GROUND-WATER SUPPLY AND WATER RIGHTS

OF THE

BANCROFT-LUND AREA, IDAHO

by
R. Keith Higginson, P.E.
and
Jack A. Barnett, P.E.

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The Bancroft-Lund area lies in Southeastern Idaho on the drainage divide between the Bear and Portneuf Rivers. The area covered by this report is generally located in Townships 8, 9, and 10 South, Ranges 39 and 40 East, Boise Base and Meridian.

Concern has been expressed by a number of landowners from this area over problems they are experiencing with the operation of their irrigation wells. These problems include declining static and pumping ground-water levels, decreasing well yields and pumping of sand and silt. They allege that these problems have been caused by the withdrawal of water from the aquifer by subsequent appropriators and that any necessary change in their means of diversion should be borne by such subsequent water users.

On February 11, 1980, in response to a petition, the Director of the Idaho Department of Water Resources requested the District Court for an order authorizing a general determination of the existing water rights within the area. This petition was approved and order issued authorizing the State to prepare a determination of the rights to the use of surface and ground water with point of diversion and place of use within the area. A preliminary draft of the Director's Proposed Finding of Water Rights was mailed to each land owner on February 10, 1982,

together with notice of a public information meeting which was scheduled and held on March 25, 1982. At that meeting, the land owners were advised that protests to the preliminary report were to be filed with the Department within 15 days. A copy of the Introductory Statement, Findings of Fact, and Conclusions of Law, is attached as Appendix A.

On March 8, 1982, a protest to the preliminary report was filed by Warren Lloyd, Keith Lloyd, Everett Smith and Gem Valley Farms. A copy of the protest is attached as Appendix B.

This report reviews the preliminary report, well logs, other information from the files and records of the Department of Water Resources, reports of the U.S. Geological Survey (USGS) and other information. It is written to explain the basis for the protestant's objections to the state's report.

Bancroft-Lund Ground-Water System

The ground-water system underlying the Bancroft-Lund area receives its supply from several sources. These are ground water which flows westward past Alexander, percolation from precipitation on the area, ground-water flow from the mountains directly into the aquifers of the area, canal and Bear River leakage and deep percolation from irrigation water diverted to the area.

The first source can be expected to provide the greatest recharge of the total and has been estimated by the USGS to provide "roughly" 56,000 acre feet of water per year[1/]. The second source has not been estmated. However, total annual precipitation at Grace, Idaho, averages 14.81 inches. Of this amount, part (a small amount) will flow from the area as stream flow, a large part will be consumed in meeting the evapotranspiration requirements of the cultivated crops and native

vegetation, part will sublimate going directly from snow back to the atmosphere and only a small remnant (a very few inches) will recharge the ground-water system. The amount of this recharge is unknown but over the approximately 160 square miles of the area would provide only about 8500 acre feet of recharge per inch of residual precipitation.

Ground-water flow across the contact of the mountain bedrock formations and the valley aquifer materials is also unknown as is the quantity leaking from the Bear River and from irrigation canals or contributed through deep percolation of irrigation water.

Whatever this total quantity of water is, it moves generally westward from Alexander along a divide or mound from which part flows southward toward and into the Bear River and part flows northwestward to the Portneuf River drainage. The Bancroft-Lund ground-water system is tributary to the Bear and Portneuf Rivers.

The aquifer system is composed of basalts, cinders, sands, gravels and clays. Wells in the eastern part of the area are completed entirely in the numerous layers of basalt and cinders. Those along the western valley margin also encounter basalt but of lesser total depth. Here the basalt is interfingered with or underlain by clays, sands and gravels. Some of the more western wells of the area were reported by the well drillers to have been drilled into sandstone and limestone, probably of the Salt Lake geologic formation which forms the Fish Creek Mountain Range.

The water yield from the aquifer varies with well location, water levels and material from which the water is produced. Because of the variation in aquifer materials, great care must be taken in granting new water rights and in approving well locations to assure that new wells not cause water production problems for prior users. Such care has not

always been exercised. Wells have been approved which cause or aggravate the fluctuations in water levels for prior users. Such users then must draw water from less desirable levels in their wells resulting in the pumping of sand and silt and the loss of capacity.

Prior Investigations

The USGS has prepared reconnaissance reports of the Bear and Portneuf River Basins, both of which include references to the Bancroft-Lund ground-water system. Of significance are these statements:

> "The olivine basalt flows interfingering with and overlying the alluvium in Soda Creek basin and Gem Valley are the most productive aquifers in the basin. The estimated maximum thickness of the basalt ranges from about 400 feet in Gem Valley to as much as 1,000 feet in the Blackfoot Lava Field (Mabey and Oriel, in press). The depth to water in the basalt averages 80 to 90 feet below land surface. Generally, the water occurs in fractures and joints in the basalt, in rubbly zones, and in interlying cinder beds. Yields from wells are 1,000-3,500 gpm with the larger yields generally being obtained from wells penetrating the thicker sequences of basalt."1/

> "The ground-water divide in the central part of Gem Valley, west of Alexander is inferred to be a broad gentle mound on the water table with ground-water flowing both northward and southward away from the divide. The location of this divide can change if large amounts of recharge to, or discharge from, the aquifer occur in its general vicinity. The exact location of the crest of this mound is important in that if the crest shifts to the south, ground-water formerly flowing southward will, instead, flow northward into the Portneuf drainage."1/

> "Where ground-water irrigation is prevalent, the annual lowest water levels usually occur in late summer owing to regional pumpage, as indicated in well 9S-39E-2cbc1. In surface-water irrigated areas, where canal losses and seepage from fields may constitute the principal recharge, high water levels usually occur in late summer. In areas of mixed irrigation, any combination of the above events may occur."2/

The Idaho Department of Water Resources conducted a brief investigation of the area in 1980 apparently in connection with the preparation of its water right adjudication work. In a report[3/] dated February, 1981, they include observations made of the water levels in five wells during 1980. The remainder of the report gives theoretical explanations of the geologic history of the area and hypothetical well design information.

The conclusions reached in the state report and in the resulting Proposed Finding of Water Rights report appear to be based entirely upon the record of water levels in these five wells between June and December, 1980. The reports conclude that due to the fact that the water level in two unused domestic wells, of unknown depth and construction, rose during the time nearby irrigation wells were being pumped, there is no mutual interference among any of the wells in the area. No investigation was made to determine the sources of recharge of these two domestic wells or the aquifer connections or whether these wells had already been drawn down by pumping. The report ignores the fact that the USGS observation record for well 9S-39E-2cbc1 shows the well "dry" at about -96 in 1980 where as it had a water level of -56 feet in 1979 indicating an aquifer drawdown of more than 40 feet.

The records used by the state have not been interpreted correctly concerning the relationships among wells drawing their supply from the ground-water basin. A properly conducted pump test would demonstrate that wells mutually interfere with each other.

In fact, the record from the Warren Lloyd domestic well shows that the water level was being lowered from the time the recorder was installed on July 10, 1980. The level continued to fall until about the first of August at which time it started to recover to the end of the record period in January 1981. From the pumping records of the E. Smith and M.

Smith wells, it can be seen that August 1 is the time the irrigation wells in the area are normally shut down.

This record shows a regional water table drawdown of eight feet at the Lloyd unused domestic well. The same condition exists at the R. Rich domestic well.

There is mutual interference among wells in this basin and region wide lowering of ground-water levels.

The state report includes a graph reproduced here as Figure 1 about which this statement is made:

> "Long term water level records in Gem Valley go back to 1967 and show only seasonal fluctuations. Ground water levels rise during the spring runoff and the summer irrigation season and decline during the winter months. No long term declines are indicated. . ."3/

We have added trend lines to the graph which correctly show a decline in all three wells since the early 1970's.

History of Ground Water Development

The Preliminary Proposed Finding of Water Rights lists appropriations of ground water and surface sources in the area through about September 1979. The quantity of water allowed under the permits and licenses is illustrated in Figure 2. This shows that for the entire period of time up through 1910 only 52.6 acre feet of ground water was developed. In the next 4 decades the amount was also rather insignificant. However, starting with the 1951-1960 period nearly 5000 acre feet of ground water was developed. The permitted development rate doubled in the next ten years, and increased to 40,000 acre feet in the 1971-1980 period. Table 1 is a listing of applications filed since the last one included in the report dated 1979. This list was provided by the Department of Water Resources. It can be seen that the state has continued to issue permits

FIGURE 1 - OBSERVATION WELL HYDROGRAPHS, GEM VALLEY, IDAHO

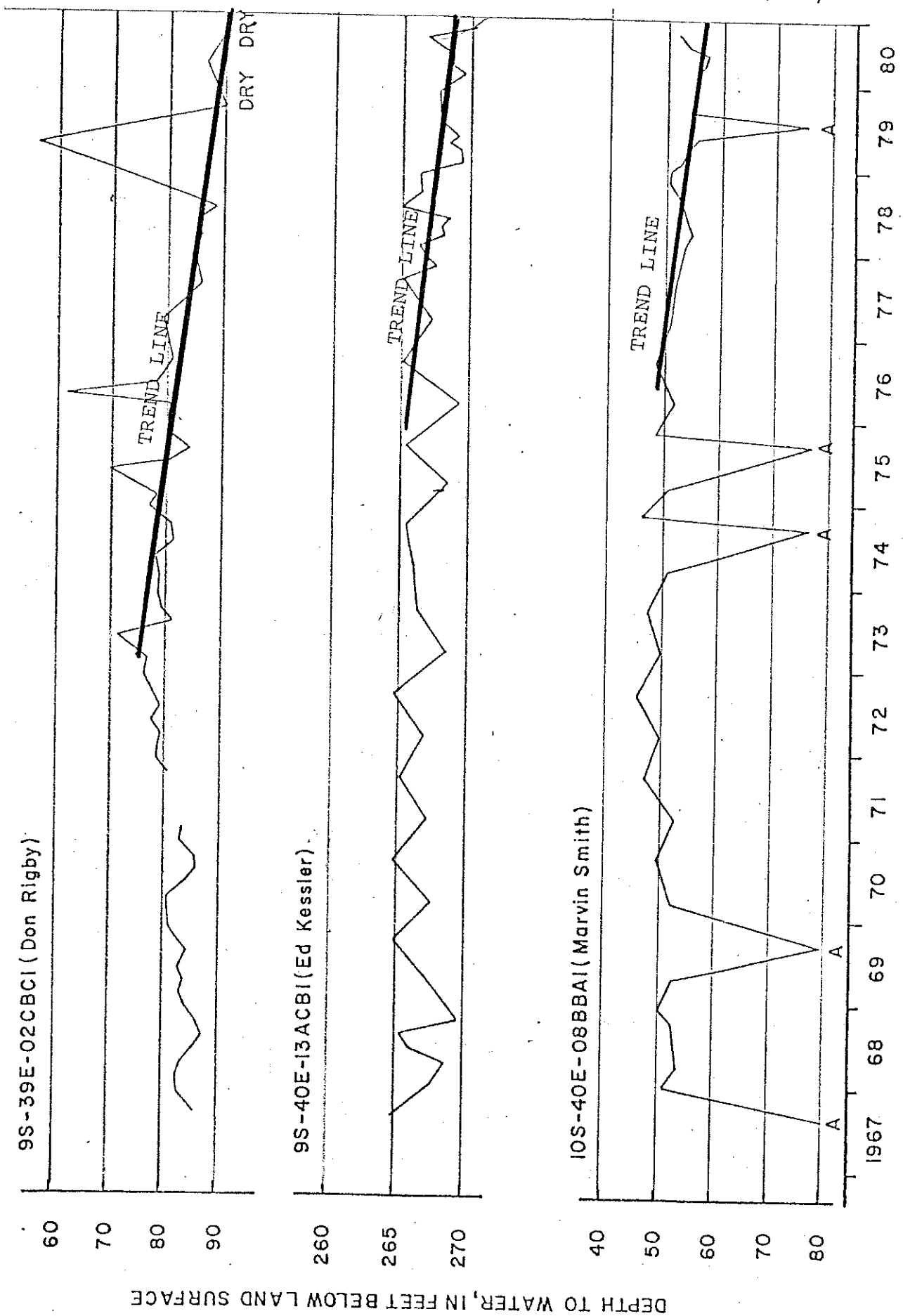
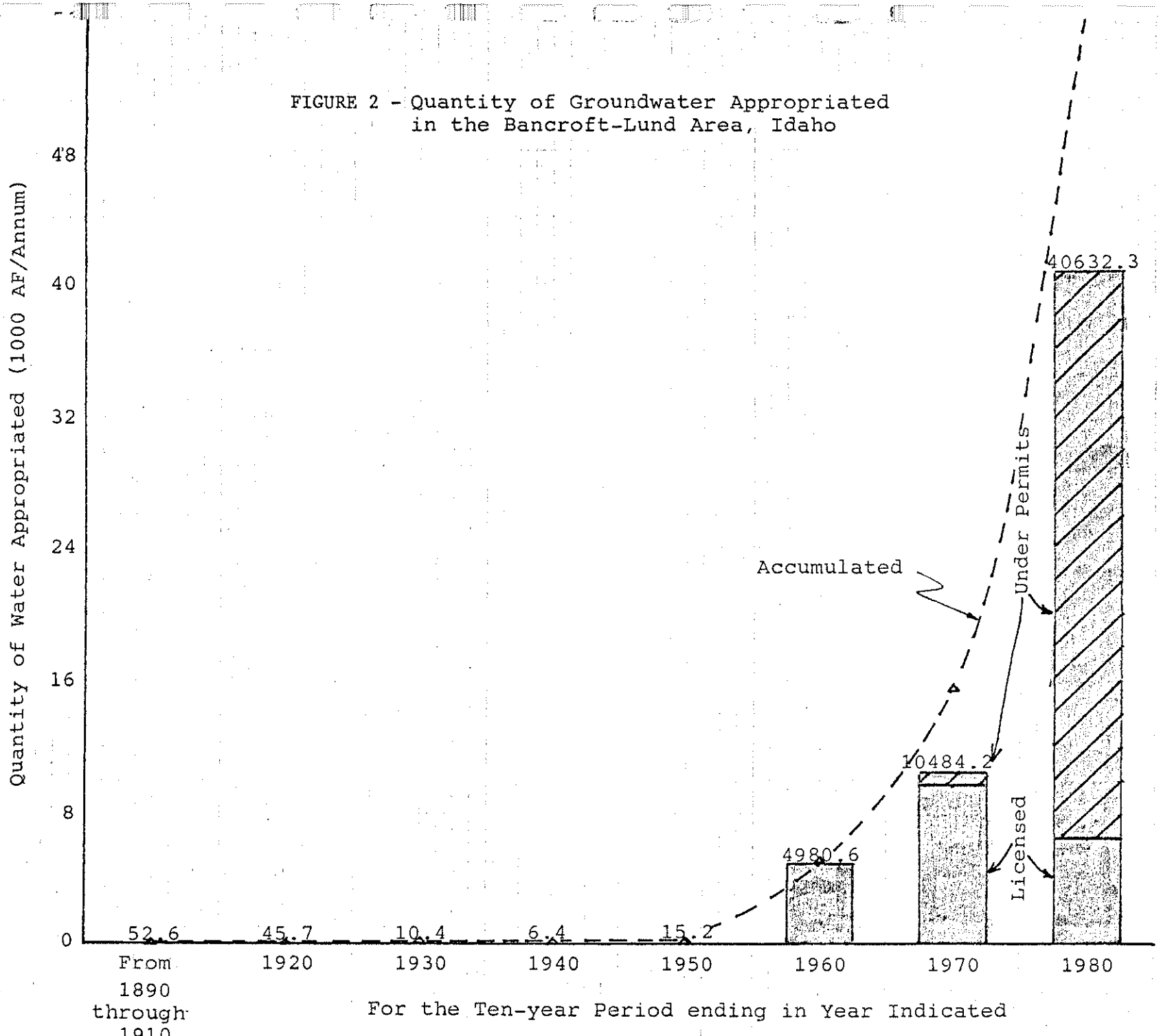


FIGURE 2 - Quantity of Groundwater Appropriated in the Bancroft-Lund Area, Idaho



PERMIT AND LICENSED RIGHTS ON Water Rights in the Bancroft-Lund Area with Priority after February 27, 1979 CO., IDAHO

August 24 19 82 Revised _____ Water District No. _____

APP	PERMIT	NAME	AMT.	Date of Filing or Priority	Point of Diversion				PLACE OF USE, REMARKS, ETC.	PERMIT APPROVAL DATE
					Subdiv.	Sec.	Twp.	Rge.		
29-7505		M&M Central Dairy	6.4	19790802	NENE	14	09S	39E	Irrigation, 320 acres	
	13-7260	Dwain K. Christensen	1.3	19790910	NWNW	32	09S	40E	Irrigation, 89 acres	5-19-1980
	13-7261	Dwain K. Christensen	2.0	19790910	SWSW	20	09S	40E	Irrigation, 160 acres	5-19-1980
	13-7259	Von N. Simonson	2.0	19790920	SWNW	27	09S	40E	Irrigation, 120 acres	5-19-1980
29-7533		David Modersitzki	11.24	19800118 S1/2SW	NWSW NESW	02 02	13S 08S	39E 39E	Irrigation, 560 acres	
29-7543		Don C. Rigby	0.11	19800424	NWSE	26	08S	40E		
	29-7544	Henry Meiners, Jr., Lyle Simons	0.04	19800430	SESE	16	09S	39E	Domestic	8-1-1980
	29-7545	Richard G. Viehiwig	0.2	19800515	NENW	11	09S	40E	Irrigation, 10 acres/domestic	8-4-1980
29-7547		Don C. Rigby Family Partnership	3.92	19800519	NWSE	16	08S	40E	Irrigation, 190 acres	
13-7289		Bill E. Jorgensen	2.3	19800603	SWNE	18	10S	40E		
13-7290		Berdean, Dawna Harris	0.8	19800617	NESE	19	10S	40E		
	29-7580	Keith, Ella, Joseph Lloyd	0.06	19810217	SESW	28	08S	39E	Irrigation, 1/Domestic	4-22-1981
					NENW	33	08S	39E		
29-7608		Terry Rindlisbaker	8.0	19810721	SESW	04	09S	39E	Irrigation, 400 acres	
29-7618		Golden Grain Farms, Inc.	1.36	19811014	SWSW	14	08S	39E	Irrigation, 10 acres	
29-7636		Don C. Rigby	1.6	19820419	NENE	30	08S	40E	Irrigation, 80 acres	
29-7637		Don C. Rigby	17.04	19820419	SENE	29	08S	40E	Irrigation, 852 acres	
13-7363		George C. Kimball	10.0	19820505	NENE SENE	17 17	10S 10S	40E 40E	Power	
29-7651		Golden Grain Farms	0.64	19820802	NESE	30	08S	40E	Irrigation, 32 acres	

TABLE 1

Department of Water Resources, Boise, Idaho

Abstract Form 1

for an additional 379 acres of land, which will require 1516 acre feet of new ground-water diversion annually. Pending applications would require an additional diversion of about 8280 acre feet of water annually for irrigation of approximately 2070 acres of land.

According to the preliminary report, there were no major irrigation rights established prior to 1951. In the decade of 1951-1960, only eight irrigation rights were established. Three of these eight rights are held by protestants and cover wells with which protestants have experienced some difficulties. In the next 10 years, sixteen new irrigation rights were established of which the protestants hold seven. The last irrigation rights of protesting parties were established in 1971 and 1972. Following such rights, the Department has issued 50 additional permits to take water from the aquifer system. In no instance have these subsequent appropriators been required to bear any of the substantial financial burdens of the prior appropriators caused by their fluctuations of the water levels.

The protestants' irrigation water rights are listed below:

Right No.	Priority	Owner
29-2352	07-31-1954	Gem Valley Farms
13-2198	12-22-1958	Everett W. Smith
13-2203	09-09-1959	Gem Valley Farms
13-2312	08-08-1962	Keith E. and Ella Lloyd
13-2259	18-05-1963	Gem Valley Farms
13-0521	11-15-1964	Everett Smith
29-2533	09-29-1966	Warren Parke Lloyd
13-7005	05-15-1969	Everett W. Smith
13-7010	03-05-1970	Everett W. Smith
29-7070	09-20-1971	Gem Valley Farms
13-0522	07-15-1972	Everett W. Smith

Figure 3 is a map of the area showing the location of the areas served under water rights issued in each decade 1951-60, 1961-70, and 1971-80. It is easy to see that in the first two 10 year periods the well development was generally scattered and wide spread. However, in

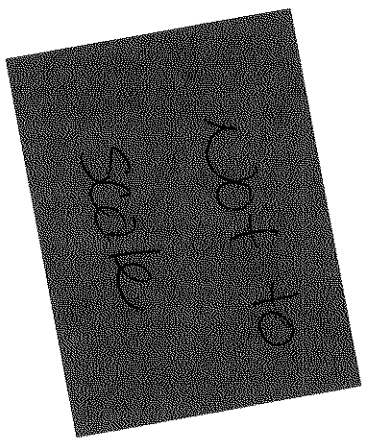
FIGURE 3

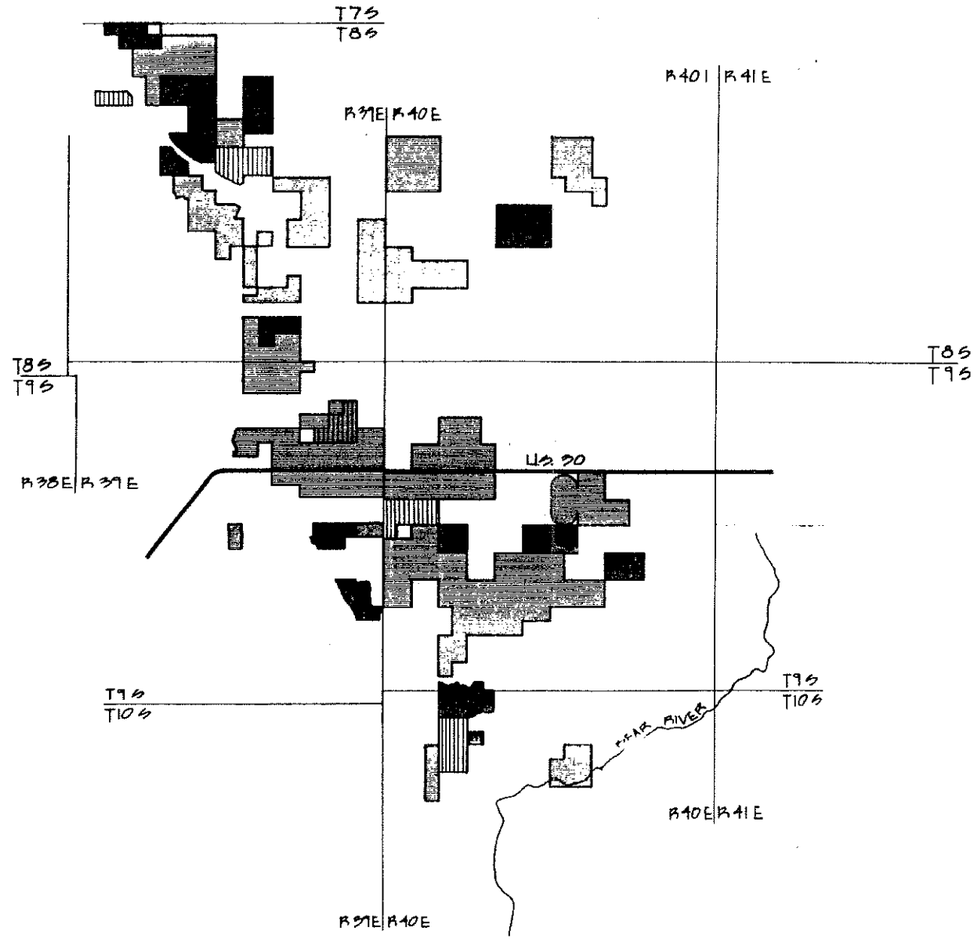
BANCROFT - LUND AREA, IDAHO
SHOWING LAND AREA DEVELOPED FOR IRRIGATION
BY DECADES, 1951 THROUGH 1900

SCALE: 1" = 6,000' (BASE FROM STATE OF IDAHO MAPS)

DRAWN BY:
BILL GOULD

HIGGINSON - BARNETT, CONSULTANTS





LEGEND

- LAND DEVELOPED 1951 - 1960
- LAND DEVELOPED 1961 - 1970
- LAND DEVELOPED 1971 - 1980

NORTH

LAND AREA DEVELOPED FOR IRRIGATION BY DECADES, 1951 - 1980

BANCROFT - LUND AREA, IDAHO

FIGURE 3

BANCROFT - LUND AREA, IDAHO
SHOWING LAND AREA DEVELOPED FOR IRRIGATION BY DECADES, 1951 THROUGH 1980

DRAWN BY: BILL GOULD

HIGGINSON - BARNETT, CONSULTANTS

the last 10 years there has been a tremendous expansion and concentration of permitted development.

Problems of Development

The concerns of the protestants can best be addressed with reference to each of the points raised in their protest dated March 8, 1982.

> 1) Protestants protest Findings of Fact No. 3a. which states that the records of "United States Geological Survey observation wells in Gem Valley do not indicate any long-term decline of ground-water levels." The correct information is that such observation well records do indicate a decline, and, in fact, one such observation well is now "dry" during the irrigation season of each year.

The USGS monitors the water levels in three observation wells in the area. Hydrographs of these records were included in Figure ~~2~~ 1/. Beginning in the mid-1970's each hydrograph shows a downward trend through 1980. Well 9S-39E-2cbc1 was "dry" in the irrigation pumping seasons of 1978, 1979, and 1980. This had not previously occurred in the 13 years of record and indicates a downward trend. The hydrograph also shows that the water levels throughout the area of this well are reduced by more than 40 feet through mutual interference considering the high and low water levels of 1979. The total interference and water level reduction cannot be determined since the water level stood below the bottom of the well.

Each well monitors a general lowering of water levels throughout the entire area from 5 to 15 feet in seven years. If the specific yield is 25%, which is reasonable for a basalt aquifer, this represents a depletion of ground water of about 25,600 acre feet, for each foot of basin-wide water table lowering. The withdrawals apparently have exceeded the recharge by the amount of this lowering of water levels.

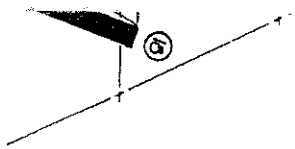
2) Protestants protest Findings of Fact No. 3b. which claims that there is no "major well interference or large scale depletion of the groundwater source." Protestants have records and personal knowledge of the operation of wells in the area and of major well interference.

The information given above under 1) is also applicable to this item. In addition, the experience of these protestants who have operated wells in the area for as long as 28 years is that their early priority rights are affected directly by the operation of other, later priority wells in the area. Without going directly to the offending well locations, they can tell when other wells are turned on and off by the circumstances at their wells. The well yields decrease and they are required to reduce the number of sprinkler lines operated. Pumping levels lower causing the wells to pull water from deeper, less productive aquifer zones that produce sand and silt.

The water levels fluctuate up and down constantly during the pumping season. This is not characteristic of an aquifer system in which there is "no mutual well interference".

A major problem experienced by the protestants is a result of the large number of new wells authorized in recent years. Figure 4 is a fence diagram using the drillers' logs of typical wells from the area. It was prepared from an examination of more than 60 drillers' logs from the files of the Department of Water Resources. This figure illustrates the variation in the composition of aquifer materials from east to west across the area. It also explains the problems encountered by those water users whose wells penetrate the silts and sands along the western edge of the valley, as water levels are drawn down or fluctuated by later developments, particularly those toward the east side of the area.

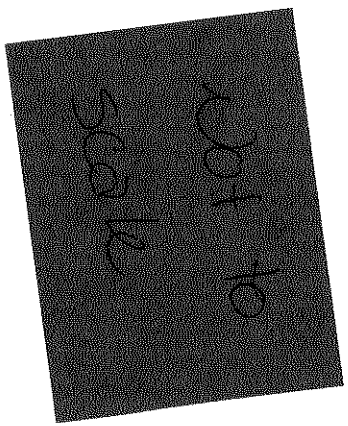
PAGE 4

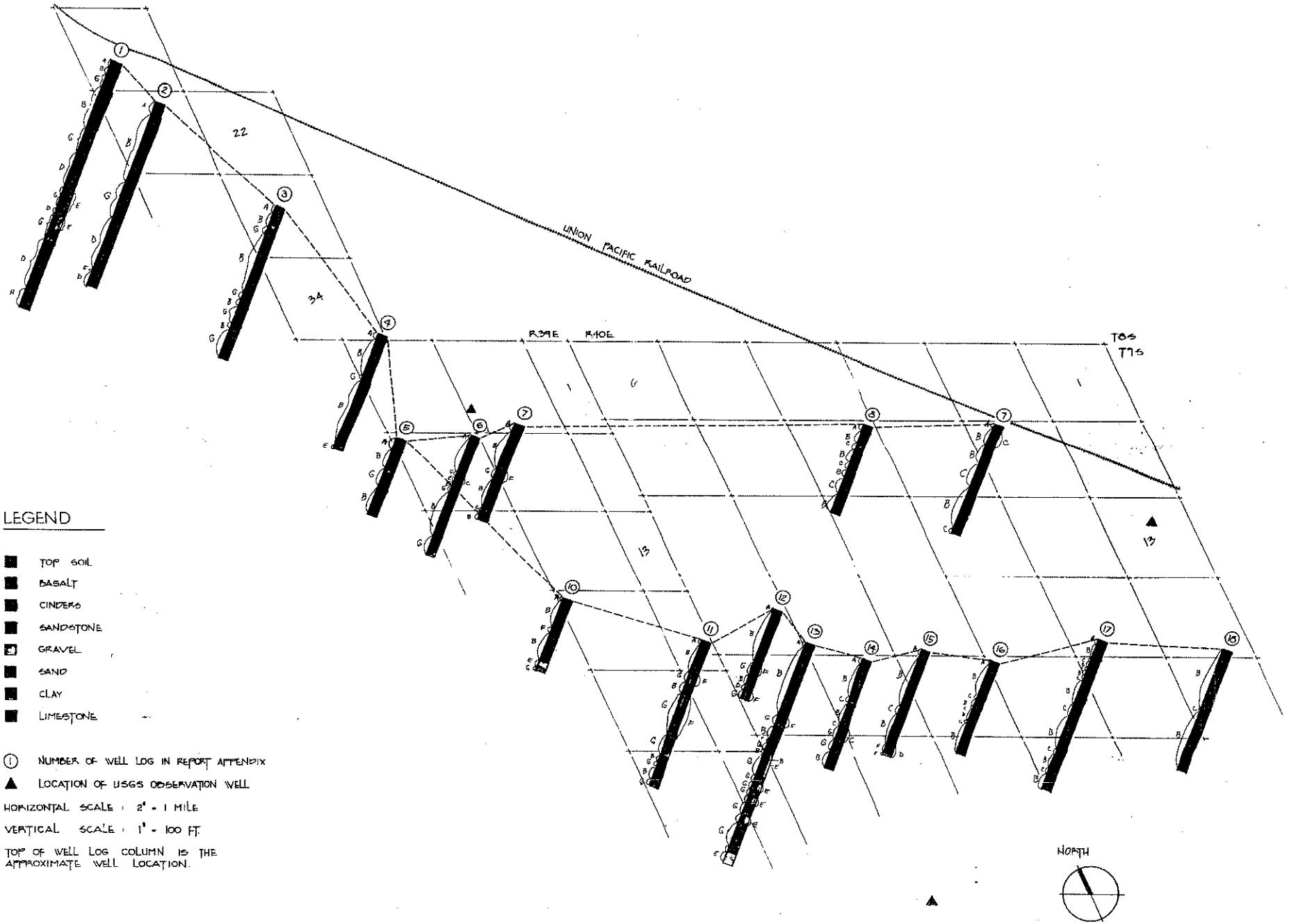


FENCE DIAGRAM OF WELLS IN THE BANCROFT - LUND AREA, IDAHO

DRAWN BY: BILL GOULD

HIGGINSON BARNETT, CONSULTANTS





LEGEND

- A. TOP SOIL
- B. BASALT
- C. CINDERS
- D. SANDSTONE
- E. GRAVEL
- F. SAND
- G. CLAY
- H. LIMESTONE

① NUMBER OF WELL LOG IN REPORT APPENDIX

▲ LOCATION OF USGS OBSERVATION WELL

HORIZONTAL SCALE : 2" = 1 MILE

VERTICAL SCALE : 1" = 100 FT

TOP OF WELL LOG COLUMN IS THE APPROXIMATE WELL LOCATION.

FENCE DIAGRAM OF WELLS

BANCROFT - LUND AREA, IDAHO

FIGURE 4

FENCE DIAGRAM OF WELLS IN THE BANCROFT - LUND AREA, IDAHO

DRAWN BY: BILL GOULD

HIGGINSON BARNETT, CONSULTANTS

When the development was new and these users had the only irrigation wells in their individual areas, there was little, if any, local interference or regional lowering of water levels. The protestants could obtain water from the higher-elevation basalt zones in their wells. However, as more and more wells were allowed and seasonal pumping levels lowered, they were required to follow the water to greater depths. The well logs indicate that water level declines of thirty or more feet caused by pumping of later priority wells has taken away from these early right holders the shallower, more-productive basalt parts of the aquifer system and leaves them with the less productive clay and sand zones with their attendant problems of well construction costs, deterioration of pump bowls, erosion of pipelines, increased pumping costs, and failure of sprinkling systems.

> 3) Protestants agree with that part of Finding of Fact No. 8 which states that "Development of water systems for many of these permits has not been completed." In view of such finding protestants cannot agree with Conclusions of Law No. 2 that the situation does not justify the designation of a critical ground-water area at this time.

Of the water rights listed in the adjudication report, the great majority are unperfected permits which were previously issued. The cross-hatched portions of the columns in Figure 2 are the portion of the quantities appropriated within each 10-year period which are still under permit. This illustrates the concern of the protestants. Considering their current well problems, and the fact that more total quantity of appropriation is yet to be completed than has been fully developed to date, they believe good judgement would call for restraint in granting further permits. They specifically object to the granting of any of the applications included in Table 1. Also, they believe the Department of

Water Resources is required to make projections of future water use under such unperfected rights and consider designation of the Bancroft-Lund area as a critical ground-water area as provided in Section 42-233a, Idaho Code.

> 4) Protestants object to Conclusions of Law No. 3 whereby the Department of Water Resources proposes to regulate use on the basis of diversion rates and not by the acre feet allotment. Since beneficial use is the measure of water rights in Idaho, failure of the State to regulate the extent of such use will result in an enlargement of the permitted uses. Wells with capacity to pump water at a rate in excess of the requirements of the permitted or licensed lands will be used to supply water to areas without right to the further detriment of protestants' water rights.

The protestants believe that there are several examples of where the use of water in the area has been expanded in the past beyond the use authorized by the permit. Their concern is with the total quantity and the total rate of withdrawal. Both affect them due to the regional aquifer drawdown and mutual interference with their wells.

> 5) Protestants object to the Conclusions of Law No. 8 with regard to the installation of measuring devices and controlling works unless and until the area is designated as a critical ground-water area and diversion and use of water is to be vigorously controlled to prevent depletion of the resource and interference with prior water rights.

Installation and maintenance of measuring devices is expensive, particularly where wells pump directly into sprinkling systems and the measuring device required is a recording flow meter. Such meters may cost in excess of $1,000 and will require constant maintenance and periodic replacement. If the measuring devices are to be installed without an attempt on the part of the Department of Water Resources to regulate and control uses of water and to limit pumping by late-priority right holders when early-priority rights are affected, such expense is not justified.

In their Item 6, the protestants called several errors to the attention of the Department. They believe that these errors should be corrected before the report is made final and is filed with the District Court.

Of particular concern to the protestants is subparagraph (e) which refers to the conditions of approval of permits 13-7259, 13-7260, and 13-7261 concerning the submission of water level measurements and retention of jurisdiction by the Director. Protestants have not been furnished copies of any such submission or finding of the Director in connection therewith and therefore contend that the permit holders are in violation of their permits which must be cancelled.

FOOTNOTES

1/ N. P. Dion, Hydrologic Reconnaisance of the Bear River Basin in Southeastern Idaho, Water Information Bulletin No. 13, October 1969.

2/ R. F. Norvitch and A L. Larson, A Reconnaisance of the Water Resources in the Portneuf River Basin, Idaho, Water Information Bulletin No. 16, June 1970.

3/ Marc A. Norton, Investigation of the Ground-Water Flow System in Gem Valley, Idaho Department of Water Resources, February, 1981.

APPENDIX A

IN THE DISTRICT COURT OF THE SIXTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF CARIBOU

IN THE MATTER OF THE GENERAL DETERMINATION OF THE RIGHTS TO THE USE OF THE SURFACE AND GROUNDWATERS IN THE BANCROFT-LUND AREA

Civil No. 2919
PROPOSED FINDING OF WATER RIGHTS

The above-entitled cause was initiated under provisions of Section 42-1406, Idaho Code, by submission of a petition containing signatures of more than five water users in the Bancroft-Lund Area, requesting that the Director of the Department of Water Resources obtain authority from the Court to prepare a proposed finding of water rights in the Bancroft-Lund Area.

Pursuant to Section 42-1407, Idaho Code, C. Stephen Allred, Director of the Department of Water Resources, petitioned the Court on February 11, 1980, for an order of authorization for the commencement of a general determination of the existing rights to the use of surface and groundwaters with point of diversion and place of use within the Bancroft-Lund Area. An order authorizing the Department to commence an investigation and determination of the various rights to the use of said waters was signed by District Judge Francis J. Rassmussen on March 28, 1980.

An Order of Joinder was signed by District Judge Francis J. Rassmussen on March 28, 1980 making about 375 landowners and possible waterusers party to the adjudication. Approximately 215 claims to water rights were submitted to the Department.

Based upon the claims received and affidavits affixed thereto; the files and records of the Department, County, and Court; and examination of the ditches, lands irrigated, and uses of water within the Bancroft-Lund Area, the Director of the Department of Water Resources submits to the court for approval this Proposed Finding of Water Rights in the Bancroft-Lund Area.

Following is a list of definitions of terms used herein:

a. "Acre-foot" (AF) is a volume of water sufficient to cover one acre of land one foot deep with water, and is equal to 43,560 cubic feet or 325,851 gallons.

b. "Consumptive Use" is the amount of water transpired in the process of plant growth plus the water evaporated from soil and foliage in the area occupied by the growing plant.

c. "Department" means the Idaho Department of Water Resources.

d. "Domestic Purposes" is defined as water for household use or livestock, and water used for all other purposes including irrigation of up to one-half (½) acre of land in connection with said household where total use is not in excess of 13,000 gallons per day. (Reference: Idaho Code, Section 42-230(d).)

e. "One cubic-foot per second" (CFS) is the unit of measure for the rate of flow of water and is equivalent to fifty miner's inches in Idaho, or 449 gallons per minute.

f. "Watermaster" is a person elected annually by water right holders within an adjudicated area, charged with distribution of water flows pursuant to Title 42, Chapter 6, Idaho Code.

FINDINGS OF FACT:

1. The Bancroft-Lund Area lies entirely within Caribou County, State of Idaho. Boundaries of the Bancroft-Lund Area are defined in Exhibit 1, submitted to the Court, and are shown in Figure 1, next page.

2. Pursuant to the Order of Authorization only water rights with point of diversion and place of use within the Bancroft-Lund Area were included. Therefore, Bear River water rights delivered within the area were not made a part of this record. The source for most of the water rights determined herein is either groundwater or a spring.

3. The Department conducted an Investigation of the Groundwater Flow System in the Bancroft-Lund Area. This investigation concluded that:

a. United States Geological Survey observation wells in Gem Valley do not indicate any long term decline of groundwater levels.

b. Pumping levels in the Bancroft-Lund Area are a result of aquifer characteristics and well construction, not major well interference or large-scale depletion of the groundwater source.

4. Beneficial use rights are those rights which were commenced by diversion and application of the water to a beneficial use prior to May 20, 1971 for surface water and prior to March 25, 1963 for groundwater. All other water rights must have been initiated by an application filed with the Department, with the exception of single-household domestic uses from groundwater for which there is no deadline for creating a beneficial use right.

5. The average consumptive use is found to be 1.2 acre-feet per annum per acre. (Reference: Sutter, R. J. and G. L. Corey, 1970, Consumptive Irrigation Requirements for Crops in Idaho, University of Idaho Agricultural Experiment Station, Bulletin 516.)

6. Water is normally found to be beneficially used for irrigation of crops during the period each year when the chance of frost is fifty (50) per cent or less. For the Bancroft-Lund Area, this period is 215 days, from April 1 to November 1 each year. In addition, there appear to be periods before April 1 and after November 1 in some years during which water diverted for irrigation purposes could be applied to a beneficial use. (Reference: Stevlingson, David J., and Dale O. Everson, Spring and Fall Freezing Temperatures in Idaho, University of Idaho Agricultural Experiment Station, Bulletin 494.)

7. The amount of water required for stockwatering purposes is found to be 12 gallons of water per day per head for cows, calves or horses, and 2 gallons per day per head for sheep. Use for domestic purposes averages 1,000 gallons of water per day per household. (Reference: U.S. Environmental Protection Agency, 1974. Manual of Individual Water Supply Systems.)

8. Permits initiated by application to the Department, and located within the Bancroft-Lund Area are included in the Listing of Water Rights. Development of water systems for many of these permits has not been completed.

9. The water rights of the United States are subject to adjudication in this proceeding under the provisions of 43 USC 666. The United States was joined but filed no claims to water rights in the Bancroft-Lund Area.

10. Proper regulation of the diversion and use of water within the Bancroft-Lund Area is dependant on accurate knowledge of the groundwater levels within the Area. Measuring devices and lockable controlling works are devices for properly regulating various diversions within the Area.

11. The Department investigated all diversions and uses of water in the Bancroft-Lund Area existing when claims-taking was completed June 16, 1980. Water has been found to be diverted and applied as described in the Listing of Water Rights.

CONCLUSIONS OF LAW:

1. Contained herein are all of the surface and groundwater rights established before June 16, 1980, for the waters diverted from and used within the Bancroft-Lund Area as defined by Exhibit 1. Any wateruser who heretofore diverted surface or groundwater from the Bancroft-Lund Area, or who owns land within the Basin to which previously established rights are appurtenant, and who upon being joined in this action failed to

claim such water rights, has forfeited such rights as provided in Section 42-1411, Idaho Code.

2. The availability of groundwater within the Bancroft-Lund Area indicates that designation of a critical groundwater area is not necessary at this time.

3. The consumptive use of water for irrigation purposes has been determined to be 1.2 acre-feet per annum per acre. Regulation of diversion for irrigation purposes by the Department will be on the basis of the diversion rates specified herein rather than by the acre-feet allotment.

4. The normal irrigation season is from April 1 to November 1 of each year. Water rights used for irrigation shall be allowed to divert during both the pre-irrigation and the post-irrigation seasons, provided:

a. The waters so diverted are applied to a beneficial use; and,

b. Water rights for non-irrigation use, including future appropriations, are first satisfied.

5. Water rights herein based on permits initiated by application to the Department are not recommended to be decreed but remain subject to the requirement that proof of beneficial use of the water must be submitted to the Department. The permit will be limited to and confirmed by such license as may subsequently be issued by the Department.

6. The United States holds no rights, either expressed or implied, to any rights to the present or future use of surface or groundwater within the Bancroft-Lund Area.

7. Groundwater users identified herein, and their heirs, successors and assigns are required to allow personnel from the Idaho Department of Water Resources or the duly elected watermaster to measure the depth to water within their wells.

8. To the extent determined necessary by the Idaho Department of Water Resources, the present and future owners of the water rights identified herein shall be required to install and maintain measuring devices and lockable controling works at their points of diversion for use by the watermaster.

9. Water has been diverted and applied to a beneficial use as described in the Listing of Water Rights.

APPENDIX B

Before the Director of the

Department of Water Resources of the

State of Idaho

In the Matter of the	)	
Proposed Finding of Water Rights	)	Protests to
in the Bancroft-Lund Area,	)	Preliminary Proposed Finding
Civil Case No. 2919	)	

Comes now Warren Lloyd, Keith Lloyd, Everett Smith, Gem Valley Farms and _____ and file protests to the Preliminary Proposed Finding of Water Rights in the above-entitled matter as follows:

1) Protestants protest Findings of Fact No. 3a. which states that the records of "United States Geological Survey observation wells in Gem Valley do not indicate any long-term decline of ground-water levels." The correct information is that such observation well records do indicate a decline, and, in fact, one such observation well is now "dry" during the irrigation season of each year.

2) Protestants protest Findings of Fact No. 3b. which claims that there is no "major well interference or large scale depletion of the groundwater source." Protestants have records and personal knowledge of the operation of wells in the area and of major well interference.

3) Protestants agree with that part of Findings of Fact No. 8 which states that "Development of water systems for many of these permits has not been completed." In view of such finding protestants cannot agree with Conclusions of Law No. 2 that the situation does not justify the designation of a critical groundwater area at this time.

4) Protestants object to Conclusions of Law No. 3 whereby the Department of Water Resources proposes to regulate use on the basis of diversion rates and not by the acre feet allotment. Since beneficial use is the measure of water rights in Idaho, failure of the State to regulate the extent of such use will result in an enlargement of permitted uses. Wells with capacity to pump water at a rate in excess of the requirements of the permitted or licensed

lands will be used to supply water to areas without right to the further detriment of protestants' water rights.

5) Protestants object to the Conclusions of Law No. 8 with regard to the installation of measuring devices and controlling works unless and until the area is designated as a critical ground-water area and diversion and use of water is to be vigorously controlled to prevent depletion of the resource and interference with prior water rights.

6) With regard to the Listing of Rights, protestants call the Department's attention to the following:

a) Rights No. 13-7118 and 29-7258, pages 24 and 25 are duplicate rights. The Proposed Findings should, therefore, indicate that they are supplemental to each other for the irrigation of the 362 acres of land and not additive to prevent expansion of such rights in the future.

b) Right No. 29-7395, page 28 contains several errors in description of lands irrigated.

c) Right No. 29-7438, page 31 locates the well and lands outside the Bancroft-Lund Area.

d) Right No. 29-7443, page 32 is either listed in error or platted in error (it is platted twice) on the maps which are included in the Proposed Findings.

e) Permits No. 13-7259, page 33 and 13-7260 and 13-7261, pages 32 and 33 were each issued over the objections of some of the protestants with several conditions, including the following:

> "Use of water under these (this) permit(s) is subject to all prior existing water rights."
>
> "Permit holder shall measure the static, non-pumping depth to water in his wells on a bi-weekly basis and shall forward those measurements to the Department once a month through the irrigation season each year until either a water license is issued or it is determined by the Director that the information is no longer necessary."

> "The Director retains jurisdiction over these (this) permit(s) and may immediately cancel these (this) permit(s) if he has reason to believe that the rights of any senior holder is being injured by use of water hereunder."

Protestants submit that the Director has either made no attempt to obtain such information or that he has failed to act thereon. Interference does exist with operation of these wells and the prior rights of the protestants. The Listing of Rights should indicate that such rights are subject to cancellation and they should be cancelled.

Protestants hereby request that the Director hold a hearing or hearings where protestants may present evidence on each of the objections stated above and, further, that until such time as the court has issued its final order in this matter, either adopting or modifying the Director's Proposed Finding of Water Rights, that no further permits be issued for the appropriation of groundwater in the Bancroft-Lund Area of the State of Idaho.

Dated this 8TH day of March, 1982

Warren P. Lloyd
Warren P. Lloyd

Everett W. Smith
Everett W. Smith

Keith E. Lloyd
Keith E. Lloyd

Gem Valley Farms
by

_____

_____

APPENDIX C

RECEIVED

DEC 11 1968

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 #3.

WELL OWNER:
Name Max Rigby
Address Bancroft, Idaho
Owner's Permit No. 2-33270

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

Water is to be used for: (Irrig.)

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

CASING SCHEDULE: Threaded ☐ Welded ☒
10" Diam. from 210' ft. to 348 ft.
8 Diam. from 2 84 ft. to 505 ft.
____ Diam. from ____ ft. to ____ ft.
____ Diam. from ____ ft. to ____ ft.
Thickness of casing: .2 18 Material:
Steel ☒ concrete ☐ wood ☐ other ☐ (explain)

PERFORATED? Yes ☒ No ☐ Type of perforator used: Mills Knife On 10" Saw'd Slotts On 8" 1/8 x 3
Size of perforations: ____" by ____"
380 perforations from 2 18 ft. to 284 ft.
1680 perforations from 2 84 ft. to 505 ft.
____ perforations from ____ ft. to ____ ft.
____ perforations from ____ ft. to ____ ft.

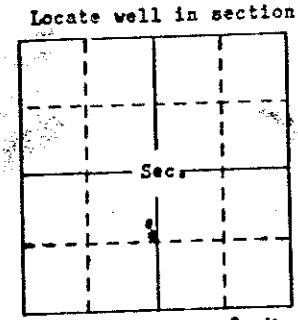
WAS SCREEN INSTALLED? Yes ☐ No ☒
Manufacturer's name ____
Type ____ Model No. ____
Diam. ____ Slot size ____ Set from ____ ft. to ____ ft.
Diam. ____ Slot size ____ Set from ____ ft. to ____ ft.

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: Benbonite

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 ____
NE ¼ SW ¼ Sec. 16 T. 8 N/S R. 39 E/W

Size of drilled hole: ____ Total depth of well: 575' Standing water level below ground: ____ Temp. ____ Fahr. ____ Test delivery: No Test gpm or ____ cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test: ____
Length of time of test: ____ Hrs. ____ 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 FROM	DEPTH TO	MATERIAL	WATER YES OR NO
FEET	FEET		
340	345	Yellow Clay And Gravel	
345	355	Sandstone	
355	365	Boulders	
365	370	Brown, white & yellow gravel	
370	375	" " " a little clay	
375	380	" " " a little more white clay	
380	385	Gravel and clay	
385	390	Gravel & most all clay	
390	395	Clay, very few gravel	
395	405	Clay	
405	415	Few gravel again & clay	
415	420	Sandstone, boulders and fromm water	
420	425	Sandstone, rough	
425	440	Sandstone, softer	
440	460	Sandstone harder, black sand showing	
460	470	Sandstone	
470	475	Sandstone, rough	
475	480	Sandstone, a little smoother	
480	485	Hard	
485	490	Hard & rough, lost circulation again so will finish with cable rig	
490	530	Sandstone or limestone	
530	550	Blue, gray sandstone	
550	560	Limestone with seams	
560	565	Limestone lighter color	
565	570	White limestone	
570	575	Darker limestone	

Work started: June, 15, 1968
Work finished: Nov. 5, 1968

Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: Ivan Bertz
Address: Grace, Idaho
Signed by: Ivan Bertz
License No. 51 Date: 12-9-68

Use other side for additional remarks

WELL 1

RECEIVED
JUL 5 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 ~~[illegible]~~
Address Bancroft, Idaho
#3.
Owner's Permit No. G-33272
NATURE OF WORK (check): Replacement well [ ] New well [x] Deepened [ ] Abandoned [ ]
Water is to be used for: Irrigation
METHOD OF CONSTRUCTION: Rotary [ ] Cable [x] Dug [ ] Other ______ (explain)
CASING SCHEDULE: Threaded ___ Welded x
14"O.D. "Diam. from 2 ft. to 219 ft.
______ "Diam. from ______ ft. to ______ ft.
______ "Diam. from ______ ft. to ______ ft.
______ "Diam. from ______ ft. to ______ ft.
Thickness of casing: ¼" Material:
Steel [x] concrete [ ] wood [ ] other [ ]
______ (explain)
PERFORATED? Yes [x] No [ ] Type of perforator used: ______
Size of perforations: 5/16 " by x "
690 perforations from 100 ft. to 215 ft.
______ perforations from ______ ft. to ______ ft.
______ perforations from ______ ft. to ______ ft.
______ perforations from ______ ft. to ______ ft.
WAS SCREEN INSTALLED? Yes [ ] No [x]
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. [x] size of gravel ______ Gravel placed from ______ ft. to ______ ft. Surface seal provided? Yes [ ] No [x] 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. [x]
Cemented in place? Yes [ ] No [x]

Locate well in section

Sec.

LOCATION OF WELL: County Caribou
NE ¼ SW ¼ Sec. 14 T. 6 N/S R. 39 E/W

Size of drilled hole 18", Ball, 14" Total depth of well: 335 ft. Standing water level below ground: ______ Temp. ______ Fahr. ______ ° Test delivery: ______ gpm or ______ cfs Pump? [x] Bail [ ]
Size of pump and motor used to make test: ______
Length of time of test: ______ Hrs. ______ 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 FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES OR NO
0	10	Top soil an clay	
10	35	Grey lava	
35	40	Loose rock an clay	
40	56	Yellow clay	
56	60	Loose rock an clay	
60	151	Grey lava	yes
151	182	Clay, some gravel	yes
182	209	Gravel, sand, clay.	yes
209	213	White clay	
213	295	Sandstone	yes
295	324	Buff color clay an gravel	no
324	325	Gravel	yes
325	335	Yellow clay	yes

Work started: April 1, 1967
Work finished: June 4, 1967
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: Ivan Bertz
Address: Grace, Idaho
Signed by: ______
License No. 53 Date: ______

Use other side for additional remarks

USE TYPEWRITER OR BALLPOINT PEN

RECEIVED
NOV 22 1977
Eastern District Office

State of Idaho
Department of Water Resources

WELL DRILLER'S REPORT

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

1. WELL OWNER

Name STAR WISTISEN

Address BANCROFT IDA

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 ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 16 inches Total depth 425 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.025 inches	16 inches	0 feet	65 feet
.237 inches	12 inches	0 feet	277 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 ¼ inches by 12 inches

Number		From	To
300	perforations	91 feet	251 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 _____

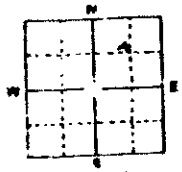
Placed from _____ feet to _____ feet

Surface seal depth 35' Material used in seal ☐ Cement grout ☒ Puddling clay ☒ Well cuttings

Seeding 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 CALDWELL

NW¼ NE¼ Sec. 21 T. 3 N/S, R. 39 E/W

7. WATER LEVEL

Static water level 96 feet below land surface

Flowing? ☐ Yes ☐ No GPM flow _____

Temperature _____ °F. Quality _____

Artesian closed in pressure _____ psi.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes.	Water No
16"	0	23	Brown CLAY		
	23	90	Hard Grey LAVA		
	90	105	Grey Basalt		X
	105	105	First WATER	X	
	105	113	Grey HARD LAVA		
	113	125	Red & Grey LAVA		
	125	145	BLACK LAVA		
	145	141	SOFT BLACK LAVA		
	141	193	Grey Hard LAVA		
	193	265	Brown CLAY		
12"	265	325	Brown Sandstone		
	325	345	Light Brown Rock		
	345	391	Sand Stone		
	391	395	GRAVEL		
	395	461	Sand Stone		
	461	425	White Grey SANDSTONE		

10. Work started 7/12 finished 9/18/77

11. DRILLER'S CERTIFICATE

Firm Name [illegible] Drilling Firm No. 106

Address [illegible] Date 9/25/77

Signed by (Firm Official) [signature]

and

(Operator) [signature]

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

WELL 2

WELL LOG AND REPORT TO THE STATE RECLAMATION ENGINEER OF IDAHO

RECEIVED
Log No.
JUL 16 1954
Rec.
Department of Reclamation
Well No.
Permit No.
(DO NOT FILL IN)

Owner [illegible] DIGBY & VERA D. [illegible] Driller [illegible] & JOHNSON DRILLING CONTRACTORS

Address [illegible], IDAHO. Address [illegible], IDAHO. Lic. No. 16

Location of Well: S ½ NE ¼ Sec. 27, T. 8 N/S, R. 39 E/W Caribou County.

and 1320 feet N/S, and 500 feet E/W from [illegible] corner of S ½ NE ¼ Sec. 27

Water will be used for Well capped Total depth of well 355

Size of drilled hole 18" Weight of casing per linear foot Approx. 60 [illegible]

Thickness of casing 5/16 Casing material Steel
e.g., pipe, concrete, wood.

Diameter, length and location of casing 14 ' of 18" O.D. set in top of hole
(Casing 12" in diameter and under give inside diameter; casing over 12" in diameter give outside diameter.)

Number and size of perforations none 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 97 feet

If flowing well, describe control works no
(Type and size of valve, etc.)

On pumping test delivery was 3[illegible] g.p.m. or c.f.s. Drawdown was 15 feet

Length of time pumped during check was 5 hr. min. Water temp. 5[illegible] ° Fahrenheit.

Date of commencement of well JUNE 10 1954 Date of completion of well June 20 1954.

Type of well rig 28-L Bucyrus-Erie Spudder

CASING RECORD

Diam. Casing	From Feet	To Feet	Length	"Remarks" — Seals, Grouting, Etc.
18'	o	14	14	[illegible] top of hole
16	194	217	23	set for sleeve
14	205	242	37	" " "

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

Not enough water was found to irrigate with

Well was capped for Safety.

WELL 3

WELL LOG

From Feet	To Feet	Type of Material	Drilling Time Hrs.	Drilling Time Min.	Water-bearing formations. Any flow or fill	Casing Perforated Any flow or fill
0	11	dirt				
11	42	blue lava				
42	63	clay				
63	108	blue lava 1st. wat r in crevice	36	no	no	
108	146	black lava				
146	150	porous lava 2nd. water.			yes	
150	203	black lava	24			
203	217	clay & loose rock				
217	232	black lava				
232	242	clay & loose rock				
242	247	black lava				
247	275	clay				
275	283	black lava				
283	295	clay				
295	300	clay & gravel sand water			yes	
300	315	yellow clay				
315	355	blue clay	60			
		Total hours	120			
		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 Buchman & Johnson

By Guy Buchman

Dated July 10, 19 54. License No. 16

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

Notary Public

My commission expires .....

Residing at .....

NOTARIZATION NOT NECESSARY UNDER NEW LAW.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

USE TYPEWRITER OR BALLPOINT PEN

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.

RECEIVED MAY 3 1978
Department of Water Resources
Eastern District Office

1. WELL OWNER A 1-HY-7776

Name Glen ~~Shanks~~ Schenk

Address Bancroft Ida. 83217

Owner's Permit No. 29-7419

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	16" inches	+ 1' feet	18' feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

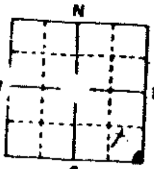
Was casing drive shoe used? ☐ Yes ☒ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation ___ inches by ___ inches

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

Sketch map location must agree with written location.



Subdivision Name
Lot No. Block No.
County Caribou
SE ¼ SE ¼ Sec. 34, T. 8 N, R. 39 E

7. WATER LEVEL

Static water level 135' 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 good

☐ Pump ☐ Bailer ☐ Air ☐ Other

Discharge G.P.M.	Pumping Level	Hours Pumped
1404	240'	14

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
16"	0	4'	Dirt		✓
	4'	63'	Lava		}
	63'	92'	Broken Lava (cemented off)		}
	92'	98'	Blue Lava Red		}
	98'	101'	Clay Red		}
	101'	112'	Lava		}
	168'	190'	Semi Broken Lava	✓	}
	190'	240'	Lava Solid		✓
	240'	275'	Semi Broken Lava	✓	
	275'	285'	Gravel	✓	

10. Work started 3-3-77 finished 3-13-77

11. DRILLERS CERTIFICATION

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

Firm Name Paul Collins & Son Firm No. 27

Address Blackfoot, Ida. Date 5-2-78

Signed by (Firm Official) [signature]
and
(Operator) [signature]

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

WELL 4

State of Idaho

USE TYPEWRITER OR BALLPOINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

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 Herman Yost

Address Bancroft Idaho

Owner's Permit No. 71-7131

2. NATURE OF WORK

[X] New well [ ] Deepened [ ] Replacement

[ ] Abandoned (describe method of abandoning)

3. PROPOSED USE

[X] Domestic [X] Irrigation [ ] Test [ ] Other (specify type)

[ ] Municipal [ ] Industrial [ ] Stock [ ] Waste Disposal or Injection

4. METHOD DRILLED

[X] Cable [ ] Rotary [ ] Dug [ ] Other

5. WELL CONSTRUCTION

Diameter of hole 16 inches Total depth 186 feet

Casing schedule: [X] Steel [ ] Concrete

Thickness	Diameter	From	To
.250 inches	18 inches	1 feet	44 feet
.250 inches	14 inches	1 feet	124 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? [ ] Yes [X] No

Perforated? [ ] Yes [X] 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 [X] 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 [X] No Size of gravel ____

Placed from ____ feet to ____ feet

Surface seal depth 44' Material used in seal: [ ] Cement grout [X] Puddling clay [ ] Well cuttings

Sealing procedure used: [ ] Slurry pit [ ] Temporary surface casing [X] Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / S / E / W

Subdivision Name ____

Lot No. ____ Block No. ____

County Caribou

NW ¼ NW ¼ Sec. 10, T. 9S N/S, R. 39E E/W

7. WATER LEVEL

Static water level 52 feet below land surface

Flowing? [ ] Yes [X] No G.P.M. flow ____

Temperature 48 °F Quality good

Artesian closed-in pressure ____ p.s.i.

Controlled by: [ ] Valve [ ] Cap [ ] Plug

8. WELL TEST DATA

[ ] Pump [ ] Bailer [ ] Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
20	0	23	Top soil		X
20	23	44	Basalt, loose bolders		X
16	44	78	basalt, gray, some cinders struck water 45' water stands 42'	X	
16	78	105	sand and clay, caves and runs in	X	
16	105	120	clay, sticky		X
16	120	124	basalt, gray, solid		X
14	124	175	basalt, grey, broken and soft, some water	X	
14	175	186	basalt, black, very cindery some clay, most of cuttings washed away, lots of water, water stands 52' slow drilling	X	

10.

Work started 10/31/73 finished 12/12/73

11. DRILLERS CERTIFICATION

Firm Name Commons Drilling Co. Firm No. 46

Address Box 126 Rupert Idaho Date 1/2/74

Signed by (Firm Official) [signature]

and

(Operator) [signature]

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

WELL 5

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Reclamation

WELL DRILLER'S REPORT

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

1. WELL OWNER

Name Gordon Yost

Address Bancroft, Idaho

Owner's Permit No. No. 29-7080

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotory ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 20 inches Total depth 290 feet

Casing schedule: ☐ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	20 inches	0 + 1 feet	19 feet
.250 inches	16 inches	0 + 1 feet	145 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 ____

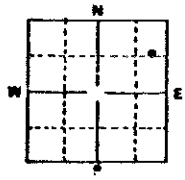
Placed from ____ feet to ____ feet

Surface seal? ☒ Yes ☐ No To what depth 19 feet

Material used in seal ☒ Cement grout ☐ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Caribou

NE ¼ NE ¼ Sec. 10, T. 9 S N/S, R. 39 E E/W

7. WATER LEVEL

Static water level 107 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow ____

Temperature 45 ° F. Quality Good

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	Hrs. Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
24	0	5'	Top soil		x
24	5'	9'	Loose lava boulders & soil		x
24	9'	19'	Lava boulders, loose & cavy		x
20	19'	26'	Lava boulders, loose & Cavy		x
20	26'	62'	Basalt, light gray-hard	x	
			Struck small flow of water.		
20	62'	91'	Basalt, light gray -hard		x
20	91'	100'	Clay		x
20	100'	107'	sand, clay & Cinders	x	
20	107'	115'	Sand, clay & cinders		x
20	115'	127'	Gray lava		x
20	127'	136'	Clay, sandy		x
20	136'	163'	Gray lava - soft.		x
20	163'	205'	Gray lava and clay		x
20	205'	224'	Gray lava, broken soft		x
20	224'	245'	Dark gray lava, soft broken		x
20	245'	260'	Lost all cuttings	x	
20	260'	290'	Yellow clay		

10.

Work started October 16, 1972 Finished January 15, 1973

11. DRILLER'S CERTIFICATION

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

Commons Drilling Company 46

Driller's or Firm's Name Number

P. O. Box 126, Rupert, Idaho 83350

Address

Ray L Commons Jan 31-1973

Signed (Driller) Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

WELL 6

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 Director, Department of Water Administration within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name: Herman Yost

Address: Bancroft Idaho

Owner's Permit No. 29-7132

2. NATURE OF WORK

[X] New well [ ] Deepened [ ] Replacement

[ ] Abandoned (describe method of abandoning)

3. PROPOSED USE

[ ] Domestic [X] Irrigation [ ] Test [ ] Other (specify type)

[ ] Municipal [ ] Industrial [ ] Stock [ ] Waste Disposal or Injection

4. METHOD DRILLED

[X] Cable [ ] Rotary [ ] Dug [ ] Other

5. WELL CONSTRUCTION

Diameter of hole 16 inches Total depth 235 feet

Casing schedule: [X] Steel [ ] Concrete

Thickness	Diameter	From	To
.250 inches	16 inches	1 feet	18 feet
.250 inches	14 inches	111 feet	143 feet
inches	inches	feet	feet
inches	inches	feet	feet
inches	inches	feet	feet

Was a packer or seal used? [ ] Yes [X] No

Perforated? [ ] Yes [X] 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 [X] No

Manufacturer's name ____ Model No. ____

Type ____ Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Diameter ____ Slot size ____ Set from ____ feet to ____ feet

Gravel packed? [ ] Yes [X] No Size of gravel ____

Placed from ____ feet to ____ feet

Surface seal depth 18' Material used in seal: [ ] Cement grout [X] Puddling clay [ ] Well cuttings

Sealing procedure used: [ ] Slurry pit [ ] Temporary surface casing [X] Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / S / E / W

Subdivision Name ____

Lot No. ____ Block No. ____

County Caribou

SE ¼ SW ¼ Sec. 2, T. 9S N/S, R. 39E E/W

7. WATER LEVEL

Static water level 68' feet below land surface

Flowing? [ ] Yes [X] No G.P.M. flow ____

Temperature 48 °F Quality Good

Artesian closed-in pressure ____ p.s.i.

Controlled by [ ] Valve [ ] Cap [ ] Plug

8. WELL TEST DATA

[ ] Pump [ ] Bailer [ ] Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
20	0	6	Top soil		X
20	6	18	basalt,gray,solid		X
16	18	55	basalt,gray,solid		X
16	55	65	basalt,brown,loose		X
16	65	92	basalt,dark gray,solid but with cracks		X
16	92	115	basalt,dark,gray,solid but with cracks,	X	
16	115	137	sand and clay,some runs in and some caves	X	
16	137	143	basalt,gray,broken with some clay in cracks		X
14	143	193	basalt,gray,broken with some clay in cracks		X
14	193	212	basalt gray,solid		X
14	212	227	cinders,gray 3/4 cuttings washed away	X	
14	227	235	basalt,gray,soft,very loose,lots of cuttings	X	

10.

Work started 10/2/73 finished 10/24/73

11. DRILLERS CERTIFICATION

Firm Name Commons Drilling Co. Firm No. 46

Address Box 126 Rupert Idaho Date 11/19/73

Signed by (Firm Official) [signature]

and

(Operator) [signature]

FORWARD THE WHITE COPY TO THE DEPARTMENT

WELL 7

WELL LOG AND REPORT OF THE STATE RECLAMATION ENGINEER OF IDAHO

RECEIVED
MAY 23 196[illegible]
Department of Reclamation

Permit No. ______ Well No. ______ County Caribou

Owner Maurice Balls

Address Bancroft Idaho

Driller Ivan Borts

Address Grace Idaho

Well location N/2 ¼ N/S ¼ Sec. 9, T. 9 N/S, R. 40 E/W

Size of drilled hole 8"

Total depth of well 220

Locate well in section

NW¼	NE¼
SW¼	SE¼

Give depth to standing water from the ground 177' 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 Cable tool (TYPE AND SIZE OF VALVE ETC.)

Water will be used for Domestic & Stock Weight of casing per lineal foot ______

Thickness of casing ~~[illegible]~~ ¼" Casing material Black Pipe (STEEL, CONCRETE, WOOD, ETC.)

Diameter, length and location of casing 6⅝ OD 16" above ground to 230' (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 5/8				

Number and size of perforations 320 1/8 by 6" located 40' feet to of bottom feet from ground

Shoe on bottom

Date of commencement of well 4/17/63 Date of completion of well 5/11/63

[illegible]

21

WELL 8

WELL LOG

From Feet	To Feet	Type of Material	Water-bearing Formation Ans. Yes or No	Casing Perforated Ans. Yes or No
0	2'	Soil		
2	II'	Hard Pan & Clay.		
II'	45'	Hard grey lava.		
45'	50'	Pourse lava.		
50'	65'	Cinders (Black) lost water & mud.		
65'	I00'	Hard lava (grey) .		
I00'	I20'	Cinders , cemented in order to drill.		
I20'	I35'	Hard grey lava.		
I35'	I60'	(Cinders (cemented).		
I60'	I6I'	Hard black lava.		
I6I8	I75'	Black cinders (Cemented).		
I75'	206'	Hard grey lava, first water at I78'.		
206'	220'	Hard crevaced lava.		

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 *[signature]*

By

License No. 51

Dated 9-29 , 1963

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

RECEIVED
SEP 13 1971
Department of Water Administration

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

1. WELL OWNER

Name Earl Jorgensen

Address Grace, Idaho,

Owner's Permit No.

2. NATURE OF WORK

☒ New well ☐ Deepened ☒ Replacement

☐ Abandoned (describe method of abandoning)
Old Well Filled With Drill Cuttings & Cement.

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☒ Stock

4. METHOD DRILLED

☐ Cable ☒ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

7" To 89' 6" To 265

Diameter of hole ____ inches Total depth 265 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
1/4 inches	8 inches	+1 feet	89'9" feet
3/16 inches	5 9/16 inches	87'5" feet	265 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 1/8" inches by 3 inches

Number		From	To
100	perforations	245 feet	265 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

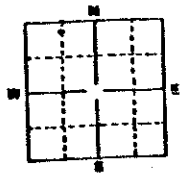
Placed from feet to feet

Surface seal? ☒ Yes ☐ No To what depth 20 feet

Material used in seal ☒ Cement grout ☐ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Caribou

NE ¼ NW ¼ Sec. 11 T. 9 ☒S, R. 40 E☒W

7. WATER LEVEL

Static water level 240 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow

Temperature ____ ° F. Quality Excelent

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
20	0	16

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
7"	0	8	Soil		
	8	50	Broken Lava & Cinders		
	50	65	Solid Lava Extra Hard		
	65	70	Broken Lava		
	70	72	Firm But Soft		
	72	73	Broken Lava		
	73	75	Hard Solid Lava		
	75	80	Broken Lava		
	80	87	Hard Solid Lava		
6"	87	95	Soft Broken Lava		
	95	100	hard Broken		
	100	160	Cinders (Cemented To Drill)		
	160	180	Extra Hard Lava		
	180	210	Broken Lava		
	210	232	Hard Solid Lava		
	237	238	Crevace		
	238	253	Hard Lava (First Water 240)	#	#
	253	260	Broken Hard Lava	#	
	260	265	Cinders	#	

10. Work started 8/25/71 finished 9/8/71

11. DRILLER'S CERTIFICATION

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

Ivan Bortz 51
Driller's or Firm's Name Number

Box 86 Grace Idaho
Address

Ivan Bortz 9-10-71
Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY

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

WELL 9

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.

Department of Reclamation

WELL OWNER:
Name WARREN LLOYD
Address GRACE IDAho

Owner's Permit No. G-33237
NATURE OF WORK (check): Replacement well ☐
New well ☒ Deepened ☐ Abandoned ☐

Water is to be used for: IRRIGATION

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

CASING SCHEDULE: Threaded — Welded X
14 "Diam. from 0 ft. to 98 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: TORCH

Size of perforations: 8 " by 1/2 "
96 perforations from 68 ft. to 98 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

(section grid: Sec. — well marked in NW corner)

LOCATION OF WELL: County CARIBOU
NW¼ NW¼ Sec. 23 T. 9 N/S R. 39 E/W

Size of drilled hole: 14" Total depth of well: 172 Standing water level below ground: 55' 8" Temp. 50 deg. Fahr. Test delivery: ___ gpm or ___ cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test:

Length of time of test: ___ Hrs. ___ 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 FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES OR NO
0	5	CLAY	
5	11	LAVA MED	
11	19	" HARD	
19	27	LAVA CREVICED	
27	35	" BROKEN	
35	58	" CREVICED	
58	62	LOOSE LAVA	
62	69	LAVA	
69	72	CINDERS BLACK	
72	81	SAND BROWN	
81	86	LOOSE LAVA	
86	91	CLAY TAN	
91	97	LAVA BROKEN	
97	125	LAVA MED GREY	
125	128	" HARD "	
128	131	" BROKEN	
131	137	" MED	
137	152	" CREVICED	
152	165	GRAVEL	
165	167	CLAY TAN	
167	172	CLAY BLUE	

Work started: DEC 19 1967
Work finished: FEB 26 1968
Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: Bert Westlake
Address: Bennington Idaho
Signed by: Bert Westlake
License No. 114 Date: Oct 29 1968

Use other side for additional remarks

10888

WELL 10

DRILLER'S REPORT

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

USE TYPEWRITER OR BALLPOINT PEN

1. WELL OWNER

Name Mark Kolston, Mike Kolston, Richard Kolston dba K & K Central Dairy

Address Bancroft, Idaho

Owner's Permit No. 57-7209

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	20 inches	+	1 feet	122 feet
.250 inches	16 inches		1 feet	234 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
220	perforations	113 feet	128 feet
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____ Model No. _____

Type _____

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 ☒ Well cuttings

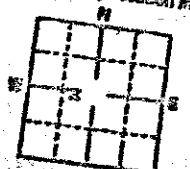
Sealing procedure used: ☐ Puddling clay ☒ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth

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 Canyon

NE ¼ SE ¼ Sec. 24, T. 9 N, R. 39 E.W.

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

7. WATER LEVEL

Static water level 69 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow 1200

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
1200	154'	

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yield
20	0	10	Top Soil Clay	
"	10	77	Lava	x
"	77	106	Sand and Clay	x
"	106	130	Broken Lava	x
"	130	230	Sand and Clay	
"	230	280	Clay Grey-Blue	x
"	280	296	Broken Black Lava	
"	296	308	Blue Clay	x
"	308	336	Broken Lava, Gravel Streaks	x
"	336	349	Clay Clay Streaks	x
"	349		Sand	x

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FEB 27 1980
Department of Water Resources
Eastern District Office

RECEIVED
FEB 22 1980
Department of Water Resources

RECEIVED
JUN 20 1980
Department of Water Resources

10.

Work started April 3, 1979 Finished Dec. 15, 1979

11. DRILLERS CERTIFICATION

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

Firm Name Paul Wallace & Sons Firm No. 67

Address Aberdeen, Idaho 83210 Date _____

Signed by (Firm Official) _____

and

(Operator) _____

WELL 11

Form 238-7

RECEIVED

JUL 8 1978

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 Kim Welch

Address Grace Ida 83241

Owner's Permit No. 19-7163

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	16" hole	inches +	1' feet	159' feet
_____ inches	_____	inches	_____ feet	_____ feet
_____ inches	_____	inches	_____ feet	_____ feet
_____ inches	_____	inches	_____ feet	_____ feet

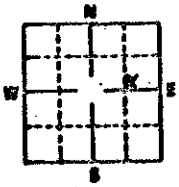
Was casing drive shoe used? ☒ Yes ☐ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☒ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number		From	To
800	perforations	110' feet	128' 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 ☐ Bentonite & ☐ 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

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. ____ Block No. ____
County Carbon
SE ¼ NE ¼ Sec. 19, T. 9 N. R. 40 E.W.

7. WATER LEVEL

Static water level 111' 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 Good

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
16"	0'	2'	Dirt		x
	2'	35'	Solid Lava		x
	35'	65'	Broken Lava		x
	65'	98'	Solid Lava		x
	98'	110	Broken Lava		x
	110'	120	Solid Lava		x
	120'	129	Broken Lava	x	
	129'	159	Sand & Clay		x
14"	159'	182	Broken Lava	x	
	182'	195	Sandstone		x
	195'	200	Lava	x	
	200'	213	Sans with Clay		x

10. Work started June 12 19?? finished June 17 19??

11. DRILLERS CERTIFICATION

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

Firm Name Paul Vollmer & Son Firm No. 67
Address Box B Aberdeen, Ida Date July, 20, 78
Signed by (Firm Official) Paul Vollmer Jr
and
(Operator) Harry Vollmer

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

WELL 12

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

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

USE TYPEWRITER OR BALLPOINT PEN

13-7165
92-7347

1. WELL OWNER PH 425-3311

Name Leo Christenson

Address Box 242 Grace, Idaho 83241

Owner's Permit No. 13-7165

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	16 inches +	1 feet	235 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 10" inches by _____ inches

Number		From	To
160	perforations	140 feet	150 feet
_____	perforations	415 feet	521 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 ☐ Temp. surface casing ☐ Overflow to seal depth
Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port 2" pipe

6. LOCATION OF WELL

Sketch map location must agree with written location.

(13)

Subdivision Name _____
Lot No. _____ Block No. _____
County Oneida
SW¼ of SW¼ of Sec. 22, T. 9 N., R. 41 E.W.B.M.

7. WATER LEVEL

Static water level 140 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

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
16"	235	242	Brown Sand		X
	242	260	Gray Clay		X
	260	265	Lava Little water & Soil		X
	265	282	Cemented Gravel & Clay		X
	282	290	Gravel Lava & Clay & Soil		X
	290	320	Lava & Gravel	X	
	320	325	Blue Clay		X
	325	330	Lava Broken Soft		X
	330	335	Clay		X
	335	352	Gravel & Clay	X	
	352	365	Pink Clay Streaks		X
	365	380	Gravel & Sand Clay Streaks	X	
	380	407	Clay		X
	407	415	Cemented Gravel		X
	415	420	Sand		X
	420	430	Gravel	X	
	430	435	Pink Clay		X
	435	440	Blue Clay		X
	440	455	Lava		X
	455	480	Clay		X
	480	500	Lava		X
	500	525	Gravel	X	

RECEIVED
FEB 22 1980
Department of Water Resources
Eastern District Office

JUN 20 1980
Department of Water Resources

10. Work started Sept 21 78 Finished May 1 79

11. DRILLERS CERTIFICATION

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

Firm Name Bud Vollmer & Son Firm No. 47
Address Box B Aberdeen, Idaho 83210 Date 1-2-79
Signed by (Firm Official) Bud Vollmer Jr
and
(Operator) Leo Meyerhoffer

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

WELL 13

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

RECEIVED
APR 6 1978
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 Dewane Christensen

Address Grace, ID 83241

Owner's Permit No. 15-7199

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 16 inches Total depth 260 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	20 inches	+ 1 feet	39 feet
.250 inches	16 inches	1 feet	220 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 4 inches by 1/2 inches

Number		From	To
150	perforations	155 feet	180 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 ____

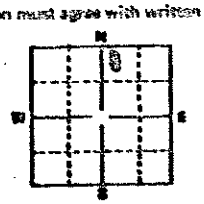
Placed from ____ feet to ____ feet

Surface seal? ☒ Yes ☐ No To what depth 22 feet

Material used in seal ☐ Cement grout ☒ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Caribou T 9S R 40E

NW ¼ NE ¼ Sec. 29

7. WATER LEVEL

Static water level 155 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow ____

Temperature 55 ° 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.	Drawdown	Hours Pumped
2700	to 165	8 hrs.

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
6"	0	6	Top Soil and Clay		X
	6	14	Cynders and Clay		X
	14	33	Solid Basalt		X
	33	42	Basalt Broke formation		X
	42	45	Cynders and Ashes		X
	45	75	Solid Basalt (Streaks of Red)		X
	75	95	Solid Basalt		X
	95	102	Cynders and Ashes		X
	102	125	Red Basalt (soft)		X
	125	143	Solid Grey Basalt		X
	143	155	Basalt some Crevices		X
	155	160	Cynders and Clay	X	
	160	185	Broken amount of crystal	X	
16"	185	195	Cynders and Clay	X	
	195	215	Jticky Clay	X	
	215	220	Sandy soupy Clay	X	
	220	260	Basalt Broken Formation	X	

10.

Work started 12-20-77 finished 3-15-78

11. DRILLER'S CERTIFICATION

This well was drilled under my supervision and this report is true to the best of my knowledge. 339

Dan's Pump and Service
Driller's or Firm's Name

P.O. 190, FairGround Rd, American Falls, ID
Address

Bob Marble
Signed By

Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

WELL 14

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 Resources within 30 days after the completion or abandonment of the well.

Eastern District Office

1. WELL OWNER

Name Kenneth A. Christiansen

Address Rt 1 Box 34 Grace, 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 ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 20 inches Total depth 250 feet

Casing schedule: ☑ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	20 inches	+ 1 feet	20 feet
.250 inches	12 inches	193 feet	233 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.

(13)

N / W / E / S

Subdivision Name ____

Lot No. ____ Block No. ____

County Caribou

SE ¼ NW ¼ Sec. 21, T. 9 N/S, R. 40 E/W

7. WATER LEVEL

Static water level 160 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
3300	None	8

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
20	1	10	Topsoil		—
	10	30	Broken Black Basalt		—
	30	40	Hard Gray "		—
	40	57	Black Cinders +		
			Broken Black Basalt		—
	57	90	Hard Gray "		—
	90	100	Red Cinders + Broken		
			Black Basalt		—
	100	110	Hard Red "		—
	110	120	" Gray "		—
	120	125	Broken " "		—
	125	130	Hard " "		—
	130	135	Broken Red "		—
	135	150	Red Cinders		—
	150	158	Broken Black Basalt		—
	158	165	Hard Gray "		—
	165	170	Black "		—
	170	185	Hard Gray "	—	
	185	188	Red + Black Cinders	—	
12	188	195	Broken Black Basalt	—	
	195	215	Hard Gray "		—
	215	225	Broken Black "	—	
	225	228	Broken Sand	—	
	228	245	Broken Sandstone	—	
	245	250	Gravel	—	

Cement drilling mixture used between 40-157'

drilling a bunch of tin cans at a depth of 165 & the bank was just plain miserable!

SPAT

10.

Work started 6-24-75 finished 8-25-75

11. DRILLERS CERTIFICATION

Firm Name Bill Wray Firm No. 257

Address Box 1091 Blackfoot Date 10-2-75

Signed by (Firm Official) Bill Wray

and

(Operator) Bill Wray

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

WELL 15

WELL DRILLER'S REPORT

RECEIVED OCT 2 ? 1974
Department of Water Resources
Eastern District Office

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

1. WELL OWNER

Name Yon Simonsen

Address Grace Idaho

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 ☒ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

8" Hole to 42'
6" Hole to 220'

Diameter of hole ______ inches Total depth 220 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
1/4" inches	6" inches	+1 feet	42 feet
1/4" inches	4" inches	37 feet	220 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 1/8x5 inches by ______ inches

Number	From	To
100 perforations	200 feet	220 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 42 feet

Material used in seal ☒ Cement grout ☐ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.

N / W / E / S

MICROFILMED

df

County Caribou

NW ¼ NW¼ Sec. 27, T. 9 N/S, R. 40 E/W

7. WATER LEVEL

Static water level 125 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow ______

Temperature ______ °F. Quality ______

Artesian closed in pressure ______ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☒ Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8"	0	6	Soil & clay		
	6	15	Lava		
	15	50	Cracked lava		
	50	60	Hard black lava		
	60	80	Extra hard		
	80	90	Red cinders, shattered rock		
	90	105	Hard grey lava		
	105	115	Grey cinders		
	115	125	Extra hard lava		
	125	135	Medium hard, cracked grey lava		
	135	140	Cinders		
	140	1[illegible]	Hard black lava		
	1[illegible]	180	Black, loose [illegible] lava, some cinders.		
	180	190	[illegible] lava, first water		
	190	205	[illegible] cracked lava		
	205	215	Loose broken lava		
	215	220	Hard cracked lava		

10.

Work started Sept. 10 1974 Finished Oct. 25, 1974

11. DRILLER'S CERTIFICATION

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

Ivan Borta — Driller's or Firm's Name — 51 Number

Grace Idaho 83241 Box 86 — Address

Signed By: Ivan Borta — Date 10/25/74

WELL 16

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

RECEIVED
APR 20 19[illegible]
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 Reed Christensen
Address Bancroft, Idaho

Owner's Permit No. [illegible]
NATURE OF WORK (check): Replacement well ☐
New well ☒ Deepened ☐ Abandoned ☐
Water is to be used for: Irrigation
METHOD OF CONSTRUCTION: Rotary ☐ Cable ☒
Dug ☐ Other ☐ (explain)

CASING SCHEDULE: Threaded ☐ Welded ☒
20 "Diam. from +1 ft. to 18 ft.
16 "Diam. from 2[illegible] ft. to 2[illegible] ft.
12 "Diam. from 2[illegible] ft. to 29[illegible] ft.
[illegible] "Diam. from [illegible] ft. to [illegible] ft.
Thickness of casing: 1/4 Material:
Steel ☒ concrete ☐ wood ☐ other ☐

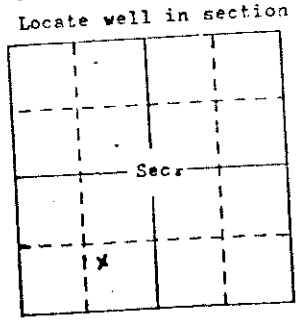
PERFORATED? Yes ☐ No ☐ Type of perforator used: (explain) Milling Machine cut
Size of perforations: 3/4 " by 3 "
[illegible] perforations from 23[illegible] ft. to 2[illegible] ft.
[illegible] perforations from [illegible] ft. to [illegible] ft.
[illegible] perforations from [illegible] ft. to [illegible] ft.
[illegible] perforations from [illegible] ft. to [illegible] 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? 7 ft. Material used in seal: Cement

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 Caribou
SE ¼ SW ¼ Sec. 23 T. 9S N/S R. 40E E/W
Use other side for additional remarks

Size of drilled hole: 20" Total depth of well: 355' Standing water level below ground: 27[illegible] Temp. Fahr. * Test delivery: gpm or cfs Pump? ☐ Bail ☐
Size of pump and motor used to make test:
Length of time of test: hrs. 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 FROM FEET	DEPTH TO FEET	MATERIAL	WATER YES OR ¾
0	3	Clay	
3	[illegible]	Broken	
[illegible]	2[illegible]	Firm rock	
2[illegible]	29	Broken	
29	40	Firm rock	
40	50	Cinders	
50	60	Hard	
60	6[illegible]	Cinders	
6[illegible]	7[illegible]	Hard	
7[illegible]	80	Cinders	
80	8[illegible]	Firm	
8[illegible]	11[illegible]	Firm gray lava	
11[illegible]	13[illegible]	Gray hard lava	
13[illegible]	14[illegible]	Red cinders	
140	14[illegible]	Knot protruding	
14[illegible]	15[illegible]	Firm gray lava	
15[illegible]	22[illegible]	Hard gray lava	
22[illegible]	22[illegible]	Cinders	
22[illegible]	23[illegible]	Lava	
23[illegible]	24[illegible]	Hard gray rock	
240	25[illegible]	Black cinders	
25[illegible]	27[illegible]	Hard rock	
27[illegible]	29[illegible]	Hard gray lava	
29[illegible]	29[illegible]	Black & red broken rock	
29[illegible]	29[illegible]	Firm conglomerate	
29[illegible]	30[illegible]	Loose rock & cinders	
30[illegible]	30[illegible]	Broken	
30[illegible]	33[illegible]	Black firm rock	
33[illegible]	340	Firm black rock	
340	343	Gray lava	
343	34[illegible]	Broken & cinders	
34[illegible]	3[illegible]	Firm	

Work started: 12-3-[illegible]
Work finished: 2nd 2-23-[illegible]

Well Driller's Statement: This well was drilled under my supervision and this report is true to the best of my knowledge.
Name: Andrew Well Drilling Contractors
Address: 1248 East 17th Street
Signed by: [signature]
License No. 5 Date: 3-2[illegible]-[illegible]

13

WELL 17

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 Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Cleve Mallery

Address Grace, 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 ☒ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6¾ inches Total depth 288 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6⅝ inches	+ 1 feet	18 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 18 Material used in seal ☒ Cement grout ☐ Puddling clay ☐ Well cuttings

Sealing procedure used ☐ Slurry pit ☒ Pen. [Temporary] surface casing ☒ Overbore to seal depth

6. LOCATION OF WELL

Sketch map location must agree with written location.

(6/13)

Subdivision Name ______

Lot No. ______ Block No. ______

County Caribou

SW ¼ SE ¼ Sec. 24, T. 9 N/S, R. 40 E/W

7. WATER LEVEL

Static water level 245 (?) feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow ______

Temperature 54 °F Quality ______

Artesian closed-in pressure ______ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8"	0	18	Hard Fractured lava		X
6¾"	18	60	" " "		X
	60	64	Red		X
"	64	80	Hard Fractured lava		X
"	80	124	" Massive "		X
"	124	132	Soft Creviced "		X
"	132	137	Hard " "		X
"	137	143	Soft Porous Cinders		X
"	143	147	Hard Massive lava		X
4¾	147	190	" " "		X
"	190	222	" Fractured "		X
"	222	229	" Massive "		X
"	229	251	" Fractured "		X
"	251	271	" Creviced "		X
"	271	279	Soft " "	X	X
"	279	283	Hard Massive "	X	
"	283	287	Soft Creviced "	X	
"	287	288	Hard Massive "	X	

10.

Work started 7-4-75 finished 7-30-75

11. DRILLERS CERTIFICATION

Firm Name Nelson Drilling Firm No. 315

Address Soda Springs, Id. Date 7-30-75

Signed by (Firm Official) R. Nelson

and

(Operator) R. Nelson

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