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Attorneys for Applicant SUEZ Water Idaho Inc.

BEFORE THE IDAHO DEPARTMENT OF WATER RESOURCES

IN THE MATTER OF APPLICATION FOR TRANSFER NO. 82161 IN THE NAME OF SUEZ WATER IDAHO INC.	**SUEZ'S DISCLOSURE OF EXPERT WITNESSES AND REPORTS**

SUEZ Water Idaho Inc. ("SUEZ"), by and through its counsel of record, Givens Pursley LLP, and pursuant to the Director's June 30, 2021 *Notice of Amended Scheduling Order*, hereby discloses the following expert witnesses who may testify at hearing in the above-captioned matter:

1. Terry Scanlan, P.E., P.G.
   SPF Water Engineering, LLC
   300 E. Mallard Dr., Suite 350
   Boise, ID 83706

2. Cathy Cooper, P.E.
   Director of Engineering
   SUEZ Water Idaho Inc.
   8248 W. Victory Rd.
   Boise, ID 83709

Mr. Scanlan's curriculum vitae is attached hereto as Appendix A.

Ms. Cooper is a graduate of the University of Colorado at Boulder with a Bachelor of Science in Civil Engineering. She completed her Master of Science in Civil Engineering at the University of Washington in Seattle. She has been a licensed Professional Engineer in the State of Idaho since 1999. She has been employed as a civil engineer for 28 years. Her work experience includes 22 years at Boise area consulting firms where she focused on water system engineering. Her experience includes preparing detailed hydraulic calculations; designs for storage tanks, pump stations, pressure reducing stations, pipelines, and well houses; water system Master Facility Plans; hydraulic models; water rights work; and project cost estimates. She was an Owner and the Managing Partner at her last consulting firm. She has been employed by SUEZ since July 2016 as the Director of Engineering in Idaho.

Mr. Scanlan's statements of opinions to be expressed and the basis and reasons for those opinions are contained in the memorandum attached hereto as Appendix B regarding "Expert Report for Transfer No. 82161 (63-123F)" dated July 28, 2021. Mr. Scanlan may testify to any other factual or technical issues concerning or relevant to Application for Transfer No. 82161 raised by the Idaho Department of Water Resources or any other party or witness.

Ms. Cooper's statements of opinions to be expressed and the basis and reasons for those opinions are contained in the memorandum attached hereto as Appendix C on the subject of "Lexington Hills Water Right Transfer – Irrigated Area Calculation Methodology" dated September 4, 2019 (a copy of which was submitted into the record in this proceeding as an attachment to a September 12, 2021 letter from Michael P. Lawrence to Nick Miller). Ms. Cooper may testify to any other factual or technical issues concerning or relevant to Application for Transfer No. 82161 raised by the Idaho Department of Water Resources or any other party or witness.

The data and other information considered by Mr. Scanlan and Ms. Cooper are contained in or referenced in their respective expert reports and/or are readily available to the Department. Mr. Scanlan and Ms. Cooper may be called to testify as to other matters that may be discovered prior to or at the hearing.

Exhibits that may be used as a summary of or support for the opinions will be served in accordance with the Director's June 30, 2021 *Notice of Amended Scheduling Order*.

Neither Mr. Scanlan nor Ms. Cooper have authored any publications in the past ten years.

Mr. Scanlan is compensated at an hourly rate of $185 for his testimony in this matter. Ms. Cooper is an employee of SUEZ and is receiving no compensation in addition to her regular salary for her testimony in this matter.

Mr. Scanlan has not testified as an expert in any court trials in the last four years, but has testified as an expert in administrative hearings regarding 63-34348 (Elmore County), Transfer 80342 (Casa Del Norte), 63-34079 and 63-34080 (Emmert). Mr. Scanlan has also provided expert deposition testimony concerning 63-34348 (Elmore County), Transfer 81800 (Casa Del Norte).

Ms. Cooper has not testified in any court trials in the last four years, but has provided testimony in the following administrative hearings before the Idaho Public Utilities Commission:

(1) SUZ-W-20-02, *In the Matter of the Application of SUEZ Water Idaho Inc. for Authority to Increase its Rates and Charges for Water Service in the State of Idaho*;

(2) SUZ-W-18-02/EAG-W-18-01, *In the Matter of the Joint Application of SUEZ Water Idaho and Eagle Water Company for the Acquisition of Eagle Water Company*; and

(3) SUZ-W-21-02, *In the Matter of the Application of SUEZ Water Idaho Inc. for Amendment of Certificate of Public Convenience and Necessity*.

SUEZ reserves the right to amend or supplement this disclosure as discovery progresses, and to present additional expert witnesses and/or testimony at the hearing as rebuttal or otherwise. SUEZ also reserves the right to not call any of the persons listed above and to restrict or limit the scope of the witness's testimony in the event any of the above-listed persons are called to testify.

Respectfully submitted this 28th day of July, 2021.

GIVENS PURSLEY LLP

By _____
Michael P. Lawrence

Attorneys for Applicant SUEZ Water Idaho Inc.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 28th day of July, 2021, the foregoing, together with any appendices or exhibits, was filed, served, and copied as shown below.

DOCUMENT FILED:

Idaho Department of Water Resources IDAHO WATER CENTER 322 E Front St., Suite 648 Boise, Idaho 83702-7371	☐ ☐ ☒ ☐	U.S. Mail, postage prepaid Express Mail Hand Delivery Facsimile

DOCUMENT SERVED:

John M. Marshall John Marshall Law PLLC 575 W Bannock St. Boise, Idaho 83702 Email: john@jmarshalllaw.com	☐ ☐ ☐ ☐ ☒	U.S. Mail, postage prepaid Express Mail Hand Delivery Facsimile Email

Michael P. Lawrence

Appendix A TERRY SCANLAN'S CURRICULUM VITAE

Principal Engineer and Hydrogeologist

Terry M. Scanlan, P.E., P.G.

SPF WATER ENGINEERING

Education

M.S., Geological Engineering, University of Idaho, 1986

B.S., Geological Engineering, University of Idaho, 1983

Professional Certification

Professional Engineer
Idaho No. 6266, 1990
Nevada No. 22016, 2012

Professional Geologist
Idaho No. 646, 1989
Oregon No. G1311, 1992

Certified Water Right Examiner
Idaho No. 129

Areas of Expertise

- Groundwater development studies
- Water rights
- Design, installation, and testing of high-capacity wells for irrigation, municipal, and industrial water supply

Experience Summary

Mr. Scanlan has over 30 years of professional experience in water supply consulting as an engineer and hydrogeologist. He has particular expertise in water rights, well and pumping system design, public drinking water systems, irrigation, and other water resource matters. Mr. Scanlan also has experience in geothermal resource development, mining-related environmental studies, dewatering, soils investigations, geologic mapping, and wastewater land application projects. He has served as Chairman of the Idaho Board of Registration for Professional Geologists. Mr. Scanlan is a Certified Water Right Examiner in Idaho.

SPF Water Engineering – 2004 to present

Mr. Scanlan is a Principal Engineer and Hydrogeologist with SPF Water Engineering, LLC. SPF Water Engineering, LLC, was formed from Scanlan Engineering in March 2004 to provide a wider range of water resource engineering services.

Scanlan Engineering–1994 to 2004

Mr. Scanlan formed Scanlan Engineering in 1994 to provide engineering and hydrogeologic consulting to public and private clients. Scanlan Engineering provided water resource consulting services to more than 300 clients, primarily in southwest Idaho. Mr. Scanlan also served as a subconsultant on water supply projects for numerous engineering firms in Idaho.

Montgomery Watson–1986 to 1993

Prior to forming Scanlan Engineering in 1994, Mr. Scanlan worked as a supervising hydrogeologist for Montgomery Watson (MWH) in Boise, Idaho. He managed and conducted ground-water development projects and hydrogeologic investigation throughout the western United States.

U.S. Geological Survey–1984 to 1986

Mr. Scanlan was employed by the U.S. Geological Survey as a field assistant in the geologic division prior to joining Montgomery Watson in 1986. Responsibilities included geologic mapping, landslide hazard evaluation, and mineral potential studies. Mr. Scanlan worked on the Challis and Hailey 2° Quadrangle CUSMAP programs.

Relevant Water Supply Project Experience

- **Industrial Water Supply Wells.** Design, construction monitoring, and testing of four 1,000- to 1,200-foot, high-capacity, industrial water supply wells and pump systems for Micron Technology in Boise, Idaho. Construction of supply wells for Sorrento Lactalis in Nampa, Idaho, CTI Foods in Wilder,

Idaho, Champion Homes in Weiser, Idaho, Tamarack Energy in Tamarack, Idaho, and CS Beef Packers in Nampa, Idaho.

- **Public Drinking Water Wells.** Design and testing for approximately 200 public drinking water supply wells. Clients include United Water Idaho, North Lake Recreational Sewer & Water District, the cities of Nampa, Boise, Meridian, Eagle, Middleton, Homedale, Greenleaf, Garden City, and Marsing, and numerous subdivisions, industries, churches, camps, and commercial facilities.
- **Fish Hatchery Water Supply.** Design, construction, testing, and equipping of two hatchery supply wells at the Sawtooth National Fish Hatchery. The work also included preparation of water right permit and transfer applications, and completion of a water right beneficial use field examination that resulted in licensing of an additional water right for the facility. Design, construction, and testing of three hatchery water supply and one domestic water supply wells at the Idaho Dept. of Fish and Game Springfield Hatchery. The work also included equipping of seven wells, aquifer testing, and water right permitting. Groundwater supply investigation, well rehabilitation, and pump design at the Kooskia National Fish Hatchery. Design, construction and testing of two hatchery water supply wells at the Idaho Power Company Upper Pahsimeroi Fish Hatchery near May, Idaho. Groundwater supply and water right investigation to support water supply improvements for the Lahontan National Fish Hatchery near Gardnerville, Nevada. Test well and production well construction for the Mason Valley Fish Hatchery near Yerington, Nevada.
- **Heating and Cooling Well Systems.** Design, construction monitoring, and testing of production and injection well systems for heating and cooling purposes at Idaho Water Center (Boise), Whitney Elementary School (Boise), and the Oregon National Guard Ontario Readiness Center.
- **Aquifer Storage and Recovery (ASR).** Lead consultant to Micron Technology for the Boise River water supply and aquifer recharge project, including water rights, a nominal 25,000 gpm Boise River pump station, 3 miles of 24-inch and 30-inch pipeline, an ultra-filtration membrane water treatment system, and a nominal 4 MGD injection well. Mr. Scanlan has provided design and permitting for ASR at Capitol Water Corporation Well No. 6.
- **Park Irrigation.** Mr. Scanlan has been responsible for design and construction of more than 30 new well and surface water pumping systems at municipal parks in Boise, Idaho. He provides annual evaluations of nearly 100 well and surface-water pump systems for the Boise Park Department.
- **Pressurized Irrigation.** Efficiency and operation evaluation of the City of Nampa pressurized irrigation system, which includes 92 pump stations and wells. Trouble-shooting and water-right evaluation for Harris Ranch Subdivision, Mallard Landing Subdivision, and Surprise Valley Subdivision. Usage monitoring at Surprise Valley Subdivision. Design and construction of pump stations and wells, including CenterCal and Meridian CrossRoads shopping centers, Boise LDS Temple, and numerous private subdivision systems.
- **Municipal Drinking Water Well Pumps.** Design, permitting, and construction inspection of well pump systems and well houses for Capitol Water Corporation in Boise, Idaho.
- **Aquarium Water Supply.** Design, construction, and testing of salt water production wells for large-scale aquarium projects in Guam and Taiwan.
- **Ski-Area Water Supply.** Evaluation of ground water potential for snowmaking or potable supplies at Sun Valley, Brundage, and Bogus Basin ski areas. Design and testing of the water supply well for the snowmaking system at Sun Valley. Exploration drilling at Brundage Mountain.
- **Infiltration Galleries.** Evaluation and testing of infiltration galleries and Ranney Collectors at Sequim, Washington (horizontal gallery, Dungeness River), Irrigon, Oregon (four Ranney Collectors, Columbia River), Boise, Idaho (three Ranney Collectors, Boise River), and Modesto, California (Tuolune River, horizontal gallery).
- **Mining Water Supply.** Design of the domestic supply, mine-pit dewatering, and industrial supply wells for the Beartrack mining project at Leesburg, Idaho.
- **Agricultural Water Supply.** Water master planning for the 3600-acre City of Boise Twenty Mile South Farm, that included reconfiguration of water rights, development of additional irrigated lands, design of two large-capacity irrigation wells, design of a 500-hp and 400-hp variable speed deep well turbine pump systems, and efficiency evaluations of 12 irrigation wells. Piping, pump, and well evaluations for pressurized irrigation systems serving farms in Idaho, Oregon, and California. Pump design for dozens of irrigation systems

throughout southern Idaho.

- **Groundwater Exploration.** Construction and testing of ten water-supply exploration wells for SunCor in northern Ada County, Idaho. Multi-level water quality exploration wells for the cities of Meridian and Nampa. Blaine County airport water supply study exploration well. Crater Lake National Park water supply exploration well.
- **Energy Water Supply.** Water supply studies for proposed nuclear power plants for Mid-American Nuclear Energy and Alternate Energy Holdings, including conceptual water supply design, water rights, consulting, and baseline environmental studies.
- **Regional Water Supply.** Surface water and groundwater studies for the proposed Elmore-Ada Water Project in southwest, Idaho. Groundwater supply studies for the NAWS project in North Dakota. Water supply studies for Elmore County, including conceptual design and water-right permitting for pumping systems and pipelines extending to Mountain Home, Idaho, from the Snake River and from the South Fork Boise River.

Water Rights

- **Applications.** Preparation of hundreds of water right applications (transfers, amendments, permits, claims) for public and private clients in Idaho.
- **Beneficial Use Examinations.** Preparation of beneficial use examinations required for licensing of more than 100 water right permits. Work includes measurement of diversion rate, determination of place of use boundaries, documentations of diversion facilities, and recommendations for diversion rates, volumes, uses, and seasons based on state licensing criteria.
- **Hydrogeologic Studies.** Evaluation of surface water and ground water interactions, well interference, irrigation development, and consumptive water use related to water right transfers in the Boise Valley, Wood River Valley, Mud Lake, Magic Valley, Big Lost River, and Little Lost River areas of Idaho.
- **Springs.** Evaluation and measurement of flow from springs involved in water right disputes along the Snake River near Twin Falls and Hagerman, Idaho. Development of mitigation alternatives for spring-flow declines near Buhl, Idaho.
- **Irrigation Rate Studies.** Investigations related to Snake River Basin Adjudication claims, including calculation of irrigation requirements and seepage losses, measurement of irrigation diversion rates, and determination of historically irrigated areas.
- **Master Plans.** Water-right master plans for municipal and private clients, including cities of Nampa and Middleton.
- **Expert Witness.** Expert witness testimony regarding water use, well interference, and the interaction of surface water and ground water in administrative hearings and district court trials.
- **Water Accounting.** Evaluation of irrigation diversions, natural flow, return flow, and storage accounting on the Payette River system for the Payette Water Users Association.
- **Reserved Water Rights.** Evaluation of Federal and Tribal in-stream flow and spring claims in the Snake and Salmon River Basins.
- **Mitigation Plans.** Preparation of mitigation plans to allow ground water diversions for irrigation and industrial use in moratorium areas or ground water management areas in the Boise River basin and Eastern Snake River Plain.

Mining-Related Hydrogeology

- **Malheur County, Oregon.** Groundwater exploration and characterization studies for the proposed Grassy Mountain Mining project in Malheur County, Oregon. Geochemical characterization of waste materials at the proposed Kerby Mining project near Farewell Bend, Oregon. This project involved waste evaluation for to determine the potential for acid production and heavy metal mobilization. Mr. Scanlan also conducted baseline surface and groundwater quality evaluations for permitting.
- **Gibbonsville, Idaho.** Investigations related to water rights, stream alteration, and dewatering for Lemhi Gold Trust near Gibbonsville, Idaho.
- **Alder, Montana.** Groundwater flow characterization for the Garnet USA project near Alder, Montana.

- **Stibnite, Idaho.** Groundwater characterization and monitoring for various mining projects near Stibnite, Idaho since the late 1980s. Mr. Scanlan is currently serving as a groundwater consultant to Midas Gold for their Golden Meadows project.
- **DeLamar, Idaho.** A two-phase study of acid mine drainage from a 15 million ton waste dump at the DeLamar silver mine in southern Idaho. The first phase of the project was a hydrologic investigation of the waste dump, which characterized the modes of acid production and transport, within and outside of the dump. The second phase consisted of an evaluation of mitigation measures, and included the conceptual level design of a composite low-permeability cover.
- **Lead, South Dakota.** Groundwater characterization studies and permit preparation for three mine waste and spent ore disposal facilities at the Annie Creek Mine, near Lead, South Dakota. Two of these disposal facilities were located on mill tailings with high arsenic concentrations, and have required investigation of arsenic, nitrate, and cyanide attenuation mechanisms in saturated and unsaturated materials.
- **Sunbeam, Idaho.** Geochemical evaluation of waste materials as part of a supplemental EIS for the Grouse Creek mining project in central Idaho. This project also included groundwater characterization.
- **Leesburg, Idaho.** Water quality and streamflow monitoring program for the Beartrack Mine EIS. Design of the domestic supply, mine-pit dewatering, and industrial supply wells for the Beartrack mining project.
- **Eureka, Nevada.** Water supply investigations for Homestake Mining Company at Eureka, Nevada.
- **Lovelock, Nevada.** Water supply investigations for the Coeur Rochester Mine near Lovelock Nevada.
- **Dry Valley, Idaho.** Pit dewatering investigations for the Dry Valley phosphate mine in southeastern Idaho.

Environmental

- **RCRA.** Investigation and monitoring of pentachlorophenol migration in soils and groundwater at Pressure Treated Timber Company in Boise, Idaho. Site closure for the Vale Oregon Irrigation District.
- **Petroleum Contamination.** Investigation/remediation of soil and groundwater contamination resulting from petroleum (gasoline, diesel, heating oil, hydraulic oil, and jet fuel) at more than 30 locations in Idaho, Oregon, Washington, and Wisconsin. Remedial designs have included soil land farming, venting systems, and free and dissolved product extraction systems. Groundwater treatment technologies utilized have included air stripping, carbon adsorption, and enhanced biodegradation.
- **Effluent Re-Use.** Wastewater and biosolids re-use permitting, soil monitoring, ground water monitoring, and permit annual reports for potato processors, cheese plants, and municipal wastewater.
- **Cyanide.** Research pertaining to cyanide migration and attenuation processes in soils and groundwater with particular emphasis on natural degradation mechanisms.
- **Metals.** Investigation of shallow groundwater contamination from mine tailings in Butte, Montana for ARCO, including the drilling of approximately thirty monitor wells and Hydropunch borings, aquifer testing, and water quality sampling.

Professional Affiliations

Idaho Ground Water Association

Appendix B TERRY SCANLAN'S EXPERT REPORT

SPF WATER ENGINEERING

MEMORANDUM

DATE: July 28, 2021

TO: Michael Lawrence

FROM: Terry M. Scanlan, P.E., P.G.

SPF NO: 397.0430

RE: Expert Report for Transfer No. 82161 (63-123F)

This expert report is provided to support changes to water right 63-123F as proposed by Transfer No. 82161. Based on the analysis provided in this report, the following opinions are offered.

1. Under the right circumstances, transferring an irrigation water right into a municipal system for irrigation of lands within a municipal service area is equivalent to transferring an irrigation water right from one irrigation canal system into another irrigation canal system.

2. If water right 63-123F is transferred to SUEZ's municipal system for irrigation of lands identified by SUEZ, the water right should be limited to the historical field headgate delivery volume of approximately 508 AFA to address IDWR's enlargement concerns.

3. Current water right accounting methods on the Boise River are not compatible with optimization of natural flow water rights that contain volume limits because the accounting system attributes diversions to the senior-most rights in order of priority. As a result, volume-limited senior-priority natural flow water rights reach volume limits prior to the end of the irrigation season when such rights are needed most. Lacking a change in accounting methodology, a transfer of 63-123F with a volume or period of use limitation imposed to address enlargement concerns should be structured to optimize use of the right by assigning a period-of-use start date that allows full diversion of the right through October 31.

History of Water Right 63-123F

Water right 63-123 originated as water right No. 2 in the 1906 Stewart Decree. The water right authorized diversion of 20 cfs with a priority date of June 1, 1864. The right is one of only two Stewart Decree rights that was decreed without the sliding scale (i.e., 100%, 75%, 60%) curtailment cuts; as a result of this special condition and its 1864-priority date, the right is deliverable at 100% for the entire irrigation season each year.

The water right was originally used in the Jacobs Canal, which apparently served as an early municipal water source. According to the Idaho Historical Society[1] (Reference Series No. 171),

> *"When Boise was founded, irrigation already was underway. Tom Davis' canal took water out of the river about a mile and a half above the town. In 1864 he built a headgate and in 1864 and 1865 a good substantial ditch. His first crop--and that for which he and the valley became famous--was fruit; in 1864 Frank Davis set out seven thousand fruit trees, the produce of which was shipped as far as the Montana mines. The system was sold in 1872 and became the Jacobs Canal Company. The ditch eventually went all the way through Boise and was used not only for irrigation, but also for sewage and pumping."*

Water right No. 2 was eventually transferred from the Jacobs Canal in Boise to the Boise Fruit Tracts with conveyance through the Farmers Union Canal, as confirmed by a 1916 District Court judgment. A note in the adjudication claim file indicates that a 1916 contract between the Farmers Union Ditch Company and W.A. Keyt provided 1/3 of water right No. 2 to Farmers Union as carriage loss for conveyance of the Jacobs water.

The Boise Fruit Tracts lands were generally located above the Farmers Union Canal. These lands were subsequently divided, with a portion becoming Capitol View Irrigation District. The remaining Boise Fruit Tracts lands with Jacobs water located outside of the Capitol View boundary included farmlands that were developed as the Lexington Hills subdivisions.

Because the Lexington Hills lands are located above the Farmers Union Canal, pumping has always been required to deliver water. The specifics of the historical agricultural pumping system(s) are unknown, but were reported to consist of flood and sprinkler systems prior to subdivision development.[2] Such pumping systems could have operated continuously throughout the irrigation season, with water applications rotated through the farm. By rotating irrigation through the farm, alfalfa or hay crops could be periodically harvested on portions of the farm while continuing to fully divert and utilize the water supply on other portions of the farm. This is a reasonable scenario considering that the right supplied only 0.01 cfs per acre; any available water would have been fully utilized to meet crop needs and build soil moisture. Alternatively, the pumps could have been shut down periodically, at which times the water would have flowed downstream for delivery to other headgates along the Farmers Union Canal.

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[1] Reference Series No. 171 https://history.idaho.gov/wp-content/uploads/0171.pdf

[2] *Pressurized Irrigation System Demands and Scheduling, Lexington Hills, Eagle, Idaho* (Nov. 17, 1991) (attached as Exhibit D to *Affidavit of David H. Roylance, In Re SRBA Case No. 39576, Subcase Nos. 63-00123D, 63-00123F, and 63-00123G*).

Typical of most canals diverting from the Boise River, the Farmers Union Canal begins deliveries in early April of most years and ceases delivery in early to mid-October. From 2000 through 2020, Farmers Union diverted on average for 190 days per season[3]; maximum diversion seasons of 203 days occurred in 2015 and 2016. Several of these diversion days involve ramp-up prior to delivery of water; a similar ramp-down occurs at or after the end of the season. Assuming similar diversions occurred historically (i.e., prior to 2000), water right 63-123F historically provided approximately 508 acre feet at the field headgate for irrigation of 136.8 acres (3.71 acre feet per acre) during a conservatively assumed 185-day delivery season.

The crop irrigated by 63-123F prior to subdivision development is reported to have been sprinkler-irrigated alfalfa. The soils at the Lexington Hills place of use are deep loams, which have a high water-holding capacity.[4] As a result, irrigation efficiencies could have been very high with deep-rooted crops such as alfalfa because very little applied irrigation water is lost to deep percolation.

After development of the Lexington Hills subdivisions, it was determined that the irrigated area and associated irrigation duty of water were less than the total water right held by the Lexington Hills developers (Lexington Hills Inc.). Following extensive proceedings in the Snake River Basin Adjudication, the portion of the right utilized by the subdivisions was decreed to the Lexington Hills Homeowners Association Inc. and the remainder was decreed to Lexington Hills Inc.[5]

Farmers Union currently holds 8.4 cfs of water right No. 2 as 63-123C, with the remainder held by Capitol View Irrigation Company (7 cfs as 63-123E), Lexington Hills Homeowners Association (3.22 cfs as 63-123G), and Lexington Hills Inc (1.385 as 63-123F).

Water right 63-123F has been protected from forfeiture since decree in 2009 through extensions of time to avoid forfeiture and water banking. The right has not been beneficially used on the decreed place of use since development of the Lexington Hills subdivisions in the 1990s. Because the water was not beneficially used at Lexington Hills, any diverted water must be assumed to have passed the subdivision diversion and utilized by other Farmers Union Canal users for the approximately 20 years prior to the decree's issuance in 2009.

[3] https://idwr.idaho.gov/apps/wm/DiversionDataApplication/AnnualSummary.aspx
[4] *See Rebuttal Testimony of Terry M. Scanlan, P.E., P.G.* at 5-6 (Mar. 18. 2008), *In Re SRBA Case No. 39576, Subcase Nos. 63-00123D, 63-00123F, and 63-00123G.*
[5] *In Re SRBA Case No. 39576, Subcase Nos. 63-00123D, 63-00123F, and 63-00123G.*

Transfer Application No. 82161

A transfer application was submitted by SUEZ Water Idaho Inc. (SUEZ) on February 5, 2018 seeking to change place of use and point of diversion for water right 63-123F. The place of use proposed was 136.8 acres within the service area of the SUEZ municipal water system. The proposed points of diversion were the Boise River intakes for the Marden and Columbia water treatment plants. The transfer did not seek a change in the nature of use. Because 63-123F is a natural flow irrigation water right, it has no stated annual volume limitation. If diverted for the full authorized season (260 days from March 1 through November 15), the maximum theoretical diversion volume would be 714 acre feet (5.2 af/ac).

To satisfy IDWR concerns about a specific irrigation place of use during processing of the transfer, SUEZ identified a proposed 385-acre place of use boundary that contained 136.8 acre of irrigation.[6] The *SUEZ POU Analysis's* identification of specific acres for irrigation under 63-123F is reasonable.

The application for transfer was denied by IDWR on October 8, 2020 on the basis that the proposed change cannot be accomplished without enlargement of the water right.

SUEZ filed a petition for reconsideration on October 22, 2020. A hearing is scheduled for September 28, 2021.

Analysis

Two options might be considered for approving the proposed transfer of water right 63-123F into the SUEZ municipal water system.

- Maintain the water right use as irrigation, as currently proposed by SUEZ. Under this approach, the irrigated area could be 136.8 acres within the proposed 385-acre boundary. To address IDWR's enlargement concerns, the water right could be limited to historical diversion volume, which would be the 508-acre-foot estimate based on 185 days of annual delivery to the field headgate. The irrigation efficiency within the proposed 385-acre boundary will probably be lower than the historical irrigation efficiency at the previous place of use because of the slightly coarser soils and smaller irrigated areas with inefficient sprinkler systems at the proposed place of use. The "crop" in the proposed place of use will be mixed landscape, likely to have a lower consumption than alfalfa.[7] As a result, there should be no consumptive use enlargement of the right provided that the annual diversion volume does not increase.

[6] *Letter from Michael P. Lawrence to Nick Miller re: Application for Transfer No. 82161 in the name of SUEZ Water Idaho Inc.* (Sep. 12, 2019) ("*SUEZ POU Analysis*")..

[7] Mixed landscape might consist of trees, shrubs, lawn, gardens, and ground cover (bark mulch and rock)

As an alternative to imposing a 508 AF annual diversion volume, the same result could be obtained by imposing a 185-day season of use.

- Convert the water right from irrigation to municipal purposes. I understand that IDWR policy[8] for such nature of use transfers is to limit the annual volume to the historical consumptive use. Based on ET Idaho[9] data for the Boise Airport weather station, annual growing season precipitation deficit (consumptive use) for alfalfa with frequent cuttings, is 960 mm (3.15 feet), and for alfalfa with less frequent cuttings is 963 mm (3.16 feet). Using these figures, the transferrable volume would be 430.9 acre feet or 432.2 acre-feet, respectively. Assuming a historical delivery volume of 508 acre feet, these volumes would be equivalent to an irrigation efficiency of 85%. Although 85% efficiency is high for wheel line or hand line sprinkler irrigation, it could have been achievable at Lexington Hills due to the high water-holding capacity of the deep loam soils. If right 63-123F is transferred[10] to SUEZ's municipal system and limited to historical consumptive use, no additional conditions (such as place of use reporting) would be necessary.

In comparing the two transfer options above, the transfer that maintains the purpose of use as irrigation is more advantageous to SUEZ because it allows for a larger annual diversion volume for essentially the same use. As referenced by SUEZ's October 22, 2020 petition for reconsideration, IDWR has approved a number of past transfers[11] of irrigation water rights into municipal water systems, both with and without a nature of use change, without a reduction in annual diversion volume. In each instance, limiting the water right to the authorized diversion volume and season of use was adequate to prevent enlargement. In some cases, such as Transfer 72128 (City of Mountain Home), IDWR required reporting of information concerning the amount of irrigation use within a municipal service area. This is consistent with former IDWR Director Karl Dreher's determination in 1998 that "provided an

[8] Administrative Memo No. 24 Section 5.d(12). *"An application for transfer, which proposes to convey an established water right to a municipal provider and change the nature of use to municipal purposes, as defined in Section 42-202B, Idaho Code, shall not be approved without limiting the volume of water divertible under the right to the historic consumptive use under the water right prior to the proposed change. If the proposed transfer involves a surface water right, the transfer shall not be approved without also limiting the right to the historic period of use under the right prior to the proposed change."*

[9] http://data.kimberly.uidaho.edu/ETIdaho/

[10] Whether changed to municipal use or maintained as irrigation use, limiting the right to historical consumptive use will prevent enlargement—as discussed in the main text, by reducing the quantity more than necessary in some cases.

[11] T72128 and T7823 (City of Mountain Home), T75824 (City of Coeur d'Alene), T78803 (City of Jerome), and T82051 (City of Sugar City)

appropriate accounting is made of the amounts of water diverted and used for irrigation, a municipal water provider may divert irrigation water into its common municipal delivery system and deliver the irrigation component for irrigation purposes."[12]

Regardless of whether the use is called irrigation or municipal, the water will be diverted during the irrigation season when there is an irrigation demand within the proposed place of use. The irrigation demand for the 136.8 acres will at times exceed the rate available from 63-123F because the right provides only 0.01 cfs per acres. At times when irrigation demands exceed 0.01 cfs/ acre, the irrigation use from 63-123F can be supplemented with other SUEZ water rights. It is also possible that the irrigation demand for the 136.8 acres will at times be less than 1.385 cfs. At such times, the water will continue to be diverted but utilized for irrigation of other lands within the municipal service area, of which there are many more acres than the 136.8 authorized under 63-123F. This would be similar to when the water had not been pumped for irrigation at the original Lexington place of use; the unused water would flow to other Farmers Union Canal water users. Although not explicit in the water rights, delivery of unused water to other water right holders in any canal is a common practice, allowing that water to be used on, or "rotated" to, other lands served by the canal.

Given the abundance of irrigated lands within SUEZ's service area, there is little reason to believe that any water diverted under 63-123F would be used for purposes other than irrigation. However, to the extent that is concern, such other uses would primarily be non-consumptive domestic uses within SUEZ's municipal system where the majority of water returns to the river through wastewater treatment plants (particularly the City of Boise's). In other words, in the unlikely event that 63-123F would be used for purposes other than irrigation in SUEZ's municipal system, such uses would result in even greater return flows to the Boise River.

The IDWR policy to allow transfer of only the historical consumptive volume when changing the nature of use from irrigation to municipal use is intended to prevent enlargement. But the policy is overly restrictive in some cases. The majority of water diverted through the SUEZ system during summer months is used for irrigation. But a significant percentage (approximately 20 to 40 percent, depending on the time within the irrigation season) of the SUEZ diversions are also utilized for other (primarily in-home domestic) purposes. The domestic portion is largely non-consumptive because most of the water returns to the river through the City of Boise's wastewater treatment plants. By limiting the post-transfer diversion volume in a nature of use transfer to historical consumptive use, both the diversion

[12] *Letter from Director Karl Dreher to Michael C. Creamer* ("*Dreher Letter*"), p. 2 (Apr. 7, 1998) (copy attached as Appendix A to *SUEZ's Petition for Reconsideration and Request for Hearing* (Oct. 22, 2020) in this transfer proceeding).

volume and the consumption would be reduced. Such a reduction penalizes the water right holder and is not needed to prevent enlargement of 63-123F.

In any case, any volume limitation imposed on a transfer of water right 63-123F should be made with IDWR's accounting system in mind. As already mentioned, the right historically has not had a volume limitation, which means the right could remain in priority and be delivered from the beginning to the end of the irrigation season. However, I understand that IDWR's accounting system accrues water first to a holder's most senior natural flow water right. Under this approach, if water right 63-123F is transferred to SUEZ's municipal system with a volume limitation or a 185-day period of use, IDWR's accounting system will begin accruing water to the satisfaction of 63-123F (the most senior right SUEZ will hold) early in the season at the same time when SUEZ's junior natural flow rights are in priority. This would significantly reduce the value of SUEZ acquiring the right. If IDWR cannot alter its accounting system so that water accrues to the satisfaction of a holder's junior natural flow rights first, right 63-123F should be conditioned so that the date water begins accruing is calculated backward from the end of the irrigation season so that the right remains available to the fullest extent later in the irrigation season when junior rights are no longer in priority.[13]

Conclusions

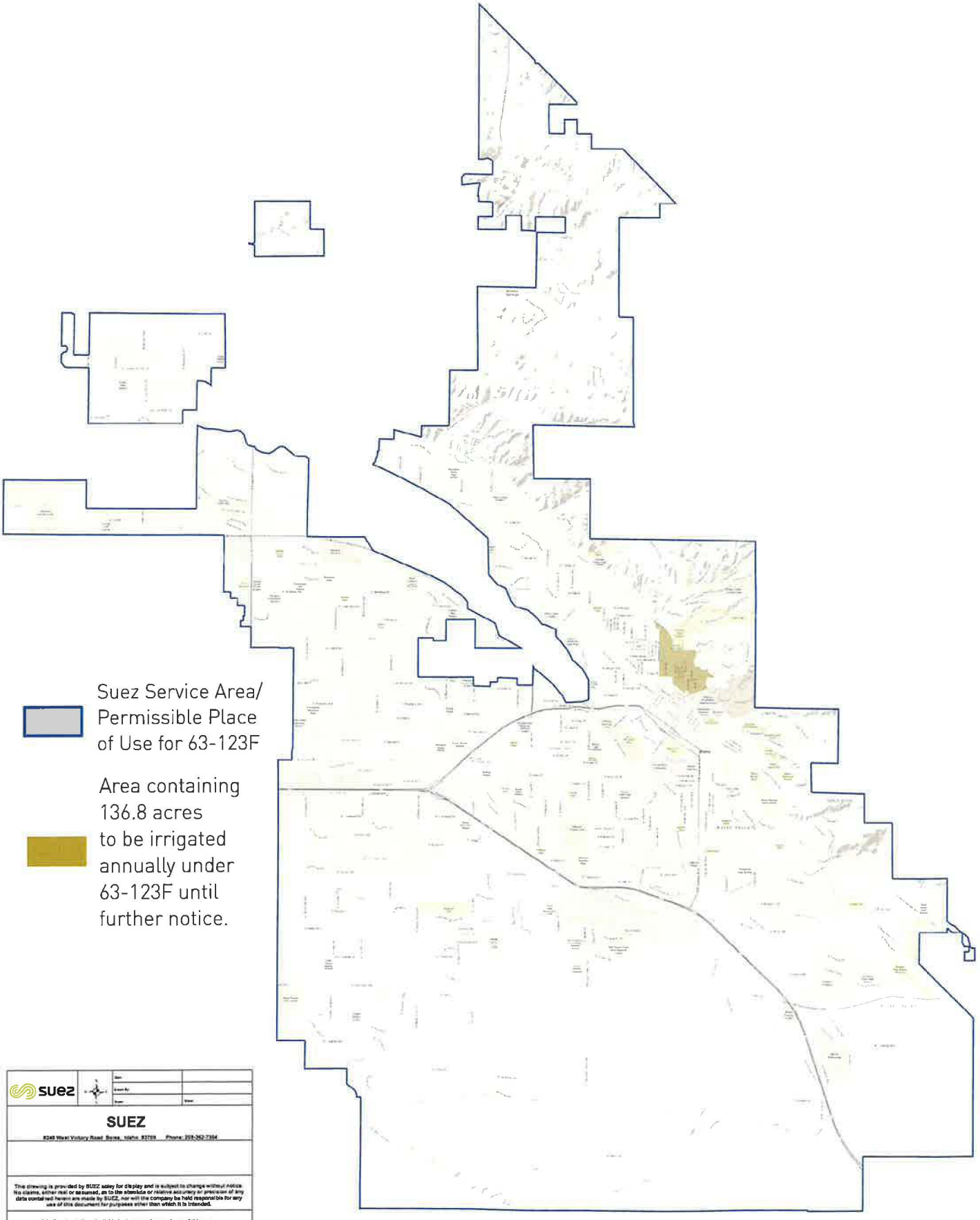
1. Water right 63-123F can be transferred into the SUEZ municipal system for irrigation of lands identified in the *SUEZ POU Analysis* without enlargement by limiting the annual diversion volume to the historical field headgate volume of approximately 508 AF or by limiting its period of use to 185 days. Such a limit will prevent the transferred water right from exceeding the historical diversion volume and historical consumptive volume.

2. If a volume or period of use limitation is imposed on the transfer of 63-123F, the rights should be conditioned (or IDWR's accounting system changed) so that water begins accruing to the right as late in the irrigation season as possible to allow to SUEZ obtain the full benefit of the right until the end of the irrigation season.

[13] For example, if a 508 AF volume limitation is imposed on transfer of 63-123F, the 185-day period of use would be calculated backward from the end of the standard irrigation season (October 31) so that water begins accruing to the right on April 29 (rather than the standard irrigation start date of April 1 (or March 1 in high-water years)).

Appendix C CATHY COOPER'S EXPERT REPORT

Lexington Hills Water Right Transfer



Suez Service Area/ Permissible Place of Use for 63-123F

Area containing 136.8 acres to be irrigated annually under 63-123F until further notice.

suez

SUEZ

8248 West Victory Road Boise, Idaho 83709 Phone: 208-362-7304

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FROM	Cathy Cooper Director of Engineering Roger Dittus Hydrogeologist	**TO**	Mike Lawrence Attorney, Givens Pursley
DEPARTMENT	Engineering, Idaho Operations	**DATE**	September 4, 2019
SUBJECT	Lexington Hills Water Right Transfer – Irrigated Area Calculation Methodology		

BACKGROUND

The developers of Lexington Hills, a subdivision in Eagle, Idaho, reserved a piece of their original irrigation water right appurtenant to the formerly irrigated land now covered by rooftops and paved areas. The water right (63-123F), is for 1.385 cfs of irrigation water from March 1 to November 15, with an acre limit of 136.8 acres.

SUEZ intends to buy this water right and transfer the place of use and place of diversion for use in SUEZ's municipal system and service area. In connection with the transfer, the Idaho Department of Water Resources is requiring SUEZ to identify specific acres within SUEZ's service area that will be irrigated with the water right.

This memorandum documents our analysis identifying those acres, which are displayed in Figure 1 below.

SUMMARY OF PLACE OF USE CALCULATION

We chose an area within the SUEZ service territory that can be supplied by either the Marden Water Treatment Plant (WTP) or Columbia WTP (the proposed post-transfer points of diversion for water right 63-123F), and that is not included in a canal company boundary, and therefore would not have a canal irrigation water right. The North End of Boise was selected.

We used a three-step analysis to determine where 136.8 acres would be irrigated in SUEZ's service area under the transferred water right: (1) identify an area in Boise's North End where 136.8 acres is irrigated, based on average percentage of irrigated land in the vicinity; (2) determine how many acres within that initial area are likely irrigated with domestic wells or irrigation water rights; and (3) increase the initially identified area to account for the domestic wells and irrigation water rights.

In summary, based on the average percentage of irrigated area in Boise's North End (approximately 36 percent), a total land area of 380 acres was initially identified (136.8 acres / 0.36 = 380 acres). To this shape, we added 5.0 acres in areas where no private wells or irrigation water rights exist to account for irrigation from individual domestic wells and irrigation rights in the initially identified 380 acre area. The final result is the 385 acre area identified in Figure 1, within which 136.8 acres will be irrigated with the transferred water right.

DETAILED PLACE OF USE CALCULATION

1. **INITIAL IRRIGATED AREA CALCULATION BASED ON SAMPLE GRIDS.** To determine an average irrigated area percentage of residential area in the North End we randomly selected 5 sample areas, and manually calculated the irrigated area percentage in these grids. The average percentage of irrigated area in the five sample grids is approximately 36%. Appendix A includes the detailed sample area calculation information.

Based on this 36% figure, we initially identified a total land area of 380 acres (136.8 / 0.36) as the area containing the lands proposed for irrigation under the transferred water right.

2. **DOMESTIC WELL AND IRRIGATION WATER RIGHT ANALYSIS.** We searched the IDWR database for individual wells in the initial 380 acre area to account for any area that might be irrigated by domestic/irrigation wells. We found nineteen total well locations in the area, with fourteen well logs expressly describing "domestic" use, one describing "yard," one describing "lawn," and three describing "irrigation" use. Because we identified only one recorded irrigation water right associated with any of the wells (discussed below in the irrigation water rights paragraph), we assumed the "yard," "lawn," and two of the "irrigation" wells supply uses similar in nature to "domestic" irrigation. Thus, we identified a total of 18 wells that appear to be associated with unrecorded domestic water rights.

Although each domestic well can irrigate up to 0.5 acres under an unrecorded domestic water right, the lots in this area average about 0.2 acres total. We assume that only one lot is irrigated with each well, for a total of 18 lots covering a total of 3.6 acres (18 lots x 0.2 acres = 3.6 acres) within the initial 380 acre area that are irrigated with private wells under urecorded domestic water rights. To address this, we added 3.6 acres to the initial 380 acre area. Appendix B includes information used in this analysis, including the well logs.

We also searched IDWR's database for irrigation water rights with places of use in the initial 380 acre area. There are four irrigation water rights identified as wholly or partially within the area. Of these, only two of them appear to actually irrigate land—0.5 acres—in the 380 acre area. To account for this, another 1.4 acres (0.5 acres / 0.36 = 1.4) was added to the initial 380 acre area. Appendix C includes information used in the irrigation water right analysis.

3. **FINAL PLACE OF USE CALCULATION.** Based on the average percentage of irrigated area in Boise's North End (approximately 36 percent), a total land area of 380 acres was initially identified (136.8 acres / 0.36 = 380 acres). To this shape, we added 5.0 acres in areas where no private wells or irrigation water rights exist to account for irrigation from individual domestic wells and irrigation rights in the initially identified 380 acre area. The final result is the 385 acre area identified in Figure 1, within which 136.8 acres will be irrigated with the transferred water right.

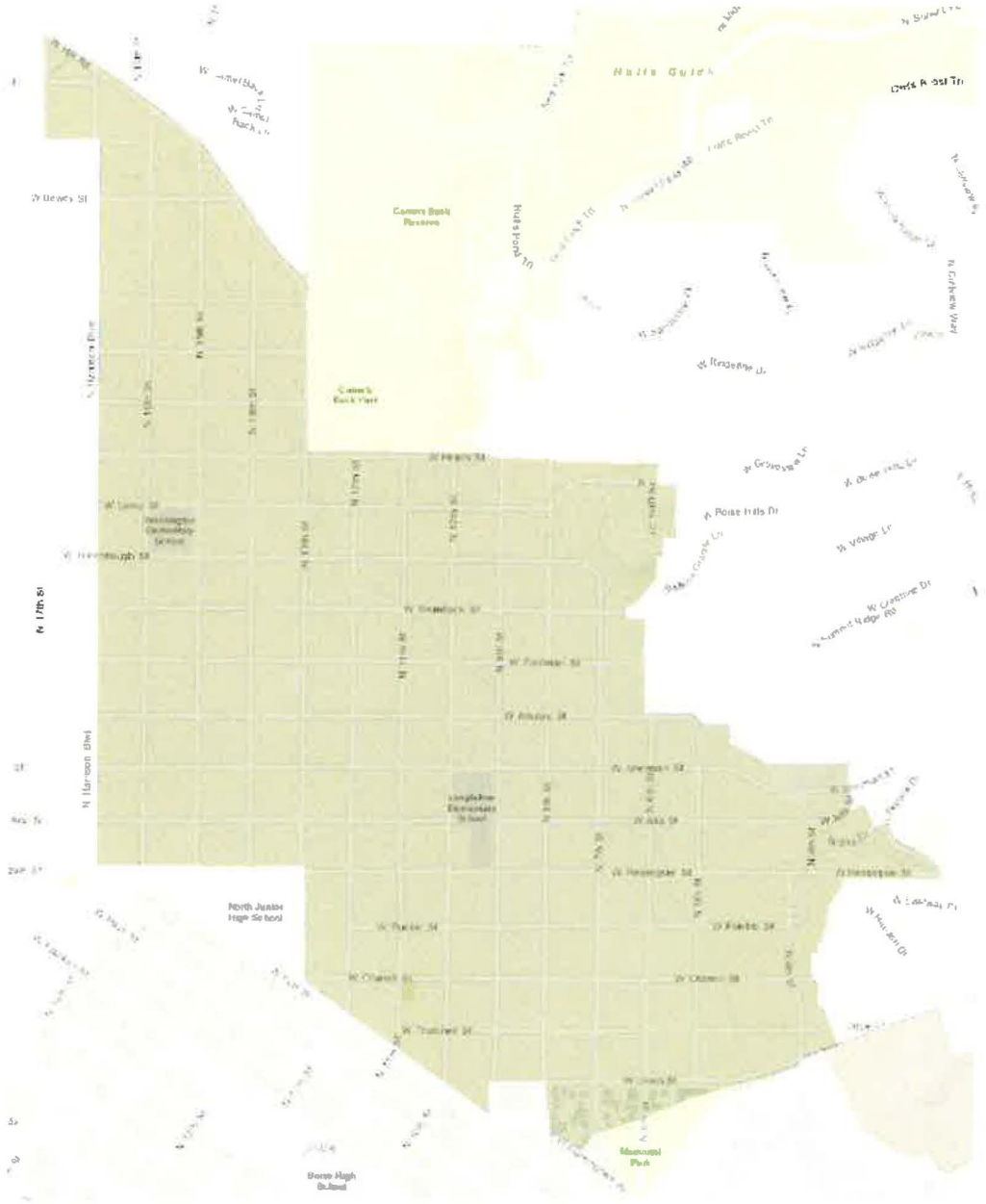


Figure 1 – SUEZ Irrigated Area, 385 acres total, within which 136.8 acres will be irrigated with the transferred water right No. 63-123F.

APPENDIX A

SAMPLE GRID IRRIGATED AREA CALCULATION

1. A 2.3 acre grid square was created
2. 5 sample sites of 2.3 acres each were randomly selected in Boise's North End area.
3. Ortho photos from 2013 (flown in fall or spring) show a clearer view of ground cover without tree leaves present than ESRI-produced USA NAIP imagery NDVI layer from 2017. We used the 2013 imagery for this calculation since it did not include as much tree cover.
4. The images were manually assessed and we covered the grass/irrigable areas with a vibrant green color.
5. A color summarizer on the web was used to calculate areas of different colors, http://mkweb.bcgsc.ca/color-summarizer/?home
6. The 5 grid squares analyzed are included on the following pages.
7. Average irrigated percentage calculated from the 5 random grid squares is approximately 36%.

Sample Grid	**Irrigated Percentage**
First Sample Grid	32.5%
Second Sample Grid	38.6%
Third Sample Grid	33.7%
Fourth Sample Grid	36.3%
Fifth Sample Grid	37.5%
Average	**35.7%**

First Sample Grid – 32.5% Irrigated Area

IMAGE COLOR SUMMARY

THE IMAGE IN WORDS

antique aquashield area arrowtown beige bison bronce cougar craigieburn cream crowshead dark darkish deep dna double dune dusty eighth element emerald flimpro fuscous grayish green grey grullo half hide hunter joss judge kermit malta masala match medium mulbrook mine mondo moss napa nocturnal nomad oil oilskin olive pablo pastel pointer prevda quarry quarter raincloud routeburn sand seagrass shadow shaft slate stone stonewall synchronise tabac talisman taps tea thorndon touchstone triple white

COLOR CLUSTERS

Colors in the image were clustered into 10 groups (k-means). The average color of the colors for each cluster is shown. The name is the closest named color and its distance is shown using ΔE. The tags are the set of words formed by all named neighbours within ΔE < 5. The list of words above is the set of all unique words in that set of words.

Cluster colors, sized by number of pixels:

cluster	pixels	name	HEX	RGB	HSV	LCH	Lab	tags

Second Sample Grid – 38.6% Irrigated Area

IMAGE COLOR SUMMARY

THE IMAGE IN WORDS

akarta ash bandicoot bison chain charleston cliffhanger climate cloud cornsilk cotton cougar craigieburn dark double eighth element eternity evolution flint forest friar fruit granite gravel green grey grullo half haze heavy hide isotonic karens killarney light mandrake mangrove medium merlin metal mist modular napa nocturnal nullarbor oil olivine olive pastilla pastel pewter piston pravda pure quarter reaction relic rock rosebum salad sandcastle seed sisal stonehenge style swamp tapa tea touchstone trainspotter triple truffle volcanic woodsmoke yellow

COLOR CLUSTERS

Colors in the image were clustered into 10 groups (k-means). The average color of the colors for each cluster is shown. The name is the closest named color and its distance is shown using ΔE. The tags are the set of words formed by all named neighbours within ΔE < 5. The list of words above is the set of all unique words in this set of words.

Cluster colors, sized by number of pixels:

cluster	pixels	name	HEX	RGB	HSV	LCH	Lab	tags

Third Sample Grid – 33.7% Irrigated Area

IMAGE COLOR SUMMARY

THE IMAGE IN WORDS

aquashield arrowtown ash black bunker cement charleston cornsilk cougar craigieburn dark deep double dragon eighth element equilibrium evolution flimpo foundry friar fruit granite grass green grey half haze heathered heavy hippie ironsand ivory kangaroo karens lemon light lighthouse linen mandrake masala medium metal mulbrook mondo napa nero olive overland oyster pablo pale panfilia pastel pewter pioneer pure quarry quarter quill raptor relic salad sea space squall stone stonewall style synchronise talisman taya tea titania transporter treetops triple truffle tuatara white yellow

COLOR CLUSTERS

Colors in the image were clustered into 10 groups (k-means). The average color of the colors for each cluster is shown. The name is the closest named color and its distance is shown using ΔE. The tags are the set of words formed by all named neighbours within ΔE < 5. The list of words above is the set of all unique words in this set of words.

Cluster colors, sized by number of pixels:

cluster	pixels	name	HEX	RGB	HSV	LCH	Lab	tags

Fourth Sample Grid - 36.3% Irrigated Area

IMAGE COLOR SUMMARY

THE IMAGE IN WORDS

arrowtown ash asphalt bean brown cement charleston cliffhanger cloud cobblestone cotton cougar craigieburn dark double dragon egg eighth eternity evolution fern finar gargoyle granite green grey half heavy hippie internet jungle karaka kelley maire makara malta mangrove marshland merlin metal midnight milky modular mondo moss napa navajo nest nickel nomad nullarbor olive outback pacifica pastel pointer portland prawda quarry quarter rangoon relic rock seed shadow soya stone stonewall style synchronise talisman tea touchstone transporter treetops triple truffle volcanic way wheat white

COLOR CLUSTERS

Colors in the image were clustered into 10 groups (k-means). The average color of the colors for each cluster is shown. The name is the closest named color and its distance is shown using ΔE. The tags are the set of words formed by all named neighbours within ΔE < 5. The list of words above is the set of all unique words in this set of words.

Cluster colors, sized by number of pixels:

cluster	pixels	name	HEX	RGB	HSV	LCH	Lab	tags

Fifth Sample Grid – 37.5% Irrigated Area

IMAGE COLOR SUMMARY

THE IMAGE IN WORDS:
army bandicoot bedrock black cobalt corkscrew cornsilk craigieburn dark dna double dragon dusty epiphany evolution finar glitterati granite gravel green grey half haze helter ironsand isotonic karens killarney linen medium milltrook mondo napa oil olive overland parsel pewter piston possessed pravda pure raptor rockpool schist sea skelter squall strong talisman tana tapa tea terrain triple

COLOR CLUSTERS

Colors in the image were clustered into 10 groups (k-means). The average color of the colors for each cluster is shown. The name is the closest named color and its distance is shown using ΔE. The tags are the set of words formed by all named neighbours within ΔE 3. The list of words above is the set of all unique words in this set of words.

Cluster colors, sized by number of pixels:

cluster	pixels	name	HEX	RGB	HSV	LCH	Lab	tags

APPENDIX B
DOMESTIC WELL CALCULATION

Well Search Results from IDWR Web Site:

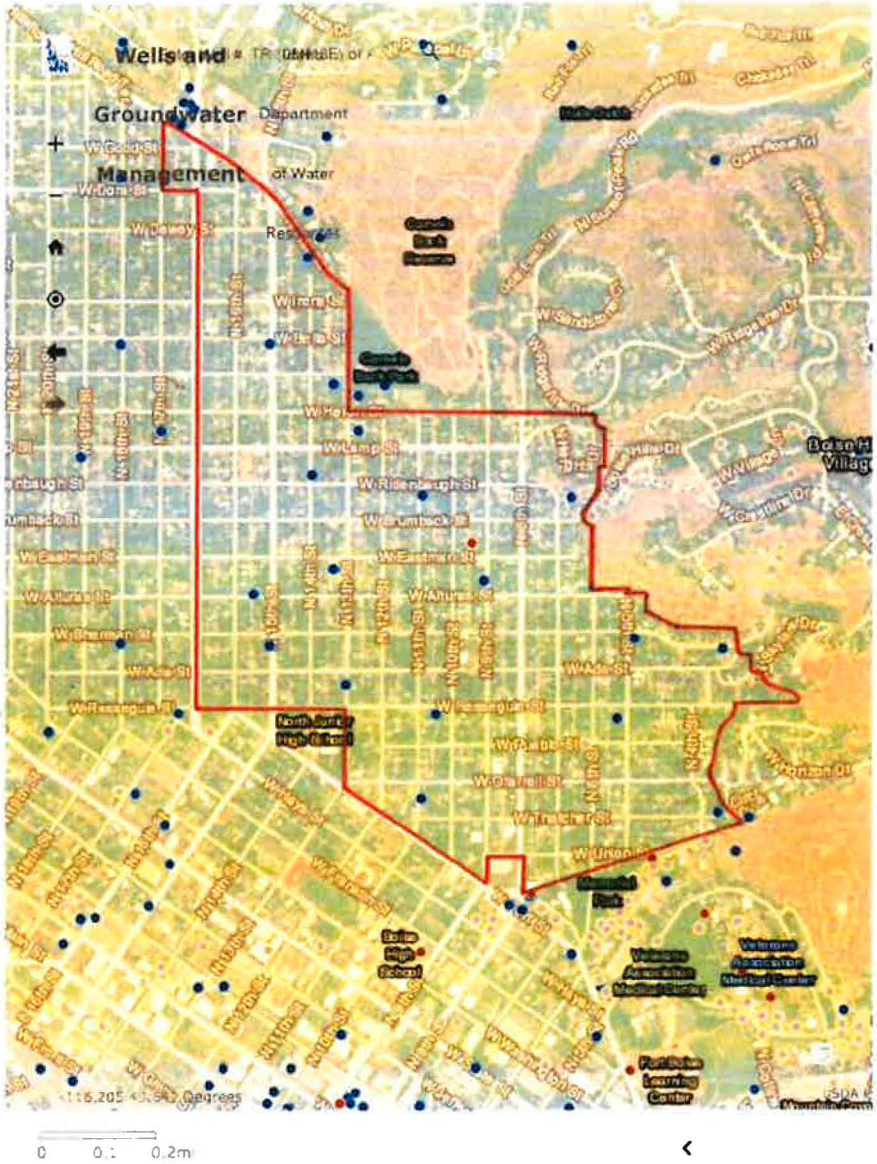


Figure B-1 – Well Search Results from IDWR Web Site and 385 Acre Area Containing 136.8 Acres to be Irrigated

1. 19 well locations found in IDWR's mapping system located within initial 380 acre area. See Figure B-1 above. The well logs are attached.
2. A total of 24 well logs linked to the 19 well locations.
    - 14 logs described domestic use.
    - 3 logs described irrigation use, only one of which (Brown) has an associated recorded irrigation water right (63-11609, addressed in Appendix C).
    - 1 log (Lunstrum) was for "yard" use.
    - 1 log (McLaughlin) was for "lawn" use.
    - 1 log (Mrs. Ralph Black) was a duplicate.
    - 1 log (Bill Cockerum) was for deepening an existing well.
    - 1 log (Rebeka Fredricks) was actually located outside the 380 acre area (in the NWNW of Sec. 3).
    - 1 log (Intermountain Gas) is a "Cathodic Pr[o]tection Well" and not for domestic or irrigation use.
    - 1 log (Worbois) is an injection well and not for domestic or irrigation use.
3. Assumed the 14 domestic use wells, 2 irrigation wells (with no recorded water rights), 1 "yard" well, and 1 "lawn" well have associated unrecorded domestic water rights authorizing up to 0.5 acres of irrigation. Also assumed that each of these 18 wells irrigates only one lot.
4. Lots in the Boise North End average 0.2 acres total.
5. Irrigation of 18 lots with these private wells means that 3.6 acres must be excluded from the 380 acre area because those acres will not be served by the transferred water right no. 63-123F. To account for this, 3.6 acres must be added to the initial 380 acre area.

Received 1-30-68 Dept of Reclamation

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name Mrs. Ralph Black
Address 143[illegible] Bella
Boise, Idaho
Owner's Permit No. ____
NATURE OF WORK (check): Replacement well ☐
New well ☐ Deepened ☒ Abandoned ☐
Water is to be used for: domestic
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒
Dug ☐ Other ____ (explain)
CASING SCHEDULE: Threaded ☐ Welded ☒
4 "Diam. from 39 ft. to 145 ft.
___ "Diam. from ___ ft. to ___ ft.
___ "Diam. from ___ ft. to ___ ft.
___ "Diam. from ___ ft. to ___ ft.
Thickness of casing: .237 Material:
Steel ☒ concrete ☐ wood ☐ other ☐
(explain)
PERFORATED? Yes ☐ No ☒ Type of perforator used: ____
Size of perforations: ___ " by ___ "
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.
___ perforations from ___ ft. to ___ ft.
WAS SCREEN INSTALLED? Yes ☐ No ☐
Manufacturer's name ____
Type ____ Model No. ____
Diam. ___ Slot size ___ Set from ___ ft. to ___ ft.
Diam. ___ Slot size ___ Set from ___ ft. to ___ ft.
CONSTRUCTION: Well gravel packed? Yes ☐ No. ☐ size of gravel ____ Gravel placed from ___ ft. to ___ ft. Surface seal provided? Yes ☐ No ☐ To what depth? ___ ft. Material used in seal: ____
Did any strata contain unusable water? Yes ☐ No. ☒ Type of water: ____
Depth of strata ___ ft. Method of sealing strata off: ____
Surface casing used? Yes ☐ No. ☒
Cemented in place? Yes ☐ No ☒
Locate well in section

Sec.

LOCATION OF WELL: County Ada
SE ¼ SW ¼ Sec. 34 T. 4 N/S R. 2 E/W

Size of drilled hole: 4" Total depth of well: 163' Standing water level below ground: 30' Temp. Fahr. ___ ° Test delivery: 20 gpm or ___ cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test: Compressor test
Length of time of test: one Hrs. ___ Min.
Drawdown: 6 ft. Artesian pressure: ft. above land surface ___ Give flow ___ cfs or ___ gpm. Shutoff pressure: ____
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing? Yes ☐ No ☐

041536

DEPTH FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES	WATER NO
39	58	muddy sand & gravel	X	
58	145	" & "	"	
145	151	shale		X
151	152	sand	X	
152	155	shale		X
155	156	sand opening	X	
156	163	yellow sand	X	

Work started: Dec. 6, 1967
Work finished: Jan. 1, 1968
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: [illegible]
Address: Rt 1, Star, Idaho
Signed by: ____
License No. 39 Date: Jan. 29, 1968

Use other side for additional remarks

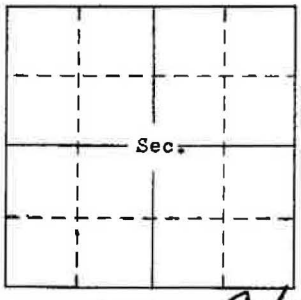
Received 1-30-68 Dept of Reclamation

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name Mrs. Ralph Black
Address 14th & Bella
Boise, Idaho
Owner's Permit No.
NATURE OF WORK (check): Replacement well ☐
New well ☐ Deepened ☒ Abandoned ☐
Water is to be used for: domestic
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒
Dug ☐ Other
(explain)
CASING SCHEDULE: Threaded — Welded X
4 "Diam. from 39 ft. to 142 ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
Thickness of casing: .237 Material:
Steel ☒ concrete ☐ wood ☐ other ☐
(explain)
PERFORATED? Yes ☐ No ☒ Type of perforator used:
Size of perforations: " by "
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
WAS SCREEN INSTALLED? Yes ☐ No ☐
Manufacturer's name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.
CONSTRUCTION: Well gravel packed? Yes ☐
No. ☐ size of gravel Gravel placed from ft. to ft. Surface seal provided? Yes ☐ No ☐ To what depth? ft. Material used in seal:
Did any strata contain unusable water? Yes ☐
No. ☒ Type of water:
Depth of strata ft. Method of sealing strata off:
Surface casing used? Yes ☐ No. ☒
Cemented in place? Yes ☐ No ☒

Locate well in section



LOCATION OF WELL: County Ada
SE ¼ SW ¼ Sec. 34 T. 4 N/☐ R. 2 E/☐

Size of drilled hole: 4" Total depth of well: 163' Standing water level below ground: 30' Temp. Fahr. ° Test delivery: 20 gpm or cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test: Compressor test
Length of time of test: one Hrs. Min.
Drawdown: 6 ft. Artesian pressure: ft. above land surface Give flow cfs or gpm. Shutoff pressure:
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing? Yes ☐ No ☐

041537

DEPTH FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES	WATER OR NO
39	58	muddy sand & gravel	X	
58	145	" & "	X	
145	151	shale		X
151	152	sand	X	
152	155	shale		X
155	156	sand opening	X	
156	163	yellow clay	X	

Work started: Dec. 5-1967
Work finished: Jan. 12-1968
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: Ernest Kelsey
Address: R#1 - Star, Ida.
Signed by:
License No. 39 Date: Jan. 29-1968

Use other side for additional remarks

Form 238-7
8/90

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

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.

1. WELL OWNER
Name LYNN A. BROWN
Address 2305 N. 14 ST ST
Drilling Permit No. 63-90-2-736
Water Right Permit No. _____

2. NATURE OF WORK
☑ New well ☐ Deepened ☐ Replacement
☐ Well diameter increase
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE
☑ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED
☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☑ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION
Casing schedule: ☑ Steel ☐ Concrete ☐ Other _____

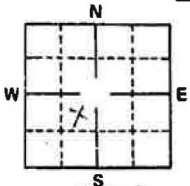
Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	117.8 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

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's name _____
Type _____ Model No. _____
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☑ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 20 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 _____

6. LOCATION OF WELL
Sketch map location must agree with written location.



Subdivision Name BLADEN ADDED SUB. (MICROFILMED 09 1992)
Lot No. 11 Block No. _____
County ADA
NE ¼ SW ¼ Sec. 34 T. 4 N ☐ S ☐ R. 2 E ☐ W ☐

7. WATER LEVEL
Static water level 34 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA
☐ Pump ☑ Bailer ☑ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
AIR COMP 50 GPM	120'	2½

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	5	TOP SOIL		
	5	28	SANDY SOIL		
	28	32	SANDY GRAY CLAY		
	32	65	GRAY SAND SOME GRAVEL		
	65	86	BROWN SAND SOME GRAVEL		
	86	99	SANDY GRAY CLAY		
	99	120	FINE SAND & SOME GRAVEL		
	120		SANDY GRAY CLAY		
			FINE SAND WITH SOME BEA GRAVEL		

10. Work started 2/21/91 finished 3/1/91

11. DRILLERS CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.
Firm Name BOISE VALLEY PUMP & DRILLING Firm No. 207
Address 2950 S GARDEN Date 3/5/91
Signed by (Firm Official) Ron R Murphy
and
(Operator) Ron R Murphy

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

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 1-3-73 WA

1. WELL OWNER
Name Bill Cockerum
Address 2511 - Inglewood Rd. Boise
Owner's Permit No. _____

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 6 inches Total depth 68 feet
Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+1 feet	68 feet
_____ inches	_____ inches	_____ feet	67.8" feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ 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	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

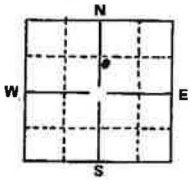
Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 28 feet
Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL
Sketch map location must agree with written location.

63



County Ada
SW ¼ NE ¼ Sec. 3, T. 3 N/S, R. 2 E/W

7. WATER LEVEL
Static water level 32'9" 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 Compressor

Discharge G.P.M.	Draw Down	Hours Pumped
20		3 hr 30 min

9. LITHOLOGIC LOG 39549

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	2	Top Soil		
	2	35	Sandy Soil & Clay Mixed		
	35	67'8"	Gravel - Water	X	

10. Work started 12/18/72 finished 12/25/72

11. DRILLER'S CERTIFICATION
This well was drilled under my supervision and this report is true to the best of my knowledge.

Ernest Kelsey 39
Driller's or Firm's Name Number
RH1 Box 56 Star Idaho
Address
Alta Kelsey 1/20/73
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

WRITE WITH WATER ... BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

3 RECEIVED
JUL 6 1977
Department of Water Resources

State law requires that this report be filed with the Director, Department of Water Administration within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Bill Cockerum

Address 2511 Inglewood Rd. Boise Ida.

Owner's Permit No. ______

2. NATURE OF WORK Well on N.-13th St.

☐ New well ☒ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6" inches Total depth 227 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+2 feet	216 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	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	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☒ Yes ☐ No

Manufacturer's name Johnson

Type Stainless steel Model No. ______

Diameter 5 Slot size 30 Set from 210 feet to 227 feet

Diameter ___ Slot size ___ Set from ______ feet to ______ feet

Gravel packed? ☐ Yes ☒ No Size of gravel ______

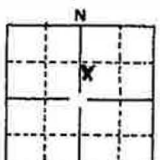
Placed from ______ feet to ______ feet

Surface seal depth 40' Material used in seal ☐ Cement grout ☒ Puddling clay ☐ Well cuttings

Sealing procedure used ☒ Slurry pit ☐ Temporary surface casing ☐ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name ______

Lot No. ______ Block No. ______

County Ada

SW ¼ NE ¼ Sec. 3 T. 3 N/S, R. 2 E/W

7. WATER LEVEL

Static water level 33'-7" 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
36	32'	48

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	68	70	thin gravel, fine yellow sand	X	
	70	109	sandy clay		X
	109	120	heaving sandy muck	X	
	120	143	thin standy blue + yellow clays with heaving mucky sand	X	
	143	156	dry silty type blue shale		X
	154	181	quite solid blue shale but not very sticky		X
	181	182	fine yellow sand		X
	182	183	Coarse blue sand under pumping test could not stop the drifting in of upper yellow sand	X	
	183	195	medium Coarse blue sand	X	
	195	209	blue shale		X
	209	210	fine blue sand stringer	X	
	210	213	shale		X
	213	214	Coarse blue sand drill water only	X	
	214	215	thin streaks of shale		X
	215	227	real coarse blue sand	X	

Chemical + electric machine analysis of water soft, but high in iron content

10. Work started July 21 finished Aug. 24-1976

11. DRILLERS CERTIFICATION

Firm Name Ernest Firm No. 39

Address Star, Ida, R#1 Date Aug. 25, 76

Signed by (Firm Official) Ernest Kelsey

and

(Operator) "

6

MICROFILMED
OCT 08 1981

MICROFILMED

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Well Log Form 1
3M-3/63

098219

RECEIVED
FEB 17 1965
Department of Reclamation

WELL LOG AND REPORT TO THE STATE RECLAMATION ENGINEER OF IDAHO

SUBMIT WITHIN 30 DAYS AFTER COMPLETION OF WELL: SEE IDAHO STATUTES 42-238

Permit No. _____ Well No. _____ County Ada

Owner Ref 7 Lenner

Address 320 - East Jefferson

Driller Ernest Kelsey

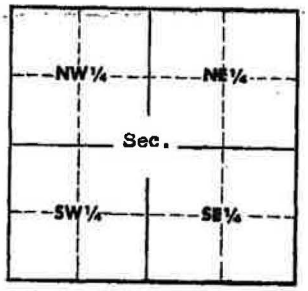
Address R#1 - Star, Idaho

Well location SW ¼ NW ¼ Sec. 2, T. 3 N/X R. 2 E/X

Size of drilled hole 6"

Total depth of well 62'

Locate well in section



Give depth to standing water from the ground 27' Water temp. 50 °Fahr.

Test delivery was 30 g.p.m. or _____ c.f.s. Drawdown was 3' feet. Pump? ____ Bail? ____

Size of pump and motor used to make test Air Compressor tested

Length of time of test One hours _____ minutes.

If flowing well, give flow _____ c.f.s. or _____ g.p.m. and of shut off pressure _____

If flowing well, described control works _____ (TYPE AND SIZE OF VALVE, ETC.)

Water will be used for Irrigation Weight of casing per lineal foot _____

Thickness of casing 188 Casing material Steel (STEEL, CONCRETE, WOOD, ETC.)

Diameter, length and location of casing 6" - 62' - ground level
(CASING 12" IN DIAMETER OR LESS, GIVE INSIDE DIAMETER; CASING OVER 12" IN DIAMETER, GIVE OUTSIDE DIAMETER)

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	Remarks—seals, grouting, etc.
6"	1'	62'	62'	Open bottom gravel well
				used

Number and size of perforations _____ located _____ feet to _____ feet from ground

Date of commencement of well Jan 18 - 1965 Date of completion of well Jan. 27 - 1965

SWNW S. 2 3N 2E

23

WELL LOG

From Feet	To Feet	Type of Material	Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
1'	18'	sandy soil	no	no
18'	27'	gravel	no	no
27'	62'	gravel	yes	no
		If more space is required use Sheet No. 2		

WELL DRILLER'S STATEMENT

This well was drilled under my supervision and the above information is complete, true and correct to the best of my knowledge and belief.

Signed R. J. Englemon

By

Dated Jan 27, 1965

License No. 256

Well Driller's Helper

63

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0064334

Drilling Permit No. 962045-868100

Water right or injection well #

2. OWNER

Name Flynner, Scott

Address 633 N. 14th St

City Boise State ID Zip 83702

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 2 East ☒ or West ☐

Sec. 3 1/4 SW 1/4 NE 1/4
(10 acres) (40 acres) (160 acres)

Gov't Lot County Ada

Lat. 43 ° 37.584 (Deg. and Decimal minutes)

Long. 116 ° 12.019 (Deg. and Decimal minutes)

Address of Well Site 2001 10th St. City Boise

(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	48	23 Bags	Poured

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
6"	+2	108	.250	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐

Was drive shoe used? ☒ Y ☒ N Shoe Depth(s) 108'

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
110	120	20		5"	Stainless	304

Length of Headpipe 4' Length of Tailpipe 3'

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) 45' Static water level (ft) 45'

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

Describe access port Sanitary Well Cap

Well test: Test method:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bailer	Air	Flowing artesian
65	75	30	☐	☐	☒	☐

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	Black Clay		X
10"	10	40	Brown Clay		X
10"	40	45	Coarse Sand	X	
10"	45	48	Brown Clay		X
6"	48	85	Gravel	X	
6"	85	110	Clay		X
6"	110	120	Coarse Sand	X	
6"	120	123	Blue Clay		X

RECEIVED
APR 15 2013
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 123'

Date: Started 3/29/2013 Completed 4/2/2013

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 Can-Ada Well & Pump Co. Co. No. 304

*Principal Driller Earl Skinner *Earl Skinner* Date 4/11/2013

*Driller Date

*Operator II Brad Skinner [signature] Date 4/11/2013

Operator I Date

* Signature of Principal Driller and rig operator are required.

Form 238-7
9/82

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

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.

PK 9-7

1. WELL OWNER

Name Rebeka Fredricks

Address Boise, ID.

Owner's Permit No. 63-88-W-028

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	52 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

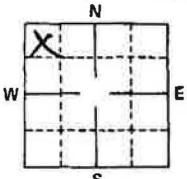
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☒ Yes ☐ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☒ Yes ☐ No
Manufacturer's name Johnson
Type 305 Model No. _____
Diameter 5 Slot size .020 Set from 52 feet to 57 feet
Diameter ____ Slot size ____ Set from ____ feet to ____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18 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 _____

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

NW ¼ NW¼ Sec. 3, T. 3 N/S, R. 2 E/W.

7. WATER LEVEL

Static water level 30 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F. Quality _____
Describe artesian or temperature zones below.

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
25		2

9. LITHOLOGIC LOG

Bore Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	2	Top Soil		X
	2	26	Black SAND		X
	26	30	Gravel		X
	30	58	SAND & Gravel	X	

Water Resources
Regional Office
AUG - 4 1988
Department of Water Resources

10.

Work started 10 March 88 finished 14 March 88

11. DRILLERS CERTIFICATION

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

Firm Name Dennis Phipps Firm No. 332
Address 2068 Bentley Date 1 Aug 88
Signed by (Firm Official) Dennis Phipps
and
(Operator) _____

USE ADDITIONAL SHEETS IF NECESSARY -- FORWARD THE WHITE COPY TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

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 days after the completion or abandonment of the well.

Location Corrected by IDWR To:
T04N R02E Sec. 34 SESESW
By: mciscell 2012-08-28

1. WELL OWNER

Name Reed Garrett

Address Boise, Idaho

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Other (specify type)

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☒ Cable ☐ Rotory ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 76 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
e.250 inches	6 inches	+ 1 feet	70 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No

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 _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

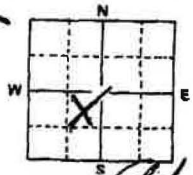
Placed from _____ feet to _____ feet

Surface seal depth 20' Material used in seal ☐ Cement grout ☐ Puddling clay ☒ Well cuttings

Sealing procedure used ☐ Slurry pit ☐ Temporary surface casing ☒ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.



1308 Hazel St.
Boise, Ida.
Subdivision Name _____

Lot No. _____ Block No. _____

County Ada

NE¼ SW¼ Sec. 34 T. 4 N/S R. 2 E/W

7. WATER LEVEL

Static water level 40 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
15	15'	2

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
9"	0	1	Top soil & Gravel		X
9"	1	20	Cemented Gravel		X
6"	20	53	Cemented Gravel		X
6"	53	62	Sand	X	
6"	62	71	Sandy clay		X
6"	71	75	Clay & Gravel		X
6"	75	76	Sand & Gravel	X	

051803

RECEIVED
JUL 6 1979
Department of Water Resources
Western Regional Office

10. Work started 6/12/78 finished 6/14/78

11. DRILLERS CERTIFICATION Hank Skinner

Firm Name Hank's Well Drilling Firm No. 212

Address 2305 Cassia Dr. Meridian, Ida Date 6/15/78

Signed by (Firm Official) Hank Skinner

and

(Operator) Kenneth E. Smith

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE COPY TO THE DEPARTMENT

047882

WELL LOG AND REPORT TO THE STATE RECLAMATION ENGINEER OF IDAHO

Log No. RECEIVED
Rec. 19 AUG 3 1954
Well No. Department of Reclamation
Permit No.

(DO NOT FILL IN)

Owner Mrs Gerard Driller Jesse J. Doty

Address 5th & Resique ste 1319 Address Route 3 Boise Lic. No. 40

Location of Well: ~~Single~~ ¼ ¼ Sec. 3, T. 3 N/~~S~~ R. 2 E/W Ada County.

and ____ feet N/S, and ____ feet E/W from ____ corner of ____ ¼ ____ ¼ Sec. ____

Water will be used for irrigation Total depth of well 43 ft.

Size of drilled hole 4" Weight of casing per linear foot 10.88

Thickness of casing ¼ Casing material steel
e.g., pipe, concrete, wood.

Diameter, length and location of casing 42-8" lenght casing -
(Casing 12" in diameter and under give inside diameter; casing over 12" in diameter give outside diameter.)

Number and size of perforations ____ located ____ feet to ____ feet from surface of ground.

Other perforations: ____

If flowing well, give flow in c.f.s. ____ or g.p.m. ____ and shut in pressure ____

If non-flowing well, give depth of standing water from surface 15'

If flowing well, describe control works ____
(Type and size of valve, etc.)

On pumping test delivery was 25 g.p.m. ~~or~~ ____ c.f.s. Drawdown was less than 20 ft. feet

Length of time pumped during check was 4 hr. ____ min. Water temp. ____ ° Fahrenheit.

Date of commencement of well July 7-53 Date of completion of well July 10-53

Type of well rig 7 speed Star

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	"Remarks" — Seals, Grouting, Etc.
4"	0	42-8		

GENERAL INFORMATION — Pumping Test, Quality of Water, Etc.

S. 3 3N 2E

9

WELL LOG

From Feet	To Feet	Type of Material	Drilling Time Hrs.	Drilling Time Min.	Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
0'	30'	sandy soil			no	no
30'	42'-8"	sand & small gravel			yes	no
		If more space is required use Sheet No. 2				

WELL DRILLERS STATEMENT

This well was drilled under my jurisdiction and the above information is true and correct to the best of my knowledge and belief.

Signed Jesse J. Coty

By _____

NOTARIZATION NOT NECESSARY
UNDER NEW LAW.

License No. 40

Dated _____, 19____.

Subscribed and sworn before me this _____ day of _____, 19____.

_____
Notary Public

My commission expires _____

_____
Residing at

Form 238-7
6/07
63

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0063854
Drilling Permit No. 915144-863768
Water right or injection well #

2. OWNER
Name Intermountain Gas Company
Address P O Box 7608
City Boise State ID Zip 83707

3. WELL LOCATION:
Twp. 3 North ☒ or South ☐ Rge. 2 East ☒ or West ☐
Sec. 3 ____ 1/4 (10 acres) NW 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot ____ County Ada
Lat. 43 ° 37.389 (Deg. and Decimal minutes)
Long. 116 ° 12.100 (Deg. and Decimal minutes)
Address of Well Site In alley btwn 11th & 12th and Fort & hays
City Boise
(Give at least name of road + Distance to Road or Landmark)
Lot. ____ Blk. ____ Sub. Name ____

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

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
bentonite chips	0'	60'	1,800 lbs	poured & tagged

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
8"	+1'	8'	.250	steel	☒	☐	☐	☐
8"	8'	50'	PVC	SDR-17	☒	☐	☐	☐
8"	50'	151'		steel	☒	☐	☐	☒

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 151

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) 14 Static water level (ft) 25
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
125	25	30	☐	☐	☒	☐

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'	1'	top soil		X
12"	1'	3'	brown sand		X
12"	3'	7'	brown clay		X
12"	7'	14'	sand coarse		X
12"	14'	44'	sand & gravel		X
12"	44'	46'	clay brown	X	
12"	46'	60'	sand & gravel	X	
8"	60'	71'	sand & gravel	X	
8"	71'	74'	brown clay		X
8"	74'	75'	brown sand	X	
8"	75'	102'	gray clay with hard strips		X
8"	102'	108'	cracks with white & gray sand	X	
8"	108'	115'	hard gray clay		X
8"	115'	121'	cracks with white gray sand	X	
8"	121'	133'	hard gray clay		X
8"	133'	137'	cracks with white gray sand	X	
8"	137'	150'	hard gray clay		X
8"	150'	151'	cracks	X	

RECEIVED
AUG 08 2012
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 150
Date: Started 7-16-12 Completed 7-20-12

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 7-23-12
*Driller [signature] Date ____
*Operator II [signature] Date 7-23-12
Operator I ____ Date ____
* Signature of Principal Driller and rig operator are required.

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

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.

REC'D AUG

1. WELL OWNER

Name Albert Lewis con.

Address

Owner's Permit No.

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 6 inches Total depth 61 feet

Casing schedule: ☑ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	250 inches	1 feet	61 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	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	feet	feet
perforations	feet	feet
perforations	feet	feet

Well screen installed? ☐ Yes ☑ No

Manufacturer's name

Type Model No.

Diameter Slot size Set from feet to feet

Diameter Slot size Set from feet to feet

Gravel packed? ☐ Yes ☑ No Size of gravel

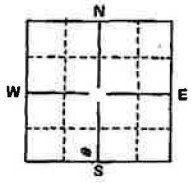
Placed from feet to feet

Surface seal? ☑ Yes ☐ No To what depth 32 feet

Material used in seal ☐ Cement grout ☑ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



6 W

County ADA

SE ¼ SW ¼ Sec. 34 T. 4 N S, R. 2 E W

7. WATER LEVEL

Static water level 25 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
1.5	0	

39585

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	6	TOP SOIL		
6"	6	32	CEMENTED GRAVEL		
6"	32	58	CLAY		
6"	58	61	PEA GRAVEL & SAND	✓	

10.

Work started 7/12/71 finished 7/12/71

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge.

Manbar well Drilling 201
Driller's or Firm's Name Number

RT 3 Caldwell Idaho 83605
Address

Dale L Manbar 8/6/71
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY

FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

Received 10-9-68
Oct 8 Reclamation

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER: Name S. W. Lunstrum

Address 1215 - N - 15
Boise, Idaho

Owner's Permit No. —

NATURE OF WORK (check): Replacement well ☐ New well ☐ Deepened ☒ Abandoned ☐

Water is to be used for: Yard

METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒ Dug ☐ Other ______ (explain)

CASING SCHEDULE: Threaded — Welded ☒
6 "Diam. from 28 ft. to 50 ft.
____ "Diam. from ____ ft. to ____ ft.
____ "Diam. from ____ ft. to ____ ft.
____ "Diam. from ____ ft. to ____ ft.

Thickness of casing: .0250 Material:

Steel ☒ concrete ☐ wood ☐ other ☐

______ (explain)

PERFORATED? Yes ☐ No ☒ Type of perforator used: ______

Size of perforations: ____ " by ____ "
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.

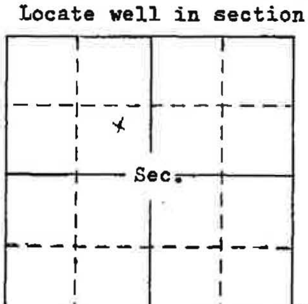
WAS SCREEN INSTALLED? Yes ☐ No ☒
Manufacturer's name ______
Type ______ Model No. ______
Diam. ____ Slot size ____ Set from ____ ft. to ____ ft.
Diam. ____ Slot size ____ Set from ____ ft. to ____ ft.

CONSTRUCTION: Well gravel packed? Yes ☐ No. ☒ size of gravel ______ Gravel placed from ____ ft. to ____ ft. Surface seal provided? Yes ☒ No ☐ To what depth? 20 ft. Material used in seal: Bentonite

Did any strata contain unusable water? Yes ☐ No. ☐ Type of water: ______
Depth of strata ____ ft. Method of sealing strata off: ______

Surface casing used? Yes ☐ No. ☒
Cemented in place? Yes ☐ No ☒

Locate well in section



LOCATION OF WELL: County Ada
SE ¼ NW ¼ Sec. 3 T. 3 N/S R. 2 E/W

Size of drilled hole: 6" Total depth of well: 50 Standing water level below ground: 25'9" Temp. Fahr. ____ ° Test delivery: 25 gpm or ____ cfs Pump? ☐ Bail ☐

Size of pump and motor used to make test: Compressor

Length of time of test: One Hrs. 10 Min.

Drawdown: 5 ft. Artesian pressure: ft. above land surface ____ Give flow ____ cfs or ____ gpm. Shutoff pressure: ______

Controlled by: Valve ☐ Cap ☐ Plug ☐ No control ☐ Does well leak around casing? Yes ☐ No ☐

038433

DEPTH FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES OR NO
28	50	gravel	X

Work started: July 22, 1968
Work finished: July 2? - 1968

Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.

Name: Ernest [illegible]
Address: [illegible]
Signed by:
License No. 39 Date: Aug. [illegible]

Use other side for additional remarks

63 [illegible]

USGS

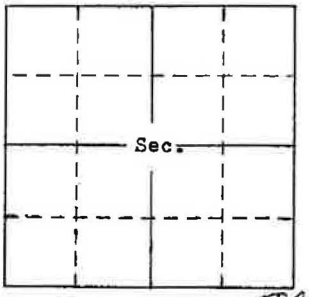
RECEIVED
MAY 31 1967
Department of Reclamation

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name M. W. McLaughlin
Address 1418 - N. 28th Street
Boise, Idaho
Owner's Permit No.
NATURE OF WORK (check): Replacement well ☐
New well ☒ Deepened ☐ Abandoned ☐
Water is to be used for: Lawn
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒
Dug ☐ Other
(explain)
CASING SCHEDULE: Threaded ☐ Welded ☒
4" "Diam. from 0' ft. to 40 ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
Thickness of casing: .237 Material:
Steel ☒ concrete ☐ wood ☐ other ☐
(explain)
PERFORATED? Yes ☐ No ☒ Type of perforator used:
Size of perforations: " by "
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
WAS SCREEN INSTALLED? Yes ☐ No ☒
Manufacturer's name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.
CONSTRUCTION: Well gravel packed? Yes ☐
No. ☒ size of gravel Gravel placed from ft. to ft. Surface seal provided? Yes ☐ No ☒ To what depth?
ft. Material used in seal:
Did any strata contain unusable water? Yes ☐
No. ☒ Type of water:
Depth of strata ft. Method of sealing strata off:
Surface casing used? Yes ☐ No. ☒
Cemented in place? Yes ☐ No ☐

Locate well in section



LOCATION OF WELL: County Ada
NE¼ NE¼ Sec. 3 T. 3 N/S R. 2 E/W

Size of drilled hole: 4" Total depth of well: 40' Standing water level below ground: 18' Temp. Fahr. 50° Test delivery: 35 gpm or cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test: Compressor test
Length of time of test: 2 Hrs. Min.
Drawdown: 5 ft. Artesian pressure: ft. above land surface Give flow cfs or gpm. Shutoff pressure:
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing? Yes ☐ No ☐

DEPTH FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES OR NO
0	2'	top soil	
2'	18'	sand	X
18'	24	sandy	X
24	40	gravel	

Work started: May 24 - 1967
Work finished: May 26 - 1967
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: Ernest Kelsey
Address: R#1 Star, Ada.
Signed by:
License No. 39 Date: May 30-1967

Use other side for additional remarks

63

USGS

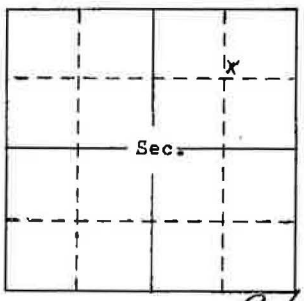
Location Corrected by IDWR To:
T03N R02E Sec. 3 NESWNE
By: mciscell 2012-09-06

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name Ed McLean
Address 1703 - N - 9th
Boise, Ida.
Owner's Permit No.
NATURE OF WORK (check): Replacement well ☐
New well ☒ Deepened ☐ Abandoned ☐
Water is to be used for: domestic
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒
Dug ☐ Other (explain)
CASING SCHEDULE: Threaded — Welded X
4 "Diam. from 0' ft. to 63 ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
Thickness of casing: .250 Material:
Steel ☒ concrete ☐ wood ☐ other ☐
(explain)
PERFORATED? Yes ☐ No ☒ Type of perforator used:
Size of perforations: " by "
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
WAS SCREEN INSTALLED? Yes ☐ No ☒
Manufacturer's name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.
CONSTRUCTION: Well gravel packed? Yes ☐
No ☒ size of gravel Gravel placed from ft. to ft. Surface seal provided? Yes ☒ No ☐ To what depth?
30 ft. Material used in seal: Clay
Did any strata contain unusable water? Yes ☐
No ☒ Type of water:
Depth of strata ft. Method of sealing strata off:
Surface casing used? Yes ☐ No. ☒
Cemented in place? Yes ☐ No ☒

Locate well in section



LOCATION OF WELL: County Ada
NE ¼ NE ¼ Sec. 3 T. 3 N/S R. 2 E/W

Size of drilled hole: 4" Total depth of well: 63' Standing water level below ground: 31' Temp. Fahr. 50° Test delivery: 25 gpm or cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test: Compressor
Length of time of test: One Hrs. 30 Min.
Drawdown: ft. Artesian pressure: ft. above land surface Give flow cfs or gpm. Shutoff pressure:
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing?
Yes ☐ No ☐

DEPTH FEET FROM	DEPTH FEET TO	MATERIAL 038435	WATER YES OR NO
0	2	to sandy soil	X
2	26	Coarse sand and clay silt	X
26	31	thin clay streaks and silty clay	X
31	33	fine yellow sand and some pea gravel	X
33	50	gray sand & pea-gravel	X
50	63	brown coarse sand & pea gravel	X

Work started: May 30-1969
Work finished: June-5-1969
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: Ernest Kelsey
Address: R#1 Star, Ida
Signed by:
License No. 39 Date: June 9-1969

Use other side for additional remarks

USGS

Form 238-7
3/95

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

48837

Office Use Only
Inspected by _____
Twp____ Rge____ Sec____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. 63-95-W-0507 -000
Other IDWR No. _____

2. OWNER:
Name TIM O'LEARY
Address 1520 N. 5TH
City BOISE State ID Zip 83702

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. 2 East ☒ or West ☐
Sec. 3 , ____ 1/4 SW (10 acres) 1/4 NE (40 acres) 1/4 (160 acres)
Gov't Lot ____ County ADA
Lat: : : Long: : :
Address of Well Site _____
5TH & SHERMAN City BOISE
(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
BENT	0	18	2S	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
6"	+1	59	250	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:
40 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
60		NO	TEST

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
10"	0	18	TAN SANDY CLAY	NO	
6"	18	36	TAN SANDY CLAY	NO	
6"	36	49	TAN SAND & GRAVEL	NO	
6"	49	63	TAN COARSE QUARTZ SANDYES		

RECEIVED
AUG 0 2 1995
Department of Water Resources

RECEIVED
AUG 0 2 1995
Department of Water Resources

RECEIVED
JUL 26 1995
WATER RESOURCES
WESTERN REGION

OCT 02 1995

Completed Depth 63' FROM TOP OF CASING (Measurable)
Date: Started 7/3/95 Completed 7/3/95

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 S.O.S. WELLDRILLING Firm No. 212
Firm Official Frank Schmir Date 7-19-95
and
Supervisor or Operator Wm Bruns Date 7-17-95
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

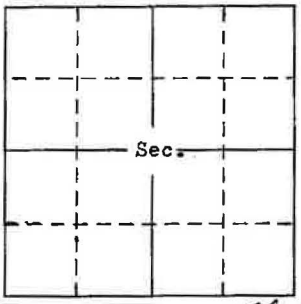
Location Corrected by IDWR To:
T03N R02E Sec. 3 NWNWNE
By: mciscell 2012-09-06

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:
Name John Russel
Address 1916 - N. 13th
Boise, Idaho
Owner's Permit No.
NATURE OF WORK (check): Replacement well ☐
New well ☒ Deepened ☐ Abandoned ☐
Water is to be used for: domestic
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒
Dug ☐ Other
CASING SCHEDULE: Threaded ☐ Welded ☒
4 "Diam. from 0' ft. to 59-7 ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
"Diam. from ft. to ft.
Thickness of casing: .237 Material:
Steel ☒ concrete ☐ wood ☐ other ☐
(explain)
PERFORATED? Yes ☐ No ☒ Type of perforator used:
Size of perforations: " by "
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
WAS SCREEN INSTALLED? Yes ☐ No ☐
Manufacturer's name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.
CONSTRUCTION: Well gravel packed? Yes ☐
No. ☒ size of gravel Gravel placed from ft. to ft. Surface seal provided? Yes ☐ No ☒ To what depth? ft. Material used in seal:
Did any strata contain unusable water? Yes ☐
No. ☒ Type of water:
Depth of strata ft. Method of sealing strata off:
Surface casing used? Yes ☐ No. ☒
Cemented in place? Yes ☐ No ☒

Locate well in section



LOCATION OF WELL: County Ada
SW ¼ NE ¼ Sec. 3 T. 3 N/S R. 2 E/W

Size of drilled hole: 4" Total depth of well: 59'-7" Standing water level below ground: 35' Temp. Fahr. 50° Test delivery: 18 gpm or cfs Pump? ☒ Bail ☐
Size of pump and motor used to make test: One horse submersible.
Length of time of test: 2 Hrs. Min.
Drawdown: 16 ft. Artesian pressure: ft. above land surface Give flow cfs or gpm. Shutoff pressure:
Controlled by: Valve ☐ Cap ☐ Plug ☐
No control ☐ Does well leak around casing? Yes ☐ No ☐

DEPTH FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES OR NO
0'	35'	Coarse sand & Clay mixed	X
35'	59'	gravel	X

Work started: 6/12/67
Work finished: 6/16/67
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: Ernest Kelsey
Address: Rt. 1 - Star - Ida.
Signed by:
License No. 39 Date: June 27-67

Use other side for additional remarks

USGS

Ada County

Lot 14 - Blk. 21 - Hyde Park add.

file Book 1 of plats page 19

Form 238-7
/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

USE TYPEWRITER OR BALLPOINT PEN

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.

1. WELL OWNER

Name Schaffer

Address Hazel & 16th

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	+ 12" feet	60'6" feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No
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 _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18" Material used in seal: ☐ Cement grout ☒ Puddling clay ☐ Well cuttings
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 _____

6. LOCATION OF WELL 63

Sketch map location must agree with written location.

N / W / E / S

Subdivision Name _____
Lot No. _____ Block No. _____
County Ada
SE ¼ SW ¼ Sec. 34 T. 4 N/S R. 3 E/W

7. WATER LEVEL

Static water level 40 feet below land surface.
Flowing? ☐ Yes ☐ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature ____ °F. Quality _____

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
20		2

9. LITHOLOGIC LOG 021c04

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6	0	10	Top Soil		X
	10	34	Sand & Fine Gravel		X
	34	50	Gravel	X	
	50	61	Gravel some sand	X	

10. Work started 4-18-78 finished 4-20-78

11. DRILLERS CERTIFICATION

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

Firm Name BV Pump & Drill Firm No. 202
Address 2950 N Linder Date 4-20-78
Signed by (Firm Official) Tom D Murphy
and
(Operator) Tom Adams

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCE
WELL DRILLER'S REPORT

Location Corrected by IDWR To:
T03N R02E Sec. 3 NENW
By: segbert 2012-02-27

48836

1. DRILLING PERMIT NO. 63 - 94 - W - 1091 - 000
Other IDWR No.

2. OWNER:
Name Phillip Stanley
Address 1708 N. 14th.
City Boise State Ida Zip 83702

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. 2 East ☒ or West ☐
Sec. 3, SE 1/4 (10 acres) NW 1/4 (40 acres) ____ 1/4 (160 acres)
Gov't Lot ____ County Ada

Address of Well Site same
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 Material	From	To	AMOUNT ~~Sacks~~ Pounds	METHOD
Bentonite	0	20	100	Pour

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
6	+1	70	.250	Steel	☐	☐	☒	☐
5	66	72	.258	Steel	☐	☐	☒	☐
5	77	78	.258	Steel	☐	☐	☒	☐

Length of Headpipe 6' Length of Tailpipe 1'

9. PERFORATIONS/SCREENS
☐ Perforations Method
☒ Screens Screen Type 304 - Stainless

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
72	77	.016		5		☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
35 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: Well Seal

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

Yield gal./min.	Drawdown	Pumping Level	Time
23			1

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
6	0	3	Top Soil		☒
	3	10	Hard Pan		☒
	10	37	Gravel		☒
	37	72	Gravel	☒	
	72	78	Sand & Gravel	☒	

RECEIVED
AUG 25 1995
Department of Water Resources

RECEIVED
FEB 10 1995
WATER RESOURCES
WESTERN REGION

OCT 02 1995

Completed Depth 78 (Measurable)
Date Started Dec. 14, 1994 Completed 1-10-95

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 Dennis Phipps Well Drill Firm No. 332
Firm Official [signature] Date 2-5-95
and
Supervisor or Operator [signature] Date 2-5-95
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

771778

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. __ - __ - __ - __ - __

Other IDWR No. D0019366

2. OWNER:

Name Mike & Genille Steiner

Address 1903 N 9th St

City Boise State ID Zip 83702

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location

Twp. 3 North ☒ or South ☐

Rge. 2 East ☒ or West ☐

Sec. 3 ___ 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 1903 N 9th St

City Boise

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

Lt. 8 Blk. 14 Sub. Name Hyde Park Addition

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	1'	20'	11 sacks	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
6"	+2'	73'	.250	steel	☒	☐	☒	☐
4.5"	62'	102'	Sc40	PVC	☐	☒	☐	☐
					☐	☐	☐	☐

Length of Headpipe ______ Length of Tailpipe ______

9. PERFORATIONS/SCREENS

☒ Perforations Method saw

☐ Screens Screen Type ______

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
82'	102'		100+	4.5"	PVC	☐	☒
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

42'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
75 GPM		90'	15 min

Water Temp. ______ Bottom hole temp. ______

Water Quality test or comments: ______

Depth first Water Encountered 42'

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temp.	Water Y	Water N
10"	0'	4'	brown top soil		☒
10"	4'	11'	brown sand & brown clay		☒
10"	11'	20'	coarse sand		☒
6"	20'	26'	coarse sand		☒
6"	26'	32'	coarse brown sand & brown clay		☒
6"	32'	42'	soft brown clay		☒
6"	42'	64'	gravel & sand	☒	
6"	64'	67'	brown clay		☒
6"	67'	67.5'	brown rock		☒
6"	67.5'	74'	gray clay		☒
6"	74'	101'	coarse quartz sand	☒	
6"	101'		blue clay		☒

RECEIVED
DEC 0 5 2001
WATER RESOURCES
WESTERN REGION

Completed Depth: 102 (Measurable)

Date: Started 10-19-01 Completed 10-20-01

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 SOS Welldrilling & Pump Co Firm No. 212

Firm Official [signature] Date 11-30-01

Supervisor or Operator [signature] Date 11-30-01
(Sign once if Firm Official & Operator)

Date: 11/30/01 Time: 2:37 PM

047879

WELL LOG AND REPORT OF THE STATE RECLAMATION ENGINEER OF IDAHO

Permit No. _____ Well No. _____ County Ada

Owner Henry Westby

Address 311 Thatcher st > Boise

Driller F. J. Claywilly

Address 3817 Greenbrier dr

Well location 311/4 Thatcher st Sec. 2 T. 3 N/S. R. 2 E/W

Size of drilled hole 6"

Total depth of well 137ft

Locate well in section

NW¼	NE¼
SW¼	SE¼

Give depth to standing water from the ground 32 ft Water temp. _____ °Fahr.

On "Pumping Test" delivery was _____ g.p.m. or _____ c.f.s. Drawdown was _____ feet.

Size of pump and motor used to make test _____

Length of time of test _____ hours _____ minutes.

If flowing well, give flow _____ c.f.s. or _____ g.p.m. and of shut off pressure _____

If flowing well, described control works _____
(TYPE AND SIZE OF VALVE, ETC.)

Water will be used for Domestic Weight of casing per lineal foot 19 #

Thickness of casing 1/4" Casing material Steel
(STEEL, CONCRETE, WOOD, ETC.)

Diameter, length and location of casing _____
(CASING 12" IN DIAMETER OR LESS, GIVE INSIDE DIAMETER; CASING OVER 12" IN DIAMETER, GIVE OUTSIDE DIAMETER)

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	Remarks—seals, grouting, etc.
				used

Number and size of perforations _____ located _____ feet to _____ feet from ground

Date of commencement of well _____ Date of completion of well May 31 - 62

5, 2 3N 2E

63

WELL LOG

From Feet	To Feet	Type of Material	Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
0	10	dirty sand		
10	30	Coarse ~		
30	65	Sand some sml gravel	no	
65	75	Blue Clay	no	
75	132	Blue shale	no	
132	137	Coarse white sand	yes	
		If more space is required use Sheet No. 2		

WELL DRILLER'S STATEMENT

This well was drilled under my supervision and the above information is true and correct to the best of my knowledge and belief.

Signed F. J. Claycomb

By

License No. 43

Dated Sept 9, 1962

63

839840

Form 238-7
3/95-C96

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. - - - - -
Other IDWR No. D0046485 63-W-215-001

2. OWNER:
Name DEAN WORBOIS
Address P.O. BOX 8182
City BOISE, State ID Zip 83707

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. 2 East ☒ or West ☐
Sec. 3 1/4 (10 acres) NW 1/4 (40 acres) NE 1/4 (160 acres)
Gov't lot _____ County ADA
Lat: 43:37:83 Long: 116:11:949
Address of Well Site 1809 North 9th St
City Boise
(Give at least name of road + Distance to Road or Landmark)

Lt. 6&7 Blk. 7 Sub. Name Hyde Park Addition

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	0	20	8 Sacks	Overbore

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 40'
Was drive shoe seal tested? ☒ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+2	38'	250	St	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
☒ Perforations Method torch
☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
35'	40'	3/16 x 6	32	6"	St	☒	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
38 ft. below ground Artesian Pressure ____ lb
Depth flow encountered 30 ft. Describe access port or control devices: n/a

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

Yield gal/min.	Drawdown	Pumping Level	Time
n/a	n/a	n/a	n/a

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encountered 30'

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia	From	To	Remarks: Lithology, Water Quality & Temp.	Water Y	Water N
10	0	2	Brown Dirt		☒
10	2	20	Brown Clay		☒
6	20	30	Brown Sand & Gravel		☒
6	30	38	Brown Gravel		☒
6	38	42	Brown Gravel	☒	

RECEIVED
MAY 10 2006
WATER RESOURCES
WESTERN REGION

SCANNED
AUG 15 2007

Completed Depth: 40 (Measurable)
Date: Started 05/04/06 Completed 05/04/06

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 SOS Welldrilling & Pump Co Firm No. 212
Firm Official Brad Shaw Date 5/10/06
Supervisor or Operator Brad Shaw Date 5-10-06
(Sign once if Firm Official & Operator)

Date: 5/8/2006 Time: 2:58 PM

63

839376

Form 238-7
3/95-C96

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. - - - -
Other IDWR No. 894048 - 839376 ~~D0040590~~ D0042590

2. OWNER:
Name DEAN WORBOIS
Address P.O. BOX 8182
City BOISE State ID Zip 83707

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. 2 East ☒ or West ☐
Sec. 3 1/4 (10 acres) NW 1/4 (40 acres) NE 1/4 (160 acres)
Gov't lot _____ County ADA
Lat: 43:37:83 Long: 116:11:949
Address of Well Site 1809 N 9TH ST
City BOISE
(Give at least name of road + Distance to Road or Landmark)
Lt. 6&7 Blk. 7 Sub. Name Hyde Park Addition

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	
Bentonite	0	18	7 Sacks	Overbore

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 83'
Was drive shoe seal tested? ☐ Y ☒ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1	83	250	St	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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:
38 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
36 gpm	30'	66'	1 Hr

Water Temp. _____ Bottom hole temp. _____
Water Quality test or comments: _____
Depth first Water Encountered 44

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Water Bore Dia	From	To	Remarks: Lithology, Water Quality & Temp.	Y	N
10"	0	2	Brown Dirt		☒
10"	2	16	Brown Clay / Some sandy clay		☒
10	16	18	Brown & white sand & gravel		☒
6	18	30	Brown Clay		☒
6	30	44	Brown gravel & sand		☒
6	44	70	Brown gravel & sand	☒	
6	70	84	Blue clay		☒
6	84	86	Crack in clay	☒	

RECEIVED
MAY 11 2006
WATER RESOURCES
WESTERN REGION

Completed Depth: 85 (Measurable)
Date: Started 04/28/06 Completed 05/04/06

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 SOS Welldrilling & Pump Co Firm No. 212
Firm Official Frank Schmi Date 5-5-06
Supervisor or Operator _____ Date _____
(Sign once if Firm Official & Operator)

Date 5/5/2006 Time: 9:50 AM

APPENDIX C
IRRIGATION WATER RIGHT CALCULATION

Using IDWR's online Irrigation Rights Finder mapping system, three irrigation water right places of use were identified as overlapping with the 380 acre area initially identified for use of the transferred water right. These are shown in Figure C-1 below.

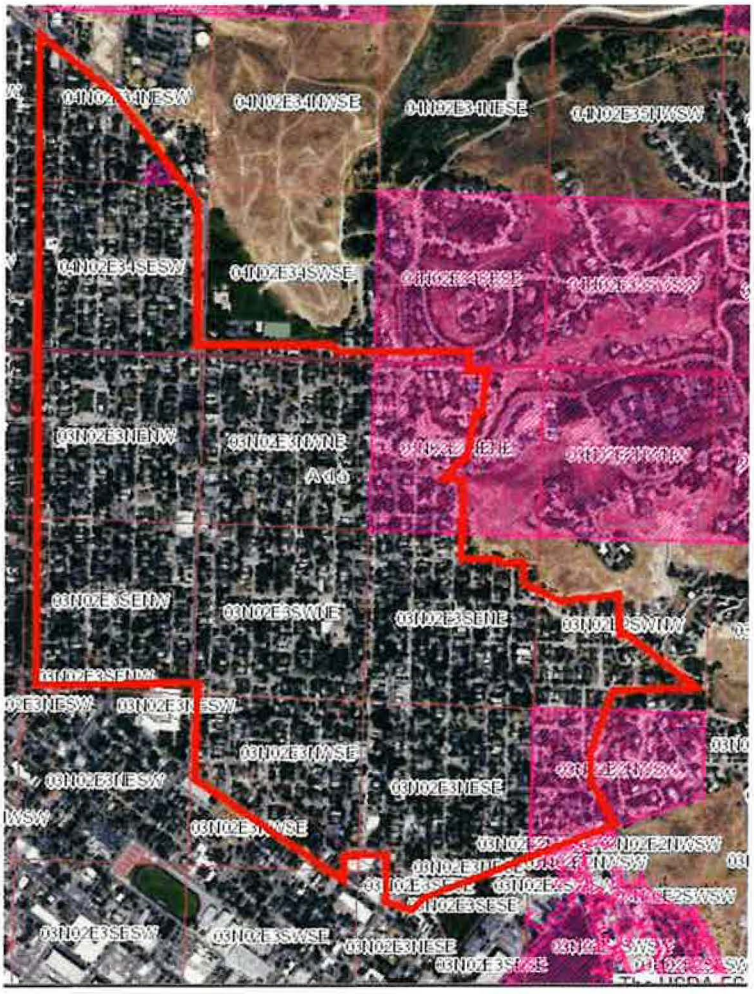


Figure C-1 - IDWR Irrigation Rights Finder Map with SUEZ's approximate proposed irrigated area overlayed.

Four irrigation water rights are associated with the three places of use. However, only two of the water rights appear to actually be used within the 380 acre area—the IDWR Irrigation Rights Finder does not appear to correctly depict the place of use of the other two (which share a place of use). Details for these rights are provided in Figures C-2, C-3, and C-4 below.

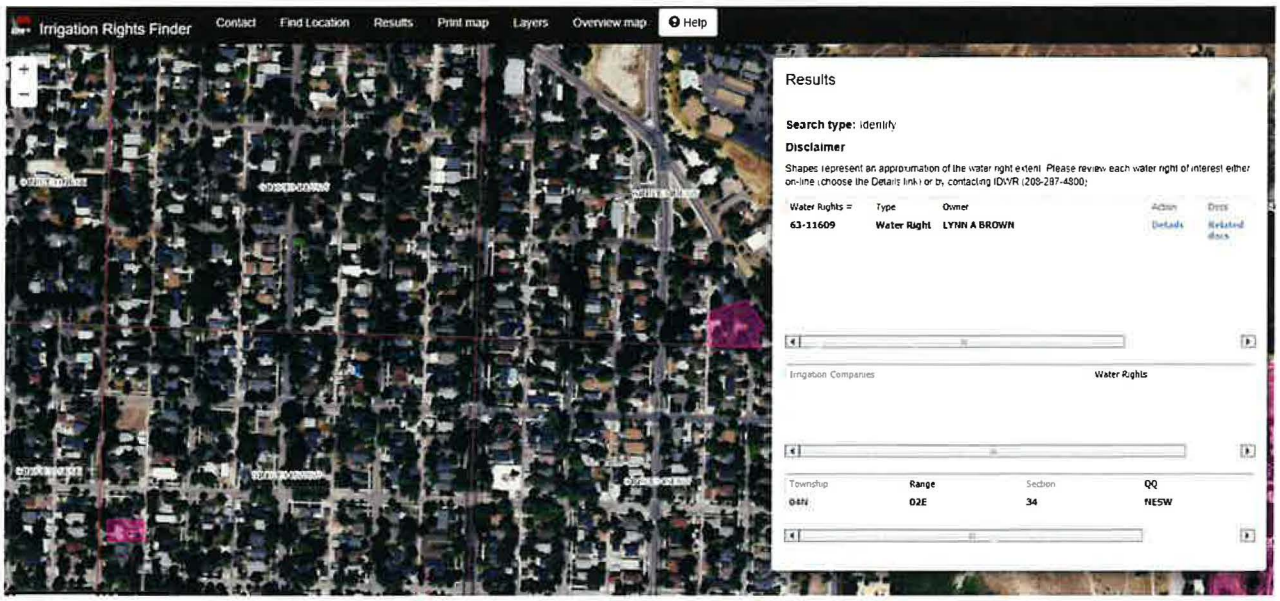


Figure C-2 - 63-11609: irrigation right; fully within proposed irrigated area; 0.3 acres.

Figure C-3 - 63-10609: irrigation right; partially within proposed irrigated area in NENE of Sec. 3; 0.2 acres.

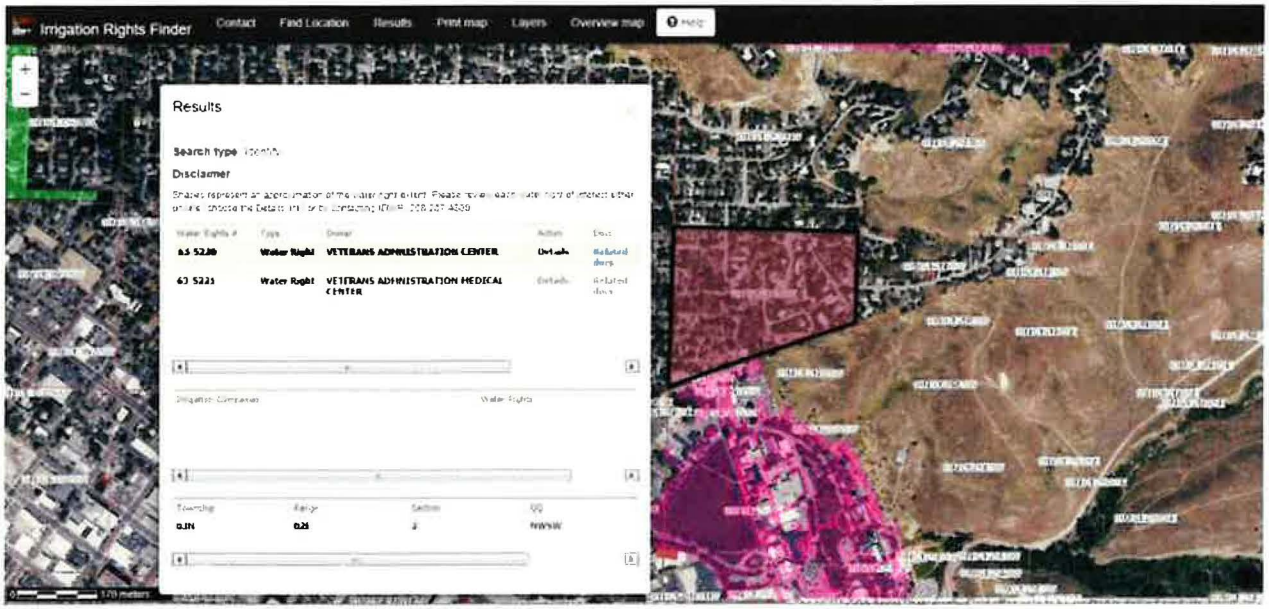


Figure C-4 - 63-5220 and 63-5221: irrigation right; 2 acres within NWSW of Sec. 2; owned by Veteran's Administration; but IDWR shape appears to be wrong—it encompasses the neighborhood to the north of the Veterans Administration land; result is no acreage included within SUEZ's irrigated acreage calculation

The two irrigation water rights within the 380 acre area (63-11609 and 63-10609) irrigate 0.5 acres. As described in Appendix B, irrigated land comprises approximately 36% of the land area in Boise's North End. Thus, to calculate the amount of land that must be added to the initial 380 acre area to account for the 0.5 acres irrigated under these irrigation rights, 0.5 was divided by the average irrigated acreage in the area of 36%, resulting in 1.4 acres (0.5 / 0.36 = 1.4 acres).