5, City of Nampa Well #3, the Bowler Well, and others.

VIII. Existing Water Wells Within the WAADC That Have Exceeded a Useful Life Span Must be Properly Abandoned Using Perforate-and-Pressure-Grout Techniques

Meridian has developed its own well abandonment procedures over the last twenty years that are specific to its unique hydrogeologic setting. The City has observed that drill-and-drive wells generally result in an open annular space outside the well casing that persists throughout the existence of the well (and beyond, after the casing corrodes) often enlarging the commingled space outside the casing. Meridian has further determined that these open annular spaces require the pumping of inordinate volumes of grout to effectively seal during abandonment (Table 4 and Figures 15, 17-20, 26, 29, 31, and 32). These observations are consistent with the discussion of voids caused by air-rotary and cable-tool drill-and-drive techniques discussed above.

In almost every case of documented abandonment of drill-and-drive cable-tool or air-rotary drilled wells, at least <u>five</u> times the calculated grout volume of the annular space is required to seal the well. In many cases, considerably more grout volume is required (Table 4). So pervasive are these voids outside the casing in drill-and-drive wells that it is clear that simple filling of a well casing with bentonite chips, in the hydrogeologic setting beneath the proposed WAADC, is not an acceptable means of abandoning a well. Indeed, this procedure makes the problem worse because after an unused well is cut off below ground and buried, it is highly

unlikely it will ever be found and abandoned properly.[39] In most cases, this circumstance would permanently prevent a well from ever being perforated and pressure grouted to fill the annular space outside the casing.

For example, the City abandoned four drill-and-drive cable-tool wells at the location of the old Dairymen of Idaho's Creamery in downtown Meridian (Figures 17-20). This site is now the current site of the Meridian City Hall complex. These old wells were originally flowing artesian wells but they had ceased to flow at land surface because the steel well casings had corroded below ground level allowing the artesian water to flow into the surface river gravels (and into other sub-aquifers as well) thus artificially raising the water table in this area. These wells were considered such a threat to the deeper aquifer relied upon by the City for its future water supply, they were abandoned in stages to ensure (and document) that grout was forced outside the entire length of casing. In one of these wells, over 100 cubic yards of grout was needed to seal an annulus that should have only taken less than two cubic yards if the well bore had been drilled at the diameter of the drive shoe.[40] All four of the Creamery wells required large volumes of grout to fill the void space outside the well casings (Table 4 and Figures 17-20).

The data show that air-rotary-drilled domestic wells of the Meridian area have this same characteristic of open void space and cavities outside the well casing that allows substantial ground water to move freely outside the casing and to comingle between aquifers. Documented examples of such abandonments and free association of contaminated waters were presented and documented during the 2008 -2009 Negotiated Rulemaking at IDWR (Squires, 2009) and that record may be researched for that information (delivered on CD to IDWR or otherwise available on request from HLI).

A *second* case study example is an 8-inch diameter, 294-foot deep domestic well on the north side of the City. This well was abandoned by the City because of its liability to serve as a conduit for contamination to move into the deeper aquifer system at the site of the City's wastewater treatment plant (Figures 31 and 33). Because of the lack of a Well Driller's Report on file for this well, it was first geophysically logged to locate low-permeability clays outside the steel well casing. The well was also video inspected to locate any existing corrosion holes or impediments to abandonment. The well was perforated at 5 depth intervals before bentonite grout was pumped under pressure from the bottom of the well until no further grout could be pumped under 150 psi. The minimum volume of the annular space outside the casing was calculated at 145 gallons based on the diameter of the oversized drive shoe but over 1,287 gallons of grout were required to be forced outside the casing to achieve grout refusal. In other words, after the inside of the well was filled with grout, it was capped and grout pumped into the well under pressure. An additional 1,142 gallons of grout had been

[39] So the well would be left to allow the exchange of ground waters, contaminants, and pressure heads in perpetuity.

[40] In drill and drive cable-tool or air-rotary drilled wells, the bore is always drilled oversize because the hardened drive shoe that allows the casing to be driven into the natural geologic section is of larger diameter than the casing by design, to alleviate pressure on the casing to allow it to be drilled to depth. This "drive-shoe" annular space is not sealed in the resultant well and serves as a conduit for ground water and contaminant exchange.

pushed outside the casing to fill the voids and annular space (Figure 31). Indeed, it is not uncommon to have grout spurt out of the ground around the well casing under abandonment pressurization, an indication of the previously unsealed annular space extending to land surface. In this case, the volume of the open space outside the unsealed 8-inch casing was equal to 152.7 cubic feet; the equivalent, if the bore was evenly oversized, to a 19½-inch diameter drilled bore.

A *third* example of the unfilled void space outside of drill-and-drive, air-rotary domestic well casings, is provided by a residential 6-inch diameter domestic well that was illegally "abandoned" by cutting the casing off below ground and burying the well head from view on the south side of the City. This well was discovered during site grading for the Sutherland Farms subdivision (Figure 34). At the request of the developer, Trevor Roberts,[41] HLI investigated this well in a similar fashion as described above for the domestic well at the wastewater treatment plant, with geophysical logs and video surveys. In this case, the perforation and pressure grouting required 1,400 gallons of grout, of which 987 gallons were in excess of the calculated volume for a six-inch diameter drive shoe, or the equivalent of a 13-inch diameter bore around the casing (Figure 32, Table 1, and Appendix C).

Examples of this sort are not rare or unusual but, rather, are the normal situation when an existing drill-and-drive domestic well is abandoned using pressure grouting (Table 4) and it is not possible to drive grout slurry into the porosity of the sediments. All data for well abandonments in the City show the presence of open annular spaces and no data show the contrary. Fortunately, the depths of the majority of existing drill-and-drive domestic wells in the Meridian area are still relatively shallow (Figure 8 and Table 1) so it is not too late to prevent further unnecessary contamination of the aquifer by requiring full depth surface seals and proper abandonment procedures appropriate to this specific hydrogeologic environment. New domestic wells, drilled in accordance with the proposed standards of the WAADC would, in effect, be "pre-abandoned" because the annular space outside the well casing would be fully sealed upon construction of the well. Such a sealed well requires only that the inside of the casing be filled with a prescribed volume of grout and perforation and pressure-grouting of the casing would not be necessary. This small cost would be much easier to afford as opposed to the high cost of abandoning an old well that no one wants or claims and which will take inordinate quantities of grout at great expense to abandon properly.[42] The biggest issue is the damage to the community constituted by the eventual contamination of the aquifer, in a tragedy of the Commons scenario, which cannot ever be fully cleaned up and the high cost of treatment plants to perpetually treat the unnecessarily contaminated ground water and to dispose of concentrated hazardous waste.

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[41] This old and forgotten domestic well was unearthed when grading one of the new home lots in the Sutherland Farms subdivision. Developer Trevor Roberts called HLI to ask what should be done with such a well. After hearing of the dangers to the ground water resource from such improperly abandoned wells, he was very keen to investigate and properly abandon the well in the best way possible even though it was an unplanned and significant expense.

[42] This is one reason why these wells are ignored, buried, forgotten and not properly abandoned.

Claims by some that the clays of the Meridian area sub-surface squeeze around well casings to form effective annular seals in drill-and-drive wells are not substantiated by our many caliper logs of open holes in this area.[43] To our knowledge, there is no evidence or data to support these claims.

IX. Expensive Treatment of Ground Water for Municipal Use Can be Prevented

By creation of a WAADC, the City hopes to avoid the potentially crippling cost of contaminated ground water treatment in perpetuity. Treatment plants, reservoirs, and booster stations, and additional transmission mains would need to be constructed and maintained to collect, treat, and re-pressurize the water. Never-ending operational costs include personnel, electrical power, filter media, and concentrated hazardous waste disposal.

X. Current Drilling Contractor Practices and Regulatory Enforcement of Existing Statewide Drilling Rules in the Proposed WAADC Do Not Result in Full-Depth Annular Seals in Wells, or Provide for the Specific Requirements Needed for the Protection of the Ground Water Resource in the Proposed WAADC.

Specifically for the proposed WAADC's unique hydrogeologic setting, there are several major additional requirements needed with respect to enforcement of the existing IDWR Well Drilling Rules in terms of protecting public health, and preventing contamination and waste of ground water.

1. <u>Current well construction practices in the proposed WAADC area do not provide for the necessary sealing between aquifer units to prevent commingling of known differing ground water geochemistry and/or piezometric head.</u> A 38-foot minimum surface seal is not adequate to prevent comingling and contaminant transfer through the boreholes of wells in this area. The shallowest aquifer unit (SGA)[44] is often more than 38 feet thick so the 38-foot surface seal does not seal the well into a low-permeability unit (Figure 10, Table 5, and Appendix A). In such cases, even the most vulnerable (and first contaminated) water-bearing aquifer unit at land surface, is not sealed from the annular space of the remaining depth of the well. The drill-and-drive techniques of cable-tool and air-rotary drilling methods both result in large voids outside of the well casing (Figures 4-7). These voids often serve as direct conduits from 38-feet to the total depth of a well, essentially allowing commingling of the entire drilled geologic section. Table 5 compares the sealed depth of domestic wells drilled in the WAADC constructed *since* the 38-foot minimum seal rule went into effect in 2010 that shows the percentage of domestic well casings that remain unsealed under current practices and enforcement and Appendix A contains the Well Driller's Reports for those wells.[45] Currently, a several hundred-foot deep, air-rotary-drilled

[43] Perhaps in only one or two isolated instances, out of hundreds of geophysical caliper logs, have we observed swelling or squeezing clays in the WAADC area. More typical is to see oversized voids in sand layers where loose sands under artesian pressure have caved into the bore during drilling or clay/mudstone strata that have spalled into the bore when the supporting sand layer below is removed.

[44] The entire proposed WAADC is mantled with these surficial floodplain terrace gravels which are saturated at most locations.

[45] This indicates that the "minimum seal depth" *is* what the drilling contractor will most often do, and rarely anything more.

domestic well, drilled on a property directly adjoining one of the City's well lots could be allowed with only a 38-foot seal at the surface with the entire saturated section unsealed from 38 feet-to-total depth (Figure 10). This could be a direct conduit from the shallow surficial river terrace gravels to the total depth (and intake screen) of the municipal well under natural gradients not to mention induced vertical gradients in the proximity of a pumping well that could induce additional commingling under future pumping. Within the proposed WAADC, all wells deeper than 200 ft bgl would be sealed with full depth grout seals preventing all comingling and ending guesswork of whether the casing was sealed into a certain low-permeability unit. In a full-depth seal, the entire drilled geologic section is sealed from land surface to the top of the targeted aquifer unit (Figure 35).[46]

2. The IDWR's drilling permit "Start Card" program does not work well for Meridian area aquifers because it circumvents a necessary permitting and inspection process. Under this program, a driller can simply send in a "start card" drilling permit by U.S. Mail or electronically by fax or web and start drilling the well after just two hours of the IDWR receiving the start card. For example, if a start card were to be e-mailed or faxed to the Department on Friday at 3:00 PM, the driller could commence drilling the well at 5:00 PM and the well could easily (air-rotary) be drilled and constructed by Saturday. In most cases, there are also no labeled or set-aside drill-cuttings (representative samples of the drilled geologic section) for IDWR to inspect on the drilling site to guide seal placement. Placement of the minimal well seals required under statewide rules for domestic, irrigation, and commercial wells can commence after only a 4-hour wait period from notification of the IDWR. In most cases, there is no time available for IDWR on-site inspection of the drilling, sealing, and construction processes and the well's construction cannot be physically evaluated or confirmed after the fact. Under the WAADC, every well's construction would be described in a prospectus to be submitted prior to granting of a well drilling permit by IDWR.[47] In this way, IDWR can review and approve proposed well constructions without being on a rushed time frame with a driller on site waiting to go to work.[48] This process also will have the effect of preventing many domestic wells from being completed into ground waters hazardous to public health and most current problems with domestic wells would also be avoided.

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[46] For domestic wells, the maximum total length of the well screen interval is proposed at 15 ft (and a 20 ft maximum of commingled section with the sand filter) which, in the Meridian area, is almost double the needed length to obtain domestic quantities of ground water.

[47] IDWR would have the special well drilling considerations required by the WAADC within its data base when an application for drilling permit is applied for in the WAADC.

[48] In the 2008-2009 Negotiated Rulemaking, the increased cost to domestic well owners was a frequent argument against imposing increased enforcement of drilling rules by the Department. We believe it is wrong- headed to base the protection of the ground water resource on what it costs to drill and construct a responsible water well. In other words, the ground water resource should not be compromised, as a tragedy of the commons scenario, to facilitate lower than responsible costs to the consumer. This could be compared to the purchase of an automobile that has no safety or pollution equipment because it is cheaper to buy without such equipment. As long as the increased costs (Table 6) are across the board to all drilling contractors and consumers, improperly sealed individual domestic wells that degrade the ground water resources of a community are a tragedy of the commons and should not be allowed.

3. Under Statewide rules, ¼-inch wall thickness steel casing is allowable for all domestic wells and most other wells that are not Public Drinking Water System wells. This specification stems from structural requirements for the driving of steel casings in cable-tool and air-rotary drilled wells. The City seeks a thicker casing specification because of its documented experience with premature failure of wells due to corrosion of steel well casings. Indeed, the City has shown that even the $^{3}/_{8}$-inch thick steel casings the City used prior to switching to PVC plastic casings are prone to corrosive break-through within 9 years (i.e., City Well #17) due to the City's somewhat naturally corrosive ground water and the lowered quality of offshore[49] steel casing (Figure 36). Two decades of underwater video surveys in Meridian wells by HLI shows that the most pervasive corrosion of the well casings are in the direct vicinity (within about 6-inches) of welded steel joints (Figure 36). This is due to a combination of poor welding techniques[50] and the fact that welding causes the crystal structure of the steel to shift to a configuration that is more susceptible to corrosion.[51] When a well casing fails, proper well abandonment becomes more difficult and more expensive. In some cases, it may not even then be physically possible to properly abandon the failed well. The City believes that domestic well casings for wells to be constructed deeper than 200 ft bgl within the proposed WAADC should be PVC plastic of SDR-17 specification which can be used inside direct mud-rotary boreholes which are also requested. For steel cased wells, if allowed, all well casings should be "standard" (Schedule 40) thickness, as a minimum, using domestic steel.

4. Statewide drilling rules do not strictly require domestic wells being "replaced" with a new well, to be abandoned. Because of this, abandonment of an old well being replaced is often not accomplished at all because of the cost to the well owner. The old well, typically preserved as a "back up" or couched as some future "asset" to the well owner, then becomes an open conduit from land surface to the aquifer for ground water contamination in perpetuity. One example is the Seabolt domestic well (Appendix A) but similar examples are abundant in the area.

5. IDWR's current statewide drilling rules *can* require perforation and pressure grouting of wells to be abandoned but, as a practical matter, this rarely ever happens. For most well abandonments in the area, IDWR requires only that the casing be filled with bentonite chips or cement grout with no provision for the annular space outside the casing to be sealed. As explained above, in the Meridian area sub-surface, the only means of adequately abandoning a water well to prevent it from being a conduit for

[49] Specifically, Korean and Chinese steel casings, that meet ASTM Specification for Grade 53-B pipe, have been deemed substandard by HLI with respect to corrosion resistance and damage from welding. "High Strength Low Alloy domestic steel casings are more corrosion resistant but the many benefits of PVC casings, which are possible in direct mud-rotary drilled wells, far out weigh any benefit of steel cased wells including encrustation, corrosion, staining, iron bacteria, etc.

[50] Most drilling contractors in Idaho learned to weld on the job and rarely attend any type of formal training in the theory or technical aspects of welding. Based on experience with twenty years of down-hole camera inspections, it is our opinion that welded joints in low-carbon steel casing constitute one of the weakest features of most domestic steel-cased well constructions and a strong reason to move to PVC-plastic wells allowed by IDWR rules.

[51] Another reason why PVC casing is preferred by the City.

commingling of aquifer pressure (waste), ground waters of differing chemistry, and contamination is to seal the annular space outside the well casing. In newly drilled and constructed domestic wells using the direct mud-rotary method, this seal is easily affected with only a very small quantity of grout needed (because the borehole is uniform with no cavities). In existing air-rotary-drilled domestic wells the annular seal can only be accomplished by perforating the well casing at selected intervals (preferably adjacent to low-permeability strata) and forcing grout outside the casing into the concealed open spaces created by the drilling process. This after-the-fact abandonment of air-rotary-drilled wells requires very large quantities of pumped grout slurry with the entire perforate-and-pressure-grout process in these wells costing several thousand dollars per individual well (in some cases as much as the original well cost). With an estimated 3,000 inadequately sealed domestic wells currently in existence inside the proposed WAADC,[52] the total cost of proper, after-the-fact abandonment of unsealed wells is estimated at nearly $15M. For new wells to be constructed under the proposed WAADC, the annular spaces of all wells deeper than 200 ft[53] bgl would be sealed *at* construction thus eliminating the concerns for aquifer contamination of the deeper aquifers from drill-and-drive wells in the future. Proper future well abandonment costs for these wells would also be much lower because there would be no large voids to fill with pumped grout and the casings will not need to be perforated or pressure grouted.

6. <u>The current statewide drilling rules do not require hydraulic testing of new domestic wells.</u> There is no requirement for conducting and reporting pumping tests of new water wells as there is for municipal wells. For the consumer, this is not unlike purchasing an automobile without knowing what size engine is installed or what the gas mileage is. There is no comparable consumer information as to whether a particular well is better or worse than another or whether it meets an acceptable standard. Under current practices, there is no baseline data from which to compare the efficiency of the well over time. Most typically, a domestic well driller uses the drill steel set at the bottom of the newly constructed well to air-lift-pump the well by pumping air down the well. The air, once freed from the drill steel, rises rapidly in large bubbles which forces water up and out of the well. Under the drilling practices currently in use, it is difficult at best to accurately estimate the volume of water of this intermittent and violent pumping method and there can be no measurement of drawdown (which driller's often report on their logs as the depth of the drill steel

[52] The preponderance of these wells have surface seals to no more than 18 ft bgl (the pre-2010 minimum seal depth) which is tantamount to having no seal in this hydrogeologic setting (Table 7).

[53] Although the City of Meridian believes the requested WAADC should apply to *all* depths of the aquifer, the Department of Water Resources requested that the upper 200-feet of geologic section be exempted because there are already so many domestic wells completed within this depth and to continue to allow air-rotary and cable-tool drilling of domestic wells in the area so to lessen the economic affects to the drilling community. Hydro Logic, Inc. counters that most contamination originates at land surface and that the shallower depths of the aquifer are the most critical to seal so that contamination doesn't "start" to infiltrate the aquifer system at the base of a direct conduit (unsealed well) at 200 ft bgl. Although the City's municipal wells generally draw from deeper aquifers of known ground water chemistry, the City recommends that all City residents who elect to have their own private well should use the drilling and well construction techniques proposed herein; even for wells completed above 200 ft bgl. The City further believes that domestic wells terminated above 200 ft bgl will yield generally safer and more healthful ground water for its residents.

where the air in being introduced) or of specific capacity of the well for later reference and to assure a domestic well owner that the well is productive and of good value. As a result, quality hydraulic data are not recorded on domestic well driller's reports; a needed consumer protection item. Even if the current "let the consumer beware" situation is to be tolerated for an individual's domestic well, the effects of such inadequately sealed and poorly documented wells to the community's water supply must be considered, including: 1) the spread of contamination, 2) waste of pressure head, 3) unnecessary draining of surface water into the ground, and 4) the cost of future abandonment.

7. The statewide drilling rules do not require any ground water quality sampling. Resident owners of private domestic wells may not be aware of the hazardous constituents known to exist at some depths of the WAADC aquifer system. Under the WAADC, not only would some depths of the aquifer be off-limits to domestic wells (for quality and health reasons) but sampling would be required for the most commonly found local constituents detrimental to human health. In this way, the health of well-owning citizens would be protected.[54] By restricting the depth of drill-and-drive domestic wells to 200 ft bgl, and by requiring direct mud-rotary drilling methods with full-depth casing seals, the City believes that a large majority of future residents' domestic wells will be prevented from encountering hazardous ground waters and that contamination will not be spread by the unsealed boreholes outside the casings of domestic wells that pierce contaminated ground waters.

In summary, the proposed WAADC area has several unique hydrogeologic characteristics that require specialized drilling techniques, more involved construction practices, and special construction materials and practices to prevent contamination of the aquifer that are not currently enforced under the current statewide rules.

WHAT ADDITIONAL ENFORCEMENT OF CURRENT WELL DRILLING/CONSTRUCTION REQUIREMENTS IS NEEDED FOR THE PROPOSED WEST ADA AREA OF DRILLING CONCERN?

Meridian was an active stakeholder and proponent in the 2008-2009 negotiated rulemaking to improve the administrative rules for well drilling at the Department of Water Resources. Although some significant gains were achieved to improve the existing statewide rules, the consensus of the *entire* rulemaking committee was that it was not possible to develop a "one-size-fits-all" set of rules that covered the full spectrum of hydrogeologic environments

[54] Under the historical status quo, domestic wells are unregulated by IDEQ (or any other agency) for water quality sampling and well drillers are not knowledgeable of ground water chemistry hazards in drinking water so private domestic well owners are not informed or even aware of the need to sample for certain constituents of concern for health reasons. The City believes its citizens need to be aware of the potentially hazardous ground waters present at some depths of the aquifer and to be forewarned about having a domestic well constructed into such zones because private wells are not routinely sampled for harmful constituents in ground water as municipal wells are. The City further believes that its citizens need to be aware that drilling and construction of an air-rotary and/or a cable-tool well for domestic supply can also result in degradation of the community's ground water supply as a whole.

statewide. Instead, it was the unanimous conclusion of *all* stakeholders that "area-specific protections" and special drilling techniques, and any needs for enhanced regulatory enforcement of drilling rules, would be addressed on a case-by-case (basin-by-basin) basis. The City believes that the newly revised statewide rules must be more rigorously applied and enforced in the Meridian area to protect the ground water resources within the specific hydrogeologic setting of the proposed WAADC. The following specific needs are identified for enforcement in the WAADC:

Start Cards are Not Allowed
Driller "Start Cards" shall not be allowed within the WAADC. A "long-form" drilling permit approved by the Department shall be required prior to the commencement of drilling, sealing, and constructing *any* well within the WAADC.[55]

Prospectus Required
In addition to the standard IDWR "long form" Application for Drilling Permit (for the construction of a well), every well to be drilled, constructed, reconstructed, or abandoned within the WAADC will require a written prospectus to be submitted to IDWR on forms developed specifically for the WAADC. This approval process is similar to getting a building permit before a building is constructed or altered and allows an opportunity for IDWR to review the proposed well construction before it is commenced and, in some cases, to inspect seal placement and other important activities on site as the work is performed.[56]

Approved Contractors
All drilling contractors with direct mud-rotary drilling experience and having the necessary equipment for the methods to be required under IC §42 -238, and licensed within the state of Idaho, shall be approved for drilling and constructing of wells deeper than 200 ft bgl in the WAADC. If any contractor receives three Notices of Violation where the Contractor[57] has violated the provisions of drilling in the WAADC, that contractor will no longer be allowed to drill within the WAADC. This will ensure that reputable contractors using approved methods and materials will help protect the City's residents *and* the ground water resource.

Special Drilling Methods
All domestic wells drilled and/or constructed deeper than 200 feet below ground within the WAADC shall be drilled using the direct mud-rotary drilling method.[58] Direct mud-rotary technique is also the preferred method for larger bore municipal, domestic, commercial, and

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[55] Even wells less than 200 ft deep would require a prospectus and long form application as to how and why the well will not exceed 200 ft in depth. How it will be sealed, casing thickness, etc.

[56] In the case of the WAADC, such inspections would be a condition of the well drilling permit so the well driller would have to schedule IDWR into the process and not proceed with a seal until IDWR is able to be present.

[57] Both the drilling contracting company and the individual operator working for the company.

[58] Any well less than 200 ft in depth that does not already have a full-depth casing seal shall not be deepened using any drilling method and shall be abandoned using perforate and pressure grouting techniques as a condition to obtaining a replacement well permit. A replacement well permit should not be approved if the existing well is not abandoned using such methods.

irrigation wells but the flooded-reverse rotary method will be allowed for wells with ten-inch or larger diameter casings so long as all other requirements of the WAADC are adhered to.[59] Direct mud-rotary drilling provides that the drilled hole remains open during the insertion of the well casing[60] and so the annular space between the drilled hole and the well casing can be fully sealed by the emplacement of grout over the full depth of the well casing. In this way, every form of protective low-permeability stratigraphic layering in the aquifer system, interrupted by the drilling process, is maintained in the well construction to protect aquifers from commingling of pressure head and ground water chemistry and from vertical movement of contamination across the aquifer system.

Borehole Geophysical Logging of New Wells

Geophysical logging of wells deeper than 200 feet bgl inside the WAADC is *recommended* but not required. Helpful logs include natural gamma-ray, single-point resistance, 16”/64” normal resistivity, and borehole caliper logs. Geophysical logs are very helpful to ensure an efficient well. They also provide a vital, non-subjective record of a water well and the drilled geologic section. These logs show the drilled borehole size (needed to select the appropriate type of grout seal and for placement), the location of low-permeability clay strata, and the permeability of target aquifer sands (for a productive and efficient well). Borehole geophysics can also be used to make well-to-well sub-surface correlations to understand the interconnectivity of the aquifer system if hard copy strip charts with informational headers and complete digital files can be collected and archived (the IDWR and the City of Meridian Public Works Department are willing curators of these). Several borehole geophysical logging companies are available locally as are also several out-of-state companies. The use of geophysical logs, although recommended, need not be mandatory in the WAADC because the requirement for full-depth annular casing seals resolves the problem of an unsealed well from a resource protection perspective.

Additional Documentation and Reporting Forms

In addition to the required standard IDWR Well Driller’s Report forms, wells deeper than 200 ft bgl drilled within the WAADC will be required to submit a supplemental as-built well completion form (developed specifically for WAADC wells) that provides additional documentation of construction, hydraulic testing, and seal placements that are specific to the hydrogeologic setting in the WAADC. Improper documentation, incomplete forms, or false representations shall result in a Notice of Violation. Documentation of what was built and how it was built is critical for troubleshooting problems and ensuring proper future abandonment to protect the ground water resource. The City stands ready to assist IDWR with the development of these forms at any time.

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[59] We have found that flooded reverse rotary drilling method also produces significant down hole voids and cavities in the borehole wall and we have generally avoided that method over the last ten years. However, other than the additional significant costs to customers of filling those voids with pumped grout and filter sand, the open-hole condition generally allows emplacement of a full depth, pumped annular grout seal if pumped from the bottom-up under pressure and not poured as chips from the land surface. Our extensive experience with the reverse-rotary drilling method tells us that the voids created by reverse-rotary drilling, often result in bridging of the annular space and incomplete seal installation if poured chipped bentonite seals are attempted.

[60] The mud-rotary open bore also allows for the use of PVC plastic casings which we consider superior to steel casings for all reasons mentioned.

Full Depth Casing Seals
All wells deeper than 200 feet below ground surface to be drilled within the WAADC shall have "full-depth" casing seals.[61] Full depth seals are defined as a sealed annular space between all casings and the drilled hole from land surface to the top of the targeted water-bearing strata (Figure 35). This ensures that vertical conduits are not created when a well is constructed and that the natural protective layering of the aquifer system is maintained in the well construction.

Pumped Grout Annular Seals
All grout seals used in full-depth casing seals and in wells to be abandoned,[62] shall be pumped under pressure from the bottom up using a tremie pipe to ensure positive placement. Grout seals shall be tagged into place and compared to volumetric calculations of the annular space to be filled and fully documented on the WAADC-specific forms for administration by IDWR in concert with on-site inspection by IDWR This ensures that all void spaces are filled as wells get constructed and/or are abandoned. Full-depth, cement/bentonite slurry seals, mixed to manufacturer's specifications are recommended because they do not cause PVC casing to melt if a void exists behind the casing (see below). In steel-cased wells, straight cement grout is acceptable if mixed to nationally recognized specifications for grout seals.

PVC Plastic or High-Strength/Low-Alloy Steel Well Casings
All wells constructed within the WAADC shall be constructed with high-quality, Schedule 40-thickness domestic steel casing, or PVC plastic casing with an SDR-17 minimum rating. PVC plastic casings are preferred for the best quality water well and because they protect the ground water resource in perpetuity. Plastic casings, however, require caliper logs if cement grout seals[63] are used because of cavities or voids in the borehole wall and because of the increased heat of hydration from a large mass of cement in one place. The use of quality well casing materials will correct problems with corroded casings that pump sand and create voids and ensure a good value for residents purchasing wells.

Stainless Steel Well Screens
All wells constructed in the WAADC shall be equipped with stainless steel, continuous slot, V-wire well screens. Domestic wells shall not have more than 15 feet of well screen installed with a maximum filter sand length of 20 ft.[64] All components of stainless steel screens shall be of stainless steel including the weld rings. Low carbon steel or galvanized steel wire screens shall not be allowed because of the susceptibility of those screens to corrosion and short life which has the affect of compromising the entire well construction and seal.

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[61] Any well starting life as a less than 200-ft deep well cannot be later deepened.

[62] In addition to pumped grouts, abandonment of *any* unused well (pre-WAADC) of any depth will require perforation and pressure grouting of the casing.

[63] This rule is to prevent melting and collapse of PVC casings due to the heat of hydration of cement grouts. Special cement/bentonite grouts, with a lowered heat of hydration, are acceptable with PVC casings without regard to enlarged boreholes.

[64] Because 5-to-10 feet of screen is typically more than is necessary to provide an ample domestic water supply, 20 feet is the maximum allowed distance "spread" of the completion interval including filter pack to allow for coverage over the top of the screened interval.

Continuous wire-wound well screens allow for proper well development to obtain the most productive and efficient well for residents. Twenty feet of well screen is more than adequate for any domestic quantity of water and this restriction precludes commingling of sub-aquifer units in the well completion interval.

Hydraulic Testing of New Wells

All new wells constructed in the WAADC shall be pump-tested using a submersible pump (not air-lifted-pumped) at a constant pumping rate of at least 10 gallons per minute for a minimum of 6 hours. A non-pumping water level measurement shall be taken prior to pumping and pumping water levels shall be recorded every 15 minutes throughout the six-hour period. At least 30 minutes of water level recovery measurements, at 5-minute intervals, will be recorded after the test pumping is completed. All water-level drawdown, recovery, and discharge data shall be documented and reported on the WAADC well completion report provided by IDWR.[65] This requirement protects citizens by providing the knowledge that a new well can sustain continuous pumping for a prolonged period without drawing the water level down to the pump bowls or inducing sand production and allows for proper pump/motor/setting selection that all save money in the long term. It also gives residents base line production data to protect them against future water level interference effects from new wells (to be able to show an injury). More efficient and productive wells result in fewer wells being drilled that have the potential to compromise the aquifer.

Water Quality Sampling of New Wells

All new wells constructed in the WAADC shall be sampled and tested for the following analytes at a minimum: 1) bacteria, 2) nitrate, 3) total dissolved solids, hardness, arsenic, gross-alpha, and uranium and reported on the WAADC Well Completion Report. These include the most commonly detected toxic contaminants in the proposed WAADC area that every well owner should be aware of using a submersible pump (not an air-lifted sample).

Camera Inspection

All new wells constructed within the WAADC are *recommended* to be video inspected after pump testing and before the well is equipped with a permanent pump.[66] This requirement allows a citizen purchasing an expensive well to be able to inspect its construction before taking possession and to be able to see that nothing was dropped down the well, that the well is clean, well-developed, and constructed as proposed.

Special Well Abandonment Procedures

All existing wells deeper than 200 feet below ground surface to be abandoned in the WAADC shall utilize a natural gamma-ray geophysical log to pin-point natural clays outside the casing and a down-hole camera inspection to ensure proper placement of perforations of the well casing adjacent to low-permeability strata in the geologic section. All well abandonments shall require a prospectus on a form provided by the IDWR. Perforate and pressure grout

[65] Current IDWR Well Driller Report forms do not call for, or have a designated place for, this information to be reported.

[66] How many high-cost products are purchased without the consumer being able to inspect the item to be purchased? Without an original camera survey, it is not possible for residents to see what they are buying and there is no way to compare changes to the well over time. Even so, domestic water wells are almost never inspected with an underwater camera before the customer takes possession.

techniques are required for *any* well abandonment (of any depth) to ensure that all voids and annular spaces are filled with approved grouts pumped under pressure from the bottom up. Abandonments will require air-tight capping of the well to ensure grout is driven outside the well casing until no additional grout can be pumped under 150 psi of pressure with IDWR's on-site inspection services.

Monitoring Tubes
All wells equipped with pumps in the WAADC are *recommended* to be equipped with water level monitoring tubes for the purposes of obtaining accurate non-pumping and pumping water levels in the well. This allows a citizen to resolve and separate pumping plant/well construction problems from well-interference issues. A monitoring tube is needed because the electrical power cable extending down the well to the submersible pump motor often interferes with water level measurements in a 6-inch diameter domestic well or if a well is crooked and a monitoring tube is not installed with the pumping plant.

Well Head Security
All well heads within the WAADC are strongly *recommended* to be equipped with locking caps for security against accidents, vandalism, terrorism, and/or neglect. All well heads provide an access point for contamination to be induced directly into the aquifer system at depth and should be recognized as such and treated accordingly. This is consistent with the City's practice of installing locked steel security enclosures on all of its wells that exist outside of well houses and security fencing.

DESCRIPTION OF THE CITY OF MERIDIAN AQUIFER SYSTEM

The proposed WAADC encompasses an area of more than 110 square miles. The locations of the Meridian municipal supply wells within that area are shown in Figures 1 and 2. Figure 2 uses a Google™ earth image as its base.

The proposed WAADC is underlain by multiple aquifers. From the City's own aquifer studies (Figure 37), these constituent aquifers are described as follows and named accordingly to correspond with the mapped and named geologic sand units that are exposed along the margins of the basin and which dip basin ward to comprise the aquifers in the valley:

Surface Gravel Aquifer (SGA). Mantling the land surface everywhere beneath Meridian are sandy-cobble gravels that extend to a depth of 30-to-60 feet beneath the land surface. In many areas, these floodplain terrace gravels are saturated and even serve as aquifers for irrigation purposes in some locations. We refer to this shallowest of aquifers as the "Surface Gravel Aquifer" (SGA). It is made up of various floodplain terrace gravels of the ancestral Boise River, wherever saturated, that have been individually mapped and named by Othberg (1994).

Alluvial Aquifer (AA). Underlying the SGA is the "Alluvial Aquifer", a thick sequence of gravel-rich coarse sands and alluvial sediments that underlie the shallow surficial gravels and which overlies the deeper Pierce Gulch Sand Aquifer (PGSA). Several of the City's supply wells are completed into, and draw from, the Alluvial Aquifer which is a very productive aquifer up to 450-ft thick. We believe the Alluvial Aquifer was, to a large extent, filled by semi-vertical leakage from widespread flood irrigation of farm lands in and up-gradient of Meridian beginning in about 1870. This aquifer is characterized by oxygenated ground water that contains relatively high concentrations of dissolved solids from percolation through and leaching of surface soils and previously unsaturated sediments. The Alluvial Aquifer, which is present everywhere under the City of Meridian, is a significant hydrogeologic unit with respect to aquifer recharge, ground water geochemistry, and the overall hydraulics of the aquifer system.

Gravel Angular Unconformity. The City's hydrogeologist has identified a significant and permeable unit at the base of (but included as part of) the Alluvial Aquifer directly overlying the PGSA). Several of the Meridian municipal supply wells are completed partially or wholly into this gravel aquifer. The gravel ranges in thickness from 40-to-90 feet. This buried gravel unconformity has been shown to be a laterally extensive river floodplain deposit, not unlike the present topographic surface of the Boise River Valley, which is present at the base of the Alluvial Aquifer underneath Meridian (Figure 37). Drillers often do not recognize (or at least do not record) this gravel because its cobbles are older and more highly weathered such that they readily break up more readily than the modern day (surface gravels) when drilled because the younger gravels are less weathered and more competent (harder). For this reason, the gravel is not always recorded on Well Driller's Reports. It was only after careful on-site sampling by trained professional geologists, close examination of cuttings, down hole video camera images, and borehole geophysical logs that we understood the wide extent and importance of this unit to the hydrogeological system. This gravel stratum is present everywhere underneath the City.

Pierce Gulch Sand Aquifer (PGSA). Most of the City's supply wells are completed into the Pierce Gulch Sand Aquifer (PGSA) which is also a very productive aquifer and can be up to 450-ft thick. The PGSA is a thick sequence of stacked river-delta and lacustrine sands and interbedded clay layers and mudstones that extends to the full depth of the cold water-bearing section[67] beneath the City and is laterally extensive as *the* primary regional aquifer of this area (Squires, 2007, 2008, 2009). The PGSA is the thickest and most productive aquifer drawn upon by the City of Meridian's well field and it underlies the entirety of the proposed WAADC.

Terteling Springs Formation (TSF). The very fine-grained clays, silts, and mudstones beneath the PGSA aquifer are known as the Terteling Springs Formation (TSF). The TSF does contain at least two sand aquifers. One is a single but aerially extensive and deeper sand aquifer (Figure 37) and the second is a thick basin margin deltaic sand up-dip to the east and north in the Boise area subsurface and exposed along the Boise and Eagle foothills.

[67] Less than 85 degrees F for cold water.

Overall, we believe that the ground water overlying the gravel unconformity was recharged to the aquifer system semi-vertically from applied surface water irrigation and that the ground waters below the unconformity were recharged naturally to the aquifer horizontally, prior to human settlement of the Boise River Valley, from the Boise River through the dipping aquifer sands and, most importantly, the gravel unconformity itself.[68]

ANTICIPATED EFFECTS OF A DESIGNATED WAADC ON THE LOCAL COMMUNITY

- **Protection of water resources.** Wells will be sealed from surface contamination and no longer serve as conduits for contamination to move deeper within the aquifer. Aquifer pressures and ground water quality would be preserved.

- **Protection of public health.** Domestic well owners will no longer simply trust that their water source is healthy without testing. It is now known that domestic well owners have been drinking ground water with hazardous levels of contaminants for decades without knowing it. Even without testing, if future air-rotary domestic wells are completed above 200 feet bgl, most well owners will be drinking ground water with acceptable concentrations of dissolved uranium.

- **Improved water quality for well owners.** Better construction materials and techniques will result in wells *without*: sand production, iron bacteria, and red-colored water and staining from oxidizing steel casings. Proposed sampling will identify most harmful contaminants in the ground water.

- **The increased costs of quality-constructed domestic wells deeper than 200 feet bgl will be offset by lowered maintenance and power costs and longer life compared to costs of traditional domestic wells for private well owners and huge capital cost savings by the City when water treatment is avoided.** Pumping plants and well casings will last longer, sand production will not damage pipes and water systems, staining of property from oxidizing iron casings and from proliferation of iron bacteria will not proliferate. Shallower pump settings will enable shorter pump columns and power cables resulting in lower costs for these components and less problems.

- **Well drilling contractors will be able to raise prices and have more mark-up on better quality materials.** Motivated driller's will increase their skill level and offer better services inside and outside the Meridian area and develop improved services to sell. Markets for new products such as PVC casing and grouts will be created for area businesses.

[68] And all of these recharge mechanisms remain active today.

- **New well owners will have a degree of consumer protection and a better understanding of well construction and be discerning buyers able to determine the quality and efficiency of a well.** The WAADC will enable owners to access this information for their water supply wells.

- **Future conflicts over competing water uses can be avoided.**

CONCLUSIONS

1) **The City has gained increased understanding of its underground water supply through extensive hydrogeologic studies and on-going water well drilling projects.**

These studies have documented differing aquifer pressures and radically different ground water geochemistry with depth within sub-aquifer[69] units beneath the WAADC area. Many individual aquifer and sub-aquifer units contain ground waters carrying elevated[70] unacceptable concentrations of dissolved constituents that are regulated by the USEPA Safe Drinking Water Act and not suitable for direct use by Public Drinking Water Systems. The City seeks to prevent these natural and anthropogenic contaminants from migrating into its drinking water supply aquifers through unsealed and inadequately sealed water wells. Its fear is that existing domestic wells will be deepened, replaced, and/or inadequately abandoned and that future new wells will be drilled deeper without full depth seals that will subsequently allow these contaminants to commingle with good-quality ground waters and slowly degrade the quality and usability of the ground water supply over time resulting in aquifer contamination that cannot be cleaned up and expensive water treatment in perpetuity.

2) **Natural and anthropogenic ground water contamination is already present in the proposed WAADC sub-surface.**

Elevated concentrations of nitrate, from agricultural fertilizers are present in the shallower ground waters (Surficial Gravel Aquifer and upper portions of the Alluvial Aquifer) of Meridian and much of the City lies within a designated Nitrate Priority Area (Figure 21). Nitrate is often considered a good contaminant tracer constituent because of its high mobility and non-reactive characteristics with the aquifer matrix. In other words, where elevated concentrations of nitrate are found, it is generally expected that other surface-originating contaminants will follow. Herbicides, pesticides, septic systems, spills, illegal dumping, accidental spills, agricultural and lawn fertilizers at land surface, including known contaminant plumes like the Westpark perchlorethylene (PERC) plume in West Boise (Figure 2), all pose threats to the underlying aquifer system. If discovered in time, these surface-induced contaminants can be remediated in the shallow sub-surface but wells with unsealed

[69] HLI's 23 years of hydrogeologic and geochemical research for the City has shown wide variations in piezometric head and ground water chemistry across the depth of the Meridian area aquifers with some dramatic changes present between relatively thin (10 ft) sand strata . Sub-aquifer" is an informal term used in this document to indicate thinner water-bearing units that may be separated by equally thin layers of low-permeability lenses but which could easily be combined together with other such units in a recognizable distinct "aquifer" unit.

[70] In excess of the maximum contaminant levels (MCL) established by the USEPA Safe Drinking Water Act.

annular spaces or inadequately abandoned wells both serve as a conduits or "short-cuts" for contaminated water to move deeper into the aquifer system relied upon for community drinking water in such a way that it is difficult to later study, contain, and/or mitigate.

3) **Aquifers that become contaminated cannot be effectively remediated (cleaned up) after the fact.**

All manner of aquifer contamination remediation efforts have been tried in many other ground water basins around the world but have, for the most part, only succeeded in retarding the movement of the contaminants without fully removing the contamination from the aquifer. Typically after an aquifer becomes contaminated, water treatment and filtration is required in perpetuity. Having to construct and operate water treatment plants for water supply wells represents an onerous and staggering future cost for service providers within the proposed WAADC. This is the case for the Westpark perchlorethylene contaminant plume in west Boise where contaminated ground water is continuously pumped and treated in an attempt to keep the sub-surface plume from spreading. The pumping, which has been underway for over twenty years, has not conclusively shown that it is 100 per cent effective at containing the plume against spreading and remains under question by IDEQ.

4) **The single greatest threat to the aquifer system relied upon by all residents and water service providers in the area proposed for WAADC protection is the future proliferation of unsealed and inadequately sealed domestic well casings and the lack of adequate pressure grout abandonment of wells that have outlived their usefulness.**

5) **It is not too late to prevent wholesale cross-contamination of the aquifer system beneath Meridian.**

The preponderance of existing domestic wells are relatively shallow and most can still be properly abandoned.

6) **The continued proliferation of unsealed and inadequately sealed wells in the WAADC area <u>will</u> result in contamination of the aquifers that are not currently contaminated and in the spread of existing contamination within all aquifers.**

7) **Residents of the proposed WAADC live on top of their aquifer system which is susceptible to contamination from land use activities and unsealed well bores. There is no aquifer system up gradient in the flow path to tap when the underlying aquifer becomes contaminated.**

8) **Existing IDWR statewide drilling rules are not currently enforced to the extent necessary to adequately protect public health, or to prevent waste or contamination of ground and/or surface water because of factors such as aquifer pressure, vertical depth of the aquifer, or contaminated ground or surface waters beneath the proposed WAADC area.**

Specifically, for the proposed WAADC's unique hydrogeologic setting, there are several major additional enhanced enforcement requirements needed to protect public health, to

prevent waste, and prevent contamination of ground water in addition to I.C. §42-238 (15). See "The Descriptions of Why an Area of Drilling Concern is Needed" of this report.

9) **Much of the sedimentary stratigraphy beneath the proposed WAADC, in the upper 300 feet below land surface, is sand-dominated with only thin interspersed clay layers of low-permeability.**

The natural stratigraphic aquifer protective layering is limited beneath WAADC (Figure 9). Although the dipping (sloping) layering of the sediments *does* serve as a natural protection to the aquifer system, the low-permeability protective clays and silts layers are relatively thin. As such, they are difficult to seal wells into without the emplacement of a "full-depth" casing seal which essentially seals a well from land surface to the top of the water-bearing zone of the aquifer drawn upon by the well. Protective layers in such a hydrogeologic setting also exist in the (also thin) forms of buried soil horizons, cemented layers, muddy sands, micaceous sands and other features that are difficult to recognize in drill cuttings and so are difficult to seal into without a full-depth surface seal. It is also very challenging, in terms of time, personnel, and useful data, for IDWR to enforce the sealing of casings into these limited specific low-permeability layers under current practices.

10) **Approximately 90% of existing wells within the proposed WAADC are essentially unsealed, drill-and-drive domestic wells.**

The great majority of these wells have been constructed with an 18-foot surface seal[71] that does not occlude even the surficial gravel aquifer under the City which is the most easily contaminated by land use activities. The unsealed nature of these wells is well known and documented by data from abandonment projects that demonstrate that large voids and open spaces exist outside the well casings; often over the entire drilled depth of the well.

11) **Recently revised (2010) statewide drilling regulations typically only result in a 38-foot surface/casing seal in wells ranging from 38 feet-to-1,000 feet in depth.**

Less frequently, the surface seal is installed deeper than 38-ft bgl to reach the first significant clay layer.[72] Even so, this leaves the remainder of the well casing unsealed to its total depth (Table 5, Appendix A). The unique hydrogeologic section and ground water quality concerns of the WAADC require "full-depth" surface seals to protect public health and the ground water resource against the spread of natural and anthropogenic sub-surface contamination. This study provides the scientific data and support for the need for enhanced administration and enforcement of the current drilling rules with respect to well seals to the extent possible under I.C. §42-238 (15).

12) **The aquifer system has different ground water geochemistry and pressure head at different depths of the aquifer system.**

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[71] Prior to rule changes implemented in 2010, the minimum surface seal depth of water wells was 18-feet bgl and, as result, almost all domestic well seals did not exceed 18-ft in depth; the length of a single piece of well casing with two feet of above ground stick-up (Table 6).

[72] The Idaho Department of Water Resources' Ground Water Protection Section attempted to make the minimum seal depth in domestic wells 58 feet below ground level but the Well Drillers would not agree. In the proposed WAADC, 38-ft versus 58-ft is moot because we believe the wells in this area need to be fully sealed over the entire casing. However, this detail does illustrate the opposition of the drilling community to increased regulation.

The differing heads within the aquifer provide the driving force for ground waters of different chemistry (some carrying contaminants) to commingle outside the unsealed reaches of well casings forever (Figures 11, 12, 15, and 16, Tables 2 and 3, and Appendix B).

13) Unsealed annular space between the well casing and drilled hole allow commingling of both the chemistry and pressure heads of various ground waters pierced by wells.

Data showing that this takes place are presented in this document and such commingling is well known to many in the drilling community, the Department of Water Resources' well experts, and area hydrogeologists.

14) Unsealed annular space between the well casing and drilled hole allow surficial waters and shallow ground water contamination to move downward into the aquifer system.

In addition to an existing downward vertical ground water gradient in the shallow aquifer system, surface water and shallower ground waters carry lower temperatures making them more dense. Shallow ground water, with its higher total dissolved solids (TDS) content, is also more dense than the "fresher" (more dilute) and deeper ground waters of the Meridian area. Denser ground water moves downward in response to gravity carrying any dissolved contaminants with it. The Meridian aquifer system has higher TDS concentrations in the upper several hundred feet of aquifer and low TDS ground water in the deeper aquifers (Squires, 1992).

15) Existing domestic wells being replaced are often not abandoned.

Given the costs associated with proper well abandonment, many domestic wells are idled and never again used but also never properly abandoned before they are cut off below grade, covered and forgotten leaving a conduit for contamination to move deeper into the aquifer system forever. It is not uncommon to find two domestic wells on a given domestic lot. Even when these old wells are "abandoned" by filling the casing with poured bentonite chips (the most often employed current method of abandonment)[73], the annular space outside the casing remains in perpetuity as a contaminant conduit and to commingle aquifer pressures and ground water chemistries.

16) There are different regulatory and perceived standards for construction materials and methods for large bore irrigation and commercial wells compared to municipal drinking water wells.

Because the Idaho Department of Environmental Quality regulates Public Drinking Water Wells in Idaho, there are enhanced requirements for those wells to protect the consumer and the water resource that include improved materials and casing sealing methods. However, IDEQ does not have primacy over all other wells drilled in Idaho and cannot enforce its PDWS rules in those wells. In urban areas, where there are so many domestic wells drilled (thousands in the Meridian area (Figure 38)), it is important to realize that every well that pierces the natural protective layering of the aquifer system has the potential to provide a

[73] As the Table 1 illustrates, a very small percentage of the domestic wells in the IDWR Well Driller's Reports data base have been abandoned.

conduit for contaminants to migrate and to compromise the ground water resource. Therefore, every well, not just municipal wells, should meet the same rigorous construction standards as a PDWS well. In other words, the well construction standards are in place to protect the ground water *resource* not just the individual well. Because municipal wells are only a small percentage of the wells drilled and constructed in the proposed WAADC (estimated at less than five percent) the unsealed casings of the many will outweigh the responsibly-sealed casings of the few (Figure 3). Figure 4 illustrates the size of the conduits provided by drill-and-drive domestic wells even when the air-rotary and cable-tool methods are assumed to not cause enlargements of the boreholes outside the casings (which they do in every well drilled in the sediments of the proposed WAADC).

17) **Current statewide rules allow thin-wall steel casings which do not provide adequate corrosion resistance for the proposed WAADC.**

Currently allowed steel casing thicknesses, which are sized for structural strength and not corrosion resistance in the Rules, are inadequate for the long term in the Meridian sub-surface. Thin casing walls and foreign-manufactured steel enable premature corrosive failure of casings and result in more well failures and subsequent well replacements to deeper levels of the aquifer.

18) **Regulatory rules are actually driving unsealed wells deeper, both extending the conduits into the aquifer system and bringing the shallow ground water contamination with them.** Administrative rules driven by conjunctive management concerns, such as the so-called "200-foot rule", cause well owners to have their wells drilled deeper (Owsley, 2013, 2014). Increasing water quality regulation by USEPA and IDEQ, coupled with increasing (but incomplete) knowledge of shallow ground water contamination results in deeper wells that are also incompletely sealed; allowing contamination to move deeper into the aquifer system. Some unscrupulous drilling contractors drill deeper than necessary wells either out of ignorance or for personal gain (Jones, 2011).

19) **Current domestic well construction and sealing practices cannot be adequately supervised by the limited number of IDWR agents.**

Many domestic wells are completed before IDWR agents are even aware they are being drilled under the Start Card program and drilling contractors are apparently not yet aware of the damage to the resource by current drill and drive practices. The changes to current practices and enforcement requested herein would be expected to eventually result in a need for less on-site regulatory presence because of the length of time needed for drilling contractors to get ready for, and emplace, a full depth seal by allowing IDWR the opportunity to schedule and attend any seal placements, or parts thereof, deemed necessary.

20) **Many older domestic wells that are no longer in use and that are "discovered" by construction projects and/or found by developers on purchased properties, are often simply bladed off, buried, and not reported to save complications, money, and time or in simple ignorance of proper well abandonment, result in the same aquifer contamination problems in perpetuity.**

A case in point is the Meridian Dairyman's Creamery wells in downtown Meridian which were initially excavated to about 15 feet below ground level before the casings were smashed off with a track-hoe and buried without any contact by the contractor, Ideal Demolition Services, Inc. of Emmett, Idaho (IDSI) with the City or IDWR. In this case, the City had already started an evaluation for proper abandonment of the wells and its consultant had obtained GPS locations for the wells in preparation of filing well abandonment applications. The IDSI was forced by the City to exhume the buried well heads, that were flowing artesian below ground, and the casings were extended to land surface to facilitate proper abandonment (Figures 17-20). These abandonments were complicated and made more difficult and expensive by construction debris such as bricks and pipes that were allowed to fall down the wells during the negligence by the demolition contractor (IDSI). More education is needed with respect to the necessity of proper well abandonment. The proposed WAADC is aimed at filling that void by educating drillers, developers, home owners, community leaders, and contractors that operate within the City.

21) **Pumping from sub-aquifer units can induce vertical gradients within unsealed wells that cause water movement through unsealed annular spaces in wells.**

These induced gradients can affect not only the pumping wells but other unsealed wells in the vicinities of pumping wells. The annular ground water flow induced within an unsealed annulus[74] can cause additional erosion of the borehole wall over time, increasing the threat to the aquifer system.

22) **Eventually, poorly constructed and inefficient domestic wells will become a greater liability to the community.**

Eventual, inevitable, water level declines due to urbanization of farm ground and decreasing flood irrigation, will likely be incorrectly interpreted to be caused by municipal well pumping. The declines will bring to light the low specific capacity and inefficient construction (high drawdown for limited water produced) of domestic wells. Without baseline water level data from original pumping tests and installed monitoring tubes in domestic wells, disputes cannot easily be resolved scientifically and fairly.

[74] Flow that would not occur within the aquifer if not interrupted by the well bore.

PROPOSED ENHANCED ENFORCEMENT OF

DRILLING AND CONSTRUCTION RULES FOR WAADC

1) Practices that protect the ground water resource from waste and/or contamination:

   a. All wells 200 feet or greater below ground surface proposed to be drilled, constructed, reconstructed, or abandoned within the WAADC require a written prospectus describing the methods of drilling and details of well construction for advance consideration and approval by IDWR according to specifications developed for WAADC wells.

   b. For all domestic wells 200 feet or greater in depth below ground surface within the WAADC, only the direct mud-rotary drilling method shall be used.

   c. Only direct mud-rotary and/or reverse-circulation rotary irrigation, municipal, and commercial wells shall be drilled in the WAADC.

   d. All wells 200 feet or greater below ground surface shall have full-depth pumped grout annular seals from the land surface to the top of the targeted water-bearing zone of the aquifer. Shallow (less than 200 ft bgl) existing domestic wells cannot be deepened within the proposed WAADC.

   e. All domestic wells to be constructed within the WAADC shall be cased with 6-inch diameter SDR-17 PVC casing inside of a 10-inch drilled bore or a 5-inch diameter SDR-17 PVC casing inside of an 8-inch drilled bore.[75]

   f. If steel well casing is allowed (by waiver of the WAADC rules), it must be of high-quality domestic steel of standard and sufficient thickness (Schedule 40) for corrosion resistance.

   g. All wells to be drilled and constructed within the proposed WAADC shall be equipped with stainless steel sand screens with stainless steel weld rings.

   h. All wells being replaced shall be abandoned by perforate-and-pressure-grout techniques.

   i. For all domestic wells 200 feet or greater in depth below ground surface within the WAADC, the surface seal casing must reach and be sealed into the first clay layer encountered.

   j.

[75] These bore diameters allow for the outside diameter of the PVC casing couplers.

k. Existing inadequately sealed wells (wells with only an 18-to-38-foot deep surface seal) shall not be allowed to be deepened.

l. Lockable well caps and minimum $^{3}/_{8}$-inch diameter hasp locks shall be required on all well heads located outside of buildings.

2) <u>Practices that result in better quality wells, protect the public health, and add to the understanding of the resource:</u>

a. Borehole geophysical logging is *recommended* for all wells drilled with direct mud-rotary methods within the proposed WAADC with digital and hard copy records accepted and archived by the City of Meridian.

b. All new wells shall be initially sampled and tested for the following analytes at a minimum: 1) bacteria, 2) nitrate, 3) total dissolved solids, 4) arsenic, 5) gross-alpha radiation, and 6) uranium.

c. Drill cuttings for all wells drilled within the proposed WAADC shall be sampled at five-foot intervals and the cuttings left on site available for inspection by IDWR and until the well is constructed and approved.

3) <u>Practices that would reduce future conflicts and allow for scientific resolution of claims of well interference and water rights protests while providing consumer protection:</u>

a. All domestic wells shall be drilled and completed to an adequate depth, with at least five feet of filter-packed well screen,[76] to ensure well viability if aquifer pressures decline over time, to prevent sand-production, and to render the well able to be redeveloped as efficiency declines over time.

b. All wells shall be equipped with water level monitoring tubes to be installed with the pumps.

c. All domestic wells shall be limited to 18-gallons per minute maximum capacity pumping plants.

d. All domestic wells shall be hydraulically pump tested (not air-lift pumped) for 6 hours at a constant sustainable discharge and the measurements recorded.

[76] Domestic wells would be allowed up to 15 feet of well screen, or up to 20 feet of total hydraulically connected (including filter sand) geologic section which, in the proposed WAADC area, is more than adequate to provide a single-family domestic water supply.

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The author needs to acknowledge a large number of individuals that contributed to this 7-year project.[77]

Many of the original measurements for these studies were taken by the author when I was employed by S.H. Wood and Associates and Boise State University beginning in about 1990. Later, in my capacity as part of the adjunct graduate faculty at BSU's Geosciences Department and Geosciences Department Head at United Water Idaho, Inc., I was fortunate to employ many hungry BSU graduate students for sitting wells during drilling and construction projects over the years including Roger Dittus, Brian Cavanagh, Mike Guilbert, Dechin Wang, and Mary Hegmann. Without this inexpensive labor force in the early years, it is doubtful that we would have the length of record we do. I am indebted to these students, my colleagues, for long and late hours of monitoring, drilling, well construction, and during hydraulic testing for meager wages. The 20+-year data record was accumulated, mostly on a shoestring budget, by a large number of individuals and entities over the years.

The lion's share, though, of the hydrogeologic measurements, and all of the relevant data synthesis and presentation, of the information presented herein over the last 13 years or so, were provided by hydrogeologists Brian Cavanagh, Loren Pearson, Rick Frieze, Kurt Newbry, and Carlton Parker at Hydro Logic, Inc. Kurt and Loren, who deserve virtually all of the credit for final data manipulation, synthesis, and plotting the data for this report, were also instrumental during the last 13 years as sounding boards for theories and interpretation of the information and sharing in reaching several of the main conclusions.

I would also like to acknowledge Boise State University's Department of Geosciences for the many borehole geophysical logs made possible with its truck-mounted geophysical units over the years and, especially, geophysicist Dr. Spencer H. Wood who spearheaded the university acquiring and making available borehole geophysics in the Valley.

The community should be thankful for the support of Gary D. Smith, P.E., previous long-term Public Works Director and City Engineer for Meridian,[78] for his commitment to better understanding the aquifer relied upon for the City's municipal water supply, for embracing improved well construction materials and techniques far ahead of anyone else, and for funding the level of monitoring that happened over much of the available monitoring term of

[77] Although the development of *this* request for a formal designation of an Area of Drilling Concern in the upper Treasure Valley began in earnest about 7 years ago (with the City of Meridian Mayor's office and Public Works Department pushing for and funding the effort), the idea for a WAADC has been in play for over 20 years when then IDWR Western Regional Manager Gary Spackman and Well Agent Rob Whitney sponsored meetings with stakeholders and well drillers in an attempt to promote better well sealing practices in the area. This effort failed due to the opposition of the attending well drilling companies of Hiddleston Drilling, Adamson Drilling, and Can-Ada Drilling who represented the professional drilling community at the time. Rob Howarth of IDEQ and Ed Squires of United Water Idaho, Inc. also contributed.

[78] For most of the 1990's, not only was Gary Smith the Public Works Director and City Engineer, he was, himself, the Meridian Public Works Department. Gary Smith was often the first to embrace new ideas for better well construction which others would then follow.

record. Gary was one of the most frugal public servants, not to mention his wife Janice was the head of the City's accounting department, but Gary always (if sometimes begrudgingly) found a means to pay for the minimum of hand-measurements necessary to provide a useful hydrogeological data record during the early years of the monitoring record when such measurements were not typically something a City could or would keep track of. Gary was also responsible for the construction and maintenance of most of the City's multi-depth monitoring well network. His efforts in getting the Mayor's and City Council's support for these research programs are the main reasons the monitoring wells exist today. When Gary retired from public life, the City's monitoring program suffered from disinterest and lack of funding during 2006 and 2007 and until Public Works Director Tom Barry was hired.

The current Director and staff of Meridian Public Works Department deserve credit for recognizing the need for the City to acquire and analyze such essential data to managing the City's source water. Mayor Tammy deWeerd, Public Works Director Tom Barry and Assistant City Engineer Kyle Radek, P.E are credited for realizing the importance of this project to the City's long term planning, and for providing adequate funding to formalize and fund the development of decades of hydrogeologic measurements and observations and for effectively educating the City's administration to those needs.. The many thorough reviews, and patience, of Kyle Radek were helpful and appreciated. This has been a long and tedious process to retrieve the data from various archives and to cross-check the measurements for accuracy and the project required far more time and effort than was originally envisioned. HLI acknowledges and appreciates the City's patience in receiving this report and, especially, Kyle Radek's apparent faith that it would actually get finished one day; thanks Kyle for paying our bills for so long without a tangible project report in sight. Thanks also go to Assistant Superintendent Chip Hudson of the Meridian Water Department for his long-term consistent good help with ground water production data from the beginning and Operator Jamie Allen for access and logistics.

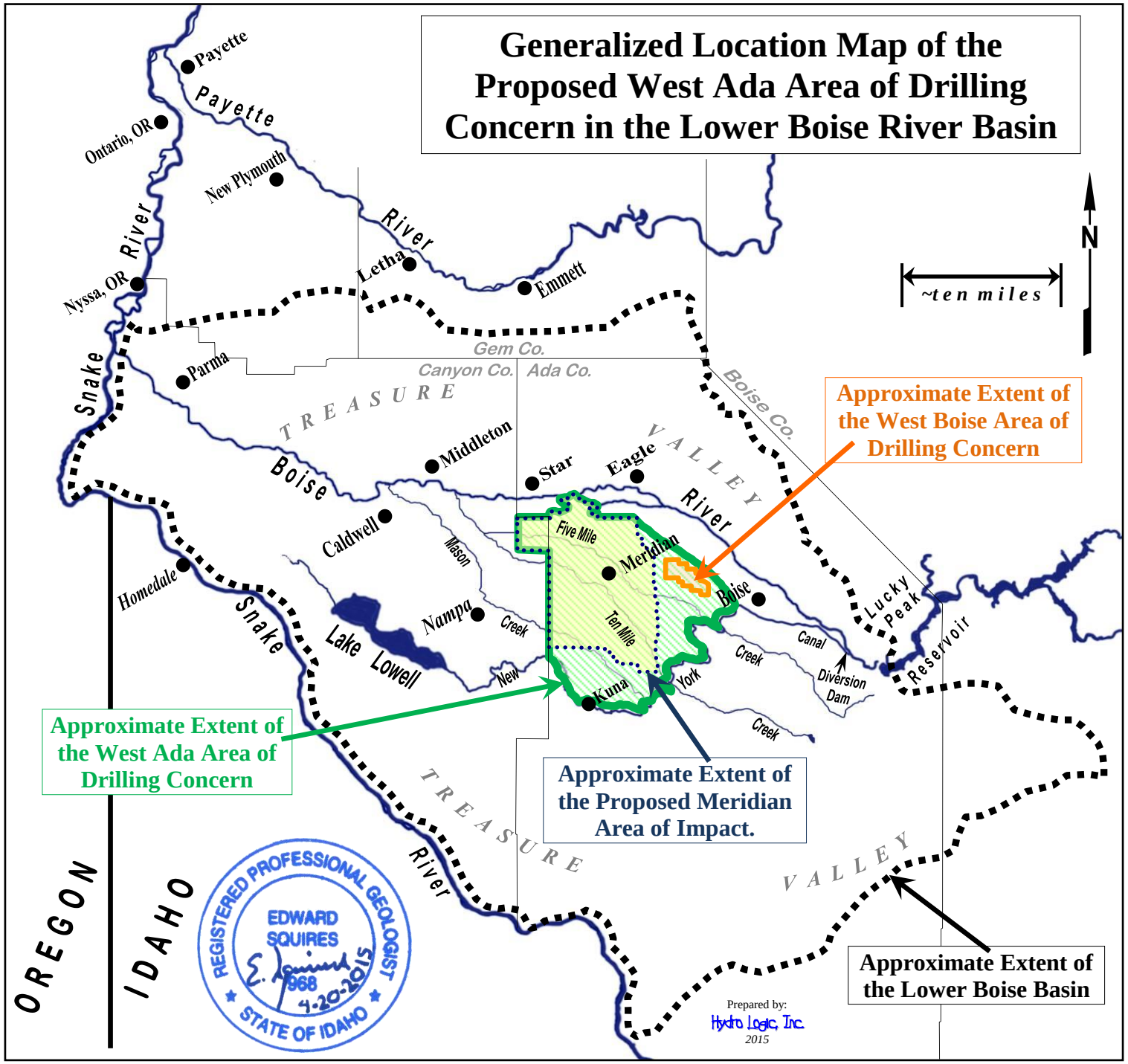
Kuna Public Works Director and City Engineer, Gordon N. Law and Wayne Booe of United Water Idaho, Inc. are also community leaders who recognized the need for changes to the drilling and well construction practices and who sponsored research and caused wells to be better constructed.

Rob Whitney of the Idaho Department of Water Resources is recognized for his considerable drilling and well construction expertise and continual help with permitting and contributions to improving well construction techniques over the last 25 years. Rob's critical review of this document made it better and more accurate. I am indebted to Director Spackman for committing staff time for well expert Rob Whitney and geologist Tom Neace to have many discussions with me on the subject.

Finally, the contributions of the willing local drilling contractors who drilled, constructed, and developed our designs for multi-depth monitoring stations, well abandonments, and our many requested measurements, cannot be overlooked. In particular, I want to recognize George Post (formerly of Treasure Valley Drilling and now with Post Well Drilling) and Dave McLeran (and his many brothers) of McLeran Well Drilling for their excellent work, and willingness to change old practices and embrace new concepts for well construction and seal

placement based on a continuously improving understanding of the aquifer system. It is encouraging to us that other progressive local drilling companies have adopted direct mud-rotary drilling and sealing methods for domestic water wells including Down Right Drilling & Pump, Inc., Adamson Pump & Drilling Inc., and Coonse Well Drilling & Pump Co., Inc. and their work is starting to be apparent in the IDWR Well Driller's Reports data base.

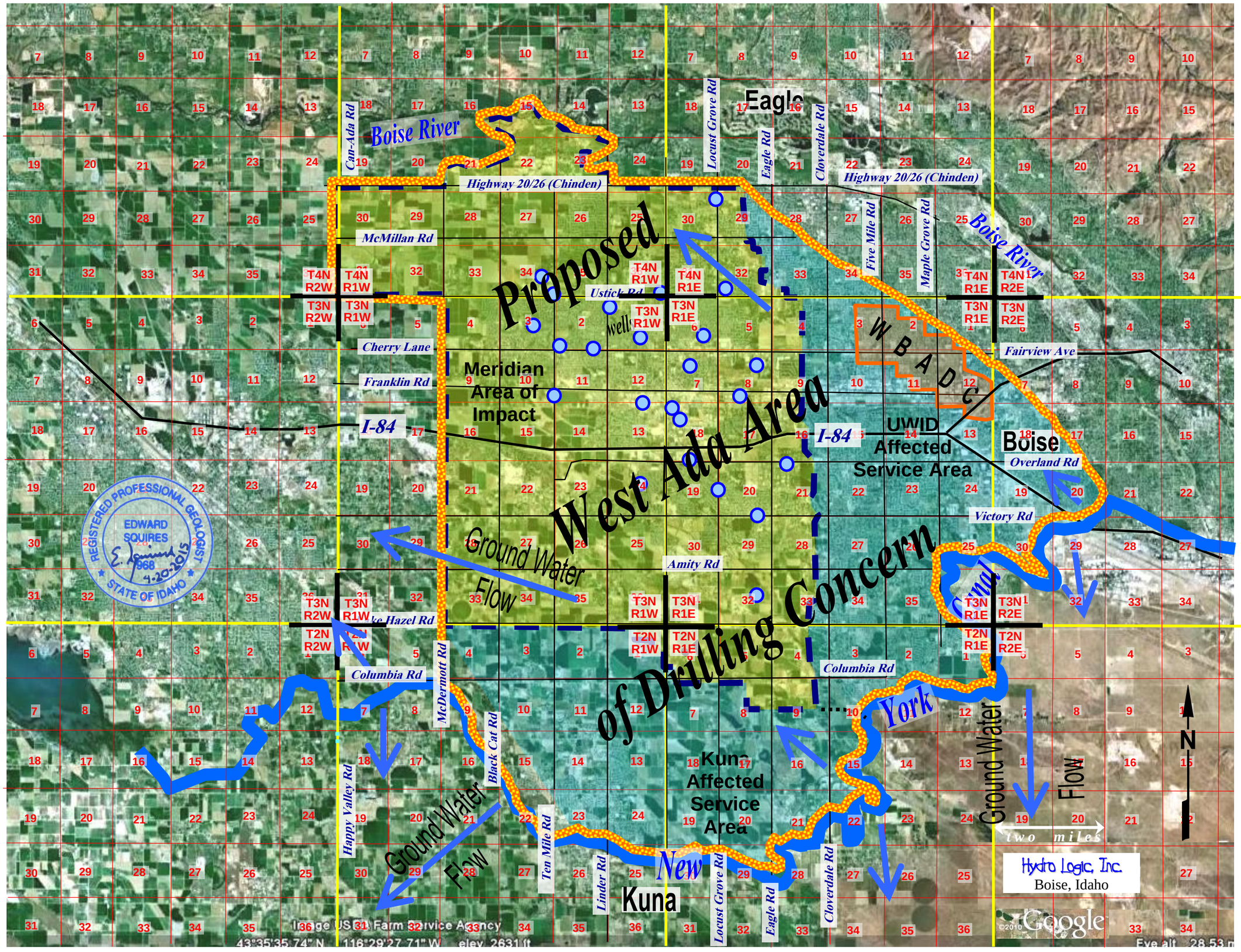
FIGURES



Hydro Logic, Inc.
Boise, Idaho

Figure 1.

Proposed West Ada Area of Drilling Concern



KEY

- Approximate Boundary of Proposed Area of Drilling Concern
- New York Canal
- Approximate Boundary of Meridian Area of Impact
- Approximate Boundary of West Boise Area of Drilling Concern (W B A D C)
- City of Meridian Well
- Roads
- Approximate boundary between UWID and Kuna Service Areas
- General Direction of Ground Water Flow

Figure 2. Aerial photographic base map showing the proposed extent of the requested designation of a "West Ada Area of Drilling Concern" covering the entire City of Meridian and parts of Kuna and Boise. In all, a 110-acre area is requested for enhanced enforcement by the Idaho Department of Water Resources of existing State of Idaho well drilling and construction standards and for well abandonment practices. Also depicted is the existing West Boise Area of Drilling Concern designated in 2001(for nearly identical concerns) and the general direction of ground water flow underlying the area.

Figure 2.

Hydro Logic, Inc
Boise, Idaho

Number of Domestic Wells Versus All Other Types of Use Wells Constructed by Year (1950-through-2014) Inside the City of Meridian Area of Impact

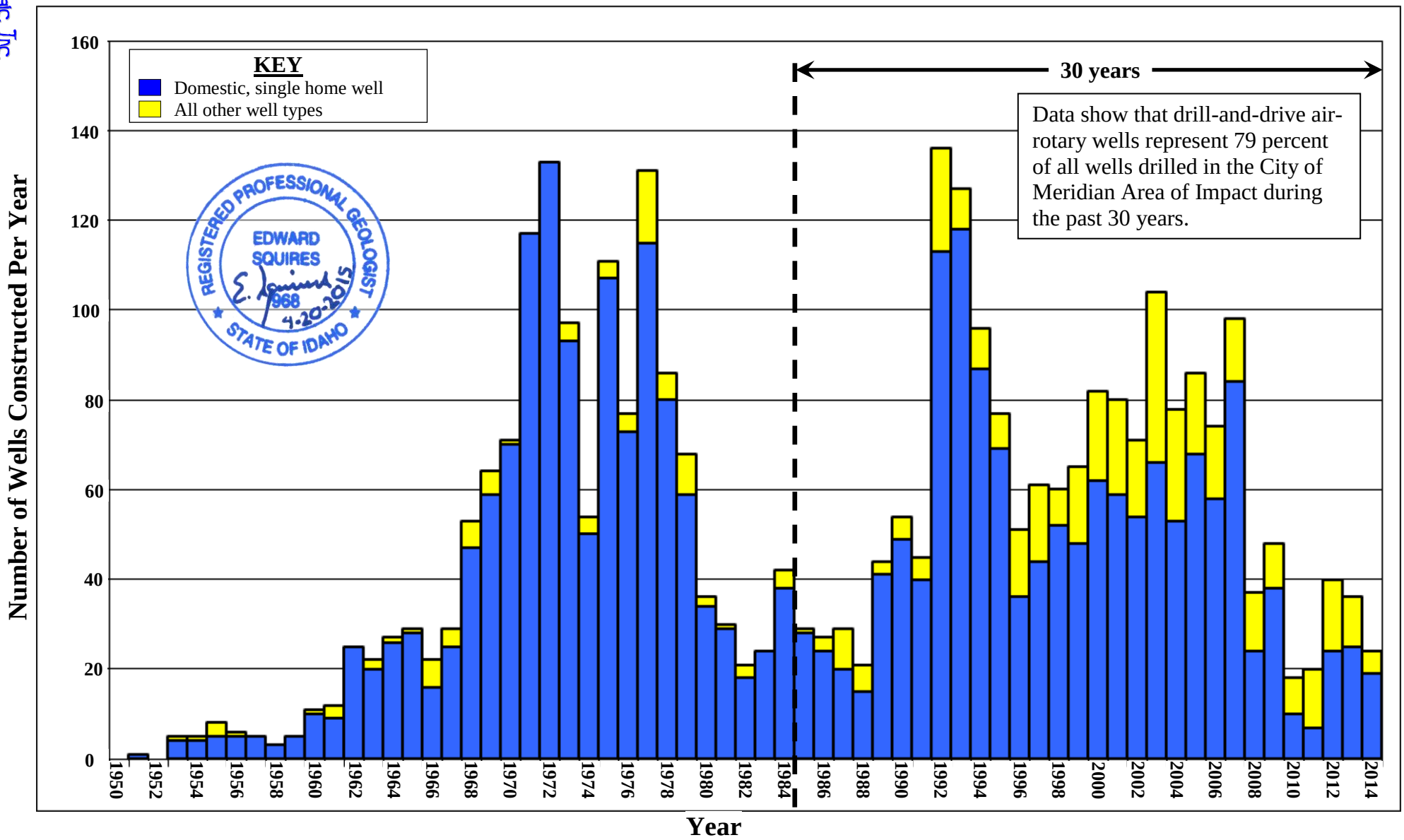


Figure 3. The bar graph above shows the number and type of wells constructed each year for 65 years inside the Meridian Area of Impact. Each blue column represents the number of single home domestic wells constructed that year. Each yellow column stacked on top of a blue column represents all other types of use wells (industrial, irrigation, monitoring, municipal, etc.) constructed that same year (if any). Of the 135 wells that have been drilled since 1/1/2010, 79 wells were constructed after 7/10/2010 after the revised IDWR Drilling Rules were implemented. Removing the City of Meridian wells and all other monitoring wells leaves 51 wells, of which 44 were domestic use. Of these 44 wells 43 of the logs available on IDWR's well driller's report database were complete. 28 wells of these domestic use wells were less than 200 feet deep and on average had 36% of the surface casing sealed and 64 % of the casing length unsealed. 15 wells of these domestic use wells were deeper than 200 feet and averaged 18% of the casing sealed and 82 % of the casing length unsealed, see Table 1.

Figure 3.

6-inch Standard Steel Drive Shoes Borehole Areas Versus 6-inch Steel Casing Interior Area

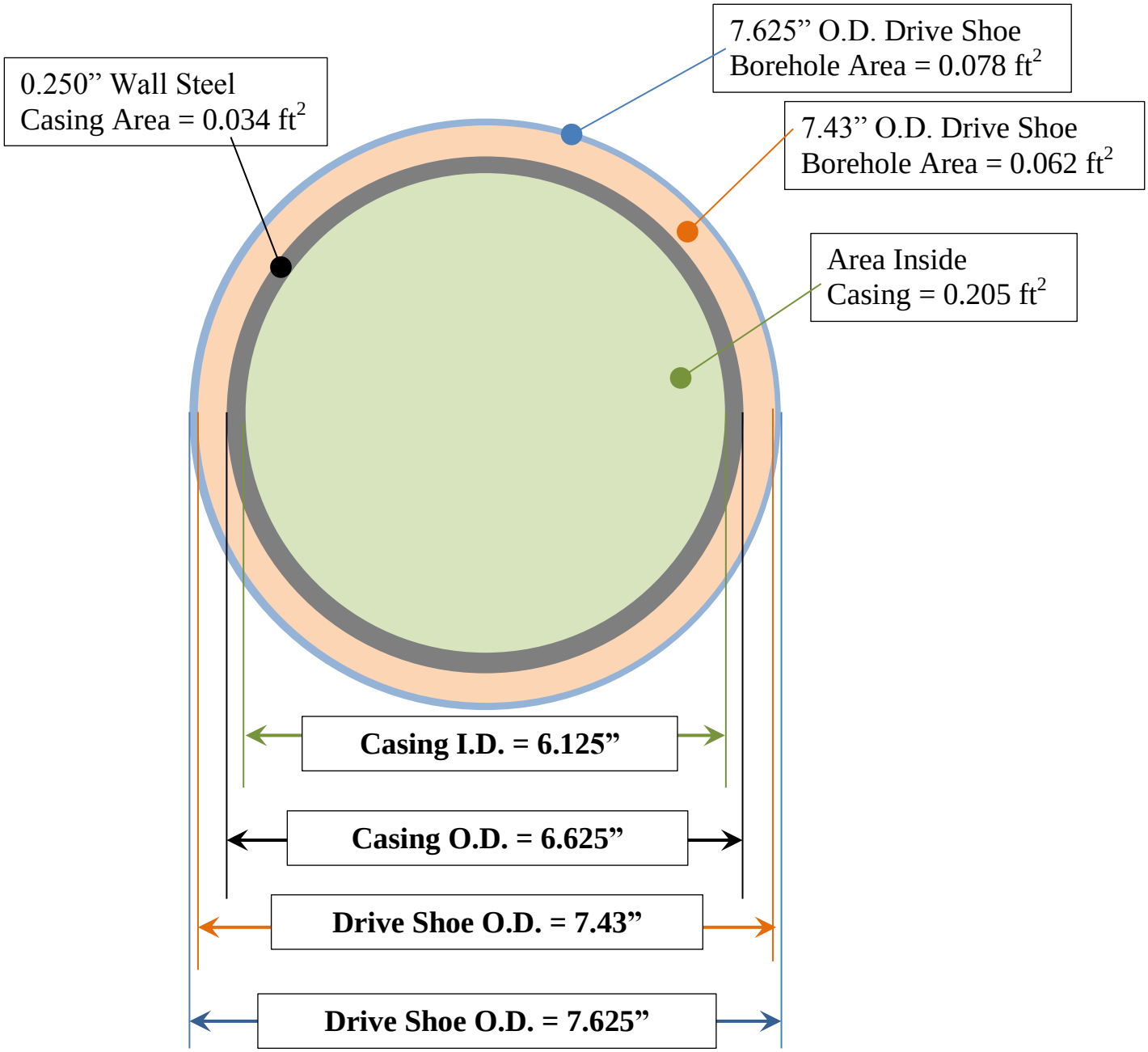


Figure 4. To-scale diagram showing the actual diameters of ¼-inch steel well casing and two standard size hardened drive-shoes affixed to the leading end of the drilled-and-driven casings of most air-rotary and cable-tool drilled domestic wells in the Treasure Valley. Drilling and driving a 0.250-inch wall steel casing with a 7.43-inch O.D. drive shoe would create (by design) a minimum annular space between the drilled borehole and the outside wall of the casing that has 30% the area of the inside of the 6-inch casing. Using the larger 7.625-inch O.D. drive shoe would create an annular space that has 38% the area of the inside of the 6-inch casing. As a practical matter, the annular spaces created by the air-rotary and cable-tool drilling methods are much larger. In domestic wells, the annular spaces are almost never sealed beyond a shallow surface seal (18 ft prior to 2010 and 38 ft post 2010).

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"Virginia #1" Domestic Supply Well - T. 3 N. R. 3 E., Section 32, NE¼, NE¼ - Well Completed April 3rd, 1992

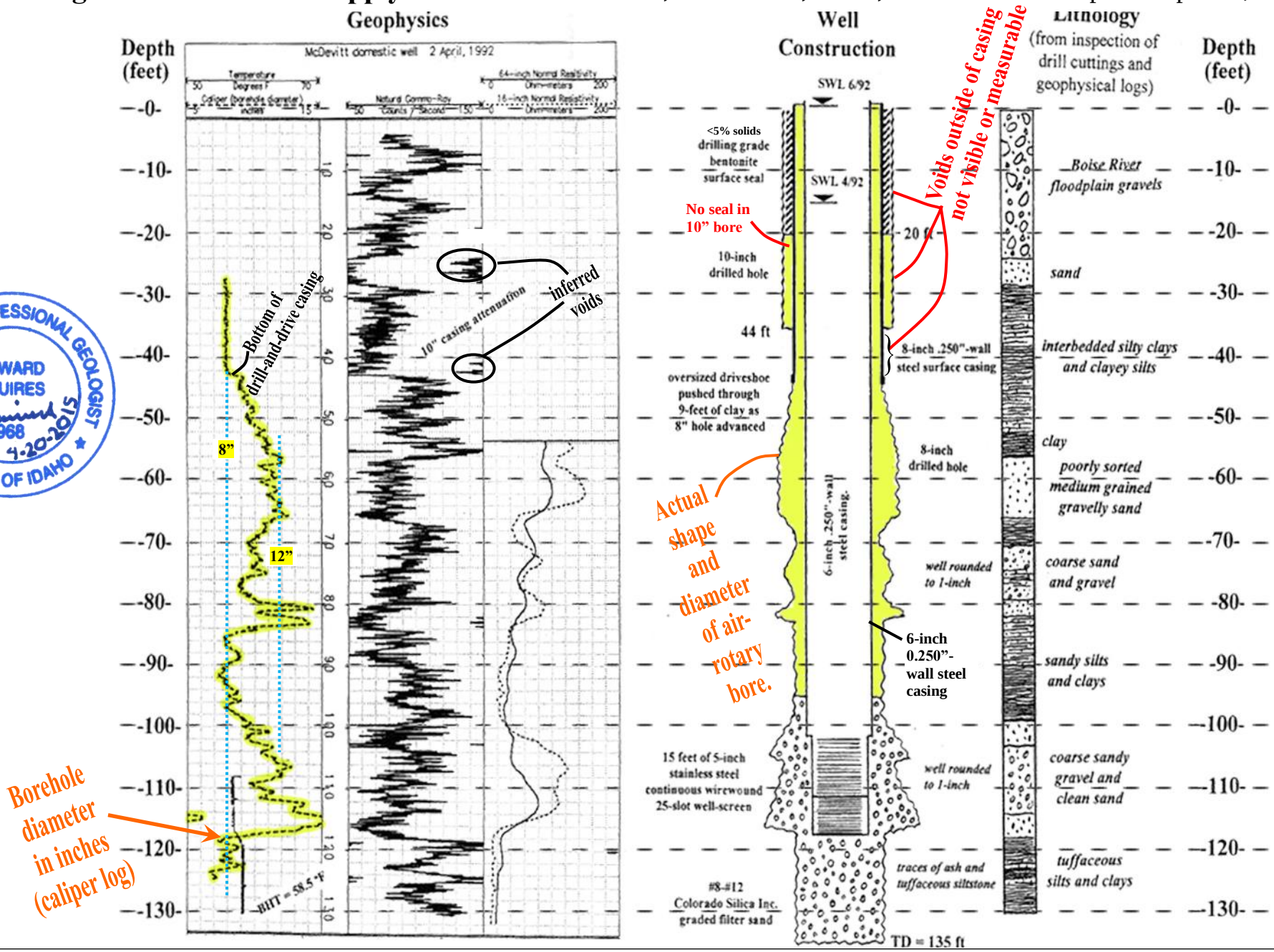

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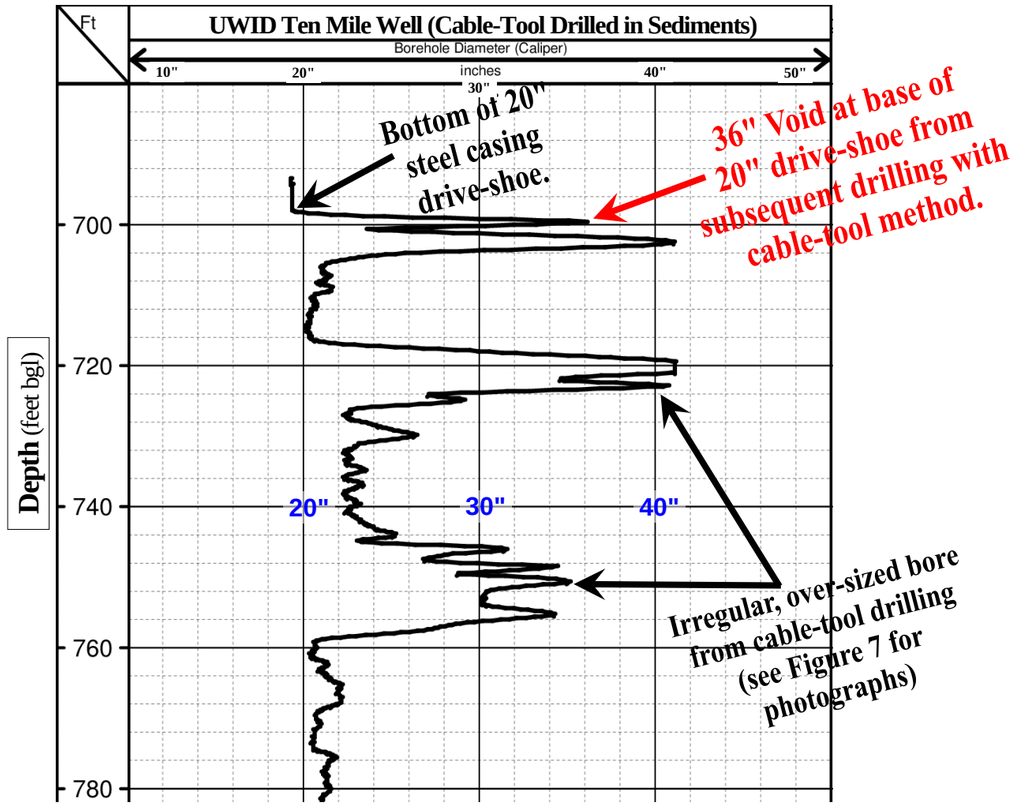
Figure 5. Cross-sectional sketch of the Virginia #1 domestic well drilled using the air-rotary method. Borehole caliper log (borehole diameter) shows the shape of the inside of the air-rotary bore prior to the installation of casing with respect to the drilled geology. Caliper log shows the borehole to be much larger than the outside diameter of the casing drive shoe for most of the length of the bore. The typical (prior to 2010) 18-ft surface seal is comprised of <5% solids bentonite slurry (drilling grade bentonite) such that the entire 135-ft depth of this well is unsealed.

Figure 5.

Borehole Diameter (Caliper) Logs of Two Cable-Tool Drilled Wells and One Air-Rotary



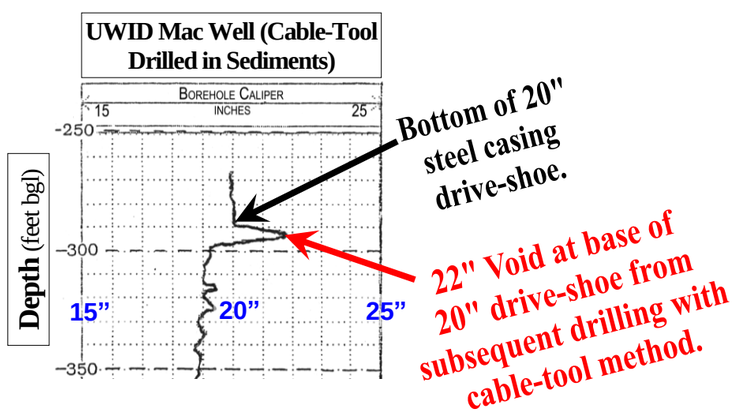
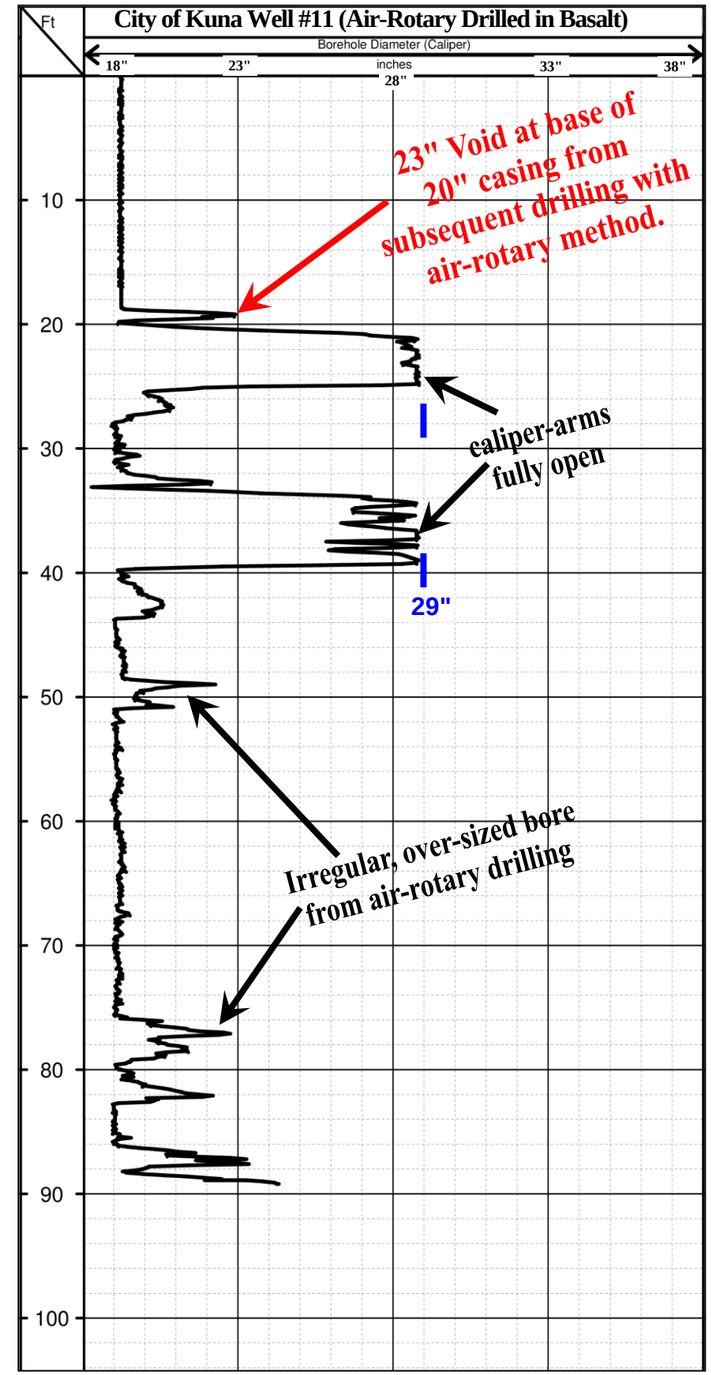


Figure 6. Boise State University caliper (borehole diameter) logs of two cable-tool-drilled wells and an air-rotary-drilled well showing enlargements of the bore at the base of the casing drive shoes from continued drilling through the surface casing after the casings were set and prior to drilling the aquifer section of the well. The caliper shows that the so-called "shoe-seal" at the base of driven casings is compromised by further drilling through the pipe. The Ten Mile well also shows voids in the borehole wall from cable-tool drilling that are much larger than the outside diameter of the drive shoe for significant reaches of the borehole wall. These cavities, outside well casings, provide open conduits for the commingling of pressure heads, differing ground water geochemistries, and vertical contaminant migration. The City of Kuna Well #11 is included to show the same cavities and voids resulting from air-rotary drilling in volcanic lava flows such as mantle a goodly portion of the up gradient portion of the proposed WAADC.



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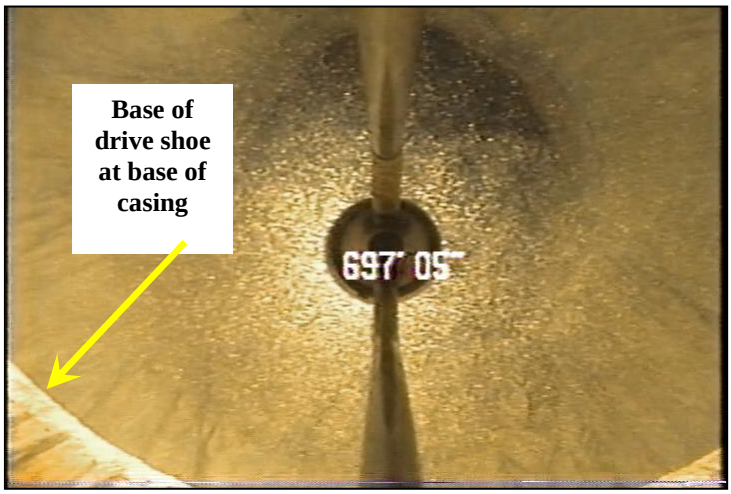
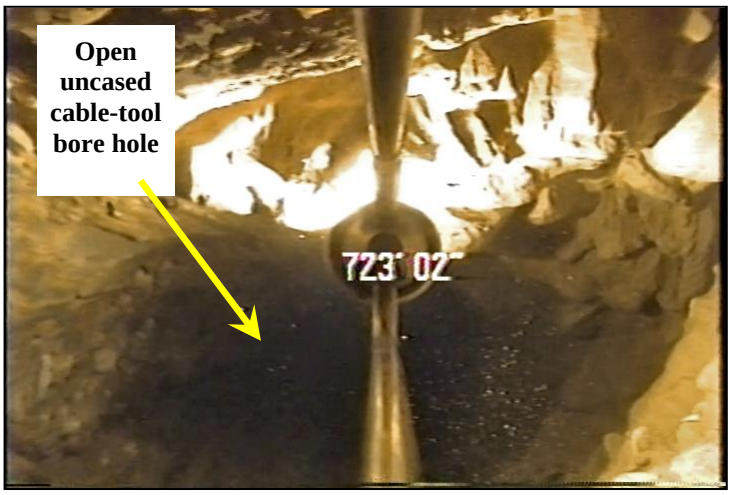
Boise, Idaho

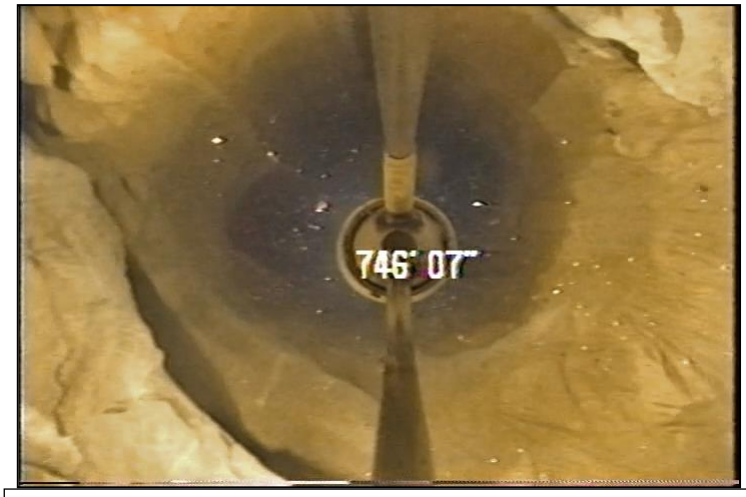
Figure 6.



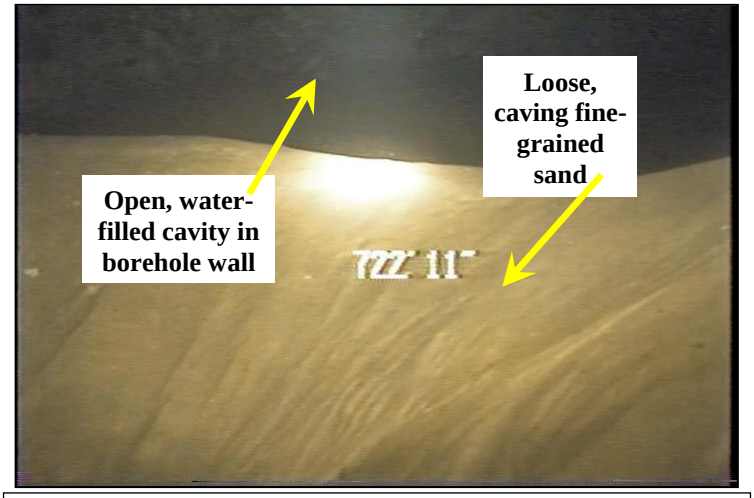
6/1996 Underwater photograph of the Ten Mile well drive-shoe hanging away from the open borehole wall. White numerals at center of view (over camera light head) indicate depth below land surface. Photographs courtesy of United Water Idaho, Inc.



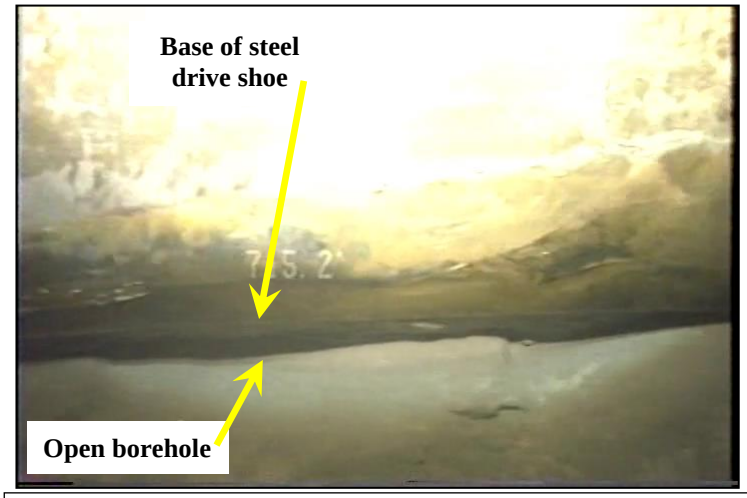
6/1996 Axial (down hole) view of irregular cable-tool-drilled borehole in the Ten Mile well. Contrary to Well Driller's Report, the exposed geology appears to be partially cemented mudstone or siltstone that drilled over-sized.



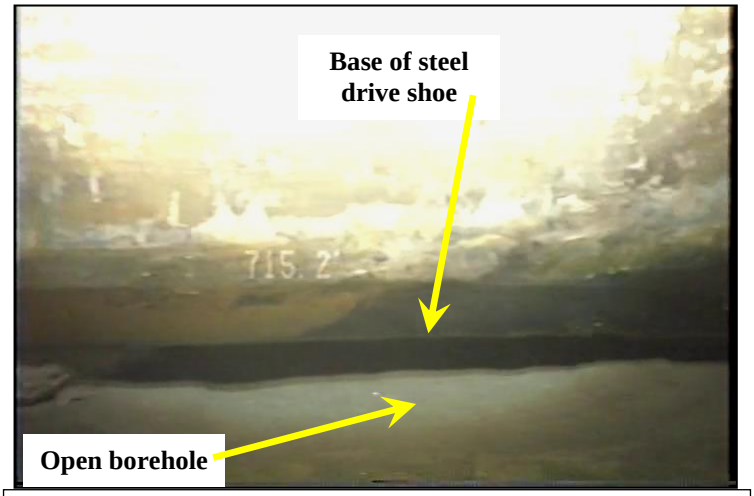
6/1996 Axial underwater photograph showing the irregular open borehole wall below the surface casing in a cable-tool drilled well (Ten Mile well) prior to installation of casing and well screens. If left unsealed after installation of the casing, the large annular space outside of the casing allows free vertical association of ground waters.



6/1996 Underwater radial (side viewing) still photograph of the side of the open borehole wall in the cable-tool-drilled Ten Mile well showing a very large cavern above an unconsolidated caving sand. Such voids are common in cable-tool wells.



Depth-calibrated radial view photograph of the unsealed base of the drive-shoe in the Maple Hills well. Drive shoe is recorded on the Well Driller's Report as being driven, sealed, and tested into blue clay at 709 ft bgl prior to subsequent deepening.



Depth-calibrated radial view photograph of the unsealed base of the drive-shoe in the Maple Hills well. Drive shoe is recorded on the Well Driller's Report as being driven, sealed, and tested into blue clay at 709 ft bgl prior to subsequent deepening.

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Figure 7.

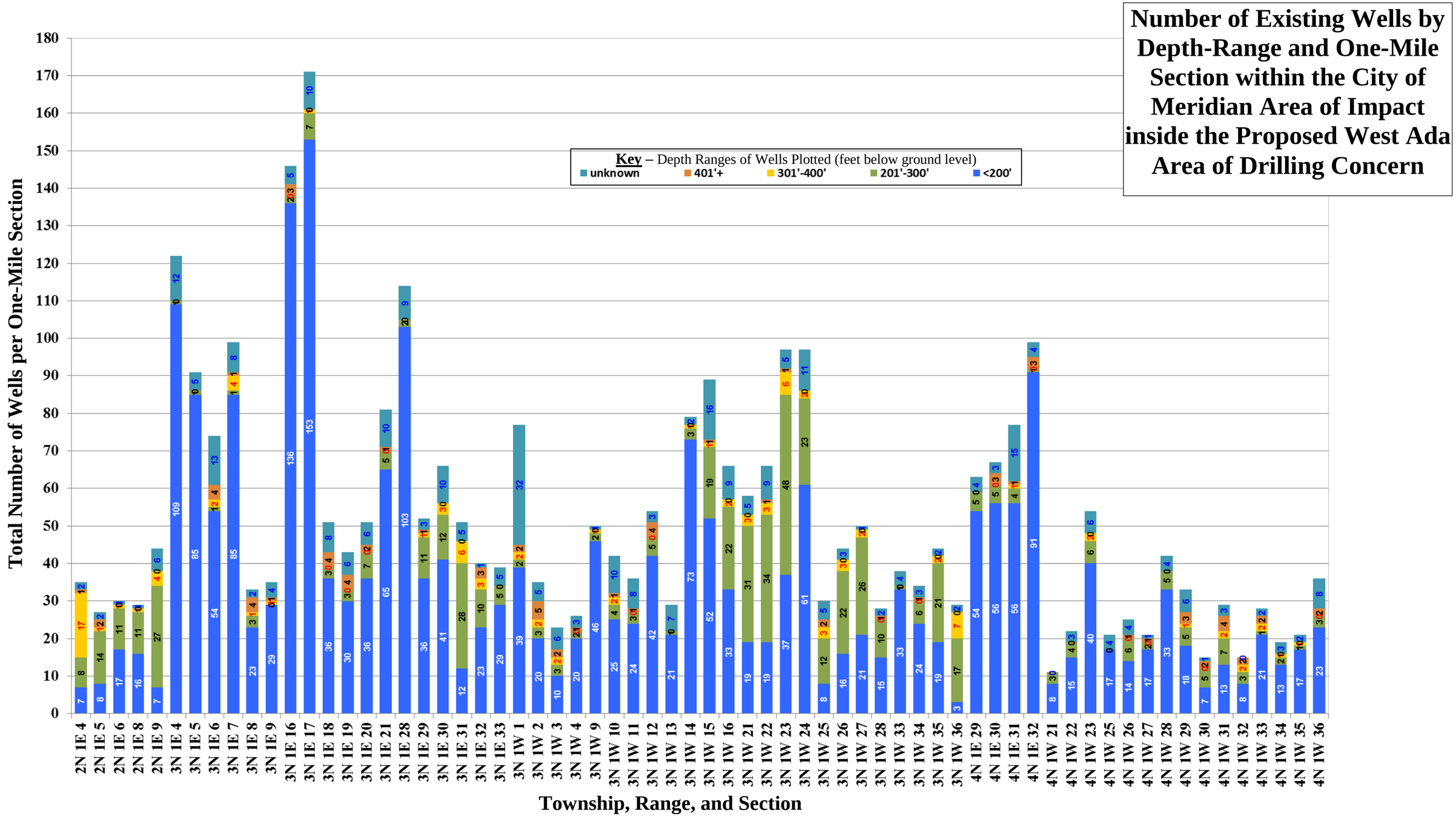

Figure 8. Bar graph of the number and depth of wells within the City of Meridian's Area of Impact by one-square-mile sections. Numerals imprinted on the individual bars of the graph indicate the number of wells of a given depth range within that section. The graph shows the preponderance of wells to be less than 200 feet in depth below land surface.

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Figure 8.

Cumulative Clay in First 300 feet of Well Bore for the City of Meridian's Source Water Protection Area of Drilling Concern

August 13, 2012

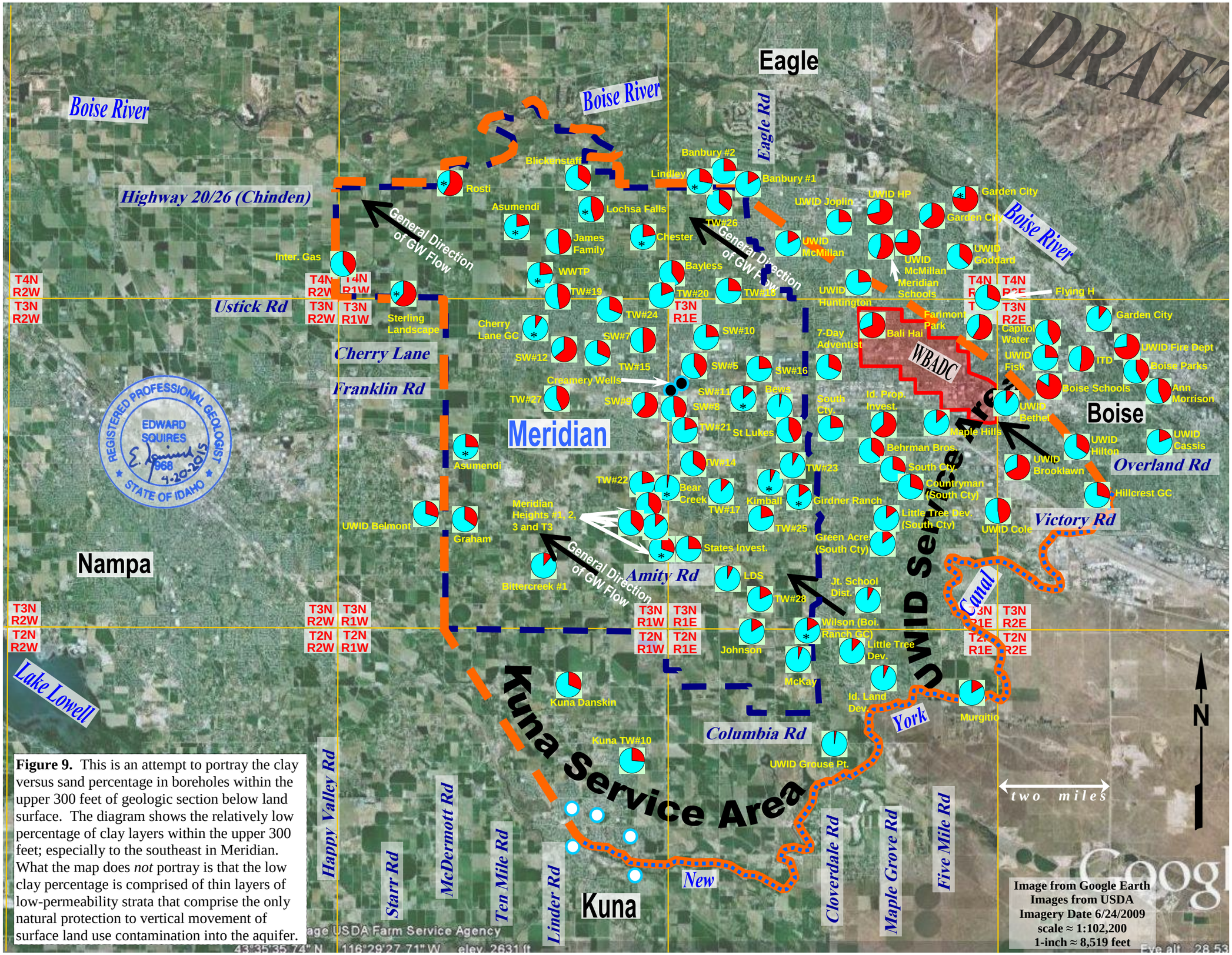

Figure 9. This is an attempt to portray the clay versus sand percentage in boreholes within the upper 300 feet of geologic section below land surface. The diagram shows the relatively low percentage of clay layers within the upper 300 feet; especially to the southeast in Meridian. What the map does *not* portray is that the low clay percentage is comprised of thin layers of low-permeability strata that comprise the only natural protection to vertical movement of surface land use contamination into the aquifer.

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KEY

- Approximate Boundary of Proposed Area of Drilling Concern
- New York Canal
- Approximate Boundary of Meridian Service Area
- Approximate Boundary of West Boise Area of Drilling Concern
- Red slice is % clay in upper 300 feet
- Red slice is % clay in well less than 300 feet
- General Direction of Ground Water Flow

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Boise, Idaho

Figure 9.

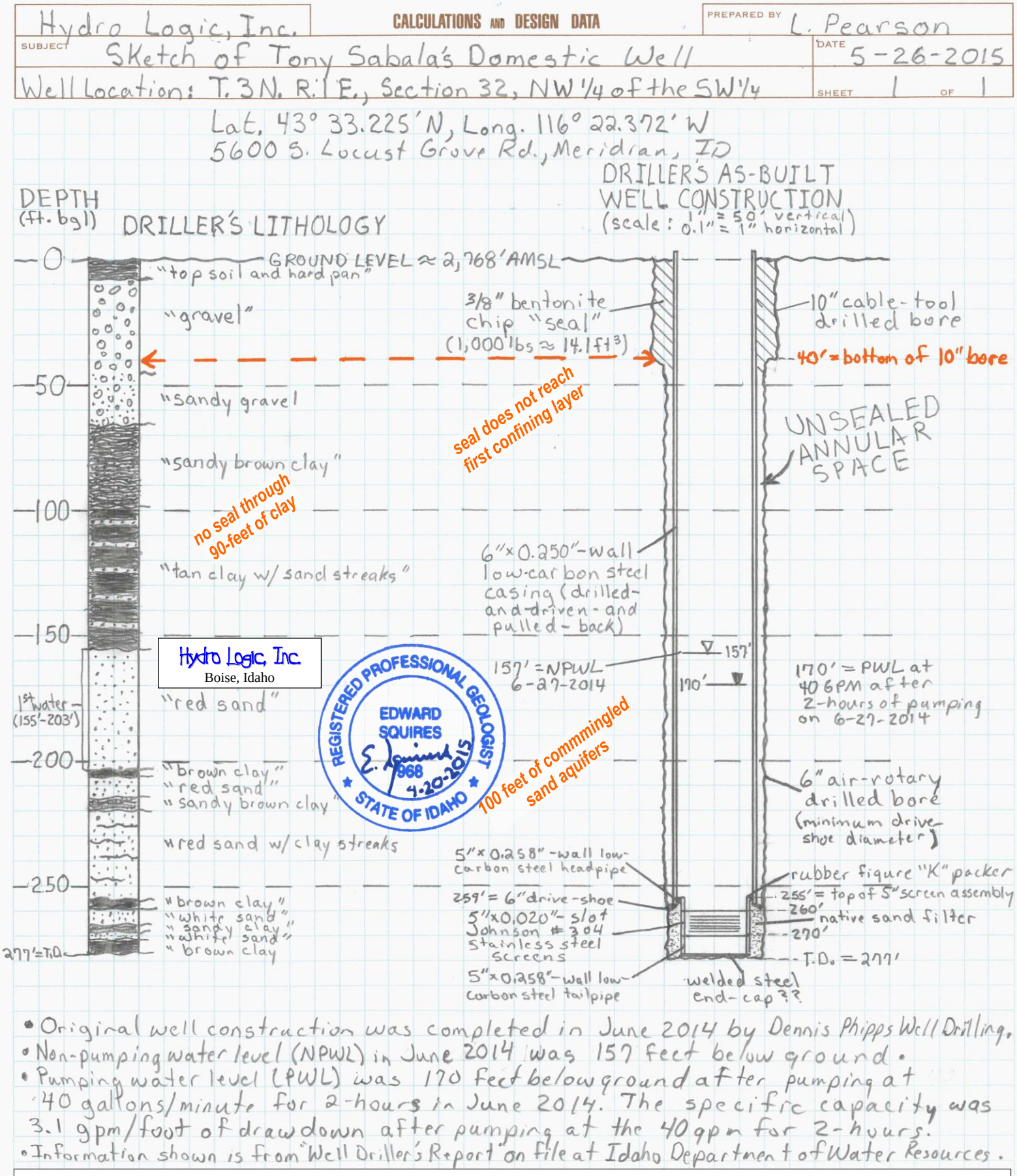


Figure 10 – Cross-sectional sketch of the details of as-built well construction of the Sabala domestic well in south Meridian as recorded on the Well Driller's Report. The Sabala well was drilled in June of 2014 and four years after the revision to the Idaho Minimum Standards for Well Construction were changed to require a minimum 38-ft seal "or the first confining layer". The surface seal in this well does not reach the base of the surficial floodplain terrace gravels and lacks an emplaced seal across 90 feet of low-permeability clay strata. The well is essentially unsealed from top to bottom as concerns the aquifer with no seal to any confining layer in the drilled and driven casings of the cable-tool and air-rotary drilling methods. See Appendix A for the Driller's Reports for all wells within the proposed WAADC drilled since the rule change on the 38-ft seal requirement.

Figure 10.

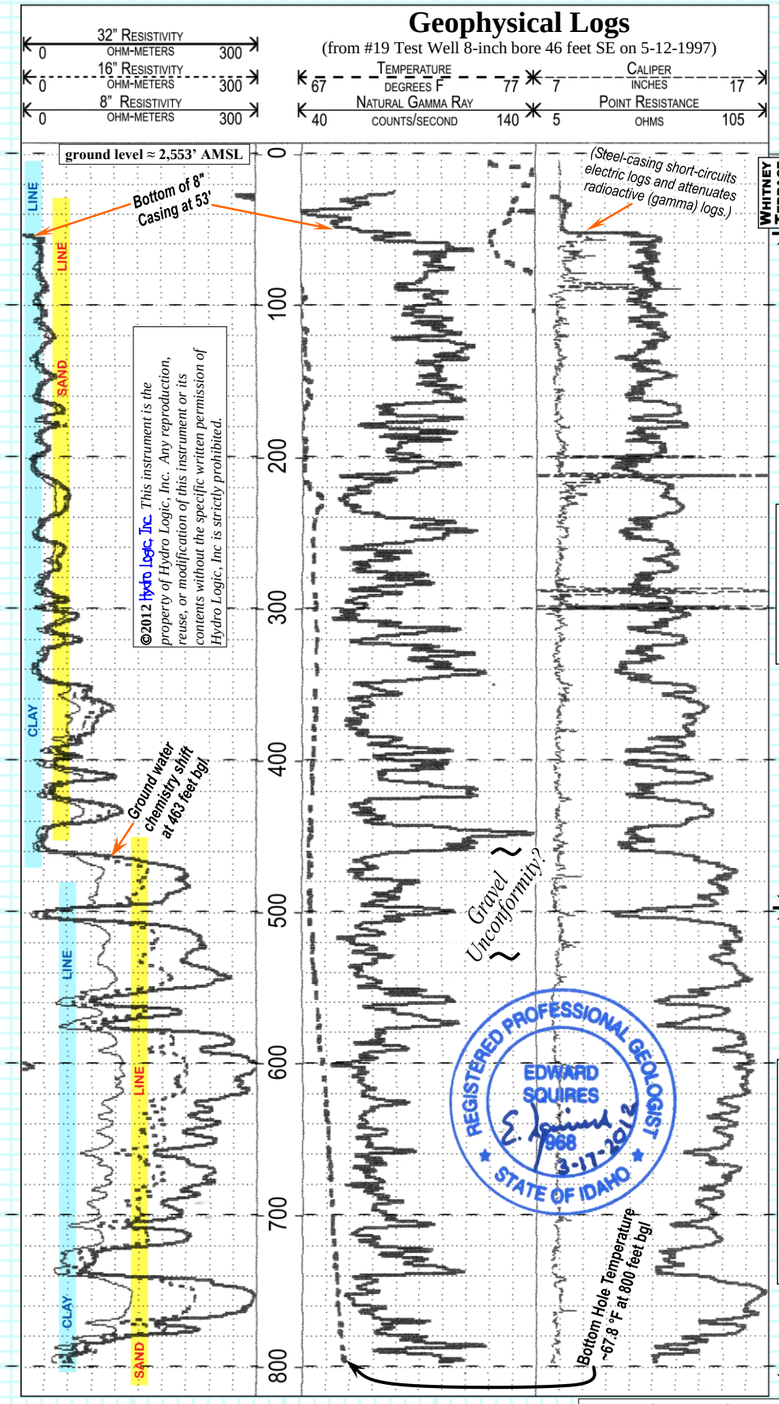
City of Meridian Supply Well #19

T. 3 N. R. 1 W. Section 3, NE¼, NE¼, NE¼ (Lot 1)
Latitude 43º 38’ 1.41” Longitude 116º 26’ 5.81”
Well Completed May 1998

Hydro Logic, Inc.

Geophysical Logs

(from #19 Test Well 8-inch bore 46 feet SE on 5-12-1997)



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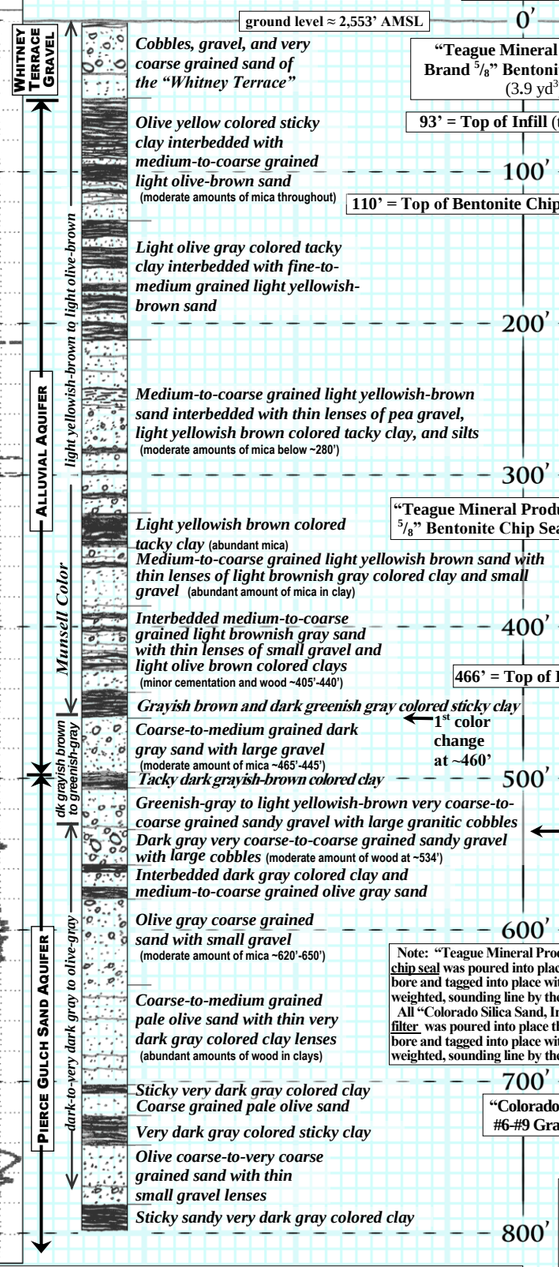
Note: Geophysical logs to 1,043 feet truncated for clarity on this diagram.

Calibrated borehole geophysics conducted by E. Squires and R. Dittus of United Water Idaho, Geoscience Department, on May 12th, 1997 in the 8-inch diameter, mud-filled, direct mud-rotary drilled #19 Test Well bore, 18 hours after removal of the drill steel. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

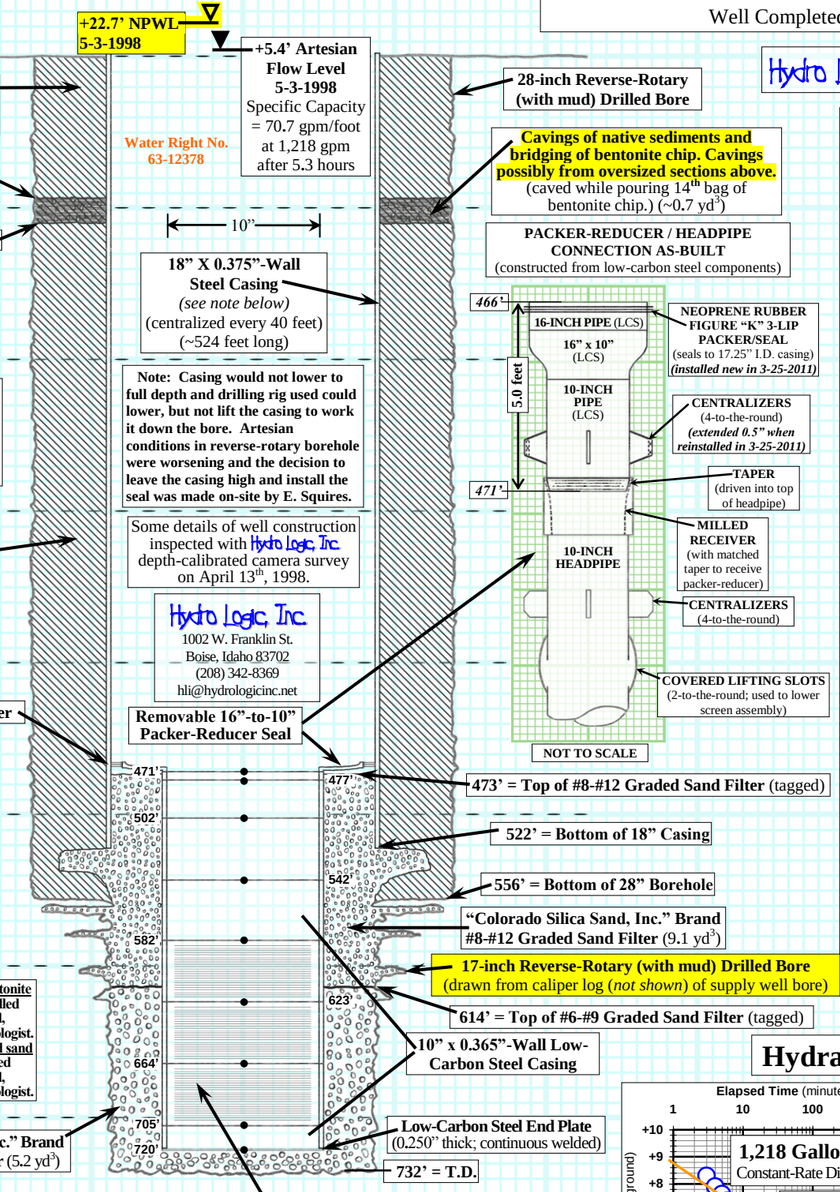
Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary drill cuttings from the test bore, sampled by the on site geologists (R. Dittus and J. Allred with UWID) during drilling.



As-Built Well Construction

(horizontal scale 0.1”=1” and vertical scale 1”=100’)
all measurements to ground level = pumphouse floor



Note: Casing would not lower to full depth and drilling rig used could lower, but not lift the casing to work it down the bore. Artesian conditions in reverse-rotary borehole were worsening and the decision to leave the casing high and install the seal was made on-site by E. Squires.

Some details of well construction inspected with Hydro Logic, Inc. depth-calibrated camera survey on April 13th, 1998.

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1002 W. Franklin St.
Boise, Idaho 83702
(208) 342-8369
hli@hydrologicinc.net

Note: “Teague Mineral Products” Brand bentonite chip seal was poured into place through mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist. All “Colorado Silica Sand, Inc.” Brand graded sand filter was poured into place through a mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

Note: All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes and it was found that the seal volume is inconsistent with 28-inch borehole size, but the filter sand was within 19% of expected volume from caliper log: 1) The main seal used 57% less TMP bentonite than expected or 48% less if one used the 27 yd3 reported by the driller. It is unknown why so little bentonite was needed to fill the borehole. The hole could have caved while installing the bentonite. The actual drill-bit diameter was not measured and a caliper log was not run in the bore prior to installing the seal and therefore the true bore diameter is unknown to HLI. Why the 18” steel casing with centralizers was not able to be lowered to the full depth of the bore is also unknown.

“Johnson” Brand “Hi-Flow, Hi-Q” #304 Stainless Steel (SS) Wire-Wrap Screen (with 6-inch long SS weld-rings on all ends) and Low-Carbon Steel (LCS) Pipe Assembly

10” x 0.365”-Wall LCS Pipe	471’-to-477’
10” x 0.365”-Wall LCS Pipe	477’-to-502’
10” x 0.365”-Wall LCS Pipe	502’-to-542’
10” x 0.365”-Wall LCS Pipe	542’-to-582’
10” x 0.035”-Slot SS Screen	582’-to-623’
10” x 0.035”-Slot SS Screen	623’-to-664’
10” x 0.035”-Slot SS Screen	664’-to-705’
10” x 0.365”-Wall LCS Pipe	705’-to-720’

(centralized (●), 4-to-the-round, every 6’-to-40’;

Geochemistry

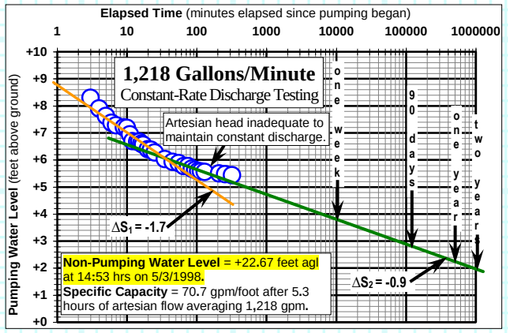
Analyte (in mg/L unless noted)	Result (582-706 ft bgl)
Alkalinity (as $CaCO_3$)	61.4
Aluminum	<0.01
Ammonia (as N)	0.26
Antimony	<0.002
Arsenic	<0.005
Barium	<0.10
Beryllium	<0.0002
Cadmium	<0.0005
Calcium (as $CaCO_3$)	36.7
Chloride	1.16
Chromium	<0.002
Color (C.U.)	<1.0
Conductivity (µS)	132.0
Copper	<0.01
Corrosivity (Langlier Index)	-0.60
Cyanide (total)	<0.005
Fluoride	0.33
Hardness (as $CaCO_3$)	45.8
Iron (dissolved)	0.01
Iron (total)	0.01
Lead	<0.002
Magnesium	2.22
Manganese (dissolved)	0.13
Manganese (total)	0.13
Mercury	<0.0002
Nickel	<0.003
Nitrate (NO_3 as N)	<0.10
Nitrite (NO_2 as N)	<0.01
pH - Lab (S.U.)	8.00
Potassium	0.99
Selenium	<0.005
Silica (as SiO_2)	30.8
Silver	<0.002
S.O.C.’s	none detected
Sodium	10.1
Sulfate	5.34
Sulfide	<0.05
Thallium	<0.0006
Total Dissolved Solids	125.0
V.O.C.’s	none detected
Zinc	<0.001

Radiology (in pCi/L unless noted)	
Gross Alpha	0.2
Gross Beta	0.8

Field Measured Parameters	
Field Conductivity (µS)	132
Field Dissolved Oxygen	not tested
Field O.R.P. (mV)	not tested
Field pH (S.U.)	7.58
Field Temperature (ºF)	67.0

Sampled May 3, 1998 by E. Squires/M. Guilbert.
Analyses by Alchem Laboratories, Inc., Boise, ID.

Hydraulic Testing



- Project administration by Gary D. Smith, P.E., Director, Public Works Department, Meridian, ID.
- Well design, hydraulic testing design, final diagram review and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement and water quality sampling by Ed Squires, Roger Dittus, and Jeff Allred, of United Water Idaho, and Mike Guilbert and Brian Cavanagh of Boise State University, Geosciences Department, Boise, ID.
- Reverse-rotary drilling and well construction by Riverside, Inc. Parma, ID.
- Cable-tool well development by Riverside, Inc. in April 1998 consisted of plate-lifting well for two hours to initiate artesian flow then allowing it to flow at ~150 gpm for six hours until water was clear. The screened interval was swabbed twice at one-minute-per-foot while flowing at ~100 gpm and then infill was bailed from the well.
- Water samples were taken after allowing well to flow at 1,200 gallons/minute for 5.3 hours on May 3rd, 1998 by E. Squires and M. Guilbert.

Figure 11.

Meridian #19 Monitoring Well

T. 3 N. R. 1 W. Section 3, NE¼, NE¼, NE¼ (Lot 1)
Latitude 43º 38' 1.13" Longitude 116º 26' 5.28"
Well Completed May 1997

Hydro Logic, Inc.

Geophysical Logs

32" Resistivity 0 – 300 ohm-meters
16" Resistivity 0 – 300 ohm-meters
8" Resistivity 0 – 300 ohm-meters
Temperature 67 – 77 degrees F
Caliper 7 – 17 inches
Natural Gamma Ray 40 – 140 counts/second
Point Resistance 5 – 105 ohms

Bottom of 8" Casing at 53'
(Steel-casing short-circuits electric logs and attenuates radioactive (gamma) logs.)
Ground water chemistry shift at 351 feet bgl.
Ground water chemistry shift at 463 feet bgl.
Gravel Unconformity?
Bottom Hole Temperature = 75.79 °F at 1,043 feet bgl
Obstruction to caliper probe. Log could not be obtained below 989'.

Whitney Terrace Gravel
Alluvial Aquifer
Pierce Gulch Sand Aquifer
Terteling Springs Formation

Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary drill cuttings from the test bore, sampled by the on site geologists (R. Dittus and J. Allred with UWID) during drilling.

Depth (feet below ground level)

ground level ≈ 2,555.3' AMSL

Cobbles, gravel, and very coarse grained sand of the "Whitney Terrace"
Olive-yellow colored sticky clay interbedded with medium-to-coarse grained light olive-brown sand (moderate amounts of mica throughout)
Light olive-gray colored tacky clay interbedded with fine-to-medium grained light yellowish-brown sand
Medium-to-coarse grained light yellowish-brown sand interbedded with thin lenses of pea gravel, light yellowish brown colored tacky clay, and silts (moderate amounts of mica below ~280')
Light yellowish-brown colored tacky clay (abundant mica)
Medium-to-coarse grained light yellowish brown sand with thin lenses of light brownish-gray colored clay and small gravel (abundant amount of mica in clay)
Interbedded medium-to-coarse grained light brownish-gray sand with thin lenses of small gravel and light olive-brown colored clays (minor cementation and wood ~405'-440')
Grayish-brown and dark greenish-gray colored sticky clay
Coarse-to-medium grained dark gray sand with large gravel (moderate amount of mica ~465'-485')
Tacky dark grayish-brown colored clay
Greenish-gray to light yellowish-brown very coarse-to-coarse grained sandy gravel with large granitic cobbles
Dark gray very coarse-to-coarse grained sandy gravel with large cobbles (moderate amount of wood at ~534')
Interbedded dark gray clay and medium-to-coarse grained olive-gray sand
Olive-gray coarse-grained sand with small gravel (moderate amount of mica ~620'-650')
Coarse-to-medium grained pale-olive sand with thin very dark gray colored clay lenses (abundant amounts of wood in clays)
Sticky very dark gray colored clay
Coarse grained pale-olive sand
Very dark gray sticky colored clay
Olive coarse-to-very coarse grained sand with thin small gravel lenses
Sticky sandy very dark gray colored clay
Clayey coarse grained olive-gray sand with thin dark gray colored clay bed
Sandy olive-gray colored tacky clay (minor amount of wood and moderate amount of mica)
Olive-gray coarse-grained sand with thin silty clay lenses
Silty dark olive-gray colored clay (trace amount of wood/pyrite and moderate mica)
Coarse-to-very coarse grained olive-gray sand (mod. amt of pyrite/mica; trace of wood)
Interbedded olive-gray colored silty clays and coarse-grained sands (mod. amt of pyrite/mica; trace of wood)
Olive-gray coarse-grained sand
Olive-gray colored sticky clay
Coarse-grained olive-gray sand (minor amount of pyrite)
Olive-gray colored silty clay (abundant amount of mica; minor wood/pyrite)
Medium-grained olive-gray sand
Olive-gray colored sticky clay (abundant amount of mica; minor wood/pyrite)

light yellowish-brown to light olive-brown
dark grayish brown to greenish-gray
dark-to-very dark gray to olive-gray
Munsell Color

As-Built Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=100')
all measurements to ground level

10"

Water Level (feet above ground level)
Zone #1 (350' – 390' bgl) +5.93' agl
Measured on June 16, 1997

Z1

Lockable Steel Well Enclosure

Sealed with a Slurry of High-Solids (≥19%-By-Weight) "Teague Mineral Products" Brand "Industrial 200" Granular Bentonite (~0.5 yd³)

Sealed with a Slurry of High-Solids (≥13%-By-Weight) "Teague Mineral Products" Brand "Industrial 200" Granular Bentonite (3.96 yd³)

"Johnson" Brand 2" x 0.020"-Slot SCH 80 PVC Screens

High-Solids (≥68%-By-Weight) Cement Grout Seal (6.7 ft³)

1st color change at ~460'

2nd color change at ~534'

8-inch Direct Mud-Rotary Drilled Bore (drawn from caliper log)

Sealed with a Slurry of High-Solids (≥17%-By-Weight) "Teague Mineral Products" Brand "Industrial 200" Granular Bentonite (7.43 yd³)

8" x 0.250"-Wall Low-Carbon Steel Casing (drilled-and-driven into clay with cable-tool rig)

8-inch Cable-Tool Drilled Bore

53' = Drive-Shoe (Driven 3 feet into clay. Shoe-seal test failed using a bail-down test. Water was bailed from inside 8" casing to 51 feet. Water level rose to 17 feet after 68.5 hours as measured at regular intervals by, J. Allred, the on site hydrogeologist.)

"Johnson" Brand 2-Inch SCH 80 PVC Flush-Joint Pipe

Zone 1
350'
390'
400'
340'
420'
440'

"Colorado Silica, Inc." Brand #6-#9 Graded Sand Filter (1.26 yd³)

1,043' = T.D.

Interpretations and Final Diagram Revisions March 2012 by Hydro Logic, Inc. Loren Pearson and Ed Squires

Geochemistry

Lab Analyses	Results (in mg/L unless noted) ZONE #1 (350'-390' bgl)
Bicarbonate as HCO_3	110
Calcium as $CaCO_3$	47
Chloride	19
Fluoride	0.24
Hardness as $CaCO_3$	150
Iron (total)	0.01
Magnesium	8.1
Manganese (total)	0.003
Nitrate as N	1.31
Potassium	1.5
Silica as SiO_2	33
Sodium	14
Sulfate	59
Total Dissolved Solids	225
Field Measured Parameters	
Field Conductivity (µS)	*370*
Field Dissolved Oxygen	*+4.7*
Field pH (S.U.)	*7.2*
Field Temperature (ºF)	*59.2*
Field Visible Gas	*minor*

Samples collected on July 8, 1999 by R. Dittus (UWID) and D. Parliman (USGS).
Analyses by United States Geological Survey.

Note: All bentonite slurries and cement seal were pumped from the bottom-up under constant pressure using a tremie pipe and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologists. All "Teague Mineral Products" brand bentonite slurry batches contained at least 13%-to-17% solids-by-weight.
All "Colorado Silica, Inc." brand graded sand filter was poured into place through a mud-filled hole and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.
All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes and were found to be closely correlated.

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EDWARD SQUIRES
968
3-17-2012
STATE OF IDAHO

Calibrated borehole geophysics conducted by E. Squires and R. Dittus of United Water Idaho, Geoscience Department, on May 12th, 1997 in the 8-inch diameter, mud-filled, direct mud-rotary drilled #19 Test Well bore, 18 hours after removal of the drill steel. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

- Project administration by Gary D. Smith, P.E., Director, Public Works Department, Meridian, ID.
- Well design, final diagram review, and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement and water sampling by Ed Squires, Jeff Allred, Roger Dittus, of United Water Idaho, and Mike Guilbert and Brian Cavanagh of Boise State University, Geosciences Dept., Boise, ID.
- Direct mud-rotary drilling and well construction by Stevens & Sons Well Drilling, Boise, ID.
- Development of this tube well other than flowing artesian conditions has not been done. In fact water samples were not taken until two years later for the Treasure Valley Hydrologic Project by the USGS (D. Parliman).
- Water samples for Zone 1 were acquired July 8th, 1999 by R. Dittus (UWID) and D. Parliman (USGS) after allowing the well to flow under artesian pressure at 4-gallon/minute for approximately 1 hour and after field chemistry parameters stabilized.

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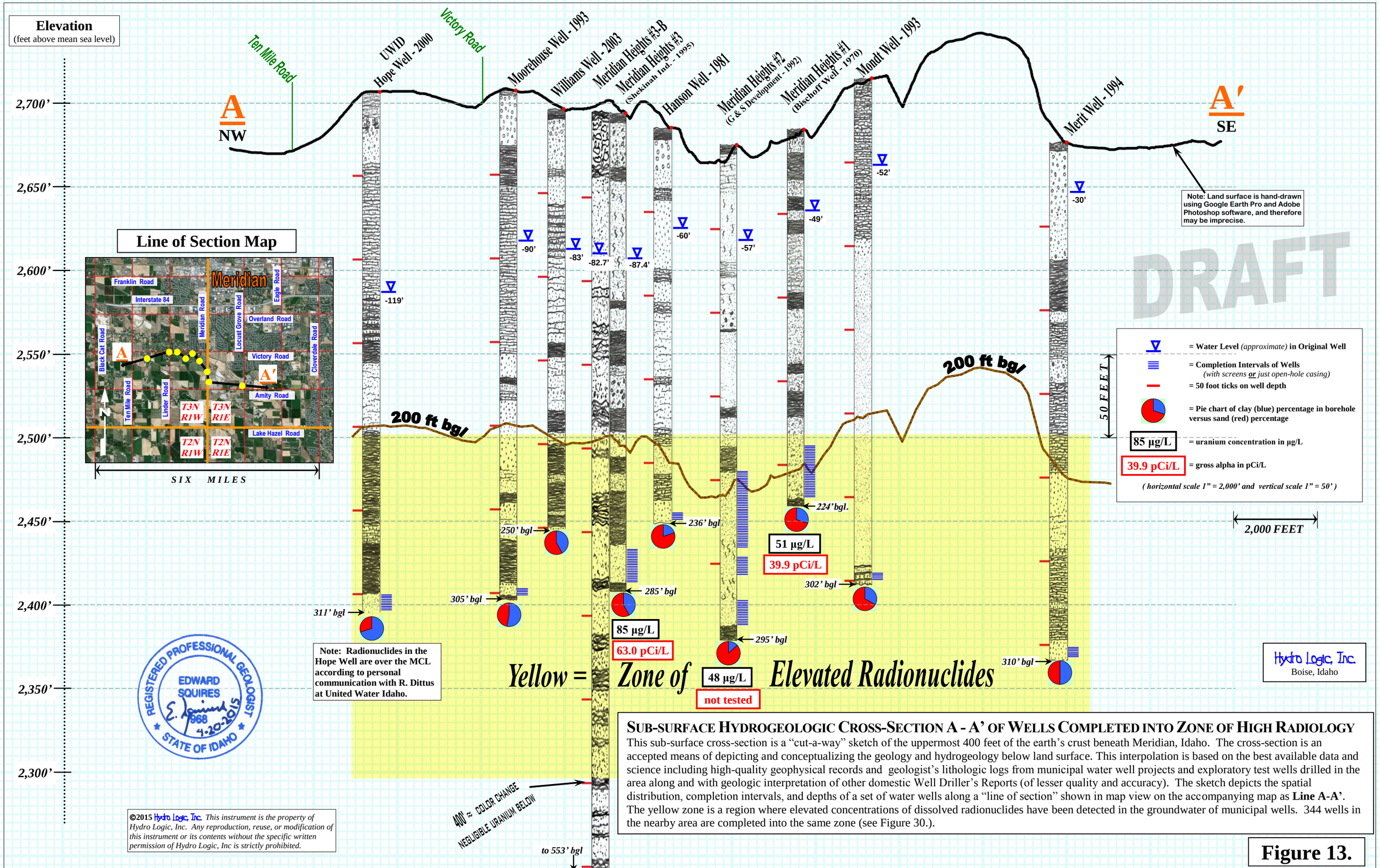
Figure 12.

Meridian #19 Monitoring Well
T. 3 N. R. 1 W. Section 3, NE¼, NE¼, NE¼ (Lot 1)
Latitude 43º 38' 1.2" Longitude 116º 26' 5.3"
Well Completed May 1997



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SUB-SURFACE HYDROGEOLOGIC CROSS-SECTION A - A' OF WELLS COMPLETED INTO ZONE OF HIGH RADIOLOGY

This sub-surface cross-section is a "cut-a-way" sketch of the uppermost 400 feet of the earth's crust beneath Meridian, Idaho. The cross-section is an accepted means of depicting and conceptualizing the geology and hydrogeology below land surface. This interpolation is based on the best available data and science including high-quality geophysical records and geologist's lithologic logs from municipal water well projects and exploratory test wells drilled in the area along and with geologic interpretation of other domestic Well Driller's Reports (of lesser quality and accuracy). The sketch depicts the spatial distribution, completion intervals, and depths of a set of water wells along a "line of section" shown in map view on the accompanying map as **Line A-A'**. The yellow zone is a region where elevated concentrations of dissolved radionuclides have been detected in the groundwater of municipal wells. 344 wells in the nearby area are completed into the same zone (see Figure 30.).

Figure 13.

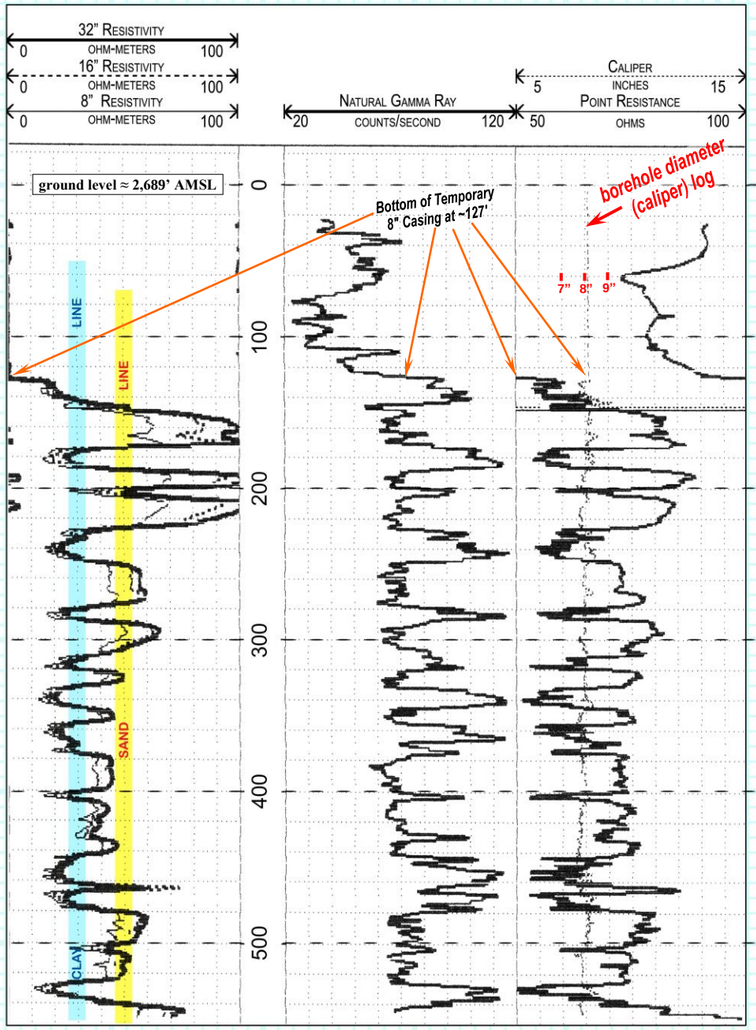
Meridian Heights Water and Sewer District
Supply Well #3-B ("Kentucky Ridge")

T. 3 N. R. 1 W. Section 25, SE¼, NE¼, NW¼
Latitude 43º 34' 25.0" Longitude 116º 24' 19.2"
Completed August 2009

Figure 14. Cross-sectional sketch of the Meridian Heights Well #3-B showing the direct mud-rotary drilled bore and "full-depth" annular well seal. Ground water chemistry and aquifer pressure head is significantly different from the original three shallower Meridian Heights supply wells (Figure 27 and Appendix B) even though Well #3-B is just a few tens of feet from the original Well #3. Without a full-depth annular seal, this well would co-mingle the pressure head and ground water geochemistry of over 13 sub-aquifers and across a sediment color change.

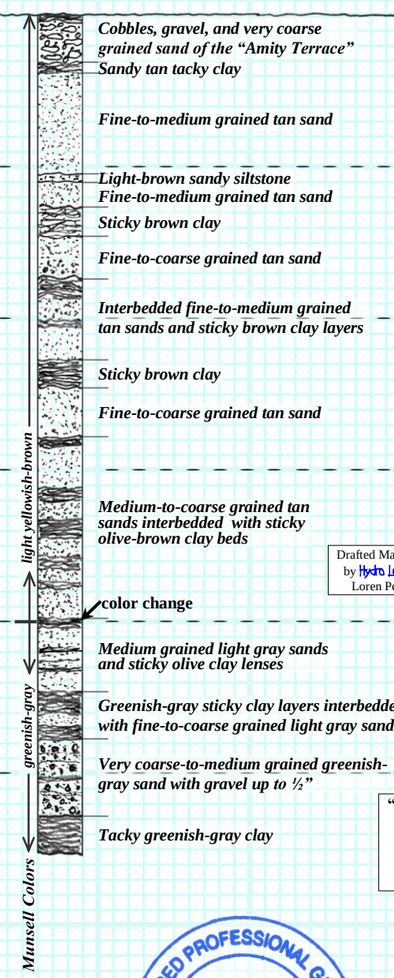
Hydro Logic, Inc.

Geophysical Logs
(from 8-inch pilot bore)



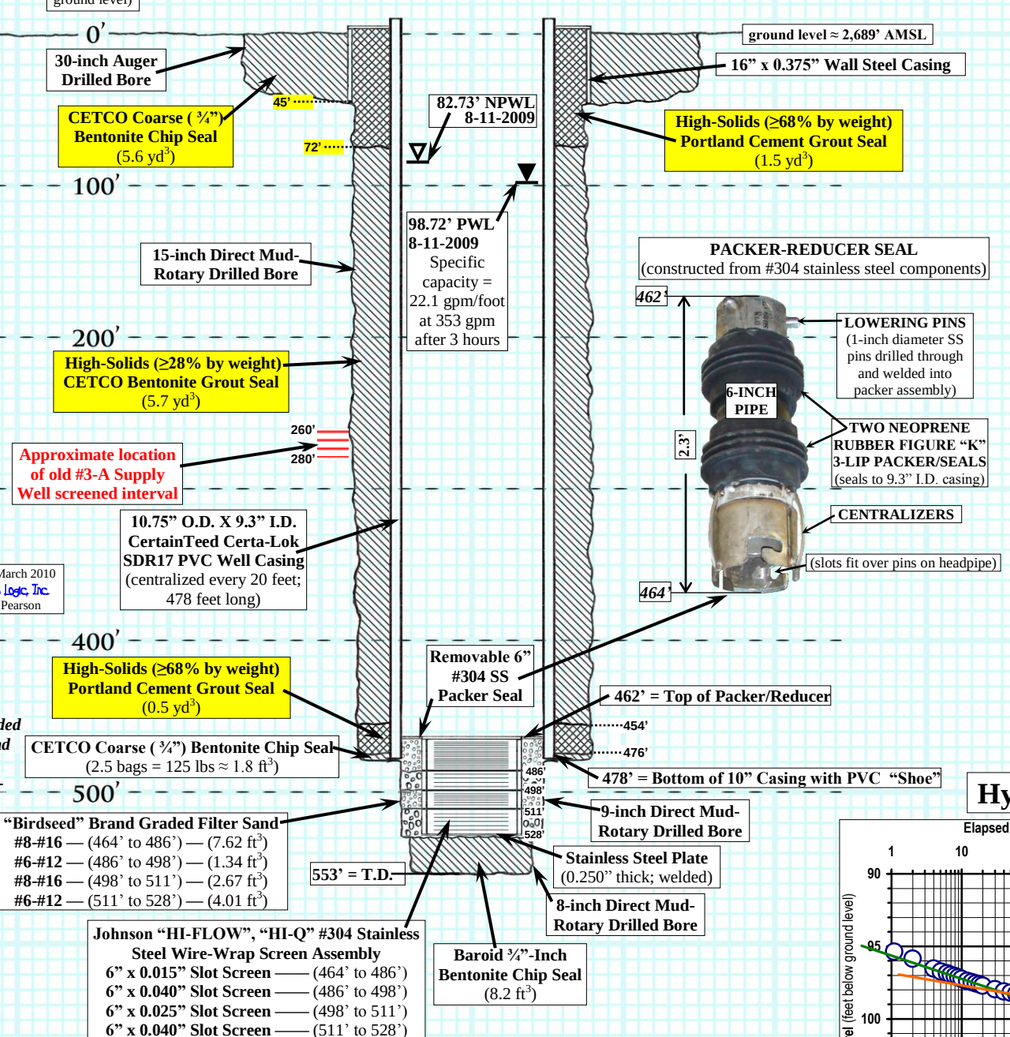
Geophysics conducted by: Hydro Logic, Inc. on April 3, 2007 in a mud-filled pilot bore immediately after removal of drill steel.

Lithology
Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of drill cuttings from the borehole.



Drafted March 2010 by Hydro Logic, Inc. Loren Pearson

As-Built Well Construction
(horizontal scale 0.1"=1" & vertical scale 1"=100')
all measurements to ground level

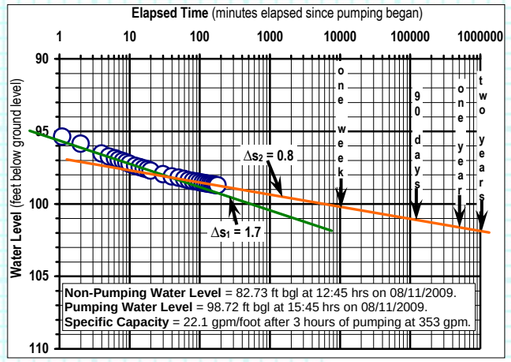


Geochemistry

Analyte (in mg/L unless noted)	Result (478-528 ft bgl)
Alkalinity	140.0
Aluminum	0.03
Ammonia *(as N)*	1.30
Antimony	<0.001
Arsenic	<0.001
Barium	0.09
Beryllium	0.0003
Cadmium	<0.0005
Calcium *(as $CaCO_3$)*	269.0
Chloride	60.7
Chromium	<0.002
Color *(apparent)*	<1
Conductivity *(µS)*	830.0
Copper	<0.01
Corrosivity	0.33
Cyanide (total)	<0.005
Fluoride	0.26
Hardness	306.0
Iron *(total)*	0.06
Iron *(dissolved)*	0.05
Lead	<0.0001
Magnesium	8.93
Manganese *(dissolved)*	0.30
Mercury	<0.0002
Nickel	<0.003
Nitrate *(NO_3 as N)*	<0.10
Nitrite *(NO_2 as N)*	<0.01
Odor	<1
Orthophosphate	0.021
pH - Lab *(S.U.)*	7.82
Potassium	2.28
Selenium	<0.005
Silica	29.1
Silver	<0.002
Sodium	55.5
Sulfate	205.0
Sulfide	<0.05
Surfactant	<0.025
Suspended Solids	<1.0
Thallium	<0.0001
Total Dissolved Solids	548.0
Total Kjeldahl Nitrogen	1.32
Total Organic Carbon	1.32
Zinc	0.002
Radiology *(in pCi/L unless noted)*	
Gross Alpha	-2 ± 2.4
Gross Beta	-3 ± 4.1
Uranium	<0.7
Adjusted Gross Alpha	negative
Radium 226	0.8 ± 0.2
Radium 228	0.3 ± 0.8
Total Measured Radium	1.1 ± 0.9
Field Measured (by Hydro Logic, Inc.) **Parameters**	
Field Conductivity (µS)	*917*
Field Dissolved Oxygen	*+0.4*
Field O.R.P. (mV)	*-150*
Field pH (S.U.)	*8.11*
Field Temperature (ºF)	*62.1*

Sampled August 11, 2009 by Hydro Logic, Inc.
Analyses by: Alchem Laboratories, Inc.

Hydraulic Testing



- Project administration by Val Hill, President, Meridian Heights Water and Sewer District Inc.,Meridian, ID.
- Project management, on-site inspection, documentation, well design, and water sampling by Hydro Logic, Inc., Boise, ID.
- Hydraulic testing design, measurement, and water sampling by Hydro Logic, Inc., Boise, ID.
- Direct mud-rotary drilling, well construction, ant test pumping by Treasure Valley Drilling and Pump, Inc., Weiser, ID.
- Cable-tool well development by McLeran Well Drilling, New Plymouth, ID.

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Figure 14.

City of Meridian Supply Well #8

As-Abandoned Diagram

T. 3 N. R. 1 E. Section 18, NE¼, NW¼, NW¼ (Lot 1)

Latitude 43º 36’ 13.82” Longitude 116º 23’ 28.63”

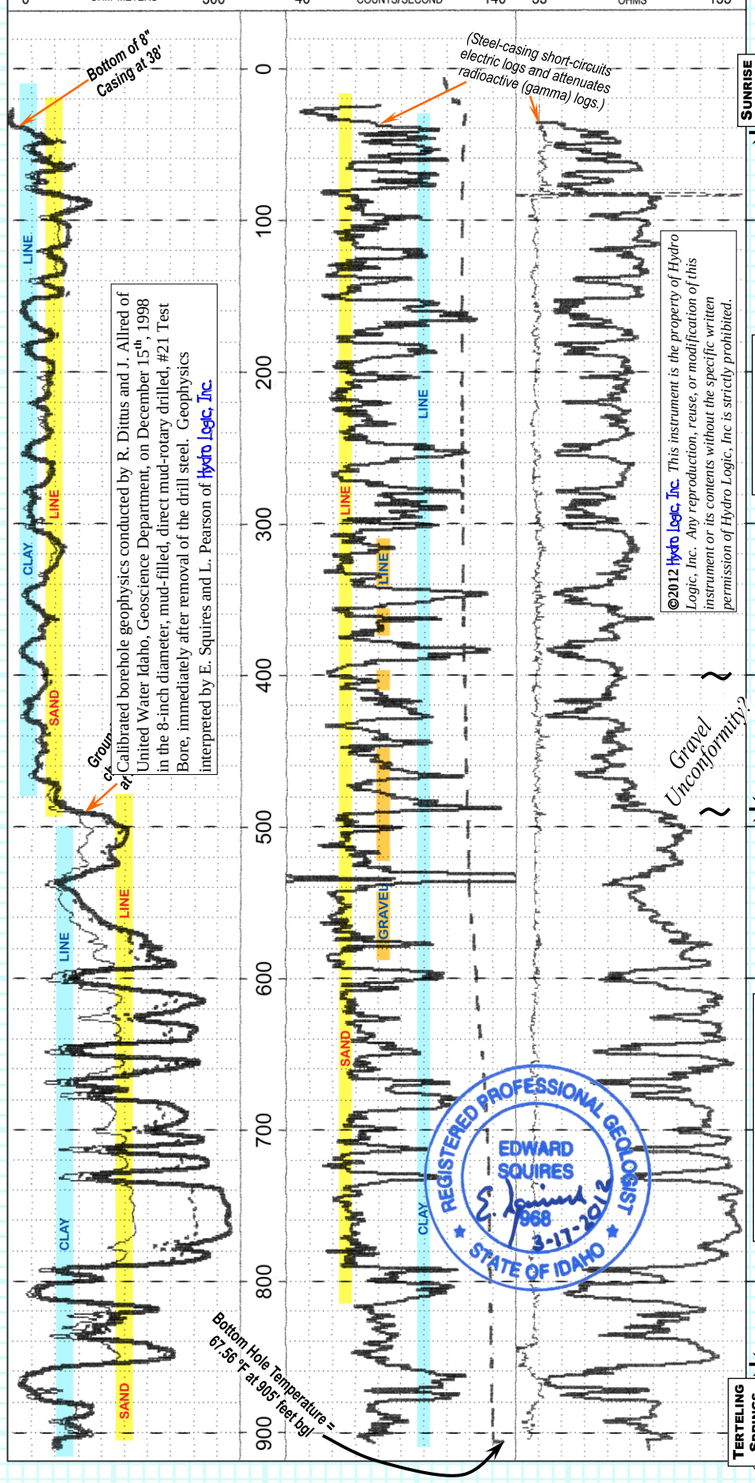
Original Well Completed May 1975

Well Abandonment Completed March 2009

Geophysical Logs

(from #21 Test Well 8-inch bore 72 feet NW on 12-15-1998)

32” Resistivity 0 – 300 OHM-METERS; 16” Resistivity 0 – 300 OHM-METERS; 8” Resistivity 0 – 300 OHM-METERS; Temperature 20 – 70 DEGREES F; Natural Gamma Ray 40 – 140 COUNTS/SECOND; Caliper 6 – 26 INCHES; Point Resistance 35 – 135 OHMS



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Lithology

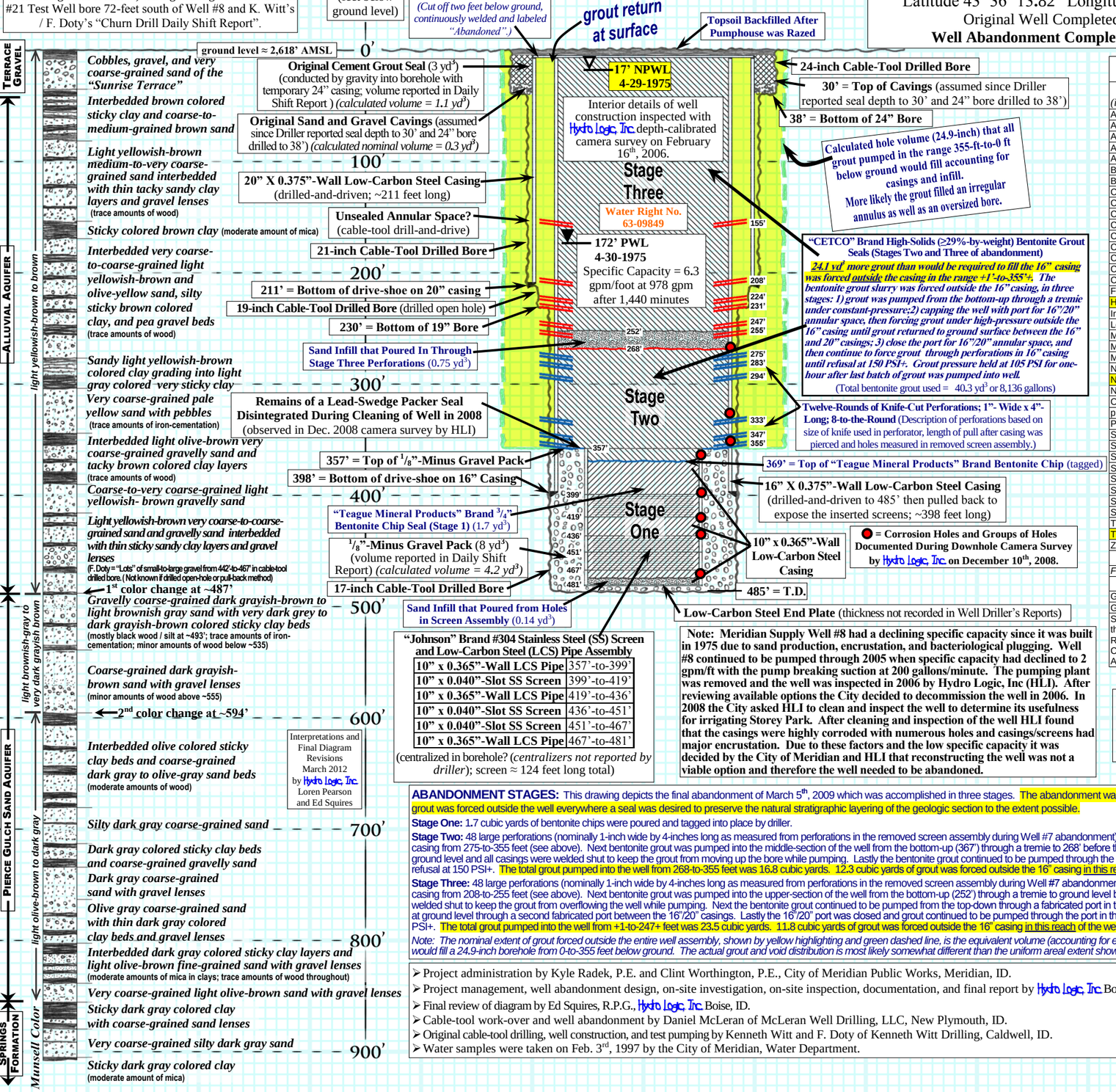
Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary drill cuttings, sampled by the on site geologists (R. Dittus, B. Cavanagh and J. Allred) during drilling of the Meridian #21 Test Well bore 72-feet south of Well #8 and K. Witt’s / F. Doty’s “Churn Drill Daily Shift Report”.

Hydro Logic, Inc.

As-Abandoned Well Construction

(horizontal scale 0.1”=1” and vertical scale 1”=100’)

all measurements to ground level = pumphouse floor



“Johnson” Brand #304 Stainless Steel (SS) Screen and Low-Carbon Steel (LCS) Pipe Assembly

10” x 0.365”-Wall LCS Pipe	357’-to-399’
10” x 0.040”-Slot SS Screen	399’-to-419’
10” x 0.365”-Wall LCS Pipe	419’-to-436’
10” x 0.040”-Slot SS Screen	436’-to-451’
10” x 0.040”-Slot SS Screen	451’-to-467’
10” x 0.365”-Wall LCS Pipe	467’-to-481’

(centralized in borehole? (*centralizers not reported by driller*); screen ≈ 124 feet long total)

Interpretations and Final Diagram Revisions March 2012 by Hydro Logic, Inc. Loren Pearson and Ed Squires

Note: Meridian Supply Well #8 had a declining specific capacity since it was built in 1975 due to sand production, encrustation, and bacteriological plugging. Well #8 continued to be pumped through 2005 when specific capacity had declined to 2 gpm/ft with the pump breaking suction at 200 gallons/minute. The pumping plant was removed and the well was inspected in 2006 by Hydro Logic, Inc (HLI). After reviewing available options the City decided to decommission the well in 2006. In 2008 the City asked HLI to clean and inspect the well to determine its usefulness for irrigating Storey Park. After cleaning and inspection of the well HLI found that the casings were highly corroded with numerous holes and casings/screens had major encrustation. Due to these factors and the low specific capacity it was decided by the City of Meridian and HLI that reconstructing the well was not a viable option and therefore the well needed to be abandoned.

Geochemistry

Analyte (in mg/L unless noted)	Result (399 - 467 ft bgl)
Alkalinity (as $CaCO_3$)	250.0
Aluminum	0.14
Ammonia as N	<0.05
Antimony	<0.002
Arsenic	<0.005
Barium	<0.10
Beryllium	<0.0002
Cadmium	<0.0005
Calcium (as $CaCO_3$)	339.0
Chloride	42.2
Chromium	<0.002
Color (C.U.)	<1
Conductivity (µS)	1,020.0
Copper	<0.01
Corrosivity (Langlier)	-0.13
Cyanide (total)	<0.005
Fluoride	0.14
Hardness (as $CaCO_3$)	416.0
Iron (total)	0.02
Lead	<0.002
Magnesium	25.8
Manganese (total)	<0.01
Mercury	<0.0002
Nickel	<0.003
Nitrate NO_3 as N	2.08
Nitrite NO_2 as N	<0.01
Odor (T.O.)	<1
pH - Lab (S.U.)	7.25
Potassium	2.96
Selenium	<0.005
Silica	38.3
Silver	<0.002
Sodium	64.5
Sulfate	226.0
Sulfide	<0.05
Surfactants	<0.025
Suspended Solids	<1.0
Thallium	<0.0006
Total Dissolved Solids	695.0
Zinc	0.005
Field Measured Parameters	
Field Temperature (ºF)	64
Radiology (in pCi/L unless noted)	
Gross Alpha	28.3 ± 8.0
Gross Beta	11.9

Sampled Feb. 3, 1997 by B. Stuart of the Meridian Water Department. Radiology samples taken June 5, 1995 by C. Hudson of the Meridian Water Dept. Analyses by Alchem Laboratories, Inc.

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ABANDONMENT STAGES: This drawing depicts the final abandonment of March 5th, 2009 which was accomplished in three stages. The abandonment was staged to ensure and verify that grout was forced outside the well everywhere a seal was desired to preserve the natural stratigraphic layering of the geologic section to the extent possible.

Stage One: 1.7 cubic yards of bentonite chips were poured and tagged into place by driller.

Stage Two: 48 large perforations (nominally 1-inch wide by 4-inches long as measured from perforations in the removed screen assembly during Well #7 abandonment) were imparted through the 16” casing from 275-to-355 feet (see above). Next bentonite grout was pumped into the middle-section of the well from the bottom-up (367’) through a tremie to 268’ before the 16” casing was filled with water to ground level and all casings were welded shut to keep the grout from moving up the bore while pumping. Lastly the bentonite grout continued to be pumped through the tremie from the bottom-up until refusal at 150 PSI+. The total grout pumped into the well from 268-to-355 feet was 16.8 cubic yards. 12.3 cubic yards of grout was forced outside the 16” casing in this reach of the well before refusal.

Stage Three: 48 large perforations (nominally 1-inch wide by 4-inches long as measured from perforations in the removed screen assembly during Well #7 abandonment) were imparted through the 16” casing from 208-to-255 feet (see above). Next bentonite grout was pumped into the upper-section of the well from the bottom-up (252’) through a tremie to ground level before the 16” and 20” casings were welded shut to keep the grout from overflowing the well while pumping. Next the bentonite grout continued to be pumped from the top-down through a fabricated port in the 16” steel cap until grout returned at ground level through a second fabricated port between the 16”/20” casings. Lastly the 16”/20” port was closed and grout continued to be pumped through the port in the 16” steel cap until refusal at 150 PSI+. The total grout pumped into the well from +1-to-247+ feet was 23.5 cubic yards. 11.8 cubic yards of grout was forced outside the 16” casing in this reach of the well before refusal.

Note: The nominal extent of grout forced outside the entire well assembly, shown by yellow highlighting and green dashed line, is the equivalent volume (accounting for existing casings, seals, and infill) that would fill a 24.9-inch borehole from 0-to-355 feet below ground. The actual grout and void distribution is most likely somewhat different than the uniform areal extent shown in this sketch of abandonment.

- Project administration by Kyle Radek, P.E. and Clint Worthington, P.E., City of Meridian Public Works, Meridian, ID.
- Project management, well abandonment design, on-site investigation, on-site inspection, documentation, and final report by Hydro Logic, Inc. Boise, ID.
- Final review of diagram by Ed Squires, R.P.G., Hydro Logic, Inc. Boise, ID.
- Cable-tool work-over and well abandonment by Daniel McLeran of McLeran Well Drilling, LLC, New Plymouth, ID.
- Original cable-tool drilling, well construction, and test pumping by Kenneth Witt and F. Doty of Kenneth Witt Drilling, Caldwell, ID.
- Water samples were taken on Feb. 3rd, 1997 by the City of Meridian, Water Department.

Figure 15.

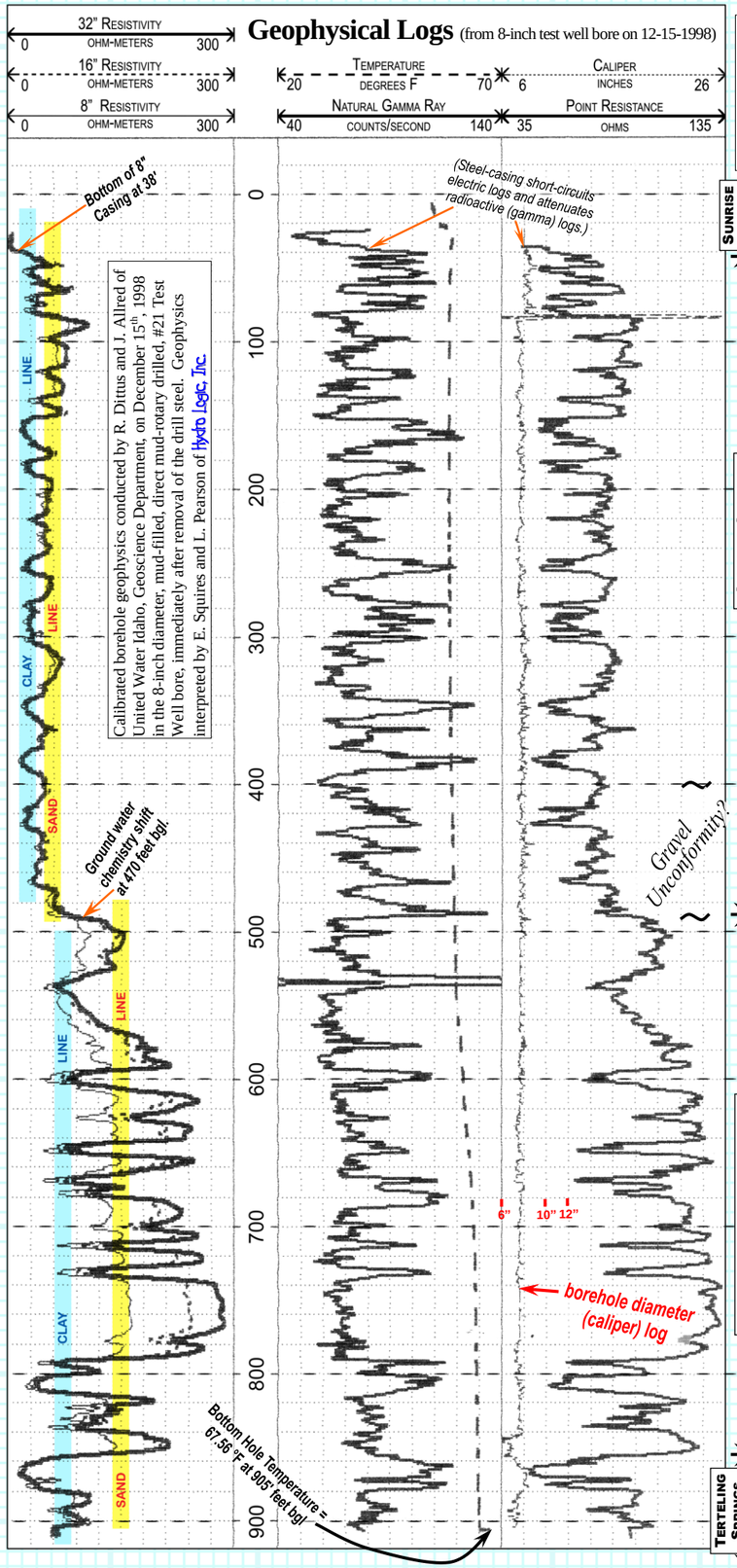
Meridian #21 Monitoring Well

T. 3 N. R. 1 E. Section 18, NE¼, NW¼, NW¼ (Lot 1)

Latitude 43º 36’ 13.16” Longitude 116º 23’ 28.03”

Well Completed January 1999

Geophysical Logs (from 8-inch test well bore on 12-15-1998)



Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary drill cuttings, sampled by the on site geologists (R. Dittus, B. Cavanagh and J. Allred) during drilling of the Meridian #21 Test Well bore 72-feet south of Well #8 and K. Witt’s / F. Doty’s “Churn Drill Daily Shift Report”.

Hydro Logic, Inc.

Depth (feet below ground level)

Sunrise Terrace Gravel

Alluvial Aquifer

Pierce Gulch Sand Aquifer

Terteling Springs Formation

Munsell Color: light yellowish-brown to brown; light brownish-gray to very dark grayish brown; light olive-brown to dark gray

ground level ≈ 2,621.4’ AMSL

0’

Cobbles, gravel, and very coarse-grained sand of the “Sunrise Terrace”

Interbedded brown colored sticky clay and coarse-to-medium-grained brown sand

Light yellowish-brown medium-to-very coarse-grained sand interbedded with thin tacky sandy clay and silt layers and gravel lenses (trace amounts of wood)

Sticky colored brown clay (moderate amount of mica)

100’

200’

Interbedded very coarse-to-coarse-grained light yellowish-brown and olive-yellow sand, silty sticky brown colored clay, and pea gravel beds (trace amounts of wood)

Sandy light yellowish-brown colored silty clay grading into light gray colored very sticky clay

300’

Very coarse-grained pale yellow sand with pebbles (trace amounts of iron-cementation)

Interbedded light olive-brown very coarse-grained gravelly sand and tacky brown colored clay layers (trace amounts of wood)

Coarse-to-very coarse-grained light yellowish- brown gravelly sand

400’

Light yellowish-brown very coarse-to-coarse-grained sand and gravelly sand interbedded with thin sticky sandy clay layers and gravel lenses (F. Doty = “Lots” of small-to-large gravel from 442’-to-467’ at Supply Well #8)

1st color change at ~487’

Gravelly coarse-grained dark grayish-brown to light brownish gray sand with very dark grey to dark grayish-brown colored sticky clay beds (mostly black wood / silt at ~493’; trace amounts of iron-cementation; minor amounts of wood below ~535)

500’

Coarse-grained dark grayish-brown sand with gravel lenses (minor amounts of wood above ~555)

2nd color change at ~594’

600’

Interbedded olive colored sticky clay beds and coarse-grained dark gray to olive-gray sand beds (moderate amounts of wood)

Silty dark gray coarse-grained sand

700’

Dark gray colored sticky clay beds and coarse-grained gravelly sand

Dark gray coarse-grained sand with gravel lenses

Olive gray coarse-grained sand with thin dark gray colored clay beds and gravel lenses

800’

Interbedded dark gray colored sticky clay layers and light olive-brown fine-grained sand with gravel lenses (moderate amounts of mica in clays; trace amounts of wood throughout)

Very coarse-grained light olive-brown sand with gravel lenses

Sticky dark gray colored clay with coarse-grained sand lenses

Very coarse-grained silty dark gray sand

900’

Sticky dark gray colored clay (moderate amount of mica)

As-Built Well Construction

(horizontal scale 0.1”=1” and vertical scale 1”=100’)

all measurements to ground level

10”

Water Level in Surface Gravels ~12 feet bgl

Lockable Steel Well Enclosure

ground level ≈ 2,616’ AMSL

9.76’ bgl NPWL on 2-2-1999

8-inch Cable-Tool Drilled Bore

8” x 0.250”-Wall Low-Carbon Steel Casing (drilled-and-driven with cable-tool rig)

“Teague Mineral Products” Brand 5/8” Bentonite Chip Seal (18 bags = 900 lbs ≈ 14 ft³) *(calculated nominal volume = 21.5 ft³)*

38’ = Drive-Shoe (Driven 3 feet into clay. Shoe-seal tested positive via a bail-down test. Natural water level in the gravels was 12 feet at start of test. Water was bailed from inside 8” casing to 21 feet. Water level remained at 21 feet for 2 days as measured at regular intervals by the on site hydrogeologists.)

70’ = Top of Bentonite Grout Seal

8-inch Direct Mud-Rotary Drilled Bore (drawn-to-scale using caliper log of borehole)

Interpretations and Final Diagram Revisions March 2012 by Hydro Logic, Inc. Loren Pearson and Ed Squires

“Teague Mineral Products” Brand High-Solids (≥22%-By-Weight) Bentonite Grout Seal (11.8 yd³) *(calculated nominal volume = 9.0 yd³)*

“Johnson” Brand 2-Inch SCH 80 PVC Flush-Joint Pipe with 2” x 0.020” Slot SCH 80 PVC Screens

804’ = Top of Sand Filter

“Colorado Silica Sand, Inc.” Brand #8-#12 Graded Sand Filter (1.1 yd³) *(calculated nominal volume = 1.2 yd³)*

837’ 857’ 877’ 897’

905’ = T.D.

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Note: All bentonite grout was pumped from the bottom-up under pressure using a tremie pipe and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

All “Teague Mineral Products” brand bentonite grout batches contained greater-than 22% solids-by-weight.

All “Colorado Silica, Inc.” brand graded sand filter was poured into place through mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

“Teague Mineral Products” (TMP) brand bentonite chip seal was poured into place through mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes and found to be inconsistent with logged borehole sizes. The upper seal used 33% less TMP bentonite than expected. The lower-seal utilized 31% more bentonite grout than expected, most likely due to the large void(s) between 70-to-96’ feet. One void at 94-feet below ground showed 41-inches on the caliper and could have been much larger due to the 41-inches being the maximum extension of the caliper arms.

Geochemistry

Lab Analyses (in mg/L unless noted)	Results (837’-897’ bgl)
Alkalinity (as $CaCO_3$)	75.2
Aluminum	<0.01
Ammonia (as N)	<0.05
Calcium (as $CaCO_3$)	15.6
Chloride	2.12
Conductivity (µS)	173.0
Corrosivity (Langlier Index)	-0.51
Fluoride	0.36
Hardness (as $CaCO_3$)	50.3
Iron (dissolved)	0.04
Iron (total)	0.05
Magnesium	2.75
Manganese (dissolved)	0.10
Manganese (total)	0.10
Nitrate (NO_3 as N)	<0.10
pH - Lab (S.U.)	7.90
Phosphate as P (total)	0.051
Potassium	1.68
Silica (as SiO_2)	37.7
Sodium	16.0
Sulfate	8.05
Sulfide	<0.05
Total Dissolved Solids	138.0
Field Measured Parameters	
Field Conductivity (µS)	174
Field pH (S.U.)	7.93
Field Temperature (ºF)	67.0

Sampled January 13, 1999 by B. Cavanagh. Analyses by Alchem Laboratories, Inc.

- Project administration by Gary D. Smith, P.E., Director, Public Works Department, Meridian, ID.
- Well design, final diagram review and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement and water sampling by Ed Squires, Jeff Allred, Roger Dittus, of United Water Idaho, and Mike Guilbert and Brian Cavanagh of Boise State University, Geosciences Dept., Boise, ID.
- Direct mud-rotary drilling and well construction by Stevens & Sons Well Drilling, Boise, ID.
- Well Development consisted of air-lift pumping tube well for 7 hours.
- Water samples were acquired on January 13, 1999, by B. Cavanagh, after pumping with submersible pump at ~5-gallon/minute for 1.5 hours and field chemistry parameters stabilized.

***Note: This test well was actually drilled adjacent to Supply Well #8 in advance of a replacement well at that location. The resultant supply well (#21) was ultimately drilled 1,050 feet to the southeast. Thus this well is now referred to as “#21 Test Well”.**

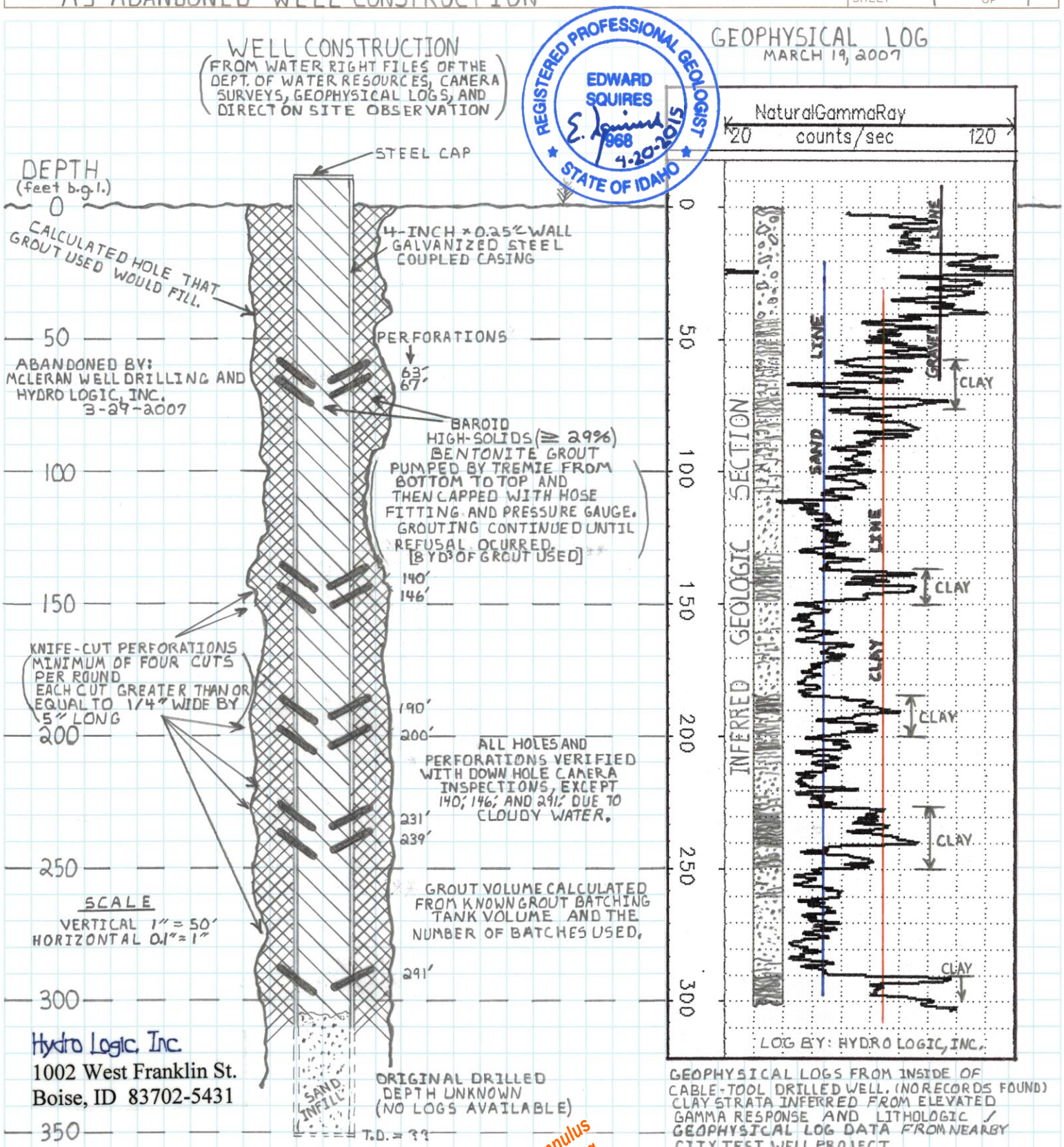
Figure 16 – Cross-sectional sketch of the Meridian #21 Monitoring Well showing the direct mud-rotary drilled bore and “full-depth” annular well seal. Ground water chemistry and aquifer pressure head is significantly different from Meridian supply Well #8 (Figure 15) located just 72 feet away but completed to shallower depth. Without a full-depth annular seal, this well would co-mingle the pressure head and ground water geochemistry of over 24 sub-aquifers and a sediment color change.

Figure 16.

HYDRO LOGIC, INC. | CALCULATIONS AND DESIGN DATA | PREPARED BY L. PEARSON

SUBJECT: ADA COUNTY DAIRYMAN'S CREAMERY WELL #1 | DATE: 11-30-07

AS-ABANDONED WELL CONSTRUCTION | SHEET 1 OF 4



Hydro Logic, Inc.
1002 West Franklin St.
Boise, ID 83702-5431

GEOPHYSICAL LOGS FROM INSIDE OF CABLE-TOOL DRILLED WELL. (NO RECORDS FOUND) CLAY STRATA INFERRED FROM ELEVATED GAMMA RESPONSE AND LITHOLOGIC / GEOPHYSICAL LOG DATA FROM NEARBY CITY TEST WELL PROJECT.

WELL LOCATION

N43°36' 34.71" W116° 23' 35.51"
T3N R1E SEC. 7 SW, NW, SW

VOLUME COMPARISON

- 4" PIPE × 310 FEET LONG = 1.0 CUBIC YARD (YD³)
- 8 YD³ USED − 1 YD³ IN 4-INCH PIPE = 7 YD³ OUTSIDE EXISTING PIPE (grouted annulus outside casing)
- 7 YD³ / 310 FT = 0.023 YD³/FT WHICH IS EQUIVALENT TO THE VOLUME OF AN 11-INCH BORE 310 FEET LONG!

Figure 17.

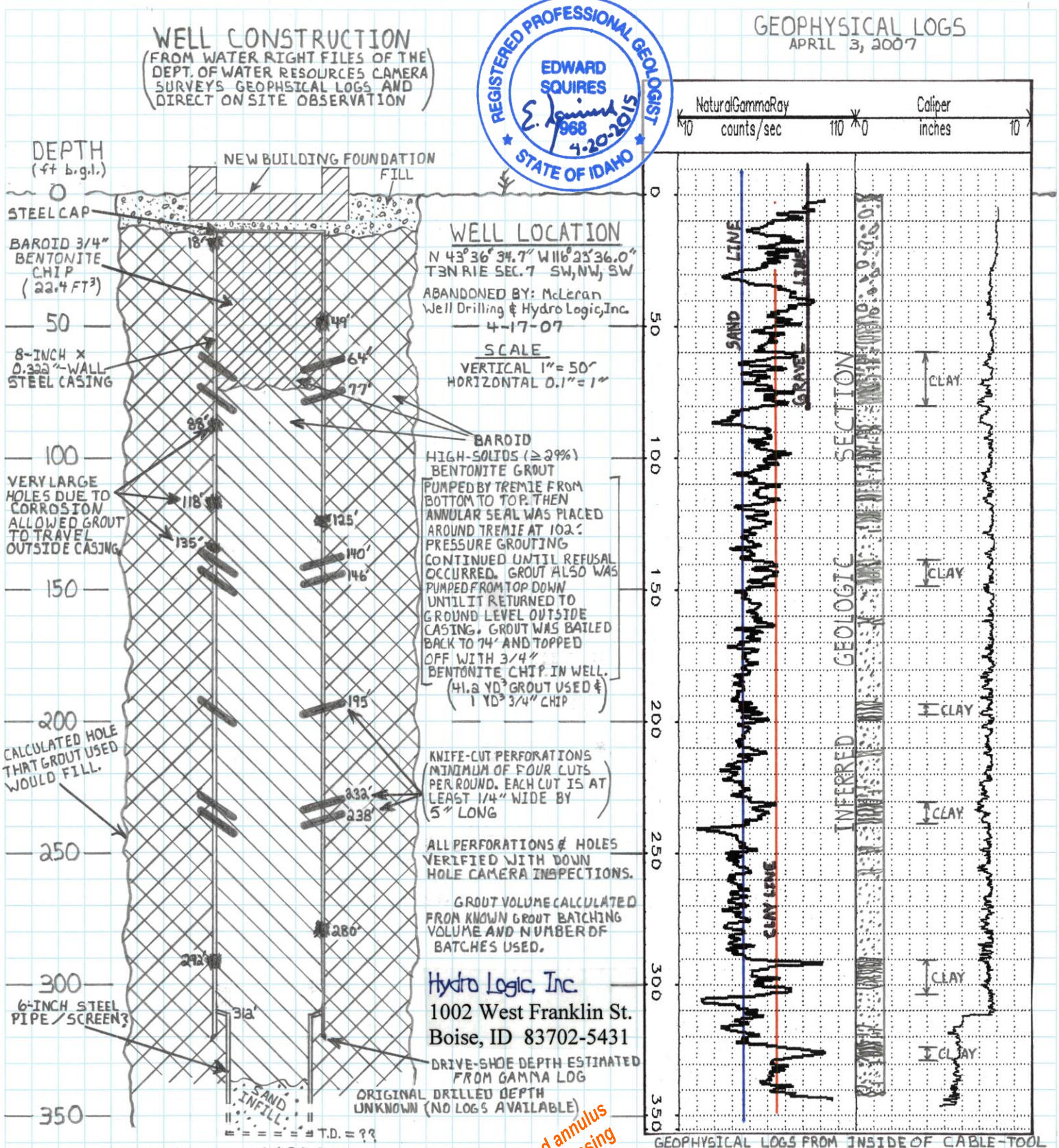
Kraftbilt PO BOX 800 TULSA OK 74101 1-800-331-7290 8406 PRINTED IN U.S.A.

HYDRO LOGIC, INC. | CALCULATIONS AND DESIGN DATA | PREPARED BY L. PEARSON

SUBJECT: ADA COUNTY DAIRYMAN'S CREAMERY WELL #2 — AS-ABANDONED WELL CONSTRUCTION

DATE: 12-4-07

SHEET 2 OF 4



VOLUME COMPARISON

- 8" PIPE × 350 FEET LONG = 4.5 CUBIC YARDS (YD³)
- 41.2 YD USED − 4.5 YD IN 8-INCH PIPE = 36.7 YD³ OUTSIDE EXISTING PIPE. (grouted annulus outside casing)
- 36.7 YD / 350 FT = 0.105 YD/FT WHICH IS EQUIVALENT TO THE VOLUME OF A 24-INCH BORE 350 FEET LONG!

Figure 18.

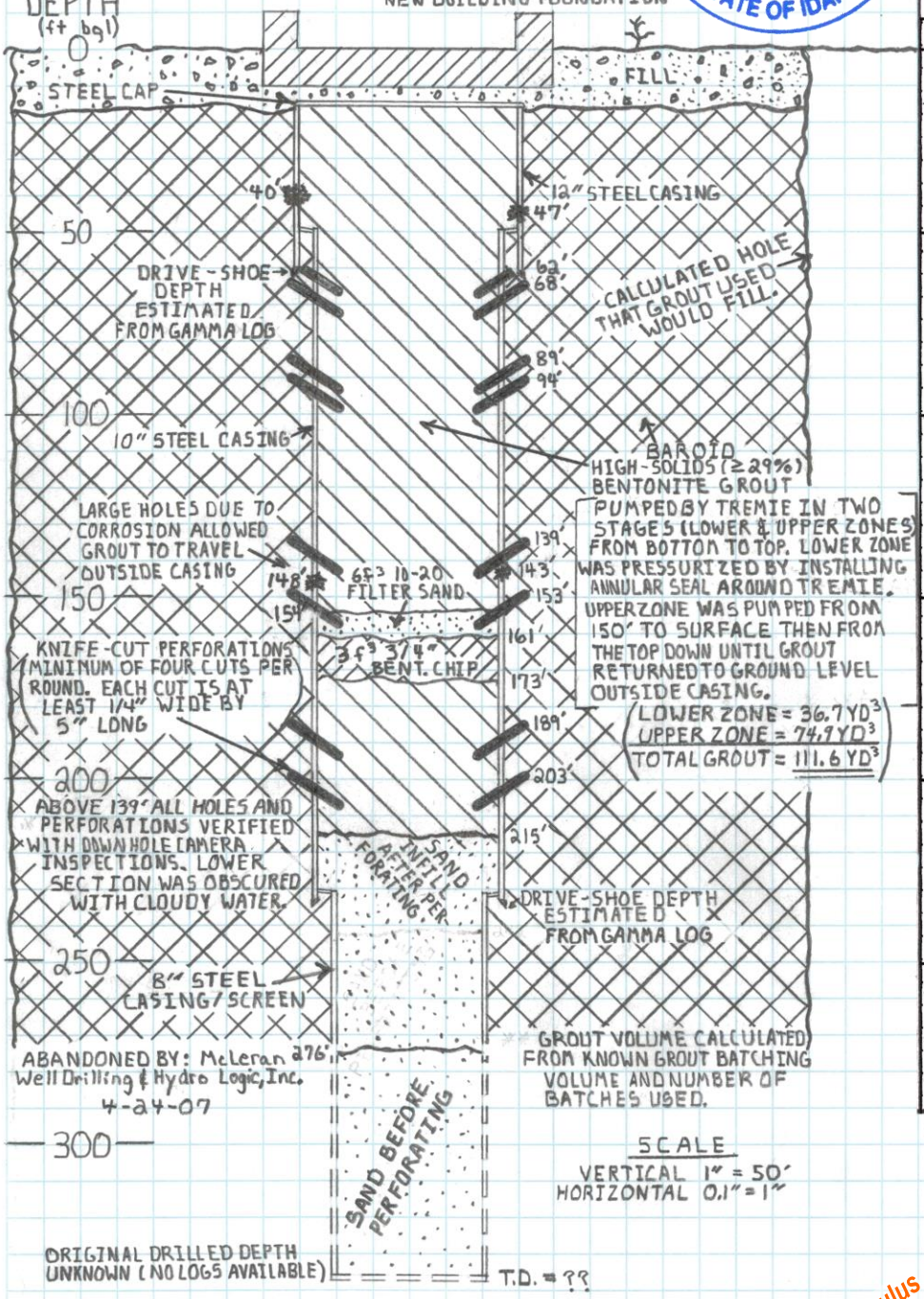
Kraftbilt PO BOX 800 TULSA OK 74101 1-800-331-7290 8406 PRINTED IN U.S.A.

HYDRO LOGIC, INC.	CALCULATIONS AND DESIGN DATA	PREPARED BY L. PEARSON
SUBJECT ADA COUNTY DAIRYMAN'S CREAMERY WELL #3		DATE 1-7-08
AS-ABANDONED WELL CONSTRUCTION		SHEET 3 OF 4

REGISTERED PROFESSIONAL GEOLOGIST
EDWARD SQUIRES
968
4-20-2015
STATE OF IDAHO

WELL CONSTRUCTION

(FROM WATER RIGHT FILES OF THE DEPT. OF WATER RESOURCES, CAMERA SURVEYS, GEOPHYSICAL LOGS, AND DIRECT ON SITE OBSERVATION.)



(LOWER ZONE = 36.7 YD³
UPPER ZONE = 74.9 YD³
TOTAL GROUT = 111.6 YD³)

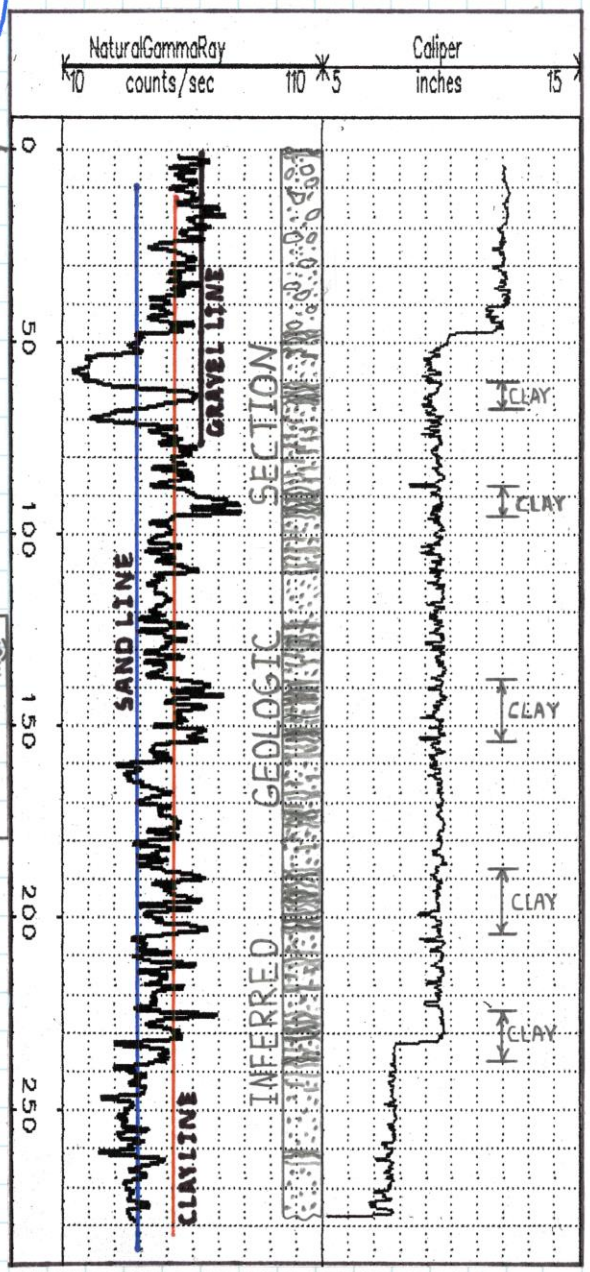
GROUT VOLUME CALCULATED FROM KNOWN GROUT BATCHING VOLUME AND NUMBER OF BATCHES USED.

SCALE
VERTICAL 1" = 50'
HORIZONTAL 0.1" = 1"

ORIGINAL DRILLED DEPTH UNKNOWN (NO LOGS AVAILABLE)

GEOPHYSICAL LOGS

OCTOBER 31, 2006



GEOPHYSICAL LOGS FROM INSIDE CABLE-TOOL DRILLED WELL. (NO RECORDS FOUND.) CLAY STRATA INFERRED FROM ELEVATED GAMMA RESPONSE AND LITHOLOGIC / GEOPHYSICAL LOG DATA FROM NEARBY CITY TEST WELL PROJECT.

WELL LOCATION

N 43° 36' 33.7" W 116° 23' 35.5"
T3N R1E SEC. 7 SW, NW, SW

Hydro Logic, Inc.
1002 West Franklin St.
Boise, ID 83702-5431

VOLUME COMPARISON

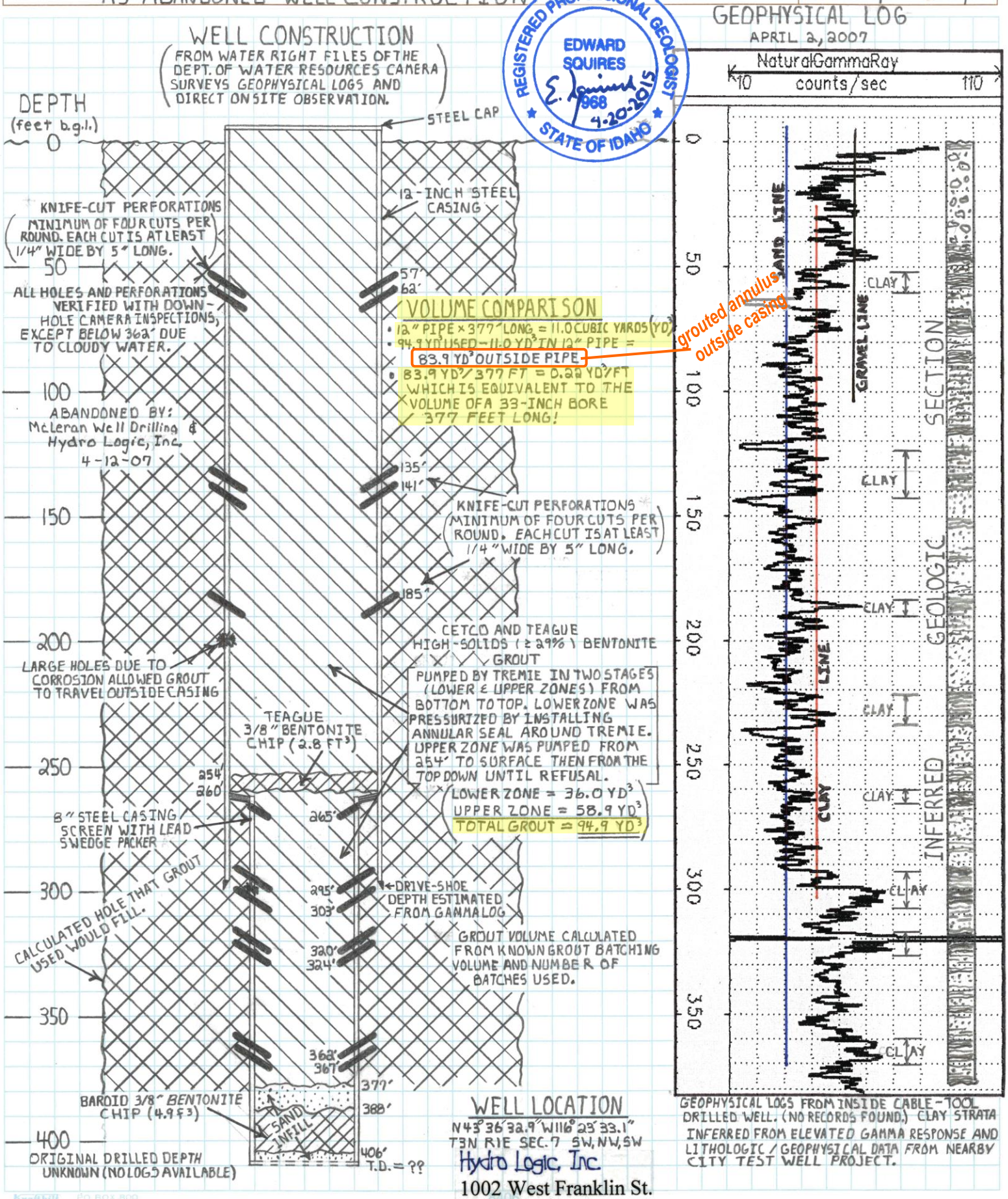
- 12" PIPE × 272 FEET LONG = 7.9 CUBIC YARDS (YD³)
- 111.6 YD³ USED − 7.9 YD³ IN 12-INCH PIPE = 103.7 YD³ OUTSIDE PIPE. (grouted annulus outside casing)
- 103.7 YD / 272 FT = 0.381 YD³/FT WHICH IS EQUIVALENT TO THE VOLUME OF A 44-INCH BORE 272 FEET LONG!

Kraftbilt PO BOX 800 TULSA OK 74101 1-800-331-7290 8406

Figure 19.

HYDRO LOGIC, INC. | CALCULATIONS AND DESIGN DATA | PREPARED BY L. PEARSON

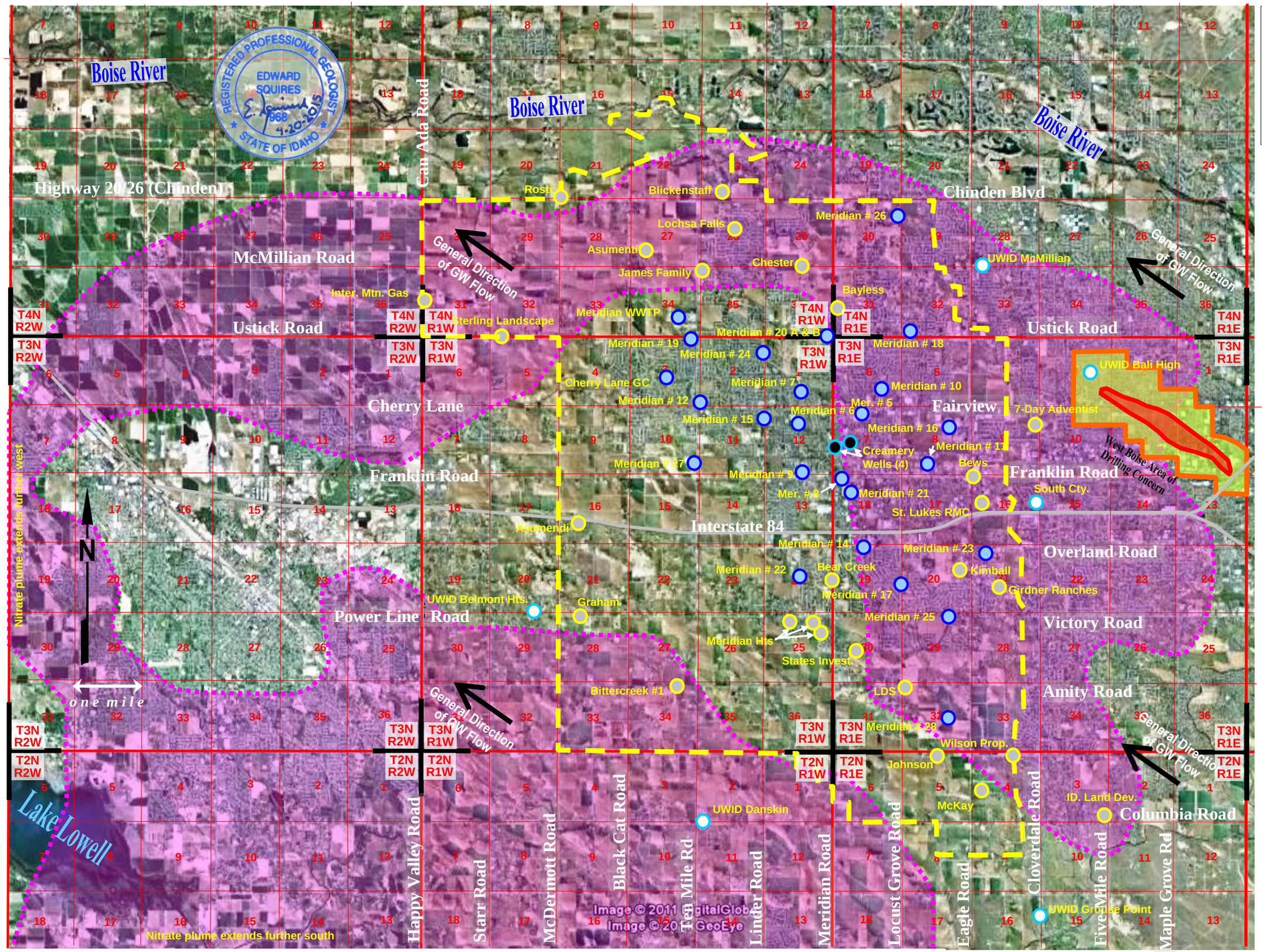
SUBJECT: ADA COUNTY DAIRYMANS CREAMERY WELL #4 AS-ABANDONED WELL CONSTRUCTION | DATE 1-8-08 | SHEET 4 OF 4



Hydro Logic, Inc.
1002 West Franklin St.
Boise, ID 83702-5431

Figure 20.

Meridian Subsurface Contamination Map



KEY

- Approximate Boundary of Meridian Area of Impact
- Approximate Boundary of West Boise Area of Drilling Concern (IDWR, 5/21/2001)
- Approximate Boundary of West Boise Perchloroethylene Plume (IDWR 5/21/2001)
- Approximate Boundary of Nitrate Priority Area (IDEQ, 2008)
- City Owned Wells
- Other Municipal Wells
- Private Wells
- Old Creamery Wells
- General Direction of Ground Water Flow

Map from Google™ Earth
Image acquired:
western 1/3 of image: 6/23/2007
eastern 2/3 of image: 10/1/2006
scale ~1:82,100

Figure 21. – Aerial photo base map showing the IDEQ 2008 Nitrate Priority Area with respect to the City of Meridian Area of Impact and surrounding area. Also shown is the West Boise Area of Drilling Concern designated by IDWR in 2001

Hydro Logic, Inc.
Boise, Idaho

Figure 21.

CALCULATIONS AND DESIGN DATA

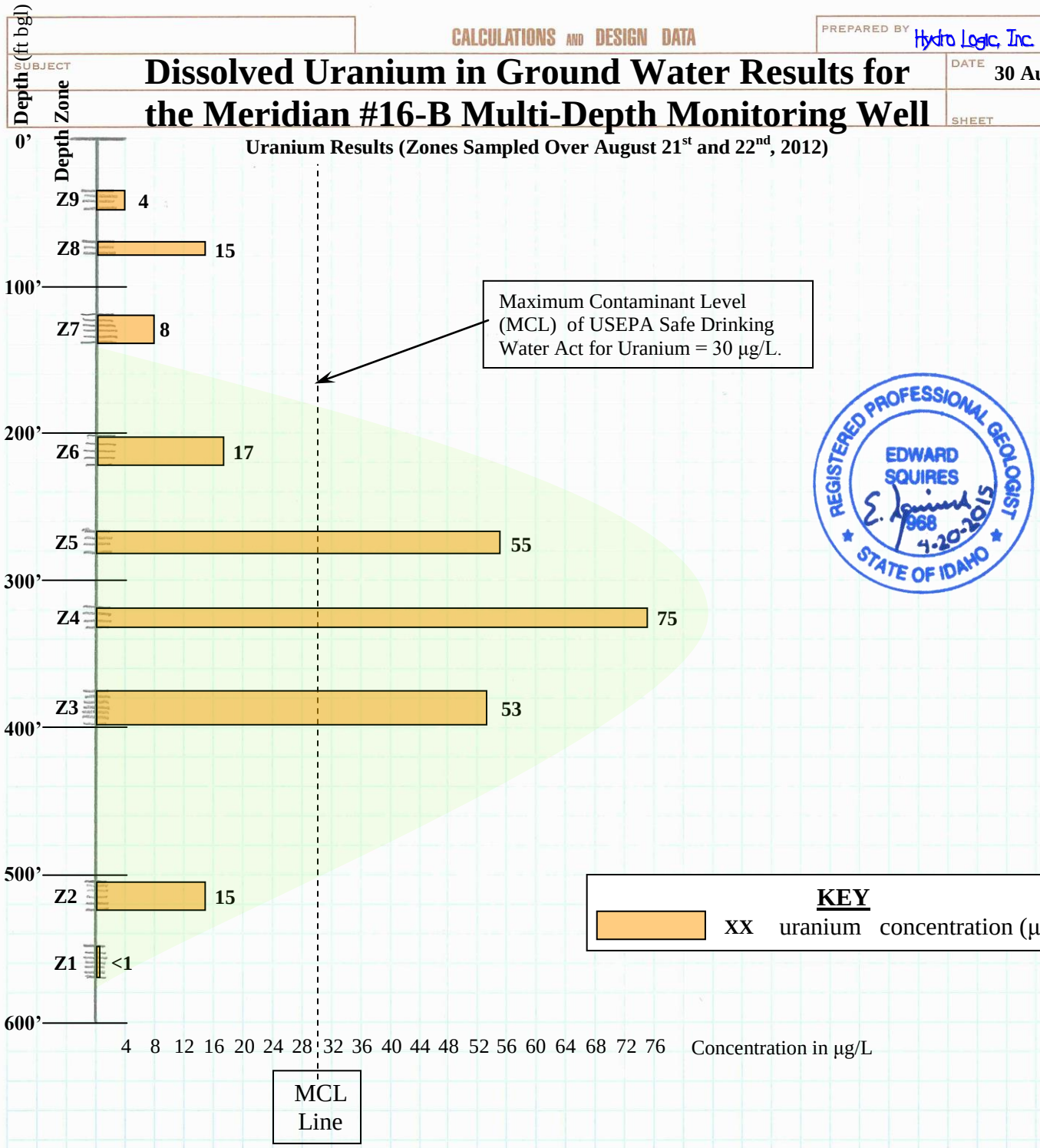
PREPARED BY Hydro Logic, Inc.

SUBJECT

Dissolved Uranium in Ground Water Results for the Meridian #16-B Multi-Depth Monitoring Well

DATE 30 Aug 2012

SHEET 1 OF 1



REGISTERED PROFESSIONAL GEOLOGIST EDWARD SQUIRES 968 4-20-2015 STATE OF IDAHO

Figure 13 - Orange bars represent laboratory-measured concentrations of dissolved uranium in µg/L from the 8 depth zones of the recently completed City of Meridian #16-B Monitoring Well (Appendix B.). The thickness of orange bars matches each depth zone's (tube well) screened interval. The lengths of the orange bars represent laboratory-measured concentrations. Maximum Contaminant Level (MCL) for uranium is 30 ug/L (dashed vertical line). The plotted occurrence of uranium with depth takes the shape of a classic sub-surface ground water plume suggesting a widespread and contiguous plume which supports our conceptual for the plume as being present across the proposed WAADC and beyond.

Hydro Logic, Inc.
Boise, Idaho

Figure 22.

CALCULATIONS AND DESIGN DATA

PREPARED BY Hydro Logic, Inc.

SUBJECT

DATE 12 Jan 2015

SHEET 1 OF 1

Radiological Results for Meridian #15-B Multi-Depth Monitoring Well

Uranium Results (Zones Sampled Over August 12th, 2013 and January 8th, 2014)

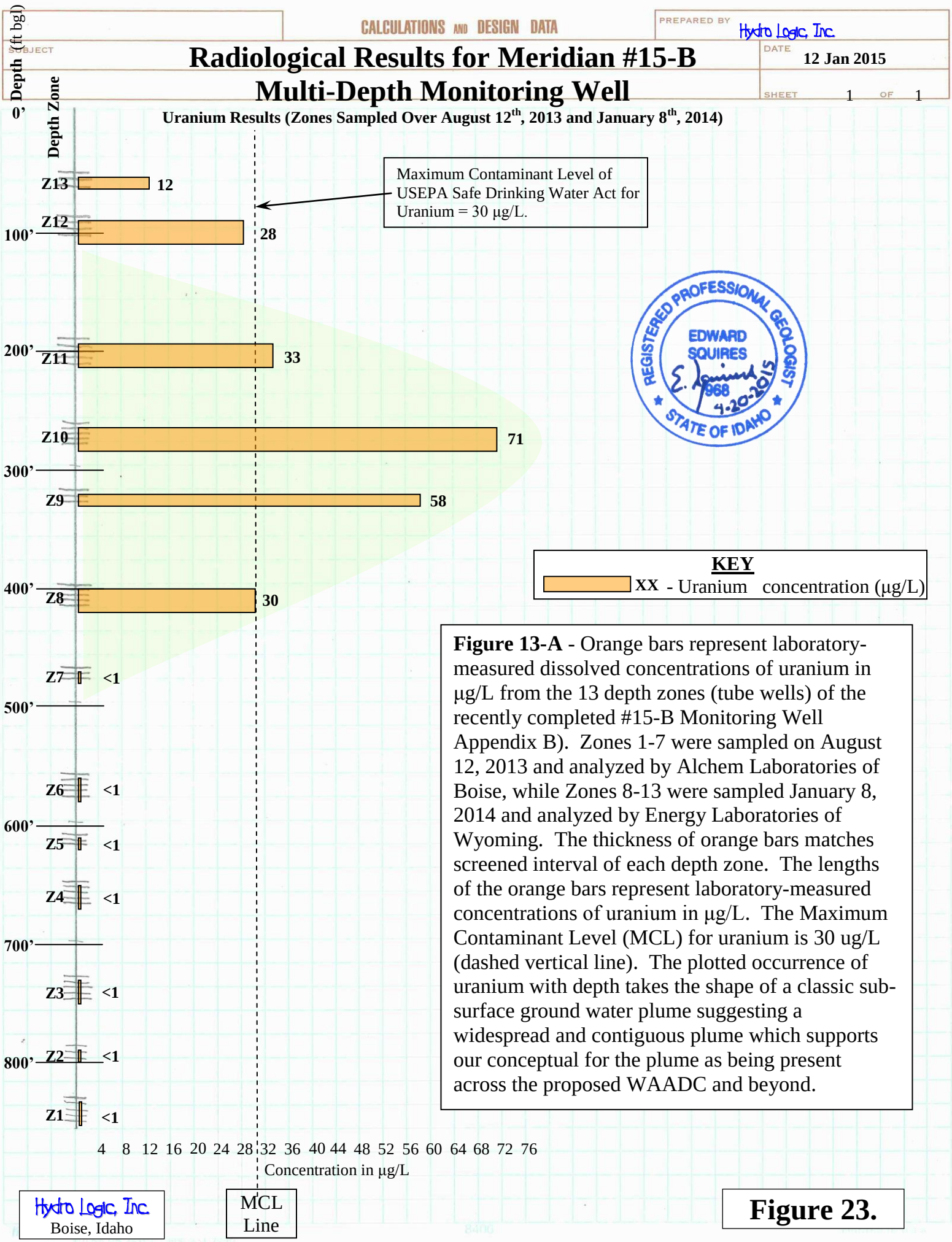


Figure 13-A - Orange bars represent laboratory-measured dissolved concentrations of uranium in µg/L from the 13 depth zones (tube wells) of the recently completed #15-B Monitoring Well Appendix B). Zones 1-7 were sampled on August 12, 2013 and analyzed by Alchem Laboratories of Boise, while Zones 8-13 were sampled January 8, 2014 and analyzed by Energy Laboratories of Wyoming. The thickness of orange bars matches screened interval of each depth zone. The lengths of the orange bars represent laboratory-measured concentrations of uranium in µg/L. The Maximum Contaminant Level (MCL) for uranium is 30 ug/L (dashed vertical line). The plotted occurrence of uranium with depth takes the shape of a classic sub-surface ground water plume suggesting a widespread and contiguous plume which supports our conceptual for the plume as being present across the proposed WAADC and beyond.

Hydro Logic, Inc.
Boise, Idaho

Figure 23.

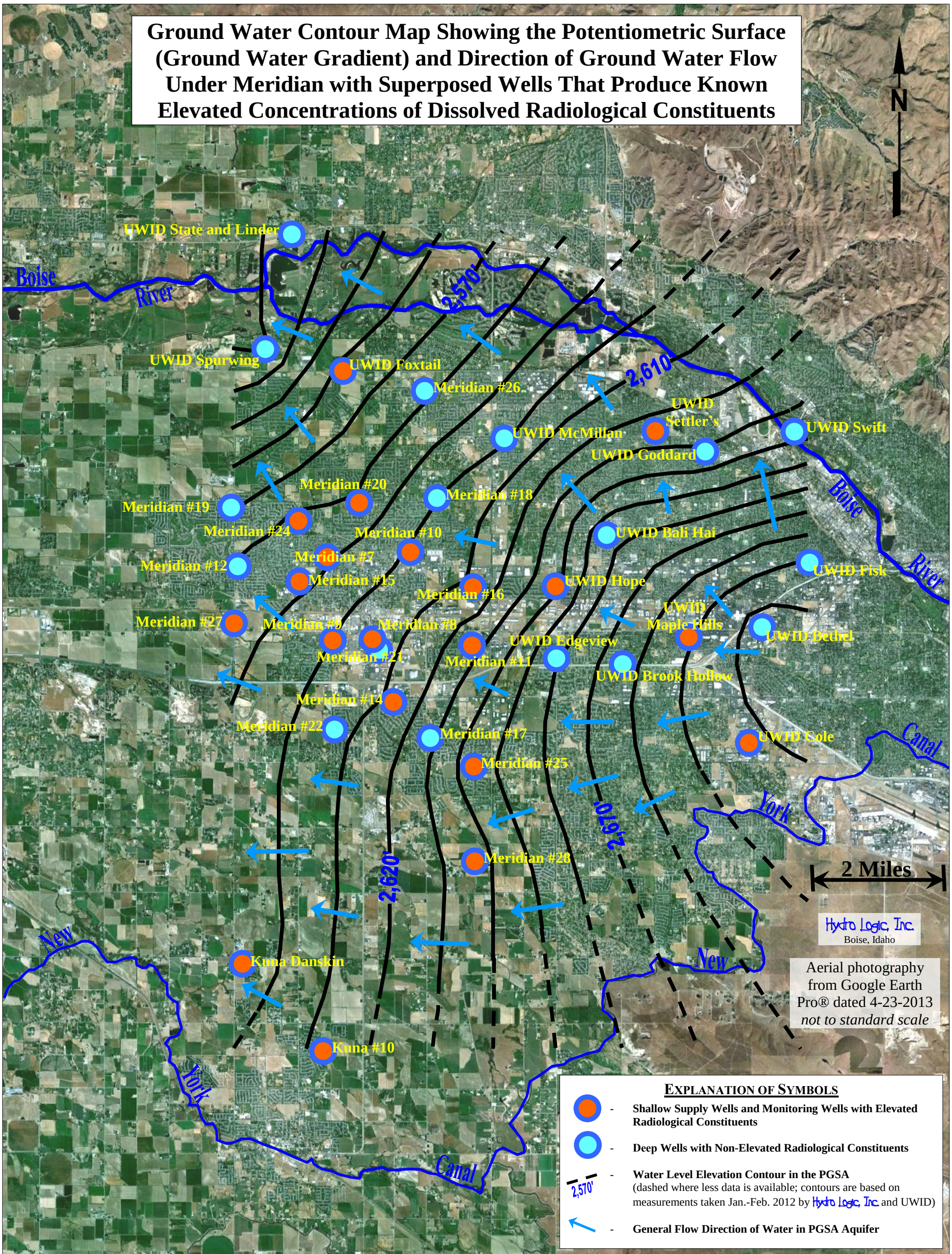


Figure 24. Ground water-level contour map showing direction of regional ground water flow based upon water-level measurements from wells in and surrounding the City of Meridian. Measurements include wells owned by the United Water Idaho, the City of Kuna, and Meridian's own designated monitoring well network. The water levels were obtained from a selected group of wells considered to be the most representative of the Pierce Gulch Sand Aquifer and the measurements were taken over a short two-month time period during the low water demand winter months of January and February, 2012 when pumping wells affect the water levels the least. Land surface measurement datums were obtained by Hydro Logic, Inc. and the Meridian Public Works Department using the City's survey-grade GPS unit for accuracy. Contours show a general regional ground water flow from southeast to northwest in response to aquifer recharge in the east (upper Boise River) and aquifer discharge to the northwest (lower Boise, Snake, and Payette river basins). In conjunction with the transmissivity values obtained from the City's aquifer testing, we estimate from this gradient map that approximately 10 billion gallons per year are moving through a ten-mile width of the aquifers underlying the City under the current gradients; this is more than three times the City's current ground water production of 3 billion gallons per year. Also indicated on this map, using blue circles with red centers, are locations of wells known to produce waters carrying elevated dissolved concentrations of regulated radionuclides near or exceeding established maximum contaminant levels established by USEPA. **Figure 24.**

Figure 24.

Groundwater Uranium Concentrations from Public and Private Water Supply Wells

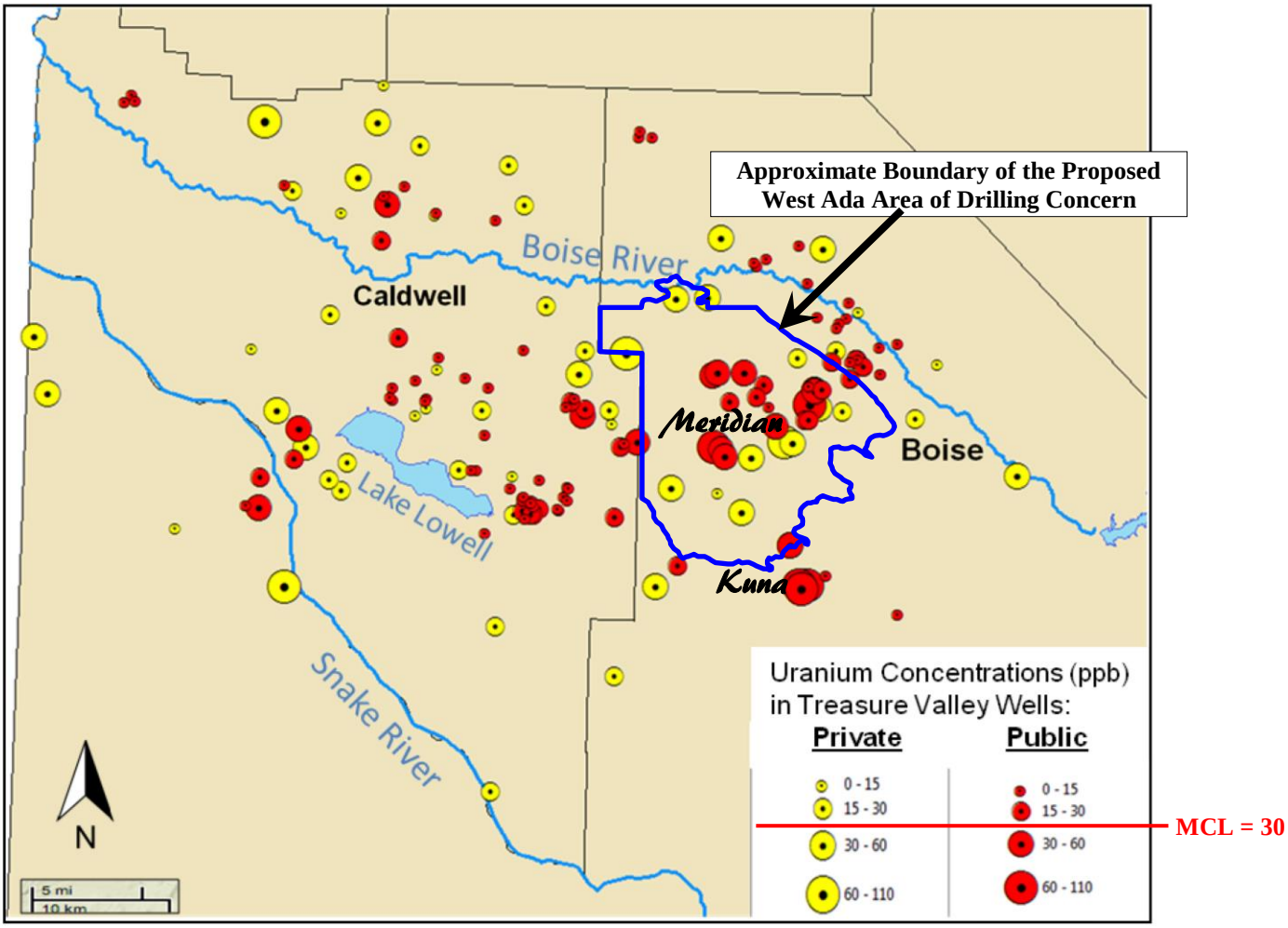


Figure 1: Groundwater uranium distribution map showing wells within the existing Public Water Systems (public) and Statewide Monitoring Network (private) dataset. Progressively larger circles indicate proportionally higher uranium concentrations in ppb notation (μg L^{-1}).

Figure 25 – Page 8, Figure 1, from "Isotopic and Geochemical Investigation into the Source of Elevated Uranium Concentrations in the Treasure Valley Aquifer, Idaho" by Hanson et al, 2011. Place names for the Cities of Meridian and Kuna were added, as was the uranium MCL line in the map key and the approximate boundary of the proposed West Ada Area of Drilling Concern, by HLI. Map shows the widespread occurrence of dissolved uranium in ground waters of the Treasure Valley.

City of Meridian Supply Well #16-A

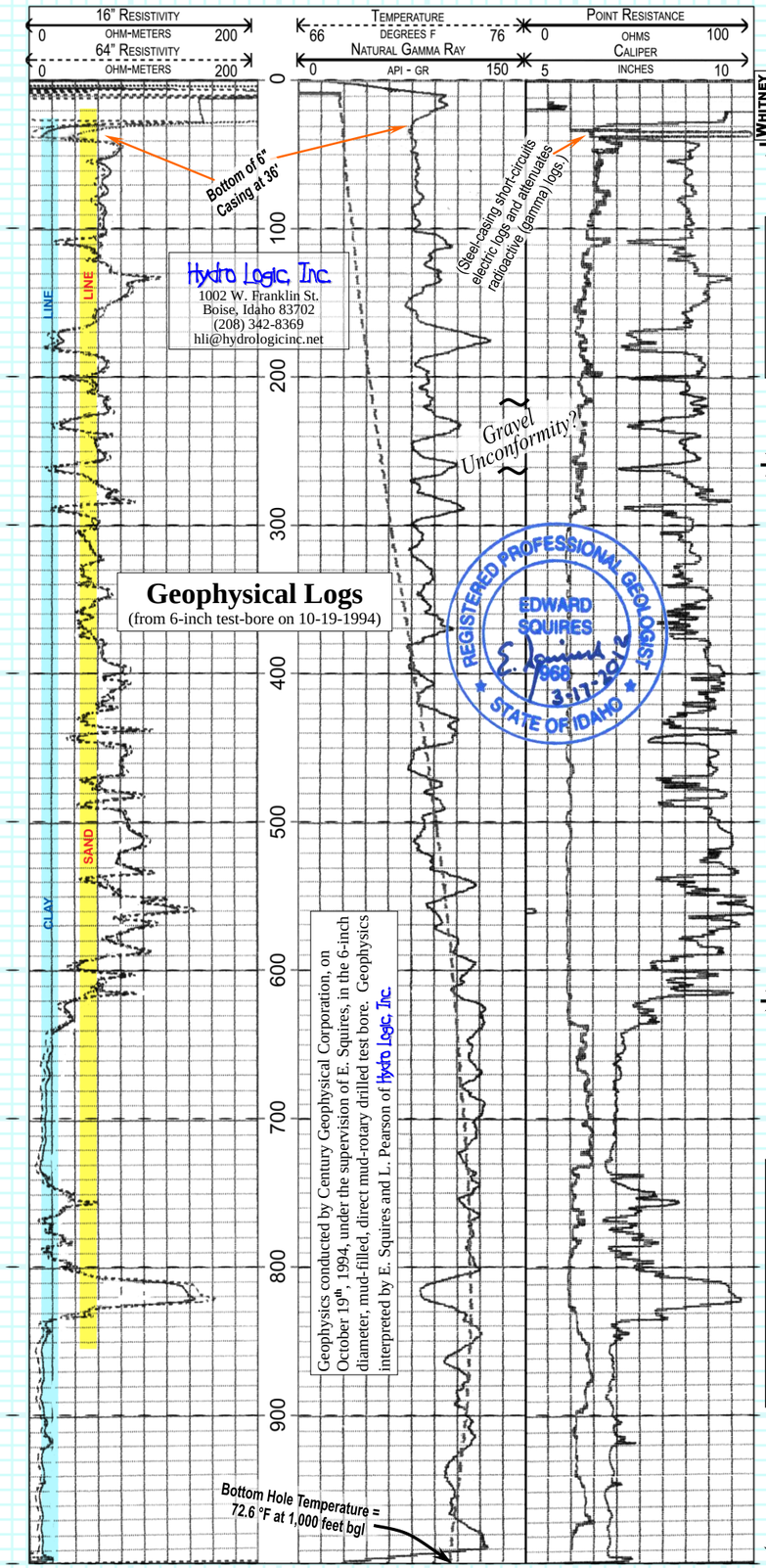
As-Abandoned Diagram

T. 3 N. R. 1 E. Section 8, NE¼, SW¼, NE¼

Latitude 43º 36’ 54.72” Longitude 116º 21’ 36.73”

Original Well Completed November 1994

Well Abandonment Completed March 2013

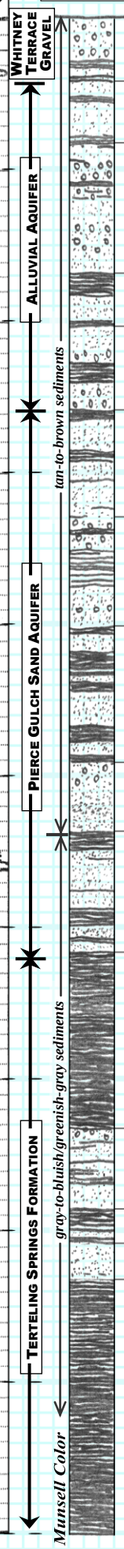


Hydro Logic, Inc.
1002 W. Franklin St.
Boise, Idaho 83702
(208) 342-8369
hli@hydrologicinc.net

Geophysical Logs
(from 6-inch test-bore on 10-19-1994)

Geophysics conducted by Century Geophysical Corporation, on October 19th, 1994, under the supervision of E. Squires, in the 6-inch diameter, mud-filled, direct mud-rotary drilled test bore. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

REGISTERED PROFESSIONAL GEOLOGIST — EDWARD SQUIRES — Idaho 968 — 3-17-2014 — STATE OF IDAHO



Lithology* — Hydro Logic, Inc.

Depth (feet below ground level)

ground level ≈ 2,621.4’ AMSL

0’

Cobbles, gravel, and very coarse-grained sand of the “Whitney Terrace”

Coarse-grained tan sand layers with tacky brown colored clay lenses

100’

Very coarse-grained tan sand with pea gravel and tacky brown colored clay lenses

Tan colored clays interbedded with medium-grained tan sand

200’

Interbedded very coarse-to-medium-grained light-brown sand with pea gravel and tacky brown colored clay layers

Interbedded coarse-to-fine-grained tan sand and tacky brown colored clay beds

Coarse-to-medium-grained brown sand with thin pea gravel lenses and tacky brown colored clay layers

400’

Interbedded fine-to-coarse-grained brown sand and tacky gray colored clay layers

500’

Coarse-grained brown sand with some small-to-medium gravel
color change at ~545’

Interbedded coarse-grained blue sand and silty bluish gray-to-gray colored clay layers
(minor amounts of wood fragments at ~570’ and 585’)

600’

Silty bluish-gray colored clay
(minor amount of wood fragments at ~640’, 650’, 665’ and moderate amount at 665’)

700’

Medium-to-coarse-grained blue sand with thin bed of medium-sized gravel and lenses of hard gray claystone
(minor amount of wood fragments at ~785’)

Silty bluish-gray colored clay/claystone with fine sand lenses (minor amount of wood fragments at ~785’)

800’

Medium-to-coarse-grained blue sand
(minor amounts of wood fragments throughout)

900’

Bluish-to-greenish-gray colored clay with some lenses of mudstone (mudstone becomes more brittle with depth; transition to greenish-gray occurs at ~935’)

1,000’

Interpretations and Final Diagram Revisions May 2013 by Hydro Logic, Inc. Loren Pearson and Ed Squires

* Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of poor quality direct mud-rotary drill-cuttings, sampled by the driller during drilling of #16 test bore.

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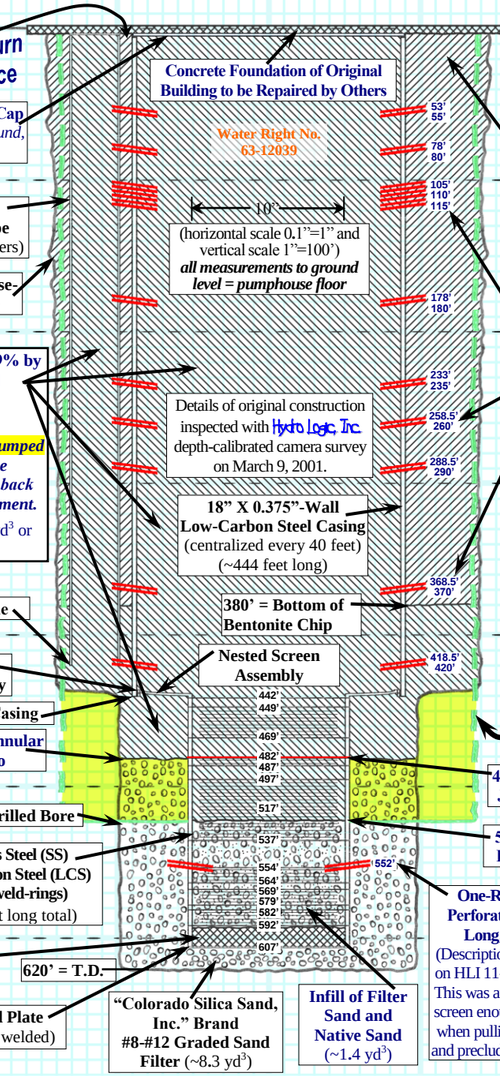
As-Abandoned Well Construction



grout return at surface

Concrete Foundation of Original Building to be Repaired by Others

18” x 0.375” Thick Steel Cap (Cut off two feet below ground, continuously welded.)

Water Right No. 63-12039

Original (1994) Sand Filter Fill-Tube 3” x 0.216”-Wall Low-Carbon Steel Pipe (welded to 18” as-installed with 1-inch spacers)

(horizontal scale 0.1”=1” and vertical scale 1”=100’) *all measurements to ground level = pumphouse floor*

28-inch Flooded Reverse-Rotary Drilled Bore

“CETCO” Brand High-Solids (≥29% by weight) Bentonite Grout Seal

39.5 yd³ more grout than would be required to fill the cavities and voids outside the casing and screens was pumped into the range 0’-to-522’+. Please see “Summary of Abandonment” on the back of this page for details of grout placement.

(Total bentonite grout used = 76.0 yd³ or 15,348 gallons)

Details of original construction inspected with Hydro Logic, Inc. depth-calibrated camera survey on March 9, 2001.

18” X 0.375”-Wall Low-Carbon Steel Casing (centralized every 40 feet) (~444 feet long)

420’ = Bottom of 3” Tremie

380’ = Bottom of Bentonite Chip

Nested Screen Assembly

437’ = Top of Reducer Assembly

438’ = Bottom of 18” Casing

482’ = Level of Filter Sand in Annular Space Was Bailed Down To

20-inch Flooded Reverse-Rotary Drilled Bore

“Johnson” Brand #304 Stainless Steel (SS) Wire-Wrap Screen and Low-Carbon Steel (LCS) Pipe Assembly (with 6-inch SS weld-rings) (centralized in borehole; 165 feet long total)

Concrete Grout Plug Installed to Seal Tailpipe Sump by Stevens and Sons Well Drilling and Supervised by Hydro Logic, Inc. in March 2001 (~0.3 yd³)

620’ = T.D.

Low-Carbon Steel End Plate (0.250” thick; continuous welded)

“Colorado Silica Sand, Inc.” Brand #8-#12 Graded Sand Filter (~8.3 yd³)

Infill of Filter Sand and Native Sand (~1.4 yd³)

Original (1994) “Teague Mineral Products” Brand 5/8” Bentonite Chip Seal (41.5 yd³)

Note: “Teague Mineral Products” Brand bentonite chip seal was poured into place through water-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

Seventeen-Rounds of Knife-Cut Perforations; 1”- Wide x 4”-Long; 30-to-the-Round (Description of perforations based on HLI 11-7-2012 camera survey, size of knife used in perforator, and length of pull after casing was pierced.)

Calculated hole volume (27-inch) that all grout pumped in the range 522-ft-to-0 ft below ground would fill accounting for existing casings, seals, and infill. More likely the grout filled an irregular annulus as well as an oversized bore.

482’ = Separated (1”) Joint in 10” Screens

522’ = Top of Infill Inside 10” Screens

One-Round of Knife-Cut Perforations; 1”- Wide x 4”-Long; 30-to-the-Round (Description of perforations based on HLI 11-7-2012 camera survey; This was an attempt to weaken the screen enough to break at this joint when pulling, but it began to infill and precluded further perforations.)

Geochemistry

Analyte (in mg/L unless noted)	Result (448-591 ft bgl)
Alkalinity (as $CaCO_3$)	168.0
Ammonia (as N)	0.01
Calcium (as $CaCO_3$)	61.2
Chloride	14.6
Conductivity (µS)	487.0
Fluoride	2.74
Hardness (as $CaCO_3$)	205.0
Iron (total)	0.06
Iron (dissolved)	0.05
Magnesium	12.7
Manganese (dissolved)	<0.01
Nitrate (NO_3 as N)	1.11
Nitrite (NO_2 as N)	<0.01
pH - Lab (S.U.)	7.61
Phosphorous (total)	0.035
Potassium	2.04
Silica (as SiO_2)	39.4
Sodium	23.4
Sulfate	62.8
Total Dissolved Solids	298.0
Total Organic Carbon	1.03
Field Measured (by Hydro Logic, Inc.)	**Parameters**
Field Conductivity (µS)	469
Field Dissolved Oxygen	+4.1
Field O.R.P. (mV)	+99
Field pH (S.U.)	7.15
Field Temperature (ºF)	61..8

Sampled January 30, 2001 by Hydro Logic, Inc.
Analyses by Alchem Laboratories, Inc.

ABANDONMENT PROCEDURES: This drawing depicts the final abandonment of March 14th, 2013 which was accomplished in multiple stages. The abandonment was staged to ensure and verify that grout was forced outside the well everywhere a seal was desired to preserve the natural stratigraphic layering of the geologic section to the extent possible. Please see “Summary of the Abandonment of Meridian Supply Well #16-A” to the right

Overall, 15,348 gallons (76.0 cubic yards) of high-solids (≥ 29% by weight) bentonite grout were pumped into the well between from 522’-to-0’ below ground. This volume of grout would be enough to fill a 27-inch diameter borehole from ground level to 522 feet below ground. Thirty-six and one-half cubic yards is the volume necessary to fill the calculated void space (left by evacuating the sand filter) outside the casing and screens plus the interior of the well. Therefore, 39.5 cubic yards of bentonite grout was forced outside the casing to fill void spaces and cavities (other than the ones created by bailing) outside of the casing and screens. The actual grout and void distribution is most likely somewhat different than the uniform areal extent shown in this sketch of abandonment. It is believed, based on grout volumes, that the original bentonite chip seal bridged and was never emplaced over much of the lower 200-feet of the 28-inch bore.

All grout powders were CETCO brand Geothermal Grout™, especially formulated as a grout seal with less than 5.2 x 10–9 cm/s permeability, were mixed with clean unchlorinated water.

- Project administration by Kyle Radek, P.E., Assistant City Engineer, City of Meridian Public Works, Meridian, ID.
- Final review of diagram by Ed Squires, R.P.G., Hydro Logic, Inc. Boise, ID.
- Project management, well abandonment design, on-site investigation, on-site inspection, documentation, and final report by Kurt Newbry, Loren Pearson, Carlton Parker and Ed Squires Hydro Logic, Inc., Boise, ID.
- Site preparation and clean up by Tim Hughes, Northwest Services, Boise, ID.
- Pump contractor, Cass Cook, Layne of Idaho, Nampa, ID.
- Cable-tool work-over and well abandonment by David McLeran of McLeran Well Drilling, LLC, New Plymouth, ID.
- Original reverse-rotary drilling and well construction by Pete Cope Drilling Co., Inc., Meridian, Idaho.
- Water samples were taken on Feb. 3rd, 1997 by the City of Meridian, Water Department.

Figure 26. Cross-sectional diagram of the as-built details of well construction overprinted by the final perforation and pressure-grout abandonment of the Meridian Well #16-A. This reverse-rotary-drilled well was shown to have significant void space outside the well casing, probably caused during construction, by the bridging of the poured chipped bentonite seal during installation. The well was shown to be allowing ground waters of different chemistry and contamination to commingle outside the well casing until the well was perforated and grouted shut in 2013. The void space outside the steel casing is shown most dramatically by the inordinate volumes of pumped grout required to fill the cavities resulting from the drilling process. Up to thirteen sub-aquifer units may have been commingled outside the well casing until the well’s proper abandonment. This well has now been replaced with two City municipal wells, completed to different depths of the aquifer, both having a unique ground water chemistry and hydraulic characteristics and both new wells have full-depth pumped grout annular seals outside the casings.

Figure 26.

Hydro Logic, Inc.
Boise, Idaho

Land Use in the Vicinity of the Meridian Heights Subdivision Wells Based upon Aerial Photography

T3N R1W Section 25

Figure 27. Google Earth base map showing the locations of the Meridian Heights Subdivision's Public Drinking Water System wells in west Meridian. All three of the subdivision's wells produced ground water with elevated dissolved concentrations of radionuclides nearly three times the Maximum Contaminant Level allowed by USEPA. The ground water produced by replacement Well #3-B, drilled in 2009, contains almost no radionuclides. The original Well #3 was abandoned properly by perforating and pressure-grouting techniques.

Figure 27.

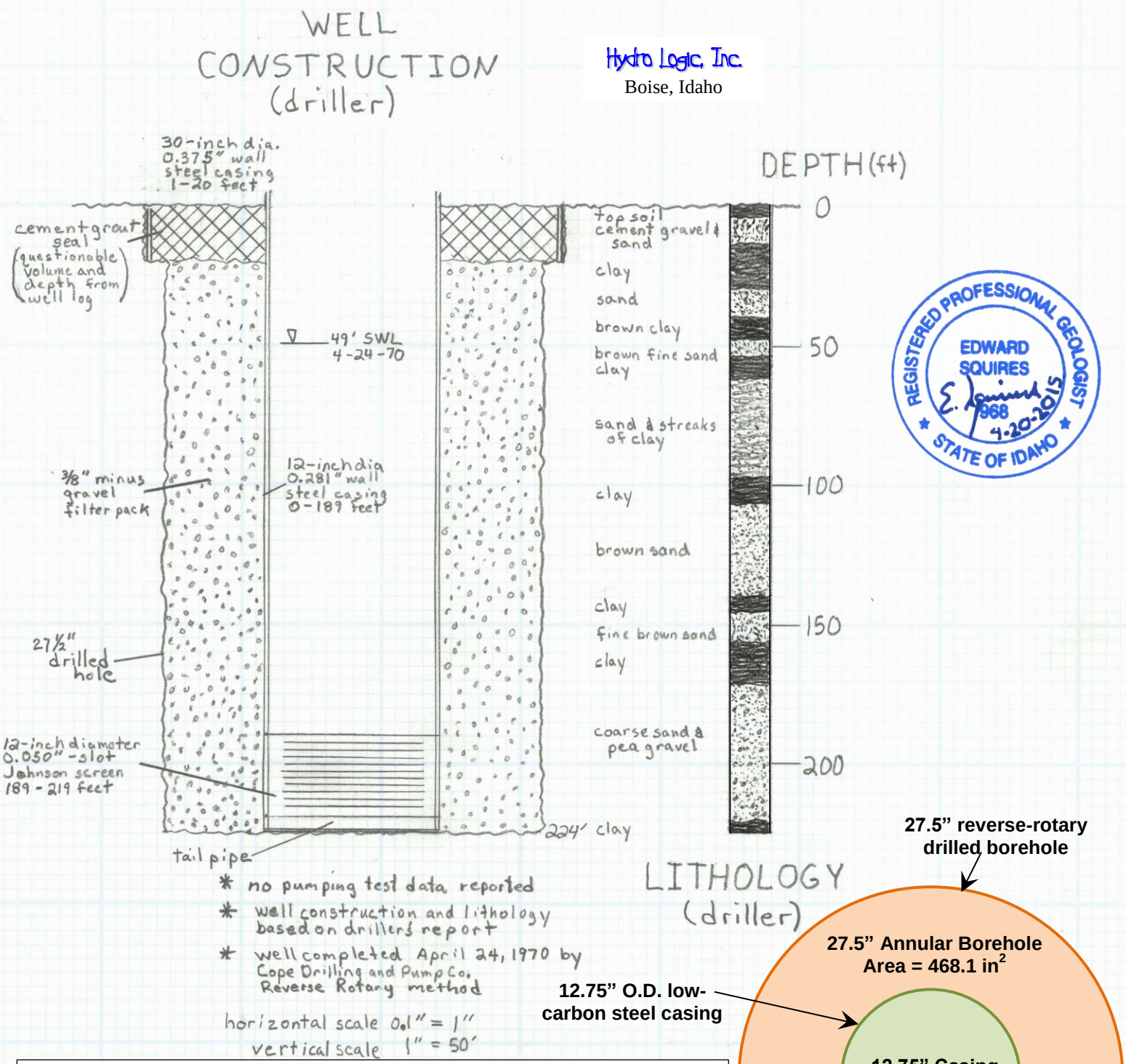


Figure 28. Cross-sectional sketch of the as-built details of well construction (from the Well Driller's Report)for the Meridian Heights Well #1. The large 28-inch diameter reverse-rotary-drilled borehole is filled with pea gravel from 20 ft-to-total depth at 224 ft bgl. Thus, the well comingles aquifer pressure head and ground water geochemistry of the entire drilled geologic section and at least six sub-aquifer units in an area of known sub-surface ground water contamination. The gravel-packed annular space between the 12-inch steel casing and the 28-inch diameter borehole is nearly four times the cross-sectional area of the well casing.

Figure 28.

As-Abandoned Diagram of Meridian Heights Water and Sewer District Supply Well #3-A ("Kentucky Ridge")

T. 3 N. R. 1 W. Section 25, SE¼, NE¼, NW¼ - Latitude 43º 34' 24.7" Longitude 116º 24' 19.5"

Abandonment Completed February 4, 2010

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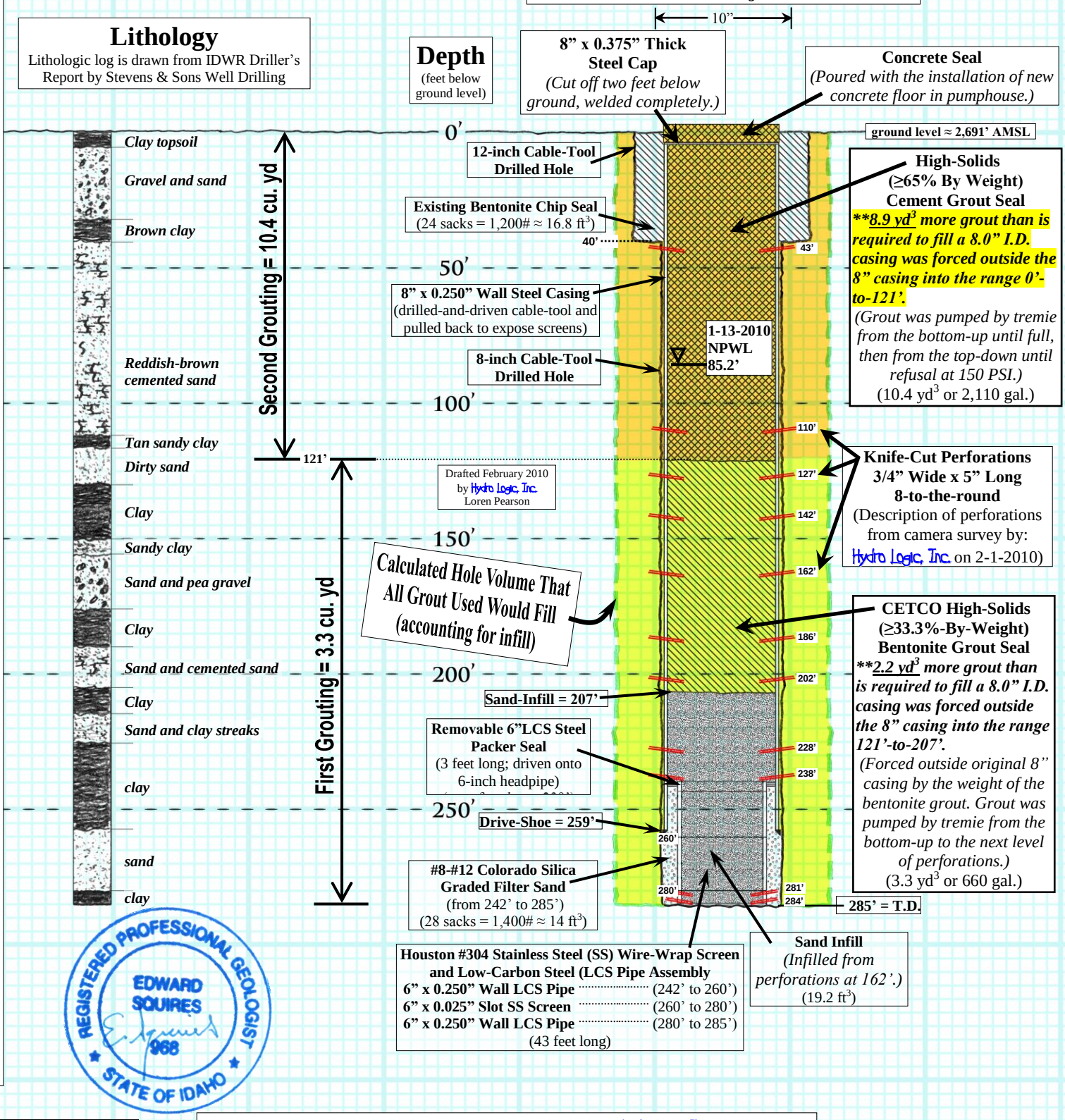
As-Abandoned Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=50')

all measurements to ground level



Hydro Logic, Inc.
Boise, Idaho

- Well abandonment design, camera survey, and onsite inspection by Hydro Logic, Inc., Boise, ID.
- Well abandonment by McLeran Well Drilling, LLC, Fruitland, ID.
- Original cable-tool drilling and well construction by Stevens & Sons Well Drilling, Inc., Boise, ID.

Figure 29.

354 Wells Are Drilled Into the Same Water Bearing Zone as Meridian Heights Subdivision Wells

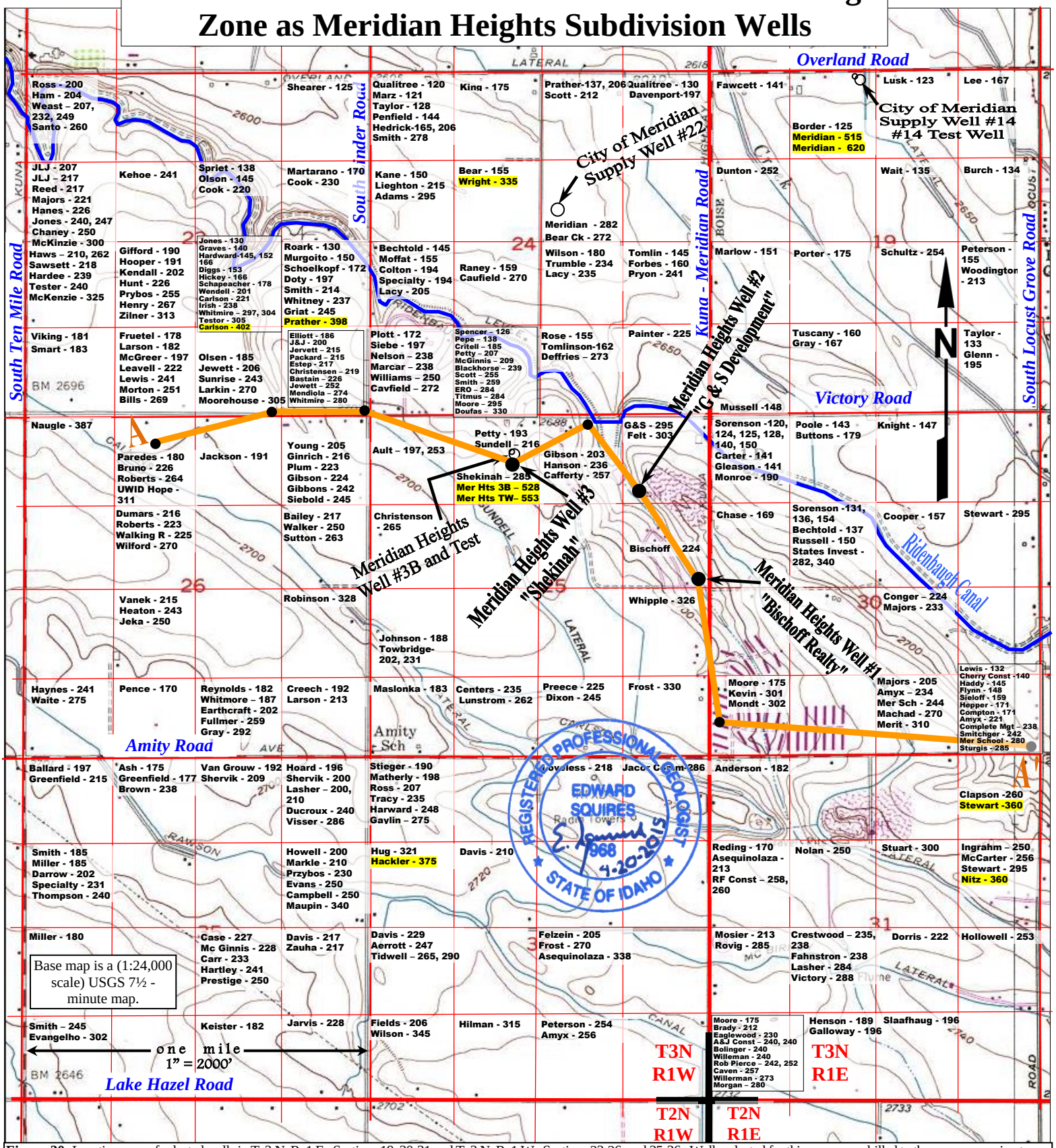


Figure 30. Location map of selected wells in T. 3 N. R. 1 E., Sections 19, 30-31 and T. 3 N. R. 1 W., Sections 23-26, and 35-36. Wells selected for this map were drilled to the same approximate depth. Wells located *north* of Ridenbaugh Canal needed to penetrate at least 120 feet below ground surface while wells *south* needed to penetrate at least 170 feet below ground surface. Wells (from the IDWR Drillers Report Files), are plotted to the nearest ¼, ¼ section by name followed by total depth of the well. Some well logs may be missing from IDWR database and others may be mis-located on the driller's records. The line of section, A-to-A' (drawn in orange), is diagrammed in Figure 12. Meridian Heights Well #1 is screened from 189-to-219 feet below ground and has had uranium to 18 µg/L. Meridian Heights Well #2 is screened from 195-to-237; 248-to-258; 273-to-288 feet below ground and has had uranium to 55 µg/L. Meridian Heights Well #3 is screened from 260-to-280 feet below ground and has had uranium to 85 µg/L. The maximum contamination level drinking water containing uranium is 30 µg/L. Most of the wells shown are screened in the same uranium-bearing section. These wells may also act as a conduit to allow the high uranium content water to migrate to other water bearing zones. If these wells were to be improperly abandoned in the future, they could still function as a conduit to allow uranium-rich waters to move to other water bearing zones. Ten of these wells (highlighted yellow) are drilled deeper than the water bearing section that depths the Meridian Heights wells are screened in (over 300 feet deep *north* of Ridenbaugh Canal, and 350 feet deep *south* of the Ridenbaugh Canal). Four of the ten wells (highlighted yellow) have full depth seals (Meridian Heights #3B and Test well; Supply Well #14 and #14 Test Well). The seals on the other six deep wells are a maximum of 22 feet deep, are untested and therefore unknown.

Hydro Logic, Inc.
Boise, Idaho

Figure 30.

Hydro Logic, Inc.

Meridian WWTP Domestic Well

As-Abandoned Diagram

T. 4 N. R. 1 W. Section 34, SW¼, NE¼, SE¼

Latitude 43º 38' 18.67" Longitude 116º 26' 17.45"

Original Well Completed 19??

Well Abandonment Completed February 2002

REGISTERED PROFESSIONAL GEOLOGIST
EDWARD SQUIRES
1968
STATE OF IDAHO

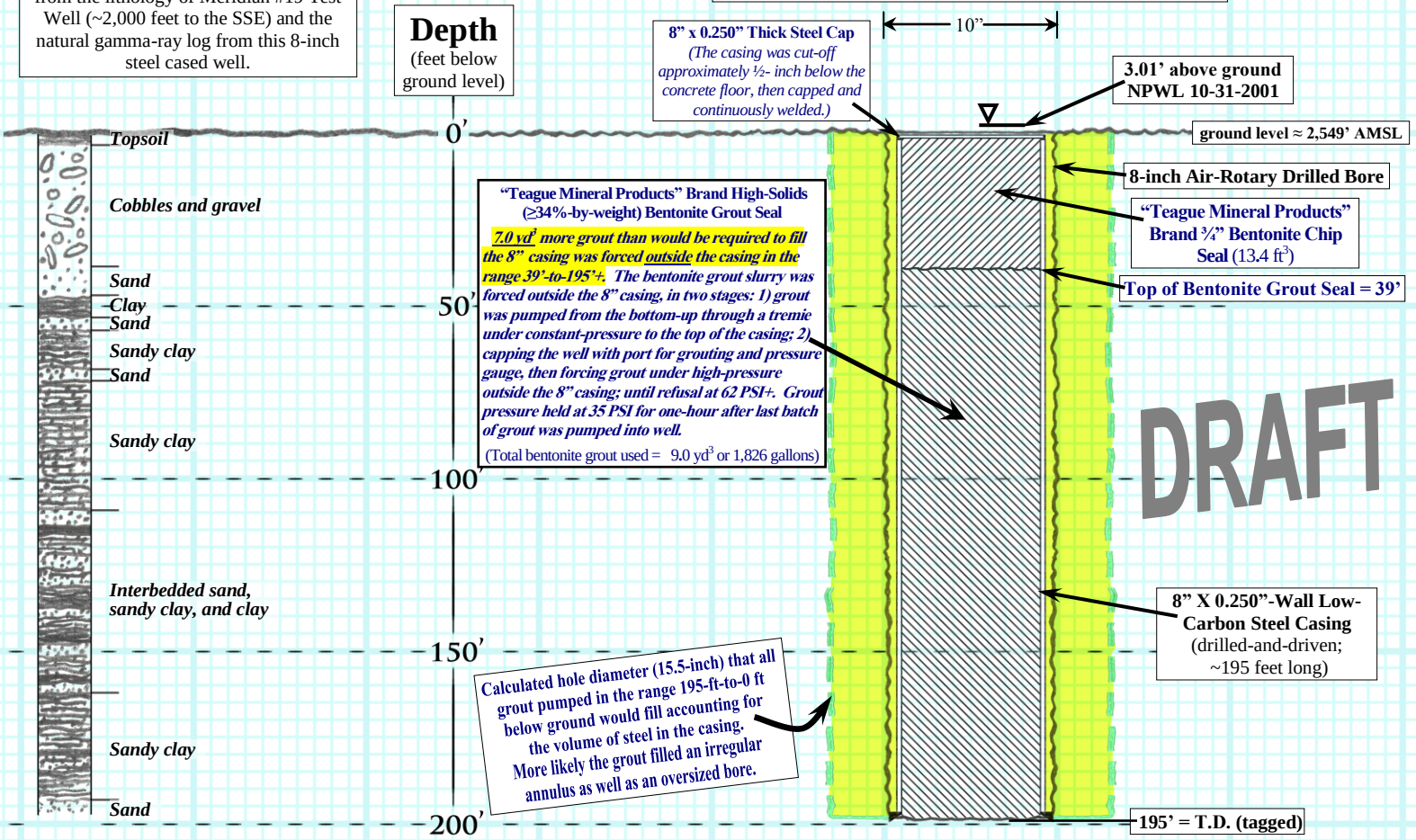
Lithology

A Driller's Report for this well could not be located in Idaho Department of Water Resources database. Hydro Logic, Inc. lithologic log is interpreted and drawn from the lithology of Meridian #19 Test Well (~2,000 feet to the SSE) and the natural gamma-ray log from this 8-inch steel cased well.

As-Abandoned Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=50')

all measurements to ground level = pumphouse floor



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Interpretations and Final Diagram Revisions December 2012 by Hydro Logic, Inc. Loren Pearson and Ed Squires

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Note: A "Well Driller's Report" for the original well shown above could not be located in the Idaho Department of Water Resources database, therefore the diagram of well construction drawn above is based on "standard" construction methods for an eight-inch steel cased domestic well. The dimensions of the well casing, the depth of the well, the GPS coordinates, and the water level were measured by B. Cavanagh, of Hydro Logic, Inc., during a field visit prior to well abandonment on October 31st, 2001. Those measurements are used to draw the diagram of the well shown above to the best of our knowledge.

ABANDONMENT STAGES: This drawing depicts the final abandonment of February 12th thru 15th, 2002 which was accomplished in two stages. The abandonment was staged to verify the total amount of grout forced outside the well.

Stage One: Bentonite grout was pumped into the well from the bottom-up (195') through a tremie to ground level.

Stage Two: Bentonite grout continued to be pumped from the top-down through a fabricated port in a continuously welded 6" steel cap until refusal at 62 PSI+. The total grout pumped into the well from 0-to-195+ feet was 9.0 cubic yards. The bentonite grout was further pushed outside of the casing down to 39 feet by using 350 gallons of water as the last batch. The remain space was filled with 13.4 ft³ bentonite chip to ground level. 7.0 cubic yards of grout was forced outside the 6" casing in this reach of the well before refusal.

Note: The nominal extent of grout forced outside the entire well assembly, shown by yellow highlighting and green dashed line, is the equivalent volume (accounting for existing casing) that would fill a 15.9-inch borehole from 0-to-195 feet below ground. The actual grout and void distribution is most likely somewhat different than the uniform areal extent shown in this sketch of abandonment.

Hydro Logic, Inc.
Boise, Idaho

Figure 31.

Hydro Logic, Inc.

As-Abandoned Diagram of Girdner Ranch Domestic Well

T. 3 N. R. 1 E. Section 21, SE¼, NE¼, SW¼

Latitude 43º 34' 50.68" Longitude 116º 20' 39.94"

Original Well Construction Completed 19??

Well Abandonment Completed May 2006

REGISTERED PROFESSIONAL GEOLOGIST
EDWARD SQUIRES
968
STATE OF IDAHO

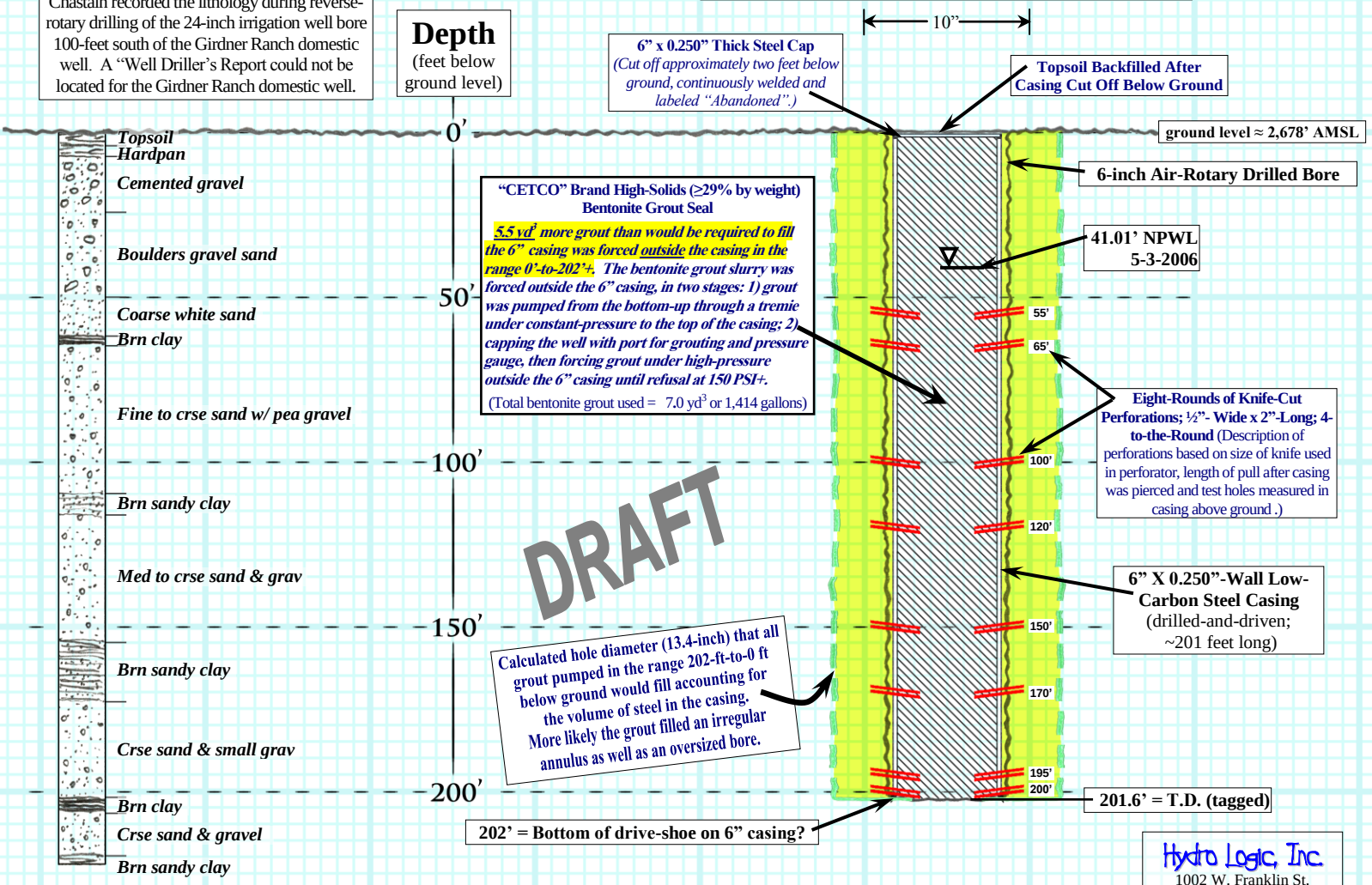
Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from the "Well Driller's Report" by Frank Chastain of Pete Cope Drilling from the 12-inch Girdner Ranch Irrigation Well. Frank Chastain recorded the lithology during reverse-rotary drilling of the 24-inch irrigation well bore 100-feet south of the Girdner Ranch domestic well. A "Well Driller's Report could not be located for the Girdner Ranch domestic well.

As-Abandoned Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=50')

all measurements to ground level = pumphouse floor



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Note: A "Well Driller's Report" for the original well shown above could not be located in the Idaho Department of Water Resources database, therefore the diagram of well construction drawn above is based on "standard" construction methods for a six-inch steel cased domestic well. The dimensions of the well casing, the depth of the well, the GPS coordinates, and the water level were measured by L. Pearson, of Hydro Logic, Inc., during a field visit prior to well abandonment on May 3rd, 2006. Those measurements are used to draw the diagram of the well shown above to the best of our knowledge.

ABANDONMENT STAGES: This drawing depicts the final abandonment of May 19th, 2006 which was accomplished in two stages. The abandonment was staged to verify the total amount of grout forced outside the well.

Stage One: 32 large perforations, nominally ½-inch wide by 2-inches long as measured from perforations in the casing above ground, were imparted through the 6" casing from 55-to-200 feet (see above).

Stage Two: Bentonite grout was pumped into the well from the bottom-up (202') through a tremie to ground level. Next the bentonite grout continued to be pumped from the top-down through a fabricated port in a continuously welded 6" steel cap until refusal at 150 PSI+. The total grout pumped into the well from 0-to-202+ feet was 7.0 cubic yards. 5.5 cubic yards of grout was forced outside the 6" casing in this reach of the well before refusal.

Note: The nominal extent of grout forced outside the entire well assembly, shown by yellow highlighting and green dashed line, is the equivalent volume (accounting for existing casing) that would fill a 13.4-inch borehole from 0-to-202 feet below ground. The actual grout and void distribution is most likely somewhat different than the uniform areal extent shown in this sketch of abandonment.

Hydro Logic, Inc.
Boise, Idaho

Figure 32.

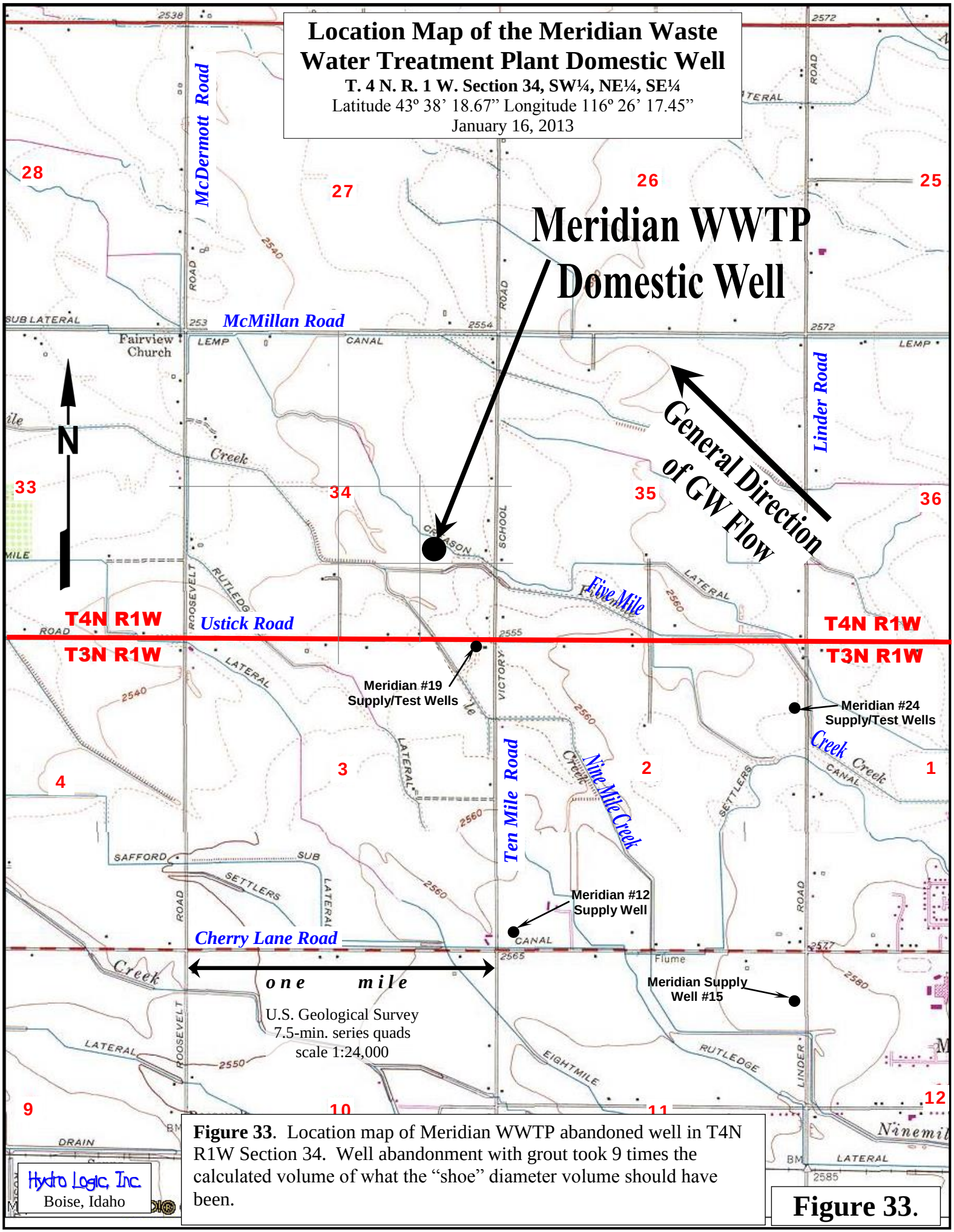

Figure 33. Location map of Meridian WWTP abandoned well in T4N R1W Section 34. Well abandonment with grout took 9 times the calculated volume of what the "shoe" diameter volume should have been.

Figure 33.

Sutherland Farm Domestic Well Location Map

T. 3 N. R. 1 E. Section 21, SE¼, NE¼, SW¼ - Latitude 43º 34' 50.55" Longitude 116º 20' 40.57"

January 15, 2013

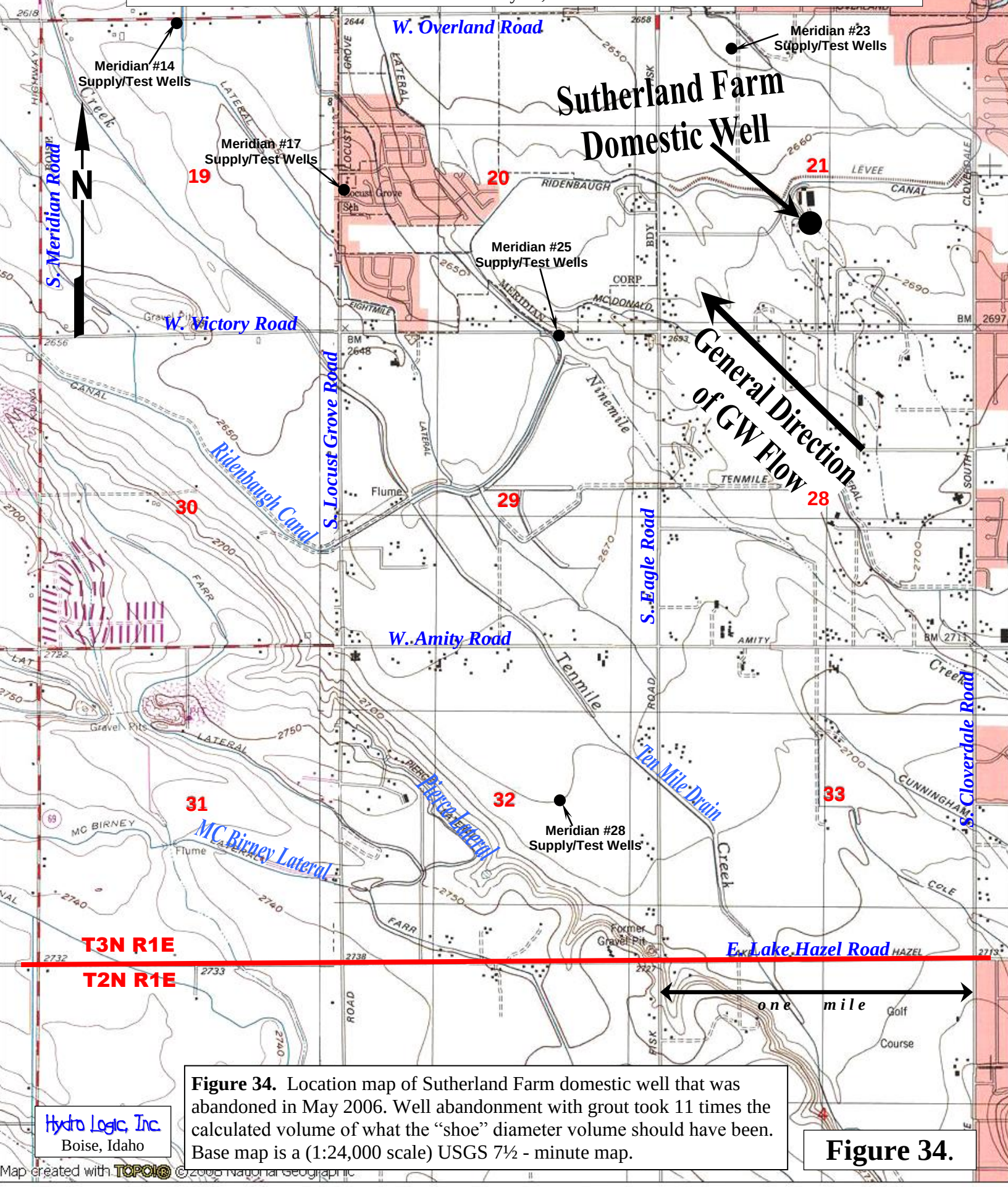

Figure 34. Location map of Sutherland Farm domestic well that was abandoned in May 2006. Well abandonment with grout took 11 times the calculated volume of what the "shoe" diameter volume should have been. Base map is a (1:24,000 scale) USGS 7½ - minute map.

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Boise, Idaho

Figure 34.

Map created with TOPO! ©2006 National Geographic

A Tale of Two Types of Domestic Wells

Hydro Logic, Inc.
Boise, Idaho

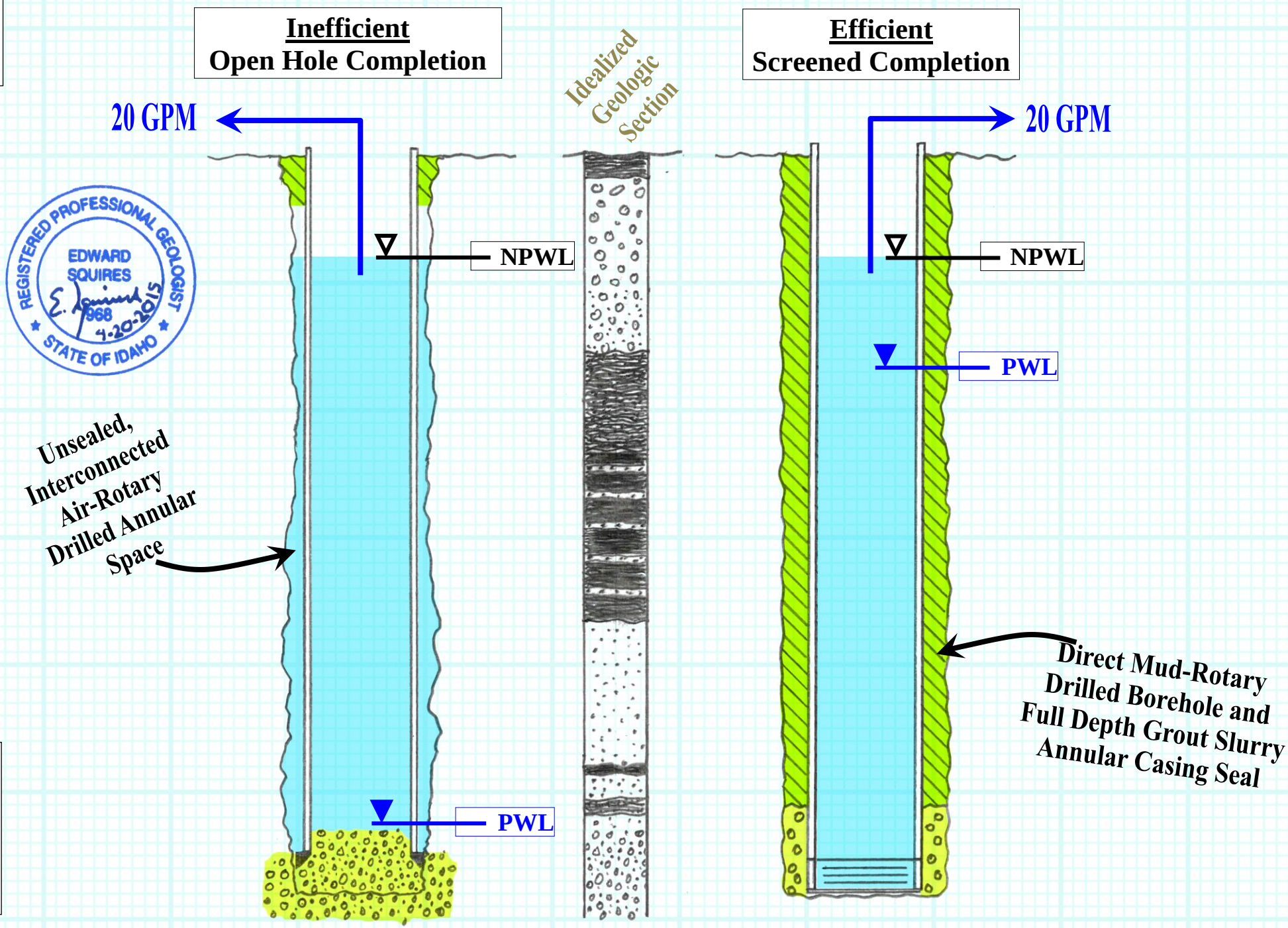
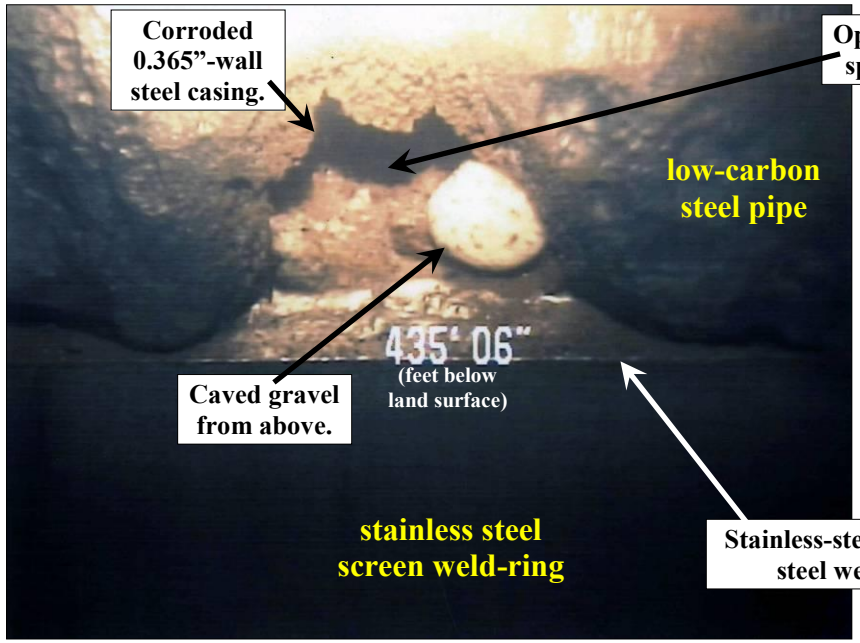
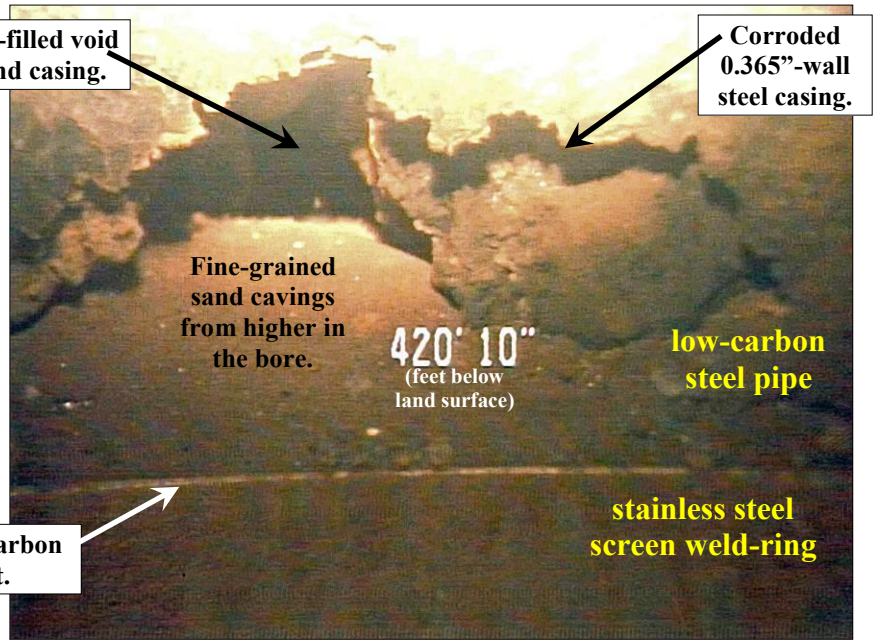


Figure 35.

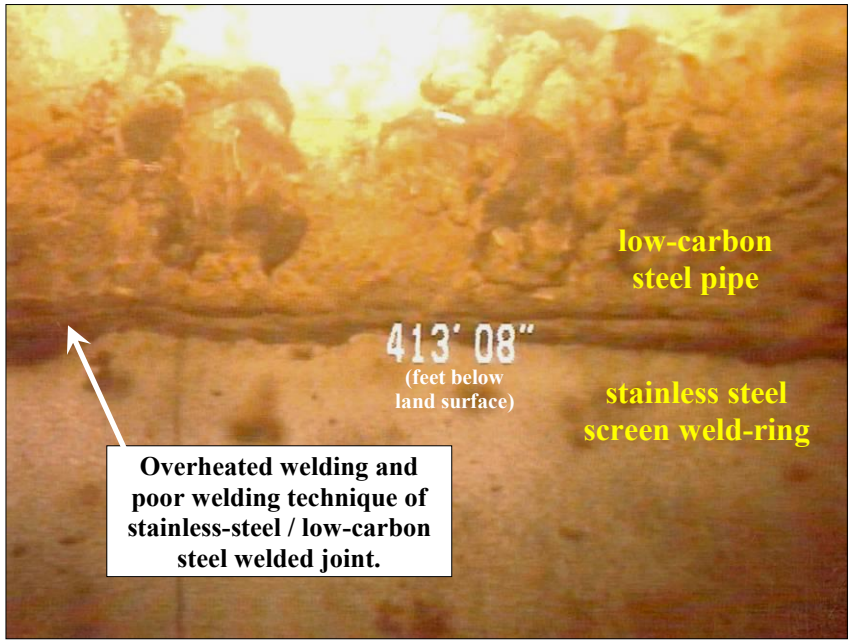
Hydro Logic, Inc
Boise, Idaho



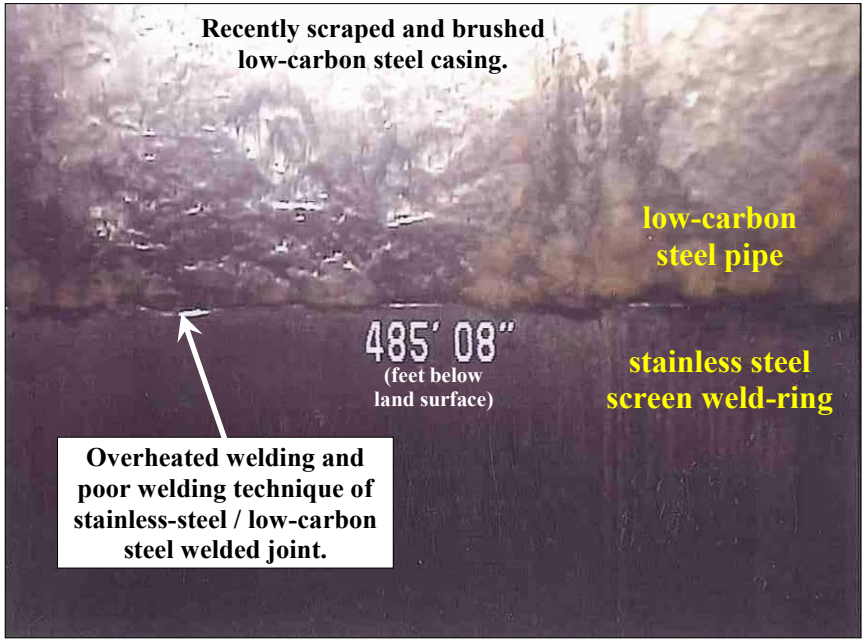
12-10-2008 Downhole photo from Meridian Supply Well #8 shows highly corroded 10” x 0.365”-wall low-carbon steel pipe (upper portion) to 10” stainless steel screen weld-ring (lower portion).



1-29-2008 Downhole photo from Meridian Supply Well #14 shows highly corroded 10” x 0.365”-wall low-carbon steel pipe (upper portion) to 10” stainless steel screen weld-ring (lower portion).



3-17-2008 Downhole photo from Caldwell Supply Well #15 shows highly corroded 10” x 0.365”-wall low-carbon steel pipe (upper portion) to 10” stainless steel screen weld-ring (lower portion).



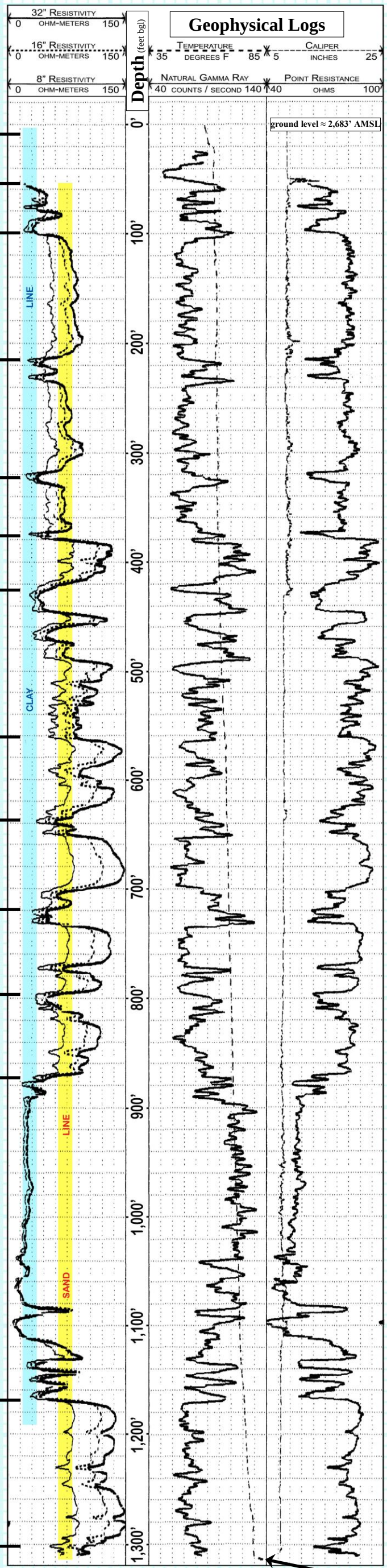
4-28-2004 Downhole photo from Meridian Supply Well #15 shows poor welding technique and corroded 10” x 0.365”-wall low-carbon steel pipe (upper portion) to 10” stainless steel screen weld-ring (lower portion).

Figure 36.

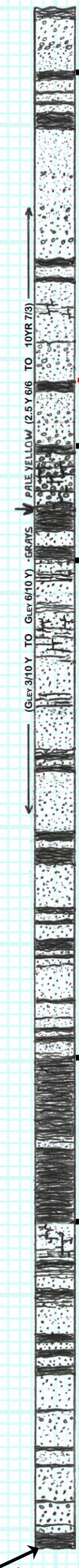
City of Meridian #28 Monitoring Well
Aquifer Designations and Properties
September 22, 2009

Significant Water-Bearing Units

1
2
3
4
5
6
7
8
9
10



Lithology



elevated concentrations of total dissolved solids, dissolved gasses, and radionuclides

elevated concentrations of ammonia and hydrogen sulfide

elevated concentrations of total organic carbon, hydrogen sulfide, ammonia and temperature (79.8 °F)

Bottom Hole Temperature at 1,316 feet 85.3 °F

Tentative Aquifer Designations

Sunrise Terrace Gravel Aquifer

Alluvial Aquifer

Gravel Unconformity?

Pierce Gulch Sand Aquifer

Terteling Springs Mudstone

Terteling Springs Aquifer

Estimated Ground Water Development Potential
(Gallons / Minute)
(Millions of Gallons / Day)

Horizontal Wells?

~1,000 GPM (~1.44 MGD)

~1,500 GPM (~2.16 MGD)

~1,000 GPM (~1.44 MGD)

~3,000 GPM (~4.32 MGD)

~2,500 GPM (~3.60 MGD)

~2,500 GPM (~3.60 MGD)

Total ~11,500 GPM or 16.56 MGD

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EDWARD SQUIRES
968
4-20-2015
STATE OF IDAHO

Calibrated borehole geophysics conducted by K. Newbry of Hydro Logic, Inc., on November 18th, 2008 in the 8-inch diameter, mud-filled, direct mud-rotary drilled #28 Monitoring Well bore, immediately after removal of the drill steel. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

Hydro Logic, Inc.
Boise, Idaho

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Figure 37.

City of Meridian #28 Monitoring Well
Aquifer Designations and Properties
September 22, 2009

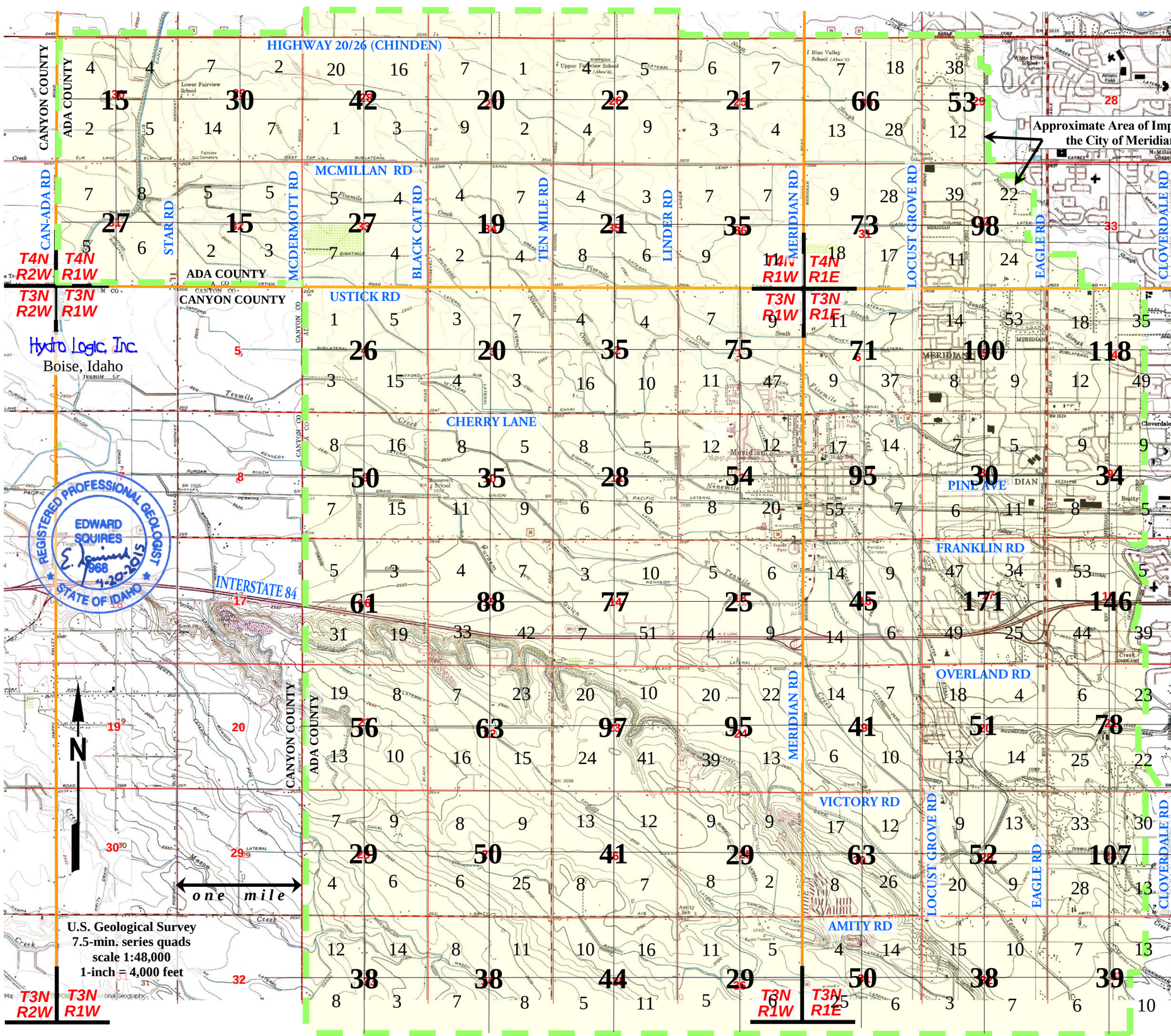

Figure 38. Number of Wells by Section and Quarter Section in the Meridian Area of Impact

There are approximately 3096 wells located within the Meridian Area of Impact as shown. There is one small area to the north off the map boundary encompassing about 2.5 square miles and it would include an additional 75 wells. There is one small area to the south off the map boundary encompassing about 5 square miles and it would include an additional 97 wells.

The total number of wells in each Section is shown by the larger numerals at the center of each Section and it includes wells with incomplete quarter-quarter locational information. The number of wells within each Quarter-Section is indicated by the smaller numerals on the grid. Data were derived from the Idaho Department of Water Resources microfiche and hard copy Driller's Report files from the Western Regional Office and the IDWR on-line database as of August 2012. Some wells may be missing and others may be mislocated.

Township and range boundaries are denoted in orange, and the approximate boundary of the proposed Area of impact is dashed green.

Figure 38.

TABLES

Table 1. Numbers of Wells by Location, Decade of Construction, Depth, and Use Inside the Proposed West Ada Area of Drilling Concern

Location			Number of Wells in Section	Number of Wells by Depth Intervals in Section						Number of Wells Abandoned	Domestic Use/ Other Uses*		Decade of Construction							
T	R	Sec		≥150	151'-200'	201'-300'	301'-400'	401'+	??		Dom.	All Others	50's	60's	70's	80's	90's	00's	10's	??
2N	1E	4	35	2	5	8	17	1	2	0	32	3	0	2	3	4	6	19	1	0
2N	1E	5	27	5	3	14	1	2	2	0	20	7	0	0	5	2	10	6	2	2
2N	1E	6	30	5	12	11	1	0	1	0	28	2	1	1	5	7	7	8	0	1
2N	1E	8	29	5	11	11	1	0	1	0	28	1	0	3	7	5	10	3	1	0
2N	1E	9	44	0	7	27	4	0	6	0	43	1	1	3	7	6	17	3	1	6
3N	1E	4	122	105	4	1	0	0	12	0	117	5	0	11	46	7	13	25	10	10
3N	1E	5	91	74	11	1	0	0	5	1	78	13	1	6	45	7	15	10	1	6
3N	1E	6	74	53	1	1	2	4	13	0	57	17	5	14	13	10	6	18	6	2
3N	1E	7	99	84	1	1	4	1	8	2	38	61	2	10	9	6	22	41	8	1
3N	1E	8	33	19	4	3	1	4	2	1	21	12	0	6	7	4	6	6	4	0
3N	1E	9	35	27	2	0	1	1	4	1	27	8	4	4	9	6	5	3	1	3
3N	1E	16	146	134	2	2	0	3	5	2	135	11	1	31	40	6	17	46	2	3
3N	1E	17	171	126	27	7	1	0	10	0	163	8	0	16	92	20	21	16	1	5
3N	1E	18	51	32	4	3	0	4	8	0	37	14	2	9	9	2	12	6	5	6
3N	1E	19	43	25	5	3	0	4	6	0	37	6	1	5	17	3	7	6	2	2
3N	1E	20	51	23	13	7	0	2	6	0	40	11	0	1	19	3	14	13	0	1
3N	1E	21	81	60	5	5	0	1	10	0	70	11	1	9	22	7	19	8	3	12
3N	1E	28	114	65	38	2	0	0	9	0	111	3	0	12	19	4	45	17	8	9
3N	1E	29	52	29	7	11	1	1	3	0	46	6	1	5	11	4	9	18	1	3
3N	1E	30	66	32	9	12	3	0	10	0	62	4	1	5	21	5	16	9	3	6
3N	1E	31	51	6	6	28	6	0	5	1	47	4	1	6	6	5	6	23	2	2
3N	1E	32	40	14	9	10	3	3	1	0	34	6	1	4	8	6	10	7	3	1
3N	1E	33	39	27	2	5	0	0	5	0	35	4	1	4	17	3	5	8	0	1
3N	1W	1	77	34	5	2	2	2	32	1	33	44	1	7	13	6	2	42	4	2
3N	1W	2	35	17	3	3	2	5	5	1	17	18	0	3	3	4	14	6	1	4
3N	1W	3	23	7	3	3	2	2	6	1	19	4	2	0	5	1	7	3	1	4
3N	1W	4	26	17	3	2	0	1	3	0	22	4	0	1	11	2	5	5	0	2
3N	1W	9	50	37	9	2	1	0	1	0	47	3	1	1	24	6	8	4	2	4
3N	1W	10	42	21	4	4	2	1	10	0	38	4	2	4	13	2	6	8	0	7
3N	1W	11	36	20	4	3	0	1	8	3	28	8	0	3	7	3	5	11	4	3
3N	1W	12	54	38	4	5	0	4	3	0	27	27	0	10	10	5	16	7	0	6
3N	1W	13	29	19	2	1	0	0	7	0	23	6	0	4	10	2	4	1	5	3
3N	1W	14	79	69	4	3	1	0	2	0	78	1	0	5	56	0	9	5	2	2
3N	1W	15	89	33	19	19	1	1	16	1	77	12	0	3	15	10	24	34	2	1
3N	1W	16	66	12	21	22	2	0	9	0	63	3	0	5	19	9	11	11	3	8
3N	1W	21	58	5	14	31	3	0	5	0	55	3	0	0	20	3	10	18	3	4
3N	1W	22	66	3	16	34	3	1	9	0	66	0	0	3	15	6	22	9	5	6
3N	1W	23	97	17	20	48	6	1	5	0	95	2	0	7	28	3	42	14	0	3
3N	1W	24	97	41	20	23	2	0	11	1	83	14	0	8	27	13	11	33	0	5
3N	1W	25	30	6	2	12	3	2	5	0	20	10	1	4	4	3	11	3	1	3
3N	1W	26	44	3	13	22	3	0	3	0	43	1	1	3	11	2	10	11	3	3
3N	1W	27	50	4	17	26	2	0	1	0	50	0	0	0	7	7	9	25	0	2
3N	1W	28	28	6	9	10	0	1	2	0	23	5	0	1	10	4	5	7	1	0
3N	1W	33	38	25	8	1	0	0	4	0	35	3	0	2	7	4	9	10	1	5
3N	1W	34	34	14	10	6	0	1	3	0	31	3	0	4	5	7	9	5	0	4
3N	1W	35	44	4	15	21	2	0	2	0	44	0	0	3	6	2	23	7	0	3
3N	1W	36	29	2	1	17	7	0	2	0	29	0	0	3	12	3	8	1	0	2
4N	1E	29	63	47	7	5	0	0	4	0	60	3	1	7	12	6	20	12	3	2
4N	1E	30	67	46	10	5	0	3	3	1	56	11	0	3	4	7	34	16	2	1
4N	1E	31	77	52	4	4	1	1	15	3	61	16	2	7	25	8	12	14	6	3
4N	1E	32	99	79	12	1	0	3	4	0	88	11	1	5	41	6	22	20	2	2
4N	1W	21	11	4	4	3	0	0	0	0	10	1	0	0	3	1	5	1	1	0
4N	1W	22	22	9	6	4	0	0	3	0	12	10	0	0	2	0	5	12	2	1
4N	1W	23	54	30	10	6	2	0	6	0	39	15	1	1	7	6	23	8	5	3
4N	1W	25	21	11	6	0	0	0	4	1	14	7	0	1	6	3	2	7	0	2
4N	1W	26	25	11	3	6	0	1	4	1	18	7	1	1	3	2	7	8	3	0
4N	1W	27	21	14	3	2	0	1	1	0	18	3	0	0	6	2	10	1	1	1
4N	1W	28	42	30	3	5	0	0	4	0	37	5	0	2	9	1	17	9	3	1
4N	1W	29	33	9	9	5	1	3	6	0	32	1	0	1	5	1	4	17	3	2
4N	1W	30	15	7	0	5	0	2	1	0	11	4	0	0	5	1	7	1	0	1
4N	1W	31	29	11	2	7	2	4	3	0	24	5	0	4	8	7	2	4	1	3
4N	1W	32	15	8	0	3	2	2	0	0	12	3	0	2	3	2	5	3	0	0
4N	1W	33	28	21	0	1	2	2	2	0	24	4	0	1	14	4	4	3	1	1
4N	1W	34	19	11	2	2	1	0	3	0	15	4	0	0	5	3	4	6	0	1
4N	1W	35	21	12	5	1	1	0	2	1	19	2	0	5	3	3	5	4	0	1
4N	1W	36	36	20	3	3	0	2	8	2	28	8	0	3	9	1	6	11	3	3
TOTALS			3,443	1,838	503	561	102	78	361	25	2,930	513	38	294	945	303	772	756	139	196
				≥150	151'-200'	201'-300'	301'-400'	401'+	??	total abandoned	total domestic	total all other	50's	60's	70's	80's	90's	00's	10's	??

Selected well data was obtained from the IDWR's Well Driller's Reports Database (on internet website) for wells inside the proposed West Ada Area of Drilling Concern (WAADC) and tabulated. Table is updated from internet database through December 31, 2014. Sixty-eight percent of all wells (2,341 wells out of 3,443 total wells) drilled inside the proposed WAADC are 200 feet deep or less. Seventy nine percent of all wells (2,721 wells out of 3,443 total wells) drilled inside the proposed WAADC are 250 feet deep or less. Table also shows how many wells were constructed during each decade, how many wells have been abandoned by section, and the general depth of the wells drilled. Eighty percent of the wells are for domestic use compared to 20 percent for all other usesincluding commercial, irrigation, municipal, monitoring, stock water, injection, and heating loop uses. Questionmarks indicate missing data on the Well Driller's Reports.

Hydro Logic, Inc.
Boise, Idaho

Table 1.

Table 2 – Radiological Constituents Dissolved in the Ground Waters of the Meridian Heights Subdivision Wells

Well	Date	Gross Alpha (µg/L)	Gross Alpha (pCi/L) MCL = 15	Uranium (µg/L) MCL = 30	Uranium (pCi/L)
Well #1 (Harris Street)	8/23/1994			59.0	
screened interval = 189'-to-219' bgl	5/23/2003		23.7		
	11/17/2003		27.8		
	2/23/2004		30.5		
	6/22/2004		52.0		
	12/14/2004		83.0		
	3/2/2005		40.0		
	7/6/2005	66.9 ± 16.9			
	8/1/2005			18.0	18.0
	10/12/2005			12.0	12.0
samples taken during aquifer testing by HLI	11/28/2005		42.3 ± 1.2	38.0	38.0
	11/30/2005		32.4 ± 1.0	58.0	58.0
	12/2/2005		39.9 ± 1.2	51.0	51.0
Well #2 (Winnipeg)	6/23/1994		42.9		
screened interval = 195'-to-288' bgl	8/22/1994		55.3		
	11/8/1994		46.6		
	1/18/1995		39.7		
	8/17/1995		84.5		
	11/28/1995		91.7		
	3/21/2005	35.1 ± 9.6		40.0	
	4/11/2005	36.3 ± 13.9		55.0	
	8/1/2005		48.0	48.0	
	10/12/2005		46.0	46.0	
	11/30/2005		32.4 ± 1.0	58.0	58.0
Well #3-A (Kentucky Ridge)	8/17/1995			73.0	
screened interval = 260'-to-280' bgl	2/22/1996			96.0	
	5/23/2003				42.7
	11/17/2003				63.0
	1/14/2004				63.6
	6/22/2004				93.0
	12/14/2004				75.0
	1/20/2005	98.8 ± 33.2			
	4/14/2005	33.5 ± 11.5		78.0	
	7/6/2005	63.0 ± 18.3		85.0	85.0
	10/12/2005			80.0	80.0
	12/2/2005			51.0	51.0
Well #3-B (Kentucky Ridge)	8/11/2009		-2 ± 2.7	<1	<0.7
(replacement well by HLI)					
screened interval = 478'-to-528'bgl					

Analytical laboratory results for radiological constituents in the ground water of the four Meridian Heights public drinking water supply wells. The shallower wells completed between 189-and-280 feet below land surface show elevated radionuclides but the deeper newest well completed between 478-and-528 feet below land surface (and sealed from the overlying aquifer units with a grout annular seal) shows very low levels of radionuclides. Dissolved concentrations in the shallower wells are highly variable as a result of commingling of ground waters of different chemistry outside the well casing within the unsealed annular space of these drill-and-drive wells. See text for details.

Table 3. - Geochemistry Differences Between Meridian Supply Well #8 vs. #21 Monitoring Well
(wells are located 73-feet apart)

Analytes (mg/L unless noted)	**Supply Well #8** (399'-to-467' bgl)	**#21 Monitoring Well** (837'-to-897' bgl)
Date Sampled	**2-3-1997**	**1-13-1999**
Alkalinity (as $CaCO_3$)	250.0	75.2
Aluminum (total)	0.14	<0.01
Ammonia (as N)	<0.05	<0.05
Calcium (as $CaCO_3$)	339.0	15.6
Chloride	42.2	2.12
Conductivity (µS)	1,020.0	173.0
Corrosivity (Langlier index)	-0.13	-0.51
Fluoride	0.14	0.36
Hardness (as $CaCO_3$)	416.0	50.3
Iron (total)	0.02	0.05
Magnesium	25.8	2.75
Manganese (total)	<0.01	0.10
Nitrate (as N)	2.08	<0.10
pH (S.U.)	7.25	7.90
Potassium	2.96	1.68
Silica (as SiO_2)	38.3	37.7
Sodium	64.5	16.0
Sulfate	226.0	8.05
Sulfide	<0.05	<0.05
Total Dissolved Solids	695.0	138.0

Table of analytical laboratory results showing widely divergent ground water geochemistry in two wells located just 73 feet apart but completed to different depths of the aquifer system. By way of examples, the total dissolved solids content of the deeper well water is 20 percent of the shallower well concentration. Similarly, the dissolved chloride concentration of the deeper sealed well is only 5 percent of the chloride in the shallower well; a very large difference. See text for details and Figures 15 and 16 for cross-sectional sketches of well construction.

Table 4 – Measured Grout Slurry Volumes Needed to Fill the Outside Annular Space of Studied Drill-and-Drive Wells During Well Abandonment

WELL NAME	GROUT VOLUME	EXTRA GROUT REQUIRED
Meridian Heights Well #3-A (abandoned 2-4-2010) *(casing diameter = 8-inch; completion depth = 285-feet)*		
Calculated volume of drive-shoe annulus[1] = Actual pumped volume of grout during abandonment[2] = Volume of grout pumped outside casing [3] =	0.95 cubic yards 10.94 cubic yards 9.99 cubic yards over	10 times the annular volume
Dairyman's Creamery Well #1 (abandoned 3-29-2007) *(casing diameter = 4-inch; completion depth ≥ 310-feet)*		
Calculated volume of drive-shoe annulus[1] = Actual pumped volume of grout during abandonment[2] = Volume of grout pumped outside casing [3] =	0.30 cubic yards 7.00 cubic yards 6.70 cubic yards over	22 times the annular volume
Dairyman's Creamery Well #2 (abandoned 4-17-2007) *(casing diameter = 8-inch; completion depth ≥ 345-feet)*		
Calculated volume of drive-shoe annulus[1] = Actual pumped volume of grout during abandonment[2] = Volume of grout pumped outside casing [3] =	1.29 cubic yards 36.70 cubic yards 35.41 cubic yards over	27 times the annular volume
Dairyman's Creamery Well #3 (abandoned 4-24-2007) *(casing diameter = 10-inch; completion depth ≥ 276-feet)*		
Calculated volume of drive-shoe annulus[1] = Actual pumped volume of grout during abandonment[2] = Volume of grout pumped outside casing [3] =	1.06 cubic yards 107.56 cubic yards 106.50 cubic yards over	100 times the annular volume
Dairyman's Creamery Well #4 (abandoned 4-12-2007) *(casing diameter 12-inch; completion depth ≥ 406-feet)*		
Calculated volume of drive-shoe annulus[1] = Actual pumped volume of grout during abandonment[2] = Volume of grout pumped outside casing [3] =	2.03 cubic yards 86.00 cubic yards 83.97 cubic yards over	41 times the annular volume
WWTP domestic well (abandoned 12-4-2003) *(casing diameter 8-inch; completion depth = 195-feet)*		
Calculated volume of drive-shoe annulus[1] = Actual pumped volume of grout during abandonment[2] = Volume of grout pumped outside casing [3] =	0.72 cubic yards 7.08 cubic yards 6.36 cubic yards over	9 times the annular volume
Sutherland Farms domestic well (abandoned 5-3-2006) *(casing diameter = 6-inch; completion depth = 202-feet)*		
Calculated volume of drive-shoe annulus[1] = Actual pumped volume of grout during abandonment[2] = Volume of grout pumped outside casing [3] =	0.44 cubic yards 5.33 cubic yards 4.89 cubic yards over	11 times the annular volume

[1] Volume of space created by the drive shoe between the outside wall of the casing and the borehole wall (a calculated number representing the minimum possible annular space).
[2] Total volume of pumped grout used to fill casing and annular spaces outside casing (measured in the field).
[3] Volume of casing subtracted from total volume pumped to show only grout volume forced outside of casing.

Table 4. Air-rotary and cable-tool (drill and drive) wells that were originally constructed with no more than a minimum annular casing seal (18 feet) but that were later abandoned using perforate-and-pressure grout techniques designed and inspected by Hydro Logic, Inc. hydrogeologists. These wells comprise a wide spectrum of depths and diameters including municipal, commercial, and domestic wells. In all cases, the grout volumes required to fill the annular space left outside the casings during drilling were many times the calculated annulus that would be provided by the oversize drive shoe. In essence, these wells were not sealed outside the casings and allowed waste and contamination by commingling ground waters of differing pressure head and chemistry. For each of these well abandonments, HLI geologists were on-site to observe and document the casing perforations and grout-pumping operations including borehole geophysical logs and underwater camera inspections. While a concerted effort was made to document these abandonments, HLI has found that all abandonments of drill-and-drive wells in the proposed WAADC require similar quantities of grout to seal the annular spaces outside casings and, often, grout ultimately squirts out at land surface around the casings. See text and figures for details.

Table 5. – Annular Installed Seal Length in Domestic Wells Drilled Within the Proposed WAADC Since IDWR's Implementation of the 38-foot Minimum Surface Seal Depth in July, 2010 vs. Total Well Depth

Seal Depth (feet)	**Total Depth** (feet)	**Non-sealed Length** (feet)	**% Well Sealed**	**% Well Unsealed**	**IDWR Well Tag Number**
43	76	33	57%	43%	D0057802
39	79	40	49%	51%	D0063780
42	86	44	49%	51%	D0060385
38	86	48	44%	56%	D0066264
42	91	49	46%	54%	D0067585
43	100	57	43%	57%	D0066378
39	118	79	33%	67%	D0064193
40	118	78	34%	66%	D0064833
50	118	68	42%	58%	D0063862
43	120	77	36%	64%	D0063624
42	122	80	34%	66%	D0057978
56	123	67	46%	54%	D0067281
43	126	83	34%	66%	D0064366
44	132	88	33%	67%	D0067419
40	134	94	30%	70%	D0066291
42	135	93	31%	69%	D0066088
38	140	102	27%	73%	D0063693
50	140	90	36%	64%	D0063960
42	145	103	29%	71%	D0064361
41	148	107	28%	72%	D0066341
52	151	99	34%	66%	D0063805
42	157	115	27%	73%	D0067370
40	158	118	25%	75%	D0066102
45	161	116	28%	72%	D0066087
138	170	32	81%	19%	D0059172
38	175	137	22%	78%	D0060386
42	177	135	24%	76%	D0064362
31	191	160	16%	84%	D0064402
51	202	151	25%	75%	D0064009
38	203	165	19%	81%	D0058946
38	210	172	18%	82%	D0063838
42	213	171	20%	80%	D0064096
59	234	175	25%	75%	D0042588
45	242	197	19%	81%	D0064862
56	243	187	23%	77%	D0057846
46	250	204	18%	82%	D0063930
50	250	200	20%	80%	D0067271
39	254	215	15%	85%	D0060073
38	259	221	15%	85%	D0067420
42	259	217	16%	84%	D0066179
40	277	237	14%	86%	D0067262
47	321	274	15%	85%	D0067342
38	331	293	11%	89%	D0066198
	119				D0067446

Table 5. Surface seal depths of the 43 domestic well casings drilled within the proposed WAADC since the July 2010 drilling rule change requiring a minimum 38-foot casing seal. The table shows the length of the installed seal versus the length of the remaining unsealed well casing. On average, current drilling practices in this area have resulted in only 30% of the well casing (and drilled geologic section) being sealed in these relatively shallow (average depth = 175 feet) domestic wells. In other words over 70 of the drilled depth remains unsealed.

Table 6 - An Air-Rotary Drilled Domestic Well Generally Costs About 66% Less Than A Mud-Rotary Drilled Domestic Well.

June 11, 2015

Cost Estimate of a Mud-Rotary Drilled Domestic Well to 200 Feet
(with *6-inch SDR17 PVC casing* and 10 feet of exposed stainless steel screen)

Item Description	Units	Quantity	Unit Price	Amount
Mobilization	LS	1	$ 3,000.00	$ 3,000.00
Permit / Well Cap	LS	1	$ 150.00	$ 150.00
Surface Seal to 38-Feet (Not Needed Due to Full-Depth Seal)	LS	0	$ -	$ -
12" Diameter Drilled Borehole	LF	200	$ 60.00	$ 12,000.00
6" x 0.250" Wall Steel Casing Installed on top of PVC	LF	20	$ 20.00	$ 400.00
6" SDR17 PVC Casing Installed	LF	170	$ 20.00	$ 3,400.00
Cement Seal (Full-Depth Seal)	LF	185	$ 14.00	$ 2,590.00
6" Diameter Stainless Steel Well Screen	LF	10	$ 170.00	$ 1,700.00
Graded Sand Filter	LF	15	$ 13.00	$ 195.00
Well Development	HR	3	$ 150.00	$ 450.00
	TOTAL AMOUNT			**$ 23,885.00**

Cost Estimate of a Mud-Rotary Drilled Domestic Well to 200 Feet
(with *6-inch low-carbon steel casing* and 10 feet of exposed stainless steel screen)

Item Description	Units	Quantity	Unit Price	Amount
Mobilization	LS	1	$ 3,000.00	$ 3,000.00
Permit / Well Cap	LS	1	$ 150.00	$ 150.00
Surface Seal to 38-Feet (Not Needed Due to Full-Depth Seal)	LS	0	$ -	$ -
12" Diameter Drilled Borehole	LF	200	$ 60.00	$ 12,000.00
6" x 0.250" Wall Steel Casing Installed on top of PVC (not needed)	LF	0	$ -	$ -
6" x 0.250" Wall Steel Casing Installed	LF	190	$ 20.00	$ 3,800.00
Bentonite Chip Seal (Full-Depth Seal)	LF	185	$ 14.00	$ 2,590.00
5" (6" Telescope) Diameter Stainless Steel Well Screen	LF	10	$ 150.00	$ 1,500.00
Graded Sand Filter	LF	15	$ 13.00	$ 195.00
Well Development	HR	3	$ 150.00	$ 450.00
	TOTAL AMOUNT			**$ 23,685.00**

Cost Estimate of an Air-Rotary Drilled Domestic Well to 200 Feet
(with *6-inch low-carbon steel casing* and 10 feet of exposed stainless steel screen)

Item Description	Units	Quantity	Unit Price	Amount
Mobilization	LS	1	$ -	$ -
Permit / Drive-Shoe / Well Cap	LS	1	$ 225.00	$ 225.00
Surface Seal to 38-Feet (Required by IDWR; includes 6" casing)	LS	1	$ 1,500.00	$ 1,500.00
6" x 0.250" Wall Steel Casing Installed on top of PVC (not needed)	LF	0	$ -	$ -
6" x 0.250" Wall Steel Casing Installed (includes Drill-and-Drive)	LF	152	$ 30.00	$ 4,560.00
Bentonite Chip Seal (Below Gravel)	LS	0	$ 1,000.00	$ -
5" (6" Telescope) Diameter SS Well Screen (Installed)	LF	10	$ 150.00	$ 1,500.00
Graded Sand Filter (not installed)	LS	0	$ -	$ -
Well Development	HR	2	$ 150.00	$ 300.00
	TOTAL AMOUNT			**$ 8,085.00**

Table 6- Comparitive costs of air-rotary versus direct mud-rotary domestic wells in the Treasure Valley. While mud-rotary methods are significantly more expensive than air-rotary, mud-rotary-drilled wells are able to be sealed outside the well casing and do not impart large voids and cavities outside the well casing that serve as conduits for present and future ground water water contamination to migrate between aquifers. Indeed, the less expensive air-rotary methods, promote degradation of ground water quality and should not be allowed in hydrogeologic environments such as the proposed West Ada Area of Drilling Concern in the upper Treasure Valley, Idaho.

Table 7 - Tabulated Information from IDWR Well Driller's Reports for Wells within the Meridian Area of Impact

Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
PENNIE, MART	Domestic	02N	01E	4	SENW						0	116	196			4/17/1969	828123	
CARBINE, JAMES	Domestic	02N	01E	4	SWNW						0	116	197			8/6/1971	829360	
ROBERTSON, JAY, ROBERTSON, MARILYN	Domestic	02N	01E	4	NWNW		3315 E LAKE HAZEL				100	85	198	187	6	2/23/1993	726744	
GIBSON, JERRY A	Domestic	02N	01E	4	SESW						100	116	221	218	6	6/8/1989	723000	
CLUNE, MIKE	Domestic	02N	01E	4	SESW		3606 E COLUMBIA RD		1	1	0	0	231			10/2/1992	726146	
HILL, TERRY	Domestic	02N	01E	4	SWSW		COLUMBIA ROAD		1	2	75	130	250	244	6	7/2/1992	725839	
SKOGSBERG, JEFF	Domestic	02N	01E	4	SWSW		3340 E COLUMBIA		3	1	30	130	253	252	6	9/7/1994	728555	
STEVE HANSON CONSTRUCTION	Domestic	02N	01E	4	SENW		3765 VANTAGE POINT	VANTAGE POINT	1	17	60	127	301	-296	6	12/13/2000	767667	D0015924
MORTENSON CONSTRUCTION	Domestic	02N	01E	4	NESW		3727 E VANTAGE POINTE	VANTAGE POINTE			100	130	303	297	6	4/30/2002	776619	D0019746
CORRIGAN, ERNIE	Domestic	02N	01E	4	SENW		3994 EAST VANTAGE POINT				100	145	307	297	6	5/23/2002	777348	D0019850
LONG, BILL	Domestic	02N	01E	4	SENW		3842 VANTAGE POINT LN	VANTAGE	1	9	100	162	307	297	6	12/23/2003	809931	D0030776
LOWERY, BRIAN	Domestic	02N	01E	4	SENW		3841 E VANTAGE POINT LN	VANTAGE POINT	1	16	100	139	309	299	6	6/11/2004	816330	D0031474
ARNOLD, STEVE	Domestic	02N	01E	4	SENW		3766 E BANTAGE POINT LN				100	162	313	303	6	10/22/2003	807929	D0030569
HOSELEY, CHET	Domestic	02N	01E	4	NESW		3487 E ADLERHOE LANE				100	160	315	305	6	5/3/2002	776679	D0019844
BENNETT, ROBERT	Domestic	02N	01E	4	NESW		3656 Vantage Point Lane				50	137	328	320	6	10/26/2001	772205	d0019281
ROSE, RYAN	Domestic	02N	01E	4	SENW		3880 E VANTAGE POINT LN	VANTAGE POINT	1	10	100	140	330	320	6	3/26/2005	831715	D0038687
SIECKERT, JACK	Domestic	02N	01E	4	NESW		3689 E VANTAGE POINTE LANE	BANTAGE POINTE	1	19	100	130	332	326	6	4/8/2002	776014	D0019622
WESTROCK HOMES INC	Domestic	02N	01E	4	NESW		3956 E VANTAGE POINTE	VANTAGE POINTE	1	12	75	134	338	330	6	3/10/2004	811286	D0030964
TAYLOR, TIM	Domestic	02N	01E	4	NESW		LANE	VANTAGE POINT SUBDIVISION	1	14	100	125	339	-335	8	2/24/2000	763308	D0012619
CASE, STEVE	Domestic	02N	01E	4	NESW		3652 E VANTAGE POINT LANE	VANTAGE POINT	1	4	30	131	339	327	6	7/14/2001	769866	D0018568
SHAWN WHITEHEAD CONSTRUCTION	Domestic	02N	01E	4	NESW		3917 E VANTAGE POINT	VANTAGE POINT	1	15	100	138	352	345	6	9/13/2004	824238	D0031996
FISHER, THAN	Domestic	02N	01E	4	NESW		3690 E VANTAGE POINTE LN	VANTAGE POINTE	1	5	70	138	360	353	6	3/30/2006	838683	D0042572
SCHRUEDER ENTERPRISES	Domestic	02N	01E	4	NESW		E VANTAGE POINTE LANE	VANTAGE POINTE	1	11	150	140	361	360	6	3/10/2003	794007	D0029128
MC KAY, L DARWIN	Irrigation	02N	01E	4	NWSW		Mile to W. Side of Canal Bank				500	140	487	487	10	4/25/2001	768309	D0020127
HOSSLEY, CHET	Irrigation	02N	01E	4	SENW		7020 S EAGLE ROAD					135	ab	146	12	3/28/2002	775998	
HODGES, GARY E, HODGES, INEZ E	Domestic	02N	01E	5	NWNE		SAME AS ABOVE				0	0	0				726406	
EDMONDS, WIRT	Domestic	02N	01E	5	NWNW						0	74	77			10/25/1972	832431	
INDIAN CREEK PROPERTY DEVELOPMENT	Monitoring	02N	01E	5	SESESE		YOURK CANAL	WELL #1			42	14	82	62	4	2/13/2006	838377	D0042335
INDIAN CREEK PROPERTY DEVELOPMENT	Monitoring	02N	01E	5	NWSESE		LOCUST LN & GREENHURST RD	WELL #2			60	22	98	88	4	2/14/2006	838378	D0042336
PETERS, LESS	Domestic	02N	01E	5	SWNE			CAROL #2	2	17	20	30	107			1/18/1978	782294	
LEBEAU, DAN	Domestic	02N	01E	5	SENE		615 W RUSH				30	50	133	127	6	8/19/1992	725987	
REFRIGERATE INC	Domestic	02N	01E	5	SWSW						0	26	160			4/22/1971	828350	
HAGLER, TED	Domestic	02N	01E	5	NWSW		LOCUST GROVE			1	0	110	193	190	6	3/18/1992	725417	
GEARHART, WAYNE	Domestic	02N	01E	5	SWSE						25	128	196	196	6	3/17/1992	725444	
WALKER, EUGENE	Domestic	02N	01E	5	SESW						20	138	202			9/1/1972	822583	
LEWIS, ALBERT	Domestic	02N	01E	5	SWSW						15	123	212			11/17/1972	807443	
MURGOITIO, GARY	Domestic	02N	01E	5	NENE						60	95	216			7/7/1986	779560	
SHOEMAKER, JAMES FRANKLIN	Domestic	02N	01E	5	SWSE		7900 SHOEMAKER LN				50	132	218	212	6	2/27/1993	726772	
RADLER, FRANK R	Irrigation	02N	01E	5	NWNE						300	100	225	201	12	7/21/1992	725518	
HODGES, GARY E	Domestic	02N	01E	5	NWNE		2625 LAKE HAZEL RD				100	125	235	230	6	4/7/1993	726896	
SMITH, TERRELL	Domestic	02N	01E	5	SESE						0	120	238			3/10/1982	844118	
BROWN, CRAIG	Domestic	02N	01E	5	SWNWSW		7524 LOCUST GROVE		1	3	75	130	242	236	6	4/6/1994	728113	
LETE, ELIAS, AMUCHASTEGEY, JOE	Domestic	02N	01E	5	SWSW		7865 GEARHART				75	130	245	243	6	6/17/1992	725800	
ROSENBAUM, LOWEL	Domestic	02N	01E	5	SESW		7920 GEARHARD LN	LOT 1, PART OF LOT 4, TAMARACK RIDGE SUB	1	1	50	130	251	239	6	9/16/1992	726109	
ROSENBAUM, LOWEL	Domestic	02N	01E	5	SESW		7920 GEARHARD LN	LOT 1, PART OF LOT 4, TAMARACK RIDGE SUB	1	1	50	130	251	239	6	7/13/2006	843154	D0046900
LA VELLE, BOB	Domestic	02N	01E	5	NESE		7365 S EAGLE RD				75	130	261	249	6	3/30/2001	768393	D0018119
JOHNSON, GREGORY B, SPRING HILL LLC	Irrigation	02N	01E	5	NENENW	3	LAKE HAZEL RD					100	275		10	9/16/1992	725519	
JOHNSON, GREGORY B, SPRING HILL LLC	Irrigation	02N	01E	5	NENENW	3	LAKE HAZEL RD					100	275		10	2/13/2008	850612	
MC KAY, D J	Domestic	02N	01E	5	NENE						0	0	300				722465	
JOHNSON, GREGORY B	Irrigation	02N	01E	5	NWNWNE		PROPERTY E OF 2385 E LAKE HAZEL				500	115	442	362	10	6/28/2007	847199	D0048145
MASON, KEN	Heat Pump	02N	01E	6	SESW		7884 TRANQUILITY	Tranquility Est	1	7	20	55	69	68	6	2/6/2004	810680	D0030911
WARD, CHARLES	Domestic	02N	01E	6	SESW						0	58	103			5/4/1987	785594	
JANSSON, PAUL	Domestic	02N	01E	6	SESW						100	62	120	120	6	8/3/1988	722583	
HOWERTON, KENNETH E	Domestic	02N	01E	6	SESE						0	2	127			12/31/9999	789857	
OAKRIDGE CONSTRUCTION	Domestic	02N	01E	6	SESW		7837 TRANQUILITY LN	TRANQUIL ESTATES	1	3	50	65	137	137	6	2/18/2004	810821	D0030998
OAK RIDGE ENTERPRISES	Domestic	02N	01E	6	SESW		7838 S TRANQUILITY LN	TRANQUIL ESTATES	1	6	40	75	156	156	6	7/25/2006	843112	D0046901
MASEN, KEN	Domestic	02N	01E	6	SESW		7884 TRANQUILITY LN	TRANQUIL	1	7	75	54	160	47	6	9/22/2003	806953	D0030442
COPPLE, BUZ	Domestic	02N	01E	6	SWSW		7910 MERIDIAN RD				30	51	172	159	6	8/11/1997	731429	D0001094
OAK RIDGE ENTERPRISES	Domestic	02N	01E	6	SESW		7976 TRANQUILITY LN	TRANQUIL ESTATES	1	9	60	70	172	172	6	6/24/2005	833927	D0039316
BEESON, ROBERT	Domestic	02N	01E	6	NENE						15	103	172			2/18/1983	844060	
MC CONAUGHEY, GLEN E	Domestic	02N	01E	6	SWSW						60	75	175	175	6	11/28/1991	724907	
MILLER, GEORGE	Domestic	02N	01E	6	SWNW						9999	106	175			8/20/1982	808754	
MASON, KEN	Domestic	02N	01E	6	SESW		7883 TRANQUILITY LN	TRANQUIL EST	1	2	65	65	181	181	6	2/11/2004	810753	D0030967
OAK RIDGE ENTERPRISES	Domestic	02N	01E	6	SESW		7930 TRANQUILITY LN	TRANQUIL ESTATES	1	8	35	70	192	192	6	6/10/2005	833866	D0039315
MC GINNIS, DARLENE	Domestic	02N	01E	6	NWNW		7370 S MERIDIAN RD				20	130	197	193	6	10/9/1992	726177	

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BROWN , KARL	Domestic	02N	01E	6	NWNW						20	90	197			1/20/1974	810663	
BALLS, MORRIS	Domestic	02N	01E	6	SESE						0	115	200			10/15/1973	812218	
HINKLE, VERN	Domestic	02N	01E	6	SESE						300	83	205			8/4/1957	855276	
PORTER, ERIN SHANE	Domestic	02N	01E	6	SWNWSW	6	7600 S MERIDIAN RD				50	75	218	207	6	9/12/1996	730641	
MILLER, MARVIN	Domestic	02N	01E	6	NENW		840 LAKE HAZEL				50	110	224	224	6	12/31/1990	724126	
MILLER, MARVIN	Domestic	02N	01E	6	NENW		840 LAKE HAZEL				50	110	224	224	6	12/31/1990	724127	
ASBESTOS ABATEMENT INC	Domestic	02N	01E	6	SWSW		7370 MERIDIAN ROAD					56	230	-230	6	12/4/2000	767671	
HUEN, HARRY	Domestic	02N	01E	6	SESW						9999	75	234			5/18/1972	809997	
LITTLE, DAVID	Domestic	02N	01E	6	NENE						9999	165	237			8/12/1974	818357	
LEWIS, EDWARD W	Domestic	02N	01E	6	NWSE						30	121	242	237	6	4/2/1985	722192	
BRUNO, ROBERT	Domestic	02N	01E	6	NENE		1595 VIA ROBERTON				20	105	250	232	6	6/8/1998	732189	D0000511
COOMBS, VARDA	Domestic	02N	01E	6	NWNW						25	114	256	255	6	8/9/1989	723074	
WAGONER, W J		02N	01E	6	NWSW						0	77	297			10/2/1968	828756	
JACKSON, BRENT	Domestic	02N	01E	6	SESE						0	110	297			2/29/1980	855879	
RIEMAN, ALLEN	Domestic	02N	01E	6	NWSE						15	325	375			4/5/1977	810014	
HODDGSON, KENT L	Commercial	02N	01E	8	SWNE		2590 E HUBBARD				0	0	0				725048	
WHEELER, ADEN	Domestic	02N	01E	8	NWNE						0	95	160			5/23/1984	773859	
TEN MILE GRANGE	Domestic	02N	01E	8	NENE						0	110	160			3/8/1980	845687	
KING, LILA M	Domestic	02N	01E	8	SESWNE						10	76	165			7/13/1963	855273	
WHEELER, TED E	Domestic	02N	01E	8	SWNE						9999	105	176			12/14/1979	808254	
WHEELER, AMY L, WHEELER, ADEN	Domestic	02N	01E	8	NESENE		8385 S EAGLE RD				30	125	203	198	6	12/7/2010	860449	D0058946
SHOEMAKER, JAMES FRANKLIN	Domestic	02N	01E	8	SWNENE						20	123	236			1/9/1992	788966	
DAVIS, EARL	Domestic	02N	01E	8	SWNE						800	90	260			4/17/1964	855272	
WOODS, DICK	Domestic	02N	01E	8	SESWNE						10	120	260			7/14/1962	855275	
PAPE, L A	Domestic	02N	01E	8	SWNE						0	33	278			10/18/1972	831390	
SCHLECKTER, BOB	Domestic	02N	01E	8	SENE		8425 S EAGLE				30	140	285	276	6	5/18/1996	730344	
CAMPBELL, MARK, CAMPBELL, RITA	Domestic	02N	01E	8	SENE		EAST HUBBARD ROAD				25	112	331	324	6	4/10/1997	730937	
PACKHAM, SHIRLEY, PACKHAM, JOE	Domestic	02N	01E	9	SWNW						0	0	0				722404	
WHEELER, JOHN	Domestic	02N	01E	9	NWNW		8325 S EAGLE RD				0	132	198	194	6	9/10/1991	724767	
BOYD, JIM	Domestic	02N	01E	9	NENW		COLUMBIA ROAD				20	140	218	212	6	10/18/1993	727547	
LEWIS, TED	Domestic	02N	01E	9	SENW						0	125	221			6/8/1959	855271	
LEWIS, EDWARD	Domestic	02N	01E	9	SENW						20	140	222			5/21/1973	822380	
SPANGENBERG, WILLIAM G	Domestic	03N	01E	4	NENE		2909 N CLOVERDALE RD				45	36	67	67	6	9/13/2005	835938	D0041911
JORDAN, DAMON	Domestic	03N	01E	4	NENE		BRIARWOOD - CLOVERDALE	BRIAR WOOD SUB	2	8	70	30	160	-152	6	1/20/2000	763123	D0012684
BACON, THOMAS K	Domestic	03N	01E	4	NENE		12250 W BRIARWOOD				35	23	64	58	6	10/7/1999	733682	D0012112
STEVENS, GARY L	Domestic	03N	01E	4	NENE						0	20	117			6/14/1984	773711	
TOLLIVER, DORAN F	Domestic	03N	01E	4	NENE		4560 BRIARWOOD				40	20	141	141	6	1/29/1997	731106	
JENKINS, HARRY	Domestic	03N	01E	4	NENE		4680 BRIARWOOD				50	31	94	94	6	2/4/1993	726733	
JENKINS, HARRY	Domestic	03N	01E	4	NENE		4680 BRIARWOOD				50	31	94	94	6	2/4/1993	726734	
NEWCOMB, DICK	Domestic	03N	01E	4	NENE						20	35	127	121	6	2/27/1991	724102	
NEWCOMB, DICK	Domestic	03N	01E	4	NENE						20	35	127	121	6	2/27/1991	724101	
ROSENBALM, LOWELL	Domestic	03N	01E	4	NENE						0	12	98			9/21/1984	773714	
SMITH, RICHARD	Domestic	03N	01E	4	NENE						20	10	65			12/8/1974	793979	
QUINOWSKI, CHARLES	Domestic	03N	01E	4	NENE						30	9999	103			4/30/1971	827129	
JENKINS, HOWARD	Domestic	03N	01E	4	NENE						0	20	65			2/17/1971	828033	
TUDOR, RALPH	Domestic	03N	01E	4	NENE						0	6	60			10/7/1969	820861	
BUTLER, HAROLD D	Domestic	03N	01E	4	NENE			BRIERWOOD	2	9	9999	10	108			8/26/1969	813015	
JENKINS, HOWARD	Domestic	03N	01E	4	NENE						0	12	98			7/29/1969	831444	
JENKINS, HOWARD	Domestic	03N	01E	4	NENE						0	14	89			7/16/1969	821810	
JENKINS, HOWARD	Domestic	03N	01E	4	NENE						0	21	66			3/14/1969	829214	
JENKINS, HOWARD B	Domestic	03N	01E	4	NENE						0	0	96				774407	
STOUT, DAN	Domestic	03N	01E	4	NENENW		3937 E USTICK RD				75	27	86	81	6	4/20/2012	863213	D0060385
WOODS, RALPH	Domestic	03N	01E	4	NENESE						13	22	67			4/16/1974	793973	
WEATHERWAX, ANN M.	Domestic	03N	01E	4	NENESE		12454 W CLOVER MEADOWS DR	CLOOVER MEADOWS SUB	1	6	40	33	107	107	6	6/3/2010	859088	D0056055
FULLER, JACK	Domestic	03N	01E	4	NENW			CLOER MEADOWS			9999	12	75			8/14/1975	807142	
CHURCH OF JESUS CHRIST OF THE LATTER DAY SAINTS	Domestic	03N	01E	4	NENW						80	12	81			11/12/1985	818625	
SEVIG, TIM	Domestic	03N	01E	4	NENW		3070 N DUANE		2	1	150	17	133	130	6	10/29/1998	732669	D0007771
BRADDICK, WILL	Domestic	03N	01E	4	NENW		3955 E USTICK				100	35	181	172	6	7/16/2003	804808	D0029582
L D S CHURCH	Domestic	03N	01E	4	NENW						124	17	103			4/14/1973	793977	
BECK, REUBEN	Domestic	03N	01E	4	NESE						30	16	72			5/26/1977	793953	
MERRIT, JAY	Domestic	03N	01E	4	NESE		12537 CLOVER MEADOWS DRIVE				50	30	86	86	6	4/3/2002	775924	D0019808
MERRITT, JAY	Domestic	03N	01E	4	NESE		12537 W CLOVER MEADOWS DRIVE					29	0	31	6	4/16/2002	776164	
SIEBOLD, JOHN	Domestic	03N	01E	4	NESE		4475 E CLOVERDALE				30	15	77	68	6	9/1/1998	732513	D0007611

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JENKINS, HOWARD	Domestic	03N	01E	4	NESE			CHERRY MEADOW	1	4	40	4	76			12/31/9999	807116	
MOFFETT, JIM	Domestic	03N	01E	4	NESE						0	10	55			12/31/9999	811325	
JENKINS, HOWARD	Domestic	03N	01E	4	NESE						0	8	40			1/31/1976	832467	
WAYNE, WILLIAM A	Domestic	03N	01E	4	NESE						0	12	47			3/4/1971	816048	
JENKINS, HOWARD	Domestic	03N	01E	4	NESE						0	10	60			7/16/1970	830521	
JENKINS, HOWARD	Domestic	03N	01E	4	NESE						0	15	70			7/8/1970	829218	
ADA COUNTY HIGHWAY DISTRICT	Domestic	03N	01E	4	NESESE		1855 1/2 CLOVERDALE					19	63		3	6/4/2007	847128	
LOUIS, MARK	Domestic	03N	01E	4	NW						35	20	86			3/17/1977	793984	
FOFF, DEAN	Domestic	03N	01E	4	NWNE						0	22	101			12/19/1920	815296	
JENKINS, HOWARD	Domestic	03N	01E	4	NWNE						0	11	70			10/31/1968	829001	
GILLESPIE, VERNON L	Domestic	03N	01E	4	NWNE						9999	60	76			4/1/1972	793969	
ROCKY MOUNTAIN PAVING	Domestic	03N	01E	4	NWNW		3629 E USTICK	SUMMERS FUNERAL HOME				24	0	-74	6	9/15/2000	766754	
HULSE, CECIL R	Domestic	03N	01E	4	NWNW						45	10	77			9/28/1974	793974	
ADA COUNTY HIGHWAY DISTRICT	Domestic	03N	01E	4	W		3595 E USTICK RD					29	33		26	3/21/2007	846142	
ADA COUNTY HIGHWAY DISTRICT	Domestic	03N	01E	4	W		3595 E USTICK RD					28	95		6	3/21/2007	846162	
GREEN, JUNE KAY	Domestic	03N	01E	4	NWNWSE		4150 E GREENMEADOW DR	CLOVER MEADOWS SUB NO 2	1	4	20	27	90	90	6	4/29/2008	851239	D0052769
PIVA, GARY	Domestic	03N	01E	4	NWSE		4110 E GREEN MEADOW DR				25	20	91	91	6	6/17/1993	726997	
ZAROBAN, DON W, ZAROBAN, BONNIE J	Domestic	03N	01E	4	NWSE		4115 MEADOWWOOD DR		2	3	50	34	128	117	6	1/28/1993	726712	
MITTLEIDER, EMIL	Domestic	03N	01E	4	NWSE						40	30	128	149	6	1/15/1993	725239	
MORTENSEN, JERRY, MARTENSEN, JERRY	Domestic	03N	01E	4	NWSE		4045 GREEN MEADOWS DR				50	20	70	58	6	2/7/1991	724160	
POIRIER, CHAS	Domestic	03N	01E	4	NWSE						32	30	70	69	6	5/15/1989	723287	
HATCHER, JESS, PARSON, LYLE	Domestic	03N	01E	4	NWSE		4130 E MEADOW WOOD DR	CLOVER MEADOWS SUB NO 3	1	3	50	26	154	155	6	5/12/2006	839633	D0041827
JORGENSON, DEE	Domestic	03N	01E	4	NWSE						75	25	112	112	6	7/14/2001	769947	D0018666
SETZLER, JIM, SETZLER, CAROL	Domestic	03N	01E	4	NWSE		4235 E MEADOW WOOD ST				80	27	99	94	6	5/12/2004	814929	D0031332
AUTUMN LEAF OWNERS ASSN INC	Irrigation	03N	01E	4	NWSE		12361 W BOWMONT ST					25	0		8	4/26/2004	814099	
LEWIS, TED	Domestic	03N	01E	4	NWSE						0	7	49			9/19/1971	830242	
LEWIS, TED	Domestic	03N	01E	4	NWSE						0	7	39			9/9/1971	828901	
HATCHER, JESS, PARSON, LYLE	Domestic	03N	01E	4	NWSE		4130 E MEADOW WOOD DR	CLOVER MEADOWS SUB NO 3	1	3	50	26	154	155	6	10/30/1970	832464	
PETERSON, BRICE	Domestic	03N	01E	4	NWSW						0	8	80			12/31/9999	829297	
HUNEMILLER CONSTRUCTION CO	Domestic	03N	01E	4	NWSW			GRANGER			15	40	65			11/21/1975	797753	
TIKKER, ALBERT	Domestic	03N	01E	4	SE			CLOVER MEADOWS	2	3	25	6	62			8/25/1978	800507	
WOLF, VIC	Domestic	03N	01E	4	SE						20	20	85			5/16/1975	797740	
TALBOT, DEAN	Domestic	03N	01E	4	SENE						20	20	77			8/21/1975	793976	
JENKINS, HOWARD	Domestic	03N	01E	4	SENE						0	22	116			4/13/1970	820932	
JENKINS, HOWARD	Domestic	03N	01E	4	SENE						0	20	60			2/12/1971	828873	
PETERSON, BRYCE	Domestic	03N	01E	4	SENE						0	20	94			5/21/1970	821019	
JENKINS, HOWARD	Domestic	03N	01E	4	SENE						0	10	40			9/17/1968	829653	
JENKINS, HOWARD	Domestic	03N	01E	4	SENE						0	20	90			3/31/1969	829986	
AUTUMN LEAF OWNERS ASSN INC	Domestic	03N	01E	4	SENESE		12361 W BOWMONT ST				60	26	120	108	8	12/20/2003	806964	D0030531
MC MONIGLE, PAT	Domestic	03N	01E	4	SENW						0	0	0				722435	
BOLLINGER, LELAND E	Domestic	03N	01E	4	SENW		4155 MEADOW WOOD DR				50	24	118	114	6	6/17/2002	778654	D0025018
HUARD, DON	Domestic	03N	01E	4	SENW		4240 MEADOW WOOD DRIVE				60	27	94	94	6	4/12/2002	775435	D0019765
BORUP CONSTRUCTION	Domestic	03N	01E	4	SENW						50	8	70			10/25/1985	804242	
CURTIS, PAUL H	Domestic	03N	01E	4	SENW						30	30	74			1/11/1977	797743	
B & B CONSTRUCTION	Domestic	03N	01E	4	SENW						20	10	78			8/11/1977	826060	
MERIDIAN CENTERCAL LLC, SPF WATER ENGINEERING	Irrigation	03N	01E	4	SENWSW		NE OF EAGLE AND FAIRVIEW INTERSECTION				200	22	145	125	10	4/18/2012	863150	D0063636
DEVCO INC	Domestic	03N	01E	4	SESE						20	14	132			11/12/1976	793983	
ADA COUNTY HIGHWAY DISTRICT	Domestic	03N	01E	4	SESE		1809 S CLOVERDALE RD					20	80		6	6/4/2007	847126	
SHURMAN, FRED	Domestic	03N	01E	4	SESE		4340 E FAIRVIEW				75	25	59	59	6	3/1/2002	774263	D0019363
ADA COUNTY HIGHWAY DISTRICT	Domestic	03N	01E	4	SESE		1809 S CLOVERDALE RD					20	80		6	4/14/2000	763987	D0012884
DEVCO INC	Domestic	03N	01E	4	SESE						20	9	84			10/8/1975	793980	
JINKENS, HOWARD	Domestic	03N	01E	4	SESE						30	12	41			11/4/1971	827740	
LEWIS, TED	Domestic	03N	01E	4	SESE						0	15	71			6/3/1970	828765	
PAPE JR, L A	Domestic	03N	01E	4	SESE						0	16	44			4/27/1970	830094	
AMYX, JAMES M	Domestic	03N	01E	4	SESE						0	21	64			6/29/1968	829198	
ADA COUNTY HIGHWAY DISTRICT	Domestic	03N	01E	4	SESESE		1808 CLOVERDALE RD					20	50		5	6/4/2007	847127	
CENTERCAL PROPERTIES LLC	Domestic	03N	01E	4	SESW		YDS PAST EAGLE					20	0		12	9/13/2012	864421	
KLEINER BROTHERS	Irrigation	03N	01E	4	SESW						0	0	0				722744	
MARCUM, DELBERT	Domestic	03N	01E	4	SESWSE		4340 E FAIRVIEW				50	11	27	27	6	8/10/1984	722057	
CENTERCAL PROPERTIES	Domestic	03N	01E	4	SESWSW		3600 E FAIRVIEW AVE	FAIRVIEW AVE, 1/4 MILE E OF EAGLE RD ON N SIDE				24	0		3	11/30/2009	858369	
CENTERCAL PROPERTIES	Domestic	03N	01E	4	SESWSW		3600 E FAIRVIEW AVE	FAIRVIEW AVE; 1/4 MILE E OF EAGLE RD ON N SIDE				24	0		8	11/30/2009	858372	
JENKINS, HOWARD	Domestic	03N	01E	4	SWNE						1700	22	51			4/19/1971	793968	
JINKINS, HOWARD	Domestic	03N	01E	4	SWNE						32	13	47			10/28/1971	826630	
LEWIS, TED	Domestic	03N	01E	4	SWNE						0	20	44			1/12/1971	829505	
LEWIS, TED	Domestic	03N	01E	4	SWNE						30	13	48			2/18/1971	807118	
WOOD, ARCHIE	Domestic	03N	01E	4	SWNE		4036 E GRANGER				60	29	104	98	6	12/17/2001	772498	D0019515
PARK POINT DEVELOPMENT	Domestic	03N	01E	4	SWNE		CLOVERDALE	RED FEATHER SUB				30	62		6	5/18/2007	846827	
HOWIE, DAVE	Domestic	03N	01E	4	SWNENE	1					0	17	99			12/16/1969	828707	

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THE REGENCY AT RIVER VALLEY LLC	Domestic	03N	01E	4	SWNW		EAGLE RD.					25	0		8	4/11/2012	863173	
PARKER, BECKEY	Domestic	03N	01E	4	SWNW						0	0	0				722283	
CENTERCAL PROPERTIES	Monitoring	03N	01E	4	SWNWSW		EAGLE RD					17	0		8	11/17/2011	862555	
FLOYD, RANDALL T	Domestic	03N	01E	4	SWSE		9660 COLUMBIA RD				35	130	230	219	6	11/28/1993	727645	
BECHTOLD, RICHARD	Domestic	03N	01E	4	SWSE						0	20	60			10/9/1976	789873	
DEVCO INC	Domestic	03N	01E	4	SWSE				001a	12	20	10	87			7/13/1976	793982	
DEVCO INC	Domestic	03N	01E	4	SWSE						20	12	90			6/12/1976	793981	
VANDERHOEF, JOHN	Domestic	03N	01E	4	SWSE			VENTURE	1	8	30	25	57			2/20/1975	793978	
BECHTOLD, RICK	Domestic	03N	01E	4	SWSE						9999	25	60			7/3/1977	790442	
JANTZ, JOHN	Domestic	03N	01E	4	SWSE						60	16	46			5/7/1982	812324	
	Domestic	03N	01E	4	SWSE						0	25	60			1/3/1977	789867	
JENKINS, HOWARD	Domestic	03N	01E	4	SWSE						9999	8	47			9/12/1973	793970	
DEVCO INC	Domestic	03N	01E	4	SWSE				1	3	40	18	53			5/25/1974	793971	
ROARK, JAMES	Domestic	03N	01E	4	SWSE				6	2	40	18	53			5/23/1974	793972	
HOUTZ, JERRY	Domestic	03N	01E	4	SWSW				1	3	60	15	77			6/26/1975	793975	
BRYSON, HARRY	Domestic	03N	01E	4	SWSW						20	15	75			4/19/1977	793967	
ADKINS, NORMAN L	Domestic	03N	01E	4	SWSW						0	20	47			5/8/1963	855170	
STATE OF IDAHO DEPT OF TRANSPORTATION	Domestic	03N	01E	4	SWSW		2480 N EAGLE RD				0	12	100		6		730800	
QUINNEASKY, CHARLES	Domestic	03N	01E	4							20	17	103			12/31/9999	807111	
KAUTZMAN, CAROL H, KAUTZMAN, JOHN B	Domestic	03N	01E	5	NE				1	17	0	0	0				722279	
OLSEN, DOUG	Domestic	03N	01E	5	NENE				2	25	20	20	90	81	6	3/16/1990	723807	
ROBERTS CONSTRUCTION	Domestic	03N	01E	5	NENE			CARROL	1	16	20	8	112			11/21/1977	793950	
US DEPT OF INTERIOR		03N	01E	5	NENE						0	0	124			12/3/1953	789330	
JORDAN, RICHARD	Domestic	03N	01E	5	NENE		3085 USTICK ROAD				25	15	141	141	6	7/7/1992	725850	
VINCENT, W D	Domestic	03N	01E	5	NENE						0	10	158			7/3/1970	831593	
PREMOE, GARY	Domestic	03N	01E	5	NENENW	3	3045 WINGATE LN				35	20	162	162	6	7/8/1992	725847	
PREMOE, GARY	Domestic	03N	01E	5	NENW						40	12	28			4/16/1986	814547	
LITTLE, DAVE	Domestic	03N	01E	5	NENW						0	2	40			10/5/1971	830216	
HASKIN, BOB	Domestic	03N	01E	5	NENW						0	10	65			9/12/1979	778399	
TOWNE, NORMAN	Domestic	03N	01E	5	NENW		STATES: 150 FT.		2	6	50	15	100	98	6	2/1/1996	729042	
HASKIN, BOB	Domestic	03N	01E	5	NESENE			CARROL	2	2	20	20	124			12/20/1978	813283	
STATE OF IDAHO DEPT OF TRANSPORTATION	Irrigation	03N	01E	5	NESESE		EAGLE ROAD 300' NORTH OF FAIRVIEW				0	12	190	190	16		729018	
HIGGINS ENGINEERS INC, KLEINER BROTHERS	Irrigation	03N	01E	5	NESESE		EAGLE ROAD NORTH 450' FROM FAIRVEIW				900	13	190	186	12	3/26/1996	729019	
MOORSON, FRANK	Domestic	03N	01E	5	NESW						9999	10	40			5/28/1973	802340	
SOS WELL DRILLING, WOOD, DANIEL A	Municipal	03N	01E	5	NESW		UNKNOWN				0	7	82		6		730866	
BARNETT, DAVID	Domestic	03N	01E	5	NESW						9999	6	90			4/25/1972	797312	
GRIFFITH, CARROL	Domestic	03N	01E	5	NWNE		2820 N WINGATE LN			2	50	20	56	48	6	4/19/2007	846195	D0047997
DE CORDOVA, BILL	Domestic	03N	01E	5	NWNE		LESLIE LN				20	18	63	62	6	4/25/1989	724301	
STEPHENSON, ARCHIE	Domestic	03N	01E	5	NWNE						0	12	64			4/30/1970	774405	
GRIFFITH, CARROL	Domestic	03N	01E	5	NWNE		2820 N WINGATE LN					7	67		6	5/17/2007	846824	
HILL, MICHAEL	Domestic	03N	01E	5	NWNE			CAROL SUB	2	26	0	9	91			10/22/1986	823147	
ZACHRESON CO	Domestic	03N	01E	5	NWNE						0	11	98			5/13/1970	774406	
GIVENS, LARRY	Domestic	03N	01E	5	NWNE		1567 LESLIE WAY			29	0	35	118	110	6	12/23/1992	726396	
MARTIN, RUSSELL G	Domestic	03N	01E	5	NWNE						65	30	149	149	6	10/3/1992	725731	
MARTIN, RUSSELL G	Domestic	03N	01E	5	NWNE		1375 LESLIE				65	30	149	149	6	10/3/1992	725732	
MARSETTE, GARY	Domestic	03N	01E	5	NWNW						40	8	88	79	6	8/30/1985	722202	
GOODWIN, C W	Domestic	03N	01E	5	NWNW						35	10	89			5/7/1971	813243	
BEHRMAN, DALE	Domestic	03N	01E	5	NWNW		1406 LESLIE WAY		1	13	35	12	100	100	6	12/9/1988	722685	
HANSEN, KAY M, HANSEN, LARRY	Domestic	03N	01E	5	NWNWNE	2	2645 E USTICK RD				40	18	61	57	6	6/7/1993	727109	
MAGEE, MIKE	Domestic	03N	01E	5	NWNWNE	2	2425 E USTICK RD				75	20	76	64	6	10/1/2010	860077	D0057802
ANDRESS, BEN	Domestic	03N	01E	5	NWSE						0	15	38			8/9/1979	777324	
SCARR, RICHARD A	Domestic	03N	01E	5	NWSE		1107 JUSTIN PLACE				25	20	96	96	6	3/29/2001	768327	D0018219
BRINEGAR, E E "BUD"	Domestic	03N	01E	5	NWSWNW		2740 N LOCUST GROVE RD				65	20	97	97	6	4/4/2008	851019	D0052767
PETERSON, MARC	Domestic	03N	01E	5	SENE						60	7	46	43	8	8/7/1990	723576	
WILDWOOD CONSTRUCTION	Domestic	03N	01E	5	SENE						20	20	80			8/6/1977	820096	
OLSEN, DOUG	Domestic	03N	01E	5	SENE			CAROL	1	4	18	20	87			7/7/1976	812482	
OLSEN, DOUG	Domestic	03N	01E	5	SENE						0	5	95			9/2/1976	822879	
TOWNE, NORMAN	Domestic	03N	01E	5	SENE		2875 LESLIE DRIVE					9999	103		6	7/24/2001	770023	D0018641
KNORPP, SANDRA	Domestic	03N	01E	5	SENE						20	20	110	98	6	5/3/1989	723288	
OLSON, DOUGLAS	Domestic	03N	01E	5	SENE						9999	20	110			8/27/1977	793951	
BUDGE, ROGER	Domestic	03N	01E	5	SENE						0	15	112			9/10/1977	816805	
OLSON, DAVID V	Monitoring	03N	01E	5	SENE			CAROL SUB	1	4	30	8	114			7/7/1976	793948	
HOSAC, BOB	Domestic	03N	01E	5	SENE						0	0	116				722406	
BIR, MIKE	Domestic	03N	01E	5	SENE			CAROLS	1	3	30	7	122			7/18/1977	826620	
WHEELER	Domestic	03N	01E	5	SENE			CAROL SUB	2	2	9999	20	125			6/5/1977	806392	
BUDGE, ROGER	Domestic	03N	01E	5	SENE			CAROL	2	9	9999	8	127			12/6/1977	831490	
WILDWOOD CONSTRUCTION	Domestic	03N	01E	5	SENE						9999	20	133			12/15/1977	806881	

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OLSON, DOUG	Domestic	03N	01E	5	SENE			CAROL SUB	1	8	20	20	133			10/22/1977	812363	
BELL, FRANK	Domestic	03N	01E	5	SENE						0	3	141			9/27/1977	829269	
HAWKINS, STEVE B	Domestic	03N	01E	5	SENE			CARROL SUB			9999	20	148			9/1/1977	793952	
OLSEN, DOUG	Domestic	03N	01E	5	SENE						0	15	150			5/14/1977	828478	
WHULER CONSTRUCTION	Domestic	03N	01E	5	SENE			CORAL SUB	2	7	30	20	152			2/8/1977	827706	
	Domestic	03N	01E	5	SENE						0	0	170			12/2/1976	825115	
OLSEN, DOUG	Domestic	03N	01E	5	SENE						0	15	185			6/13/1977	828314	
OLSEN, DOUG	Domestic	03N	01E	5	SENE						0	6	200			12/28/1976	832503	
RUWE, LEE	Domestic	03N	01E	5	SENENE	1					0	4	86			9/30/1975	811786	
GRAY, ELDEN	Irrigation	03N	01E	5	SESE		NW CORNER OF FAIRVIEW & EAGLE RDS					12	0		12	8/29/1997	731575	
GRAY, ELDEN	Irrigation	03N	01E	5	SESE		NW CORNER OF FAIRVIEW & EAGLE					12	0		12	9/18/1997	731620	
MORGAN, ROB	Domestic	03N	01E	5	SESE						50	2	45			7/30/1975	813593	
HARMS, ART	Domestic	03N	01E	5	SESE						0	12	47			6/23/1964	855168	
J M K FARMS	Domestic	03N	01E	5	SESE		NW CORNER FAIRVIEW & EAGLE RD				900	12	190		12	7/31/1979	777765	
HEDGE CONSTRUCTION	Domestic	03N	01E	5	SESENW		2445 N WINGATE LN					20	50		30	6/8/2007	847420	
STONEWOOD CREATIONS	Other	03N	01E	5	SESW						20	7	88			5/25/1964	855165	
COPE DRILLING CO	Domestic	03N	01E	5	SESW						0	10	166			5/27/1971	829215	
CITY OF MERIDIAN	Monitor	03N	01E	5	SWNE		SW CORNER OF USTICK ROAD AND EAGLE ROAD					16	25	15	2	1/24/2002	772950	D0019598
SMITH, GLEN	Domestic	03N	01E	5	SWNE	2	3020 WINGATE LANE				50	12	56	45	6	3/8/1994	728052	
ROSSOW, BETTY L	Domestic	03N	01E	5	SWNE		2832 LESLIE DR				80	15	79	68	6	7/9/2001	769825	D0018638
BALL, BILL	Domestic	03N	01E	5	SWNE			CARROLL	21	12	30	65	80			5/4/1979	809592	
OLSEN, DOUG	Domestic	03N	01E	5	SWNE						50	15	94	94	6	5/28/1991	724586	
PETERS, LESS	Domestic	03N	01E	5	SWNE						0	30	97			12/18/1977	788655	
MIDKIFF CONSTRUCTION	Domestic	03N	01E	5	SWNE						0	14	121			2/22/1978	788652	
OLSEN, DOUG	Domestic	03N	01E	5	SWNE						0	12	130			3/2/1978	788651	
HOSKINS, ROBERT A	Domestic	03N	01E	5	SWNE						0	12	137			2/28/1978	788650	
MIDKIFF CONSTRUCTION	Domestic	03N	01E	5	SWNE						0	12	146			8/25/1978	785627	
OLSEN, DOUG	Domestic	03N	01E	5	SWNE						80	10	147	139	6	7/18/1989	723349	
OLSEN, DOUG	Domestic	03N	01E	5	SWNE						0	20	154			6/17/1978	788654	
OLSEN, DOUG	Domestic	03N	01E	5	SWNE						0	12	204			2/17/1978	788653	
CALVIN, NATE J	Domestic	03N	01E	5	SWNW						9999	10	72			3/11/1976	793949	
BURT, JAMES C	Domestic	03N	01E	5	SWNW						20	2	105			12/20/1966	818031	
AMERICAN PAVING	Domestic	03N	01E	5	SWNW		MERIDIAN ROAD AND BLUE HERON					7	ab		4	3/29/2001	768395	
HAYS, GRANT	Domestic	03N	01E	5	SWSW						0	0	75			7/18/1962	855166	
STOR IT	Domestic	03N	01E	5	SWSW		1776 N AVEST LANE				60	10	99	-86	6	7/17/2000	765393	D0012810
FRED MEYER INC	Domestic	03N	01E	5	SWSW		1850 E FAIRVIEW AVE				85	8	120	101	8	1/22/1996	729921	
CLEAVER, OLIVER	Domestic	03N	01E	5	SWSWNW		2490 N LOCUST GROVE					0	0		4	8/1/2007	848847	D0048219
ROBERTS, DIXIE		03N	01E	5							0	8	63			10/7/1978	781822	
PORTER, L ALDIN	Domestic	03N	01E	5							9999	13	67			12/31/9999	807141	
KUHN, KENNETH	Domestic	03N	01E	5							15	7	69			9/17/1963	855167	
BROWN, DON	Domestic	03N	01E	5							15	4	83			6/8/1962	855164	
		03N	01E	5							0	7	86			6/30/1979	781825	
STOEGER, AL		03N	01E	5							0	7	89			10/26/1976	781819	
MCCARTHY, GLEN		03N	01E	6	NENE						0	8	76			5/12/1955	829287	
BROWN, DON		03N	01E	6	NENE						0	2	124			8/10/1967	828498	
JOHNSTON, MILTON	Domestic	03N	01E	6	NENENE		3501 SHAW MTN RD				15	93	550	300	8	5/10/2002	775886	D0019805
CAHOON, CHARLES H	Domestic	03N	01E	6	NESESE		1875 N LOCUST GROVE		4	7	30	7	30	30	8	7/8/1994	728389	
HOWELL, JIM	Domestic	03N	01E	6	NESW						0	22	58			10/26/1962	778817	
TORKELSON, TYLER	Domestic	03N	01E	6	NESWNW	5	2790 N MERIDIAN RD				40	14	118	113	6	1/17/2003	790447	D0029015
HEMRICH, ART	Domestic	03N	01E	6	NWNE						0	7	63			12/31/9999	829019	
SNIDER, EARL L	Domestic	03N	01E	6	NWNE		1165 E USTICK				30	12	82	71	6	3/4/1994	728039	
WEINNICK, DICK	Other	03N	01E	6	NWNE						0	50	481			12/13/1984	773743	
PARKS, ROBERT C	Domestic	03N	01E	6	NWNW					4	2250	10	64			11/12/1974	793946	
FOUTH, LEROY	Domestic	03N	01E	6	NWNW						40	8	65			6/9/1982	820019	
COOK, DAVE	Domestic	03N	01E	6	NWNW						30	7	67			10/28/1970	827051	
BOARD, DEA		03N	01E	6	NWNW						0	40	90			8/27/1954	830548	
LACY, RALPH	Domestic	03N	01E	6	NWNW						0	0	112			7/9/1953	830592	
SIMONS, LAMAR	Domestic	03N	01E	6	NWNW						0	2	132			11/11/1971	811687	
THORNE, JACK L	Domestic	03N	01E	6	NWNW						200	3	228			10/12/1973	793943	
RELEIGH HOUSE	Domestic	03N	01E	6	NWSE						0	3	103			3/7/1980	777323	
CITY OF MERIDIAN	Municipal	03N	01E	6	NWSE		SW CORNER JERICO WAY & WILLOWBROOK DR	MERIDIAN PLACE NO 1	2	1	2280	5	650	575	24	10/10/2011	861751	D0060117
CITY OF MERIDIAN	Monitoring	03N	01E	6	NWSE		DR	MERIDIAN PLACE SUB #1	2	1		3	860	42	12	12/13/2010	860287	D0057824
AIMCO / JAMES COURT ASSOCIATED	Monitoring	03N	01E	6	NWSW		2190 N MERIDIAN RD				0	4	50	5	4	5/19/2003	801509	D0029491
QUINN, BILL	Domestic	03N	01E	6	NWSW		2310 N MERIDIAN RD				100	20	71	67	6	9/27/1993	727524	
ASPEN HILLS LIMITED PARTNERSHIP	Irrigation	03N	01E	6	NWSW		300 E JAMES CT			6	120	5	103	103	8	8/16/1999	733462	D0009950
ASPEN HILLS LIMITED PARTNERSHIP	Irrigation	03N	01E	6	NWSW		300 E JAMES CT			6	120	5	103	103	8	4/18/2006	839077	D0042770
DEINES, BILL	Domestic	03N	01E	6	SENE		WELL LOCATED OFF OF CURTIS RD				17	35	63	57	6	5/2/1985	722203	

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CITY OF MERIDIAN, CITY OF MERIDIAN	Municipal	03N	01E	6	SENWSE		DR	MERIDIAN PLACE NO 1 SUB	2	1		20	460		20	1/12/1977	818008	
CITY OF MERIDIAN, CITY OF MERIDIAN	Municipal	03N	01E	6	SENWSE		DR	MERIDIAN PLACE NO 1 SUB	2	1		20	655		20	7/1/2011	862351	
CENTERLANE CONSTRUCTION	Domestic	03N	01E	6	SESE		1555 S CAROL	DORIS	1	1		7	0		6	5/11/2000	764714	
CENTERLANE CONSTRUCTION	Domestic	03N	01E	6	SESE		1550 FAIRVIEW	DORIS	1	8		8	0		6	5/11/2001	764715	
CENTERLANE CONSTRUCTION	Domestic	03N	01E	6	SESE		1555 S CAROL	DORIS	1	1		5	0		6	5/11/2000	764716	
CENTERLANE CONSTRUCTION	Domestic	03N	01E	6	SESE		1555 S CAROL	DORIS	1	1		5	0		6	5/11/2000	764719	
CENTERLANE CONSTRUCTION	Domestic	03N	01E	6	SESE		1555 S CARROL	DORIS	1	1		7	0		6	5/11/2000	764721	
BROSS, RICHARD H	Irrigation	03N	01E	6	SESE		1975 N LOCUST GROVE	DORIS	4	4		8	0	-9	6	5/14/2000	764901	
C 6 DEVELOPMENT	Domestic	03N	01E	6	SESE		LOCUST GROVE					9	0		4	3/6/2004	811538	
BROSS, RICHARD H	Irrigation	03N	01E	6	SESE		1975 N LOCUST GROVE	DORIS SUBDIVISION	4	4	10	8	27	-27	6	5/14/2000	764381	D0015029
MURRAY, LLOYD W	Irrigation	03N	01E	6	SESE			DORIS SUB	4	4	9999	4	30			5/15/1987	785280	
STILLWELL, VERN	Irrigation	03N	01E	6	SESE			DORIS SUB	3	3	9999	4	30			5/13/1987	785281	
KLEIER, RAYMOND	Domestic	03N	01E	6	SESE			DORIS SUB	4	2	9999	4	30			5/6/1987	785282	
HAYNES, CAROLYN	Domestic	03N	01E	6	SESE		1560 S CAROL ST	DORIS	4	8		15	42	42	6	8/8/2001	770416	
KEPPER, TED	Domestic	03N	01E	6	SESE						9999	4	60			5/22/1972	797314	
KEPPER, TED	Domestic	03N	01E	6	SESE						9999	4	60			5/27/1972	797317	
HAYNES, CAROLYN	Domestic	03N	01E	6	SESE		1560 S CAROL ST	DORIS	4	8	30	12	62	52	6	6/6/2001	769346	D0018523
BURT, J C	Domestic	03N	01E	6	SESE						0	6	72			3/18/1968	828713	
ALLISON, JAMES	Domestic	03N	01E	6	SESE						15	1	87			8/14/1963	855160	
CENTERLANE CONSTRUCTION	Domestic	03N	01E	6	SESE		1515 S CAROL	DORIS	1	2		7	92	-92	6	5/11/2000	764712	
ROSS, STANLEY	Domestic	03N	01E	6	SESE						0	0	97			8/15/1964	855159	
COFFMAN, H T	Domestic	03N	01E	6	SESE						15	1	100			6/10/1965	855157	
COFFMAN, H T	Domestic	03N	01E	6	SESE						15	3	101			6/10/1965	855156	
FISHER, JERRY	Domestic	03N	01E	6	SESE						9999	9999	105			5/8/1970	811493	
SMITH, BURT	Domestic	03N	01E	6	SESE						20	5	111	102	6	8/16/1989	723120	
KETTELWELL, J R	Domestic	03N	01E	6	SESE						0	9999	113			11/22/1975	833968	
MC CAMISH, J E	Domestic	03N	01E	6	SESE						25	2	118			4/16/1965	855158	
HEFNER, TED	Domestic	03N	01E	6	SESE						9999	4	121			9/5/1972	793945	
HOWERTON, KENNETH E	Domestic	03N	01E	6	SESE						0	2	127			9/27/1976	847766	
JONES, JAY	Domestic	03N	01E	6	SESE		1426 CAROL		2	9	0	4	135	113	6	10/13/1993	727558	
SMITH, RON	Domestic	03N	01E	6	SESE		1384 N CAROL	DORIS			30	7	138	-134	6	10/20/2000	767046	D0015769
ANDERSON, JERRY	Domestic	03N	01E	6	SESE			DORIS SUB	3	1	30	2	145			9/29/1976	793947	
HEPPER, TED	Domestic	03N	01E	6	SESW						50	3	105			10/2/1969	812256	
HERON BROOK LLC	Domestic	03N	01E	6	SWNW		200 BLUE HERON LAND AND MERIDIAN ROAD	HERON BROOK TOWNHOMES	1	25	40	6	81	81	6	3/15/2002	774691	D0019731
SUNRISE FINE HOMES	Domestic	03N	01E	6	SWNW		2580 N MERIDIAN RD; S OF USTICK					1	108		4	9/20/2006	842985	
MOYLE, AUSTIN	Domestic	03N	01E	6	SWNW						25	0	306			12/1/1957	855163	
DEMON, LEE	Domestic	03N	01E	6	SWSE						0	7	67			2/18/1969	814257	
JELLO, JIM	Domestic	03N	01E	6	SWSW						18	9999	67			2/19/1966	809610	
BURT, J C		03N	01E	6	SWSW						0	3	73			9/27/1968	830471	
MC CRODEN, DANIEL	Domestic	03N	01E	6	SWSW						35	15	351	343	6	5/9/1992	725586	
BARRUS, BRENT	Domestic	03N	01E	6					1	8A	30	7	62	60	6	6/19/1989	723091	
BARRUS, BRENT	Domestic	03N	01E	6					1	08A	30	7	62	60	6	6/19/1989	723092	
HOFF	Domestic	03N	01E	6							0	4	70			4/30/1970	832440	
BALES, HAROLD	Domestic	03N	01E	6						7	220	6	78			4/27/1962	855162	
WYLIE, WILLIAM B	Domestic	03N	01E	6				DORIS		4	20	1	83			11/3/1962	855161	
FOUTH, LEROY	Domestic	03N	01E	6		4					0	0	90				723034	
NYMAN, CURTIS	Domestic	03N	01E	6							15	22	115			8/8/1954	809699	
FABRICIUS, MARTIN	Domestic	03N	01E	7	NE						15	6	145			3/24/1965	855151	
KOUBA, LAMONT	Monitor	03N	01E	7	NENE		835 FAIRVIEW				0	6	14	14	2	12/19/1996	779595	
LEE, JONAS E	Monitoring	03N	01E	7	NENE		835 FAIRVIEW AVE				0	6	30	30	6	9/15/1992	726106	
KOUBA, LAMONT	Monitor	03N	01E	7	NENE		835 FAIRVIEW				0	6	30	30	6	12/19/1996	779860	
PETRESTUI, VASILLE	Domestic	03N	01E	7	NENE		1295 N LOCUST GROVE				0	7	59	51	6	11/5/1991	724892	
DENARDI, JOE	Domestic	03N	01E	7	NENE						60	2	65			9/19/1963	855152	
WALTON, OWEN	Domestic	03N	01E	7	NENE						0	12	114			4/27/1963	855169	
MERIDIAN DRIVE IN	Domestic	03N	01E	7	NENE						0	25	123			2/26/1972	828353	
L C DEVELOPMENT	Domestic	03N	01E	7	NENE		1295 N LOCUST GROVE					18	ab		6	11/4/2003	808871	
ROSS, HAROLD G	Domestic	03N	01E	7	NENW						35	57	57			6/26/1962	855153	
LLOYD LUMBER	Domestic	03N	01E	7	NENW		FAIRVIEW AVE				0	Ground	70		4		729926	
DESIGN, DONOVAN	Domestic	03N	01E	7	NENW		5TH STREET				150	1	105	94	6	7/13/1993	727259	
ROSS, HAROLD G	Commercial	03N	01E	7	NENW						0	0	109			5/7/1966	816047	
STATE STREET SUBARU	Domestic	03N	01E	7	NENW						0	12	130	120	6	10/15/1983	722054	
TARGET SUBURU	Domestic	03N	01E	7	NENWNE						50	1	146			6/22/1987	779496	
CITY OF MERIDIAN	Other	03N	01E	7	NENWSW	3					500	8	348			10/7/1961	778823	
ESI, ENGINEERED STRUCTURES INC	Domestic	03N	01E	7	NESE		1125 E PINE AVE					10	75		6	9/11/2007	849125	
HILL, C	Domestic	03N	01E	7	NESE						25	14	198			9/1/1959	778822	
SPECIAL RESOURCE MANAGEMENT, CIRCLE K CORP	Monitoring	03N	01E	7	NESW		66 EAST STATE STREET				0	13	25	22	2	8/25/1993	726609	

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Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
SPECIAL RESOURCE MANAGEMENT, CIRCLE K CORP	Monitoring	03N	01E	7	NESW		66 EAST STATE STREET				0	12	30	27	2	8/26/1993	726610	
SPECIAL RESOURCE MANAGEMENT, CIRCLE K CORP	Monitoring	03N	01E	7	NESW		66 EAST STATE STREET				0	12	33	30	6	8/25/1993	726608	
CITY OF MERIDIAN	Other	03N	01E	7	NESW						200	8	63			10/31/1963	855155	
LEE, JONAS E	Domestic	03N	01E	7	NWNE						20	1	50			12/17/1973	793940	
MORGAN, C L	Domestic	03N	01E	7	NWNE						20	1	61	59	6	7/31/1984	722094	
THOMAS LYNCH CONSTRUCTION	Domestic	03N	01E	7	NWNE		16610 ROSE BRIER LANE		3	31	100	6	141	129	6	7/16/1992	725899	
WHITMORE, ROY E	Domestic	03N	01E	7	NWNW						30	13	36			2/17/1987	785283	
WALTMAN, V E	Domestic	03N	01E	7	NWNW						22	13	36			2/13/1974	793942	
CARR, VERLA J	Domestic	03N	01E	7	NWNW		BADLEY ST				75	6	63	53	6	10/3/1997	731651	D0001384
VOLO LLC	Monitoring	03N	01E	7	NWNWSW		200 E BROADWAY AVE	MERIDIAN TOWNSITE LOTS 1-4 & 9; GEM-1	6			15	20		0	9/17/2007	849102	
VOLO LLC	Monitoring	03N	01E	7	NWNWSW		200 E BROADWAY AVE	MERIDIAN TOWNSITE LOTS 1-4 & 9; GEM-2	6			16	23		0	9/17/2007	849103	
BOISE CASCADE	Domestic	03N	01E	7	NWSE						30	9999	105			9/3/1970	831545	
MCKAGUE, PAUL	Domestic	03N	01E	7	NWSE						0	0	112			9/15/1970	828767	
BROWN & CALDWELL, DONS MERIDIAN CONOCO	Monitoring	03N	01E	7	NWSW		641 E 1ST ST; MW-2				0	19	20	5	2	11/6/1997	731049	D0000184
CITY OF MERIDIAN	Monitoring	03N	01E	7	NWSW		AVE	B-4				12	20	5	4	2/6/2007	845218	D0047137
CITY OF MERIDIAN	Monitoring	03N	01E	7	NWSW		AVE	B-5				9.8	20	5	4	2/6/2007	845220	D0047138
BROWN & CALDWELL, DONS MERIDIAN CONOCO	Monitoring	03N	01E	7	NWSW		641 E 1ST ST; MW-1				0	22	25	10	2	11/6/1997	731048	D0000183
BROWN & CALDWELL, DONS MERIDIAN CONOCO	Monitoring	03N	01E	7	NWSW		641 E 1ST ST; MW-3				0	22	25	10	2	11/7/1997	731050	D0000185
BROWN & CALDWELL, DONS MERIDIAN CONOCO	Monitoring	03N	01E	7	NWSW		641 E 1ST ST; MW-4				0	12	25	10	2	11/7/1997	731051	D0000186
FARMERS & MERCHANTS STATE BANK	Monitoring	03N	01E	7	NWSW		703 E 1ST ST				0	15	25	25	2	3/2/1998	732009	D0001769
GEM STOP CO	Monitoring	03N	01E	7	NWSW		641 E 1ST ST SOUTH				0	17	25	10	2	4/30/2002	776635	D0019943
GEM STOP CO	Monitoring	03N	01E	7	NWSW		641 E 1ST ST SOUTH					17	25	10	2	4/30/2002	776636	D0019944
GEM STOP CO	Monitoring	03N	01E	7	NWSW		641 E 1ST ST SOUTH					18	25	25	2	4/30/2002	776637	D0019945
CITY OF MERIDIAN	Monitoring	03N	01E	7	NWSW		641 N MAIN ST	MW-10; MERIDIAN TOWNSITE AMD LOTS 16, 17, & 18	1			19	25	15	2	7/15/2008	852240	D0053068
CITY OF MERIDIAN	Monitoring	03N	01E	7	NWSW		641 N MAIN ST	MW-11; MERIDIAN TOWNSITE AMD LOTS 16, 17, & 18	1			18	25	15	2	7/16/2008	852241	D0053069
CITY OF MERIDIAN	Monitoring	03N	01E	7	NWSW		641 N MAIN ST	MW-12; MERIDIAN TOWNSITE AMD LOTS 16, 17, & 18	1			22	25	15	2	7/16/2008	852242	D0053070
CITY OF MERIDIAN	Monitoring	03N	01E	7	NWSW		641 N MAIN ST	MW-13; MERIDIAN TOWNSITE AMD LOTS 16, 17, & 18	1			19	25	15	2	7/17/2008	852243	D0053071
CITY OF MERIDIAN	Monitoring	03N	01E	7	NWSW		641 N MAIN ST	MW-14; MERIDIAN TOWNSITE AMD LOTS 16, 17, & 18	1			19	25	15	2	7/17/2008	852244	D0053072
CITY OF MERIDIAN	Monitoring	03N	01E	7	NWSW		641 N MAIN ST	MW-15; MERIDIAN TOWNSITE AMD LOTS 16, 17, & 18	1			17	25	15	2	7/18/2008	852245	D0053073
GEM STOP CO	Monitoring	03N	01E	7	NWSW		641 E 1ST ST SOUTH					22	27	17	2	6/13/2002	776634	D0019942
MCCLELLAN, TOM	Domestic	03N	01E	7	NWSW						0	20	36			5/7/1975	848002	
HENDERBOLT, SUSAN	Irrigation	03N	01E	7	NWSWNW	2					0	10	29			8/15/1986	814028	
FRANKLIN, ROY M	Irrigation	03N	01E	7	NWSWNW	2					0	7	36			2/10/1976	798573	
MAW, C R	Domestic	03N	01E	7	SENE						270	1	95			5/7/1968	809657	
FREEBORG, SWEEDE	Domestic	03N	01E	7	SENW						20	15	30	30	6	4/11/1989	723236	
GOSS, D M	Domestic	03N	01E	7	SENW						600	54	306			3/9/1955	855154	
M R MILLER INC	Domestic	03N	01E	7	SENW		FAIRVIEW					0	ab	26	4	5/10/2001	769427	
TAMURA, DOUG	Domestic	03N	01E	7	SESE		1620 E FRANKLIN				35	6	106	93	6	2/25/1997	730916	
CITY OF MERIDIAN	Domestic	03N	01E	7	SESENW						9999	6	60			4/15/1971	798815	
CITY OF MERIDIAN	Industrial	03N	01E	7	SWNWSW		BROADWAY, BETWEEN RR TRACKS	MERIDIAN TOWNSITE LOTS 1-9; OLD DAIRYMANS CREAMERY WELL #3	1			6	272		12	7/30/2007	845881	
CITY OF MERIDIAN	Industrial	03N	01E	7	SWNWSW		27 E BROADWAY	MERIDIAN TOWNSITE LOTS 1-9; OLD DAIRYMANS CREAMERY	1			6	304		4	7/30/2007	851260	
CITY OF MERIDIAN	Industrial	03N	01E	7	SWNWSW		27 E BROADWAY	MERIDIAN TOWNSITE LOTS 1-9; OLD DAIRYMANS CREAMERY	1			6	348		8	7/30/2007	851261	
CITY OF MERIDIAN	Industrial	03N	01E	7	SWNWSW		27 E BROADWAY	MERIDIAN TOWNSITE LOTS 1-9; OLD DAIRYMANS CREAMERY	1			6	406		12	7/30/2007	851262	
ELD, LARRY A	Domestic	03N	01E	7	SWSE		654 E KING ST		2	16	25	25	58	52	6	4/6/1996	730240	
THOMAS, THAD	Domestic	03N	01E	7	SWSE		640 E FRANKLIN				60	15	140	140	6	4/9/1997	731236	
HARRIS, CALVIN	Domestic	03N	01E	7	SWSESW						20	4	40			8/8/1978	788532	
STINKER STATION PAULS MERIDIAN	Domestic	03N	01E	7	SWSW		110 N MAIN ST				0	15	18	8	2	6/25/2003	804346	D0029564
MC KAGUE, PAUL	Monitoring	03N	01E	7	SWSW		PAULS MERIDIAN STINKER AT 110 E 1ST ST				0	9	19	9	2	11/24/1998	732725	D0007993
STINKER STATION PAULS MERIDIAN	Monitoring	03N	01E	7	SWSW		110 N MAIN ST				0	9	20	5	2	6/26/2003	804349	D0029571
IDAHO YOUTH RANCH INC	Air-Sparge	03N	01E	7	SWSW		231 N MAIN ST	AS1			0	10	20	18	2	1/22/2004	810359	D0030928
IDAHO YOUTH RANCH INC	Air-Sparge	03N	01E	7	SWSW		231 N MAIN ST	AS2			0	10	20	18	2	1/20/2004	810360	D0030929
IDAHO YOUTH RANCH INC	Air-Sparge	03N	01E	7	SWSW		231 N MAIN ST	AS3			0	10	20	18	2	1/22/2004	810361	D0030930
IDAHO YOUTH RANCH INC	Air-Sparge	03N	01E	7	SWSW		231 N MAIN ST	AS4			0	10	20	18	2	1/21/2004	810362	D0030931
IDAHO YOUTH RANCH INC	Air-Sparge	03N	01E	7	SWSW		231 N MAIN ST	AS5			0	10	20	18	2	1/20/2004	810363	D0030932
IDAHO YOUTH RANCH INC	Domestic	03N	01E	7	SWSW		231 N MAIN ST	MW-10				9	22	11	2	10/11/2005	836335	D0042008
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST	MW-11				9	22	11	2	10/11/2005	836337	D0042009
STINKER STATION PAULS MERIDIAN	Monitoring	03N	01E	7	SWSW		110 N MAIN ST					8	24	9	2	6/26/2003	804348	D0029570
STINKER STATION PAULS MERIDIAN	Monitoring	03N	01E	7	SWSW		110 N MAIN ST				0	9	25	16	2	6/24/2003	804347	D0029565
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST	MW1			0	14	25	5	4	7/21/2003	804811	D0029756
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST				0	14	25	5	4	7/21/2003	804812	D0029757
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST	MW3			0	14	25	5	4	7/22/2003	804813	D0029758
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST	MW4			0	14	25	5	4	7/23/2003	804814	D0029759
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST	MW5			0	14	25	5	4	7/22/2003	804815	D0029760
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST				0	14	25	5	4	7/22/2003	804816	D0029761
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST				0	14	25	5	4	7/23/2003	805207	D0029782
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST	MW8				14	25	5	2	8/21/2003	806135	D0029930
MC KAGUE, PAUL	Monitoring	03N	01E	7	SWSW	4	110 E 1ST ST	WILLIAMS ADD; L5-12 PAULS MERIDIAN STINKER/SINCLAIR SW-8	5	5		12	25	5	2	8/18/2010	859741	D0057664

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MC KAGUE, PAUL	Monitoring	03N	01E	7	SWSW	4	110 E 1ST ST	WILLIAMS ADD; L5-12 PAULS MERIDIAN STINKER/SINCLAIR SW-9	5	5		12	25	5	2	8/18/2010	859742	D0057665
MC KAGUE, PAUL	Monitoring	03N	01E	7	SWSW	4	110 E 1ST ST	WILLIAMS ADD; L5-12 PAULS MERIDIAN STINKER/SINCLAIR SW-10	5	5		12	25	5	2	8/18/2010	859743	D0057666
IDAHO YOUTH RANCH INC	Monitoring	03N	01E	7	SWSW		231 N MAIN ST				0	14	30	5	4	7/9/2003	804810	D0029702
DAVIS, SARA		03N	01E	7	SWSW						0	0	37			10/25/1966	828422	
THOMPSON, IDA	Domestic	03N	01E	7	SWSWNE						60	1	85	85	6	3/3/1992	725388	
BANK OF THE CASCADES	Domestic	03N	01E	7	SWSWNW		34 E STATE ST	F A NOURSESE 2ND ADD	6	005		10	35		6	5/30/1990	723603	
BANK OF THE CASCADES	Domestic	03N	01E	7	SWSWNW		34 E STATE ST	F A NOURSESE 2ND ADD	6	005		10	35		6	7/26/2010	859586	
MC CLURE, DOROTHY M	Domestic	03N	01E	7	SWSWNW	2	38 E STATE		6	008,	50	13	35	35	6	5/24/1990	723585	
HEFFER, TED	Domestic	03N	01E	7							0	38	71			3/12/1967	828165	
THOMAS, RICK	Domestic	03N	01E	8	NENW		FAIRVIEW AND LOCUS RD				45	10	71	60	6	6/12/1998	732263	D0007199
STUTZMAN, PAUL	Irrigation	03N	01E	8	NESW						9999	30	147			12/8/1977	783430	
CITY OF MERIDIAN	Municipal	03N	01E	8	NWNE		HICKORY RD OFF FAIRVIEW AVE				1100	11	591		8	11/20/1994	728730	
CITY OF MERIDIAN	Municipal	03N	01E	8	NWNE		HICKORY RD OFF FAIRVIEW AVE				1100	11	591		8	8/25/2011	861741	D0060103
CITY OF MERIDIAN	Experimental	03N	01E	8	NWNE		FAIRVIEW & HICKORY				0	Ground	1000	36	6	10/19/1994	728728	
WOLFE, A J	Domestic	03N	01E	8	NWNW			PLEASANT VALLEY		0	0	0	70			10/17/1962	855142	
QUALITREE	Domestic	03N	01E	8	NWNW		1190 N LOCUST GROVE RD					10	100		6	5/7/2007	846684	
BAKER, DENNIS M	Domestic	03N	01E	8	NWNW		2075 FAIRVIEW AVE				50	10	154	156	6	8/22/2001	770587	D0018949
EDWARDS, GORDON L	Domestic	03N	01E	8	NWSW						99999	10	102			5/22/1987	785477	
YELLOW FREIGHT SYSTEM INC	Irrigation	03N	01E	8	SENE				3	5	2020	5	79	79	8	9/17/1990	724040	
RIMLINGER, JAMES & EILENE	Domestic	03N	01E	8	SENE						0	120	335			11/11/1980	828573	
HOWELL, JIM	Domestic	03N	01E	8	SESE						0	4	52			10/10/1962	855144	
VAN AUKER, RON	Domestic	03N	01E	8	SESE		2950 FRANKLIN RD				70	10	78	67	6	2/3/2006	838321	D0042288
VAN AUKER, RON	Irrigation	03N	01E	8	SESE		EAGLE RD & LANARK ST			1	60	10	86	81	6	3/29/1993	726848	
NORTHWESTERN ELECTRIC	Domestic	03N	01E	8	SESE		3131 LANARK				50	9	89	89	5	6/29/1994	727831	
KRUEGER, WILLARD	Domestic	03N	01E	8	SESE						0	38	290			10/6/1962	855146	
BROWN & CALDWELL	Domestic	03N	01E	8	SESE		3140 FRANKLIN RD					44	ab		4	10/14/2003	808651	
M R MILLER CONSTRUCTION CO	Domestic	03N	01E	8	SESW		1920 FRANKLIN RD					66	0		6	8/30/2005	835952	
HEPPER, TED G	Domestic	03N	01E	8	SESW						0	30	83			11/4/1969	829837	
LAYNE OF IDAHO INC	Industrial	03N	01E	8	SESW						0	2	207			6/25/1979	777070	
HORNBAKER, E LOREN	Domestic	03N	01E	8	SWNW						20	12	81			3/15/1986	820409	
WOLFF, HOWARD	Domestic	03N	01E	8	SWNW						9999	5	95			7/8/1972	797313	
HORNBAKER, LOREN	Domestic	03N	01E	8	SWNW						40	4	139			6/18/1981	814360	
TONKIN, GEORGE W	Monitoring	03N	01E	8	SWSE						40	30	67			11/17/1969	817662	
SCHNEBLY, CARL O	Domestic	03N	01E	8	SWSE						9999	33	90			10/14/1971	797311	
MERIDIAN JOINT SCHOOL DISTRICT #2	Domestic	03N	01E	8	SWSE						58	7	102			7/30/1977	793775	
BOISE CASCADE CORRUGATED CONTAINERS	Domestic	03N	01E	8	SWSE						30	35	187			5/26/1971	811226	
BARHAM, BEN	Domestic	03N	01E	8	SWSESE						0	35	120			6/20/1975	828940	
QUALITREE	Domestic	03N	01E	8	SWSW		1030 N LOCUST GROVE RD					10	100		6	5/7/2007	846682	
ALUM-FORM	Commercial	03N	01E	8							155	8	155			8/15/1968	828772	
REDENBO, WALTER	Domestic	03N	01E	9	NENE						15	20	46			3/30/1961	855150	
BARTLETT, LAWRENCE	Domestic	03N	01E	9	NENE						0	18	321			12/31/9999	827834	
ROBERTS, LOREN	Domestic	03N	01E	9	NENE						30	12	84			12/31/9999	778820	
PRICE, DICK	Domestic	03N	01E	9	NENE		12393 W FAIRVIEW AVE				40	23	86	86	6	1/14/2004	810068	D0030868
DAKOTA DEVELOPMENT CO INC	Domestic	03N	01E	9	NENENW		SE CORNER FAIRVIEW AND RECORDS DRIVE					5	0	-86	6	1/24/2001	768014	
COCKRUM, CLEO	Domestic	03N	01E	9	NENW		EAGLE RD AND FAIRVIEW AVE				9999	35	103			11/27/1978	781826	
DEVELOPERS DIVERSIFIED REALTY	Irrigation	03N	01E	9	NENW		RECORDS DRIVE 800 FT SOUTH OF FAIRVIEW AVE				200	18	114	-92	8	7/19/2000	765385	D0015318
		03N	01E	9	NENW						9999	10	126			2/26/1974	793935	
THIBAULT, THOMAS	Domestic	03N	01E	9	NENW						9999	10	126			2/26/1974	793936	
STEWART ESTATE	Domestic	03N	01E	9	NENW						0	5	72			9/12/1967	829207	
DOBARAN, JOE	Domestic	03N	01E	9	NESE						0	5	59			11/19/1964	778818	
PETTINGILL, JAMES A	Domestic	03N	01E	9	NESW			SKYVIEW RANCHETTS	1	6	0	15	100			12/16/1974	828647	
KANE, JIM	Domestic	03N	01E	9	NESW						0	13	45			3/28/1981	827554	
DENNIS, PATRICIA J	Domestic	03N	01E	9	NESW						0	5	170			9/27/1977	789876	
DENNIS, PATRICIA J	Domestic	03N	01E	9	NESW						9999	5	120			8/27/1977	790440	
INTERWEST CONSTRUCTION	Domestic	03N	01E	9	NESW		4141 E PINE ST					16	0		4	10/1/1999	733683	
GIBSON JR, DAN	Domestic	03N	01E	9	NWNE		FAIRVIEW BETWEEN CLOVERDALE & EAGLE RD				35	12	61	60	6	11/18/1994	727743	
TERRACE LAWN MEMORIAL GARDENS	Other	03N	01E	9	NWNE						18	8	49			11/6/1956	855149	
CHASTIN, ALBERT		03N	01E	9	NWNW						0	0	44			8/19/1955	829677	
GIBSON JR, DAN	Domestic	03N	01E	9	NWNW						0	0	0				725832	
TRUCK EQUIPMENT CORP	Domestic	03N	01E	9	NWSW				2	002	0	7	120	118	6	8/27/1990	723972	
NORTHERN FORM & METAL	Domestic	03N	01E	9	SE			MONTA VISTA	2	8	60	4	152			12/18/1974	793937	
ADVENTIST CHURCH	Irrigation	03N	01E	9	SENE						0	11	500	268	16	4/3/1989	722905	
ALBERTSONS SUNDRIES CENTER	Domestic	03N	01E	9	SENESW						0	4	91			9/26/1980	828690	
WARREN, ARTHUR	Irrigation	03N	01E	9	SESE						22	22	45			8/2/1982	819997	
SPENCER JR, JOHN	Domestic	03N	01E	9	SESE		CLOVERDALE & FRANKLIN				32	5	78	78	6	7/26/1995	729545	

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Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
EMPIRE TRANSPORT	Domestic	03N	01E	9	SESE						40	12	90	84	6	11/11/1992	726288	
JORDON, DALE	Domestic	03N	01E	9	SW						0	15	107			2/18/1954	855126	
JACOBSEN, FRED	Domestic	03N	01E	9	SWNE						20	23	53			4/16/1974	793939	
SCHRADER, PHILLIP	Domestic	03N	01E	9	SWNE						0	12	102			5/27/1980	822460	
COORS DISTRIBUTING	Domestic	03N	01E	9	SWNW						135	12	97	96	8	6/20/1986	722240	
BLASER, GLENN	Domestic	03N	01E	9	SWSE						0	15	62			3/8/1963	855127	
BURKE, NORMAN	Irrigation	03N	01E	9	SWSW						0	18	127			11/14/1977	832483	
LAW, EYDELL	Domestic	03N	01E	9							40	12	33			5/14/1956	855148	
DOBARON, JOHN	Domestic	03N	01E	16	NE						12	31	150			9/21/1956	856164	
OWNBY, JIM	Domestic	03N	01E	16	NENE		3359 NORTH MONTVUE	MONTVUE	4	3		38	86		6	7/19/2005	834754	D0039349
CITY OF BOISE	Monitoring	03N	01E	16	NENE		CLOVERDALE & FRANKLIN					46	50	40	2	2/5/2004	806134	D0029929
OWNBY, JIM	Domestic	03N	01E	16	NENE		3359 NORTH MONTVUE	MONTVUE	4	3		38	86		6	4/25/1998	732130	D0001947
LARRONDO, JOE	Domestic	03N	01E	16	NENW						0	60	126			7/24/1977	830366	
HOLLOWAY, HAROLD	Domestic	03N	01E	16	NENW						30	40	132			12/31/9999	795147	
HIPPER, SID	Domestic	03N	01E	16	NENWNW						0	43	155			5/2/1968	809765	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	NENWNW		3435 E FRANKLIN RD	MONTVUE PARK	1	2		42	59		6	7/31/2007	850051	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	NENWNW		3405 N MONTVUE DR	MONTVUE PARK	3	1		41	136		4	7/31/2007	850046	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	NENWNW		3435 E FRANKLIN RD	MONTVUE PARK	1	2		39	106		4	9/24/2007	850052	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	NENWNW		3475 E FRANKLIN RD	MONTVUE PARK	1	1		33	90		4	9/24/2007	850045	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	NENWNW		3405 N MONTVUE DR	MONTVUE PARK	1	3		41	70		4	9/24/2007	850049	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	NENWNW		3435 E FRANKLIN RD	MONTVUE PARK	1	2		42	59		6	7/25/1983	722025	
BRUEGGEMANN, HOMER	Domestic	03N	01E	16	NESE		1012 N. 28th				0	42	83			5/17/1960	778441	
PLETCHER, JOHN D	Domestic	03N	01E	16	NESE						1000	23	76			12/31/9999	778456	
LARRONDO, RICHARD	Domestic	03N	01E	16	NW						9999	30	206			10/26/1972	795151	
SMART, AL	Domestic	03N	01E	16	NWNE				1	2	30	8	70			9/16/1975	795153	
TOUCHMARK DEVELOPMENT & CONSTRUCTION	Domestic	03N	01E	16	NWNENW		3615 E FRANKLIN RD					44	214		6	8/18/2006	841645	
CH2M HILL	Monitoring	03N	01E	16	NWNW		EAGLE RD				0	Ground	97	97	4	10/1/1999	733651	D0012227
CH2M HILL, ST LUKES MERIDIAN MEDICAL CENTER	Monitoring	03N	01E	16	NWNW		520 S EAGLE RD					38	0		4	11/10/1999	733790	
BROWN & CALDWELL	Domestic	03N	01E	16	NWNW		3315 E FRANLIN					46	0		6	5/11/2004	815542	
BROWN & CALDWELL	Domestic	03N	01E	16	NWNW		3285 FRANKLIN RD					42	0		6	10/14/2003	808646	
BROWN & CALDWELL	Domestic	03N	01E	16	NWNW		3285 FRANKLIN					42	0		6	10/14/2003	808648	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	NWNW		3300 N MONTVUE					45	91		6	9/8/1997	731538	D0001102
WORTENDYKE, JOHN	Domestic	03N	01E	16	NWNW				1	3	45	38	110	110	6	5/18/1990	723588	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	NWNW		3300 N MONTVUE					45	91		6	7/31/2007	850034	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	NWNW		W MONTVUE DR	MONTVUE PARK	4	2		43	144		4	7/31/2007	849887	
PIONEER HOMES	Domestic	03N	01E	16	NWNW			MONTRUE PARK	1	6	9999	49	75			7/14/1975	831947	
KNAPP, JERRY	Domestic	03N	01E	16	NWNW						0	42	129			4/23/1965	778464	
LEE, JOHN C	Domestic	03N	01E	16	NWNW						0	40	139			1/23/1965	778465	
SCHOEN, VERNON	Domestic	03N	01E	16	NWNW						50	45	139			4/11/1964	778463	
LEWIS, TED W	Domestic	03N	01E	16	NWNW		UNKNOWN					30	134		4	3/15/1963	778461	
RICHARDSON, RAY	Domestic	03N	01E	16	NWNW						15	40	130			3/14/1963	778462	
ROLAND, BERKLEY	Domestic	03N	01E	16	NWNW						0	40	138			1/7/1969	828744	
BURTNER JR, EDWIN R		03N	01E	16	NWNW						0	8	147			11/26/1968	830674	
WYLIE, BRYAN	Domestic	03N	01E	16	NWNW						0	40	159			8/20/1968	828973	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	W		3359 N MONTVUE DR	MONTVUE PARK	3	2		40	85		6	9/24/2007	850044	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	W		3385 E FRANKLIN RD	MONTVUE PARK	1	3		44	136		6	9/7/2007	850043	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	W		3295 N MONTVUE DR	MONTVUE PARK	2	1		39	88		4	9/24/2007	850053	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	W		3250 N MONTVUE DR	MONTVUE PARK	1	8		40	122		4	9/24/2007	850054	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	W		3335 E FRANKLIN RD	MONTVUE PARK	1	4		43	76		6	8/6/2008	852737	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	W			MONTVUE PARK	1	8		51	75		4	12/20/2007	850576	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	W			MONTVUE PARK	1	7		0	18		4	12/7/2007	850574	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	W		3360 N MONTVUE DR	MONTVUE PARK	1	9		43	143		4	7/31/2007	850028	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	W		3460 N MONTVUE DR	MONTVUE PARK	1	10		40	70		4	7/31/2007	850033	
DAVIS, LYNN	Domestic	03N	01E	16	NWSE		1130 ROLLING HILLS				60	30	116	116	6	12/7/1992	726328	
DAVIS, LYNN	Domestic	03N	01E	16	NWSE		1130 ROLLING HILLS				60	30	116	116	6	12/7/1992	726327	
TAYLOR, ART R	Domestic	03N	01E	16	NWSE						0	31	75			3/10/1987	785480	
HENDRIXSON, GEORGE	Domestic	03N	01E	16	NWSE						9999	35	102			12/16/1986	785285	
ROARK, DARRELL	Domestic	03N	01E	16	NWSE		11286 W MEADA LANE				100	45	123	120	6	5/17/2002	777033	D0019929
YATZUN, PATRICIA, YATZUN, JOSEPH	Domestic	03N	01E	16	NWSE		11202 MEADA LN				80	45	124	119	6	5/16/2002	776991	D0019928
BARNES, MELINDA K	Domestic	03N	01E	16	NWSE		11108 W MEADA LN				80	45	112	112	6	2/23/1999	733037	D0009020
PAPE, L A	Domestic	03N	01E	16	NWSE						30	5	92			5/15/1965	818812	
KEPPER, TED	Domestic	03N	01E	16	NWSE						0	27	84			7/30/1970	830218	
EDMONDS, WIRT	Domestic	03N	01E	16	NWSE			JEWEL	2	10	9999	8	145			8/28/1975	795158	
BECHTOLD, RICHARD	Domestic	03N	01E	16	NWSE						9999	30	102			6/9/1975	797782	
STANFORD, RAY	Domestic	03N	01E	16	NWSW						17	11	65			7/14/1972	797775	
HEPPER, TED G	Domestic	03N	01E	16	SE			CLOVERDALE ACRES	2	20	25	30	68			5/13/1965	855123	

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SOUTH COUNTY WATER CO	Irrigation	03N	01E	16	SENE		CLOVERDALE & FREEWAY				0	20	495	495	16	9/16/1993	727254	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SENWNW		325 E MONTVUE DR	MONTVUE PARK	4	1		43	144		4	7/31/2007	850037	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SENWNW		360 E MONTVUE DR	MONTVUE PARK	5	2		41	101		6	7/31/2007	850029	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SENWNW		215 E MONTVUE DR	MONTVUE PARK	4	1		42	145		6	9/7/2007	850040	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SENWNW		215 E MONTVUE DR	MONTVUE PARK	4	1		42	145		6	6/13/1990	723604	
BEWS, ED	Domestic	03N	01E	16	SENWNW						0	26	485			10/26/1979	828880	
THOMAS, BERNIE	Domestic	03N	01E	16	SESE		12436 W CEDARWOOD DR				75	39	117	112	6	7/17/2004	820407	D0031781
FARRIS, ROBERT	Domestic	03N	01E	16	SESE		12635 CEDARWOOD				60	32	105	107	6	9/26/2001	771029	D0019115
DARR, L R, DARR, NALANI	Domestic	03N	01E	16	SESE		12317 CASTLE WOOD				80	35	120	118	6	11/7/2003	808830	D0030690
WARNER, WALT	Domestic	03N	01E	16	SESE						30	40	80	79	6	3/18/1985	722205	
PETERSON, DONNA	Commercial	03N	01E	16	SESE						20	25	110	100	6	9/27/1984	722096	
FORD, ERLENE K	Domestic	03N	01E	16	SESE		12471 W CEDARWOOD DR	CLOVERDALE ACRES	1	18	40	38	83	74	6	5/20/2010	859018	D0056061
BAKER, STEVE	Domestic	03N	01E	16	SESE		12460 CEDARWOOD	CLOVERDALE ACRES			35	40	107	107	6	5/27/2005	833211	D0038875
LEWIS, TED	Domestic	03N	01E	16	SESE						0	28	81			4/2/1965	778450	
LEWIS, TED	Domestic	03N	01E	16	SESE						0	20	87			9/6/1966	830186	
CARLYLE, MICHEL	Domestic	03N	01E	16	SESE						0	29	76			3/23/1966	809745	
MICKEL & RIFE	Domestic	03N	01E	16	SESE						0	28	77			3/18/1966	811789	
COX, R L	Domestic	03N	01E	16	SESE						0	30	87			10/5/1965	855121	
MOORE, CHESTER	Domestic	03N	01E	16	SESE						0	16	67			9/3/1965	778731	
CARLEY, JIM	Domestic	03N	01E	16	SESE						0	18	91			8/11/1965	855122	
HEPPER, TED G	Domestic	03N	01E	16	SESE			CLOVERDALE ACRES	1	23	16	32	68			7/9/1965	855120	
DELGARD, STEVE	Domestic	03N	01E	16	SESE						0	32	83			9/19/1967	830712	
	Domestic	03N	01E	16	SESE						0	0	69			6/24/1968	829725	
HEPPER, TED	Domestic	03N	01E	16	SESE						30	18	84			7/29/1969	810947	
WENDELL, CHARLES	Commercial	03N	01E	16	SESE						0	25	85			2/6/1976	833337	
MAGNUM DEMOLITION	Domestic	03N	01E	16	SESESE		1397 CLOVERDALE					38	127		4	2/9/2007	845585	
HEY, DAVID	Domestic	03N	01E	16	SESESW		1530 S TOPAZ AVE	JEWEL SUB	1	17		21	34		6	5/7/2007	847210	
HEY, DAVID	Domestic	03N	01E	16	SESESW		1530 S TOPAZ AVE	JEWEL SUB	1	17	90	22	98	98	6	5/5/2007	847058	D0048150
FONTAINE, RODNEY J	Domestic	03N	01E	16	SESW		3730 E ONYX AVE	JEWEL SUB	1	8	30	27	148	148	6	6/10/2009	856550	D0053275
ZAMZOWS	Domestic	03N	01E	16	SESW		3650 E OVERLAND RD	JEWEL SUB	1	2		20	40		6	11/5/2007	850588	
COOPER, COY	Domestic	03N	01E	16	SESW			JEWEL	2	11	9999	25	70			12/31/9999	795100	
RAYL, BRIAN	Domestic	03N	01E	16	SESW		3750 OVERLAND				30	11	118	117	6	7/25/1994	728464	
TREASURE VALLEY BAPTIST CHURCH	Domestic	03N	01E	16	SESW						50	11	150			3/27/1982	841817	
THOMAS, TED	Domestic	03N	01E	16	SESW		3820 OVERLAND RD				45	25	105	100	6	5/10/2004	814821	D0031331
MARZ, FRANK	Domestic	03N	01E	16	SESW						0	17	87			6/19/1968	823593	
COOPER, COY	Domestic	03N	01E	16	SESW			JEWEL	1	17	9999	21	70			6/10/1975	795102	
COOPER, COY	Domestic	03N	01E	16	SESW			JEWEL	2	11	9999	25	60			6/10/1975	795144	
EDMONDS, WIRT	Domestic	03N	01E	16	SESW			JEWEL	2	8	9999	24	70			6/9/1975	795105	
COOPER, COY	Domestic	03N	01E	16	SESW			JEWEL	1	11	9999	24	70			6/13/1975	795103	
COOPER, COY	Domestic	03N	01E	16	SESW			JEWEL	1	13	9999	23	70			6/11/1975	795101	
EDMONDS, WIRT	Domestic	03N	01E	16	SESW				1	12	20	15	100			10/8/1975	795157	
EDMONDS, WIRT	Domestic	03N	01E	16	SESW			JEWEL	2	2	9999	23	70			4/29/1975	797781	
EDMONDS, WIRT	Domestic	03N	01E	16	SESW			JEWEL	2	4	9999	28	70			4/28/1975	797768	
COOPER, COY	Domestic	03N	01E	16	SESW			JEWEL	1	5	9999	24	70			6/7/1975	795104	
COOPER, COY	Domestic	03N	01E	16	SESW						9999	21	70			6/6/1975	795160	
COOPER, COY	Domestic	03N	01E	16	SESW				2	5	9999	24	70			6/4/1975	795156	
COOPER, COY	Domestic	03N	01E	16	SESW						9999	21	70			6/3/1975	795159	
COOPER, COY	Domestic	03N	01E	16	SESW			JEWEL	2	1	9999	23	70			6/2/1975	795135	
EDMONDS, WIRT	Domestic	03N	01E	16	SESW						9999	28	70			5/9/1975	797830	
COOPER, COY	Domestic	03N	01E	16	SW			JEWEL	1	7	9999	23	70			6/9/1975	795132	
ST LUKES REGIONAL MEDICAL CENTER	Domestic	03N	01E	16	SWNW		INTERSECTION OF EAGLE RD AND I-84				600	9	902	857	14	1/15/1996	728996	
ST LUKES REGIONAL MEDICAL CENTER	Monitoring	03N	01E	16	SWNW		520 S EAGLE RD					38	0		2	11/10/1999	733789	
ST LUKES REGIONAL MEDICAL CENTER, CH2M HILL	Monitoring	03N	01E	16	SWNW		520 S EAGLE RD, EAST OF MEDICAL OFFICE BLD				0	38	52	4	6	5/8/1998	731890	D0000519
HEPPER, TED, MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SWNWNW			MONTVUE PARK	5	6		43	148		4	7/31/2007	850038	
MC KINNEY, WILBUR L, MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SWNWNW		3555 S MONTVUE DR	MONTVUE PARK	5	3		43	134		6	7/31/2007	850039	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SWNWNW		365 S MONTVUE DR	MONTVUE PARK	5	4		42	147		6	7/31/2007	850031	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SWNWNW		3295 N MONTVUE DR	MONTVUE PARK	5	9		45	90		4	7/31/2007	850032	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SWNWNW		230 W MONTVUE DR	MONTVUE PARK	4	3		41	103		4	9/7/2007	850041	
MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SWNWNW		320 W MONTVUE DR	MONTVUE PARK	4	2		34	93		6	9/7/2007	850042	
HEPPER, TED, MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SWNWNW			MONTVUE PARK	5	6		43	148		4	8/7/1968	813893	
MC KINNEY, WILBUR L, MERIDIAN MEDICAL PLAZA LLC	Domestic	03N	01E	16	SWNWNW		3555 S MONTVUE DR	MONTVUE PARK	5	3		43	134		6	8/9/1977	795155	
GIBSON, DALE	Domestic	03N	01E	16	SWSE						0	0	75			12/17/1976	831625	
REED, LOU R		03N	01E	16	SWSE						0	7	101			7/9/1969	822795	
REED, CLYDE & LAURA	Irrigation	03N	01E	16	SWSE						0	7	100			7/3/1969	830374	
ARNOLD, RON	Domestic	03N	01E	16	SWSE						0	3	81			6/24/1967	828717	
BLASER, GLENN	Domestic	03N	01E	16	SWSE			ROLLING HILLS			20	14	95			2/11/1964	855119	
BERTHELSON, LA RENE L	Domestic	03N	01E	16	SWSE		4220 VIEW DR				60	39	100	100	6	4/27/2005	832636	D0038874

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WHITNEY, ROBERT B	Domestic	03N	01E	16	SWSESW		3775 ONYX		2	10	35	17	132	131	6	1/17/1994	727391	
DEVCO INC	Domestic	03N	01E	16	SWSW			VENTURE	1	10	9999	20	60			5/13/1975	795088	
EDMONDS, WIRT	Domestic	03N	01E	16	SWSW			JEWEL	2	13	9999	25	100			5/10/1975	795146	
EDMONDS, WIRT	Domestic	03N	01E	16	SWSW			JEWEL	1	14	9999	25	80			5/6/1975	795107	
EDMONDS, WIRT	Domestic	03N	01E	16	SWSW			JEWEL	1	8	9999	25	80			5/5/1975	795108	
EDMONDS, WIRT	Domestic	03N	01E	16	SWSW						9999	25	70			4/30/1975	795109	
EDMONDS, WIRT	Domestic	03N	01E	16	SWSW			JEWEL	2	10	9999	20	70			4/29/1975	795137	
EDMONDS, WIRT	Domestic	03N	01E	16	SWSW						9999	20	80			4/29/1975	795161	
ALBRECHT, WALTER J	Domestic	03N	01E	16	SWSW						40	20	130			3/15/1978	811282	
TIBBITS, JERRY	Domestic	03N	01E	16	SWSW						0	28	100			2/9/1978	789643	
LEWANDOWICZ	Domestic	03N	01E	16	SWSW						0	27	93			4/12/1977	789646	
EDMONDS, WIRT	Domestic	03N	01E	16	SWSW			JEWEL	1	16	9999	25	100			6/11/1975	795106	
EDMONDS, WIRT	Domestic	03N	01E	16	SWSW			JEWEL	2	12	9999	25	100			6/9/1975	795120	
LEWIS, ALBERT	Domestic	03N	01E	16	SWSW						0	26	86			7/22/1966	829037	
MC ARTHUR, GEO	Domestic	03N	01E	16	SWSW						0	14	117			7/28/1961	778466	
HARTMAN, DELORES	Domestic	03N	01E	16	SWSW		3520 E OVERLAND RD				40	18	120	120	6	6/15/1995	729426	
WEBB, DOUG	Domestic	03N	01E	16	SWSW		4440 CASTLEWOOD				20	40	118	113	6	4/14/1994	728163	
ZAMZOW, DOUG	Domestic	03N	01E	16	SWSW		1545 S JADE AVE	JEWEL SUB	1	1		25	48		6	8/27/2007	849526	
ZAMZOW, DOUG	Domestic	03N	01E	16	SWSW		3650 E OVERLAND RD	JEWEL SUB	1	2		26	34		6	8/27/2007	849527	
CAMERON INVESTMENTS / S-SIXTEEN RETAIL LLC	Domestic	03N	01E	16	SWSWSW		NE CORNER OVERLAND RD & EAGLE RD					14	42		6	1/14/2009	854706	
DRIESEL, TOM	Domestic	03N	01E	16							0	18	76			3/9/1979	782621	
BARNES, RUSSEL E	Domestic	03N	01E	17	NE					8	17	50	145	141	6	11/10/1988	722660	
HAMBLEY, GARY	Domestic	03N	01E	17	NENE						50	30	140			4/30/1972	795092	
GREEN HILLS NO 3 WATER USERS	Domestic	03N	01E	17	NENE		SW CORNER OF EAGLE RD & AUTUMN WAY	GREENHILL ESTATES SUB NO 3	3	2	150	46	165			2/7/1983	818737	
TAYLOR, LEON	Domestic	03N	01E	17	NENE						0	30	176			5/20/1967	822448	
E S I CONSTRUCTION	Domestic	03N	01E	17	NENENE		EAGLE & FRANKLIN SW CORNER					46	0		4	7/12/1999	733424	
BOSTROM, LONNIE	Domestic	03N	01E	17	NENENW				2	3	30	32	102	82	6	4/11/1985	722206	
JOHNSON, ROGER	Domestic	03N	01E	17	NENW						0	10	65			8/12/1977	830460	
JOHNSON, ROGEN	Domestic	03N	01E	17	NENW			GREEN HILLS SUB			18	12	66			3/4/1977	831486	
HANSEN, DONALD	Domestic	03N	01E	17	NENW			GREEN HILLS ESTATES	2	10	9999	40	85			5/14/1975	795083	
BAYER, DIETER	Domestic	03N	01E	17	NENW			GREEN HILL ESTATES	2	9	9999	40	85			1/29/1975	795086	
HICKEY	Domestic	03N	01E	17	NENW			GREEN HILLS SUB			18	15	90			9/14/1977	811310	
PAPE, LARRY	Domestic	03N	01E	17	NENW			GREEN HILL	5	1	30	13	91			8/29/1976	795117	
JENKINS, HOWARD	Domestic	03N	01E	17	NENW			GREEN HILLS	1	2	99999	30	95			5/16/1975	795082	
HANSEN, DONALD	Domestic	03N	01E	17	NENW						0	35	97			11/1/1975	833785	
BAYER, DIETER	Domestic	03N	01E	17	NENW			GREEN HILLS ESTATE	3	4	9999	40	100			4/14/1975	795084	
HANSON, DON	Domestic	03N	01E	17	NENW			GREEN HILLS	2	10	18	9999	105			12/7/1975	795081	
WALL, KEN	Domestic	03N	01E	17	NENW		2265 SPRINGWOOD				30	35	146	146	6	9/7/1995	729658	
DEBRAN	Domestic	03N	01E	17	NENW			GREEN HILLS			25	28	160			5/30/1981	841819	
WALL, KEN	Domestic	03N	01E	17	NENW		2265 E SPRINGWOOD				25	30	170	153	6	8/1/1993	726525	
MARKUM, ROD	Domestic	03N	01E	17	NENW		45 HICKORY				45	35	173	171	8	10/2/1989	723187	
HICKEY, BOB	Domestic	03N	01E	17	NENW			GREEN HILLS	2	12	9999	9999	186			8/12/1977	795118	
JOHNSON, ROGER	Domestic	03N	01E	17	NENW			GREEN HILLS		4	20	20	233			8/3/1977	812716	
HEPPER, TED G	Domestic	03N	01E	17	NENWNE						15	36	75			12/7/1964	855143	
NETTLETON, DAVE		03N	01E	17	NESE						0	28	95			5/12/1969	828445	
CANSTER, CALVIN	Domestic	03N	01E	17	NESE						0	5	105			8/10/1977	807529	
CANFIELD, ROBERT & DAISY	Domestic	03N	01E	17	NESE						0	26	184			5/19/1969	829203	
ALEXANDER, GEORGE	Irrigation	03N	01E	17	NESW						25	20	60			9/25/1979	781828	
PHIPPS, DENNIS L	Domestic	03N	01E	17	NESW						0	0	67				722762	
WATSON, J L	Domestic	03N	01E	17	NESW						0	22	90			7/16/1977	832525	
HEARTLEY, MARK	Domestic	03N	01E	17	NESW						0	20	99			2/2/1986	827346	
MC COY, DON	Domestic	03N	01E	17	NESW						40	15	105			11/17/1971	808819	
WATSON, JAY	Domestic	03N	01E	17	NESW						0	30	105			9/13/1977	821007	
A & C CORP	Domestic	03N	01E	17	NESW						9999	50	107			3/22/1973	795076	
KOFOED, LA VAR W	Domestic	03N	01E	17	NESW						0	15	110			9/30/1970	809853	
A & C CORP	Domestic	03N	01E	17	NESW						9999	50	112			5/19/1973	795077	
BIRD, GARY R	Domestic	03N	01E	17	NESW		2065 CONTINENTAL				42	25	115	112	6	9/28/1994	728695	
COATS, RAY	Domestic	03N	01E	17	NESW			LOCUST VIEW	2	1	30	15	115			8/18/1978	843415	
FRAZIER, SHELLY	Domestic	03N	01E	17	NESW		2205 E CADILLAC DR				25	25	117	117	6	12/8/1993	727654	
FRAZIER, SHELLY	Domestic	03N	01E	17	NESW		2205 E CADILLAC DR				25	25	117	117	6	12/8/1993	727655	
BIRD, GARY R	Domestic	03N	01E	17	NESW		2065 CONTINENTAL				42	25	119	119	6	9/28/1994	728696	
TROUTNER CONSTRUCTION	Domestic	03N	01E	17	NESW						40	20	120			5/16/1974	795127	
A & C CORP	Domestic	03N	01E	17	NESW						9999	50	128			3/14/1973	795075	
BALLANTYNE, BART	Domestic	03N	01E	17	NESW						0	15	170			7/14/1972	828724	
WATSON, J L	Domestic	03N	01E	17	NESW						0	20	181			7/6/1977	832502	
RALPHS, CLIFTON	Domestic	03N	01E	17	NW						9999	34	157			2/27/1973	797783	
GREGORY, DANA	Domestic	03N	01E	17	NWNE						40	30	63			7/18/1977	819172	
JENKINS, HOWARD	Domestic	03N	01E	17	NWNE			GREEN HILLS	5	5	9999	17	70			6/21/1975	795080	
JONES CONTRUCTION	Domestic	03N	01E	17	NWNE			GREEN HILLS	3	8	20	18	78			8/21/1975	795078	
BAYER, DIETER	Domestic	03N	01E	17	NWNE			GREEN ACRES	4	2	9999	29	97			6/21/1975	795079	
EBERT, BILL	Domestic	03N	01E	17	NWNE		2513 AUTUMN		6	1	50	35	100	87	6	7/14/1999	733414	D0009800
TIMBERLINE HOMES	Domestic	03N	01E	17	NWNE			GREEN HILL EST	7	7	50	30	105			2/9/1980	812474	
HART, DOUG	Domestic	03N	01E	17	NWNE						0	40	110			5/31/1984	773709	

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MARKUM, FRANK	Domestic	03N	01E	17	NWNE			MAGIC VIEW		8	20	50	115			8/22/1977	810136	
PAPE, LARRY	Domestic	03N	01E	17	NWNE			GREEN HILLS	3	6	35	34	178			2/17/1976	795123	
CAMPBELL, MARTHA F	Domestic	03N	01E	17	NWNE						20	33	180			3/14/1960	855113	
CALLENBURGER, LEE	Domestic	03N	01E	17	NWNE		2459 E FRANKLIN	GREEN HILL ESTATES #1	2	5	20	35	213	199	6	12/16/1992	726372	
CALLENBURGER, LEE	Domestic	03N	01E	17	NWNE		2459 E FRANKLIN	GREEN HILL ESTATES #1	2	5	20	35	213	199	6	4/28/2006	839262	D0042773
WINES, RICHARD	Domestic	03N	01E	17	NWNENW			GREEN HILLS	1	5	20	34	100			1/16/1978	813152	
CULLIP, CHARLES	Domestic	03N	01E	17	NWNW						0	10	92			12/31/9999	829193	
FENWICK REALTY	Domestic	03N	01E	17	NWNW						0	7	97			2/21/1966	828105	
EDDINGTON, JERRY	Domestic	03N	01E	17	NWNW						75	20	102	102	6	1/3/1991	724116	
PAPE, LARRY	Domestic	03N	01E	17	NWNW				1	10	30	20	104			7/28/1977	795112	
CORP OF THE PRESIDING BISHOP	Domestic	03N	01E	17	NWNW		106 S Locust Grove					20	106	106	6	8/2/2002	781082	
PAPE, L A	Domestic	03N	01E	17	NWNW				1	11	20	34	108			5/24/1979	795111	
CASE, KENNETH D	Domestic	03N	01E	17	NWNW						0	27	110			6/23/1971	829636	
WILLIAM PAPE HOME BUILDERS	Domestic	03N	01E	17	NWNW			GREEN HILLS	003a	9	32	35	190			4/16/1976	795122	
PAPE, L A	Domestic	03N	01E	17	NWNW				4	3	33	52	235			4/21/1977	795113	
CORP OF THE PRESIDING BISHOP	Domestic	03N	01E	17	NWNW											3/6/1990	723802	
DRAPER, WESLEY A	Domestic	03N	01E	17	NWSE						30	10	106			6/29/1987	779127	
	Domestic	03N	01E	17	NWSE						0	15	107			1/20/1978	789645	
VETTER, ALICE	Domestic	03N	01E	17	NWSE		2011 BENTLEY AVE	LOCUST VIEW HEIGHTS	1	1	35	25	118	-109	6	11/10/1999	733765	D0012501
CHRISTENSEN, LARRY	Domestic	03N	01E	17	NWSE			LOCUTS GROVE HEIGHTS	1	3	9999	35	135			1/17/1978	827888	
BITTERROOT CONSTRUCTION	Domestic	03N	01E	17	NWSE		1151 S WELLS CIRCLE					50	155		6	2/20/2006	838574	
EDENBROOK CONSTRUCTION, TITMUS, GREG	Domestic	03N	01E	17	NWSESE				1	5	30	18	162	163	6	8/7/1989	723088	
WATSON, J T	Domestic	03N	01E	17	NWSESW						0	24	75			7/19/1977	811601	
LEWIS, ALBERT	Domestic	03N	01E	17	NWSW						9999	20	62			3/26/1969	807109	
LEWIS, AL	Domestic	03N	01E	17	NWSW						0	20	62			2/26/1969	828453	
HOFFMAN, GLENN R	Domestic	03N	01E	17	NWSW						0	15	70			10/30/1977	788534	
SPENCER, JOHN R	Domestic	03N	01E	17	NWSW						30	20	84			5/30/1987	779126	
LEWIS, ALBERT	Domestic	03N	01E	17	NWSW						0	20	87			3/12/1969	830572	
STUCKER & BURNHAM	Domestic	03N	01E	17	NWSW						50	21	96			4/9/1971	795143	
MC CREA, CHARLES H	Domestic	03N	01E	17	NWSW						60	20	99			5/15/1972	795094	
QUALITREE	Domestic	03N	01E	17	NWSW		1000 LOCUST GROVE					30	105		6	1/18/2007	846560	
NELSON, LARRY	Domestic	03N	01E	17	NWSW						24	20	108			4/14/1972	795087	
TRANS WESTERN CONSTRUCTION	Domestic	03N	01E	17	NWSW						25	22	110			4/27/1972	828208	
QUALITREE	Domestic	03N	01E	17	NWSW		1120 LOCUST GROVE					30	110		6	1/18/2007	846561	
KERBY, PHIL	Domestic	03N	01E	17	NWSW						0	35	112			6/19/1972	831558	
NELSON, RANDY	Domestic	03N	01E	17	NWSW		1080 S LOCUST GROVE RD				20	48	115	115	6	4/8/2007	845866	D0047977
MC CREA, CHARLES H	Domestic	03N	01E	17	NWSW						20	15	116			5/20/1972	795093	
SITTSER, ERNEST	Domestic	03N	01E	17	NWSW						36	18	120			11/5/1972	795357	
EDMONDS, WIRT	Domestic	03N	01E	17	NWSW						9999	25	125			1/26/1972	820239	
QUALITREE	Domestic	03N	01E	17	NWSW		1080 S LOCUST GROVE RD					20	130		6	5/11/2007	846710	
AMYX, JAMES	Domestic	03N	01E	17	NWSW						12	16	131			2/3/1973	795089	
ADA COUNTY HIGHWAY DISTRICT	Domestic	03N	01E	17	NWSW		870 S LOCUST GROVE RD	(RIGHT OF WAY)			25	32	153	153	6	7/5/2005	837228	D0039436
MC KAY CONSTRUCTION	Domestic	03N	01E	17	NWSWNE		2510 E MAGIC VIEW CIR	MAGIC VIEW SUB AMD		6	22	34	193		6	1/2/1975	795119	
MC KAY CONSTRUCTION	Domestic	03N	01E	17	NWSWNE		2510 E MAGIC VIEW CIR	MAGIC VIEW SUB AMD		6	22	34	193		6	12/14/2007	850596	
HUBBLE ENGINEERING	Domestic	03N	01E	17	SENE		SOUTH ALLEN					30	150	-150	4	10/25/1999	763401	
LEVETT, BRIAN	Domestic	03N	01E	17	SENE						0	30	150			2/28/1984	773708	
SEAL, JOHNATHON	Domestic	03N	01E	17	SENE		3050 MAGIC VIEW					70	160	160	6	4/1/2001	768396	
HUBBLE, E DON	Domestic	03N	01E	17	SENE		621 SOUTH ALLEN	AMENED MAGIC VIEW SUBDIVISION		10	50	30	174	-161	6	11/5/1999	733614	D0012254
PREMIET DESIGN BUILDER & DEVELOPERS	Domestic	03N	01E	17	SENE		875 S ALLEN ST				50	38	177	167	6	6/24/2003	803813	D0029626
WELLS, DAVE	Domestic	03N	01E	17	SENE						0	20	200			3/9/1968	828338	
GREEN HILLS NO 3 WATER USERS	Domestic	03N	01E	17	SENENE		SW CORNER OF EAGLE RD & AUTUMN WAY	GREENHILL ESTATES SUB NO 3	3	2	400	42	167	145	10	6/10/2011	861111	D0059172
BRINCKEN	Domestic	03N	01E	17	SENW						32	20	57			12/6/1971	795090	
ZACHRESON, MARTIN	Domestic	03N	01E	17	SENW						30	18	75			1/31/1972	816533	
M ZACHRISON & CO	Domestic	03N	01E	17	SENW						0	12	78			9/16/1971	830539	
M YADRESON & CO	Domestic	03N	01E	17	SENW						0	11	96			11/6/1971	829698	
STUCKER CONST	Domestic	03N	01E	17	SENW						15	40	110			3/30/1974	795134	
JOHNSON, GLEN	Domestic	03N	01E	17	SENW						60	6	180			1/10/1978	812300	
STATEWIDE CONSTRUCTION INC	Domestic	03N	01E	17	SESE				1	2	50	20	58	59	6	10/11/1990	723727	
STARELITE HOMES	Domestic	03N	01E	17	SESE						16	20	67			10/27/1975	795139	
ROBERTS, VERL	Domestic	03N	01E	17	SESE						9999	25	115			4/27/1979	825530	
BASSETT, JAMES A	Domestic	03N	01E	17	SESE						0	18	127			11/11/1971	828288	
MELLEN, CHARLES R	Domestic	03N	01E	17	SESE				1	3	0	0	131				722747	
MELEN, CHUCK	Domestic	03N	01E	17	SESE						30	50	149	144	6	6/17/1988	722827	
BOYD, JIM	Domestic	03N	01E	17	SESE		3050 MAGIC VIEW DRIVE				80	40	273		6	5/20/2001	768470	D0018327
CESLER, RICHARD H	Domestic	03N	01E	17	SESW		LOCUST GROVE TO BENTLEY AVE				35	20	80	73	6	5/10/1985	722207	
QUALITREE	Domestic	03N	01E	17	SESWSW		1625 BENTLEY					20	130		6	5/11/2007	845299	
OLIASON, C A	Domestic	03N	01E	17	SW						0	25	102			3/5/1962	855111	
CHRISTENSEN BUILDERS	Domestic	03N	01E	17	SW				1	14	60	25	104			4/7/1977	795110	
CHRISTENSEN BUILDERS	Domestic	03N	01E	17	SW				1	15	60	25	110			4/14/1977	795114	
RAINEY, JIM	Domestic	03N	01E	17	SW						0	22	114			1/31/1972	828122	
HILTON, JAMES	Domestic	03N	01E	17	SW						0	21	151			4/27/1972	831458	
POPP, ARTHUR H	Domestic	03N	01E	17	SWNE			MAGIC VIEW		5	20	33	66			4/25/1977	795116	
MICKELS, PHIL	Domestic	03N	01E	17	SWNE						0	40	89			3/16/1976	833294	
WATSON, J L	Domestic	03N	01E	17	SWNE						0	22	90			11/11/1979	812750	
JACKSON, DEAN	Domestic	03N	01E	17	SWNE						0	40	118			10/16/1985	824793	
HOWELL, RICHARD	Domestic	03N	01E	17	SWNE						9999	70	120			6/11/1974	795121	
KEIPERT, RON	Domestic	03N	01E	17	SWNE		CONTINENTAL DR				25	20	121	113	6	9/15/1996	730680	
RALPHS, CLIFTON	Domestic	03N	01E	17	SWNE						50	21	216			11/26/1972	795091	
PAPE, LARRY	Domestic	03N	01E	17	SWNENW			GREEN HILLS #1	1	13	0	11	90			5/13/1980	785630	
SMITH, DAVID A, SMITH, MICHELLE	Domestic	03N	01E	17	SWNENW		2166 AUTUMN WAY		3	11	35	17	120	100	6	9/16/1992	726098	

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O NEILL ENTERPRISES LLC	Domestic	03N	01E	17	SWNW		LOCUST GROVE RD					37	78	-78	6	6/29/2000	765984	
J & V CONST INC	Domestic	03N	01E	17	SWNW						10	9	103			9/12/1972	795098	
J & V CONST INC	Domestic	03N	01E	17	SWNW						15	8	105			8/31/1972	795095	
J & V CONST INC	Domestic	03N	01E	17	SWNW						10	9	109			10/18/1972	795096	
LANE, GARY	Domestic	03N	01E	17	SWNW			GREENHILL ESTATES	1	1	20	30	115			6/9/1977	795115	
LANE, GARY	Domestic	03N	01E	17	SWNW			GREENHILL ESTATES	1	1	40	30	115			4/1/1978	820270	
GALE, BILL	Domestic	03N	01E	17	SWNW						0	15	126			1/14/1978	788508	
J & V CONST INC	Domestic	03N	01E	17	SWNW						10	9	135			9/23/1972	795097	
THOMAS, TROY	Domestic	03N	01E	17	SWNW		910 S LOCUST GROVE RD				30	32	151	151	6	6/30/2005	834328	D0039435
BORCHERS, BRENT	Domestic	03N	01E	17	SWNW		820 S LOCUST GROVE RD				40	30	156	156	6	3/7/2005	830546	D0038833
SMITH, MARSHALL	Domestic	03N	01E	17	SWNW						9999	21	348			5/26/1978	783429	
JENKINS, HOWARD	Domestic	03N	01E	17	SWNWNE			GREEN HILLS	4	1	9999	30	85			3/12/1975	795085	
CHRISTENSEN, LARRY	Domestic	03N	01E	17	SWNWSW						0	25	106			12/19/1977	813129	
MARCUM, NORMIE L	Domestic	03N	01E	17	SWNWSW						9999	28	144			5/29/1978	783428	
THOMAS, G	Commercial	03N	01E	17	SWSE						0	0	0				725747	
MAVERICK COUNTRY STORES INC	Monitoring	03N	01E	17	SWSE		ORCHARD AND OVERLAND RD				0	35	45	25	2	9/29/1999	733695	D0009222
MAVERICK COUNTRY STORES INC	Monitoring	03N	01E	17	SWSE		ORCHARD AND OVERLAND RD				0	35	45	25	2	9/29/1999	733696	D0009270
MAVERICK COUNTRY STORES INC	Monitoring	03N	01E	17	SWSE		ORCHARD AND OVERLAND RD				0	35	45	25	2	9/30/1999	733697	D0009983
COOK, DAVE	Domestic	03N	01E	17	SWSE						0	8	62			9/18/1971	828448	
BARKER, FRANK A	Domestic	03N	01E	17	SWSE						30	35	128			4/28/1971	811236	
LODER, KEVIN	Domestic	03N	01E	17	SWSE						0	21	132			5/22/1984	774214	
LARSON, EUGENE	Domestic	03N	01E	17	SWSE						9999	20	150			7/8/1971	825982	
MELEN, CHUCK	Domestic	03N	01E	17	SWSE						32	60	168	161	6	5/21/1989	723290	
JONES, BRENT	Domestic	03N	01E	17	SWSW				1	4	0	0	0				722643	
RIFE, HAL C	Domestic	03N	01E	17	SWSW						0	28	75			4/7/1965	855112	
CHRISTIANSON BUILDERS	Domestic	03N	01E	17	SWSW			LOCUST GROVE HEIGHTS	1	4	60	18	108			11/30/1976	795145	
CHRISTENSEN BUILDERS	Domestic	03N	01E	17	SWSW				1	5	60	20	108			12/7/1976	797503	
STUCKER, LEE R	Domestic	03N	01E	17	SWSW				2	9	25	17	130			4/22/1978	812515	
STUCKER CONST	Domestic	03N	01E	17	SWSW						10	20	145			11/6/1973	795141	
CLARK, MICHAEL	Domestic	03N	01E	17	SWSW		OVERLAND RD & LOCUST GROVE				50	40	201	201	6	11/24/1993	727610	
CHRISTENSEN, DAVID	Domestic	03N	01E	17					2	25	200	18	60	60	6	7/5/1989	723058	
BLASER, ED	Domestic	03N	01E	17				ROLLING HILLS	2	9	25	38	96			10/16/1964	855117	
		03N	01E	17							0	20	100			10/13/1979	781827	
HEPPER, TED G	Domestic	03N	01E	17				ROLLING HILLS	1	5	25	40	101			6/12/1964	855118	
WILLIAMS, LUCILLE	Domestic	03N	01E	17							15	52	106			5/25/1964	855114	
BLASER, GLENN	Domestic	03N	01E	17							33	44	113			7/22/1964	855115	
MORFORD, MELVIN E	Domestic	03N	01E	17					12	18	18	21	128			4/14/1972	809615	
JOHNSON, RONALD D		03N	01E	17							0	30	132			9/21/1978	781831	
GREEN, ROBERT	Domestic	03N	01E	17					1	17	50	23	146	140	6	10/20/1988	722652	
SCHOEN, VERNON	Domestic	03N	01E	18	NENE						9999	17	67			1/4/1968	807110	
MARZ, FRANK	Domestic	03N	01E	18	NENE						0	17	72			10/16/1967	829667	
HUTCHINGS, WILLIAM	Domestic	03N	01E	18	NENE						15	27	103			12/16/1968	855110	
BARNES, JON L	Domestic	03N	01E	18	NENE		FRANKLIN-LOCUST GROVE				50	20	130	130	6	2/18/1998	731987	D0001719
FROST, HARRY	Domestic	03N	01E	18	NENE						9999	9999	9999			12/31/9999	809662	
NORBERG, ELMER	Domestic	03N	01E	18	NENESE						0	20	81			10/21/1968	829210	
CENTERS, LEE	Domestic	03N	01E	18	NENW		1035 E FRANKLIN RD					24	0		4	2/28/2005	830667	
MC KAGUE, RON	Domestic	03N	01E	18	NESE		885 S LOCUST GROVE RD				30	29	141	141	6	3/31/2005	830639	D0038834
MINERS, BILL	Domestic	03N	01E	18	NESE		I-80 AND LOCUST GROVE				40	30	142			5/8/1979	781829	
EVERETT, MARVIN	Domestic	03N	01E	18	NESE						40	30	147	147	6	3/15/1992	725425	
BOTT, DAVE	Domestic	03N	01E	18	NESE						0	26	164			4/1/1957	855108	
BOTT, DAVE	Domestic	03N	01E	18	NESE						11	50	202			3/20/1957	855109	
HOFF, DEAN	Domestic	03N	01E	18	NWNE						125	24	93			3/23/1969	811234	
HADAWAY, BILL	Domestic	03N	01E	18	NWNE						20	50	100			5/14/1973	795009	
STATE OF IDAHO	Domestic	03N	01E	18	NWNE		STATFORD DRIVE - LAW ENF BLDG				0	20	105	104	8	7/7/1993	726488	
HAWKINS, TERRY, MERIDIAN CEMETARY	Domestic	03N	01E	18	NWNE		895 E FRANKLIN				45	25	131	131	6	3/31/1993	726815	
GINEVE, ORIN		03N	01E	18	NWNW						0	40	100			7/17/1967	828505	
CITY OF MERIDIAN, CITY OF MERIDIAN	Municipal	03N	01E	18	NWNW		STOREY PARK; SE CORNER FRANKLIN RD & MAIN				1266	17	485		20	5/2/1975	795099	
CITY OF MERIDIAN, CITY OF MERIDIAN	Municipal	03N	01E	18	NWNW		STOREY PARK; SE CORNER FRANKLIN RD & MAIN ST				1266	17	485		20	3/5/2009	856086	
CITY OF MERIDIAN	Municipal	03N	01E	18	NWNW	1	250 FEET N OF WATERTOWER LN 150 FEET E OF 8 MILE LATERAL					15	805	-590	18	9/5/2000	764302	D0015031
CITY OF MERIDIAN	Monitoring	03N	01E	18	NWNW		MERIDIAN RD - 100' E OF MERIDIAN RD, 500' S OF				0	Above	905	39	8	12/16/1998	732744	D0009030
OLSON, HOWARD	Domestic	03N	01E	18	NWSE						30	60	130	128	6	11/16/1990	723753	
TAYLOR, LES	Domestic	03N	01E	18	NWSW				2	11	0	0	0				722726	
HEPPER HOMES	Domestic	03N	01E	18	SE			TIMOTHY	1	5	100	20	120			5/2/1974	797787	
LANGSTON, ELMER	Domestic	03N	01E	18	SENW						0	68	244			2/12/1979	828348	
EL PASO NATURAL GAS CO	Domestic	03N	01E	18	SESE						35	17	118			12/31/9999	812398	
STATE OF IDAHO	Domestic	03N	01E	18	SESE						70	22	145			4/27/1965	856118	
WESTERN STATES EQUIPMENT CO	Domestic	03N	01E	18	SESW						40	20	115	105	6	6/23/1998	732304	D0007225
TURNER, ROY	Domestic	03N	01E	18	SESW						0	18	116			3/1/1971	829361	
BARNETT, DAVID	Domestic	03N	01E	18	SESW						9999	18	140			7/30/1972	795008	
MERIDIAN FORD, RULE ENVIRONMENTAL	Monitoring	03N	01E	18	SWNW						0	0	26.5				723718	
THOMAS, RICK E, TERRACON CONSULTANTS INC	Monitoring	03N	01E	18	SWNW		519 E 1ST ST				0	23	28	13	2	4/19/1995	728958	
MERIDIAN FORD, RULE ENVIRONMENTAL	Monitoring	03N	01E	18	SWNW						0	0	30				723717	
MERIDIAN FORD, ENVIROSEARCH INTERNATIONAL	Monitoring	03N	01E	18	SWNW		203 E 1ST STREET SOUTH, MW-3				0	19	30	9	2	1/21/1994	727740	
MERIDIAN FORD, ENVIROSEARCH INTERNATIONAL	Monitoring	03N	01E	18	SWNW		203 E 1ST STREET SOUTH MW-4				0	16	30	9	2	1/23/1994	727741	
MERIDIAN FORD, ENVIROSEARCH INTERNATIONAL	Monitoring	03N	01E	18	SWNW		203 E 1ST STREET SOUTH MW-5				0	16	30	9	2	1/23/1994	727742	
NAHAS, BOB	Irrigation	03N	01E	18	SWNW						70	20	80	65	6	8/19/1989	723357	
HEPPER HOMES	Domestic	03N	01E	18	SWSE			TIMOTHY	1	5	30	20	130			5/2/1975	797789	

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Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
GRAHAM, FRANK N	Domestic	03N	01E	18	SWSE		1500 S TEARE AVE				25	20	159	160	6	7/20/2002	780969	D0025357
MC KINLEY, MARK	Domestic	03N	01E	18	SWSW		1080S TORINO				50	20	97	90	6	3/23/1998	732011	D0001764
WESTERN STATES EQUIPMENT CO	Domestic	03N	01E	18	SWSW						0	0	175				722766	
SLOAN, ROBERT	Domestic	03N	01E	18	SWSW						11	3	182			9/18/1965	856117	
COPE, VANCE A	Domestic	03N	01E	18	SWSW		MERIDIAN RD AND OVERLAND				9999	12	193			3/27/1987	785286	
RAINEY, SHERWIN	Domestic	03N	01E	18	SWSW						0	50	232			2/21/1978	789641	
SHEURK, DAVID	Domestic	03N	01E	18							0	35	110			12/1/1966	828738	
THE LAND GROUP INC	Domestic	03N	01E	19	NENE		165 OVERLAND					21	0		6	2/15/2005	830662	
MARTIN, W H	Domestic	03N	01E	19	NENE						0	11	63			4/13/1957	856112	
LEE, HOWARD	Domestic	03N	01E	19	NENE		phillippi st				0	49	167			12/9/1961	856113	
CITY OF MERIDIAN	Monitoring	03N	01E	19	NENW		555 E OVERLAND				0	0	0				725201	
BORDER, JAMES O	Domestic	03N	01E	19	NENW						9999	75	125			4/22/1970	827123	
CITY OF MERIDIAN	Municipal	03N	01E	19	NENW		555 E OVERLAND				1530	31	515	515	18	9/17/1992	725203	
CITY OF MERIDIAN	Municipal	03N	01E	19	NENW		555 E OVERLAND				0	23	515	250	18	9/17/1992	725204	
CITY OF MERIDIAN	Municipal	03N	01E	19	NENW		555 E OVERLAND				1530	31	515	515	18	8/21/2008	851670	D0052938
CITY OF MERIDIAN	Monitoring	03N	01E	19	NENW		555 E OVERLAND				0	Above Ground Level	620	250	6	7/31/1992	725202	
ARONBARRI, JOHN	Domestic	03N	01E	19	NESE						0	16	50			12/13/1962	856114	
WOODINGTON, PAT	Domestic	03N	01E	19	NESE						150	20	213			10/11/1986	779134	
TERRELL INC	Domestic	03N	01E	19	NESW						0	58	101			12/28/1977	833656	
LUSK, ALLEN	Domestic	03N	01E	19	NWNE						0	60	123			10/1/1981	825454	
FAWCET, BUZZ	Domestic	03N	01E	19	NWNW						70	20	141	133	6	2/2/1990	723788	
SHULTZ, GENE	Domestic	03N	01E	19	NWSE						9999	20	254			9/14/1976	794996	
MARLOW, DAVE	Domestic	03N	01E	19	NWSW		230 EDMONDS CT				22	35	151	146	6	7/19/1994	728472	
KASTNER, ROBERT W	Domestic	03N	01E	19	SENE			APORTIONOE	24	23	50	60	71			12/21/1978	828191	
ROBINSON, STEVE	Domestic	03N	01E	19	SENW						9999	5	60			10/2/1976	794999	
OVERTON, WILLIAM C	Domestic	03N	01E	19	SESE						38	27	96			6/23/1987	779128	
HARRIS, C H	Domestic	03N	01E	19	SESE						0	45	99			12/9/1963	856115	
	Domestic	03N	01E	19	SESE						0	65	133			12/31/9999	828156	
GLENN, ROBERT	Domestic	03N	01E	19	SESE		MESA AND VICTORY			5	65	25	195	195	8	8/23/1994	728547	
TUSCANY DEVELOPMENT INC	Domestic	03N	01E	19	SESW		930 E VICTORY	GLACIER SPRINGS				23	37	37	6	11/10/2004	826749	
TUSCANY DEVELOPMENT INC	Domestic	03N	01E	19	SESW		REAR LOT OF 930 VICTORY	GLACIER SPRINGS				57	160	160	6	11/11/2004	826748	
GRAY, WILLIAM	Domestic	03N	01E	19	SESW						0	80	167			3/9/1973	833537	
HALSTEAD, MARK	Domestic	03N	01E	19	SWNE		741 E JAMAICA COURT	MERIDIAN GREENS #3	8	15	60	10	40	-35	6	8/23/2000	766314	D0015527
WAIT	Domestic	03N	01E	19	SWNE						9999	15	135			6/22/1972	795021	
MICHENER INVESTMENTS	Domestic	03N	01E	19	SWNW		2020 S MERIDIAN RD					22	0		6	9/28/2005	836518	
EDMONDS, WIRT	Domestic	03N	01E	19	SWNW						0	33	80			6/28/1975	788537	
EDMONDS, WIRT	Domestic	03N	01E	19	SWNW						0	20	80			6/30/1975	788554	
HENKE, A G	Domestic	03N	01E	19	SWNW						0	45	93			4/30/1971	828596	
W W HEDRICK CONSTRUCTION CO	Domestic	03N	01E	19	SWNW						50	15	105			3/13/1972	795022	
DUNTON, RODNEY	Domestic	03N	01E	19	SWNW						18	13	252			4/27/1971	827472	
HEATON, RICHARD	Domestic	03N	01E	19	SWNWSE						0	5	65			8/10/1977	830558	
EMBURY, CLARENCE	Domestic	03N	01E	19	SWSE						9999	19	96			8/22/1972	795018	
MUSSELL, TIM	Domestic	03N	01E	19	SWSW		100 E VICTORY				50	30	148	112	8	9/28/1994	728687	
PETERSON, DIANE	Domestic	03N	01E	19	SWSWSE						0	44	155			8/13/1969	820511	
EDMONDS, WIRT	Domestic	03N	01E	19				EDMONDS	1	4	0	18	66			7/1/1975	846542	
EDMONDS, WIRT	Domestic	03N	01E	19				EDMONDS	2		0	20	76			7/16/1975	833536	
EDMONDS, WIRT	Domestic	03N	01E	19				EDMONDS	1	2	0	20	76			6/30/1975	846541	
WHITING, LEO	Domestic	03N	01E	19							9999	64	92			2/16/1967	831429	
IDAHO POWER CO	Monitor	03N	01E	20	NENE		WEST SIDE OF LOCUST GROVE PROX 1000 FEET SOUTH OF VICTORY ROAD					12	0		2	4/6/2001	768664	
BORDERS, TIM	Domestic	03N	01E	20	NENE						40	107	192	193	6	10/13/1992	726203	
TAR PIN, DON	Domestic	03N	01E	20	NENE						0	100	240			7/1/1978	828542	
FAR WEST DEVELOPMENT	Commercial	03N	01E	20	NENESE		NORTH OF VICTORY RD/ W OF EAGLE RD; 3049 E INDIAN CREEK DR	THOUSAND SPRINGS SUB #1	4	2		36	0		6	5/27/1999	732825	
NIXON, DALE	Domestic	03N	01E	20	NENESE						0	30	60			2/24/1970	829232	
THE WESTPARK COMPANY INC	Domestic	03N	01E	20	NENW		SOUTH SIDE OF OVERLAND; TO THE EAST OF					23	34		6	9/15/2006	845635	
THE WESTPARK COMPANY INC	Domestic	03N	01E	20	NENW		SOUTH SIDE OF OVERLAND; TO THE EAST OF CELEBRATION					23	44		6	9/15/2006	845634	
SUPERIOR EXCAVATION AND CONSTRUCTION	Domestic	03N	01E	20	NENW		WEST OF OVERLAND SOUTH OF LOCUST GROVE					28	108	108	4	7/11/2001	770768	
THE WESTPARK COMPANY INC	Domestic	03N	01E	20	NENW		SOUTH SIDE OF OVERLAND; TO THE EAST OF					23	164		6	9/15/2006	845633	
NAMPA & MERIDIAN IRRIGATION DISTRICT	Irrigation	03N	01E	20	NWNENW		1977 E OVERLAND RD	RESOLUTION #1	1	8		0	100		8	2/19/2004	810909	D0031001
WORTH, MARVIN	Domestic	03N	01E	20	NWNW						9999	4	104			7/17/1972	795024	
CHURCH OF JESUS CHRIST OF THE LATTER DAY SAINTS	Irrigation	03N	01E	20	NWNW		1920 S LOCUST GROVE				75	25	152	-140	6	12/5/2000	767594	D0015991
BEDUDREAU, KEN	Domestic	03N	01E	20	NWNW		UNKNOWN				40	25	165	159	6	6/22/1988	862147	
MARKAR DESIGN & CONSTRUCTION	Domestic	03N	01E	20	NWSW		2770 S LOCUST GROVE RD					30	52		4	6/28/2006	840814	
MARKAR DESIGN & CONSTRUCTION	Domestic	03N	01E	20	NWSW		2770 S LOCUST GROVE RD					29	81		4	7/1/2006	842071	
HARPER, RALPH	Domestic	03N	01E	20	NWSW						1200	22	90			12/31/9999	807120	
SMITH, HARLEY	Domestic	03N	01E	20	NWSW						25	15	100			1/25/1968	820101	
CUSHING, ARTHUR	Domestic	03N	01E	20	NWSW						15	7	110			6/15/1976	795023	
SPROUT, ROBERT	Domestic	03N	01E	20	NWSW						60	13	123			6/7/1972	795027	
CITY OF MERIDIAN	Municipal	03N	01E	20	NWSW		NW CORNER OF S LOCUST GROVE RD & E TIME ZONE DRIVE		2	1	2000	12	536	530	18	6/24/1996	729970	
CITY OF MERIDIAN, SQUIRES, ED	Monitoring	03N	01E	20	NWSW		NE CORNER OF S LOCUST GROVE & TIME ZONE		2	1	0	11	1045	42	8	11/10/1995	729783	
KIMBALL PROPERTIES LIMITED PARTNERSHIP	Irrigation	03N	01E	20	SENE		El Dorado Business Campus				450	34	260	220	10	10/2/2003	805931	D0020524
BERNARD, LARRY	Domestic	03N	01E	20	SENW						50	12	106			9/6/1972	795026	

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MARWOOD CONSTRUCTION	Domestic	03N	01E	20	SESE						0	32	60			10/2/1970	829276	
YOUNG, REX	Domestic	03N	01E	20	SESE		2950 E VICTORY				150	61	170	159	6	1/8/1993	726404	
URWIN, VERNON	Domestic	03N	01E	20	SESE		3130 E VICTORY				70	50	222	222	6	12/30/1993	727705	
URWIN, VERNON	Domestic	03N	01E	20	SESE		3130 E VICTORY				70	50	222	222	6	12/30/1993	727706	
COLLINS, GORDON C	Domestic	03N	01E	20	SESE						100	35	224			6/18/1970	807124	
HAYES, MACK	Domestic	03N	01E	20	SESW						0	0	89			5/20/1970	830217	
CREECH, CHARLES L	Domestic	03N	01E	20	SESW		2310 E VICTORY				30	30	138	133	6	2/24/1993	726775	
RECORD, SUSAN	Domestic	03N	01E	20	SESW						30	60	160	152	6	9/20/1988	722882	
THE WESTPARK COMPANY INC	Irrigation	03N	01E	20	SESW		NORTH OF VICTORY RD ADJACENT TO RIDENBAUGH R.O.W.				250	51	181	149	8	1/28/1999	731897	D0000530
FAR WEST DEVELOPMENT	Commercial	03N	01E	20	SESWSE		NORTH OF VICTORY RD/W OF EAGLE RD; 3183 S	THOUSAND SPRINGS SUB #3	14	8		37	0		12	5/27/1999	732823	
FAR WEST DEVELOPMENT	Commercial	03N	01E	20	SESWSE		NORTH OF VICTORY RD/W OF EAGLE RD; 3183 S TAGISH PL	THOUSAND SPRINGS SUB #3	14	8		0	0		26	5/27/1999	732824	
W HEDRICK CONST CO	Domestic	03N	01E	20	SWNW						0	35	114			6/20/1972	830554	
BECHTOLD, RICHARD	Domestic	03N	01E	20	SWNW						0	26	130			12/22/1977	789874	
WALL, JEROLD	Domestic	03N	01E	20	SWNW						0	16	131			7/16/1973	833596	
DAGGETT, DONEVA	Domestic	03N	01E	20	SWNW		2280 S LOCUST GROVE RD				75	25	134	128	6	5/16/2003	801492	D0029488
BECHTOLD, RICK	Domestic	03N	01E	20	SWNW						0	37	156			3/8/1978	788557	
CARROLL, RON	Domestic	03N	01E	20	SWNW		1822 E BLUE TICK ST	RAVEN HILL SUB	1	16	15	18	156	146	6	8/31/2009	856555	D0053536
MAUGHAN, WESLEY J	Domestic	03N	01E	20	SWNW						50	36	181			7/17/1972	795025	
BECKTOLD, RICK	Domestic	03N	01E	20	SWNW						0	25	230			6/30/1978	788676	
INDEPENDENT SCHOOL DISTRICT OF BOISE CITY	Irrigation	03N	01E	20	SWNW						0	49	257			12/15/1980	827674	
HANSEN, MARVIN	Domestic	03N	01E	20	SWSE		2460 E VICTORY RD				100	20	60	59	6	6/11/1990	723607	
LONG, RICK	Domestic	03N	01E	20	SWSE		2636 E AMITY				35	35	168	168	6	6/3/1995	729387	
HASTINGS, VERNETTA S	Domestic	03N	01E	20	SWSE		2910 VICTORY RD				35	Above Ground Level	183	171	6	5/24/1993	727041	
MARTIN, GENE	Domestic	03N	01E	20	SWSE						110	445	186			3/10/1978	812385	
YOUNG, REX	Domestic	03N	01E	20	SWSESE						0	38	63			12/23/1970	813691	
GEM PARK II PARTNERSHIP	Domestic	03N	01E	20	SWSW		2000 E VICTORY	SHERBROOK HOLLOWS #3	7	15		24	242	-242	6	4/11/2000	764045	
HEMMER, R S	Domestic	03N	01E	20							0	14	81			11/30/1972	822621	
DEWAARD, JOE	Domestic	03N	01E	20							30	18	135			11/1/1972	847528	
WOLFE, MARVIN	Domestic	03N	01E	21	NENE						18	60	118		6	1/13/1989	723208	
PHIL KIRBY TRANWESTERN CONST	Domestic	03N	01E	21	NENE						0	5	65			10/17/1977	832604	
TRANS WESTERN CONSTRUCTION	Domestic	03N	01E	21	NENE			CLOVERDALE WEST	2	3	9999	8	72			8/28/1977	819946	
TRANS WESTERN CONSTRUCTION	Domestic	03N	01E	21	NENE			CLOVERDALE WEST	3	6	18	20	95			8/26/1977	829460	
KIRBY TRANSWESTERN CONSTRUCTION	Domestic	03N	01E	21	NENE						0	20	84			8/9/1977	831426	
CAMPBELL	Domestic	03N	01E	21	NENE						0	20	75			8/4/1977	830499	
STATEWIDE CONSTRUCTION	Domestic	03N	01E	21	NENE						0	10	65			7/19/1977	821713	
KIRBY TRANSWESTERN CONSTRUCTION	Domestic	03N	01E	21	NENE						0	20	72			4/25/1977	832613	
KERBY TRANWESTERN CONST	Domestic	03N	01E	21	NENE						0	20	72			4/22/1977	821015	
KERBY TRANSWESTERN CONSTRUCTION	Domestic	03N	01E	21	NENE						0	20	61			4/14/1977	832325	
BROWN, GENE P	Domestic	03N	01E	21	NENE						85	24	131			4/12/1974	795032	
HOLT, GLEN	Domestic	03N	01E	21	NENE				1	9	9999	9999	70			12/31/9999	790321	
HOLT, GLEN	Domestic	03N	01E	21	NENE			CLOVERDALE	1	3	9999	15	70			12/31/9999	790322	
BIENAPFL, W	Domestic	03N	01E	21	NENE						0	16	117			12/31/9999	833334	
PROVIDENCE DEVELOPMENT GROUP, LLC	Domestic	03N	01E	21	NENE		1821 S CLOVERDALE RD					24	0		3	9/29/1999	733649	
PROVIDENCE DEVELOPMENT GROUP, LLC	Domestic	03N	01E	21	NENE		1855 S CLOVERDALE RD					20	0		6	9/29/1999	733650	
POND, THAIN, POWEL, THAIN	Domestic	03N	01E	21	NENE						50	10	142	127	6	9/10/1989	723372	
MC KAY, DARWIN L	Irrigation	03N	01E	21	NENW						0	0	0				722842	
MC ENROE, JOHN	Domestic	03N	01E	21	NESE						0	40	105			2/24/1970	820450	
MC ENROE, JOHN	Domestic	03N	01E	21	NESE				2	9	0	30	100			10/28/1969	820451	
MOFFAT, BOB	Domestic	03N	01E	21	NESE						0	20	72			2/22/1977	789878	
HOLTRY, BERYL	Domestic	03N	01E	21	NESE		2655 S KNAPP					55	0	-92	6	2/18/2000	763357	
MC ENROE, JOHN	Domestic	03N	01E	21	NESE			RANCHOS LOS ALTOS	1	16	35	40	105			12/31/9999	820463	
CARLETON, JOE	Domestic	03N	01E	21	NESESW		VICTORY-EAGLE				60	60	153	153	6	7/15/1998	732377	D0007290
RUEB, JOHN	Irrigation	03N	01E	21	NESESW						0	0	0				722723	
KNAPP, GRANT	Domestic	03N	01E	21	NESW						15	35	115			6/8/1969	807185	
COLE, ROY E	Domestic	03N	01E	21	NESW						9999	35	101			5/23/1976	795030	
HOLTRY, BERYL	Domestic	03N	01E	21	NESW		2655 SO KNAPP				80	50	138	132	6	10/23/1999	733733	D0012274
GIRDNER, PAUL K	Irrigation	03N	01E	21	NESW		GIRDNER LN				0	42	222			9/11/1992	725142	
T & R CONSTRUCTION	Domestic	03N	01E	21	NESW		9510 SUNFLOWER - 1/2 MILE E OF MITCHELL				60	10	81	81	6	9/11/1996	730691	
HEPPER, TED	Domestic	03N	01E	21	NWNW						30	30	102			6/16/1969	820462	
PETRA / JADE PLAZA	Irrigation	03N	01E	21	NWNW		1655 S JADE WAY	SILVERSTONE CAMPUS SUB	1	1		60	0		10	3/17/2005	831264	
PRESSMAN, SCOTT	Domestic	03N	01E	21	NWSE						40	40	114	104	6	3/16/1989	723237	
BECHTOLD, RICHARD	Domestic	03N	01E	21	NWSE						9999	30	100			7/15/1975	795029	
GARVIN, WES	Domestic	03N	01E	21	NWSW						25	35	132	130	6	3/8/1991	724503	
RICHARD EVANS CONSTRUCTION	Domestic	03N	01E	21	NWSW		2680 S EAGLE RD	SOUTHSTONE (NEW SUB.)				65	0		4	4/24/2005	833167	
CRAWFORD, KENNETH	Domestic	03N	01E	21	SENE						40	30	106			5/1/1986	814550	
MALECKI, BOB	Domestic	03N	01E	21	SENE			HOLLENDALE			9999	25	66			4/30/1975	797780	
CITY OF MERIDIAN	Municipal	03N	01E	21	SENWNW		SE QUADRANT OF EAGLE AND OVERLAND ROADS	WITHIN SILVERSTONE POINT			2000	20	285	200	18	3/15/2002	771971	D0019264
SUNDANCE INVESTMENT LTD PARTNERSHIP	Irrigation	03N	01E	21	SENWNW		EAGLE ROAD AND OVERLAND ROAD				450	25	270	228	10	3/14/2002	772388	D0018856
MC ENROE, J B	Domestic	03N	01E	21	SESE						9999	9999	110			12/31/9999	820454	
MC ENROE, J B	Domestic	03N	01E	21	SESE						0	30	120			12/31/9999	820461	
MC ENROE, JOHN D	Domestic	03N	01E	21	SESE						20	30	70			5/19/1973	795033	
JENKINS, HOWARD	Domestic	03N	01E	21	SESE						15	30	58			1/13/1973	795034	
BLACKBURN, WM	Domestic	03N	01E	21	SESE						10	90	464			10/23/1958	853332	
BRINKERHOFF, MERRILL	Domestic	03N	01E	21	SESESW						15	30	191			3/8/1966	820456	

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Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
SLAATHAUG, GARY	Domestic	03N	01E	21	SESW						0	107	196			4/7/1978	830294	
SUNSHINE LANDSCAPE	Domestic	03N	01E	21	SESW		4000 E VICTORY				100	30	140	140	6	10/9/1997	731658	D0001333
ANDERSON, NORMAN	Domestic	03N	01E	21	SESW		3950 E VICTORY RD				30	45	204	197	6	4/6/1992	724924	
SASSER, GALE	Domestic	03N	01E	21	SESW		3516 E VICTORY				45	60	148	148	6	12/28/2001	772549	D0019451
PACKARD, ACE W	Domestic	03N	01E	21	SW						900	45	94			8/12/1961	778680	
VINCENT, TOM	Domestic	03N	01E	21	SWNE		1311 N SHAMROCK				35	35	95	89	6	9/20/1993	727484	
CLAY, HARRY, CLAY, HELEN B	Domestic	03N	01E	21	SWNE		9360 W CORY LN				30	30	95	89	6	2/19/1993	726754	
A & C CORP	Domestic	03N	01E	21	SWNE						9999	20	105			12/31/9999	797831	
MILLER, J L	Domestic	03N	01E	21	SWNE						30	17	82			5/5/1987	779136	
BABBITT, GENE A	Domestic	03N	01E	21	SWNW						9999	20	138			4/11/1968	807183	
WAYNE DEWEY BUILDER	Domestic	03N	01E	21	SWSE						9999	30	100			9/14/1976	795028	
MICHEL & DAVIS CONSTRUCTION	Domestic	03N	01E	21	SWSE			RANCHO LOS ALTOS	1	2	20	40	65			4/2/1976	795031	
WATSON, BOB	Domestic	03N	01E	21	SWSE						0	30	119			5/27/1982	825686	
HILL, DICK, MC COY, EVELYN	Stockwater	03N	01E	21	SWSE				2	2	10	56	95	81	6	12/23/1988	722918	
HACKBORN, RICHARD	Domestic	03N	01E	21	SWSE		2895 LOS ALTUS DR				40	40	197	186	6	10/24/1990	723954	
OLSON JR, DOUG	Domestic	03N	01E	21	SWSE						30	35	106	96	6	1/31/1990	723779	
HUDDLESTON, JOHNNY	Domestic	03N	01E	21	SWSE		2915 S EL RIO DRIVE				50	34	215	205	8	10/14/1994	728748	
RANCHOS LOS ALTOS	Domestic	03N	01E	21	SWSE						0	30	106			12/31/9999	820453	
TURNER, REX E	Domestic	03N	01E	21	SWSE		3145 SAN RAMONE				40	37	139	-127	6	4/27/2000	764164	D0012888
TURNER, REX E	Stockwater	03N	01E	21	SWSE						0	0	0				722772	
CARPENTER, NEDRA	Domestic	03N	01E	21	SWSW		3250 EAST VICTORY				30	60	136	131	6	5/3/2002	776666	D0019675
GREAT SKY INC	Monitoring	03N	01E	21	SWSW		NE CORNER OF EAGLE RD & VICTORY RD; S1121336550/S1121396800				0	29	36	26	2	11/15/1996	730079	
GREAT SKY INC	Monitoring	03N	01E	21	SWSW		NE CORNER OF EAGLE RD & VICTORY RD;				0	32	40	25	2	11/15/1996	730080	
GREAT SKY INC	Monitoring	03N	01E	21	SWSW		NE CORNER OF EAGLE RD & VICTORY RD; S1121336550/S1121396800				0	31	42	27	2	11/14/1996	730078	
MC KIBBIN, DENNIS	Domestic	03N	01E	21	SWSW		2820 S EAGLE RD					0	0		4	4/30/1998	732162	
MC KIBBIN, DENNIS	Domestic	03N	01E	21	SWSW		2820 SO EAGLE RD				25	40	119	110	6	4/29/1998	732127	
PALMER, NORMAN	Domestic	03N	01E	21	SWSW						0	21	70			9/10/1975	831435	
LEWIS, EDWARD	Domestic	03N	01E	21	SWSW						0	33	69			2/1/1969	812273	
LEWIS, TED	Domestic	03N	01E	21	SWSW		EAGLE RD & VICTORY RD				40	134	70			5/7/1968	820449	
MC KIBBIN, DENNIS	Domestic	03N	01E	21	SWSW		2820 SO EAGLE RD				0	0	0				732126	D0001973
QUENZER, EUGENE	Domestic	03N	01E	21	SWSW						0	45	59			2/28/1962	778700	
ANDERSON, ANDY	Domestic	03N	01E	21							51	38	84			5/4/1976	846534	
JOHNSON, WALTER	Domestic	03N	01E	28	NE						25	35	159			8/23/1972	794119	
DANIEL, HOWARD	Domestic	03N	01E	28	NENE						9999	47	110			9/19/1970	827525	
HEPPER, TED	Domestic	03N	01E	28	NENE						40	38	78			9/25/1969	808070	
SCHAFFER, MARY	Domestic	03N	01E	28	NENE						0	0	0				722376	
JIM ROPER CONSTRUCTION, ROPER, JIM	Domestic	03N	01E	28	NENE		S SELATIR PLACE		1	6	100	47	175	172	6	6/15/1995	729435	
JIM ROPER CONSTRUCTION, ROPER, JIM	Domestic	03N	01E	28	NENE		S SELATIR PLACE		1	3	100	45	173	171	6	6/14/1995	729434	
THOMAS, PAT, HAYWARD, JERRY	Domestic	03N	01E	28	NENE		SELATIR PLACE		1	5	100	47	176	172	6	6/12/1995	729436	
SMITH, BURT	Domestic	03N	01E	28	NENE		BRIDLEWOOD-LOG SAYS SELITAR ST				50	50	126	124	6	8/19/1992	726001	
DILLMAN, RICH	Domestic	03N	01E	28	NENE						0	27	116			10/29/1983	826808	
WENICK, BEN	Domestic	03N	01E	28	NENW			GOLDEN EAGLE ESTATES		8	20	35	67			9/19/1974	794115	
EAGLE LAND CO	Domestic	03N	01E	28	NENW						25	35	63			1/6/1974	794116	
KEPPER, TED	Domestic	03N	01E	28	NENW						15	31	73			6/30/1972	797340	
KEPPER, TED	Domestic	03N	01E	28	NENW						15	42	73			4/12/1972	797344	
KEPPER, TED	Domestic	03N	01E	28	NENW						15	46	93			3/28/1972	797346	
KEPPER, TED	Domestic	03N	01E	28	NENW						10	50	114			3/16/1972	797350	
HEPPER, TED	Domestic	03N	01E	28	NENW						9999	62	162			1/24/1969	816555	
PAPE, LARRY	Domestic	03N	01E	28	NENW						30	32	61			12/31/9999	794019	
HERON, TOM	Domestic	03N	01E	28	NENW		3395 TERRI DRIVE				40	35	179	180	6	9/30/1993	727474	
WENICK, BEN	Domestic	03N	01E	28	NENW		3415 S TERRI				30	45	177	177	6	6/20/1993	727055	
HERRON, THOMAS PAUL	Domestic	03N	01E	28	NENW						50	40	64			1/16/1976	794113	
FACKRELL, LYNN L	Domestic	03N	01E	28	NENW		TERRI ST		1	10	35	42	80	80	6	3/19/1990	723528	
PHILIP, ALLEN	Domestic	03N	01E	28	NENW		3450 TERRI DR			11	55	35	80	80	6	9/30/1989	723144	
ZALISZ, ROBERT	Domestic	03N	01E	28	NENWNE		4265 E VICTORY RD	ALLEN ESTATES		3	75	30	140	134	6	7/10/2006	840943	D0046673
GEIGER, M	Domestic	03N	01E	28	NESE						9999	55	73			8/29/1973	797342	
CCMI	Domestic	03N	01E	28	NESW		ZALDA LANE	KUNZE HOLLOW	1	1	59	71	177	170	6	5/6/2004	814235	D0031274
STETSON HOMES, COOK, REX	Domestic	03N	01E	28	NESW		3691 S CALEB		2	4	50	33	152	147	6	5/25/1995	729374	
WANNER, WALT	Domestic	03N	01E	28	NESW						45	60	83	82	6	5/10/1992	725581	
HERRON, THOMAS PAUL	Domestic	03N	01E	28	NESW			GOLDEN EAGLE		9	30	38	60			12/10/1977	794020	
TERRY GARDNER CONSTRUCTION	Domestic	03N	01E	28	NESW		3822 E ZALDIA LANE	KUHNZ HOLLOW	3	1	32	65	142	133	6	7/3/2002	779712	D0025274
EDWARDS, CARL	Domestic	03N	01E	28	NESW						0	8	77			9/19/1969	829279	
DANIEL, HOWARD	Domestic	03N	01E	28	NESW						0	38	110			9/28/1967	829729	
ROSS, RUSS	Irrigation	03N	01E	28	NESW						0	0	0				722829	
JOHNSON, DANIEL H	Domestic	03N	01E	28	NESWNE		3501 SOUTH SELATIR				25	42	177	177	6	7/28/1993	727217	
JENSEN, J K	Domestic	03N	01E	28	NW						18	42	195			2/21/1960	778602	
WALKER, GUY L	Domestic	03N	01E	28	NW			VICTORY VIEW ACRES	1	31	30	48	110			5/30/1975	794976	
BOWELL, FRANK	Domestic	03N	01E	28	NWNE						12	0	120			12/31/9999	778601	
LAVIGNE, DAVID	Domestic	03N	01E	28	NWNE		SELATIN PLACE - VICTORY	BRIDLE WOOD	1	3	45	50	150	150	6	6/25/2002	779093	D0025177
ROPER, JIM	Domestic	03N	01E	28	NWNE		3626 S SELATIR PLACE		1	4	100	46	170	168	6	5/7/1996	730205	
ROPER, JIM	Domestic	03N	01E	28	NWNE		3536 S SELATIR PLACE		1	2	100	35	171	170	6	3/15/1996	730204	
STAHN, KEN	Domestic	03N	01E	28	NWNE		3199 S SELATIN PL		1	2	45	42	135	135	6	10/31/1992	726262	
MILLER, KEN, MILLER, JENU	Domestic	03N	01E	28	NWNE					2	75	45	120	119	6	5/30/1992	725714	
BOGDAN, GEORGE	Commercial	03N	01E	28	NWNE		4225 E VICTORY RD				100	43	135	133	6	5/29/1992	725542	
WATERS, STANLEY J, WATERS, MICHELLE	Domestic	03N	01E	28	NWNE		NEXT TO 3250 S SELATIR PL		2	2	80	48	196	183	8	5/24/1995	728953	
JELLO, JIM	Domestic	03N	01E	28	NWNESE		4580 BOTT LANE				30	48	121	109	6	5/1/2001	768753	D0018316
BERTSCH, GIDEON	Domestic	03N	01E	28	NWNW						0	24	86			7/27/1986	785933	

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CRAWFORD, DAN H	Domestic	03N	01E	28	NWNW						0	38	204			8/11/1983	827120	
FRISBIE, EDWARD D	Domestic	03N	01E	28	NWNW						9999	52	130			4/11/1979	783415	
BARENBRUG BREEDING INC	Domestic	03N	01E	28	NWNW						0	12	291			10/31/1978	788559	
SHEFFIELD SR, ELLIOTT A, SMITH, TOM	Domestic	03N	01E	28	NWNW		3300 E DARTMOOR DR		2	3	100	43	180	180	6	2/3/1995	729097	
REGENCY CONSTRUCTION	Domestic	03N	01E	28	NWNW		3835 S GIDEON		2	18	30	27	110	100	6	6/14/1994	727828	
VIERTEL, GREG	Domestic	03N	01E	28	NWNW		3835 GIDEON PL	DARTMOOR	2	18	90	34	108	98.5	6	8/17/2004	823791	D0031732
TIM SEVIG CONSTRUCTION, JORDAN, ANNETTE	Domestic	03N	01E	28	NWNW		3891 S GIDEON PLACE		2	15	100	20	189	187	6	9/20/1995	729698	
KINGSLEY, MICHEAL, KINGSLEY, MARLENE	Domestic	03N	01E	28	NWSE		4390 BOTT LANE				60	50	170	165	6	7/22/2003	805009	D0029680
LEWIS, TED	Domestic	03N	01E	28	NWSE						40	18	66			3/23/1973	797786	
LOWE, CHRIS E	Domestic	03N	01E	28	NWSE						20	44	88			7/10/1971	820035	
TEETER, DAVID	Domestic	03N	01E	28	NWSW						40	28	120	111	6	10/2/1990	723610	
SHOEMAKER, JAMES FRANKLIN	Domestic	03N	01E	28	NWSW		3421 ZALDIA LANE	ZALDIA ZERUA	1	1	40	37	197	190	6	1/21/2001	768233	D0018198
DE ANGELI, PHILIP	Domestic	03N	01E	28	NWSW		3405 ZALDIA	ZALDIA ZERUA	1	2	60	35	197		6	5/11/2001	768843	D0018438
HOOGLAND, FRANS	Domestic	03N	01E	28	NWSW		4330 BOTT LANE				70	45	158	158	6	2/5/2003	791439	D0029124
MILLER, RONALD	Domestic	03N	01E	28	NWSW		4270 BOTT LANE				90	50	157	154	6	1/31/2003	790974	D0029114
MATTHEWS, MARK	Domestic	03N	01E	28	NWSW		4115 BOTT LN					55	0	150	6	1/27/2003	790973	
MATTHEWS, MARK	Domestic	03N	01E	28	NWSW		4115 BOTT LN				35	55	157	157	6	1/22/2003	790513	D0029087
O DELL	Domestic	03N	01E	28	NWSWNW						60	30	59			5/27/1972	810764	
BAUMBACK, DON	Domestic	03N	01E	28	SENE		3581 CLOVERDALE				80	40	159	152	6	5/26/1994	728294	
JOHNSON, WALTER E	Domestic	03N	01E	28	SENE						0	0	112			12/31/9999	778604	
JOHNSON, WALTER E	Domestic	03N	01E	28	SENE						0	39	110			12/31/9999	778606	
PETSCHE, TIMOTHY	Domestic	03N	01E	28	SENE		3726 SELITAR				40	40	169	161	6	6/8/1999	733243	D0009589
EVANS, DALE W	Domestic	03N	01E	28	SENE						256	20	46			10/11/1973	794118	
MALLARD, L W	Domestic	03N	01E	28	SENE						9999	108	194			1/26/1974	794117	
HOPPER, TED	Domestic	03N	01E	28	SENE						0	41	81			4/28/1969	832448	
JOHNSON, WALTER E	Domestic	03N	01E	28	SENE						1200	39	109			4/28/1963	778603	
JOHNSON, WALTER E	Domestic	03N	01E	28	SENE						1000	38	108			3/26/1963	778605	
FOWLER, MICHAEL	Domestic	03N	01E	28	SENENE		3223 S CLOVERDALE				35	48	140	140	6	8/27/2012	864213	D0063693
ROPER, JIM	Domestic	03N	01E	28	SENW		SELATIR & VICTORY RDS				150	41	175	172	6	12/8/1994	728863	
BEHRMAN, DALE	Domestic	03N	01E	28	SENW						150	35	175	174	6	10/28/1991	724414	
MC GOURTY, TIM	Domestic	03N	01E	28	SENW		3796 E ZALDIA				24	37	178	168	6	4/8/2003	797599	D0029252
WHITTIG, BRUCE	Domestic	03N	01E	28	SESE						40	50	138	138	6	5/5/1992	725599	
TROWBRIDGE, HAROLD	Domestic	03N	01E	28	SESE		4499 S CLOVERDALE				15	40	147	147	6	3/4/1993	726388	
WESTWOOD HOMES	Domestic	03N	01E	28	SESE		4606 AMITY				100	39	138	126	6	11/30/1995	729882	
TROWBRIDGE, HAROLD	Commercial	03N	01E	28	SESE		4499 S CLOVERDALE				0	50	86		36		727580	
CHRISTENSEN, CAROL S	Domestic	03N	01E	28	SESW		4128 E AMITY				70	45	125	117	6	6/16/1991	724649	
T & R CONSTRUCTION, PRINDLE, ROB	Domestic	03N	01E	28	SESW		EAGLE AND AMITY, WESLEY MANOR RETIREMENT				70	25	172	172	6	8/21/1995	729592	
STANGER, DON	Domestic	03N	01E	28	SWNE						30	40	140	129	6	4/9/1991	724208	
BERNESCONI, LEE	Domestic	03N	01E	28	SWNENE						18	60	110			10/7/1969	844371	
BUTCH MYERS CONSTRUCTION, ROBERT MYERS	Domestic	03N	01E	28	SWNW		3885 GIDEON				20	22	83	78	6	11/22/1995	729866	
REGENCY CONSTRUCTION	Domestic	03N	01E	28	SWNW		3702 S CALEB				35	35	159	150	6	11/3/1995	729802	
STANS, KEN	Domestic	03N	01E	28	SWNW		CORNER OF VICTORY/EAGLE RDS - LAST HOUSE ON LEFT ON DARTMOOR				125	35	173	166	6	4/6/1996	730254	
WALLACE, TIM	Domestic	03N	01E	28	SWNW		3834 S GIDEON RD, 20' FROM RD		2	13	25	27	110	104	6	6/13/1994	728348	
STATEWIDE CONSTRUCTION INC, MIKE, RICH	Domestic	03N	01E	28	SWNW		S CALED PLACE		2	9	60	25	180	169	6	7/9/1994	728434	
STOTT, RICK	Domestic	03N	01E	28	SWNW		3684 S CALED PLACE		2	7	70	31	142	121	6	7/2/1994	728424	
WARNER CONSTRUCTION	Domestic	03N	01E	28	SWNW				2	17	40	20	180	170	6	9/20/1994	728664	
WILLIAMSON, WAYNE	Domestic	03N	01E	28	SWNW		3874 SOUTH GIDEON PLACE		2	12	0	0	0				728992	
CONGER MANAGEMENT GROUP	Domestic	03N	01E	28	SWNWSW		EAGLE RD AND ZALDIA LN					35	150		6	2/26/2007	845470	
HILL JR, ANGUS	Domestic	03N	01E	28	SWNWSW						0	0	0				722737	
SKINNER, RALPH	Domestic	03N	01E	28	SWSE						50	30	64			6/14/1965	778600	
M & W HOMES	Domestic	03N	01E	28	SWSE		GIDEON ST		2	12	35	70	121	109	6	10/3/1995	729727	
ANDERSON, ED	Domestic	03N	01E	28	SWSE		4320 E AMITY				50	45	139	139	6	4/3/1993	726831	
FREEMAN, BUD, FREEMAN, JOHN C	Domestic	03N	01E	28	SWSE		SELATAR LN & BATT LN				0	43	121	107	6	8/27/1990	723617	
ROSS, BENNIE	Domestic	03N	01E	28	SWSESW		3570 AMITY RD				24	40	97	97	6	2/23/1993	726698	
LEWIS, TED	Domestic	03N	01E	28	SWSW						0	32	64			5/30/1968	830112	
GREEN, LOYAL	Domestic	03N	01E	28	SWSW						0	25	46			12/6/1967	823447	
DIAMOND VIEW ASSISTED LIVING	Domestic	03N	01E	28	SWSW		3570 E AMITY					35	41		6	5/20/2005	833918	
L & G INC	Domestic	03N	01E	28	SWSW		4617 S MARTINALE				50	34	144	-137	6	4/15/2000	763969	D0012788
HILL, EARL, MORGAN, RON	Domestic	03N	01E	28	SWSW		BEHIND WESLEY MANOR ON AMITY RD			3	30	35	180	172	6	10/24/1997	731687	D0001472
TAYLOR, ROGER	Domestic	03N	01E	28	SWSW		4606 S EAGLE RD				25	30	198	198	6	8/20/1996	730617	
KUNZ, VICTOR	Domestic	03N	01E	28	SWSW		4280 S EAGLE RD				40	40	155	155	6	5/5/1993	726928	
QUICK, TROY	Domestic	03N	01E	28	SWSW				2	5	50	28	160	153	6	7/12/1994	728339	
DYVER DEVELOPMENT	Domestic	03N	01E	29	NENE		3335 S EAGLE RD; SW CORNER OF EAGLE & VICTORY	NEW SUB: MEDFORD SUB				0	51		6	4/13/2006	839154	
MORRIS, JAMES L	Domestic	03N	01E	29	NENE						25	20	52			9/20/1973	797352	
SPILLETT, RICHARD	Domestic	03N	01E	29	NENE						30	16	56			6/11/1973	800546	
SPILLETT, ROBERT R	Domestic	03N	01E	29	NENE						0	0	113			3/20/1978	789868	
MORGNER, MARLENE	Domestic	03N	01E	29	NENE		2015 E VICTORY RD				20	40	214	209	6	4/14/1994	728154	
DYVER DEVELOPMENT	Domestic	03N	01E	29	NENE		3335 S EAGLE RD; SW CORNER OF EAGLE & VICTORY	NEW SUB: MEDFORD SUB				61	250		8	4/13/2006	839155	
LEWIS, EDWARD	Domestic	03N	01E	29	NENW						0	28	122			12/15/1969	822805	
TUSCANY DEVELOPMENT INC	Aesthetic	03N	01E	29	NENW			MESSINA HILLS #3	11	3	180	35	201	201	8	7/28/2005	834866	D0041645
BROWN CONSTRUCTION	Domestic	03N	01E	29	NESE		4001 S EAGLE RD					32	101		6	5/31/2006	840364	
ROSENBALM, LOWELL	Domestic	03N	01E	29	NESENW						0	40	169			6/2/1979	855918	
CONGER MANAGEMENT GROUP	Domestic	03N	01E	29	NESW		1/4 MILE E OF LOCUST GROVE; 3/4 MILE S OF	#3				37	49		4	2/16/2006	838596	
BURNETT, DOUGLAS W	Irrigation	03N	01E	29	NESWNE						350	30	218	199	10	12/29/1992	726271	
LIDDELL, RUSS	Domestic	03N	01E	29	NESWNW						0	14	286			8/10/1978	788672	

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Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
CITY OF MERIDIAN	Municipal	03N	01E	29	NWNE		APPROX 1600 FT WEST OF EGLE RD & VICTORY RD	TUSCANY LAKES	15	8	2340	40	334	195	18	3/30/2004	809489	D0030863
MC ALVAIN, TORRIE	Domestic	03N	01E	29	NWNENW		1975 VICTORY RD				150	22	253	240	6	9/24/1994	728686	
LIDDELL, RUSSELL	Domestic	03N	01E	29	NWNW		1777 E VICTORY RD				200	31	138	135	6	8/9/2012	864086	D0063960
FISHER, GREG	Domestic	03N	01E	29	NWSE		3800 ARCADO				75	120	212	198	6	1/28/1999	732979	D0009074
WATSON, JASON	Domestic	03N	01E	29	NWSW		4646 S LOCUST GROVE	TERRIOR HEIGHTS	1	2	50	41	110	98.5	6	7/4/2002	780026	D0025280
NAMPA & MERIDIAN IRRIGATION DISTRICT	Domestic	03N	01E	29	NWSW						0	18	112			10/30/1969	829838	
CONGER MANAGEMENT GROUP	Domestic	03N	01E	29	NWSW		OFF LOCUST GROVE BETWEEN VICTORY & AMITY	#2				37	144		6	2/16/2006	838595	
CONGER MANAGEMENT GROUP	Domestic	03N	01E	29	NWSW		OFF LOCUST GROVE BETWEEN VICTORY & AMITY	#1				37	153		6	2/16/2006	838594	
SHEFFIELD, WAYNE	Domestic	03N	01E	29	NWSW						0	23	185			11/29/1969	830252	
CONGER MANAGEMENT GROUP	Domestic	03N	01E	29	NWSW		4420 S LOCUST GROVE					30	205		6	5/2/2002	776608	D0019891
CONGER MANAGEMENT GROUP	Domestic	03N	01E	29	NWSW		4420 S LOCUST GROVE					30	205		6	1/27/2007	845648	
SPENCER, RON	Domestic	03N	01E	29	NWSWNW						20	15	82	79	6	11/19/1984	722183	
CONGER MANAGEMENT GROUP	Domestic	03N	01E	29	NWSWSW		4420 S LOCUST GROVE					30	100		6	1/30/2007	845482	
SALOVE, THOMAS E	Domestic	03N	01E	29	SENE						0	0	0				722600	
BRODIN, SARA	Domestic	03N	01E	29	SENENE		3515 S EAGLE RD				50	50	162	157	6	5/13/2008	851427	D0052712
THE WESTPARK COMPANY INC	Domestic	03N	01E	29	SENESE		4195 S EAGLE RD	MESSINA MEADOWS #1				40	0		4	2/14/2006	838598	
CITY OF MERIDIAN	Monitoring	03N	01E	29	SENWNE		APPROX 1600 FT WEST OF EAGLE RD AND VICTORY RD INTERSECTION	TUSCANY LAKES	15	8		26	710	658	8	4/25/2003	795822	D0029239
HASTINGS, REO L	Domestic	03N	01E	29	SESE						50	32	58			9/10/1969	828220	
CALAMIA, CHARLES	Domestic	03N	01E	29	SESENE						25	14	70			10/16/1981	841811	
HUBBLE HOMES	Domestic	03N	01E	29	SESESW		N SIDE OF AMITH BETWEEN EAGLE RD & LOCUST GROVE RD					20	48		6	2/28/2007	845480	
IDAHO FIRST NATIONAL	Domestic	03N	01E	29	SESW						0	21	56			8/30/1969	829843	
LEVITT, ROBERT	Domestic	03N	01E	29	SESW						29	20	85			8/2/1977	794025	
COMBA, TRUDY	Irrigation	03N	01E	29	SESWSW						9999	8	40			2/26/1987	785483	
THOMPSON, TOMMY N	Domestic	03N	01E	29	SWNE						20	30	203			4/2/1977	794023	
SKOGERSOHN, LORI	Domestic	03N	01E	29	SWNW						0	10	40			3/29/1986	819841	
HOWARD, RAYNER	Domestic	03N	01E	29	SWNW		3420 S LOCUST GROVE				75	23	131	131	6	6/16/1998	732308	D0007219
BENNETT, EMMETT	Domestic	03N	01E	29	SWSE						15	29	63			1/25/1955	778599	
STAR CRAFT HOMES	Domestic	03N	01E	29	SWSE						35	5	63			12/9/1972	794030	
WALKER, RANDY	Domestic	03N	01E	29	SWSE		OFF AMITY ON ASAY LANE (.3 W OF EAGLE RD)				50	30	100	94	6	2/10/1997	731116	
COOK, JAMES	Domestic	03N	01E	29	SWSE		VICTORY & EAGLE		2	6	35	30	159	153	6	8/29/1994	728582	
MERIT HOMES INC	Domestic	03N	01E	29	SWSE		3886 S GIDEON				150	Above	192	189	6	11/17/1995	729847	
BLASER, BRUCE	Domestic	03N	01E	29	SWSW						0	0	0				723886	
ATKINSON, GENE	Domestic	03N	01E	29	SWSW						15	31	81			12/31/9999	813894	
CONGER MANAGEMENT GROUP	Domestic	03N	01E	29	SWSW		4460 S LOCUST GROVE RD					25	99		6	7/22/1998	732410	D0007327
CONGER MANAGEMENT GROUP	Domestic	03N	01E	29	SWSW		4460 S LOCUST GROVE RD					25	99		6	5/4/2007	846676	
FULMORE, CHARLES	Domestic	03N	01E	29	SWSW						30	20	147			6/11/1972	794027	
CONGER MANAGEMENT GROUP	Domestic	03N	01E	29	SWSW		N SIDE OF AMITY, 800 FEET E OF LOCUST GROVE					40	250		6	4/27/2007	846435	
LLOYD, HERBERT	Domestic	03N	01E	29	SWSWSW						20	115	159			3/14/1977	794095	
LOVELAND, DEAN		03N	01E	29							0	45	82			3/24/1979	781833	
IDAHO POWER CO	Monitoring	03N	01E	30	NENE		WEST SIDE OF LOCUST GROVE ROAD PROX 1000					12	21		2	8/15/2000	766117	D0015485
IDAHO POWER CO	Monitoring	03N	01E	30	NENE		WEST SIDE OF LOCUST GROVE ROAD PROX 1000 FT SOUTH OF VICTORY ROAD					12	21		2	4/6/2001	859967	
POOLE, TONY	Domestic	03N	01E	30	NENW						20	61	143			6/1/1982	841813	
SORENSEN, AL	Domestic	03N	01E	30	NENW						9999	64	154			7/17/1970	828233	
BUTTONS, GLEN	Domestic	03N	01E	30	NENW		COLE/VICTORY RDS				30	25	179	168	6	4/28/1995	729306	
SANCHEZ, GUADALUPE	Domestic	03N	01E	30	NESE		UNKNOWN					52	95		4	7/25/1962	778598	
DUFF, RICHARD, DUFF, PENNY	Domestic	03N	01E	30	NESENE						0	0	82				722381	
OLSON, DOUG	Domestic	03N	01E	30	NESW						60	30	78			9/10/1981	841810	
MAJORS, RANDY	Domestic	03N	01E	30	NESWSE		RAMONA ST				30	45	233	227	6	12/7/1992	726399	
GROSS, JOE	Domestic	03N	01E	30	NWNE						0	60	95			12/21/1969	830128	
TRAYLER, JERRY	Domestic	03N	01E	30	NWNE						0	60	102			6/20/1977	820921	
KNIGHT, CHIP	Domestic	03N	01E	30	NWNE						60	30	147	138	6	9/19/1984	722182	
SORENSON, AL	Domestic	03N	01E	30	NWNW						0	40	97			2/18/1971	828840	
SORENSON, AL	Domestic	03N	01E	30	NWNW						0	42	118			11/21/1970	829254	
SORENSON, AL	Domestic	03N	01E	30	NWNW						9999	41	124			11/18/1970	808845	
GLEASON, JACK	Domestic	03N	01E	30	NWNW						9999	60	141			4/16/1970	832196	
CARTER, MIKE	Domestic	03N	01E	30	NWNW			SORENSON	6	2	40	78	141			11/19/1981	841812	
SORENSEN, AL	Domestic	03N	01E	30	NWNW						9999	65	150			3/12/1970	827493	
MONROE, LINDA	Domestic	03N	01E	30	NWNW		6767 W WRIGHT ST				75	103	190	185	6	10/24/2003	808139	D0030570
CONGER MANAGEMENT GROUP	Domestic	03N	01E	30	NWSE		4275 S LOCUST GROVE					52	224		4	2/8/2007	845572	
SPINK, BRIAN, SPINK, KIM	Domestic	03N	01E	30	NWSESE		4533 S RAMONA		1	9	0	60	142	128	6	10/17/1992	726085	
AMYX, JOE	Domestic	03N	01E	30	NWSESE		4467 S PAMONA		1	11	40	53	234	234	6	7/30/1992	725905	
ESTEP, JERRY	Domestic	03N	01E	30	NWSW						25	47	85			11/5/1977	794093	
DYVER DEVELOPMENT LLC	Domestic	03N	01E	30	SENE		NEAR 3815 S LOCUST GROVE (PARCEL # S1130142115)	CHATSWORTH SUB	2	10		29	0		6	8/4/2005	835078	
BESHTOLD, RICK	Domestic	03N	01E	30	SENW						0	70	137			9/20/1977	787764	
STATES INVESTMENTS INC	Domestic	03N	01E	30	SENW						100	70	282			12/10/1977	826680	
STATES INVESTMENTS	Irrigation	03N	01E	30	SENW						0	90	340			9/12/1978	788560	
SPINK, KIM	Domestic	03N	01E	30	SESE		4355 S RAMONA		1	9	0	0	0				725913	
INTERWEST HOMES INC	Domestic	03N	01E	30	SESE						0	0	75				722339	
INTERWEST HOMES INC	Domestic	03N	01E	30	SESE				1	16	0	0	78				722473	
INTERWEST HOMES INC, HUNSPERGER, L R	Domestic	03N	01E	30	SESE				1	10	0	0	89				722502	
FLYNN, LARRY	Domestic	03N	01E	30	SESE						9999	85	99			12/2/1975	794091	
LEWIS, AL	Domestic	03N	01E	30	SESE						0	31	100			2/21/1969	823622	
LEWIS, ALBERT	Domestic	03N	01E	30	SESE						0	31	104			9/19/1968	827670	

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LEWIS, ALBERT	Domestic	03N	01E	30	SESE						0	31	132			9/14/1968	829197	
CHERRY LANE CONSTRUCTION	Domestic	03N	01E	30	SESE		1357 PITKIN AVE		1	4	50	60	140	120	6	9/13/1994	727881	
CHERRY LANE CONSTRUCTION	Domestic	03N	01E	30	SESE		1357 PITKIN AVE		1	4	50	60	140	120	6	9/13/1994	727900	
FLYNN, LARRY	Domestic	03N	01E	30	SESE						9999	50	148			10/5/1976	794032	
SIELOFF, ROLLIE	Domestic	03N	01E	30	SESE		1410 E AMITY				35	63	159	-138	6	2/5/2001	767917	D0018102
HEPPER HOMES	Domestic	03N	01E	30	SESE		E PITKIN AVE, NEXT TO 1357		1	5	75	62	171	171	6	10/23/1993	727563	
COMPTON, SCOTT, COMPTON, DOREEN	Domestic	03N	01E	30	SESE		1300 E AMITY				30	115	178	167	6	6/21/1997	731390	
AMYX, JOE	Domestic	03N	01E	30	SESE		4577 S RAMONIA				50	80	221	221	6	7/7/1993	727200	
COMPLETE PROPERTY MGMT	Domestic	03N	01E	30	SESE		4615 S LCOUST GROVE RD				22	38	238	227	6	7/22/2003	805451	D0029633
STURGIS, PAT, STURGIS, JIM	Domestic	03N	01E	30	SESE		1450 PIKIN		1	17	150	37	285	276	6	10/8/1993	727540	
MONDT, DON	Domestic	03N	01E	30	SESESE		4715 S LOCUST GROVE				50	52	302	295	6	9/24/1993	727473	
MERIDIAN JOINT SCHOOL DISTRICT #2	Other	03N	01E	30	SESWSE						250	110	280			3/1/1986	820569	
MILLER & NITZ	Domestic	03N	01E	30	SWNE						950	70	110			12/31/9999	794076	
COOPER, ROBERT P	Domestic	03N	01E	30	SWNE						9999	90	157			6/30/1977	794094	
HANSON, DON	Domestic	03N	01E	30	SWNW			SORENSON	1	2	25	60	95			5/15/1974	794059	
PERRY, TIMOTHY	Domestic	03N	01E	30	SWNW						22	55	105			3/10/1976	794058	
SORENSON, AL	Domestic	03N	01E	30	SWNW						9999	65	152			9/30/1958	813895	
CHASE, LANA	Domestic	03N	01E	30	SWNW		6850 W MC GLOCHLIN				33	52	169	109	6	6/22/2004	817627	D0031611
RUSSELL, NEIL	Domestic	03N	01E	30	SWNWSE						40	85	150			1/12/1977	794092	
MONDAY, PLEASENT	Domestic	03N	01E	30	SWSE						9999	80	100			3/31/1976	794057	
MAJORS, RANDY	Domestic	03N	01E	30	SWSE		PITKIN ST				30	45	205	253	5	12/18/1992	726398	
MERIDIAN JOINT SCHOOL DISTRICT #2	Domestic	03N	01E	30	SWSE		1050 E AMITY RD	MARY MCPHERSON ELEMENTARY SCHOOL				125	244		6	3/24/2009	855367	
MERIT HOMES INC, GALLAGHER, CHIP	Domestic	03N	01E	30	SWSE		1505 PITKIN AVE		1	1	35	30	310	302	6	9/10/1994	728583	
MICHEL, CARLYLE	Domestic	03N	01E	30	SWSW						20	28	84			9/18/1971	807176	
MICKLES, CARLYLE	Domestic	03N	01E	30	SWSW						22	16	85			9/16/1971	820049	
HEPPER, TED	Domestic	03N	01E	30	SWSW						0	8	86			1/10/1970	829943	
AGENBROAD, MARK	Domestic	03N	01E	30	SWSW		1420 E AMITY				30	55	99	93	6	8/24/1993	727409	
MARCUM, ROD	Domestic	03N	01E	30	SWSW		LOCUST GROVE		1	7	35	92	145	137	6	9/28/1993	727485	
KEVIN CULLIGAN CONSTRUCTION	Domestic	03N	01E	30	SWSW		4433 RAMONA		1	12	60	47	231	226	6	5/26/1995	729313	
WORDEN, RANDY	Domestic	03N	01E	31	NENE		4975 SO LOCUST GROVE				0	0	0				733227	D0009327
REDING, RAYMOND J	Irrigation	03N	01E	31	NENE						9999	75	170			3/31/1966	783585	
CLAPSON, LORIN	Domestic	03N	01E	31	NENE		5175 S LOCUST GROVE				75	130	260	248	6	5/23/2002	777003	D0019996
MARTIN, BRUCE	Domestic	03N	01E	31	NENE						0	120	307			5/13/1974	833293	
ALL AMERICAN	Domestic	03N	01E	31	NENE		1370 TANYA LN				60	120	345	319	6	1/15/2006	837943	D0042400
HOLLOWELL, DAN	Domestic	03N	01E	31	NESE		6255 S TARREGA				35	112	253	253	6	4/12/2005	832309	D0038954
MURGOITIO, J C	Domestic	03N	01E	31	NESE						0	0	320			9/8/1962	778592	
TURNKEY CONSTRUCTION	Domestic	03N	01E	31	NESW			RANDALL ACRES NO 3	D	6	25	5	48			4/10/1983	844257	
EAGLEWOOD HOMES INC	Domestic	03N	01E	31	NESW		472 E SHAFER VIEW	SHAFER VIEW ESTS	1	11	100	120	228	220	6	9/1/2005	835612	D0041722
CRESTWOOD CONSTRUCTION	Domestic	03N	01E	31	NESW		356 SHAFER VIEW DR	SHAFER VIEW	1	9	50	123	235	228	6	11/17/2005	837513	D0042189
FAHNSTRON, CARL	Domestic	03N	01E	31	NESW						9999	135	238			3/9/1973	794096	
CRESTWOOD CONSTRUCTION	Domestic	03N	01E	31	NESW		437 SHAFER VIEW	SHAFER VIEW	1	16	60	130	238	230	6	11/28/2005	837661	D0042190
MORGAN, DAVID S	Domestic	03N	01E	31	NESW		498 E SHAFER VIEW	SHAFER VIEW	1	13	100	100	280	270	6	10/18/2005	836949	D0041619
DOUG LASHER CONSTRUCTION	Domestic	03N	01E	31	NESW		461 E SHAFER VIEW	SHAFER VIEW	1	15	60	130	284	275.5	6	11/3/2005	837204	D0042187
VICTORY HOMES	Domestic	03N	01E	31	NESW		493 E SHAFER VIEW DR	SHAFER VIEW ESTATES	1	14	65	121	288	288	6	8/26/2005	835613	D0041805
A & J CONSTRUCTION	Domestic	03N	01E	31	NESW		476 SHAFER VIEW DR	SHAFER VIEW ESTATES	1	12	75	119	312	295	6	4/12/2006	839068	D0042560
CLARK, DAROLD	Domestic	03N	01E	31	NWNE			FAIRVIEW ACRES	3	20	0	4	46			6/7/1984	774942	
WARDLE, JOE	Domestic	03N	01E	31	NWNE						50	75	141			11/26/1981	779508	
ESHELMAN, LEROY	Domestic	03N	01E	31	NWNE						0	108	167			5/30/1961	778589	
ANDERSON, STEVE	Domestic	03N	01E	31	NWNW						0	132	182			1/23/1978	788674	
ASEQUINOLAZA, JOE	Domestic	03N	01E	31	NWNWSW	3					50	90	213	203	6	9/10/1989	723374	
DARRIS, DON	Domestic	03N	01E	31	NWSE						0	98	222			6/17/1961	778597	
MOSIER, LEROY	Domestic	03N	01E	31	NWSW						0	115	213			11/4/1954	778591	
MOORE FINANCIAL	Domestic	03N	01E	31	NWSWSW						0	0	175				722289	
INGRAHAM, JAMES	Domestic	03N	01E	31	SENE		5225 S LOCUST GROVE					125	250			8/10/2012	863933	D0063930
STEWART, GEORGE	Domestic	03N	01E	31	SENE						15	130	295	293	6	9/7/1983	722034	
NITZ, FRED	Domestic	03N	01E	31	SENE		SOUTH LOCUST GROVE RD				100	135	360	358	6	11/24/1992	726263	
NOLAN, PAT	Domestic	03N	01E	31	SENW		OFF MARGARET 100 YDS DOWN TANYA ON NORTH				50	120	250	250	6	9/16/2005	835958	D0041912
ROVIG, KELBY	Domestic	03N	01E	31	SENWSW		236 SHAFER VIEW DR	SHAFER VIEW	1	1	50	125	278	260	6	2/13/2006	838447	D0042347
MC CARTER MOORHOUSE CO INC	Domestic	03N	01E	31	SESENE		1473 E MARY LN				30	139	256	251	6	10/31/2007	849752	D0052323
STEWART, CHARLES	Domestic	03N	01E	31	SESENE						0	125	360			5/31/1970	830586	
CORRPRO CO INC, SOUTHLAND CORP	Cathodic	03N	01E	31	SESESE		4400 CHINDEN BLVD				0	8	25	25	1	6/4/1998	731895	D0000527
CORRPRO CO INC, SOUTHLAND CORP	Cathodic	03N	01E	31	SESESE		4400 CHINDEN BLVD				0	8	25	25	1	6/4/1998	731896	D0000528
HENSON, MARION L	Domestic	03N	01E	31	SESW						15	110	189			9/22/1971	810055	
DORRIS, DON	Domestic	03N	01E	31	SESWNE		805 E AMITY				18	119	281	280	6	6/27/1994	728408	
RF CONSTRUCTION	Domestic	03N	01E	31	SWNW		ON MERIDIAN RD BETWEEN WEST AMITY AND W LAKE HAZEL RD	SHAFER VIEW ESTATES	1	2	75	125	258	250	6	6/25/2003	803426	D0029504
RF CONSTRUCTION	Domestic	03N	01E	31	SWNW		ON MERIDIAN RD BETWEEN WEST AMITY AND	SHAFER VIEW	1	3	75	125	260	250	6	6/20/2003	803427	D0029505
CANTRELL, LELAND W	Domestic	03N	01E	31	SWSW						60	30	53			8/16/1979	781830	
BRADY, JAMES A	Domestic	03N	01E	31	SWSW		4520 LEWIS-CLARK				30	115	212	-203	6	6/20/2000	765016	D0015189
WILLEMAN, ROBIN	Domestic	03N	01E	31	SWSW	4	6030 S MERIDIAN RD (NE CORNER OF MERIDIAN &				80	121	240	230	6	8/19/1997	731521	
A & J CONSTRUCTION	Domestic	03N	01E	31	SWSW		SHAFER VIEW DR	SHAFER VIEW	1	10	75	123	240	230	6	2/14/2005	829553	D0038727
A & J CONSTRUCTION	Domestic	03N	01E	31	SWSW		302 E PRAIRIE VIEW	SHAFER VIEW	1	8	75	160	240	233	6	6/16/2005	834010	D0039093
BOLINGER, RAY	Domestic	03N	01E	31	SWSW		176 E PRAIRIE VIEW LN	SHAFER VIEW ESTATES	1	6	50	124	240	234	6	9/26/2006	835890	D0039395
ROBERT PIERCE CONSTRUCTION	Domestic	03N	01E	31	SWSW		335 SHAFER VIEW	SHAFER VIEW	1	17	60	130	242	232	6	10/19/2004	825374	D0038236
ROBERT PIERCE CONSTRUCTION	Domestic	03N	01E	31	SWSW		225 PRAIRIE VIEW	SHAFER VIEW	1	7	75	130	252	238	6	1/4/2005	827744	D0038403
CAVEN, MICHAEL	Domestic	03N	01E	31	SWSW		SE CORNER OF MERIDIAN RD AND SHAFER VIEW	SHAFER VIEW SUB	1	4	50	133	255	232	6	5/22/2002	777700	D0019937
WILLEMAN, ROBIN, WILLEMAN, ALLEN	Domestic	03N	01E	31	SWSW		LAKE HAZEL				80	100	273	266	6	5/26/1998	732195	D0007023
CAVEN, MICHAEL	Irrigation	03N	01E	31	SWSW		6874 FAIRVIEW AVE	SHAFER VIEW	1	4		0	ab		4	6/12/2002	779816	
GALLOWAY, RONALD R	Domestic	03N	01E	31	SWSWSE						1500	85	196			4/21/1968	812119	

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Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
STUART, VANITA	Domestic	03N	01E	31							0	180	175			10/11/1966	847587	
YOUNG, ED	Domestic	03N	01E	32	NENENW		2375 E AMITY RD				60	52	109	104	6	5/21/2008	851512	D0052875
MANNLEIN, PAULA	Domestic	03N	01E	32	NENENW		2385 E AMITY RD				22	42	112	112	6	5/21/2007	846791	D0048148
ISHAM, RONA	Domestic	03N	01E	32	NENW						0	0	0				722604	
FRISCH, DONNA B	Domestic	03N	01E	32	NENW						30	30	97	94	6	5/23/1985	722210	
SJAATAD, JERRY	Other	03N	01E	32	NENW						0	30	102			7/1/1984	773745	
PATRICK, SHERRI, PATRICK, BRENT O	Domestic	03N	01E	32	NENW						35	35	241	235	6	6/10/1993	727208	
MCKAY, D J	Domestic	03N	01E	32	NESE						0	40	106			10/10/1969	829221	
MC KAY, D J	Irrigation	03N	01E	32	NESE						9999	30	163			4/27/1987	785288	
CANTRELL, DONALD	Domestic	03N	01E	32	NESESE		6155 S EAGLE RD				50	65	160	154	6	6/19/2009	856556	D0055725
MERIT HOMES INC	Domestic	03N	01E	32	NW		1650 SUZAN DRIVE				80	117	295	269	6	9/3/1996	730673	
BURNETT, DOUGLAS	Domestic	03N	01E	32	NWNE						0	44	160			3/14/1980	777321	
IDAHO POWER CO	Domestic	03N	01E	32	NWNW						50	19	97			4/28/1978	811063	
CHURCH OF JESUS CHRIST OF THE LATTER DAY SAINTS	Domestic	03N	01E	32	NWNW						100	37	150	133	6	4/5/1985	722211	
PAPE, LARRY	Domestic	03N	01E	32	NWNW						0	115	190			10/30/1977	823524	
L D S CHURCH	Domestic	03N	01E	32	NWNW						9999	31	535			3/15/1976	794097	
BUCKHARDT, CLYDE D	Domestic	03N	01E	32	NWSE		1107 MERCER				100	7	46	45	6	8/17/1995	729602	
AMUNDSON, WALT	Domestic	03N	01E	32	NWSWNW					4	30	135	205	190	6	4/28/1992	725579	
HEPPER	Domestic	03N	01E	32	SENE						35	32	75			7/9/1981	842830	
WARD, BERNICE E, WARD, BILL	Domestic	03N	01E	32	SENW		AMITY				30	32	100	90	6	4/16/1992	725547	
UPPIANO, ARNILDO J	Domestic	03N	01E	32	SENW						32	122	195			4/16/1973	794080	
GLENN JOHNSON HOMES	Domestic	03N	01E	32	SESE		2868 E LAKE HAZEL RD		1	2	50	110	198	191	6	11/30/1999	733784	D0012520
JOHNSON, DICK, JOHNSON, COLLEEN	Domestic	03N	01E	32	SESE		3132 E LAKE HAZEL		1	6	50	125	202	196	6	12/4/1997	731795	D0001425
EWING, JOHN	Domestic	03N	01E	32	SESE		2934 E LAKE HAZEL				60	119	208	198	6	7/13/1999	733410	D0009836
BAUMGARTNER, DONALD J	Domestic	03N	01E	32	SESW		2310 E LAKE HAZEL RD				50	130	224	212	6	10/21/2005	836989	D0042061
CITY OF MERIDIAN	Municipal	03N	01E	32	SESWNE		E TACONIC DR	BLACKROCK SUB NO 1	1	24	1000	54	713	571	24	7/17/2009	855803	D0053548
CITY OF MERIDIAN	Monitoring	03N	01E	32	SESWNE		E TACONIC DR	BLACKROCK SUB NO 1	1	24		48	1276	54	8	12/10/2008	854124	D0053401
COOK, DAVE	Domestic	03N	01E	32	SWNW						0	17	83			4/26/1968	830068	
SMITH, BURTON	Domestic	03N	01E	32	SWNW						30	123	191			6/22/1973	794078	
ARNOLD, KENNETH	Domestic	03N	01E	32	SWNW						7	115	191			8/10/1971	812866	
AMUNDSON, WALTER	Domestic	03N	01E	32	SWNW						9999	118	197			2/22/1972	794100	
UPPIANO, ARNILDO J	Domestic	03N	01E	32	SWNW						0	110	211			11/30/1962	778588	
HARRIS, JOE	Domestic	03N	01E	32	SWNW						40	125	223			6/23/1973	794099	
CROFTS, KOLE	Domestic	03N	01E	32	SWNW		1770 MARY LANE				30	108	256	256	6	8/5/2002	782215	D0025379
RALPH, PAUL	Domestic	03N	01E	32	SWNW						30	140	318	307	6	7/15/1992	725746	
MURGOITIO, J C	Irrigation	03N	01E	32	SWNWSW						0	50	385	287	16	7/5/1991	724641	
A B & W BUILDERS	Domestic	03N	01E	32	SWSW						0	40	128			5/18/1968	828828	
FULCHER, FINLEY	Domestic	03N	01E	32							0	48	127			11/9/1955	856135	
CARR, MILLARD	Domestic	03N	01E	33	NENE						0	48	92			12/27/1964	778581	
TENNEY, MILES R	Domestic	03N	01E	33	NENE						1200	40	61			4/9/1962	778582	
GREEN, NORMAN	Domestic	03N	01E	33	NENE						0	45	111			6/8/1982	826935	
GREEN, ROBERT L	Domestic	03N	01E	33	NENE						20	48	112			3/24/1979	783121	
HILL, MARTY	Domestic	03N	01E	33	NENW		3625 E AMITY RD				100	48	242	235	6	3/8/2006	838686	D0042578
HILLE	Domestic	03N	01E	33	NENW						0	55	76			4/30/1976	832533	
DONOVAN, ROBERT	Domestic	03N	01E	33	NESE						0	18	97			10/23/1971	829275	
SPARKS, WAYNE	Domestic	03N	01E	33	NESE						0	15	109			6/13/1970	831421	
KING, W R	Irrigation	03N	01E	33	NESE						0	58	136			4/15/1968	820213	
EVANS BROS CONSTRUCTION	Domestic	03N	01E	33	NESE			GINGER CREEK	3	5	30	30	84			6/2/1978	826691	
AMYX, MARVIN	Domestic	03N	01E	33	NESE						0	28	138			5/30/1978	832532	
GAROUTTE, HELEN	Domestic	03N	01E	33	NWNE		AMITY RD		1	2	25	50	160	159	6	8/13/1992	725143	
WYATT, STANLEY	Domestic	03N	01E	33	NWNE						0	30	65			5/21/1984	773729	
CLARK, JAMES	Domestic	03N	01E	33	NWNW						60	24	88			6/3/1973	794084	
IDAHO POWER CO	Domestic	03N	01E	33	NWNWN		SE CORNER S EAGLE RD & E AMITY RD	HILLSDALE SUBSTATION			25	41	140	133	6	4/11/2008	851144	D0052431
ALBERTSONS INC	Domestic	03N	01E	33	NWNWN						0	21	44		6	11/10/1995	729823	
JENKINS, HOWARD	Domestic	03N	01E	33	NWSW						15	30	65			8/27/1972	794101	
TENNEY LIVESTOCK CO	Domestic	03N	01E	33	SE						1400	55	136			12/9/1959	778587	
SKYLINE DEVELOPMENT CO	Domestic	03N	01E	33	SENE		5425 S CLOVERDALE					68	0	40	6	1/21/2003	790833	
SKYLINE DEVELOPMENT CO	Domestic	03N	01E	33	SENE		5425 S CLOVERDALE					68	0	40	6	1/16/2003	790826	
SKYLINE DEVELOPMENT CO	Domestic	03N	01E	33	SENE		5425 S CLOVERDALE					68	0	40	6	9/27/2002	787347	D0025661
FOUTH, LEROY	Domestic	03N	01E	33	SENE						20	20	70			8/28/1975	794077	
HILL JR, ANGUS	Domestic	03N	01E	33	SENW						0	45	82			8/10/1978	789866	
HILL JR, ANGUS	Domestic	03N	01E	33	SENW						0	49	84			8/6/1978	789865	
TURF CO INC	Domestic	03N	01E	33	SESE		4380 E LAKE HAZEL RD					66	0		6	9/1/2005	835949	
HIATT, CHARLES	Domestic	03N	01E	33	SESE						0	50	87			9/1/1982	773725	
AMYX, JAMES	Domestic	03N	01E	33	SESE						20	20	85			6/11/1973	794103	
HAUN, HARRY	Domestic	03N	01E	33	SWNE						0	15	38			11/20/1979	822808	
TRIANGLE CONSTRUCTION	Domestic	03N	01E	33	SWNE						0	73	106			1/9/1978	788675	
AMYX, JOE	Domestic	03N	01E	33	SWNE						60	11	71			6/23/1973	794060	
BOISE CAPITAL SOCCER CLUB	Domestic	03N	01E	33	SWSE		BETWEEN 1/4 AND 1/2 MILE WEST OF LAKE HAZEL				100	62	203	196	6	8/6/2003	792070	D0029151
MC KAY, DARWIN L	Domestic	03N	01E	33	SWSE		3220 E LAKE HAZEL RD				75	50	111	106	6	10/26/1999	733737	D0012330
MC KAY, DARWIN L	Domestic	03N	01E	33	SWSW						9999	85	168			12/16/1971	797353	
MAYER, RUSSELL	Domestic	03N	01E	33	SWSW		3490 E COLUMBIA RD				20	140	211	205	6	10/17/1993	727426	
MC KAY, DARWIN L	Irrigation	03N	01E	33	SWSW						0	0	0				722408	
MC KAY, DARWIN L	Irrigation	03N	01E	33	SWSWSW		3220 E LAKE HAZEL RD				300	64	276		10	4/14/1993	726280	
MC KAY, DARWIN L	Irrigation	03N	01E	33	SWSWSW		3220 E LAKE HAZEL RD				300	64	276		10	5/16/2005	832893	D0039124
BASTIAN, MERRIL	Domestic	03N	01E	33							0	8	142			9/13/1978	782623	
BAUER, HENRY O	Domestic	03N	01E	33							0	0	39			7/31/1967	775278	

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DEWEY, WAYNE	Domestic	03N	01W	1	NENE						80	3	84			9/29/1970	798513	
CLEGG, DOUG	Domestic	03N	01W	1	NENE		3165 MERIDIAN ROAD					8	97		6	11/8/2002	788798	D0025911
CLEGG, DOUG	Domestic	03N	01W	1	NENE		3165 MERIDIAN ROAD					8	97		6	11/23/2010	860504	
TALB0T, EARL D	Domestic	03N	01W	1	NENE						50	18	102			7/10/1970	798515	
SPRING CREEK USTICK LLC	Domestic	03N	01W	1	NENENE		3165 N MERIDIAN RD	STRASSER FARMS SUB #2	1	3	50	8	122	117	6	3/28/2011	860850	D0057978
BEIR, DEVON	Domestic	03N	01W	1	NESE						40	8	120			4/17/1978	807038	
WALTERS, DALE G	Domestic	03N	01W	1	NESENW						15	9999	160			8/11/1962	815170	
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY	AS17				12	20	22	2	1/7/2001	767835	D0018040
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY	AS17				12	20	22	2	1/31/2003	791253	
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY LANE	AS12				12	22	22	2	1/4/2001	767828	D0018035
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY LANE	AS13				12	22	22	2	1/6/2001	767829	D0018036
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		1717 W CHERRY LANE	AS14				12	22		2	1/6/2001	767830	D0018037
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		1717 W CHERRY LANE	AS15				12	22	22	2	1/6/2001	767832	D0018038
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY	AS16				12	22	22	2	1/7/2001	767833	D0018039
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY LANE	AS18				12	22	22	2	1/7/2001	767836	D0015966
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY LANE	AS12				12	22	22	2	1/31/2003	791235	
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY LANE	AS13				12	22	22	2	1/31/2003	791237	
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		1717 W CHERRY LANE	AS14				12	22		2	1/31/2003	791241	
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		1717 W CHERRY LANE	AS15				12	22	22	2	1/31/2003	791248	
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY	AS16				12	22	22	2	1/31/2003	791250	
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY LANE	AS18				12	22	22	2	1/31/2003	791255	
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY LANE					16	22		2	12/22/2003	809784	
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY LANE	WELL AS8				12	22	20	2	1/3/2001	767824	D0018031
JACKSON FOOD STORE	Monitoring	03N	01W	1	NESWSE		522 W CHERRY	AS9				12	22	20	2	1/3/2001	767825	D0018032
JACKSON FOOD STORE		03N	01W	1	NESWSE		522 W CHERRY	AS10				12	22	20	2	1/4/2001	767826	D0018033
JACKSON FOOD STORE		03N	01W	1	NESWSE		522 W CHERRY LANE	AS11				12	22	20	2	1/4/2001	767827	D0018034
SANFORD, JOHN C	Domestic	03N	01W	1	NWNE						10	1	99			10/5/1970	833521	
SINDON, TY	Domestic	03N	01W	1	NWNWN		1515 W USTICK RD				40	8	100	96	6	2/27/2009	854858	D0053450
CITY OF MERIDIAN	Municipal	03N	01W	1	NWSE						9999	9999	179			2/28/1973	806690	
CITY OF MERIDIAN		03N	01W	1	NWSE						0	0	228			3/30/1973	799259	
CITY OF MERIDIAN, CITY OF MERIDIAN	Municipal	03N	01W	1	NWSE		N CRESTMONT DR	MERIDIAN MANOR SUB #3	2	17		5	470		20	8/21/1973	799266	
CITY OF MERIDIAN, CITY OF MERIDIAN	Municipal	03N	01W	1	NWSE		N CRESTMONT DR	MERIDIAN MANOR SUB #3	2	17		5	470		20	2/18/2009	856103	
SOUTH JOHNSON CO	Domestic	03N	01W	1	SENE		INDIAN ROCKS STREET	CLEARBROOK SUB (NEW SUB)	3	4		5	ab		6	9/8/2004	824234	
WALKER, MARTIN	Domestic	03N	01W	1	SENW						0	2.5	30			7/20/1983	825707	
BALDWIN, CURLY	Domestic	03N	01W	1	SENW						40	2	57			7/20/1983	823158	
FLACK, DAMON	Domestic	03N	01W	1	SENW						1800	5	92			5/2/1968	802715	
BALDWIN, CURLY	Domestic	03N	01W	1	SENW						50	0	167			9/11/1984	786177	
VENABLE, ERLAN J	Domestic	03N	01W	1	SENW						0	3	263			6/22/1973	799258	
LUTZ, MICHAEL	Irrigation	03N	01W	1	SESE						20	8	30			7/1/1985	804327	
JONES, JOAN	Domestic	03N	01W	1	SESE		306 W CHERRY LN				48	8	41	33	6	12/17/2003	809673	D0030666
BELVEAL, JOHN	Domestic	03N	01W	1	SESE						9999	9999	168			7/27/1969	798514	
SANCHEZ , TINO	Domestic	03N	01W	1	SESESE		1929 N LEISURE LN				200	5	355	350	6	2/1/2008	854540	D0053441
DEERFIELD MANOR SUBDIVISION	Irrigation	03N	01W	1	SESW		428 E STATE AVE			1	100	8	30	30	8		725536	
ROUNDY, M E	Domestic	03N	01W	1	SESW						2400	5	106			9/6/1960	829448	
LEISURE LANE WATER ASSN	Domestic	03N	01W	1	SESW						200	4	113			12/31/9999	798510	
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE					16	22		2	8/24/2000	766366	D0015534
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE	AS-3				16	22		2	8/24/2000	766367	D0015535
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE	AS-4				16	22		2	8/24/2000	766369	D0015536
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE					16	22		2	8/23/2000	766371	D0015537
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE					16	22		2	8/23/2000	766372	D0015538
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE	AS-7				16	22		2	8/25/2000	766373	D0015539
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE					16	22		2	12/22/2003	809785	
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE	AS-3				16	22		2	12/22/2003	809786	
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE	AS-4				16	22		2	12/22/2003	809787	
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE					16	22		2	12/22/2003	809789	
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE					16	22		2	12/22/2003	809790	
JACKSON FOOD STORE	Monitoring	03N	01W	1	SESWSE		522 W CHERRY LANE	AS-7				16	22		2	12/22/2003	809792	
CONGER MANAGEMENT GROUP	Domestic	03N	01W	1	SWNE		VENABLE LN					5	0		6	4/8/2005	832666	
NOTEBOOM, HENRY	Domestic	03N	01W	1	SWNE						9999	9999	65			6/18/1970	798511	
HENDRICKS, BILL	Domestic	03N	01W	1	SWNE						0	60	160			2/16/1977	799267	
OWYHEE SUBDIVISION	Domestic	03N	01W	1	SWNE			OWYHEE			0	0	390			12/3/1981	844634	
JACKSON FOOD STORE	Monitoring	03N	01W	1	SWSE		522 W CHERRY LANE	AS19				12	22	22	2	1/13/2001	767869	D0015964
JACKSON FOOD STORE	Monitoring	03N	01W	1	SWSE		522 W CHERRY LANE	AS19				12	22	22	2	1/31/2003	791263	
A W B	Irrigation	03N	01W	1	SWSE						40	6	36			8/10/1979	818060	
EMBASSY TRAILER COURT	Irrigation	03N	01W	1	SWSE						0	0	40			6/18/1975	799257	
CAMMANN & VORLICKY	Domestic	03N	01W	1	SWSE						30	12	54			4/23/1987	847737	
PHILLIPS, GERALD N	Domestic	03N	01W	1	SWSE		544 W CHERRY LN				50	10	55	36	6	6/26/1997	731409	
MSE	Monitoring	03N	01W	1	SWSW		638 LAWNDALE DR				0	13	22	-5	7	12/19/2000	767670	D0015639
JACKSON FOOD STORE	Monitoring	03N	01W	1	SWSW		W CHERRY LANE					12	22	-5	2	1/9/2001	767839	D0018041
HILL, A G		03N	01W	1	SWSW						0	7	56			9/8/1966	802714	
HILL, ARDELL	Domestic	03N	01W	1	SWSW						18	7	92			8/18/1967	802713	
ROYAL, TRAVIS	Domestic	03N	01W	1	SWSW						0	6	95			11/14/1967	833945	
LEWIS, GERRY	Domestic	03N	01W	1	SWSW						9999	9	105			6/10/1970	798512	
MERIDIAN ASSEMBLY OF GOD	Domestic	03N	01W	1	SWSWSW		1830 N LINDER, 250' E OF LINDER				40	10	148	138	6	5/30/1997	731339	
HEDGES, JESS	Domestic	03N	01W	1							15	0	57			10/18/1956	817361	
HARRIS, BENJAMIN	Domestic	03N	01W	2	NE						70	17	56			1/15/1981	785793	

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Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
ADA COUNTY	Domestic	03N	01W	2	NENENE		3195 N LINDER RD					1	0		4	11/17/2010	860475	
CITY OF MERIDIAN	Test	03N	01W	2	NENENE	1	APPROX 1100 FEET SOUTH OF USTICK ROAD ON WEST SIDE OF LINDER ROADF					0	915	819	12	5/3/2002	770800	D0019032
HARTSOOK, EDWIN E	Domestic	03N	01W	2	NENW		1974 TODD WAY		6	22	0	0	26				723650	
LOMBARD CONRAD ARCHITECT	Domestic	03N	01W	2	NENW		2515 W USTICK RD				70	7	131	121	6	2/6/2003	791464	D0029130
LOMBARD CONRAD ARCHITECTS	Domestic	03N	01W	2	NENW		2515 W USTICK RD					7	136	136	6	2/6/2003	793572	
ASCHENBRENNER, JIM	Domestic	03N	01W	2	NENW	3					15	5	140	132	6	6/30/1989	723325	
NYBORG, GLENN	Domestic	03N	01W	2	NESE						9999	12	80			12/25/1968	802712	
MASON, TED	Domestic	03N	01W	2	NESE		2415 LINDER					10	ab		3	11/7/2003	808945	
STATEWIDE CONSTRUCTION	Domestic	03N	01W	2	NESW						0	28	102			3/22/1978	828782	
FAIRCHILD, JAMES	Domestic	03N	01W	2	NESW						0	16	108			8/4/1973	799255	
SHUEMAN, DON	Irrigation	03N	01W	2	NWSE						15	8	20	19	6	6/7/1982	721985	
LINDER FALLS HOME OWNERS ASSOCIATION	Irrigation	03N	01W	2	NWSESE		CHERRY LN & LINDER		3	7	150	2	255	245	10	11/6/1996	730485	
LINDER FALLS HOME OWNERS ASSOCIATION	Irrigation	03N	01W	2	NWSESE		CHERRY LN & LINDER		3	7	180	2	295	285	10	5/7/1997	730484	
RADY CONSTRUCTION	Domestic	03N	01W	2	NWSW		7374 CHISUM DR	CHISUM VALLEY	1	8	60	130	173	-169	6	11/21/1999	733794	D0012505
CORDOVA CONSTRUCTION	Domestic	03N	01W	2	NWSW		2345 COGBURN		2	7	35	75	321	308	6	8/9/1999	733357	D0009776
FRALEY, GARY	Domestic	03N	01W	2	SENE						0	25	75			1/21/1975	799256	
CITY OF MERIDIAN	Municipal	03N	01W	2	SENENE		APPROXIMATELY 1100 FEET SOUTH OF USTICE ROAD ON WEST SIDE ON LINDER ROAD	TUMBLE CREEK			2000	2	558	432	18	9/25/2002	777926	D0019265
EVANS, LORING M	Domestic	03N	01W	2	SESE						0	0	0				725462	
MAVERICK COUNTRY STORES INC	Monitoring	03N	01W	2	SESE		CHERRY LANE				0	8	25	5	2	7/9/1996	730518	
MAVERICK COUNTRY STORES INC	Monitoring	03N	01W	2	SESE		CHERRY LANE				0	8	25	5	2	7/9/1996	730519	
MAVERICK COUNTRY STORES INC	Monitoring	03N	01W	2	SESE		CHERRY LANE				0	8	25	5	2	7/9/1996	730520	
C & A DEVELOPMENT	Irrigation	03N	01W	2	SESESE						0	15	88		12		730880	
PETERSON, GARY	Irrigation	03N	01W	2	SESW						0	8	31			5/16/1986	809630	
LOGAN, M R	Domestic	03N	01W	2	SWNW						17	30	100			4/3/1968	822866	
SHEPHERD, HOWARD	Stockwater	03N	01W	2	SWSW						450	9999	44			1/28/1961	815169	
STUHR, WILLIAM, HUNNEMILLER, RUSS	Domestic	03N	01W	2	SWSW						250	13	56	26	10	3/17/1992	725431	
VANCE, ED	Domestic	03N	01W	2	SWSW		1740 N TEN MILE / NE SIDE OF CHERRY				30	10	130	120	6	7/8/1995	729506	
HAWKINS COMPANIES LLC	Dewatering	03N	01W	2	SWSW		3150 CHERRY LN	SEVENTH DAY ADVENTIST CHURCH				8	161		6	3/22/1997	731145	
HAWKINS COMPANIES LLC	Dewatering	03N	01W	2	SWSW		3150 CHERRY LN	SEVENTH DAY ADVENTIST CHURCH				8	161		6	8/30/2006	841884	
TUTHILL, DICK	Aesthetic	03N	01W	2	SWSW		N OF CHERRY ON 10 MILE/E SIDE				0	Above Ground Level	222		4		727641	
CITY OF MERIDIAN	Municipal	03N	01W	2	SWSW						0	4	380	337	20	9/24/1990	723915	
CITY OF MERIDIAN	Experimental	03N	01W	2	SWSW		TEN-MILE RD, #12				0	Above Ground Level	800		6	6/19/1994	728415	
CITY OF MERIDIAN	Municipal	03N	01W	2	SWSW		CHERRY LANE & LINDER				1800	Above Ground Level	833	702	18	12/7/1994	727836	
CITY OF MERIDIAN	Municipal	03N	01W	2	SWSW		CHERRY LANE & LINDER				1800	Above	833	702	18	12/7/1994	727837	
CITY OF MERIDIAN	Exploration	03N	01W	3	NE		CORNER OF USTICK & HELMAN DR		5	1	0	Above Ground Level	415	400	8	5/21/1997	731126	
PETERSON, STEVE	Domestic	03N	01W	3	NENE		10 MILE AND USTICK					0	0		4	11/24/1999	733830	
BURTGOFF, AARON	Domestic	03N	01W	3	NENE		TEN MILE-USTICK				70	6	132	125	6	9/9/1998	732508	D0007552
GRAHAM, JAMES	Domestic	03N	01W	3	NENE		3157 N TEN MILE RD				100	10	156	150	6	10/1/1992	726016	
JOHNSON, CLAUDE	Domestic	03N	01W	3	NENE						20	9999	231			8/11/1951	815600	
CITY OF MERIDIAN	Municipal	03N	01W	3	NENE		3301 W NIEMANN DR		5	1	0	Above	732	722	18	4/15/1998	731951	D0001692
RANEY, JAMES & DEBRA	Domestic	03N	01W	3	NENW						0	6	100			9/30/1985	828653	
MORGAN, ROBERT J	Domestic	03N	01W	3	NENW						0	0	304			7/21/1976	799254	
FUENTES, CHARLES	Domestic	03N	01W	3	NWNE						0	0	220				723849	
MALONE, RAY	Domestic	03N	01W	3	NWNW		2945 USTICK				0	0	185				723833	
BAXTER NURSERIES INC	Irrigation	03N	01W	3	NWSE						250	9	140			12/31/9999	789413	
CITY OF MERIDIAN	Irrigation	03N	01W	3	NWSE		CHERRY LANE GOLF COURSE	CHERRY LANE VILLAGE			200	9	154			10/10/1978	844635	
CRABTREE, DOUG	Domestic	03N	01W	3	NWSESW		1927 N LEISURE LN				300	8	350	348	6	12/17/2008	854051	D0053346
BRIGHTON CORP	Domestic	03N	01W	3	NWSW		W DAWSON AND BLACK CAT ROAD					12	ab		8	2/14/2002	774040	
EVANS, LORING M	Domestic	03N	01W	3	SESE		1955 N TEN MILE				30	12	217	212	6	5/15/1992	724992	
FULLER, JAMES	Domestic	03N	01W	3	SESW						20	9	135			2/21/1973	798509	
HALT, DON	Domestic	03N	01W	3	SW						17	19	57			4/1/1972	817749	
BARNEY, KENT G	Domestic	03N	01W	3	SWNE						5	5	130			8/6/1972	802855	
GOLFVIEW HOMEOWNERS ASSN	Domestic	03N	01W	3	SWSESW		SEE REMARKS		2	4	60	12	200	200	6	9/29/1994	728661	
HUTCHINSON, WALLACE	Domestic	03N	01W	3							0	0	222			4/14/1955	829447	
PACKARD ESTATES DEV LLC	Irrigation	03N	01W	4	NENE		LOT IN FRONT OF 5325 USTICK RD					5	0		6	6/6/2005	833971	
HOLT, HANK	Domestic	03N	01W	4	NENE						0	0	140			12/31/9999	799204	
ANDERSON, JACK	Domestic	03N	01W	4	NENWNE	2					0	4	78			10/4/1979	774705	
SUPERIOR EXCAVATION AND CONSTRUCTION	Domestic	03N	01W	4	NESE			TURNBERRY EST				0	0	-10	4	11/1/2000	767468	
BEAVERS, BILL	Domestic	03N	01W	4	NESE		CLOVERDALE				75	22	99	94	6	6/9/1995	729416	
BURCHARD, ROGER	Domestic	03N	01W	4	NESE						0	6	148			4/24/1973	799203	
MICHEL, CARLYLE	Domestic	03N	01W	4	NWSE						30	13	67			2/17/1971	798505	
THIBAULT, THOMAS	Domestic	03N	01W	4	NWSE						100	1	415	399	86	6/29/2001	769656	D0018633
WELLS, RICHARD	Irrigation	03N	01W	4	SE						9999	30	87			8/3/1968	798111	
LAW, BRENT	Domestic	03N	01W	4	SESE		4888 W CHERRY LN				60	5	60	51	6	8/19/1994	728576	
SAXTON, MONTE	Domestic	03N	01W	4	SESE						50	12	60			1/15/1973	802866	
W W HEDRICK CONSTRUCTION CO	Domestic	03N	01W	4	SESE						25	5	83			8/8/1972	802865	
TANNER, RAY	Domestic	03N	01W	4	SESE						30	1	112			9/2/1971	798504	

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BLEAK, NANCY R, BLEAK, KENT M	Domestic	03N	01W	4	SESE						75	10	117	145	6	7/28/1988	722531	
NEWTON, CARL	Domestic	03N	01W	4	SESE						20	6	120			6/19/1973	798502	
CORP OF THE PRESIDING BISHOP OF THE CHURCH OF	Domestic	03N	01W	4	SESE		1985 BLACKCAT AND CHERRY LANE				150	9	223	-210	6	8/6/2000	766116	D0015323
TUNING, ROBERT	Domestic	03N	01W	4	SESW						50	7	135	71	6	5/24/1983	721995	
LARGENT, NELSON H	Domestic	03N	01W	4	SW						9999	3	165			8/8/1972	798500	
MORGAN, ROBERT J, MORGAN, LOIS J	Irrigation	03N	01W	4	SWNE						0	0	0				722876	
PETTINGILL, JIM	Domestic	03N	01W	4	SWNE						0	14	141			9/23/1975	799248	
RICE, RONALD L	Irrigation	03N	01W	4	SWNW						0	Above Ground Level	205		16	5/17/1990	723471	
PRICE, JACK	Domestic	03N	01W	4	SWSE		6300 W CHERRY LANE				100	11	139	125	6	4/4/1994	728117	
SUMMERS, CHARLES	Domestic	03N	01W	4	SWSE						15	3	160			9/18/1973	813171	
MARCUM, DELBERT	Domestic	03N	01W	4	SWSE		SEE PERMIT REMARKS				100	12	194	180	6	4/15/1994	728156	
FULLER, NORMAN G	Domestic	03N	01W	4	SWSW						30	8	91			3/5/1971	808814	
ANDERSON, MIKE	Domestic	03N	01W	4	SWSW		2000 N MCDERMOTT RD				42	13	129	120	6	6/17/2003	803810	D0029473
WOOTERS, RAY	Domestic	03N	01W	9	NE						50	15	95			10/22/1971	798786	
HIRSBRUNNER, SHIRLEY	Domestic	03N	01W	9	NENE		5287 SUN FISH LN				40	12	79	74	6	7/2/2012	863720	D0063780
BENSON	Domestic	03N	01W	9	NENE						24	11	99			3/12/1971	802817	
JONES, TOM	Domestic	03N	01W	9	NENE						36	18	102			6/23/1971	802812	
FISHER SR, SAMMY	Domestic	03N	01W	9	NENE						35	9	122			9/13/1971	802810	
STORY, DAVE	Domestic	03N	01W	9	NENE		4973 W CHERRY				150	9	163	154	6	5/9/1995	729328	
BLACKSTEAD BUILDERS	Domestic	03N	01W	9	NENE		1299 N BLACKCAT				200	3	188	185	6	7/28/1993	727290	
THOMPSON, MICHAEL W	Domestic	03N	01W	9	NENW						0	0	100				722575	
CONGER MANAGEMENT GROUP	Domestic	03N	01W	9	NESE		BLACK CAT RD; S OF EL GATO N OF R.R.					9	47		6	2/2/2006	838434	
HATCH, HAL	Domestic	03N	01W	9	NESE						20	6	72			12/31/9999	798508	
PRICE, KELLEY	Domestic	03N	01W	9	NESE						30	4	81			6/4/1981	845754	
STARKEY, LARRY	Domestic	03N	01W	9	NESE			SKYVIEW RANCHETTES #1		6	0	13	100			5/10/1983	836832	
MILLER, DAVID	Domestic	03N	01W	9	NESE						9999	2	108			3/8/1973	802816	
BRISCOE, DAVID	Domestic	03N	01W	9	NESE			BLACK KAT	1	8	20	10	167			11/4/1977	812090	
BENCHMARK CONSTRUCTION	Domestic	03N	01W	9	NESENE		1155 N BLACK CAT RD					10	45		6	1/17/2008	850756	
BENCHMARK CONSTRUCTION	Domestic	03N	01W	9	NESENE		1123 N BLACK CAT RD					8	63		6	1/15/2008	850755	
KINGHORN, ROBERT	Domestic	03N	01W	9	NESENW			SKYVIEW	1	2	0	10	119			3/7/1978	820294	
RICE, JERRY	Domestic	03N	01W	9	NESW						9999	18	62			7/21/1977	782319	
THIBAULT, KEVIN	Domestic	03N	01W	9	NWNE		5321 W CHERRY LN				45	20	33	33	6	3/22/2007	845813	D0047747
HARRIS CONSTRUCTION CO	Domestic	03N	01W	9	NWNE						0	15	75			10/11/1973	798583	
LEBUTTE, CARMEN	Domestic	03N	01W	9	NWSE						0	10	99			7/14/1979	774704	
BUDOLFSON, JIM	Domestic	03N	01W	9	NWSE		PINE CONE LANE				60	4	121	112	6	11/17/1993	727368	
FULLER, NORMAN G	Domestic	03N	01W	9	NWSE						170	4	127			3/15/1971	798784	
BOYD, MIKE	Domestic	03N	01W	9	NWSW		776 N MC DERMOTT				200	Above Ground Level	129	116	6	9/21/1995	729704	
THURGOOD, C JAY	Domestic	03N	01W	9	NWSW						9999	18	155			12/31/9999	798517	
SITTSER, ERNEST	Domestic	03N	01W	9	NWSW						80	1	175			5/24/1972	802808	
BURT, BOB	Domestic	03N	01W	9	SENE						0	10	57			3/5/1975	798584	
DRAPER, CLYDE	Domestic	03N	01W	9	SENE						0	6	100			9/6/1973	798582	
	Domestic	03N	01W	9	SENE						30	20	123			10/1/1972	802869	
BURT, BOB	Domestic	03N	01W	9	SENE						25	20	130			4/29/1972	802874	
COLE, FRED	Domestic	03N	01W	9	SENW		EL GATO				25	20	143			4/2/1981	842276	
ROBINSON	Domestic	03N	01W	9	SENW						65	8	188			11/16/1979	785796	
ADA COUNTY HIGHWAY DISTRICT	Test	03N	01W	9	SESE		N SIDE OF FRANKLIN RD IN ROW AT 4842 W FRANKLIN RD	P-1				10	20	10	2	2/2/2012	862849	D0060367
D & B BUILDERS	Domestic	03N	01W	9	SESE						21	21	88			11/14/1971	802815	
EVANS, DALE	Domestic	03N	01W	9	SESE						9999	6	98			3/12/1970	798780	
BOYD, JAMES	Domestic	03N	01W	9	SESE						0	85	188			8/1/1970	804927	
PEVEY, JESSE	Irrigation	03N	01W	9	SESE						500	9999	218			5/29/1961	829410	
CLARK, AARON	Domestic	03N	01W	9	SESENW		5663 ELGATO		2	2	150	8	100	89	6	3/20/1993	726812	
ROSE, LELA C	Domestic	03N	01W	9	SESESW		5620 W FRANKLIN				35	2	193	187	6	9/26/1993	727477	
THEBAULT, TOM	Domestic	03N	01W	9	SWNE						0	8	115			12/31/9999	793604	
OWENS, WESLEY B	Domestic	03N	01W	9	SWNW			SKY VIEW RANCHETTES #2	1	4	0	2	86			6/26/1980	777770	
GIESE, JAMES H	Domestic	03N	01W	9	SWNW		6051 EL GATO LN		4	2	28	7	130	130	6	7/31/1991	724703	
STONE, RON	Domestic	03N	01W	9	SWNW						0	2	200			12/29/1975	798586	
DANIGER, BOB	Domestic	03N	01W	9	SWSE						60	20	72			4/10/1981	819547	
HESTAND, JOHNNY	Domestic	03N	01W	9	SWSW		5880 W FRANKLIN				40	10	65	58	6	10/24/1993	727571	
HENRICKSON, LEVI	Irrigation	03N	01W	9	SWSW						0	60	212			4/1/1977	798587	
PONDS, GILBERT	Domestic	03N	01W	9	SWSWNE						100	9	70			11/10/1986	779257	
TOHMESON, MIKE	Domestic	03N	01W	9							0	12	102			7/10/1975	798585	
PALMER, GARY	Domestic	03N	01W	9							30	1	134			6/14/1972	802813	
HAHN, C E	Domestic	03N	01W	9							0	0	370			10/28/1955	829411	
RICH, RAYMOND	Domestic	03N	01W	10	NENE						28	6	88			1/14/1958	825493	
FULLER, JAMES	Irrigation	03N	01W	10	NENE						0	0	250				722585	
PHILLIPS, R S	Domestic	03N	01W	10	NENE						9999	9999	306			10/15/1965	814818	
WILDER, STEVEN	Domestic	03N	01W	10	NENESE		775 TEN MILE				75	10	155	141	6	9/15/1992	726092	
JONES, GENE	Domestic	03N	01W	10	NENW		1490 N. JONE CREEK LANE				75	10	110	-98	6	10/20/2000	767193	D0015613
TURNER, BRAD	Domestic	03N	01W	10	NENW		4365 CHERRY LANE				75	7	123	118	6	8/3/1994	728506	
MANGUM, JOHN	Domestic	03N	01W	10	NENW						10	4	157			4/12/1962	825679	

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Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
WILDER, STEVEN	Domestic	03N	01W	10	NESE		3401 PINE AVE				150	Above Ground Level	210	206	6	9/14/1993	727436	
CITY OF MERIDIAN	Municipal	03N	01W	10	NESESE		N OF 195 N TEN MILE RD; NW OF FRANKLIN & TEN MILE RD INTERSECTION	SUPPLY WELL #27				0	650	547	18	11/2/2007	848967	D0052247
HANEKE, KATHY, HANEKE, GEORGE	Domestic	03N	01W	10	NESW		4600 W QUARTERHORSE DR				100	16	114	102	6	9/27/1994	728691	
LAMPE, CHARLES L	Domestic	03N	01W	10	NWNW						9999	12	258			6/30/1964	817363	
ST CLAIRS, LOREN	Domestic	03N	01W	10	NWSE						0	11	70			12/26/1978	828994	
MALSTROM JR, JOHN	Domestic	03N	01W	10	NWSE						0	8	80			7/28/1973	798581	
SCHWEIGER, GARY	Domestic	03N	01W	10	NWSE		3515 WEST PINE				100	6	189	186	6	4/24/2002	776510	D0019862
HANEKE, GEORGE	Domestic	03N	01W	10	NWSW						0	0	134				724015	
STURGELL, CHARLES B	Domestic	03N	01W	10	NWSW						35	1	258			7/31/1970	802818	
CHERRY LANE CONSTRUCTION	Domestic	03N	01W	10	SENE		1025 TEN MILE RD				150	11	140	135	6	6/15/1992	725788	
SILLERPY, MILES	Domestic	03N	01W	10	SENW						0	10	122			3/21/1970	825494	
CITY OF MERIDIAN	Monitoring	03N	01W	10	SESE		353 N TEN MILE RD; 700 FT N OF FRANKLIN RD ON	TEST WELL #27			19	54	765	745	6	4/1/2005	831649	D0038518
BALDWIN, HARLAN	Domestic	03N	01W	10	SESW						9999	5	20			12/26/1991	827992	
SHERVIK, JAMES	Domestic	03N	01W	10	SESW		4272 FRANKLIN RD				0	0	90				724138	
SHERVIK, JAMES	Domestic	03N	01W	10	SESW		FRANKLIN RD				0	0	122				724961	
ZIMMERMAN, WESLEY L	Domestic	03N	01W	10	SESW						0	10	123			8/23/1972	798580	
BURGESS, JOHN M	Domestic	03N	01W	10	SESW		4380 W FRANKLIN				60	28	152	151	6	10/5/1989	723396	
SHEPP, STU	Domestic	03N	01W	10	SWNE						40	2	75			7/15/1985	814564	
BROWN, LARRY	Domestic	03N	01W	10	SWNW						0	6	80			3/20/1974	793609	
BOWER, STEVE	Domestic	03N	01W	10	SWNW						0	25	82			4/14/1977	793608	
BAXTER	Domestic	03N	01W	10	SWNW						0	10	120			2/28/1973	793611	
GIBSON, GUY	Domestic	03N	01W	10	SWSE						9999	9999	131			6/5/1970	798795	
GIFFORD, ROBERT	Domestic	03N	01W	10	SWSE						9999	9999	317			9/17/1962	815177	
HENRICK, LELAND	Domestic	03N	01W	10	SWSW						0	4	65			10/23/1973	793610	
LAYNE, WEBBER	Domestic	03N	01W	10	SWSW						10	4	93			7/12/1971	802819	
WILLIAMSON, PERRY	Domestic	03N	01W	10	SWSW						40	9999	227			4/11/1956	798788	
STATEWIDE CONSTRUCTION INC	Domestic	03N	01W	10							0	8	65			8/18/1978	782844	
BRAVO, STEVEN	Domestic	03N	01W	10							0	4	65			8/17/1976	782849	
KORN, PAUL	Domestic	03N	01W	11	NENE						100	7	59			1/13/1981	843594	
WHITING, BILL	Domestic	03N	01W	11	NENE						60	10	103			12/3/1985	779301	
CITY OF MERIDIAN	Municipal	03N	01W	11	NENE		LINDER & CHERRY LN				0	10	765	487	16	5/16/1993	726874	
HUDSON, GLEN	Domestic	03N	01W	11	NESE						75	3	248			4/6/1971	798797	
CHURCH OF JESUS CHRIST OF THE LATTER DAY SAINTS	Irrigation	03N	01W	11	NWNW						0	0	98				722883	
SCHLEKEWEY, BUSTER	Domestic	03N	01W	11	NWSE						0	9	39			10/14/1972	798575	
JEROME, LES	Domestic	03N	01W	11	SENE						30	9999	172			12/10/1965	798800	
GEISLER, TAMI, BAXTER, BOYD	Domestic	03N	01W	11	SESE		2170 FRANKLIN RD				35	8	81	80	6	10/14/1996	731298	
BITNER, DALE	Domestic	03N	01W	11	SESE						30	53	193			8/24/1978	782293	
GULL, SCOTT	Domestic	03N	01W	11	SESESE		1720 FRANKLIN				50	21	83	70	6	5/4/1993	726981	
RONALD W VAN AUKER INC	Monitoring	03N	01W	11	SESW		2770 W FRANKLIN RD					13	25	10	2	2/10/2011	860683	D0057838
RONALD W VAN AUKER INC	Monitoring	03N	01W	11	SESW		2770 W FRANKLIN RD					9	25	10	2	2/10/2011	860684	D0057839
HUDSON, GLEN	Domestic	03N	01W	11	SESW						9999	9999	225			8/20/1964	825674	
LARSON, RON	Domestic	03N	01W	11	SW						0	11	145			12/14/1973	798578	
HARRISON, REX	Domestic	03N	01W	11	SWNW		1300 N TEN MILE					6	95		6		723754	
HARRISON, REX	Domestic	03N	01W	11	SWNW		1300 N TEN MILE					6	95		6	11/14/2007	850592	
BAILEY, DUANE	Domestic	03N	01W	11	SWNW						150	40	135	133	6	8/17/1990	723658	
RUTAN, LEONARD	Domestic	03N	01W	11	SWNW						0	10	165			5/16/1973	798577	
HUETT, CLIFF	Domestic	03N	01W	11	SWNW						60	1	262			4/28/1987	779258	
HARRISON, REX	Domestic	03N	01W	11	SWNWNW		1300 N TEN MILE				40	17	140	137	6	3/28/2007	845837	D0047396
STIGILE, JOHN	Domestic	03N	01W	11	SWSE						20	8	43			6/25/1964	829409	
CALNON, TERRY	Domestic	03N	01W	11	SWSENE						0	0	137				722724	
LAND PRO DEVELOPMENT INC	Domestic	03N	01W	11	SWSENW		2820 W PINE ST					11	150		6	9/8/1993	727443	
MAVERICK COUNTRY STORES INC	Monitor	03N	01W	11	SWSW		1605 W CHERRY LN					9	ab	23	2	7/30/2001	770776	
MAVERICK COUNTRY STORES INC	Monitor	03N	01W	11	SWSW		1605 W CHERRY LN					9	ab	23	2	7/30/2001	770783	
MAVERICK COUNTRY STORES INC	Monitor	03N	01W	11	SWSW		1605 W CHERRY LN					9	ab	21	2	7/30/2001	770784	
GEILE, THOMAS A	Domestic	03N	01W	11							9999	12	85			2/1/1970	800526	
LARSON, RON	Domestic	03N	01W	11							0	5	165			6/21/1972	833715	
CRAWFORD, KENNETH	Domestic	03N	01W	12	NE						20	5	40			4/5/1976	812147	
CHURCH OF JESUS CHRIST OF THE LATTER DAY SAINTS	Irrigation	03N	01W	12	NENE		1615 E 2ND STREET				100	9	162	148	6	3/14/2003	793717	D0029203
POE, ROBERT	Domestic	03N	01W	12	NENW						45	10	44	44	6	2/27/1991	724499	
MERIDIAN JOINT SCHOOL DISTRICT #2	Irrigation	03N	01W	12	NENW		1507 W 8TH ST				200	9	162	85	8	9/16/1992	725189	
CITY OF MERIDIAN	Domestic	03N	01W	12	NESE						9999	8	53			1/26/1973	798814	
MC QUEEN, C R	Irrigation	03N	01W	12	NESE						0	0	260			6/15/1973	798541	
ENVIROSEARCH INTERNATIONAL, CANFOR USA CORP	Monitoring	03N	01W	12	NESESE		240 W TAYLOR ST				0	13	40	23	4	2/13/1993	726419	
GIPE, ALICE	Irrigation	03N	01W	12	NESW						30	9	38			5/15/1980	841710	
FOUR TS INC	Irrigation	03N	01W	12	NESWNW		EAST OF LINDER RD ON PINE AVE		2	8	200	2	214	204	10	6/10/1995	728894	
NEALE, ED, NEALE, MADORA	Domestic	03N	01W	12	NWNE		SAME AS ABOVE				40	4	40	38	6	7/31/1999	733478	D0009989
KORN, PAUL	Domestic	03N	01W	12	NWNE						0	6	40			7/20/1984	773985	
CHURCH OF JESUS CHRIST OF THE LATTER DAY SAINTS	Domestic	03N	01W	12	NWNE						42	12	52			4/24/1968	798817	
BISHOFF	Domestic	03N	01W	12	NWNW						0	4	55			12/31/9999	829347	
TREYZ, TINA	Domestic	03N	01W	12	NWNWSW						50	6	30			7/29/1986	809236	
CANFOR USA CORP	Monitoring	03N	01W	12	NWSE		240 W TAYLOR AVE				0	14	21	4	2	12/15/1992	725299	
CANFOR USA CORP	Monitoring	03N	01W	12	NWSE		240 W TAYLOR AVE				0	14	21	5	2	12/15/1992	725300	
CANFOR USA CORP	Monitoring	03N	01W	12	NWSE		240 W TAYLOR AVE				0	14	21	5	2	12/15/1992	725301	
ENVIROSEARCH INTERNATIONAL	Monitor	03N	01W	12	NWSE		240 W TAYLOR AVE				0	13	40		8	2/16/1996	779897	
RONALD VAN AUKER INC	Domestic	03N	01W	12	NWSE						0	4	140			8/30/1973	798542	

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WHITE, BERRY	Irrigation	03N	01W	12	NWSENW						0	7	45			1/28/1977	811561	
DIAMOND CONSTRUCTION	Domestic	03N	01W	12	NWSW						0	5	23		36		727632	
HEFFER, TED	Domestic	03N	01W	12	NWSW						1800	8	39			12/10/1968	833582	
CITY OF MERIDIAN	Domestic	03N	01W	12	NWSW						375	9999	200			4/10/1968	798808	
SCHOEN, VERNON	Domestic	03N	01W	12	NWSWNE						900	7	80			3/26/1964	829408	
BODINE, LENA R	Irrigation	03N	01W	12	SENE						0	13	37			2/6/1974	798543	
RUNDLE, ROBERT D	Irrigation	03N	01W	12	SENE		1121 W 5TH				0	5	40			4/10/1978	819920	
SORENSON, JOHN	Domestic	03N	01W	12	SENE						30	4	238			1/14/1965	814822	
MADSEN, FLOYD	Irrigation	03N	01W	12	SENW		WEST PINE ST		2	9	0	0	0				728993	
LAMPLIGHTER ASSOCIATION	Irrigation	03N	01W	12	SENW				3	5	160	10	35	35	8		723814	
LENON, ED	Irrigation	03N	01W	12	SENW						30	15	38			4/17/1987	779292	
LAMPLITER HOMEOWNERS ASSN, LAMPLIGHTER	Irrigation	03N	01W	12	SENW				3	5	0	6	199	194	8	10/20/1995	729736	
BAIRD OIL	Monitoring	03N	01W	12	SESE		234 W FRANKLIN	MW-1				9	20	5	2	8/3/2006	841073	D0047051
BAIRD OIL	Monitoring	03N	01W	12	SESE		234 W FRANKLIN	MW-4				10	20	5	2	8/3/2006	841076	D0047054
BAIRD OIL	Monitoring	03N	01W	12	SESE		234 W FRANKLIN	MW-2				9	25	10	2	8/6/2006	841074	D0047052
BAIRD OIL	Monitoring	03N	01W	12	SESE		234 W FRANKLIN	MW-3				9	25	10	2	8/3/2006	841075	D0047053
HEFFEL, HERB	Domestic	03N	01W	12	SESE						9999	108	91			5/19/1965	798801	
RONALD W VAN AUKER INC	Domestic	03N	01W	12	SESWSW		1200 W FRANKLIN RD					18	69		6	3/11/2008	850899	
PACK, RAY	Domestic	03N	01W	12	SWNE		524 W CARLTON		2	6	12	11	28	19	6	7/19/1994	728475	
BODINE, MARVIN R	Domestic	03N	01W	12	SWNE						0	12	45			6/4/1976	793602	
WATTS, OTHA E	Domestic	03N	01W	12	SWNE		538 W WASHINGTON				100	14	60	48	6	3/12/1996	730208	
TIEGS, OPAL L	Domestic	03N	01W	12	SWNE						0	10	80			5/14/1984	773986	
NIXON, DAVID	Domestic	03N	01W	12	SWNW		1144 W 7TH		5	8	17	12	40	29	6	4/26/1990	723558	
KINDRED, GENE	Domestic	03N	01W	12	SWNW						9999	9999	202			1/15/1962	820627	
MARSHALL, WILLIAM	Domestic	03N	01W	12	SWNW						15	9999	227			12/16/1964	820626	
CITY OF MERIDIAN	Monitoring	03N	01W	12	SWSE		FRANKLIN RD				0	0	0				730676	
CITY OF MERIDIAN	Municipal	03N	01W	12	SWSE		N OF FRANKLIN RD AT WHAT WOULD BE SW 7TH STREET				0	0	0				731086	
CITY OF MERIDIAN	Municipal	03N	01W	12	SWSE						0	7	465			5/19/1977	798574	
CITY OF MERIDIAN	Municipal	03N	01W	12	SWSE		N OF FRANKLIN RD AT WHAT WOULD BE SW 7TH				0	3	670	670	14	3/10/1997	731087	
CITY OF MERIDIAN	Exploration	03N	01W	12	SWSE		FRANKLIN RD				0	Above Ground Level	1000	36	8	10/1/1996	730677	
CITY OF MERIDIAN	Exploration	03N	01W	12	SWSE		FRANKLIN RD				0	Above Ground Level	1000	36	8	10/1/1996	779864	
HEPPER, TED	Domestic	03N	01W	12	SWSW						9999	10	43			10/12/1969	798816	
FULLER, BRYAN	Domestic	03N	01W	12	SWSW						0	25	90			9/27/1974	798572	
FUHRMAN, JAMES A	Domestic	03N	01W	12	SWSWSE		720 W FRANKLIN RD				20	21	126	124	6	6/23/2006	840762	D0046669
DUNN, JOHN	Domestic	03N	01W	12							60	30	70			4/7/1961	829407	
WATSON, RON	Domestic	03N	01W	13	NENE						100	4	66			7/30/1986	814569	
CENTRE VALLEY SUBDIVISION	Domestic	03N	01W	13	NENW						0	30	107			10/21/1978	855668	
DRAPER, CLARK	Domestic	03N	01W	13	NESE						65	7	55			5/16/1976	791070	
EDWARDS, REN	Domestic	03N	01W	13	NESE						0	10	68			4/2/1973	798501	
ALDRICH, EARL	Domestic	03N	01W	13	NESE						15	0	75			6/10/1968	853190	
SKYLINE DEVELOPMENT CO	Irrigation	03N	01W	13	NESWNW				6	14	400	5	200	200	8	4/16/1992	725426	
C W CONSTRUCTION, WALKER, CORTLAND	Domestic	03N	01W	13	NWNW		1263 W CREST WOOD DR	WESTWOOD ESTATES SUB	1	1	60	19	86	76	6	2/5/2007	845283	D0047782
MALSON, TOM	Domestic	03N	01W	13	NWNW				1	2	0	50	217	198	8	6/16/1992	725736	
GREGORY, RALPH	Domestic	03N	01W	13	NWSE						0	12	59			3/31/1975	798530	
ACREE, JOHN	Domestic	03N	01W	13	NWSE						30	68	101			8/21/1984	841350	
DOAN, F R	Domestic	03N	01W	13	NWSW						9999	9999	45			5/31/1966	798820	
HUTER, MELVIN	Irrigation	03N	01W	13	SENE						1400	8	78			7/1/1966	798446	
MEDLEY, R	Domestic	03N	01W	13	SENE						9999	12	136			4/5/1961	814819	
WALKER, DAVE	Domestic	03N	01W	13	SESE						0	7	110			6/22/1973	798503	
SKYLINE DEVELOPMENT CO	Irrigation	03N	01W	13	SWNE				9	26	0	0	0				728600	
ROWLEY, KEVIN	Domestic	03N	01W	13	SWNE				1	8	60	10	90	76	6	6/30/1998	732336	D0007221
LORCHER, PHILIP	Domestic	03N	01W	13	SWNENE						0	0	63				722719	
FORS, GARY	Domestic	03N	01W	13	SWNW						100	10	73	72	6	3/11/1992	725436	
INTERMOUNTAIN EQUINE VETERINARY	Domestic	03N	01W	13	SWSE						0	21	185			7/1/1975	798538	
PLANT, MORGAN, WELLS FARGO BANK	Domestic	03N	01W	13	SWSESW		1529 S TECH LN	KENNEDY COMMERCIAL CENTER SUB	1	4		36	126		6	6/5/1971	798819	
LITTLE, JOHN F	Domestic	03N	01W	13	SWSW						9999	12	70			7/3/1979	812944	
LOHR, MARK	Domestic	03N	01W	13	SWSW						0	0	124				723897	
MOUNTAIN VIEW EQUIPMENT INC	Commercial	03N	01W	13	SWSWSE		700 W OVERLAND RD				100	33	132	122	6	5/10/2012	863381	D0063734
MOUNTAIN VIEW EQUIPMENT INC	Domestic	03N	01W	13	SWSWSE		700 W OVERLAND RD					33	163		8	10/30/1978	783258	
MILLER, JAMES	Domestic	03N	01W	13							0	0	57			8/10/1978	782852	
JENNINGER, J J	Domestic	03N	01W	14	NE						7	9999	120			8/2/1969	809818	
WHITESTONE DEVELOPMENT	Domestic	03N	01W	14	NENE		345 S LINDER					3	64	-64	4	6/20/2000	765139	
WARREN, KELLY G	Domestic	03N	01W	14	NENE						20	12	65			8/15/1971	802821	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NENESE						30	12	99			10/29/1972	813168	
REEVES, DAVE	Domestic	03N	01W	14	NENESE				1	3	40	4	150			12/13/1977	820542	
TREASURE VALLEY VETERINARY HOSPITAL	Domestic	03N	01W	14	NESE				4	16	30	5	44			5/15/1972	802838	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE						30	8	48			11/1/1972	815546	
ROSE VALLEY CONSTRUCTION INC	Domestic	03N	01W	14	NESE						20	4	50			11/11/1971	802825	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE				1	13	24	8	56			2/18/1972	798824	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE						25	8	58			5/22/1972	798831	
TREASURE VALLEY VETERINARY HOSPITAL	Domestic	03N	01W	14	NESE				4	15	30	4	61			5/12/1972	802839	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE				1	17	2	7	62			3/14/1972	802832	

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WATSON, J L	Domestic	03N	01W	14	NESE						9999	3	69			8/5/1972	798292	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE						24	8	69			2/29/1972	798823	
ROSE VALLEY CONSTRUCTION INC	Domestic	03N	01W	14	NESE	21	929 W 4 ST				36	4	69			10/26/1971	802826	
COOPER, COY	Domestic	03N	01W	14	NESE						9999	27	70			10/7/1974	793855	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE						25	10	72			2/6/1972	798798	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE				1	2	30	3	72			5/22/1972	798829	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE						25	5	74			3/30/1972	798833	
SITTSER, ERNEST	Domestic	03N	01W	14	NESE				1	12	24	8	75			2/15/1972	802834	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE						25	8	78			5/25/1972	802709	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE				5	1	24	6	80			3/5/1972	798827	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE						0	6	81			1/11/1973	798302	
SITTSER, ERNEST	Domestic	03N	01W	14	NESE				1	11	30	6	87			5/28/1972	802843	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NESE				1	10	30	6	96			5/19/1972	798828	
BRITAIN, PHILLIP	Domestic	03N	01W	14	NESW						50	40	181	173	6	10/31/1991	724409	
BRITAIN, PHILLIP	Domestic	03N	01W	14	NESW						50	40	181	173	6	10/31/1991	724410	
CALNON, MARK	Domestic	03N	01W	14	NWNE		2215 FRANKLIN				100	18	140		6	4/3/2002	775962	D0019800
CALNON, WILBUR	Domestic	03N	01W	14	NWNE		2155 FRANKLIN RD				100	3	252	252	6	6/8/1993	727104	
ROBERTS, NEAL	Domestic	03N	01W	14	NWNW						30	15	100			5/2/1977	820350	
KIRK, DOROTHY	Domestic	03N	01W	14	NWNW						5	0	263			9/26/1979	774703	
WALKER, KEN	Domestic	03N	01W	14	NWSE						0	20	45			4/10/1975	798498	
WALKER, KEN	Domestic	03N	01W	14	NWSE			PRIMROSE	4	2	9999	21	50			4/11/1975	799789	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE			PRIMROSE	2	16	40	8	53			12/31/9999	799791	
ROSE VALLEY CONSTRUCTION INC	Domestic	03N	01W	14	NWSE		929 W 4 ST		2	15	24	6	58			12/15/1971	802835	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						9999	7	61			7/27/1972	798287	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						0	8	61			1/24/1973	798306	
ROSE VALLEY CONSTRUCTION INC	Domestic	03N	01W	14	NWSE		929 W 4 ST		3	7	36	8	63			1/6/1972	802831	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						24	9	64			1/15/1972	802830	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						0	6	66			8/10/1972	798290	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						25	6	72			3/25/1972	798832	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						9999	9	74			7/25/1972	798289	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						0	8	79			12/1/1972	809742	
ROSE VALLEY CONSTRUCTION INC	Domestic	03N	01W	14	NWSE				2	10	36	8	83			11/15/1971	802827	
ROSE VALLEY CONSTRUCTION INC	Domestic	03N	01W	14	NWSE						24	8	83			12/21/1971	802828	
ROSE VALLEY CONSTRUCTION INC	Domestic	03N	01W	14	NWSE				2	8	24	9	87			1/3/1972	802829	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE				3	6	30	11	89			5/5/1972	802836	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						0	6	90			1/24/1973	798307	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE				2	7	24	9	91			3/10/1972	802833	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						0	8	94			1/5/1973	798299	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						30	8	95			5/24/1972	798804	
WALKER, KEN	Domestic	03N	01W	14	NWSE			PRIMROSE	4	4	9999	15	95			6/17/1975	811248	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	NWSE						0	10	96			7/14/1972	798293	
TREASURE VALLEY VETERINARY HOSPITAL	Domestic	03N	01W	14	NWSE				2	11	30	8	97			5/9/1972	802837	
TAYLOR, CLYDE	Domestic	03N	01W	14	NWSW						75	11	100			11/19/1969	802820	
TAYLOR, CLYDE	Domestic	03N	01W	14	NWSW						73	11	100			11/19/1969	802822	
CHAPMAN, SHERYL	Domestic	03N	01W	14	NWSW						0	93	165			6/25/1974	798321	
ANDERSON, GERALD	Domestic	03N	01W	14	NWSW						0	100	209			1/14/1975	798327	
ROSE VALLEY CONSTRUCTION INC	Domestic	03N	01W	14	SE						36	4	68			10/22/1971	802823	
ROSE VALLEY CONSTRUCTION INC	Domestic	03N	01W	14	SE					23	36	4	68			10/22/1971	802824	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	SE						24	6	80			5/5/1972	798825	
	Domestic	03N	01W	14	SE						9999	8	150			6/22/1972	798294	
ROAM, TOM	Domestic	03N	01W	14	SENENE						40	14	58	57	6	2/10/1999	732990	D0009170
GREAT WESTERN CHEMICAL CO, OLYMPUS ENVIRONMENTAL INC	Monitoring	03N	01W	14	SENW		1604-1622 EAST FARGO ST				0	12	65	60	2	4/17/1999	730099	D0000693
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	SENWSE						30	6	58			1/26/1972	798822	
STEPHENSON, ARCHIE	Domestic	03N	01W	14	SENWSE						25	8	60			3/1/1974	819220	
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	14	SENWSE				4	9	30	7	64			11/14/1972	809694	
LEE, BRUCE	Domestic	03N	01W	14	SESE		1690 W OVERLAND				100	16	108	100	6	3/11/1994	728061	
MAGNUM DEMOLITION	Domestic	03N	01W	14	SESENE		635 LINDER RD	VAN HEES SUB		14		10	30		4	11/20/2006	845095	
MAGNUM DEMOLITION	Domestic	03N	01W	14	SESENE		835 S LINDER					8	35		4	6/12/2007	847432	
AMBROSE, JOHN	Domestic	03N	01W	14	SWNE						150	7	55	54	6	5/22/1990	723598	
BURCH, STEVE	Domestic	03N	01W	14	SWNE		WALTMAN				0	0	74				724264	
DOUG LASHER CONSTRUCTION	Domestic	03N	01W	14	SWNE		2070 WALTMAN				60	11	120	99	6	7/10/2002	780181	D0025183
JANICEK, VANCE	Domestic	03N	01W	14	SWSE		2390 W OVERLAND				90	10	99	-92	6	12/20/1999	733846	D0012465
SHELLHORN CONSTRUCTION	Domestic	03N	01W	14	SWSE		2010 OVERLAND				20	40	131	120	6	6/1/1993	726873	
WILSON, JAMES E	Domestic	03N	01W	14	SWSW						2800	62	157			6/2/1960	833483	
KIRK, KENNETH	Domestic	03N	01W	14							0	0	348			5/21/1963	829406	
ADA COUNTY HIGHWAY DISTRICT	Test	03N	01W	15	NENE		S SIDE OF FRANKLIN RD IN ROW, W OF	P-3				9.2	20	10	2	2/3/2012	862851	D0060369
GREAT WESTERN CHEMICAL CO, OLYMPUS ENVIRONMENTAL INC	Monitoring	03N	01W	15	NENE		Franklin Rd, HP - 24					10	65	-65	8	5/31/2000	764655	
GREAT WESTERN CHEMICAL CO, OLYMPUS ENVIRONMENTAL INC	Exploration	03N	01W	15	NENE		between 200 and 600 ft. S. of SW corner of karcher and Franklin Rds.					10	65		8	9/19/2000	766714	
GREAT WESTERN CHEMICAL CO	Exploration	03N	01W	15	NENE		Between 100 & 420 ft. S. of SW corner of Karcher &					10	65	-65	8	9/19/2000	766715	
GREAT WESTERN CHEMICAL CO, OLYMPUS ENVIRONMENTAL INC	Monitoring	03N	01W	15	NENE		Franklin Rd, HP - 25					10	69	-65	8	6/1/2000	764656	
GREAT WESTERN CHEMICAL CO, OLYMPUS TECHNICAL SERVICES INC	Monitoring	03N	01W	15	NENE		Franklin Rd. HP - 26					10	ab	0	8	6/2/2000	764657	
MAGNUM DEMOLITION	Domestic	03N	01W	15	NENW		3935 W FRANKLIN RD					13	137		6	11/23/1997	731696	D0001478
MAGNUM DEMOLITION	Domestic	03N	01W	15	NENW		3935 W FRANKLIN RD					13	137		6	6/12/2007	847433	

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Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
JANICEK, BRAD	Domestic	03N	01W	15	NESE		625 S 10 MILE				100	12	104	94	8	5/14/2004	815880	D0031230
JANICEK, BRAD	Domestic	03N	01W	15	NESE		625 S 10 MILE				100	12	104	94	8	5/18/2009	856937	
JANICEK, BRAD	Domestic	03N	01W	15	NESE		625 S 10 MILE				100	12	104	94	8	7/24/2009	857189	D0053591
MC FADDEN, DAVID A	Domestic	03N	01W	15	NESE						0	4	141			10/30/1974	798283	
STATE OF IDAHO	Domestic	03N	01W	15	NESESE		3354 W TASA DR	CHEVIOT HILLS EST #1	1	6		22	0		6	5/15/2009	856940	
STATE OF IDAHO	Domestic	03N	01W	15	NESESE		3380 W TASA DR	CHEVIOT HILLS EST #1	1	7		18	0		6	5/15/2009	856941	
STATE OF IDAHO	Domestic	03N	01W	15	NESESE		1320 N TASA PL	CHEVIOT HILLS EST #1	1	4		7	0		6	5/15/2009	856951	
STATE OF IDAHO	Domestic	03N	01W	15	NESESE		1357 N TASA PL	CHEVIOT HILLS EST #1	1	5		18	0		6	5/15/2009	856952	
STATE OF IDAHO	Domestic	03N	01W	15	NESESE		3354 W TASA DR	CHEVIOT HILLS EST #1	1	6		2	0		6	5/22/2009	856959	
STATE OF IDAHO	Domestic	03N	01W	15	NESESE		1356 N TASA DR	CHEVIOT HILLS EST #1	1	3		14	90		6	9/22/1992	726127	
STATE OF IDAHO	Domestic	03N	01W	15	NESESE		1356 N TASA DR	CHEVIOT HILLS EST #1	1	3		14	90		6	5/15/2009	856936	
CHRISTENSEN, DWAYNE	Domestic	03N	01W	15	NESESW		3451 W TASA DR	CHEVIOT HILLS EST #1	2	8	60	33	138	137	6	8/2/1989	723057	
ADA COUNTY HIGHWAY DISTRICT	Test	03N	01W	15	NWNE		S SIDE OF FRANKLIN RD IN ROW AT 3935 W FRANKLIN RD	P-10				14	30	20	2	2/3/2012	862850	D0060368
SITTSER, ERNEST	Domestic	03N	01W	15	NWNW						0	6	60			7/30/1973	798282	
ANDREW, WILBURN	Domestic	03N	01W	15	NWNW						0	7	119			7/24/1975	798285	
BRANTS RANCH	Domestic	03N	01W	15	NWSE						9999	6	130			12/30/1969	802840	
STATE OF IDAHO, SMITH, EMMET	Domestic	03N	01W	15	NWSESE		3474 W TASA DR	CHEVIOT HILLS EST #1	1	10		26	36.5		6	8/20/1977	832655	
STATE OF IDAHO, SMITH, EMMET	Domestic	03N	01W	15	NWSESE		3450 W TASA DR	CHEVIOT HILLS EST #1	1	9		28	37		6	9/8/1977	815524	
TEIXEINA, PAT, STATE OF IDAHO	Domestic	03N	01W	15	NWSESE		3428 W TASA DR	CHEVIOT HILLS EST #1	1	8		21	52		6	7/25/1984	773984	
CLARK, DAVE	Domestic	03N	01W	15	NWSESE						0	40	68			7/13/1978	823478	
STATE OF IDAHO, CENTRAL PAVING	Monitoring	03N	01W	15	NWSW		N SIDE OF I-84 & ON E SIDE OF BLACK CAT RD	B-1-06				22	30		2	4/13/2006	838956	D0042741
STATE OF IDAHO, CENTRAL PAVING	Monitoring	03N	01W	15	NWSW		N SIDE OF I-84 & ON E SIDE OF BLACK CAT RD	B-1-06				22	30		2	10/18/2008	854014	
STATE OF IDAHO, CENTRAL PAVING	Monitoring	03N	01W	15	NWSW		ON S SIDE OF I-84 & E SIDE OF BLACK CAT RD SE	B-2-06				39	50		2	4/18/2006	838957	D0042742
STATE OF IDAHO, CENTRAL PAVING	Monitoring	03N	01W	15	NWSW		ON S SIDE OF I-84 & E SIDE OF BLACK CAT RD SE CORNER OF I 84 AND BLACK CAT IN FIELD	B-2-06				39	50		2	10/17/2008	854013	
MOORE, STEVE	Domestic	03N	01W	15	NWSW		820 S BLACKCAT, I-84				80	10	132	132	6	9/5/1995	729626	
NICHOLSON, SCOTT R	Domestic	03N	01W	15	NWSW		4722 W VAQUERO RIDGE				50	76	156	156	6	10/3/1997	731618	D0001325
WORTHINGTON, RANDY	Domestic	03N	01W	15	NWSW		4770 W VAQUERO LN	VAQUERO	1	1	70	75	227	227	6	2/19/2005	829820	D0038692
STATE OF IDAHO	Domestic	03N	01W	15	SESE		1382 N TASA PL	CHEVIOT HILLS EST #1	1	2		14	0		6	5/15/2009	856953	
AMYX, JASON	Domestic	03N	01W	15	SESE						9999	10	37			6/21/1976	798284	
FAIRCHILD, LLOYD	Domestic	03N	01W	15	SESE						0	7	54			8/4/1977	798288	
BLOOMFIELD, RONALD	Domestic	03N	01W	15	SESE						9999	40	83			1/20/1977	798286	
CHRISTENSEN, DWAYNE	Domestic	03N	01W	15	SESE		3379 TASA DR	CHEVIOT HILLS EST #1	2	6	0	0	92	91	6	10/31/1990	723747	
ERSKINE, ANA BETH	Domestic	03N	01W	15	SESE						0	4	132			9/4/1979	774702	
WELLINGTON, BEN	Domestic	03N	01W	15	SESE						9999	35	146			8/18/1970	798835	
DEEBOER, DICK	Domestic	03N	01W	15	SESE		3475 W TASA DR	CHEVIOT HILLS EST #1	2	9	120	29	174	172	6	1/5/1987	722243	
POWELL, EUGENE B	Domestic	03N	01W	15	SESE						35	90	345			4/30/1960	825510	
STATE OF IDAHO	Domestic	03N	01W	15	SESESE		1581 S TEN MILE RD	CHEVIOT HILLS EST #1	2	1		56	0		6	5/18/2009	856958	
STATE OF IDAHO	Domestic	03N	01W	15	SESESE		1485 S TEN MILE RD					21	30		6	5/18/2009	856956	
STATE OF IDAHO	Domestic	03N	01W	15	SESESE		1505 S TEN MILE RD	CHEVIOT HILLS EST #1	2	2		36	30		6	5/19/2009	856957	
LANDMARK HOMES	Domestic	03N	01W	15	SESESW		4121 W SILVER TERRACE RD	ACRE VIEW EST	1	10	40	90	217	211	6	6/3/1994	728296	
J & J CONSTRUCTION	Domestic	03N	01W	15	SESESW		4050 W SILVER TERRACE RD	ACRE VIEW EST	2	6	60	100	242	242	6	5/17/1993	727018	
HOLTON HOMES	Domestic	03N	01W	15	SESESW		4049 W SILVER TERRACE RD	ACRE VIEW ESTATES	1	11	75	100	270	-255	6	2/24/2000	763366	D0012776
THOMAS, JAY	Domestic	03N	01W	15	SESW		1374 NOVA	ACRE VIEW ESTATES	1	2	40	100	158	149	6	3/30/2004	812198	D0031039
JAMES WILDER CONSTRUCTION	Domestic	03N	01W	15	SESW		1350 S NOVA LN	ACRE VIEW	1	4		100	178	161	6	10/7/1994	728367	
MAYER, RUSSELL	Domestic	03N	01W	15	SESW		1386 S NOVA LN	ACRE VIEW EST	1	1	35	85	180	178	6	1/20/1996	730111	
SEWARD, KEITH	Domestic	03N	01W	15	SESW		4390 W VAQUERO LN				100	90	210	197	6	7/15/2003	804930	D0029732
CARSON, WILLARD	Domestic	03N	01W	15	SESW						900	80	215			8/20/1970	798836	
CAFFERTY, SEAN	Domestic	03N	01W	15	SESW		4151 W SILVER TERRACE RD	ACRE VIEW EST	1	9	30	90	218	218	6	10/13/1993	727544	
WELLS, JEFF	Domestic	03N	01W	15	SESW		1400 S CALISTOGA AVE	ACRE VIEW EST	2	3	45	90	218	219	6	9/13/1994	728617	
CLAPSADDLE, MEL	Domestic	03N	01W	15	SESW		1365 S CALISTOGA AVE	ACRE VIEW EST	1	5	60	95	221	221	6	6/22/1993	727139	
LINDAUER, BILL L, LINDAUER, JAN	Domestic	03N	01W	15	SESW		4130 W SILVER TERRACE RD	ACRE VIEW EST	2	5	60	93	240	233	6	10/28/1996	730795	
WALDORF, WESLEY	Domestic	03N	01W	15	SESW		1415 S CALISTOGA AVE	ACRE VIEW EST	1	6	150	102	257	257	6	10/25/1995	729781	
2-J SCOTT CONSTRUCTION	Domestic	03N	01W	15	SESW		1525 S CALISTOGA AVE	ACRE VIEW EST	1	8	30	90	262	255	6	6/8/1994	728309	
MATTSON, ALLEN C	Domestic	03N	01W	15	SESWSE						0	100	172			9/12/1978	788603	
DUNCAN, NORMAN E	Domestic	03N	01W	15	SESWSW		4674 W VAQUERO LN	VAQUERO RIDGE SUB	1	3	80	79	188	179	6	9/29/2005	836329	D0041919
WILLMAN, BILL	Domestic	03N	01W	15	SWSE						9999	94	141			12/13/1983	779538	
MATTSON, ALLEN C	Domestic	03N	01W	15	SWSE						15	97	142			2/24/1982	809009	
MOORE, RON	Domestic	03N	01W	15	SWSE		4434 Vaquero Ln				0	80	150			6/3/2000	776116	
MATTSON, ALLEN C	Domestic	03N	01W	15	SWSE			SILVER SAGE TERRACE	1	11	35	100	174			4/3/1979	785863	
MOFFAT, ROBERT	Domestic	03N	01W	15	SWSE			SILVER SAGE TERRACE	1	15	35	100	174			4/30/1979	855669	
WOODCUM	Domestic	03N	01W	15	SWSE						0	45	206			7/1/1985	774030	
AMYX, JOE	Domestic	03N	01W	15	SWSE		3485 DAVIS DR		1	2	75	95	245	243	6	8/28/1996	730613	
RIGGS, MICHAEL	Domestic	03N	01W	15	SWSE		3771 W SILVER TERRACE RD	SILVER SAGE TERRACE SUB	1	6	75	101	258	240	6	9/19/1992	725967	
SHEFFIELD SR, ELLIOTT A	Domestic	03N	01W	15	SWSE		3762 W SILVER TERRACE RD	SILVER SAGE TERRACE SUB	1	8	50	108	260	258	6	11/13/1991	724416	
GUNNELL, RICHARD	Domestic	03N	01W	15	SWSE		NOVA/SILVER TERRACE				30	100	272	272	6	1/10/1995	728832	
CALDWELL, RICH	Domestic	03N	01W	15	SWSESW		1461 S CALISTOGA AVE	ACRE VIEW EST	1	7	75	110	184	178	6	5/11/1998	732175	
CALDWELL, RICH	Domestic	03N	01W	15	SWSESW		1461 S CALISTOGA AVE	ACRE VIEW EST	1	7	100	110	260	178	6	6/9/1999	733329	D0009579
COATES, CRAIG, COATES, LANA	Domestic	03N	01W	15	SWSW		4434 VAQUERO LANE				70	80	150	-138	6	6/3/2000	764476	D0015040
GODOY, JOHN	Domestic	03N	01W	15	SWSW		VAQUERO LANE			5	80	90	160	-157	6	12/12/2000	766936	D0015729
MARCUM, FRANK	Domestic	03N	01W	15	SWSW						0	96	167			11/28/1984	836562	
GODOY, JOHN	Domestic	03N	01W	15	SWSW		VAQUERO LANE				60	80	170	-160	6	8/2/2000	765907	D0015391
NEMEC CONSTRUCTION	Domestic	03N	01W	15	SWSW		VAQUERO DR		1	7	45	86	175	170	6	10/2/1996	730746	
R D C INC	Domestic	03N	01W	15	SWSW		4530 VAQUERO		1	6	65	90	185	170	6	8/29/1997	731540	
SCHOEN, ERNEST G	Domestic	03N	01W	15	SWSW						75	86	211			9/2/1968	798837	
MATTSON, ALLEN C	Domestic	03N	01W	15	SWSWSE			SILVER SAGE TERRACE	1	13	25	98	160			10/10/1980	785799	
BROWN, GREG	Domestic	03N	01W	15	SWSWSE			SILVER SAGE TERRACE	1	9	0	97	165			11/22/1980	785780	
BUCKLEY, KELLY	Domestic	03N	01W	15	SWSWSE			SILVER SAGE TERRACE	1	1	0	95	189			4/29/1985	837348	
WRIGHT CONSTRUCTION	Domestic	03N	01W	15	SWSWSW		1320 S BLACKCAT ROAD				50	60	155	155	8	1/21/1994	727957	

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PATTEN, KEN	Domestic	03N	01W	15			3287 W TARA		2	3	0	0	85				723171	
WHITESIDE, GAY	Domestic	03N	01W	15							0	6	103			8/8/1979	782853	
MARZ, MARK	Domestic	03N	01W	16	NENE						195	9	77			3/31/1977	795318	
LAFEE, ROD	Domestic	03N	01W	16	NENW		STAM & AUTAUM WAY				65	100	202	202	6	7/27/2001	769944	D0018713
LEFEE, ROD	Domestic	03N	01W	16	NENW		STAM & AUTUMN WAY				65	100	206	206	6	6/6/2001	769124	D0018486
EVANS, DALE A	Domestic	03N	01W	16	NESE						15	5	72			2/16/1963	798838	
LASSON, ROB	Domestic	03N	01W	16	NESE						0	122	159			12/17/1980	773430	
SIERE, JAMES	Domestic	03N	01W	16	NESE		WEST OF BLACKCAT NORTH & OVERLAND				20	130	185			10/1/1973	802323	
CALVIN, NATE	Domestic	03N	01W	16	NESW						0	85	180			5/15/1978	813474	
CROFTS, TERRY	Domestic	03N	01W	16	NESW			MEADOW HILLS	3	2	17	90	191			1/4/1978	818249	
ASUMANDI, CARMEN	Irrigation	03N	01W	16	NESW						0	0	203				722571	
STATEWIDE CONSTRUCTION INC, MUNGER, MATT	Domestic	03N	01W	16	NESW		6168 VIEW POINT		2	7	100	80	204	192	6	11/18/1991	724910	
SUTHERLAND, KIRT	Domestic	03N	01W	16	NESW		6153 W VIEWPOINT				80	85	294	-277	66	3/2/2001	768052	D0018184
VINCENT, CLARENCE	Domestic	03N	01W	16	NWNW						0	0	63				723319	
WRICHEY, VIRGIL	Domestic	03N	01W	16	NWNW						15	9999	150			12/31/9999	798849	
SCHOEN, ERNEST G	Domestic	03N	01W	16	NWSW						20	74	129			11/30/1967	798839	
DAVID A COOK CONSTRUCTION, MC COY, MIKE	Domestic	03N	01W	16	NWSW				2	3	24	88	149	144	6	8/16/1992	725192	
HEPPER HOMES	Domestic	03N	01W	16	NWSW						0	60	177			6/9/1979	773983	
HEPPER HOMES	Domestic	03N	01W	16	NWSW						0	60	180			10/7/1978	785782	
LAFEVER, CANDI	Domestic	03N	01W	16	NWSW		VIEW TOP LN - ROBINSON TO HILL RD TO VIEW		6	5	80	61	187	178	6	7/10/1997	731341	
LINDSAY, JOHN	Domestic	03N	01W	16	NWSW		914 S MCDERMOTT RD				40	36	212	-21	6	7/13/2000	765456	D0015223
HIGH DESERT CONSTRUCTION	Domestic	03N	01W	16	NWSW		986 S MC DERMOTT				100	63	212	201	6	3/5/2005	830542	D0038632
HAMILITON, RUSS	Domestic	03N	01W	16	NWSW		WHOMPOM				100	Above	235	231	6	11/27/1991	724935	
SPENCER, RON	Domestic	03N	01W	16	NWSW		6104 VIEWPOINT DR				60	100	280	258	6	9/21/1999	733688	D0012222
VAN HESS, DWIGHT	Domestic	03N	01W	16	SE						10	90	185			2/14/1974	795310	
REYES, GEORGE	Domestic	03N	01W	16	SENE						60	7	61			8/23/1988	853140	
FOLWELL, JIM	Domestic	03N	01W	16	SENWSW		6032 VIEW POINT		2	10	0	78	130	118	6	4/17/1992	725550	
HAMILTON CONST & DEVEL CO INC	Domestic	03N	01W	16	SESE				2	1	0	0	0				724324	
CARR, ARTHUR	Domestic	03N	01W	16	SESE			SKYLINE OWYHEE SUB	1	4	9999	117	172			11/6/1978	785864	
PAPE, DON	Domestic	03N	01W	16	SESE						25	124	176			6/28/1979	777390	
BORUP CONSTRUCTION	Domestic	03N	01W	16	SESE						20	124	180			4/1/1987	779294	
SCHOEN, VERNON	Domestic	03N	01W	16	SESE				1	6	9999	118	180			8/18/1979	813046	
STITH, JOE	Domestic	03N	01W	16	SESE						12	117	190			2/4/1965	817366	
SACKETT, KURT	Domestic	03N	01W	16	SESE		5090 W OVERLAND				40	103	194	184	6	10/15/1998	732626	D0007589
LARSON, DOUG	Domestic	03N	01W	16	SESE			SKYLINE TERRACE	1	1	30	110	195			10/22/1976	795305	
NEWBURY, GLEN	Domestic	03N	01W	16	SESE						12	87	195			9/16/1967	820631	
GRAY, JOHN W	Domestic	03N	01W	16	SESE						20	100	204			9/30/1971	798850	
SHORT, MIKE A	Domestic	03N	01W	16	SESE						15	120	208			9/18/1972	795319	
FROST, FRANCIS	Other	03N	01W	16	SESE						40	9999	332			6/1/1960	825627	
LOPEZ, GLENN	Domestic	03N	01W	16	SESW		6079 W VIEW POINT		2	1	25	85	140	139	6	6/11/1994	728341	
CLAUDSON, JOHN	Domestic	03N	01W	16	SESW						40	75	165			6/25/1986	814573	
PAPO	Domestic	03N	01W	16	SESW						0	124	171			6/18/1979	818846	
MORRIS, DOYLE	Domestic	03N	01W	16	SESW						0	0	198				723280	
BARRUS, BRENT	Domestic	03N	01W	16	SESW		5720 W OVERLAND				100	130	254	239	6	6/24/2003	803904	D0029588
MAURER, RANDY	Domestic	03N	01W	16	SESW		5982 W VIEW DR	MEADOW HILLS	3	5	80	99	269	264	6	7/13/2004	819687	D0031481
DURHAM, JOHN	Domestic	03N	01W	16	SESWSW						0	120	220			2/26/1982	814483	
ANDERSON, LYLE	Domestic	03N	01W	16	SW						12	91	236			8/21/1973	795317	
EGGERS, JO ANN	Domestic	03N	01W	16	SWNE						120	15	75	73	6	8/19/1988	722864	
WHITAKER, STEVEN M, WHITAKER, CINDY L	Irrigation	03N	01W	16	SWNW						0	0	173				722885	
JONES, STEPHEN W	Domestic	03N	01W	16	SWNWSW						0	52	140			12/12/1977	830576	
ODYSSEY HOMES	Domestic	03N	01W	16	SWSE		5224 W OVERLAND RD				45	114	188	183	6	5/4/2005	833024	D0039077
LEE, DE JOHN	Domestic	03N	01W	16	SWSE						0	102	196			7/28/1981	810292	
PHELPS, GEORGE	Domestic	03N	01W	16	SWSE		5684 OVERLAND RD				80	135	275	275	6	3/30/2001	768328	D0018220
PAPE, LARRY	Domestic	03N	01W	16	SWSE					8	30	125	399			5/21/1976	814423	
LEAVITT, BRIAN E	Domestic	03N	01W	16	SWSW						100	81	213			11/12/1985	820526	
TRANSTRUM, CHARLES	Domestic	03N	01W	16	SWSW		1455 WAMPUM WAY				70	150	220	215	6	8/26/1997	731547	D0001036
SUNDANCE CONST MGMT INC	Domestic	03N	01W	16	SWSW		1422 WAMPUM, ON OR NEAR BUFFALO ST		2	4	0	0	223				724029	
TUCKER, DAVE	Domestic	03N	01W	16	SWSW				1	2	100	125	233	215	6	8/28/1991	724342	
BROWN, JIMMIE B, TREADWELL, CLINT	Domestic	03N	01W	16	SWSW		6340 W OVERLAND		1	6	0	117	242	236	6	6/10/1992	725650	
VAN MASDEN, KEN	Domestic	03N	01W	16	SWSW						0	119	247			4/8/1978	832506	
STRENG, BRAD	Domestic	03N	01W	16	SWSW						40	120	273	265	6	1/19/1989	723217	
CAMPBELL, JEFF	Domestic	03N	01W	16	SWSW		1423 S WAMPUM				160	160	280	-278	6	5/31/2000	765943	D0015042
VAN BUREN, GINGER, VAN BUREN, GENE	Domestic	03N	01W	16			VIEW DR		13	8	0	0	144				723581	
STATEWIDE CONSTRUCTION INC	Domestic	03N	01W	21	NENE						25	20	78			4/6/1977	795234	
RK VENTURES	Domestic	03N	01W	21	NENW		2822 S BODANIEL LANE				60	95	160	157	6	8/31/2001	770789	D0018866
HANNA, JOHN, HANNA JR, MARK N	Domestic	03N	01W	21	NW					5	0	0	0				723820	
HANNA, JOHN, HANNA JR, MARK N	Domestic	03N	01W	21	NW				1	5	0	0	185				722888	
HANNA, JOHN, HANNA JR, MARK N	Domestic	03N	01W	21	NW			APACHE HEIGHTS SUB		5	15	97	185		6	4/1/1990	723821	
SUNDANCE CONSTRUCTION MGMT INC	Domestic	03N	01W	21	NWNE						20	110	200			10/29/1976	795299	
NYBORG, TERRY G	Domestic	03N	01W	21	NWNE		5222 W VIEW PL				75	135	224	217	6	5/2/2005	832945	D0038893
PAINE	Domestic	03N	01W	21	NWNW						20	85	125			5/18/1973	795233	
BULL, WILLIAM	Domestic	03N	01W	21	NWNW						7	105	161			9/28/1971	798712	
LANCASTER, DAN	Domestic	03N	01W	21	NWNW		1366 WAMPUM WAY				35	115	220	212	6	12/30/1993	727704	
SHERVIK CONSTRUCTION	Domestic	03N	01W	21	NWNW						9999	100	232			6/30/1977	795297	
BLAZER	Domestic	03N	01W	21	NWNW						50	110	243			9/18/1986	785182	
BLOGER, AL	Domestic	03N	01W	21	NWNW			APACHE HEIGHTS		11	50	100	250			9/10/1975	795230	
AUSTIN, TIM	Domestic	03N	01W	21	NWNW		1394 WAMPUM	APACHE HEIGHTS 2	2	3	40	100	255	256	6	6/13/2002	778507	D0025175
BLASER, ALBERT	Domestic	03N	01W	21	NWNW						0	100	260			3/21/1975	833953	

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MASCRAFF, DAN	Domestic	03N	01W	21	NWNW		1440 WOMPAM LN		2	5	100	160	265	237	6	2/23/1997	731142	
LEVIN, EBIN	Domestic	03N	01W	21	NWNWN						0	120	234			11/30/1978	788602	
SMITH, FLOYD	Domestic	03N	01W	21	NWSE			VALLEY GRANDE			35	65	126			11/2/1976	795300	
ROCK, EDWARD	Domestic	03N	01W	21	NWSE						70	70	175			6/27/1973	795231	
BISHOP, CHUCK	Domestic	03N	01W	21	NWSE		5145 VALLEY GRANDE DRIVE				40	80	237	231	6	3/19/2002	775066	D0019674
STOREY, BYRL	Domestic	03N	01W	21	NWSE					7	20	80	295			6/4/1979	785870	
ANDERSON, SHARON H, ANDERSON, BRUCE C	Domestic	03N	01W	21	NWSESE		8301 S BLACKCAT ROAD				40	45	260	249	6	5/10/1994	728216	
HOLSCLAW, GARY	Domestic	03N	01W	21	NWSW		2790 S MCDERMOTT ROAD				40	80	143	-136	6	10/30/2000	767290	D0015832
TREASURE VALLEY CONSTRUCTION	Domestic	03N	01W	21	NWSW						15	95	222			7/8/1972	795229	
BRESKE, CHARLES D	Domestic	03N	01W	21	SENE						0	0	177				722940	
DUSEK, NORMA M	Domestic	03N	01W	21	SENE		2065 S BLACKCAT RD				0	0	203				722941	
DUSEK, NORMA M	Domestic	03N	01W	21	SENE			BLACK CAT ROAD			12	103	203			11/26/1989	828379	
CITY OF MERIDIAN	Test	03N	01W	21	SENWNW		SE QUADRANT OF EAGLE AND OVERLAND ROADS ALONG FIVEMILE CREEK				2000	20	285	200	12	3/15/2002	770801	D0019031
POWELL, JAMES L	Domestic	03N	01W	21	SESE		W PERKINS LANE			2	0	65	248	140	6	4/23/1992	725014	
MC CUTCHEN, ALISON	Domestic	03N	01W	21	SESE		2901 S BLACK CAT RD				100	80	275	262	6	4/22/1995	729290	
LEHMAN, WILBER	Domestic	03N	01W	21	SESE		3135 S BLACK CAT ROAD			1	300	78	295	282	6	5/29/1996	730367	
ANKENMAN, ED	Domestic	03N	01W	21	SESE		5798 W VICTORY ROAD				70	17	327	-314	6	12/18/2000	767643	D0015861
LASHER CONSTRUCTION	Domestic	03N	01W	21	SESW		2917 S BO DANIEL		1	6	60	92	158	153	6	1/30/2002	773223	D0019556
SCHEELE, GREG G	Domestic	03N	01W	21	SESW		BO DANIEL LANE	ISRAELLE HEIGHTS		12	50	85	161	-153	6	3/14/2001	768199	D0015807
RICHARDS, DAN	Domestic	03N	01W	21	SESW		ON BO DANIEL LANE AND VICTORY	ISRAELLE HEIGHTS			75	81	163	-153	6	11/19/2000	767455	D0015834
ANDERSON, SCOTT	Domestic	03N	01W	21	SESW		2780 BO DANIELS				50	79	182	175	6	5/8/2003	800860	D0029286
LASHER CONSTRUCTION	Domestic	03N	01W	21	SESW		2866 S BO DANIEL LANE		1	11	80	85	215	200	6	6/14/2001	769447	D0018494
BALLARD, JOHN, BALLARD, KERI	Domestic	03N	01W	21	SESW		2720 S BODANIEL LANE				150	90	246	235	6	2/4/2002	773312	D0019557
EGGERS, DREW F	Irrigation	03N	01W	21	SESWNE		BLACK CAT ROAD				0	160	275	268	12	7/26/1991	724640	
	Domestic	03N	01W	21	SWNE						20	70	335			4/23/1974	795302	
SMALLEY, NORMAN	Domestic	03N	01W	21	SWNW						35	62	136			2/22/1972	798713	
NAMPA & MERIDIAN IRRIGATION DISTRICT	Domestic	03N	01W	21	SWNW						9999	84	175			4/13/1985	805343	
TRETTER, FRANK J	Domestic	03N	01W	21	SWNW						15	109	186			3/11/1972	795304	
SUMMERWOOD HOMES	Domestic	03N	01W	21	SWNW		2408 MC DERMOTT RD				60	90	222	215	6	7/20/2005	834718	D0039496
PALMER, ALLYN	Domestic	03N	01W	21	SWNW						150	120	235			1/30/1979	781212	
HAYES, LARRY	Domestic	03N	01W	21	SWNW		6149 AIRPORT				75	93	241	234	6	9/19/2005	836008	D0041916
COLLINS, BUD	Domestic	03N	01W	21	SWNWNW						20	79	265			6/13/1972	795232	
BREWER, BRYAN	Domestic	03N	01W	21	SWSE						30	110	278	272	6	6/17/1998	732307	D0007066
HOLT, RAY	Domestic	03N	01W	21	SWSW		600 YDS E OF MCDERMOTT RD ON N SIDE OF VICTORY					70	0		4	4/27/2012	863346	
MOORE, KELLY, MOORE, LE ANNA	Domestic	03N	01W	21	SWSW		2998 BO DANIEL LN	ISRAELE HEIGHTS	1	5	60	81	153	151	6	11/22/2004	826310	D0038432
SPECTRUM CUSTOM HOMES	Domestic	03N	01W	21	SWSW		2800 BO DANIELS	ISRAEL HIEGHTS	1	14	50	80	165	158	6	9/19/2004	824557	D0038022
THURSON, LANCE	Domestic	03N	01W	21	SWSW		7812 E POWERLINE				100	90	210	197	6	8/14/2001	770470	D0018934
SMARTT, CHARLES F	Irrigation	03N	01W	21	SWSW		WEST VICTORY				75	110	256	233	6	7/23/1992	725870	
PHILLIPS, RICHARD M	Domestic	03N	01W	21				VILLA ESTATES		9	10	70	272			10/10/1973	847973	
CHAMPNEY, REX	Domestic	03N	01W	21				COUNTRY VILLA ESTATES		5	0	80	280			12/3/1973	833806	
PHILLIPS, RICHARD M	Domestic	03N	01W	21				COUNTRY VILLA ESTATES		9	0	0	310			4/12/1974	847974	
BILLS, DICK	Domestic	03N	01W	22	NENE						0	0	87				725364	
FAZZIO SR, FRANK	Domestic	03N	01W	22	NENE				1	003, B	42	105	201	200	6	4/13/1989	723064	
DAVIS, TOM	Domestic	03N	01W	22	NENE		DAVIS DR				30	110	228	222	6	6/6/1992	725647	
JOHNSON, MARK	Domestic	03N	01W	22	NENE		OVERLAND AND 10 MILE				100	99	255	238	6	8/15/1999	733488	D0009854
SHELDAHL, WARNER, SHELDAHL, MARILYN	Domestic	03N	01W	22	NENE						0	0	260				722730	
HUNEMILLER, RUSS	Domestic	03N	01W	22	NENE		TEN MILE RD				100	120	267	260	6	11/2/1992	726277	
JOE HARRIS CONSTRUCTION	Domestic	03N	01W	22	NENE						60	98	275			2/28/1974	795240	
STATE OF IDAHO	Domestic	03N	01W	22	NENENE		1751 S TEN-MILE					46	119		6	7/12/1994	728448	
LOPEZ, CHERYL A, LOPEZ, GILBERT F	Domestic	03N	01W	22	NENESW		4219 E LAMONT				23	104	212	212	6	11/5/1988	722665	
SHOEMAKER, CRAIG	Domestic	03N	01W	22	NENW		NOVA ST				40	90	196	196	6	10/18/1993	727523	
OLSEN, DOUG	Domestic	03N	01W	22	NENW		NOVA ST				60	85	220	220	6	7/31/1993	727293	
LETE, INAKA	Domestic	03N	01W	22	NENW						200	80	458	444	6	8/22/1995	729613	
DAVID A COOK CONSTRUCTION	Domestic	03N	01W	22	NESE		OVERLAND & VICTORY,SEE REMARKS				0	Above Ground Level	185	180	6	9/10/1993	726616	
MEFFORD CONSTRUCTION, CARSKADDON, DAVID	Domestic	03N	01W	22	NESE		3503 LAMONT RD				100	106	211	209	6	2/1/1994	727982	
MAJORS, RANDY	Domestic	03N	01W	22	NESE		LAMONT				30	95	225	219	6	11/7/1994	728799	
SZASZ, ANDREW	Domestic	03N	01W	22	NESE						9999	73	251			1/2/1976	795236	
MEFFORD CONSTRUCTION, BARGER, BILL	Domestic	03N	01W	22	NESE		3585 LAMONT RD				150	105	274	269	6	2/19/1994	728015	
HARDWARD, NEWELL	Domestic	03N	01W	22	NESW						15	80	137			4/28/1976	795235	
KELLER, JIM	Domestic	03N	01W	22	NESW		2763 S NOVA LN		1	3	50	90	185	178	6	3/11/2005	830399	D0038820
VILLAREAL, JOE L	Domestic	03N	01W	22	NESW		4035 W LAMONT RD				65	108	217	219	6	6/25/2008	851946	D0053030
RICE, MIKE	Domestic	03N	01W	22	NESW		2751 S NOVA LN	CELEBRATION ESTATES	1	1	75	100	239	239	6	11/2/2004	825850	D0038318
PETERSON, CHRIS	Domestic	03N	01W	22	NESW		4135 LAMONT				35	100	246	241	6	11/30/1995	729859	
EMERALD REALTY	Domestic	03N	01W	22	NESW						9999	50	344			7/5/1972	795242	
LEININGER, ALLEN E	Domestic	03N	01W	22	NWNE						20	96	154			5/1/1970	798710	
OLSEN, REED	Domestic	03N	01W	22	NWNE						40	95	156			1/9/1985	841345	
MC QUEARY, W WARREN	Domestic	03N	01W	22	NWNE						9999	93	192			2/16/1971	798711	
MOORE, HOWARD M	Domestic	03N	01W	22	NWSE						30	30	76	76	6	4/15/1992	725448	
DYAS, BONNIE, DYAS, LOUIS	Domestic	03N	01W	22	NWSE						0	0	178				722774	
SPENCER, EARL	Domestic	03N	01W	22	NWSE						20	80	190			6/21/1973	797502	
ELLIS, ROBERT D	Domestic	03N	01W	22	NWSE						15	140	210			7/15/1978	782338	
DYAS, LOUIS	Domestic	03N	01W	22	NWSE						50	110	212	199	6	5/22/1998	732190	D0000510
BURGESS, SIB	Domestic	03N	01W	22	NWSE		3935 LA MONT				100	107	260	251	6	8/25/1992	725995	
SEDLACEK, HENRY	Domestic	03N	01W	22	NWSW						30	80	147			3/13/1978	803975	

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LEININGER, RICK	Domestic	03N	01W	22	SENE		1700 S NOVA				70	80	170	158	6	9/17/1999	733599	D0012219
CAMPBELL, BRUCE E	Domestic	03N	01W	22	SENE						20	112	242			2/12/1976	795237	
A & A ENTERPRISES INC, ALLEN, GALE	Domestic	03N	01W	22	SENE		3610 W LAMONT ST		2	6	100	98	250	250	6	1/27/1995	728893	
OLSON, DOUG	Domestic	03N	01W	22	SENE		DAVIS AND TEN MILE				100	80	276	-260	6	10/27/2000	767265	D0015854
VANHOOZER, JEFF	Domestic	03N	01W	22	SENE		3980 LAMONT RD				150	112	338	318	6	5/25/2004	815514	D0031429
DYAS, LOUIS	Domestic	03N	01W	22	SENW		2769 S NOVA LANE	CELEBRATION ESTATES	1	4	60	111	223	215	6	7/6/2001	769758	D0018708
TEEL, JOHN	Domestic	03N	01W	22	SENWNE		.15 MILE E OF NOVA, .35 MILE N OF W LAMONT IN FRONT OF 1850 S NOVA LN				100	105	244	230	6	6/2/2010	859089	D0057746
J & J CONSTRUCTION	Domestic	03N	01W	22	SESE		MIRACLE LN				30	160	200	200	6	9/22/1993	727491	
C W CONSTRUCTION	Domestic	03N	01W	22	SESE		3003 MIRACLE LN				100	105	312	301	6	11/4/1996	730816	
CLOW, JAY	Domestic	03N	01W	22	SESENE		2301 S TEN MILE RD					106	0		6	3/1/2011	860791	
J & J CONSTRUCTION	Domestic	03N	01W	22	SESENE		2301 S TEN MILE RD				60	107	238	233	6	2/15/2011	860698	D0057846
MILLER, JERRY N	Domestic	03N	01W	22	SESW						15	80	162			1/30/1974	795238	
NANCE, WILLIAM J	Domestic	03N	01W	22	SESW						20	73	164			11/30/1973	795241	
AULTZ, LANIS	Domestic	03N	01W	22	SESW						12	75	170			2/27/1967	798499	
SHREENER, GEORGE	Domestic	03N	01W	22	SESW						9999	99	170			7/1/1969	798708	
CHRISTIE, W F	Domestic	03N	01W	22	SESW						9999	96	171			9/2/1969	802802	
ANDERSON, BRIAN	Domestic	03N	01W	22	SESW		4220 PERKINS				40	85	230	230	6	9/11/1994	728585	
RIDEOUT, DORIS	Domestic	03N	01W	22	SESW						20	97	235			3/3/1980	855670	
ORCUTT, RALPH	Domestic	03N	01W	22	SESW						60	75	242			6/5/1987	779303	
SNODGRASS, JERRY	Domestic	03N	01W	22	SWNE		NOVA OFF LAMONT BETEEN BLACKCAT & TEN MILE				0	0	0				723156	
PETERSEN, JOHN	Domestic	03N	01W	22	SWNE						0	0	160				722487	
MC LOWSKY, TIM	Domestic	03N	01W	22	SWNE		1601 NOVA				75	100	213	198	6	11/13/1998	732710	D0007893
R & R DEVELOPMENT CO	Domestic	03N	01W	22	SWNE		3490 W LAMONT		1	5	50	100	248	248	6	1/5/1995	728892	
HUBLER, LEON	Domestic	03N	01W	22	SWNW						60	98	170	172	6	6/9/1984	722131	
PINE RIDGE HOMES	Domestic	03N	01W	22	SWNW		4480 LA MOND RD				80	109	258	251	6	8/21/2003	806076	D0029906
B & L ENTERPRISES	Domestic	03N	01W	22	SWNW		LAMONT ROAD				150	97	273	273	6	2/22/2002	776622	D0019601
VAN HESS, LARRY	Domestic	03N	01W	22	SWSE						0	0	243				723889	
ALDERSON, GEORGE	Domestic	03N	01W	22	SWSESE						20	95	210			8/4/1978	782331	
EDDINS, RICHARD J	Domestic	03N	01W	22							30	115	180			5/12/1971	800319	
PISCA, RAYMOND J	Domestic	03N	01W	22							18	80	233			12/13/1975	800300	
SHEARER, MELINDA, SHEARER, LOUIE	Domestic	03N	01W	23	NENE		1807 S LINDER				100	12	125	18	6	8/5/1998	732441	D0007374
KOHOE, STEVE, HOBBS, LARRY	Domestic	03N	01W	23	NENESW		VAL VISTA ST				34	109	241	231	6	9/17/1993	727465	
AAI	Domestic	03N	01W	23	NENW		2685 W OVERLAND RD					56	62		6	10/24/2007	850760	
LARSEN, RON	Domestic	03N	01W	23	NENWSE			ASPEN COVE	1	1	38	80	182			4/8/1979	816593	
BURRESS, GEORGE	Domestic	03N	01W	23	NESE						20	12	58			9/28/1971	807181	
ROARK, JAMES	Domestic	03N	01W	23	NESE			ASPEN COVE	1	2	20	90	130			12/18/1975	795253	
MURGOITIO, JAMES	Domestic	03N	01W	23	NESE						40	37	150			11/2/1973	795262	
SCHOELKOPF, BOB, WHITMIRE, BOB	Domestic	03N	01W	23	NESE		ARIEL DR			4	75	81	172	167	6	7/29/1994	728502	
SMITH, GLEN, SMITH, SUSAN	Domestic	03N	01W	23	NESE		2707 S LINDER				90	86	214	198	6	4/21/1998	732111	D0001923
WHITNEY HOMES	Domestic	03N	01W	23	NESE		VICTORY AND LINDER				30	90	237	225	6	5/8/1998	732149	D0001981
GRIAT, ERNEST L	Domestic	03N	01W	23	NESE						60	90	267			10/19/1973	795259	
PRATHER, JAMES	Domestic	03N	01W	23	NESE		2595 S LINDER				100	77	395	392	6	12/10/2003	809346	D0030741
SALOMONSEN, ARTHUR	Domestic	03N	01W	23	NESW						9999	105	155			10/8/1974	795261	
ASPEN COVE LAKE ASSN, HICKEY, GLENN, HICKEY, PEGGY	Domestic	03N	01W	23	NESW		2143 ASPEN COVE DR		5	2	150	21	160	156	6	8/27/1992	726045	
GIFFORD, IRVIN	Domestic	03N	01W	23	NESW						10	90	188			10/28/1970	833651	
HOOPER, CARREY	Domestic	03N	01W	23	NESW			ASPEN COVE			70	91	191	186	6	7/23/2001	770044	D0018667
KENDALL, JOE	Domestic	03N	01W	23	NESW		2311 ASPEN COVER DR				50	114	202	194	6	2/14/2003	791945	D0029131
HUNT, RYAN	Domestic	03N	01W	23	NESW		VAL VISTA		1	8	35	100	226	226	6	8/17/1993	727345	
HENRY, RON	Domestic	03N	01W	23	NESW		VAL VISTA & TEN-MILE			11	50	90	267	267	6	10/11/1995	729717	
ZILLNER, DAN	Domestic	03N	01W	23	NESW		VAL VISTA				50	180	313	299	6	8/30/1993	727423	
LARKIN, LYLE	Domestic	03N	01W	23	NESWSE		3030 S FRANCINE		1	9	100	113	270	255	6	6/2/1993	726487	
AMEND, DAPHANE, AMEND, WAYNE	Domestic	03N	01W	23	NWNE						60	6	92	84	6	6/8/1998	732258	D0007078
WEAST, FREDA L	Domestic	03N	01W	23	NWNW		3045 W OVERLAND					93	0		4	12/18/1998	732776	
CLANCY, RUSSELL J	Stockwater	03N	01W	23	NWNW						60	9999	105			10/4/1965	817367	
ROSS, HAROLD G	Domestic	03N	01W	23	NWNW			ASPEN COVE	5	5	20	110	200			10/22/1975	857188	
HAM, FRANK N	Domestic	03N	01W	23	NWNW			ASPEN COVE	4	6	30	110	204			5/28/1975	795257	
WEAST, FREDA L	Domestic	03N	01W	23	NWNW		3045 OVERLAND				100	110	208	194	6	12/2/1998	732723	D0007915
WEAST, JAMES	Domestic	03N	01W	23	NWNW						15	80	232			10/25/1962	815186	
WEAST, WESLEY	Domestic	03N	01W	23	NWNW		2845 W OVERLAND				150	105	249	240	6	4/7/1992	725016	
SANTO, LOVEN, GRAY, KARYN	Domestic	03N	01W	23	NWNW		1975 S. TEN MILE				60	98	261	-248	6	12/24/1999	733844	D0012606
CARLSON, ROBERT K	Domestic	03N	01W	23	NWNWSE		2300 S ASPEN COVE DR	ASPEN COVE SUB BLKS 03 04 05	5	4	60	98	221	221	6	8/1/2008	852539	D0053054
JONES, STEVEN GRANT	Domestic	03N	01W	23	NWSE						14	100	132			10/31/1975	795254	
GRAVES, LARRY	Domestic	03N	01W	23	NWSE			ASPEN COVE	1	4	10	85	140			5/2/1975	795258	
HARDWARD, NEWELL	Domestic	03N	01W	23	NWSE						15	110	145			3/5/1976	795250	
HARDWARD, NEWELL	Domestic	03N	01W	23	NWSE						25	100	152			9/27/1976	795243	
DIGGS, NEAL	Domestic	03N	01W	23	NWSE		1970 W VERNAL CT		1	3	0	104	153	149	6	8/18/1993	727378	
HICKEY, GLEN	Domestic	03N	01W	23	NWSE		2143 ASPEN COVE		5	1	0	0	166				723994	
HARDWARD, NEWELL	Domestic	03N	01W	23	NWSE						25	100	166			11/15/1976	795244	
SCHAPPACHER, GUNTHER	Domestic	03N	01W	23	NWSE						30	117	178			1/24/1976	795251	
WENDELL, CHUCK	Domestic	03N	01W	23	NWSE						30	100	201			4/1/1977	795263	
IRISH QUALITY BUILDERS, IVORY, KURT	Domestic	03N	01W	23	NWSE						35	Above Ground Level	238	230	6	4/21/1993	726934	
WHITMEIRE, BOB	Domestic	03N	01W	23	NWSE		1820 VERNEAL CT			2	100	88	297	290	6	11/9/1993	727601	
BOB WHITMIRE CONSTRUCTION	Domestic	03N	01W	23	NWSE		1760 W VERNEAL CT			1	125	88	304	283	6	11/9/1993	727609	

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SAWCETT, KEN	Domestic	03N	01W	23	NWSW		2755 W VAL VISTA CT		5	3	50	110	218	212	6	3/30/1993	726864	
A J HARDEE CONSTRUCTION, DAVIS, SHAWN	Domestic	03N	01W	23	NWSW						30	90	239	233	6	4/2/1995	729231	
TESTER, STEVEN	Domestic	03N	01W	23	NWSW						9999	100	240			7/1/1978	788614	
HAWS, SCOTT	Domestic	03N	01W	23	NWSW		2575 W VAL VISTA CT		1	9	40	105	262	162	6	5/24/1993	727000	
MC KINZIE, LEO	Domestic	03N	01W	23	NWSW						17	97	325			1/11/1972	798494	
STATE OF IDAHO	Domestic	03N	01W	23	NWSWNW		E SIDE OF S TEN MILE RD; .18 MILE S OF DAVIS DR					85	0		6	7/20/2009	857182	
JLJ ENTERPRISES	Domestic	03N	01W	23	NWSWNW		E SIDE OF S TEN MILE RD; .27 MILE S OF W OVERLAND RD, N OF LAMONT				35	101.5	207	207	6	10/8/2009	857785	D0055894
CARLSON, BOB	Domestic	03N	01W	23	SE			ASPEN COVE	5	4	14	89	402			9/30/1977	785804	
BURKE, JACK	Domestic	03N	01W	23	SENE						0	65	101			10/7/1986	823575	
MARTARANO, TONY	Domestic	03N	01W	23	SENE		2030 W ASPEN COVE DR				60	69	162	158	6	5/4/2005	833027	D0038925
COOK, DAVID A	Domestic	03N	01W	23	SENE			ASPEN COVE	4	3	20	115	230			8/7/1975	795255	
EXCHANGE ENTERPRISES	Domestic	03N	01W	23	SESE						9999	20	103			10/1/1976	795247	
MATHERLY, JAMES	Domestic	03N	01W	23	SESE						9999	20	155			9/26/1976	795245	
JERRY ELLIOTT CONSTRUCTION	Domestic	03N	01W	23	SESE		2525 ARIEL ST		1	6	100	90	186	177	6	3/22/1995	729202	
JEWETT, JIM	Domestic	03N	01W	23	SESE		3015 S ALYESAA, VICTORY RD				35	75	215	214	6	7/2/1993	727165	
PACKARD, JOHN Q, PACKARD, GAIL	Domestic	03N	01W	23	SESE		1920 VICTORY ROAD	MAJESTIC	1	11	60	118	215	-210	6	2/9/2001	767939	D0015926
JERRY ESTEP CONSTRUCTION	Domestic	03N	01W	23	SESE		1965 VERNEAL		1	10	40	90	217	212	6	9/12/1994	728584	
CHRISTENSEN, SCOTT	Domestic	03N	01W	23	SESE		VICTORY ROAD				65	90	219	211	6	9/14/1993	727440	
BASTIAN, BRENT	Domestic	03N	01W	23	SESE		1/4 MI W LINDER OFF VICTORY				40	105	226	228	6	11/7/1994	728819	
JEWETT, JIM	Domestic	03N	01W	23	SESE						35	90	252	252	6	9/17/1993	727460	
MENDIOLA, JEFF	Domestic	03N	01W	23	SESE		ARIEL ROAD N OF VICTORY				100	83	274	264	6	12/12/1996	730870	
WHITMIRE, BOB	Domestic	03N	01W	23	SESE		1820 VERNEAL COURT				100	180	280	258	6	7/24/1998	732415	D0007369
J & J CONSTRUCTION	Domestic	03N	01W	23	SESE		MIRACLE LANE				30	160	299			9/22/1993	854489	
BEHRMAN, DALE, FREUTEL, BILL	Domestic	03N	01W	23	SESW		S WHITE POINT LANE		1	5	60	105	178	176	6	9/18/1995	729682	
MC GREER, CHRIS	Domestic	03N	01W	23	SESW		2945 S WHITEPOINT LN				20	100	197	197	6		726302	
LEAVELL, BILL	Domestic	03N	01W	23	SESW		LOG SHOWS: ARIEL LANE, PERMIT SHOWS: LINDER & VICTORY				200	85	222	202	6	9/30/1996	730664	
LEWIS, BILL	Domestic	03N	01W	23	SESW		3045 S WHITE MOUNTAIN LN		1	3	40	95	241	229	6	4/8/1994	728090	
MORTON, DON L	Domestic	03N	01W	23	SESW					1	70	110	251	251	6	11/16/1992	726229	
BILLS, ALBERTA	Domestic	03N	01W	23	SESW						0	0	269				722295	
FULLER, BRIAN	Domestic	03N	01W	23	SWNE						15	60	80			8/15/1975	795256	
HARDWARD, NEWELL	Domestic	03N	01W	23	SWNE						25	50	107			6/30/1976	795248	
SPRIET, FRANK	Domestic	03N	01W	23	SWNE						15	100	138			1/9/1976	795252	
OLSON, CECIL	Domestic	03N	01W	23	SWNE						20	66	145			12/3/1970	798496	
COOK, DAVID A	Domestic	03N	01W	23	SWNE			ASPEN COVE	7	3	20	90	220			9/3/1974	795260	
REED, GERALD R	Domestic	03N	01W	23	SWNW						9999	75	207			6/5/1968	798495	
HINZE, BOB	Domestic	03N	01W	23	SWNW						9999	10	220			4/22/1968	798753	
MAJORS, RANDY	Domestic	03N	01W	23	SWNW						30	68	221	216	6	4/18/1994	728142	
JONES, NICK	Domestic	03N	01W	23	SWNW		2340 TEN MILE RD				100	119	240	230	6	3/10/2005	830815	D0038771
JONES, NICK	Domestic	03N	01W	23	SWNW		2340 TEN MILE RD				100	110	245	237	6	7/16/2004	820118	D0031725
CHANEY, GLENN C	Domestic	03N	01W	23	SWNW						999	110	250			4/1/1969	798462	
MC KINZIE, LEO	Domestic	03N	01W	23	SWNW						9999	100	300			11/18/1975	795249	
STATE OF IDAHO	Domestic	03N	01W	23	SWNWNW		S TEN MILE RD; .1 MILE S OF DAVIS DR ON E SIDE OF TEN MILE					104	0		6	7/20/2009	857181	
DOTY, JIM	Domestic	03N	01W	23	SWNWSE				3	5	20	105	197	188	6	7/15/1984	722114	
TESTOR, STEVE	Domestic	03N	01W	23	SWNWSW						30	120	305			1/15/1980	855671	
LACEY, BERNIE	Domestic	03N	01W	23	SWSE						1200	97	135			7/10/1967	798751	
OLSON, JOE	Domestic	03N	01W	23	SWSE		3750 W VICTORY				50	96	186	177	6	5/25/1999	733221	D0009519
JEWETT, JIM	Domestic	03N	01W	23	SWSE						55	90	206	205	6	1/12/1993	726383	
SUNRISE FINE HOMES	Domestic	03N	01W	23	SWSE		3279 S FRANCINE	MAJESTIC VIEW SUBDIVISION	1	7	150	102	243	-237	6	4/14/2000	763886	D0012923
MC CARTER-MOOREHOUSE CONSTRUCTION	Domestic	03N	01W	23	SWSE		VICTORY RD				27	90	305	305	6	6/20/1993	726985	
HAWS, SCOTT	Domestic	03N	01W	23	SWSESW		2925 WEST VALVISTA		1	5	60	105	210	208	6	12/10/1992	726361	
VIKING CLB BO	Domestic	03N	01W	23	SWSW						40	84	181			9/24/1968	798492	
SMARTT, FRANK H	Irrigation	03N	01W	23	SWSW		6152 W VICTORY				75	75	183	180	6	7/29/1992	725869	
JLJ ENTERPRISES	Domestic	03N	01W	23	SWSWNW		S TEN MILE RD; .1 MILE N OF W LAMONT RD, 1ST PROPERTY N OF 2290 S TEN MILE				65	106	216	206	6	9/25/2009	857699	D0055893
PRZYBOS, STEVE	Domestic	03N	01W	23			2530 S DEL RAE		1	12	20	108	255	152	6	8/30/1996	730649	
LEASURE, H LARRY	Monitoring	03N	01W	24	NENE		1601 S MERIDIAN RD (COUNTRY CORNER)	A-7				9	14	11	2	9/22/2004	824671	D0038187
LEASURE, H LARRY	Air-Sparge	03N	01W	24	NENE		1601 S MERIDIAN RD N- COUNTRY CORNER	A-4				12	20	17.6	1	8/24/2004	823856	D0038014
LEASURE, H LARRY	Air-Sparge	03N	01W	24	NENE		1601 S MERIDIAN RD - COUNTRY CORNER	A-5				14	20	17.6	1	8/24/2004	823857	D0038015
LEASURE, H LARRY	Monitoring	03N	01W	24	NENE		1601 S MERIDIAN RD (COUNTRY CORNER)	S-4				15	20	5	2	8/24/2004	824199	D0038020
COUNTRY CORNER	Monitoring	03N	01W	24	NENE		1601 S MERIDIAN RD					22	25	23	1	12/24/2002	790337	D0029072
COUNTRY CORNER	Monitoring	03N	01W	24	NENE		1601 S MERIDIAN RD					22	25	23	1	12/27/2002	790338	D0029073
LEASURE, H LARRY	Air-Sparge	03N	01W	24	NENE		1601 S MERIDIAN RD - COUNTRY CORNER	A-3				11	25	17.6	1	8/26/2004	823855	D0038013
LEASURE, H LARRY	Air-Sparge	03N	01W	24	NENE		1601 S MERIDIAN RD - COUNTRY CORNER	A-1				12	30	27.6	1	8/26/2004	823853	D0038011
LEASURE, H LARRY	Air-Sparge	03N	01W	24	NENE		1601 S MERIDIAN RD - COUNTRY CORNER	A-2				12	30	27.6	1	8/26/2004	823854	D0038012
LEASURE, H LARRY	Air-Sparge	03N	01W	24	NENE		1601 S MERIDIAN RD - COUNTRY CORNER	A-6				21	35	33.6	1	8/25/2004	823858	D0038016
RATCLIFF, EARL	Domestic	03N	01W	24	NENE						0	62	92			5/20/1985	825423	
WALTMAN, JIM	Domestic	03N	01W	24	NENE						0	63	93			12/17/1981	805925	
QUALITREE	Domestic	03N	01W	24	NENE		1205 W OVERLAND RD					25	130		6	3/28/2007	845991	
DAVENPORT, LAVON	Domestic	03N	01W	24	NENE						20	7	197			9/4/1963	815603	
BLACKHORSE CONSTRUCTION	Domestic	03N	01W	24	NENESW		863 W SEASONAL CREEK LN	PEBBLE LANE EST	1	12	150	58	239	230	6	4/21/2007	846160	D0048055
KINGSTON, CHARLES	Domestic	03N	01W	24	NENW		2045 S STODDARD				0	15	84	78	6	7/10/1995	729517	
STEWART, HAROLD	Irrigation	03N	01W	24	NENW						5850	23	115			10/14/1966	798717	
KING, DEXTER	Domestic	03N	01W	24	NENW						250	Above Ground Level	175	158	6	9/3/1991	724813	

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PRATHER, JAMES	Domestic	03N	01W	24	NENWNE		485 W OVERLAND RD	QUEENLAND ACRES SUB		1		25	0		4	5/8/2007	846717	
PRATHER, JAMES	Domestic	03N	01W	24	NENWNE		485 W OVERLAND RD	QUEENLAND ACRES SUB		1		25	137		6	5/8/2007	846719	
PRATHER, JAMES	Domestic	03N	01W	24	NENWNE		485 W OVERLAND RD	QUEENLAND ACRES SUB		1		33	206		6	5/8/2007	846720	
FOBES, RICHARD A	Domestic	03N	01W	24	NESE						9999	76	160			6/25/1981	804002	
PRYON, DAVE	Domestic	03N	01W	24	NESE			PEBBLE LANE ESTATES	1	5	60	72	241			5/6/1986	782968	
ROBINS & ROBINS CUSTOM HOMES	Domestic	03N	01W	24	NESW		2707 STODDARD				20	35	109	104	6	10/3/2003	807456	D0030458
RANEY, CATHY	Domestic	03N	01W	24	NESW		2833 STODDARD RD				75	47	159	154	6	6/21/2005	834014	D0039163
CAUFIELD, ROBERT G	Domestic	03N	01W	24	NESW		3111 COBBLE WAY	PEBBLE LANE ESTATES	1	2	70	75	270	270	6	10/6/2004	825185	D0038248
HOGATE, STANLEY	Domestic	03N	01W	24	NWNE						9999	50	81			5/25/1973	802322	
SCOTT, TRUMAN G	Domestic	03N	01W	24	NWNE						150	17	212			11/16/1967	798755	
WARREN, ROSE	Domestic	03N	01W	24	NWNW						0	55	80			4/8/1985	825430	
QUALITREE	Domestic	03N	01W	24	NWNW		1435 OVERLAND RD					15	110		4	1/12/2007	846589	
QUALITREE	Domestic	03N	01W	24	NWNW		1575 OVERLAND RD					15	120		5	1/12/2007	846590	
MARZ, FRANK	Domestic	03N	01W	24	NWNW						0	15	121			6/21/1970	820472	
TAYLOR, SYLVAN	Stockwater	03N	01W	24	NWNW						0	20	138			6/26/1979	777372	
PENFIELD FAMILY TRUST	Domestic	03N	01W	24	NWNW		1345 OVERLAND RD				40	17	144	139	6	8/11/1998	732450	D0007516
W W HEDRICK CONSTRUCTION CO	Domestic	03N	01W	24	NWNW						40	14	165			9/8/1970	798749	
W W HEDRICK CONSTRUCTION CO	Domestic	03N	01W	24	NWNW						100	2	206			1/26/1971	798748	
SMITH, WESTON R	Domestic	03N	01W	24	NWNW						60	12	275			9/15/1973	795271	
WILSON, DALE	Domestic	03N	01W	24	NWSE						0	70	180			12/31/1979	842278	
	Domestic	03N	01W	24	NWSE		COBBLE LN				0	80	234			10/9/1980	842279	
LACY, RHONDA, LACY, MEL	Domestic	03N	01W	24	NWSE						60	40	235	223	6	5/15/1990	723827	
BECHTOLD, RICHARD	Domestic	03N	01W	24	NWSW						9999	60	145			5/17/1975	797827	
MOFFAT & MOFFAT, FISCHER, DAVE	Domestic	03N	01W	24	NWSW		1ST LOT ON RIGHT ON EGGER'S PLACE		2	1	60	77	155	149	6	11/12/1996	730835	
SPECIALTY HOMES	Domestic	03N	01W	24	NWSW		3035 MODEL FARM DR	MODEL FARM SUB	6	1	90	86	194	195	6	9/7/2004	824068	D0031949
COLTON, DON	Domestic	03N	01W	24	NWSW		3105 MODEL FARM DR	MODEL FARM SUB	1	4	35	86	194	194	6	9/13/2004	824237	D0038105
LACY, MEL	Domestic	03N	01W	24	NWSW						0	75	205			12/29/1982	773982	
ANDERTON, GEO	Domestic	03N	01W	24	SENW						0	38	76			6/26/1964	778631	
LOVAN, WALLACE	Domestic	03N	01W	24	SENW						15	62	119			5/8/1970	795266	
BEAL, J BURNS	Domestic	03N	01W	24	SENW						20	83	155			9/17/1971	790664	
WRIGHT, TRACY	Domestic	03N	01W	24	SENW						9999	62	335			7/27/1972	795269	
STREIB, G ROYDEN	Domestic	03N	01W	24	SENWNW						20	13	60			9/11/1980	819705	
RICHARD EVANS CONSTRUCTION	Domestic	03N	01W	24	SESE		3015 MERIDIAN RD					44	0		6	9/20/2005	836947	
CLINE, KIETH	Domestic	03N	01W	24	SESE			KACHINA ESTATES	1	4	9999	18	60			3/9/1979	783253	
RICHARD EVANS CONSTRUCTION	Domestic	03N	01W	24	SESE		3015 S MERIDIAN ROAD					40	97		6	2/14/2002	773106	D0019604
HEPPER, TIM, RICHARD EVANS CONSTRUCTION	Domestic	03N	01W	24	SESE		448 W VICTORY RD				0	50	99		6	8/11/1976	789883	
HEPPER, TIM, RICHARD EVANS CONSTRUCTION	Domestic	03N	01W	24	SESE		448 W VICTORY RD				0	50	99		6	2/27/2006	838567	
PAINTER, BUD	Domestic	03N	01W	24	SESE						20	30	225			9/9/1972	795264	
CITY OF MERIDIAN	Municipal	03N	01W	24	SESENE		ALONG THE KENNEDY LATERAL JUST WESTOF MERIDIAN ROAD				400	30	282	278	12	10/1/2001	769998	D0018785
ADKINS, JACK	Domestic	03N	01W	24	SESESE		400 W VICTORY				35	35	149	149	6	9/21/1993	727461	
SPENCER, RON	Domestic	03N	01W	24	SESW						60	64	126			11/26/1990	846571	
PEPE, RALPH	Domestic	03N	01W	24	SESW		PEBBLE LN				45	75	138	137	6	1/31/1990	723482	
CRITELL, CAROLYN P, CRITELL, WILFORD J	Domestic	03N	01W	24	SESW						35	42	185	180	6	5/16/1989	722951	
PETTY, KEVIN	Domestic	03N	01W	24	SESW						22	70	207	195	6	4/6/1984	722085	
MC GINNIS, JEFF	Domestic	03N	01W	24	SESW		COBBLE WAY	COBBLE	1	7	60	73	209	204	6	5/25/2004	815685	D0031337
SCOTT, THERON G	Domestic	03N	01W	24	SESW						150	45	255			5/21/1978	782354	
SMITH, GENE	Domestic	03N	01W	24	SESW						0	0	259				723398	
ERO RESOURCES CORP	Domestic	03N	01W	24	SESW						0	0	284				723255	
EDENBROOK CONSTRUCTION, TITMUS, GREY	Domestic	03N	01W	24	SESW				1	4	40	78	284	278	6	6/13/1989	723032	
MOORE, RANDY L	Domestic	03N	01W	24	SESW						20	95	295			7/15/1987	779539	
DOUFAS, JERRY	Domestic	03N	01W	24	SESW						0	76	330			5/23/1980	828136	
CAVFIELD, ROBERT, CAVFIELD, LINDA	Domestic	03N	01W	24	SW				2	1	0	0	272				722281	
ROUNDY, LEE M	Domestic	03N	01W	24	SWNW						15	9999	37			5/19/1966	798665	
KANE, ROBERT V	Domestic	03N	01W	24	SWNW						99999	65	180			8/29/1975	795265	
LIEGHTON, DAVE	Domestic	03N	01W	24	SWNW						0	30	215			12/1/1977	806415	
ROSE, DELBERT	Domestic	03N	01W	24	SWSE						125	75	155			10/31/1969	802804	
DEFFREIS, JOHN	Domestic	03N	01W	24	SWSE		3043 COBBLE WAY		1	3	100	85	273	270	6	10/12/1995	729747	
TOMLINSON, MIKE	Domestic	03N	01W	24	SWSESW		PERMIT: COBBLES & VICTORY RD, LOG: 2895 S HARMONY				75	82	162	142	6	10/20/1992	726219	
EGGARS, RICHARD	Domestic	03N	01W	24	SWSW						22	70	105			5/26/1971	802806	
WIRSCHING, GARY	Domestic	03N	01W	24	SWSW						900	82	126			5/29/1970	802803	
BROWN, GENE	Domestic	03N	01W	24	SWSW				1	17	0	0	130				723379	
MERIDIAN DEVELOPERS INC	Domestic	03N	01W	24	SWSW						900	9999	132			5/21/1970	798725	
SNYDER, SCOTT	Domestic	03N	01W	24	SWSW				1	8	0	0	135				723378	
LLOYD, RICHARD L	Domestic	03N	01W	24	SWSW						45	110	145			5/11/1979	781214	
KOCH, HAROLD D	Domestic	03N	01W	24	SWSW						15	9999	145			5/12/1970	798718	
WARE, ROBERT	Domestic	03N	01W	24	SWSW						15	78	150			9/11/1972	795270	
FIGGAT JR, W H	Domestic	03N	01W	24	SWSW						9999	79	154			6/11/1970	798726	
ADKINS, JACK	Domestic	03N	01W	24	SWSW		400 W VICTORY				60	30	160	160	6	5/3/2001	768672	D0018359
SLAATHAUG, GARY R	Domestic	03N	01W	24	SWSW						900	90	160			7/14/1970	798747	
SCHOEN, VERNON	Domestic	03N	01W	24	SWSW						9999	100	168			1/27/1964	825683	
PLOTT, TONY	Domestic	03N	01W	24	SWSW		3070 S LINDER				60	45	172	167	6	1/13/1997	731099	
SIEBE, JAMES	Domestic	03N	01W	24	SWSW						9999	100	197			5/5/1968	833738	
MARCAR DESIGN AND CONSTRUCTION	Domestic	03N	01W	24	SWSW		1300 VICTORY	MIDDLE FARM ACRES	2	3	100	89	235	231	6	6/22/2002	778951	D0025077
NELSON, DALE	Domestic	03N	01W	24	SWSW						600	79	238			7/2/1970	798745	
WILLIAMS, MARSHALL	Domestic	03N	01W	24	SWSW		1305 VICTORY	MODLE FARM ACRES	2	1	40	83	250	248	6	2/13/2003	791906	D0029064
ADAMS, ERVAN	Domestic	03N	01W	24	SWSW						9999	140	295			5/28/1975	795267	

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CITY OF MERIDIAN	Monitor	03N	01W	24	SWSWNE		ALONG THE SOUTH BANK OF THE HARDIN DRAIN ON EAST SIDE OF STODDARD LANE					0	ab		6	5/4/2001	768240	D0018240
HOWELL MARKETING INC	Monitoring	03N	01W	25	NENE		1601 S MERIDIAN RD (COUNTRY CORNER)				0	17	18	3	2	5/14/1999	733232	D0009574
HOWELL MARKETING INC	Monitoring	03N	01W	25	NENE		1601 S MERIDIAN RD (COUNTRY CORNER)				0	17	24	4	2	5/15/1999	733231	D0009573
HOWELL MARKETING INC	Monitoring	03N	01W	25	NENE		1601 S MERIDIAN RD (COUNTRY CORNER)				0	17	25	5	2	5/14/1999	733233	D0009575
HOWELL MARKETING INC	Monitoring	03N	01W	25	NENE		1601 S MERIDIAN RD (COUNTRY CORNER)				0	17	25	5	2	5/14/1999	733234	D0009576
G & S DEVELOPMENT INC	Irrigation	03N	01W	25	NENE		MERIDIAN ROAD				859	57	295	295	12	6/26/1992	725622	
FELT, RUSSELL	Domestic	03N	01W	25	NENE						18	9999	311			3/14/1956	798775	
PETTY, KEVIN	Domestic	03N	01W	25	NENW		1155 W VICTORY				0	0	193				723452	
SUNDELL, VILBERT L	Domestic	03N	01W	25	NENW						400	90	216			1/13/1966	825603	
MERIDIAN HEIGHTS WATER & SEWER ASSN	Municipal	03N	01W	25	NENW		936 W RIODOSA DR	KENTUCKY RIDGE EST	3	2	353	82	528	478	16	8/13/2009	857080	D0055834
MERIDIAN HEIGHTS WATER & SEWER ASSN	Test	03N	01W	25	NENW		W RIODOSA DR	KENTUCKY RIDGE #3 / MERIDIAN HEIGHTS	5	2		84	553		8	4/3/2007	845592	
GIBBONS, FRED, CAFFERTY, SEAN	Domestic	03N	01W	25	NWNE		W MERIDIAN ROAD				57	129	203	200	6	3/28/1995	729242	
HANSEN, MERLE A	Domestic	03N	01W	25	NWNE						9999	60	236			1/14/1981	808225	
AULT, BOB	Domestic	03N	01W	25	NWNW						0	0	197				724888	
AULT JR, ROBERT W	Domestic	03N	01W	25	NWNW		39 ACRE (1 ACRE HAS BEEN SPUT FROM ORIGINAL 40)				0	0	253				722343	
CENTERS, ALLEN	Domestic	03N	01W	25	NWSENW		3770 S LINDER				100	106	235	225	6	7/24/1992	725929	
JOHNSON, RON	Domestic	03N	01W	25	NWSW						0	25	188			7/7/1984	773994	
TROWBRIDGE, CECIL	Domestic	03N	01W	25	NWSW						25	100	202			9/26/1967	798774	
TROWBRIDGE, JERRY	Domestic	03N	01W	25	NWSW		4186 S LINDER ROAD				30	109	229	-222	6	9/9/2000	766189	D0015207
SMITH, L D	Domestic	03N	01W	25	NWSWNW		9200 S LINDER				75	81	203	200	6	5/18/1992	725088	
BISCHOFF REALTY	Municipal	03N	01W	25	SENE		1200 N MAPLE GROVE				0	49	224			4/24/1970	802710	
MERIDIAN HEIGHTS WATER & SEWER ASSN	Municipal	03N	01W	25	SENENW		936 W RIODOSA DR	KENTUCKY RIDGE EST SUB	3	2		85	285		8	1/28/2010	858520	
FROST, DAVID S	Domestic	03N	01W	25	SENESE						800	95	330			12/6/1965	820634	
PREECE, ROBERT D	Domestic	03N	01W	25	SESESW						20	120	225			4/25/1981	841711	
LUNSTROM, FORD	Domestic	03N	01W	25	SESW						25	115	262			11/12/1976	795272	
KIESTER, WALTER L	Domestic	03N	01W	25	SWSE						25	82	130			6/2/1965	811605	
DIXON, CHRIS, DIXON, DENNIS	Domestic	03N	01W	25	SWSESW		1100 W AMITY				60	118	245	244	6	10/26/1994	728768	
FOX, ALLEN	Domestic	03N	01W	25	SWSW						22	22	93			7/3/1971	802805	
MASLONKA, GALE	Domestic	03N	01W	25	SWSW		1350 W AMITY				100	99	183	174	6	5/4/1995	729318	
WHIPPLE, GLEN	Domestic	03N	01W	25							0	100	326			3/22/1979	782857	
TAYLOR, BEN	Domestic	03N	01W	26	NENE						9999	95	153			7/5/1970	798769	
WOOD, CHARLES S	Domestic	03N	01W	26	NENE						40	85	161			8/24/1970	798767	
CLOVERDALE HOLSTEIN FARMS INC	Domestic	03N	01W	26	NENE		CORNER OF LINDER & VICTORY				27	90	168	161	6	10/1/1993	726530	
YOUNG, GLEN T	Domestic	03N	01W	26	NENE		2855 W VICTORY				75	105	205	190	6	8/6/1997	731504	D0001146
PLUM, LARRY A	Domestic	03N	01W	26	NENE						40	80	223			8/30/1970	798768	
GIBBONS, MARTHA	Domestic	03N	01W	26	NENE		3335 S LINDER				70	98	241	236	6	9/20/1999	733606	D0012242
PAREDES, MANUAL, PAREDES, JOANNE	Domestic	03N	01W	26	NENW						30	110	180	176	6	9/29/1992	726120	
BRUNO, ROBERT	Domestic	03N	01W	26	NENW		VICTORY & RUSTLER LANE			2	70	109	228	-213	6	6/8/2000	764895	D0015012
SIEBOLD, LYNN	Domestic	03N	01W	26	NENW		VICTORY & RUSTLER LANE				100	106	245	-231	6	4/10/2000	763877	D0012851
ROBERTS, VERL	Domestic	03N	01W	26	NENW		3505 S RUSTLER PLLACE	STETSON ESTATES			60	110	260	-254	6	11/6/2000	767334	D0015833
HOPE, KEVIN	Domestic	03N	01W	26	NENW		3458 S RUSTLER	STETSON ESTATES	1	3	100	119	311	-300	6	2/5/2000	763136	D0012618
MC DOWELL, GLEN	Domestic	03N	01W	26	NESE						9999	98	165			1/26/1959	820632	
ROBINSON, H E	Domestic	03N	01W	26	NESE						30	80	328			7/12/1977	819752	
STAN VANEK CONTRACTOR	Domestic	03N	01W	26	NESW						25	120	215			4/15/1987	778958	
HEATON, RICHARD	Domestic	03N	01W	26	NESW		4137 S RUSTLER	STETSON ESTATES SUB #2	1	9	100	90	243	243	6	12/23/2005	837945	D0042352
JACKSON, STANLEY B	Domestic	03N	01W	26	NWNE						1500	100	153			10/8/1968	798758	
JACKSON, BRENT	Domestic	03N	01W	26	NWNE		2365 W VICTORY RD				75	102	191	184	6	11/16/1998	732705	D0007856
GIBSON, DALE	Domestic	03N	01W	26	NWNE		1805 W VICTORY RD				50	90	224	218	6	2/11/1994	727986	
RUSSELL, MARK	Domestic	03N	01W	26	NWNW		VICTORY RD				0	0	168				723923	
NAUGLE, KENNETH W	Domestic	03N	01W	26	NWNW						150	9999	378			12/30/1976	795273	
LAWRENCE, WENDELL, LAWRENCE, KASHA	Domestic	03N	01W	26	NWSENW		3797 S RUSTLER LN	STETSON ESTATES #2	1	7	60	95	178	173	6	5/17/2007	846761	D0048113
HARRIS, JOE	Domestic	03N	01W	26	NWSW				1	9	15	44	58			3/21/1972	798771	
MC FALL, RAY	Domestic	03N	01W	26	NWSW						9999	70	92			3/23/1972	794290	
BAILEY, BRUCE, BAILEY, MARY	Domestic	03N	01W	26	SENE		3556 RUSTIC LANE				90	113	217	-210	6	10/6/2000	766946	D0015705
WALKER SR, JIM	Domestic	03N	01W	26	SENE		3801 S LINDER RD		1	2	100	99	250	228	6	9/25/1995	729708	
SUTTON, GARY F	Domestic	03N	01W	26	SENE		3555 SO RUSTLER				45	106	263	256	6	9/27/1999	733635	D0012269
DUMARS, RANDY	Domestic	03N	01W	26	SENW		3878 RUSTLER	STETSON ESTATES			40	86	216	210	6	8/30/2001	770517	D0018588
ROBERTS, VERL	Domestic	03N	01W	26	SENW		RUSTLER	STETSON	1	10	56	114	223	-223	6	5/15/2000	764372	D0012918
WALKING R FARMS LTD	Irrigation	03N	01W	26	SENW						0	0	225				722638	
JAKE CENTERS CONSTRUCTION	Domestic	03N	01W	26	SENW		RUSTLER ROAD	STETSON EST			75	125	269	-257	6	11/28/2000	767527	D0015835
CREECH, NELSON JUNIOR	Domestic	03N	01W	26	SESE						30	93	191			3/3/1969	798759	
LARSON, STANLEY	Domestic	03N	01W	26	SESE						9999	9999	213			4/8/1970	798765	
PENCE, LEW	Domestic	03N	01W	26	SESW						600	110	170			8/18/1969	798762	
HARM, VIRGIL	Domestic	03N	01W	26	SWNW						9999	9999	102			12/31/9999	802402	
REYNOLDS, VERNE J	Domestic	03N	01W	26	SWSE						50	110	182			5/1/1974	797779	
WHITMIRE, BOB	Domestic	03N	01W	26	SWSE		1994 W AMITY				30	108	187	177	6	5/7/2003	799887	D0029409
GRAY, LAWRANCE V	Domestic	03N	01W	26	SWSE						40	15	292			5/14/1973	795275	
HAYNES, CLAUDIA, HAYNES, JAMES	Domestic	03N	01W	26	SWSW		2760 W AMITY					89	0		6	5/28/1998	732240	
HAYNES, CLAUDIA	Domestic	03N	01W	26	SWSW						80	116	241	234	6	5/19/1998	732180	D0007021
WAITE, A T	Domestic	03N	01W	26	SWSW						20	115	275			1/27/1975	795274	
LIEN, C DUANE	Domestic	03N	01W	26				ASPEN COVE			20	63	182			9/17/1984	779305	
SHAFFER	Domestic	03N	01W	27	NENE			VICTORY HEIGHTS			20	20	88			12/31/9999	812290	
LAWSON, KERRY	Domestic	03N	01W	27	NENE		RAMBLIN COURT		1	3	20	20	173	167	6	3/11/1994	728057	
PICOTTE, LES	Domestic	03N	01W	27	NENE		3393 W VICTORY RD				50	110	265	253	6	12/9/2003	809197	D0030664
MAYER, RUSSELL	Domestic	03N	01W	27	NENW		BLACKCAT 1/4 MI S OF VICTORY				30	90	196	186	6	4/15/1994	728157	

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LARSON, EUGENE	Domestic	03N	01W	27	NENW						40	76	214			12/6/1984	840841	
MOORE, TERRY	Domestic	03N	01W	27	NESE						0	75	165			7/26/1980	785788	
CHURCHILL, RAYMOND	Domestic	03N	01W	27	NESE		3294 W TWIN VIEW LN (OFF TEN MILE & AMITY)		1	2	18	105	175	164	6	12/5/1995	729795	
HEPPER HOMES	Domestic	03N	01W	27	NESE		OFF TEN-MILE RD BETWEEN AMITY & VICTORY				25	120	192	192	6	8/15/1995	729568	
COLTRIN, LARRY	Domestic	03N	01W	27	NESE		4135 S TEN-MILE		1	6	50	115	255	255	6	5/22/1997	731273	
BARRITUA, CAROLE	Domestic	03N	01W	27	NESW						9	32	52			8/26/1974	795220	
BARCLAY CONSTRUCTION	Domestic	03N	01W	27	NWNE		3650 BLACK CAT				40	104	203	198	6	6/14/2004	816333	D0031143
BORUP, DEAN	Domestic	03N	01W	27	NWNW						15	20	97			9/10/1986	779304	
GEORGE, ROBERT C	Domestic	03N	01W	27	NWNW		3192 HERITAGE				40	65	157	157	6	6/21/1993	727025	
LARSON, SIDNEY	Domestic	03N	01W	27	NWNW						0	96	196			7/10/1980	806188	
SIGNATURE HOMES	Domestic	03N	01W	27	NWSE		4250 S NICKEL CREEK				75	130	240	235	6	7/24/2003	805128	D0029681
JEWITT, JIM	Domestic	03N	01W	27	NWSE		SOUTH NICKLE CREEK WAY	BITTER CREEK #2	4	9	55	120	240	239	6	11/21/2003	808918	D0030657
SHUR LUCK HOMES	Domestic	03N	01W	27	NWSE		4036 NICKEL CREEK PL		1	9	50	107	268	259	6	7/3/2003	804258	D0029618
BAKER, MELVIN	Domestic	03N	01W	27	NWSESW		4500 RIDGE VIEW RD		1	5	100	114	226	25	6	7/20/1989	723061	
MEAD, HAROLD D	Domestic	03N	01W	27	SENW						20	115	181			6/16/1981	819644	
FAABORG, CHAD, FAABORG, ALYSSA	Domestic	03N	01W	27	SENW		NEAR BLACK CAT AND VICTORY	PARCEL 8			30	119	207	-195	6	7/22/2000	765610	D0015225
PLATINUM HOMES	Domestic	03N	01W	27	SENWSE		4068 S NICKEL CREEK PL	BITTERCREEK HEIGHTS SUB	1	8	60	113	213	207	6	2/21/2007	845367	D0047701
MEYERS, RON	Domestic	03N	01W	27	SESE						0	7	130			12/15/1978	788605	
JIM ROPER CONSTRUCTION	Domestic	03N	01W	27	SESE		3293				75	110	188	185	6	8/12/1998	732453	D0007467
DOUBLE DUTCH CONSTRUCTION	Domestic	03N	01W	27	SESE		4035 S NICKEL	BITTER CREEK HEIGHTS			80	102	212	207	6	11/11/2003	808920	D0030451
DOUBLE DUTCH CONSTRUCTION	Domestic	03N	01W	27	SESE		4067 S NICKEL	BITTER CREEK HEIGHTS			70	104	212	206	6	11/13/2003	808930	D0030450
EVANS, BERNICE H	Domestic	03N	01W	27	SESE						35	60	224			1/14/1983	843903	
SPECIALTY HOMES	Domestic	03N	01W	27	SESE		4092 S NICKEL CREEK PL	BITTER CREEK HEIGHTS	1	7	80	111	238	229	6	9/26/2003	807059	D0029858
SHAWN WHITEHEAD CONSTRUCTION	Domestic	03N	01W	27	SESE		4156 S NICKEL CREEK				80	120	248	240	6	11/7/2003	808825	D0030449
SHAWN WHITEHEAD CONSTRUCTION	Domestic	03N	01W	27	SESE		4125 S NICKEL CREEK	BITTER CREEK HIGHTS			80	113	257	246	6	11/5/2003	808688	D0030448
KADELL, SHARI	Domestic	03N	01W	27	SESE		4233 NICKLE CREEK	BITTER CREEK	2	4	90	120	263	263	6	8/24/2004	823794	D0031947
SHEA, ROBYN	Domestic	03N	01W	27	SESE		4239 NICKLE CREEK	BITTER CREEK SUB	1	7	85	120	266	266	6	3/3/2005	830338	D0038783
J&W HOMES	Domestic	03N	01W	27	SESE		4124 S NICKEL CREEK				80	125	267	255	6	5/7/2004	814277	D0031286
FIELD, BRUCE	Domestic	03N	01W	27	SESE		4197 S NICKEL CREEK	BITTER CREEK HGHTS	4	4	7	126	272	259	6	6/12/2003	805453	D0029471
TODD ZIMMERMAN CONSTRUCTION	Domestic	03N	01W	27	SESE		S NICKLE CREEK WAY	BITTER CREEK HEIGHTS	1	4	80	120	274	274	6	2/16/2004	810758	D0030912
ZIMMERMAN, TODD	Domestic	03N	01W	27	SESE		4216 S NICKEL CR WAY	BITTER CREEK HEIGHTS	1	3	70	130	275	275	6	8/21/2003	805965	D0029922
EVANS, DEAN	Domestic	03N	01W	27	SESE						200	125	301			4/16/1971	798663	
JOHNSON PROPERTY MANAGEMENT	Domestic	03N	01W	27	SESW		4015 Ridgeview Dr	Earl Jacks	1	10	75	114	228	217	6	11/26/2001	772193	d0019380
SCHUESTER, JIM	Domestic	03N	01W	27	SESW		RIDGEVIEW				35	81	267	262	6	7/3/1992	725857	
JONES, CASEY	Domestic	03N	01W	27	SESW						200	116	371	357	6	7/18/2001	769896	D0018639
JOHNSON, DONALD	Domestic	03N	01W	27	SW						20	115	180			6/23/1973	795208	
CAMPBELL, AL	Domestic	03N	01W	27	SW			EARL JONES SUB	1	12	9999	9999	200			12/23/1999	808076	
SCOTT, THERON G	Domestic	03N	01W	27	SWNE		3985 W VICTORY				25	106	204		6	6/6/2002	778171	D0025106
COLTRIN, LAWRENCE B	Domestic	03N	01W	27	SWNE						60	106	210			9/21/1973	795207	
KEITH, DAVID	Domestic	03N	01W	27	SWNW						0	0	85				723448	
K & L CONSTRUCTION	Domestic	03N	01W	27	SWSE		2888 BODANIELS	ISREAL HEIGHTS	1	10	60	84	154	151	6	1/3/2002	772560	D0019509
K & L CONSTRUCTION	Domestic	03N	01W	27	SWSE		2932 BODANIELS	ISREAL HEIGHTS	1	8	50	48	161	151	6	12/27/2001	772561	D0019507
K & L CONSTRUCTION	Domestic	03N	01W	27	SWSE		2976 BO DANIELS	ISRAEL HEIGHTS			60	80	165	-153	6	3/15/2001	768243	D0018202
HENNESSEY, THOMAS	Domestic	03N	01W	27	SWSE						20	100	165			4/26/1977	795209	
K & L CONSTRUCTION	Domestic	03N	01W	27	SWSE		BO DANIELS	ISREAL HEIGHTS	1	9	75	85	186	175	6	1/3/2002	772562	D0019508
WALKER BROTHERS	Domestic	03N	01W	27	SWSW						0	75	164			7/31/1979	777386	
KIRKMAN, KEVIN	Domestic	03N	01W	28	NENE		5053 VICTORY	MATSUYAMA	1	3	75	78	206	194	6	6/28/2004	817736	D0031468
WELKER, KEN	Domestic	03N	01W	28	NENE		3755 S HI GROVE				90	115	217	212	6	8/23/2001	770648	D0018843
PHILLIPS, JERRY	Domestic	03N	01W	28	NENE						9999	9999	247			5/20/1974	795212	
LARSON, EUGENE	Domestic	03N	01W	28	NENW						40	80	166			3/7/1979	785872	
EDWARDS, FLOYD	Irrigation	03N	01W	28	NESE						300	120	287			6/8/1987	779298	
MATSUYAMA, YUGI	Domestic	03N	01W	28	NESENE		3675 BLACK CAT RD				0	102	158	155	6	7/14/1992	725895	
T&T DEVELOPMENT	Domestic	03N	01W	28	NWNE		5535 W VICTORY RD	WINDMILL	1	1	75	83	186	171	6	11/21/2002	789168	D0025962
SALISBURY BORAH CONSTRUCTION	Domestic	03N	01W	28	NWNE		5175 VICTORY RD (CORNER OF VICTORY & BLACK				75	91	205	195	6	10/14/2005	836939	D0042053
WALLACE, JIM	Domestic	03N	01W	28	NWNE		BLACK-CAT AND VICTORY				70	110	217	200	6	6/11/1998	732290	D0007150
GRAHAM & JORDAN INVESTORS LLC	Domestic	03N	01W	28	NWNENW		3394 S MC DERMOTT RD	WILLOWTREE SUB	1	19	180	83	456	426	8	10/25/2008	852643	D0053122
FUTURE IDA CO	Domestic	03N	01W	28	NWNW						0	30	60			10/29/1979	774701	
PALMER, JOE L	Domestic	03N	01W	28	NWNW						60	33	88	88	6	7/13/1989	723134	
PALMER, JOE L	Domestic	03N	01W	28	NWNW						60	33	88	88	6	7/13/1989	723135	
BLOTCHER, WILLIAM	Domestic	03N	01W	28	NWNW						15	80	170			10/25/1963	815185	
STOKES, TOM	Domestic	03N	01W	28	NWSE						0	60	134			2/10/1978	830196	
HEPPER HOMES	Domestic	03N	01W	28	NWSW		4350 S MC DERMOTT RD				60	55	142	137	6	7/1/2005	834375	D0039270
EDDLEMON, JOHN	Domestic	03N	01W	28	NWSW						50	60	163			10/31/1975	795210	
WOODINGTON, PAT	Domestic	03N	01W	28	SENE		HIGH GROVE LN				110	70	188	187	6	12/29/1995	729922	
GRAHAM AND JORDAN INVESTORS LLC	Domestic	03N	01W	28	SENENW		3394 S MC DERMOTT	WILLOWTREE ESTATES				90	234		8	4/14/2006	838888	D0042588
LONG, DAN	Domestic	03N	01W	28	SENESW						150	65	160	138	6	9/14/1983	721994	
DRANSFIELD, ARNOLD S	Domestic	03N	01W	28	SWNE						30	120	240			3/7/1978	813945	
NELISON, ADRAIN	Domestic	03N	01W	28	SWSE						30	107	160			2/20/1978	826655	
EDWARDS, GLEN	Domestic	03N	01W	28	SWSE		5220 W AMITY				100	70	213	201	8	8/13/1993	727352	
NELSON, ADRIAN	Domestic	03N	01W	28	SWSE						0	107	220			4/8/1978	832602	
EDWARDS, FLOYD	Stockwater	03N	01W	28	SWSE						40	69	250			4/1/1974	795211	
GASKELL, JOHN	Domestic	03N	01W	28	SWSW		4602 S MCDERMOTT				80	40	134	128	6	11/6/1999	733755	D0012456
FIGGART, DAVID W	Domestic	03N	01W	28							0	68	170			7/21/1979	782859	
CLINE, KEITH	Domestic	03N	01W	33	NENE					003, 004	0	0	135				722312	
KISER, JENNIE L	Domestic	03N	01W	33	NENE						75	71	153	151	6	3/8/1989	723207	
KISER, JENNIE L	Domestic	03N	01W	33	NENE						75	71	153	151	6	3/8/1989	723247	
STROEBEL, SHELBY	Domestic	03N	01W	33	NENE		4976 W AMITY	PARCEL 1; AMITY RANCH ESTATES			50	71	153	148	6	10/14/2005	836959	D0042036

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MC NATT, JOHN	Domestic	03N	01W	33	NENE		5000 W RIDGEBACK LN		1	3	0	41	169	165	6	9/1/1999	733555	D0012039
VAN GROUW SR, EDWARD G	Domestic	03N	01W	33	NESE		5655 S BLACKCAT				200	42	140	90	8	10/13/1993	727548	
NAMPA & MERIDIAN IRRIGATION DISTRICT	Domestic	03N	01W	33	NESW						9999	6	88			12/31/9999	798673	
FORREY, MELISSA, FORREY, DAVE C	Injection	03N	01W	33	NWNE		5301 W AMITY				0	Above Ground Level	50	18	6	4/23/1993	726784	
SCHILDHAUR, HARLIN		03N	01W	33	NWNE						0	10	63			11/20/1967	830169	
BRODIN, BRYAN	Domestic	03N	01W	33	NWNE						0	0	125				722444	
FORREY, MELISSA, FORREY, DAVE C	Domestic	03N	01W	33	NWNE		5301 W AMITY				75	75	157	148	6	4/23/1993	726783	
SMYLLIN	Domestic	03N	01W	33	NWNE						120	145	277			2/22/1979	784982	
TITUS, JENI	Domestic	03N	01W	33	NWNENE		BEHIND 5187 W AMITY RD				60	37	185	173	6	4/6/2006	839066	D0042603
VANDER WOUDE, JOHN	Domestic	03N	01W	33	NWNENW		6381 W AMITY RD				35	45	83	78	6	6/10/2009	856598	D0055726
KRAUSE, CHARLES	Domestic	03N	01W	33	NWNW						0	0	132			11/17/1962	829383	
VAN GROUW, DAN	Domestic	03N	01W	33	NWSW		5850 N MC DERMOTT RD					7	52		4	9/19/2008	839746	
VAN GROUW, DAN	Domestic	03N	01W	33	NWSW		5850 N MC DERMOTT RD				60	7	118	108	6	4/28/2006	839338	D0046448
POTTER, JACK B	Domestic	03N	01W	33	SENE						50	47	94	93	6	6/11/1992	725764	
WALKER, R J	Domestic	03N	01W	33	SENE						20	58	137			1/26/1977	795204	
JENKINS, PETER	Domestic	03N	01W	33	SENE						25	60	155			4/27/1977	795201	
POTTER JR, ROBERT E	Domestic	03N	01W	33	SENW		GUIDO LN		1	6	20	30	78	73	6	2/28/1995	729148	
SHERVIK BUILDERS	Domestic	03N	01W	33	SENW		5787 SOUTH RIDGEWOOD		1	7	40	29	78	76	6	11/10/2006	844795	D0047383
BASTIAN, BARRY	Other	03N	01W	33	SENW						0	30	82			10/16/1979	777387	
BLACKNER, WES	Domestic	03N	01W	33	SENW						50	18	140	138	6	4/7/1998	732084	D0001831
YRIBAR, MONA	Domestic	03N	01W	33	SENW		5912 W GUIDO LN				90	13	157	152	6	8/11/2004	823054	D0031789
GARY TUTTLE CONSTRUCTION CO INC	Domestic	03N	01W	33	SESW		LAKE HAZEL/RIDGEWOOD				120	24	43	183	6	5/6/1999	733206	D0009517
EGERTON, O	Domestic	03N	01W	33	SWNW						50	12	57			6/14/1984	848001	
WRIGHT, JOE	Domestic	03N	01W	33	SWNW		5410 S MCDERMOTT RD	GUIDO	1	4	75	11	60	49	6	8/26/2003	806216	D0029855
RUBY, RICHARD	Domestic	03N	01W	33	SWNW					7	0	0	116				724896	
WRIGHT, JOE	Domestic	03N	01W	33	SWNW		5410 S MCDERMOTT RD	GUIDO SUB	1	4	100	18	122	112	6	3/18/2008	850828	D0052420
KEELY, ROGER	Domestic	03N	01W	33	SWNW		5987 W GRIDO				75	27	148	145	6	10/22/2002	787970	D0025756
RAMBO, MORRIS	Domestic	03N	01W	33	SWSE						0	0	81				724161	
KLING, DEBBIE, KLING, JIM	Domestic	03N	01W	33	SWSE		5550 W LAKE HAZEL				25	40	85	20	6	5/18/1993	726485	
POND, TYLER	Domestic	03N	01W	33	SWSESW		5934 W LAKE HAZEL RD				50	22	75	76	6	10/10/2007	849386	D0052264
CORN, RICHARD G	Domestic	03N	01W	33	SWSW						10	17	45	19	6	5/6/1989	722690	
CORN, RICHARD D	Domestic	03N	01W	33	SWSW						20	10	62			6/2/1971	793483	
VARNER, MITCHELL	Domestic	03N	01W	33	SWSW						9999	35	111			3/7/1974	795203	
GROFF, LEROY	Domestic	03N	01W	33							13	20	60			4/21/1971	847979	
SCHMILLEN, KENNETH, SCHMELEN, KEN	Irrigation	03N	01W	34	NENE						45	85	147	147	6	12/16/1991	724706	
ENGLAND, BILL	Domestic	03N	01W	34	NENE		5020 S COUNTRY LN				20	73	162	155	6	6/15/1995	729428	
BROWN, GENE	Domestic	03N	01W	34	NENE		CORNER AMITY & 10 MILE				0	107	170	165	6	8/28/1992	725941	
ROGER R K ADVENTURES	Domestic	03N	01W	34	NENE		18166 DUINTY LN		1	5	75	105	200	177	6	6/9/1997	731363	
GREEN, WILLIS E	Domestic	03N	01W	34	NENE		5095 S TEN MILE		1	2	20	120	285	265	6	8/6/1993	727335	
CAMPBELL, ELDON	Domestic	03N	01W	34	NESE						720	9999	120			9/12/1969	798681	
GREENFIELD, JOHNNY	Domestic	03N	01W	34	NESE						0	67	121			8/28/1985	820915	
TATEM, CLIFFORD	Domestic	03N	01W	34	NESE						0	0	240				722727	
JOHN COTNER BUILDING CO	Domestic	03N	01W	34	NESW		4050 LEGACY DR				40	68	168	158	6	4/13/2004	812894	D0031209
HATCHER, JESS	Domestic	03N	01W	34	NWNE						0	53	225			12/31/9999	833669	
JEWITT, JIM	Municipal	03N	01W	34	NWNE		AMITH RD, E OF TEM-MILE	BITTER CREEK MEADOWS SUB			1300	97	561	541	20	12/5/2005	836283	D0042022
RUSSELL, AL	Domestic	03N	01W	34	NWNENW						0	69	135			6/22/1980	829359	
SPARKS, HERMIS	Injection	03N	01W	34	NWNW		5114 S BLACK CAT ROAD				0	0	50	-18	6	11/7/2000	767403	D0015892
RUSSELL, AL	Domestic	03N	01W	34	NWNW						25	55	110			10/20/1980	819173	
SPARKS, CHARLOTTE, SPARKS, HERMIS	Domestic	03N	01W	34	NWNW		#5114 S BLACKCAT RD				0	0	201				723559	
BARCLAY CONSTRUCTION	Domestic	03N	01W	34	NWSE		4620 LEGACY LANE	DREAM CATCHER			80	70	171	164	6	6/15/2001	769492	D0018412
FRANK, DENNIS	Domestic	03N	01W	34	NWSW						20	50	80			12/21/1976	795205	
BOWMAN, CLAIRE	Domestic	03N	01W	34	NWSW		SO BLACKCAT RD				45	51	115	109	6	7/25/1998	732425	D0007309
DALTON, DOUG	Domestic	03N	01W	34	SENE		5377 S TEN-MILE				120	98	222	206	6	8/9/1996	730599	
NICHOLS, MARK	Domestic	03N	01W	34	SENE						0	90	225			6/21/1983	773992	
SCOTT, TRUMAN	Domestic	03N	01W	34	SENW						0	60	118			8/28/1981	828246	
VAN AUKER, MARY	Domestic	03N	01W	34	SENW						9999	28	122			10/18/1971	798682	
LINDEMOOD, C L	Domestic	03N	01W	34	SENW						300	82	178			7/22/1968	798680	
SPENCER, ELDON J	Domestic	03N	01W	34	SESE						100	9999	250			4/16/1968	798679	
CUTLER, LAMONT	Domestic	03N	01W	34	SESW						0	57	70			7/28/1973	833318	
ADAMS, FRED	Domestic	03N	01W	34	SESW						9999	60	92			8/19/1971	798683	
TROYER, WILBUR	Domestic	03N	01W	34	SESW						60	10	174			7/15/1983	843799	
LINDEMOOD, C L	Domestic	03N	01W	34	SWNE						300	82	178			7/22/1968	798678	
BASTIAN, SHEILA M, BASTIAN, SHEILA M	Domestic	03N	01W	34	SWNW		5340 S BLACKCAT RD				15	77	152	151	6	4/21/1993	726882	
REYES, JAY	Domestic	03N	01W	34	SWNWNE						100	70	195	188	6	6/9/1991	724263	
REINEMSCHNIEDER, STEPHEN	Domestic	03N	01W	34	SWSE						0	64	99			8/9/1985	823587	
BAKER, KENNETH	Domestic	03N	01W	34	SWSE						0	0	100				723235	
SCHOOP, RENE	Domestic	03N	01W	34	SWSE		3700 LAKE HAZEL				100	77	240	226	6	2/21/2003	792805	D0029065
VARNER, MITCHELL	Domestic	03N	01W	34	SWSW						9999	40	112			3/6/1974	795206	
NIELSEN, KENNETH	Domestic	03N	01W	35	NE						40	84	160			7/26/1973	795177	
NIELSEN, KENNETH	Domestic	03N	01W	35	NE						25	85	204			5/21/1964	811648	
JARVIS, RICHARD D	Domestic	03N	01W	35	NENE						20	110	154			10/1/1975	795164	
HOARD, ANNA, LIFESTYLE HOMES, HOARD, TERRY	Domestic	03N	01W	35	NENE		1855 W JARVIS CT		1	20	70	108	196	188	6	9/15/1994	728635	
SHERVIK BUILDERS, SHERVIK, JAMES	Domestic	03N	01W	35	NENE		5565 S LINDER		1	23	0	130	200	175	6	6/3/1993	727068	
LASHER, DOUG	Domestic	03N	01W	35	NENE		LINDER RD				75	95	200	178	6	12/2/1997	731783	D0000037
DOUG LASHER CONSTRUCTION	Domestic	03N	01W	35	NENE		1815 W JARVIS CT		1	21	60	113	214	206	6	11/10/1994	728830	
DUCROUX, RENE	Domestic	03N	01W	35	NENE		DEBONAIR LANE		1	4	0	120	240	236	6	7/11/1997	731411	D0001075

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VISSER CONSTRUCTION	Domestic	03N	01W	35	NENE		5019 S DEBONAIRE LN				100	114	286	273	6	8/12/2003	805763	D0029869
ASH, JAMES	Domestic	03N	01W	35	NENW						10	125	175			12/23/1966	798685	
BROWN, JERRY	Domestic	03N	01W	35	NENW						20	115	238			2/16/1979	855982	
GREENFIELD, BILL	Domestic	03N	01W	35	NENWNW						0	115	177			7/12/1985	825453	
ZAUHA, PATRICIA H, ZAUHA, KEVIN R	Domestic	03N	01W	35	NESE		1735 W JARVIS CT		1	22	60	100	217	198	6	6/27/1994	728400	
DAVIS, TOM	Domestic	03N	01W	35	NESE						30	108	217	209	6	4/20/1995	729263	
VAN GROUW SR, EDWARD G	Domestic	03N	01W	35	NWNE		DE BONIRE			1	20	120	192	184	6	8/27/1998	732493	D0007502
SHERVIK, BRIAN	Domestic	03N	01W	35	NWNE					009, 010	35	70	209	203	6	1/30/1993	726745	
BALLARD, SID	Domestic	03N	01W	35	NWNW		5200 ARABIAN ACRES LN	BALLARD HILLS SUB	1	5	50	85	197	190	6	5/11/2006	839786	D0041996
GREENFIELD, JOHN	Domestic	03N	01W	35	NWNW						75	112	215			6/16/1973	795179	
CASE, TOM	Domestic	03N	01W	35	NWSE		SOUTH LINDER BETWEEN AMITY & LAKE HAZEL		1	7	30	110	227	221	6	9/10/1994	728606	
MC GINNIS, JEFF	Domestic	03N	01W	35	NWSE		1998 W JARVIS CT		1	11	45	122	228	223	6	5/21/1995	728991	
CARR, MARY	Domestic	03N	01W	35	NWSE		JARVIS COURT		1	15	45	118	233	228	6	12/24/1996	730901	
HARTLEY, GREG	Domestic	03N	01W	35	NWSE		1935 W JARVIS CT		1	19	35	104	241	229	6	6/28/1995	729400	
PRESTIGE BUILDERS, KUBENA, DEAN	Domestic	03N	01W	35	NWSE					18	35	95	250	238	6	7/6/1995	729511	
MILLER, JIM	Domestic	03N	01W	35	NWSW		2824 W BALLARD				40	107	180	165	6	11/20/2003	809196	D0030662
HOWELL, STEVE	Domestic	03N	01W	35	SENE		DEBOMEAR RD		1	3	80	117	200	178	6	8/6/1998	732435	D0007475
MARKLE, KAREEN, MARKLE, PERRY	Domestic	03N	01W	35	SENE		DAINTY LANE		1	6	50	110	210	191	6	5/22/1997	731330	
PRZYBOS, STEVE	Domestic	03N	01W	35	SENE		1090 W JARVIS CRT				40	120	230	227	6	6/7/1994	728300	
CAMBLE CONSTRUCTION	Domestic	03N	01W	35	SENE		2010 W JARVIS CT		1	013, 014	60	126	250	236	6	6/22/1994	728368	
EVANS, TIM	Domestic	03N	01W	35	SENE		1852 W JARVIS COURT			8	30	114	250	245	6	10/3/1997	731644	D0000094
MAUPIN HOMES INC	Domestic	03N	01W	35	SENE		5881 S LINDER RD		1	25	25	125	340	240	6	6/5/1995	729382	
MILLER, GUS	Domestic	03N	01W	35	SESE						0	16	110			1/28/1980	842187	
JARVIS, RICHARD D	Domestic	03N	01W	35	SESE		5875 S LINDER	PATRIOT RIDGE EST	1	26	75	110	228	-216	6	12/15/2000	767663	D0015901
MILLER, DAN	Domestic	03N	01W	35	SWNE		DAINTY LANE		1	8	60	110	198	190	6	6/24/1999	733360	D0009755
SMITH, BURTON	Domestic	03N	01W	35	SWNW						20	120	185			6/15/1972	795181	
MILLER, FRANK	Domestic	03N	01W	35	SWNW						100	80	185			3/21/1968	798684	
DARROW, THEO	Domestic	03N	01W	35	SWNW						9999	85	202			12/31/9999	814827	
SPECIALTY HOMES	Domestic	03N	01W	35	SWNW		3118 W BALLARD LANE				60	86	231	221	6	4/29/2003	799780	D0029367
THOMPSON, JOHN	Domestic	03N	01W	35	SWNW		5220 S TEN-MILE RD				100	111	240	223	6	5/26/1995	729370	
CALKIN, LEON	Domestic	03N	01W	35	SWSE						0	80	130			9/19/1975	833443	
KEISTER, WALTER	Domestic	03N	01W	35	SWSE		2330 W LAKE HAZEL RD				50	90	182	-173	6	6/25/2000	766680	D0015699
EVANGELO, BOB	Domestic	03N	01W	35	SWSW						0	0	0				723973	
BERRYMAN, CINDY	Domestic	03N	01W	35	SWSW		2705 BERRYMAN		1	2	35	70	150	146	6	12/19/1996	730899	
SMITH, DANNY L	Domestic	03N	01W	35	SWSW						0	0	245				722468	
EVANGELHO, SUSAN K, EVANGELHO, ROBERT J	Domestic	03N	01W	35	SWSW		3060 W LAKE HAZEL RD				100	76	302	302	6	6/13/2006	840480	D0046631
JACOR COMMUNICATION	Domestic	03N	01W	36	NENE		455 W AMITY RD				100	130	286	280	6	9/29/1998	732583	D0007628
BALDWIN, PAUL	Domestic	03N	01W	36	NENE						40	117	311			1/20/1975	795186	
SCRIVNER, MELVIN	Domestic	03N	01W	36	NWNE						9999	30	133			3/27/1963	825676	
LOVELESS, KEITH	Domestic	03N	01W	36	NWNE						75	117	218			8/29/1984	840981	
STIEGER, JANICE, STIEGER, STEVE	Domestic	03N	01W	36	NWNW		1450 LINDERWOOD DR			1	0	0	190				724825	
MATHERLY, JAMES	Domestic	03N	01W	36	NWNW						9999	110	198			12/13/1971	798689	
ROSS, LONNIE	Domestic	03N	01W	36	NWNW						10	117	207			10/14/1977	795183	
HARWARD, NEWELL	Domestic	03N	01W	36	NWNW						9999	137	248			11/20/1971	798691	
GAYLIN, CLIFFORD L	Domestic	03N	01W	36	NWNW		1729 W AMITY				0	25	275			12/7/1976	833595	
ASEQUINOLAZA, JOE	Domestic	03N	01W	36	NWSE		5621 S MERIDIAN				0	0	0				729205	
FELZIEN, THOMAS, FELZIEN, LEEAN	Domestic	03N	01W	36	NWSE		LAKE HAZEL				75	130	205	195	8	3/29/1999	733074	D0009248
FROST, EARL	Domestic	03N	01W	36	NWSE						15	120	270			5/14/1965	814425	
ASEQUINOLAZA, JOE	Domestic	03N	01W	36	NWSE		5621 S MERIDIAN				30	120	338	338	6	4/3/1995	729206	
DAVIS, DAVID T	Domestic	03N	01W	36	NWSW						9999	111	229			9/1/1978	785875	
TIDWELL, DAVID P	Domestic	03N	01W	36	NWSW						9999	28	265			11/6/1974	795191	
TIDWELL, DAVID P	Domestic	03N	01W	36	NWSW		5700 S LINDER RD				40	145	290	278	6	6/30/1994	728419	
THUESON, LANCE	Domestic	03N	01W	36	SENW		KARSON LANE		7	002, 003	250	15	116	45	6	7/5/1993	727221	
DAVIS, JAMES N	Domestic	03N	01W	36	SENW						15	105	210			8/20/1972	795187	
HILEMAN, JOHN	Domestic	03N	01W	36	SESW						9999	180	315			5/6/1975	795185	
HUG, JOHN	Domestic	03N	01W	36	SWNW						0	100	321			4/11/1983	774003	
HACKLER, JIM	Domestic	03N	01W	36	SWNW						0	121	376			3/21/1978	829740	
SEAN CAFFERTY CONSTRUCTION, GIBBONS, FRED	Domestic	03N	01W	36	SWNWNE		W OF MERIDIAN ON AMITY				150	127	257	255	6	12/13/1994	728867	
FIELDS, FLOYD	Domestic	03N	01W	36	SWSE						20	99	206			9/18/1969	798693	
SCRIVNER, RICH, PETERSON, CRAIG	Domestic	03N	01W	36	SWSE		890 W LAKE HAZEL				25	105	254	200	6	8/25/1995	729594	
AMYX, JOE	Domestic	03N	01W	36	SWSE		6203 FRANK & WILMA LANE				45	117	256	247	6	6/13/1996	730371	
WILTON, HAROLD, WILSON, JIM	Domestic	03N	01W	36	SWSW		6220 S LINDER				60	160	345	343	6	8/20/2001	770194	D0018859
AERRIOTT, GARY	Domestic	03N	01W	36	SWSWNW						0	120	249			10/30/1982	773991	
TRACY, TODD	Domestic	03N	01W	36							0	130	235			7/28/1978	855673	
HUG, JOHN	Domestic	03N	01W	36							20	100	332			11/29/1972	800281	
CONNOLLY, WALLACE	Domestic	04N	01E	29	NENW						15	20	56			12/28/1975	815376	
VAN DORN, ALICE	Domestic	04N	01E	29	NENW		6295 SHANDEE			5	40	30	78	77	6	4/15/1991	724205	
STIGILE, JOHN	Domestic	04N	01E	29	NENW		6294 SHAWDE				40	30	93	93	6	9/2/1990	724014	
ROBNETT, SHANNON	Domestic	04N	01E	29	NENW		6360 SHANDEE			029,	60	38	100	75	6	6/14/1994	728346	
SCHROEDER, MYRL D, SCHROEDER, MARCELLA R	Domestic	04N	01E	29	NENW		6065 KAREN ST			14	50	35	105	100	6	3/16/1994	728064	
		04N	01E	29	NENW			FULLER RANCH			30	40	105			9/17/1975	817744	
TYRER	Domestic	04N	01E	29	NENW						50	27	107			12/18/1969	813949	
MC GEE, EARL	Domestic	04N	01E	29	NENW						30	32	114			1/4/1971	815050	

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LEIGHTON, TERRANCE L	Domestic	04N	01E	29	NENW						0	30	114			5/11/1981	842180	
SUDDUTH, CHARLOTTE	Domestic	04N	01E	29	NENW		615 N SHANDEE				35	34	123	113	6	6/10/1993	727255	
DOWDLE, JACK	Domestic	04N	01E	29	NENW						3500	40	135			8/10/1964	804857	
JAVOUX, EDWARD	Domestic	04N	01E	29	NENW						40	30	145			4/11/1963	777876	
MERIDIAN LBR & COAL	Domestic	04N	01E	29	NENW						15	35	147			6/6/1964	804939	
FULLER, NORMAN	Domestic	04N	01E	29	NENW						9999	40	153			12/21/1962	777875	
SHELTON, NORMAN	Domestic	04N	01E	29	NENW						0	22	153			9/22/1970	827747	
HOSAC, STEVEN	Domestic	04N	01E	29	NENW			WIND RIVER HEIGHTS	3	10	0	47	168			2/2/1980	785677	
VESSOTSKI, JIM	Domestic	04N	01E	29	NESWNW				1	18	50	25	100	89	6	2/4/1992	725357	
CANOVA, GARY	Domestic	04N	01E	29	NESWSW		4602 N MEANDER PL	STILLWELL EST #5	2	1		112	248		8	4/19/2002	776027	D0020335
CANOVA, GARY	Domestic	04N	01E	29	NESWSW		4602 N MEANDER PL	STILLWELL EST #5	2	1		112	248		8	11/5/2009	856703	D0055701
DEAN, DAVE	Domestic	04N	01E	29	NWNW		1810 E DUNWOODY CT		1	10	0	0	0				724303	
PAPE, L A	Domestic	04N	01E	29	NWNW						0	17	43			2/17/1972	820788	
DEAN, DAVE	Domestic	04N	01E	29	NWNW						40	28	102	92	6	7/29/1991	724458	
MEFFORD CONSTRUCTION	Domestic	04N	01E	29	NWNW						0	0	140				725859	
LEWIS, MAURI M	Domestic	04N	01E	29	NWNW		E DUNWOODY		1	023, 024	100	25	140	119	6	7/30/1991	724228	
HOPKINS, KENNETH	Domestic	04N	01E	29	NWNW						20	36	149			4/28/1971	812763	
ROGERS, ALAN	Domestic	04N	01E	29	NWNW				1	3	50	32	180	180	6	11/21/1992	726289	
MASCO	Domestic	04N	01E	29	NWSW		WELL IS IN MIDDLE OF FIELD	SHERIDIAN PLACE				30	108		6	1/24/2005	828624	
CALHOUN, JAN	Domestic	04N	01E	29	NWSWNW		5930 N LOCUST GROVE				30	31	80	73	6	8/20/1992	726019	
GALLOWAY, RICHARD B	Domestic	04N	01E	29	NWSWNW		1714 E DUNWOODY CT		1	4	80	26	157	157	6	5/26/1992	725681	
DEAN, DAVE, DEAN, LUANE	Domestic	04N	01E	29	SENW					8	35	30	90	78	6	11/3/1997	731722	D0001525
MC PHETERS, STEVE	Domestic	04N	01E	29	SENW						50	35	150	140	6	6/23/1993	727174	
KIRKLAND, ROY	Domestic	04N	01E	29	SESW						50	16	94	95	6	10/12/1984	722187	
WIBBLES, MEL	Domestic	04N	01E	29	SESW		1970 E MCMILLIAN RD				40	40	141	131	6	1/21/1993	726713	
ANDRUS, DAVE	Domestic	04N	01E	29	SWNW						20	16	52			8/18/1986	779169	
DEAN, DAVE	Domestic	04N	01E	29	SWNW		1746 DUNWOODY				45	32	93	-91	6	4/27/2000	764162	D0012946
SHERVIK BUILDERS	Domestic	04N	01E	29	SWNW		1985 E DUNWOODY COURT		1	025, 026	0	36	104	92	6	12/16/1992	726378	
SMITH	Domestic	04N	01E	29	SWNW						0	30	120			5/31/1977	828477	
LARSEN, RON	Domestic	04N	01E	29	SWNW		DUNWOODY COURT				0	37	130	124	6	4/22/1993	726945	
BENSON	Domestic	04N	01E	29	SWNW						0	31	130			5/31/1977	830299	
GALLOWAY, RICHARD B, GALLOWAY, TRUDY	Domestic	04N	01E	29	SWNW		1714 E DUNWOODY CT	DUNWOODY SUB	1	29	75	39	150	143	6	8/1/2007	848204	D0048218
SMITH, STEVEN	Domestic	04N	01E	29	SWNW		5780 LOCUST GROVE				50	20	155	155	6	11/18/1996	730827	
VISSER BUILDING COMPANY	Domestic	04N	01E	29	SWNW		.4 M DOWN DUNWOODY CT BEHIND 1874	DUNWOODY SUB	1	16	45	36	209	198	6	7/19/2012	863910	D0063838
MEFFORD CONSTRUCTION	Domestic	04N	01E	29	SWNW		LOCUST GROVE & DUNWOODY				250	25	225	220	6	7/10/1992	725858	
MORGAN CONSTRUCTION	Domestic	04N	01E	29	SWSW		1630 E MCMILLIAN RD					30	50		6	5/30/2008	851748	
PRESTWICH, DICK	Irrigation	04N	01E	29	SWSW						20	10	51			3/23/1974	812762	
MORGAN CONSTRUCTION	Domestic	04N	01E	29	SWSW		MCMILLIAN AND LOCUST GROVE					26	82		6	3/18/2002	775593	D0019562
MORGAN CONSTRUCTION	Domestic	04N	01E	29	SWSW		MCMILLIAN AND LOCUST GROVE					26	82		6	5/30/2008	851747	
BUCKLEY, EDWIN G	Domestic	04N	01E	29	SWSW						0	20	90			4/30/1980	778400	
MORGAN CONSTRUCTION	Domestic	04N	01E	29	SWSW		1630 E MCMILLAN RD					25	123		6	7/27/2000	765754	D0015451
MORGAN CONSTRUCTION	Domestic	04N	01E	29	SWSW		1630 E MCMILLAN RD					25	123		6	5/30/2008	851746	
STEINBACH, LEO	Domestic	04N	01E	29							30	20	90			6/29/1963	808766	
HAMMING, R	Domestic	04N	01E	29							12	38	100			4/9/1954	856591	
TKO	Domestic	04N	01E	29			6235 RANCHETTE LN	LOT 10, 11 FULLER RANCHETTES			75	37	120	115	6	2/28/2012	862948	D0063624
BREWER, JAMES	Domestic	04N	01E	30	NENE				1	55	100	1	93			2/3/1976	809715	
CITY OF MERIDIAN	Monitoring	04N	01E	30	NENE		CITY WELL LOT IS THE 0.463 ACRES INTHE	WELL 26				0	880	45	8	5/20/2004	813393	D0031281
CHURCH OF JESUS CHRIST OF THE LATTER DAY SAINTS	Domestic	04N	01E	30	NENESE						120	19	112			5/7/1962	814270	
CHURCH OF JESUS CHRIST OF THE LATTER DAY SAINTS	Domestic	04N	01E	30	NENESE						150	22	213			6/19/1980	819983	
CHANCE, CARLENE	Domestic	04N	01E	30	NENW		N BLYTHE SPIRIT LN		1	2	100	25	140	130	6	6/21/1995	729455	
CUTLER, TED	Domestic	04N	01E	30	NENWSE						45	17	112	95	6	5/30/1990	723902	
BIG RIVER LLC	Domestic	04N	01E	30	NESE		5450 N LARKWOOD PL					45	98		6	12/19/1990	724144	
BIG RIVER LLC	Domestic	04N	01E	30	NESE		5450 N LARKWOOD PL					45	98		6	5/14/2007	846677	
HARD ROCK CONSTRUCTION	Domestic	04N	01E	30	NESE		5500 N LARKWOOD PL					26	104		6	10/3/2007	849122	
CLUFF FLORAL	Domestic	04N	01E	30	NESE						0	11	120			3/31/1968	816664	
CORP OF THE PRESIDING BISHOP	Fire Protection	04N	01E	30	NESE		555 N LOCUST GROVE RD, 2640' S. OF HWY 20-26				300	19	184	158	8	10/10/1997	731017	
SMITH, TONYA KESNER, SMITH, JAMES HERB	Domestic	04N	01E	30	NESW		5211 N LARKWOOD		11	009, 010	60	30	98	95	6	4/28/1992	725057	
YOUNGBERG, MIKE	Domestic	04N	01E	30	NESW		5075 N LARKWOOD		1	7	100	23	104	90	6	8/5/1992	725957	
HOLLOWAY, HAROLD	Domestic	04N	01E	30	NESW		5265 LARKWOOD PL				40	20	112	102	6	1/4/1996	730107	
YOUNGBERG, MIKE	Domestic	04N	01E	30	NESW		5075 N LARKWOOD				50	20	122	108	6	6/25/1994	728413	
SMITH, JAMES HERB	Irrigation	04N	01E	30	NESW		5211 N LARKWOOD		1	09, 10	100	25	125	125	6	5/3/1992	725060	
SMITH, HERB	Domestic	04N	01E	30	NESW		5211 LARKWOOD				50	20	136	124	6	6/27/1994	728411	
SMITH, HERB	Domestic	04N	01E	30	NESW		5211 LARKWOOD				50	20	136	136	6	6/27/1994	728412	
SMITH, TONYA KESNER, SMITH, JAMES HERB	Domestic	04N	01E	30	NESW		5211 N LARKWOOD		11	9	60	30	165		6	7/8/1992	728505	
HIGHTOWER LLC	Domestic	04N	01E	30	NWNE		6201 JERICHO					31	88		8	5/14/2007	846030	
CANE, RUTH E	Domestic	04N	01E	30	NWNE						9999	41	98			9/12/1967	808211	
WHITE, LOUISE	Domestic	04N	01E	30	NWNE		6375 N JERICHO				30	38	220	-207	6	7/19/2000	765568	D0015224
MARTENS, DELBERT C	Irrigation	04N	01E	30	NWNE		6185 N JERICHO RD				225	34	234	203	8	6/4/1992	724587	
BAXTER SR, GLEN	Domestic	04N	01E	30	NWNW						35	34	119	112	6	6/5/1989	723307	
GIVENS, STEVEN	Domestic	04N	01E	30	NWNW		57 N MERIDIAN RD				85	12	125			7/3/1986	804246	
GREGORY, STEVEN	Domestic	04N	01E	30	NWNW		CHINDEN AND MERIDIAN RD.				80	26	160	145	6	1/26/1999	732918	D0009113
WESTWOOD HOMES	Domestic	04N	01E	30	NWSE		4952 N LARKWOOD		2	10	40	35	66	54	6	3/17/1991	724194	
WILCOX, STUART, WILCOX, CHRIS	Domestic	04N	01E	30	NWSE		N LARKWOOD PLACE		1	013, 014	75	17	73	71	6	12/11/1990	724129	
CHRISTENSEN, JAY	Domestic	04N	01E	30	NWSE				2	2	30	20	100	100	6	6/30/1991	724655	

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BRUNEEL, CRAIG	Domestic	04N	01E	30	NWSE		5395 N LARKWOOD				50	15	103	96	6	11/6/1997	731736	D0001530
ROSETTE HOMES	Domestic	04N	01E	30	NWSE		@ LARKWOOD BUT NO # YET, LOT SOUTH OF 5525 N LARKWOOD				40	17	105	100	6	8/16/1995	729601	
STILLWELL, GARY	Domestic	04N	01E	30	NWSE						50	27	121	109	6	3/23/1992	724862	
BORUP, DEAN	Domestic	04N	01E	30	NWSE		4865 LARKWOOD				75	15	144	142	6	6/22/1992	725820	
BORUP CONSTRUCTION, BORUP, DEAN	Domestic	04N	01E	30	NWSE		4865 LARKWOOD				200	25	197	190	6	8/21/1992	725821	
HOOTEN, ALVIN	Domestic	04N	01E	30	NWSE				1	21	150	25	198	193	6	7/7/1992	725809	
C 7 DEVELOPMENT	Domestic	04N	01E	30	SENE		5995 N LOCUST GROVE					30	100		6	9/19/2006	842957	
HUNTER, ROBERT	Domestic	04N	01E	30	SENE		5885 N LOCUST GROVE				0	39	110	73	6	11/9/1992	726225	
ALLMON, DALBERT, ALLMON, MARION	Domestic	04N	01E	30	SENE		5875 N LOCUST GROVE RD				20	40	110	106	6	4/30/2008	851274	D0052779
LEE, CLYDE	Domestic	04N	01E	30	SENE						17	27	120			4/14/1971	822068	
KILLIAN, BILL	Domestic	04N	01E	30	SENE						0	30	161			1/16/1980	855849	
LEE, GRANT N	Domestic	04N	01E	30	SENE		5603 N LOCUST GROVE RD				185	20	254	239	6	7/8/1994	728373	
CITY OF MERIDIAN	Municipal	04N	01E	30	SENENE		APPROX. 1/4 MILE SOUTH OF CHINDEN BLVD ON LOCUST GROVE RD				2500	25.8	691	549	17	3/29/2005	826451	D0038517
TUCKER, MYRON	Domestic	04N	01E	30	SENW						0	20	150			7/11/1977	813441	
FARWEST LLC	Domestic	04N	01E	30	SENW		SE OF MERIDIAN & CHINDEN RDS	SAGURO CANYON SUB				20	ab		5	2/8/2005	830260	
SCHLAPAR, GORDON	Domestic	04N	01E	30	SENWNE						0	20	90			9/27/1979	832389	
TERRACON CONSULTANTS INC, JENSEN, GARTH, CORP OF THE PRESIDING BISHOP	Monitoring	04N	01E	30	SESE		W. SIDE OF LOCUST GROVE RD 1/4 M.N. MCMILLAN RD BEFORE CHIND				0	19	29	14	2	3/3/1997	730923	
TERRACON CONSULTANTS INC, JENSEN, GARTH, CORP OF	Monitoring	04N	01E	30	SESE		W. SIDE OF LOCUST GROVE RD 1/4 M.N. MCMILLAN				0	19	30	15	2	3/3/1997	730924	
TERRACON CONSULTANTS INC, JENSEN, GARTH, CORP OF THE PRESIDING BISHOP	Monitoring	04N	01E	30	SESE		W. SIDE OF LOCUST GROVE RD 1/4 M.N. MCMILLAN RD BEFORE CHIND				0	18	30	15	2	3/3/1997	730925	
TERRACON CONSULTANTS INC, JENSEN, GARTH, CORP OF THE PRESIDING BISHOP	Monitoring	04N	01E	30	SESE		W. SIDE OF LOCUST GROVE RD 1/4 M.N. MCMILLAN RD BEFORE CHIND				0	18	30	15	2	3/3/1997	730926	
BARNETT, ED	Domestic	04N	01E	30	SESE						25	28	81	76	6	5/12/1992	725615	
SMITH, STEVE	Domestic	04N	01E	30	SESE		4807 N LOCUST GROVE				30	30	149	140	6	5/7/2003	800351	D0029369
RHEAD, BOB	Domestic	04N	01E	30	SESESW						0	10	194			9/8/1981	839400	
ASCHENBRENNER, KENNETH	Irrigation	04N	01E	30	SESW						0	0	103				722433	
QUALITREE	Domestic	04N	01E	30	SESWNE		5603 LOCUST GROVE					25	100		6	10/3/2006	843014	
QUALITREE	Domestic	04N	01E	30	SESWNE		5603 LOCUST GROVE					25	243		8	10/3/2006	843015	
QUALITREE	Domestic	04N	01E	30	SWNE		5403 N LOCUST GROVE LN					20	160		6	3/28/2007	845990	
FARWEST LLC	Irrigation	04N	01E	30	SWNE		E MESA BLUFFS ST	SAGUARO CANYON	22	6	600	25	198	159	10	1/20/2005	827864	D0038622
CHRISTENSEN BROTHERS CONSTRUCTION	Domestic	04N	01E	30	SWNESE				2	1	70	30	93	93	6	2/21/1991	724489	
SMITH, STEVEN, PORTER	Domestic	04N	01E	30	SWSE						100	8	90	70	8	8/30/1990	724023	
JERRY BOYCE CONSTRUCTION, PAPKE, JEFF	Domestic	04N	01E	30	SWSE					003, 004	40	15	117	107	6	10/14/1991	724869	
DAVIS, JEAN, DAVIS, PAUL	Domestic	04N	01E	30	SWSE				1	11, 12	80	23	146	142	6	6/7/1992	725728	
MEFFORD CONSTRUCTION	Domestic	04N	01E	30	SWSE				2	6	150	28	200	195	6	7/13/1992	725860	
MERIDIAN JOINT SCHOOL DISTRICT #2	Domestic	04N	01E	30	SWSW		4990 N MERIDIAN RD					25	99		6	1/9/1985	722190	
MERIDIAN JOINT SCHOOL DISTRICT #2	Domestic	04N	01E	30	SWSW		4990 N MERIDIAN RD					25	99		6	4/3/2006	839056	
MERIDIAN JOINT SCHOOL DISTRICT #2	Domestic	04N	01E	30	SWSW		4990 N MERIDIAN RD					15	512		4	5/17/2006	840171	
HAWKINS, GARY R	Domestic	04N	01E	30	SWSWNW	2	5740 N Meridian Rd				45	12	118			6/27/1986	819629	
WELLS FARGO BANK	Monitoring	04N	01E	31	NENE		1515 E MCMILLAN RD	CRESTWOOD SUB #1; FORMER AAA PAINTINGBMW-1		7		28	32		2	3/19/2010	858577	D0057661
WELLS FARGO BANK	Monitoring	04N	01E	31	NENE		1515 E MCMILLAN RD	CRESTWOOD SUB #1; FORMER AAA PAINTING MW-2		7		28	32		2	3/18/2010	858578	D0057662
WELLS FARGO BANK	Monitoring	04N	01E	31	NENE		1515 E MCMILLAN RD	CRESTWOOD SUB #1; FORMER AAA PAINTING MW-3		7		28	32		2	3/18/2010	858579	D0057663
WATERMAN, LEON L, FARWEST LLC	Irrigation	04N	01E	31	NENE		LOCUST GROVE					50	36		12	6/15/1987	779170	
HENDERSON, WALT L	Domestic	04N	01E	31	NENE						50	5	51			6/29/1968	818453	
OWNBEY, JACKSON W	Domestic	04N	01E	31	NENE						40	20	93			3/9/1981	842883	
HAM, FRANK	Domestic	04N	01E	31	NENE						30	18	100			3/9/1973	815049	
DONAHUE, MIKE	Domestic	04N	01E	31	NENE		3775 N LOCUST GROVE				60	8	138	136	6	8/28/1990	723671	
JUSTICE, LEONARD	Domestic	04N	01E	31	NENE						2000	8	242			1/2/1968	808562	
MAYFIELD TOWNSITE LLC	Irrigation	04N	01E	31	NENE		LOCUST GROVE					50	ab		16	7/31/2003	804989	
HARPE, LARRY	Domestic	04N	01E	31	NENENE		4635 N LOCUST GROVE RD	CRESTWOOD SUB #1		7		22	40		4	10/30/2006	843322	
HARPE, LARRY	Domestic	04N	01E	31	NENENE		4715 N LOCUST GROVE RD	CRESTWOOD SUB #1		7		22	100		6	10/30/2006	843320	
CLIFFORD, DOUG	Domestic	04N	01E	31	NENENE						0	18	114			12/29/1983	773814	
WATERMAN, LEON L	Domestic	04N	01E	31	NENENW						0	20	84			9/1/1979	778412	
HUBBLE HOMES	Irrigation	04N	01E	31	NENENW		MCMILLAN & MERIDIAN RD				200	20	95		12	3/21/1977	810956	
HUBBLE HOMES	Irrigation	04N	01E	31	NENENW		MCMILLAN & MERIDIAN RD				200	20	95		12	2/28/2007	845484	
DAVIS, JAY	Domestic	04N	01E	31	NENW				2	15	9999	10	55			3/5/1976	826461	
MAYFIELD TOWNSITE LLC	Domestic	04N	01E	31	NENW		3995 N LOCUST GROVE					19	ab		6	4/5/2004	812663	
HILL, BOYD	Domestic	04N	01E	31	NENWNE			CRESTWOOD	1	3	30	14	62			3/12/1974	808543	
CONFLUENCE LLC	Domestic	04N	01E	31	NESE		3665 N LOCUST GROVE	BROCKTON				22	42		6	5/7/1991	724535	
CONFLUENCE LLC	Domestic	04N	01E	31	NESE		3665 N LOCUST GROVE	BROCKTON				22	42		6	12/15/2004	827254	
G L VOIGHT CONSTRUCTION	Irrigation	04N	01E	31	NESW		3964 N LARKIN PL	SUNDANCE PLACE SUB #3	7	14		12	0		12	9/29/2005	836520	
DEVCO INC	Domestic	04N	01E	31	NESW						25	8	61			6/4/1976	809713	
PARK, GAIL H	Domestic	04N	01E	31	NESW						9999	4	69			12/14/1970	808511	
CHRISTENSEN, JAY	Domestic	04N	01E	31	NESW						25	10	73	73	6	9/30/1991	724820	
BLACKBURN, J R	Domestic	04N	01E	31	NESW						9999	30	126			1/20/1973	815375	
L & S FARMS INC	Industrial	04N	01E	31	NWNE						0	10	108			6/14/1968	828152	
HOSAC, CHET	Domestic	04N	01E	31	NWNE						45	25	197	189	6	6/24/1991	724644	
STARKEY, CARLA, STARKEY, LEONARD R	Irrigation	04N	01E	31	NWNW		4660 N MERIDIAN RD				100	20	95	85	6	5/20/2004	815582	D0031336
FARWEST LLC	Domestic	04N	01E	31	NWNW		MCMILLIAN 150 FT E OF MERIDIAN					10	ab		6	9/16/2003	807657	
MERRIGAN, F D	Domestic	04N	01E	31	NWSE						0	17	81			4/21/1967	827543	
HALLACK, BOB	Domestic	04N	01E	31	NWSE						0	6	110			9/24/1983	773818	
GROSS, JOHN C	Domestic	04N	01E	31	NWSE						0	20	112			7/12/1985	773819	
FISHER, DAVE	Domestic	04N	01E	31	NWSE						20	10	115	107	6	5/31/1989	723373	
BAYLESS, DAVID N	Irrigation	04N	01E	31	NWSW						20	9999	730			7/28/1977	825507	

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ESTEP, JERRY	Domestic	04N	01E	31	SENE			BIG SKY	2	9	20	16	95			6/10/1975	812026	
LEVITT, BRIAN	Domestic	04N	01E	31	SENE						50	20	96			1/13/1981	842882	
SCHAFFNER, DENNIS	Domestic	04N	01E	31	SENE		LOCUST GROVE & MC MILLAN				50	10	117	117	6	9/22/1997	731608	D0001223
ROWLAND, L E	Domestic	04N	01E	31	SENE						0	40	292			7/7/1966	843923	
GIBBONS, ALFRED, GIBBONS, MARTHA	Domestic	04N	01E	31	SESE		3545 N LOCUST GROVE				0	0	0				723483	
GIBBONS, ALFRED	Domestic	04N	01E	31	SESE		3545 N LOCUST GROVE				75	16	86	77	6	2/24/1992	724997	
JOHNSON, LEON	Domestic	04N	01E	31	SESE		1570 EAST USTICK ROAD				37	16	113	103	6	10/8/2002	787622	D0025539
JOHNSON, LEON	Domestic	04N	01E	31	SESE						30	10	200			4/11/1979	782639	
CLAYBORN, CHARLEY	Domestic	04N	01E	31	SESE						0	5	224			4/20/1953	828833	
LUNDQUIST, ROBERT W	Irrigation	04N	01E	31	SESENE		4055 N LOCUST GROVE RD			13	300	14	40	38	10	5/3/1991	724159	
CAMPBELL, BOND	Domestic	04N	01E	31	SESW		3265 N CURT DR					7	24		6	1/20/2006	838255	
HEPPER HOMES	Domestic	04N	01E	31	SESW				1	13	10	27	67			12/8/1977	812761	
HEPPER HOMES	Domestic	04N	01E	31	SESW						0	12	73			12/5/1977	813684	
MORRISON, MIKE	Domestic	04N	01E	31	SESW		3405 N Curt Dr	Weaver Acres	2	6		20	75	75	6	10/3/2001	771508	
DERCO	Domestic	04N	01E	31	SESW						0	10	85			6/9/1976	811566	
TRITTHART, CONNIE M	Domestic	04N	01E	31	SESW						0	5	100			9/7/1968	811271	
HEPPER HOMES	Domestic	04N	01E	31	SESW						9999	9	112			7/19/1976	789655	
MORRISON, MIKE	Domestic	04N	01E	31	SESW		3405 N Curt Dr	Weaver Acres	2	6	64	16	114	103	6	10/1/2001	771154	D0019063
VAN HEES, HARLAN	Domestic	04N	01E	31	SESW			WEAVER ACRES	1	16	20	9	115			3/13/1973	816604	
T & R CONSTRUCTION	Domestic	04N	01E	31	SESW						60	10	126	119	6	3/21/1990	723822	
ANDERSON, KEITH	Domestic	04N	01E	31	SESWSW						7	60	136			3/24/1959	816228	
O DELL, ORVEL	Domestic	04N	01E	31	SWNE			WEAVER ACRES	2	4	20	6	75			6/2/1977	827205	
GIEDD, CLAYTON	Domestic	04N	01E	31	SWNE						25	8	83			8/7/1965	812368	
O DELL, ORVEL	Domestic	04N	01E	31	SWNE				2	5	20	5	95			7/13/1977	821494	
O DELL, ORVEL	Domestic	04N	01E	31	SWNE				2	4	20	5	101			6/29/1971	821495	
O DELL	Domestic	04N	01E	31	SWNE			WEAVER ACRES	1	11	60	8	105			9/1/1978	788809	
O DELL	Domestic	04N	01E	31	SWNE			WEAVER ACRES	1	8	100	8	105			5/21/1978	812477	
O DELL	Domestic	04N	01E	31	SWNE			WEAVER ACRES	1	10	80	5	108			6/23/1978	788810	
US DEPT OF AGRICULTURE	Domestic	04N	01E	31	SWNW						100	9999	351			12/31/9999	808217	
DAVIS INC	Domestic	04N	01E	31	SWSE						0	5	53			4/6/1977	832734	
DECCO INC	Domestic	04N	01E	31	SWSE						0	5	56			4/4/1977	807562	
PHILLIPS, JIM	Domestic	04N	01E	31	SWSE						0	0	78				726026	
DOOLITTLE, BRANTLEY, SNIDER, WILLIAM F	Domestic	04N	01E	31	SWSE		870 E USTICK				55	9	82	71	6	12/4/1993	727652	
HAUN, HARRY	Domestic	04N	01E	31	SWSE		PRIVATE LANE				80	20	167	167	6	1/18/1993	726693	
PATRICK, RICK	Domestic	04N	01E	31	SWSE						30	12	250	247	6	8/5/1992	725950	
KING OF GLORY LUTHERAN CHURCH	Domestic	04N	01E	31	SWSW						9999	11	158			9/5/1978	783484	
MYER, JACK J	Domestic	04N	01E	31	SWSWNW	2	4010 N MERIDIAN RD				40	10	130	123	6	6/21/1991	724224	
KOLSTAD, STEVEN, KOLSTAD, DANA	Domestic	04N	01E	31					1	9	50	8	120	112	6	7/29/1988	723119	
SMITH, FRANK	Domestic	04N	01E	32	NENE		UNKNOWN					23	59		4	7/21/1964	778064	
CAPITAL DEVELOPMENT INC	Domestic	04N	01E	32	NENW		2205 E MC MILLAN					31	72		4	3/1/2006	838722	
TALBOT, DEAN	Domestic	04N	01E	32	NENW						30	11	102			11/15/1977	812472	
CAPITAL DEVELOPMENT INC	Domestic	04N	01E	32	NENW		2251 E MC MILLAN					31	103		6	3/1/2006	838721	
ASCHENBRENNER, KENNETH	Irrigation	04N	01E	32	NENW						0	20	140	135	16	6/10/1991	724552	
CITY OF MERIDIAN	Monitoring	04N	01E	32	NENW		CITY WELL LOT IS 2205 E MCMILLAN RD 2030 FT EAST OF LOCUST GROVE RD				30	26	678	47	8	6/3/2004	813390	D0031280
PAGE, STEVE	Domestic	04N	01E	32	NESE						18	4	78			6/6/1980	855850	
WALTER, FRANK E	Domestic	04N	01E	32	NESE						50	4	88	86	6	7/26/1983	722028	
CLARK, RICHARD P	Domestic	04N	01E	32	NESE		EAGLE RD			2	70	20	90	90	6	8/13/1992	725939	
GIBSON, HOOT	Domestic	04N	01E	32	NESE		4195 N EAGLE ROAD				50	32	90	-80	6	4/26/2000	764103	D0012915
LEIGHTON, RANDY	Domestic	04N	01E	32	NESE						0	30	95			3/10/1972	827680	
MC DONALD, BEN	Domestic	04N	01E	32	NESE						9999	30	130			3/26/1971	813942	
DELTZ, LISA, DELTZ, SCOTT	Domestic	04N	01E	32	NESE				1	1	150	17	230	219	6	8/11/1994	728556	
HOLLISTER, JAMES	Irrigation	04N	01E	32	NESW		3860 N LOCUST GROVE					25	43		12	7/10/2006	841202	
MKH DEVELOPMENT INC	Irrigation	04N	01E	32	NESW		3860 N LOCUST GROVE					40	60	40	12	2/28/2003	790449	D0029076
W W HEDRICK CONSTRUCTION CO	Domestic	04N	01E	32	NESW						40	11	84			6/17/1971	808455	
MC FALL, RAY	Domestic	04N	01E	32	NESW						9999	15	88			12/11/1971	808506	
DAVID A COOK CONSTRUCTION	Domestic	04N	01E	32	NESW		USTICK AND LOCUST GROVE				25	18	90	80	6	12/13/1991	724434	
MKH DEVELOPMENT INC	Irrigation	04N	01E	32	NESW		3860 N LOCUST GROVE				300	30	180	160	12	5/5/2003	799553	D0029383
BRINHOLT, RICHARD	Domestic	04N	01E	32	NESWNW						60	16	179			6/19/1978	827127	
KEISER, R W	Domestic	04N	01E	32	NW						900	15	83			3/6/1972	808560	
WELCH	Domestic	04N	01E	32	NWNE						0	20	70			11/9/1972	811467	
GWYNN, RANDY	Domestic	04N	01E	32	NWNW		1932 STAR LN	HERITAGE SUB NO 1	2	8		19	0		6	1/9/1998	780280	
MICHAEL, CARLYLE	Domestic	04N	01E	32	NWNW						25	10	38			7/8/1971	808470	
HANSON, DONOVAN L	Domestic	04N	01E	32	NWNW			HERITAGE ESTATE	2	11	9999	10	43			8/18/1971	808527	
LEWIS, TED	Domestic	04N	01E	32	NWNW			HERITAGE ACRES			20	30	91			4/8/1971	851502	
STATES REALTY	Domestic	04N	01E	32	NWNW						9999	20	100			10/25/1977	789652	
SPANGENBERG, DICK	Domestic	04N	01E	32	NWNW		1840 STAR LN				30	21	100	100	6	12/11/2003	809344	D0030591
GWYNN, RANDY	Domestic	04N	01E	32	NWNW		1932 STAR LN		2	8	75	16	178	168	6	12/30/1997	731816	D0001259
D & H BUILDERS	Domestic	04N	01E	32	NWNWNE		2251 E MCMILLAN				30	20	107	100	6	9/21/1993	727463	
ANDERSON, DALLAS	Domestic	04N	01E	32	NWSE						40	12	114			10/7/1971	807899	
HENSON, ORIE L	Domestic	04N	01E	32	NWSE						40	12	140			9/11/1971	808545	
KETLINSKI, JACK	Domestic	04N	01E	32	NWSE		2610 JASMINE LN		1	4	100	20	161	161	6	8/3/1992	725935	
KETLINSKI, JACK	Domestic	04N	01E	32	NWSE		2610 JASMINE LANE		1	4	75	22	171	171	6	4/20/1997	731150	
LACOSSE, BRIAN	Domestic	04N	01E	32	NWSE		2220 E STAR LANE	HERITAGE ACRES 2	2	24	35	23	188	190	6	9/14/2001	770834	D0018913
AMANDUS, RONALD L	Domestic	04N	01E	32	NWSENW						60	11	86	80	6	7/27/1984	722059	
DE MOND, BRANDON	Domestic	04N	01E	32	NWSW						0	14	132			2/22/1970	827617	
LEE, BOB	Domestic	04N	01E	32	SENE						1	8	52			2/11/1976	813174	
FULLER, JAMES F	Domestic	04N	01E	32	SENE						12	9	56			12/5/1953	777879	
LITTLE, CHESNEY D	Domestic	04N	01E	32	SENE						60	18	77			6/21/1967	821533	

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KING EXCAVATION	Domestic	04N	01E	32	SENE		4405 N EAGLE RD					30	77		8	2/20/2007	845475	
WALTERS, FRANK	Domestic	04N	01E	32	SENE						50	17	78			12/31/9999	812029	
KING EXCAVATION	Domestic	04N	01E	32	SENE		4405 N EAGLE RD					25	81		6		722777	
KING EXCAVATION	Domestic	04N	01E	32	SENE		4405 N EAGLE RD					25	81		6	2/20/2007	845476	
D & H BUILDERS	Domestic	04N	01E	32	SENE		2920 E JASMINE			1	30	21	92	85	6	9/29/1993	727464	
JOSEPHSON, SHERYL	Domestic	04N	01E	32	SENE		4305 EAGLE RD				35	Above Ground Level	193	184	6	4/28/1993	726947	
MC CARTER MOOREHOUSE CO INC	Domestic	04N	01E	32	SENESE		3775 N EAGLE RD					35	100		6	2/13/2008	850785	
CLAPP, VIC	Domestic	04N	01E	32	SENW		2255 E PARADISE LN				40	15	38	39	6	1/5/1999	732904	D0009039
MICHAEL, CARLYLE	Domestic	04N	01E	32	SENW						9999	11	43			7/13/1971	808464	
HICKMAN, HOWARD	Domestic	04N	01E	32	SENW						60	10	50	38	6	11/13/1990	723752	
MOORE, MERLIN	Domestic	04N	01E	32	SENW		2170 PARADISE LN				100	10	50	38	6	11/13/1990	724104	
SMITH, H	Domestic	04N	01E	32	SENW						9999	17	50			7/9/1971	807933	
LEWIS, TED	Domestic	04N	01E	32	SENW			HERITAGE ESTATES	4	1	9999	18	54			5/19/1971	808524	
MICHAEL, CARLYLE	Domestic	04N	01E	32	SENW				2	25	9999	13	61			5/28/1971	808499	
MICHAEL, CARLYLE	Domestic	04N	01E	32	SENW			HERITAGE ACRES	2	26	40	18	73			5/22/1971	808556	
JENKINS, HOWARD	Domestic	04N	01E	32	SENW						30	35	84			4/1/1971	808503	
HANSON, DONOVAN L	Domestic	04N	01E	32	SENW			HERITAGE ESTATE	2	14	18	20	85			5/17/1971	808555	
MC FALL, RAY	Domestic	04N	01E	32	SENW						9999	12	88			4/7/1971	808471	
SETTSER, ERNEST	Domestic	04N	01E	32	SENW						0	20	95			1/23/1976	812625	
MOORE, MERLIN	Domestic	04N	01E	32	SENW		2170 PARADISE LN				75	31	98	98	6	5/29/2002	777666	D0025064
SMITH, RALE	Domestic	04N	01E	32	SENW			HERITAGE	4	6	20	20	100			6/20/1975	808558	
BRICE	Domestic	04N	01E	32	SENW						25	15	102			11/11/1971	808561	
ARES, JOHN	Domestic	04N	01E	32	SENW						40	15	120	110	6	1/17/1990	723470	
ASBESTOS ABATEMENT INC	Domestic	04N	01E	32	SESE		USTICK & EAGLE RDS					26	0		6	3/17/2005	832018	
ASBESTOS ABATEMENT INC	Irrigation	04N	01E	32	SESE		USTICK & EAGLE RDS					32	0		48	3/17/2005	832021	
ASBESTOS ABATEMENT INC	Domestic	04N	01E	32	SESE		USTICK & EAGLE RD					24	0		6	3/17/2005	832023	
W H MOORE CO	Domestic	04N	01E	32	SESE		3445 N EAGLE RD					18	30		6	5/10/2006	842987	
W H MOORE CO	Domestic	04N	01E	32	SESE		2820 USTICK RD					18	31		4	5/10/2006	842989	
DAVIS, TOM E	Domestic	04N	01E	32	SESE						25	15	107	104	6	2/28/1989	722939	
W H MOORE CO	Domestic	04N	01E	32	SESE		2820 USTICK RD					30	133		6	5/10/2006	842988	
G L VOIGHT CONSTRUCTION, HUBBLE ENGINEERING	Irrigation	04N	01E	32	SESW		EAST END OF SUMMERHILLS WAY		19	1	0	13	186	133	8	8/12/1996	728917	
RHOM, FRED H	Domestic	04N	01E	32	SESW						9999	4	192			5/20/1971	807897	
ORR, WALLY	Domestic	04N	01E	32	SESWNE						35	40	131			4/28/1988	779514	
CITY OF MERIDIAN	Municipal	04N	01E	32	SESWSW		3319 N SUMMERFIELD WAY		8	12	2400	10	657	458	18	4/26/1999	732959	D0009165
MC LEAN, W R	Domestic	04N	01E	32	SWNE						0	12	45			2/7/1973	820766	
HURKLEY	Irrigation	04N	01E	32	SWNE						0	15	55			4/23/1969	828832	
SHALZ, JACK	Domestic	04N	01E	32	SWNE						50	16	126			10/31/1975	808553	
HOLCOMB, TOM	Domestic	04N	01E	32	SWNE						0	43	136			2/15/1971	811222	
AMYX, JOE	Domestic	04N	01E	32	SWNE		4193 N EAGLE RD					33	142		6	5/2/2007	846471	
CLARK, RICK	Domestic	04N	01E	32	SWNE						50	30	144			3/6/1979	782640	
MAFFEY, DAVID	Domestic	04N	01E	32	SWNE		4145 N EAGLE RD				20	35	146	139	6	6/11/1991	724607	
CRONK, BILL	Domestic	04N	01E	32	SWNE						45	100	150			8/17/1973	812760	
BUILT, BUSTER, HENDRICKS, WALLY	Domestic	04N	01E	32	SWNE		3084 E JASMINE		1	2	28	35	181	170	6	5/21/1999	733236	D0009536
STEINBACH, CLYDE	Domestic	04N	01E	32	SWNW		1905 E PARADISE LN				35	13	41	38	6	5/26/1995	729377	
KNIGHT, ED	Domestic	04N	01E	32	SWNW				2	7	50	20	60	42	8	4/10/1992	725527	
HOPKINS, MIKE	Domestic	04N	01E	32	SWNW				1	3	40	6	63			6/22/1976	816480	
PALMER	Domestic	04N	01E	32	SWNW						0	25	92			3/3/1968	827810	
STRANGE, JOHN	Domestic	04N	01E	32	SWNW		1790 E STAR LN	HERITAGE SUB	2	5	75	20	96	85	6	7/3/2010	859313	D0057747
AMADON, DONALD	Domestic	04N	01E	32	SWNW						9	30	100			2/2/1971	808559	
DAWDLE, JACK	Domestic	04N	01E	32	SWNW						10	10	110			10/7/1970	819947	
MICHAEL, STEVEN	Domestic	04N	01E	32	SWNW						50	9	116			9/19/1970	807663	
DOWDLE, JACK	Domestic	04N	01E	32	SWNW			HERITAGE ESTATES	2	5	30	28	127			3/15/1971	808554	
DE MILL, AGNES	Domestic	04N	01E	32	SWSE						900	30	58			8/31/1960	812357	
DAVIS, TOM E	Irrigation	04N	01E	32	SWSE						0	16	124	120	16	12/2/1988	722679	
DAVIES, TOM	Domestic	04N	01E	32	SWSE						9999	10	170			12/30/1972	815372	
BAKER, MIKE	Domestic	04N	01E	32	SWSE						0	20	184			2/8/1973	820756	
CITY OF MERIDIAN	Exploration	04N	01E	32	SWSW		SUMMERFIELD WAY #18		8	12	0	2	705	45	8	12/15/1995	729846	
HARRIS, JOE	Domestic	04N	01E	32					2	4	24	15	62			4/26/1972	808510	
ORME, S KIRBY	Domestic	04N	01W	21	NWSE		5590 W JOPLIN RD				120	Above Ground Level	84	53	6	3/10/1995	729166	
RABEHL, ARTHUR O	Domestic	04N	01W	21	NESESE		6745 NORTH BLACK CAT ROAD				60	30	142	139	6	6/23/1992	725811	
HEMMER, RANDY	Domestic	04N	01W	21	NWSE						40	35	205	159	6	6/16/1992	725701	
MC MULLEN, DONALD B	Domestic	04N	01W	21	SESWSE		5220 W CHINDEN				50	20	243	243	6	8/22/1992	726004	
RAGHANI, FOAD	Domestic	04N	01W	22	NESE		2273 W RIBIER		O	14	80	55	124	88	8	7/17/1995	729532	
EGGERS, JO ANN	Irrigation	04N	01W	22	NESE						0	Above Ground Level	224		16	9/25/1990	723927	
CARNAHAN, DOUG	Domestic	04N	01W	22	NESW		CHINDEN & BLACKCAT				75	25	196	184	8	4/28/1994	728159	
DARGATZ, ROBERT	Domestic	04N	01W	22	NWNWSE						9999	9999	93			12/31/9999	815158	
MDC LLC	Irrigation	04N	01W	22	NWSWSE		N BASCO LN, .3 MILES N OF CHINDEN					28	113		8	10/3/2007	849354	
MDC LLC	Irrigation	04N	01W	22	NWSWSE		N BASCO LN, .2 MILES N OF CHINDEN				2000	24	297	247	16	9/1/2007	848248	D0052054
BOYENGER, ERIC	Injection	04N	01W	22	SESE		6568 N DOUBLE EAGLE	WESTWING ESTATES	1	6	20	20	30	29.6	6	3/9/2005	830752	D0038669
PROVIDENCE HOMES	Domestic	04N	01W	22	SESE		6676 N DOUBLE EAGLE LANE				75	20	129	-118	6	11/23/2000	767543	D0015953

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TAYLOR, BOB	Domestic	04N	01W	22	SESE		6604 N DOUBLE EAGLE LN	WESTWING ESTATES	1	5	90	32	132	127	6	7/11/2006	841163	D0046686
WESTWING ESTATES HOMEOWNERS	Fire Protection	04N	01W	22	SESE		NORTH OF CHINDEN ON DOUBLE EAGLE LANE	WESTWING SUB			17	0	150	143	6	10/25/2002	772487	D0020200
SPECIALTY HOMES	Domestic	04N	01W	22	SESE		6568 N DOUBLE EAGLE	WESTWING ESTATES	1	6	100	22	160	159	6	3/7/2005	829823	D0038666
SHADOW MOUNTAIN CONSTRUCTION	Domestic	04N	01W	22	SESE		6640 N DOUBLE EAGLE LANE		1	4	75	22	172	167	6	4/4/2001	768203	D0018087
WESTMINSTER HOMES	Domestic	04N	01W	22	SESE		6532 N BOUBLE EAGLE	WEST WING	1	7	75	30	174	174	6	6/23/2004	817682	D0031610
PRICE, EMMETT	Industrial	04N	01W	22	SESE		6748 N DOUBLE EAGLE	WEST WING	1	1	100	37	184	176	6	1/21/2002	772963	
CARNAHAN, DOUG	Domestic	04N	01W	22	SESW		CHINDEN BETWEEN BLKCAT/10-ML				130	15	184	172	8	6/3/1994	728310	
MDC LLC	Irrigation	04N	01W	22	SESW		4042 W CHINDEN BLVD; .2 MILES W ON BASCO LN					20	271		16	1/8/2008	850784	
EVERIST, REX, EVERIST, PEGGY	Domestic	04N	01W	22	SWNE		7525 BASCO LN				150	0	94	94	6	10/30/2004	825772	D0038128
EGGERS, DREW F	Domestic	04N	01W	22	SWSE		3620 W CHINDEN				150	28	221	220	6	5/21/1992	725077	
CROOKHAM, WILLIAM L	Domestic	04N	01W	22	SWSW						0	15	62			7/19/1979	774668	
CROOKHAM, WILLIAM L	Irrigation	04N	01W	22	SWSW						800	24	245			7/3/1979	808602	
JOSEPH, BRUCE	Domestic	04N	01W	23	NESE						0	45	106			5/18/1978	830210	
WHITLOW, MAVIS	Domestic	04N	01W	23	NESE		ALMADEN				25	35	120	113	6	5/26/1993	727064	
STEEVES, CONNDRA	Domestic	04N	01W	23	NESE		7035 N LINDER	ALMADEN		1	50	39	148	138	6	5/10/2002	776830	D0019897
GRIGG, LLOYD	Domestic	04N	01W	23	NESE		1697 BRANDT		1	3	150	25	152	146	6	4/28/1993	726892	
LONG, LORI, LONG, DAN	Domestic	04N	01W	23	NESE		LINDER - NORTH OF CHINDEN				60	60	153	151	6	5/14/1996	730315	
DENNISON, CHUCK	Domestic	04N	01W	23	NESE		7315 RINE AVE				0	50	154	153	6	7/7/1997	731421	
RUSS HAMILTON BUILDERS, HOLLOWAY, TOM	Domestic	04N	01W	23	NESESE		6735 N BARNEY LN		1	9	30	35	150	148	6	6/1/1992	725707	
BARNEY, GREG	Domestic	04N	01W	23	NESESE		LINDER AND CHINDEN			10	35	35	182		6	5/10/1992	725414	
PALLESEN, DOUG	Domestic	04N	01W	23	NESESE						0	35	252	251	6	6/29/1992	725804	
HUIT, CHARLENE	Domestic	04N	01W	23	NWNW		DUCK ALLEY LANE				0	2	80	62	8	8/15/1995	729577	
TEHMAN CONSTRUCTION	Domestic	04N	01W	23	NWNW						50	0	110			4/29/1977	811784	
CHRISTIAN CHILDRENS HOME	Domestic	04N	01W	23	NWNWNE	2					80	9999	116			9/30/1976	816936	
QUINNEY, KENT	Domestic	04N	01W	23	NWSE		ALMADEN			18	0	0	0				723686	
JOHNSON, KENT	Domestic	04N	01W	23	NWSE						0	0	88				722854	
JOHNSON, KENT	Domestic	04N	01W	23	NWSE						30	40	105			5/16/1990	810167	
JOHNSON, KENT	Domestic	04N	01W	23	NWSE						30	40	109	100	6	5/16/1990	723880	
DAYTON, RANDY	Domestic	04N	01W	23	NWSE		2240 ALMADEN		1	18	75	35	133	119	6	7/29/1992	725933	
OBENDROF, GREG	Domestic	04N	01W	23	NWSE						0	26	188			8/13/1983	773871	
COMPTON, CHARLES JOE	Domestic	04N	01W	23	NWSW		7014 N SPARWING WAY		1	46	40	28	158	153	6	6/18/1998	732300	D0007224
SPURWING HOMEOWNERS ASSN INC	Municipal	04N	01W	23	NWSW		CHINDEN BLVD WEST OF LINDER RD		1	75	2000	32	385	385	16	7/4/1995	728994	
BODILY, MERLYN R	Domestic	04N	01W	23	SENE						30	20	75			8/25/1971	801866	
ENZMINGER, GARY	Domestic	04N	01W	23	SENE						1800	20	203			3/15/1969	799145	
FOOTE, TED	Domestic	04N	01W	23	SENESE			ALMADEN		4	0	29	70			9/2/1979	777101	
OWNBEY, JACK	Domestic	04N	01W	23	SENW		1700 W BRANDT			13	35	42	203	202	6	5/30/1992	725598	
PALLESEN, DOUG	Domestic	04N	01W	23	SENW						35	35	252	246	6	9/3/1992	726059	
LYON, JERRY	Domestic	04N	01W	23	SESE		6751 N BARNEY LN	BRANDT	1	10	50	26	80			9/29/1993	852046	
PULLESEN BUILDERS	Domestic	04N	01W	23	SESE		N BARNEY LANE		1	4	30	30	83	72	6	10/11/1992	726367	
LYON, JERRY	Domestic	04N	01W	23	SESE		6751 N BARNEY LANE		1	10	100	32	94	83	6	1/18/1994	727970	
WARD, ALLEN	Domestic	04N	01W	23	SESE				1	5	35	28	131	123	6	12/23/1992	726359	
BRIDGEWATER CONSTRUCTION	Domestic	04N	01W	23	SESE		BRYANT ST				20	29	136	131	6	8/20/1993	727344	
QUIST, MARVIN	Domestic	04N	01W	23	SESE		1760 W BRANDT		1	14	60	35	220	211	6	6/10/1993	727116	
PAYNE, MICHAEL	Monitoring	04N	01W	23	SESENE		E OF PROPERTY AT 7385 N LINDER RD					24	35	25	2	9/27/2011	862111	D0060055
PAYNE, MICHAEL	Monitoring	04N	01W	23	SESENE		E OF PROPERTY AT 7385 N LINDER RD	B-2				23	35	25	2	9/27/2011	862112	D0060056
PROCHASKA, JAMES M	Domestic	04N	01W	23	SESENW			ALMADEN SUB		12	0	36	155			4/15/1981	785789	
ADA COUNTY HIGHWAY DISTRICT, DE PARTEE, WALLACE	Irrigation	04N	01W	23	SESESE		6555 N LINDER RD	BRANDT SUB	1	1		33	127		8	2/21/1981	785817	
GRIGG, LLOYD	Domestic	04N	01W	23	SESESE		1697 BRANDT		1	3	150	25	182	146	6	4/28/1993	726893	
HEWITT, ARDIS, BLICKENSTAFF, MARILYN	Irrigation	04N	01W	23	SESW						0	30	323	319	16	5/3/1988	722486	
HEARTSTONE INC	Domestic	04N	01W	23	SWNE					9	0	0	80				723439	
RUDEEN, RANDALL L	Heat Pump	04N	01W	23	SWNESW		6904 N SPURWING WAY	SPURWING SUB	1	51		0	100	100	2	11/20/2009	858072	D0056038
RUDEEN, RANDALL L	Heat Pump	04N	01W	23	SWNESW		6904 N SPURWING WAY	SPURWING SUB	1	51		0	100	100	2	11/20/2009	858073	D0056039
RUDEEN, RANDALL L	Heat Pump	04N	01W	23	SWNESW		6904 N SPURWING WAY	SPURWING SUB	1	51		0	100	100	2	11/20/2009	858074	D0056040
RUDEEN, RANDALL L	Heat Pump	04N	01W	23	SWNESW		6904 N SPURWING WAY	SPURWING SUB	1	51		0	100	100	2	11/20/2009	858075	
RUDEEN, RANDALL L	Heat Pump	04N	01W	23	SWNESW		6904 N SPURWING WAY	SPURWING SUB	1	51		0	100	100	2	11/20/2009	858076	D0056042
RUDEEN, RANDALL L	Heat Pump	04N	01W	23	SWNESW		6904 N SPURWING WAY	SPURWING SUB	1	51		0	100	100	2	11/20/2009	858077	D0056043
BROWN, GREG	Domestic	04N	01W	23	SWSE						60	30	124			3/8/1982	816363	
FARWEST LLC	Irrigation	04N	01W	23	SWSE		HWY 20-26 (CHINDEN BLVD)	1/2 MILE W OF LINDER, N SIDE OF HWY			400	32	189	167	10	3/11/2005	829885	D0038765
ALLINGTON, LEN, ALLINGTON, LORRAINE	Domestic	04N	01W	23	SWSESE		BARNY LN		1	6	60	30	110	105	6	3/29/1993	726433	
NORTON, GREG	Domestic	04N	01W	23	SWSWNE		4241 MARYLEBONE WY				25	55	92	84	6	5/23/1989	814935	
NIELSON, FRED	Domestic	04N	01W	23							0	40	86			8/8/1977	833704	
WOODALL, JOHN	Domestic	04N	01W	23							0	45	105			6/30/1976	792527	
PETERSON, JACK E	Domestic	04N	01W	23							650	42	178			8/17/1953	811598	
DENNETT, MONTE	Domestic	04N	01W	25	NENE						20	20	137			8/3/1971	799167	
DENNETT, MONTE	Domestic	04N	01W	25	NENE						20	15	207			9/2/1971	799168	
RASMUSSAN, JAMES	Domestic	04N	01W	25	NENE						0	20	283			4/25/1985	837363	
UNION LAND COMPANY	Domestic	04N	01W	25	NENW		825 W CHINDEN					0	14		6	10/12/2006	845094	
MAGNUM DEMOLITION	Domestic	04N	01W	25	NWNW		1225 W CHINDEN BLVD					29	109		4	5/18/2009	856289	
KUENZLI, RONALD L	Irrigation	04N	01W	25	NWNW						0	0	204				722426	
ROE, DAVE	Domestic	04N	01W	25	NWSW		LINDER					25	0		4	4/13/2004	814015	
WAITE, JERALD	Domestic	04N	01W	25	NWSW						9999	15	68			4/7/1967	799164	
MC COY, DON	Domestic	04N	01W	25	SENE						40	18	118			8/30/1971	810162	
SCOTT, H H	Domestic	04N	01W	25	SENE						40	15	125			9/2/1971	799165	
COLLIS, PAUL	Irrigation	04N	01W	25	SWNE						30	11	45			7/12/1975	799166	
PARAMOUNT LLC	Irrigation	04N	01W	25	SWNE		FOX RUN WAY	PARAMOUNT				30	212	182	8	2/26/2006	838169	
CORY, DON	Domestic	04N	01W	25	SWNW						0	0	148				724799	
STEWART, DOUG	Domestic	04N	01W	25	SWNW						30	27	203	202	6	5/26/1992	725597	

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PARAMOUNT LLC	Domestic	04N	01W	25	SWNW		5710 N LINDER RD					19	ab		6	1/15/2004	810438	
LIBERTY DEVELOPMENT	Irrigation	04N	01W	25	SWSE		470 W MC MILLEN RD					15	100		8	5/4/1987	722364	
LIBERTY DEVELOPMENT	Irrigation	04N	01W	25	SWSE		470 W MC MILLEN RD					15	100		8	8/12/2006	842931	
LIBERTY DEVELOPMENT	Irrigation	04N	01W	25	SWSE		470 W MC MILLIAN					15	220		12	9/17/1992	726090	
LIBERTY DEVELOPMENT	Irrigation	04N	01W	25	SWSE		470 W MC MILLIAN					15	220		12	8/12/2006	842927	
LEGAVETA, PHIL	Domestic	04N	01W	25	SWSWSW						120	10	70	70	6	6/22/1989	723360	
SCHOEN, VERNON	Domestic	04N	01W	25							0	10	130			8/2/1973	821450	
BRANDT, LEROY E	Irrigation	04N	01W	26	NENE						0	15	214		16	6/9/1990	723840	
HOBBS, DON	Domestic	04N	01W	26	NENW		CHINDEN BLVD				30	40	130	129	6	6/30/1993	727176	
FARWEST LLC	Irrigation	04N	01W	26	NESE		5375 NORTH LINDER RD				57	17	135	121	6	10/7/2003	807453	D0030589
NELSON, KATHRYN	Domestic	04N	01W	26	NWSE						60	41	133	126	6	7/1/1999	733391	D0009843
FARWEST LLC	Domestic	04N	01W	26	SENE		LOCHSA FALLS DUBB NUMBER 6 ON LINDER RD	LOCHSA FALLS #6				16	ab		4	1/16/2004	810448	
DUDGEON, JOHN A, DURST, JIM	Domestic	04N	01W	26	SESE		NW CORNER OF LINDER RD AND MERIDIAN RD				20	16	121		4	9/24/1967	823391	
DUDGEON, JOHN A, DURST, JIM	Domestic	04N	01W	26	SESE		NW CORNER OF LINDER RD AND MERIDIAN RD				20	16	121		4	3/16/2007	845693	
GARLAND HOMES	Domestic	04N	01W	26	SESE		1942 W MC MILLIAN				100	12	202	189	6	5/1/1997	731278	
JAMES, LARRY	Irrigation	04N	01W	26	SESE						0	12	203	203	16	12/23/1988	722897	
DURST, JIM	Domestic	04N	01W	26	SESESE		NW CONER OF MCMILLIAN & LINDER RDS					30	190		16	1/15/2008	854291	
RYAN, W D	Domestic	04N	01W	26	SESW						35	10	115			7/1/1977	807422	
RYAN, W D	Irrigation	04N	01W	26	SESW						0	10	1151			7/4/1977	805733	
CALKINS, RANDALL G	Domestic	04N	01W	26	SESWSE		2350 W MCMILLAN ROAD				60	12	136	118	6	2/9/2002	773351	D0019418
MORROW, WALT	Domestic	04N	01W	26	SWNE						0	12	153			5/7/1980	774666	
LOCHSA FALLS LLC	Irrigation	04N	01W	26	SWNE		HORSE CIRCLE; WELL #1	PHASE 8, LOCHSA FALLS	41	1	500	9	218	195	8	12/20/2004	826217	D0038491
LOCHSA FALLS LLC	Irrigation	04N	01W	26	SWNE		HORSE CIRCLE; WELL #2	PHASE 8, LOCHSA FALLS	41	1	2300	19	270	260	16	1/5/2005	826218	D0038492
FOLLOWERS OF CRIST CHURCH	Domestic	04N	01W	26	SWNW		1/4 SOUTH OF CHINDEN BLVD ON EAST SIDE OF TEM MILE				60	16	80	-73	6	6/8/2000	764890	D0015089
JANICEK, BRAD	Domestic	04N	01W	26	SWNW						75	8	194	194	8	9/25/1991	724838	
STEVENSON, JERRY	Domestic	04N	01W	26	SWNW						35	27	245	238	6	6/23/1992	725754	
FULFER, KELLY	Domestic	04N	01W	26	SWSE		2350 W MC MILLAN				100	13	132	118	6	7/23/1999	733446	D0009804
HUDSON, PAUL	Domestic	04N	01W	26	SWSW						40	7	69			6/25/1977	814500	
SETTLERS IRRIGATION DISTRICT	Other	04N	01W	26	SWSW						468	8	98			6/18/1955	823390	
JANICK, BRAD	Domestic	04N	01W	27	NENW		4325 W CHINDEN				80	24	106	100	6	8/30/2001	770788	D0018891
ASUMENDI, LOUIE	Irrigation	04N	01W	27	NESW						0	18	270	272	16	6/15/1992	724181	
VAN HEES BUILDERS	Domestic	04N	01W	27	NWNE						20	15	110			8/30/1979	855945	
EDENBROOK CONSTRUCTION	Domestic	04N	01W	27	NWNW		4775 W RAMBLIN		1	7	50	16	120	107	6	1/28/1995	729088	
CAPITAL SECURITIES CORP	Domestic	04N	01W	27	NWNW		1/4 MI S OF CHINDEN ON BLK CAT		1	6	35	12	177	169	6	6/22/1994	728390	
CAPITAL SECURITIES CORP	Domestic	04N	01W	27	NWNW		1/4 ML S CHINDEN ON BLACKCAT RD		1	5	42	31	180	173	6	8/12/1994	728391	
SCHIRMER, LOGAN	Domestic	04N	01W	27	NWNW		BLACK CAT AND CHINDEN				70	5	289	289	6	5/13/1993	726925	
POORMAN, PAUL	Domestic	04N	01W	27	NWSW		5230 N BLACKCAT ROAD				100	11	189	178	6	10/26/1995	729782	
JOHNSON, HAROLD	Domestic	04N	01W	27	SENESW						0	0	30				722515	
MOUNTAIN HALBOUTY	Domestic	04N	01W	27	SESE						40	15	65			6/3/1976	816935	
HOPKINS, SAM	Domestic	04N	01W	27	SESW		4052 W DAPHNE ST	BLACK CAT EST #2	2	7	30	5	64	53	6	11/15/1990	723749	
NEWEU, GARY	Domestic	04N	01W	27	SW				1	5	9999	6	63			5/20/1978	820533	
MC CARTER-MOOREHOUSE CONSTRUCTION	Domestic	04N	01W	27	SWNW		4595 W RAMBLIN CT		1	4	50	40	81	81	6	11/10/1994	728818	
KOWELLIS, HILDA CHRISTENSEN	Domestic	04N	01W	27	SWNW		5910 N BLACK CAT				75	16	133	126	6	5/3/1999	733192	D0009267
JOHNSON, FRANK	Irrigation	04N	01W	27	SWSE						9999	9999	515			5/16/1977	829857	
STATEWIDE CONSTRUCTION INC	Domestic	04N	01W	27	SWSW						0	9	57			6/1/1978	779703	
PATTERSON, CLARENCE	Domestic	04N	01W	27	SWSW						60	6	63			5/24/1972	799170	
CHEENEY, LYNN	Domestic	04N	01W	27	SWSW						30	3	77			6/16/1981	842160	
STEINBACH, MAX	Domestic	04N	01W	27	SWSW						0	3	117			8/23/1986	823571	
CALLAN, STEVE	Domestic	04N	01W	27	SWSW		4202 DAPHNE ST		2	6	40	4	130	123	6	10/4/1995	729718	
DUNCAN, TRAVIS	Domestic	04N	01W	28	NE						60	30	140			5/12/1972	798968	
DYER, JAKE	Irrigation	04N	01W	28	NENE						0	15	108			4/30/1977	792572	
MC CONNELL, LARRY L	Domestic	04N	01W	28	NENE			COMPTON		1	9999	20	120			7/24/1975	799172	
SMART, AL	Domestic	04N	01W	28	NENE			COMPTON		3	9999	60	120			3/21/1975	817796	
DACCIR BUILDERS ?	Domestic	04N	01W	28	NENE			COMPTON #2		2	40	18	144			5/31/1977	847547	
GUILES, CURTIS	Domestic	04N	01W	28	NENE		5120 LARRY LN	COMPTONS SUB NO 2		3	75	16	151	146	6	8/2/2012	863827	D0063805
MOORE, JERRY	Domestic	04N	01W	28	NENE						0	5	250			7/18/1979	774665	
ROARK, RAY	Domestic	04N	01W	28	NENW		5952 N SERENITY LN			11	40	18	84	78	6	4/17/1996	730292	
NIELSEN, SHEILA, CENTENNIAL CO	Domestic	04N	01W	28	NENW		6002 SERENITY DRIVE		1	12	70	9	93	82	6	6/23/1997	731400	D0000105
BULL, APRIL, BULL, JOHN	Domestic	04N	01W	28	NENW		6281 N SERENITY LN			2	50	25	97	92	6	4/24/1997	731259	
CLAIBORNE, STEVE, CLAIBORNE, SANDY	Domestic	04N	01W	28	NENW				1	4	45	21	98	92	6	2/4/1998	731963	D0001053
HOUER, PAUL, STACK, VAL	Domestic	04N	01W	28	NENW		6072 N SERENITY LANE				75	18	104	-97	6	11/16/2000	767493	D0015920
DOUG LASHER CONSTRUCTION	Domestic	04N	01W	28	NENW		6302 N SERENITY LN		1	17	60	18	105	100	6	10/19/1998	732630	D0007829
MC CARTHY, TOM	Domestic	04N	01W	28	NENW		6262 N SERENITY LN				50	30	107	101	6	6/12/1997	731377	
SUTTNER, GREG	Domestic	04N	01W	28	NENW						60	20	109	103	6	4/16/1998	732113	D0001820
LASHER, DOUG	Domestic	04N	01W	28	NENW		6302 N SERENITY LANE		1	17	42	18	113	112	6	6/13/1999	733212	D0009534
TWIN PEAKS CONSTRUCTION	Domestic	04N	01W	28	NENW		6029 W SERENITY	PEREGRINE HEIGHTS	1	7	50	20	114	-104	6	11/22/2000	767510	D0015972
COLTRIM, COREY	Domestic	04N	01W	28	NENW		6178 SERENITY LANE			15	50	19	115	-98	6	11/28/2000	767584	D0015883
ROARK, RAYMOND L	Domestic	04N	01W	28	NENW		5665 W CHINDEN				60	23	121	116	6	7/30/2001	770172	D0018669
RICHARDS, DARRELL	Domestic	04N	01W	28	NENW		6237 SERENITY LN	PEREGRINE HEIGHTS SUBDIVISION	1	3	60	23	123	118	6	3/28/2005	831637	D0038856
GARZA JR, ZARAGOZA	Domestic	04N	01W	28	NENW		6126 N SERENITY LANE		14	1	40	18	136	131	6	4/26/1996	729948	
COLTRIN, CORY	Domestic	04N	01W	28	NENW		6133 N SERENITY LN				75	18	183	177	6	4/17/1998	732114	D0001819
GEO TECK INC	Monitoring	04N	01W	28	NESENE		BLACK CAT RD	B-1				6	25	5	2	9/29/2005	836492	D0041965
GEO TECK INC	Monitoring	04N	01W	28	NESESE		BLACK CAT RD	B-2				5	29	4	2	9/28/2005	836493	D0041964
GILLESPIE, RONALD	Domestic	04N	01W	28	NW			MINT RANCHETT	2	1	9999	20	91			8/31/1972	798969	
CAMPBELL, BOND	Domestic	04N	01W	28	NWNE						60	27	175	159	6	6/18/1998	732346	D0007134
THIEL, DAVE	Domestic	04N	01W	28	NWNE				1	1	300	3	267	254	6	6/11/1998	732199	D0007081

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IDAHO DEPARTMENT OF TRANSPORTATION	Domestic	04N	01W	28	NWNW		6280 N MCDERMOTT RD					24	0		6	6/8/2011	861262	
MC CULLEN, TOM	Domestic	04N	01W	28	NWNW		SE CORNER MCDERMOTT RD & CHINDEN BLVD					40	216		6	9/17/1979	781868	
FLOURNOY, CHARLES J	Domestic	04N	01W	28	NWSE						42	30	99	87	6	4/24/1984	722089	
RENDEZVOUS DEVELOPMENT	Domestic	04N	01W	28	NWSW		5390 N MC DERMOTT				50	19	63	59	6	2/24/1993	726780	
SHRINE INC	Domestic	04N	01W	28	SENE						0	11	80			6/1/1967	852467	
CUTHILL, DAN	Domestic	04N	01W	28	SENE		LARRY LN		1	4	100	13	83	73	6	4/27/1999	733185	D0009311
SETTLERS IRRIGATION DISTRICT	Irrigation	04N	01W	28	SENE						550	8	107			6/14/1963	821306	
BRANDEL, KENTON	Domestic	04N	01W	28	SENE						30	20	112			8/18/1973	799171	
CARAHANN, DOUG	Domestic	04N	01W	28	SENE		5335 BLACK CAT				50	12	210	210	6	5/7/2002	776729	D0019954
ROBERT MYERS CONSTRUCTION, HAY, CHARLES	Domestic	04N	01W	28	SENW		5925 N SERENITY		1	9	0	10	107	95	6	8/27/1997	731558	D0001154
MEADOWS, GEORGE	Domestic	04N	01W	28	SESE						0	0	220				722587	
KUENZLI, JULIE R, KUENZLI, LONNIE D	Injection	04N	01W	28	SWNE		6210 LEVI LN				0	Above Ground Level	43	35	6	11/28/1995	729874	
KUENZLI, JULIE R, KUENZLI, LONNIE D	Domestic	04N	01W	28	SWNE		6210 LEVI LN				20	10	94	77	6	11/27/1995	729873	
THOMPSON, DON	Domestic	04N	01W	28	SWNW		5620 N MCDERMOTT				40	11	250	238	6	5/28/2003	802267	D0029371
IDAHO DEPARTMENT OF TRANSPORTATION	Domestic	04N	01W	28	SWNWNW		6100 N MCDERMOTT RD					21	0		6	6/8/2011	861261	
COPE, PETE	Domestic	04N	01W	29	NENE						9999	18	112			3/20/1973	798967	
COPE, PETE	Domestic	04N	01W	29	NENE						0	18	328			1/16/1980	855946	
GRIST, JAMES	Domestic	04N	01W	29	NENW						20	35	146			6/10/1964	804871	
GILLESPIE, MILES R	Domestic	04N	01W	29	NENW						9999	25	168			6/2/1972	817761	
NELSON, MICHAEL	Domestic	04N	01W	29	NESE						0	0	100				722655	
PERKINS, ALAN	Domestic	04N	01W	29	NESE		519 MCDERMITT				100	55	201	-190	6	7/8/2000	765262	D0015310
ROSS, DAVE, ROSS, CYNTHIA	Domestic	04N	01W	29	NESE		5595 N MCDERMOTT RD				20	9	209	204	6	11/8/2007	849529	D0052476
PERKINS, MARTY	Domestic	04N	01W	29	NESE		625 S MCDERMITT				80	50	215	-208	6	7/6/2000	765263	D0015309
RUSSELL, NEAL	Domestic	04N	01W	29	NESW		7350 W LEGERWOOD LN		1	004, 005	100	12	160	145	6	10/8/1999	733687	D0012285
REY, CARL D	Domestic	04N	01W	29	NESW		7351 W LEDGEWOOD LN	SUNSHINE ESTATES	1	5	100	13	171	171	6	9/9/2005	835883	D0041910
RUSSELL, NEAL	Domestic	04N	01W	29	NESW		W LEDGERWOOD LN	SUNSHINE ESTATE	1	5	100	1	401	390	6	7/20/2000	765460	D0015319
RUSSELL, NEAL	Domestic	04N	01W	29	NESW		7351 W LEDGERWOOD LANE	SUNSHINE ESTATES	1	5	150	402	412	-401	6	4/4/2000	763649	D0012620
HENNINGER, D	Domestic	04N	01W	29	NWSE						40	15	74			10/25/1971	798965	
ELLIS, TED, ELLIS, VALERIE	Domestic	04N	01W	29	NWSW		7600 W LEDGERWOOD LN	SUNSHINE ESTATES SUB	1	3	75	14	117	112	6	7/22/2008	852383	D0052880
DAVIS, RICK	Domestic	04N	01W	29	NWSW		STAR ROAD				115	12	136	136	6	9/21/1994	728663	
AX, ROBERT	Domestic	04N	01W	29	SENW		5600 N STAR ROAD					21	120	120	2	7/30/2002	783715	
SHANNON, BILL	Domestic	04N	01W	29	SENW						30	28	146	139	6	8/2/1991	724707	
AX, ROBERT	Domestic	04N	01W	29	SENW						300	30	490			5/3/1976	816934	
UPDIKE, LESTER	Domestic	04N	01W	29	SESE		4896 NORTH BAYLOR LANE	BAYLOR	1	2	40	8	163	158	6	9/12/2002	776544	D0019793
THOMPSON, TERRI	Domestic	04N	01W	29	SESW		5126 N BAYLOR LN	BAYLOR SUB NO. 1	1	7	100	8	140	136	6	11/18/2004	824270	D0038080
WILLLIAMS, RICK	Domestic	04N	01W	29	SESW		STAR ROAD AND MCMILLIAN	BAYLOR	2	7	60	75	163	163	6	7/5/2001	769734	D0018699
WILLIAMS, RICK	Domestic	04N	01W	29	SESW		STAR ROAD AND MCMILLIAN	BAYLOR	1	6	60	75	168	168	6	6/19/2001	769470	D0018625
BENTLEY, DEAN	Domestic	04N	01W	29	SESW		7080 W MC MILLION				42	3	274	259	6	3/25/2002	775595	D0019710
WOOD, CHUCK	Domestic	04N	01W	29	SWNW						0	15	96			9/23/1973	792573	
EDDY, JOHN T	Domestic	04N	01W	29	SWNW		5650 STAR RD				30	15	182	170	6	6/10/1998	732179	D0001875
CACE, GEORGE	Domestic	04N	01W	29	SWSE		4850 N BAYLOR LN	BAYLOR	1	1	40	9	150	125	6	10/30/2003	807637	D0030597
WHITMIRE, BOB	Domestic	04N	01W	29	SWSW		4998 BAYLOR LANE	BAYLOR ESTATES	1	4	75	10	164		6	10/27/2003	808186	D0030558
LOWER FAIRVIEW JOINT CEMETERY DISTRICT	Irrigation	04N	01W	29	SWSW		MCMILLAN RD FAIRVIEW CEMETARY				60	10	199	190	6	4/18/2003	798841	D0029335
SWENSEN, RICHARD	Domestic	04N	01W	29	SWSW		4942 NORTH BAYLER	BAYLER	1	3	75	10	238	233	6	5/8/2002	776749	D0019822
HAYES, DAVID	Domestic	04N	01W	29	SWSW						0	0	450				724613	
BROWN, RICHARD B	Domestic	04N	01W	30	NENE		HWY 20 AND STAR RD				200	30	300	300	6	5/4/1992	725588	
MC CONNELL, HAROLD, MC CONNELL, JUDY	Domestic	04N	01W	30	NENENW		8825 W CHINDEN BLVD				100	24	237	230	6	7/15/1994	728443	
OLSON, DARREL D	Irrigation	04N	01W	30	NESE						0	0	468			5/11/1977	792575	
EAMES, STEVE	Domestic	04N	01W	30	NWNWN	1					50	34	90	78	6	4/11/1992	725537	
SCHUTTE, HOWARD, SCHUTTE, PATRICIA	Irrigation	04N	01W	30	NWSE		UNKNOWN					0	273		16	11/9/1988	722907	
BOISE 170, LLC	Domestic	04N	01W	30	NWSWNW		5800 N CAN ADA RD					25	130		6	4/4/2008	851146	
OLSEN, DARREL D	Domestic	04N	01W	30	SENE						80	30	99	85	6	3/12/1990	723523	
OLSEN, DARREL D	Domestic	04N	01W	30	SENE						80	30	99	85	6	3/12/1990	723524	
GRIM, W L	Irrigation	04N	01W	30	SWNE						0	10	295			6/6/1977	792576	
WEST, HAROLD	Domestic	04N	01W	30	SWNW						50	5	107			10/11/1972	798966	
WRIGHT, CONRAD	Domestic	04N	01W	30	SWSE						40	Above Ground Level	128	120	6	9/23/1992	726124	
RIRIE, WARREN	Domestic	04N	01W	30	SWSE		8478 W MC MILLAN				150	6	220	204	6	10/5/1995	729722	
WAITE, ARVID	Irrigation	04N	01W	30	SWSE						300	20	458			3/18/1977	816933	
GRANT, PAUL	Domestic	04N	01W	30	SWSW						15	101	81			11/13/1979	853045	
WOLF, WILLIAM G	Domestic	04N	01W	30	SWSW						0	0	208				725391	
ALL AMERICAN	Domestic	04N	01W	31	NENE		8095 MCMILLIAN				100	10	200	189	6	9/28/2005	836260	D0041946
HAM, FRANK N	Domestic	04N	01W	31	NENE						9999	20	210			4/25/1977	781222	
HAM, FRANK N	Domestic	04N	01W	31	NENE						0	20	220			5/6/1984	774004	
HAM, FRANK N	Irrigation	04N	01W	31	NENE						9999	8	239			10/27/1984	786094	
FRIDAY, OTTO	Domestic	04N	01W	31	NENE						9999	9999	460			3/15/1966	798980	
ROYLANCE, PAM	Domestic	04N	01W	31	NENW		9107 MC MILLAN RD				0	0	0				723826	
ROYLANCE, PAM		04N	01W	31	NENW						0	0	97				723825	
FULFER, KELLY	Domestic	04N	01W	31	NENW		9105 W MCMILLAN				80	3	266	251	6	10/18/2007	849504	D0052399
BRESHEARS, VIRGIL	Domestic	04N	01W	31	NESE						0	200	324			6/16/1984	773868	
BAARDA, DAVE	Domestic	04N	01W	31	NESE						400	9999	444			7/13/1960	811597	
HILL	Domestic	04N	01W	31	NWNE						100	12	95			10/21/1974	811447	

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CAN-ADA FARMS	Irrigation	04N	01W	31	NWNE						0	3	205	205	16	6/25/1988	722513	
BAARDA, DAVID	Domestic	04N	01W	31	NWSE						0	9999	444			7/12/1960	829494	
GINTON, FRED	Domestic	04N	01W	31	NWSW						9999	14	84			3/16/1972	798970	
HILLSIDE NURSERY INC	Domestic	04N	01W	31	NWSW		3900 CAN ADA				100	11	105	95	6	8/31/2001	770880	D0019038
IRMINGER, ANCIL	Domestic	04N	01W	31	NWSW						35	8	131	121	6	11/12/1991	724901	
LOVE, BILL	Domestic	04N	01W	31	SENE		4075 NORTH STAR ROAD			10	75	12	216	216	6	10/12/2002	784910	D0025548
INTERMOUNTAIN GAS CO	Domestic	04N	01W	31	SENW						0	10	120			10/22/1973	792580	
ODERMOTT, RAY	Domestic	04N	01W	31	SESE						0	5	100	90	6	5/1/1988	722563	
BAARDA, PETE	Irrigation	04N	01W	31	SESE						0	5	208			7/22/1977	792577	
VAN BEEK, EVERET	Domestic	04N	01W	31	SESE						370	9999	438			10/27/1969	798976	
BROCKETT	Domestic	04N	01W	31	SESW						60	7	102			5/18/1982	841714	
INTERMOUNTAIN GAS CO	Commercial	04N	01W	31	SESWNW	2					3002	8	312	300	24	9/29/1987	722286	
VIESLEMEYER, ED	Domestic	04N	01W	31	SW						50	27	100	85	8	5/5/1992	725608	
PAPE, L A	Domestic	04N	01W	31	SWNW						0	20	85			8/17/1973	792579	
INTERMOUNTAIN GAS CO	Domestic	04N	01W	31	SWNW						0	9	126			4/23/1974	792578	
HALL, LARRY	Domestic	04N	01W	31	SWSW						20	8	110			7/23/1971	813180	
GOLDBACK, KEN	Domestic	04N	01W	32	NENE		4455 N MC DERMITT RD				75	6	120	111	6	6/23/2005	834258	D0039252
YUCIS, A W	Domestic	04N	01W	32	NWNE						40	8	100			10/4/1971	798975	
PECKHAM, MARK V	Domestic	04N	01W	32	NWNW		N STAR RD				20	18	65	62	6	9/10/1992	725240	
FLOWER, GERALD	Irrigation	04N	01W	32	NWSE						0	18	205	146	16	4/22/1992	725439	
GROVE, ROBERT	Domestic	04N	01W	32	SENE						30	20	110			12/1/1961	798972	
FRIDAY, ROBERT	Domestic	04N	01W	32	SENW						9999	9	218			3/20/1978	807238	
MC FADDEN, CARMA	Domestic	04N	01W	32	SWNE		6750 W LAZY DIAMOND C LANE				35	Above Ground Level	328	323	6	1/19/1999	732733	D0007990
MC FADDEN, ROBERT L	Irrigation	04N	01W	32	SWNE						300	Above Ground Level	472	467	6	11/10/1989	723404	
FRIDAY, ROBERT	Domestic	04N	01W	32	SWNW		4190 N STAR RD				50	10	107	108	6	7/17/1997	731456	
FRIDAY, ROBERT	Domestic	04N	01W	32	SWNW						150	6	302	279	6	5/15/1998	732173	D0000509
BALDWEN, VIVIAN	Domestic	04N	01W	32	SWSE						50	9	133	131	6	2/7/1984	722116	
FLOWER, OSCAR	Domestic	04N	01W	32	SWSE						9999	9999	403			6/2/1970	798974	
STERLING LANDSCAPE CO	Domestic	04N	01W	32	SWSW		7870 USTICK				20	10	125	120	6	6/20/2001	769551	D0018584
STERLING LANDSCAPE CO	Irrigation	04N	01W	32	SWSW		USTICK - STAR				800	12	225	205	12	1/20/2003	789263	D0026000
FRIDAY, ROBERT	Domestic	04N	01W	32	SWSWNW						35	5	137			7/8/1969	798973	
GEO TECK INC	Other	04N	01W	33	NENENE		BLACK CAT RD	B-3 - GROUNDWATER SAMPLE				0	0		2	9/26/2005	836494	
HANSEN, ROBERT A	Domestic	04N	01W	33	NWNW			APPLE VALLEY		5	22	80	143			4/24/1976	811774	
FULLER, JAMES	Domestic	04N	01W	33	NWSW						20	10	65			2/28/1973	814542	
SPENCER, PAUL	Domestic	04N	01W	33	SENE		4323 N BLACKCAT RD				70	5	72	66	6	9/20/1995	729705	
SKINNER, FRANK	Domestic	04N	01W	33	SENE		4145 N BLACKCAT ROAD				100	8	77	64	6	3/31/1994	728022	
SKINNER, FRANK	Domestic	04N	01W	33	SENE		4145 N BLACK CAT ROAD				100	4	84	-74	6	4/6/2000	763864	D0012850
BAIN, DEL L, BAIN, MARCIA A	Domestic	04N	01W	33	SESE		4951 JORDAN LN				50	10	80	80	6	6/18/1993	727007	
FOWLER, IRA M	Domestic	04N	01W	33	SESE						0	3	300			8/1/1974	812221	
WALDORF, WESLEY	Irrigation	04N	01W	33	SESW						0	0	95				722872	
KAPPUS, JAMES A	Domestic	04N	01W	33	SW			APPLE VALLEY	2	2	10	5	75			8/9/1973	816740	
DOWELL, CARL	Domestic	04N	01W	33	SW			APPLE VALLEY	1	3	15	10	75			6/13/1973	817789	
TODEY, DAVE	Domestic	04N	01W	33	SW						40	28	77			5/21/1979	855947	
VANDORN, ALBERT	Domestic	04N	01W	33	SW						9999	10	85			5/22/1972	798971	
HOWELL, BILL	Domestic	04N	01W	33	SW			APPLE VALLEY	2	6	10	5	90			8/17/1973	815809	
GOADE, JOHN	Domestic	04N	01W	33	SW						0	8	99			11/1/1974	792581	
EVANS, MELVIN	Domestic	04N	01W	33	SW			APPLE VALLEY	1	5	30	10	105			5/1/1979	855514	
P J B CONSTRUCTION	Domestic	04N	01W	33	SWNW		3560 N MCDERMITT				60	10	113	104	6	1/13/2004	810209	D0030873
MITCHEL, LEE	Domestic	04N	01W	33	SWNW						9999	9999	376			5/24/1982	826804	
MITCHELL, THAINE LEE	Irrigation	04N	01W	33	SWNW		4000 NORTH MCDERMOTT						400			5/24/1982	862186	
STUBBLEFIELD, JIM	Domestic	04N	01W	33	SWSE						0	8	68			5/31/1974	816291	
RAMBO, CRAIG	Domestic	04N	01W	33	SWSE						0	15	68			7/3/1979	822273	
	Domestic	04N	01W	33	SWSW						0	6	70			10/14/1971	790345	
HALL, LARRY	Domestic	04N	01W	33	SWSW						60	12	83			1/20/1969	816768	
KIT COURTYARD	Domestic	04N	01W	33	SWSW		3500 N MCDERMOTT MERIDIAN N OF USTICK EAST SIDE OF ROAD				50	5	90	78	6	12/16/1999	733831	D0012604
HAROLD, RANDY	Domestic	04N	01W	33	SWSW						15	6	105	98	6	5/10/1984	722065	
WOOD, EDWARD	Domestic	04N	01W	33	SWSW						30	9999	317			10/15/1971	821532	
LEE MITCHEL LOG CONSTRUCTION	Domestic	04N	01W	33	SWSWNW						9999	9999	400			5/24/1982	828209	
COOK, PAUL J	Domestic	04N	01W	34	NENE						60	200	300			8/1/1981	821055	
JAMES, JIMMIE N, JAMES, LAVERNE	Domestic	04N	01W	34	NENENW		ACROSS THE STEET FROM 4050 W MCMILLAN				50	18	108	98	6	5/4/2001	768774	D0018381
CITY OF MERIDIAN	Domestic	04N	01W	34	NESE		3401 N TEN MILE ROAD	MERIDIAN WASTE WATER TREATMENT PLANT				3	22		8	11/11/2001	772481	
CITY OF MERIDIAN	Monitoring	04N	01W	34	NESE		3401 TEN MILE RD (WATER TREATMENT PLANT)					5	25	5	4	12/21/2004	827137	D0038583
GARRISON, DAVID	Domestic	04N	01W	34	NESE						9999	30	152			6/6/1975	800435	
BURGESS, RON	Domestic	04N	01W	34	NESW						0	8	53			1/18/1977	792582	
GEO TECK INC	Monitoring	04N	01W	34	NESWNW		BLACK CAT RD	B-4				6	39	4	2	9/28/2005	836496	D0041963
QUINSER, EUGENE	Domestic	04N	01W	34	SE						0	0	300			12/16/1975	792583	
LINCOLN CONSTRUCTION	Domestic	04N	01W	34	SENE		3233 W GRAND RAPIDS DR					7	0		4	5/27/2005	833746	
JOHNSTON, PATRICK	Domestic	04N	01W	34	SENE		3417 W ELK BUGLE LANE				100	8	100	83	6	3/13/1998	732027	D0001785
MORROW, WALT	Domestic	04N	01W	34	SENE		TEN MILE				70	5	103	103	6	8/11/1993	727354	
JOHNSON, JEAN E, JOHNSON, GARY S	Irrigation	04N	01W	34	SENE						0	0	140				722793	

Table 7 - Tabulated Information from IDWR Well Driller's Reports for Wells within the Meridian Area of Impact

Contact	Use	TWP	RNG	SEC	Tract	Gov. Lot	Well Address	Subdivision	Block	Lot	Gallons Per Minute	Static Water Level	Total Depth	Casing Depth	CSG. DIA.	Construction Date	Permit Number	Tag Number
SIMPSON, RALPH	Domestic	04N	01W	34	SENE						100	Above Ground Level	355	355	6	7/15/1983	722000	
CITY OF MERIDIAN	Dewatering	04N	01W	34	SENW		CITY OF MERIDIANS WASTEWATER TREATMENT PLANT					7	22	30	18	3/31/2004	812113	D0031144
YAKNAVCH, ZOARN	Domestic	04N	01W	34	SESW		4255 N TEN-MILE				22	8	85	82	6	4/14/1995	729254	
THE ASSOCIATES	Domestic	04N	01W	34	SWNE						30	6	82			1/6/1986	814570	
QUENZER, EUGENE	Domestic	04N	01W	34	SWNW		4020 N BLACKCAT RD				100	7	97	84	6	12/11/1997	731798	D0001507
BONADEMAN, LENO	Domestic	04N	01W	34	SWSE						0	5	158			1/20/1972	789922	
CAMPBELL, MARK R	Domestic	04N	01W	34							0	8	65			9/18/1978	782872	
HUDSON, GLEN	Domestic	04N	01W	35	NENE						0	6	98			11/5/1980	828671	
RIRIE, WARREN	Domestic	04N	01W	35	NENE		4755 N LINDER ROAD				20	12	99	95	6	7/20/1995	729546	
SUPERIOR EXCAVATION AND CONSTRUCTION	Domestic	04N	01W	35	NENESE		WEST SIDE OF LINDER RD PROX 1/4 MILE NORTH OF USTIC RD					9	ab	27	6	8/14/2003	805914	
RUPP, GARY	Domestic	04N	01W	35	NENW						50	6	58	60	6	12/23/1989	723194	
RRC CONTRACTORS	Domestic	04N	01W	35	NENW		800 FT E OF TEN MILE; SOUTH SIDE OF MC MILLAN					11	58		6	10/12/2006	845093	
	Domestic	04N	01W	35	NESE						5	3	24			9/9/1963	829491	
BRIDGEWATER CONSTRUCTION, WHITE, JERRY	Domestic	04N	01W	35	NESWSE		6629 BARNEY LN				40	29	150	142	6	12/29/1993	727709	
	Domestic	04N	01W	35	NWNW						20	7	85			12/15/1973	799071	
JAMES FAMILY LIMITED PARTNERSHIP	Irrigation	04N	01W	35	NWNW		NORTH TEN MILE				0	6	345	225	16	4/15/1994	727997	
YOUNG, HARRY	Domestic	04N	01W	35	NWSE						0	0	182			11/14/1974	792598	
LAMPLIGHT HOMEOWNERS ASSN	Irrigation	04N	01W	35	NWSW		1/4 MILE N OF USTICK ON E SIDE OF 5 MILE					23	0		8	7/15/1997	731607	
MARZ, FRANK	Domestic	04N	01W	35	NWSW						9999	8	186			12/10/1964	803174	
PAULIN, HARRY	Domestic	04N	01W	35	SENE						900	5	160			12/31/9999	799072	
PAUL, RAY	Domestic	04N	01W	35	SESE		3392 JACKIE LANE				50	39	130	-125	6	3/13/2000	763462	D0012812
ADA COUNTY HIGHWAY DISTRICT	Domestic	04N	01W	35	SESESE		1860 W USTICK RD					5	173		4	6/12/2009	856796	
SHAFFER, JOHN	Domestic	04N	01W	35	SESW		2800 W USTICK				25	6	80	73	6	5/25/1993	726807	
WOODS, JERRY	Domestic	04N	01W	35	SESW						0	1	83			6/3/1976	792597	
MABE, ALLEN R	Domestic	04N	01W	35	SWSE						9999	22	78			3/24/1960	803172	
HOHREIN, ED	Domestic	04N	01W	35	SWSW						20	6	97	96	6	8/15/1984	722139	
NEFF, ALVIN	Domestic	04N	01W	35	SWSW						9999	7	190			2/26/1964	803177	
MILLER, FRANK	Domestic	04N	01W	35	SWSW						9999	6	212			8/28/1965	803176	
CADA, D WAYNE	Domestic	04N	01W	36	NENE						75	45	142			10/15/1979	781223	
RELYEA, RUSSELL	Domestic	04N	01W	36	NENE						0	40	190			8/17/1977	792599	
HEARTLAND HOMES LLC	Irrigation	04N	01W	36	NENE		MC MILLAN & MERIDIAN RD					16	205		16	4/18/1992	725387	
HEARTLAND HOMES LLC	Irrigation	04N	01W	36	NENE		MC MILLAN & MERIDIAN RD					16	205		16	9/5/2006	842938	
HAL & MURDOCK DEVELOPMENT	Domestic	04N	01W	36	NENE		505 W MC MILLAN RD		36	4		20	ab		6	2/24/2004	810920	
SPIELMANN, ALFRED E	Domestic	04N	01W	36	NESE						20	3	203			3/7/1969	798985	
SALMAN, WAYNE E	Domestic	04N	01W	36	NESW						0	3	87			6/23/1973	792600	
SMITH, TOMMY D		04N	01W	36	NWNW						0	0	0				723982	
PHILLIPS, AL	Domestic	04N	01W	36	NWNW		1295 W MC MILLAN					17	0		3	8/9/2005	835396	
CTB DEVELOPMENT	Domestic	04N	01W	36	NWNW		450 LINDER RD					32	64		6	6/20/2006	840569	
PETERSON	Domestic	04N	01W	36	NWNW						40	10	105			11/20/1971	798986	
CARPENTER, D L	Domestic	04N	01W	36	NWNW						750	5	110			11/12/1969	798988	
SMITH, TOMMY D	Domestic	04N	01W	36	NWNW						40	15	122	116	6	7/31/1990	723983	
PRICE, D J	Domestic	04N	01W	36	NWNW						900	3	160			7/30/1969	799065	
DEVCO INC	Domestic	04N	01W	36	NWSE						20	4	57			10/3/1975	799068	
DEVCO INC	Domestic	04N	01W	36	NWSE						20	4	64			10/2/1975	799067	
GEILE, PAMELA N, GEILE, RANDALL T	Domestic	04N	01W	36	NWSENE		4399 N MERIDIAN RD				50	15	143	145	8	9/29/1992	725052	
GEILE, PAMELA N, GEILE, RANDALL T	Domestic	04N	01W	36	NWSENE		4399 N MERIDIAN RD				50	15	143	145	8	1/20/2010	858423	D0056098
OTTER, JOHN V	Irrigation	04N	01W	36	SESE						0	0	153				722861	
CITY OF MERIDIAN	Municipal	04N	01W	36	SESE		180 WEST USTICK RD NW CORNER OF MERIDIAN & USTICK RDS				1684	6	440		24	10/29/2004	816540	D0031609
CITY OF MERIDIAN	Municipal	04N	01W	36	SESE		180 WEST USTICK RD NW CORNER OF MERIDIAN & USTICK RDS				1684	6	440		24	1/19/2012	861731	D0060106
LIBERTY DEVELOPMENT	Domestic	04N	01W	36	SESW		840 W USTICK RD					8	90		6	4/13/2006	839150	
SALEEN, MERRILL ROBERT	Domestic	04N	01W	36	SESW						100	Above Ground Level	115	100	6	9/10/1992	726193	
COOK, DAVID	Domestic	04N	01W	36	SW						3	0	85			7/26/1971	798984	
LITZ, GRACE R	Domestic	04N	01W	36	SWSE		870 E USTICK RD				60	4	115	110	6	5/8/2002	776858	D0019847
VOSTREZ, LEON	Domestic	04N	01W	36	SWSE						150	18	130			9/25/1975	799070	
CITY OF MERIDIAN	Municipal	04N	01W	36	SWSESE		3245 N MERIDIAN RD				0	0	625			9/30/1998	732373	D0007496
CITY OF MERIDIAN	Exploration	04N	01W	36	SWSESE		USTICK & MERIDIAN ROAD				0	Above Ground Level	1012	98	8	11/28/1997	731715	D0001495
DE GRAAFF, MIKE	Domestic	04N	01W	36	SWSESW						35	2	83			5/29/1987	779542	
RICHARDS, DICK	Domestic	04N	01W	36	SWSESW		1058 W USTICK RD				100	4	165	152	6	7/16/2005	834726	D0039374
SALEEN, MERRILL E	Domestic	04N	01W	36	SWSW						0	0	0				725964	
COOPER, DALE, WANNER, LISA	Domestic	04N	01W	36	SWSW		1030 W USTICK				0	7	62		6	6/25/1973	792601	
COOPER, DALE, WANNER, LISA	Domestic	04N	01W	36	SWSW		1030 W USTICK				0	7	62		6	3/24/2006	838932	
MERIDIAN JOINT SCHOOL DISTRICT #2	Domestic	04N	01W	36	SWSW		1/4 MILE NORTH OF USTICK EAST SIDE OF LINDER					4	ab	0	6	3/26/2003	796874	
BRINEGAR, E E "BUD"	Domestic	04N	01W	36	SWSWSE		650 W USTICK RD				100	10	123	110	6	6/24/2009	856851	D0055788

APPENDICES

Appendix A.

Well Driller's Reports from within the Proposed West Ada Area of Drilling Concern that were Drilled and Constructed after the July 2010 Implementation of the Revised State Drilling Rules

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Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0067342

Drilling Permit No. 9666841-872900

Water right or injection well #

2. OWNER:

Name Larry White

Address 2741 S. Goshen Way

City Boise State ID Zip 83709

3. WELL LOCATION:

Twp. 2 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 4 ___ 1/4 (10 acres) NE 1/4 (40 acres) SW 1/4 (160 acres)

Gov't Lot ___ County Ada

Lat. 43 ° 32.319 (Deg. and Decimal minutes)

Long. 116 ° 20.730 (Deg. and Decimal minutes)

Address of Well Site 3804 Vantage Point Ln.

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot ___ Blk. ___ Sub. Name ___

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4bentonite	0	47	1550lbs	overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	314	.250	steel	☒	☐	☐	☒
5"	311	316	.258	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 314ft

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method

Manufactured screen ☒ Y ☐ N Type johnson

Method of installation wash in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
316	321	.020	---	5"	stainless	

Length of Headpipe 5ft Length of Tailpipe -----

Packer ☒ Y ☐ N Type double wiper

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 145 Static water level (ft) 145

Water temp. (°F) 58degF Bottom hole temp. (°F)

Describe access port well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
	75gpm	90minutes	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	1	top soil		X
"	1	5	hard tan clay		X
"	5	33	gravel and sand		X
"	33	47	tan clay		X
6"	47	58	coarse sand 11'		X
"	58	67	tan clay 9'		X
"	67	90	coarse sand 23'		X
"	90	110	sandy clay 20'		X
"	110	138	gravel and sand 28'		X
"	138	145	sandy clay 7'		X
"	145	205	coarse sand 60'	X	
"	205	215	gravel and sand 10'	X	
"	215	245	coarse sand 30'	X	
"	245	257	gravel and sand 12'	X	
"	257	311	sand 54'	X	
"	311	314	tan clay 3'		
"	314	321	coarse sand and gravel 7'	X	

RECEIVED
AUG 11 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 321ft

Date Started: Jul 31, 2014 Date Completed: Aug 4, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller [signature] Date Aug 5, 2014

*Driller [signature] Date Aug 5, 2014

*Operator II Date

Operator I Date

* Signature of Principal Driller and rig operator are required.

267 ft (85%) of casing is unsealed. 85% of well unsealed.

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Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0067274

Drilling Permit No. 966314-872373

Water right or injection well # 63-33320

2. OWNER:

Name City of Meridian

Address 33 E. Broadway Ave

City Meridian State Id. Zip 83642

3.WELL LOCATION:

Twp. 2 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 5 ____ 1/4 (10 acres) N.E. 1/4 (40 acres) N.W. 1/4 (160 acres)

Gov't Lot ____ County Ada

Lat. 43 ° 32.769 (Deg. and Decimal minutes)

Long. 116 ° 21.950 (Deg. and Decimal minutes)

Address of Well Site Lake Hazel Rd, 3000 feet west of Eagle Rd.

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. ____ Blk. ____ Sub. Name ____

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other ____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other ____

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bentonite chips	0'	29'		Poured
Bentonite-ceme	29'	295'	6 yards	Pumped

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
10"	+2'	32'	.365	Steel	☒	☐	☐	☒
10"	32'	332'	sdr 17	PVC Certa-l	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method ____

Manufactured screen ☒ Y ☐ N Type ____

Method of installation Lowered

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
332'	412'	.030		10"	Stainless	

Length of Headpipe 0' Length of Tailpipe 0'

Packer ☐ Y ☒ N Type ____

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
8-12 sand	295'	424'	80 cubic ft.	Poured

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) ____

Describe control device ____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 140 Static water level (ft) 12'6"

Water temp. (°F) ____ Bottom hole temp. (°F) ____

Describe access port ____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
36.6	700	480

Test method:

Pump	Bailer	Air	Flowing artesian
☒	☐	☐	☐
☐	☐	☐	☐

Water quality test or comments: ____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
16"	0'	3'	Topsoil		X
	3'	8'	Clay hard pan		X
	8'	24'	Cemented sand' gravel & bolders		X
	24'	38'	Cemented sand		X
	38'	40'	Tan sandy clay		X
	40'	58'	Brown/orange sand with clay		X
	58'	117'	Medium white sand		X
	117'	140'	Fine cemented sand		X
	140'	170	Sand	X	
	170'	250'	Fine cemented sand	X	
	250'	287'	Medium sand	X	
	287'	304'	Medium to course sand	X	
	304'	306'	Clay 2'		X
	306'	326'	Medium sand 20'	X	
	326'	346'	Cemented sand 20'	X	
	346'	412'	Sand 66'	X	
	412'	418'	Cemented sand 6'	X	
	418'	425'	Blue clay 7'		X

RECEIVED
AUG 11 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 412'

Date Started: Jun 30, 2014 Date Completed: Jul 25, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Stevens & Sons Co. No. 153

*Principal Driller [signature] Date 8-5-14

*Driller [signature] Date 8/7/14

*Operator II ____ Date ____

Operator I John Konczos - rig helper Date ____

* Signature of Principal Driller and rig operator are required.

37 ft (11%) of casing unsealed. Seal ends in sand at 295 ft bgl. Casing ends in sand at 332 ft bgl.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0066198

Drilling Permit No. 965416-871475

Water right or injection well # _____

2. OWNER:

Name Aaron Raap

Address 6519 S Raap Ranch Lane

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 2 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 5 ____ (10 acres) 1/4 NW (40 acres) 1/4 NE (160 acres) 1/4

Gov't Lot _____ County Ada

Lat. 43 ° 32.702 (Deg. and Decimal minutes)

Long. 116 ° 21.684 (Deg. and Decimal minutes)

Address of Well Site 6519 S Raap Ranch Lane

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8 bentonite	0	5	250	poured
grout	5	38	750	tremie

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6-in	+2	324	.250	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) _____

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type johnson

Method of installation blown in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
326	331	.25	5 ft	5 in	stainless	

Length of Headpipe 5 ft Length of Tailpipe none

Packer ☒ Y ☐ N Type double k packer

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 137 Static water level (ft) 121

Water temp. (°F) 57 Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
	100	120	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10	0	1	topsoil		x
10	1	34	sand/gravel		x
10	34	36	clay/sand		x
10	36	38	sandy clay		x
6	38	137	sandy clay 99'		x
6	137	141	clay 4'	x	
6	141	157	sand 16'		x
6	157	159	tan clay 2'		x
6	159	168	sand 9'	x	
6	168	171	tan clay 3'		x
6	171	211	sandy clay 40'		x
6	211	228	tan clay 17'		x
6	228	236	sand 8'	x	
6	236	254	sandy clay 18'		x
6	254	262	gravel sand clay 8'		x
6	262	287	clay 35'		x
6	287	298	sand/clay 11'		x
6	298	321	gravel sand clay 23'		x
6	321	325	grey clay 4'		x
6	325	331	sand 6'	x	

RECEIVED
APR 21 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 331

Date Started: Mar 31, 2014 Date Completed: Apr 9, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller [signature] Date Apr 17, 2014

*Driller [signature] Date Apr 17, 2014

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

286 ft (88%) of casing unsealed. Sediment color change at 321 ft bgl with no seal.

Form 238-7
6/02

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Well ID No. _____
Inspected by _____
Twp_____ Rge_____ Sec_____
_____1/4 _____1/4 _____1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0064181
DRILLING PERMIT NO. 912344-868403
Water Right or Injection Well No. 63-33658

2. OWNER
Name Julius M Kleiner Memorial Park Trust
Address 217 W Georgia Ave Ste. 100
City Nampa State ID Zip 83686

3. LOCATION OF WELL by legal description:
You must provide address or Lot, Blk, Sub. or Directions to well.
Twp. 3 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 4 _____ 1/4 (10 acres) SE 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot _____ County Ada
Lat: : : Long: : :
Address of Well Site East Elden Gray Street
east of Records Way City Meridian
(Give at least name of road + Distance to Road or Landmark)
Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD:
☐ Air Rotary ☐ Cable ☒ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume		Seal Placement Method
Bent Chips	0'	71'	4250	lbs	poured & tagged
Bent Chips	126'	143'	1700	lbs	poured & tagged

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) n/a
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
10"	+2'	85'	.365	steel	☒	☐	☒	☐
10"	105	116	.365	steel	☒	☐	☒	☐
					☐	☐	☐	☐

Length of Headpipe casing Length of Tailpipe 0
Packer ☐ Y ☒ N Type n/a

9. PERFORATIONS/SCREENS PACKER TYPE
Perforation Method _____
Screen Type & Method of Installation Vwire free flow/setin w/casingstring

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
85'	105'	.025		10"	st st	☐	☐
116'	126'	.025		10"	st st	☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight/Volume		Placement Method
8-12 sand	71'	126'	56	cu/ft	pour from surface

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
25 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

12. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
430	23	48	4 hrs.

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encounter 46'

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
18"	0'	2'	brown top soil		X
18"	2'	4'	brown clay		X
18"	4'	27'	brown gravel		X
18"	27'	46'	brown clay		X
18"	46'	54'	brown sand & gravel	X	
18"	54'	61'	brown clay		X
18"	61'	89'	brown sand & gravel	X	
18"	89'	91'	brown sandy clay 2'		X
18"	91'	98'	brown sand & gravel 7'	X	
18"	98'	108	brown sand fine 10'	X	
18"	108	114	brown sand & clay strips 6'	X	
18"	114	127	brown sand fine 13'	X	
18"	127	130	brown clay 3'		X
18"	130	143	brown sand & clay strips 13'	X	

RECEIVED
JUN 05 2013
WATER RESOURCES
WESTERN REGION

Completed Depth 143 (Measurable)
Date: Started 5-10-13 Completed 5-20-13

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Down Right Drilling & Pump, Inc Firm No. 637
Principal Driller Damp Bunyung Date 5-30-13
and
Driller or Operator II _____ Date _____
Operator I Mike Kimpton Date _____
Principal Driller and Rig Operator *Required.*
Operator I must have signature of Driller/Operator II.

They did abandon lower bore. 14 ft (16%) of upper casing unsealed. Casing ends in sand at 85 ft bgl. Seal ends in sand/gravel at 71 ft bgl.

3

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D D0066378

Drilling Permit No. 96b264-872323

Water right or injection well # _____

2. OWNER:

Name Donald Huffman

Address 4035 E. Meadow Wood Dr.

City Meridian State Idaho Zip 83646

3.WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 4 ____ 10 acres ____ 1/4 NW 40 acres ____ 1/4 SE 160 acres ____ 1/4

Gov't Lot _____ County Ada

Lat. 43 ° 37.447'N (Deg. and Decimal minutes)

Long. 116 ° 20.637'W (Deg. and Decimal minutes)

Address of Well Site Same

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☐ New well ☒ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8" Bentonite	0	43	1250 lbs.	10" Overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	1	87	.250	Steel	☒	☐	☐	☒
5"	85	89	.258	Steel	☐	☒	☒	☐
5"	99	100	.258	Steel	☐	☒	☒	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 87'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation Pullback

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
89	99	.020	10'	5"	Stainless	304

Length of Headpipe 4' Length of Tailpipe 1'

Packer ☒ Y ☐ N Type Rubber K-Packer

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
N/A				

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) _____ Static water level (ft) 29'

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
85'	50 GPM	1 HR.

Test method:

Pump	Bailer	Air	Flowing artesian
☐	☐	☒	☐
☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
	2	7	Hard Pan		X
	7	19	Gravel		X
	19	43	Brown Clay		X
6"	43	48	Gravel w/ Clay	X	
	48	60	Sandy Brown Clay		X
	60	84	Sand w/ Gravel	X	
	84	88	Brown Clay		X
	88	100	Sand w/ Gravel 12'	X	

RECEIVED
JUN 23 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 100'

Date Started: Jun 17, 2014 Date Completed: Jun 17, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Dennis Phipps Well Drilling In Co. No. 332

*Principal Driller _____ Date Jun 18, 2014

*Driller _____ Date _____

*Operator II _____ Date Jun 18, 2014

Operator I _____ Date Jun 18, 2014

*** Signature of Principal Driller and rig operator are required.**

44 ft (51%) of casing unsealed. 57% of well unsealed. Depth of first water encountered not reported and static water level does not agree with water log.

63

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0067446

Drilling Permit No. 967331-873390

Water right or injection well #

2. OWNER: Johnatan Shingler

Name

Address 12231 W. Clover ~~dale~~ Meadows Dr

City Boise State Ida Zip 83713

3.WELL LOCATION:

Twp. 3 North ☑ or South ☐ Rge. 1 East ☑ or West ☐

Sec. 4 NE 1/4 (10 acres) SE 1/4 (40 acres) ____ 1/4 (160 acres)

Gov't Lot ____ County Ada

Lat. N 43° 37 492 (Deg. and Decimal minutes)

Long. W 116° 20 19 (Deg. and Decimal minutes)

Address of Well Site Same as above

(Give at least name of road + Distance to Road or Landmark) City

Lot. ____ Blk. ____ Sub. Name

4. USE:
☑ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:
☐ New well ☐ Replacement well ☑ Modify existing well Deepened
☐ Abandonment ☐ Other

6. DRILL METHOD:
☐ Air Rotary ☐ Mud Rotary ☑ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Betonite	0	?	150 lds	Poured in around pipe

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6	50'	110'	250	Steal	☑	☐	☐	☑
5"	110'	112'	188	Steal	☐	☑	☐	☑
5"	117'	119'	188	Steal	☐	☑	☐	☑
					☐	☐	☐	☐

Was drive shoe used? ☑ Y ☐ N Shoe Depth(s) 110'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method

Manufactured screen ☑ Y ☐ N Type Johanson

Method of installation Bailed in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
112	117	25		5"	S.Steal	

Length of Headpipe 11' Length of Tailpipe 2'

Packer ☑ Y ☐ N Type Figure K

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☑ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 30' Static water level (ft) 30'

Water temp. (°F) 53° Bottom hole temp. (°F) 53°

Describe access port

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
Air	50GPM	90min.
10'	30GPM	3½days

Test method: Pump ☑ Bailer ☐ Air ☑ Flowing artesian ☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
6"	50'	58'	Muddy Sand 8'	✓	
	58'	63'	Sand Some Gravel 5'	✓	
	63'	67'	Sandy Brown Clay 4'		✓
	67'	74'	Muddy Brown Sand 7'	✓	
	74'	85'	Sand Some Gravel 11'	✓	
	85'	95'	Muddy Light Brown Sand 10'	✓	
6	95'	119'	Course Sand Some Gravel 24'	✓	

RECEIVED
OCT 29 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 117'

Date Started: 9/5/14 Date Completed: 9/12/14

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Boise Valley Pump & Drilling Co. No. 207

*Principal Driller Ron Murphy Date 10/29/14

*Driller Gary R. Fulton Date 10/29/14

*Operator II Gary R. Fulton Date 10/29/14

Operator I Mike P. Murphy Date 10/29/14

* Signature of Principal Driller and rig operator are required.

No indication of what was sealed.

63

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

RECEIVED
FEB 10 2014
WATER RESOURCES
WESTERN REGION

1. WELL TAG NO. D 0066087
Drilling Permit No. 965029-871088
Water right or injection well #

2. OWNER:
Name Syringa Construction LLC
Address 1782 E. State Street
City Eagle State ID Zip 83616

3. WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 6 ___ 1/4 (10 acres) SE 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot ___ County Ada
Lat 43 ° 37.346 (Deg. and Decimal minutes)
Long. 116 ° 22.528 (Deg. and Decimal minutes)
Address of Well Site N Anacortes Ln. last lot on the west side
(Give at least name of road + Distance to Road or Landmark) City Eagle
Lot. ___ Blk. ___ Sub. Name ___

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:
☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8 bentonite	0	45	1440lbs	dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	154	.250	steel	☒	☐	☐	☒
5"	151	156	.258	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 154ft

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type johnson
Method of installation wash-in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
156	161	.020	---	5"	stainless	

Length of Headpipe 5ft Length of Tailpipe ---
Packer ☒ Y ☐ N Type double wiper

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 54ft Static water level (ft) 54ft
Water temp. (°F) 57degF Bottom hole temp. (°F)
Describe access port well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
	60GPM	90minutes	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	top soil		X
"	2	18	sandy brown clay		X
"	18	36	sandy tan clay		X
"	36	45	gravel and sand		X
6"	45	60	gravel and sand 15'	X	
"	60	69	coarse sand and some gravel 9'	X	
"	69	72	tan clay 3'		X
"	72	79	tan sand 7'	X	
"	79	84	sandy clay 5'		X
"	84	88	sand 4'	X	
"	88	92	tan clay 4'		X
"	92	99	sand 7'	X	
"	99	102	tan clay 3'		X
"	102	114	sand 12'	X	
"	114	116	sandy clay 2'		X
"	116	123	sand 7'	X	
"	123	138	tan clay 15'		X
"	138	148	tan sand 10'	X	
"	148	150	tan clay 2'		X
"	150	152	tan sand 2'	X	
"	152	154	tan clay 2'		X
"	154	161	tan sand 7'	X	

Completed Depth (Measurable): 161ft
Date Started: Jan 31, 2014 Date Completed: Feb 4, 2014

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409
*Principal Driller [signature] Date Feb 6, 2014
*Driller [signature] Date Feb 6, 2014
*Operator II Date
Operator I Date

* Signature of Principal Driller and rig operator are required.

The bentonite chip seal ends in the middle of a gravel section at 45 feet. With multiple sections of clay (36 feet total) bypassed, this well comingles 116 feet of section. 116 feet of the casing is unsealed (72% of the casing).

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

RECEIVED
NOV 22 2013
WATER RESOURCES
WESTERN REGION

1. WELL TAG NO. D 0020823 ✓ **Page 1 of 3**

Drilling Permit No. Permit #870111 Well #436253

Water right or injection well # 63-12039 and 63-31858

2. OWNER

Name City of Meridian Supply Well #16-B

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North ☒ or South ☐ Rge. 01 East ☒ or West ☐

Sec. 08 NE (10 acres) 1/4 SW (40 acres) 1/4 NE (160 acres) 1/4

Gov't Lot N/A County Ada

Lat. 43 ° 36.916' North (Deg. and Decimal minutes)

Long. 116 ° 21.611' West (Deg. and Decimal minutes)

Address of Well Site 1100 North Hickory Avenue

1,400 feet west of Eagle Road City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lot. N/A Blk. N/A Sub. Name Parcel #1213

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☒ Other Auger drilled to 7 ft bgl

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Neat cement	0'	21'	46.8 ft³	pumped through tremie
3/4" bent. chip	21'	23'	7.0 ft³	pour and tag into place

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
18"	+1'	23'	0.375"	Steel	☒	☐	☐	☒
12"	+1'	180'	SDR17	Splined PVC	☒	☐	☐	☐
				"O"-ring sealed	☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) PVC thickened "shoe"

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method Welded vee-wire screens

Manufactured screen ☒ Y ☐ N Type Johnson "Hi-Flow" stainless steel

Method of installation Lowered, centralized and enveloped with filter sand

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
174'	179'	0.025"	105/ft	8-inch	stainless steel	Sch. 40
179'	194'	0.035"	97/ft	8-inch	stainless steel	Sch. 40
						"see page two"

Length of Headpipe 6 feet Length of Tailpipe No tailpipe

Packer ☒ Y ☐ N Type Removable 8" w/ two 3-lip Figure "K" packers

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#8-#16 sand	174'	224'	27.0 ft³	Pour and tag into place
				"Birdseed" brand

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) 70.6 PSI (163 ft. H20)

Describe control device 12" Baker Mfg. Industrial Pitless Unit with 6" Discharge

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) Mud drill Static water level (ft) 16.9 feet bgl

Water temp. (°F) 56.0 °F Bottom hole temp. (°F) Not measured

Describe access port Lockable Baker Mfg. 14" water-tight well cap on order

Well test: Test method:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
63.3 feet	795 gpm	7,200 min.	☒	☐	☐	☐
Constant-	Discharge Testi	ng	Sand free, odorless, very minor degassing, tastes good, ph=7.3			
11-13-2013	through 11-18-	2013				

Water Quality test or comments: Cond.=479 uS; ORP=+266 mV; DO=7.3 mg/L

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
30"	0'	2'	Gravel backfill and topsoil		X
30"	2'	4'	Sandy hard clay with gravel		X
30"	4'	6'	Strongly cemented cobbles (caliche, hardpan)		X
30"	6'	7'	Gravel up to 1-inch and cobbles		X
23"	7'	20'	Gravel up to 1-inch and cobbles	n/a	n/a
23"	20'	23'	Sandy tacky light yellowish brown-colored clay		
23"	23'	27'	Sandy tacky light yellowish brown-colored clay		
17"	27'		Interbedded sandy tacky light yellowish brown		
17"		39'	-colored clay / lenses of medium-grained sand		
17"	39'		Medium-to-very coarse-grained pale yellow		
17"		52'	-colored sand with minor gravel up to 1/2-inch		
17"	52'	66'	Medium-grained pale yellow-color clayey sand		
17"	66'		Medium-to-very coarse-grained pale yellow		
17"		88'	-colored sand with minor gravel up to 1/2-inch		
17"	88'		Medium-to-very coarse-grained pale yellow		
17"		104'	sand with moderate amount of gravel up to 1"		
17"	104'	110'	Pale yellow-colored sandy sticky clay		
17"	110'		Pale yellow medium-to-very-coarse grained		
17"		120'	sand with moderate amount of gravel up to 1"		
17"	120'		Pale yellow medium-to-very coarse-grained		
17"		130'	sand with large amount of gravel up to 1"		
17"	130'		Pale yellow medium-to-very coarse-grained		
17"		167'	sand with moderate amount of gravel up to 1"		
17"	167'	180'	Sticky pale olive-colored clay		
11"	180'	183'	Sticky pale olive-colored clay		
11"	183'		Medium-to-very-coarse grained pale yellow		
11"		199'	sand with moderate amount of gravel up to 1/2"		
11"	199'	202'	Pale olive-colored sandy sticky clay		
11"	202'		Medium-to-very coarse-grained pale yellow		
11"		224'	sand with moderate amount of gravel up to 3/4"		

=mud filled bore during drilling

Completed Depth (Measurable) 224 feet below ground

Date: Started October 14, 2013 Completed November 18, 2013

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 11-25-2013

*Driller Greg Mitchell Date 11-25-2013

*Operator II Date

Operator I Cody Post Date 11-25-2013

* Signature of Principal Driller and rig operator are required.

100% of casing other than screened intervals is grout sealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0020823

Drilling Permit No. Permit #870111 Well #436253

Water right or injection well # 63-12039 and 63-31858

2. OWNER

Name City of Meridian Supply Well #16-B

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North ☒ or South ☐ Rge. 01 East ☒ or West ☐

Sec. 08 NE (10 acres) 1/4 SW (40 acres) 1/4 NE (160 acres) 1/4

Gov't Lot N/A County Ada

Lat. 43 ° 36.916' North (Deg. and Decimal minutes)

Long. 116 ° 21.611' West (Deg. and Decimal minutes)

Address of Well Site 1100 North Hickory Avenue

1,400 feet west of Eagle Road City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lot. N/A Blk. N/A Sub. Name Parcel #1213

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☒ Other Auger drilled to 7 ft bgl

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4" bent. chip	0'	7'	2.8 ft³	pour and tag into place
Neat cement	7'	178'	127.0 ft³	pumped through tremie

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
18"	+1'	23'	0.375"	Steel	☒	☐	☐	☒
12"	+1'	180'	SDR17	Splined PVC	☒	☐	☐	☒
				"O"-ring sealed	☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) PVC thickened "shoe"

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method Welded vee-wire screens

Manufactured screen ☒ Y ☐ N Type Johnson "Hi-Flow" stainless steel

Method of Installation Lowered, centralized and enveloped with filter sand

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
					"continued	from page one"
194'	209'	0.035"	97/ft	8-inch	stainless steel	Sch. 40
209'	224'	0.035"	97/ft	8-inch	stainless steel	Sch. 40

Length of Headpipe 6 feet Length of Tailpipe No tailpipe

Packer ☒ Y ☐ N Type Removable 8" w/ two 3-lip Figure "K" packers

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#8-#16 sand	174'	224'	27.0 ft³	Pour and tag into place
				"Birdseed" brand

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) 70.6 PSI (163 ft. H20)

Describe control device 12" Baker Mfg. Industrial Pitless Unit with 6" Discharge

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) Mud drill Static water level (ft) 16.9 feet bgl

Water temp. (°F) 56.0 °F Bottom hole temp. (°F) Not measured

Describe access port Lockable Baker Mfg. 14" water-tight well cap on order

Well test: Test method:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
63.3 feet	795 gpm	7,200 min.	☒	☐	☐	☐
Constant-	Discharge Testi	ng	Sand free, odorless, very minor degassing, tastes good, ph=7.3			
11-13-2013	through 11-18-	2013				

Water Quality test or comments: Cond.=479 uS; ORP=+266 mV; DO=7.3 mg/L

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
			Grout Seal: -Neat cement grout was mixed at a rate of 6 gallons of water to 94-pounds of Portland Type I/II cement. -Depth verified by tagging through annulus and also compared volumetrically by calculation with nominal borehole size and volume of material removed during drilling of the borehole. -Grout pumped under pressure from the bottom-up.		
			Grout Seals and Bentonite Chip Seals: -Depths verified by tagging through tremie and also calculated from the caliper log of the borehole. -Volumes determined by calculation from the caliper log of the borehole and depths verified by tagging. -All grout pumped under pressure from the bottom-up.		
			In addition to our onsite observations of the cuttings and rig behavior, this log also had the benefit of an on-site geologist during sampling and borehole geophysical logs, both of which were helpful to develop the best record possible of the drilled section. - George Post		

Completed Depth (Measurable) 224 feet below ground

Date: Started October 14, 2013 Completed November 18, 2013

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 11-25-2013

*Driller Greg Mitchell Date 11-25-2013

*Operator II Date

Operator Cody Post Date 11-25-2013

*Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

100% of casing other than screened intervals is grout sealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0020823

Drilling Permit No. Permit #870111 Well #436253

Water right or injection well # 63-12039 and 63-31858

2. OWNER

Name City of Meridian Supply Well #16-B

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North ☒ or South ☐ Rge. 01 East ☒ or West ☐

Sec. 08 NE (10 acres) 1/4 SW (40 acres) 1/4 NE (160 acres) 1/4

Gov't Lot N/A County Ada

Lat. 43° 36.916' North (Deg. and Decimal minutes)

Long. 116° 21.611' West (Deg. and Decimal minutes)

Address of Well Site 1100 North Hickory Avenue

1,400 feet west of Eagle Road City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lot. N/A Blk. N/A Sub. Name Parcel #1213

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☒ Other Auger drilled to 7 ft bgl

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4" bent. chip	178'	180'	2.8 ft³	pour and tag into place

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
18"	+1'	23'	0.375"	Steel	☒	☐	☐	☒
12"	+1'	180'	SDR17	Splined PVC	☒	☐	☐	☒
				"O"-ring sealed	☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) PVC thickened "shoe"

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method Welded vee-wire screens

Manufactured screen ☒ Y ☐ N Type Johnson "Hi-Flow" stainless steel

Method of Installation Lowered, centralized and enveloped with filter sand

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe 6 feet Length of Tailpipe No tailpipe

Packer ☒ Y ☐ N Type Removable 8" w/ two 3-lip Figure "K" packers

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#8-#16 sand	174'	224'	27.0 ft³	Pour and tag into place
				"Birdseed" brand

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) 70.6 PSI (163 ft. H20)

Describe control device 12" Baker Mfg. Industrial Pitless Unit with 6" Discharge

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) Mud drill Static water level (ft) 16.9 feet bgl

Water temp. (°F) 56.0 °F Bottom hole temp. (°F) Not measured

Describe access port Lockable Baker Mfg. 14" water-tight well cap on order

Well test:

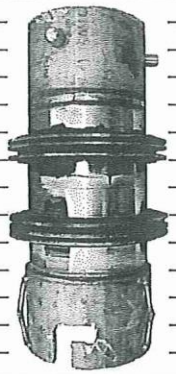
Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
63.3 feet	795 gpm	7,200 min.
Constant-	Discharge Testi	ng
11-13-2013	through 11-18-	2013

Test method: Pump ☒ Bailer ☐ Air ☐ Flowing artesian ☐

Sand free, odorless, very minor degassing, tastes good, ph=7.3

Water Quality test or comments: Cond.=479 uS; ORP=+266 mV; DO=7.3 mg/L

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
			ALL STAINLESS STEEL PACKER-REDUCER:		
			- total length = 2.0 feet		
			- 8" barrel = 1.5 feet		
			- two 3-lip Figure "K" neoprene packers		
			- top of packer assembly = 172 feet bgl		
			- overshot with three "L"-shaped slots that turn		
			on clockwise over the three 1" pins on headpipe		
			- turn packer counter-clockwise to remove		
					
			ON-SITE HYDROGEOLOGIST:		
			Kurt Newbry, Hydro Logic, Inc. - Boise, ID		
			PROJECT HYDROGEOLOGIST:		
			Ed Squires, RPG, Hydro Logic, Inc. - Boise, ID		
			PROJECT ENGINEER:		
			Kyle Radek, P.E., City - Meridian, ID		
			AUGER BORE BY:		
			Post Drilling Incorporated - Weiser, ID		
			DRILLING AND PUMP CONTRACTOR:		
			Post Drilling Incorporated - Weiser, ID		

Completed Depth (Measurable) 224 feet below ground

Date: Started October 14, 2013 Completed November 18, 2013

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 11-25-2013

*Driller Greg Mitchell Date 11-25-2013

*Operator II Date

Operator I Cody Post Date 11-25-2013

*Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

100% of casing other than screened intervals is grout sealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064867

Drilling Permit No. Permit #964168 Well #870227

Water right or injection well # 63-12039 and 63-31858

2. OWNER

Name City of Meridian Supply Well #16-C

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North [X] or South [ ] Rge. 01 East [X] or West [ ]

Sec. 08 NE 1/4 (10 acres) SW 1/4 (40 acres) NE 1/4 (160 acres)

Gov't Lot N/A County Ada

Lat. 43 ° 36.916' North (Deg. and Decimal minutes)

Long. 116 ° 21.611' West (Deg. and Decimal minutes)

Address of Well Site 1100 North Hickory Avenue

1,400 feet west of Eagle Road City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lot. N/A Blk. N/A Sub. Name Parcel #1213

4. USE:

[ ] Domestic [X] Municipal [ ] Monitor [ ] Irrigation [ ] Thermal [ ] Injection
[ ] Other

5. TYPE OF WORK check all that apply (Replacement etc.)

[X] New Well [X] Replacement well [ ] Modify existing well
[ ] Abandonment [ ] Other

6. DRILL METHOD:

[ ] Air Rotary [X] Mud Rotary [ ] Cable [X] Other Auger drilled to 7 ft bgl

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Neat cement	0'	23'	45.9 ft³	pumped through tremie
3/4" bent. chip	23'	25'	5.6 ft³	pour and tag into place

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
18"	+1'	25'	0.375"	Steel	[X]	[ ]	[ ]	[X]
12"	+1'	108'	SDR17	Splined PVC	[X]	[ ]	[ ]	[ ]
				"O"-ring sealed	[ ]	[ ]	[ ]	[ ]

Was drive shoe used? [X] Y [ ] N Shoe Depth(s) PVC thickened "shoe"

9. PERFORATIONS/SCREENS:

Perforations [ ] Y [X] N Method Welded vee-wire screens

Manufactured screen [X] Y [ ] N Type Johnson "Hi-Flow" stainless steel

Method of installation Lowered, centralized and enveloped with filter sand

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
102'	107'	0.025"	105 / foot	8-inch	stainless steel	Sch. 40
107'	117'	0.025"	105 / foot	8-inch	stainless steel	Sch. 40
117'	127'	0.040"	93 / foot	8-inch	stainless steel	Sch. 40

Length of Headpipe 6 feet Length of Tailpipe No tailpipe

Packer [X] Y [ ] N Type Removable 8" w/ two 3-lip Figure "K" packers

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#6-#12 sand	102'	155'	23.8 ft³	Pour and tag into place
#8-#16 sand	155'	167'	6.0 ft³	"Birdseed" brand

11. FLOWING ARTESIAN:

Flowing Artesian? [ ] Y [X] N Artesian Pressure (PSIG) 40.3 PSI (93 ft. water)

Describe control device 12" Baker Mfg. Industrial Pitless Unit with 6" Discharge

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) Mud drill Static water level (ft) 14.97 feet bgl

Water temp. (°F) 57.0 °F Bottom hole temp. (°F) Not measured

Describe access port Lockable Baker Mfg. 14" pitless unit with vent by City.

Well test: Test method:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
40.4 feet	900 gpm	10,100 min.	[X]	[ ]	[ ]	[ ]
Constant-Rate Discharge Testing						
12-30-2013	through 1-6-2014					

Sand free, odorless, very minor degassing, tastes good, ph=7.9

Water Quality test or comments: Cond.=435 uS; ORP=+115 mV; DO=4.7 mg/L

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
30"	0'	2'	Gravel backfill and topsoil		X
30"	2'	4'	Sandy hard clay with gravel		X
30"	4'	6'	Strongly cemented cobbles (caliche, hardpan)		X
30"	6'	7'	Sandy gravel up to 1-inch and cobbles		X
23"	7'	20'	Sandy gravel up to 1-inch and cobbles	n/a	n/a
23"	20'	23'	Sandy tacky light yellowish brown-colored clay		
23"	23'	27'	Sandy tacky light yellowish brown-colored clay		
17"	27'		Interbedded sandy tacky light yellowish brown		
17"		39'	-colored clay / lenses of medium-grained sand		
17"	39'		Medium-to-very coarse-grained pale yellow		
17"		52'	-colored sand with minor gravel up to 1/2-inch		
17"	52'	66'	Medium-grained pale yellow-color clayey sand		
17"	66'		Medium-to-very coarse-grained pale yellow		
17"		88'	-colored sand with minor gravel up to 1/2-inch		
17"	88'		Medium-to-very coarse-grained pale yellow		
17"		104'	sand with moderate amount of gravel up to 1"		
17"	104'	108'	Pale yellow-colored sandy sticky clay		
11"	108'	110'	Pale yellow-colored sandy sticky clay		
11"	110'		Pale yellow medium-to-very-coarse grained		
11"		120'	sand with moderate amount of gravel up to 1"		
11"	120'		Pale yellow medium-to-very coarse-grained		
11"		130'	sand with large amount of gravel up to 1"		
11"	130'		Pale yellow medium-to-very coarse-grained		
11"		167'	sand with moderate amount of gravel up to 1"		

=mud filled bore during drilling.

Field-measured geochemistry parameters by Hydro Logic, Inc. with calibrated YSI Pro Plus utilizing a closed loop system (flow cell).

Completed Depth (Measurable) 167 feet below ground

Date: Started November 20, 2013 Completed January 6, 2014

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 2-24-2014

*Driller Greg Mitchell Date 2-24-2014

*Operator II Date

Operator I Cody Post Date 2-24-2014

* Signature of Principal Driller and rig operator are required.

RECEIVED
FEB 24 2014

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100% of casing, other than screened intervals, is sealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064867 Page 2 of 3

Drilling Permit No. Permit #964168 Well #870227

Water right or injection well # 63-12039 and 63-31858

2. OWNER

Name City of Meridian Supply Well #16-C

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North ☒ or South ☐ Rge. 01 East ☒ or West ☐

Sec. 08 NE (10 acres) 1/4 SW (40 acres) 1/4 NE (160 acres) 1/4

Gov't Lot N/A County Ada

Lat. 43 ° 36.916' North (Deg. and Decimal minutes)

Long. 116 ° 21.611' West (Deg. and Decimal minutes)

Address of Well Site 1100 North Hickory Avenue

1,400 feet west of Eagle Road City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lot. N/A Blk. N/A Sub. Name Parcel #1213

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☒ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☒ Other Auger drilled to 7 ft bgl

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4" bent. chip	0'	7'	2.8 ft³	pour and tag into place
Neat cement	7'	105'	70.2 ft³	pumped through tremie

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
18"	+1'	25'	0.375"	Steel	☒	☐	☐	☒
12"	+1'	108'	SDR17	Splined PVC	☒	☐	☐	☒
				"O"-ring sealed	☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) PVC thickened "shoe"

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method Welded vee-wire screens

Manufactured screen ☒ Y ☐ N Type Johnson "Hi-Flow" stainless steel

Method of installation Lowered, centralized and enveloped with filter sand

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
127'	137'	0.040"	93 / foot	8-inch	stainless steel	Sch. 40
137'	147'	0.040"	93 / foot	8-inch	stainless steel	Sch. 40
147'	157'	0.040"	93 / foot	8-inch	stainless steel	Sch. 40

Length of Headpipe 6 feet Length of Tailpipe No tailpipe

Packer ☒ Y ☐ N Type Removable 8" w/ two 3-lip Figure "K" packers

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#6-#12 sand	102'	155'	23.8 ft³	Pour and tag into place
#8-#16 sand	155'	167'	6.0 ft³	"Birdseed" brand

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) 40.3 PSI (93 ft. water)

Describe control device 12" Baker Mfg. Industrial Pitless Unit with 6" Discharge

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) Mud drill Static water level (ft) 14.97 feet bgl

Water temp. (°F) 57.0 °F Bottom hole temp. (°F) Not measured

Describe access port Lockable Baker Mfg. 14" pitless unit with vent by City.

Well test: Test method:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
40.4 feet	900 gpm	10,100 min.	☒	☐	☐	☐
Constant-Rate Discharge Te		sting				
12-30-2013	through 1-6-20	14				

Sand free, odorless, very minor degassing, tastes good, ph=7.9

Water Quality test or comments: Cond.=435 uS; ORP=+115 mV; DO=4.7 mg/L

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
			Grout Seal: -Neat cement grout was mixed at a rate of 6 gallons of water to 94-pounds of Portland Type I/II cement. -Depth verified by tagging through annulus and also compared volumetrically by calculation from caliper log borehole size and volume of material removed during drilling of the borehole. -Grout pumped under pressure from the bottom-up.		
			Cement Grout Seals and Bentonite Chip Seals: -Depths verified by tagging through tremie and also calculated from the caliper log of the borehole. -Volumes determined by calculation from the caliper log of the borehole and depths verified by tagging. -All grout pumped under pressure from the bottom-up.		
			In addition to our onsite observations of the cuttings and rig behavior, this log also had the benefit of an on-site geologist during sampling and borehole geophysical logs, both of which were helpful to develop the best record possible of the drilled section. - George Post		

Completed Depth (Measurable) 167 feet below ground

Date: Started November 20, 2013 Completed January 6, 2014

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 2-24-2014

*Driller Greg Mitchell Date 2-24-2014

*Operator II Date

Operator I Cody Post Date 2-24-2014

* Signature of Principal Driller and rig operator are required.

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100% of casing, other than screened intervals, is sealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064867

Drilling Permit No. Permit #964168 Well #870227

Water right or injection well # 63-12039 and 63-31858

2. OWNER

Name City of Meridian Supply Well #16-C

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North ☒ or South ☐ Rge. 01 East ☒ or West ☐

Sec. 08 NE (10 acres) 1/4 SW (40 acres) 1/4 NE (160 acres) 1/4

Gov't Lot N/A County Ada

Lat. 43 ° 36.916' North (Deg. and Decimal minutes)

Long. 116 ° 21.611' West (Deg. and Decimal minutes)

Address of Well Site 1100 North Hickory Avenue

1,400 feet west of Eagle Road City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lot. N/A Blk. N/A Sub. Name Parcel #1213

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☒ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☒ Other Auger drilled to 7 ft bgl

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4" bent. chip	105'	108'	2.8 ft³	pour and tag into place
			see previous	pages for all seals

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
18"	+1'	25'	0.375"	Steel	☒	☐	☐	☒
12"	+1'	108'	SDR17	Splined PVC	☒	☐	☐	☒
				"O"-ring sealed	☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) PVC thickened "shoe"

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method Welded vee-wire screens

Manufactured screen ☒ Y ☐ N Type Johnson "Hi-Flow" stainless steel

Method of installation Lowered, centralized and enveloped with filter sand

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
157'	167'	0.025"	105 / foot	8-inch	stainless steel	Sch. 40

Length of Headpipe 6 feet Length of Tailpipe No tailpipe

Packer ☒ Y ☐ N Type Removable 8" w/ two 3-lip Figure "K" packers

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#6-#12 sand	102'	155'	23.8 ft³	Pour and tag into place
#8-#16 sand	155'	167'	6.0 ft³	"Birdseed" brand

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) 40.3 PSI (93 ft. water)

Describe control device 12" Baker Mfg. Industrial Pitless Unit with 6" Discharge

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) Mud drill Static water level (ft) 14.97 feet bgl

Water temp. (°F) 57.0 °F Bottom hole temp. (°F) Not measured

Describe access port Lockable Baker Mfg. 14" pitless unit with vent by City.

Well test: Test method:

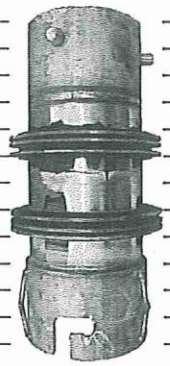
Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
40.4 feet	900 gpm	10,100 min.	☒	☐	☐	☐
Constant-Rate Discharge Testing						
12-30-2013	through 1-6-2014					

Sand free, odorless, very minor degassing, tastes good, ph=7.9

Water Quality test or comments: Cond.=435 uS; ORP=+115 mV; DO=4.7 mg/L

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
			ALL STAINLESS STEEL PACKER-REDUCER:		
			- total length = 2.0 feet		
			- 8" barrel = 1.5 feet		
			- two 3-lip Figure "K" neoprene packers		
			- top of packer assembly = 100 feet bgl		
			- overshot with three "L"-shaped slots that turn		
			on clockwise over the three 1" pins on headpipe		
			- turn packer counter-clockwise to remove		
			ON-SITE HYDROGEOLOGIST:		
			Kurt Newbry, GIT, Hydro Logic, Inc. - Boise, ID		
			PROJECT HYDROGEOLOGIST & WELL DESIGN		
			Ed Squires, RPG, Hydro Logic, Inc. - Boise, ID		
			PROJECT ENGINEER:		
			Kyle Radek, P.E., City - Meridian, ID		
			AUGER BORE BY:		
			Post Drilling Incorporated - Weiser, ID		
			DRILLING AND PUMP CONTRACTOR:		
			Post Drilling Incorporated - Weiser, ID		



Completed Depth (Measurable) 167 feet below ground

Date: Started November 20, 2013 Completed January 6, 2014

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 2-24-2014

*Driller Greg Mitchell Date 2-24-2014

*Operator II Date

Operator I Cody Post Date 2-24-2014

* Signature of Principal Driller and rig operator are required.

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Form 238-7
6/07

FEB 11 2014
WATER RESOURCES
WESTERN REGION

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D ~~D0068172~~

Drilling Permit No. 965038-871097

Water right or injection well # 965144-871203

2. OWNER: Realty Investment Company,LLC

Name Realty Investment Company, LLC

Address 3707 East Pine Street

City Meridian State ID Zip 83642

3.WELL LOCATION:

Twp. 03 North ☒ or South ☐ Rge. 01 East ☒ or West ☐

Sec. 9 ____ 10 acres ____ 1/4 NE 40 acres 1/4 SW 160 acres 1/4

Gov't Lot ____ County Ada

Lat. 43 ° 36.666 (Deg. and Decimal minutes)

Long. 116 ° 20.847 (Deg. and Decimal minutes)

Address of Well Site 3707 East Pine Street

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. ____ Blk. ____ Sub. Name ____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☒ Other Drill and Fill

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other ____

6. DRILL METHOD:

☐ Air Rotary ☐ Mud Rotary ☐ Cable ☒ Other Direct Push

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bentonite	30	5	50	Pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☐ N Shoe Depth(s) ____

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method ____

Manufactured screen ☐ Y ☐ N Type ____

Method of installation ____

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe ____ Length of Tailpipe ____

Packer ☐ Y ☐ N Type ____

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) ____

Describe control device ____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 26 Static water level (ft) 26

Water temp. (°F) 56 Bottom hole temp. (°F) 56

Describe access port ____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)

Test method:

Pump	Bailer	Air	Flowing artesian
☐	☐	☐	☐
☐	☐	☐	☐

Water quality test or comments: ____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
2.5	0	30	Sandy silts and gravels	X	

Completed Depth (Measurable): 30

Date Started: 2-5-14 Date Completed: 2-5-14

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Cascade Drilling, L.P. Co. No. 551

*Principal Driller Jeff Townsend Date 2-5-14

*Driller Tyee Graham Date 2-5-14

*Operator II ____ Date ____

Operator I ____ Date ____

*** Signature of Principal Driller and rig operator are required.**

16% of bore not abandoned.

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6/07

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IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0063878
Drilling Permit No. 915832-864506
Water right or injection well # B-2

2. OWNER: Idaho Transportation Department-DISTRICT 3
Name
Address PO BOX 8028
City BOISE State ID Zip 83707-2028

3.WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 18 ____ 1/4 (10 acres) NW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County ADA
Lat. 43 ° 35.662' (Deg. and Decimal minutes)
Long. 116 ° 23.544' (Deg. and Decimal minutes)
Address of Well Site I-84 MERIADIAN INTERCHANGE.
N EAST SIDE OF RAMP. City MERIADIAN
(Give at least name of road + Distance to Road or Landmark)
Lot. ____ Blk. ____ Sub. Name

4. USE:
☐ Domestic ☐ Municipal ☒ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:
☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☐ Air Rotary ☐ Mud Rotary ☐ Cable ☒ Other H.S.A.

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
CONCRETE	0	1	80 LBS.	pour through augers
granular bent	1	8	150 LBS.	Pour

8. CASING/LINER: 3/8 chips 8'-13' 100 lbs Pour

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
2	+3	15	40	pvc	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s)

9. PERFORATIONS/SCREENS:
Perforations ☒ Y ☐ N Method factory slot
Manufactured screen ☒ Y ☐ N Type Environmental Manufacturing
Method of installation through the augers.

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
15	20	.020	40	2	pvc	40

Length of Headpipe ____ Length of Tailpipe ____
Packer ☐ Y ☒ N Type

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
10/20	13	20	300 LBS	pour through the
silica sand				augers.

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 8.8 Static water level (ft) 8.8
Water temp. (°F) <85° Bottom hole temp. (°F)
Describe access port above ground protective casing w/ lock

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)

Test method: Pump ☐ ☐ Bailer ☐ ☐ Air ☐ ☐ Flowing artesian ☐ ☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
8.5	0	5.5	tan silt dry.		X
8.5	5.5	17	tan silt w/ gravels. 12'	X	
8.5	17	20	silty sand and gravels. 3'	X	

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WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 20
Date Started: Sep 26, 2012 Date Completed: Sep 26, 2012

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name HAZ-TECH DRILLING INC. Co. No. 470
*Principal Driller Scott Date 10-15-12
*Driller Date
*Operator II Mike Date 10-10-12
Operator I Date

* Signature of Principal Driller and rig operator are required.

7 ft (13%) of casing is unsealed. Seal may end in gravels.

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6/07

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IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0063879
Drilling Permit No. 915833-864507
Water right or injection well # B-3

2. OWNER: Idaho Transportation Department-DISTRICT 3
Name
Address PO BOX 8028
City BOISE State ID Zip 83707-2028

3.WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 18 ____ 10 acres 1/4 SW 40 acres 1/4 SW 160 acres 1/4
Gov't Lot ____ County ADA
Lat. 43 ° 35.560' (Deg. and Decimal minutes)
Long. 116 ° 23.550' (Deg. and Decimal minutes)
Address of Well Site I-84 MERIADIAN INTERCHANGE.
N EAST SIDE OF RAMP. City MERIADIAN
(Give at least name of road + Distance to Road or Landmark)
Lot. ____ Blk. ____ Sub. Name

4. USE:
☐ Domestic ☐ Municipal ☒ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:
☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☐ Air Rotary ☐ Mud Rotary ☐ Cable ☒ Other H.S.A.

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
CONCRETE	0	1	80 LBS.	pour through augers
granular bent	1	8	200 LBS.	

8. CASING/LINER: 3/8 chips 8' - 13' 100lbs Poured

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
2	+3	15	40	pvc	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

3/8" Bentonite chips From 8 - 13 100lbs.

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s)

9. PERFORATIONS/SCREENS:
Perforations ☒ Y ☐ N Method factory slot
Manufactured screen ☒ Y ☐ N Type Environmental Manufacturing
Method of installation through the augers.

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
15	20	.020	40	2	pvc	40

Length of Headpipe ____ Length of Tailpipe ____
Packer ☐ Y ☒ N Type

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
10/20	13	20	300 LBS	pour through the
silica sand				augers.

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 9.8 Static water level (ft) 9.8
Water temp. (°F) <85° Bottom hole temp. (°F)
Describe access port above ground protective casing w/ lock

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)

Test method: Pump ☐ Bailer ☐ Air ☐ Flowing artesian ☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
8.5	0	5.5	top soil silt.		X
8.5	5.5	15	sand and gravels. 9'	X	
8.5	15	20	silty sand and gravels. 5'	X	

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WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 20
Date Started: Sep 26, 2012 Date Completed: Sep 26, 2012

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name HAZ-TECH DRILLING INC. Co. No. 470
*Principal Driller [signature] Date 10-15-12
*Driller Date
*Operator II [signature] Date 10/10/12
Operator I Date

*** Signature of Principal Driller and rig operator are required.**

7 ft (13%) of casing unsealed. Seal and casing end in sand.

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Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D D0066102

Drilling Permit No. 9104898-8700957

Water right or injection well # _____

2. OWNER:

Name Jenkins & Peterson LLC.

Address 3700 E. Chinden Blvd.

City Eagle State Idaho Zip 83616

3.WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 21 ____ 10 acres ____ 1/4 SW 40 acres ____ 1/4 SE 160 acres ____ 1/4

Gov't Lot _____ County Ada

Lat. 43 ° 34.696'N (Deg. and Decimal minutes)

Long. 116 ° 20.390'W (Deg. and Decimal minutes)

Address of Well Site 2930 S. El Rio Dr.

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8" Bentonite	0	40	1500 lbs.	10" Overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	2	145	.250	Steel	☒	☐	☐	☒
5"	141	146	.258	Steel	☐	☒	☐	☒
5"	156	158	.258	Steel	☐	☒	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 145'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation Pullback

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
146	156	.020	10'	5"	Stainless	304

Length of Headpipe 4.5 Length of Tailpipe 2.0

Packer ☒ Y ☐ N Type Rubber K-Packer

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
N/A				

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) _____ Static water level (ft) 50'

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
140'	60+ GPM	1 HR.	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
	2	8	Hard Pan		X
	8	40	Gravel		X
6"	40	58	Gravel 18'		X
	58	105	Sandy Gravel 47'	X	
	105	115	Sandy Gravel w/ Dark Brn. Clay 10'	X	
	115	157	White Sand w/ Gravel 42'	X	
	157	158	Brown Clay 1'		X

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WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 158'

Date Started: Jan 8, 2014 Date Completed: Jan 9, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Dennis Phipps Well Drilling In Co. No. 332

*Principal Driller _____ Date Jan 10, 2014

*Driller _____ Date _____

*Operator II _____ Date Jan 10, 2014

Operator I _____ Date Jan 10, 2014

* Signature of Principal Driller and rig operator are required.

Seal ends in gravel. Casing ends in sand. 105 ft (72%) of casing unsealed. 81% of well unsealed. Depth of first water not reported and static water level does not agree with water log.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0066088

Drilling Permit No. 9104946-871005

Water right or injection well # _____

2. OWNER:

Name Eric Eisenberg

Address 3890 E Victory Rd.

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 21 ____ 10 acres ____ 1/4 SE 40 acres 1/4 SW 160 acres 1/4

Gov't Lot ____ County Ada

Lat. 43 ° 34.612 (Deg. and Decimal minutes)

Long. 116 ° 20.728 (Deg. and Decimal minutes)

Address of Well Site 3077 Halo Dr.

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. ____ Blk. ____ Sub. Name ____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other ____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other ____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8 bentonite	0	42	1100lbs	dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	129	.250	steel	☒	☐	☐	☒
5	125	130	.258	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 129ft

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method ____

Manufactured screen ☒ Y ☐ N Type johnson

Method of installation pull-back

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
130	135	.020	---	5"	stainless	

Length of Headpipe 5ft Length of Tailpipe ---

Packer ☒ Y ☐ N Type double wiper

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) ____

Describe control device ____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 50ft Static water level (ft) 50ft

Water temp. (°F) 58degF Bottom hole temp. (°F) ____

Describe access port well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
	60gpm	120minutes	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: ____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	1	top soil		X
"	1	4	hard brown clay		X
"	4	42	gravel and sand		X
6"	42	65	gravel and sand 23'	X	
"	65	73	coarse sand with some gravel 8'	X	
"	73	89	gravel and sand 16'	X	
"	89	107	coarse sand 18'	X	
"	107	120	gravel and sand 13'	X	
"	120	130	coarse sand with some gravel 10'	X	
"	130	135	gravel and sand 5	X	

RECEIVED
JAN 31 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 135ft

Date Started: Jan 15, 2014 Date Completed: Jan 18, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller [signature] Date Jan 27, 2014

*Driller [signature] Date Jan 27, 2014

*Operator II ____ Date ____

Operator I ____ Date ____

* Signature of Principal Driller and rig operator are required.

Seal ends in gravel. Casing ends in sand. 87 ft (67%) of casing unsealed. 68% of well unsealed. They found no clays in the section.

'03 Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0066291
Drilling Permit No. 965580 - 871639
Water right or injection well #

2. OWNER: John Sharp
Name
Address 3020 E Eagle
City Meridian State Id Zip 83642

3.WELL LOCATION:
Twp. 03 North ☑ or South ☐ Rge. 01 East ☑ or West ☐
Sec. 21 ___ 1/4 (10 acres) SW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ___ County Ada
Lat. 43 34° 641 (Deg. and Decimal minutes)
Long. 116 21° 216 (Deg. and Decimal minutes)
Address of Well Site 3020 S Eagle
City Meridian
(Give at least name of road + Distance to Road or Landmark)
Lot. ___ Blk. ___ Sub. Name

4. USE:
☑ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:
☐ New well ☑ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☑ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8 Bentonite	0	40	1,100	pour in

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	130	.250	Steel	☑	☐	☐	☑
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☑ Y ☐ N Shoe Depth(s) 130

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☑ N Method
Manufactured screen ☐ Y ☑ N Type
Method of installation

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe 0 Length of Tailpipe 0
Packer ☐ Y ☑ N Type

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☑ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 90 Static water level (ft) 80
Water temp. (°F) Bottom hole temp. (°F)
Describe access port 6" Well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
20	30	30

Test method: Pump ☐ Bailer ☐ Air ☑ Flowing artesian ☐

Water quality test or comments: Based clean water

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10	0	6	Top Soil		✓
	6	28	Gravel		✓
	28	36	Cemented gravel		✓
	36	40	Sandy clay		✓
6	40	72	Sandy clay 32'		✓
	72	90	Brown sand 18'		✓
	90	103	Small gravel + sand 13'		
	103	105	Brown clay 2'		✓
	105	112	Sand 7'	✓	
	112	128	Broken clay with sand 16'	✓	
	128	130	Brown clay 2'		✓
	130	134	Sand 4'	✓	

RECEIVED
SEP 03 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 130'
Date Started: 4/15/14 Date Completed: 4/27/14

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Patriot Well Drilling Co. No. 741
*Principal Driller [signature] Date 9/2/14
*Driller Date
*Operator II Date
Operator I Date
* Signature of Principal Driller and rig operator are required.

90 ft (69%) of casing unsealed.

U3

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

864213

1. WELL TAG NO. D ~~0063696~~ D0063693

Drilling Permit No. 915590 - 864213

Water right or injection well #

2. OWNER

Name B. Michael Fowler

Address 3223 S. Cloverdale

City Boise State ID Zip 83709

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 28 SE 1/4 (10 acres) NE 1/4 (40 acres) NE 1/4 (160 acres)

Gov't Lot County Ada

Lat. 43 ° 34.419 (Deg. and Decimal minutes)

Long. 116 ° 20.105 (Deg. and Decimal minutes)

Address of Well Site same

City

(Give at least name of road + Distance to Road or Landmark)

Lot. Blk. Sub. Name

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
bent chips	0'	38'	1,000 lbs	poured & tagged

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2'	134'	.250	steel	☒	☐	☐	☒
5"	125'	140'	.250	scrn assem	☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 134'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method

Manufactured screen ☒ Y ☐ N Type SS Telescoping

Method of installation Pull back

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
135'	140'	.020		5"	St St	

Length of Headpipe 10.5 Length of Tailpipe 0

Packer ☒ Y ☐ N Type

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 48 Static water level (ft) 48

Water temp. (°F) Bottom hole temp. (°F)

Describe access port

Well test: **Test method:**

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
	20	10	☐	☐	☒	☐
	35	20				

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0'	1'	top soil		X
10"	1'	4'	brown		X
10"	4'	12'	gravel, cemented		X
10"	12'	17'	clay, yellow		X
10"	17'	20'	gravel		X
10"	20'	22'	light brown clay		X
10"	22'	38'	gravel		X
6"	38'	46'	110 sand gravel		X
6"	46'	52'	dirty brown sand & gravel 6'	X	
6"	52'	58'	sand, dirty 6'	X	
6"	58'	75'	sand & gravel 17'	X	
6"	75'	93'	sand & gravel, sand strips 18'	X	
6"	93'	98'	dirthy sand 5'	X	
6"	98'	110'	sand & gravel 12'	X	
6"	110'	115'	dirty sand & gravel 5'	X	
6"	115'	123'	sand, some gravel 8'	X	
6"	123'	130'	real dirty sand 7'	X	
6"	13'	135'	grey sand, fine 5'	X	
6"	135'	140'	grey sand & gravel 5'	X	

RECEIVED
SEP 20 2012
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 140

Date: Started 8/22/12 Completed 8/27/12

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Down Right Drilling & Pump, Inc Co. No. 637

*Principal Driller [signature] Date 9-17-12

*Driller Date

*Operator II Date

Operator I Date

* Signature of Principal Driller and rig operator are required.

The bentonite chip seal ends in the middle of a gravel section at 38 feet. With 29 feet of possible lower permeable sections bypassed and the drive shoe being placed in a sand section, there is 102 feet of unsealed bore (73% of the total bore). 96' (72%) of the casing is unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D D0066341

Drilling Permit No. 965956-872015

Water right or injection well # _____

2. OWNER:

Name Rich Gratiot

Address 4355 E. Victory Rd.

City Meridian State Idaho Zip 83642

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 28 ____ 1/4 (10 acres) NW 1/4 (40 acres) NE 1/4 (160 acres)

Gov't Lot _____ County Ada

Lat. 43 ° 34.536'N (Deg. and Decimal minutes)

Long. 116 ° 20.406'W (Deg. and Decimal minutes)

Address of Well Site Same

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☐ New well ☒ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8" Bentonite	0	41	1250 lbs.	10" Overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	2	134	.250	Steel	☒	☐	☐	☒
5"	131	136	.258	Steel	☐	☒	☐	☒
5"	146	148	.258	Steel	☐	☒	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 134'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation Pullback

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
136	146	.020	10'	5"	Stainless	304

Length of Headpipe 5' Length of Tailpipe 2'

Packer ☒ Y ☐ N Type Rubber K-Packer

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
N/A				

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) _____ Static water level (ft) 56'

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
120'	50 GPM	1 HR.	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
	2	8	Hard Pan		X
	8	41	Gravel		X
6"	41	67	Gravel 26'		X
	67	107	Sand & Gravel 40'	X	
	107	117	Tan Sandy Clay 10'		X
	117	148	Sand & Gravel 31'	X	
	148		Brown Clay		X

RECEIVED
MAY 27 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 148'

Date Started: May 19, 2014 Date Completed: May 19, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Dennis Phipps Well Drilling In Co. No. 332

*Principal Driller _____ Date May 20, 2014

*Driller _____ Date _____

*Operator II _____ Date May 20, 2014

Operator I _____ Date May 20, 2014

* Signature of Principal Driller and rig operator are required.

The bentonite chip seal ends in a gravel section at 41 feet. Bypassed clay 107 ft to 117 ft. 10 foot clay not sealed into. First water is not reported and the static water level does not agree with the water log. Now commingling into dry gravels 56 ft to 67 ft behind casing. The drive shoe ends in a gravel with 93 ft (70%) of the casing unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D D0064402
Drilling Permit No. 9621185-8682AA
Water right or injection well #

2. OWNER
Name Laude, John
Address 2358 So Titanium Place
City Meridian State ID Zip 83642

3. WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 28 SW 1/4 (10 acres) NE 1/4 (40 acres) ____ 1/4 (160 acres)
Gov't Lot County Ada
Lat. 43 ° 34.160 (Deg. and Decimal minutes)
Long. 116 ° 20.562 (Deg. and Decimal minutes)
Address of Well Site 0 Bott Ln.
City Meridian
(Give at least name of road + Distance to Road or Landmark)
Lot. Blk. Sub. Name

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Med Chips	0	31	20 Bags	Poured

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	185	.250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 185'

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type Johnson
Method of installation Washed in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
186	191	.20		5"	Stainless	304

Length of Headpipe 7' Length of Tailpipe 0
Packer ☒ Y ☐ N Type K-Packer

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 59' Static water level (ft) 59'
Water temp. (°F) 60 Bottom hole temp. (°F) 60
Describe access port Sanitary Well Cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
170	60	30

Test method: Pump ☐ Bailer ☐ Air ☒ Flowing artesian ☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
10"	2	4	Hard Pan		X
10"	4	10	Sand & Gravel		X
10"	10	16	Brown Clay		X
10"	16	42	Gravel & Boulders —		X
6"	42	59	Gravel 17'		X
6"	59	92	Gravel 43'	X	
6"	92	120	Sandy Clay 28'		X
6"	120	180	Heaving Sand 60'	X	
6"	180	186	Brown Clay 6' —		X
6"	186	191	Sand 5'	X	

RECEIVED
MAY 14 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 191'
Date: Started 4/22/2013 Completed 4/29/2013

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Can-Ada Well Driling & Pump Co. No. 304
*Principal Driller Earl Skinner Earl Skinner Date 5/11/2013
*Driller Date
*Operator II Brad Skinner Date 5/11/2013
Operator I Date
* Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

The bentonite chip seal is less than 38 ft and ends in the middle of a gravel and boulders section at 31 ft. The driller bypassed 60 ft of saturated sand that is now coming into the gravel. (31 ft- 92 ft loss of head). 154 ft (83%) of the casing is unsealed.

03

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D D0064366

Drilling Permit No. 96 2332-868391

Water right or injection well # _____

2. OWNER:

Name Helen Lawler

Address 3467 Falcon Dr.

City Meridian State Idaho Zip 83642

3.WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 28 ____ 1/4 (10 acres) NW 1/4 (40 acres) NW 1/4 (160 acres)

Gov't Lot _____ County Ada

Lat. 43 ° 34.390'N (Deg. and Decimal minutes)

Long. 116 ° 21.121'W (Deg. and Decimal minutes)

Address of Well Site Same

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☐ New well ☒ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8" Bentonite	0	43	1350 lbs.	10" Overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	1.5	113	.250	Steel	☒	☐	☐	☒
5"	109	114	.258	Steel	☐	☒	☐	☒
5"	124	126	.258	Steel	☐	☒	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 113'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation Pullback

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
114	124	.020	10'	5"	Stainless	304

Length of Headpipe 5.0 Length of Tailpipe 2.0

Packer ☒ Y ☐ N Type Rubber K-Packer

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
N/A				

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) _____ Static water level (ft) 48'

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
115'	55 GPM	1 HR.	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
	2	5	Hard Pan		X
	5	13	Sandy Brown Clay		X
	13	43	Cemented Gravel		X
6"	43	74	Sand & Gravel 31'	X	
	74	87	Sand 13'	X	
	87	92	Brown Clay 5'		X
	92	125	Coarse Sand w/ Gravel 33'	X	
	125	126	Brown Clay		X

RECEIVED
JUN 25 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 126'

Date Started: Apr 24, 2013 Date Completed: Apr 25, 2013

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Dennis Phipps Well Drilling In Co. No. 332

*Principal Driller _____ Date Apr 26, 2013

*Driller _____ Date _____

*Operator II _____ Date Apr 26, 2013

Operator I _____ Date Apr 26, 2013

* Signature of Principal Driller and rig operator are required.

The bentonite chip seal ends in the middle of a gravel section at 43 ft. With a 5 foot section of clay between aquifers bypassed and the drive shoe placed in a coarse sand with gravel section at 113 ft, this well comingles 82 feet of section. 83 ft of the casing is unsealed (73% of the casing). The depth to first water is not recorded.

Form 238-7
6/07
63

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 00063960
Drilling Permit No. 9154605 - 8604086
Water right or injection well #

2. OWNER
Name Liddell, Russ
Address 1777 E Victory Rd.
City Meridian State Id Zip 83642

3. WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 29 NW 1/4 (10 acres) NW 1/4 (40 acres) ____ 1/4 (160 acres)
Gov't Lot ____ County Ada
Lat. 42 ° 34.516 (Deg. and Decimal minutes)
Long. 116 ° 22.383 (Deg. and Decimal minutes)
Address of Well Site Same
City Meridian
(Give at least name of road + Distance to Road or Landmark)
Lot. ____ Blk. ____ Sub. Name ____

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bent chips	50	0	22bags	Poured

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	1.5	135	250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 135'

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☐ Y ☒ N Type
Method of installation

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe ____ Length of Tailpipe ____
Packer ☐ Y ☒ N Type

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 27' Static water level (ft) 31'
Water temp. (°F) 59 Bottom hole temp. (°F) 59
Describe access port Sanitary Well Cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
120	200	90

Test method: Pump ☐ Bailer ☐ Air ☒ Flowing artesian ☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
10"	2	10	Clay		X
10"	10	28	Sand, Gravel & Boulders		X
10"	28	30	Brown Clay		X
10"	30	47	Sand, Gravel, and boulders	X	
10"	47	50	Brown Clay 3'		X
6"	50	75	Sand/strips of clay 25'	X	
6"	75	80	Brown Clay 5'		X
6"	80	122	Heaving Sand 42'	X	
6"	122	137	Sticky Brown Clay 15'		X
6"	137	140	Sand/water 3'	X	

RECEIVED
AUG 27 2012
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 138'
Date: Started 8/3/2012 Completed 8/9/2012

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Can-Ada Well Drilling & Pump Co. No. 304
*Principal Driller Earl Skinner Earl Skinner Date 8/20/2012
*Driller ____ Date
*Operator II Brad Skinner Date 8/20/2012
Operator I ____ Date
* Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

85 ft (63%) of casing unsealed. 64% of well unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064862

Drilling Permit No. 916419-870477

Water right or injection well #

2. OWNER:

Name Dale Smitchger

Address 4577 S Ramona St

City Meridian State ID Zip 83642

3.WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 30 ____ 10 acres 1/4 SE 40 acres 1/4 SE 160 acres 1/4

Gov't Lot ____ County Ada

Lat. 43 ° 33.799 (Deg. and Decimal minutes)

Long. 116 ° 22.759 (Deg. and Decimal minutes)

Address of Well Site 4577 S. Ramona St

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. ____ Blk. ____ Sub. Name ____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:

☐ New well ☒ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8bentonite	0	45	1150lbs	dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	237	.250	steel	☒	☐	☐	☒
5"	232	237	.258	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 237

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method

Manufactured screen ☒ Y ☐ N Type johnson

Method of installation wash-in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
237	242	.020	----	5"	stainless	

Length of Headpipe 5" Length of Tailpipe

Packer ☒ Y ☐ N Type double wiper

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 84ft Static water level (ft) 84ft

Water temp. (°F) 57degF Bottom hole temp. (°F)

Describe access port well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
	40 gpm	15 minutes	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	top soil		X
"	2	6	brown sandy clay		X
"	6	18	gravel and sand		X
"	18	45	sand		X
6"	45	49	sand 4'		X
"	49	52	sandy clay 3'		X
"	52	128	coarse sand and some gravel 76'	X	
"	128	134	tan clay 6'		X
"	134	171	coarse sand 37'	X	
"	171	173	tan clay 2'		X
"	173	197	coarse sand 24'	X	
"	197	199	tan clay 2'		X
"	199	242	coarse sand 43'	X	

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NOV 12 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 242ft

Date Started: Nov 1, 2013 Date Completed: Nov 5, 2013

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller [signature] Date Nov 5, 2013

*Driller [signature] Date Nov 5, 2013

*Operator II Date

Operator I [signature] Date Nov 5, 2013

* Signature of Principal Driller and rig operator are required.

Seal ends in sand just 4-ft above a clay. Casing ends in sand. 192 ft (81%) of casing unsealed.

65

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0066264
Drilling Permit No. 965607-871666
Water right or injection well #

2. OWNER
Name Brian Ausman
Address 4010 N Locust Grove Rd
City Meridian State ID Zip 83646

3. WELL LOCATION:
Twp. 4 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 32 ____ 1/4 (10 acres) sw 1/4 (40 acres) ne 1/4 (160 acres)
Gov't Lot ____ County ADA
Lat. 43 ° 38.473 (Deg. and Decimal minutes)
Long. 116 ° 22.413 (Deg. and Decimal minutes)
Address of Well Site 4010 N Locust Grove Rd
City Meridian
(Give at least name of road + Distance to Road or Landmark)
Lot. ____ Blk. ____ Sub. Name ____

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4bentonite	0	38	1500lbs	pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6	2	74	.250	steel	☒	☐	☐	☒
5	70	81	.25	steel	☒	☐	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 72

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type johnson
Method of installation wash in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
81	86	.16	5ft	5	ss	.250

Length of Headpipe 11 Length of Tailpipe
Packer ☒ Y ☐ N Type three wing

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
na	na	na	na na	na

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 30 Static water level (ft) 27
Water temp. (°F) 57 Bottom hole temp. (°F)
Describe access port cap

Well test: **Test method:**

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
58	50+	1hr	☐	☐	☒	☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10	0	2	top soil		x
10	2	5	brown clay		x
10	5	40	gravel	~~x~~	
6	40	65	gravel 15'	x	
6	68	74	brown clay 6'		x
6	74	86	corse sand 12'	x	

RECEIVED
MAY 08 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 86
Date: Started 4-21-14 Completed 4-23-14

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Treasure Valley Drilling Co. No. 560
*Principal Driller Monte Post Date 5-6-14
*Driller Date
*Operator II [signature] Date 5-6-14
Operator I Pike Langer Date 5-6-14
*Signature of Principal Driller and rig operator are required.

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The bentonite chip seal ends in a gravel at 38 ft. 6 foot clay at 68 ft to 74 ft is bypassed (drive shoe seal only). 36 ft (49%) of the casing is unsealed.

63 Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D D0067262

Drilling Permit No. 96(6312 - 872371

Water right or injection well #

2. OWNER:

Name Tony Sabala

Address 6442 El Paseo Dr.

City San Jose State Ca. Zip 95120

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 32 ___ 1/4 (10 acres) NW 1/4 (40 acres) SW 1/4 (160 acres)

Gov't Lot ___ County Ada

Lat. 43 ° 33.225'N (Deg. and Decimal minutes)

Long. 116 ° 22.372'W (Deg. and Decimal minutes)

Address of Well Site 5600 S. Locust Grove Rd. City Meridian

(Give at least name of road + Distance to Road or Landmark)

Lot ___ Blk. ___ Sub. Name ___

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK:

☐ New well ☒ Replacement well ☐ Modify existing well ☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☒ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8" Bentonite	0	40	1000 lbs.	10" Overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	2	259	.250	Steel	☒	☐	☐	☒
5"	255	260	.258	Steel	☐	☒	☐	☒
5"	270	277	.258	Steel	☐	☒	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 259'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation Pullback

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
260	270	.020	10'	5"	Stainless	304

Length of Headpipe 5' Length of Tailpipe 7'

Packer ☒ Y ☐ N Type Rubber K-Packer

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
N/A				

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) ___ Static water level (ft) 157'

Water temp. (°F) ___ Bottom hole temp. (°F) ___

Describe access port

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
170'	40 GPM	2 HRS.	☒	☐	☐	☐
			☐	☐	☐	☐

Test method:

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
	2	8	Hard Pan		X
	8	45	Gravel		X
6"	45	65	Sandy Gravel 20'		X
	65	99	Sandy Brown Clay 34'		X
	99	155	Tan Clay w/ Sand Streaks 56'		X
	155	203	Red Sand 48'	X	
	203	206	Brown Clay 3'		X
	206	215	Red Sand 9'	X	
	215	220	Sandy Brown Clay 5'		X
	220	255	Red Sand w/ Clay Streaks 35'	X	
	255	259	Brown Clay 4'		X
	259	265	White Sand 6'	X	
	265	268	Sandy Clay 3'		X
	268	271	White Sand 3'	X	
	271	277	Brown Clay 6'		X

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JUL 17 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 277'

Date Started: Jun 20, 2014 Date Completed: Jun 27, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Dennis Phipps Well Drilling In Co. No. 332

*Principal Driller ___ Date Jun 30, 2014

*Driller ___ Date ___

*Operator II ___ Date Jun 30, 2014

Operator I ___ Date Jun 30, 2014

* Signature of Principal Driller and rig operator are required.

The bentonite chip seal ends in a gravel section at 40 ft. Bypassed a large 90 ft clay from 65 ft to 155 ft. First water not reported. 237 ft of the bore is unsealed (85% of the casing)

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064193
Drilling Permit No. 9110590 - 8697810
Water right or injection well #

2. OWNER
Name Travis Jones
Address 5205 S.Eagle rd
City meridian State id Zip 83642

3. WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 32 ___ 1/4 (10 acres) se 1/4 (40 acres) ne 1/4 (160 acres)
Gov't Lot County ada
Lat. 43 ° 33.436 (Deg. and Decimal minutes)
Long. 116 ° 21.289 (Deg. and Decimal minutes)
Address of Well Site 5205 S .Eagle rd
City meridian
(Give at least name of road + Distance to Road or Landmark)
Lot. Blk. Sub. Name

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)
☐ New Well ☒ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4bentonite	0	39	1200 lbs	pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6	2	114	.250	steel	☒	☐	☐	☒
5	110	114	.250	steel	☒	☐	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 114

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type johnson
Method of installation set in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
114	119	.16	5 ft	5	ss	.250

Length of Headpipe 4 Length of Tailpipe
Packer ☒ Y ☐ N Type three wing

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 51 Static water level (ft) 43
Water temp. (°F) 56 Bottom hole temp. (°F)
Describe access port cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
66	50	1hr

Test method: Pump ☐ Bailer ☐ Air ☒ Flowing artesian ☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10	0	3	top soil		x
10	3	5	hard pan		x
10	5	10	brown clay		x
10	10	35	gravel		x
10	35	39	brown clay		x
6	39	47	brown clay 8'		x
6	47	51	cors sand 4'	x	
6	51	70	brown clay 19'		x
6	70	118	gravel 48'	x	

RECEIVED
MAY 23 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 119
Date: Started 2-5-13 Completed 2-6-13

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Waterpro Well Drilling Co. No. 626
*Principal Driller Monte Post Date 2-6-13
*Driller Date
*Operator II Date
Operator I Jerimiah Jerman Date 2-6-13
* Signature of Principal Driller and rig operator are required.

Casing ends in gravel. 75 ft (66%) of casing unsealed. 67% of well unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064686
Drilling Permit No. 963674-869733
Water right or injection well # 63-33742

2. OWNER:
Name Blackrock Subdivision HOA
Address 2204 E. Hyper Dr.
City Meridian State Id. Zip 83642

3. WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 32 ____ 1/4 (10 acres) N.E. 1/4 (40 acres) S.W. 1/4 (160 acres)
Gov't Lot ____ County Ada
Lat. 43 ° 33.095 (Deg. and Decimal minutes)
Long. 116 ° 21.980 (Deg. and Decimal minutes)
Address of Well Site S.Graphite Way
(Cross street name of road + Distance to Road or Landmark) City Meridian
Lot 5 Blk. 2 Sub. Name Blackrock Subdivision No. 1

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:
☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☐ Air Rotary ☒ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bentonite Chip	0'	12'	500 lbs.	Poured
Bentonite Cement	12'	230'	6 Yards	Pumped

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
8"	2'	40'	.322	Steel	☒	☐	☐	☒
8"	40'	260'	sdr17	certa-lock	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s)

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type Johonson Vee wire
Method of installation Over bore

From (ft)	To (ft)	Set size	Slot size	Diameter (nominal)	Material	Gauge or Schedule
260'	300'	030		8"	Stainless	

Length of Headpipe 0' Length of Tailpipe 0'
Packer ☐ Y ☒ N Type

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
6-12 sand	230'	300'	3500 lbs	poured

11. FLOWING WELL TECHNICIAN:
Flowing artesian ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 111' Static water level (ft) 111'
Water temp. (°F) ____ Bottom hole temp. (°F) ____
Describe access port

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
11'	300'	210	☒	☐	☐	☐
			☐	☐	☐	☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
12.25	0'	1'	Topsoil		X
	1'	15'	Boulders & Sand		X
	15'	37'	Cemented Sand & Large Gravel		X
	37'	68'	Cemented Sand & Small Gravel		X
	68'	185'	Fine Sand & Clay Streaks	X	
	185'	214'	Fine Sand & Orange Clay	X	
	214'	233'	Fine to Medium Sand	X	
	233'	236'	Tan Clay 3'		X
	236'	243'	Fine to Medium Sand 7'	X	
	243'	253'	Course Sand 10'	X	
	253'	258'	Blue Clay 5'		X
	258'	301'	Course to Fine Sand 43'	X	

RECEIVED
APR 04 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Must be stable) 300'
Date Started 9-11-13 Date Finished 10-15-13

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Steve Johns Co. No. 153
*Principal Driller Date 10-21-13
*Driller Date 10-21-13
*Operator Date 10-21-13
Operator Date
* Signature of Principal Driller required

Crosses color change with no seal. Seal ends in sand. Casing ends in sand. 30 ft (12%) casing unsealed. 23% of well unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064474 — Page 1 of 6

Drilling Permit No. 962534-868593 ✓

Water right or injection well #

2. OWNER

Name City of Meridian #15-B Monitoring Well

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North [X] or South [ ] Rge. 01 East [ ] or West [X]

Sec. 11 SE (10 acres) 1/4 NE (40 acres) 1/4 NE (160 acres) 1/4

Gov't Lot N/A County Ada

Lat. 43 ° 37.027' (Deg. and Decimal minutes)

Long. 116 ° 24.846' (Deg. and Decimal minutes)

Address of Well Site 1355 N. Linder Rd.; NW corner of W Sunny Slope Dr. and N. Linder Rd. City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lot. 7 Blk. 1 Sub. Name Vineyards Sub. No. 2

4. USE:

[ ] Domestic [ ] Municipal [X] Monitor [ ] Irrigation [ ] Thermal [ ] Injection

[X] Other A "nest" of multi-depth tube wells

5. TYPE OF WORK check all that apply (Replacement etc.)

[X] New Well [ ] Replacement well [ ] Modify existing well

[ ] Abandonment [ ] Other

6. DRILL METHOD:

[ ] Air Rotary [X] Mud Rotary [ ] Cable [X] Other Auger / direct mud-rotary

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
				SEE TABLE PAGE 4

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
20-Inch	0'	11'	0.250"	STEEL	[X]	[ ]	[ ]	[X]
14-Inch	0'	45'	0.375"	STEEL	[X]	[ ]	[ ]	[X]
16-Inch	+3'	0'	0.375"	STEEL	[X]	[ ]	[ ]	[X]

Was drive shoe used? [ ] Y [X] N Shoe Depth(s) No drive-shoe used

9. PERFORATIONS/SCREENS:

Perforations [X] Y [ ] N Method Factory-slotted SCH80 PVC

Manufactured screen [X] Y [ ] N Type "Johnson" slotted PVC well screen

Method of installation Lowered and tagged to the design depth

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
55'	65'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #13
90'	105'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #12
195'	215'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #11

Length of Headpipe Not applicable Length of Tailpipe No tailpipes

Packer [ ] Y [X] N Type No packer assemblies

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
				SEE TABLE PAGE 5

11. FLOWING ARTESIAN:

Flowing Artesian? [X] Y [X] N Artesian Pressure (PSIG) SEE TABLE PAGE 5

Describe control device Lockable custom-fabricated steel enclosure

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 11 feet bgl Static water level (ft) TABLE PAGE 6

Water temp. (°F) TABLE PAGE 6 Bottom hole temp. (°F) 74.38°F at 909 ft bgl

Describe access port 13 - 2" tube wells in a locked steel well head enclosure

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
DEVELOPME	NT PUMPING:	
AIR-LIFT	AND PUMP	WATER
SAMPLES	FROM EACH	ZONE

Test method: Pump [X] Bailer [ ] Air [X] Flowing artesian [ ]

Water Quality test or comments: SEE TABLE PAGE 6

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
24"	0'	7'	Sandy top soil with gravel		X
24"	7'	11'	Sand, gravel, and cobbles standing water at 10'	X	
18"	11'	43'	Cobbles, gravel, and sand	n/a	n/a
18"	43'	45'	Sandy tacky very pale brown-colored clay		
12"	45'	46'	Sandy tacky very pale brown-colored clay		
12"	46'		Fine-to-coarse-grained very pale brown-colored		
12"		67'	sand		
12"	67'		Tacky very pale brown-to-light yellowish brown		
12"			-colored clay with sand lenses 70'-to-71' and		
12"		85'	73'-to-74'		
12"	85'		Fine-to-medium-grained coarsening downward		
12"			to medium-to-coarse-grained very pale brown		
12"		109'	sand with trace of pea gravel 100'-to-109'		
12"	109'		Sandy tacky very pale brown-colored clay with		
12"			sand lenses 110'-to-111', 119'-to-120', 128'-to-		
12"		193'	130', 138'-to-142', 164'-to-166', and 167'-to-170'		
12"	193'		Fine-to-coarse-grained very pale brown-colored		
12"			sand and tacky very pale brown-colored clay		
12"		227'	lenses		
12"	227'		Medium-to-coarse-grained very pale brown-		
12"		235'	colored sand with a trace of pea gravel		
12"	235'	257'	Tacky very pale brown-colored clay		
12"	257'		Medium-to-very coarse-grained very pale brown		
12"		295'	-to-white-colored sand with a trace of pea gravel		
12"	295'	310'	Tacky very pale brown-colored clay		
12"	310'		Medium-to-very coarse-grained very pale brown		
12"		335'	-colored sand with minor gravel up to 3/4-inch		
12"	335'	340'	Tacky very pale brown-colored clay		
12"	340'	346'	Sticky very pale brown-colored clay		
12"	346'		Medium-to-very coarse-grained very pale brown		
		357'	-colored sand with minor gravel up to 3/4-inch		
			(CONTINUED ON PAGE 2)		

=mud filled bore during drilling.

Completed Depth (Measurable) 855 feet below ground level

Date: Started June 17, 2013 Completed October 2, 2013

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 11-12-2013

*Driller Greg Mitchell Date 11-12-2013

*Operator II Date

Operator I Cody Post Date 11-12-2013

* Signature of Principal Driller and rig operator are required.

RECEIVED
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All casings full-depth-sealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064474

Drilling Permit No. 962534-868593

Water right or injection well #

2. OWNER

Name City of Meridian #15-B Monitoring Well

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North [X] or South [ ] Rge. 01 East [ ] or West [X]

Sec. 11 SE 1/4 (10 acres) NE 1/4 (40 acres) NE 1/4 (160 acres)

Gov't Lot N/A County Ada

Lat. 43 ° 37.027' (Deg. and Decimal minutes)

Long. 116 ° 24.846' (Deg. and Decimal minutes)

Address of Well Site 1355 N. Linder Rd.; NW corner of W Sunny Slope Dr. and N. Linder Rd. City Meridian

(Give at least name of road + Distance to Road or Landmark)

Lot. 7 Blk. 1 Sub. Name Vineyards Sub. No. 2

4. USE:

[ ] Domestic [ ] Municipal [X] Monitor [ ] Irrigation [ ] Thermal [ ] Injection

[X] Other A "nest" of multi-depth tube wells

5. TYPE OF WORK check all that apply (Replacement etc.)

[X] New Well [ ] Replacement well [ ] Modify existing well

[ ] Abandonment [ ] Other

6. DRILL METHOD:

[ ] Air Rotary [X] Mud Rotary [ ] Cable [X] Other Auger / direct mud-rotary

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
				SEE TABLE PAGE 4

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
2-Inch	+3'	55'	SCH80	PVC - ZONE #13	[X]	[ ]	[X]	[ ]
2-Inch	+3'	90'	SCH80	PVC - ZONE #12	[X]	[ ]	[X]	[ ]
2-Inch	+3'	195'	SCH80	PVC - ZONE #11	[X]	[ ]	[X]	[ ]

Was drive shoe used? [ ] Y [X] N Shoe Depth(s) No drive-shoe used

9. PERFORATIONS/SCREENS:

Perforations [X] Y [ ] N Method Factory-slotted SCH80 PVC

Manufactured screen [X] Y [ ] N Type "Johnson" slotted PVC well screen

Method of installation Lowered and tagged to the design depth

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
263'	283'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #10
320'	330'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #9
400'	420'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #8

Length of Headpipe Not applicable Length of Tailpipe No tailpipes

Packer [ ] Y [X] N Type No packer assemblies

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
				SEE TABLE PAGE 5

11. FLOWING ARTESIAN:

Flowing Artesian? [X] Y [X] N Artesian Pressure (PSIG) SEE TABLE PAGE 5

Describe control device Lockable custom-fabricated steel enclosure

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 11 feet bgl Static water level (ft) TABLE PAGE 6

Water temp. (°F) TABLE PAGE 6 Bottom hole temp. (°F) 74.38°F at 909 ft bgl

Describe access port 13 - 2" tube wells in a locked steel well head enclosure

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
DEVELOPME	NT PUMPING:	
AIR-LIFT	AND PUMP	WATER
SAMPLES	FROM EACH	ZONE

Test method: Pump [X] Bailer [ ] Air [X] Flowing artesian [ ]

Water Quality test or comments: SEE TABLE PAGE 6

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
12"	357'		Tacky very pale brown colored clay with fine-to-	n/a	n/a
12"			coarse-grained very pale brown-colored sand		
12"			lenses at 364'-to-365',382'-to-384', and 386'-		
12"		400'	to-389'		
12"	400'		Medium-to-very coarse-grained very pale brown		
12"			-colored sand with a trace of gravel up to 3/4-		
12"		422'	inch and a clay lense from 414'-to-416'		
12"	422'	430'	Sandy tacky very pale brown-colored clay		
12"	430'		Medium-to-very coarse-grained very pale brown		
12"			-colored sand with a trace of gravel up to 3/8-		
12"		446'	inch		
12"	446'		Tacky sandy dark greenish gray-colored clay		
12"		467'	with a sand lense 450'-to-452'		
12"	467'		Multi colored gravel up to 2-inches and medium		
12"			-to-very coarse-grained very pale brown-colored		
12"			sand with tacky very pale brown-colored clay		
12"		527'	strips 483'-to-487' and 510'-to-513'		
12"	527'		Sticky clay, 2/3 very pale brown-colored and 1/3		
12"		548'	light greenish gray colored-		
12"	548'		Medium-to-very coarse-grained light greenish		
12"			gray-colored sand with gravel up to 3/4-inch,		
12"			small trace of moderately cemented sandstone,		
12"		587'	and clay lenses at 553'-to-555' and 568'-to-570'		
12"	587'	600'	Tacky, silty, dark greenish gray-colored clay		
12"	600'		Very coarse-to-fine-grained light greenish gray-		
12"		625'	-colored sand with gravel (3/4") and wood chips		
12"	625'		Very dark greenish gray-colored sandy silty		
12"		645'	tacky clay		
12"	645'		Light greenish gray-colored very coarse-to-		
12"			fine-grained sand with gravel (3/4") and		
12"		691'	black wood chips		
			(CONTINUED ON PAGE 3)		

=mud filled bore during drilling.

Completed Depth (Measurable) 855 feet below ground level

Date: Started June 17, 2013 Completed October 2, 2013

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 11-12-2013

*Driller Greg Mitchell Date 11-12-2013

*Operator II Date

Operator I Cody Post Date 11-12-2013

* Signature of Principal Driller and rig operator are required.

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All casings full-depth-sealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064474

Drilling Permit No. 962534-868593

Water right or injection well #

2. OWNER

Name City of Meridian #15-B Monitoring Well

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North [X] or South [ ] Rge. 01 East [ ] or West [X]

Sec. 11 SE 1/4 (10 acres) NE 1/4 (40 acres) NE 1/4 (160 acres)

Gov't Lot N/A County Ada

Lat. 43 ° 37.027' (Deg. and Decimal minutes)

Long. 116 ° 24.846' (Deg. and Decimal minutes)

Address of Well Site 1355 N. Linder Rd.; NW corner of W Sunny Slope Dr. and N. Linder Rd. City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lot. 7 Blk. 1 Sub. Name Vineyards Sub. No. 2

4. USE:

[ ] Domestic [ ] Municipal [X] Monitor [ ] Irrigation [ ] Thermal [ ] Injection
[X] Other A "nest" of multi-depth tube wells

5. TYPE OF WORK check all that apply (Replacement etc.)

[X] New Well [ ] Replacement well [ ] Modify existing well
[ ] Abandonment [ ] Other

6. DRILL METHOD:

[ ] Air Rotary [X] Mud Rotary [ ] Cable [X] Other Auger / direct mud-rotary

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
				SEE TABLE PAGE 4

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
2-Inch	+3'	263'	SCH80	PVC - ZONE #10	[X]	[ ]	[X]	[ ]
2-Inch	+3'	320'	SCH80	PVC - ZONE #9	[X]	[ ]	[X]	[ ]
2-Inch	+3'	400'	SCH80	PVC - ZONE #8	[X]	[ ]	[X]	[ ]

Was drive shoe used? [ ] Y [X] N Shoe Depth(s) No drive-shoe used

9. PERFORATIONS/SCREENS:

Perforations [X] Y [ ] N Method Factory-slotted SCH80 PVC

Manufactured screen [X] Y [ ] N Type "Johnson" slotted PVC well screen

Method of installation Lowered and tagged to the design depth

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
470'	480'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #7
560'	580'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #6
610'	620'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #5

Length of Headpipe Length of Tailpipe

Packer [ ] Y [ ] N Type

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
				SEE TABLE PAGE 5

11. FLOWING ARTESIAN:

Flowing Artesian? [X] Y [X] N Artesian Pressure (PSIG) SEE TABLE PAGE 5

Describe control device Lockable custom-fabricated steel enclosure

12. STATIC WATER LEVEL and WELL TESTS:

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Water temp. (°F) TABLE PAGE 6 Bottom hole temp. (°F) 74.38°F at 909 ft bgl

Describe access port 13 - 2" tube wells in a locked steel well head enclosure

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
DEVELOPME	NT PUMPING:	
AIR-LIFT	AND PUMP	WATER
SAMPLES	FROM EACH	ZONE

Test method: Pump [X] Bailer [ ] Air [X] Flowing artesian [ ]

Water Quality test or comments: SEE TABLE PAGE 6

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N	
12"	691'		Very dark greenish gray-colored sandy silty	n/a	n/a	=mud filled bore during drilling.
12"		702'	tacky clay			
12"	702'		Coarse-to-fine-grained light greenish gray-			
12"		713'	colored sand with wood chips			
12"	713'		Very dark greenish gray-colored sandy silty			
12"		722'	tacky clay			
12"	722'		Fine-to-very coarse-grained light greenish gray-			
12"		750'	colored sand with trace of gravel			
12"	750'	777'	Very dark greenish gray-colored tacky silty clay			
12"	777'		Very fine-to-very coarse-grained silty light			
12"		827'	greenish gray-colored sand			
12"	827'		Light greenish gray-colored very coarse-to-			
12"		879'	fine-grained sand with cobbles (3") and gravel			
12"	879'	891'	Very dark greenish gray-colored tacky silty clay			
12"	891'		Light greenish gray-colored very coarse-to-			
12"		901'	fine-grained sand with cobbles (3") and gravel			
12"	901'	909'	Tacky very dark greenish gray-colored clay			
			In addition to our onsite observations of the			
			cuttings and rig behavior, this log also had the			
			benefit of an on-site geologist during sampling			
			and borehole geophysical logs, both of which			
			were used to develop the best record possible			
			of the drilled section. - GP			

Completed Depth (Measurable) 855 feet below ground level

Date: Started June 17, 2013 Completed October 2, 2013

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 11-12-2013

*Driller Greg Mitchell Date 11-12-2013

*Operator II Date

Operator I Cody Post Date 11-12-2013

* Signature of Principal Driller and rig operator are required.

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All casings full-depth-sealed.

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IDAHO DEPARTMENT OF WATER RESOURCES
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Drilling Permit No. 962534-868593

Water right or injection well #

2. OWNER

Name City of Meridian #15-B Monitoring Well

Address 33 E. Broadway Avenue

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 03 North [X] or South [ ] Rge. 01 East [ ] or West [X]

Sec. 11 . SE 1/4 (10 acres) NE 1/4 (40 acres) NE 1/4 (160 acres)

Gov't Lot N/A County Ada

Lat. 43 ° 37.027' (Deg. and Decimal minutes)

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Address of Well Site 1355 N. Linder Rd.; NW corner of W Sunny Slope Dr. and N. Linder Rd. City Meridian
(Give at least name of road + Distance to Road or Landmark)

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4. USE:

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[X] Other A "nest" of multi-depth tube wells

5. TYPE OF WORK check all that apply (Replacement etc.)

[X] New Well [ ] Replacement well [ ] Modify existing well

[ ] Abandonment [ ] Other

6. DRILL METHOD:

[ ] Air Rotary [X] Mud Rotary [ ] Cable [X] Other Auger / direct mud-rotary

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
				SEE TABLE AT RIGHT

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
2-Inch	+3'	470'	SCH80	PVC - ZONE #7	X		X	
2-Inch	+3'	560'	SCH80	PVC - ZONE #6	X		X	
2-Inch	+3'	610'	SCH80	PVC - ZONE #5	X		X	

Was drive shoe used? [ ] Y [X] N Shoe Depth(s) No drive-shoe used

9. PERFORATIONS/SCREENS:

Perforations [X] Y [ ] N Method Factory-slotted SCH80 PVC

Manufactured screen [X] Y [ ] N Type "Johnson" slotted PVC well screen

Method of installation Lowered and tagged to the design depth

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
650'	670'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #4
730'	750'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #3
790'	800'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #2

Length of Headpipe Not applicable Length of Tailpipe No tailpipes

Packer [ ] Y [X] N Type No packer assemblies

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
				SEE TABLE PAGE 5

11. FLOWING ARTESIAN:

Flowing Artesian? [X] Y [X] N Artesian Pressure (PSIG) SEE TABLE PAGE 5

Describe control device Lockable custom-fabricated steel enclosure

12. STATIC WATER LEVEL and WELL TESTS:

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Water temp. (°F) TABLE PAGE 6 Bottom hole temp. (°F) 74.38°F at 909 ft bgl

Describe access port 13 - 2" tube wells in a locked steel well head enclosure

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
DEVELOPME	NT PUMPING:	
AIR-LIFT	AND PUMP	WATER
SAMPLES	FROM EACH	ZONE

Test method: Pump [X] Bailer [ ] Air [X] Flowing artesian [ ]

Water Quality test or comments: SEE TABLE PAGE 6

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
			SEALING PROCEDURES		
24"	0'	11'	Cement grout - pumped thru tremie - 14.7 ft³		
18"	0'	44'	Cement grout - pumped thru tremie - 68.2 ft³		
13.3"	0'	43'	Cem./ben. grout* - pumped thru tremie - 26.1 ft³		
12"	67'	74'	Cem./ben. grout* - pumped thru tremie - 3.2 ft³		
12"	109'	185'	Cem./ben. grout* - pumped thru tremie - 27.1 ft³		
12"	244'	255'	Cem./ben. grout* - pumped thru tremie - 5.7 ft³		
12"	287'	302'	Cem./ben. grout* - pumped thru tremie - 7.8 ft³		
12"	364'	376'	Cem./ben. grout* - pumped thru tremie - 7.8 ft³		
12"	437'	451'	Cem./ben. grout* - pumped thru tremie - 7.8 ft³		
12"	494'	540'	Cem./ben. grout* - pumped thru tremie - 23.3 ft³		
12"	582'	600'	Cem./ben. grout* - pumped thru tremie - 9.4 ft³		
12"	620'	637'	Cem./ben. grout* - pumped thru tremie - 7.8 ft³		
12"	674'	705'	Cem./ben. grout* - pumped thru tremie - 15.5 ft³		
12"	753'	772'	Cem./ben. grout* - pumped thru tremie - 15.5 ft³		
12"	801'	819'	Cem./ben. grout* - pumped thru tremie - 13.4 ft³		
12"	864'	869'	3/4" bentonite chip - poured and tagged - 4.2 ft³		
8.75"	869'	909'	1/4"-minus gravel - poured and tagged - 16.7 ft³		

Neat cement grouts are mixed at a rate of 6 gallons of water to 94-pounds of Portland Type I/II cement.
*Cement/bentonite grouts (cem./ben.) are a mixture of 24-gallons of water, 94-pounds of Portland Type I/II cement, and 50-pounds of Wyo-Ben brand Grout Well DF bentonite which makes approximately 29 gallons of grout.

Grout Seals, Bentonite Chip Seal, and Gravel:
-Depths verified by tagging through tremie and also calculated from the caliper log of the borehole.
-Volumes determined by calculation from the caliper log of the borehole and depths verified by tagging.
-All grout pumped under pressure from the bottom-up.

Completed Depth (Measurable) 855 feet below ground level

Date: Started June 17, 2013 Completed October 2, 2013

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Long. 116 ° 24.846' (Deg. and Decimal minutes)

Address of Well Site 1355 N. Linder Rd.; NW corner of W Sunny Slope Dr. and N. Linder Rd. City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lot. 7 Blk. 1 Sub. Name Vineyards Sub. No. 2

4. USE:

[ ] Domestic [ ] Municipal [X] Monitor [ ] Irrigation [ ] Thermal [ ] Injection

[X] Other A "nest" of multi-depth tube wells

5. TYPE OF WORK check all that apply (Replacement etc.)

[X] New Well [ ] Replacement well [ ] Modify existing well

[ ] Abandonment [ ] Other

6. DRILL METHOD:

[ ] Air Rotary [X] Mud Rotary [ ] Cable [X] Other Auger / direct mud-rotary

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
				SEE TABLE PAGE 4

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
2-Inch	+3'	650'	SCH80	PVC - ZONE #4	[X]	[ ]	[X]	[ ]
2-Inch	+3'	730'	SCH80	PVC - ZONE #3	[X]	[ ]	[X]	[ ]
2-Inch	+3'	790'	SCH80	PVC - ZONE #2	[X]	[ ]	[X]	[ ]

Was drive shoe used? [ ] Y [X] N Shoe Depth(s) No drive-shoe used

9. PERFORATIONS/SCREENS:

Perforations [X] Y [ ] N Method Factory-slotted SCH80 PVC

Manufactured screen [X] Y [ ] N Type "Johnson" slotted PVC well screen

Method of installation Lowered and tagged to the design depth

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
835'	855'	0.020"	84/ft	2-Inch	PVC	Sch80-Zone #1

Length of Headpipe Length of Tailpipe

Packer [ ] Y [ ] N Type

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
				SEE TABLE AT RIGHT

11. FLOWING ARTESIAN:

Flowing Artesian? [X] Y [X] N Artesian Pressure (PSIG) SEE TABLE ABOVE

Describe control device Lockable custom-fabricated steel enclosure

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 11 feet bgl Static water level (ft) TABLE PAGE 6

Water temp. (°F) TABLE PAGE 6 Bottom hole temp. (°F) 74.38°F at 909 ft bgl

Describe access port 13 - 2" tube wells in a locked steel well head enclosure

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
DEVELOPME	NT PUMPING:	
AIR-LIFT	AND PUMP	WATER
SAMPLES	FROM EACH	ZONE

Test method: Pump [X] Bailer [ ] Air [X] Flowing artesian [ ]

Water Quality test or comments: SEE TABLE PAGE 6

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
			FILTER PACKS ("Colorado Silica Sand" brand)		
12"	43'	67'	#8-#12 graded sand- poured and tagged- 21.5 ft³		
12"	74'	109'	#8-#12 graded sand- poured and tagged- 16.8 ft³		
12"	185'	244'	#8-#12 graded sand- poured and tagged- 19.4 ft³		
12"	255'	287'	#8-#12 graded sand- poured and tagged- 11.2 ft³		
12"	302'	364'	#8-#12 graded sand- poured and tagged- 27.3 ft³		
12"	376'	437'	#8-#12 graded sand- poured and tagged- 25.3 ft³		
12"	451'	499'	#8-#12 graded sand- poured and tagged- 21.4 ft³		
12"	540'	582'	#8-#12 graded sand- poured and tagged- 22.3 ft³		
12"	600'	620'	#8-#12 graded sand- poured and tagged- 9.6 ft³		
12"	637'	674'	#8-#12 graded sand- poured and tagged- 19.8 ft³		
12"	705'	753'	#8-#12 graded sand- poured and tagged- 24.1 ft³		
12"	772'	801'	#8-#12 graded sand- poured and tagged- 21.8 ft³		
12"	819'	864'	#8-#12 graded sand- poured and tagged- 28.5 ft³		
			ARTESIAN PRESSURES		
			(feet of head above completion interval)		
			(exact water levels from ground level on Page 6)		
			Zone #1 = 838 feet of water head = 363 PSI		
			Zone #2 = 793 feet of water head = 343 PSI		
			Zone #3 = 732 feet of water head = 317 PSI		
			Zone #4 = 652 feet of water head = 282 PSI		
			Zone #5 = 609 feet of water head = 264 PSI		
			Zone #6 = 558 feet of water head = 242 PSI		
			Zone #7 = 468 feet of water head = 203 PSI		
			Zone #8 = 397 feet of water head = 172 PSI		
			Zone #9 = 316 feet of water head = 137 PSI		
			Zone #10 = 259 feet of water head = 112 PSI		
			Zone #11 = 191 feet of water head = 83 PSI		
			Zone #12 = 83 feet of water head = 36 PSI		
			Zone #13 = 47 feet of water head = 20 PSI		

Completed Depth (Measurable) 855 feet below ground level

Date: Started June 17, 2013 Completed October 2, 2013

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Post Drilling Incorporated Co. No. 670

*Principal Driller George Post Date 11-12-2013

*Driller Greg Mitchell Date 11-12-2013

*Operator II Date

Operator I Cody Post Date 11-12-2013

* Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

All casings full-depth-sealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064474

Drilling Permit No. **962534-868593**

Water right or injection well # _____

2. OWNER

Name **City of Meridian** **#15-B Monitoring Well**

Address **33 E. Broadway Avenue**

City **Meridian** State **ID** Zip **83642**

3. WELL LOCATION:

Twp. **03** North [X] or South [ ] Rge. **01** East [ ] or West [X]

Sec. **11** **SE** 1/4 (10 acres) **NE** 1/4 (40 acres) **NE** 1/4 (160 acres)

Gov't Lot **N/A** County **Ada**

Lat. **43 ° 37.027'** (Deg. and Decimal minutes)

Long. **116 ° 24.846'** (Deg. and Decimal minutes)

Address of Well Site **1355 N. Linder Rd.; NW corner of W Sunny Slope Dr. and N. Linder Rd.** City **Meridian**
(Give at least name of road + Distance to Road or Landmark)

Lot. **7** Blk. **1** Sub. Name **Vineyards Sub. No. 2**

4. USE:

[ ] Domestic [ ] Municipal [X] Monitor [ ] Irrigation [ ] Thermal [ ] Injection
[X] Other **A "nest" of multi-depth tube wells**

5. TYPE OF WORK check all that apply (Replacement etc.)

[X] New Well [ ] Replacement well [ ] Modify existing well
[ ] Abandonment [ ] Other _____

6. DRILL METHOD:

[ ] Air Rotary [X] Mud Rotary [ ] Cable [X] Other **Auger / direct mud-rotary**

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
				SEE TABLE PAGE 4

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
2-Inch	**+3'**	**835'**	**SCH80**	**PVC - ZONE #1**	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Was drive shoe used? [ ] Y [X] N Shoe Depth(s) **No drive-shoe used**

9. PERFORATIONS/SCREENS:

Perforations [X] Y [ ] N Method **Factory-slotted SCH80 PVC**

Manufactured screen [X] Y [ ] N Type **"Johnson" slotted PVC well screen**

Method of installation **Lowered and tagged to the design depth**

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe _____ Length of Tailpipe _____

Packer [ ] Y [ ] N Type _____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
				SEE TABLE PAGE 5

11. FLOWING ARTESIAN:

Flowing Artesian? [X] Y [X] N Artesian Pressure (PSIG) **SEE TABLE PAGE 5**

Describe control device **Lockable custom-fabricated steel enclosure**

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) **11 feet bgl** Static water level (ft) **TABLE BELOW**

Water temp. (°F) **TABLE BELOW** Bottom hole temp. (°F) **74.38°F at 909 ft bgl**

Describe access port **13 - 2" tube wells in a locked steel well head enclosure**

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
DEVELOPME	**NT PUMPING:**	
AIR-LIFT	**AND PUMP**	**WATER**
SAMPLES	**FROM EACH**	**ZONE**

Test method: Pump [X] Bailer [ ] Air [X] Flowing artesian [ ]

Water Quality test or comments: **SEE TABLE BELOW**

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
			WATER LEVELS AND FIELD CHEMISTRY		
			(Water level datum = ground level)		
			(Field parameters measure at time of		
			water chemistry sampling from 8/8-12/2013.)		
Zn. 1	**835'**	**855'**	**w.l. = +3.28'; T = 69.1 °F; pH = 8.5; cond.= 105 uS**		
Zn. 2	**790'**	**800'**	**w.l. = +3.28'; T = 69.0 °F; pH = 8.9; cond.= 112 uS**		
Zn. 3	**730'**	**750'**	**w.l. = +1.90'; T = 68.9 °F; pH = 8.9; cond.= 127 uS**		
Zn. 4	**650'**	**670'**	**w.l. = +1.93'; T = 68.8 °F; pH = 8.7; cond.= 125 uS**		
Zn. 5	**610'**	**620'**	**w.l. = -1.42'; T = 67.8 °F; pH = 9.4; cond.= 163 uS**		
Zn. 6	**560'**	**580'**	**w.l. = -1.94'; T = 67.8 °F; pH = 9.2; cond.= 147 uS**		
Zn. 7	**470'**	**480'**	**w.l. = -2.05'; T = 67.5 °F; pH = 9.0; cond.= 150 uS**		
Zn. 8	**400'**	**420'**	**w.l. = -3.39'; T = 62.8 °F; pH = 7.1; cond.= 576 uS**		
Zn. 9	**320'**	**330'**	**w.l. = -3.59'; T = 59.5 °F; pH = 7.1; cond.= 598 uS**		
Z. 10	**263'**	**283'**	**w.l. = -3.62'; T = 59.2 °F; pH = 7.1; cond.= 587 uS**		
Z. 11	**195'**	**215'**	**w.l. = -4.03'; T = 58.5 °F; pH = 7.0; cond.= 415 uS**		
Z. 12	**90'**	**105'**	**w.l. = -7.09'; T = 58.6 °F; pH = 7.3; cond.= 481 uS**		
Z. 13	**55'**	**65'**	**w.l. = -7.53'; T = 59.0 °F; pH = 7.8; cond.= 420 uS**		
			PROJECT HYDROGEOLOGIST:		
			Ed Squires, RPG, Hydro Logic, Inc. - Boise, ID		
			SITE GEOLOGIST:		
			Kurt Newbry, Hydro Logic, Inc. - Boise, ID		
			PROJECT ENGINEER:		
			Kyle Radek, P.E., City of Meridian, ID		

Completed Depth (Measurable) **855 feet below ground level**

Date: Started **June 17, 2013** Completed **October 2, 2013**

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name **Post Drilling Incorporated** Co. No. **670**

*Principal Driller **George Post** Date **11-12-2013**

*Driller **Greg Mitchell** Date **11-12-2013**

*Operator II _____ Date _____

Operator I **Cody Post** Date **11-12-2013**

* Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk - (214) 340-9429 - www.FormsOnADisk.com

All casings full-depth-sealed.

Form 238-7
6/07

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IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0063877

Drilling Permit No. 915831-864505

Water right or injection well # B-1

2. OWNER: Idaho Transportation Department-DISTRICT 3

Name

Address PO BOX 8028

City BOISE State ID Zip 83707-2028

3.WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 13 ____ 10 acres 1/4 NE 40 acres 1/4 SE 160 acres 1/4

Gov't Lot ____ County ADA

Lat. 43 ° 35.633' (Deg. and Decimal minutes)

Long. 116 ° 23.908' (Deg. and Decimal minutes)

Address of Well Site I-84 MERIADIAN INTERCHANGE.

N. EAST SIDE City MERIADIAN

(Give at least name of road + Distance to Road or Landmark)

Lot. ____ Blk. ____ Sub. Name ____

4. USE:

☐ Domestic ☐ Municipal ☒ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other ____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other ____

6. DRILL METHOD:

☐ Air Rotary ☐ Mud Rotary ☐ Cable ☒ Other H.S.A.

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
CONCRETE	0	1	80 LBS.	pour through augers
3/8 bent.chips.	1	13	350 LBS.	Pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
2	+3	15	40	pvc	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____

9. PERFORATIONS/SCREENS:

Perforations ☒ Y ☐ N Method factory slot

Manufactured screen ☒ Y ☐ N Type Environmental Manufacturing

Method of installation through the augers.

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
15	20	.020	40	2	pvc	40

Length of Headpipe ____ Length of Tailpipe ____

Packer ☐ Y ☒ N Type ____

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
10/20	13	20	300 LBS	pour through the
silica sand				augers.

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) ____

Describe control device ____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 4' Static water level (ft) 4'

Water temp. (°F) <85° Bottom hole temp. (°F) ____

Describe access port above ground protective casing w/ lock

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)

Test method: Pump ☐ Bailer ☐ Air ☐ Flowing artesian ☐

Water quality test or comments: ____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
8.5	0	2	top soil brown.		X
8.5	2	20	sand and gravels.	X	

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WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 20

Date Started: Sep 26, 2012 Date Completed: Sep 26, 2012

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name HAZ-TECH DRILLING INC. Co. No. 470

*Principal Driller [signature] Date 10-15-12

*Driller ____ Date ____

*Operator II [signature] Date 10/10/12

Operator I ____ Date ____

* Signature of Principal Driller and rig operator are required.

Seal ends in gravel. Casing ends in gravel.

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Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0067281

Drilling Permit No. 967171-873230

Water right or injection well # _____

2. OWNER:

Name Brenda Sangster

Address 515 E. Linder Rd.

City Meridian State ID Zip 83642

3.WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 14 _____ 1/4 (10 acres) SE 1/4 (40 acres) NE 1/4 (160 acres)

Gov't Lot _____ County Ada

Lat. 43 ° 35.990 (Deg. and Decimal minutes)

Long. 116 ° 24.846 (Deg. and Decimal minutes)

Address of Well Site 515 E. Linder Rd.

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4 Bent.	0'	56'	25 bags	Overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	95'	.250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 95'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation Pullback

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
103'	98'	.20		5"	SS	

Length of Headpipe 10' Length of Tailpipe _____

Packer ☒ Y ☐ N Type K Packer

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
None				

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 10' Static water level (ft) 8'

Water temp. (°F) 58 Bottom hole temp. (°F) _____

Describe access port Well Cap

Well test: **Test method:**

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
52'	60 GPM	30 min.	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0'	6'	Topsoil		X
10"	6'	10'	Gravel		X
10"	10'	32'	Cemented Gravel	X	
10"	32'	45'	Gravel	X	
10"	45'	56'	Sand	X	
6"	56'	71'	Tan Clay 15'		X
6"	71'	75'	Sand 4'	X	
6"	75'	80'	Tan Clay 5'		X
6"	80'	83'	Sand 3'	X	
6"	83'	94'	Brown Clay 11'		X
6"	94'	103'	Sand 9'	X	

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WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 103'

Date Started: Aug 25, 2014 Date Completed: Aug 27, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Adamson Pump & Drilling Co. No. 457

*Principal Driller Dan Adamson Date Aug 28, 2014

*Driller Sam Navarro Date Aug 28, 2014

*Operator II _____ Date _____

Operator I _____ Date Aug 28, 2014

* Signature of Principal Driller and rig operator are required.

Seal ends in sand. Casing ends in sand. 39 ft (41%) of casing unsealed. 46% of well unsealed.

65

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D D0067419

Drilling Permit No. 967279-873338

Water right or injection well # _____

2. OWNER:

Name Velma Seabolt

Address 2332 N. 15th

City Boise State Idaho Zip 83702

3.WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 14 ____ 1/4 (10 acres) SW 1/4 (40 acres) SE 1/4 (160 acres)

Gov't Lot _____ County Ada

Lat. 43 ° 35.418'N (Deg. and Decimal minutes)

Long. 116 ° 25.123'W (Deg. and Decimal minutes)

Address of Well Site 2010 W. Overland Rd.

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☐ New well ☒ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4" Bentonite	0	44	1450 lbs.	10" Overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	1.5	119	.250	Steel	☒	☐	☐	☒
5"	116	121	.258	Steel	☐	☒	☐	☒
5"	131	132	.258	Steel	☐	☒	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 119'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation Pullback

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
121	131	.020	10'	5"	Stainless	304

Length of Headpipe 4.10 Length of Tailpipe 1.4

Packer ☒ Y ☐ N Type Rubber K-Packer

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
N/A				

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) _____ Static water level (ft) 6'

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
80'	70+ GPM	1 HR.

Test method:

Pump	Bailer	Air	Flowing artesian
☐	☐	☒	☐
☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
	2	8	Brown Clay		X
	8	15	Gravel		X
	15	21	Sand w/ Clay	X	
	21	38	Gravel & Sand	X	
	38	44	Sand	X	
6"	44	68	Sand 24'	X	
	68	70	Brown Clay 2'		X
	70	96	Sand 26'	X	
	96	119	Sand w/ Clay Streaks 23'	X	
	119	131	Coarse Sand 12'	X	
	131	132	Clay 1'		X

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WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 132'

Date Started: Sep 4, 2014 Date Completed: Sep 5, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Dennis Phipps Well Drilling In Co. No. 332

*Principal Driller _____ Date Sep 8, 2014

*Driller _____ Date _____

*Operator II _____ Date Sep 8, 2014

Operator I _____ Date Sep 8, 2014

* Signature of Principal Driller and rig operator are required.

The bentonite chip seal ends in a sand section at 44 ft. 2 ft clay bypassed at 68 ft to 70 ft. 75 ft (63%) of the casing is unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064833

Drilling Permit No. 9164017-8706716

Water right or injection well #

2. OWNER:

Name Gorilla Capital AC-1,LLC

Address 5460 West Franklin Rd Suite K

City Boise State ID Zip 83705

3.WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 16 ____ 1/4 (10 acres) S/E 1/4 (40 acres) S/E 1/4 (160 acres)

Gov't Lot ____ County Ada

Lat. 43 ° 35.6184 (Deg. and Decimal minutes)

Long. 116 ° 20.2260 (Deg. and Decimal minutes)

Address of Well Site 12422 Castlewood

(Give at least name of road + Distance to Road or Landmark) City

Lot. 7 Blk. 1 Sub. Name Cloverdale Acres

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4 & #5	0	40	42	overbore
Bentonite				

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6	+1.5	111	.250	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 111

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method

Manufactured screen ☒ Y ☐ N Type 20 slot Johnson

Method of installation pull back casing

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
113	118	20		5	stainless	.250

Length of Headpipe 5' Length of Tailpipe 3/8 plate

Packer ☒ Y ☐ N Type 3 lip rubber K pack

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☐ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 42 Static water level (ft) 42

Water temp. (°F) 60 Bottom hole temp. (°F)

Describe access port removable well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
118	30	1hr	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
12	0	2	topsoil		X
12	2	6	clay		X
12	6	30	gravel		X
10	30	45	clay		X
6	45	63	clay and sand 18'	X	
6	63	74	clay 11'		X
6	74	97	gravel 23'	X	
6	97	118	coarse sand and gravel 21	X	

RECEIVED
DEC 11 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 118

Date Started: Nov 25, 2013 Date Completed: Nov 26, 2013

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Nu Acre Drilling LLC Co. No. 701

*Principal Driller Date Dec 9, 2013

*Driller Date

*Operator II Date

Operator I Date

* Signature of Principal Driller and rig operator are required.

Casing ends in sand. 71 ft (64%) of casing unsealed. 66% of well unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064362

Drilling Permit No. 962954-869013

Water right or injection well # _____

2. OWNER:

Name Jeremy Butterfield

Address 1327 N. Autumn Wind Dr.

City Nampa State ID Zip 83687

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 16 ____ 1/4 (10 acres) SW 1/4 (40 acres) SW 1/4 (160 acres)

Gov't Lot _____ County Ada

Lat. 43 ° 35.616 (Deg. and Decimal minutes)

Long. 116 ° 28.163 (Deg. and Decimal minutes)

Address of Well Site 6029 West View Dr.

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8bentonite	0	42	1350lbs	dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	171	.250	steel	☒	☐	☐	☒
5"	167	172	.258	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 171ft

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type johnson

Method of installation pull back

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
172	177	.020	---	5"	stainless	

Length of Headpipe 5ft Length of Tailpipe ---

Packer ☒ Y ☐ N Type double wiper

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 75ft Static water level (ft) 75ft

Water temp. (°F) 56degF Bottom hole temp. (°F) _____

Describe access port well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
102	75gpm	60minutes	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	1	gravel		X
"	1	4	hard brown clay		X
"	4	33	gravel and sand		X
"	33	42	reddish tan clay		X
6"	42	45	reddish tan clay 3'		X
"	45	67	coarse sand 22'		X
"	67	75	sandy clay 8'		X
"	75	86	sand 11'	X	
"	86	91	tan clay 5'		X
"	91	134	coarse sand 43'	X	
"	134	141	sandy tan clay 7'		X
"	141	177	coarse sand and gravel 36'	X	
"	177		tan clay		

RECEIVED
JUL 11 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 177ft

Date Started: Jun 28, 2013 Date Completed: Jul 3, 2013

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller [signature] Date Jul 3, 2013

*Driller [signature] Date Jul 3, 2013

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

Casing ends in sand/gravel. 129' (75%) of casing unsealed. 76% of well unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064361

Drilling Permit No. 9602905-868964

Water right or injection well # _____

2. OWNER:

Name Wayne Butterfield

Address 1327 N. Autumn Wind Dr.

City Nampa State ID Zip 83687

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 16 ____ 10 acres 1/4 SW 40 acres 1/4 SW 160 acres 1/4

Gov't Lot _____ County Ada

Lat. 43 ° 35.618 (Deg. and Decimal minutes)

Long. 116 ° 28.290 (Deg. and Decimal minutes)

Address of Well Site 6175 West View Dr.

City Meridian

(Give at least name of road + Distance to Road or Landmark)

Lot. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8bentonite	0	42	1450lbs	dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	137	.250	steel	☒	☐	☐	☒
5"	135	140	.258	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 137ft

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method _____

Manufactured screen ☒ Y ☐ N Type johnson

Method of installation wash-in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
140	145	.016	---	5"	stainless	

Length of Headpipe 5ft Length of Tailpipe ---

Packer ☒ Y ☐ N Type double-wiper

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 67ft Static water level (ft) 67ft

Water temp. (°F) 56degF Bottom hole temp. (°F) _____

Describe access port well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
77ft	75gpm	90minutes	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	1	top soil		X
"	1	3	hard brown clay		X
"	3	39	gravel and sand		X
"	39	42	red sandy clay		X
6"	42	48	red sandy clay 6'		X
"	48	63	coarse sand 15'		X
"	63	67	sandy clay 4'		X
"	67	91	sand 24'	X	
"	91	96	sandy clay 5'		X
"	96	125	sand 29'	X	
"	125	131	sandy clay 6'		X
"	131	137	tan clay 6'		X
"	137	145	sand 8'	X	

RECEIVED
JUL 11 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 145ft

Date Started: Jun 26, 2013 Date Completed: Jun 28, 2013

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller _____ Date Jul 1, 2013

*Driller _____ Date Jul 1, 2013

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

95 ft (69%) of casing unsealed. 71% of well unsealed.

65

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0067271

Drilling Permit No. 9660350-872409

Water right or injection well #

2. OWNER

Name Wagstaff, Craig

Address 5011 W. Perkins LN

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 21 SE 1/4 (10 acres) SE 1/4 (40 acres) ____ 1/4 (160 acres)

Gov't Lot ____ County Ada

Lat. 43 ° 34.638 (Deg. and Decimal minutes)

Long. 116 ° 26.427 (Deg. and Decimal minutes)

Address of Well Site Same

(Give at least name of road • Distance to Road or Landmark) City Meridian

Lot. ____ Blk. ____ Sub. Name ____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Med Chips	0	50	1500 lbs	Poured

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	246	.250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 246'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method

Manufactured screen ☐ Y ☒ N Type

Method of installation

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe ____ Length of Tailpipe ____

Packer ☐ Y ☒ N Type

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 75 Static water level (ft) 75

Water temp. (°F) 59 Bottom hole temp. (°F) 59

Describe access port Sanitary Well Cap

Well test: **Test method:**

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
220	100	60	☐	☐	☒	☐

Water Quality test or comments: Good/ no odor

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
10	2	25	Clay		X
10	25	50	Cemented Gravel		X
6"	50	75	Sand w/ strips of clay 25'		X
6	75	140	Sand 65'	X	
6	140	160	Brown Clay 20'		X
6	160	190	Heaving Sand 30'	X	
6	190	220	Brown Clay 30'		X
6	220	240	Heaving Sand 20'	X	
6	240	246	Brown Clay 6'		X
6	246	250	Sand 4'	X	

RECEIVED
AUG 07 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 248'

Date: Started 6/25/2014 Completed 7/3/2014

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Can-Ada Well Drilling & Pump Co. No. 304

*Principal Driller Earl Skinner Earl Skinner Date 7/21/2014

*Driller ____ Date ____

*Operator II Brad Skinner Date 7/21/2014

Operator I ____ Date ____

* Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

Seal ends in sand/gravel. 196 ft (80%) of casing unsealed. 80% of well unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D D0067420

Drilling Permit No. 967295-873354

Water right or injection well #

2. OWNER:

Name Pride LLC

Address 151 W. Galvani Dr.

City Meridian State Idaho Zip 83642

3.WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 22 ___ 1/4 (10 acres) NE 1/4 (40 acres) NE 1/4 (160 acres)

Gov't Lot ___ County Ada

Lat. 43 ° 35.292'N (Deg. and Decimal minutes)

Long. 116 ° 26.150'W (Deg. and Decimal minutes)

Address of Well Site 3307 Davis Dr.

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. ___ Blk. ___ Sub. Name ___

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☒ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4" Bentonite	0	38	1150 lbs.	10" Overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	1.5	246	.250	Steel	☒	☐	☐	☒
5"	242	247	.258	Steel	☐	☒	☒	☐
5"	257	259	.258	Steel	☐	☒	☒	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 246'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation Pullback

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
247	257	.020	10'	5"	Stainless	304

Length of Headpipe 5.1 Length of Tailpipe 2'

Packer ☒ Y ☐ N Type Rubber K-Packer

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
N/A				

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) ___ Static water level (ft) 90'

Water temp. (°F) ___ Bottom hole temp. (°F) ___

Describe access port

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
240'	100 GPM	1 HR.	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	1	Top Soil		X
	1	9	Hard Pan		X
	9	37	Cemented Gravel		X
6"	37	50	Sandy Clay 13'		X
	50	135	Sandy Clay w/ Sand 85'		X
	135	146	Sand 11'	X	
	146	152	Sandstone 6'		X
	152	156	Dark Brown Clay 4'		X
	156	175	Sand w/ Clay Streaks 19'	X	
	175	192	Sand 17'	X	
	192	204	Clay w/ Sand Streaks 12'	X	
	204	224	Sandy Clay 20'		X
	224	228	Sand 4'	X	
	228	242	Clay 14'		X
	242	259	Coarse White Sand 17'	X	

RECEIVED
OCT 06 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 259'

Date Started: Sep 5, 2014 Date Completed: Sep 25, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Dennis Phipps Well Drilling In Co. No. 332

*Principal Driller ___ Date Sep 26, 2014

*Driller ___ Date

*Operator II ___ Date Sep 26, 2014

Operator I ___ Date Sep 26, 2014

* Signature of Principal Driller and rig operator are required.

Casing ends in sand. 208 ft (85%) of casing unsealed. 86% of well unsealed. First water not reported and static water level does not agree with water log.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D D0064096
Drilling Permit No. 911E004-867240
Water right or injection well #

2. OWNER
Name Nance, William James
Address 4525 W. Lamont
City Meridian State Id Zip 83642

3. WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒
Sec. 22 NE 1/4 (10 acres) NW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot County Ada
Lat. 43 ° 34.972 (Deg. and Decimal minutes)
Long. 116 ° 27.013 (Deg. and Decimal minutes)
Address of Well Site Same
City Meridian
(Give at least name of road + Distance to Road or Landmark)
Lot. Blk. Sub. Name

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (bs or ft³)	Placement method/procedure
Med Chips	0	42	25 bags	poured

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	207	.250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 207'

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☐ Y ☒ N Type
Method of installation

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe Length of Tailpipe
Packer ☐ Y ☒ N Type

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (bs or ft³)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 95' Static water level (ft) 99'
Water temp. (°F) 58 Bottom hole temp. (°F) 58
Describe access port Sanitary Well Cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
198'	100	60

Test method: Pump ☐ Bailer ☐ Air ☒ Flowing artesian ☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
10"	2	6	Hard Pan		X
10"	6	35	Gravel		X
10"	35	42	Sandy Clay		X
6"	42	95	Sandy Brown Clay 53'		X
6"	95	100	Sand 5'	X	
6"	100	160	Brown Clay 60'		X
6"	160	200	Heaving Sand 40'	X	
6"	200	210	Brown Clay 10'		X
6"	210	213	Sand 3'	X	

RECEIVED
NOV 26 2012
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 210'
Date: Started 10/18/2012 Completed 10/25/2012

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Can-Ada Well Drilling & Pump Co. No. 304
*Principal Driller Earl Skinner Earl Skinner Date 11/17/2012
*Driller Date
*Operator II Brad Skinner Date 11/17/2012
Operator I Date
* Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

165 ft (80%) of casing unsealed. 80% of well unsealed.

Form 238-7
6/07

63

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064009

Drilling Permit No. 915928 - 8605766

Water right or Injection well #

2. OWNER

Name Earthcraft Construction

Address 2201 Sumac

City Boise State Id Zip 83706

3. WELL LOCATION:

Twp. 3 North ☐ or South ☒ Rge. 1 East ☐ or West ☒

Sec. 26 ___ 1/4 (10 acres) sw 1/4 (40 acres) se 1/4 (160 acres)

Gov't Lot County ADA

Lat. 43 ° 33.747 (Deg. and Decimal minutes)

Long. 116 ° 25.323 (Deg. and Decimal minutes)

Address of Well Site 4720 so.Rock Ranch Ln

City Meridian

(Give at least name of road + Distance to Road or Landmark)

Lot 4 Blk. 1 Sub. Name Rock Ranch Estates

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8bentonite	0	51	1800lbs	pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6	2	195	.250	steel	☒	☐	☐	☒
5	191	197	.250	steel	☒	☐	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 195

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method

Manufactured screen ☒ Y ☐ N Type johnson

Method of installation set in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
197	202	.20	5 Ft	5	S.S	.250

Length of Headpipe 6 Length of Tailpipe

Packer ☒ Y ☐ N Type six weng

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 111 Static water level (ft) 106

Water temp. (°F) 56 Bottom hole temp. (°F)

Describe access port cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
94	75	1hr	☐	☐	☒	☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.			Water Y	Water N
10	0	4	fill				X
10	4	7	top soil				X
10	7	11	brokin up lava				X
10	11	19	brown clay				X
10	19	46	gravel				X
10	46	53	brown clay				X
6	53	65	Brown sand		12'		X
6	65	72	Brown clay	7'			X
6	72	94	Sand Clay	22'			X
6	94	103	Brown Sand		9'		X
6	103	105	Brown Clay	2'			X
6	105	107	Brown Sand		2'		X
6	107	111	Brown Clay	4'			X
6	111	116	Brown Sand		5'	X	
6	116	124	Brown Clay	8'			X
6	124	130	Brown Sannd		6'	X	
6	130	133	Brown Clay	3'			X
6	133	143	Brown Sand		10'	X	
6	143	145	Brown Clay	2'			X
6	145	151	Brown Sand		6'	X	
6	151	152	Brown Clay	1'			X
6	152	162	Brown Sand		10'	X	
6	162	165	Brown Clay	3'			X
6	165	173	Brown Sand		8'	X	
6	173	175	Brown Clay	2'			X
6	175	185	Brown Sand		10'	X	
6	185	187	Brown Clay	2'			X
6	187	202	Brown Sand		15'	X	

Completed Depth (Measured) 202

Date: Started 10-3-12 Completed 10-8-12

OCT 10 2012
WATER RESOURCES
REGION

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name waterpro Well Drilling Co. No. 626

*Principal Driller Monte Port Date 10-8-12

*Driller Date

*Operator II Date

Operator I Date

* Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk • (214) 340-9429 • www.FormsOnADisk.com

Casing ends in sand. 144 ft (74%) of casing unsealed. 75% of well unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0066179
Drilling Permit No. 965047-871106
Water right or injection well #

2. OWNER
Name Fullmer, Jeff
Address 4570 So Rock Ranch Lane
City Meridian State ID Zip 83642

3. WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒
Sec. 26 ___ 1/4 (10 acres) SW 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot County Ada
Lat. 43 ° 33.769 (Deg. and Decimal minutes)
Long. 116 ° 25.333 (Deg. and Decimal minutes)
Address of Well Site 4570 So Rock Ranch Ln City Meridian
(Give at least name of road • Distance to Road or Landmark)
Lot. Blk. Sub. Name

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (bs or ft³)	Placement method/procedure
Med Chips	3	42	23 bags	Poured

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	246	250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 246'

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type Johnson
Method of installation Wash Down

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
249	259	20		5"	Stainless	.304

Length of Headpipe 8' Length of Tailpipe Plate w/Valve
Packer ☒ Y ☐ N Type Figure K Double Rudder

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (bs or ft³)	Placement method

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 115' Static water level (ft) 115'
Water temp. (°F) 59 Bottom hole temp. (°F) 59
Describe access port Sanitary Well Cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
220	75	60

Test method: Pump ☐ Bailer ☐ Air ☒ Flowing artesian ☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.			Water Y	Water N
13"	0	2	Top Soil				X
13	2	5	Hard Pan				X
13	5	8	Lava Rock				X
13	8	18	Brown Clay				X
10"	18	22	Brown Clay				X
10	22	36	Gravel w/boulders				X
10	36	42	Brown Clay				X
6"	42	80	Brown Clay	38'	—		X
6	80	140	Sand W/strips of clay		60'	X	
6	140	185	Sand		45'	X	
6	185	200	Brown Clay	15'			X
6	200	203	Sand/50 gpm(not enough)		3'	X	
6	203	210	Brown Clay	7'			X
6	210	213	Sand 60 gpm/Orange		3'	X	
6	213	220	Brown Clay	7'			X
6	220	243	Sand		23'	X	
6	243	249	Brown Sticky Clay	6'	—		X
6	249	259	Sand		10'	X	

RECEIVED
MAR 04 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 259'
Date: Started 2/8/2014 Completed 2/26/2014

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Can-Ada Well & Pump Co. Co. No. 304
*Principal Driller Earl Skinner Earl Skinner Date 3/1/2014
*Driller Date
*Operator II Brad Skinner Date 3/1/2014
Operator I Date
* Signature of Principal Driller and rig operator are required

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

204 ft (83%) of casing unsealed. 84% of well unsealed.

65

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0067370

Drilling Permit No. 966943-873002

Water right or injection well #

2. OWNER

Name Frederick, Charles

Address 6040 N. Shandee Dr.

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 4 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 29 NE 1/4 (10 acres) NW 1/4 (40 acres) 1/4 (160 acres)

Gov't Lot County Ada

Lat. 43 ° 39.588 (Deg. and Decimal minutes)

Long. 116 ° 22.030 (Deg. and Decimal minutes)

Address of Well Site Same

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. Blk. Sub. Name

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Med Chips	0	42	1100lbs	Poured

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	149	.250	Steel	☒	☐	☐	☒
5"	141	147	.250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 147'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method

Manufactured screen ☒ Y ☐ N Type Johnson

Method of installation Pulled casing back

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
147	157			5"	Stainless	.304

Length of Headpipe 6' Length of Tailpipe Plate

Packer ☒ Y ☐ N Type

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 43' Static water level (ft) 43'

Water temp. (°F) 58 Bottom hole temp. (°F) 58

Describe access port Sanitary Well Cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
135	130	60

Test method: Pump ☐ Bailer ☐ Air ☒ Flowing artesian ☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	2	Top Soil		X
10	2	5	Black Dirt		X
10	5	15	Dark Brown Clay		X
10	15	30	Gravel & Boulders		X
10	30	42	Brown Clay		X
6"	42	43	Brown Clay 1'		X
6	43	68	Sand w/ clay strips 25'	X	
6	68	78	Brown Clay 10'		X
6	78	85	Sand 7'	X	
6	85	120	Brown Clay 35'		X
6	120	157	Sand w/ Gravel 37'	X	

RECEIVED
SEP 12 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 157'

Date: Started 8/11/2014 Completed 8/18/2014

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Can-Ada Well and Pump Co. No. 304

*Principal Driller Earl Skinner Earl Skinner Date 9/8/2014

*Driller Date

*Operator II Brad Skinner Date 9/8/2014

Operator I Date

* Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk - (214) 340-9429 - www.FormsOnADisk.com

Casing ends in sand. 107 ft (72%) of casing unsealed. 73% of well unsealed.

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064408

Drilling Permit No. 962228-868287 ✓

Water right or injection well # 63-33698

2. OWNER:

Name Eagle FM Group CPB of the LDS Church

Address P.O. Box 609

City Eagle State ID Zip 83616

3.WELL LOCATION:

Twp. 4 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 31 ____ 10 acres 1/4 SE 40 acres 1/4 SE 160 acres 1/4

Gov't Lot ____ County Ada

Lat. 43 ° 38.198 (Deg. and Decimal minutes)

Long. 116 ° 22.595 (Deg. and Decimal minutes)

Address of Well Site 3431 N. Locust Grove Rd.

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. ____ Blk. ____ Sub. Name ____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection
☐ Other ____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other ____

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
cem/ben	10	185	252cu/ft	tremie
Bentonite	0	10	5 cu/ft	dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
8"	+2	18	.322	steel	☒	☐	☒	☐
8"	18	198	sdr-17	pvc	☒	☐	☒	☐
8"	198	203	.322	steel	☒	☐	☐	☒
8"	223	225	.322	steel	☒	☐	☐	☒

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 40ft

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method ____

Manufactured screen ☒ Y ☐ N Type alloy machine works

Method of installation placed

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
203	223	.025	---	8"	stainless	

Length of Headpipe ____ Length of Tailpipe ____

Packer ☐ Y ☐ N Type ____

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
8-12silica	186	227	46.5 cu/ft	dry pour

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☐ N Artesian Pressure (PSIG) ____

Describe control device ____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) ____ Static water level (ft) ____

Water temp. (°F) 56degF Bottom hole temp. (°F) ____

Describe access port turtle cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
27ft	230gpm	240minutes	☒	☐	☐	☐
			☐	☐	☐	☐

Water quality test or comments: ____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
16"	0	2	top soil		
"	2	6	dark brown clay		
"	6	34	gravel and sand		
"	34	38	sandy clay		x
"	38	40	coarse sand	x	
14"	40	66	coarse sand	x	
"	66	72	tan clay		x
"	72	80	coarse sand	x	
"	80	82	tan clay		x
"	82	86	sand	x	
"	86	90	tan clay		x
"	90	97	coarse sand	x	
"	97	105	tan clay		x
"	105	145	coarse sand	x	
"	145	147	tan sandy clay		x
"	147	159	sand	x	
"	159	160	sandy clay		x
"	160	171	coarse sand	x	
"	171	179	tan clay		x
"	179	186	sand with clay strips	x	
"	186	202	coarse sand 16'	x	
"	202	203	sandy clay 1'		x
"	203	227	coarse sand 24'	x	

RECEIVED
JUN 0 5 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 225ft

Date Started: Apr 24, 2013 Date Completed: May 3, 2013

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller [signature] Date May 8, 2013

*Driller [signature] Date May 8, 2013

*Operator II ____ Date ____

Operator I ____ Date ____

* Signature of Principal Driller and rig operator are required.

18 ft (9%) of casing unsealed. 18% of well unsealed. First water and static water level not reported.

65

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0066264
Drilling Permit No. 965607-871666
Water right or injection well #

2. OWNER
Name Brian Ausman
Address 4010 N Locust Grove Rd
City Meridian State ID Zip 83646

3. WELL LOCATION:
Twp. 4 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 32 ___ 1/4 (10 acres) sw 1/4 (40 acres) ne 1/4 (160 acres)
Gov't Lot ___ County ADA
Lat. 43 ° 38.473 (Deg. and Decimal minutes)
Long. 116 ° 22.413 (Deg. and Decimal minutes)
Address of Well Site 4010 N Locust Grove Rd
City Meridian
(Give at least name of road + Distance to Road or Landmark)
Lot. ___ Blk. ___ Sub. Name ___

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4bentonite	0	38	1500lbs	pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6	2	74	.250	steel	☒	☐	☐	☒
5	70	81	.25	steel	☒	☐	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 72

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type johnson
Method of installation wash in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
81	86	.16	5ft	5	ss	.250

Length of Headpipe 11 Length of Tailpipe
Packer ☒ Y ☐ N Type three wing

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
na	na	na	na na	na

11. FLOWING ARTESIAN:
Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)
Describe control device

12. STATIC WATER LEVEL and WELL TESTS:
Depth first water encountered (ft) 30 Static water level (ft) 27
Water temp. (°F) 57 Bottom hole temp. (°F)
Describe access port cap

Well test: **Test method:**

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
58	50+	1hr	☐	☐	☒	☐

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10	0	2	top soil		x
10	2	5	brown clay		x
10	5	40	gravel	x	
6	40	65	gravel 25'	x	
6	68	74	brown clay 6'		x
6	74	86	corse sand 12'	x	

RECEIVED
MAY 08 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 86
Date: Started 4-21-14 Completed 4-23-14

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Company Name Treasure Valley Drilling Co. No. 560
*Principal Driller Monte Post Date 5-6-14
*Driller Date
*Operator II [signature] Date 5-6-14
Operator I Pike Langer Date 5-6-14
*Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

Seal ends in gravel. 36 ft (49%) of casing unsealed. 56% of well unsealed.

13

Form 238-7
6/07

859313

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0057747

Drilling Permit No. _____

Water right or injection well # _____

2. OWNER:

Name JOHN STRANGE

Address 1790 E STAR LANE

City MERIDIAN State ID Zip 83646

3. WELL LOCATION:

Twp. 4 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 32 ___ 10 acres ___ 1/4 SW 40 acres 1/4 NW 160 acres 1/4

Gov't Lot _____ County ADA

Lat. 43 ° 38:637 (Deg. and Decimal minutes)

Long. 116 ° 22:318 (Deg. and Decimal minutes)

Address of Well Site 1790 E STAR LANE

(Give at least name of road + Distance to Road or Landmark) City MERIDIAN

Lot. 5 Blk. 2 Sub. Name Heritage Sub #1

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☐ Other _____

5. TYPE OF WORK:

☐ New well ☒ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8 Chips	0	40	1000#	Pour
Bentonite				

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+1	85	250	Steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 85'

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type Stainless Steel Screen

Method of installation WASHED IN

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
86	96	.20		5"	St Steel	

Length of Headpipe 8' Length of Tailpipe _____

Packer ☒ Y ☐ N Type K-Packer

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 82' Static water level (ft) 20'

Water temp. (°F) 60 Bottom hole temp. (°F) 60

Describe access port _____

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
10'	75 gpm	2 hrs	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
12"	0	9	Brown Clay		X
10"	9	39	Sand & Gravel		X
10	39	46	Brown Sandy Clay 7'		X
6	46	58	Brown Clay 12'		X
6	58	59	Brown Sand 1'		X
6	59	70	Brown Sandy Clay 11'		X
6	70	82	Brown Clay 12'		X
6	82	84	Brown Sand (dirty) 2'	X	
6	84	86	Brown Clay 2'		X
6	86	96	White & Brown Sand 10'	X	

RECEIVED
JUL 12 2010
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 96'

Date Started: Jul 3, 2010 Date Completed: Jul 3, 2010

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name S.O.S. WELLDRILLING Co. No. 212

*Principal Driller [signature] Date 7-6-10

*Driller [signature] Date 7-6-10

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

45 ft (53%) of casing unsealed. 58% of well unsealed.

63

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064164

Drilling Permit No. 916 404-867630 ✓

Water right or injection well # 63-32811

2. OWNER:

Name The Club at Spurwing, LLC

Address 11760 W. Executive Dr. #120

City Boise State ID Zip 83713

3.WELL LOCATION:

Twp. 4 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 23 ____ 10 acres 1/4 SW 40 acres 1/4 SE 160 acres 1/4

Gov't Lot ____ County Ada

Lat. 43 ° 39.802 (Deg. and Decimal minutes)

Long. 116 ° 25.392 (Deg. and Decimal minutes)

Address of Well Site 6800 N Spurwing Way City Meridian

(Give at least name of road + Distance to Road or Landmark)

Lot. ____ Blk. ____ Sub. Name ____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection
☐ Other ____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other ____

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
ben/cem	25	205	249.6cuft	tremie
3/4 bentonite	0	25	1150	dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
10"	+3	232	.250	steel	☒	☐	☐	☒
10"	252	254	.250	steel	☒	☐	☐	☒
10"	274	275	.250	steel	☒	☐	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method ____

Manufactured screen ☒ Y ☐ N Type alloy machine works

Method of installation placed

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
232	252	.030	----	10"	stainless	
254	274	.030	-----	10"	stainless	

Length of Headpipe ____ Length of Tailpipe 1ft

Packer ☐ Y ☒ N Type ____

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
8-12 silica	205	275	7200lbs	dry pour

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) ____

Describe control device ____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 25ft Static water level (ft) 25ft

Water temp. (°F) 57degF Bottom hole temp. (°F) ____

Describe access port turtle cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Test method: Pump	Bailer	Air	Flowing artesian
250ft	600+gpm	30minutes	☐	☐	☒	☐
			☐	☐	☐	☐

Water quality test or comments: ____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
16"	0	8	brown clay		X
"	8	34	gravel and sand	X	
"	34	42	tan clay		X
14"	42	50	tan clay		X
"	50	55	sand	X	
"	55	68	tan clay		X
"	68	73	sand	X	
"	73	82	sandy clay		X
"	82	90	sand	X	
"	90	94	tan clay		X
"	94	110	coarse sand	X	
"	110	124	tan sandy clay		X
"	124	125	sand	X	
"	125	160	tan clay		X
"	160	188	sand	X	
"	188	200	clay w/ sand strips	X	
"	200	214	tan clay		X
"	214	226	sand 12'	X	
"	226	228	tan clay 2'		X
"	228	275	coarse sand 47'	X	

RECEIVED
FEB 25 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 275ft

Date Started: Dec 13, 2012 Date Completed: Feb 11, 2013

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller ____ Date Feb 11, 2013

*Driller ____ Date Feb 11, 2013

*Operator II ____ Date ____

Operator I ____ Date ____

* Signature of Principal Driller and rig operator are required.

Casing ends in sand. 27 ft (12%) of casing unsealed. 25% of well unsealed.

63

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0067342

Drilling Permit No. 966841-872900

Water right or injection well #

2. OWNER:

Name Larry White

Address 2741 S. Goshen Way

City Boise State ID Zip 83709

3.WELL LOCATION:

Twp. 2 North ☒ or South ☐ Rge. 1 East ☒ or West ☐

Sec. 4 ___ 1/4 (10 acres) NE 1/4 (40 acres) SW 1/4 (160 acres)

Gov't Lot ___ County Ada

Lat. 43 ° 32.319 (Deg. and Decimal minutes)

Long. 116 ° 20.730 (Deg. and Decimal minutes)

Address of Well Site 3804 Vantage Point Ln. City Meridian

(Give at least name of road + Distance to Road or Landmark)

Lot. ___ Blk. ___ Sub. Name

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/4bentonite	0	47	1550lbs	overbore

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	314	.250	steel	☒	☐	☐	☒
5"	311	316	.258	steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 314ft

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☐ N Method

Manufactured screen ☒ Y ☐ N Type johnson

Method of installation wash in

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
316	321	.020	---	5"	stainless	

Length of Headpipe 5ft Length of Tailpipe -----

Packer ☒ Y ☐ N Type double wiper

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG)

Describe control device

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 145 Static water level (ft) 145

Water temp. (°F) 58degF Bottom hole temp. (°F)

Describe access port well cap

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
	75gpm	90minutes	☐	☐	☒	☐
			☐	☐	☐	☐

Test method:

Water quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
10"	0	1	top soil		X
"	1	5	hard tan clay		X
"	5	33	gravel and sand		X
"	33	47	tan clay		X
6"	47	58	coarse sand 11'		X
"	58	67	tan clay 9'		X
"	67	90	coarse sand 23'		X
"	90	110	sandy clay 20'		X
"	110	138	gravel and sand 28'		X
"	138	145	sandy clay 7'		X
"	145	205	coarse sand 60'	X	
"	205	215	gravel and sand 10'	X	
"	215	245	coarse sand 30'	X	
"	245	257	gravel and sand 12'	X	
"	257	311	sand 54'	X	
"	311	314	tan clay 3'		
"	314	321	coarse sand and gravel	X	

RECEIVED
AUG 11 2014
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 321ft

Date Started: Jul 31, 2014 Date Completed: Aug 4, 2014

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller [signature] Date Aug 5, 2014

*Driller [signature] Date Aug 5, 2014

*Operator II Date

Operator I Date

*** Signature of Principal Driller and rig operator are required.**

267 ft (85%) of casing unsealed. 85% of well unsealed.

Appendix B.

Hydro Logic, Inc. Composite Diagrams for Referenced Wells

Meridian #15-B Monitoring Well

T. 3 N. R. 1 W. Section 11, SE¼, NE¼, NE¼

Latitude 43º 37' 1.64" Longitude 116º 24' 50.78"

Well Construction Completed October 2013

Hydro Logic, Inc.
Boise, Idaho

Hydro Logic, Inc.
1002 W. Franklin St.
Boise, Idaho 83702
(208) 342-8369
hli@hydrologicinc.net

Water Levels (#)

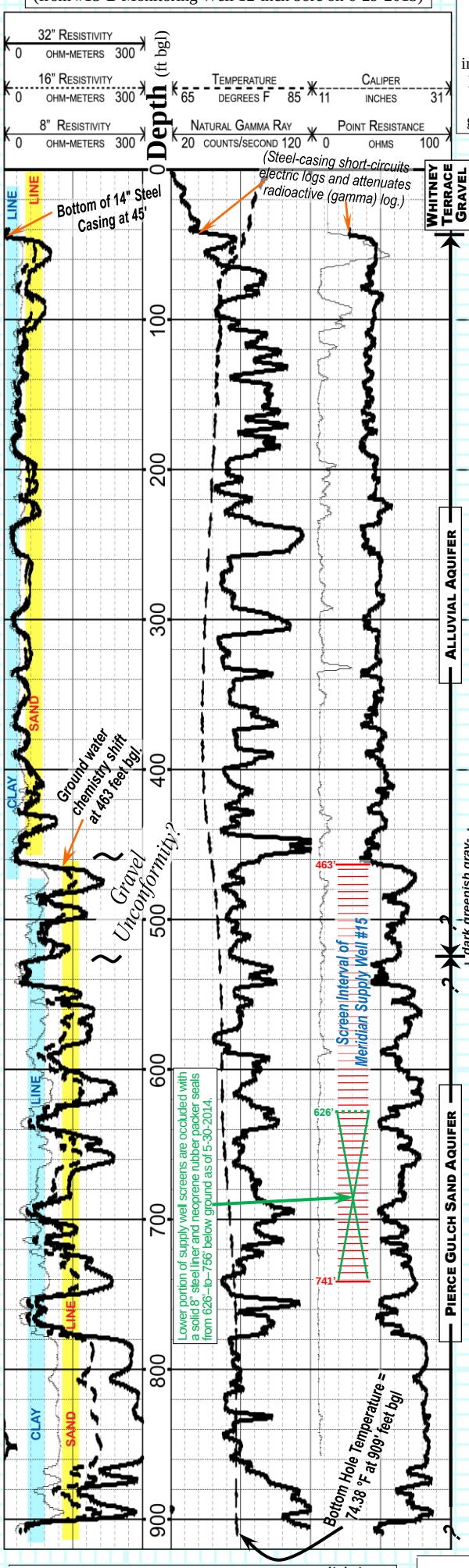
(feet from ground level)

Zone #1	(835' - 855' bgl)	+3.28' agl
Zone #2	(790' - 800' bgl)	+3.28' agl
Zone #3	(730' - 750' bgl)	+1.90' agl
Zone #4	(650' - 670' bgl)	+1.93' agl
Zone #5	(610' - 620' bgl)	-1.42' bgl
Zone #6	(560' - 580' bgl)	-1.94' bgl
Zone #7	(470' - 480' bgl)	-2.05' bgl
Zone #8	(400' - 420' bgl)	-3.39' bgl
Zone #9	(320' - 330' bgl)	-3.59' bgl
Zone #10	(263' - 283' bgl)	-3.62' bgl
Zone #11	(195' - 215' bgl)	-4.03' bgl
Zone #12	(90' - 105' bgl)	-7.09' bgl
Zone #13	(55' - 65' bgl)	-7.53' bgl

Measured on August 8-12, 2013

Borehole Geophysical Logs

(from #15-B Monitoring Well 12-inch bore on 6-29-2013)



Calibrated borehole geophysics conducted by K. Newbry of Hydro Logic, Inc. on June 29th, 2013 in the 8.75-inch diameter, mud-filled, direct mud-rotary drilled #15-B Monitoring Well bore, immediately after removal of the drill steel. The caliper log only was rerun in a mud-filled, direct mud-rotary borehole on July 15th, 2013 after reaming to 11.75-inch diameter. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

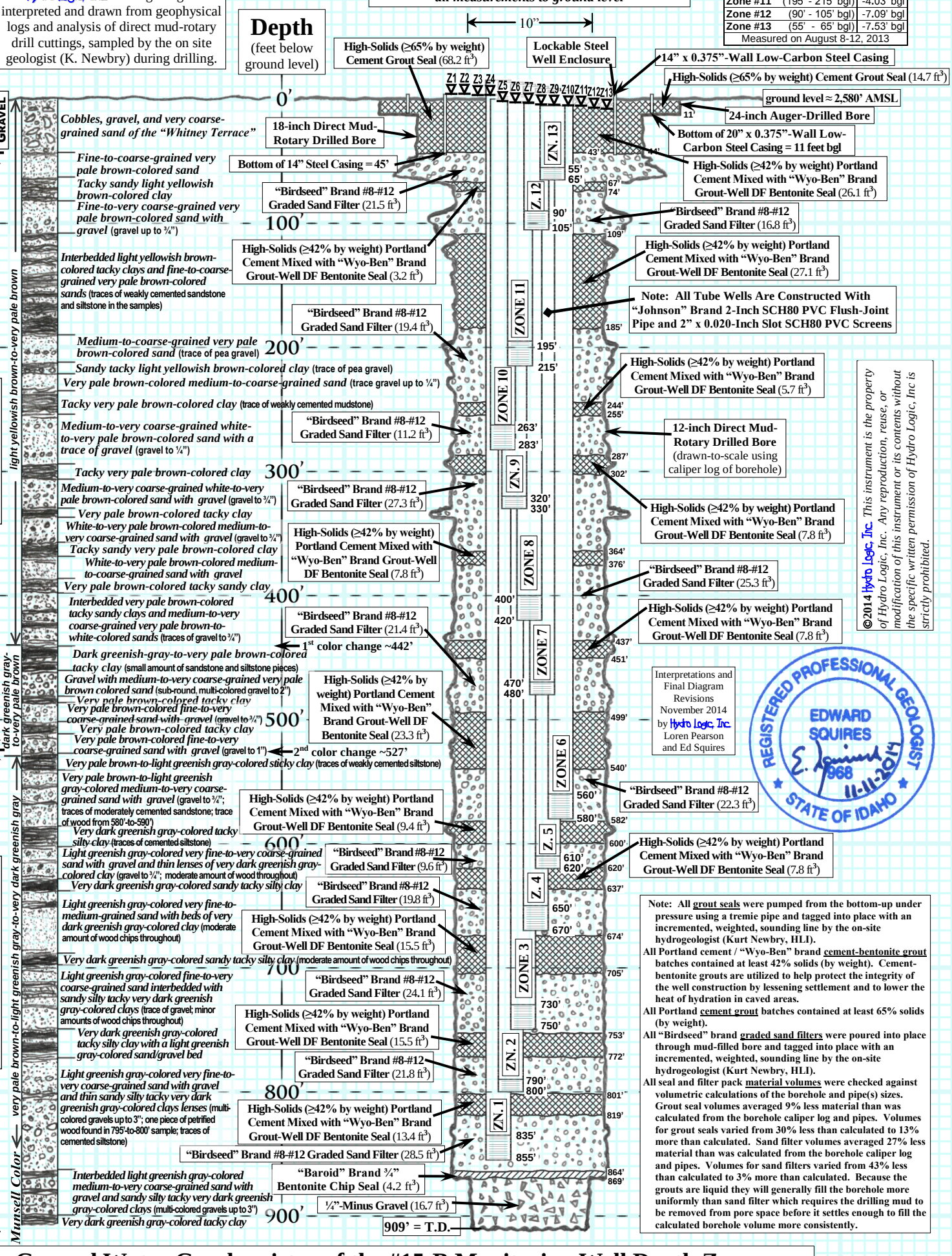
Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary drill cuttings, sampled by the on site geologist (K. Newbry) during drilling.

As-Built Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=100')

all measurements to ground level



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Interpretations and Final Diagram Revisions November 2014 by Hydro Logic, Inc. Loren Pearson and Ed Squires

REGISTERED PROFESSIONAL GEOLOGIST EDWARD SQUIRES 968 11-11-2014 STATE OF IDAHO

Note: All grout seals were pumped from the bottom-up under pressure using a tremie pipe and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist (Kurt Newbry, HLI).

All Portland cement / "Wyo-Ben" brand cement-bentonite grout batches contained at least 42% solids (by weight). Cement-bentonite grouts are utilized to help protect the integrity of the well construction by lessening settlement and to lower the heat of hydration in caved areas.

All Portland cement grout batches contained at least 65% solids (by weight).

All "Birdseed" brand graded sand filters were poured into place through mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist (Kurt Newbry, HLI).

All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes. Grout seal volumes averaged 9% less material than was calculated from the borehole caliper log and pipes. Volumes for grout seals varied from 30% less than calculated to 13% more than calculated. Sand filter volumes averaged 27% less material than was calculated from the borehole caliper log and pipes. Volumes for sand filters varied from 43% less than calculated to 3% more than calculated. Because the grouts are liquid they will generally fill the borehole more uniformly than sand filter which requires the drilling mud to be removed from pore space before it settles enough to fill the calculated borehole volume more consistently.

- Project administration by Kyle Radek, P.E., Assistant City Engineer, Public Works Department., Meridian, ID.
- Well design, final diagram review, and project management by Ed Squires, R.P.G. of Hydro Logic, Inc., Boise, ID.
- On site inspection, documentation, water level measurement and water sampling by Hydro Logic, Inc., Boise, ID.
- Direct mud-rotary drilling, surface seal, well construction, and well development by Post Drilling Inc., Weiser, ID.
- Cable-tool well development of Zones 1-13 consisted of air-lift/surge pumping each tube well at ~12-to-25-gallons/minute until water cleared, bail infill, air-lift/surge, swab screens (at one-minute-per-foot), air-lift pumping again until clear, and then add "Baroid" brand "Aquaclear®", a mud-dispersing agent, to each Zone and swab the screens (at one-minute-per-foot). This sequence was repeated at lease twice for each zone (except for the addition of "Aquaclear®"). Each zone was swabbed and/or bailed for about 13 hours total during development. Each zone was also air-lift pumped for about 13 hours total during development.

#15 Monitoring Well Wellhead

(view of Zones 1-13 inside steel security shelter on 9-3-2013)

Ground Water Geochemistry of the #15-B Monitoring Well Depth Zones

Lab Analyses	Results (reported in mg/L unless noted)												
	ZONE #1 (835'-855' bgl)	ZONE #2 (790'-800' bgl)	ZONE #3 (730'-750' bgl)	ZONE #4 (650'-670' bgl)	ZONE #5 (610'-620' bgl)	ZONE #6 (560'-580' bgl)	ZONE #7 (470'-480' bgl)	ZONE #8 (400'-420' bgl)	ZONE #9 (320'-330' bgl)	ZONE #10 (263'-283' bgl)	ZONE #11 (195'-215' bgl)	ZONE #12 (90'-105' bgl)	ZONE #13 (55'-65' bgl)
Alkalinity, Phenolphthalein	not tested	not tested	not tested	not tested	not tested	<5	<5	<5	<5	<5	<5	<5	<5
Alkalinity, Total as $CaCO_3$	62.1	73.8	68.6	64.0	83.5	75	91	202	266	272	220	237	203
Ammonia as N	0.11	0.12	0.09	0.07	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	<0.003	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	27.7	31.9	30.0	30.4	40.0	20	27	81	60	61	50	51	48
Chloride	<1	<1	<1	<1	2	4	6	23	14	10	5	14	13
Conductivity (µS)	123	132	127	127	168	194	255	622	736	714	508	591	510
Corrosivity (Langlier)	-0.74	-0.02	+0.03	+0.13	+1.14	-0.18	+0.025	+0.15	+0.29	+0.48	+0.18	+0.51	+0.20
Fluoride	0.40	0.36	0.39	0.34	0.39	0.3	0.3	0.1	0.2	0.2	0.2	0.2	0.2
Hardness as $CaCO_3$	36.6	40.2	38.6	38.0	49.1	65	88	260	187	193	161	169	160
Iron (dissolved - filtered)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Iron (total – not filtered)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Magnesium	2.15	2.16	2.20	2.09	2.56	4	5	14	9	10	9	10	10
Manganese (dissolved)	0.06	0.08	0.06	<0.05	<0.05	0.044	0.010	0.003	0.003	0.005	0.005	0.004	0.005
Nitrate as N	<0.2	<0.2	<0.2	<0.2	<0.2	<0.01	0.23	1.55	5.24	2.97	3.55	4.3	4.7
pH (S.U.)	7.9	8.5	8.6	8.7	9.5	7.99	8.00	7.44	7.64	7.72	7.56	7.96	7.73
Potassium	0.9	1.1	1.2	1.1	2.2	1	1	2	2	2	2	3	3
Silica	33.7	34.8	36.0	34.8	36.2	33.4	33.6	33.2	29.6	29.3	31.3	29.1	31.6
Sodium	13.3	13.3	14.1	13.3	18.4	13	15	28	89	86	49	63	45
Sulfate	5	5	4	5	9	16	25	92	91	95	38	47	41
Sulfide	<0.05	<0.05	<0.05	<0.05	<0.05	<1	<1	<1	<1	<1	<1	<1	<1
Total Coliform	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	absent	not tested	not tested
Total Dissolved Solids	124	126	134	84	120	123	159	416	494	466	325	377	323
Total Kjeldahl Nitrogen	0.13	0.13	0.17	0.10	<0.10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Organic Carbon	0.46	0.40	0.33	0.62	0.34	<0.5	<0.5	<0.5	1.5	0.8	0.8	0.9	0.8
Field Measured Parameters (by Hydro Logic, Inc.)													
Field Conductivity (µS)	105	118	127	125	163	203	265	626	717	702	500	569	493
Field Dissolved Oxygen	+0.05	+0.20	+0.12	+0.06	+0.07	+0.04	+0.19	+4.7	+4.9	+5.0	+3.9	+3.6	+2.0
Field Odor (describe)	moderate H_2S	minor H_2S	none	none	none	none	none	none	none	none	none	none	none
Field O.R.P. (mV)	-143.0	-193.3	-123.0	-126.7	-178.5	-23.9	+64.0	+125.6	+168.6	+82.8	+75.9	+160.1	+102
Field pH (S.U.)	8.46	8.87	8.86	8.70	9.39	8.04	7.99	7.33	7.57	7.50	7.42	8.07	7.75
Field Temperature (ºF)	69.1	69.0	68.9	68.8	67.8	65.8	65.7	60.8	58.2	57.4	56.8	56.6	57.1
Field Visible Gas	very minor	very minor	none	none	none	very minor	very minor	moderate	minor	minor	very minor	none	none
Radiology (reported in pCi/L except Uranium which is pCi/L and (µg/L); Uranium pCi/L = 0.67 x µg/L)													
Gross Alpha	<3	<3	<3	<3	<3	3.4 ± 1.2	8.6 ± 1.5	26.1 ± 2.2	29.9 ± 2.4	48.3 ± 3.2	29.9 ± 2.3	14.8 ± 1.8	8.8 ± 1.5
Gross Beta	<6	<6	<6	<6	<6	0.2 ± 1.7	1.4 ± 1.8	3.5 ± 1.8	4.2 ± 1.8	4.5 ± 2.0	2.4 ± 1.9	3.0 ± 1.8	4.5 ± 2.1
Uranium [pCi/L (µg/L)]	<0.7 (<1)	<0.7 (<1)	<0.7 (<1)	<0.7 (<1)	<0.7 (<1)	<0.2 (<0.3)	2.0 (3)	20.1 (30)	38.9 (58)	47 (71)	22 (33)	18.8 (28)	8.0 (12)
Adjusted Gross Alpha	<2.3	<2.3	<2.3	<2.3	<2.3	3.2	6.6	6	-9	1.3	7.8	-4	0.8

Zones 1-5 sampled on August 8th through August 12th, 2013 by Hydro Logic, Inc. Zones 1-5 analyses are by Analytical Laboratories, Inc. Boise, ID.

Zones 6-13 resampled January 7th through January 13th, 2014 by Hydro Logic, Inc. Zones 6-13 analyses by Energy Laboratories, Inc., Casper, WY.

Note: Water samples of Zones 1-5 were acquired August 8th – 12th, 2013 and Zones 6-13 were acquired January 7th – 13th, 2014 by K. Newbry and C. Parker of HLI.

Samples were taken after pumping each tube well with an electric submersible pump at ~5-to-6 gallons/minute for 30-minutes to 3.5-hours and until field chemistry parameters stabilized.

Meridian #15-B Monitoring Well

T. 3 N. R. 1 W. Section 11, SE¼, NE¼, NE¼

Latitude 43º 37' 1.64" Longitude 116º 24' 50.78"

Well Construction Completed October 2013

Hydro Logic, Inc.

Meridian #16-B Monitoring Well

T. 3 N. R. 1 E. Section 8, NE¼, SW¼, NE¼
Latitude 43º 36' 54.90" Longitude 116º 21' 36.12"
Well Completed August 2012

Water Levels

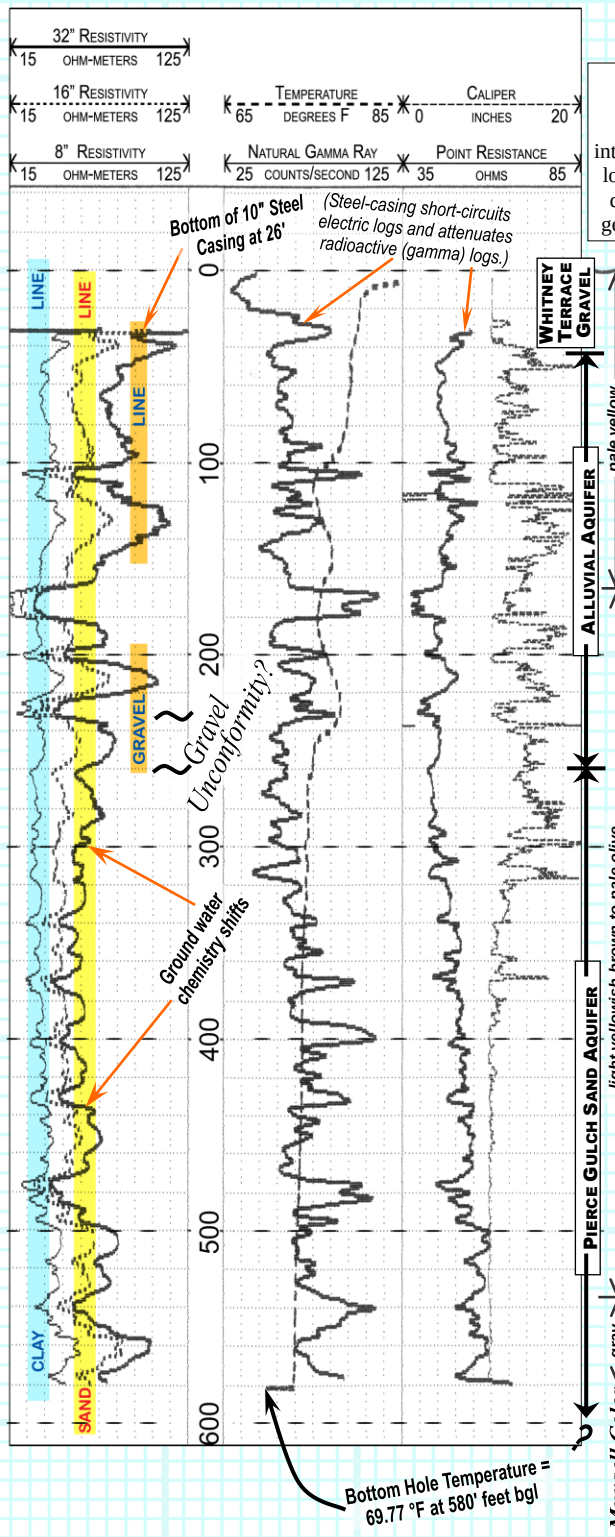
(feet below ground level)

Zone #1	(550'-570' bgl)	11.62' bgl
Zone #2	(505'-525' bgl)	12.03' bgl
Zone #3	(378'-398' bgl)	14.08' bgl
Zone #4	(319'-334' bgl)	14.43' bgl
Zone #5	(266'-281' bgl)	14.36' bgl
Zone #6	(202'-222' bgl)	14.16' bgl
Zone #7	(120'-140' bgl)	11.83' bgl
Zone #8	(70'-90' bgl)	11.80' bgl
Zone #9	(38'-48' bgl)	11.79' bgl

Measured on August 28, 2012

Geophysical Logs

(from #16-B Monitoring Well 10-inch bore on 7-20-2012)

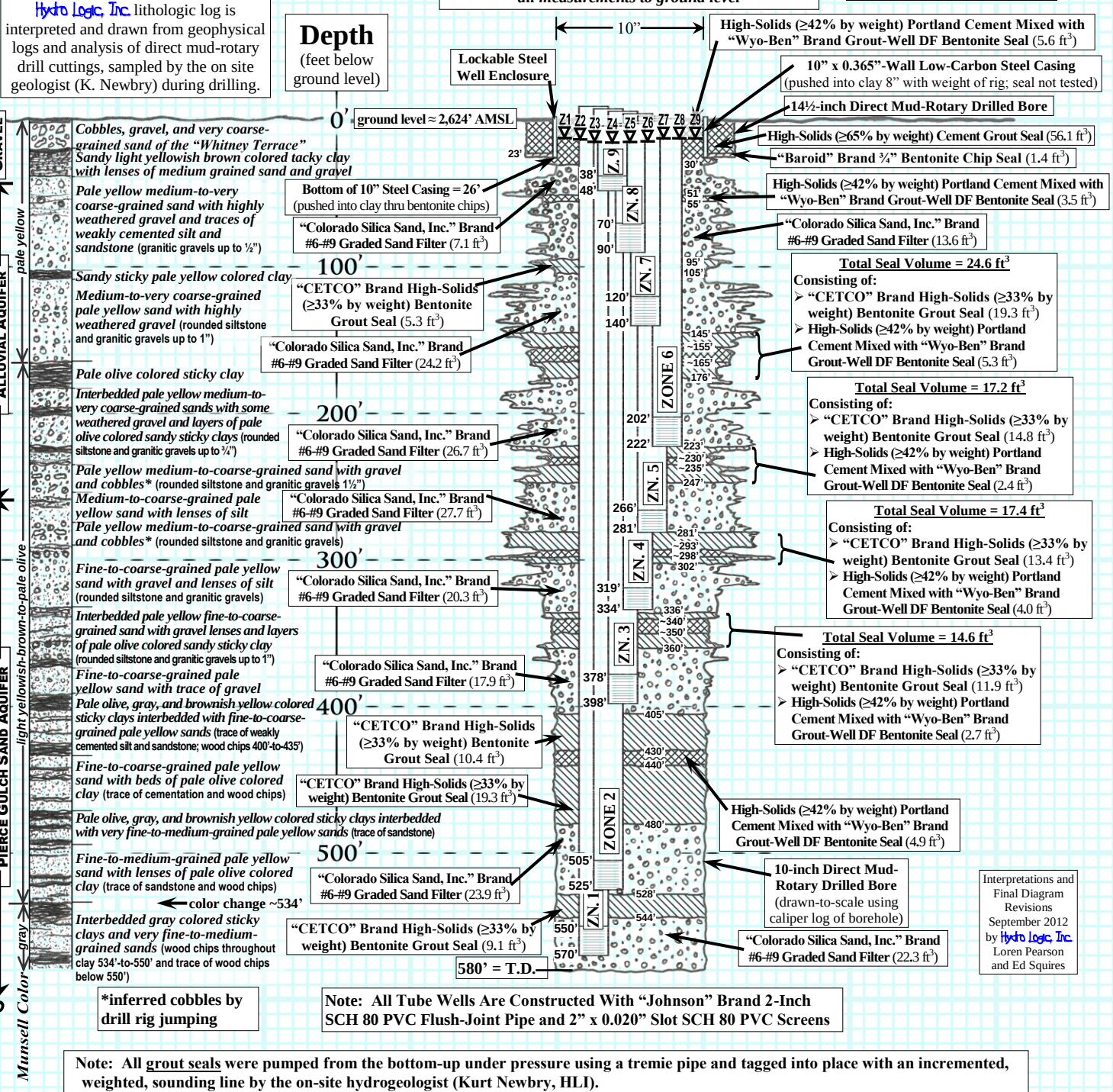


Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary drill cuttings, sampled by the on site geologist (K. Newbry) during drilling.

As-Built Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=100')
all measurements to ground level



Interpretations and Final Diagram Revisions September 2012 by Hydro Logic, Inc. Loren Pearson and Ed Squires

*inferred cobbles by drill rig jumping

Note: All Tube Wells Are Constructed With "Johnson" Brand 2-Inch SCH 80 PVC Flush-Joint Pipe and 2" x 0.020" Slot SCH 80 PVC Screens

Calibrated borehole geophysics conducted by K. Newbry of Hydro Logic, Inc., on July 20th, 2012 in the 10-inch diameter, mud-filled, direct mud-rotary drilled #16-B Monitoring Well bore, immediately after removal of the drill steel. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

Note: All grout seals were pumped from the bottom-up under pressure using a tremie pipe and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist (Kurt Newbry, HLI).
All "CETCO" brand bentonite grout batches contained at least 33% solids (by weight).
All Portland cement / "Wyo-Ben" brand cement-bentonite grout batches contained at least 42% solids (by weight). Cement-bentonite grouts pumped into the middle of bentonite grout batches are utilized to help protect the integrity of the well construction by lessening settlement, to lower the heat of hydration in caved areas, and to isolate cement from affecting water chemistry.
All Portland cement grout batches contained at least 65% solids (by weight).
All "Colorado Silica Sand" brand graded sand filters were poured into place through mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist (Kurt Newbry, HLI).
All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes. Grout seal volumes averaged 0.5% more material than was calculated from the borehole caliper log and pipes. Volumes for grout seals varied from 41% less than calculated to 62% more than calculated. Sand filter volumes averaged 21.9% less material than was calculated from the borehole caliper log and pipes. Volumes for sand filters varied from 47% less than calculated to 26% more than calculated. Because the grouts are liquid they will generally fill the borehole more evenly than sand filter which requires the drilling mud to be removed from pore space before it settles enough to fill the calculated borehole volume more consistently.

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- Project administration by Kyle Radek, P.E., Assistant City Engineer, Public Works Department., Meridian, ID.
- Well design, final diagram review, and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement and water sampling by Hydro Logic, Inc., Boise, ID.
- Direct mud-rotary drilling, surface seal, well construction, and well development by Treasure Valley Drilling and Pump, Inc., Weiser, ID.
- Cable-tool well development of zones 1-9 consisted of air-lift/surge pumping each tube well at ~20-gallons/minute until water cleared, bail infill, air-lift/surge, swab screens (at one-minute-per-foot), air-lift pumping again until clear, and then add "Baroid" brand Aquaclear, a mud dispersing agent, to each Zone and swab (at one-minute-per-foot). This sequence was repeated at lease twice for each zone (except for the addition of Aquaclear). Each zone was air-lift pumped for about 18 hours total during development.
- Water samples of Zones 1-9 were acquired August 21st and 22nd, 2012, by K. Newbry and C. Parker of HLI, after pumping each tube well with an electric submersible pump at ~5 gallons/minute for 45-minutes to 2-hours and field chemistry parameters stabilized.

Geochemistry

Lab Analyses	Results (in mg/L unless noted)								
	ZONE #1 (550'-570' bgl)	ZONE #2 (505'-525' bgl)	ZONE #3 (378'-398' bgl)	ZONE #4 (319'-334' bgl)	ZONE #5 (266'-281' bgl)	ZONE #6 (202'-222' bgl)	ZONE #7 (120'-140' bgl)	ZONE #8 (70'-90' bgl)	ZONE #9 (38'-48' bgl)
Alkalinity	132	164	242	307	293	206	185	226	149
Aluminum	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ammonia as N	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Arsenic	0.004	<0.003	<0.003	<0.003	<0.003	<0.003	0.006	0.009	0.014
Calcium Hardness	104	131	187	176	132	66.2	42.8	140	91.5
Chloride	13	16	19	16	18	7	4	35	52
Conductivity (µS)	396	495	641	740	730	489	398	583	448
Corrosivity	-0.73	-0.58	-0.15	-0.08	+0.09	-0.05	-0.38	-0.15	+0.86
Fluoride	0.34	0.29	0.27	0.36	0.39	0.58	1.41	1.42	0.72
Hardness	155	188	248	242	176	85.2	59.0	216	147
Iron (dissolved)	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Iron (total)	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Magnesium	8.90	11.5	14.3	12.4	9.33	4.59	3.59	15.4	12.6
Manganese (dissolved)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrate as N	<0.2	1.2	2.2	3.5	4.0	2.5	2.2	3.1	0.4
pH	7.2	7.2	7.3	7.3	7.7	7.9	7.8	7.4	8.8
Potassium	1.5	1.7	2.0	2.0	2.0	1.5	1.1	1.8	2.9
Silica	34.5	37.7	36.1	34.6	33.1	28.9	34.5	55.7	35.5
Sodium	20.9	28.7	52.4	75.0	105	81.5	73.5	44.0	37.7
Sulfate	57	63	82	68	64	32	17	22	9
Sulfide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Coliform	present	present	absent	absent	present	absent	present	present	absent
Total Dissolved Solids	264	294	412	406	424	258	218	344	232
Total Kjeldahl Nitrogen	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.13	0.17
Total Organic Carbon	1.34	1.25	2.62	2.60	2.84	1.87	1.65	2.28	2.37
Field Measured (by Hydro Logic, Inc.) Parameters									
Field Conductivity (µS)	*412.0*	*494.6*	*684*	*752*	*748*	*492.1*	*412.8*	*594.7*	*451.1*
Field Dissolved Oxygen	*+0.35*	*+5.62*	*+7.77*	*+8.06*	*+7.88*	*+9.82*	*+5.95*	*+3.65*	*+0.83*
Field Odor (describe)	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
Field O.R.P. (mV)	*-153.3*	*-76.6*	*-81.3*	*-83.2*	*-77.5*	*-65.3*	*-53.4*	*-50.1*	*-213.9*
Field pH (S.U.)	*7.19*	*7.29*	*7.47*	*7.56*	*7.79*	*8.11*	*8.15*	*7.63*	*9.29*
Field Temperature (ºF)	*61.0*	*60.3*	*58.7*	*58.0*	*57.6*	*57.4*	*58.2*	*60.4*	*63.1*
Field Visible Gas	*minor*	*minor*	*none*	*none*	*none*	*none*	*none*	*none*	*none*
Radiology *(in pCi/L except Uranium which is pCi/L and (µg/L); Uranium pCi/L = 0.67 x µg/L)*									
Gross Alpha	<2.94	17.15 ± 2.44	38.24 ± 3.06	102.9 ± 4.65	60.93 ± 3.97	12.41 ± 2.13	8.46 ± 1.99	10.01 ± 2.09	2.36 ± 1.35
Gross Beta	2.51 ± 1.08	5.32 ± 1.07	10.90 ± 1.03	22.78 ± 1.22	15.20 ± 1.15	4.45 ± 1.13	2.31 ± 1.34	3.84 ± 1.32	3.95 ± 1.45
Uranium [pCi/L (µg/L)]	<0.67 (<1)	10.1 (15)	35.5 (53)	50.3 (75)	36.9 (55)	11.4 (17)	5.4 (8)	10.1 (15)	2.7 (4)
Adjusted Gross Alpha	<2.27	7.05	2.74	52.6	24.03	1.01	3.06	-0.09	-0.34

Samples collected on August 21st and August 22nd, 2012 by Hydro Logic, Inc.
Analyses by Analytical Laboratories, Inc. Boise, ID except for total organic carbon analysis.
Total organic carbon analysis by Alchem Laboratories, Inc., Boise, ID.

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REGISTERED PROFESSIONAL GEOLOGIST
EDWARD SQUIRES
968
9-28-2012
STATE OF IDAHO

Meridian #16-B Monitoring Well
T. 3 N. R. 1 E. Section 8, NE¼, SW¼, NE¼
Latitude 43º 36' 54.90" Longitude 116º 21' 36.12"
Well Completed August 2012

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City of Meridian Supply Well #17

T. 3 N., R. 1 E., Section 20, NW¼, NW¼, SW¼

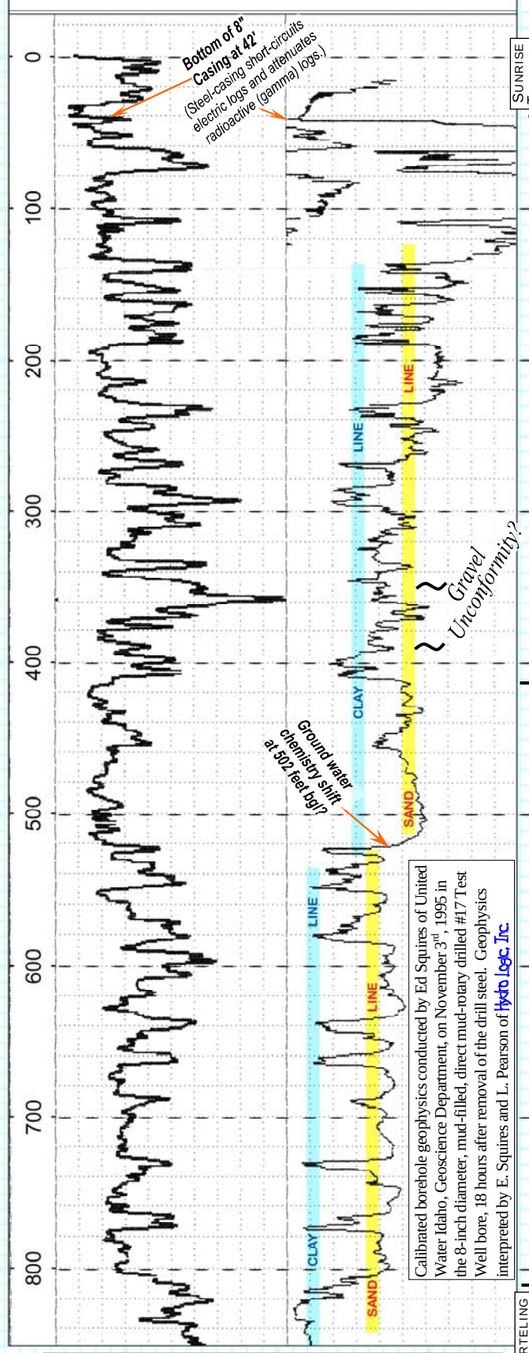
Latitude 43º 34' 55.83" Longitude 116º 22' 27.11"

Original Well Completed June 1996

Reconstructed Well Completed May 2006

Geophysical Log

(from #17 Test Well 8-inch bore 55 feet SSE on 11-3-1995)



Calibrated borehole geophysics conducted by Ed Squires of United Water Idaho, Geoscience Department, on November 3rd, 1995 in the 8-inch diameter, mud-filled, direct mud-rotary drilled #17 Test Well bore, 18 hours after removal of the drill steel. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

Note: Geophysical logs to 1,045 feet truncated for clarity on this diagram.

Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of poor quality direct mud-rotary drill cuttings, sampled by the on site geologist (R. Dittus) during drilling.

Sunrise Terrace Gravel

Alluvial Aquifer

light olive-brown to light yellowish-brown

Pierce Gulch Sand Aquifer

light bluish-gray to dark bluish gray

Terteling Springs Formation

Munsell Color

As-Rebuilt Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=100')

all measurements to ground level = pumphouse floor

Depth (feet below ground level)

ground level ≈ 2,647' AMSL — 0'

Cobbles, gravel, and very coarse-grained sand of the "Sunrise Terrace"

Interbedded tan-colored clay and medium-grained tan sand

Interbedded medium-to-fine-grained tan-colored sand and thin sandy tan-colored clay lenses

100'

Medium-to-coarse-grained tan-colored sand

200'

Gravelly coarse-to-medium-grained tan-colored sand and thin clay beds (rounded gravel slightly oxidized to "rusted")

300'

Coarse-grained tan-colored sand and cobbles

Sandy tan colored clay

400'

Medium-grained tan colored sand (moderate amount of mica)

Sandy tan-colored clay

Fine-to-medium-grained tan-colored sand

Gravelly coarse-to- very coarse-grained tan-colored sand (moderate amount of mica at ~512')

500'

Coarse-to-medium-grained tan-colored sand with gravel and sandy tan and gray-colored clay beds (1st gray colored clay at 539')

Interbedded sandy tan and bluish-gray-colored clays

Medium-grained bluish-gray-colored sand with thin lenses of clay and gravel (trace amounts of wood and non-oxidized pyrite)

600'

Interbedded medium-to-fine-grained bluish-gray-colored sand with thin lenses of dark bluish-gray colored clay beds (moderate amount of carbonized wood at ~799')

700'

Clayey bluish-gray-colored fine-grained sand (abundant amount of wood chips)

Sticky light-to-dark bluish-gray-colored clay with lenses of organic material (moderate amounts of leaves, twigs, and wood)

800'

Interpretations and Final Diagram Revisions March 2012 by Hydro Logic, Inc. Loren Pearson and Ed Squires

28-inch Reverse-Rotary (with mud) Drilled Bore

Note: Original (1996) "Teague Mineral Products" Brand bentonite chip seal and "Colorado Silica Sand, Inc." Brand graded sand filter were poured into place through mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist. All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes and found to be inconsistent with standard borehole sizes. Please see "As-Built" diagram for more details.

Custom-Fabricated PVC Seal "Shoe" (Fabricated PVC shoe coated with non-water based silicone caulk and tapered to seal in top of original 16" packer/reducer. Seal verified with camera survey while pumping cement grout seal.)

Cement Grout Seal (0.3 yd³ or 65 gal.)

Top Original (1996) of Packer/Reducer = 354'

Top of Sand Filter (1996) = 364'

Base of 18" Casing = 402'

"Colorado Silica Sand, Inc." Brand #8-#12 Graded Filter Sand (7.7 yd³)

10" x 0.365"-Wall Low-Carbon Steel Casing

487' = Top of #6-#9 Sand Filter (tagged)

"Colorado Silica Sand, Inc." Brand #6-#9 Graded Sand Filter (3.4 yd³)

color change at ~539' — **537' = T.D.**

Low-Carbon Steel End Plate (0.375" thick; continuous welded)

17-inch Reverse-Rotary (with mud) Drilled Bore

Original (1996) "Johnson" Brand "Hi-Flow, Hi-Q" #304 Stainless Steel (SS) Wire-Wrap Screen Assembly and Low-Carbon Steel (LCS) Pipe Assembly (with 6-inch SS weld-rings)

10" x 0.365"-Wall Pipe (LCS)	359'-to-414'
10" x 0.035"-Slot Screen (SS)	414'-to-427'
10" x 0.035"-Slot Screen (SS)	427'-to-447'
10" x 0.365"-Wall Pipe (LCS)	447'-to-462'
10" x 0.035"-Slot Screen (SS)	462'-to-482'
10" x 0.035"-Slot Screen (SS)	482'-to-502'
10" x 0.035"-Slot Screen (SS)	502'-to-522'
10" x 0.365"-Wall Pipe (LCS)	522'-to-532'

(● = steel centralizers, 3-to-the-round, at 362' and 531'; screen = 173 feet long total)

26.6' NPWL 5-28-2008

54.7' PWL 7-7-2008 Specific Capacity = 41.7 gpm/foot at 950 gpm after 39.7 days.

Water Right No. 63-12295

Note: 1,561 gallons of cement and bentonite grouts were pumped into annular space between 18"/14" and around the outside of the original 18" casing through existing holes. 139 gallons were forced by gravity outside the original 18-inch casing.

Original (1996) 16"-to-10" Packer-Reducer Seal (Attempts to remove packer prior to rebuilding well were unsuccessful.)

359' 413' 426' 446' 461' 481' 501' 521' 531'

10"

Details of well construction inspected with Hydro Logic, Inc. depth-calibrated camera survey on March 23rd, 2006.

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PACKER-REDUCER SEAL (2006) (constructed from #304 stainless steel components)

343' — 2.0' — 345'

LOWERING / CENTRALIZING PINS (3-to-the-round; 1-inch diameter SS pins drilled through and welded into packer assembly)

NEOPRENE RUBBER FIGURE "K" 3-LIP PACKER/SEAL (seals to 12.1" I.D. casing)

8-INCH X 0.322"-WALL (SS) PIPE

10-INCH X 8-INCH X 0.322"-WALL (SS) REDUCER

(reducer welded onto 8" SS headpipe)

NOT TO SCALE

top of original 16" packer/reducer = 354.5'

Original (1996) 18" x 0.375"-Wall Low-Carbon Steel Casing (centralized at 80 foot intervals; ~404 feet long)

New (2006) 14.0" O.D. X 12.1" I.D. "CertainTeed" Brand Certa-Lok SDR17 PVC Well Casing (Centralized in bottom 20 ft by two fabricated clamp on centralizers at 5 ft and 15 ft up from the bottom of PVC.) (~357 feet long)

"CETCO" Brand High-Solids (≥29% By Weight) Bentonite Grout Seal (Grout was pumped by tremie between 18"/14" casings from the bottom-up until full.) (7.4 yd³ or 1,496 gal.)

343' = Top of New (2006) Packer/Reducer

355' = Bottom of PVC Casing (2006)

(2006) "Johnson" Brand "Hi-Flow, Hi-Q" #304 Stainless Steel (SS) Wire-Wrap Screen Assembly and Stainless Steel (SS) Pipe Liner Assembly (with 6-inch long SS weld-rings)

10"-to-8" Packer/Seal	343.0' to 344.9'
8" x 0.250"-Wall Pipe	344.9' to 412.9'
8" x 0.010"-Slot Screen	412.9' to 425.8'
8" x 0.040"-Slot Screen	425.8' to 445.4'
8" x 0.250"-Wall Pipe	445.4' to 460.9'
8" x 0.015"-Slot Screen	460.9' to 480.8'
8" x 0.040"-Slot Screen	480.8' to 500.8'
8" x 0.040"-Slot Screen	500.8' to 521.9'

(Telescoped inside of existing 10-inch screen assembly; screen = 179 feet long total)

Original (1996) 10" SS Screen / LCS Casing Weld-Joint Depths

Original (1996) SS Screen / LCS Casing Assembly

PVC Seal "Shoe" (coated with non-water-based silicone caulk)

Cement Grout Seal

Stainless Steel End Plate (0.375" thick; continuous welded)

3/4"-minus crushed gravel tamped into place to support new 8" SS liner assembly (~5 ft³)

350' — 355' = bottom of 14" PVC — 343.0'

372' = single-packer — 375'

392' = single-packer — 400'

413.7' = triple-packer — 413.5'

425' — 426.4' = single-packer

446.2' = triple-packer — 450' — 446.5'

461.8' = triple-packer — 461.5'

475' — 481.4' = single-packer

500' — 501.4' = single-packer

521.2' = triple-packer — 521.9' = SS steel plate — 525' — 521.5' — 531.5'

SS SINGLE-PACKER SEAL

6"

NEOPRENE RUBBER FIGURE "K" 3-LIP PACKER/SEALS (seals to 10" I.D. SS weld-ring)

NOT TO SCALE

SS TRIPLE-PACKER SEAL

9.5"

THREE NEOPRENE RUBBER FIGURE "K" 2-LIP PACKER/SEALS (seals to 10" I.D. of SS weld-ring)

NOT TO SCALE

REGISTERED PROFESSIONAL GEOLOGIST — EDWARD SQUIRES — 1968 — 3-17-2012 — STATE OF IDAHO

Screen-Liner Schematic (2006)

(horizontal scale 0.1"=1")

(vertical scale 1"=25')

all measurements to ground level = pumphouse floor

Hydro Logic, Inc.

Geochemistry

Analyte (in mg/L unless noted)	Result (402 - 521 ft bgl)
Alkalinity	79.2
Aluminum	<0.01
Ammonia as N	0.29
Antimony	<0.002
Arsenic	<0.005
Barium	<0.10
Beryllium	<0.0002
Cadmium	<0.0005
Calcium as $CaCO_3$	45.0
Chloride	3.49
Chromium	<0.002
Color (apparent)	<1.0
Conductivity (µS)	189.0
Copper	<0.01
Corrosivity	-1.21
Cyanide (total)	<0.005
Fluoride	0.38
Hardness	56.5
Iron *(total)*	0.02
Iron *(dissolved)*	0.02
Lead	<0.002
Magnesium	3.60
Manganese *(dissolved)*	0.05
Mercury	<0.0002
Nickel	<0.003
Nitrate NO_3 as N	<0.10
Nitrite NO_2 as N	<0.01
pH - Lab *(S.U.)*	7.25
Phosphorus as P	0.07
Potassium	1.78
Selenium	<0.005
Silica	50.1
Silver	<0.002
Sodium	17.1
Sulfate	11.4
Sulfide	<0.05
Surfactant	<0.025
Suspended Solids	<1.0
Thallium	<0.0006
Total Dissolved Solids	163.0
Zinc	<0.001
Field Measured Parameters	
Field Conductivity (µS)	*187*
Field pH (S.U.)	*7.01*
Field Temperature (ºF)	*62.2*
Radiology *(in pCi/L unless noted)*	
Gross Alpha	0.3 ± 1.3
Gross Beta	1.2

Sampled July 30, 1996 by Roger Dittus. Analyses by Alchem Laboratories, Inc.

- Project administration by Brad Watson, Director, Public Works Department, Meridian, ID.
- Well reconstruction design, hydraulic testing design, final review of diagram and project management by Ed Squires, R.P.G.
- On site inspection, camera surveys, documentation, water level measurement and water quality sampling by Hydro Logic, Inc., Boise, ID.
- Well reconstruction by McLeran Well Drilling, New Plymouth, ID.
- Well operation with pumping plant installed by operator Jamie Allen of Meridian Water Department, Meridian, ID.

Note: Meridian Supply Well #17, completed in 1996, had to be lined owing to severe corrosion of the 18" and 10" low-carbon steel (LCS) casings in the well, especially where LCS is welded to stainless steel. See also the composite diagram for the original well's details of construction, including hydraulic data that did not change with the addition of this liner. All measurements of original screen assembly and new screen liner assembly placement are from calibrated camera surveys to current ground level and verified with steel tape measurements by Hydro Logic, Inc.

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City of Meridian Supply Well #18

T. 4 N. R. 1 E. Section 32, SE¼, SW¼, SW¼

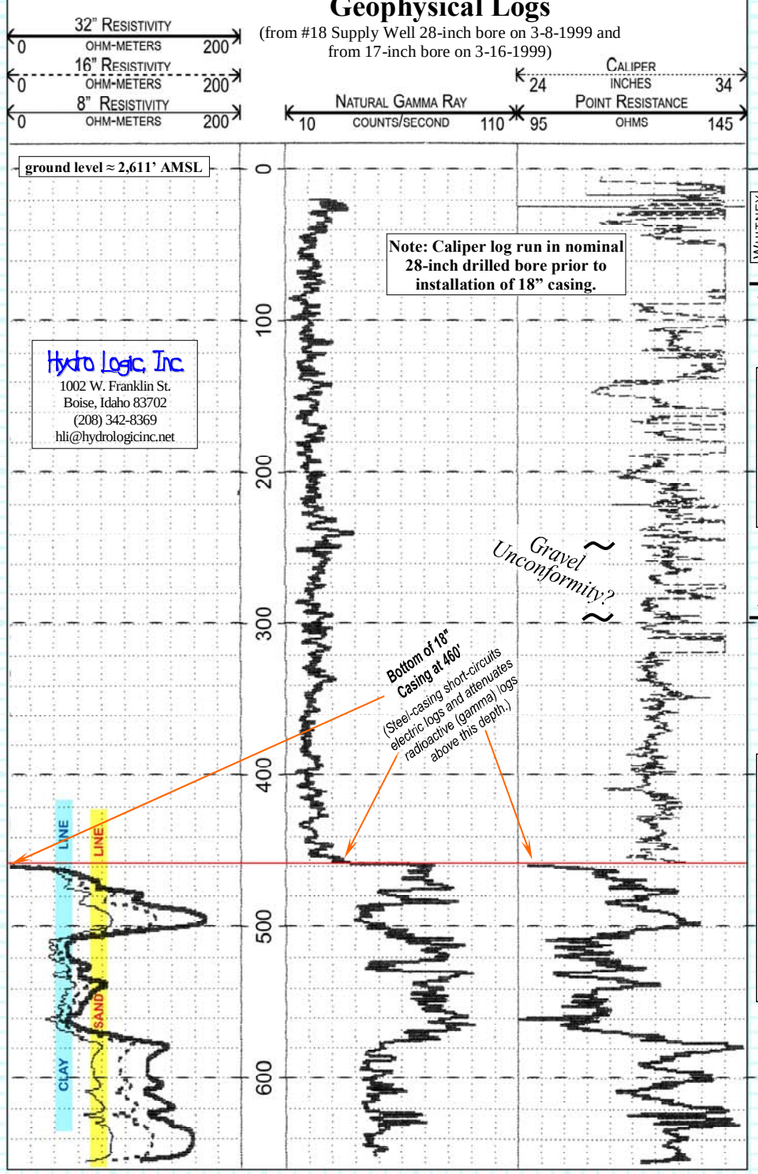
Latitude 43º 38' 6.89" Longitude 116º 22' 17.12"

Well Completed April 1999

Hydro Logic, Inc.

Geophysical Logs

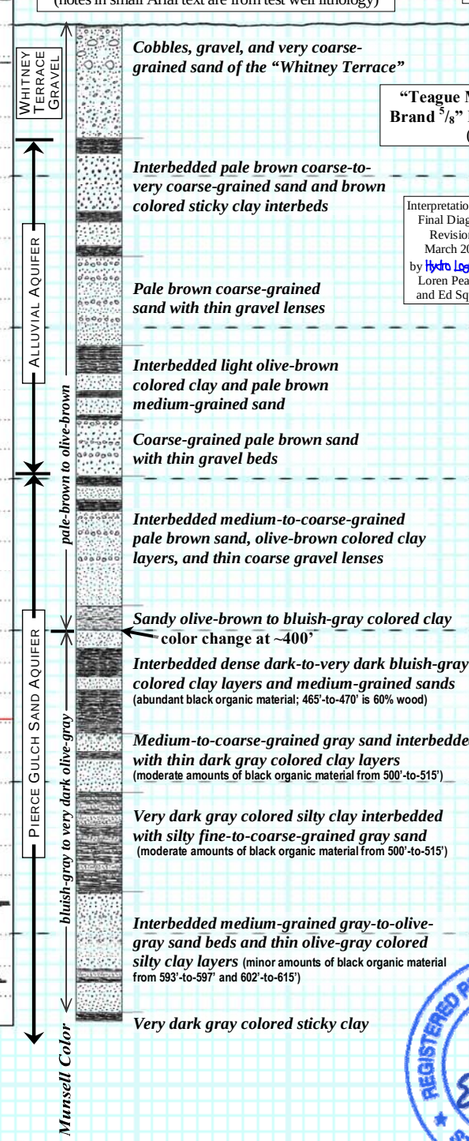
(from #18 Supply Well 28-inch bore on 3-8-1999 and from 17-inch bore on 3-16-1999)



Calibrated borehole geophysics conducted by J. Allred of United Water Idaho, Geoscience Department, on March 8th (caliper log) and March 16th (electrical logs), 1999 in the 17-inch diameter, mud-filled, reverse-rotary (with mud) drilled #18 Test Well bore, immediately after removal of the drill steel. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary drill cuttings, sampled by the driller during drilling. (notes in small Arial text are from test well lithology)



Cobbles, gravel, and very coarse-grained sand of the "Whitney Terrace"

Interbedded pale brown coarse-to-very coarse-grained sand and brown colored sticky clay interbeds

Pale brown coarse-grained sand with thin gravel lenses

Interbedded light olive-brown colored clay and pale brown medium-grained sand

Coarse-grained pale brown sand with thin gravel beds

Interbedded medium-to-coarse-grained pale brown sand, olive-brown colored clay layers, and thin coarse gravel lenses

Sandy olive-brown to bluish-gray colored clay color change at ~400'

Interbedded dense dark-to-very dark bluish-gray colored clay layers and medium-grained sands (abundant black organic material; 465'-to-470' is 60% wood)

Medium-to-coarse-grained gray sand interbedded with thin dark gray colored clay layers (moderate amounts of black organic material from 500'-to-515')

Very dark gray colored silty clay interbedded with silty fine-to-coarse-grained gray sand (moderate amounts of black organic material from 500'-to-515')

Interbedded medium-grained gray-to-olive-gray sand beds and thin olive-gray colored silty clay layers (minor amounts of black organic material from 593'-to-597' and 602'-to-615')

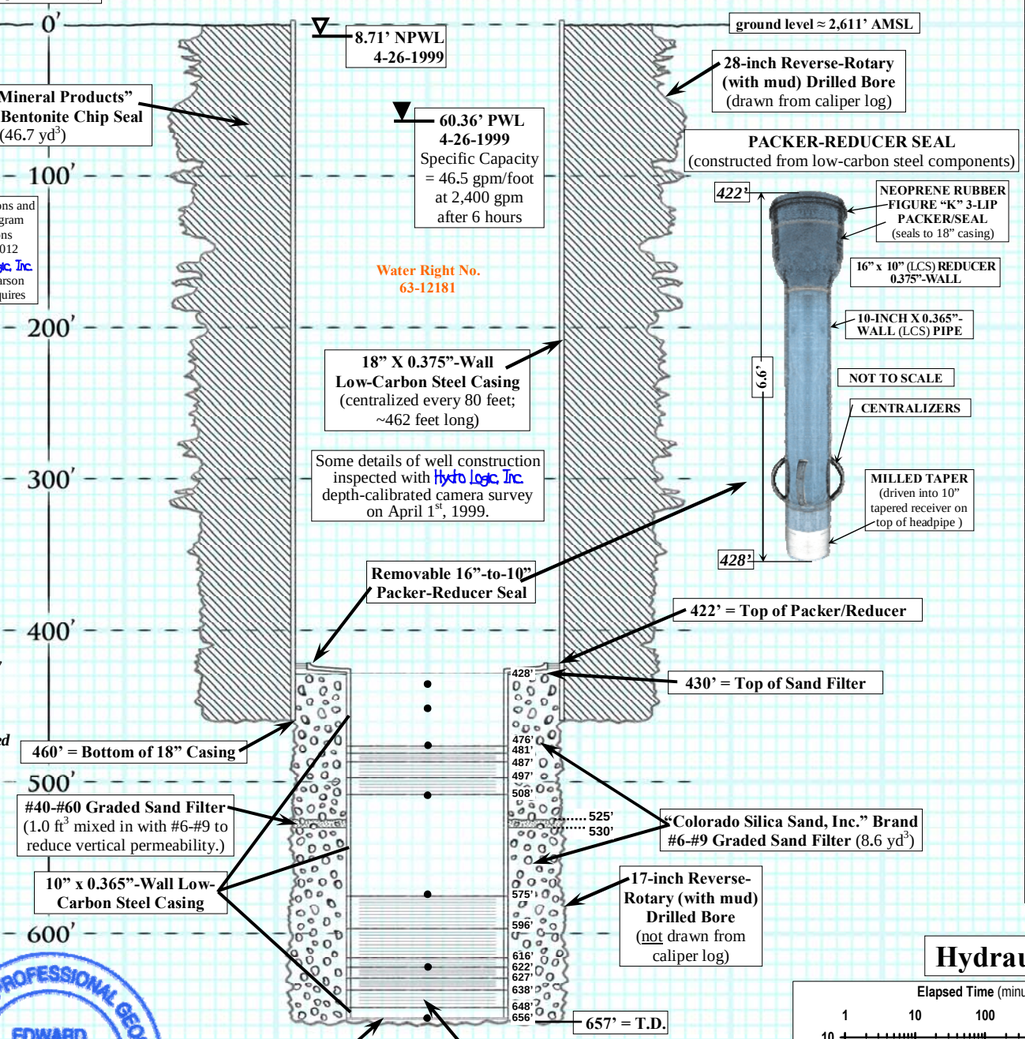
Very dark gray colored sticky clay

Interpretations and Final Diagram Revisions March 2012 by Hydro Logic, Inc. Loren Pearson and Ed Squires

As-Built Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=100')

all measurements to ground level = pumphouse floor



"Johnson" Brand #304 Stainless Steel Wire-Wrap Screen and Low-Carbon Steel Pipe Assembly

10" x 0.365"-Wall Pipe	428'-to-476'
10" x 0.035"-Slot Screen	476'-to-481'
10" x 0.005"-Slot Screen	481'-to-487'
10" x 0.035"-Slot Screen	487'-to-497'
10" x 0.035"-Slot Screen	497'-to-508'
10" x 0.365"-Wall Pipe	508'-to-575'
10" x 0.035"-Slot Screen	575'-to-596'
10" x 0.035"-Slot Screen	596'-to-616'
10" x 0.035"-Slot Screen	616'-to-622'
10" x 0.005"-Slot Screen	622'-to-627'
10" x 0.005"-Slot Screen	627'-to-638'
10" x 0.035"-Slot Screen	638'-to-648'
10" x 0.365"-Wall Pipe	648'-to-656'

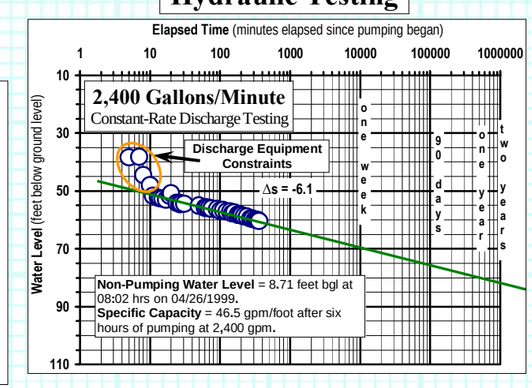
(centralized (●) every 30-to-60 feet; 228 feet long)

Geochemistry

Analyte (in mg/L unless noted)	Result (460 - 657 ft bgl)
Alkalinity (as $CaCO_3$)	113.0
Aluminum	<0.01
Ammonia (as N)	0.39
Antimony	<0.002
Arsenic	<0.005
Barium	<0.10
Beryllium	<0.0002
Cadmium	<0.0005
Calcium (as $CaCO_3$)	93.5
Chloride	8.14
Chromium	<0.002
Color (C.U.)	<1.0
Conductivity (µS)	304.0
Copper	<0.01
Corrosivity (Langlier)	-0.13
Cyanide (total)	<0.005
Fluoride	<0.05
Hardness (as $CaCO_3$)	119.0
Iron (total)	0.32
Iron (dissolved)	0.30
Lead	<0.002
Magnesium	6.10
Manganese (dissolved)	0.06
Manganese (total)	0.06
Mercury	<0.0002
Nickel	<0.003
Nitrate (NO_3 as N)	<0.10
Nitrite (NO_2 as N)	<0.01
Odor (T.O.)	2.0
pH - Lab (S.U.)	7.78
Phosphorous (total as P)	0.029
Potassium	1.95
Selenium	<0.005
Silica(as SiO_2)	41.3
Silver	<0.002
Sodium	12.3
Sulfate	29.2
Sulfide	<0.05
Surfactants	<0.025
Suspended Solids	ND
Thallium	<0.0006
Total Dissolved Solids	195.0
Zinc	0.007
Field Measured Parameters	
Field Conductivity (µS)	*219*
Field pH (S.U.)	*7.12*
Field Temperature (ºF)	*63.5*

Sampled April 26, 1999 by B. Cavanagh and M. Guilbert. Analyses by Alchem Laboratories, Inc., Boise, ID.

Hydraulic Testing



REGISTERED PROFESSIONAL GEOLOGIST EDWARD SQUIRES Registered 1988 3-17-2012 STATE OF IDAHO

- Project administration by Gary D. Smith, P.E., Director, Public Works Department, Meridian, ID.
- Well design, hydaulic testing design, final diagram review and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement and water quality sampling by Ed Squires and Jeff Allred, of United Water Idaho, and Mike Guilbert and Brian Cavanagh of Boise State University, Geosciences Department, Boise, ID.
- Reverse-rotary drilling, well construction, and test pumping by Riverside, Inc. Parma, ID.
- Cable-tool well development by Riverside, Inc. in March 1999 consisted of bailing infill, plate-lifting and bailing for ~8 hours until water was mostly clear, then swabbing screened interval and bailing for ~16 hours.
- Water samples were taken after pumping well at 2,400 gallons/minute for six hours on April 26th, 1999.

Note: All "Teague Mineral Products" Brand bentonite chip was poured into place through mud-filled hole and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

All "Colorado Silica Sand, Inc." Brand graded sand filters were poured into place through mud-filled hole and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

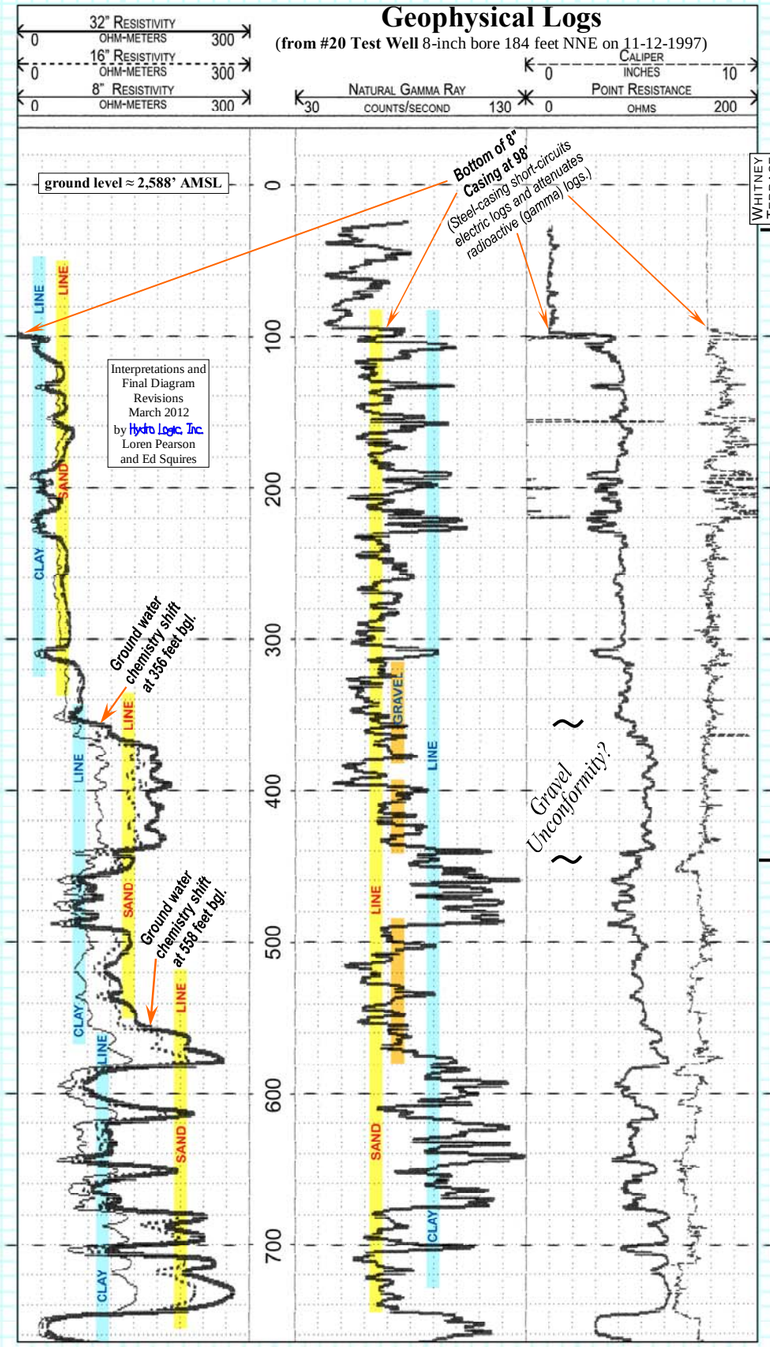
All seal and filter pack material volumes were checked against volumetric calculations of the calipered borehole and pipe(s) sizes. and were found to be closely correlated.

City of Meridian Supply Well #20-A

T. 4 N. R. 1 W. Section 36, SE¼, SE¼, SE¼
Latitude 43º 38' 3.03" Longitude 116º 23' 43.06"
Well Completed September 1998

Geophysical Logs

(from #20 Test Well 8-inch bore 184 feet NNE on 11-12-1997)



Calibrated borehole geophysics conducted by R. Dittus and J. Allred of United Water Idaho, Geoscience Department, on November 12th, 1997 in the 8-inch diameter, mud-filled, direct mud-rotary drilled #20 Test Well bore, immediately after removal of the drill steel. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

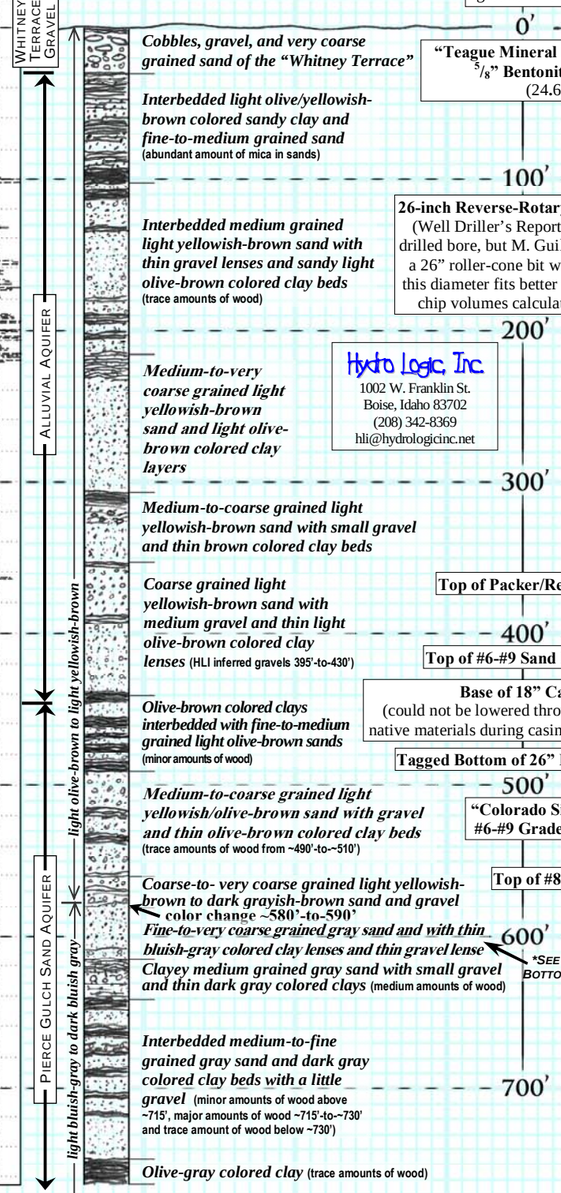
**** Lithologic Note: The lithology logged from ~580'-to-~615' in Supply Well #20-A drilling is significantly different than that seen in the test well from drilled cuttings and geophysical logs. The difference in lithology may be attributed to thinning / thickening of the sand / clay layers over the 184-foot distance from Supply Well #20-A to Test Well #20-A.***

Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of reverse-rotary with mud and direct mud-rotary drill cuttings, sampled by the on site geologists (M. Guilbert and J. Allred) during drilling of #20 Test Well and Supply Well #20-A boreholes.

Hydro Logic, Inc.

Depth (feet below ground level)



Cobbles, gravel, and very coarse grained sand of the "Whitney Terrace"

Interbedded light olive/yellowish-brown colored sandy clay and fine-to-medium grained sand (abundant amount of mica in sands)

Interbedded medium grained light yellowish-brown sand with thin gravel lenses and sandy light olive-brown colored clay beds (trace amounts of wood)

Medium-to-very coarse grained light yellowish-brown sand and light olive-brown colored clay layers

Medium-to-coarse grained light yellowish-brown sand with small gravel and thin brown colored clay beds

Coarse grained light yellowish-brown sand with medium gravel and thin light olive-brown colored clay lenses (HLI inferred gravels 395'-to-430')

Olive-brown colored clays interbedded with fine-to-medium grained light olive-brown sands (minor amounts of wood)

Medium-to-coarse grained light yellowish/olive-brown sand with gravel and thin olive-brown colored clay beds (trace amounts of wood from ~490'-to-~510')

Coarse-to- very coarse grained light yellowish-brown to dark grayish-brown sand and gravel color change ~580'-to-590'

Fine-to-very coarse grained gray sand and with thin bluish-gray colored clay lenses and thin gravel lense

Clayey medium grained gray sand with small gravel and thin dark gray colored clays (medium amounts of wood)

Interbedded medium-to-fine grained gray sand and dark gray colored clay beds with a little gravel (minor amounts of wood above ~715', major amounts of wood ~715'-to-~730' and trace amount of wood below ~730')

Olive-gray colored clay (trace amounts of wood)

*See Note Bottom-Left

"Teague Mineral Products" Brand $^5/_8$" Bentonite Chip Seal (24.6 yd^3)

26-inch Reverse-Rotary Drilled Bore (Well Driller's Report shows a 28" drilled bore, but M. Guilbert noted that a 26" roller-cone bit was on site and this diameter fits better with bentonite chip volumes calculated by HLI.)

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Boise, Idaho 83702
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Top of Packer/Reducer = 429'

Top of #6-#9 Sand Filter = 437'

Base of 18" Casing = 466' (could not be lowered through infill of native materials during casing installation)

Tagged Bottom of 26" Bore = 475'

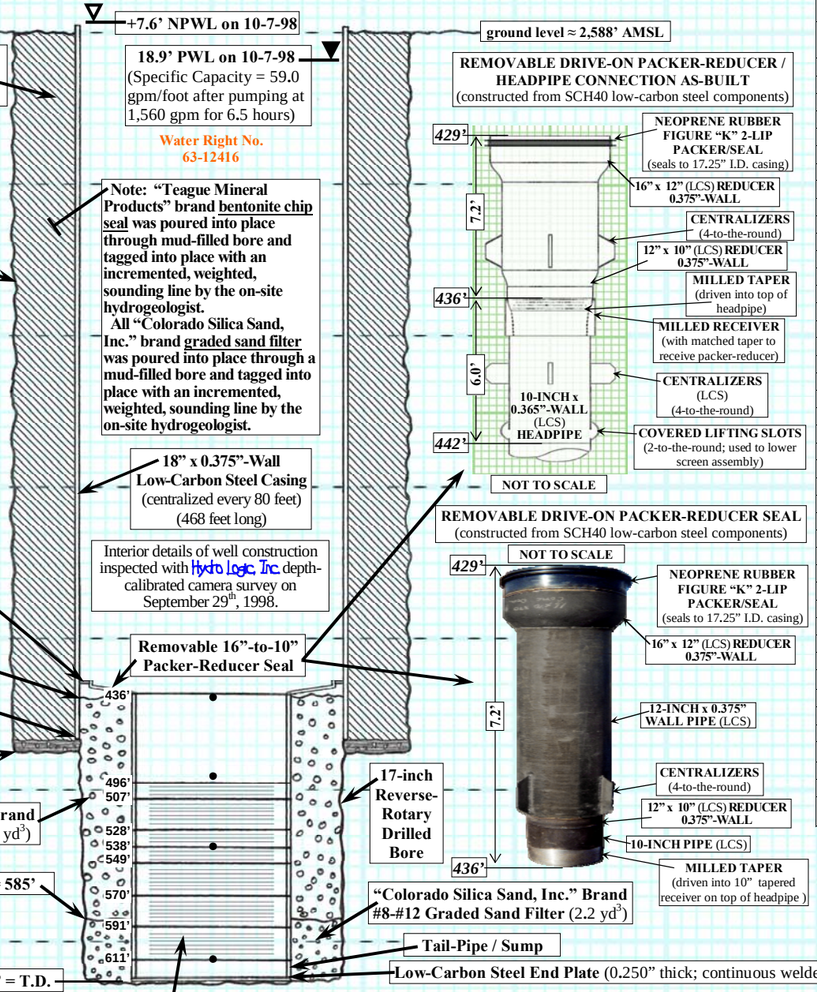
"Colorado Silica Sand, Inc." Brand #6-#9 Graded Sand Filter (5.6 yd^3)

Top of #8-#12 Filter Sand = 585'

625' = T.D.

As-Built Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=100')
all measurements to ground level = pumphouse floor



"Johnson" Brand "Hi-Flow, Hi-Q" #304 Stainless Steel (SS) Wire-Wrap Screen and Low-Carbon Steel (LCS) Pipe Assembly (with 6-inch long SS weld-rings)

10" x 0.365"-Wall LCS Pipe	436'-to-496'
10" x 0.035"-Slot SS Screen	496'-to-507'
10" x 0.035"-Slot SS Screen	507'-to-528'
10" x 0.035"-Slot SS Screen	528'-to-538'
10" x 0.035"-Slot SS Screen	538'-to-549'
10" x 0.035"-Slot SS Screen	549'-to-570'
10" x 0.035"-Slot SS Screen	570'-to-591'
10" x 0.035"-Slot SS Screen	591'-to-611'
10" x 0.365"-Wall LCS Pipe	611'-to-625'

(● = centralizers, 4-to-the-round, every 70'-to-50'; 189 feet long total)

REMOVABLE DRIVE-ON PACKER-REDUCER / HEADPIPE CONNECTION AS-BUILT (constructed from SCH40 low-carbon steel components)

REMOVABLE DRIVE-ON PACKER-REDUCER SEAL (constructed from SCH40 low-carbon steel components)

Geochemistry

Analyte (in mg/L unless noted)	Result (475 - 625 ft bgl)
Alkalinity as $CaCO_3$	88.1
Aluminum	<0.05
Ammonia as N	<0.05
Antimony	<0.002
Arsenic	<0.005
Barium	<0.10
Beryllium	<0.0002
Cadmium	<0.0005
Calcium as $CaCO_3$	75.4
Chloride	6.69
Chromium	<0.002
Color (apparent)	<1.0
Conductivity (µS)	251.0
Corrosivity	-1.23
Cyanide (total)	<0.005
Fluoride	0.29
Hardness as $CaCO_3$	96.0
Iron (total)	0.10
Iron (dissolved)	0.09
Lead	<0.002
Magnesium	5.01
Manganese (dissolved)	<0.01
Mercury	<0.0002
Nickel	<0.003
pH - Lab (S.U.)	7.59
Potassium	1.60
Selenium	<0.005
Silica as SiO_2	30.8
Silver	<0.002
Sodium	13.4
Sulfide	<0.05
Surfactant	<0.025
Thallium	<0.0006
Total Dissolved Solids	128.0
Zinc	0.015
Field Measured	**Parameters**
Field Conductivity (µS)	250
Field pH (S.U.)	8.06
Field Temperature (ºF)	63.5
Radiology (in pCi/L unless noted)	
Gross Alpha	5.0
Gross Beta	2.1

Sampled October 7, 1998 by R. Dittus.
Analyses by Alchem Laboratories, Inc.

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968
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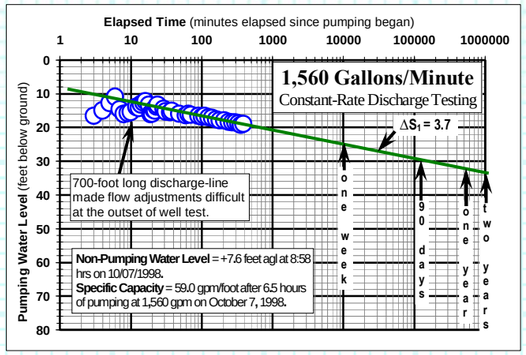
Hydraulic Testing



- Project administration by Gary Smith, P.E., Director and Brad Watson, P.E., Public Works Department, Meridian, ID.
- Well design, hydraulic testing design, final review of diagram and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement and water quality sampling by Ed Squires, Roger Dittus, and Jeff Allred, of United Water Idaho, and Mike Guilbert and Brian Cavanagh of Boise State University, Geosciences Department, Boise, ID.
- Reverse-rotary drilling with mud and well construction by Riverside, Inc. Parma, ID.
- Cable-tool well development by Riverside, Inc. in September 1998 consisted of plate-lifting and swabbing well for several hours to initiate artesian flow then allowing it to flow at ~100 gpm until water was clear. The screened interval was swabbed while flowing at ~100 gpm and then infill was bailed from the well.
- Test pump installation, discharge line setup and pump operation by Riverside, Inc. Parma, ID.
- Water samples were taken October 7, 1998, after 6 hours of pumping at 1,560 gallons/minute during constant-discharge testing.

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City of Meridian Supply Well #20-B

T. 4 N. R. 1 W. Section 36, SE¼, SE¼, SE¼

Latitude 43º 38' 3.30" Longitude 116º 23' 43.31"

Original Well Completed November 2004

Reconstructed Well Completed August 2011

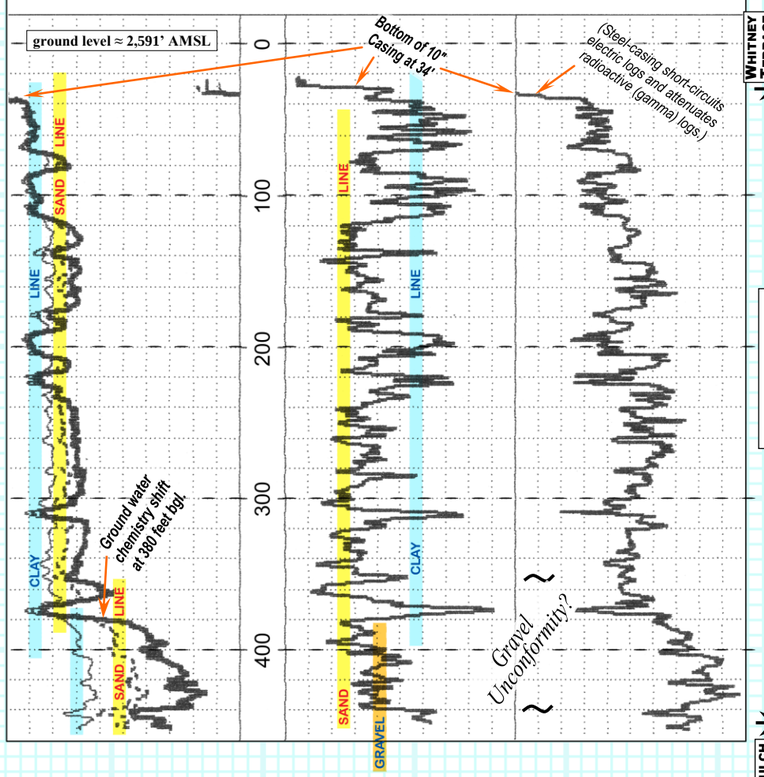
Hydro Logic, Inc.

Interpretations and Final Diagram Revisions March 2012 by Hydro Logic, Inc. Loren Pearson and Ed Squires

High-Solids (≥29%-By-Weight) Bentonite Grout Seal (11.0 yd³)

Geophysical Logs

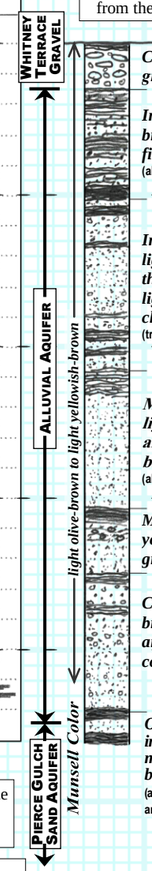
(from Supply Well #20-B 10-inch pilot bore)



Calibrated borehole geophysics conducted by L. Pearson of Hydro Logic, Inc., on September 10th, 2004 in the 10-inch diameter, mud-filled, direct mud-rotary drilled #20-B Supply Well pilot-bore, immediately after removal of the drill steel. Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary drill cuttings, sampled by the on site geologist (R. Friese) during drilling of #20-B pilot bore and from examination of the cuttings from the #20 Monitoring Well bore (1997).



Depth (feet below ground level)

0'

Cobbles, gravel, and very coarse grained sand of the "Whitney Terrace"

36-inch Auger Drilled Bore

Base of 24" Casing = 34'

Interbedded light olive/yellowish-brown colored sandy clay and fine-to-medium grained sand (abundant amount of mica in sands)

100'

"CETCO" Brand High-Solids (≥33% -By-Weight) Bentonite Grout Seal (12.6 yd³)

Interbedded medium grained light yellowish-brown sand with thin gravel lenses and sandy light olive-brown colored silty clay and clayey silt beds (trace amounts of wood)

23-inch Direct Mud-Rotary Drilled Bore

200'

Medium-to-coarse grained light yellowish-brown sand and light olive-brown to brown colored clay layers (abundant amounts of wood 250'-to-255')

287' = Top of Modified (2011) 2004 Packer-Reducer Assembly

Top of Sand Filter = 291'

300'

Medium-to-coarse grained light yellowish-brown sand with small gravel thin brown colored clay beds

"Baroid" Brand ¾" Bentonite Chip Seal (12 bags = 600# ≈ 8.7 ft³)

15-inch Direct Mud-Rotary Drilled Bore

"Birdseed" Brand #8-#16 Graded Sand Filter (5.4 yd³)

Coarse grained light yellowish-brown sand with medium gravel and thin light olive-brown colored clay and silt lenses

400'

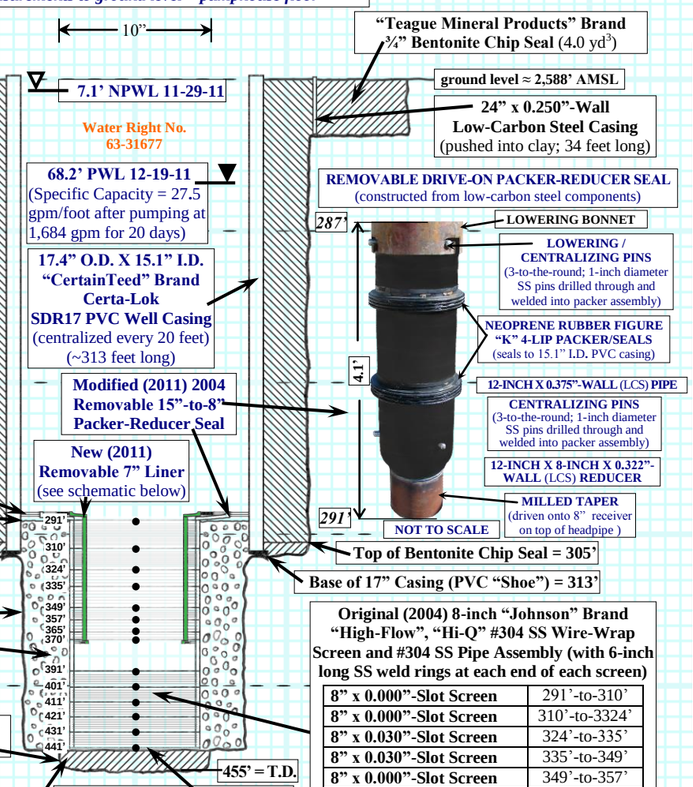
10-inch Direct Mud-Rotary Pilot Bore

Olive-brown colored clays interbedded with fine-to-medium grained light olive-brown sands (abundant amounts of wood 440'-to-445' and minor amounts of wood 445'-to-450')

As-Rebuilt Well Construction (2011)

(horizontal scale 0.1"=1" and vertical scale 1"=100')

all measurements to ground level = pumphouse floor



Original (2004) 8-inch "Johnson" Brand "High-Flow", "Hi-Q" #304 SS Wire-Wrap Screen and #304 SS Pipe Assembly (with 6-inch long SS weld rings at each end of each screen)

8" x 0.000"-Slot Screen	291'-to-310'
8" x 0.000"-Slot Screen	310'-to-3324'
8" x 0.030"-Slot Screen	324'-to-335'
8" x 0.030"-Slot Screen	335'-to-349'
8" x 0.000"-Slot Screen	349'-to-357'
8" x 0.030"-Slot Screen	357'-to-365'
8" x 0.025"-Slot Screen	365'-to-370'
8" x 0.322"-Wall SS Pipe	370'-to-391'
8" x 0.015"-Slot Screen	391'-to-401'
8" x 0.015"-Slot Screen	401'-to-411'
8" x 0.018"-Slot Screen	411'-to-421'
8" x 0.018"-Slot Screen	421'-to-431'
8" x 0.022"-Slot Screen	431'-to-441'

(● = low-carbon steel centralizers, 4-to-the-round, at each joint ≈ 5-to-20 feet; secured from settling into 10" pilot hole with 13.5" O.D. low-carbon steel centralizers at base; 150 feet long total)

Geochemistry

(Post-Liner)

Analyte (in mg/L unless noted)	Result (390 -440 ft bgl)
Alkalinity	194
Aluminum	<0.10
Ammonia as N	<0.04
Arsenic	<0.003
Calcium as $CaCO_3$	143
Chloride	12
Conductivity (µS)	551
Corrosivity (Langlier)	-0.46
Fluoride	0.22
Hardness	179
Iron (dissolved)	<0.05
Iron (total)	<0.05
Magnesium	10.2
Manganese (dissolved)	<0.05
Nitrate NO_3 as N	<0.2
pH - Lab (S.U.)	7.10
Potassium	2.8
Silica (as SiO_2)	31.4
Sodium	39.2
Sulfate	51
Sulfide	<0.05
Total Dissolved Solids	342
Total Kjehldahl Nitrogen	<0.10
Total Organic Carbon	0.27
Radiology (in pCi/L unless noted)	
Gross Alpha	24.65 ± 2.13
Gross Beta	7.66 ± 0.90
Uranium [pCi/L (µg/L)]	17.42 (26)
Adjusted Gross Alpha	7.23
Field Measured (by Hydro Logic, Inc.) **Parameters**	
Field Conductivity (µS)	524.4
Field Dissolved Oxygen	+4.19
Field Odor	none
Field O.R.P. (mV)	+98.0
Field pH (S.U.)	7.00
Field Temperature (ºF)	58.2
Field Visible Gas	very slight

Sampled December 19, 2011 by Hydro Logic, Inc.
Analyses by: Analytical Laboratories, Inc.

REGISTERED PROFESSIONAL GEOLOGIST EDWARD SQUIRES 968 3-17-2012 STATE OF IDAHO

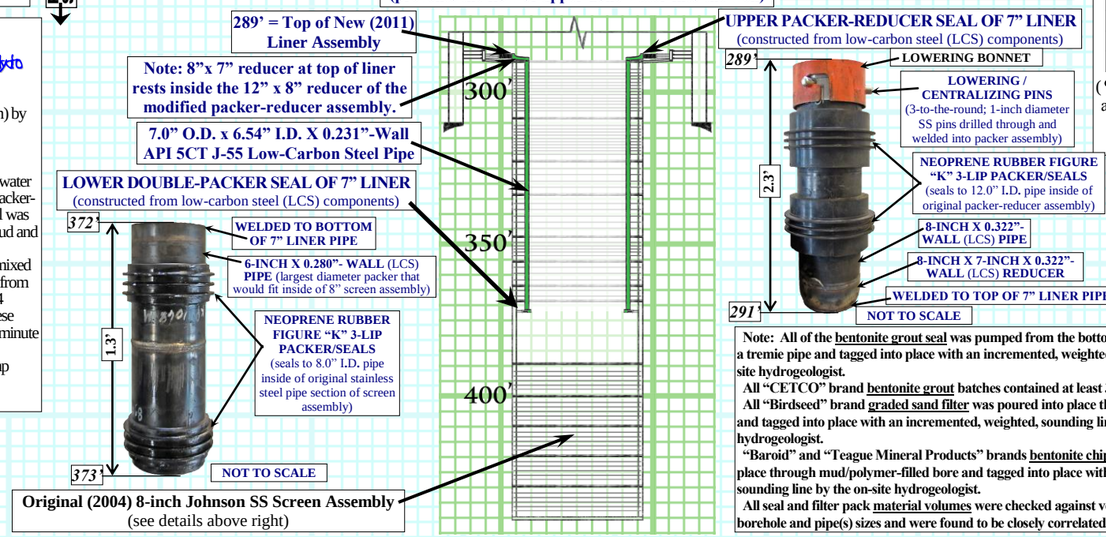
- Reconstruction project administration by David Allison P.E., Public Works Department, Meridian, ID.
- Original well design and reconstruction design, final diagram review and project management by Ed Squires, R.P.G.
- On site inspection, documentation, hydraulic testing design, water level measurement, and water quality sampling by Hydro Logic, Inc., Boise, ID. (Loren Pearson, Kurt Newbry, and Carlton Parker)
- Shallow auger drilling by Anderson & Wood Construction Co., Inc., Meridian, ID.
- 2004 direct mud-rotary drilling, well construction, and well development, and the 2011 reconstruction (liner installation) by Treasure Valley Drilling & Pump, Inc., Weiser, ID. (George Post)
- Pumping plant removal, inspection, repairs, and reinstallation by, S. Cook, Layne of Idaho, Nampa, ID.
- The original 2004 well development program, designed by HLI, consisted of evacuating all of the drilling mud by submersible pumping from the top of the well until the water was mostly clear. The well was then pumped from the water level down to the bottom of the screen assembly using an isolation-pumping assembly (with 6-foot spread between packer-seals) for several hours to clear remaining sediment from the well. For 11-hours the aquifer/screen section of the well was isolation-pumped at 325+ gallons/minute with a swabbing-and-surging action until all 6-foot intervals were free of mud and sand. Following isolation-pumping a 500 PSI water-jet was employed to clean any remaining drilling mud and/or formation clays from the screens, sand filter and borehole wall. "Baroid" brand Aquaclear, a mud-dispersing agent, mixed at the recommended ratio of 1-gallon Aquaclear to 500-gallons of water, was jetted into/through the screen assembly from the bottom-up at a rate of 1-minute-per-foot and 12 revolutions-per-minute. Following the high-pressure jetting by 24 hours, the well was again isolation pumped from the bottom-up in 6-foot lifts until the water was clear. Following these procedures a test pump was installed and the well was further developed by over-pumping the well up 2,400 gallons/minute and backwashing until the pumped water was clear and sand-free.
- Reconstructed well water samples were taken December 19th, 2011 near the end of 20-days of constant-discharge pump testing, at 1,684 gallons/minute, of the well (post-liner installation).
- Well operation with installed pumping plant by operator Jamie Allen of Meridian Water Department, Meridian, ID.

Removable Low-Carbon Steel Liner Schematic (2011)

(horizontal scale 0.1"=1" — vertical scale 1"=50')

all measurements to ground level

(prevents the flow of upper-zone water into the well)



Note: All of the bentonite grout seal was pumped from the bottom-up under pressure using a tremie pipe and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

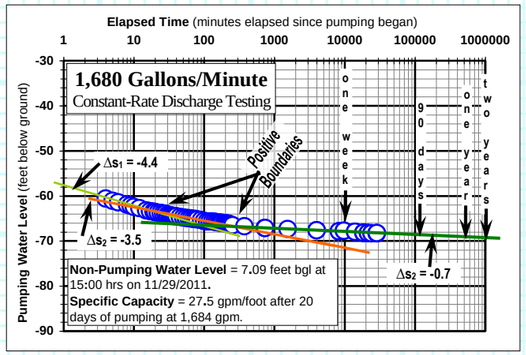
All "CETCO" brand bentonite grout batches contained at least 33% solids-by-weight.

All "Birdseed" brand graded sand filter was poured into place through a mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

"Baroid" and "Teague Mineral Products" brands bentonite chip seals were poured into place through mud/polymer-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes and were found to be closely correlated.

Hydraulic Testing (Post-Liner)



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Hydro Logic, Inc.
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(208) 342-8369
hli@hydrologicinc.net

City of Meridian Supply Well #22

T. 3 N. R. 1 W. Section 24, SW¼, SW¼, NE¼

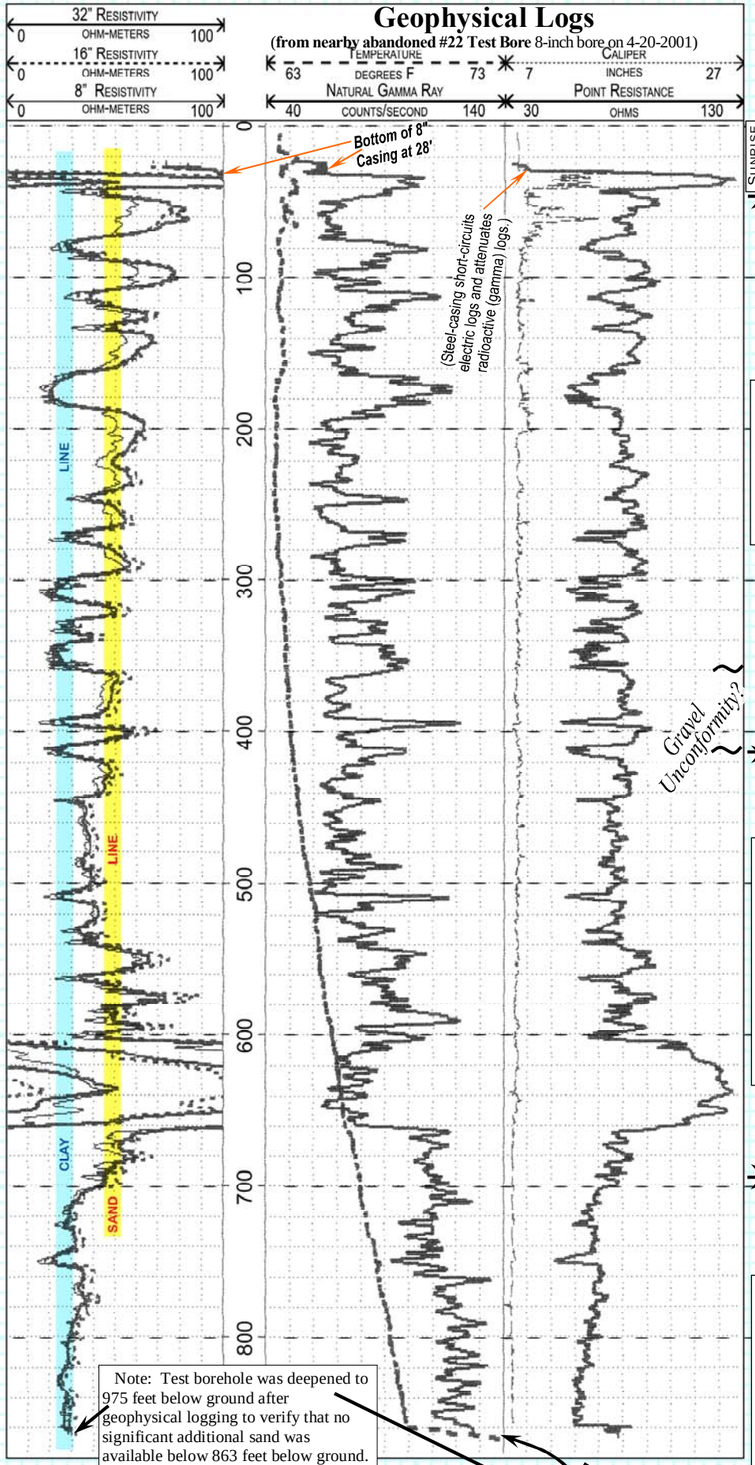
Latitude 43º 35' 2.27" Longitude 116º 24' 11.90"

Well Completed September 2001

Hydro Logic, Inc.

Geophysical Logs

(from nearby abandoned #22 Test Bore 8-inch bore on 4-20-2001)

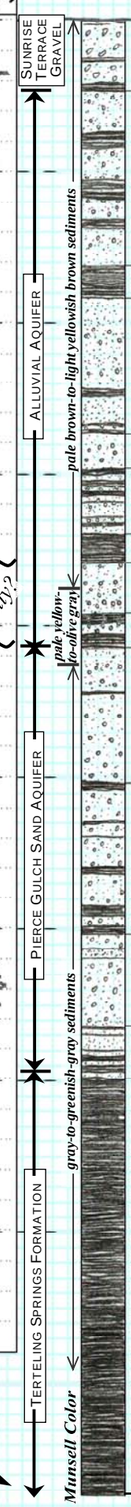


Note: Test borehole was deepened to 975 feet below ground after geophysical logging to verify that no significant additional sand was available below 863 feet below ground.

Bottom Hole Temperature = 72.7 °F at 863 feet bgl

Calibrated borehole geophysics conducted by B. Cavanagh and L. Pearson of Hydro Logic, Inc., on April 20th, 2001 in the 8-inch diameter, mud-filled, direct mud-rotary drilled #22 test bore, immediately after removal of the drill steel. (*Test bore was drilled and abandoned by May 4th, 2001*). Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

Lithology*



Depth (feet below ground level)

ground level ≈ 2,622.0' AMSL

0'

Cobbles, gravel, and very coarse-grained sand of the "Sunrise Terrace"

Interbedded medium-to-coarse-grained pale brown-to-light olive brown sand, sticky pale brown-colored clays, and thin lenses of pea gravel

100'

Sticky light yellowish brown-colored clay and clayey silt

Coarse-to-very coarse-grained light yellowish brown sand with thin tacky light yellowish brown-colored clay lenses and thin beds of small gravel (minor amount of wood fragments from 185'-to-190')

200'

Coarse-to-very coarse-grained pale brown sand with pea gravel

Interbedded sticky light yellowish brown-colored clays and very coarse-grained pale yellow sand with pebbles

300'

Sandy sticky light yellowish brown-colored clay

Very coarse-grained pale yellow-to-light gray sand with lenses of small gravel ← 1st color change at ~375'

Interbedded pale olive-colored sticky clay and very coarse-grained light olive gray sand with pebbles (moderate amount of black and green fragments throughout)

400'

← 2nd color change at ~425'

Very coarse-grained light gray-to-greenish gray sand with pebbles and thin dark brown-colored clay and silt lenses

500'

Interbedded coarse-to-very coarse-grained greenish gray sand with thin lenses of fine sand pebbles and silty greenish gray-to-dark gray-colored clay layers (minor amount of wood fragments from 520'-to-545' major amount of black and green fragments from 545'-to-560')

600'

Very coarse-to-coarse-grained greenish gray-to-gray sand with pebbles and thin lenses of fine sand (major amount of black and green fragments throughout)

Interbedded medium-to-coarse-grained light greenish gray sand and sticky dark gray-colored clay layers

700'

Dark bluish gray-colored tacky-to-sticky clay and silty mudstone

800'

975' = T.D. of Abandoned 8"Test Bore

*Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary and flooded reverse-rotary drill cuttings, sampled by the on site geologists (B. Cavanagh and L. Pearson) during drilling of #22 Test and supply Well #22 boreholes.

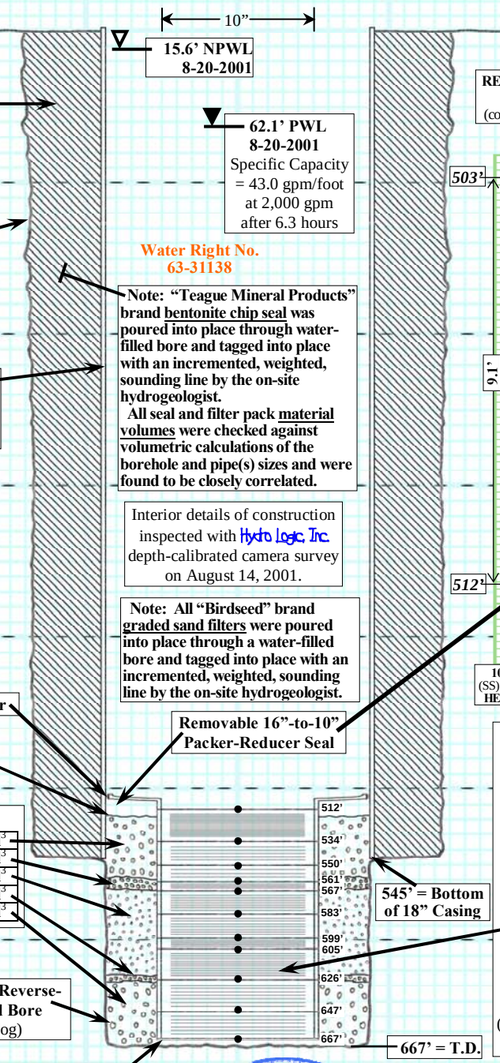
Bore abandoned by the Driller on 5-4-2001 utilizing:

1) 133 sacks of bentonite grout pumped from the bottom-up from 975'-to-43'; 2) 24 sacks of 5/8" bentonite chips poured from 43'-to-0'. ***(These are the seal volumes reported by the Driller. There is an adequate amount of sealing materials reported to properly abandon the borehole according to HLI volume calculations utilizing the caliper log of the bore to 860'.)***

As-Built Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=100')

all measurements to ground level = pumphouse floor



Water Right No. 63-31138

Note: "Teague Mineral Products" brand bentonite chip seal was poured into place through water-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes and were found to be closely correlated.

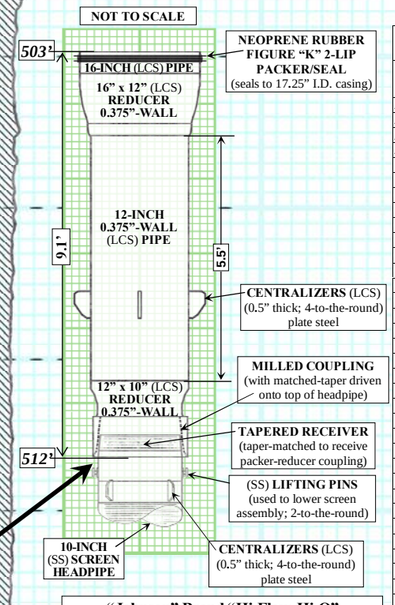
Interior details of construction inspected with Hydro Logic, Inc. depth-calibrated camera survey on August 14, 2001.

Note: All "Birdseed" brand graded sand filters were poured into place through a water-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

REMOVABLE DRIVE-ON PACKER-REDUCER / HEADPIPE AS-BUILT CONNECTION

(constructed from SCH40 low-carbon steel components)

NOT TO SCALE



"Johnson" Brand "Hi-Flow, Hi-Q" #304 Stainless Steel (SS) Wire-Wrap Screen Assembly (with 6-inch long SS weld-rings at each end of each screen)

10" x 0.005"-Slot SS Screen	512'-to-534'
10" x 0.040"-Slot SS Screen	534'-to-550'
10" x 0.040"-Slot SS Screen	550'-to-561'
10" x 0.005"-Slot SS Screen	561'-to-567'
10" x 0.020"-Slot SS Screen	567'-to-583'
10" x 0.030"-Slot SS Screen	583'-to-599'
10" x 0.005"-Slot SS Screen	599'-to-605'
10" x 0.020"-Slot SS Screen	605'-to-626'
10" x 0.035"-Slot SS Screen	626'-to-647'
10" x 0.035"-Slot SS Screen	647'-to-667'

(● = centralizers, 4-to-the-round, every 5'-to-21'; 155 feet long total)

Geochemistry

Analyte (in mg/L unless noted)	Result (545-667 ft bgl)
Alkalinity	99.0
Aluminum	<0.01
Ammonia as N	0.88
Arsenic	<0.005
Barium	0.10
Beryllium	<0.0002
Cadmium	<0.0005
Calcium as $CaCO_3$	122.0
Chloride	22.2
Chlorine Demand	0.17
Chromium	<0.002
Color (apparent)	<1
Conductivity (µS)	418.0
Copper	<0.01
Corrosivity	0.12
Cyanide (total)	<0.005
Fluoride	0.39
Hardness	151.0
Iron *(total)*	0.03
Iron *(dissolved)*	0.01
Magnesium	6.95
Manganese *(total)*	0.29
Mercury	<0.0002
Nickel	<0.003
Nitrate NO_3 as N	<0.10
Nitrite NO_2 as N	<0.01
Odor	<1
Orthophosphate	0.033
pH - Lab *(S.U.)*	7.98
Phosphorous as P	0.040
Potassium	1.90
Silica	34.7
SOC's	none detected
Sodium	23.6
Sulfate	74.0
Sulfide	<0.05
Surfactant	<0.025
Suspended Solids	<1.0
Thallium Graphite	<0.0006
Total Coliform	absent
Total Dissolved Solids	293.0
Total Organic Carbon	<1.0
VOC's	none detected
Zinc	0.009
Radiology *(in pCi/L unless noted)*	
Gross Alpha	2.5 ± 2.4
Gross Beta	4.0
Field Measured (by Hydro Logic, Inc.) **Parameters**	
Field Conductivity (µS)	*420*
Field Dissolved Oxygen	*+0.1*
Field O.R.P. (mV)	*-81*
Field pH (S.U.)	*8.10*
Field Temperature (ºF)	*68.6*

Sampled August 20th, 2001 by Hydro Logic, Inc.
Analyses by Alchem Laboratories, Inc.

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REGISTERED PROFESSIONAL GEOLOGIST EDWARD SQUIRES 968 3-17-2014 STATE OF IDAHO

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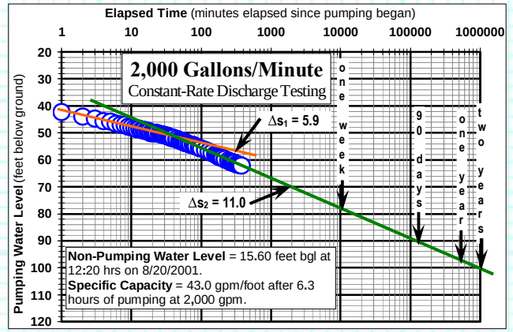
Boise, Idaho 83702
(208) 342-8369
hli@hydrologicinc.net

- Project administration by Gary Smith, P.E., Public Works Department Director and Brad Watson, P.E., City Engineer, Meridian, ID.
- Well design, hydraulic testing design, final review of diagram, and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement and water quality sampling by Hydro Logic, Inc., Boise, ID.
- Flooded reverse-rotary drilling, well construction, test pump installation, discharge line setup and test operation by Riverside, Inc. Parma, ID.
- Cable-tool well development by Riverside, Inc. in August 2001 consisted of swabbing screened interval several times for approximately 15-hours at one-minute-per-foot and periodically bailing sand from the well. Then a large pump (installed for testing that would maintain 2,200 gallons/minute from 240-feet) was used to over-pump the well at high flow rates.
- On August 20, 2001 municipal water samples were acquired by Hydro Logic, Inc. after 6 hours of pumping at 2,000 gallons/minute during the constant-discharge test.
- Test bore abandoned on May 4th, 2001 by Ron Stevens of Stevens & Sons Well Drilling, Boise, ID. (see note at left in blue text)

Hydraulic Testing



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City of Meridian Supply Well #23

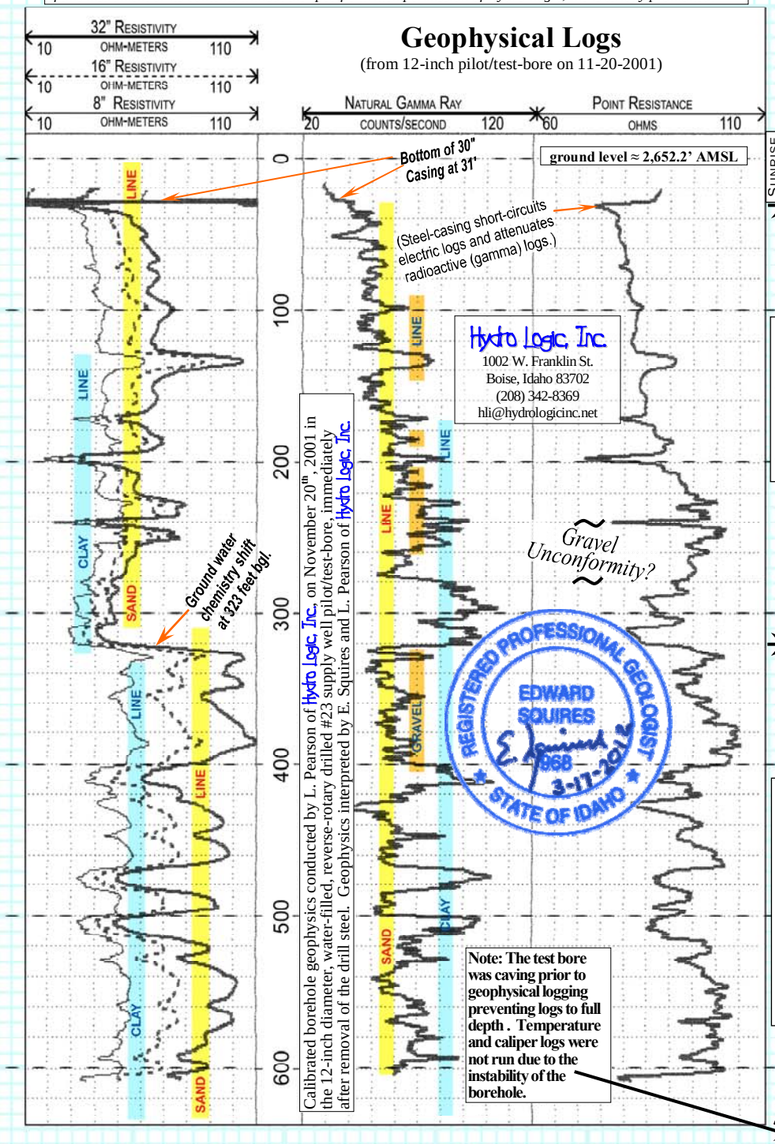
T. 3 N. R. 1 E. Section 21, NE¼, NW¼, NW¼

Latitude 43º 35' 19.31" Longitude 116º 20' 59.17"

Well Completed February 2002

Geophysical Logs

(from 12-inch pilot/test-bore on 11-20-2001)



Lithology

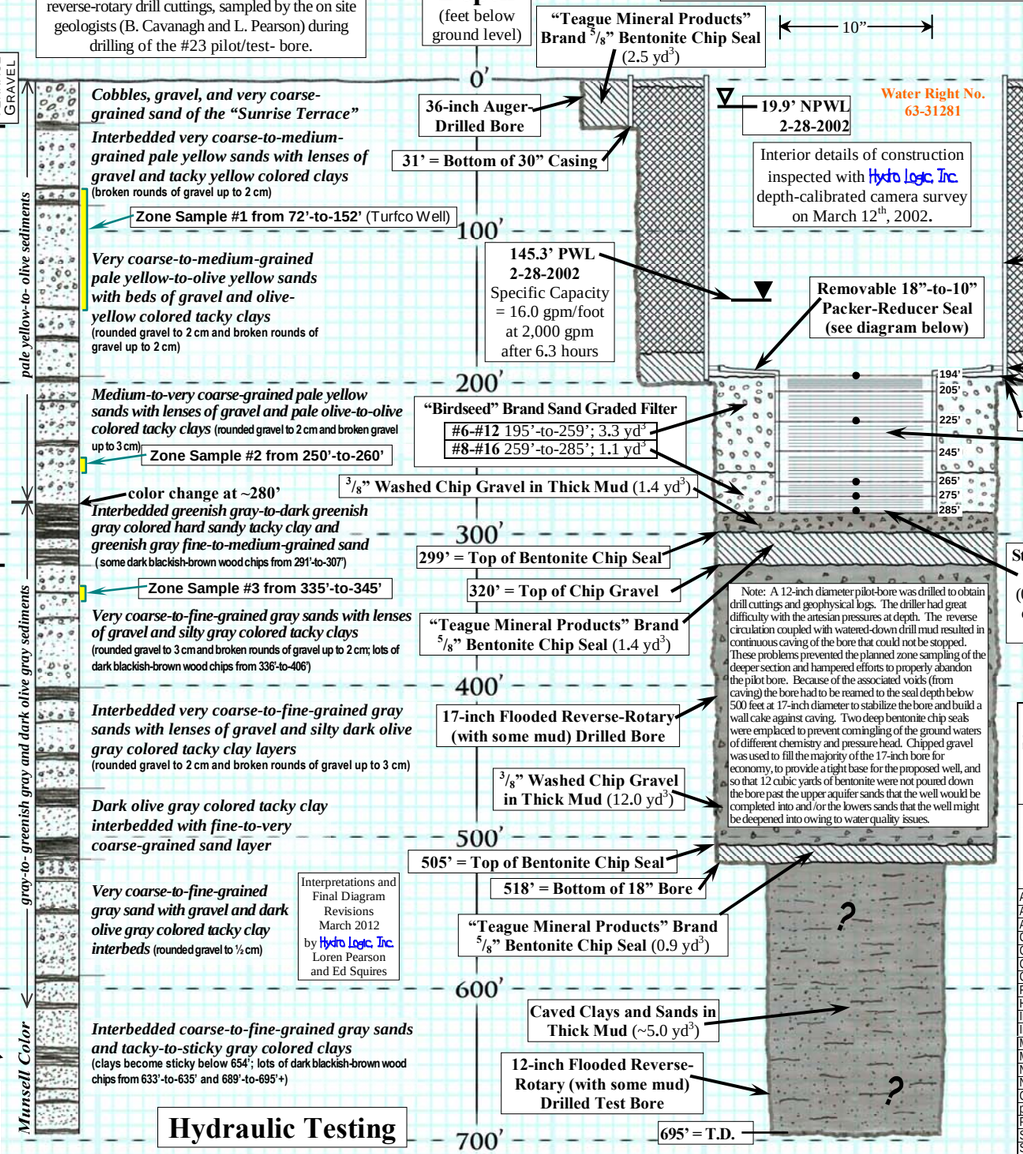
Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of flooded reverse-rotary drill cuttings, sampled by the on site geologists (B. Cavanagh and L. Pearson) during drilling of the #23 pilot/test- bore.

Hydro Logic, Inc.

As-Built Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=100')

all measurements to ground level = pumphouse floor



Geochemistry

Analyte (in mg/L unless noted)	Result (200-285 ft bgl)
Alkalinity	316.0
Aluminum	<0.01
Ammonia as N	0.06
Antimony	<0.002
Arsenic	0.008
Barium	<0.10
Beryllium	<0.0002
Cadmium	<0.0005
Calcium as $CaCO_3$	49.4
Chloride	17.1
Chromium	<0.002
Color (apparent)	<1
Conductivity (µS)	797.0
Copper	<0.01
Corrosivity	+0.14
Cyanide (total)	<0.005
Fluoride	0.67
Hardness	164.0
Iron (total)	<0.01
Iron (dissolved)	<0.01
Lead (total)	<0.002
Magnesium	9.98
Manganese (dissolved)	0.03
Manganese (total)	0.03
Mercury	<0.0002
Nickel	<0.003
Nitrate NO_3 as N	4.04
Nitrite NO_2 as N	<0.01
Odor	<1.0
Orthophosphate	0.036
pH - Lab (S.U.)	7.72
Potassium	3.03
Selenium	0.026
Silica	32.5
Silver	<0.002
SOC's	none detected
Sodium	91.6
Sulfate	67.6
Sulfide	<0.05
Surfactant	<0.025
Suspended Solids	<1.0
Thallium Graphite	<0.01
Total Coliform	absent
Total Dissolved Solids	478.0
Total Kjeldahl Nitrogen	0.16
Total Organic Carbon	1.09
Turbidity (N.T.U)	0.10
VOC's	none detected
Zinc	<0.001
Radiology (in pCi/L unless noted)	
Gross Alpha	37.4 ± 7.2
Gross Beta	18.6 ± 7.2
Field Measured (by Hydro Logic, Inc.)	**Parameters**
Field Conductivity (µS)	777
Field Dissolved Oxygen	+4.0
Field O.R.P. (mV)	-14
Field pH (S.U.)	8.12
Field Temperature (ºF)	55.0

Sampled February 28th, 2002 by Hydro Logic, Inc. Analyses by Alchem Laboratories, Inc.

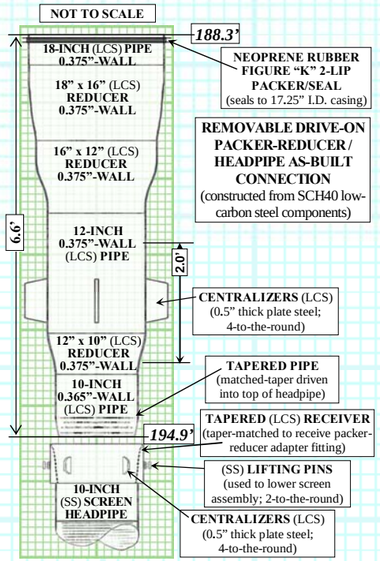
Geochemistry from Zone-Sampling of Two Zones and the Nearby Turfco Irrigation Well

(Note: Sampled Zones Marked on Lithology)

Lab Analyses	Results (in mg/L unless noted) ZONE #1 (75'-150' bgl) Turfco Well	ZONE #2 (250'-260' bgl) Test Bore	ZONE #3 (335'-345' bgl) Test Bore
Date Collected	10-11-2001	12-13-2001	12-6-2001
Alkalinity	350.0	281.0	107.0
Ammonia as N	0.02	0.15 (0.14)	0.90 (0.86)
Arsenic	0.008	0.011 (<0.003)	0.011 (0.010)
Calcium (as $CaCO_3$)	146.0	133.0	60.0
Chloride	16.0	18.80	6.0
Conductivity (µS)	723.0	719.0	264.0
Corrosivity (Langlier)	-0.05	+0.48	-0.33
Fluoride	0.38	0.65	0.53
Hardness (as $CaCO_3$)	217.0	176.0	74.0
Iron (dissolved)	0.01	0.02 (<0.05)	0.04 (<0.05)
Iron (total)	0.01	0.09 (0.10)	0.04 (0.19)
Magnesium	17.10	10.6	3.43
Manganese (dissolved)	<0.01	0.05 (<0.05)	0.19 (0.18)
Nitrate as N	3.21	2.13 (2.05)	0.12
Nitrite as N	<0.01	not tested	not tested
Odor (T.O.)	<1.0	not tested	not tested
pH (S.U.)	7.44	8.05	7.94
Potassium	2.71	3.42	2.41
Silica	33.6	27.4	53.1
Sodium	99.9	102.0	24.9
Sulfate	32.5	77.5	19.0
Sulfide	<0.05	not tested	(<0.05)
Total Coliform	absent	not tested	not tested
Total Dissolved Solids	605.0	453.0	210.0
Total Kjeldahl Nitrogen	0.16	0.19	0.97
Total Organic Carbon	1.09	not tested	not tested
V.O.C.'s	none detected	not tested	not tested
Field Measured (by Hydro Logic, Inc.)	**Parameters**		
Field Conductivity (µS)	752	707	264
Field Dissolved Oxygen	+2.50	+5.8	+1.5
Field Odor (describe)	none	trace NH_3	slight H_2S
Field O.R.P. (mV)	+72	+47	+93
Field pH (S.U.)	7.61	8.04	8.14
Field Temperature (ºF)	53.0	55.5	58.4
Field Visible Gas	none	none	none

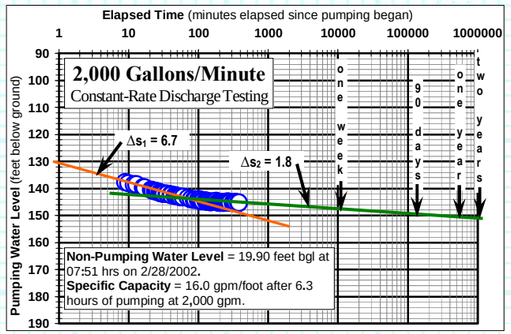
Samples collected on Oct. 11th and 2004 by Hydro Logic, Inc. Analyses by Alchem Laboratories, Boise, ID and (Analytical Laboratories, Boise, ID).

No deeper zones of test bore were sampled owing to caving of the reverse-rotary borehole.



- Project administration by Gary Smith, P.E., Director and Brad Watson, P.E., Public Works Department, Meridian, ID.
- Well design, hydraulic testing design, final review of diagram, and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement and water quality sampling by Hydro Logic, Inc., Boise, ID.
- Auger drilling by Anderson & Wood Construction Co., Inc., Meridian, ID.
- Flooded reverse-rotary drilling, zone-sampling, well construction, test pump installation, discharge line setup and test operation by Riverside, Inc. Parma, ID.
- Zone sampling water quality samples were obtained from three selected zones based on interpretation of the subsurface geology using the borehole geophysical analyses and interpretation and analysis of the drill cuttings. Only two zones within the #23 test bore were sampled: Zone 3 (335-345 ft bgl) and Zone 2 (250-260 ft bgl), because of caving conditions within the reverse-rotary bore . Samples were also obtained from a shallower portion of the aquifer (Zone 1) using a nearby irrigation well ("Turfco") which is located about 500 ft to the north-northeast from Meridian #23 and is screened between 72-152 ft bgl . The Turfco well (Zone 1) supplied the drilling water for the #23 test and supply well drilling projects so the Turfco water "lost" to the formation during reverse-circulation rotary drilling had to be purged by pumping for several days prior to sampling. A temporary 10.5-foot section of casing, placed within the selected zones of the test bore, was perforated with ten sets of torch cut slots, four to the round for a total of 40 slots. The slotted temporary casing was enveloped with a gravel pack (and a bentonite chip cap) prior to being pumped at approximately 60 gpm with the test bore kept full of drilling mud to prevent the overlying bore from collapsing during pumping. Each zone was air-lift pumped to "develop" clays and residual drilling muds from the sands and then pumped with a submersible pumping plant to eliminate aeration of the pumped water. Each zone was pumped until field-measured parameters were stable prior to sampling. The ground water was field-filtered with all sampling protocols observed.
- The supply well development program designed by HLI, consisted of evacuating all of the mud by air-lift purging from the top of the well until the water was mostly clear. The well was then air-lift pumped at 250+ gallons/minute twice from the bottom of the screen assembly to above the headpipe at 160 below ground using a perforated pipe at the end of drill steel to clear remaining sediment and mud from the well. For 16-hours the aquifer/screen section of the well was swabbed with a cable-tool swab/surge block to remove fines and settle the filter-pack. Following these procedures a test pump was installed and the well was further developed by over-pumping the well up to 2,000 gpm and backwashing until the well water was clear and sand-free.
- Supply Well #23 water samples were on February 28, 2002 after pumping for about six-hours at 2,000 gallons/minute during constant-discharge pump testing of the well.

Hydraulic Testing



Note: All of the cement seal was pumped from the bottom-up under pressure using a tremie pipe and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

All "Teague Mineral Products" brand bentonite chip seals were poured into place through mud/water-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

All "Birdseed" brand graded sand filter were poured into place through mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.

All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes and were found to be closely correlated.

Calibrated borehole geophysics conducted by L. Pearson of Hydro Logic, Inc. on March 25th, 2003 in the 8-inch diameter, mud-filled, direct mud-rotary drilled #25 Test Well bore, immediately after removal of the drill steel.
Geophysics interpreted by E. Squires and L. Pearson of Hydro Logic, Inc.

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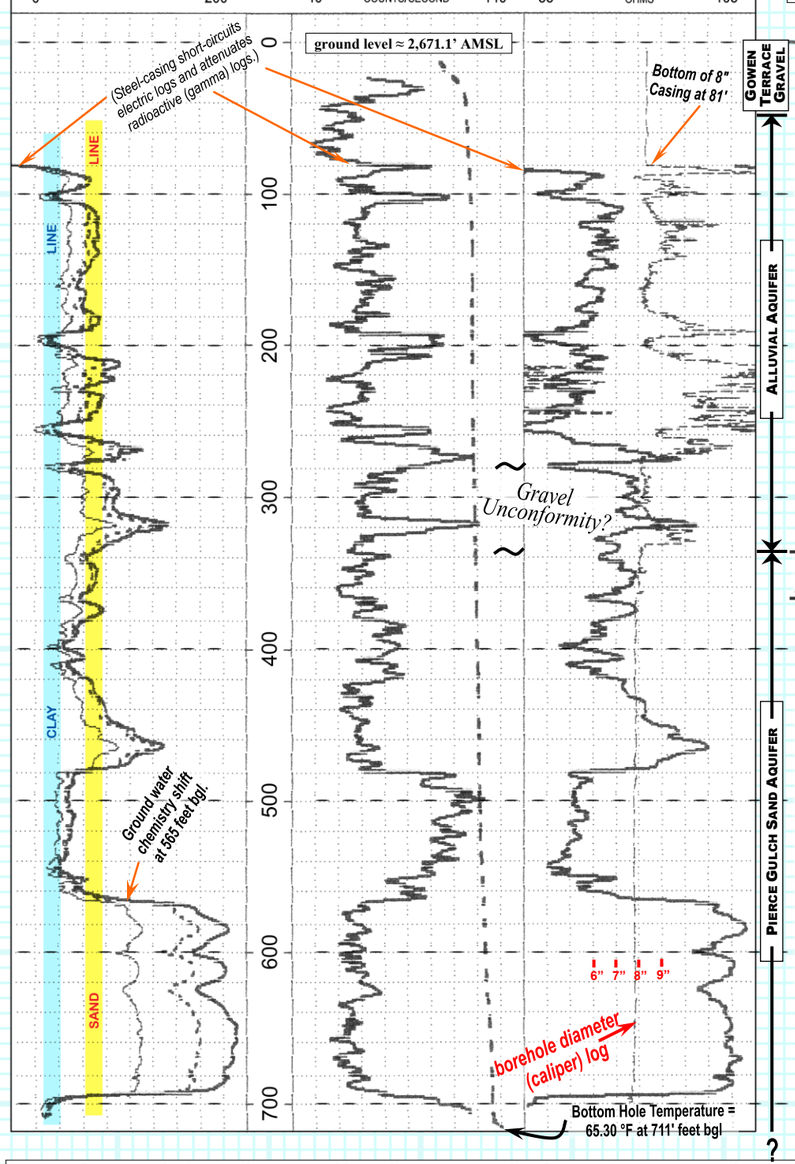
Meridian #25 Monitoring Well

T. 3 N. R. 1 E. Section 29, NE¼, NW¼, NE¼
Latitude 43º 34' 31.89" Longitude 116º 21' 38.29"
Well Completed April 2003

Hydro Logic, Inc.

Geophysical Logs

(from 8-inch test well bore on 3-25-2003)

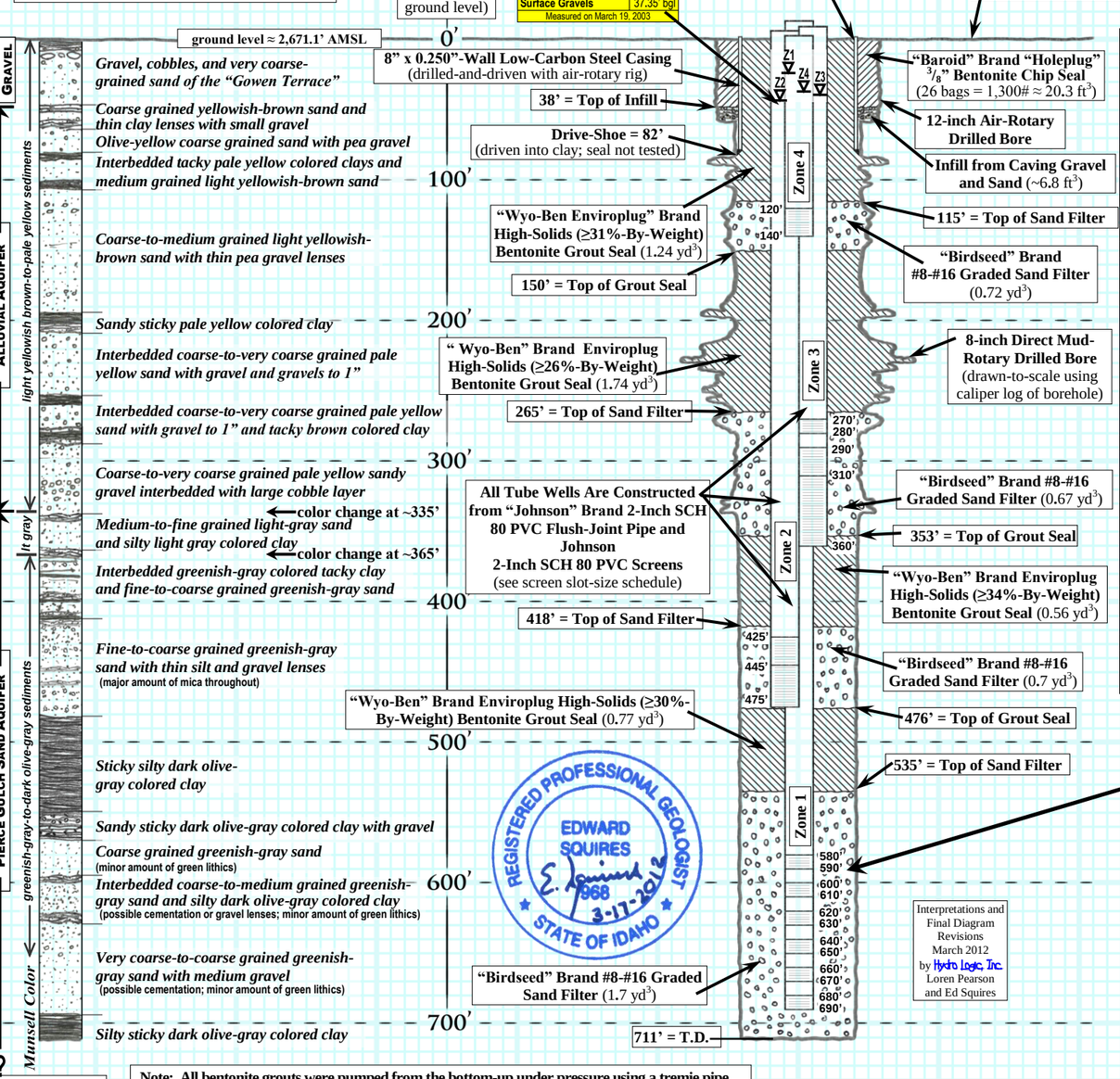


Lithology

Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of direct mud-rotary drill cuttings, sampled by the on site geologists (L. Pearson and B. Cavanagh) during drilling.

As-Built Well Construction

(horizontal scale 0.1"=1" and vertical scale 1"=100')
all measurements to ground level



Water Levels

(feet below ground level)

Zone #1 (580'-690' bgl)	26.24' bgl
Zone #2 (425'-475' bgl)	42.96' bgl
Zone #3 (270'-360' bgl)	39.87' bgl
Zone #4 (120'-140' bgl)	36.57' bgl
Measured on May 5, 2003	
Surface Gravels	37.35' bgl
Measured on March 19, 2003	

Geochemistry

Lab Analyses	Results (in mg/L unless noted) ZONE #1 (580'-690 bgl)	ZONE #2 (425'-475' bgl)	ZONE #3 (270'-360' bgl)	ZONE #4 (120'-140' bgl)
Alkalinity	119.0	148.0	203.0	242.0
Ammonia as N	(0.66)	(1.30)	(0.15)	(<0.04)
Arsenic	<0.003 (<0.005)	<0.003 (<0.005)	<0.003 (<0.005)	<0.003 (<0.005)
Calcium (as $CaCO_3$)	56.9	117.0	114.0	125.0
Chloride	6.03	17.6	9.97	14.3
Chlorine Demand	<0.05	0.93	1.70	not tested
Conductivity (uS)	284.0	482.0	564.0	680.0
Corrosivity (Langlier)	+0.54	+0.81	+0.84	+0.86
Fluoride	0.46	0.40	0.38	0.72
Hardness (as $CaCO_3$)	71.3	146.0	143.0	182.0
Iron (dissolved)	<0.01 (<0.05)	<0.01 (<0.05)	<0.01 (<0.05)	<0.01 (<0.05)
Iron (total)	<0.01 (0.06	2.14 (1.49)	<0.01 (<0.05)	0.47 (0.40)
Magnesium	3.49	7.24	7.09	13.9
Manganese (dissolved)	0.14 (0.14)	0.28 (0.29)	0.04 (<0.05)	<0.01 (<0.05)
Nitrate as N	<0.10 (<0.020)	<0.10 (<0.020)	1.25 (1.21)	4.88 (4.62)
Nitrite as N	<0.01	<0.01	<0.01	<0.01
Potassium	2.19	3.47	2.83	1.55
Silica	41.3	51.8	34.1	32.1
Sodium	30.4	43.0	72.7	80.5
Sulfate	15.2	61.0	64.5	73.2
Sulfide	<0.05	<0.05	<0.05	<0.05
Total Dissolved Solids	178.0	313.0	370.0	458.0
Radiology *(in pCi/L unless noted)*				
Gross Alpha	1.4 ± 1.0	7.8 ± 1.0	4.9 ± 1.0	N/A
Gross Beta	7.9 ± 1.7	5.3 ± 1.6	<2.0	N/A
Field Measured (by Hydro Logic, Inc.) **Parameters**				
Field Conductivity (µS)	*288*	*502*	*563*	*693*
Field Dissolved Oxygen	*-0.1*	*+0.5*	*+4.0*	*+6.8*
Field Odor (describe)	*mod. H_2S*	*mod. H_2S*	*none*	*none*
Field O.R.P. (mV)	*-7*	*+29*	*+80*	*+76*
Field pH (S.U.)	*7.87*	*7.80*	*7.74*	*7.70*
Field Temperature (ºF)	*62.6*	*60.9*	*58.6*	*56.2*
Field Visible Gas	*yes*	*yes*	*yes*	*yes*

Samples collected on April 23, 2003 by Hydro Logic, Inc.
Analyses by Alchem Laboratories, Boise, ID
Analyses in parentheses by Analytical Laboratories, Boise, ID

"Johnson" Brand SCH 80 PVC Screen Slot-Size Schedule

Zone #1	2" x 0.020"-Slot Screen	(580' to 590')
	2" x 0.020"-Slot Screen	(600' to 610')
	2" x 0.030"-Slot Screen	(620' to 630')
	2" x 0.030"-Slot Screen	(640' to 650')
	2" x 0.030"-Slot Screen	(660' to 670')
	2" x 0.030"-Slot Screen	(680' to 690')
Zone #2	2" x 0.020"-Slot Screen	(425' to 445')
	2" x 0.030"-Slot Screen	(445' to 475')
Zone #3	2" x 0.030"-Slot Screen	(270' to 280')
	2" x 0.030"-Slot Screen	(290' to 310')
	2" x 0.020"-Slot Screen	(310' to 360')
Zone #4	2" x 0.020"-Slot Screen	(120' to 140')

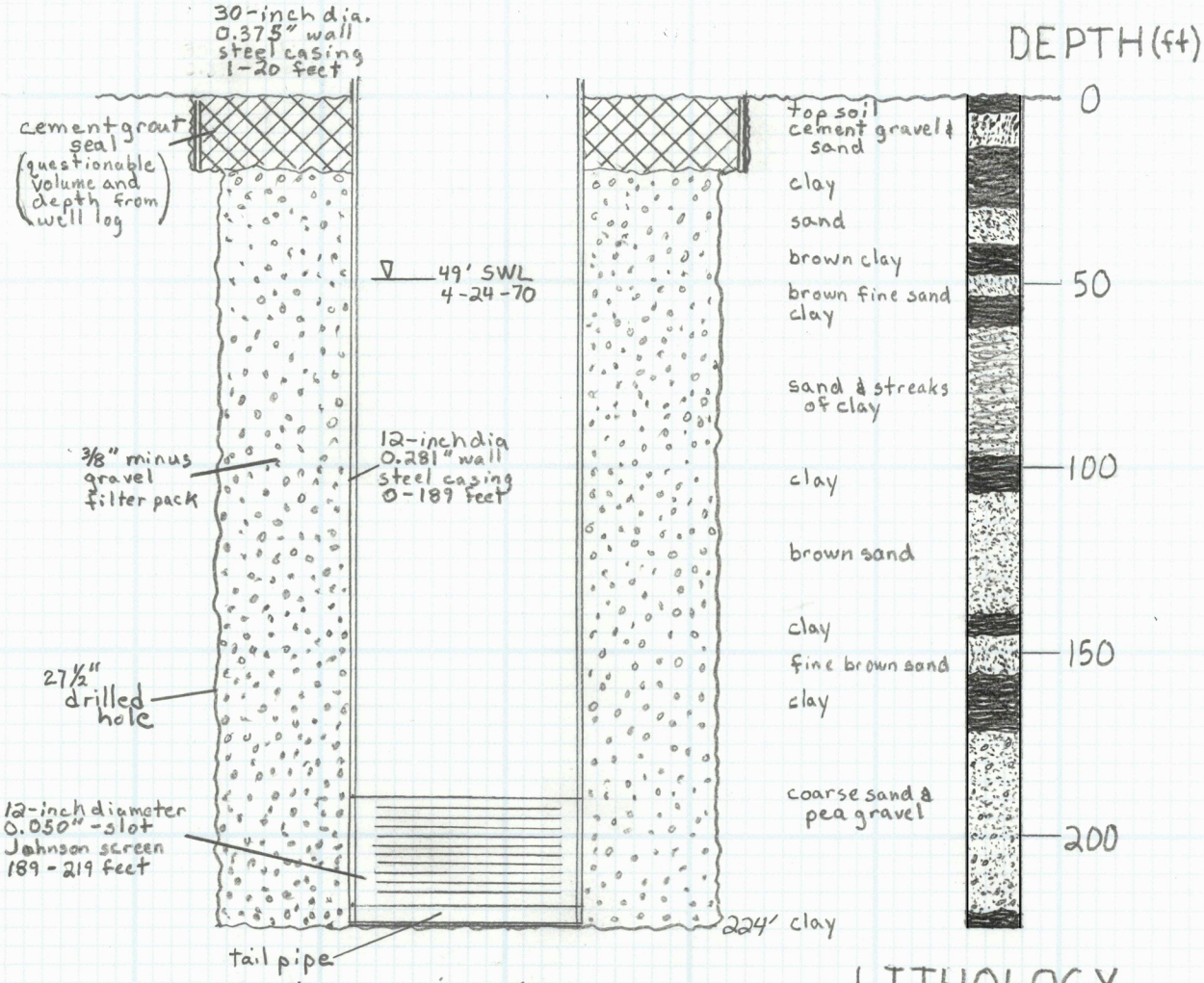
- Project administration by Gary Smith, Director, Public Works Department., and Brad Watson, City Engineer, Meridian, ID.
- Well design, final diagram review, and project management by Ed Squires, R.P.G.
- On site inspection, documentation, water level measurement, and water sampling by Hydro Logic, Inc., Boise, ID.
- Air rotary drilling and surface seal by Treasure Valley Drilling and Pump, Inc., Weiser, ID.
- Direct mud-rotary drilling, well construction, and well development by Treasure Valley Drilling and Pump, Inc., Weiser, ID.
- Well Development consisted of air-lift pumping each tube well at 15-to-30 gallons/minute until water cleared, bail infill, air-lift, swab screens, and then air-lift pumping again until clear. This sequence was repeated twice for each zone. Each zone was air-lift pumped for more-than 11.5 hours total during development.
- Water samples were taken by Hydro Logic, Inc. on April 23rd, 2003, after air-lift pumping each tube well at 15-to-50 gallons/minute for more-than two hours, then each zone was pumped with an electric submersible pump at 10-gallons/minute for one-to-two hours and field measured chemistry parameters stabilized.

Note: All bentonite grouts were pumped from the bottom-up under pressure using a tremie pipe and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.
All "Wyo-Ben" brand Enviroplug bentonite grout batches contained at least 26%-to-34% solids-by-weight.
All "Birdseed" brand graded sand filters were poured into place through mud-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.
"Baroid" brand bentonite chip seal was poured into place through air/water-filled bore and tagged into place with an incremented, weighted, sounding line by the on-site hydrogeologist.
All seal and filter pack material volumes were checked against volumetric calculations of the borehole and pipe(s) sizes and were found to be closely correlated.

Hydro Logic, Inc. "Composite Diagram" of the Meridian #25 Monitoring Well. This cross-sectional sketch of the as-built well construction, drilled geologic section, borehole geophysics, aquifer pressures, and ground water chemistry shows the differing potentiometric head, ground water temperature, and ground water chemistry with depth at this location of the Meridian sub-surface.

MERIDIAN HEIGHTS #1
"Harris St." Well
T3N R1W Sec. 25 SE NE

WELL CONSTRUCTION (driller)

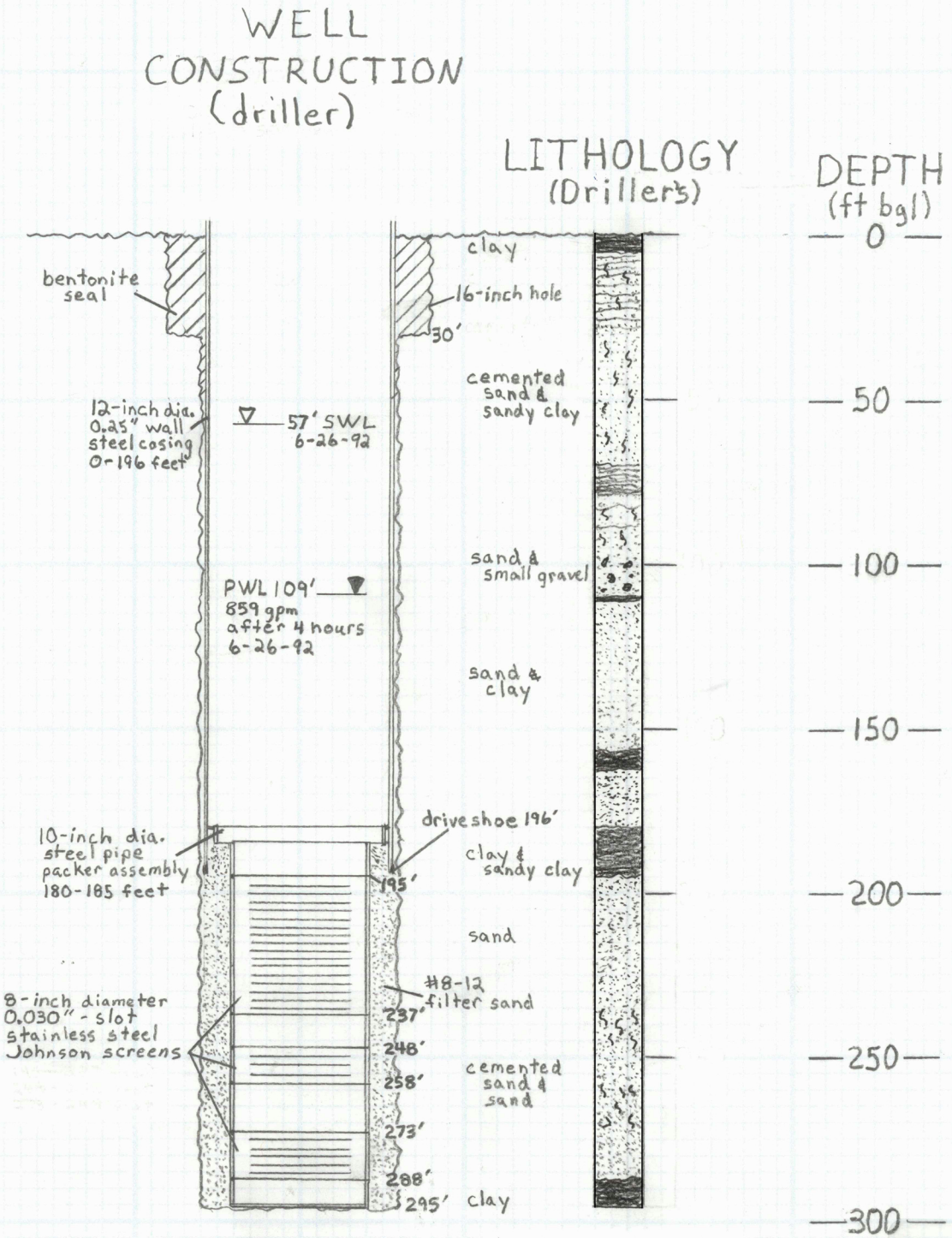


LITHOLOGY (driller)

* no pumping test data reported
* well construction and lithology based on driller's report
* well completed April 24, 1970 by Cope Drilling and Pump Co. Reverse Rotary method

horizontal scale 0.1" = 1"
vertical scale 1" = 50'

MERIDIAN HEIGHTS #2
"Winnipeg" Well
T3N R1W Sec. 25 NENE



Hydro Logic, Inc.
Boise, Idaho

* well construction and lithology based on drillers report
* well completed June 26, 1992 by Stevens & Sons, Inc. - cable tool

horizontal scale 0.1" = 1"
vertical scale 1" = 50'

As-Built Well Construction of
Meridian Heights Water and Sewer District Supply Well #3-A

Township 3 North, Range 1 West, Section 25, SE¼, NE¼, NW¼

Latitude 43º 34’ 24.7” Longitude 116º 24’ 19.5”

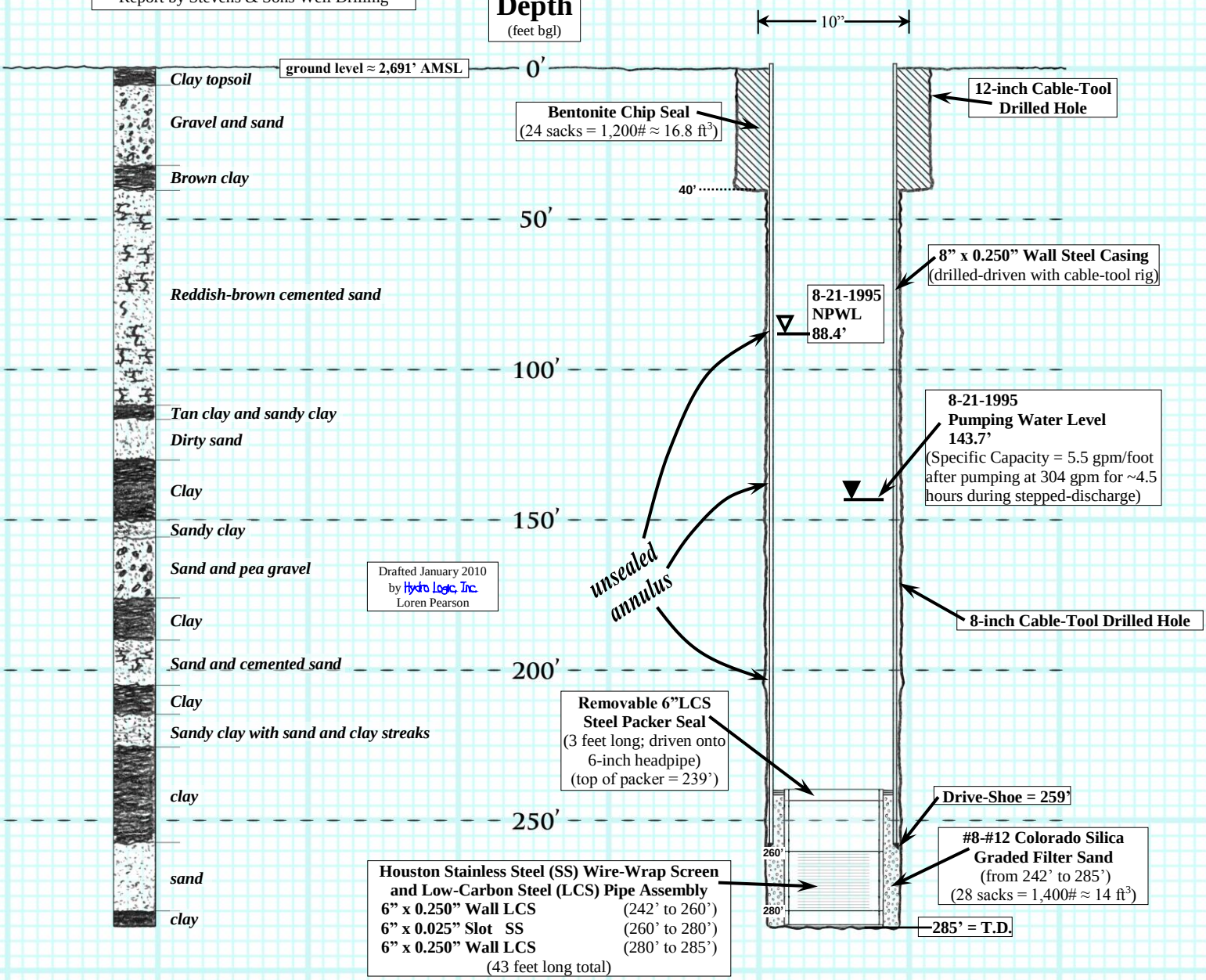
Well Completed August 1995

Lithology

Lithologic log is drawn from IDWR Driller’s Report by Stevens & Sons Well Drilling

Driller’s As-Built Well Construction

(horizontal scale 0.1”=1”)
(vertical scale 1”=50’)
all measurements to ground level



Drafted January 2010
by Hydro Logic, Inc.
Loren Pearson

- Cable-tool drilling and well construction by Stevens & Sons Well Drilling, Inc., Boise, ID.
- Test pumping by Stevens & Sons Well Drilling, Inc., Boise, ID.

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Hydro Logic, Inc.
Boise, Idaho

Appendix C.

IDWR Well Driller's Reports for Wells Referenced in this Report

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

RECEIVED MAY 16 1975 Department of Water Resources

1. WELL OWNER

Name: City Meridian

Address: Meridian, Idaho

Owner's Permit No.: Well #8 H S

2. NATURE OF WORK

☑ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test

☑ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☑ Cable ☐ Rotory ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 20 inches Total depth 485 feet

Casing schedule: ☑ Steel ☐ Concrete

Thickness	Diameter	From	To
.375 inches	20 inches	0+1 feet	210 feet
.375 inches	16 inches	0+2 feet	398 feet
.375 inches	10 inches	356 feet	398 feet
.375 inches	10 inches	418 feet	435 feet
.375 inches	10 inches	465 feet	479 feet

Was a packer or seal used? ☑ Yes ☐ No

Perforated? ☐ Yes ☐ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation ____ inches by ____ inches

Number	From	To
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet
____ perforations	____ feet	____ feet

Well screen installed? ☑ Yes ☐ No

Manufacturer's name: Johnson

Type: Stainless Model No. 304

PS Diameter 10 Slot size 40 Set from 398 feet to 418 feet

PS Diameter 10 Slot size 40 Set from 435 feet to 465 feet

Gravel packed? ☑ Yes ☐ No Size of gravel 1/8 minus

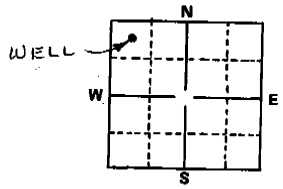
Placed from 356 feet to 485 feet

Surface seal? ☑ Yes ☐ No To what depth 30 feet

Material used in seal ☑ Cement grout ☐ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County: Ada

NW ¼ (Lot 1) NW ¼ Sec. 18, T. 3 N/S, R. 1 E/W

7. WATER LEVEL

Static water level 17 feet below land surface

Flowing? ☐ Yes ☐ No

Temperature ____ ° F. Quality ____

Artesian closed-in pressure ____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☑ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
1266	187	24

9. LITHOLOGIC LOG 029246

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
24	0	3	Top Soil		
24	3	33	Gravel, Clay Mixed		
24	33	36	Sandy Clay	✓	
20	36	60	Clay yellow		
20	60	86	Sandy Clay		
"	86	97	Hard Sand Some Clay		
"	97	123	Course Sand		
"	123	128	Sand Clay		
"	128	137	Dry Sand imbedd in Clay		
"	137	147	Sandy Clay		
"	147	159	Fine Sand	✓	
"	159	183	yellow Clay		
"	183	186	Sand	✓	
20	186	222	Clay & Sand Mixed		
"	222	230	Sand Fine	✓	
16	230	269	Sand Clay Mixed	✓	
"	269	290	Sand Fine		
"	290	304	Sandy Clay		
"	304	318	Clay		
"	318	346	Sand		
"	346	356	Clay yellow		
16	356	384	Sand		
"	384	396	Clay Sticky		
"	396	419	Fine Silty Sand	✓	
"	419	435	Clay Some Sand		
"	435	459	Sand medium	✓	
"	459	467	Course Sand	✓	
"	467	485	Sandy Clay		

10. Work started 1/15/75 finished 5/2/75

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Kenneth Witt — Driller's or Firm's Name — 55 Number

Caldwell, Idaho — Address

Kenneth Witt — Signed By — 5/5/75 Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

Form 238-7
1/94

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PG. 1-3

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

56127

RECEIVED
DEC 08 1994
Department of Water Resources

1. DRILLING PERMIT NO. 63 - 94 - W - 933 - 0
Other IDWR No. 63-12039

2. OWNER:
Name CITY OF MERIDIAN Well #16
Address 33 E. IDAHO AVE
City MERIDIAN State ID Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

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N / W / E / S

Twp. 03N North ☐ or South ☐
Rge. 01E East ☐ or West ☐
Sec. 8, NW 1/4 (10 acres) NE 1/4 (40 acres) ____ 1/4 (160 acres)
Gov't Lot ____ County ADA

Address of Well Site HICKORY ROAD
OFF OF FAIRVIEW AVE City MERIDIAN
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE: MUNICIPAL
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK NEW WELL
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD REVERSE CIRCULATION
☐ Mud Rotary ☐ Air Rotary ☐ Cable ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
BENTONITE	0	420	800000#	POURED

Was drive shoe used? Y ☐ N ☒
Was drive shoe seal tested? Y ☐ N ☐ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
18"	+2	442'2"	.375	STEEL	☒	☐	☒	☐
16"	442	444'10	.375	STEEL	☒	☐	☒	☐
10"	444'10"	447	.365	STEEL	☒	☐	☒	☐

Length of Headpipe ____ Length of Tailpipe 15' (590 TO 605)

9. PERFORATIONS/SCREENS SCREENS
☐ Perforations Method ____
☒ Screens Screen Type 304 STAINLESS STEEL

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
447	467	35	304	10"	S. STEEL	☒	☐
480	485	35	304	10"	S. STEEL	☒	☐
495	535	35	304	10"	S. STEEL	☒	☐

MAY 08 1995

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
____ ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: WELDED WELL CAP 2" pip at 45° angle threaded CAP

11. WELL TESTS: NOT AVAILABLE
☐ Pump ☐ Bailer ☐ Air Following Artesian Flow

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. COLD Bottom hole temp. COLD
Water Quality test or comments: NOT AVAILABLE

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
28"	0	30	RIVER ROCK	X	
	30	35	BROWN CLAY		X
	35	105	GRAY SAND	X	
	105	110	BROWN SAND W\GRAY CLAY & IRON	X	
	110	115	BROWN SAND	X	
	115	120	BROWN SAND	X	
	120	150	BRN SAND W\ IRON	X	
	150	165	BRN SAND W\ IRON	X	
	165	175	GRAY CLAY W\IRON		X
	175	180	GREY CLAY W\IRON		X
	180	195	GREY SAND W\IRON	X	
	195	200	GREY SAND W\STRIPS OF BRN CLAY	X	
	200	210	GREY SAND W\IRON	X	
	210	215	GREY SAND W\IRON	X	
	215	220	GREY SAND	X	
	220	225	BRN SAND W\ IRON	X	
	225	230	GRAY SAND W\IRON	X	
	230	235	SANDY GREY CLAY W\IRON		X
	235	260	GRAY SAND W\IRON	X	
	260	265	GREY CLAY		X
	265	270	GRAY SAND W\STRIPS OF GREY CLAY	X	
	270	285	GRAY SAND	X	
	285	290	GRAY CLAY W\IRON		X
	290	295	SANDY GRAY CLAY W\IRON		X
	295	305	GRAY SAND	X	
	305	310	GRAY SAND W\STRIPS OF BLUE&GRY CLAY	X	
	310	325	GRAY SAND W\STRIPS OF BLUE CLAY	X	
	325	330	GRAY & BLUE SANDY CLAY	X	
	330	335	GRAY & BLUE SANDY CLAY	X	
	335	340	GRAY SAND & STRIPS OF BLUE & GRAY CLAY	X	
	340	345	SANDY GRAY CLAY	X	
	345	350	GRAY SAND	X	
	350	360	GRAY SAND W\STRIPS OF BLUE & GRAY CLAY	SDM X	IRON

Completed Depth 620 L.F. (Measurable)
Date: Started 11/12/94 Completed 11/20/94

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name PETE COPE DRILLING Firm No. 213
Firm Official Jerry Foster Date 11/21/94
and
Supervisor of Operator George Rod Date 11/21/94
(Sign once if Firm Official & Operator)

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Form 238-7
1/94

Pg. 2-3

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter
or
Ball Point Pen

56128

1. DRILLING PERMIT NO. 63-94-W-0933-000
Other IDWR No.

2. OWNER:
Name CITY OF MERIDIAN Well #16
Address
City State Zip

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 3 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 8, ____ 1/4 (10 acres) NW 1/4 (40 acres) NE 1/4 (160 acres)
Gov't Lot ____ County

Address of Well Site
City
(Give at least name of road + Distance to Road or Landmark)

Lt. Blk. Sub. Name

4. PROPOSED USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK
☐ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

Was drive shoe used? Y ☐ N ☐
Was drive shoe seal tested? Y ☐ N ☐ How?

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
10"	467	480	.365	STEEL	☒	☐	☒	☐
10"	485	495	.365	STEEL	☒	☐	☒	☐
10"	535	552	.365	STEEL	☒	☐	☒	☐

Length of Headpipe Length of Tailpipe

9. PERFORATIONS/SCREENS
☐ Perforations Method
☒ Screens Screen Type

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
552	562	35	304	10"	S. STEEL	☒	☐
567	577	35	304	10"	S. STEEL	☒	☐
580	590	35	304	10"	S. STEEL	☒	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
____ ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices:

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. Bottom hole temp.
Water Quality test or comments:

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
	360	385	GRAY SAND	X	
	385	405	GRAY SAND W\SML STRIPS OF BLU&GRY CLAY	X	
	405	410	GRAY SAND	X	
	410	430	GRY SND W\STRIPS OF BLU&GRY CLAY SME IRON	X	
	430	435	SANDY BLUE CLAY	X	
	435	440	GRAY SAND	X	
20"	440	445	SANDY BLUE CLAY	X	
	445	470	BROWN SAND	X	
	470	475	BROWN SAND W\GRAY CLAY & IRON	X	
	475	490	BRN SAND W\STRPS GRY CLAY & LOTS OF IRON	X	
	490	495	BLUE SANDY CLAY W\IRON & STRPS OF GRY CLAY	X	
	495	540	BRN SAND W\STRPS OF BLU&GRY CLAY&IRON	X	
	540	545	SANDLY BLUE CALY W\IRON	X	
	545	575	BLUE SAND W\BLUE CLAY MIX	X	
	575	590	BLUE SAND W\STRIPS OF BLUE CLAY	X	
	590	600	BLUE SAND W\BLUE CLAY MIX	X	
	600	620	SANDY BLUE CLAY	X	

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MAY 08 1995

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Department of Water Resources

Completed Depth (Measurable)
Date: Started Completed

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Firm No.

Firm Official Date
and
Supervisor or Operator Date
(Sign once if Firm Official & Operator)

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1/94

Pg. 3-3

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter
or
Ball Point Pen

56129

1. DRILLING PERMIT NO. 63 - 94 - W - 90933 - 000
Other IDWR No. _____

2. OWNER:
Name CITY OF MERIDIAN Well #16
Address _____
City _____ State _____ Zip _____

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 3 N North ☐ or South ☐
Rge. 1 E East ☐ or West ☐
Sec. 8, _____ 1/4 NW 1/4 NE 1/4
(10 acres, 40 acres, 160 acres)
Gov't Lot _____ County _____

Address of Well Site _____
_____ City _____
(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. PROPOSED USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK
☐ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

Was drive shoe used? Y ☐ N ☐
Was drive shoe seal tested? Y ☐ N ☐ How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
10"	562	567	.365	STEEL	☒	☐	☒	☐
10"	577	580	.365	STEEL	☒	☐	☒	☐
10"	590	605	.365	STEEL	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
_____ ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N

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WATER RESOURCES
WESTERN REGION

MICROFILMED
MAY 08 1995

Completed Depth _____ (Measurable)
Date: Started _____ Completed _____

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name _____ Firm No. _____

Firm Official _____ Date _____
and
Supervisor or Operator _____ Date _____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

(For details of original well construction please see Driller's Report by Pete Cope Drilling, 11-20-1994.)

1. WELL TAG NO. D 0060103

Drilling Permit No. **913113-861741 (liner)** *63-94-W-933-0*

Water right or injection well # **63-12039** *(original)*

2. OWNER

Name **City of Meridian - Supply Well #16-A (abandonment)**

Address **33 E. Broadway Ave., Suite 200**

City **Meridian** State **ID** Zip **83642**

3. WELL LOCATION:

Twp. **3** North ☒ or South ☐ Rge. **1** East ☒ or West ☐

Sec. **8** **NE** 1/4 (10 acres) **SW** 1/4 (40 acres) **NE** 1/4 (160 acres)

Gov't Lot **N/A** County **Ada**

Lat. **43 ° 36.912' North** (Deg. and Decimal minutes)

Long. **116 ° 21.613' West** (Deg. and Decimal minutes)

Address of Well Site **1100 N. Hickory Ave.: 1100' N. of Pine Ave. & 1,400 feet west of Eagle Road** City **Meridian**
(Give at least name of road + Distance to Road or Landmark)

Lot. **N/A** Blk. **N/A** Sub. Name **N/A**

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☐ New Well ☐ Replacement well ☐ Modify existing well
☒ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☐ Mud Rotary ☒ Cable ☒ Other **Work-Over Abandonment**

7. SEALING PROCEDURES *(See Attached Sketch and Narrative)*

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bentonite Grout	522'	0'	2,052 cubic feet	pumped through tremie
PLEASE SEE	SUMMA	RY OF	ABANDONMENT	ATTACHMENT AT BACK

8. CASING/LINER: *(1994 Steel Casing)*

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
18"	-2 ft	437'	0.375"	low-carbon steel	☒	☐	☐	☒
10"	442'	449'	0.365"	low-carbon steel	☒	☐	☐	☒
10"	469'	482'	0.365"	low-carbon steel	☒	☐	☐	☒

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) **N/A**

9. PERFORATIONS/SCREENS: *(1994 Screens)*

Perforations ☐ Y ☒ N Method **N/A**

Manufactured screen ☒ Y ☐ N Type **Johnson® V-Wire Stainless Steel**

Method of installation **Lowered into place with 18" casing as one unit.**

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
449'	469'	0.035"	85	10"	#304 SS	0.365" Wall
482'	487'	0.035"	85	10"	#304 SS	0.365" Wall
497'	517'	0.035"	85	10"	#304 SS	0.365" Wall

Length of Headpipe **none** Length of Tailpipe **15'**

Packer ☐ Y ☒ N Type **Welded lap-joint with reducer from 18" casing.**

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#8-#12 Colorado	482'	620'	224 cu. feet	poured
Volume remainin	g in wel	l after b	ailing	

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) **N/A**

Describe control device **Welded steel cap covered with concrete floor.**

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) **N/A** Static water level (ft) **N/A**

Water temp. (°F) **N/A** Bottom hole temp. (°F) **N/A**

Describe access port **Welded steel cap covered with concrete floor.**

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
	N/A	

Test method: ☐ Pump ☐ Bailer ☐ Air ☐ Flowing artesian

Water Quality test or comments: **N/A**

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
See	origin	al drill	ers report for lithology.		
PLEA	SE SE	E SUM	MARY OF ABANDONMENT AND DIAGRAM OF		
ABA	NDON	MENT	AT THE BACK OF THIS DRILLER'S REPORT		
Aban	donm	ent de	sign & inspection - Hydro Logic, Inc. - Boise, ID.		

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WESTERN REGION

Completed Depth (Measurable) **N/A**

Date: Started **October 24, 2012** Completed **March 14, 2013**

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name **McLeran Well Drilling, LLC** Co. No. **641**

*Principal Driller David McLeran **-David McLeran** Date **5-14-2013**

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

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Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

(For details of original well construction please see Driller's Report by Pete Cope Drilling, 11-20-1994.)

1. WELL TAG NO. D 0060103

Drilling Permit No. **913113-861741 (liner)** *63-94-W-933-0*

Water right or injection well # **63-12039** *(original)*

2. OWNER

Name **City of Meridian - Supply Well #16-A (abandonment)**

Address **33 E. Broadway Ave., Suite 200**

City **Meridian** State **ID** Zip **83642**

3. WELL LOCATION:

Twp. **3** North ☒ or South ☐ Rge. **1** East ☒ or West ☐

Sec. **8** **NE** 1/4 (10 acres) **SW** 1/4 (40 acres) **NE** 1/4 (160 acres)

Gov't Lot **N/A** County **Ada**

Lat. **43 ° 36.912' North** (Deg. and Decimal minutes)

Long. **116 ° 21.613' West** (Deg. and Decimal minutes)

Address of Well Site **1100 N. Hickory Ave.: 1100' N. of Pine Ave. & 1,400 feet west of Eagle Road** City **Meridian**
(Give at least name of road + Distance to Road or Landmark)

Lot. **N/A** Blk. **N/A** Sub. Name **N/A**

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☐ New Well ☐ Replacement well ☐ Modify existing well
☒ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☐ Mud Rotary ☒ Cable ☒ Other **Work-Over Abandonment**

7. SEALING PROCEDURES *(See Attached Sketch and Narrative)*

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bentonite Grout	522'	0'	2,052 cubic feet	pumped through tremie
PLEASE SEE	SUMMA	RY OF	ABANDONMENT	ATTACHMENT AT BACK

8. CASING/LINER: *(1994 Steel Casing)*

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
10"	487'	497'	0.365"	low-carbon steel	☒	☐	☐	☒
10"	537'	554'	0.365"	low-carbon steel	☒	☐	☐	☒
10"	564'	569'	0.365"	low-carbon steel	☒	☐	☐	☒

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) **N/A**

9. PERFORATIONS/SCREENS: *(1994 Screens)*

Perforations ☐ Y ☒ N Method **N/A**

Manufactured screen ☒ Y ☐ N Type **Johnson® V-Wire Stainless Steel**

Method of installation **Lowered into place with 18" casing as one unit.**

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
517'	536'	0.035"	85	10"	#304 SS	0.365" Wall
554'	564'	0.035"	85	10"	#304 SS	0.365" Wall
569'	579'	0.035"	85	10"	#304 SS	0.365" Wall

Length of Headpipe **none** Length of Tailpipe **15'**

Packer ☐ Y ☒ N Type **Welded lap-joint with reducer from 18" casing.**

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#8-#12 Colorado	482'	620'	224 cu. feet	poured
Volume remainin	g in wel	l after b	ailing	

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) **N/A**

Describe control device **Welded steel cap covered with concrete floor.**

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) **N/A** Static water level (ft) **N/A**

Water temp. (°F) **N/A** Bottom hole temp. (°F) **N/A**

Describe access port **Welded steel cap covered with concrete floor.**

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
	N/A	

Test method: ☐ Pump ☐ Bailer ☐ Air ☐ Flowing artesian

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
See	origin	al drill	ers report for lithology.		
PLEA	SE SE	E SUM	MARY OF ABANDONMENT AND DIAGRAM OF		
ABA	NDON	MENT	AT THE BACK OF THIS DRILLER'S REPORT		
Aban	donm	ent de	sign & inspection - Hydro Logic, Inc. - Boise, ID.		

Completed Depth (Measurable) **N/A**

Date: Started **October 24, 2012** Completed **March 14, 2013**

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name **McLeran Well Drilling, LLC** Co. No. **641**

*Principal Driller David McLeran **-David McLeran** Date **5-14-2013**

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

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Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

(For details of original well construction please see Driller's Report by Pete Cope Drilling, 11-20-1994.)

1. WELL TAG NO. D 0060103 **Page 3 of 5**

Drilling Permit No. **913113-861741 (liner)** *63-94-W-933-0*

Water right or injection well # **63-12039** *(original)*

2. OWNER

Name **City of Meridian - Supply Well #16-A (abandonment)**

Address **33 E. Broadway Ave., Suite 200**

City **Meridian** State **ID** Zip **83642**

3. WELL LOCATION:

Twp. **3** North ☐ or South ☐ Rge. **1** East ☐ or West ☐

Sec. **8** **NE** 1/4 (10 acres) **SW** 1/4 (40 acres) **NE** 1/4 (160 acres)

Gov't Lot **N/A** County **Ada**

Lat. **43** ° **36.912' North** (Deg. and Decimal minutes)

Long. **116** ° **21.613' West** (Deg. and Decimal minutes)

Address of Well Site **1100 N. Hickory Ave.: 1100' N. of Pine Ave. & 1,400 feet west of Eagle Road** City **Meridian**
(Give at least name of road + Distance to Road or Landmark)

Lot. **N/A** Blk. **N/A** Sub. Name **N/A**

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection
☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☐ New Well ☐ Replacement well ☐ Modify existing well
☒ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☐ Mud Rotary ☒ Cable ☒ Other **Work-Over Abandonment**

7. SEALING PROCEDURES *(See Attached Sketch and Narrative)*

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Bentonite Grout	522'	0'	2,052 cubic feet	pumped through tremie
PLEASE SEE	SUMMA	RY OF	ABANDONMENT	ATTACHMENT AT BACK

8. CASING/LINER: *(1994 Steel Casing)*

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
10"	579'	582'	0.365"	low-carbon steel	☒	☐	☐	☒
10"	592'	607'	0.365"	low-carbon steel	☒	☐	☐	☒
					☐	☐	☐	☐

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) **N/A**

9. PERFORATIONS/SCREENS: *(1994 Screens)*

Perforations ☐ Y ☒ N Method **N/A**

Manufactured screen ☒ Y ☐ N Type **Johnson® V-Wire Stainless Steel**

Method of installation **Lowered into place with 18" casing as one unit.**

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
582'	592	0.035"	85	10"	#304 SS	0.365" Wall

Length of Headpipe **none** Length of Tailpipe **15'**

Packer ☐ Y ☒ N Type **Welded lap-joint with reducer from 18" casing.**

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#8-#12 Colorado	482'	620'	224 cu. feet	poured
Volume remainin	g in wel	l after b	ailing	

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) **N/A**

Describe control device **Welded steel cap covered with concrete floor.**

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) **N/A** Static water level (ft) **N/A**

Water temp. (°F) **N/A** Bottom hole temp. (°F) **N/A**

Describe access port **Welded steel cap covered with concrete floor.**

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
	N/A	

Test method: ☐ Pump ☐ Bailer ☐ Air ☐ Flowing artesian

Water Quality test or comments:

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
See	origin	al drill	ers report for lithology.		
PLEA	SE SE	E SUM	MARY OF ABANDONMENT AND DIAGRAM OF		
ABA	NDON	MENT	AT THE BACK OF THIS DRILLER'S REPORT		
Aban	donm	ent de	sign & inspection - Hydro Logic, Inc. - Boise, ID.		
			PROJECT HYDROGEOLOGIST:		
			Ed Squires, RPG, Hydro Logic, Inc., Boise, ID		
			PROJECT ENGINEER:		
			Kyle Radek, P.E., Public Works, Meridian, ID		
			ON-SITE HYDROGEOLOGIST:		
			Kurt Newbry, Hydro Logic, Inc., Boise, ID		
			PUMP CONTRACTOR:		
			Cass Cook, Layne of Idaho, Nampa, ID		
			SITE PREPARATION AND CLEAN UP		
			Tim Hughes, Northwest Services, Boise, ID		

Completed Depth (Measurable) **N/A**

Date: Started **October 24, 2012** Completed **March 14, 2013**

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name **McLeran Well Drilling, LLC** Co. No. **641**

*Principal Driller David McLeran -David McLeran Date **5-14-2013**

*Driller _____ Date _____

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

Form provided by Forms On-A-Disk · (214) 340-9429 · www.FormsOnADisk.com

As-Abandoned Diagram of City of Meridian Supply Well #16-A

T. 3 N. R. 1 E. Section 8, NE¼, SW¼, NE¼

Latitude 43° 36' 54.72" Longitude 116° 21' 36.73"

Original Well Completed November 1994

Well Abandonment Completed March 2013

Water Right No. 63-12039

Lithology*

Depth (feet below ground level)

ground level ≈ 2,621.4' AMSL – 0'

Cobbles, gravel, and very coarse-grained sand of the "Whitney Terrace"

Coarse-grained tan sand layers with tacky brown colored clay lenses

100'

Very coarse-grained tan sand with pea gravel and tacky brown colored clay lenses

Tan colored clays interbedded with medium-grained tan sand

200'

Interbedded very coarse-to-medium-grained light-brown sand with pea gravel and tacky brown colored clay layers

Interbedded coarse-to-fine-grained tan sand and tacky brown colored clay beds

Coarse-to-medium-grained brown sand with thin pea gravel lenses and tacky brown colored clay layers

400'

Interbedded fine-to-coarse-grained brown sand and tacky gray colored clay layers

500'

Coarse-grained brown sand with some small-to-medium gravel

←color change at ~545'

Interbedded coarse-grained blue sand and silty bluish gray-to-gray colored clay layers (minor amounts of wood fragments at ~570' and 585')

600'

Silty bluish-gray colored clay (minor amount of wood fragments at ~640', 650', 665' and moderate amount at 665')

700'

Medium-to-coarse-grained blue sand with thin bed of medium-sized gravel and lenses of hard gray claystone (minor amount of wood fragments at ~785')

Silty bluish-gray colored clay/claystone with fine sand lenses (minor amount of wood fragments at ~785')

800'

Medium-to-coarse-grained blue sand (minor amount of wood fragments throughout)

900'

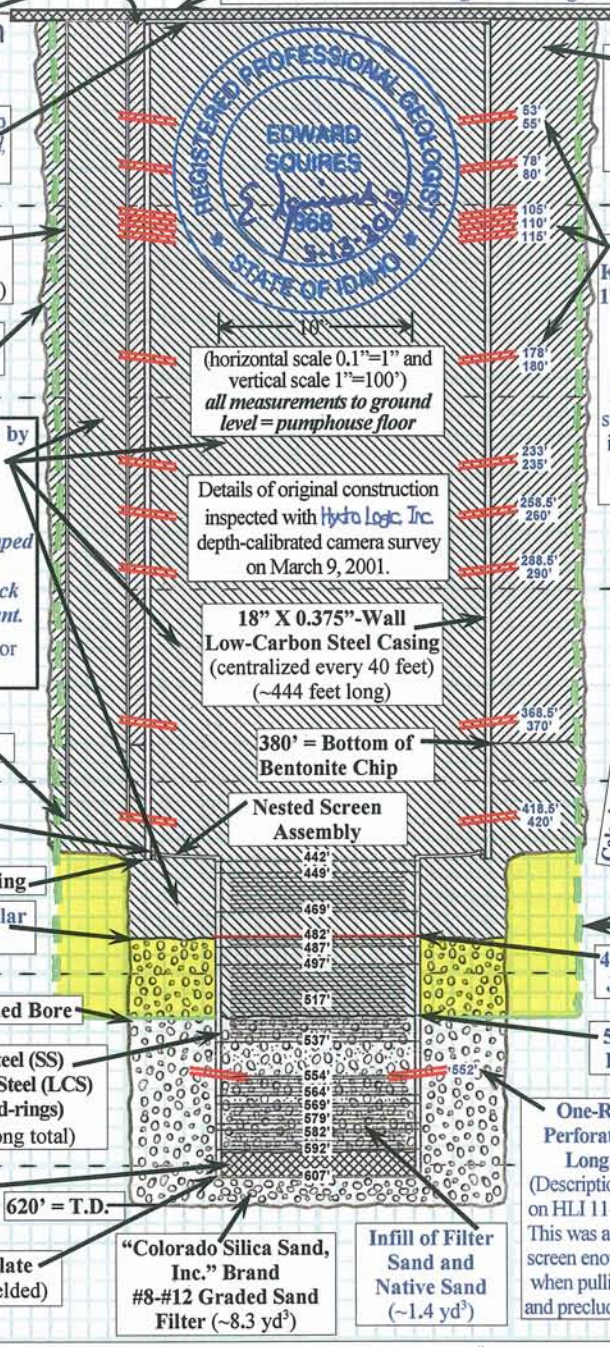
Bluish-to-greenish-gray colored clay with some lenses of mudstone (mudstone becomes more brittle with depth; transition to greenish-gray occurs at ~935')

–1,000'

* Hydro Logic, Inc. lithologic log is interpreted and drawn from geophysical logs and analysis of poor quality direct mud-rotary drill-cuttings, sampled by the driller during drilling of #16 test bore.

Interpretations and Final Diagram Revisions May 2013 by Hydro Logic, Inc. Loren Pearson and Ed Squires

As-Abandoned Well Construction



ABANDONMENT: This drawing depicts the final abandonment of March 14th, 2013 which was accomplished in multiple stages. The abandonment was staged to ensure and verify that grout was forced outside the well everywhere a seal was desired to preserve the natural stratigraphic layering of the geologic section to the extent possible. Please see "Summary of the Abandonment of Meridian Supply Well #16-A" on the back of this page for details of well abandonment.

Overall, 15,348 gallons (76.0 cubic yards) of high-solids (≥ 29% by weight) bentonite grout were pumped into the well between from 522'-to-0' below ground. This volume of grout would be enough to fill a 27-inch diameter borehole from ground level to 522 feet below ground. Thirty-six and one-half cubic yards is the volume necessary to fill the calculated void space (left by evacuating the sand filter) outside the casing and screens plus the interior of the well. Therefore, 39.5 cubic yards of bentonite grout was forced outside the casing to fill void spaces and cavities (other than the ones created by bailing) outside of the casing and screens. The actual grout and void distribution is most likely somewhat different than the uniform areal extent shown in this sketch of abandonment. It is believed, based on grout volumes, that the original bentonite chip seal bridged and was never emplaced over much of the lower 200-feet of the 28-inch bore.

All grout powders were CETCO brand Geothermal Grout™, especially formulated as a grout seal with less than 5.2 x 10–9 cm/s permeability, were mixed with clean unchlorinated water.

Hydro Logic, Inc.
1002 W. Franklin St.
Boise, Idaho 83702
(208) 342-8369
hli@hydrologicinc.net

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Summary of the Abandonment of Meridian Supply Well #16-A
May 13, 2013

The 19-year old Meridian municipal supply Well #16-A reached the end of its useful life and is intended to be replaced with a new well. To ensure the old well, with dubious annular seal, was not a danger to the water resource, or to the proposed replacement well on the same site, Hydro Logic, Inc. (HLI) was hired by the City to oversee the proper abandonment of the well by McLeran Well Drilling, LLC commencing October 29th, 2012.

Several unsuccessful attempts to extract the well screens were made to expose natural/native clay layers to better seal (abandon) the well. Then the lower screens were cut off by perforating at 552' below ground in an attempt to weaken the screen assembly sufficiently to break the lower portion off during pulling and make the screen assembly lighter and easier to remove with less friction and to release the sand filter envelope into the well to lessen friction. Our attempts to remove the screens were unable to move them up the well. Instead the screen did separate (about an inch) at a weld joint at ~482 feet below ground. The broken joint allowed filter sand to flow into the well from around the well screens, 18-inch casing, and out of the 3-inch sand filter tube (see attached cross-sectional sketch). A mix of filter sand and native sand were bailed down to 522 feet below ground. Bailing could not proceed any deeper due to the lack of progress in getting the sand to bail deeper than 522' and the occasional difficulty getting the bailer back from the bottom past the broken, offset joint at 482 feet. Overall, approximately eight cubic yards of a 50%/50% mix of sand filter and native sands volume were removed by bailing from inside the well.

Abandonment was commenced at 522 feet below ground by pumping 910 gallons of high-solids (≥ 29% by weight) bentonite grout through a 2-inch tremie from the bottom-up under pressure to 420 feet below ground. To prevent the grout from moving higher than 420' inside the well casing a fabricated steel cap with ports for pressure gauge and tagging was welded to the 18-inch casing and around the tremie and then the 18-inch casing was filled with water to the top of the cap and sealed. After sealing the cap, another 2,270 gallons of grout was pumped through the tremie at 522' forcing the grout out through screen wires, broken joint, and any other holes.

After raising the bottom of the tremie to 445' an additional 2,495 gallons of grout was pumped into the depth range 445'-to-413' until the movement of grout by pumping neared refusal at 140 PSI. Water was then used to push the existing grout level inside the casing from the top down from 413'-to-425' to clear a space for perforation of the 18-inch casing.

The 18-inch casing was perforated using a cable-tool rig with a camming knife-style perforator at 420' and 418.5' below ground with four perforations per round imparted at each depth. The perforations are nominally 1-inch wide by 4-inches long each (description of perforations based on HLI camera survey on 11-7-2012 and size of knife used and length of pull after casing was pierced) and were placed on the quarter-points of the circumference of the casing at each depth.

A 2-inch tremie grout pipe was reinstalled to 425' and 210 gallons of bentonite grout was pumped from the bottom up to ~413' inside the casing. After resealing the fabricated cap, an additional 840 gallons of bentonite grout was pumped from 425' until refusal was reached at 160 PSI on the well head (at least 385 PSI down hole at the perforations). The final tagged top of the grout was 417' after setting for a couple of days.

Next the 18-inch casing was perforated at 370' and 368.5' with one round of four perforations at each level. The tremie was reinstalled to 416' and 840 gallons of bentonite grout was pumped with no cap to bring tagged grout level up to 355' inside the well. Following seal cap installation another 1,610 gallons of bentonite grout was pumped until refusal at 170 PSI.

After setting idle for about one day with the well sealed at the top, the previously plugged 3" sand filter tube outside the 18-inch casing (see attached cross-sectional sketch) became "connected" through the knife perforations to the grouting tremie inside the well after we reverse-pumped water down the sand filter tube. With the top of the 3" sand filter tube open, 330 gallons of bentonite grout was pumped through the 2" tremie inside the well which pushed grout to the top of the 3" sand filter tube at land surface. The 3" sand filter tube was capped and an additional 173 gallons of bentonite grout was pumped into the well until refusal at 150 PSI.

The 2-inch grouting tremie pipe was removed and the 18" casing was perforated at 290'/288.5', 260'/258.5', and 235'/ 233' with four perforations at the quarter points of the well at each depth. The top of the grout was tagged at 368' below ground and the 2" tremie was reinstalled to 345' below ground. 1,820 gallons of bentonite grout was pumped from 368'-to-317' and then the well head was sealed and an 280 gallons of grout was pumped into place before refusal was reached at 230 PSI at the well head.

After the tremie was removed, and four perforations-per-round were placed at 180' and 178' below ground, the top of the grout was tagged at 217'. The 2" tremie was reinstalled to 219' and 980 gallons of bentonite grout were pumped from 217'-to-158' at which time the well head was resealed. 350 more gallons of grout were pumped until refusal at 170 PSI.

With the tremie pipe removed, the grout level was tagged at 158' below ground. Perforations, four-to-the-round, were imparted at 115', 110' and 105'. The tremie pipe was reinstalled to 145' before 770 gallons of bentonite grout were pumped from 158'-to-93' and the well head was sealed. After resealing well head another 280 gallons of grout was pumped into well until refusal at 149 PSI. The final grout level was tagged at 74' after unsealing the well head.

The bentonite grout level was pushed, by pumping from the top down with 200 gallons of water from 74'-to-89' to make room for additional perforations. At this time bentonite grout began to surface at ground level around the outside of the 18-inch casing. Four perforations-per-round were placed at 80', 78', 55', and 53' below ground. The 2" tremie pipe was reinstalled to 96' below ground. After pumping 1,050 gallons of bentonite grout through the tremie the well bore was filled from 89'-to-0', the top of the 18" casing. The well head was then sealed and an additional 140 gallons was pumped into well at 115 PSI before grout began, again, to flow outside around the 18-inch casing.

Overall, 15,348 gallons (76.0 cubic yards) of high-solids (≥ 29% by weight) bentonite grout were pumped into the well between from 522'-to-0' below ground. This volume of grout would be enough to fill a 27-inch diameter borehole from ground level to 522 feet below ground. Thirty-six and one-half cubic yards is the volume necessary to fill the calculated void space (left by evacuating the sand filter) outside the casing and screens plus the interior of the well. Therefore, 39.5 cubic yards of bentonite grout was forced outside the casing to fill void spaces and cavities (other than the ones created by bailing) outside of the casing and screens.

All grout powders were CETCO brand Geothermal Grout™, especially formulated as a grout seal with less than 5.2×10^{-9} cm/s permeability, were mixed with clean unchlorinated water.

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

1. DRILLING PERMIT NO. 63-96-C-0313-000
Other IDWR No. Water Right 63-12295

2. OWNER:
Name City of MERIDIAN Well #17
Address 33 East IDAHO AVENUE
City MERIDIAN State Id Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 3 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 20, ____ 1/4 (10 acres) NW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County ____

Address of Well Site NW Corner of S Locust Grove & Time Zone City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lt. 1 Blk. 2 Sub. Name Los Alamitos #1

4. PROPOSED USE:
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☐ Cable ☒ Other Rev Rotary

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	0	400	35,000 LBS	Over Bore

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? Y ☐ N ☒ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
18"	+2	400	.375	Steel	☒	☐	☒	☐
10"	360	412	.375	Steel	☒	☐	☒	☐
10"	445	460	.375	Steel	☒	☐	☒	☐
10"	520	530	.375	Steel	☒	☐	☒	☐

Length of Headpipe ____ Length of Tailpipe ____

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☒ Screens Screen Type SS Johnson

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
412	445	.035		10"	SS	☒	☐
460	520	.035		10"	SS	☒	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
12'-9" ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: 2" Pipe side of casing

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
2000	41.75	54.5	7 hrs

Water Temp. 62.3°F Bottom hole temp. ____
Water Quality test or comments: 091199

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
28	0	5	Top Soil		X
28	5	37	Sand & Gravel	X	
28	37	46	Lt Brn Clay		X
28	46	65	med Sand	X	
28	65	78	Tan & Yellow Clay		X
28	78	113	med To Coarse Sand	X	
28	113	117	Brown Clay		X
28	117	130	Fine To med Sand	X	
28	130	146	Brown Clay		X
28	146	154	med To Coarse Sand	X	
28	154	166	Brown Clay		X
28	166	173	med To Coarse Sand	X	
28	173	193	Brown Clay		X
28	193	230	med To Coarse Sand	X	
28	230	246	Brown Clay		X
28	246	287	med Sand w/ Some Gravel	X	
28	287	300	Brown Clay		X
28	300	343	med Sand & Small Gravel	X	
28	343	346	Brown Clay		X
28	346	394	Coarse Sand & Gravel 2"-	X	
28	394	400	Brown Clay		X
18	400	410	Brown Clay		X
18	410	525	med Sand	X	
18	525	536	Brown Clay		X

Completed Depth 528 (Measurable)
Date: Started 6/13/96 Completed 6/27/96

RECEIVED AUG 22 1996 Department of Water Resources
RECEIVED AUG 15 1996 WATER RESOURCES WESTERN REGION
RECEIVED AUG 15 1996 Department of Water Resources
MICROFILMED OCT 09 1996

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Riverside Inc Firm No. 333
Firm Official ____ Date 8-14-96
and
Supervisor or Operator Dave Clark Date 8/14/96
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

D 9165

95555

1. DRILLING PERMIT NO. 63-99-W-0032-000
Other IDWR No. [redacted]

2. OWNER:
Name City of Meridian Well #18
Address 200 E. Carlton Suite 100
City Meridian State Id. Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 4 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 32, SE 1/4 (10 acres) SW 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County Ada

Address of Well Site 3319 N. Summerfield Way City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lt. 12 Blk. 8 Sub. Name Summerfield Subdivision

4. PROPOSED USE:
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☐ Cable ☐ Other Reverse

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite 5/8"	0	458'	90,000#	overbore
Colorado Sand	435'	653'	24,030#	overbore

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? Y ☐ N ☐ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
18"	+2'	458'	.375	Steel	☒	☐	☒	☐
10"	425'	475'	.365	Steel	☒	☐	☒	☐
10"	505'	575'	.365	Steel	☒	☐	☒	☐

Length of Headpipe ____ Length of Tailpipe 8'

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☒ Screens Screen Type Wire Wrap

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
475'	505'	.035		10"	SS	☒	☐
575'	645'	.035		10"	SS.	☒	☐
630'	635'	Tight wrap		10"	SS	☒	☐
480'	485'	Tight wrap		10"	SS	X	

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
10 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: City is going to do access port.

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
2400	62'	62'	4 hrs

Water Temp. 63.5°F Bottom hole temp. ____
Water Quality test or comments: Specs Cond. Spec 2400 S

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
28"	0	2	Top soil		
	2	75	Sand & Gravel		
	75	88	Tan Clay		
	88	411	Fine to Med Sand Clay stks		
18"	411	411	Blue & Grey Clays		
	411	505	Fine to Coarse Sand		
	505	575	Clay stks Sand		
	575	624	Fine to Med Sand		
	624	635	Clay stks Sand		
	635	656	Coarse to Med Sand		
	656	653	Dark Gray Clay		

RECEIVED
MAY - 5 1999
Department of Water Resources

MICROFILMED
AUG 25 1999

Completed Depth 653' (Measurable)
Date: Started 3-1-99 Completed 4-26-99

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Riverside Inc. Firm No. 333

Firm Official ____ Date ____
and
Supervisor or Operator [signature] Date 4-22-99
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
3/95

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen 68390

Office Use Only
Inspected by _____
Twp____ Rge____ Sec____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. 63-97 W 0065 801 -
Other IDWR No. _____

2. OWNER:
Name City of Meridian **#19 Monitor Well**
Address 33 E Idaho St
City Meridian State ID Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 3 North XX or South ☐
Rge. 1 East ☐ or West XX
Sec. 3, ____ 1/4 ____ 1/4 N/E 1/4
(10 acres, 40 acres, 160 acres)
Gov't Lot ____ County Ada
Lat: : : Long: : :
Address of Well Site corner of Ustick & Helman Dr City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lt. 1 Blk. 5 Sub. Name Firelight Estates #1

4. USE:
☐ Domestic ☐ Municipal XX Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
XX New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☐ Air Rotary ☐ Cable XX Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
~~bent grout~~	~~0~~	~~30~~	~~5 sk~~	~~overbore, slurry~~
~~bent grout~~	~~0~~	~~338~~	~~18 sk~~	~~pumped~~
~~cement~~	~~420~~	~~440~~	~~5 sk~~	~~pumped~~

Was drive shoe used? XX Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? XX Y ☐ N How? drawdown

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
~~8"~~	~~+1"~~	~~53~~	~~.250~~	~~steel~~	~~XX~~	~~☐~~	~~XX~~	~~☐~~
~~2"~~	~~+1~~	~~350~~	~~sch~~	~~80 plastic~~	~~☐~~	~~XX~~	~~☐~~	~~XX~~
~~2"~~	~~390~~	~~400~~	~~sch~~	~~80 plastic~~	~~☐~~	~~XX~~	~~☐~~	~~XX~~

Length of Headpipe 351' Length of Tailpipe 10'

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
XX Screens Screen Type PVC

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
350	390	.020		2	PVC	☐	XX
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
____ ft. below ground Artesian pressure ? lb.
Depth flow encountered 265' ft. Describe access port or control devices: cap

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air XX Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
_____ Depth first Water Encountered _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"			page 1 of 2		
	50	75	brown clay		X
	75	90	sandy clay, sand streaks		X
	90	95	sand	X	
	95	120	sandy clay		X
	120	125	sand	X	
	125	135	sandy clay		X
	135	178	clay		X
	178	180	sand	X	
	180	191	clay		X
	191	197	sand	X	
	197	210	clay		X
	210	260	sand, clay streaks	X	
	260	280	sand	X	
	280	295	sand, clay, fine gravel	X	
	295	320	sand	X	
	320	355	sand & clay streaks	X	
	355	360	clay		X
	360	365	coarser sand, cemented	X	
	365	415	sand, with clay streaks	X	
			405 & 410		
			~~#6-9 sand 410-338 3400# poured~~		
			~~bottom bentonite grout pumped~~		
			~~440-1043 64 sk~~		

RECEIVED RECEIVED
JUN 0 5 1997 JUN 0 4 1997
Department of Water Resources WATER RESOURCES WESTERN REGION

Completed Depth 1043' (Measurable)
Date: Started 5/8/97 Completed 5/21/97

13. DRILLER'S CERTIFICATION MICROFILMED
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Stevens & Sons Firm No. 153
Firm Official Ron Stevens Date 5/29/97
and
Supervisor or Operator _____ Date _____
(Signature of Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
3/95

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

68391

Office Use Only
Inspected by _____
Twp____ Rge____ Sec ____
____1/4____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. _____
Other IDWR No. 63-97-W-0065-801

2. OWNER:
Name City of Meridian
Address #19 Monitor Well
City _____ State ____ Zip _____

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 3 North ☒ or South ☐
Rge. 1 East ☐ or West ☒
Sec. 3, _____ 1/4 _____ 1/4 _____ 1/4
(10 acres / 40 acres / 160 acres)
Gov't Lot _____ County _____
Lat: : : Long: : :
Address of Well Site _____
_____ City _____
(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☐ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

Was drive shoe used? ☐ Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
_____ ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
_____ Depth first Water Encountered _____

12. LITHOLOGIC LOG: **(Describe repairs or abandonment)**

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
	415	420	sandy clay		X
	420	422	sand	X	
	422	430	sandy blue clay		X
	430	440	brown clay		X
	440	452	sand	X	
	452	470	sandy blue clay		X
	470	505	brown sand	X	
	505	517	blue clay streaks		X
	517	525	sand & pea gravel	X	
	525	840	sand with blue clay streaks		
			& wood	X	
	840	870	blue clay		X
	870	885	sandy blue clay		X
	885	900	sans	X	
	900	915	sandy blue clay		X
	915	945	sand & wood	X	
	945	965	blue clay		X
	965	1000	sand, blue clay streaks	X	
1000	1043		blue clay		X

RECEIVED JUN 04 1997 WATER RESOURCES WESTERN REGION
RECEIVED JUN 05 1997 Department of Water Resources
MICROFILMED AUG 18 1997

Completed Depth _____ (Measurable)
Date: Started _____ Completed _____

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name _____ Firm No. _____

Firm Official _____ Date _____
and
Supervisor or Operator _____ Date _____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

D 1692 060845

1. DRILLING PERMIT NO. 63-98-W0028-000
Other IDWR No. WR 63-12378

2. OWNER:
Name City of Meridian Well #19
Address 33 East Idaho Ave.
City Meridian State Id Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 03 North ☒ or South ☐
Rge. 01 East ☐ or West ☒
Sec. 3, ____ 1/4 NE 1/4 NE 1/4 (10 acres / 40 acres / 160 acres)
Gov't Lot ____ County Ada

Address of Well Site 3301 W. Niemann Drive City Meridian.
(Give at least name of road + Distance to Road or Landmark)

Lt. 1 Blk. 5 Sub. Name Englewood Creek Estates Sub.

4. PROPOSED USE:
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☐ Cable ☐ Other Reverse Rotary

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Benonite 5/8"	0'	523'	52000#	overbore
Colorado Sand	473'	732'	42000#	overbore

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? Y ☐ N ☒ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
18"	+2	523	.375	Steel	☒	☐	☒	☐
10"	472'	580'	.365	Steel	☒	☒	☒	☐
10"	707'	722'	.365	Steel	☒	☐	☒	☐

Length of Headpipe 101' Length of Tailpipe ____

MICROFILMED JUN 2 - 1998

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☒ Screens Screen Type Wire Wrap Johnson

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
580'	707'	.035		10"	S.S.	☒	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
—— ft. below ground Artesian pressure 26 lb.
Depth flow encountered ____ ft. Describe access port or control devices: Will be Discharge Head.

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☒ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
Not available yet			

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: Slight Sulfur Smell

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
28"	0'	7'	Topsoil		
	7'	26'	Sand & Gravel		
	26'	126'	Tan clays & Sands		
	126'	495'	Sands & Clay layers		
	495'	499'	Blue Sand		
	499'	509'	Blue Clay		
	509'	554'	Coarse Sand		
	554'	579'	Blue Clay stks Sand		
18"	579'	652'	Fine to Coarse		
	652'	654'	Grey Clay		
	654'	664'	Fine to Med Sand		
	664'	665'	Grey Clay with wood		
	665'	704'	Fine to Coarse Sand.		
	704'	707'	Clay		
	707'	732'	Grey Clay & Sand.		

RECEIVED APR 28 1998 Department of Water Resources

RECEIVED APR 21 1998 Department of Water Resources

RECEIVED APR 22 1998 WATER RESOURCES WESTERN REGION

Completed Depth 722' (Measurable)
Date: Started 3-11-98 Completed 4-15-98

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Riverside Inc. Firm No. 333

Firm Official ____ Date ____
and
Supervisor or Operator ____ Date 4-16-98
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ball Point Pen

065605

1. DRILLING PERMIT NO. 63-98-W.0470-000
Other IDWR No. 2496 Tag

2. OWNER:
Name City of Meridian
Address 33 E Idaho Ave.
City Meridian State Id. Zip 83642
WR 63-12416

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

Well #20-A

N / W / E / S

Twp. 4 North ☒ or South ☐
Rge. 1 East ☐ or West ☒
Sec. 36, SE 1/4 (10 acres) SE 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot ____ County Ada

Address of Well Site 3245 N. Meridian Rd. City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE:
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

18" at 17 46'

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☐ Cable ☐ Other Reverse Rotary

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite 3/8"	0'	466'	47500#	overbore
CSS #6 #9	447'	573'	15000#	overbore
CSS #8 #12	573'	625	6000#	overbore

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? Y ☐ N ☐ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
18"	+4	466'	.375	Steel	☒	☐	☒	☐
10"	441	501	.365	Steel	☒	☐	☒	☐
10"	611'	625'	.365	Steel	☒	☐	☒	☐

Length of Headpipe 60' Length of Tailpipe 14'

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☒ Screens Screen Type Wire Wrap Johnson

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
501'	611'	.035			S.S.	☒	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
____ ft. below ground Artesian pressure 3 lb.
Depth flow encountered ____ ft. Describe access port or control devices: 2" access

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☒ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
1800	32'		6 hr

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
28"	0	4	Topsoil		
	4	31	Sand & Gravel		
	31	125	Sand & Clay layers		
	125	200	Coarse Sand Small clay		
	200	235	Clay stks Sand		
	235	356	Coarse Sand		
	356	363	Clay & Sandstone		
	363	435	Coarse Sand & Fine		
	435	445	Clay & Sand		
18"	445	490	Clay stk Sand		
18"	490	532	Med to Coarse Sand		
	532	535	Brn Clay		
	535	613	Fine to Med Sand		
	613	617	Gray Clay		
	617	621	Fine Sand		
	621	625	Blue Clay		

RECEIVED
OCT 15 1998
Department of Water Resources

MICROFILMED
NOV 04 1998

Completed Depth 625' (Measurable)
Date: Started 8-28-98 Completed 9-30-98

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Riverside Inc. Firm No. 333
Firm Official and Supervisor or Operator ____ Date ____
Date 10-13-98
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7 63
11/97 JGE

816540

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by
Twp Rge Sec
1/4 1/4 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0031609
DRILLING PERMIT NO. 83227-816540
Other IDWR No. Water Right Permit #63-31677

2. OWNER:
Name City of Meridian Supply Well #20-B
Address 660 E. Watertower
City Meridian State ID Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 4 North [X] or South [ ]
Rge. 1 East [ ] or West [X]
Sec. 36 SE 1/4 (10 acres) SE 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot County Ada
Lat: N43°38'3.1" Long: W116°23'8"
Address of Well Site 180 W Ustick Rd (NW
Corner of Meridian & Ustick Roads (Give at least name of road + Distance to Road or Landmark) City Meridian
Lt. Blk. Sub. Name 340' W of Meridian

4. USE:
[ ] Domestic [X] Municipal [ ] Monitor [ ] Irrigation
[ ] Thermal [ ] Injection [ ] Other

5. TYPE OF WORK: check all that apply (Replacement etc.)
[X] New Well [ ] Modify [ ] Abandonment [ ] Other

6. DRILL METHOD:
[ ] Air Rotary [ ] Cable [X] Mud Rotary [ ] Other

7. SEALING PROCEDURES:

Seal/Filter Pack Material	From	To	AMOUNT Sacks or Pounds	METHOD
Chip Bentonite	0	33	4yds	Poured
Cetco Grout	0	314	2350 Gal	Pumped 30% Solids
Chip Bentonite	441	455	1/3yd	Poured

Was drive shoe used? [ ] Y [X] N Shoe Depth(s) N/A
Was drive shoe seal tested? [ ] Y [X] N How? N/A

8. CASING/LINER:

Diameter	From	To	Guage	Material	Casing	Liner	Welded	Threaded
24	0	33	.250	Steel	[X]	[ ]	[X]	[ ]
17	0	319	1	PVC	[ ]	[ ]	[ ]	[ ]
18	+2	2	.250	Steel	[X]	[ ]	[X]	[ ]
8	364	390	.322	SS		[X]	[X]	

Length of Headpipe 32 Length of Tailpipe None

9. PERFORATIONS/SCREENS:
[ ] Perforations Method Stainless Steel
[X] Screens Screen Type Johnson High Flow/Hi-Q

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
323	348	.030		8	SS	[ ]	[X]
348	356	.000		8	SS	[ ]	[X]
356	364	.080		8	SS	[ ]	[X]
364	369	.015		8"	SS		[X]
390	410	.015		8"	SS		[X]
410	430	.018		8"	SS		[X]
430	440	.022		8"	SS		[X]

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
6.1 ft. below ground Artesian pressure N/A lb.
Depth flow encountered N/A ft. Describe access port or control devices: To be designed by City

11. WELL TESTS:
[X] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
2250gpm	64	70	360 Min.
1750gpm	46.4	52.5	90 Minutes
1250gpm	31.2	37.3	90 Minutes

Water Temp. 58.8 Bottom hole temp. N/A
Water Quality test or comments: Meets all EPA & DEQ Drinking Water Requirements Depth first Water Encounter N/A

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
36	0	3	Top Soil		
36	3	30	Very Coarse Sand & Cobbles	X	
36/24	30	35	Sticky Clay	X	
24	35	73	Interbedded Sand & Clay	X	
24	73	105	Coarse Sand w/ Clay Lenses	X	
24	105	115	Clay	X	
24	115	134	Coarse Sand w/Gravel	X	
24	134	140	Clay	X	
24	140		Coarse Sand & Gravel w/2ft		
		187	Clay @ 178ft	X	
24	187	203	Clay	X	
24	203	306	Coarse Sand w/Gravel	X	
24	306	315	Clay	X	
14	315	362	Very Coarse Sand & Gravel	X	
14	362	370	Medium to Coarse Sand	X	
14	370	403	Fine to Coarse Sand	X	
14	403	405	Clay	X	
14	405	441	Fine to Coarse Sand	X	
14	441	455	Clay	X	
			0-340 Tan Colored		
			340-455 Alternating Colors		
			of Tan & Dark Gray		
			4ft Long Packer/Reducer		
			286' - 290.5' w/ two		
			Figure K seals & 12 inch		
			barrel		

RECEIVED
MAR 02 2005
WATER RESOURCES
WESTERN REGION

Completed Depth 441 ft bgl (Measurable)
Date: Started 7/14/2004 Completed 10/29/2004

13. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Treasure Valley Drilling Firm No. 560
Firm Official Date 2/28/2005
and
Driller or Operator Date 2/28/2005
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

95715

Form 238-7
3/95

C

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

Office Use Only
Inspected by _____
Twp____ Rge____ Sec ____
____1/4____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. 63-98-W-0880-001 -_____
Other IDWR No. tag D0009030

2. OWNER:
Name City of Meridian #21 Monitor Well
Address 33 E Idaho
City Meridian State ID Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 3 North XX or South ☐
Rge. 1 East XX or West ☐
Sec. 18, _____ 1/4 N/W 1/4 N/W 1/4
(10 acres, 40 acres, 160 acres)
Gov't Lot ____ County Ada
Lat: : : Long: : :
Address of Well Site Meridian Rd
City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lt._____ Blk._____ Sub. Name_____

4. USE:
☐ Domestic ☐ Municipal XX Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other_____

5. TYPE OF WORK check all that apply (Replacement etc.)
XX New Well ☐ Modify ☐ Abandonment ☐ Other_____

6. DRILL METHOD
☐ Air Rotary ☐ Cable XX Mud Rotary ☐ Other_____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
bentonite chips	0	75	900#	poured
bentonite grout	75	810	5000#	pumped
#6-9 sand	810	905	3000#	poured

Was drive shoe used? XX Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐Y ☐N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8"	1	39'6	.250	steel	XX	☐	XX	☐
2"	1	837	sch	80 PVC	☐	XX	☐	XX
2"	857	887	sch	80 PVC	☐	XX	☐	XX

Length of Headpipe_____ Length of Tailpipe 0

9. PERFORATIONS/SCREENS
☐ Perforations Method_____
☐ Screens Screen Type_____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
837	857	.020		2"	PVC	☐	XX
877	897	.020		2"	PVC	☐	XX
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
_____ft. below ground Artesian pressure _____lb.
Depth flow encountered _____ft. Describe access port or control devices:_____

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
_____ Depth first Water Encountered _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	8	topsoil		X
	8	38	gravel & sand	X	
	38	81	brown clay		X
	81	160	brown sand	X	
	160	180	brown clay		X
	180	310	brown sand	X	
	310	320	brown clay		X
	320	350	coarse sand	X	
	350	400	brown clay, sand & gravel		X
	400	405	brown clay		X
	405	436	coarse brown sand	X	
	436	450	sandy brown clay		X
	450	495	fine sand	X	
	495	507	gray clay & gravel	X	
	507	605	tan coarse sand	X	
	605	720	gray coarse sand	X	
	720	800	gray fine to medium sand	X	
	800	835	gray clay		X
	835	860	gray sand	X	
	860	875	gray clay		X
	875	905	gray sand	X	

RECEIVED
JAN 19 1999
Department of Water Resources

RECEIVED
JAN 08 1999
WATER RESOURCES
WESTERN REGION

MICROFILMED
MAR 08 1999

Completed Depth 897' (Measurable)
Date: Started 12/7/98 Completed 12/16/98

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Stevens & Sons Firm No. 153
Firm Official Ron Stevens Date 1/2/99
and
Supervisor or Operator_____ Date_____
(Sign once if Firm Official & Operator)

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PAGE #1

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 18519
DRILLING PERMIT NO. - - - 18519
Other IDWR No. _____

2. OWNER:
Name CITY OF MERIDIAN #22
Address 33 EAST IDAHO AVE
City MERIDIAN State ID Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / X / S

Twp. 3 North ☒ or South ☐
Rge. 1 East ☐ or West ☒
Sec. 24, SW 1/4 SW 1/4 NE 1/4
Gov't Lot ____ County ADA
Lat: : : Long: : :
Address of Well Site Along South Bank of the Nampa
IN EAST SIDE of Stoddard Lane City MERIDIAN
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name BEAR CREEK SUB PARK

4. USE:
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☒ Other REVERSE

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
5/8" BENTONITE	0	545	52.5 yds	OVERBORE/POUR
#6-12 SAND	520	557		
#8-16 SAND	557	567	/ CONT.	NEXT PAGE

Was drive shoe used? ☐Y ☒ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
18	+2	543	.375	STEEL	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type JOHNSON
CONT. Pg #2

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
523	543	TW		10"	S.S.	☒	☐
543	568	.040		10	S.S.	☒	☐
568	573	TW		10	S.S.	☒	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
12.5 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: City will put on

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
2000	50.83'	63.33'	6 hrs

Water Temp. 75° Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
28"	0	2	TOP SOIL		
	2	9	SAND Sm GRAVEL		
	9	51	SAND, GRAVEL, RIVER BOULDERS		
	51	55	BRN CLAY		
	55	58	FINE-MED SAND		
	58	61	BRN CLAY		
	61	108	FINE-COARSE SAND		
	108	185	Lt BROWN CLAY		
	185	173	FINE SAND SOME CLAY STREAKS		
	173	182	TAN CLAY		
	182	185	FINE SAND		
	185	190	TAN CLAY		
	190	270	FINE-COARSE SAND		
	270	282	LT BROWN CLAY		
	282	300	FINE-MED PEA GRAVEL		
	300	306	Lt BROWN CLAY		
	306	339	FINE-COARSE YELLOW SAND		
	339	353	BROWN CLAY		
	353	412	FINE-COARSE SAND		
	412	421	BLUE CLAY		
	421	510	FINE-COARSE SAND, Sm gravel		
	510	513	GREEN CLAY		
	513	536	FINE-COARSE SAND, Sm gravel		
	536	537	BLUE CLAY		
28"	537	544	FINE-COARSE SAND Sm gravel		
18"	544	546	BLUE CLAY		
	546	569	FINE-COARSE SAND, Sm gravel		
	569	571	BLUE CLAY		
	571	575	BLUE CLAY, SAND, gravel		
18"	575	670	FINE-COARSE SAND, Sm gravel		
			TOP of PACKER 583'5"		

Completed Depth 663' (Measurable)
Date: Started 9-10-01 Completed 9-7-01

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name RIVERSIDE INC Firm No. 333
Firm Official _____ Date _____
and
Driller or Operator _____ Date 9-10-01
(Signature of Firm Official & Operator)

PAGE #2

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: ____ Long: ____

1. WELL TAG NO. D 18519
DRILLING PERMIT NO. ____-____-____-18519
Other IDWR No. _____

2. OWNER:
Name CITY of MERIDIAN #22
Address 33 EAST IDAHO AVE
City MERIDIAN State ID Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S — X

Twp. 3 North ☑ or South ☐
Rge. 1 East ☐ or West ☑
Sec. 24 SW 1/4 (10 acres) SW 1/4 (40 acres) NE 1/4 (160 acres)
Gov't Lot ____ County ADA
Lat: : : Long: : :
Address of Well Site _____
City _____
(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☐ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES CONT. FROM PAGE #1

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
#10-20 SAND	567	626	TOTAL	
#8-16 SAND	626	628.5	24,030#	
#6-12 SAND	628.5	667		

Was drive shoe used? ☐Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type JOHNSON

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
573	588'	.020		10"	S.S.	☑	☐
588	603	.030		10"	S.S.	☑	☐
603	608	TW		10	S.S.	☑	☐
608	628	.020		10	S.S.	X	
628	663	.035		10	S.S.	X	

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
_____ ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
Depth First Water Encounter _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N

Completed Depth _____ (Measurable)
Date: Started _____ Completed _____

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name RIVERSIDE INC. Firm No. 333

Firm Official _____ Date _____
and
Driller or Operator _____ Date 9-10-01
(Signature of Firm Official & Operator)

Bk 63 Pg 182 DE: 12-4-02

Form 238-7
11/97
770801

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

RECEIVED
APR - 9 2002
Department of Water Resources

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D ~~19091~~ 19264
DRILLING PERMIT NO. ____-____-____-____
Other IDWR No. _____

2. OWNER:
Name City of Meridian #23
Address 33' East Idaho
City Meridian State ID Zip 83642

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 3 North ☒ or South ☐
Rge. 1 East ☐ or West ☒
Sec. 21 NE 1/4 (10 acres) NW 1/4 (40 acres) NW 1/4 (160 acres)
Gov't Lot ____ County Ada
Lat: : : Long: : :
Address of Well Site SE quadrant of Eagle & Overland Road
(give at least name of road + Distance to Road or Landmark) City Meridian
Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite 5/8	0	30	7500#	overburd
Cement	30	110	10 yeds	Overburd
Bentonite 5/8	110	200	10.75 yd	Overburd

Was drive shoe used? ☐Y ☒ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
30"	0	30'	.375	Steel	☒	☐	☒	☐
20"	+2'	200'	.375	Steel	☒	☐	☒	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe Top of Headpipe 195'

9. PERFORATIONS/SCREENS
Perforations
(Screens)
Method _____
Screen Type S.S. Wire Wrap

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
195'	205'	T.W.		10"	S.S.	☒	☐
205'	265'	.040		10"	S.S.	☒	☐
265'	285'	.039		10"	S.S.	☒	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
20 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: Plate on Top w/ 1" hole

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
2000	125'	145'	6 hrs

Water Temp. 55° Bottom hole temp. ____
Water Quality test or comments: _____
Depth first Water Encounter ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Wat Y
36	0	4	Top Soil	
36	4	20	Gravel, river rock, Clay	
36	20	29	Sand, gravel, Riverrock	
28	29	31	Light Brown Clay	
	31	36	Coarse Sand & gravel	
	36	70	med to Coarse Sand	
	70	72	Brown Clay	
	72	126	Coarse Sand & stks gravel	
	126	132	Gravel	
	132	170	Coarse Sand & stks gravel	
	170	173	Ben. Clay & Sand mix	
	173	195	Coarse Sand & gravel	
28	195	204	Hon Clay & Sand mix	
18"	204	240	Sand & gravel	
	240	243	Clay, Sand mix	
	243	275	fine to med Sand & gravel	
	275	280	fine Sand & Med Sand	
	280	295	fine to Mid Sand w/ Blue Clay	
	295	325	Blue Clay	
	325	405	Sand, gravel, med to Coarse	
	405	415	Sand & Brown Clay	
18"	415	445	fine & med Sand	
	445	450	Sand & Gray Clay mix	
	450	470	Coarse to med Sand w/ gravel	
	470	490	Sand & Gray Clay mix	
	490	505	fine Sand	
	505	522	Gray Clay	
	522	523	fine Sand	
	523	525	Gray clay	
	525	531	fine Sand	
	531	595	Med to fine Sand w/ Gray Clay stks	
18"	595	601	fine Sand	

Completed Depth 285' (Measurable)
Date: Started 11-15-01 Completed 3-15-02

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Riverside Inc Firm No. 333
Firm Official _____ Date _____
and
Driller or Operator _____ Date 4-8-02

Pg 2 of 2

Form 238-7
11/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D _____
DRILLING PERMIT NO. ____-____-____-____-____
Other IDWR No. _____

2. OWNER:
Name City of Meridian #23
Address _____
City _____ State ____ Zip _____

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. _____ North ☐ or South ☐
Rge. _____ East ☐ or West ☐
Sec. _____, _____ 1/4 (10 acres) _____ 1/4 (40 acres) _____ 1/4 (160 acres)
Gov't Lot _____ County _____
Lat: : : Long: : :
Address of Well Site _____
_____ City _____
(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☐ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bird Seed Sand.				
#8-16 & #6-12	195	280	14,850#	overbore

Was drive shoe used? ☐Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
_____ ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. ____
Water Quality test or comments: _____
Depth first Water Encounter ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment) Wat

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y
18"	0	15	Gray Clay	
	15	25	Fine Sand	
	25	35	Med to Fine Sand w/ Gray Clay	
	35	50	Gray Clay w/ little Sand	
	50	55	Fine Sand w/ Gray Clay at end	
	55	68	Fine Sand	
	68	71	Gray Clay	
	71	74	Fine Sand	
	74	75	Gray Clay	
	75	89	Fine Sand	
18"	89	95	Gray Clay	
			Filled Hole from 695'	
			To 285' with Bentonite	
			& Gravel.	

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APR - 9 2002
Department of Water Resources

Completed Depth _____ (Measurabl
Date: Started _____ Completed _____

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name _____ Firm No. _____

Firm Official _____ Date _____
and
Driller or Operator _____ Date _____
(Sign once if Firm Official & Operator)

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

State law requires that this report be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

MAY 15 1970
Department of Reclamation

Meridian Heights Well #1

1. WELL OWNER

Name Bischoff Realty
Address 1200 N Maple Grove Rd
Owner's Permit No. 63-7307

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☐ Irrigation ☐ Test
☒ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☐ Cable ☒ Rotary REVERCE ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 27½" inches Total depth 224 feet
Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	27½ inches	+5 feet	1 feet
.375 inches	30 inches	-1 feet	20 feet
.281 inches	12¾ inches	+6 feet	266 feet
.281 inches	12¾ inches	296 feet	224 feet
inches	inches	feet	feet

Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation ____ inches by ____ inches

Number	From	To
perforations	~~189 feet~~	~~219~~ feet
perforations	feet	feet
perforations	feet	feet

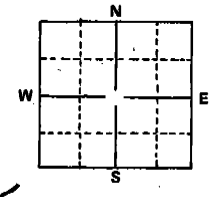
Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson
Type wire Model No.
Diameter 12 Slot size .50 Set from 189 feet to 219 feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet

Gravel packed? ☒ Yes ☐ No Size of gravel ⅛ to ¾
Placed from 75 feet to 224 feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet
Material used in seal ☒ Cement grout ☐ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



63

County Ada
SE ¼ NE ¼ Sec. 25, T. 3 N N/S, R. 1 W E/W BM

7. WATER LEVEL

Static water level 49 feet below land surface
Flowing? ☐ Yes ☐ No G.P.M. flow
Temperature ____ ° F. Quality
Artesian closed-in pressure ____ p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG 34045

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
27½	0	224			
	0	4	Top soil		
	4	9	Cement gravel		
	9	14	sand		
	14	30	Clay		
	30	40	sand		
	40	47	Brn Clay		
	47	54	Brn fine sand	#	
	54	62	Clay		
	62	98	sand streaks Clay		
	98	107	Clay		
	107	140	Brn sand		
	140	146	Clay		
	146	156	fine Brn sand		
	156	172	Clay		
	172	220	sand some rock core with pea Gravel		
	220	224	Clay		

10.
Work started april 8th 70 finished april 24th

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Cope Drilling & Pump Co 2
Driller's or Firm's Name Number
Box 1196 Idaho Falls Idaho
Address
Cecil Cope 5/13/70
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

Form 288-7
4/92

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALLPOINT PEN

1. WELL OWNER Meridian Heights Well #2

Name G&S Development Inc.
Address 420 Bitteroot Boise Id 83709
Drilling Permit No. 63-92-W-293-000
Water Right Permit No. 63-11671

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase ☐ Modification
☐ Abandoned (describe abandonment or modification procedures such as liners, screen, materials, plug depths, etc. in lithologic log, section 9.)

3. PROPOSED USE

☒ Domestic ☒ Irrigation ☐ Monitor
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Auger ☐ Reverse rotary
☒ Cable ☐ Mud ☐ Other _____ (backhoe, hydraulic, etc.)

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	12" inches	+ 2' feet	196' feet
.250 inches	8" inches	185' feet	195' feet
.250 inches	8" inches	236'6" feet	247'6" feet
.250 inches	8" inches	257'9" feet	272'9" feet

Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch ☐ Gun
Size of perforation? _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer Johnson Type Stainless Steel
Top Packer or Headpipe 180' 10" pipe 5' long
Bottom of Tailpipe 295'

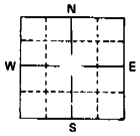
Diameter 8" Slot size 30 Set from 195' feet to 236'6" feet
Diameter 8" Slot size 30 Set from 247'6" feet to 257'9" feet
Diameter 8" Slot size 30 Set from 272'9" feet to 288' feet
Gravel packed? ☒ Yes ☐ No ☐ Size of gravel #8-12 sand
Placed from 185' feet to 295' feet

Surface seal depth 50' Material used in seal: ☐ Cement grout
☒ Bentonite ☐ Puddling clay ☐ _____
Sealing procedure used: ☒ Slurry pit
☒ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☒ Welded
☐ Solvent Weld ☐ Cemented between strata

Describe access port plug in well seal

6. LOCATION OF WELL

Sketch map location **must** agree with written location.



Subdivision Name Meridian Heights
Lot No. _____ Block No. _____
County Ada
Address of Well Site Meridian Road
(give at least name of road)
N.E. ¼ N.E. ¼ Sec. 25, T. 3 N ☒ or S ☐, R. 1 E ☐ or W ☒

7. WATER LEVEL

Static water level 57' feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 56 °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
339	74'5"	1
465	81'0"	1
590	90'1"	1
720	99'0"	1
859	109'2"	4

9. LITHOLOGIC LOG 082122

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
16	0	5	Clay Topsoil		X
	5	30	Cemented Sand & Sandy Clay		X
12	30	70	Cemented Sand	X	
	70	80	Sandy Clay		X
	80	94	Cemented Sand & Clay Steaks	X	
	94	110	Sand & Small Gravel	X	
	110	111	Clay		X
	111	157	Sand	X	
	157	163	Clay		X
	163	180	Sand	X	
	180	195	Clay Sandy Clay		X
	195	237	Sand	X	
	237	247	Cemented Sand	X	
	247	258	Sand	X	
	258	273	Cemented Sand	X	
	273	288	Sand	X	
	288	295	Clay		X
			Pipe .250 8"		

RECEIVED
SEP - 9 1992
Department of Water Resources
Western Regional Office

RECEIVED
SEP 8 1992
Department of Water Resources

APPROVED
DEC 04 1992

10.

Work started 5/6/92 finished 6/26/92

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Stevens & Sons Inc Firm No. 153
Address 3709 Hawthorne Date 7/27/92
Signed by Drilling Supervisor _____
and
(Operator) _____
(If different than the Drilling Supervisor)

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
1/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT 064351

Use Typewriter or Ball Point Pen

Meridian Heights Well #3-A

1. DRILLING PERMIT NO. 63 -95 C 0409 000
Other IDWR No. 63-12157 water right

2. OWNER:
Name Shekinah Industries Inc
Address 420 Bitteroot Dr
City Boise State ID Zip 83709

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 3 North ☒ or South ☐
Rge. 1 East ☐ or West ☒
Sec. 25, S/E (10 acres) 1/4 N/W (40 acres) 1/4 ____ (160 acres) 1/4
Gov't Lot ____ County Ada

Address of Well Site SW of Stoddard + Victory City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lt. 2 Blk. 5 Sub. Name Kentucky Ridge Estates

4. PROPOSED USE: 56 homes, 13 acres.
☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☒ Cable ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
bentonite	0	52	1200#	pumped
#8-12 sand	240	285	1400#	

Was drive shoe used? Y ☒ N ☐
Was drive shoe seal tested? Y ☐ N ☒ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8"	1'6"	259	.250	steel	☒	☐	☒	☐
6"	242'6"	260'	.250	steel	☐	☒	☒	☐
6"	280'	285'	.250	steel	☐	☒	☒	☐

Length of Headpipe 17'6" Length of Tailpipe 5'

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☒ Screens Screen Type Huston stainless steel

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
260'	280'	25		6"	stainless	☐	☒
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
87'5" ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: hole in well seal

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
180		124'4"	1 hr
225		131'5"	½ hr
304		143'	4½ hr

Water Temp. ____ Bottom hole temp. ____
Water Quality test or comments: ____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
12	0	5	clay topsoil		X
	5	32	gravel & sand		X
	32	40	brown clay		X
8	40	112	reddish brown cemented sand		X
	112	116	tan clay & sandy clay		X
	116	130	dirty sand	X	
	130	150	clay		X
	150	156	sandy clay		X
	156	177	sand & pea gravel	X	
	177	190	clay		X
	190	192	sand	X	
	192	200	cemented sand	X	
	200	205	sand	X	
	205	215	clay		X
	215	225	sandy clay with sand & clay streaks		X
	225	258	XXX clay		X
	258	281	sand	X	
	281	285	clay		X
			packer is 3'6" long		
			6" pipe 239' to 242'6"		

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SEP 19 1995
WATER RESOURCES WESTERN REGION
MICROFILMED
DEC 19 1995

Completed Depth 285' (Measurable)
Date: Started 8/1/95 Completed 8/21/95

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Stevens & Sons Firm No. 153
Firm Official Ron Stevens Date 9/1/95
and
Supervisor or Operator ____ Date ____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

63-95-C-0409-000

STEVENS & SONS
WELL DRILLING, INC.
3709 HAWTHORNE DRIVE • BOISE, IDAHO 83703-4529 • PHONE: 208 •344-0726 • FAX: 208 •344-0769

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WATER RESOURCES
WESTERN REGION

KENTUCKY RIDGE ESTATES WELL TEST

STATIC FROM TOP OF 8" CASING =87'5" 2 PM START TEST

time	pumping level		GPM
2:01	115'0"		140
2:02	115'5"		140
2:03	115'7"		140
2:04	115'9"		140
2:05	115'10"		140
2:10	116'3"	clearing	142
2:15	116'4"		142
2:20	116'5"		142
2:25	116'6"		142
2:30	116'6½"		142
2:31			185
2:32	124'8"	clear	185
2:33	124'8"		185
2:34	124'5"		180
2:35	124'4"		180
2:40	124'3"		180
2:45	124'3"		180
2:55	124'4"		180
3:00	124'4"		180
3:01			225
3:02	131'6"		225
3:03	131'8"		225
3:04	131'5"		225
3:05	131'4"		225
3:10	131'4"	cloudy	225
3:15	131'4"		225
3:30	131'5"		225
3:32	141'8"		295
3:33	141'7"		295
3:34	141'7"		295

MICROFILMED
DEC 19 1995

63-95-C-0409-000

064353

3:35	141'7"	speed up	295
3:40	142'5"		300
3:45	142'6"		300
4:00	142'8"	clearing	302
4:30	143'3"		304
5:00	143'4"		304
5:30	143'3"		304
6:00	143'4"		304
6:30	143'6"		304
7:00	143'6"		304
7:30	143'7"		304
8:00	143'8"		304

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WATER RESOURCES
WESTERN REGION

MICROFILMED
DEC 19 1995

63

845592

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

Form 238-7
3/95-C96

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. DRILLING PERMIT NO. Kentucky Ridge #3 Test Bore
Other IDWR No. 898866-845592

2. OWNER:
Name Meridian Heights Water & Sewer Assoc., Inc.
Address PO Box 472
City Meridian State ID Zip 83680

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location

N / W / E / S

Twp 3 North ☒ or South ☐
Rge 1 East ☐ or West ☒
Sec 25 NE 1/4 (10 acres) NW 1/4 (40 acres) (160 acres)
Gov't lot ____ County Ada
Lat: 43° :34' :25.19'' Long: 116° :24' :19.37''
Address of Well Site W. Riodosa Dr., off S. Kentucky Way
City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lt. 2 Blk. 5 Sub. Name Meridian Heights / Kentucky Ridge Subdivision

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation *
☐ Thermal ☐ Injection ☒ Other Test-Drill & Fill

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☒ Abandonment ☐ Other ____

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☒ Mud Rotary ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
SEE LIST PG 2				

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? ☐ Y ☒ N How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8''	+2'	127'	.322	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe N/A Length of Tailpipe N/A

9. PERFORATIONS/SCREENS
☐ Perforations Method NONE
Screens Screen Type NONE

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
				NONE		☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
84.1 ft. below ground Artesian Pressure 177 lb psi
Depth flow encountered 493 ft. Describe access port or control devices: Abandoned

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min.	Drawdown	Pumping Level	Time
No	Pump	Tests	Performed

Water Temp. 60°F @ 493' Bottom hole temp. Not Checked
Water Quality test or comments: pH=8.04, Cond = 832µS
TDS = 578 mg/L Depth first Water Encountered N/A

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia	From	To	Remarks: Lithology, Water Quality & Temp.	Water Y	Water N
30''	0	5'	Top Soil		☒
30''	5'	32'	Gravel		
30''	32'	38'	Tan Clay		
30''	38'	105'	Fine/Med. Tan Sand		
8''	105'	111'	Tan Siltstone		
8''	111'	118'	Fine Sand		
8''	118'	129'	Tan Clay & Sand		
8''	129'	152'	Tan Clay		
8''	152'	158'	Sandy Clay		
8''	158'	176'	Sand & Pea Gravel		
8''	176'	192'	Tan Clay		
8''	192'	205'	Sand		
8''	205'	217'	Tan Clay		
8''	217'	227'	Sand & Clay		
8''	227'	261'	Clay		
8''	261'	283'	Sand		
8''	283'	294'	Tan Clay		
8''	294'	308'	Sand		
8''	308'	316'	Baked Brown Sand & Sand		
8''	316'	324'	Tan Sticky Clay		
8''	324'	333'	Sand & Little Clay Tan		
8''	333'	341'	Tan Sticky Clay/Sandy		
8''	341'	351'	Tan Sticky Clay		
8''	351'	354'	Brown Sand		
8''	354'	377'	Sticky Sandy Clay		
8''	377'	424'	Medium Grained Brown Sand		
8''	424'	436'	Gray Clay & Sand		
8''	436'	444'	Coarse Sand		
8''	444'	463'	Gray Clay		
			Continued-		

Completed Depth: 553' (Measurable)
Date: Started 3/13/2007 Completed 4/3/2007

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Firm Name Treasure Valley Drilling Firm No. 560
Firm Official ____ Date ____
Supervisor or Operator ____ Date ____

WATER RESOURCES WESTERN REGION

Form 238-7
3/95-C96

Page 2 of 2

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO Kentucky Ridge Well 3-B Test Bore
Other IDWR No. 898866-845592

2. OWNER:
Name Meridian Heights Water & Sewer Assoc., Inc.
Address PO Box 472
City Meridian State ID Zip 83680

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location

N
W E
S

Twp 3 North ☒ or South ☐
Rge 1 East ☐ or West ☒
Sec 25 NE 1/4 (10 acres) NW 1/4 (40 acres) (160 acres)
Gov't lot ____ County Ada
Lat: 43° :34' :25.19" Long: 116° :24' :19.37"
Address of Well Site W. Riodosa Dr., off S. Kentucky Way
City Meridian
(Give at least name of road + Distance to Road or Landmark)

Lt. 2 Blk. 5 Sub. Name Meridian Heights / Kentucky Ridge Subdivision

4. USE:
☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other Test-Drill & Fill

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☒ Abandonment ☐ Other ____

6. DRILL METHOD
☐ Air Rotary ☐ Cable ☒ Mud Rotary ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
See List Page 2				

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? ☐ Y ☒ N How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe N/A Length of Tailpipe N/A

9. PERFORATIONS/SCREENS
☐ Perforations Method NONE
Screens Screen Type NONE

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
				NONE		☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
84.1 ft. below ground Artesian Pressure 177 lb psi
Depth flow encountered 493 ft. Describe access port or control devices: Abandoned

11. WELL TESTS:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min.	Drawdown	Pumping Level	Time
NO	TESTS		

Water Temp. 60°F @ 493' Bottom hole temp Not Known
Water Quality test or comments: Water samples obtained from 493 ft bgl
Depth first Water Encountered N/A

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia	From	To	Remarks: Lithology, Water Quality & Temp.	Water Y	Water N
8"	463'	469'	Blue Green Clay		
8"	469'	474'	Gray Blue Clay & Sand		
8"	474'	481'	Blue Clay		
8"	481'	540'	Coarse Sand		
8"	540'	545'	Sticky Clay		
8"	545'	553'	Sandy Tacky Gray Clay		
			SEALS AND FILLERS		
	553'	517'	¾" Baroid Hole Plug 16 bags 8 c.f.		
	517'	453'	8-16 Filter Sand 20.5 c.f.		
	453'	433'	¾" Baroid Hole Plug 8 bags 5.6 c.f.		
	433'	373'	8-16 Filter Sand 13.44 c.f.		
	373'	364'	¾" Baroid Hole Plug 3 bags 2.1 c.f.		
	364'	246'	8-16 Filter Sand 40.2 c.f.		
	246'	240'	¾" Baroid Hole Plug 3 bags 2.1 c.f.		
	240'	138'	8-16 Filter Sand 35.5 c.f.		
	138'	126'	¾" Baroid Hole Plug 4 bags 2.8 c.f.		
	126'	122'	8-16 Filter Sand 1.3 c.f.		
	122'	0	8-inch Casing – Temporary Removed		
	122'	0	¾" Baroid Hole Plug 43 c.f.		
			(Surface Seal of 16-inch Casing)		
			Hydrogeologist = Hydro Logic, Inc.		
			Water quality samples obtained from		
			Installed pipe & screen sealed into		
			460' to 522' zone depth of aquifer after		
			Pumping for ~ 48 hours		

☐ Completed Depth: 553' (Measurable)
Date: Started 3/13/2007 Completed 4/3/2007

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Firm Name Treasure Valley Drilling Firm No. 560
Firm Official ____ Date ____
Supervisor or Operator ____ Date ____

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0055834

Drilling Permit No. 908523-857080

Water right or injection well # 63-07307

2. OWNER

Name Meridian Heights Water & Sewer Assoc., Inc.

Address PO Box 472

City Meridian State ID Zip 83680

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 25 SE (10 acres) 1/4 NE (40 acres) 1/4 NW (160 acres) 1/4

Gov't Lot ____ County Ada

Lat. 43 ° 34.417' (Deg. and Decimal minutes)

Long. 116 ° 24.318' (Deg. and Decimal minutes)

Address of Well Site 936 W. Riodosa Drive - SUPPLY WELL #3-B

City Meridian

(Give at least name of road + Distance to Road or Landmark)

Lot. 2 Blk. 3 Sub. Name Kentucky Ridge Estates

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☒ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☒ Other Auger

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
3/8" bent. chip	0'	45'	151.9 cu. feet	pour and tag into place
neat cement	0'	72'	40.1 cu. feet	pump thru tremie & tag

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
16"	+2'	45'	0.375"	Steel	☒	☐	☐	☒
10"	+2'	478'	SDR17	CertainTeed PVC	☒	☐	☐	☐
				(O-ring coupled)	☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 478' (PVC "shoe")

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method N/A

Manufactured screen ☒ Y ☐ N Type Johnson "Hi-Flow" Stainless Steel

Method of installation Lowered, centralized and enveloped with filter sand

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
464	486	0.015"	132	6" Pipe	#304 SS	600' design
486	498	0.040"	105	6" Pipe	#304 SS	600' design
498	511	0.025"	119	6" Pipe	#304 SS	600' design

Length of Headpipe 14 feet Length of Tailpipe no tailpipe

Packer ☒ Y ☐ N Type removable 6" pipe w/ two 3-lip figure "K" seals

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#8-#16 filter sand	465'	492'	7.62 cu. ft	pour and tag into place
#6-#12 filter sand	492'	498'	1.34 cu. ft	pour and tag into place

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) 171.3 PSI (478' - 82')

Describe control device Baker Mfg 12"/10" Industrial Pitless Unit (install later)

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 83.5 ft bgl Static water level (ft) 82.4 ft bgl

Water temp. (°F) 62.1 °F Bottom hole temp. (°F) not measured

Describe access port 16" steel wellhead with welded steel cap

Well test: Test method:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
16.31 feet	353 gpm	180 minutes	☒	☐	☐	☐
development	pumping:					
~15 feet	300 gpm	1020 minutes				

Water Chemistry: pH=8.11; DO=+0.4; Cond.=917uS; ORP=+3mV

Water Quality test or comments: mod. degas; mod. sulfide; carbonated taste

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
30"	0	5'	Top Soil		☒
30"	5'	25'	Gravel and Cobbles		☒
30"	25'	38'	Tan Clay		☒
30"	38'	45'	Fine-to-Medium Grained Tan Sand		☒
16"	45'	105'	Fine-to-Medium Grained Tan Sand	☒	
16"	105'	111'	Tan Silt Stone	☒	
16"	111'	118'	Light Tan Fine Grained Sand	☒	
16"	118'	129'	Clayey Tan Sand	☒	
16"	129'	144'	Fine-to-Coarse Grained Tan Sand & Thin Clays	☒	
16"	144'	158'	Clayey Fine-to-Coarse Grained Tan Sand	☒	
16"	158'	173'	Fine-to-Coarse Grained Tan Sand & Pea Gravel	☒	
16"	173'	189'	Tan Clay	☒	
16"	189'	201'	Fine Grained Tan Sand	☒	
16"	201'	207'	Tan Clay	☒	
16"	207'	227'	Fine-to-Medium Grained Tan Sand	☒	
16"	227'	251'	Sticky Tan Clay	☒	
16"	251'	282'	Fine-to-Coarse Grained Tan Sand	☒	
16"	282'	289'	Tan Clay	☒	
16"	289'	313'	Medium Grained Tan Sand	☒	
16"	313'	316'	Sandy Brown Siltstone	☒	
16"	316'	321'	Sticky Tan Clay	☒	
16"	321'	333'	Medium Grained Sand & Thin Tan Clay Beds	☒	
16"	333'	346'	Sandy Sticky Tan Clay	☒	
16"	346'	357'	Medium Grained Brown Sand	☒	
16"	357'	369'	Clayey Brown Sand	☒	
16"	369'	377'	Sticky Sandy Clay	☒	
16"	377'	402'	Medium Grained Brown Sand	☒	
16"	402'	408'	Sandy Brown Clay	☒	
16"	408'	433'	Medium Grained Gray Sand	☒	
16"	433'	444'	Coarse Grained Gray Sand	☒	
16"	444'	463'	Blue Green Sandy Clay	☒	
			CONTINUED ON PAGE 2		

Completed Depth (Measurable) 528 feet below ground

Date: Started 7/10/2009 Completed 08/13/2009

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Treasure Valley Drilling Co. No. 560

*Principal Driller George Post Date 9-16-09

*Driller Devin Strong Date

*Operator II Date

Operator I Greg Mitchell Date

* Signature of Principal Driller and rig operator are required.

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WATER RESOURCES
WESTERN REGION

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Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0055834

Drilling Permit No. 908523-857080

Water right or injection well # 63-07307

2. OWNER

Name Meridian Heights Water & Sewer Association, Inc.

Address PO Box 472

City Meridian State ID Zip 83680

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☐ or West ☒

Sec. 25 SE 1/4 (10 acres) NE 1/4 (40 acres) NW 1/4 (160 acres)

Gov't Lot ____ County Ada

Lat. 43 ° 34.417' (Deg. and Decimal minutes)

Long. 116 ° 24.318' (Deg. and Decimal minutes)

Address of Well Site 936 W. Riodosa Drive - SUPPLY WELL #3-B

(Give at least name of road + Distance to Road or Landmark) City Meridian

Lot. 2 Blk. 3 Sub. Name Kentucky Ridge Estates

4. USE:

☐ Domestic ☒ Municipal ☐ Monitor ☐ Irrigation ☐ Thermal ☐ Injection

☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☒ Replacement well ☐ Modify existing well

☐ Abandonment ☐ Other

6. DRILL METHOD:

☐ Air Rotary ☒ Mud Rotary ☐ Cable ☒ Other Auger

7. SEALING PROCEDURES

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
bentonite grout	72'	454'	154.0 cu. feet	pump thru tremie & tag
neat cement	454'	476'	154.0 cu. feet	pump thru tremie & tag

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
					☐	☐	☐	☐
SEE	PAGE	ONE			☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 478' (PVC "shoe")

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method N/A

Manufactured screen ☒ Y ☐ N Type Johnson "Hi-Flow" Stainless Steel

Method of installation Lowered, centralized and enveloped with filter sand

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
511	528	0.040"	105	6" Pipe	#304 SS	600' design

Length of Headpipe 14 feet Length of Tailpipe no tailpipe

Packer ☒ Y ☐ N Type removable 6" pipe w/ two 3-lip figure "K" seals

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
#8-#16 filter sand	498'	511'	2.67 cu. ft	pour and tag into place
#6-#12 filter sand	511'	528'	4.01 cu. ft	pour and tag into place

11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) 171.3 PSI (478' - 82')

Describe control device Baker Mfg 12"/10" Industrial Pitless Unit (install later)

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 83.5 ft bgl Static water level (ft) 82.4 ft bgl

Water temp. (°F) 62.1 °F Bottom hole temp. (°F) not measured

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16.31 feet	353 gpm	180 minutes	☐	☐	☐	☐
development	pumping:					
~15 feet	300 gpm	1020 minutes				

Water Chemistry: pH=8.11; DO=+0.4; Cond.=917uS; ORP=+3mV

Water Quality test or comments: mod. degas; mod. sulfide; carbonated taste

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water Y	Water N
16"	463'	467'	Clayey Grayish Blue Medium Grained Sand	X	
16"	467'	478'	Tacky Blue Clay	X	
9"	478'	479'	Tacky Blue Clay	X	
9"	479'	503'	Very Coarse Grained Gray Sand	X	
9"	503'	507'	Sandy Blueish Gray Clay	X	
9"	507'	527'	Very Coarse Grained Gray Sand	X	
9"	527'	528'	Sandy Blueish Gray Clay	X	
			SEALING PROCEDURES continued		
	476'	478'	3/4" bent. chip - poured and tagged - 1.8 cu. feet		
			(Bentonite grouts are CETCO brand containing		
			greater than 28% solids-by-weight. Neat cement		
			grouts are mixed at a rate of 6 gallons of water		
			to 94 pounds of Portland cement.)		
			(All grouts pumped from the bottom-up and		
			tagged into place by hydrogeologist.)		
			STAINLESS STEEL PACKER-REDUCER SEAL:		
			- total length = 2.3 feet		
			- 6" barrel = 2.0 feet		
			- two 3-lip figure "K" neoprene packer seals		
			- top of packer assembly ~ 462 feet bgl		
			- packer is overshot onto 6" screen headpipe		
			- turn off counter-clockwise		
			WELL DESIGN BY:		
			Hydro Logic, Inc. - Boise, Idaho		
			AUGER HOLE BY:		
			Anderson Wood, Inc. - Boise, Idaho		
			CABLE-TOOL WELL DEVELOPMENT:		
			McLeran Well Drilling - Fruitland, Idaho		

Completed Depth (Measurable) 528 feet below ground

Date: Started 7/10/2009 Completed 8/13/2009

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Treasure Valley Drilling Co. No. 560

*Principal Driller George Post Date 9-16-09

*Driller Devin Strong Date

*Operator II Date

Operator I Greg Mitchell Date

* Signature of Principal Driller and rig operator are required.

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Appendix D.

IDWR's 2001 West Boise Area of Drilling Concern Final Order

EXPLANATORY INFORMATION TO ACCOMPANY A PRELIMINARY ORDER

(Required by Rule of Procedure 730.02)

The accompanying order or approved document is a **"Preliminary Order"** issued by the Department of Water Resources (Department) pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action of the Department unless a party petitions for reconsideration, files an exception and brief, or requests a hearing as further described below:

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the department within fourteen (14) days of the service date of this order. The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within fourteen (14) days after a) the service date of a preliminary order, b) the service date of a denial of a petition for reconsideration from this preliminary order, or c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding with the Director. Otherwise, this preliminary order will become a final order of the agency.

REQUEST FOR HEARING

Unless a right to a hearing before the Department or the Water Resource Board is otherwise provided by statute, any person aggrieved by any final decision, determination, order or action of the Director of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to section 42-1701A(3), Idaho Code. A written petition contesting the action of the Director and requesting a hearing shall be filed within fifteen (15) days after receipt of the denial or conditional approval.

ORAL ARGUMENT

If the Director grants a petition to review the preliminary order, the Director shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Director will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Director in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with IDAPA Rules 37.01.01302 and 37.01.01303 (Rules of Procedure 302 and 303).

FINAL ORDER

The Director will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Director may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

> Unless a different date is stated in a final order, the order is effective fourteen (14) days after its issuance if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:
>
> (a) the petition for reconsideration is disposed of; or
> (b) the petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

i. A hearing was held,
ii. The final agency action was taken,
iii. The party seeking review of the order resides, or
iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF DESIGNATING AN AREA OF DRILLING CONCERN IN THE WESTERN PART OF THE CITY OF BOISE	)))))	PRELIMINARY ORDER

This matter came before the Idaho Department of Water Resources ("IDWR") as a request by Vopak USA Inc., formerly Van Waters and Rogers, Inc. ("VWR") and the Idaho Department of Environmental Quality ("IDEQ") to declare an area in the western part of the City of Boise as an Area of Drilling Concern ("ADC") pursuant to Section 42-238(15), Idaho Code. The purpose for seeking the designation is to protect public health and to prevent spreading of a ground water contaminant plume having concentrations of Perchloroethylene ("PERC") above the IDEQ adopted Ground Water Quality Standard (IDAPA 58.01.11). The establishment of an ADC is one of several components in the January 5, 1998 "Remedial Action Plan" approved by IDEQ to remediate contaminated ground water in certain areas of west Boise.

After publishing notice of a draft order proposing the designation of an ADC, holding a public hearing on February 28, 2001, and receiving public comment through March 15, 2001, the IDWR finds, concludes and orders as follows:

FINDINGS OF FACT

1. The area proposed for designation as the West Boise Area of Drilling Concern ("WBADC") extends for approximately two and one-half (2 ½) miles in a northwesterly direction from Boise Towne Square Mall to Five Mile Road north of Fairview Avenue. The WBADC includes the "Affected Area" of the 1998 Remedial Action Plan and covers about two and one-third (2 1/3) square miles of commercial and residential land in the City of Boise. See Attachment 1. This area is a densely populated and heavily used portion of the city. PERC, a commonly used cleaning fluid, has contaminated a shallow sand and gravel aquifer. A value of 5 micrograms per liter PERC determines the Affected Area boundary. The area of the WBADC includes a buffer zone surrounding the Affected Area to prevent drilling or reconstruction of wells which when pumped could potentially spread the plume.

2. A recent evaluation of ground water resources in the Treasure Valley (Neely and Crockett (1998) indicates the valley fill in the area consists of alluvial, colluvial, and lacustrine deposits. The Final Draft Remedial Action Plan Affected Area Boise, Idaho (Harding Lawson & Assoc. (1997)), reports that a shallow, unconfined upper alluvial zone at a depth of from thirty to forty feet receives seasonal recharge from the Ridenbaugh Canal, Farmer's Lateral Canal south of the area, and local irrigation practices in the vicinity of the Boise Towne Square Mall.

Domestic wells in the area pump water from this shallow aquifer. The Treasure Valley study indicated the predominant flow direction through this shallow system is toward the northwest. The shallow aquifer system appears, from well driller's reports, to be separated from a deeper aquifer system by a series of silt and clay confining beds. Well driller's reports show one of the confining beds to be a blue clay marker bed noted in most, but not all, reports in the area at a depth of 150 to 200 feet. Below this first marker bed, the first aquifer within what is considered the deeper aquifer system, consists of sand and gravel of the Idaho Group. The confined aquifer is found in this area at a depth below about 200 feet and is reported to be from 10 to 20 feet thick. Several other aquifers exist below this 200-foot deep zone and supply water to several deep wells for municipal and other purposes. The recharge area for these deeper aquifers of the Idaho Group sediments is not presently known with certainty, but may be from infiltration of precipitation along the Boise foothills and ridge areas as well as eastern portions of the lower Boise River valley. The predominant regional flow direction of this deeper aquifer is to the west or southwest.

3. Lithology, water chemistry, and well pump tests (Harding Lawson & Assoc., 1993, 1998) suggest that ground water communication across the confining zones between upper and lower aquifers is absent or minor. However, experience has shown that wells constructed through a shallow aquifer and into deeper aquifers may provide a conduit for movement of water between the aquifers, if not properly constructed. Man-made communication can occur if wells are constructed to obtain water from both aquifers, or if leakage occurs along unsealed well bores connecting both upper and lower aquifers. Corroded well casing can also allow movement of water from upper to lower aquifers. Wells drilled into the shallow aquifer near the Affected Area may, when pumped, draw contaminated water away from the plume area thus hastening the spread of contamination. These concerns must be addressed as wells are constructed, repaired, and abandoned in the WBADC.

CONCLUSIONS OF LAW

1. Section 42-238(12), Idaho Code, provides as follows:

> Well construction standards. The water resource board shall adopt minimum standards for new well construction, modification, and abandonment of existing wells, low temperature geothermal resource well construction and geothermal well construction in this state under the provisions of chapter 52, title 67, Idaho Code. Such standards shall require each well to be so constructed as to protect the ground water of the state from waste and contamination and may include additional requirements for wells drilled in "areas of drilling concern" as designated in accordance with subsection (15) of this section. Every licensed well driller will be furnished a copy of the adopted standards by the director, and will be required to construct or abandon each well in compliance with the adopted standards.

2. Section 42-238(15), Idaho Code provides as follows:

Drilling in a designated "area of drilling concern." The director may designate, as he determines necessary, "areas of drilling concern" on an aquifer by aquifer basis within which drillers must comply with the additional requirements of this section. The director shall designate "areas of drilling concern" to protect the public health and to prevent waste or contamination of ground or surface water because of factors such as aquifer pressure, vertical depth of the aquifer, warm or hot ground water, or contaminated ground or surface waters. It is unlawful for any person not meeting the requirements of this subsection to drill a well for any purpose in a designated "area of drilling concern." Any person drilling a new well or deepening or modifying an existing well for any purpose in an "area of drilling concern" as designated by the director as herein provided shall comply with the following additional requirements:

(a) Additional bonding requirements as determined by the director, to insure that the well is constructed or abandoned in compliance with the adopted standards for well construction.
(b) Additional experience and knowledge in drilling wells encountering warm water or pressurized aquifers as required by rules and regulations adopted by the water resource board.
(c) Document that specialized equipment needed to drill wells in "areas of drilling concern," as determined by the director, is or will be available to the driller.
(d) Provide a notice of intent to drill, deepen or modify a well, submit plans and specifications for the well and a description of the drilling methods that will be used, as required by the director, and receive the written approval of the director before commencing to drill, deepen, or modify any well in a designated "area of drilling concern."

Prior to designating an "area of drilling concern," the director shall conduct a public hearing in or near the area to determine the public interest concerning the designation. Notice of the hearing shall be published in two (2) consecutive weekly issues of a newspaper of general circulation in the area prior to the date set for hearing.

In the event an area has been designated as an "area of drilling concern" and the director of the department of water resources desires to remove such designation or modify the boundaries thereof, he shall likewise conduct a public hearing following similar publication of notice prior to taking such action.

3. Section 42-235, Idaho Code, provides in pertinent part that:

"Prior to beginning of construction of any well, or changing the construction of any well, the driller or well owner shall obtain a permit from the director of the department of water resources to protect the public health, safety and welfare and the environment, and to prevent the waste of water or mixture of water from different aquifers."

4. Section 42-230(b), Idaho Code, defines a "Well" as "…an artificial excavation or opening in the ground more than eighteen (18) feet in vertical depth below land surface by which ground water of any temperature is sought or obtained."

5. Rule 40.01c of the "Well Construction Standards" (IDAPA 37.03.09) provides "The designation of an area of drilling concern can include certain aquifers or portions thereof while excluding others."

6. Rule 50.01g of the "Well Driller Licensing Rules" (IDAPA Rule 37.03.10) provides that "Verbal authorizations to drill and pre-approved drilling permits (start cards) do not authorize drilling in these areas." (i.e. designated ADC's).

7. Rule 10.16 of the Well Driller Licensing Rules (IDAPA Rules 37.03.10) defines "Drilling or Well Drilling" as "The act of constructing a new well, or modifying, changing the construction, or abandoning an existing well."

ORDER

IT IS, THEREFORE, HEREBY ORDERED THAT:

I. The West Boise Area of Drilling Concern (WBADC) is hereby created to include the area within the following described boundaries:

SW¼ SW¼ Section 1; S½ SE¼, NW¼ SE¼, SW¼ NW¼, and SW¼ Section 2; S½ NE¼ and SE¼ Section 3; N½ NE¼ Section 10; N½ NW¼, SE¼ NW¼, NE¼ and N½ SE¼ Section 11; W½ and that portion of the E½ south of the Ridenbaugh Canal of Section 12; N½ NE¼ Section 13; all in Township 3 North, Range 1 East, Boise Meridian. The WBADC encompasses an area of approximately two and one-third (2 1/3) square miles. The WBADC Boundary was determined by locating the nearest public land survey quarter-quarter section line boundary outside of a one-eighth (1/8) mile wide buffer to the Affected Area, or the closest recognizable surface feature (canal). The exception is in the down gradient direction of the Affected Area (northwest) where the boundary was placed at the nearest ½ section line outside the 1/8 mile buffer.

A map of the WBADC is included as Attachment 1 and is hereby made a part of this Order.

II. Any person or driller proposing to drill a new well, or modifying, changing the construction, or abandoning an existing well for any purpose in the WBADC shall comply with the additional requirements of Section 42-238(15), Idaho Code, as follows:

A. A driller proposing to drill within the WBADC shall have on file with the Department the additional bonding required by Rule 60.01.b of the Well Driller Licensing Rules (IDAPA 37.03.10). The amount of the bond, as determined by the Director, shall be adequate to abandon or reconstruct the well to protect the resource and in no event shall the bond be less than $10,000.

B. A driller proposing to drill within the WBADC shall have additional experience and knowledge in drilling wells encountering contaminated aquifers as required by Rule 40.03 of the Well Construction Standards Rules (IDAPA 37.03.09) and shall provide documentation of such experience and knowledge when requested by the Director.

C. Any driller proposing to drill within the WBADC shall document that the specialized equipment needed to drill wells in areas of drilling concern, as determined by the Director, is or will be available to the driller.

D. Any person or driller proposing to drill in the WBADC shall provide notice of intent to conduct well construction activities, submit plans and specifications for the well and a description of the drilling methods that will be used as required by the Director, and receive the written approval of the Director before commencing well drilling in the WBADC in accordance with the following provisions:

1. Prior to commencing any well drilling activity (including abandonment of an existing well) in the WBADC, an application for drilling permit shall be submitted to the Director. The owner or his representative and the well driller shall sign the application. The practices of issuing an expedited "verbal" drilling permit approval and the "start card" procedure are not applicable in the WBADC, as provided in Rule 50.01.g of the Well Driller Licensing Rules (IDAPA 37.03.10).

2. An application to drill a well in the WBADC shall include a drilling prospectus prepared by an engineer or geologist licensed in Idaho. The Director may waive the requirement for the prospectus to be prepared by an engineer or geologist if the well depth will not exceed 150 feet below land surface. The prospectus shall include a diagram of the finished well showing all pertinent dimensions, a narrative describing the materials, methods, and timing/sequence to be used in the drilling operation, and an aerial photograph (8 inch to the mile scale) or a plat of similar scale showing the

well site relative to the "Affected Area" and other wells within a 500 foot radius of the proposed well, and the ownership of the adjoining properties. The prospectus shall be signed by the owner, well driller, and the engineer or geologist preparing it. Unless waived by the Director, the prospectus shall provide for the following:

a. Wells to be used for human consumption shall be designed and drilled to assure that water is not withdrawn from the shallow aquifer (less than 150 below land surface) within the WBADC. The drilling prospectus may provide for a well to be drilled or modified to withdraw water from the shallow aquifer for irrigation or other uses if the place of use is inside the boundaries of the WBADC or for disposal or use outside of the boundaries if the water is treated to meet drinking water standards, and public health and the environment are protected.

b. Wells drilled for production of water below the shallow aquifer within the WBADC shall be drilled using only water-based direct rotary drilling methods, to be described in the drilling prospectus, unless the Director approves an exception. Wells that penetrate only the shallow aquifer may be drilled using other methods to meet the conditions of the drilling permit and this Order.

c. If the drilling permit application is for abandonment of a well, the prospectus shall provide for abandonment using a tremie pipe or pressure grouting procedure to place a high solids bentonite grout or a non-shrinking cement grout from the bottom of the well to the top. If the casing is to be left in place, the prospectus shall include procedures to assure that bentonite grout or non-shrinking cement grout fills the annular space behind the casing to prevent vertical movement of water.

d. A prospectus for abandonment of a monitoring or aquifer test well shall include the written consent of the Idaho Department of Environmental Quality.

e. A prospectus will provide that any drilling permit issued by the Department in the WBADC will provide that the owner and well driller will, in writing, acknowledge that they have read and understand the permit requirements.

f. Drilling permits may be issued allowing wells existing on the effective date of the Order, which are less than 150 feet deep and outside the "Affected Area" but inside the WBADC boundary, to be modified or replaced as necessary to continue the authorized use of the well as long as the total depth of the modified well or replaced well does not exceed 150 feet in depth below land surface

Signed this 21st **day of** May **, 2001**

Norman C. Young, Administrator
Water Management Division

Selected References:

1993, Smith, C. R., Letter report to Mr. Wayne Grotheer, VWR, Pilot Boring Program Summary Boise Towne Square Mall Boise Idaho.

1993, Squires, Edward, Wood, S. H., and Osiensky, J. L., Hydrogeologic Framework of the Boise Aquifer System Ada County, Idaho.

1994, Risk Assessment Boise Town Square Mall Boise: Idaho Prepared for Van Waters & Rogers, Inc. by Harding Lawson Associates Engineering and Environmental Services.

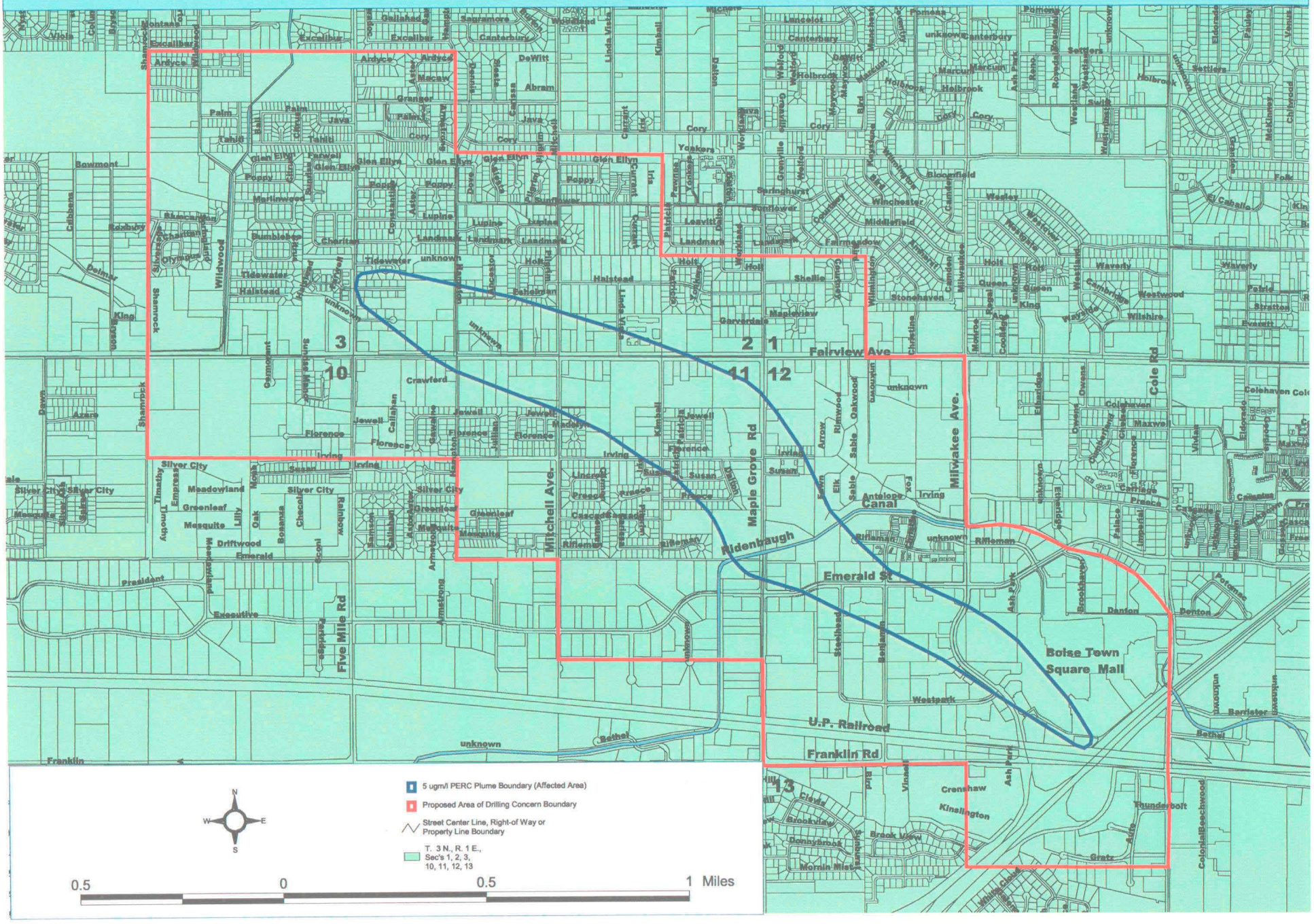
1997, Risk Assessment Affected Area Boise, Idaho: Prepared for Van Waters & Rogers, Inc., Harding Lawson Associates Engineering and Environmental Services.

1997, Final Draft Remedial Action Plan Affected Area Boise, Idaho: Harding Lawson Associates Engineering and Environmental Services.

1998, Remedial Action Plan Affected Area Boise, Idaho: Prepared for Van Waters & Rogers, Inc. by Harding Lawson Associates Entering and Environmental Services.

1998, Ground Water Quality Characterization and Initial Trend Analysis for the Treasure Valley Shallow and Deep Hydrogeologic Subareas: Neeley, K. W., and Crockett, J. K., Idaho Department of Water Resources Water Information Bulletin No 50, Part 3.

Attachment 1. Proposed West Boise Area of Drilling Concern



CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 21st day of May 2001, the above and foregoing document was served upon the following by placing a copy of the same in the United States Mail, postage prepaid and properly addressed to the following:

Ralph Mellin
4500 N Tumbleweed Ln
Boise, ID 83713

Tom Bahr
11 74 Palace Ln
Boise, ID 83704

Bruce A. Fabbi
920 Imperial Way
Boise, ID 83704

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