

Supplemental Hearing 77610
Exhibit List for Protestant Kirby Jensen

PK21	1	Report: Ground-Water Pumping impacts on Surface Water Irrigation Diversions from Big Lost River, 1991
PK22	2	Report: Review of Ground-Water Conditions in the Big Lost River Valley, 1982
	3	List and Details of Parkinsons Farms water rights Printouts of Parkinson Farms water rights as of 7/19/2013
	4	34-2289 - Ground Water
	5	34-2490 - Ground Water
	6	34-2497 - Ground Water
	7	34-2505 - Ground Water
PK23	8	34-2506 - Ground Water
	9	34-4008 - Ground Water
	10	34-7176 - Ground Water
	11	34-635 - Big Lost River
	12	34-2313 - Big Lost River
	13	34-7145 - Big Lost River
	14	34-10393 - Expansion
	15	34-12368 - Expansion
		Original Ground Water Licenses or Claims, now owned by Parkinson Farms
	16	(34-2289) 1.0 cfs, May 13th, 1949
	17	(34-2490) 2.09 cfs, October 25th, 1966
	18	(34-2497) .57 cfs, September 27th, 1966
PK24	19	(34-2505) 1.06 cfs, March 3rd, 1967
	20	(34-2506) 1.174 cfs, March 2nd, 1967
	21	(34-4008) 2.6 cfs, April 30, 1961
	22	(34-7176) 7.8 cfs, May 29th, 1977
	23	Field Exam 34-7176, Aug 7th, 1991
	24	Applicaton for Permit, 2 wells, (34-2505 & 34-2506)
	25	Proof of Application of Water, (24-2505 & 34-2506)
	26	Field Exam letter to permittee, (34-2490)
PK25	27	Field Report, (34-4008)
	28	Proof of Application of Water, (34-2289)
	29	Letter about acreage, (34-2289)
	30	Letter about field examiners report, (34-2289)
PK26	31	Application for Transfer, April 9th, 1980
PK27	32	Notice of Proposed Change of Water Right, August 1984
PK28	33	Deposition, December 13th, 1986
PK29	34	Memorandum August 18th, 1987
PK30	35	Final Order, May 30th, 1996
PK31	36	Letters of Over Diversions, 2007
PK32	37	Letter, Re: 34-7511
PK33	38	Mitigation Request, April 15th, 2013

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PK34	39	Mitigation, Advisory Committee, June 26th, 2013
PK35	40	Complaint and Request for removal of Water Master, June 2013
	~~41~~	~~Paper: Political Subdivisions, Duke Law Journal~~ WITHDRAWN
PK36	42	Article XV, Constitution of the State of Idaho
PK37	43	Idaho Statute 59-401 Loyalty Oath
	~~44~~	~~Definition: Heterogenous~~ WITHDRAWN
PK38	45	USGS Well Information and Chart
PK39	46	Chart, Big Lost River Latitudes and Water Levels
		Arial Photos - Mailed separate from other exhibits
PK40	47	Lost River Valley
PK41	48	Boyle Creek to Arco Diversion
PK42	49	Arco Diversion to Arco
PK43	50	Arco to Rindfleisch Farm

Supplemental Hearing 77610
Witness List for Protestant Kirby Jensen

- 1 Dennis Owsley, IDWR
- 2 Roger Toten, Watermaster
- 3 Jim Rindfleisch
- 4 Reva Walker
- 5 Joel Andersen
- 6 Travis Andersen
- 7 Steve Tibbits
- 8 Any or all witnesses for the Applicant
- 9 Any or all witnesses for the other Protestants

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Department of Water Resources
Eastern Region

CERTIFICATE OF MAILING

I certify that on this 19th day of July, 2013, I mailed the original and copies of my Exhibit List and Witness List for the upcoming Supplemental Hearing for Transfer No. 77610, to the following persons by mailing the original and/or copies prepaid and addressed as follows:



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GROUND-WATER PUMPING IMPACTS ON
SURFACE WATER IRRIGATION DIVERSIONS
FROM BIG LOST RIVER

by

Gary S. Johnson
Dale R. Ralston
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JUL 22 2013

Department of Water Resources
Eastern Region

Submitted to

Idaho Department of Water Resources
Boise, Idaho

Idaho Water Resources Research Institute
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December, 1991

DECREE10013



EXHIBIT

Protestant
PK 21

ABSTRACT

The water table in the Big Lost River valley is declining due to increased irrigation pumpage and decreased recharge from surface-water irrigation, resulting from the use of more efficient application methods and an accompanying expansion to about twice the irrigated acreage of two decades ago. The lower water table reduces the already deficient river flows, and impacts the senior water rights of many surface water irrigators.

Recorded irrigation diversions have decreased in relation to river flow in the last two decades. Diversions are estimated to be depleted by about 30,000 acre-feet per year in dry periods, such as 1987 through 1990. Depletion of diversions is estimated by a linear relationship to river flow, based on data from below normal water years.

Extrapolating that relationship to all years, the depletion in a normal water year is estimated to be 13,000 acre-feet. A negative relationship between ground-water pumpage and river flow was extrapolated to estimate pumpage as 47,000 acre-feet during a normal water year.

Senior surface-water irrigators are due mitigation from those depleting river flows. The mitigation may take any of several forms, but should be supported by a self-funding group of ground-water, or combined surface and ground-water irrigators in the valley.

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STATEMENT OF THE PROBLEM

Many irrigation wells have been constructed in Big Lost River valley since 1960. The ground-water resource over much of the valley is hydraulically interconnected with the Big Lost River; consequently, ground-water pumpers often are accused of depleting the already deficient supplies of surface water irrigators. The water right priorities of surface water irrigators generally are far senior to ground-water users, suggesting that the liability for stream depletion rests with the ground-water pumpers.

The stream depletion issue is clouded by several factors. The complicating conditions include:

- 1) River depletion by ground-water pumping is neither instantaneous nor equal in magnitude to the amount of water pumped. The attenuation of pumping effects are influenced by the location of the well with respect to hydraulically connected reaches of the river, the physical properties of the aquifer formation, and the depth from which the well extracts water.
- 2) The river reaches that are hydraulically connected to the ground water and the degree of hydraulic interconnection vary from year to year, and even from season to season, depending upon the depth of the water table. During droughts, the water table in the lower parts of the valley drops well below the river bottom, and the effects of further decline in water table are probably minimal.
- 3) Surface water often is conveyed through the canals rather than the river channel to reduce seepage losses. Therefore, pumping impacts on surface water also are related to canal seepage in the lower valley.

4) Ground-water pumping is only one component of a combination of factors that are impacting ground-water levels and the depletion of surface water supplies. The greatest impact results from variation in precipitation. In addition to climatic variability, the widespread conversion from flood irrigation to sprinklers, and the associated expansion of irrigated acreage, have diminished ground-water recharge and increased discharge.

Ground-water pumping undoubtedly is one of several developments which affects flows in the surface channels in Big Lost River valley. Water supply conditions of earlier years, however, can only be restored fully by returning to the practices and irrigated acreage of those years. The economic consequences of such drastic measures would certainly be severe and undesirable. Resolution of the conflict for the water resources should therefore focus on an efficient and equitable use of the resource, based on the appropriate legal considerations and the best available hydrologic knowledge.

OBJECTIVES

The general objective of this report is to assess the impact of ground-water pumping on surface-water flows and evaluate the alternatives for resolution of the conflict.

Specific objectives include:

- 1) to develop an understanding of the operation of the irrigation system in Big Lost River valley, and the historic changes that have occurred in that system,
- 2) to collect, assemble, and summarize the available and pertinent information on the water supply and irrigation diversions in the valley,
- 3) to relate changes in available water to changes in irrigation practices in the valley, especially the expansion of ground-water pumping,
- 4) as far as possible, to quantify the impact of ground-water pumping on surface water supply, and describe the limitations and assumptions associated with that determination, and
- 5) to recommend a procedure or procedures for compensating surface water users for flows lost as a result of ground-water pumping.

METHODS OF ANALYSIS AND DATA DESCRIPTION

In this study, the effects of pumping on surface-water supplies are evaluated by examination of historic changes in water supply and delivery that have occurred since the expansion of ground-water pumping, beginning about 1960. This method requires long-term records of precipitation, river discharge, and irrigation diversions.

Climatic variations have had a significant impact on water availability in the basin. However, the effects of climate variation on the results of this study were minimized by comparison of similar water years and the use of long periods of record.

Big Lost River discharge is available from U.S. Geological Survey Records for extended periods at three stations: 1) at Howell Ranch (13120500) in the upper part of the valley, 2) below Mackay Dam (13127000), and 3) below Arco (13132500). The locations of these stations are shown in figure 1. Data on summer flows at Howell Ranch are available for all years as early as 1920. Year-round data is available since 1949. There are about 3,000 acres of irrigated land above the Howell gage (U.S. Geological Survey, 1991). The station below Mackay Dam includes all water released from Mackay Reservoir except that diverted in the Sharp ditch. The discharge of the Sharp ditch has been recorded in watermaster records for Water District 34. A

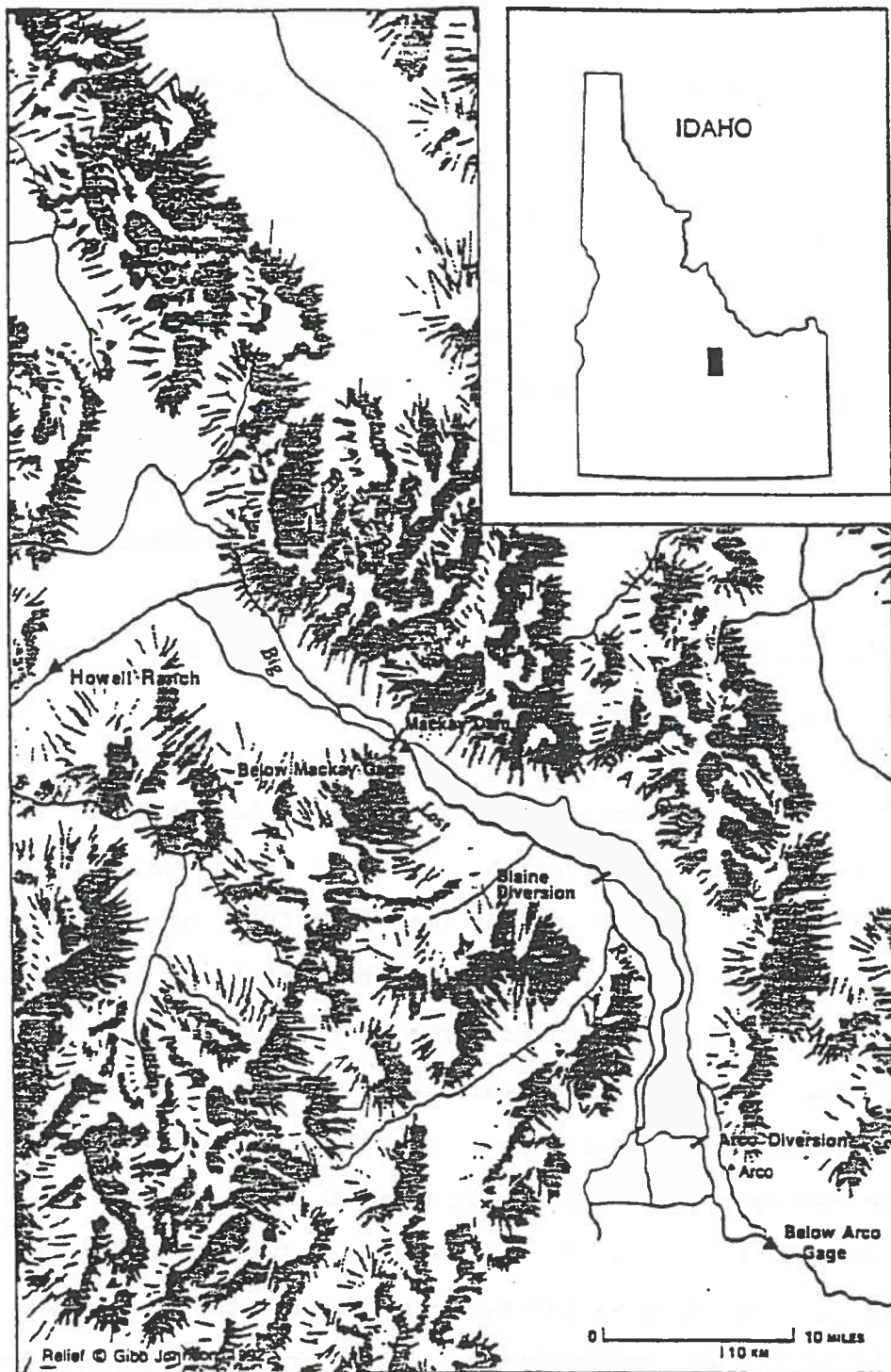


Figure 1. Map of Big Lost River Valley.

continuous record is available from the station since 1919. The station below Arco is below all major irrigation diversions in the Big Lost River valley. Discharge at the Arco station is available from 1946 through 1961, 1966 through 1980, and from 1982 through 1990. Storage in Mackay Reservoir also is available continuously since 1919. Monthly values of river flows and reservoir storage are listed in Appendix A.

Irrigation diversion records for the Big Lost River Water District dating back to 1923 were collected from the Idaho Department of Water Resources for this study. Annual summaries, prepared by the watermaster of Water District 34, were the source of information on the monthly volume of irrigation diversions for four reaches of Big Lost River (shown in figure 1): 1) Above Mackay Dam, 2) Mackay Dam to Blaine Diversion, 3) Blaine Diversion to Arco, and 4) below Arco. In the early records, the diversions were only distributed into two reaches: Above and below Mackay Dam. Annual summaries could not be obtained for 1938, 1939, 1941, 1955, and 1971 water years. Monthly diversion data from 1922 through 1990 are presented in Appendix B.

The validity of diversion records is uncertain. Changes in watermasters and measuring devices may have caused differences in diversion records over the years. Although the results of this study are sensitive to the

accuracy of the records, methods of analysis are employed that minimize that sensitivity.

Monthly values of river discharge, reservoir storage, precipitation at Mackay and Arco, and irrigation diversions were compiled and stored in a DBASE III+ format. These records were analyzed graphically and statistically using several commercially available software packages.

The water year used by the Big Lost River Water District 34, extending from November 1 to October 31 of the following year, was used as the base for all annual values presented in this report. Flow and storage volumes are consistently presented in acre-feet.

WATER SUPPLY AND IRRIGATION IN BIG LOST RIVER VALLEY

The Big Lost River basin is a mostly mountainous area of 1,400 square miles in south-central Idaho (figure 1). The area is drained by the Big Lost River and tributaries. All surface-water and ground-water discharge from the basin is tributary to the Snake Plain aquifer. The estimated average annual water yield of the basin is 470,000 acre-feet (Crosthwaite and others, 1970). In 1970, Crosthwaite and others estimated that an average of 54,000 acre-feet were lost as surface water discharge to the Snake River plain, 308,000 acre-feet were discharged as subsurface flow, and 109,000 acre-feet were lost by evapotranspiration, annually. Mackay Reservoir, on the Big Lost River near Mackay, has a current storage capacity of about 44,000 acre-feet, and is principally used to store snowmelt runoff for irrigation.

Irrigated agriculture is concentrated on the coarse alluvial deposits of the Big Lost River valley. In 1970, Crosthwaite and others estimated the acreage irrigated by flow from Big Lost River above Mackay Reservoir to be 12,630 acres, and 36,540 acres irrigated below the reservoir. They determined that an additional 8,500 acres were irrigated from ground-water, at that time. Prior to 1960, stream flow supplied nearly all the irrigation water. However, since 1960, many wells have been constructed to supplement the surface water supplies and irrigate new lands.

Concurrently, there has been a partial conversion from flood irrigation to sprinkler application methods and an expansion of the irrigated acreage.

The Big Lost River basin is divided into two principal parts for this analysis, above and below Mackay Dam. These areas represent distinct and somewhat independent units from water supply and irrigation management perspectives. This report focuses on lands below the dam, where most of the recent irrigation development has occurred. Irrigation below Mackay Dam is regulated separately from that above the dam except in periods of high flow, when the river is considered to be a single water body throughout its entire length. Irrigation supplies below the dam are supplemented by reservoir storage. Big Lost River flow below Mackay Dam is measured by a gaging station near Mackay and a station on the Sharp irrigation ditch. A relatively small amount of underflow, 15 cfs (Crosthwaite and others, 1970), is estimated to occur in the alluvium at the gaging station near Mackay. Several small tributaries to Big Lost River also contribute to water supply below the dam.

HISTORIC WATER SUPPLY PATTERNS

Annual and seasonal variations in precipitation on the Lost River watershed result in variations in streamflow and in the amount of water available for irrigation and for ground-water recharge. The total annual, and winter precipitation at Mackay for the period of 1925 through 1989 are shown in figure 2. Annual values are expressed on a water year basis, extending from November 1 through October 31 of the following year, matching the water year normally used by the water district. Low elevation annual precipitation records, such as at Mackay, do not show a high degree of correlation to annual stream flow. Only the general wet and dry periods of precipitation at Mackay are reflected in flow of the Big Lost River at the three primary gaging stations. Bar graphs illustrating discharge in each water year (November through October) at Howell Ranch (station 13120500) and at the gaging station below Mackay Dam (station 13127000) are shown in figures 3 and 4. Flow in the Big Lost River below Arco (station 13132500) is more variable (figure 5) and includes several years with zero discharge. The monthly discharge at each of the gaging stations and the volume of water stored in Mackay Reservoir are listed in Appendix A. The median flow at Howell Ranch (1925 - 1990) is 238,000 acre-feet, below Mackay Dam (1925 - 1990) is 214,000 acre-feet, and median flow below Arco (1947

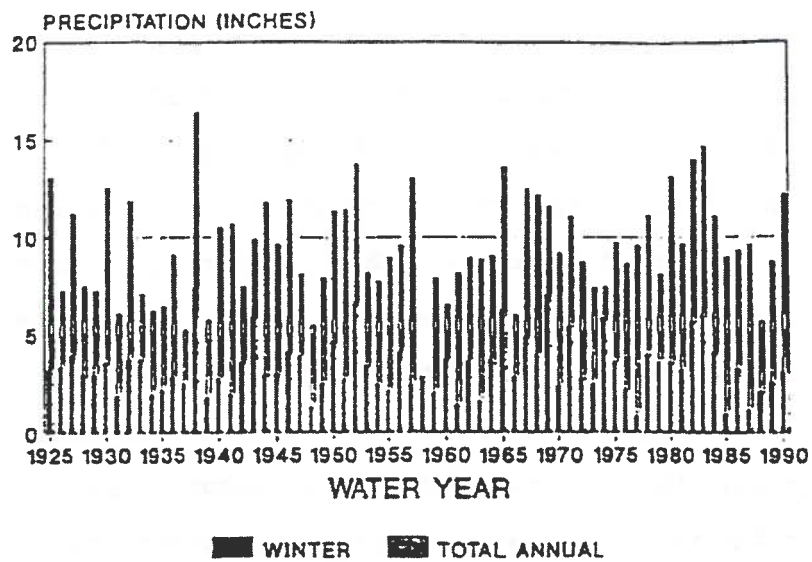


Figure 2. Precipitation at Mackay

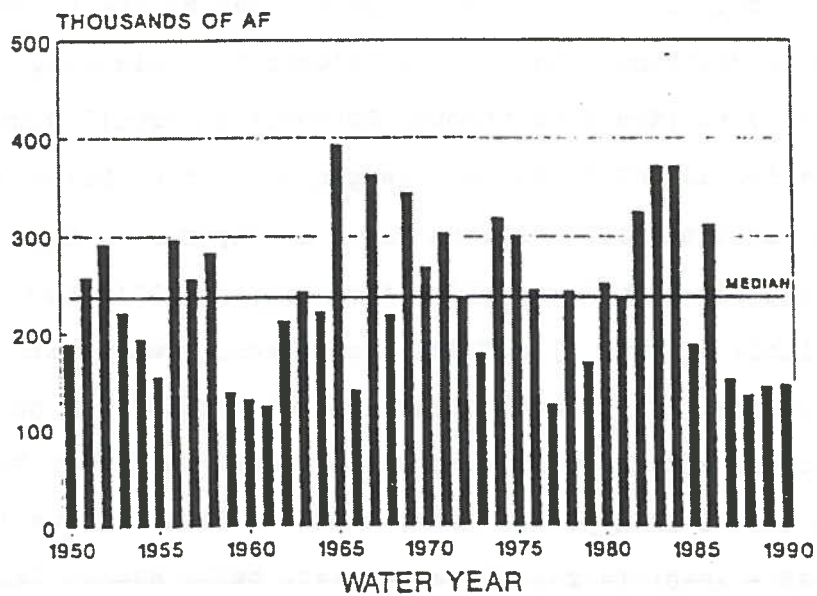


Figure 3. Big Lost River Discharge at Howell Ranch.

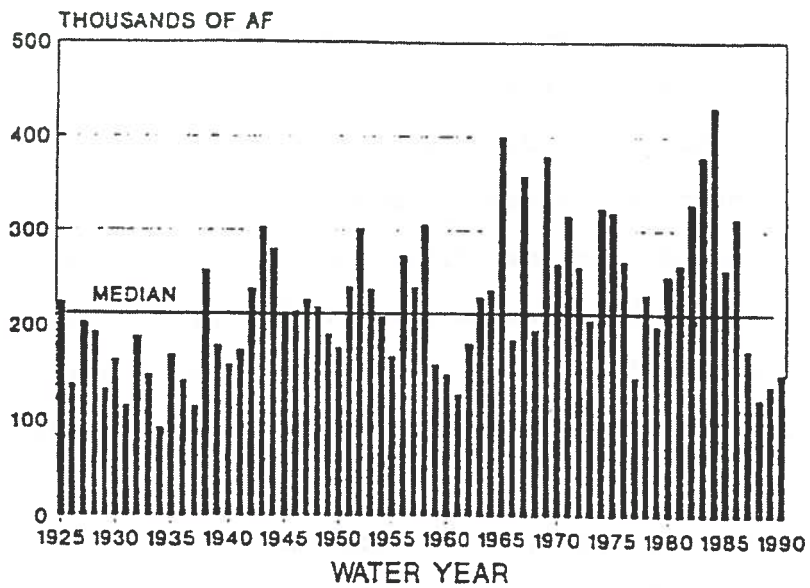


Figure 4. Big Lost River Discharge Below Mackay Dam.

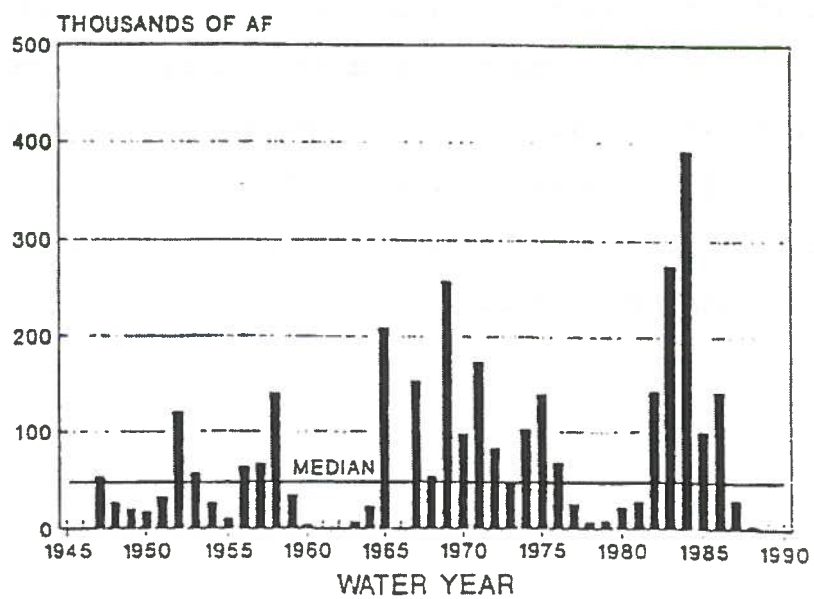


Figure 5. Big Lost River Discharge Below Arco.

- 1990) is 47,000 acre-feet. Annual and monthly flows below Mackay and below Arco are not adjusted for changes in storage in Mackay Reservoir.

Droughts, sometimes extending for several years, have been experienced several times during the history of irrigation in Big Lost River valley. Recent competition for water supply has been accentuated by the drought conditions experienced since 1986. River flow below Mackay Dam during the drought of 1987 through 1990 is similar to flow during the 1959 to 1962 period. The drought of the early 1930's is similar, but of longer duration than the current drought (through 1990). Mean river flows and irrigation diversions below Mackay Dam for the 1959 to 1962, and 1987 to 1990, periods are presented in table 1. River flows at the three gaging stations during the 1987 to 1990 period are slightly less than the flows during the 1959 to 1962 period. Diversions show a greater relative difference between the two periods than river flows. Average flow below Mackay dam varied only 4 percent between the two periods; but irrigation diversions below Mackay dam averaged 30 percent less in the later period.

Table 1. Mean River Flow and Diversion Comparison,
1959 to 1962 and 1987 to 1990.

<u>Period</u>	<u>Howell</u>	<u>Mackay</u>	<u>Arco</u>	<u>Diversions Below Mackay</u>
	<u>-----Acre-Feet/Year-----</u>			
1959-1962	152,200	154,000	6,600	110,900
1987-1990	136,491	147,900	5,800	77,600
Ratio ¹	0.90	0.96	0.88	0.70

¹ Ratio = (mean for 1987 to 1990) / (mean for 1959 to 1962)

HISTORIC PATTERNS IN IRRIGATION DIVERSIONS

Surface Water Diversions

Monthly diversion data are available from the District 34 Watermaster Annual Summaries for each canal, and sometimes by river reach. The temporal comparability of these records, however, is compromised by the changes that have taken place in the irrigation system over the decades. Some canals have changed names or service areas. Water transfers and exchanges have also occurred, changing the point of diversion from the river. The most valid year-to-year comparisons probably can be made on the total diversions for the two river segments, above and below Mackay Dam. Comparisons of diversions may also be possible within the smaller river reaches frequently reported in the Annual Summaries:

- 1) Above Mackay Dam,
- 2) Mackay Dam to Blaine Diversion,
- 3) Blaine Diversion to Arco Diversion, and
- 4) below Arco Diversion.

However, the reach diversions may have changed because of changes within the irrigation system. This report concentrates on the diversions below Mackay Dam, since this part of the valley has experienced the most extensive ground-water development.

Diversion data reported in the Watermaster Annual Summaries represent the measured or estimated flows at the point of diversion of each canal from Big Lost River. The magnitude of the diversions are affected by:

- 1) the water supply in the river,
- 2) the demand for water, and
- 3) river gains and losses.

The third factor, river gains and losses, is the component which is impacted by ground-water pumping. The means of measuring or estimating diversions has changed with time and the reliability of the reported values has also changed. Apparently, less emphasis was placed on water measurement and record keeping from 1973 through 1985, and consequently the records may be less reliable during this period.

At times during most years, the demand for water exceeds the available supply, and diversions are strongly related to the flow in the river below Mackay Dam. This relationship is shown by the nearly parallel distributions of annual diversions and river flows presented in figure 6. Several years are absent from the graph of figure 6, where data are missing or incomplete. A notable feature of figure 6 is the increased difference between river flow below Mackay Dam and irrigation diversions after 1965. In years of below normal river flow below Mackay, the mean ratios of annual diversions to river flow below Mackay (including

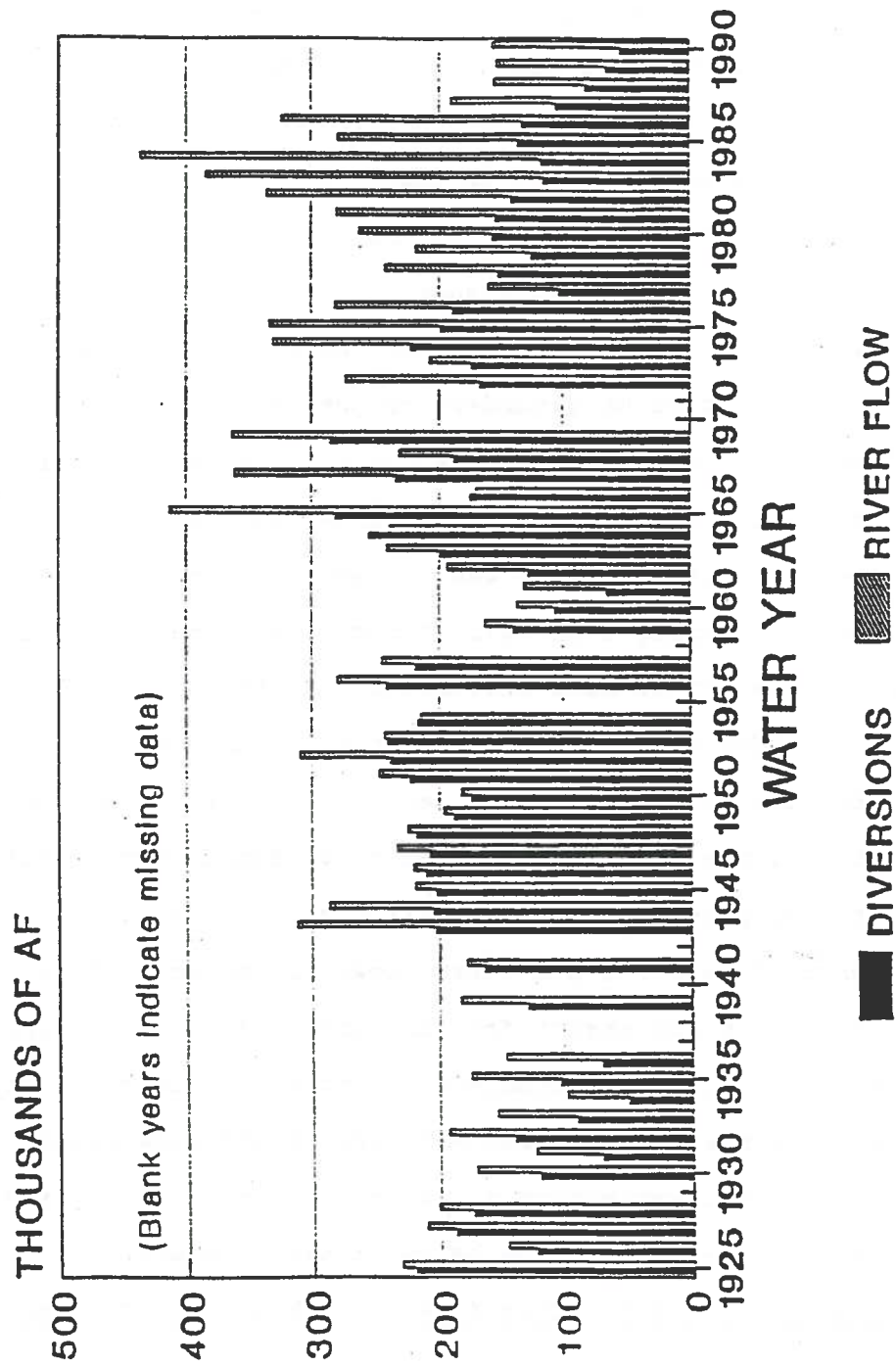


Figure 6. Annual Diversions and River Flow Below Mackay Dam.

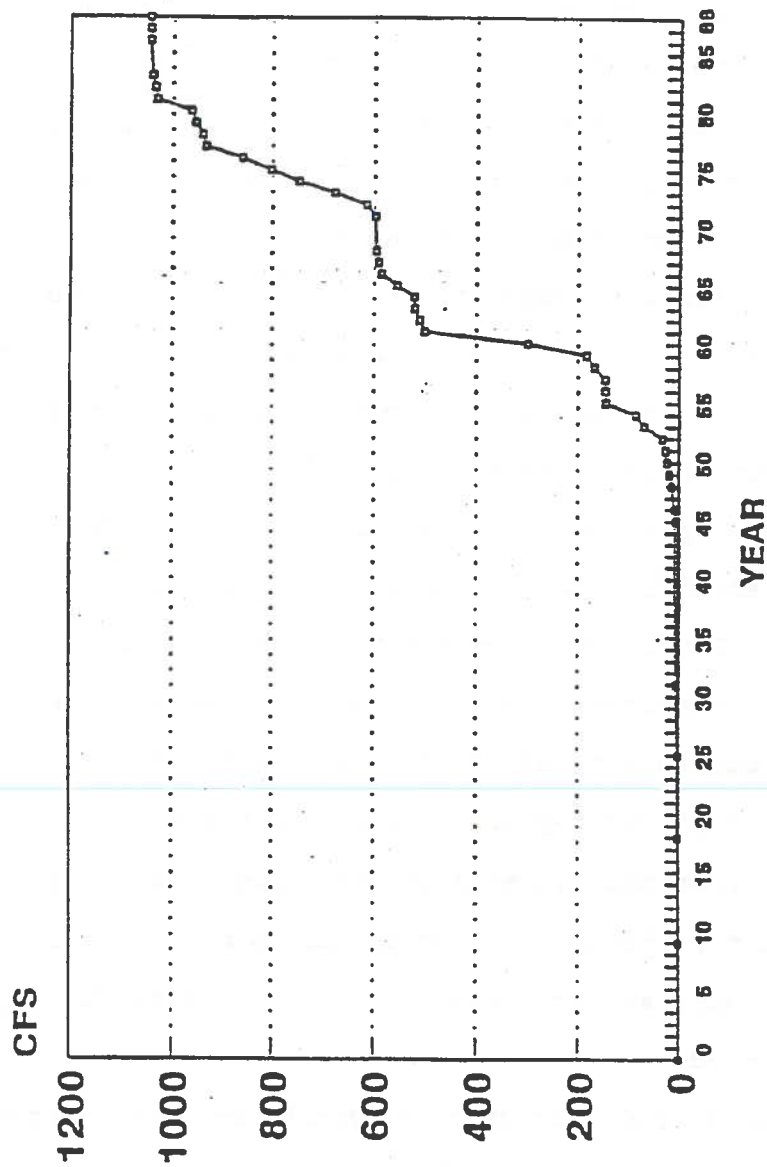
Sharp ditch and pumpage additions) is 0.80 for the period before 1965, and 0.59 for 1965 and after.

Diversions in high water years are generally limited by demand rather than water supply. In some high water years in the early 1980's, the recorded diversions were substantially less than in many previous years of lower water supply. In 1984, the watermaster report indicated that all rights were filled all season, with only 50 percent of the water diverted during the growing season as in previous high water years, like 1965. This difference suggests that either the watermaster records are in error, or the demand for surface water has declined during the 1980's. The former seems to be the more likely possibility.

Ground-Water Diversions

The amount of ground-water pumpage for irrigation changes from year to year in response to variations in irrigation demand and the changing degree of irrigation development in the valley. Prior to 1960, only a few irrigation wells were present in the valley. The drought of the early 1960's combined with other development incentives, however, resulted in a boom in ground-water development in the early 1960's, and again in the early to middle 1970's. The quantity of ground water pumped during these years is unknown, except for the 1984 through 1990 period which is addressed in a following chapter, "Estimation of Irrigation

Pumpage." Historic changes in ground-water development are reflected by the amount of ground-water claimed in water rights filings with the Idaho Department of Water Resources. Figure 7 illustrates changes in the cumulative total of ground-water rights claims in Big Lost River valley. The extensive claims with priorities dating to the early 1960's and 1970's indicate the rapid rate of growth of ground-water development during these periods. The amount of ground-water claims provide an approximate indicator of the potential for ground-water pumping. It does not imply the amount of actual pumping due to the effects of weather and other factors.



BASED ON ADJUDICATION CLAIMS

Figure 7. Historic Changes In Ground-Water Claims In Big Lost River Valley
(from the Idaho Department of Water Resources).

COMPARISON OF DIVERSIONS TO RIVER FLOW

In most years, surface water diversions for irrigation are limited by the available supply. During these years a strong relationship exists between flow in the Big Lost River below Mackay Dam and irrigation diversions below the dam. A scatter plot of annual river flow against diversion data for all years with complete record, from 1923 through 1990, is presented in figure 8. The water year associated with each point is given by the two digit number at the appropriate grid point. An approximately linear relationship is apparent during years where river discharge is less than about 250,000 acre-feet. In years with high flow, however, little or no relationship is apparent. The low ratio of diversions to river flow in the 1980's does not appear to be due to intense, short duration runoff. Diversions in high water years in the 1980's are substantially less than in earlier high water years, as was also apparent from figure 6. Scatter plots based on flow during the growing season appear similar, and consequently, are not presented.

The impacts of development on hydrologic observations, or systematic changes in the method of measurement, are often apparent in a double-mass balance graph. A double-mass balance plots the cumulative volume of one station

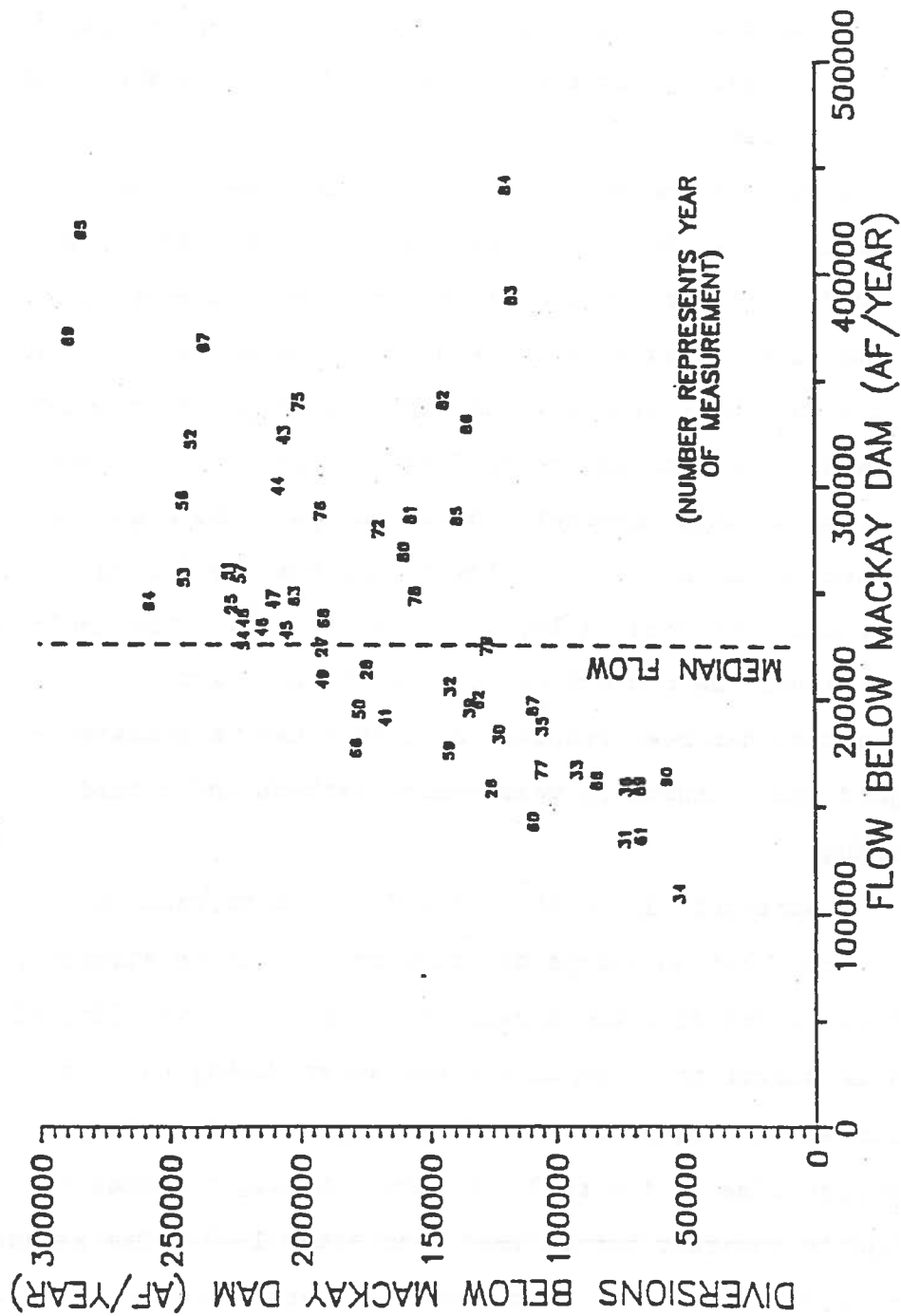


Figure 8. Scatter Plot of Diversions Against River Flow Below Mackay Dam.

against the cumulative volume at a second station, or set of stations. Figure 9 shows application of the double-mass balance to display changes in the relationship between river flow below Mackay Dam and irrigation diversions above and below the dam.

Long-term changes in slope of a double-mass balance would indicate that the relationship between diversions and river flow has changed. Changes in slope are most apparent in the line representing diversions below Mackay Dam. Some of the curvature is due to differences in the relationship between diversions and river flow at high and low flows. In addition to this, however, there appears to be a general flattening of the slope (below Mackay Dam) beginning about 1960, and more noticeably, after about 1970. This indicates that either the proportion of river flow diverted for irrigation has been reduced, or that a new watermaster made significant changes in measurement methods and record keeping.

A straight line plot on the double-mass balance indicates that no change has occurred in the relationship between river flow and diversions, nor in the validity of the measurements. The diversions above Mackay Dam, in contrast to those below the dam, plot as a relatively straight line in figure 9. However, a slight change in slope is apparent before 1940, and after 1983. The relative linearity of the plot representing diversions above the dam,

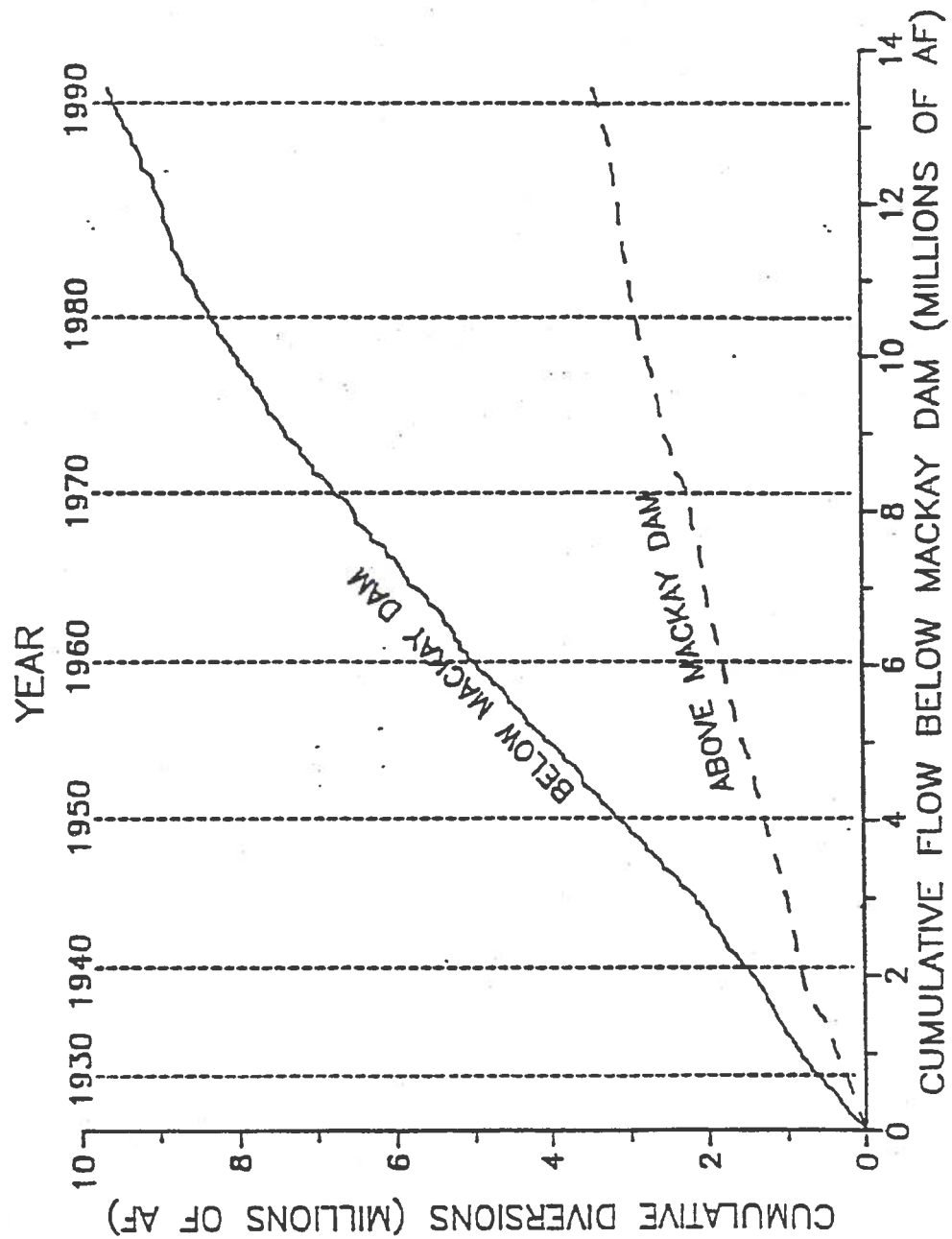


Figure 9. Double Mass Balance of Diversions Above and Below Mackay Dam
Against River Flow Below Mackay Dam.

coupled with the relatively unchanging irrigation practices in that area, lends credibility to the double-mass balance as a method of observing the impacts of development.

ESTIMATION OF DIVERSION DEPLETION

Irrigation of new lands in, and near Big Lost River valley, has been made possible by the conversion to more efficient sprinkler irrigation, and by the construction of irrigation wells. The expanded irrigated areas transpire more water than the smaller, and partially irrigated, areas of earlier years. Ground-water withdrawals for irrigation, and diminished recharge from sprinkler irrigated lands has caused a general decline in the water table in the valley. The lower water table results in increased seepage losses from the river and reduced ground-water inflow. The increase in river losses results in less water being available for diversion into the canal systems of the valley. The objective of this section of the report is to estimate the amount of depletion of diversions that has occurred from the combined effects of expanded irrigation, conversion to sprinklers, and ground-water pumpage.

Two methods are applied to estimate diversion depletion from the diversion and river flow data. The methods rely on different periods of record to minimize the effects that different record keeping and measurement procedures may have on conclusions.

Method 1: Comparison of Periods of Similar Water Supply

Depletion of diversions is estimated by comparison of periods of relatively similar water years, before and after the extensive development of the 1960's and 1970's. The periods from 1959 through 1962, and 1987 through 1990, are suitable for this type of comparison (table 1). The ratio of irrigation diversions to river flow below Mackay Dam is 0.72 for the pre-development period of 1959 through 1962. During the 1987 through 1990 period, the respective ratio is 0.52. The difference between these ratios (0.20), multiplied by the average annual river flow during the periods of estimation of 147,000 acre-feet, yields an estimate of average diversion depletion for that period equal to 29,600 acre-feet per year.

Flow during the periods of analysis was below normal, and the estimated depletion is, therefore, representative of below normal flow conditions in the river. This method provides no information on how depletion changes in times of different water supply.

Method 2: Differences in Regression Lines

The competition for water supply in Big Lost River valley is most intense in low water years. Low water years are also those which display a relatively strong linear relationship between annual irrigation diversions and river

flow below Mackay Dam. Figure 10 shows the relationships between diversions and river flow for two periods during years in which flow below Mackay Dam was less than normal (220,000 AF). The period before 1960 represents the era prior to extensive irrigation expansion and ground-water development. The second period presented in figure 10, from 1960 through 1990, represents the era of transition to sprinklers, expanding acreage, and increasing ground-water development. The solid line in figure 10 is a regression line based on below normal flows prior to 1960. The dashed line is based on below normal flows from 1960 through 1990. The mathematical expressions of the two lines are as follows:

Before 1960,

$$\begin{aligned} \text{DIVERSIONS} &= -86799 + 1.300 \times \text{FLOW} \\ r^2 &= 0.77, \text{ and} \end{aligned}$$

1960 and after,

$$\begin{aligned} \text{DIVERSIONS} &= -123,104 + 1.405 \times \text{FLOW} \\ r^2 &= 0.73, \end{aligned}$$

where:

DIVERSIONS = Annual irrigation diversions below Mackay Dam in acre-feet, and

FLOW = Annual discharge of Big Lost River below Mackay Dam, including Sharp ditch, in acre-feet.

The difference between the two regression lines of figure 10 indicates that changes in irrigation practices and ground-water pumpage probably have impacted the available

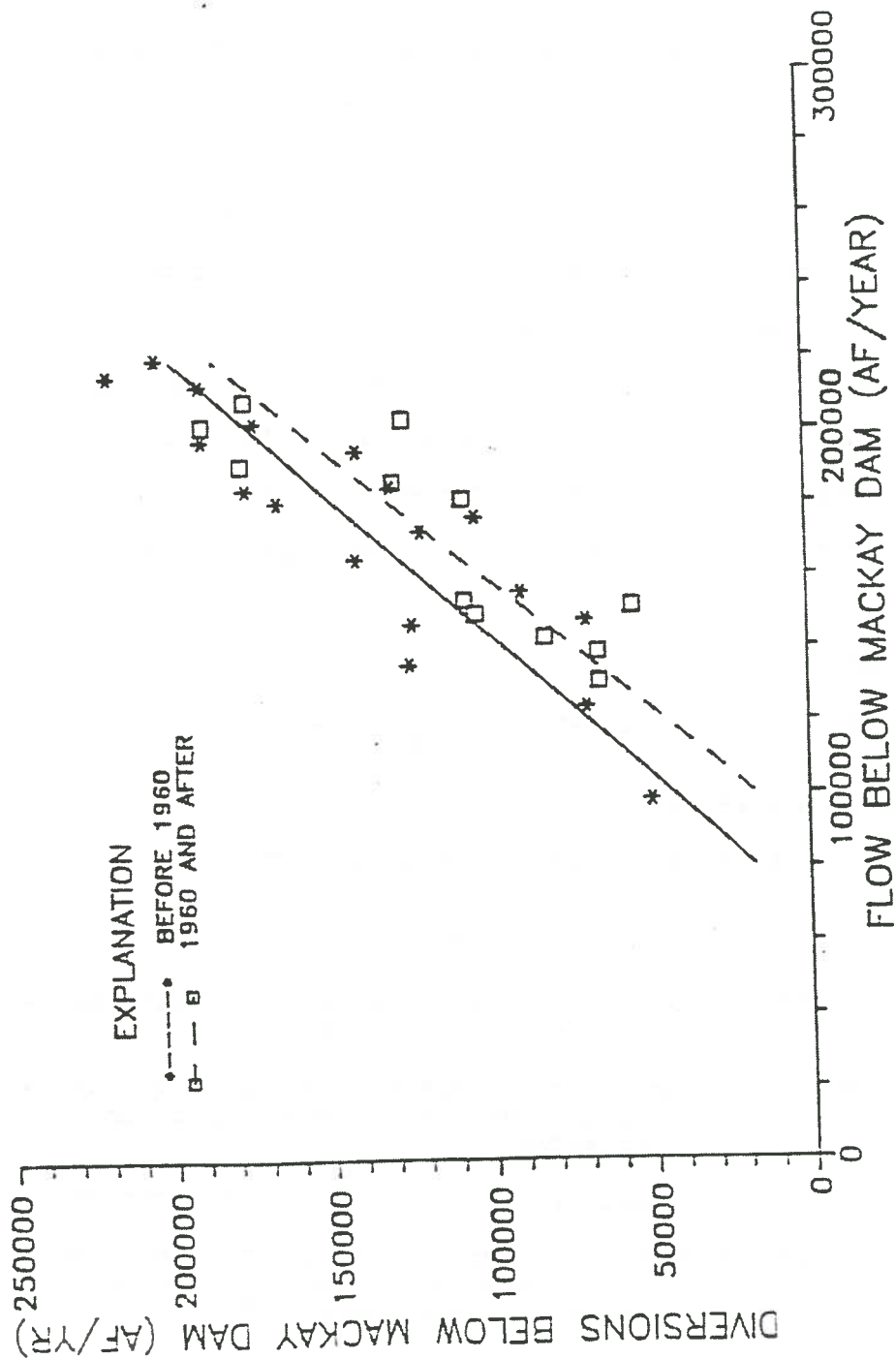


Figure 10. Irrigation Diversions and River Flow Regression For Below Normal Flow Years, Before and after 1960.

surface-water supply. That impact has been the result of a lower water table that induces more river losses and decreases gains. In below normal flow years, the average impact can be estimated as the difference between the two regression lines. Subtracting the second equation (1960 - 1990) from the first (before 1960), yields the following equation for difference, as a function of river flow:

$$\text{DEPLETION} = 36,300 - 0.1055 \times \text{FLOW}$$

where

DEPLETION = estimated annual diversion depletion in
acre-feet, and

FLOW = annual river flow below Mackay Dam,
including Sharp ditch, in acre-feet.

Diversion depletion estimated by the above equation decreases as annual river flow increases. This may be related to the increased ground-water pumpage needed to supplement surface water supplies during dry years. For the 1987 to 1990 period used in derivation of Method 1, the river flow below Mackay averaged 147,000 acre-feet. The estimated depletion of diversions is 20,800 acre-feet for that period. In the normal year the river flow below Mackay Dam is about 220,000 acre-feet, and the estimated depletion of diversions is 13,100 acre-feet.

This method "averages out" differences in diversions for two periods of 18 years (before 1960), and 12 years (1960 and after) of record. The effects of development,

however, are certainly not fully apparent by the 1960's and therefore, this method may tend to underestimate the impacts on diversions. The post-development period was not represented with more recent data in order to contrast the first method of estimation, and because of lack of confidence in regression based on only a few data points. The regression equations also only describe the general relationship between diversions and river flow. A little more than 70 percent of the variation in diversions can be accounted for by variation in river flow. The remainder is attributed to other factors such as residual effects from the previous year. The post-development period was not limited to more recent years in order to contrast the first method of estimation, and because of the lack of confidence in regression based on only a few data points. It is acknowledged that different regressions can be developed by the selection of different periods of record.

Comparison of Methods for Estimating Depletion

The most valid period for comparison of Methods 1 and 2 is for those years used in derivation of Method 1, from 1987 through 1990. In this period, depletion estimated by the first method is about 30,000 acre-feet per year. The second method, based on the difference between regression equations, estimates the diversion depletion to be about 21,000 acre-feet per year, for the same river flow

conditions. The smaller value of the second estimate may be due to the use of a longer period of post-development record, which included the transitional years in which irrigation development was taking place, and impacts were not fully evolved.

The first estimation method, based on comparison of two periods of similar river flow, provides a depletion estimate for specific low river flow periods. The second method is somewhat more versatile, estimating depletion as a function of flow based on below normal water years. Neither method specifically addresses estimation of depletion during periods of above normal river flow.

In above normal water years, a surplus of water often exists during spring and early summer. By late summer, however, surface water supplies may be inadequate to meet crop demands. The deficiencies during this time are probably amplified by increased seepage and decreased river inflow, induced by irrigation expansion and ground-water pumpage.

Extrapolation of the second, regression-based method, to years of above normal river flow provides reasonable estimates of diversion depletion; even though the method is based on below normal water years. It is recognized that extrapolation of this method to above normal flow years can not be supported conceptually; but this procedure may be the best available means of estimation. Depletion, calculated

by this method, decreases in years of increasing river flow. The estimated depletion ultimately becomes zero when the annual discharge of Big Lost River below Mackay Dam (including Sharp Ditch) exceeds 344,000 acre-feet.

The frequency of occurrence of depletion volumes can be predicted by applying the depletion equation of Method 2 to historic river flow records. A depletion duration curve, produced in this manner, is presented in figure 11. According to figure 11, no depletion occurs in about 4 percent of the years, and, in contrast, 18 percent of the time depletion estimated by this method would be in excess of 20,000 acre-feet per year.

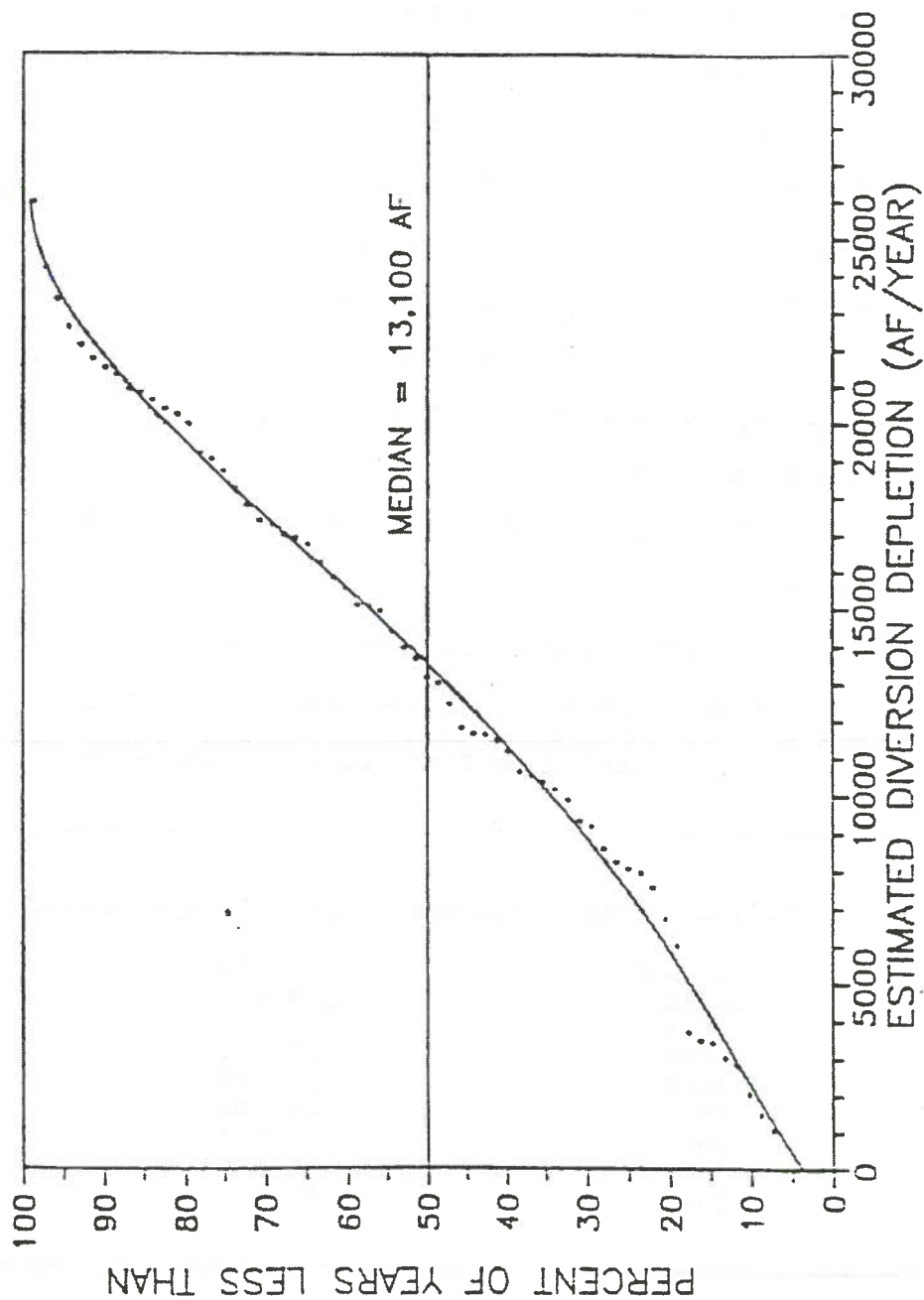


Figure 11. Duration Curve of Estimated Annual Diversion Depletion.

ESTIMATION OF IRRIGATION PUMPAGE

Annual ground-water pumpage from the Big Lost River Valley below Antelope Creek has been estimated for the period of 1984 through 1990 (table 2). The annual pumpage fluctuates in response to variations in annual surface-water supplies and crop demands. A scatter plot and linear regression line of annual ground-water pumpage below Antelope Creek against river flow below Mackay (including Sharp Ditch) is presented in figure 12. The corresponding regression equation is:

$$\text{PUMPAGE} = 61,200 - 0.1284 \times \text{FLOW} \quad (r^2 = 0.88)$$

where

PUMPAGE = annual pumpage in acre-feet, and

FLOW = annual discharge below Mackay Dam,
including Sharp Ditch in acre-feet.

Table 2. Annual Pumpage Below Antelope Creek.

<u>Calendar Year</u>	<u>Pumpage (af)</u>
1984	8,300
1985	27,500
1986	17,300
1987	28,700
1988	44,500
1989	48,600
1990	43,800

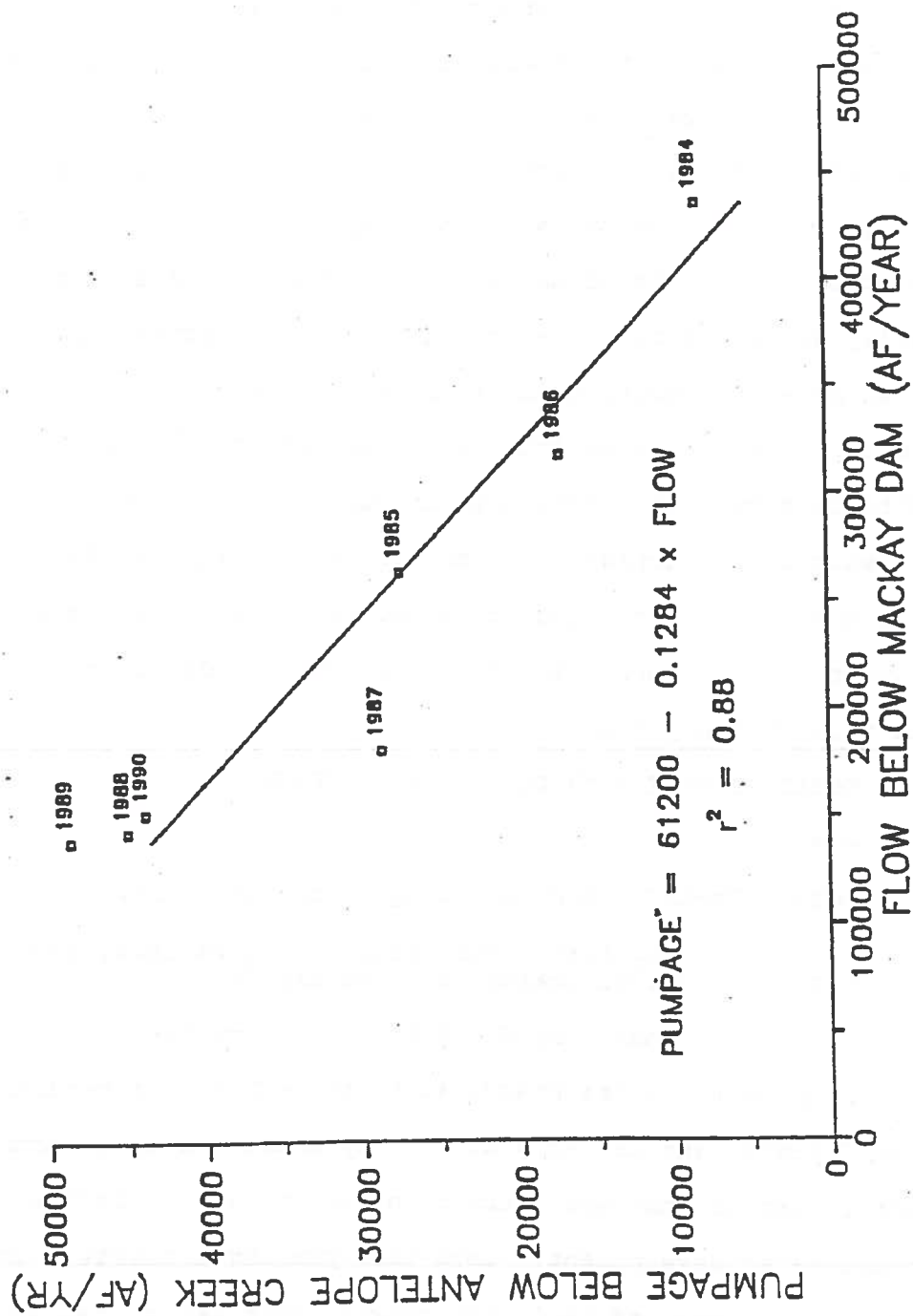


Figure 12. Linear Regression of Annual Pumpage Below Antelope Creek to Flow Below Mackay Dam.

Many irrigation wells in Big Lost River valley are located above the point where Antelope Creek is tributary to Big Lost River and therefore, are not included in the values of table 2. Approximately 700 out of a total of 1000 cfs of claimed ground-water rights in the valley are located below the junction of the two streams (Idaho Department of Water Resources, unpublished map). Total annual pumpage in the valley was estimated by assuming that the relative pumpage in an area is proportional to the claimed ground-water rights. Pumpage below Antelope Creek was, therefore multiplied by 1.428 (1000 cfs divided by 700 cfs) to estimate total pumpage. The multiplier was applied to the developed regression equation expressing the relationship between annual pumpage and flow below Mackay Dam to generate the following expression:

$$\text{TOTAL PUMPAGE} = 87400 - 0.1834 \times \text{FLOW}$$

where

TOTAL PUMPAGE = Annual pumpage from the entire

Big Lost River valley, in acre-feet, and
FLOW = annual discharge below Mackay Dam,

including Sharp Ditch in acre-feet.

Pumpage estimates presented in table 2 span a period of only 7 years, and probably do not represent the long-term normal pumpage that would occur in the absence of further ground-water development. Long-term pumping estimates, at the current stage of well development, were determined by application of the regression equation relating total valley

pumpage to river flows below Mackay Dam. Annual discharges below Mackay Dam, for the 1923 through 1990 period, were substituted into the equation to estimate the long-term variability of pumpage. The resulting estimates were used to develop the pumpage-duration curve shown in figure 13. Normal annual pumpage in the Big Lost River valley, as estimated by this procedure, is 47,000 acre-feet. The estimated valley pumpage experienced in 1989 of 69,400 acre-feet would occur only a few times every 100 years.

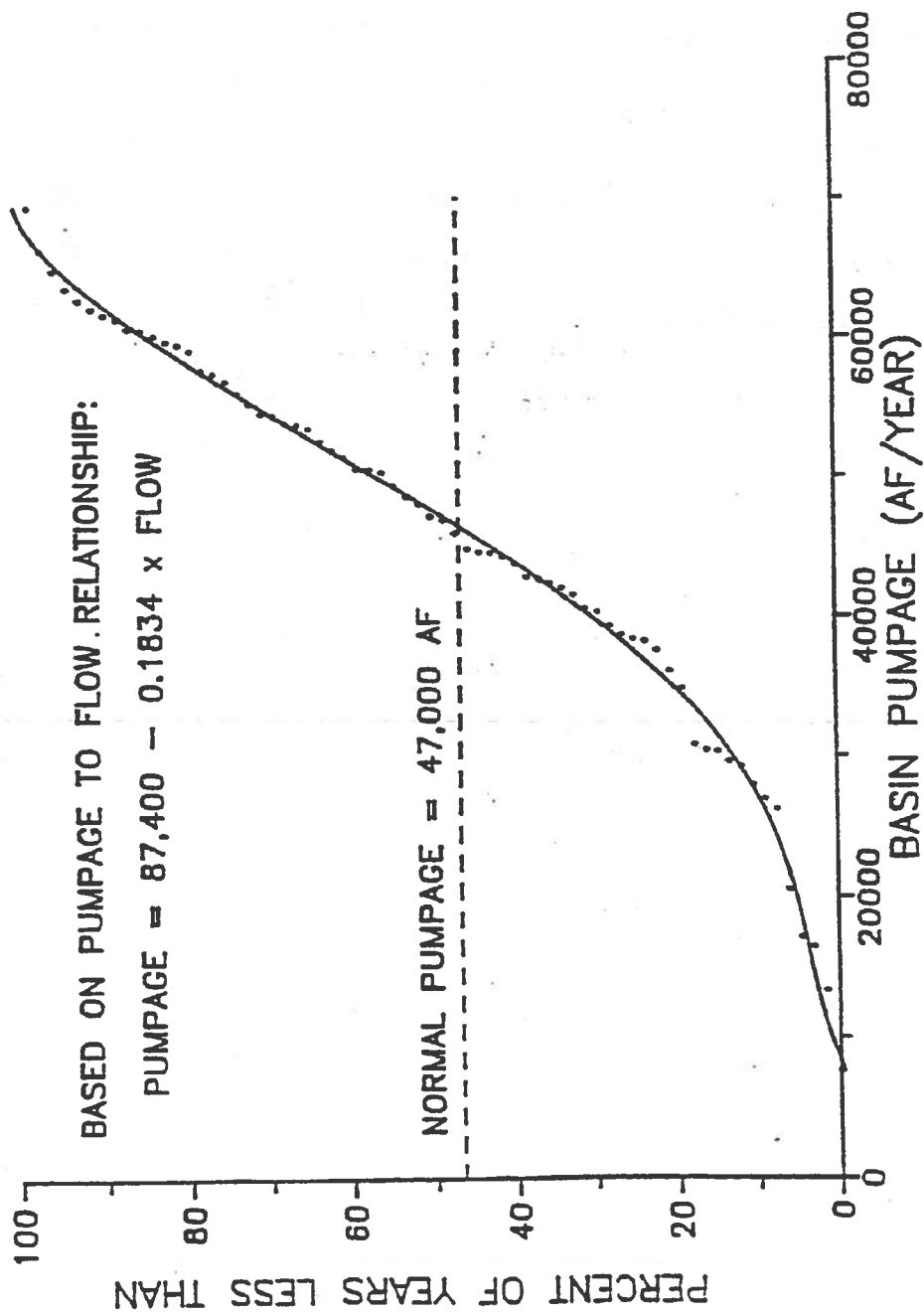


Figure 13. Duration Curve of Estimated Annual Pumpage.

DISTRIBUTION AND EXPANSION OF IRRIGATED LAND

Water is lost from Big Lost River valley by four mechanisms: 1) river discharge to the plain, 2) ground-water underflow to the plain, 3) irrigation conveyance outside of the basin, and 4) by evaporation and transpiration. Ground-water pumping, and the accompanying conversion to sprinkler irrigation, has contributed to an expansion of irrigated lands and resulted in a sizable increase in the fourth component listed above, relating to crop consumptive use. About 80 percent of the water applied by sprinklers is lost through crop consumptive use, the remaining 20 percent returns to the ground-water as deep percolation (C.E. Brockway, personal communication). Transporting water out of the basin for irrigation on the Snake River plain results in loss of the entire application, as the deep percolation from the irrigated areas will not return to the ground-water system of the Big Lost River valley.

The land area irrigated by the water resources of Big Lost River basin has significantly expanded since about 1970. The change in irrigated acreage in Butte County is shown in figure 14. The majority of irrigated land in Butte County is in, or receives water from, the Big Lost River basin. The graph shows that irrigated acreage in Butte County, and probably Big Lost River valley, nearly doubled

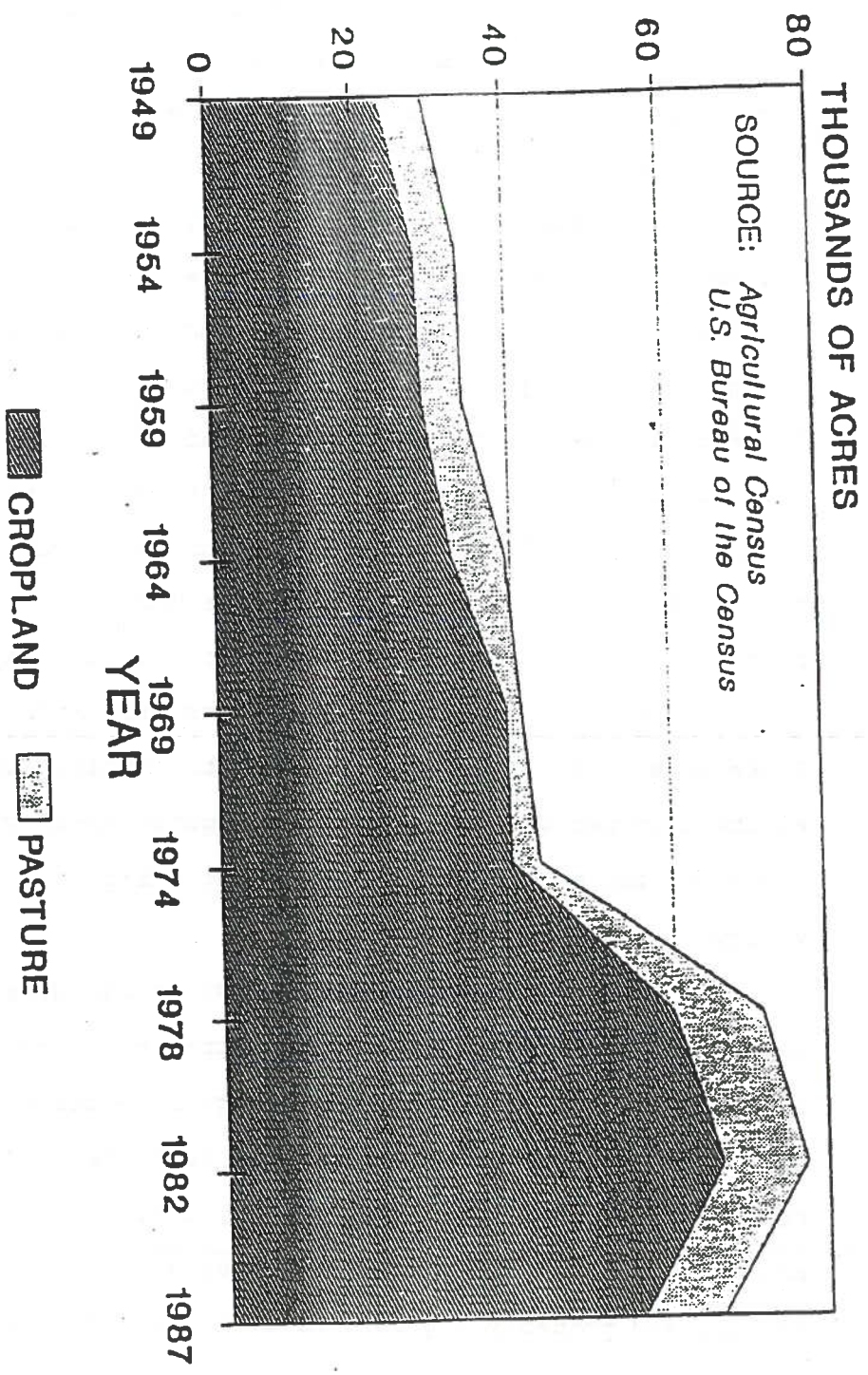


Figure 14. Historic Changes in Butte County Irrigated Acreage.

between 1974 and 1982. The acreage expanded from about 43,000 acres to about 77,000 acres in 1982. Much of this expansion is thought to have occurred with surface and ground water from the Big Lost River valley. An expansion of 34,000 acres in Butte County results in additional water consumption of about 41,000 acre-feet, assuming an irrigation requirement of 1.2 feet per year (Crosthwaite and others, 1970). Irrigation requirements calculated from the methods of Allen and Brockway (1983) are about 2.0 feet per year, implying that the additional water consumption may be as large as 68,000 acre-feet per year. Figure 14 is based on past records of the U.S. Census Bureau, Agricultural Census which determines irrigated acreage every four or five years.

PUMPAGE IN PERSPECTIVE

Ground-water pumping depletes the ground-water resource of the valley by an amount equal to the crop consumptive use on the irrigated lands, unless the pumped water is applied outside of the valley. Water applied in excess of the crop consumptive use returns to the ground-water reservoir as deep percolation. Approximately 20 percent of the water applied by sprinkler irrigation returns to the aquifer as deep percolation (C.E. Brockway, personal communication). The total consumptive use resulting from the normal year pumpage of 47,000 acre-feet is, therefore, estimated to be about 40,000 acre-feet, depending upon the amount of pumpage exported out of the basin.

Consumptive use losses associated with ground-water pumping are relatively small compared with basin underflow in a normal year. Estimated losses resulting from irrigation pumping of 40,000 acre-feet per year represent about 13 percent of the basin underflow estimated by Crosthwaite and others (1970) for the period before 1970. On a long-term basis, more water is lost by surface discharge onto the Snake River Plain than is consumptively used by irrigation pumpers.

The estimated pumpage in a normal year compares reasonably well with increased crop demands resulting from expanded acreage shown in figure 14. The estimated normal

pumpage of 47,000 acre-feet is sufficient to irrigate between 19,000 and 31,000 acres, assuming 80 percent application efficiency and 1.2 to 2.0 feet of irrigation demand. Conveyance losses decrease that acreage somewhat more. The recent increase in irrigated acreage in Butte county is about 34,000 acres according to Agricultural Census statistics.

Depletions of surface water diversions estimated in the section on "Relationships Between Diversions and River Flow" are less than estimates of basin pumpage, as expected. Diversion depletion for the 1987 through 1990 water years averaged 29,600 acre-feet per year, according to the first method of depletion estimation. The pumpage during that period averaged 41,400 acre-feet per year, or about 1.4 times the estimated depletion.

A relationship between estimated diversion depletion and pumpage can also be developed by combining the depletion equation of Method 2:

$$\text{DEPLETION} = 36,300 - 0.1055 \times \text{FLOW},$$

with the adjusted pumpage regression equation representing pumpage in the entire valley:

$$\text{PUMPAGE} = 87,400 - 0.1834 \times \text{FLOW}.$$

Depletion, expressed as a function of pumpage, is therefore:

$$\text{DEPLETION} = 0.575 \times \text{PUMPAGE} - 14,000,$$

where

DEPLETION = annual depletion of diversions below Mackay
Dam in acre-feet,
FLOW = annual flow of Big Lost River below Mackay
Dam, including Sharp Ditch, in acre-feet,
and
PUMPAGE = annual pumpage within the entire basin, in
acre-feet.

According to the above equation, the ratio of diversion depletion to pumpage decreases in years of low pumpage. When surface water supplies are such that less than 14,000 acre-feet of ground-water are pumped, then depletion is estimated to be zero. As pumpage volumes increase the ratio of estimated depletion to pumpage increases. In the normal year, pumpage is 47,000 acre-feet, and estimated depletion (by Method 2) is 13,100 acre-feet, resulting in a ratio of depletion to pumpage of 0.28.

Ground-water pumping is only partially responsible for the depletion of river flow and irrigation diversions. Expansion of surface water irrigation rights to larger land areas also contributes to the problem by increasing crop consumptive use and generating less ground-water recharge. The actual expansion of acres irrigated from surface and ground-water of Big Lost River basin is presently unknown, making it impossible to proportion additional water use between surface and ground-water sources.

ALTERNATIVE MANAGEMENT OPTIONS

Increased consumptive water use in Big Lost River valley has impacted the availability of water for senior surface water right holders. We believe that the increased consumptive water use has resulted from expanded acreage irrigated with both surface and ground-water. Possible alternatives for regulation and mitigation or compensation are described in this section; however, responsibility for recommendation of a specific alternative rests with the Idaho Department of Water Resources.

Steps associated with the development and implementation of possible alternative management strategies are illustrated in the flow chart presented in figure 15. A number of steps, and/or decisions are shown on the flow chart. The first two steps of this process are: 1) The Department must determine the extent of areas in which ground-water pumping and increased consumptive water use by surface water expansions have impacted flows of the Big Lost River, and 2) a means of proportioning impacts between ground-water pumping and expansion of surface water acreage needs to be developed.

We recommend that the impacting area include the entire alluvial deposits of the valley (single basin concept). The southern boundary of the impact area should coincide with the location of the steep water table decline into the Snake Plain aquifer, based on long-term average water levels. The

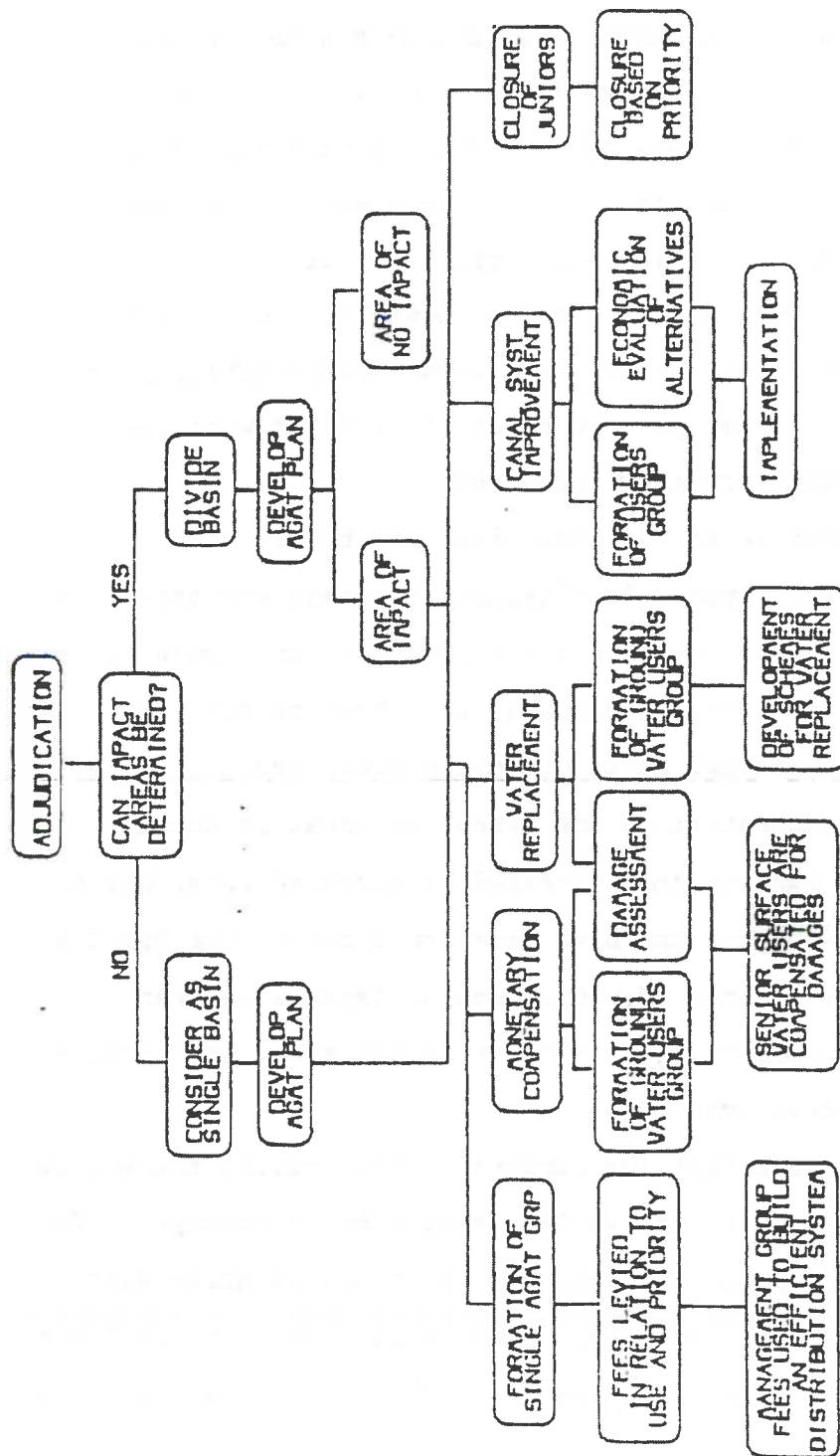


Figure 15. Diagram Illustrating Alternative Management Options.

basin may be further subdivided if the single basin concept is unacceptable to those involved. Subdivision into multiple units should be based on a detailed hydrologic analysis of the hydraulic connection of the river and the propagation of pumping and recharge effects.

A detailed management plan must be developed, regardless of whether the basin is considered as a single unit or multiple units. The plan should address whether compensation or mitigation are due to senior surface water irrigators, the type and degree of mitigation or compensation, and the structure of the organizational group responsible. The plan should be cooperatively prepared or reviewed by all parties involved.

If compensation or mitigation are to be awarded, then criteria must be established to determine liability. We believe that depletion is most directly associated with additional consumptive water use in recent decades, from both surface and ground water sources. Thus, the logical, although not necessarily legal, basis for assessing responsibility is in proportion to the amount of expanded irrigated acreage.

Five alternative courses of action are outlined on the flow chart (figure 15). They include: 1) Conjunctive management of surface and ground-water resources by a single management entity, 2) monetary compensation of impacted senior surface-water users by the liable parties, 3) water

replacement for impacted senior surface water users by pumping into surface channels with financial support based on liability, 4) improvement of the surface irrigation system to improve conveyance efficiency, and 5) closure of junior users in proportion to the estimated impacts. We believe that the effectiveness and efficiency of the first four alternatives is dependent on the degree of cooperation that is achieved among the water users of the basin.

We conclude that cooperative water management by surface and ground-water users is the best solution and would result in the most efficient use of the water resources of the basin. Development of a cooperative management unit requires that surface and ground-water users generally agree on the impacts of pumping and acreage expansions, and the remedial measures needed. In such a situation, those deemed responsible would be assessed fees in proportion to their perceived impact, and generated revenues would be spent according to the consensus of the managing unit. This alternative implies that the water users of the Big Lost River would be responsible for managing their own resource in a fair and equitable manner.

Monetary compensation by an organization of surface and ground water users deemed liable for depleted surface flows may be the most achievable of the alternatives. Those implicated as impacting surface flows would need to form a self-funding unit with the purpose of compensating senior

surface water users for damages. We recommend that the degree of compensation or mitigation be consistent with the diversion depletion estimated in this report.

Water replacement, funded by a similar organization, would rely on new wells to supplement the river flows, to a degree determined by depletion estimation procedures outlined in this report. These wells would be constructed and operated with funding provided by the liable parties, in proportion to their ground-water pumpage and surface water acreage expansion.

Several methods are available to improve the water supply of surface water users without additional pumping. These primarily deal with canal modification and lining, and the construction of additional surface water reservoirs. The economic feasibility of these measures should be evaluated relative to monetary compensation and water replacement schemes. Effective canal lining could improve the separation of the surface and ground-water resources, and reduce the question of interference. Both surface and ground-water users should share in the costs of system improvements.

We believe that the most economically unacceptable of the alternatives is the regulation of all rights in the valley on the basis of the priority. This alternative would result in closure of many or all of the irrigation wells, and drastically reduce agricultural production of the

valley. Although this may be a legal alternative, it would be highly undesirable to nearly all parties, and is not recommended.

In summary, we recommend that the highest possible degree of cooperation be developed among the involved parties. In this way, the resource largely will be managed by its users. All ground-water pumpers (irrigation wells) and those with expanded surface water irrigated acreage should assume responsibility for depleted flows of senior surface water irrigators, in an amount consistent with the depletion estimates of this report. The management plan should involve all interested parties.

CONCLUSIONS AND RECOMMENDATIONS

Several conclusions are apparent from this investigation. They include:

1. Flow of the Big Lost river is affected by weather and by long-term changes in the amount of consumptive water use in the valley.
2. The consumptive water use has increased substantially in the last few decades due to an extension to full season irrigation and an expansion of the irrigated acreage.
3. Ground-water pumping has made the expansion of irrigated acreage possible, and provides a sizable proportion of the water applied on the expanded acreage.
4. Ground-water pumping is largely used to supplement surface-water diversions, and ground-water pumping increases in years of low surface water supply.
5. Ground-water recharge from surface water irrigation has diminished due to application over larger acreage and conversion to more efficient sprinkler application methods.
6. Diminished recharge from surface water irrigation and increased ground-water withdrawals, together have caused a reduction in flow of Big Lost River and consequently have depleted the supplies of surface water irrigators.
7. Diversion records indicate that surface water diversions for irrigation have decreased in recent years. The magnitude of the depletion varies with the water year.
8. The reliability of the diversion records, and consequently of the depletion estimates, is uncertain. Diversion depletion estimation procedures of this report, however, are probably the best available. With the available information it was not possible to proportion the amount of diversion depletion into components resulting from ground-water pumping and that caused by expansion of surface-water irrigated acreage.

9. The impact attributable to ground-water pumping or expansion of surface water irrigated area varies with the year and the proportion of the total irrigation water derived from pumping. Pumping is reduced in years of plentiful surface water supply, however the recharge from surface water is probably diminished in those years (relative to pre-1960), due to application over larger cropped areas.

Recommendations for managing the water resources of the basin, and for future investigation include:

1. A cohesive organization of all water users in the basin could greatly contribute to development of water management strategies, and improve the effectiveness and efficiency of implementation of the selected strategies.
2. Relationships developed in this report provide a method that may be used for determining the magnitude of mitigation to damaged surface water users.
3. Further investigation into changes in the irrigation practices and areas of the basin should be initiated. This research would help refine estimates of depletion and would further the understanding of the individual impacts of ground-water pumping and expansion of areas irrigated with surface water.
4. Irrigation pumpage and diversions should be closely monitored in future years to refine the understanding of pumping impacts on diversions.

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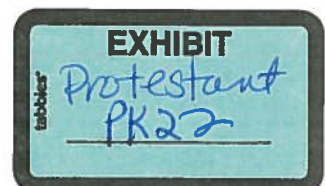
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Department of Water Resources
Eastern Region

REVIEW OF GROUND-WATER CONDITIONS
IN THE
BIG LOST RIVER VALLEY

by

Stanley P. Szczepanowski
Idaho Department of Water Resources
December 1982



Preface

This report was originally drafted in 1982, but was not completed for release prior to Mr. Szczepanowski's resignation. The report is now being issued in response to concerns relating to the issuance of additional water right permits. Hydrographs in the report have been updated to include more recent data and some minor editing of the text has been performed.

As discussed in this report, hydrologic studies performed by Crosthwaite, et al. (1970a and b) clearly express the close and inseparable relationship that exists between the surface- and ground-water systems. Later work by the U.S. Geologic Survey supports this view. The degree of interconnection between them varies both spatially and temporally. To remove water from one, will eventually affect the other. Available geologic data indicate no laterally extensive confining layers exist that isolate the Big Lost River from a "deeper" ground-water system.

Most of the outflow leaving the basin occurs as ground-water underflow. Although estimates of the underflow vary, the figures imply that the total water resource would be adequate for present levels of use if distribution problems could be solved.

In order to mitigate conflicts between users, the surface- and ground-water resources of the basin should be managed conjunctively. A detailed plan needs to be developed with this in mind, before additional development should be allowed to occur and further aggravate the problems that currently exist.

Steven J. Baker
Idaho Department of Water Resources
May 1989

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REVIEW OF GROUND-WATER CONDITIONS IN THE BIG LOST RIVER VALLEY

Introduction

During the twenty years of the 1960's and 1970's, the use of ground water in the Big Lost River Valley has grown greatly. With this increase in use, came alterations of the hydrologic relationships and interactions between ground water and surface water. Recently, there have been concerns expressed for better water resource management; these have been made by both the public and by the Idaho Department of Water Resources (IDWR). Protests have been made to IDWR by water users who are alarmed by a number of applications for ground-water withdrawals. The fear is that new withdrawals will have adverse effects on other water users.

Purpose and Scope of Study

In order to advise IDWR administrators of the courses open for management of the water resources in the Big Lost River basin, the recommendations offered in the only available detailed basin studies (Crosthwaite, et al., 1970 a and b) were evaluated for their suitability and application. It must be recognized that the 1970 recommendations were developed from field work done from 1966 to 1969 and that no new field work directed in the search for new management ideas and options has been performed since 1969.

This report primarily attends to matters concerning ground water, even though the intimate connection between surface water and ground water is clearly presented numerous times in the 1970 reports; this finding of the importance of the connection is herein reinforced.

Past Studies

As part of a water resources study of the Snake River Plain in southeast Idaho, the Big Lost River basin was studied in the 1920's and 1930's (Stearns, et al., 1938). It was later investigated in detail by the U.S. Geological Survey (USGS) in the 1960's (Crosthwaite, et al., 1970). The mouth of the basin where it joins the Snake Plain aquifer was the subject of a study published in 1973 (Crosthwaite) and, more recently, the basin was examined as part of a water quality survey in five east-central Idaho valleys (Parliman, 1982).

Description of the Physical Environment

Location - The Big Lost River basin, 1400 square miles in area, is found centrally in the lower half of Idaho. More than 50 percent of the basin is situated in Custer County; this is the headwaters section. The lower portion is in Butte County. There is no actual mouth of the Big Lost River since the river seeps into the earth materials on the desert southeast of Arco and is completely lost to the ground water of the Snake River Plain in a variable length of river channel downstream from Arco where the river has left the Big Lost Valley and flows over the Snake River Plain.

The towns in the basin, listed in downstream order, include Chilly, Mackay, Leslie, Darlington, Moore and Arco. Mackay Reservoir, an impoundment on the Big Lost River, is located approximately three miles upstream from Mackay (Figure 1).

Climatology

The climatic character of the basin can be described as a continental type in which there is a large variability in seasonal and daily temperatures, in wind directions and velocities, and in precipitation. Monthly temperature means for the basin, at an elevation of 5897 feet (Mackay, Idaho), range from 16.9° (January) to 66.8°F (July); the annual mean is 42.1°F (based on the period 1931-1960). At the higher elevations in the mountains, winds from the west generally prevail while valley winds are variable. An isohyetal map of the basin shows isohyetal lines indicating annual precipitation varies from 10 to 45 inches (for the period 1944-1968).

Geology

The geology has been discussed in Crosthwaite, et al. (1970a) and in Crosthwaite (1973).

The uplands are composed of a sedimentary sequence of limestone, dolomite, quartzite, sandstone, shale and argillite. Intrusions of granitic rock occurred at some places into the sedimentary units while volcanic materials cover an extensive area of the higher sedimentary rocks. Basalt from the Snake River Plain is found at the surface in the south end of the

Big Lost River basin; it exists also as subsurface flows by and north of Arco, Idaho.

Alluvium is present in two forms, cemented and unconsolidated. A calcite cement binds together fragments of sandstone, quartzite and limestone of the old alluvial fans. The unconsolidated materials are composed of clay to boulder size particles and, in places, range greatly in the degree of sorting. Geophysical information indicates that these deposits are from 2000 to 3000 ft. thick in the Thousand Springs and Barton Flats areas (Figure 1). An alluvial fill over 5000 ft. thick is known to occur in the area east of Mackay, Idaho. The fill thins from Leslie southward until, near the mouth of the valley at Arco, it may be about 2500 ft. thick.

Hydrogeologic Characteristics of Earth Materials

All materials in the basin can contain and transmit water in varying degrees. At the higher elevations, recharge occurs in the fractures of the consolidated rock units. Some of the water is discharged to streams, sustaining their flows in dry periods. Another portion of the ground water continues down slope entering the valley alluvium and may not enter surface water courses. Numerous streams lose all their flow to the highly permeable colluvial and alluvial fans found at the edge of or near the valley floor.

Precipitation on the valley floor and stream channel losses are the two other primary sources of recharge to the ground-water reservoir. Additional recharge occurs from irrigated lands.

Natural discharge of ground water occurs into gaining reaches of the Big Lost River, as springflow, as ground water leaving the basin south of Arco, and as evapotranspiration where the water table is at or near the land surface. Ground water is also artificially discharged through wells.

By far, the most important aquifers in the basin are those made of coarser materials in the valley alluvium. The valley fill is very heterogeneous, especially away from the flood plain of the Big Lost River and toward the edges of the valley. Within many areas of the flood plain, older alluvium has been reworked by the river so that thick deposits of sands and gravel occur.

While water table conditions are present in the valley, localized perched and artesian conditions are also known. The great variability in the sediments accounts for this. It appears the basin has widely scattered lenses of low permeability materials that allow perched and artesian zones to develop. The areal extent of these lenses is not defined at present.

Surface Water-Ground Water Interactions

In the Big Lost River basin, several naturally occurring areas of exchanges between surface water and ground water are known. Great volumes of water vanish into permeable materials in the Chilly, Darlington, and other sinks and emerge in the channel above Mackay Narrows, above Moore Canal heading, and in other reaches. Figure 2 shows, in a relative, unquantified way, these changes. In addition to natural fluxes, there are also effects produced by irrigation wells. Where such wells are near the main

river channel and are completed in materials that are hydraulically connected with the river, there is stream depletion by wells. The depletion occurs primarily in T5N R26E and southward to a point just upstream from Arco. From there the river begins to lose water to the ground-water reservoir of the Snake River Plain and never again regains ground water. Other reaches where the river may lose appreciable volumes of water are shown in Figures 3 and 4.

Uses of Water

Water is used for domestic, stock and agricultural purposes. The last use is the largest of the three. While, in the past, the river was the primary source of water for agriculture and was measured at diversion points, there is now no adequate program of measurement. As the surface water resource approached, a fully appropriated status, farmers turned to the development of ground water for irrigation. Ground water was also developed to supplement the surface-water supply in drier years.

Interest in previously irrigated land southwest of Arco (in T3N R26E) has led to the practice of pumping ground water in an upstream part of the basin, putting it into a canal, and moving it to a more southern locale where it is diverted for irrigation. Some water users are very concerned about this practice. They fear that water levels in nearby wells may be lowered. While no field study has been conducted to verify this for existing wells near well involved in such canal transfer of water, it is obvious

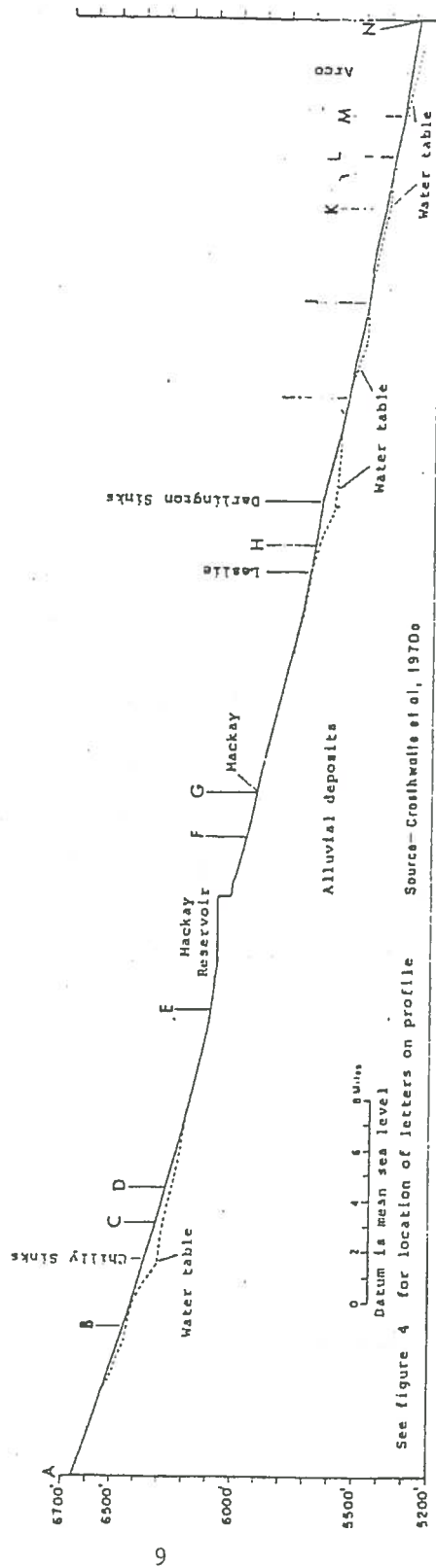


FIGURE 3----- Profile of Big Lost River showing the position of the water table.

that the area around the well receives no benefit of recharge. While there are transmission losses from the canal that carries the water away, the major portion of the pumped water could be considered as a consumptive loss to the area around the well.

Information on the wells in the basin is found in Table 1 and Figures 5 and 6 show the well distribution in part of the basin.

Ground-Water Level Changes

As part of the 1970 USGS study, seasonal changes in water levels were monitored from July 1966 to September 1968. These observations were made in selected wells from the Chilly Sinks area to the Butte City area, southeast of Arco. Usually, lowest levels were observed in late winter and early spring when streamflow is at a minimum and canals are empty. From midsummer to early autumn, the levels were highest when river flow is larger and canals are full.

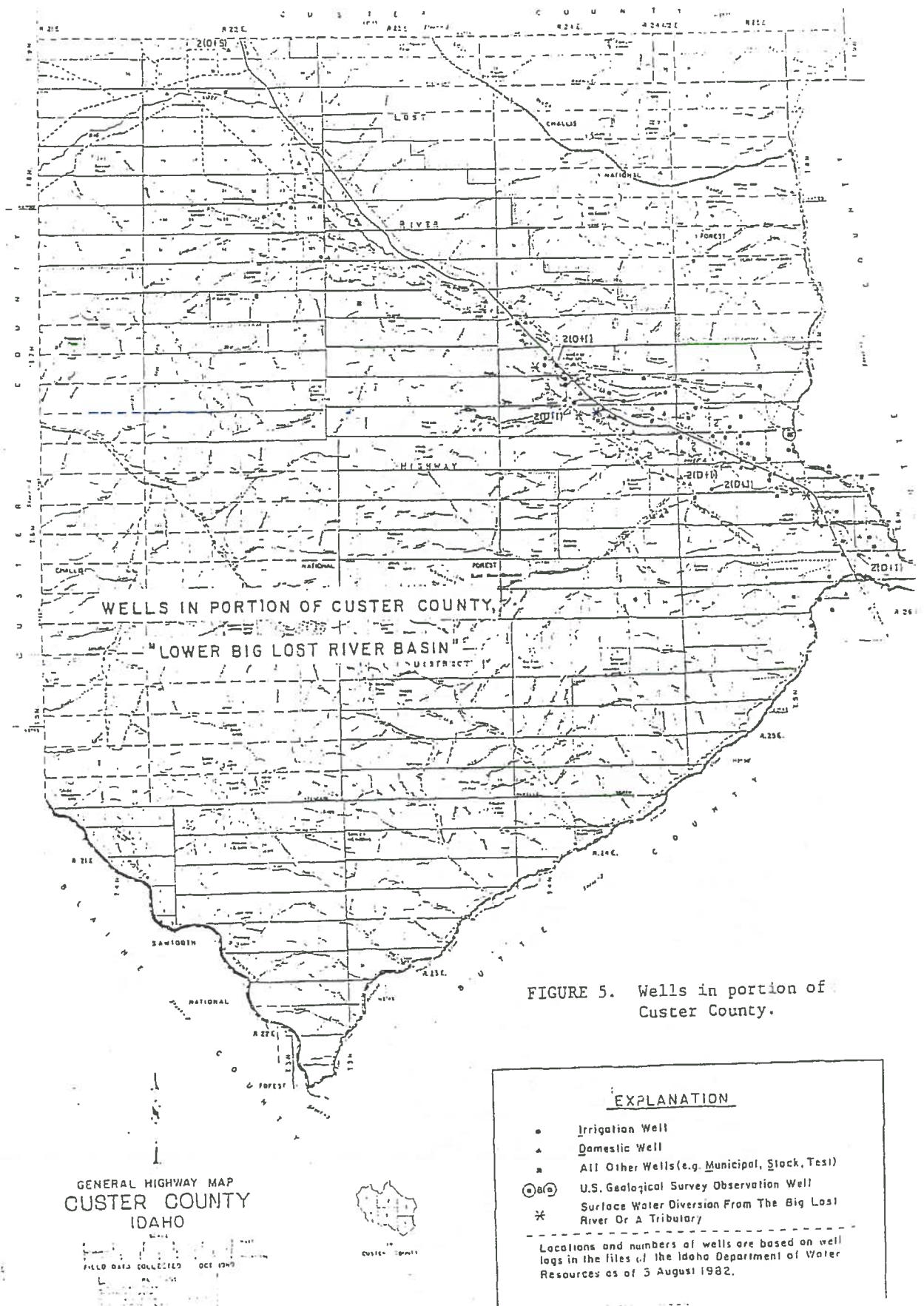
Within the basin, the USGS makes observations now in six wells; one is in Thousand Springs Valley at the upper end of the basin, another well is found in T6N, R25E, and the others are near the mouth of the basin; some of these are shown in Figures 5 and 6. Hydrographs for these wells are included as Figures 7 to 12. Those hydrographs of special interest are for wells located in T4N and T5N, R26E, and area in which the use of ground water has increased greatly in recent years. The five observation wells in T2 and 3N are presented since these may reflect either changes in the Big Lost basin, or alterations in the Snake Plain

TABLE 1. WELLS IN THE BIG LOST RIVER VALLEY^{1/}

Township	Number of Wells			Range of Depths, in feet		
	Irrig.	Domestic	Others ^{2/}	Irrig.	Domestic	Others ^{2/}
9N-21E	4	1	0	267-433	95	---
9N-22E	1	2	2	150	42, 51	49, 53
8N-21E	0	2	2	---	32, 37	38, 127
8N-22E	4	3	3	86-135	44-88	26-56
8N-23E	1	2	0	105	30, 50	---
7N-23E	0	3	1	---	70-82	98
7N-24E	13	19	6	30-152	20-180	42-398
7N-25E	6	0	0	120-297	---	---
7N-26E	1	0	1	91	---	468
6N-24E	5	3	0	99-245	36-57	---
6N-25E	28	15	0	63-233	30-80	---
6N-26E	9	8	1	55-250	43-120	19
5N-25E	7	0	1	180-251	---	108
5N-26E	28	14	3	110-250	40-220	68-174
4N-24E	0	1	1	---	34	110
4N-25E	1	3	4	30	51-180	60-300
4N-26E	50	27	4	18-272	39-169	51-320
3N-25E	0	0	4	---	---	300-416
3N-26E	7	16	0	61-840	30-170	---
3N-27E	1	5	2	85	55-550	72-850
TOTALS	166	124	35			

^{1/} As of August 3, 1982; source: IDWR well logs on file.

^{2/} Includes stock, test, observation and municipal wells.



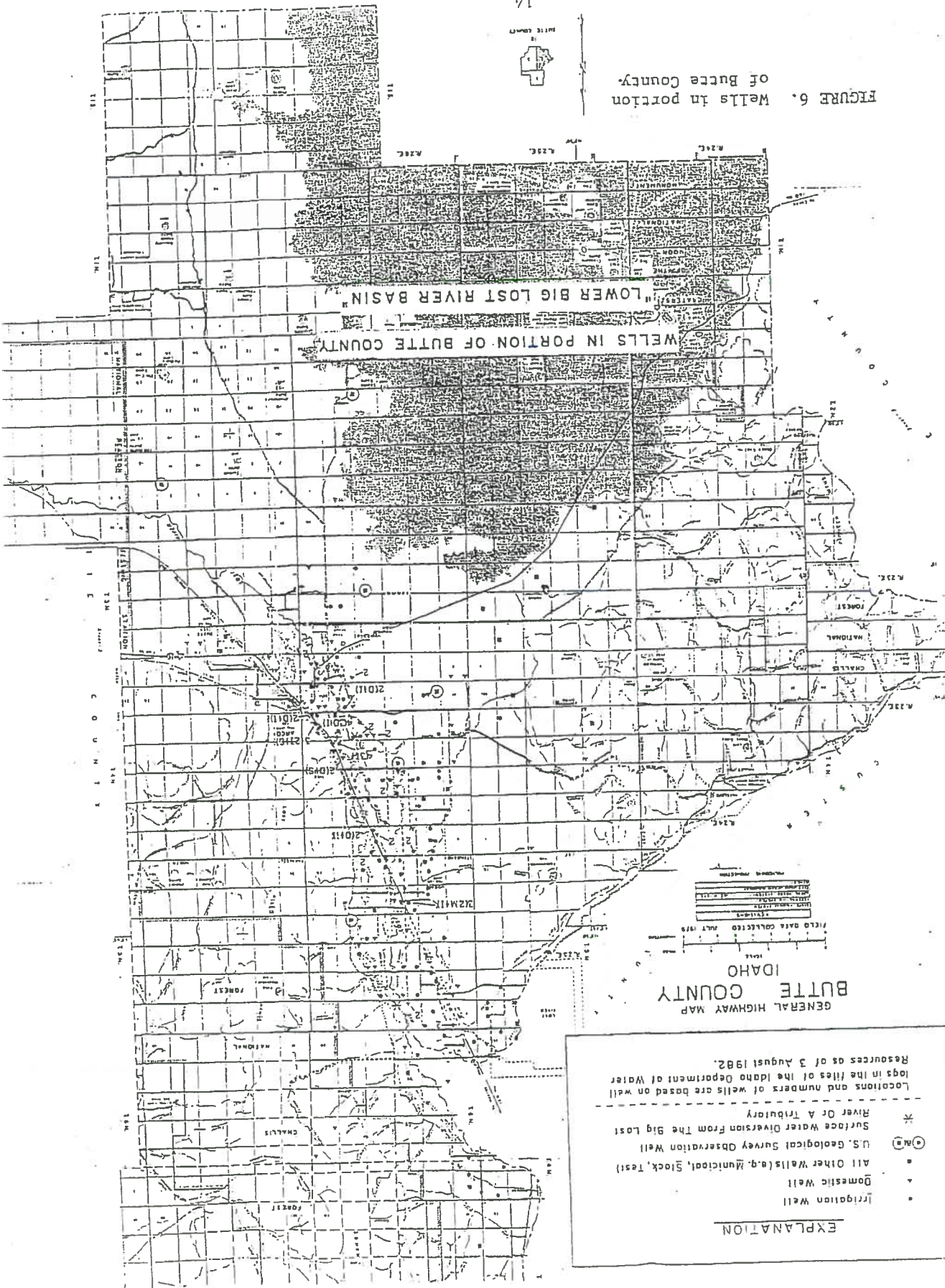


FIGURE 6. Wells in portion of Butte County.

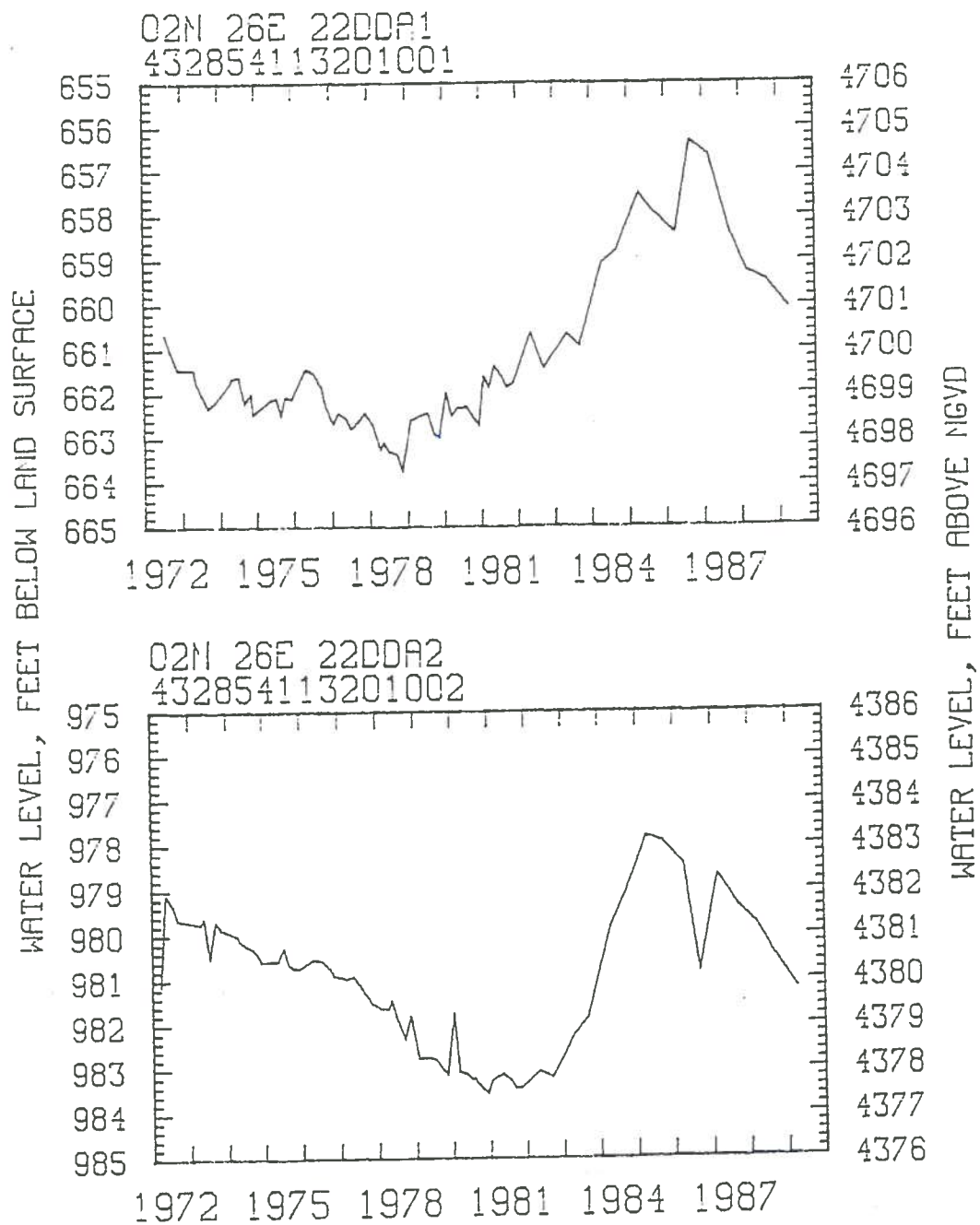


FIGURE 7. Hydrographs of wells 02N26E22DDA1
and 02N26E22DDA2.

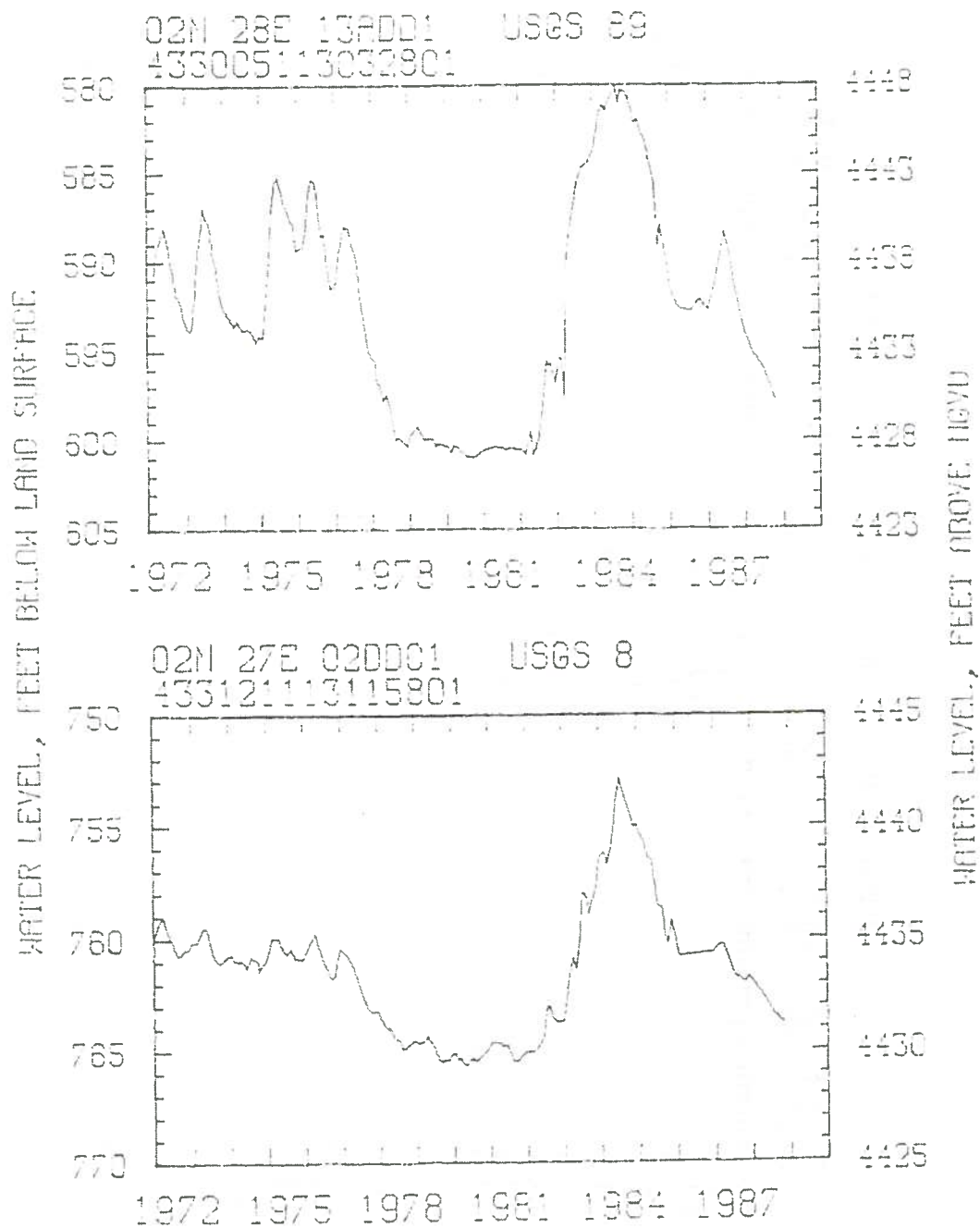


FIGURE 8. Hydrographs of wells 02N28E13ADD1 and 02N27E02DD01.

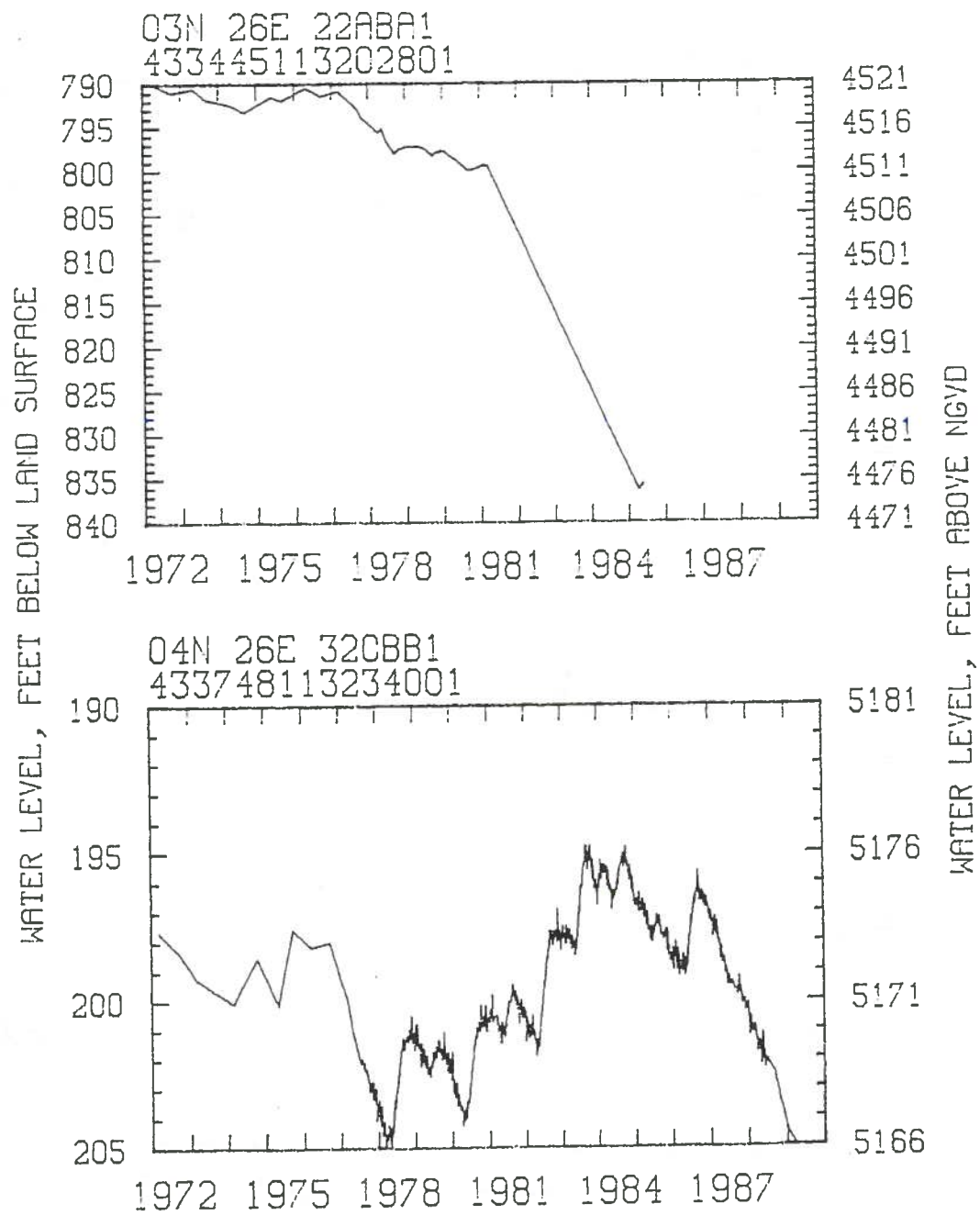


FIGURE 9. Hydrographs of wells 03N26E22ABA1
and 04N26E32CBB1.

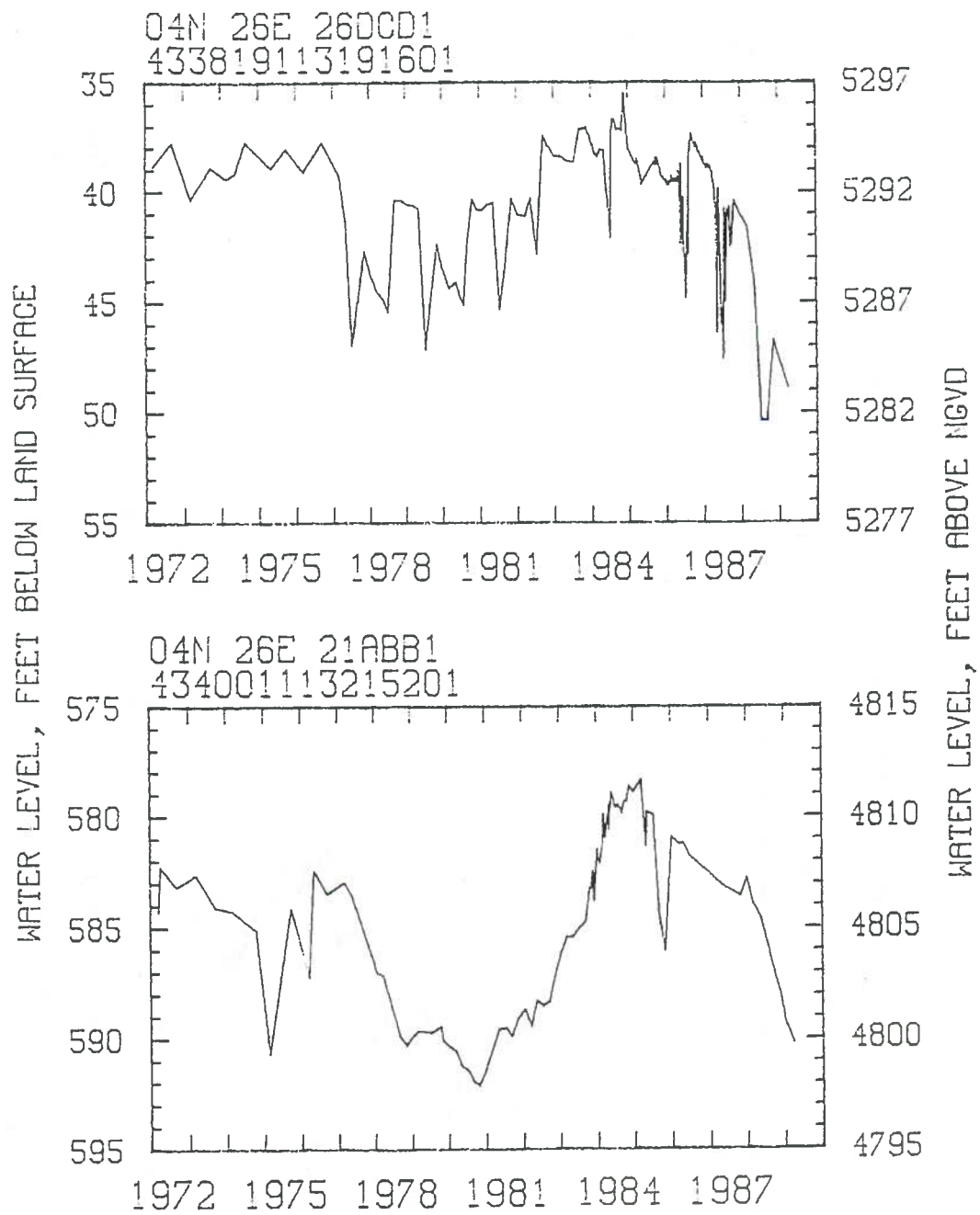


FIGURE 10. Hydrographs of wells 04N26E26DCD1 and 04N26E21ABB1.

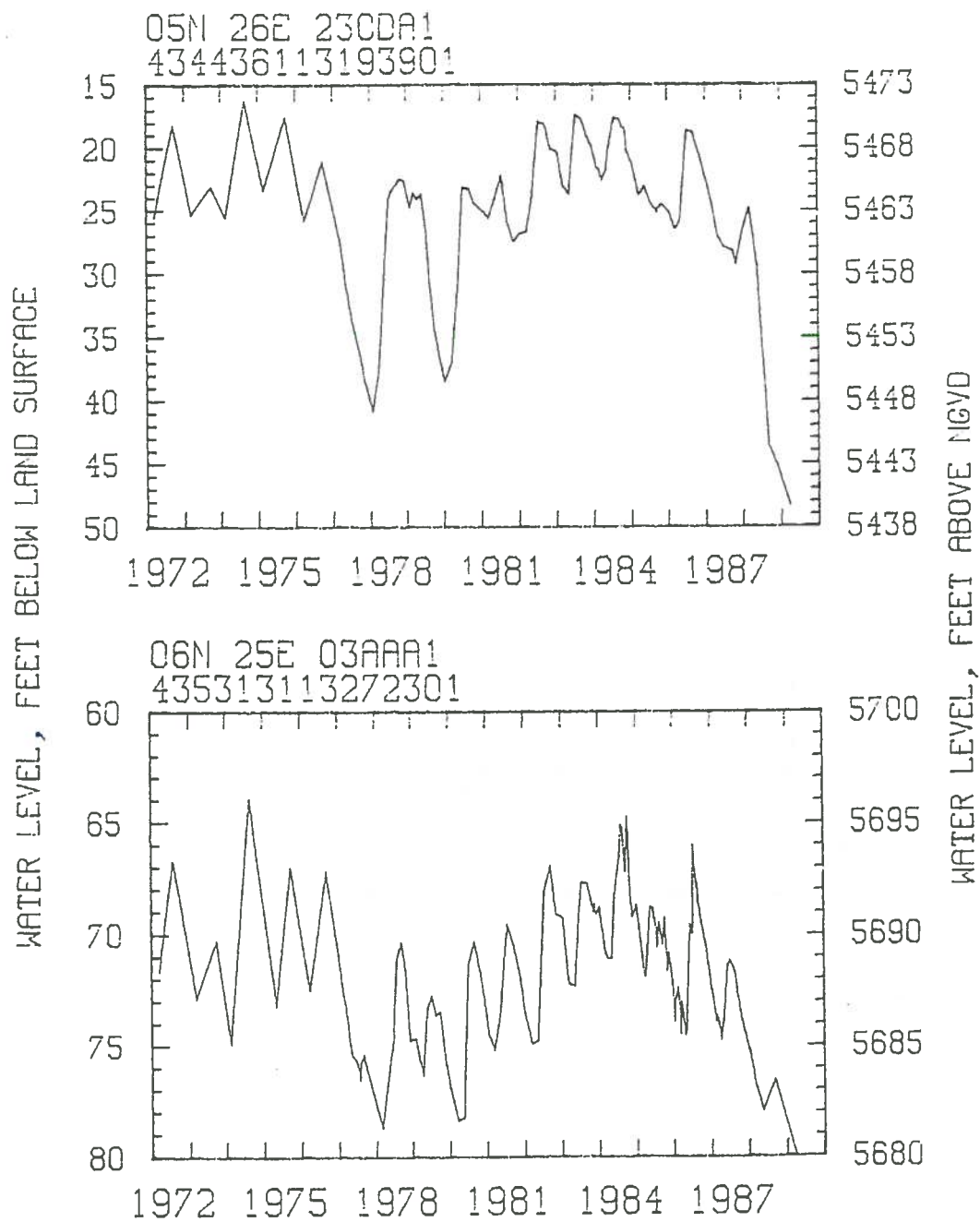


FIGURE 11. Hydrographs of wells 05N26E23CDA1
and 06N25E03AAA1

WATER LEVEL, FEET BELOW LAND SURFACE

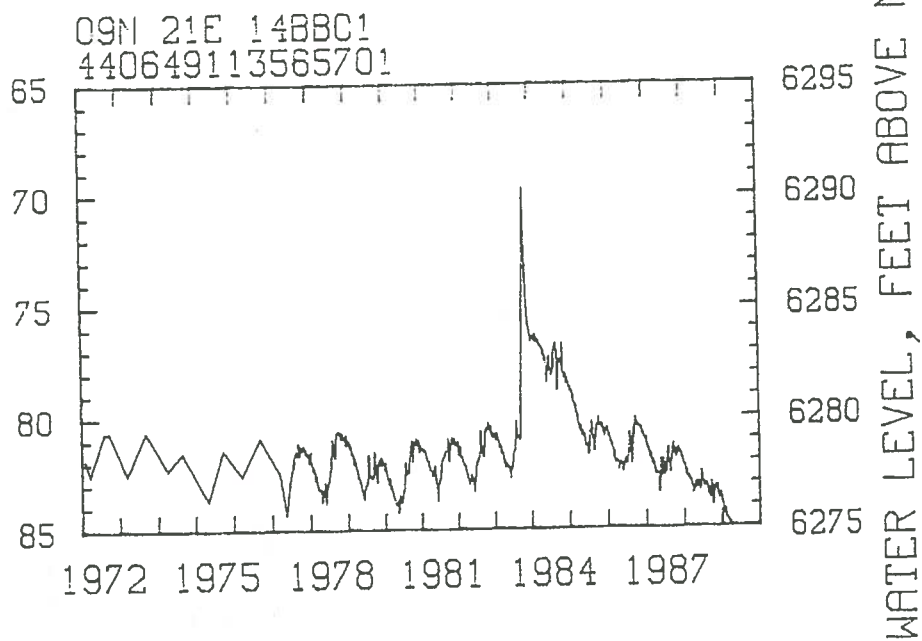


FIGURE 12. Hydrograph of well 09N21E14BBC1.

aquifer caused by increased development of ground water for irrigation or, perhaps, long-term changes from climatic trends affecting the upper Snake River and tributary basins.

Ground-Water Flow Leaving the Valley

From a point about two miles northwest of Arco, the Big Lost River begins to lose its entire flow to the ground water of the Snake Plain aquifer. Underflow from the Big Lost River Valley also moves southward to enter the Snake Plain aquifer. The 1970 USGS study reported that 425 cfs is the ground-water outflow at the mouth of basin south of Arco. In his 1978 thesis, Newton calculates that 227 cfs passes Moore as ground-water underflow. Down gradient from the Moore area there are wells which penetrate this flow, reducing it by an unknown degree. The cross section in Figure 13 shows the sharp drop in the water table as the alluvium of the valley connects with the highly permeable basalts of the Snake Plain aquifer. If adjustments were to be made to Newton's figure, to include the added ground-water recharge from the river and canals, then the two estimates might be rather similar.

Water Management Possibilities and Options

Ideas Crosthwaite (1970 a and b) presents for water management rest entirely upon the recognition that surface water and ground water are not independent of each other but are directly associated. This understanding leads to proposals of conjunctive use management, something which Crosthwaite mentions frequently.

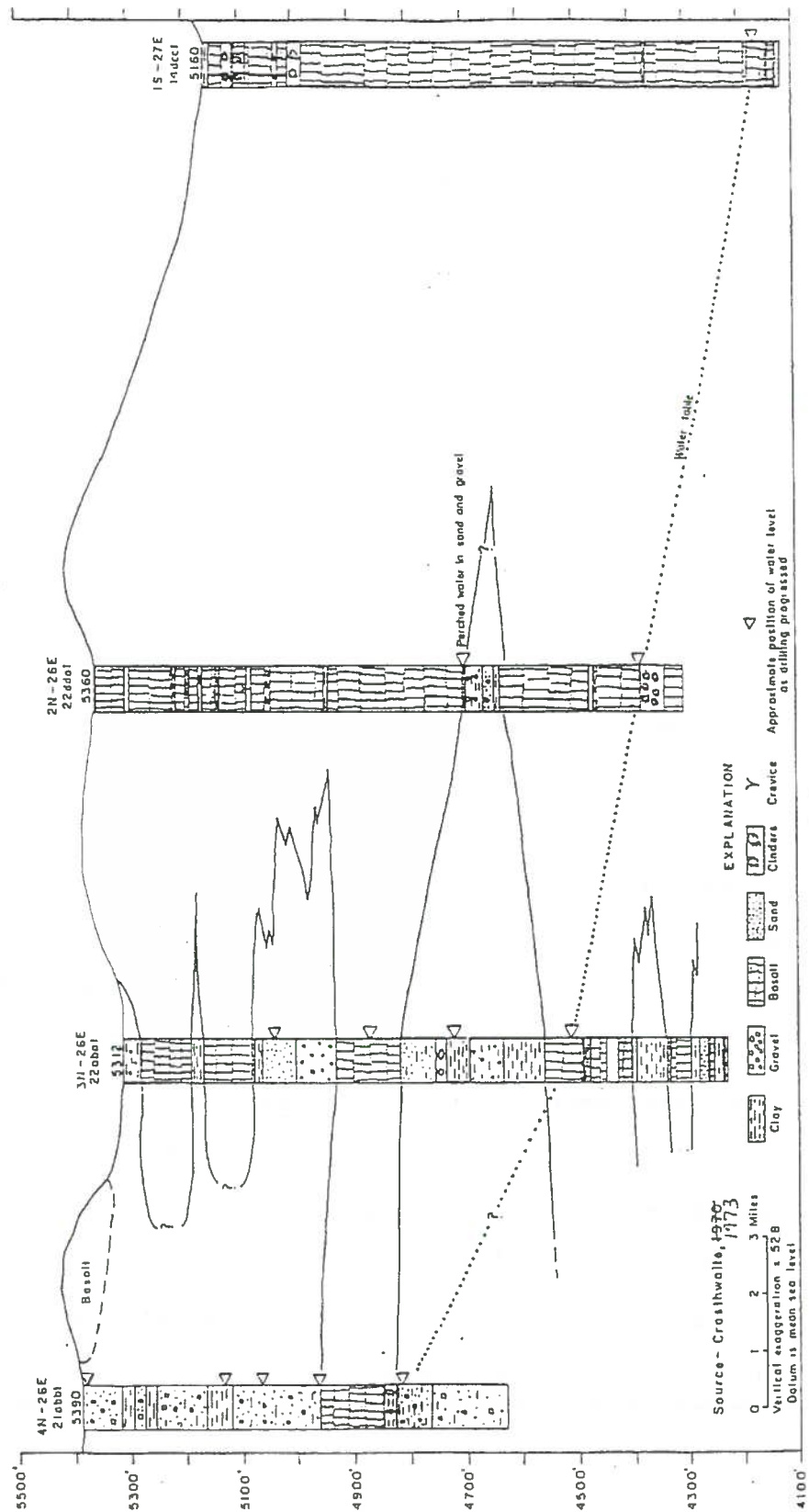


FIGURE 13. Geologic section through observation well near Arco.

Considering first those measures that would either increase surface water storage, improve the efficient use of surface water or detain surface water for useful application, Crosthwaite proposes:

- 1) Pumping water, leaking as ground water from Mackay Reservoir back into the reservoir; diverting Lower Cedar Creek to Mackay Reservoir; lining the channel of upper Cedar Creek to Mackay Reservoir.
- 2) Constructing reservoirs upstream from Mackay Reservoir and using the stored water in a recharge distribution system in the Chilly Sinks area. This recharge to ground water would move into the upstream end of Mackay Reservoir and could be timed so that it would enter the reservoir during times of peak irrigation use. Upstream storage would diminish the adverse effects of flood flows by allowing controlled release of stored surface water to the permeable materials in the Chilly-Barton Flats area where recharge of the ground-water system would occur. Use of the old Utah Construction Co. canal to convey flood flows to the basalt lava plain south of Arco would also be beneficial.
- 3) Improving surface water irrigation efficiencies and application techniques. Using sprinklers, lining canals, leveling the land, having better control of the length of time water is applied and carefully choosing the length of furrows are steps to insure lower losses

from the surface water system and to reduce the consumptive use of water by phreatophytes that would otherwise grow along water distribution systems. One of the USGS reports (Crosthwaite et al., 1970b) states that the loss of recharge to the ground-water reservoir from the use of these methods would be an insignificant factor since annual recharge is great.

Regarding ground-water management options, the USGS reports offer the following:

- 1) While ground water removed from the alluvium between Arco and Moore could be used to irrigate the Era Flats, the pumping would adversely affect surface water flows in this same stretch of the basin. According to limited USGS work done in the 1960's, it seems likely that a deep basalt aquifer and the underlying alluvium, located northwest of Arco, would be a better source of water since pumping from these aquifers would have less of an undesirable influence on the river. However, the water yielding ability of these aquifers is unknown.
- 2) Pump ground water from the Chilly area to the upper end of Mackay Reservoir into the reservoir (via lined ditches or pipelines) to augment the storage in the reservoir, making it available later during irrigation season.

- 3) Recharge excess surface flows during the period April to June into the highly permeable materials in the Chilly-Barton Flats area. This water dispersed from the Big Lost River into canals and ponds would be discharged from the ground-water system into Mackay Reservoir.
- 4) Divert surface water below the reservoir, into canals in the late winter-early spring, in order to recharge the sides of the basin.

Conclusions

From understanding of the 1970 USGS reports, I conclude that:

- 1) Above all else, the surface-water and ground-water systems act interdependently, with a change in one that soon affects the other. The uses of ground water and surface water appear to be in greatest conflict through the pumping in the shallow, localized ground-water system along certain specific river reaches. This is manifested by stream depletion due to the pumping of wells near the river. The effects of depletion are most rapid and severe on streamflow from wells that are shallow and are completed in highly permeable earth materials, yield a large amount of water, are operated for a long length of time, and are close to the river.
- 2) Considering the total water yield of the basin, there is certainly no shortage. However, it must be expected

that the pumping of the ground-water system will continue to create imbalance of varying degrees with surface-water supply. This is so because of differing water supply needs among irrigators (i.e., both quantities and length of time wells are pumping). The cumulative effect upon the river and its users from many wells cannot be easily predicted.

- 3) Although the USGS 1970 reports indicate that wells along certain reaches of the river will not directly affect river flow, it is believed, based on conclusion 1 and fundamental hydrogeologic principles, that ground-water development, occurring in areas where the river is above and not connected with the underlying water table, would alter the ground-water hydraulic gradient. In areas upstream, recharge to the ground-water system furnished by the river would increase and in areas downstream, recharge to the river supplied from the ground-water system would decrease. The net effect then is surface flow reduced by some degree. Below Arco, pumping from the deep regional aquifer should not affect the river flow.
- 4) The USGS reports point out several shortcomings in the management options listed previously in this study. With the surface-water shortage upstream of Mackay Reservoir, there have been no detailed analyses of storage capacities nor of benefit-cost ratios of

reservoir construction and operation. In addition, there have been periods when all surface water and tributary ground water upstream from Mackay Reservoir were committed totally to the filling of the reservoir. One of these periods lasted for 10 years. This indicates that replacement schemes using water upstream from the reservoir would not accomplish the desired replacement. For the same reason, the recharging of the Chilly-Barton Flats would not actually be replacement and could cause high water tables just upstream from Mackay Reservoir, so that farming operations would be retarded. In the pumping of the Chilly Flats area to furnish piped or conveyed (without leakage) water to Mackay Reservoir, the swampland in Thousand Springs Valley and in the area just upstream from the reservoir would shrink; crops grown in these tracts, where subirrigation apparently furnishes water to the plants now, would be irrigated with pumped ground water. Lastly, in the plan to recharge the lower basin by running high surface flows in canals from late winter into early spring, it is thought that this water would not be retained sufficiently long in the earth materials but rather would move quickly into the lowlands along the river, recharge the river, and interfere with the cultivation of crops in the low lying lands.

Perhaps the most vexing aspect though, in the ground-water proposals especially, is that no one knows how the priority system of water rights might be upset. As the reports frequently point out, the Big Lost basin is an ideal one for conjunctive use of water despite the recognition that water users may not be eager to convert to an innovative system of water management. If this or any other management approach is to be undertaken, it is essential that the diversions of surface water be adequately measured. Withdrawals from existing exchange wells should also be measured. A great deal of information on use and time-effect relationships would be needed before conjunctive use could ever be pursued.

- 5) Despite the fact that ground water is leaving the basin below Arco, to utilize it upbasin from Arco will lead so some cumulative reduction in surface flow in downstream areas. The closer to Arco that any future ground-water uses for irrigation are restricted means that losses in surface water flow will be minimized. The Big Lost River gains no important contribution of ground water south of Arco.

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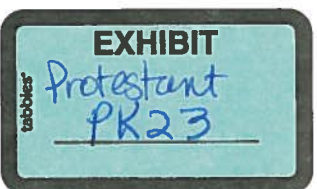
Whitehead, R., 1981: personal communication.

Right No.	Source	Priority	Flow	POD Then (originally)	POD Now	Acres Then in Sections	Acres Now in Sections
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34-2289	Ground	5/13/1949	1.0	NESE S14 T3N	NESE S14 T3N	280 in 14&23	280 of 306 in 14&23
34-2490	Ground	10/25/1966	2.09	NESE S14 T3N	NESE S14 T3N	276.5 in 14&23	119 of 306 in 14&23
34-2497	Ground	9/27/1966	0.57	SENE S11 T3N	NWNESE S11 T3N NENESE S11 T3N NENESE S11 T3N NESWSW S34 T5N	55 in 11	55 480 in 10&11
34-2505	Ground	3/3/1967	1.06	NESE S11 T3N	NWNESE S11 T3N NENESE S11 T3N	103 in 11	103 of 480 in 10&11
34-2506	Ground	3/2/1967	1.174	NESE S11 T3N	NWNESE S11 T3N NENESE S11 T3N	114 in 11	114 of 480 in 10&11
34-4008	Ground	4/30/1961	2.6	NESW S11 T3N	NWNESE S11 T3N NENESE S11 T3N NENESE S11 T3N NESWSW S34 T5N	200 in 10&11	200 of 480 in 10&11
34-7176	Ground	5/29/1977	7.8	NESWSW S34 T5N	NESWSW S34 T5N	415 in 14,23 &18	885 in 10,11, 14,23&18
34-635	River	8/1/1896	2.0	NWNNWNW S26 T4N	NWNNWNW S26 T4N	306 in 14&23	306 in 14&23
34-2313	River	8/2/1954	1.2	NENWSE S12 T3N	NENWSE S12 T3N	99 in 18	99 in 18
34-7145	River	4/15/1976	4.4	NWNNWNW S26 T4N	NWNNWNW S26 T4N	786 in 10,11, 14&23	786 in 10,11, 14&23
34-10395	Expansion	5/1/1976	0.26	None	None	None	26 of 306 in 14&23
34-12368	Expansion	8/1/1985	3.75	None	None	None	375 of 885 in 10,11,14,23&18

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Department of Water Resources
Eastern Region



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IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-2289

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	WILSE A NIELSON ARCO, ID 83213

Priority Date: 05/13/1949

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	4/01	10/31	1 CFS	
Total Diversion			1 CFS	

Location of Point(s) of Diversion:

☐ GROUND WATER | NENESE | Sec. 14 | Township 03N | Range 26E | BUTTE County

IRRIGATION Use:

Acre Limit: 280

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03N	26E	14		NESE	36.5		NWSE	37.5		SWSE	40		SESE	39
		23		NENE	39		NWNE	40		SWNE	37.5		SENE	36.5

Total Acres: 306

☐ Conditions of Approval:

1. E16 THIS WATER RIGHT SHALL BE ADMINISTERED AS SEPARATE FROM THE BIG LOST RIVER AND ITS TRIBUTARIES.
USE OF THIS RIGHT WITH RIGHT NOS. 34-02490 AND 34-10393 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 3.09 CFS. USE OF THIS RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 21.62 CFS
2. AND A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-00635, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07146, 34-10393, 34-12368.
USE OF THIS RIGHT WITH RIGHT NOS. 34-00635, 34-02490 AND 34-10393 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 306 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS RIGHT WITH RIGHT NOS. 34-00635, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145 AND 34-10393 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 786 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS
3. RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-00635, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07146, 34-10393 AND 34-12368. THIS RIGHT IS LIMITED TO THE IRRIGATION OF 280 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE

- Dates:

Decreed Date: 11/13/2000

Permit Proof Made Date:

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit:

Combined Volume Limit:

Combined Rate Limit: 3.09

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

File Name: C:\Program Files\Microsoft Office\Office\Word\Word.doc SequenceNumber=22908 SplitSuffix=8 Type\WaterRight=True

 Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-2490

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	MOUNTY L DICK PO BOX 67 ARCO, ID 83213
Original Owner	N RULON BURKE 3490 W 3600 N MOORE, ID 83255-8731

Priority Date: 10/25/1966

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	4/01	11/01	2.09 CFS	
Total Diversion			2.09 CFS	

Location of Point(s) of Diversion:

GROUND WATER|NENESE|Sec. 14|Township 03N|Range 26E|BUTTE County

IRRIGATION Use:

Acre Limit: 119

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03N	26E	14		NESE	36.5		NWSE	37.5		SWSE	40		SESE	39
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2. TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176, 34-10393 AND 34-12368.
USE OF THIS RIGHT WITH RIGHT NOS. 34-02289, 34-10393 AND 34-00635 IS LIMITED TO IRRIGATION OF A COMBINED TOTAL OF 306 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS RIGHT WITH RIGHT NOS. 34-00635, 34-02289, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145 AND 34-10393 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 786 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS
3. RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176, 34-10393 AND 34-12368. THIS RIGHT IS LIMITED TO THE IRRIGATION

OF 119 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

4. C18 THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.
5. C05 RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.
6. THE FOLLOWING RIGHTS ARE ALSO DIVERTED THROUGH POINT OF DIVERSION DESCRIBED ABOVE: 34-02289 AND 34-10393. RIGHT NO. 34-10393 IS AN EXPANSION OF THIS RIGHT PURSUANT TO SECTION 42-1426, IDAHO CODE.

Dates:

Licensed Date:

Decreed Date: 01/31/2002

Permit Proof Due Date:

Permit Proof Made Date:

Permit Approved Date:

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit:

Combined Volume Limit:

Combined Rate Limit: 3.09

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

 Close

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report

7/19/2013

WATER RIGHT NO. 34-2497

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	FARM CREDIT BANK OF SPOKANE 409 SHOSHONE S STE 25 PO BOX 308 TWIN FALLS, ID 83303-0308 (208)734-0882

Priority Date: 09/27/1966

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	04/01	10/31	0.57 CFS	192.5 AFA
Total Diversion			0.57 CFS	

4. X35 Rights 34-2497, 34-2505, 34-2506 and 34-4008 when combined shall not exceed a total diversion rate of 5.32 cfs, and the irrigation of 472.0 acres.
5. X35 Rights 34-635, 34-2289, 34-2490, 34-2497, 34-2505, 34-2506, 34-4008, 34-7145 and 34-10393 when combined shall not exceed the irrigation of 786.0 acres.
6. X35 Rights 34-635, 34-2289, 34-2313, 34-2490, 34-2497, 34-2505, 34-2506, 34-4008, 34-7145, 34-7176, 34-10393 and 34-12368 when combined shall not exceed a total diversion rate of 21.62 cfs, a total annual maximum diversion volume of 3784.0 af at the field headgate, and the irrigation of 885.0 acres.
Use of water under this right will be regulated by a watermaster with responsibility for the distribution of
7. R05 water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 34.
8. R02 A lockable device subject to the approval of the Department shall be maintained on the diverting works in a manner that will provide the watermaster suitable control of the diversion.
9. 214 Prior to the diversion and use of water under Transfer approval 77610, the right holder shall install and maintain acceptable measuring device(s) at the authorized point(s) of diversion in accordance with Department specifications, or shall obtain an approved variance from the Department to determine the amount of water diverted from power records or to maintain an existing measuring device.
10. 213 Upon specific notification of the Department, the right holder shall install and maintain data loggers to record water usage information at the authorized point(s) of diversion in accordance with Department specifications.
11. R63 This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 3.5 afa per acre at the field headgate for irrigation of the place of use.
12. Point of injection and point of redirection from the Big Lost River.
13. Water diverted from the point of diversion located in NESWSW, Sec. 34, T05N, 26E is delivered through the Island Canal, East Side Canal and Munsey Canal.
14. 004 This right does not grant any right-of-way or easement across the land of another.
15. T07 The right holder shall accomplish the change authorized by this transfer within one year of the date of this approval.
16. T08 Failure of the right holder to comply with the conditions of this transfer is cause for the Director to rescind approval of the transfer.
17. T19 Pursuant to Section 42-1412(6), Idaho Code, this water right is subject to such general provisions necessary for the definition of the rights or for the efficient administration of water rights as may be determined by the Snake River Basin Adjudication court at a point in time no later than the entry of the final unified decree.

Dates:

Licensed Date:

Decreed Date: 11/13/2000

Permit Proof Due Date:

Permit Proof Made Date:

Permit Approved Date:

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

 Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-2505

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	FARM CREDIT BANK OF SPOKANE 409 SHOSHONE S STE 25 PO BOX 308 TWIN FALLS, ID 83303-0308 (208)734-0882

Priority Date: 03/03/1967

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	4/01	10/31	1.06 CFS	
Total Diversion			1.06 CFS	

Location of Point(s) of Diversion:

GROUND WATER|NWNESW|Sec. 11|Township 03N|Range 26E|BUTTE County

GROUND WATER|NENESE|Sec. 11|Township 03N|Range 26E|BUTTE County

IRRIGATION Use:

Acre Limit: 103

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03N	26E	10		NESE	20		SESE	37						
		11		NENE	7		SWNE	34		SENE	37			
				SWNW	7		SENE	21						
				NESW	40		NWSW	40		SWSW	40		SESW	40
				NESE	38		NWSE	40		SWSE	40		SESE	39

Total Acres: 480

Conditions of Approval:

1. USE OF THIS RIGHT WITH RIGHT NOS. 34-02497, 34-02506 AND 34-04008 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 5.32 CFS. USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 21.62 CFS AND A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02506, 34-04008, 34-07145, 34-07176, 34-10393 AND 34-12368.
2. TWO POINTS OF DIVERSION LOCATED IN T03N, R26E, S11, NENESE.
USE OF THIS RIGHT WITH RIGHT NOS. 34-02497, 34-02506 AND 34-04008 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 472 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS RIGHT WITH RIGHT NOS. 34-00635, 34-02289, 34-02490, 34-02497, 34-02506, 34-04008, 34-07145 AND 34-10393 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 786 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS
3. RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A

COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02506, 34-04008, 34-07145, 34-07176, 34-10393 AND 34-12368. THIS RIGHT IS LIMITED TO THE IRRIGATION OF 103 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

- THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE
4. C18 WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.
5. C03 RIGHT INCLUDES ACCOMPLISHED CHANGE IN POINT OF DIVERSION PURSUANT TO SECTION 42-1425, IDAHO CODE.
6. C05 RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.
7. THE FOLLOWING RIGHTS ARE ALSO DIVERTED THROUGH POINTS OF DIVERSION DESCRIBED ABOVE: 34-02497, 34-02506 AND 34-04008.

Dates:

Licensed Date:

Decreed Date: 11/13/2000

Permit Proof Due Date:

Permit Proof Made Date:

Permit Approved Date:

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit: 472

Combined Volume Limit:

Combined Rate Limit: 5.32

Civil Case Number:

Old Case Number:

 Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-2506

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	FARM CREDIT BANK OF SPOKANE 409 SHOSHONE S STE 25 PO BOX 308 TWIN FALLS, ID 83303-0308 (208)734-0882

Priority Date: 03/02/1967

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	4/01	10/31	1.17 CFS	
Total Diversion			1.17 CFS	

Location of Point(s) of Diversion:

GROUND WATER|NWNESW|Sec. 11|Township 03N|Range 26E|BUTTE County

GROUND WATER|NENESE|Sec. 11|Township 03N|Range 26E|BUTTE County

IRRIGATION Use:

Acre Limit: 114

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03N	26E	10		NESE	20		SESE	37						
		11		NENE	7		SWNE	34		SENE	37			
				SWNW	7		SENE	21						
				NESW	40		NWSW	40		SWSW	40		SESW	40
				NESE	38		NWSE	40		SWSE	40		SESE	39

Total Acres: 480

Conditions of Approval:

1. USE OF THIS RIGHT WITH RIGHT NOS. 34-02497, 34-02505 AND 34-04008 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 5.32 CFS. USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 21.62 CFS AND A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-04008, 34-07145, 34-07176, 34-10393 AND 34-12368.
2. TWO POINTS OF DIVERSION LOCATED IN T03N, R26E, S 11, NENESE.
USE OF THIS RIGHT WITH RIGHT NOS. 34-02497, 34-02505 AND 34-04008 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 472 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS RIGHT WITH RIGHT NOS. 34-00635, 34-02289, 34-02490, 34-02497, 34-02505, 34-04008, 34-07145 AND 34-10393 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 786 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A
- 3.

COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-04008, 34-07145, 34-07176, 34-10393 AND 34-12368. THIS RIGHT IS LIMITED TO THE IRRIGATION OF 114 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

4. C18 THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.

5. THE FOLLOWING RIGHTS ARE ALSO DIVERTED THROUGH POINTS OF DIVERSION DESCRIBED ABOVE: 34-02497, 34-02505 AND 34-04008.

6. C03 RIGHT INCLUDES ACCOMPLISHED CHANGE IN POINT OF DIVERSION PURSUANT TO SECTION 42-1425, IDAHO CODE.

7. C05 RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.

Dates:

Licensed Date:

Decreed Date: 11/13/2000

Permit Proof Due Date:

Permit Proof Made Date:

Permit Approved Date:

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit: 472

Combined Volume Limit:

Combined Rate Limit: 5.32

Civil Case Number:

Old Case Number:

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-4008

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	FARM CREDIT BANK OF SPOKANE 409 SHOSHONE S STE 25 PO BOX 308 TWIN FALLS, ID 83303-0308 (208)734-0882

Priority Date: 04/01/1967

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	04/01	10/31	2.6 CFS	700 AFA
Total Diversion			2.6 CFS	

Location of Point(s) of Diversion:

GROUND WATER	NWNESW	Sec. 11	Township 03N	Range 26E	BUTTE County
GROUND WATER	NENESE	Sec. 11	Township 03N	Range 26E	BUTTE County
GROUND WATER	NENESE	Sec. 11	Township 03N	Range 26E	BUTTE County
GROUND WATER Rediversion	NWNWNW	Sec. 26	Township 04N	Range 26E	BUTTE County
GROUND WATER Injection	NWNWNW	Sec. 26	Township 04N	Range 26E	BUTTE County
GROUND WATER	NESWSW	Sec. 34	Township 05N	Range 26E	BUTTE County

IRRIGATION Use:

Acre Limit: 200

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03N	26E	10		NESE	20		SESE	37						
		11		NENE	7		SWNE	34		SENE	37			
				SWNW	7		SENE	21						
				NESW	40		NWSW	40		SWSW	40		SESW	40
				NESE	38		NWSE	40		SWSE	40		SESE	39

Total Acres: 480

Conditions of Approval:

- Pursuant to a call in times of scarcity the diversion of 3.17 cfs under rights 34-2497 and 34-4008 from the point of diversion located in NESWSW, Sec. 34, T05N, 26E has a priority date of August 22, 2012.
- 186 Diversion of water under rights 34-2497 and 34-4008 from the additional point of diversion authorized under Transfer 77610 located in the NESWSW, Sec. 34, T05N, 26E shall not exceed a total combined maximum diversion rate of 3.17 cfs.
- X27 This right is limited to the irrigation of 200.0 acres within the authorized place of use in a single irrigation season.

4. X35 Rights 34-2497, 34-2505, 34-2506 and 34-4008 when combined shall not exceed a total diversion rate of 5.32 cfs, and the irrigation of 472.0 acres.
5. X35 Rights 34-635, 34-2289, 34-2490, 34-2497, 34-2505, 34-2506, 34-4008, 34-7145 and 34-10393 when combined shall not exceed the irrigation of 786.0 acres.
6. X35 Rights 34-635, 34-2289, 34-2313, 34-2490, 34-2497, 34-2505, 34-2506, 34-4008, 34-7145, 34-7176, 34-10393 and 34-12368 when combined shall not exceed a total diversion rate of 21.62 cfs, a total annual maximum diversion volume of 3784.0 af at the field headgate, and the irrigation of 885.0 acres.
Use of water under this right will be regulated by a watermaster with responsibility for the distribution of
7. R05 water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 34.
8. R02 A lockable device subject to the approval of the Department shall be maintained on the diverting works in a manner that will provide the watermaster suitable control of the diversion.
9. 214 Prior to the diversion and use of water under Transfer approval 77610, the right holder shall install and maintain acceptable measuring device(s) at the authorized point(s) of diversion in accordance with Department specifications, or shall obtain an approved variance from the Department to determine the amount of water diverted from power records or to maintain an existing measuring device.
10. 213 Upon specific notification of the Department, the right holder shall install and maintain data loggers to record water usage information at the authorized point(s) of diversion in accordance with Department specifications.
11. R63 This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 3.5 afa per acre at the field headgate for irrigation of the place of use.
12. Point of injection and point of rediversion from the Big Lost River.
13. Water diverted from the point of diversion located in NESWSW, Sec. 34, T05N, 26E is delivered through the Island Canal, East Side Canal and Munsey Canal.
14. 004 This right does not grant any right-of-way or easement across the land of another.
15. T07 The right holder shall accomplish the change authorized by this transfer within one year of the date of this approval.
16. T08 Failure of the right holder to comply with the conditions of this transfer is cause for the Director to rescind approval of the transfer.
17. T19 Pursuant to Section 42-1412(6), Idaho Code, this water right is subject to such general provisions necessary for the definition of the rights or for the efficient administration of water rights as may be determined by the Snake River Basin Adjudication court at a point in time no later than the entry of the final unified decree.

Dates:

Licensed Date:

Decreed Date: 11/13/2000

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

 Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-7176

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	JAMES S BABCOCK 3260 W 3000 N MOORE, ID 83255 (208)554-2662

Priority Date: 05/29/1977

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	4/01	11/01	7.8 CFS	
Total Diversion			7.8 CFS	

Location of Point(s) of Diversion:

GROUND WATER Injection	NWNWNW	Sec. 26	Township 04N	Range 26E	BUTTE County
GROUND WATER Rediversion	NWNWNW	Sec. 26	Township 04N	Range 26E	BUTTE County
GROUND WATER	NESWSW	Sec. 34	Township 05N	Range 26E	BUTTE County

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03N	26E	10		NESE	20		SESE	37						
				NENE	7		SWNE	34		SENE	37			
		11		SWNW	7		SENE	21						
				NESW	40		NWSW	40		SWSW	40		SESW	40
				NESE	38		NWSE	40		SWSE	40		SESE	39
				NESE	36.5		NWSE	37.5		SWSE	40		SESE	39
	27E	23		NENE	39		NWNE	40		SWNE	37.5		SENE	36.5
				NENW	1.2	1	NWNW	20.8	2	SWNW	38		SENE	39
		18												

Total Acres: 885

Conditions of Approval:

- POINT OF INJECTION INTO AND POINT OF REDIVERSION FROM THE BIG LOST RIVER. USE OF THIS RIGHT WITH RIGHT NO. 34-12368 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 7.80 CFS. USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS
- LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 21.62 CFS AND A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-10393 AND 34-12368.
- USE OF THIS RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-10393 AND 34-12368.
- THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN

TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.

WATER IS DELIVERED THROUGH THE EAST SIDE DITCH AND THE MUNSEY DITCH. RIGHT NO. 34-12368 IS AN EXPANSION OF THIS RIGHT PURSUANT TO SECTION 42-1426, IDAHO CODE.

RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.

Dates:

Licensed Date:

Decreed Date: 04/13/2001

Permit Proof Due Date: 6/1/1982

Permit Proof Made Date: 7/26/1982

Permit Approved Date: 6/2/1977

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date: 04/04/1977

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit:

Combined Volume Limit: 3784

Combined Rate Limit: 21.62

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

Close

 Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-635

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	DAVID R PINGREE
Original Owner	VERVENE PINGREE 1171 CHANDLER DR SALT LAKE CITY, UT 84103 (801)364-8056

Priority Date: 08/01/1896

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
BIG LOST RIVER	SINKS

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	5/01	10/15	2 CFS	
Total Diversion			2 CFS	

Location of Point(s) of Diversion:

BIG LOST RIVER|NWNWNW|Sec. 26|Township 04N|Range 26E|BUTTE County

IRRIGATION Use:

Acre Limit: 100

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03N	26E	14		NESE	36.5		NWSE	37.5		SWSE	40		SESE	39
		23		NENE	39		NWNE	40		SWNE	37.5		SENE	36.5

Total Acres: 306

Conditions of Approval:

1. S34 THE PERIOD OF USE FOR IRRIGATION DESCRIBED ABOVE MAY BE EXTENDED IN SEASONS OF UNUSUAL CHARACTERISTICS TO A BEGINNING DATE OF 04-20 AND AN ENDING DATE OF 10-31 AT THE DISCRETION OF THE DIRECTOR OF THE IDAHO DEPARTMENT OF WATER RESOURCES.
2. USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 21.62 CFS AND A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176, 34-10393, 34-12368 AND 34-13577. USE OF THIS RIGHT WITH RIGHT NOS. 34-02289, 34-02490, 34-13577 AND 34-10393 IS LIMITED TO IRRIGATION OF A COMBINED TOTAL OF 306 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS RIGHT WITH RIGHT NOS. 34-02289, 34-02490, 34-13577 34-02497, 34-02505, 34-02506, 34-04008, 34-07145 AND 34-10393 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 786 ACRES IN A SINGLE IRRIGATION SEASON.
3. USE OF THIS RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176, 34-10393, 34-12368 AND 34-13577. THIS RIGHT IS LIMITED TO THE IRRIGATION OF 100 ACRES WITHIN THE PLACE OF USE DESCRIBED

ABOVE IN A SINGLE IRRIGATION SEASON.

THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.

WATER IS DELIVERED THROUGH THE MUNSEY DITCH. RIGHT NO. 34-13577 IS AN ENLARGEMENT OF THIS RIGHT PURSUANT TO SECTION 42-1426, IDAHO CODE.

RIGHT INCLUDES ACCOMPLISHED CHANGE IN POINT OF DIVERSION PURSUANT TO SECTION 42-1425, IDAHO CODE.

RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.

Dates:

Licensed Date:

Decreed Date: 05/30/2001

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit:

Combined Volume Limit:

Combined Rate Limit: 2

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

Close

 Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-2313

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	S W PARKINSON , ID
Original Owner	RALPH S PARKINSON TRUST RT 1 BOX 228 ARCO, ID 83213

Priority Date: 08/21/1954

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
BIG LOST RIVER	SINKS

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	5/01	10/15	1.2 CFS	
Total Diversion			1.2 CFS	

Location of Point(s) of Diversion:

BIG LOST RIVER|NENWSE|Sec. 12|Township 03N|Range 26E|BUTTE County

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03N	27E	18		NENW	1.2	1	NWNW	20.8	2	SWNW	38		SEnw	39

Total Acres: 99

Conditions of Approval:

1. S34 THE PERIOD OF USE FOR IRRIGATION DESCRIBED ABOVE MAY BE EXTENDED IN SEASONS OF UNUSUAL CHARACTERISTICS TO A BEGINNING DATE OF 04-20 AND AN ENDING DATE OF 10-31 AT THE DISCRETION OF THE DIRECTOR OF THE IDAHO DEPARTMENT OF WATER RESOURCES.
2. USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 21.62 CFS AND A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176, 34-10393 AND 34-12368.
3. USE OF THIS RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176, 34-10393 AND 34-12368.
4. C18 THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.
5. WATER IS DELIVERED THROUGH MC LAUGHLIN DITCH.
6. C05 RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.

Dates:

Licensed Date:

Decreed Date: 05/30/2001

Permit Proof Due Date:

Permit Proof Made Date:

Permit Approved Date:

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit:

Combined Volume Limit: 3784

Combined Rate Limit: 21.62

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

 Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-7145

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	FARM CREDIT BANK OF SPOKANE 409 SHOSHONE S STE 25 PO BOX 308 TWIN FALLS, ID 83303-0308 (208)734-0882

Priority Date: 04/15/1976

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
BIG LOST RIVER	SINKS

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	4/01	11/01	4.4 CFS	
Total Diversion			4.4 CFS	

Location of Point(s) of Diversion:

BIG LOST RIVER|NWNWNW|Sec. 26|Township 04N|Range 26E|BUTTE County

IRRIGATION Use:

Acre Limit: 315

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

<u>Township</u>	<u>Range</u>	<u>Section</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>	<u>Lot</u>	<u>Tract</u>	<u>Acres</u>
03N	26E	10		NESE	20		SESE	37						
		11		NENE	7		SWNE	34		SENE	37			
				SWNW	7		SENE	21						
				NESW	40		NWSW	40		SWSW	40		SESW	40
				NESE	38		NWSE	40		SWSE	40		SESE	39
		14		NESE	36.5		NWSE	37.5		SWSE	40		SESE	39
		23		NENE	39		NWNE	40		SWNE	37.5		SENE	36.5

Total Acres: 786

Conditions of Approval:

1. USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 21.62 CFS AND A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07176, 34-10393 AND 34-12368.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 315 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON. USE OF THIS RIGHT WITH RIGHT NOS. 34-00635, 34-02289, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008 AND 34-10393 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 786 ACRES IN A SINGLE IRRIGATION SEASON.
2. USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A THE IRRIGATION OF A COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07176, 34-10393 AND 34-12368.

- THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE
3. C18 WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.
4. WATER IS DELIVERED THROUGH MUNSEY DITCH.
5. C05 RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.

Dates:

Licensed Date:

Decreed Date: 11/13/2000

Permit Proof Due Date: 1/1/1982

Permit Proof Made Date: 1/7/1982

Permit Approved Date: 1/8/1977

Permit Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date: 04/09/1976

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit: 786

Combined Volume Limit:

Combined Rate Limit:

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

 Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-10393

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	FARM CREDIT BANK OF SPOKANE 409 SHOSHONE S STE 25 PO BOX 308 TWIN FALLS, ID 83303-0308 (208)734-0882

Priority Date: 05/01/1976

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	4/01	10/31	0.26 CFS	
Total Diversion			0.26 CFS	

Location of Point(s) of Diversion:

GROUND WATER|NENESE|Sec. 14|Township 03N|Range 26E|BUTTE County

IRRIGATION Use:

Acre Limit: 26

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
03N	26E	14		NESE	36.5		NWSE	37.5		SWSE	40		SESE	39
		23		NENE	39		NWNE	40		SWNE	37.5		SENE	36.5

Total Acres: 306

Conditions of Approval:

1. USE OF THIS RIGHT WITH RIGHT NOS. 34-02289 AND 34-02490 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 3.09 CFS. USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 21.62 CFS AND A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176 AND 34-12368.
2. C11 THIS WATER RIGHT IS SUBORDINATE TO ALL WATER RIGHTS WITH A PRIORITY DATE EARLIER THAN APRIL 12, 1994, THAT ARE NOT DECREED AS ENLARGEMENTS PURSUANT TO SECTION 42-1426, IDAHO CODE. AS BETWEEN WATER RIGHTS DECREED AS ENLARGEMENTS PURSUANT TO SECTION 42-1426, IDAHO CODE, THE EARLIER PRIORITY RIGHT IS THE SUPERIOR RIGHT.
3. USE OF THIS RIGHT WITH RIGHT NOS. 34-02289, 34-02490 AND 34-00635 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 306 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS RIGHT WITH RIGHT NOS. 34-00635, 34-02289, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008 AND 34-07145 IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 786 ACRES IN A SINGLE IRRIGATION SEASON. USE OF THIS RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED

RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176 AND 34-12368. THIS RIGHT IS LIMITED TO THE IRRIGATION OF 26 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE
4. C18 WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.

5. THIS RIGHT IS BASED UPON AN ENLARGEMENT OF RIGHT NOS. 34-02289 AND 34-02490 PURSUANT TO SECTION 42-1426, IDAHO CODE.

6. THE FOLLOWING RIGHTS ARE ALSO DIVERTED THROUGH POINT OF DIVERSION DESCRIBED ABOVE: 34-02289 AND 34-02490.

Dates:

Licensed Date:

Decreed Date: 05/09/2001

Enlargement Use Priority Date:

Enlargement Statute Priority Date: 4/12/1994

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit:

Combined Volume Limit:

Combined Rate Limit: 3.09

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

DLE Act Number:

Cary Act Number:

Mitigation Plan: False

 Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2013

WATER RIGHT NO. 34-12368

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	PARKINSON FARMS 2253 N 3100 W ARCO, ID 83213 (208)527-3161
Directors Report Owner	RALPH S PARKINSON RT 1 BOX 228 ARCO, ID 83213 (208)527-3161
Original Owner	FARM CREDIT BANK OF SPOKANE 409 SHOSHONE S STE 25 PO BOX 308 TWIN FALLS, ID 83303-0308 (208)734-0882

Priority Date: 08/01/1985

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
IRRIGATION	4/01	10/31	3.75 CFS	
Total Diversion			3.75 CFS	

Location of Point(s) of Diversion:

GROUND WATER Rediversion | NWNWNW | Sec. 26 | Township 04N | Range 26E | BUTTE County
 GROUND WATER Injection | NWNWNW | Sec. 26 | Township 04N | Range 26E | BUTTE County
 GROUND WATER | NESWSW | Sec. 34 | Township 05N | Range 26E | BUTTE County

Place(s) of use:

Place of Use Legal Description: IRRIGATION BUTTE County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
03N	26E	10		NESE	20		SESE	37						
		11		NENE	7		SWNE	34		SENE	37			
				SWNW	7		SENE	21						
				NESW	40		NWSW	40		SWSW	40		SESW	40
				NESE	38		NWSE	40		SWSE	40		SESE	39
		14		NESE	36.5		NWSE	37.5		SWSE	40		SESE	39
		23		NENE	39		NWNE	40		SWNE	37.5		SENE	36.5
	27E	18		NENW	1.2	1	NWNW	20.8	2	SWNW	38		SENE	39

Total Acres: 885

Conditions of Approval:

- POINT OF INJECTION INTO AND POINT OF REDIVERSION FROM THE BIG LOST RIVER. USE OF THIS RIGHT WITH RIGHT NO. 34-07176 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 7.80 CFS. USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS
- LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 21.62 CFS AND A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3784.0 AF. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176 AND 34-10393.
THIS WATER RIGHT IS SUBORDINATE TO ALL WATER RIGHTS WITH A PRIORITY DATE EARLIER THAN APRIL 12, 1994, THAT ARE NOT DECREED AS ENLARGEMENTS
- C11 PURSUANT TO SECTION 42-1426, IDAHO CODE. AS BETWEEN WATER RIGHTS DECREED AS ENLARGEMENTS PURSUANT TO SECTION 42-1426, IDAHO CODE, THE EARLIER PRIORITY RIGHT IS THE SUPERIOR RIGHT.

4. USE OF THIS RIGHT WITH THE RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 885 ACRES IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-00635, 34-02289, 34-02313, 34-02490, 34-02497, 34-02505, 34-02506, 34-04008, 34-07145, 34-07176 AND 34-10393.
- THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE
5. C18 WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.
- THIS RIGHT IS BASED UPON AN ENLARGEMENT OF RIGHT NO. 34-07176 PURSUANT TO SECTION 42-1426, IDAHO CODE.
- 6.
7. C05 RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.
8. WATER IS DELIVERED THROUGH EAST SIDE CANAL AND MUNSEY DITCH. THIS RIGHT IS FOR AN ENLARGEMENT OF 375 ACRES WITHIN THE PLACE OF USE DESCRIBED FOR THIS RIGHT.

Dates:

Licensed Date:

Decreed Date: 04/23/2001

Enlargement Use Priority Date:

Enlargement Statute Priority Date: 4/12/1994

Water Supply Bank Enrollment Date Accepted:

Water Supply Bank Enrollment Date Removed:

Application Received Date:

Protest Deadline Date:

Number of Protests: 0

Other Information:

State or Federal: S

Owner Name Connector:

Water District Number: 34

Generic Max Rate per Acre:

Generic Max Volume per Acre:

Combined Acres Limit:

Combined Volume Limit: 3784

Combined Rate Limit: 21.62

Civil Case Number:

Old Case Number:

Decree Plaintiff:

Decree Defendant:

Swan Falls Trust or Nontrust:

Swan Falls Dismissed:

State of Idaho

License and Certificate of Water Right

Water License No. 21070

Amount 1.0 c.f.s.

Water District No.

Priority May 13, 1949

THIS IS TO CERTIFY that WILSE A. NIELSON
 of Arco, Idaho, made application for a permit to appropriate the
 public waters of the State of Idaho, dated May 13, 1949; that Permit No. 21070
 was issued under said application; that Certificate of Completion of works, with a carrying capacity of
 3.2 second feet, was issued thereunder on June 25, 1954, showing that said works
 were completed on the 27 day of May, 1954; and that on the 22
 day of May, 1959,

WILSE A. NIELSON

of Arco, State of Idaho, made proof to the satisfaction of the
 State Reclamation Engineer of Idaho, of the right to use the waters of a well
 , a tributary of subterranean flow, for the purpose of irrigation & domestic
 use, under Use Permit No. 21070 of the Department of Reclamation
 and that said right to the use of said waters has been perfected in accordance with the laws of Idaho,
 and is hereby confirmed by the State Reclamation Engineer of Idaho and entered of record in Volume
 11 of Licenses at page 6722, on the 19 day of August, 1959;
 The right hereby confirmed dates from May 13, 1949;

The Point of Diversion is located
 in the NE 1/4 SE 1/4, Sec. 14, Tp. 3 N., R. 26 E., B. M. Butte County

That the amount of water to which such right is entitled and hereby confirmed, for the purposes
 aforesaid, is limited to an amount actually needed and beneficially used for said purposes, and shall
 not exceed 1.0 cubic feet per second.

Description and location of use:

Twp.	Range	Sec.	Forty-acre Tract	No. Acres Described in Permit	No. Acres Actually Irrigated
3 N.	26 E.	14	NE $\frac{1}{4}$ SE $\frac{1}{4}$	40	40
			NW $\frac{1}{4}$ SE $\frac{1}{4}$	40	40
			SW $\frac{1}{4}$ SE $\frac{1}{4}$	40	40
			SE $\frac{1}{4}$ SE $\frac{1}{4}$	40	40
		23	NE $\frac{1}{4}$ NE $\frac{1}{4}$	40	40
			NW $\frac{1}{4}$ NE $\frac{1}{4}$	40	40
			SE $\frac{1}{4}$ NE $\frac{1}{4}$	40	40
			SW $\frac{1}{4}$ NE $\frac{1}{4}$	40	40
Total number of acres to be irrigated:				280	

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place
 of use herein described, as provided by the laws of Idaho.

WITNESS the seal and signature of the State Reclamation Engineer, affixed at Boise, Idaho, this
 19 day of August, 1959.

GEO. N. CARTER

State Reclamation Engineer.

(SEAL)



State of Idaho
Department of Water Administration

LICENSE OF WATER RIGHT

License of Water Right No. 33113/34-2490 Priority Oct. 25, 1966 Amount 2.09 cfs

THIS IS TO CERTIFY, that Mounty L. Dick
of Arco, Idaho, has complied with the terms and conditions of Permit
No. 33113/34-2490 issued pursuant to Application for Permit dated October 25, 1966
and has submitted proof to the Department of Water Administration on November 10, 1971
that he has applied water to a beneficial use, an examination by the Department indicates that the
works have a capacity of 2.09 cfs, and that the water has in fact been applied to a
beneficial use, a right to the use of water from a ground water source
tributary of _____, is hereby confirmed in the following amounts:
Amount 2.09 cfs for irrigation from April 1 to Nov. 1 (both dates inclusive)
Amount _____ for _____ from _____ to _____ (both dates inclusive)
Amount _____ for _____ from _____ to _____ (both dates inclusive)
Subject, however, to the condition that no more than 2.09 cfs of water be diverted at
any one time, said waters to be diverted within the _____

NE1SE1 Sec. 14, Twp. 3 N, Rge. 26 E, B.M.

in the county of Butte; and that the amount of water so diverted and to which such
right is entitled and confirmed is for the purposes aforesaid and is limited to the amount which can
actually be beneficially used and shall not exceed 357 * acre feet per year or _____
3.0 acre feet per acre.

Description and location of place of use:

TWP	RANGE	SEC	NE1/4				NW1/4				SW1/4				SE1/4				TOTALS
			NE1/4	NW1/4	SW1/4	SE1/4	NE1/4	NW1/4	SW1/4	SE1/4	NE1/4	NW1/4	SW1/4	SE1/4	NE1/4	NW1/4	SW1/4	SE1/4	
3 N	26 E	14													37.5	40	40	40	157.5
		23	40	40		30													119.0

Total number of acres irrigated 276.5

* The irrigation of land is limited to a maximum of 119 acres within the total 276.5
acres herein provided and the maximum volume of water per season is limited to the
actual beneficial requirements for irrigation of 119 acres which shall not exceed 3.0
acre feet of water per acre or 357 acre feet per year.

The right to the use of the water hereby confirmed is restricted and appurtenant to the lands
or place of use herein described, as provided by the laws of Idaho.

Witness the seal and signature of the Director, affixed at Boise, Idaho, this 20th day of

January, 19 72.


Director

34 2490

WATER LICENSE

Water License No. G-33258 Priority September 27, 1966 Amount 0.57 c.f.s.

THIS IS TO CERTIFY, that RALPH S. PARKINSON
of Arco, Idaho, made application for a permit to appropriate the public waters of
the State of Idaho, dated September 27, 1966; that Permit G-33258 was issued pursuant
to said application; that the proposed works were completed on or about 1966
with a storage or carrying capacity of 0.68 c.f.s., said works consisting of
well, pump, motor, and sprinkler system; and that on March 4, 1968
proof was made to the satisfaction of the State Reclamation Engineer, of the beneficial use of 165
acre feet per season, with a maximum rate of diversion of 0.57 cubic feet per second of the waters
of ground water, tributary of _____,
for the purpose of Irrigation from April 1 to October 31
and for _____ from _____ to _____; and for
_____ from _____ to _____; and that the use
of said waters has been made in accordance with the laws of Idaho, and is hereby confirmed by the State Recla-
mation Engineer and entered in the records of the Idaho Department of Reclamation. the point of diversion is
located in SE $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 11, T. 3 N, R. 26 E, B.M., and
other additional points _____, in the County of
Butte; and that the amount of water to which such right is
entitled and which is hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially
used for said purposes and shall not exceed 165 acre feet per year.

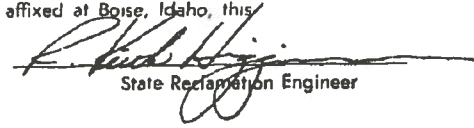
Description and location of place of use.

TWP	RANGE	SEC	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				TOTALS
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
3 N	26 E	11	5			25									25				55

Total number of acres irrigated 55

The right to the use of the water hereby confirmed is restricted to the lands or place of use herein described,
as provided by the laws of Idaho.

Witness the seal and signature of the State Reclamation Engineer, affixed at Boise, Idaho, this

16th day of July, 1969.

State Reclamation Engineer

34 211

G-33258

WATER LICENSE

Water License No. G-33504 Priority March 3, 1967 Amount 1.06 c.f.s.

THIS IS TO CERTIFY that RALPH S. PARKINSON of Arco, Idaho, made application for a permit to appropriate the public waters of the State of Idaho, dated March 3, 1967, that Permit G-33504 was issued pursuant to said application, that the proposed work, were completed on or about 1967, with a storage or carrying capacity of 2.12 c.f.s., said works consisting of well, motor, pump and sprinkler system; and that on March 4, 1968, proof was made to the satisfaction of the State Reclamation Engineer, of the beneficial use of 309 acre feet per season, with a maximum rate of diversion of 1.06 cubic feet per second of the waters of ground water tributary of for the purpose of Irrigation from April 1 to October 31; and for from to , and for from to , and that the use of said waters has been made in accordance with the laws of Idaho, and is hereby confirmed by the State Reclamation Engineer and entered in the records of the Idaho Department of Reclamation; the point of diversion is located in NE 1/4 SE 1/4, Sec 11, T. 3 N, R. 26 E, B M., and other additional points , in the County of Butte, and that the amount of water to which such right is entitled and which is hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes and shall not exceed 309 acre feet per year.

Description and location of place of use

TWP	RANGE	SEC	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
<u>3 N</u>	<u>26 E</u>	<u>11</u>			<u>06</u>	<u>13</u>									<u>11</u>	<u>10</u>			<u>103</u>

Total number of acres irrigated 103

The right to the use of the water hereby confirmed is restricted to the lands or place of use herein described, as provided by the laws of Idaho.

Witness the seal and signature of the State Reclamation Engineer, affixed at Boise, Idaho, this

16th day of July, 1969

[Signature]
State Reclamation Engineer

04 2507

WRS

WATER LICENSE

Water License No. G-33505 Priority March 2, 1967 Amount 1.174 c.f.s.

THIS IS TO CERTIFY, that RAULPH S. PARKINSON
 of Arco, Idaho made application for a permit to appropriate the public waters of
 the State of Idaho, dated March 2, 1967, that Permit G-33505 was issued pursuant
 to said application that the proposed works were completed on or about 1967,
 with a storage or carrying capacity of 2.12 c.f.s. said works consisting of
well, pump, motor, and sprinkler system, and that on March 4, 1968
 proof was made to the satisfaction of the State Reclamation Engineer, of the beneficial use of 342
 acre feet per season, with a maximum rate of diversion of 1.174 cubic feet per second of the waters
 of ground water tributary of _____
 for the purpose of Irrigation from April 1 to October 31;
 and for _____ from _____ to _____; and for
 _____ from _____ to _____; and that the use
 of said waters has been made in accordance with the laws of Idaho, and is hereby confirmed by the State Recla-
 mation Engineer and entered in the records of the Idaho Department of Reclamation the point of diversion is
 located in NE 14 SE 14, Sec 11, T 3 N, R 26 E, B.M., and
 other additional points _____, in the County of
Butte; and that the amount of water to which such right is
 entitled and which is hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially
 used for said purposes and shall not exceed 342 acre feet per year.

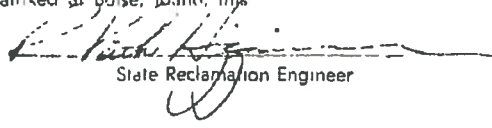
Description and location of place of use

TWP	RANGE	SEC	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
3 N	26 E	11												37			39	38	114

Total number of acres irrigated 114

The right to the use of the water hereby confirmed is restricted to the lands or place of use herein described,
 as provided by the laws of Idaho

Witness the seal and signature of the State Reclamation Engineer, affixed at Boise, Idaho, this

16th day of July, 19 69.

 State Reclamation Engineer

64 2510

93505

Identification No. 2
Claim No. 34-400
Map No. _____

STATE OF IDAHO
DEPARTMENT OF WATER ADMINISTRATION

CLAIM TO A WATER RIGHT

Established by Diversion and Application to Beneficial Use

Under the provisions of Section 42-225a, Idaho Code, a person may file a claim to a right to use water which has been established by diversion and application to beneficial use. The filing of this claim does not confirm the water right but will serve for information purposes only. It may, however, become the basis for future adjudication of the water right by the Court.

(Please refer to the instructions on the back of this form)

1. Name of claimant Ralph S. Parkinson
post office address Rt. 1 Box 64 Arco, Idaho 83213
2 The point of diversion is in NE $\frac{1}{4}$ of SW $\frac{1}{4}$ Section 11 Township 3 N
Range 26 E B.M. located on well
(name of source)
tributary to _____ in Butte County.

3 Dates of priority claimed: list the priority for each separate quantity that you claim. Priority dates should be based upon the earliest diversion of the water which has resulted in continued beneficial use since that time. If there has been an interval of five years or greater when the water was not beneficially used for the same purpose as originally appropriated, the priority that you claim should date from the time that the water was again beneficially applied following the period of non-use.

a. Date of priority claimed: April 30, 1961 amount: 130 ^{minors inches} c.f.s. or _____ acre feet
_____ amount: _____ c.f.s. or _____ acre feet
_____ amount: _____ c.f.s. or _____ acre feet
Total claimed 2.6 c.f.s. or _____ acre feet.

b. Explain the purpose for which the water has been used and the time during the year when you have used the right claimed.

use irrigation period of use from April 30 to Oct. 30 (both dates inclusive)
use _____ period of use from _____ to _____ (both dates inclusive)
use _____ period of use from _____ to _____ (both dates inclusive)
use _____ period of use from _____ to _____ (both dates inclusive).

4. Description of diverting works.

a. Surface water diversion dam and/or headgate: material is composed of _____
_____ ; length is _____ feet; height is _____ feet;
width at bottom is _____ feet; width at top is _____ feet, explain any increase in diversion capacity since structure was first built, giving dates and estimated capacities if known _____

b. Underground water diverting works. is well flowing or pumped pumped ; depth of well is 920 feet; diameter of well is 16 inches; type of pump is Layne & Bowler vertical motor;
capacity of pump is 1170 g.p.m., name and address of well driller is _____

34-4008

attach well logs if available, has there been any change in pump or motor since well was first completed

yes, if so, give dates and explain. In 1961 & 1962 it was a 125 h.p. pump and motor run by Butane. In 1965 a 125 h.p. pump and motor was installed and electricity provided as source of power. It has remained the same to this date.

c. Conveying works length of ditch to place of use is _____ feet; width of ditch at top is _____ feet;

c. Conveying works length of ditch to place of use is _____ feet; width of ditch at top is _____ feet;

width of bottom of ditch is _____ feet, depth of water is _____ feet; grade of ditch per 1000

feet is _____ feet; material through which ditch passes is _____.

maximum length of pipe line to first place of use is 1100 feet, diameter of pipe line is 10 inches;

type of pipe aluminum; grade of pipe per 1000 feet is .

Please explain any changes or increase in size of conveying system since water was first appropriated, giving date and dimensions if possible. In 1961 & 1962 a ditch was

used to carry the water. In 1965 the above mentioned pipe was installed. It has remained the same to this date.

d. If water is stored name of reservoir_____;

total capacity of reservoir is _____ acre feet, active capacity of reservoir is _____ acre feet,

year construction commenced _____; year completed _____, date first used _____

period of storage is from _____ to _____ : is reservoir drained each year _____.

is reservoir on or off stream _____ explain _____

if feeder canal is used give maximum carrying capacity_____c f s.; if reservoir is off stream, describe

location of reservoir by 40-acre subdivisions_____

has there been any enlargement of the reservoir since it was first built _____, if so, give dates and

describe _____

5. a. Where water is used for irrigation, describe area irrigated by 40-acre subdivisions and give total acres:

[illegible]

Total number of acres to be irrigated 200

Explain any significant increase in area irrigated since first use, give dates and acreages if known. In 1961-
and 1962 approx. 125 acres was watered with this well,
in 1965 when the pipe was added the amount of
land irrigated was increased to 200 acres. This was
made possible because of increased efficiency of sprinkles
irrigation.

b. Do you get water through a ditch owned by several users? no If yes, give the name of the ditch
_____ The other users and their respective
interests in the ditch are (if known) _____

6. Where water is used for stock watering, give number of each kind of stock watered _____

7. Where water is used for domestic or municipal purposes give number of families served _____
name of town supplied _____

8. Where water is used for other purposes not above enumerated, give the nature of use, the extent of use,
and any details regarding the initiation of the right or subsequent later expansion. Be as specific as possible,
giving dates and quantities _____

9. Remarks please explain any details of your claim which you feel need clarification or additional explanation

Rulon N. Burke and Carol Burke ran this farm
in 1961 & 1962. I bought this farm in Sept. 14,
1964 and installed the present irrigation pump
and pipe in April of 1965.
Rulon N. Burke and Carol Burke are presently
engaged in farming and live in Moore
Idaho.

State of Idaho

County of Butte } ss.

Be it known that the undersigned, being duly sworn, deposes and says that he, she, they subscribed the
foregoing claim to a water right, together with all attached information, and that the matters and facts therein are
true to the best of the affiants knowledge.

Ralph S. Parkinson

Claimant

Sworn to before me this 1st day of April, 1971.

Ok Jones
Notary Public

Residing at Arco, Butte County, Idaho

My commission expires Nov 16, 1975

For Department Use Only

Received by <u>et</u>	Date <u>4-9-71</u>	Exception filed by _____	Forwarded to claimant by _____	Date _____
Prelim. check by <u>et</u>	Date <u>4-9-71</u>	_____	_____	_____
Fee received by <u>et</u>	Date <u>4/9/71</u>	Fee \$ <u>10.00</u>	_____	_____
Approved for publication by _____	_____	_____	_____	_____
Published in <u>Arco Advertiser</u>	Dates <u>4-22 & 4-29, 1971</u>	_____	_____	_____

34-4008

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 34-07176

Priority: May 29, 1977

Maximum Diversion Rate: 7.80 CFS

Maximum Diversion Volume: 1245.0 AF

This is to certify, that THEDA E. PARKINSON
RALPH S. PARKINSON

RT. 1 BOX 228

ARCO ID 83213

has complied with the terms and conditions of the permit, issued pursuant to Application for Permit dated April 4, 1977; and has submitted Proof of Beneficial Use on July 26, 1982. An examination indicates that the works have a diversion capacity of 9.730 cfs of water from a GROUNDWATER source, and a water right has been established as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/01 to 11/01	7.80 CFS	1245.0 AF

LOCATION OF POINT(S) OF DIVERSION:

Rediversion

Rediversion

Rediversion

SENE , Sec. 11, Township 03N, Range 26E
NWNW , Sec. 24, Township 03N, Range 26E
NESWSW , Sec. 34, Township 05N, Range 26E
SWSW , Sec. 12, Township 03N, Range 26E
BUTTE County

PLACE OF USE: IRRIGATION

<u>TWN</u>	<u>RGE</u>	<u>SEC</u>	<u>ACRES</u>	<u>ACRES</u>	<u>ACRES</u>	<u>TOTAL</u>
03N	26E	14	NESE 39	NWSE 40	SWSE 40	158
		18	SESE 39			
			NENW 1.2	LOT 1(NWNW) 20.8	LOT 2(SWNW) 38	
			SESW 39			99
		23	NENE 39	NWNE 40	SWNE 40	
			SENE 39			158

Total number of acres irrigated: 415

CONDITIONS/REMARKS:

1. The maximum diversion volume listed within this right is defined as the maximum allowable volume of water that may be diverted annually from the source identified under this right, or limited to the amount that can actually be beneficially used on the above described place of use. This right is further limited to a maximum diversion of water onto the above described place of use of 0.02 cfs per acre or 3.0 acre feet per acre per year when combined with all other appurtenant water rights.
2. This water right is appurtenant to the described place of use.
3. This right is subject to all prior water rights and may be forfeited by five years of non-use.

FILED
JAN 15 1992

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

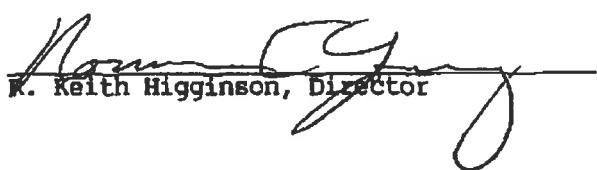
WATER RIGHT NO. 34-07176

CONDITIONS/REMARKS:

4. Modifications to or variance from this license must be made within the limits of Section 42-222, Idaho Code, or the applicable Idaho law.
5. Use of water under this water right will be regulated by the watermaster of State Water District No. 34.
6. A measuring device and lockable controlling works of a type acceptable to the Department shall be permanently installed and maintained as part of the diverting works.

This license is issued pursuant to the provisions of Section 42-219, Idaho Code. Witness the seal and signature of the Director, affixed at Boise, this 6TH day of DECEMBER, 1991.

Acting for


R. Keith Higginson, Director

JAN 15 1992

Big Lost River

- Groundwater
- REVIEW #1
- 42" ACCESS PORT
- 12" 14" 11"
- UP TOWN OR DOWN TOWN
- PUMP
- REVIEW #2
- 1'0" 1'3" 1'4"
- DOWN TOWN
- FLOW MEASUREMENT PORT
- REVIEW #3
- 1'0" 1'3" 1'4"
- DOWN TOWN
- FLOW MEASUREMENT PORT
- PUMP

- ☒
- Aerial Photo of Place of Use Attached
or Map of Irrigated Acreage Attached**

14. Remarks Munsey ditch has a Cypolletti weir. Big Lost Irrigation District purchased an annubar to measure rediversions within the District (should meet requirement for measuring device at rediversions from canal.) and all rediversions have been fitted so measurements can be made.
East Side Ditch has a Cypolletti weir ≈ 100 yards before the ditch discharges into Big Lost River

- ☐
- Other

CONSULTANT SEAL

SYSTEM DESCRIPTION:

34-7176

GROUNDWATER WELL PUMP & MOTOR WITH OPEN DISCHARGE INTO THE ISLAND DITCH TO THE EASTSIDE DITCH THAT DISCHARGES WATER INTO THE BIG LOST RIVER. HEADGATE OF MUNSEY DITCH (OPPOSITE BANK OF THE BIG LOST RIVER) TO THREE DIVERSION PUMPS AND A PRIVATE DITCH. THE REDIVERSION PUMPS PUMP INTO MAINLINES TO CENTER PIVOTS AND LATERALS WITH SPRINKLERS. SEE MAPS #1 THROUGH #3.

8 Aug 1991
DATE

Keith C. Wilson
KEITH C. WILSON

JAN 15 1992

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
LICENSING REPORT

34-7176
Permit No.

1. Measurement Calculations

a) Field Measurement Calculations (Include theoretical capacities and system capacity)

GROUNDWATER DIVERSION $Q = \left[\frac{C (C_d)^2 \sqrt{\text{inches}}}{448.8} \right] K$ $C_{12} = 3.99$ $id = 11.41"$
 $Q = \left[\frac{3.99 (11.41)^2 \sqrt{62}}{448.8} \right] 1.067 = 9.724 \text{ cfs} = 9.72 \text{ cfs}$ $\text{inches} = 62"$ $K = 1.067$

SPORLING METER 0.01 af in 44.75 sec

$\left[\frac{(43560 \text{ ft}^2/\text{af})(0.01 \text{ af})}{44.75 \text{ sec}} \right] = 9.73 \text{ cfs}$

REDIVERSIONS FROM MUNNERY DITCH $Q = \left[\frac{C (C_d)^2 \sqrt{\text{inches}}}{448.8} \right] K$ $C_{7.98} = 3.87$ $K = 1 \text{ for manometer}$
 $C_{10.02} = 3.94$

$Q_{4.1} = \frac{3.87 (7.98)^2 \sqrt{40.5 - 4.1}}{448.8} = 3.31 \text{ cfs}$

$Q_{4.2} = \frac{3.87 (7.98)^2 \sqrt{37.4 - 23.9}}{448.8} = 2.02 \text{ cfs}$

$Q_{4.3} = \frac{3.94 (10.02)^2 \sqrt{32.2 - 3.3}}{448.8} = 2.17 \text{ cfs}$

Rediversion Total 7.50 cfs

SEE ATTACHED PAGE

b) Volume Calculations for Irrigation:

$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \frac{415}{316 \text{ ac}} \times 3 \text{ af/ac} = 448.1245$
 $V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = (7.80 \times 214) (1.9835) = 3310.8$
 $V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 1245 \text{ cfs}$

c) Volume Calculations for Other Uses:

2. Overlap Review

a) Other water rights with same place of use: 34-2289/2490 34-7145 (Big Lost River)

Big Lost River 34-0635/2313/0610/0011/0012/0013/0014/0817B

b) Other water rights with same point of diversion: N/A

c) Analysis: SEE ATTACHED PAGE

JAN 15 1992

34-7176

ANALYSIS:

OLD DIVERSION RATE:

34-2289 @ 1.00 CFS / 280 AC = 0.0035714 CFS/AC
34-2490 @ 2.09 CFS/276.5 AC = +0.0075587 CFS/AC } Different PD
From 34-7176

OLD DIVERSION RATE = 0.0111301 CFS/AC

NEW DIVERSION RATE:

34-7176 @ 7.80 CFS / 415 AC = 0.0187951 CFS/AC

NEW DIVERSION RATE > OLD DIVERSION RATE
(0.0187951 CFS/AC) > (0.0111301 CFS/AC)

THEREFORE: INCLUDE ALL LAND UNDER 34-2289/2490 PLUS NEW
LAND UNDER 34-7176.

DETERMINE IF FLOW > 0.02 CFS/AC

TOTAL Q = 34-2289 + 34-2490 + 34-7176
Q = (1.0 CFS) + (2.09 CFS) + (7.80 CFS)
= 10.89 CFS FOR 415 ACRES

10.89 CFS/415 AC = 0.02624 CFS/AC

DIVERSION RATE > 0.02 CFS/AC
(0.02624 CFS/AC) > 0.02 CFS/AC

HOWEVER; IRRIGATION DISTRICT CHARGES UP TO 30% SHRINK

EFFECTIVE REMAINING Q = [10.89 CFS] - [(0.30)(10.89 CFS)]
Q = 7.623 CFS

THEREFORE, I RECOMMEND THAT THIS PERMIT BE LICENSED FOR THE
PERMITTED AMOUNT.

07 Aug 1991
DATE

Keith C. Wilson
KEITH C. WILSON

34-7176

JAN 15 1992

APPLICATION FOR PERMIT

To Appropriate the Subterranean Waters of The State of Idaho

Application No. G- 41745
Permit No. G- 33505
District No.

Ralph S. Parkinson
Route #1, Box 64
Arco, Idaho

1. Name of Applicant: **Ralph S. Parkinson**
Postoffice address: **Arco** County: **Butte** State: **Idaho**
2. Quantity of water claimed:
 (a) Rate of withdrawal in cubic feet per second **2.0** or Idaho
 Miners' inches or gallons per minute
 (b) Annual withdrawal in acre feet per annum
3. Source of water supply: **Subterranean**
4. Location of point of diversion or wells in the **/2** **NE 1/4 of the SE 1/4 of Section 11**
 Twp. **3 N** , Rge. **26 E** , B.M., County of **Butte**
5. Water is to be used for: **irrigation**
6. If for municipal, industrial or recreational purposes, give:
 (a) Point of use of water is in the **1/4 of the 1/4 of Section** , Twp.
 Rge. , B.M.
 (b) Waste water or sewage effluent is to be returned to
 at a point in the **1/4 of the 1/4 of Section** , Twp. , Rge. , B.M.
7. Kind of works: **drilled, cased, (2) 25 H.P. pumps**
8. Estimated cost of works: **\$ 6,000.00 for pumps, approx \$4,000.00 for wells**
9. (a) Is reservoir to be used? **no**
 (b) Capacity of reservoir:
10. The time required for the completion of such work and complete application of the water to the proposed use is
 years. **1**
11. If applicant is a corporation, give:
 I. (a) Date and place of incorporation:
 (b) Amount of capital stock: \$ (c) Amount paid in: \$
 (d) Names and addresses of directors:
 II. The financial resources of the applicant are (a) Cash on hand: \$
 (b) Treasury stock: (c) Bonds to be issued:
 (d) Other resources:
12. The land to be irrigated is described in the following tabulation:
13. Existing water rights and/or valid permits appurtenant to the lands to be irrigated are: **none**
 (a) (cubic feet per second, inches or gallons per minute) of the water herein applied for is to be supplemental to the existing water rights.
 (b) (cubic feet per second, inches or gallons per minute) is for new lands.

BE IT KNOWN THAT The undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Applicant.

Agent.

Correction application received:

/s/ JACK A. BARNETT, Deputy
STATE RECLAMATION ENGINEER.

(SEAL)

Bv /s/ DON SAMUELSON

By /s/ EDSON H. DEAL
Secretary of State

Twp.	Range	Sec.	$NE\frac{1}{4}$				$NW\frac{1}{4}$				$SW\frac{1}{4}$				$SE\frac{1}{4}$				Totals
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
3 N	26 E	11														40	40	40	120

STATE OF IDAHO
DEPARTMENT OF RECLAMATION

Boise, Idaho

Permit No. G-33505

PROOF OF APPLICATION OF WATER TO BENEFICIAL USE

and Correlation

DEPOSITION OF HOLDER

Ques. 1. State your name, residence occupation and postoffice address: _____

Ralph S. Parkinson Arco Idaho Farmer Arco, Idaho

Ques. 2. If acting in behalf of corporation, state its name, principal place of business (if foreign corporation, give name of postoffice of statutory agent), your position with reference to same, and your authority for appearing in its behalf:

none

Ques. 3. State number, approval date of permit, and date of priority: _____

G-33505 March 7, 1967 March 2th, 1967

Ques. 4. State source of water supply: irrigation well

Give location of point of diversion, showing subdivision, section, township and range

(2 points) NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec 11, Twp 3 N R 26 EBM

Ques. 5. Describe your works of diversion: Pump, motor, electrical connections
sprinkling system; state amount of water they are capable of con-

veying from point of diversion to place of use: 2.0 CF; Give name of canal or ditch
or other works by which water is conducted to such place of use: private lines

_____; if a well, state depth of well 90 feet; depth and size of
casing 16 inch; depth to water 32 feet; if pump is used,
state discharge of pump: _____; tell how it was measured or determined _____

_____; if sprinkler irrigation, give number and size
of nozzles and operating pressure: 130 nozzles, 1964, 40 lbs

Ques. 6. State for what purpose water is used: irrigation
(If for irrigation, name each subdivision in which used and number of acres in
each subdivision that have actually been irrigated with said water:

SE $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{4}$ SE $\frac{1}{4}$ sec 11, twp 3 N R 26 EBM all irrigated

Charles Cope

G-33505

State nature of all improvements which have been made as a direct result of said use:

all of this land has become excellent farm land now in crops

Ques. 6-a: If this is a ground water permit, give name and address of person that drilled the well: Charles Cope, Idaho Falls, Idaho

Ques. 7. If for other than irrigation purposes, show full legal description of place of use and state purpose for which water is used:

none

Ques. 8: If you are not the person or representative of the corporation to whom above mentioned permit was originally issued, please state how ownership was acquired by present holder:

Quest. 9: State when and in what amount the water diverted under above mentioned permit has been first used: 1967 2.0 CF - Time used since first use:

summer of 1968

Ques. 10. Describe all other water rights appurtenant to same place of use: _____

none

(sign)

Ralph S. Parkinson

I hereby certify that the foregoing testimony was read to the above subscribed, before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, at my office in

Arce, County of Butte

State of Idaho, on this 4th day of March, A. D. 19 68.

My commission expires: 5-14-70

[Signature]

STATE OF IDAHO

DEPARTMENT OF WATER ADMINISTRATION

Statehouse - Annex 2
Boise, Idaho 83707
(208) 384-2215



R. Keith Haggerson
Director

Water Rights Administration
Water Resource Investigations
Dam and Reservoir Safety
Water Well Drilling
Flood Plain Management
Irrigation and
Flood Control Districts

November 18, 1971

Mr. Mounty L. Dick
Box 67
Arco, Idaho 83213

Dear Mr. Dick:

A representative of this Department has made an examination of the works covered by your Permit No. 33113/34-2490 and has found the following:

Quantity of water diverted: 2.09 c.f.s.

Amount of water that can be recognized as beneficially used under Idaho law: 2.09 c.f.s.

The maximum quantity of water diverted shall not exceed 357 acre feet per season.

Beneficial use: Irrigation of 119 acres within the N $\frac{1}{2}$ NE $\frac{1}{4}$ (80), SE $\frac{1}{4}$ NE $\frac{1}{4}$ (39), Sec. 23, Twp. 3 N, Rge. 26 E, B.M.

The priority date established is: October 25, 1966

If you do not concur with these findings, please advise us within 10 days; otherwise, a license will be issued as set forth in this letter.

We have also been advised by our field examiner that you are irrigating 157.5 acres within the SE $\frac{1}{4}$ of Sec. 14, Twp. 3 N, Rge. 26 E, B.M. which is not covered by this permit. Since Idaho is under a mandatory permit system for ground water appropriation, you will be required to obtain a permit for this additional acreage. We are enclosing an application for permit form along with instructions for filing an application for your use in this matter.

If you have any questions regarding the above matters, please contact us at once.

Sincerely,

Bobby D. Fleenor
BOBBY D. FLEENOR
Assistant Director

BDF:DR
Enc: App w/ins
cc: Water Adm. Dist. Office
Idaho Falls, Idaho

34 2490

FIELD REPORT

TOTAL ACREAGE_____120

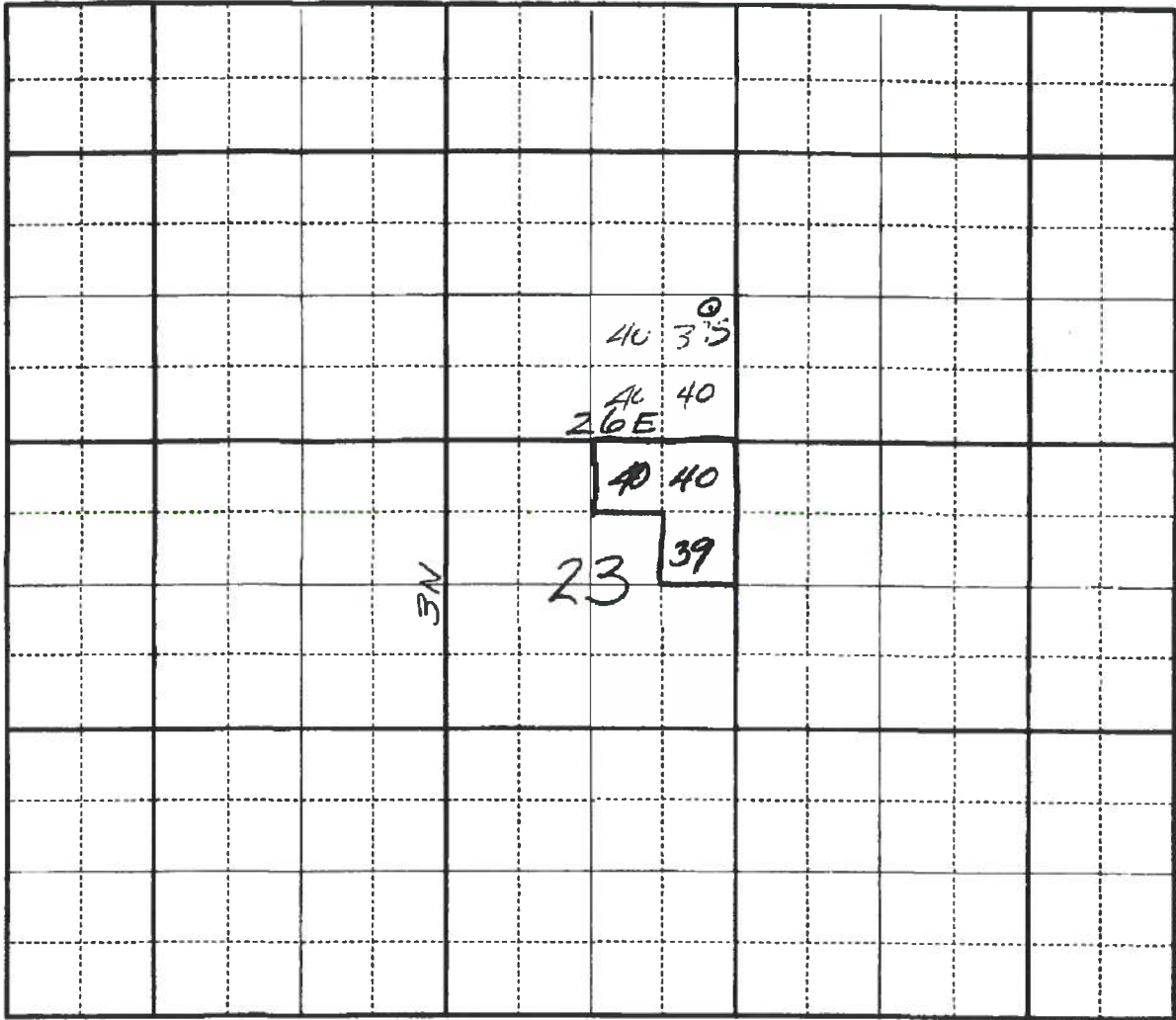
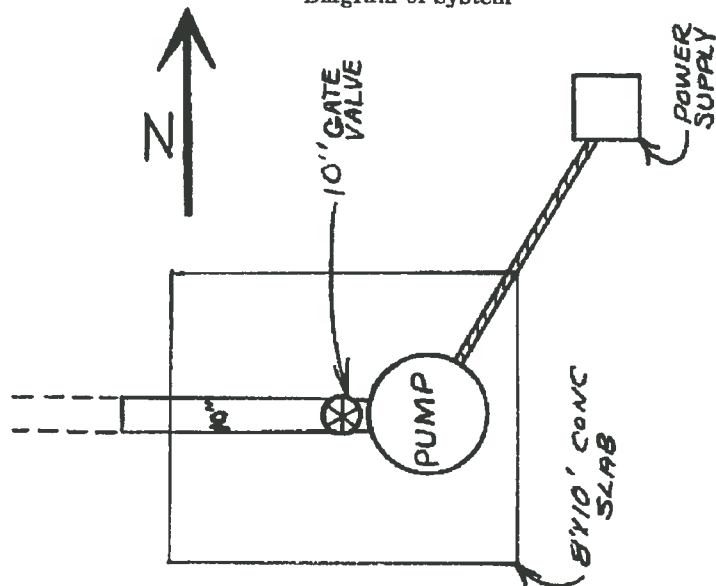


Diagram of System



DATE OF EXAM 9-1-71

ACREAGE
Found 276.5
Recommended 119

Irrigation Requirement 3 Ac Ft/Ac

USE
Irrigation Q = 2.09 c.f.s. V = 357 AF/Ann. from ARI to NOU.1
Domestic Q = _____ c.f.s. V = _____ AF/Ann. from _____ to _____
Livestock Q = _____ c.f.s. V = _____ AF/Ann. from _____ to _____

Is water co-mingled? yes _____ no ☒

Name source: _____
twp. _____ N/S, Rge _____ E/W, B.M., Sec. _____, Sub. _____ 1/4 _____ 1/4 _____
County _____

Exchange? yes _____ no ☒

Name source exchanged with: _____
twp. _____ N/S, Rge _____ E/W, B.M., Sec. _____, Sub. _____ 1/4 _____ 1/4 _____
County _____

Point of injection: _____
twp. _____ N/S, Rge _____ E/W, B.M., Sec. _____, Sub. _____ 1/4 _____ 1/4 _____
County _____

Point of exchange: _____
twp. _____ N/S, Rge _____ E/W, B.M., Sec. _____, Sub. _____ 1/4 _____ 1/4 _____
County _____

Total Q measured 2.09 cfs. Method of measurement PITOT

Total Q recommended 2.09 Meter No. _____ Type _____ Condition _____

Total V recommended 357 AF/ANN

Recommended Amendments:

P.D. _____
Place of Use _____
Other _____
None

MEASUREMENT CALCULATION:

12" NOZZLES - 70 PSI - 5.93 gpm/p.head - 66 heads - 66 x 5.93 = 391.38
8" NOZZLES - 65 PSI - 4.65 gpm/p.head - 66 heads - 66 x 4.65 = 306.90
12" NOZZLES - 75 PSI - 7.34 gpm/p.head - 33 heads - 33 x 7.34 = 242.22
990.50 - 450 = 540.50
540.50 / 265 = 2.04
2.09 cfs

SYSTEM DESCRIPTION:
U.S. Motors Halbachhoff pump motor - 100 hp - 60 cy. - 3 ph. - 230/440 Volts
1725 R.P.M. Model # HR-2B49-00-270 - LAYNE P. MILLER - UERTI-LINE
PUMP - 1260 gpm - 1770 RPM - Model 12 RH SER# D29018 - 10" DISCHARGE
WEST THROUGH 10" GATE VALVE THEN ON THROUGH 10" PIPE WEST
FOR 8' THEN INTO GROUND FOR 1/4 MILE THEN TO BURIED
MAINLINE SOUTH.

REMARKS

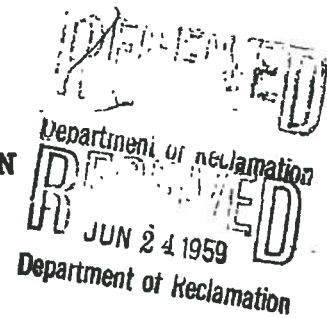
Also IRRIGATING 3N 26E SEC. 14
SE 1/4 157.5 ACRES

Examiner's Signature Pat L. Chapman Date 9-1-71

Checked by mjl Date 9-13-71

Approved by _____ Date _____

STATE OF IDAHO
DEPARTMENT OF RECLAMATION
BOISE, IDAHO



Permit No. 21070

Proof of Application of Water to Beneficial Use

Deposition of Holder

Ques. 1. State your name, residence, occupation and postoffice address.

Ans. Walter A. Wilson Arco Idaho
Farm & Stock Raising Arco Id. P.O. 246

Ques. 2. If acting in behalf of corporation, state its name, principal place of business (if a foreign corporation, give name of postoffice of statutory agent), your position with reference to same, and your authority for appearing in its behalf.

Ans. SELF

Ques. 3. State number and date of permit, and date of priority you propose to establish under the permit.

Ans. 21070 # May 23-1949

Ques. 4. State source of water supply and give exact location of point of diversion.

Ans. UNDER GROUND FLOW FROM MIDDLE S.E. 1/4 30 + 298 Ft West
of NE CORNER S.E. 1/4 Sec-14. 3N-26E-13M

Ques. 5. Describe your works of diversion, and state amount of water they are capable of conveying from point of diversion to place of use, and give name of canal or ditch or other works by which water is conducted to such place of use. If a well, state depth of well, depth and size of casing and depth to water. If pump is used, state discharge of pump and tell how it was measured or determined. If sprinkler irrigation, give number and size of nozzles and operating pressure.

Ans. Well 99 Ft Depth, 20 inch casing, Pump Elec Motor
Discharge Sump, Levee Ditch Depth 54 Ft
Pump Discharge Capacity 200 c.u.
Measured over Meter.

Ques. 6. State for what purpose water is used and describe place of use. (If for irrigation, name each subdivision in which used, and number of acres in each subdivision that have actually been irrigated with said water.) State whether cultivated or natural meadow land and the nature of all improvements which have been made as a direct result of said use.

Ans. Irrigation S.E. 1/4 Sec 14 - 3N-26E-13M
all cultivated 1/2 mile of levee, 1 mile Ditch
and laterals & necessary Head gates & checks
160 acres

21070

Ques. 7. If for other than irrigation purposes; state how applied, amount of horse power generated, etc.

Ans. ✓ Irrigation only

Ques. 8. What is the minimum amount of water required for the purpose specified above?

Ans. ✓

Ques. 9. If you are not the person or representative of the corporation to whom above mentioned permit was originally issued, please state how ownership was acquired by present holder.

Ans. ✓

Ques. 10. State when, how, in what amount and to what extent the water diverted under above mentioned permit has been used.

Ans. Qty. 27.44 Used for irrigation of Hay and Fruit Crop. During Irrigation Season From May 1st to October 10th Each Season

Ques. 11. State when, how, in what amount and to what extent waters other than those diverted under the above mentioned permit have been diverted and applied to beneficial use upon the lands herein described. Give full particulars regarding such other appropriations and rights claimed thereunder.

Ans. NO OTHER Source of water for irrigation. Personal irrigated

(Sign) Walter G. Johnson

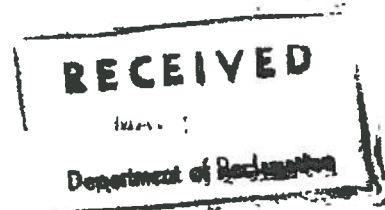
I hereby certify that the foregoing testimony was read to the above subscribed before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, at my office in Arco, County of Blaine, State of Idaho, on this ✓ 22 day of ✓ May, A. D. 19✓ 29.

Ed. E. Johnson

My commission expires 3-22-13

21070

BEN JOHNSON
ATTORNEY AND COUNSELOR AT LAW
FIRST SECURITY BANK BUILDING
PRESTON, IDAHO
May 18, 1949



Jeanne L. Anderson
Chief Clerk
Department of Reclamation
State House-
Boise, Idaho

Dear Mrs. Anderson:

Thanks for your letter of May 17th. I would appreciate it if you would change the Wilse A. Neilson applications so that it shows an inch to the acre or 360 inches instead of the 280 inches.

Thanks for calling this matter to my attention.

Sincerely yours,

Ben Johnson
Ben Johnson

PJ:ct

21070

May 17, 1949

Mr. Ben Johnson
1st Security Bank Building
Preston, Idaho

Dear Mr. Johnson:

We acknowledge receipt of your letter of May 12th, enclosing applications of Wilse A. Neilson, of Arco, Idaho, for water permits, and accompanied by your check for \$13.75 to pay the filing fees.

We note that the application for water to be used on 360 acres of land in Sections 14, 23 and 24, Twp. 3 North, Range 26 E., B.M. is for only 280 inches of water, and we wonder if that is all the applicant wishes, as he would be entitled to 360 inches for that amount of land, if that amount can be developed from the wells in question.

Please advise us as to this, and if so instructed we can change his application to 360 inches.

Very truly yours,

MARK A. KUTP
State Reclamation Engineer
By

Chief Clerk

A

21070

August 6, 1959

Re: Permit No. 21070
21071

Mr. Wilse . Nielson
Arco, Idaho

Dear Mr. Nielson:

Our field engineer's report and inspection and proof of application of water to beneficial use under the terms of Permit No. 21070 shows the well is capable of conveying 50 miner's inches (1.0 c.f.s.) of water for the irrigation of 280 acres.

Upon receipt of the statutory fee of \$14.00 - based at the rate of .02.00 for each 40-acre subdivision - we will issue the License and Certificate of Water Right, confirming the right with priority of May 13, 1949, to the use of 1.0 second feet of subterranean water, with the point of diversion in the NE 1/4, Sec. 14, T. 3 N., R. 26 E., for the irrigation of 280 acres in SE 1/4, Sec. 14, NE 1/4, SE 1/4, Sec. 23, T. 3 N., R. 26 E.

On Permit No. 21071 the well is capable of conveying .02 c.f.s. or 1 miner's inch for stock water and lawn.

Upon receipt of the statutory fee of \$5.00, we will issue the License and Certificate of Water Right, confirming the right, with priority of May 13, 1949, to the use of .02 second feet of subterranean water, with the point of diversion in NW 1/4, Sec. 7, T. 3 N., R. 27 E., B. M. for stock water and lawn.

Very truly yours,

EO. W. GIBB
State Reclamation Engineer

By:

(Mrs.) Edna P. Kuttledge
Chief Clerk

EPR:cw

21070

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR TRANSFER OF WATER RIGHT
To Change the Point of Diversion and/or the Place of Use

Name of applicant Ralph Parkinson Phone 527-3161Post office address Route #1, Box 66, Arco, ID 83213**A. DESCRIPTION OF RIGHT AS RECORDED**

1. Right evidenced by:

a. Decree to _____ (Name)
in case of _____ vs _____
dated _____ in _____ county of _____
(Name of court)

b. License No. 34-2506 issued by the Idaho Department of Water Resources

c. Claim No. _____ on file with the Idaho Department of Water Resources

2. If applicant is not the original holder of this right, explain how it was acquired and attach a copy of the deed or other evidence of ownership of the land to which the right is appurtenant _____

3. Source of water groundwater tributary to _____4. Date of priority March 2, 1967

5. Water is used for the following purposes.

amount 1,174 cfs for irrigation purposes from April 1 to Oct. 31
amount _____ for _____ purposes from _____ to _____
amount _____ for _____ purposes from _____ to _____
(month/day - both dates inclusive)

6. Total amount of water under right: a. 1,174 cubic feet per second
&/or
b. _____ acre feet per annum

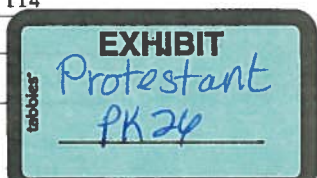
7. Location of original point of diversion is NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 11
Township 3N Range 26E, B.M., in Butte County
Additional points of diversion, if any 2 wells in the same forty.

8. Lands irrigated or place of use:

TWP	RANGE	SEC	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				TOTALS
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
3N	26E	11											37				39	38	114

Total number of acres to be irrigated 114

9. Describe any other water rights used for the same purposes as described above _____



B DESCRIPTION OF PORTION OF RIGHT OWNED BY APPLICANT (If the entire right is owned by the applicant, omit part B).

1. Amount of water. a. _____ cubic feet per second
&/or
b. _____ acre feet per annum
2. Point of diversion _____ $\frac{1}{4}$ _____ $\frac{1}{4}$, Section _____ Township _____
Range _____, B M., _____ County
Additional points _____
3. Place of use:

TWP	RANGE	SEC	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				TOTALS
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	

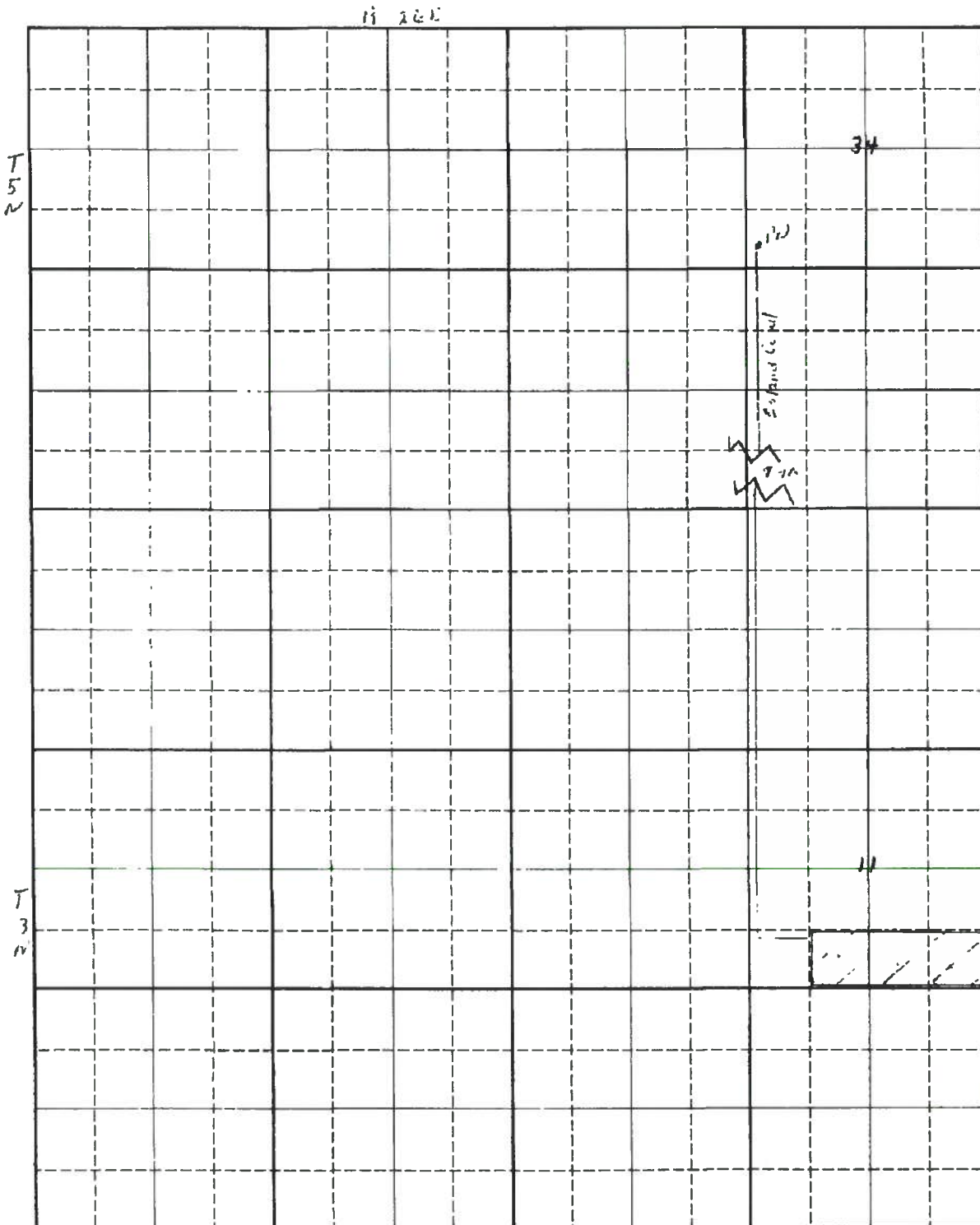
C. DESCRIPTION OF RIGHT OR PORTION THEREOF, AFTER THE REQUESTED CHANGE

- 1 Change in point of diversion
 - a. Amount of water to be diverted 1.174 c.f.s. &/or _____ acre feet
 - b. Point(s) of diversion SW $\frac{1}{4}$ SW $\frac{1}{4}$, Section 34 Township 5N
Range 26E, B M., Butte County
Additional points _____
 - c. Description of diverting works _____
 - d. Describe the reasons for applying for a change in the point(s) of diversion
The two wells were not yielding enough water, the wells are abandoned.
2. Change in place of use NO CHANGE.
 - a. Describe the lands or place of use to which the right will be transferred.

TWP	RANGE	SEC	NE $\frac{1}{4}$				NW $\frac{1}{4}$				SW $\frac{1}{4}$				SE $\frac{1}{4}$				TOTALS
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	
<u>3N</u>	<u>26E</u>	<u>11</u>												<u>37</u>			<u>37</u>	<u>37</u>	

Total number of acres to be irrigated _____

3. Draw a map indicating the new point(s) of diversion and/or the new land to be irrigated. Show clearly the land involved by section, township and range number.



SCALE: 2 inches equal 1 mile. Draw plan in ink.

FEB 21 1912

4. Remarks _____

I hereby assert that no one will be injured by such change and the change does not constitute an enlargement in use of the original right. The information contained in this application is true to the best of my knowledge.

Ralph S. Parkinson
(Signature of applicant)

Subscribed and sworn to before me this 9 day of April, 19 80.

Kathlyn A. Weber
(Notary public)

My commission expires 2/15/83

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Transfer of Water Rights No. 34-2506 and said application is hereby APPROVED, subject to the following limitations and conditions:

1. A measuring device and lockable controlling works of a type acceptable to the Department shall be permanently installed and maintained as part of the diverting works.
2. Use of water under this right is subject to control by the watermaster of State Water District No. 34, Big Lost River.

Witness my hand this _____ day of _____, 19 83.

Chief, Operations Bureau

FOR DEPARTMENT USE ONLY

Received by <u>KW</u>	Date <u>4-9-1980</u>	Protest filed by _____
Prelim. check by <u>EMC</u>	Fee <u>35.00</u>	_____
Receipted by <u>KW</u>	Date <u>4/9/80</u> # <u>13861</u> <u>13925</u>	_____
Published in <u>Arco Advertiser</u>	Copies of protest forwarded by _____	_____
Pub. dates <u>4/27 & 5/1/80</u>	Hearing held <u>APPROVED</u> date _____	_____
Watermaster recommendation requested on _____	Recommended for <u>approval</u> denial _____	_____
<u>4-21-1980</u> rec'd. <u>5-12-1980</u>	by <u>EMC</u>	<u>FEB 07 1982</u>

NOTICE OF PROPOSED CHANGE OF WATER RIGHT
34-4008

Notice is hereby given that Ralph S. Parkinson, Arco, ID, has applied to the Department of Water Resources for a change in the point of diversion of the waters of a ground water source. The right sought to be changed is evidenced by Claim No. 34-4008 and is recorded as follows:

Amount: 2.60 c.f.s. Priority: April 30, 1961

Point of Diversion: NE $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 11, T. 3N, R. 26E, B.M., Butte County.

The water is used to irrigate 200 acres within the E $\frac{1}{2}$ SE $\frac{1}{4}$, Sec. 10, SE $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 11, T. 3N, R. 26E.

TO BE CHANGED AS FOLLOWS

The water will be diverted within the NE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 11, T. 3N, R. 26E, SW $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 34, T. 5N, R. 26E, B.M.

Any protest against the approval of the above change of water right must be filed with the Idaho Department of Water Resources, 150 Shoup, Suite 15, Idaho Falls, ID, 83402, on or before August 20, 1984.

A. KENNETH DUNN

Director

Published in the Arco Advertiser, Arco, ID, on August 2 and 9, 1984.

NOTICE OF PROPOSED
CHANGE OF WATER RIGHT

34-4008

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Priority: April 30, 1961

Point of Diversion: NE $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 11, T. 3N, R. 26E, B.M., Butte County.

The water is used to irrigate 200 acres within the E $\frac{1}{2}$ SE $\frac{1}{4}$, Sec. 10, SE $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 11, T. 3N, R. 26E.

TO BE CHANGED AS FOLLOWS

The water will be diverted within the NE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 11, T. 3N, R. 26E, SW $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 34, T. 5N, R. 26E, B.M.

Any protest against the approval of the above change of water right must be filed with the Idaho Department of Water Resources, 150 Shoup, Suite 15, Idaho Falls, ID, 83402, on or before August 20, 1984.

A. KENNETH DUNN

Director

Published in the Arco Advertiser, Arco, ID, on August 2 and 9, 1984.



IN THE MATTER OF:)
APPLICATION FOR TRANSFER)
34-4008/2497/2505/2506)
State of Idaho)
County of _____)

GETV
AFFIDAVIT
DEC 14 1984
Department of Water Resources
Eastern District Office

_____ being first duly sworn,
deposes and says: it is not the purpose of these transfers to increase
the rate of flow from the well in the SW $\frac{1}{4}$ Sec. 34, T. 5N, R. 26E.
The purpose is to utilize the water in the most efficient manner
The systems are interconnected and water is diverted from the point
or points of diversion that will best irrigate the land depending
on the crop.

Ralph S. Parkinson
(signature)

Subscribed and sworn to before me this 13th day of Dec 19 84.

[Signature]
(notary public)

Residing at Arco ID
My commission expires 1-25-85

EXHIBIT
tabbles
Protestant
PK28

MEMORANDUM

Date: August 18, 1987

To: T3052 (Lic. 34-2497)
T3053 (Lic. 34-2505)
T3054 (Lic. 34-2506)
T3055 (Lic. 34-4008)

From: L. Glen Saxton

RE: ACTION ON THE TRANSFER APPLICATIONS

Action should not be taken on the above listed applications for transfer until there is some common concurrence within the department relative to a general policy or strategy in the Big Lost River Basin. The real question basically boils down to a conjunctive use consideration since the groundwater and surface water seems to be closely related.

There is quite a bit of information compiled in draft reports of the department entitled "Big Lost River Groundwater Study" but the reports have not been finalized or adopted.

The Swan Falls controversy which still is not resolved has slowed the momentum of developing a groundwater strategy in the Big Lost River Basin.



**BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE
STATE OF IDAHO**

**IN THE MATTER OF APPLICATION)
FOR TRANSFER NO. 4573 (WATER) FINAL ORDER
RIGHT NOS. 34-02497, 34-02506,)
34-02505, & 34-04008) IN THE NAME)
OF PARKINSON FARMS)
_____)**

Parkinson Farms (Parkinsons), a partnership, filed application for transfer no. 4573 with the Department of Water Resources (Department) seeking a new point of diversion in addition to three existing wells described by water right nos. 34-02497, 34-02506, 34-02505, and 34-04008. The three existing wells are located at the place of use described by the water rights. Parkinsons propose to drill another well approximately eight miles north of the place of use and divert water from the new well into canal systems owned and operated by the Big Lost Irrigation District for delivery to the place of use.

The application for transfer was protested by the Big Lost River Water Users Association (Association) and signed by Lawrence Babcock, Chairman of the Association. In addition, the protest was signed by 16 other individuals with addresses located in the Big Lost River Valley.

A hearing was conducted on November 1, 1995 regarding the protests. A recommended order was issued by the Department on December 13, 1995. No exceptions to the recommended order were filed. The following Findings of Fact, Conclusions of Law, and Order adopt the recommended order with some minor corrections.

FINDINGS OF FACT

1. The Director's adjudication report for basin 34 describes the points of diversion and place of use for water right nos. 34-02497, 34-02506, 34-02505 and 34-04008 as follows:

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POINTS OF DIVERSION

T03N R26E S11

NWNESW
NENESE (two wells)

PLACE OF USE

<u>Location</u>		<u>Acres</u>
T03N R26E S10	NESE	20
	SESE	37
S11	NENE	7
	SWNE	34
	SENE	37
	SWNW	7
	SENW	21
	NESW	40
	NWSW	40
	SWSW	40
	SESW	40
	NESE	38
	NWSE	40
	SWSE	40
	SESE	39
TOTAL		480

The Director's Report states that not more than 472 acres may be irrigated by all the rights in combination in one year. It also limits the place of use for each of the water rights as follows: 34-02497, 55 acres; 34-02506, 114 acres; 34-02505, 103 acres; 34-04008, 200 acres.

2. The Director's Report also limits withdrawals for each of the water rights as follows: 34-02497, 0.57 cfs; 34-02506, 1.17 cfs; 34-02505, 1.06 cfs; 34-04008, 2.60 cfs. The total diversion rate for all four water rights is limited to 5.32 cfs.

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3. The place of use described by the four water rights is also described in the Director's Report as a portion of the place of use for water right no. 34-07145, which authorizes diversion from the Big Lost River. During recent drought years, flows in the Big Lost River have not been sufficient to supply adequate surface water for the place of use.

4. The place of use described by the four water rights is also described in the Director's Report as a portion of the place of use for water right nos. 34-07176 and 34-12368, which in combination authorize or claim to authorize diversion of 7.8 cfs from a well located in the NESWSW, S34, T5N, R26E. The existing well is located within one-half mile of the well site proposed by Parkinsons' application for transfer. Water right nos. 34-07176 and 34-12368 were not described by Parkinsons' application for transfer, and no evidence regarding water right nos. 34-07176 and 34-12368 was presented at the hearing.

5. The three wells described by the four water rights listed in Finding of Fact No. 1 (referred to hereafter as the old wells) presently produce the following approximate quantities of water from the following approximate depths.

	<u>Location</u>	<u>Depth</u>	<u>Production</u>
T03N, R26E S11	NWNESW	225 ft (deep well)	1.2 cfs
	NENESE	90 ft (shallow well)	0.8 cfs
	NENESE	90 ft (shallow well)	0.8 cfs

6. Prior to the beginning of the drought in 1987, the old deep well produced approximately 2.6 cfs of water. The two old shallow wells each produced 0.8 cfs, or 1.6 cfs cumulatively. The decline of well production since the drought has resulted in a diversion reduction of 1.4 cfs from the old deep well. Production from the two old shallow wells has not diminished.

7. Parkinsons deepened the old deep well by approximately 30 feet to a depth of approximately 250 feet, cased the well to the bottom, and lowered the pump intake to the bottom of the well. Parkinsons attempted to screen fine material from entering into the pump intake. When Parkinsons tried to pump water, the bottom 25-30 feet of the well filled with sand. Parkinsons raised the pump intake to an elevation approximately three feet below its original depth of approximately 220-225 feet.

8. Parkinsons filed application for transfer no. 4573 because they cannot pump sufficient water from the three old wells to irrigate their crops.

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9. Parkinsons proposes to drill a new well in the SESW, S34, T5N, R26E, B.M. The proposed well site is located approximately eight to ten miles north and hydrologically upstream from Parkinsons' place of use and the old wells.

10. If this application for transfer is approved, water pumped from the new well will be injected into the Island Ditch, will flow into the East Ditch, and will discharge into the Big Lost River. The water will be re-diverted at the Arco diversion, and will be delivered through the Munsee Ditch to the place of use.

11. The ground water in the vicinity of the proposed point of diversion is near the ground surface during normal water years.

12. A large number of irrigation wells have already been drilled in close proximity to the proposed well site. Department records show 19 irrigation wells located within a one-mile radius of the proposed well site and 43 irrigation wells located within a two-mile radius of the proposed well site. Many of the irrigation wells discharge into ditches which deliver water to the south and west of the proposed point of diversion location (locally known as the Era Flat).

13. Ground water migrating down-gradient to the south and west of the proposed point of diversion generally becomes deeper and less accessible. The water supply at the proposed point of diversion is more reliable than the water supply at the old points of diversion, and the water can be pumped more economically.

14. The applicants propose to divert all the water authorized by their water rights from the new proposed point of diversion.

15. Glen Guthrie, a well driller who resides in the Big Lost River area, has drilled replacement wells since the drought began in 1987. Many of these replacement wells were drilled for water users who could no longer pump from their wells because ground water levels declined below the bottom elevation of the original wells.

16. Multiple witnesses testified that when irrigation pumps located in the vicinity of the proposed well site turn on, water levels in their domestic wells drop significantly. In addition, ground water levels have generally declined in the last decade. Some of the witnesses testified they were forced to redrill their domestic wells because of the combination of declining ground water levels and local interference.

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17. Ground water in the vicinity of the proposed well site is tributary to the Big Lost River. Consumptive use of ground water in the Moore area and upstream of Moore reduce flows in the Big Lost River. The shortage of water in the Big Lost River Basin has been aggravated by several years of drought. The Big Lost River has dried up below the Moore diversion and return flows from ground water have not replenished the stream. Water rights normally satisfied in the lower portions of the Big Lost River have not been delivered.

18. The Department has determined that wells located in the vicinity of the proposed well site and wells located in the vicinity of the old wells divert water tributary to the Big Lost River. The old wells are located in the south boundary line of tributary ground water, however, and withdrawals from a well at the location of the old wells will not impact river flows as significantly as withdrawals from a well located at the proposed well site.

19. Surface water delivered through canals owned by the Big Lost Irrigation District are assessed a reduction (shrink) for water loss in delivering water from the point of diversion to the place of use. A reduction percentage is calculated for each delivery canal. Depending on the length of the canal, and the characteristics of the soil through which the canal is constructed, these losses can be as high as 50 to 70 percent.

20. A reduction is also assessed against water diverted from wells and injected into canals for delivery. The proposed diversion and delivery by Parkinsons would be assessed a reduction for the canals through which the water is delivered. Witnesses testified that the reduction would probably be in the range of 50 to 60 percent.

21. Most of the losses in the canal are due to percolation, although some evaporation also occurs. Percolating water adds to the ground water and may be diverted by other ground water users, flow underground out of the Big Lost River Basin, or resurface in the Big Lost River.

22. No evidence was presented to show where or how much of the water percolating from the delivery ditches would recharge ground water or surface water use or the timing of return flows resulting from percolation recharge.

23. The issues of injury to surface water users caused by a reduction in flows to the Big Lost River and injury to ground water users caused by ground water withdrawals at

the location of the proposed point of diversion were not addressed by Parkinsons. No plan of mitigation was offered by Parkinsons.

24. Witnesses testified that maintenance of stream flows in the Big Lost River and tributary streams is in the public interest.

CONCLUSIONS OF LAW

1. Idaho Code § 42-222 sets forth the criteria that the Department can consider in determining whether an application for transfer should be approved:

The director of the department of water resources shall examine all of the evidence and available information and shall approve the change in whole, or in part, or upon conditions, provided no other water rights are injured thereby, the change does not constitute an enlargement in use of the original right, and the change is consistent with the conservation of water resources within the state of Idaho, and is in the local public interest as defined in Section 42-203A(5), Idaho Code; . . .

2. The applicant carries the burden of coming forward with evidence that his proposed transfer will not result in an enlargement in use, will not injure other water rights and is consistent with conservation of water resources.

3. All parties carry the burden of coming forward with the evidence regarding matters of local public interest, but the applicant bears the burden to show that his proposal is in the local public interest or that public interests which favor the proposal are of greater worth than the public interests with which it conflicts.

4. The Association established that water users near the proposed point of diversion would be injured by the withdrawals from the proposed well.

5. The Association established that further depletions of water in the Moore area would affect stream flows in the Big Lost River and would lower or reduce available ground water down gradient of the proposed well.

6. Parkinsons did not satisfy their burden of proof regarding issues of injury, enlargement, or local public interest.

7. The Department should deny application for transfer no. 4573.

1/10/01
10-1

ORDER

IT IS HEREBY ORDERED that application for transfer no. 4573, in the name of Parkinson Farms is **DENIED**.

Dated this 30th day of May, 1996.



Karl J. Dreher
DIRECTOR

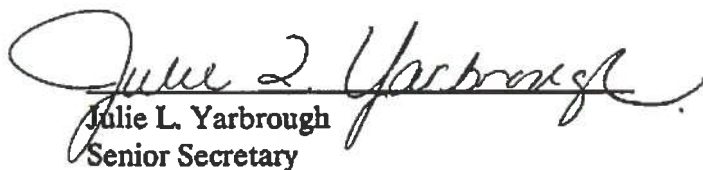
CERTIFICATE OF MAILING

I do hereby certify that on this 31st day of May, 1996, I mailed a true and correct copy, postage prepaid, of the foregoing FINAL ORDER to the following:

Ralph S. Parkinson
Parkinson Farms
Rt 1, Box 228
Arco, ID 83213

Lawrence R. Babcock, Chairman
Big Lost River Water Users Association
Box 66
Moore, ID 83255

Pete Ampe
Attorney at Law
249 3 Avenue West
Twin Falls, ID 83303



Julie L. Yarbrough
Senior Secretary

1000-10-10
1000-10-10

WATER DISTRICT 34

P.O Box 53 Mackay Idaho 83251

Phone (208)588-3137

Nick Miller
Idaho Department Water Resources
Water Distribution Section

Nick;

Attached are 3 letters sent out on the well over diversions we discussed previously.
Guess we well see what happens.

Bob Shaffer

Bob Shaffer
Watermaster
Water District 34



WATER DISTRICT 34

P.O Box 53 Mackay Idaho 83251

Phone (208)588-3137

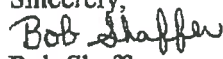
June 15, 2007

Doug Schureman
3059 West 2230 North
Arco Idaho 83213

Dear Doug;

In reviewing ground water diversions it appears that your well on the Eastside Canal is pumping more water than it is licensed for. The only rights we can find for this well is right 34-7100 for a maximum diversion of 2.72 cfs. Our records indicate you are pumping 6 cfs.

If you have any water rights pertinent to this well that are not listed above please produce them within 10 (ten) days or reduce the Volume being diverted to comply with your above listed rights.

Sincerely,

Bob Shaffer
Watermaster
Water District 34

Cc; Nick Miller, IDWR

WATER DISTRICT 34
P.O Box 53 Mackay Idaho 83251
Phone (208)588-3137

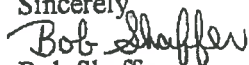
June 15, 2007

Jay Jensen
3320 West 2800 North
Moore Idaho 83255

Dear Jay;

In reviewing ground water diversions it appears that your well on the Island Canal is pumping more water than it is licensed for. The only rights we can find for this well are rights 34-10923 and 34-7055 which combine for a maximum of 4.8 cfs and 34-2357B for 2.0 cfs and a total diversion rate of 6.8 cfs. Our records indicate you are currently pumping 8.24 cfs.

If you have any water rights pertinent to this well that are not listed above please produce them within 10 (ten) days or reduce the Volume being diverted to comply with your above listed rights.

Sincerely,

Bob Shaffer
Watermaster
Water District 34

Cc; Nick Miller, IDWR

WATER DISTRICT 34

P.O Box 53 Mackay Idaho 83251

Phone (208)588-3137

June 15, 2007

Ralph Isom
4735 West 17th North
Idaho Falls, Idaho 83402

Dear Ralph;

In reviewing ground water diversions it appears that your wells on the Island Canal are pumping more water than they are licensed for. The only rights we can find for these wells are rights 34-2459, 34-2460, 34-2461, 34-2462 and 34-7037 which combine for a maximum diversion rate of 12.5cfs. Our records show you are currently diverting 16.9 cfs.

If you have any water rights pertinent to this well that are not listed above please produce them within 10 (ten) days or reduce the Volume being diverted to comply with your above listed rights.

Sincerely,



Bob Shaffer

Watermaster

Water District 34

Cc; Nick Miller, IDWR

March 12, 2013

James Cefalo, Water Resources Program Manager
Idaho Department of Water Resources, Eastern Region
900 North Skyline Drive, Suite A
Idaho Falls, Idaho 83402-1718

Re: Application For Permit No. 34-7511

Dear James,

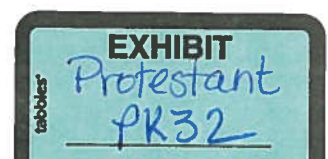
This is a follow up of the phone conversation on February 1, 2013. There are several things that I would like to bring to your attention as you go through the approval process for my Permit No. 34-7511 since any protests have now been withdrawn.

One item discussed was the requirement to leave an amount of water in the canal equal to the shrink. So if you had 100 inches of water and the shrink was 30%, then the amount of water that would be required to be left in the canal is 30 inches. This is understandable if it was consistent across the entire District, but it is not.

For example in the 3in 1 Canal that now shrinks 82%. Now there is only one person using that canal but in 2004 there used to be 44 patrons (attached) in that canal with water rights amounting to 58.9 CFS not including storage. Most have now drilled wells so they do not have to pay the enormous shrink. Last year, it took 1100 inches of water at the head of the canal to get 200 inches at the end for irrigation for the one individual.

Another example is the B&J Canal where there is only one person taking water to his farm. In 2004, there used to be 35 patrons (attached) on that ditch with water rights of 20.2 CFS not including storage. It took that single individual on July 6, 2012, 229 inches to get 115 inches at his pump or 50% shrink and no one is helping him share that shrink. Again most people who got out of this canal are using wells to eliminate the high shrink.

Other canals are the Sutter, Angelo, Vaught/Harris, etc. It appears that precedence has been set that individuals do not have to leave the shrink water in these canals.



There are numerous examples of people who have avoided shrink. For example about three years ago, there were three individuals Telford, Sorenson, and PU Ranch who have wells that used to pump 1500 inches of well water directly into the Moore Canal where they suffered 35% shrink before it was delivered to the Timberdome Canal on the flat. They put this approximately 1500 inches of water from wells in a new pipeline to the UC Canal where they made a ditch and lined that ditch to reduce the shrink thus getting most of the water to the ERA Flat outside the irrigation district with minimal shrink. They did not have to leave any shrink water in the canal to reduce the shrink burden to the others who remained in the canal.

Another Example is the Pehrsons who used to take their water out of the Beck Canal that shrinks about 30%. But they built a new ditch off of the river called the Pehrson Ditch and got out of the Beck, lined the new ditch with bentonite so they would have minimal shrink. They did not have to leave any shrink water in the Beck Canal nor do they suffer much shrink in the new ditch.

Another example is an individual who could not get enough surface water and has a well without any mitigation requirements or shrink. So he has opted to get out of the Irrigation District and just use his well. He sold all his storage rights to another irrigator and never calls for surface rights because he can't get the surface water there because he cannot use the irrigation district canals. Thus he avoided the irrigation assessment costs.

Most of the water that is lost from the Big Lost River and the canals, known as shrinkage, goes to the aquifer. This source of water is what supplies most of the water to the wells that have to pay no shrinkage unless they are pumped into a canal for transfer to lands located on district canals which is the only way to get the well water to their place of use. Most well water is delivered directly into a sprinkler system without shrink or any losses. Thus, the user of well water gets all of the water they are allotted without suffering shrinkage.

Every surface water user suffers some type of shrinkage where most ground users do not. Some surface water users like on the Burnett Canal, lose as high as 70% of their allocated surface water and where does this water go; ground water. How is this equitable especially where some surface water users are not allowed to drill a well to supplement their surface water because of a moratorium? Yet new wells are being drilled every year under the guise of splitting existing wells. If there were no shrinkage in the River, there would be more surface water delivered as decree water and storage water. But there is shrinkage and again this shrinkage provides

the water for the wells that pay no shrinkage. The Big Lost River has as universal shrink as high as 50% when the level of the aquifer is low and the average shrink in the canals is probably about 35%. This is a lot of water going into the ground to supply ground water to the wells that pay no shrinkage.

So is correct to say that the bottom line would be that if I build a pipeline to the river from my property, then I would not have to deliver the canal shrinkage water as you suggest that I presently should do in my request for mitigation of surface water rights to the aquifer?

This is exactly what is happening in the above examples where a precedence has been set that you can bypass the system to eliminate shrinkage and to deliver more water to the place of use by splitting an existing well as was done in 2010 by Pehrsons or by providing your own system that eliminates shrink using a pipeline or lining a ditch. Everyone used to be in a canal before the advent of wells in the valley. Why don't they have to provide shrinkage water to their old place of use in the canal as you are suggesting that now has to occur?

I have requested to mitigate my surface water by putting it in the head of Spring Creek, but there seems to be some question and an evaluation is underway as to whether this would help the aquifer in the lower part of the valley where I use my water. I would purpose that any water that is put in the aquifer eventually reaches the end of the valley where I would take my water out. Otherwise how does it leave the valley going to the Snake River Aquifer if not going out the end? You also suggest that maybe the water I am putting into the ground up the valley will be pumped out by wells that are located between my purposed mitigation site and the site of retrieval before it can be retrieved. If that is the case, why would the wells be allowed to take my mitigation water and where is their mitigation so they can pump ground water????

IDWR is requiring that a weir or measuring device be put at the Arco diversion by District #34 this year. If I used this for measuring my mitigation water, then it would be much closer to my site of retrieval. This could be used as an alternate mitigation site but the head of spring creek is still preferred. But, I still contend that I should not be singled out as having to keep part of my water in the Arco canal as shrinkage water when there are numerous examples where this was not required in the past.

I expect to receive a written response to address the issues mentioned above and why they have not been previously addressed. Why all of a sudden is there is a

change in IDWR philosophy as I try to develop an adequate dependable water supply to one of the oldest farm grounds in the valley that has the earliest water right that is in the Irrigation District? Something is wrong with this picture.

Sincerely,

James Rindfleisch
3258N 3350W
Moore, Idaho 83255
208-554-3343

cc. Watermaster, District #34
Gary Spackman, Director, IDWR

Attachments

April 15, 2013

Gary Spackman, Director
Idaho Department of Water Resources
P.O. Box 83720
Boise, Idaho 83720-0098

Cc: Roger Totten, Watermaster District #34, PO Box 53, Mackay, Idaho 83251

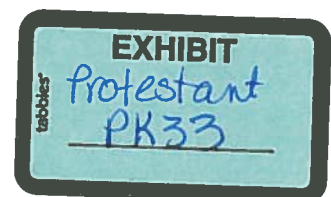
Attachment: Reva Walker letter

Subject: MITIGATION REQUEST FOR THE 2013 IRRIGATION SEASON FOR WATER DISTRICT NO 34

In accordance with the IDAPA 37 Title 03 Chapter 12 of the Idaho Department of Water Resources Water Distribution Rules- Water District 34, this is a request for the Conjunctive Administration of Ground Water and Surface Water Rights (Rule 50) for the lower part of the Lost River Valley-District 34 during the 2013 irrigation season as provided in the Idaho Administrative Code by the Department of Water Resources.

Mitigation will not be of any value if it is conducted only in the early part of the irrigation season. Some decrees could end as early as June while most would not go off until the end of July or mid August depending on the weather. When the decrees go off, this is the time that mitigation needs to take place to extend these decrees through the irrigation season.

We the undersigned request implementation and adherence to Rule 50 of the IDAPA 37.03.12-Department of Water Resources Water Distribution Rules – District 34 for the irrigation season 2013 for the following water rights:



James Rindfleisch- Water Rights 34-234B-8 inches 6-1-1880; 34-244D 110 inches 10-2-1885

Kenneth Bell- Water Rights 34-518-320 inches 6-30-1890; 34-418B-80 inches 5-1-1892

Marc Hansen and Bruce Jacobs-Water Rights 34-14318-40 inches 10-2-1885; 34-33 40 inches 10-2-1885 34-14316 52 inches 9-24-1900

Josephine Spraker Water Rights 34-106-11inches 6-1-1887; 34-108-80 inches 7-1-1887; 34-109-23 inches 8-1-1888; 34-179-65 inches 7-1-1887; 34-302 106 inches 4-22-1889; 34-394-30 inches 6-1-1890; 34-487-65 inches 10-20-1901; 34-521-115 inches 6-1-1887; 34-904-60 inches 5-1-1886.

Harvey Walker Water Rights 34-3B-70 inches 6-1-1887; 34-10476-37 inches 5-1-1885; 34-10479-180 inches; 34-10478-80 inches 5-1-1892.

Mark Roberts-Water Rights 34-394-30 inches 6-1-1890.

Carole Campbell-Water Rights 34-243A-2 inches 6-1-80; 34-244B-25 inches
10-2-1885.

Reva Walker-Water Rights 34-789-155 inches 5-1-1892

WATER DISTRICT 34
ADVISORY COMMITTEE

June 26, 2013

Nick Miller, Water Distribution Section Manager
Idaho Department of Water Resources
P. O. Box 83720
Boise, Idaho 83720-0098

RE: Advisory Committee Mitigation Plan Non-Acceptance Answer and Subsequent Work Plan

Dear Nick,

The Advisory Committee (AC) met on June 18, 2013, to review your June 12, 2013, letter informing us that the Rule 50 Mitigation Plan submitted by Water District No. 34 was not approved by the Director. At that meeting we also discussed several other matters regarding the regulation, distribution, and accounting of water supplies the water district is responsible for.

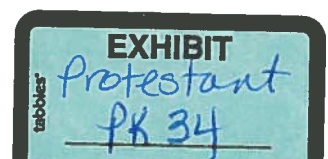
All of the current issues before the AC are extremely important to us and require our attention. The challenge is knowing when and how to act upon each of the issues in a constructive manner, and to do so without complicating or confusing the daily operations of the water district. These matters require sorting between fundamental and secondary tasks of operation. Some matters need only initial alignment and then can be set aside temporarily while higher priority issues are worked on. After each issue is properly framed, task determined, and transparent reports have begun, multiple issues can then be worked on concurrently. Of course this sequencing can always be interrupted if any party or individual chooses to push their agenda to the top of the "must do(s)" list. The following is our answer and subsequent work plan regarding how the AC intends to move forward with all of the current issues.

Answer. Avoid the arduous burden and proceedings of the CMRs and preserve the viability of Rule 50.

In response to IDWR's non-acceptance of the initial mitigation plan, the AC has determined it is imperative we preserve the integrity and viability of Rule 50. We will do so by acting on the following items:

Action Item 1.) We have formed a subcommittee of the AC that will meet with the mitigation callers in confidential negotiations during the next 30 days. The subcommittee will identify exactly what the mitigation callers would require to avoid initiating a CMR proceeding, and ask them to temporarily suspend their request for Rule 50 mitigation until the items and tasks listed below are accomplished and implemented.

Action Item 2.) The subcommittee will report to the AC the needs of the callers and the tentative terms of settlement. The AC will determine if those terms can reasonably be provided, and forward those terms and potential new tasks to IDWR officials. It is believed by the AC that a



completion of Task(s) 1, 2, and 3 would substantially satisfy many of the callers concerns. Time will tell.

Action Item 3.) Provide some amount of acquired mitigation water supply for the general river augmentation in the 2nd semester of 2013. Use the remaining portion of this season to learn the procedures and protocols needed to acquire and properly describe potential water rights so the watermaster, water district staff, AC, and public will understand how, why, and what is required.

Action Item 4.) Re-submit the Water District Rule 50 Mitigation Plan at an appropriate time when the fundamentals of water management have been accomplished.

Task 1. Continue to improve those methods that determine the available supply of natural flow and how it is allocated by water right priority to those who are calling for irrigation water. A form of this operational task is currently being conducted by the watermaster on a daily basis. The watermaster has provided to the AC the reports he is currently using to determine how much water is available in the river reaches, and how much water is being diverted into ditch/canal headings. But these reports do not clearly distinguish how much of each supply type is being diverted into the various laterals and canals. This type of information gap needs to be remedied. However, suffice it to say that the available water supplies are being diverted and beneficially used by someone.

Some of the internal evaluation questions we are asking ourselves are:

- a.) How do we fill in the informational gaps with real, useful, and accurate data?
- b.) How can the current reports be improved and made more useful for purposes of determining if water users are being injured or receiving their full entitlement?
- c.) How do we build water user confidence in the reports, and are water users willing to pay for better data collection to make better reports?
- d.) Will better reports reduce, or even avoid, allegations of misconduct, mitigation calls, investigations of local authorities, and extended periods of water supply interruption to individual water users?
- e.) How much transparency of field data and reporting systems is needed?

The questions can become endless, and sometimes endless questions are only used to distract us from the real issues. What we have decided is to use the reports we have (filling in the informational gaps as best we can) until you provide us with the new independent accounting system. We understand this new system may need to be "tweaked" as it is introduced into the water district record system, but let's get on with it. The sooner the better, so we can get to the next real issue that must be dealt with.

Task 2. The proper measuring, regulating, and recording of all groundwater diversions within the basin. The implementation of this task has far reaching ramifications. Currently we are trying to justify allocating the costs of mitigation burdens proportionately among groundwater users based on a very inaccurate "white paper". Recent reports to the AC suggest some wells (10-15%) are being measured

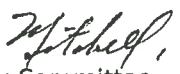
redundantly only because they have measuring devices that can be measured, while most wells (85-90%) have no measuring device to determine either the rate of diversion or the annual volume of pumpage. This is creating an atmosphere of partiality and erratic regulation.

The proper regulation and accounting of all groundwater usage in the basin will ensure the appropriate allocation of mitigation costs, equitable allocation to annual budgets, proper voting credentials, and the lawful use and diversion of the water resource. Without the proper accounting of both surface and ground water diversions, there is the strong likelihood that partial decree limitations of combined rates of diversion and annual volumes may be exceeded. The point is, before mitigation costs are assessed we should have enough accounting ability to ensure the alleged injury is not really caused by the failure to comply with and enforce the decrees, general provisions, and promulgated rules.

Task 2 would be greatly simplified if you would issue the administrative ground water measurement order you have spoken about for the last two years. The watermaster and AC have directed a deputy to commence the inspection of all wells in the basin to determine if pumpage is or has occurred, and if each well can be measured in preparation of the expected issuance of this forthcoming measurement order. This part of the task is already proving to be most helpful.

Task 3. Build more confidence in the watermaster and water district reports by making them transparent and available to the public. Water rights are private property rights that compete for the natural water resource by priority and are frequently co-mingled in conveyance systems as water supplies are delivered to field headgates. The only way to protect these private water rights is to do the regulating and distributing in an open and fair social environment. To that end the AC has asked water district personnel to begin building and posting on a web site the reports that are used to determine Task 1 and eventually Task 2. We expect those reports will be upgraded as improved accounting systems come on-line.

The AC hopes you find this answer and work plan useful. We are committed to doing our part and are willing to assist IDWR as you do your part. We look forward to hearing from you, and will keep you informed as we continue along this path of improving water management.

Sincerely,  *Michael, authorized by*
The Advisory Committee

Copy to:	Roger Totten, Watermaster	PO BOX 53	MACKAY, ID 83251
	Reva W. Walker	PO BOX 32	ARCO, ID 83213
	Mark Roberts	3101 W 2500 N	ARCO, ID 83213
	North 40 Partners LC	PO BOX 9	BELFRY, MT 59008
	Josephine and Robert Spraker	2652 N 3300 W	ARCO, ID 83213
	Young Harvey Walker	2338 N 2930 W	ARCO, ID 83213
	Cynthia and Kenneth Bell	2295 N 3000 W	ARCO, ID 83213
	Marc Hansen	2661 N 3520 W	MOORE, ID 83255
	James A. Rindfleisch	2167 N 2900 W	ARCO, ID 83213



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Email: rharris@holdenlegal.com

June 12, 2013

Gary Spackman
Director
Idaho Department of Water Resources
PO Box 83720
Boise, ID 83720-0098

RE: *Formal Complaint and Request for Removal of Roger Totten as Watermaster for Water District No. 34 Pursuant to Idaho Code § 42-605(9).*

Dear Director Spackman:

Our firm represents Jay and DeAnn Jensen. The Jensens are farmers in Water District No. 34, and possesses both surface and ground water rights that have recently been adjudicated in the Snake River Basin Adjudication. A summary of their water rights is enclosed with this letter.

On behalf of the Jensens, we submit that Roger Totten, the Watermaster for Water District No. 34, has failed to perform his duties as watermaster, the result of which has been lack of water delivery which the Jensens are entitled to by virtue of their water rights. Based upon our observation and collection of information, this is a preliminary list of how the watermaster is failing to meet his obligations:

1. The watermaster has failed to properly measure and account for both surface and ground water.
2. The watermaster is not recording the amount of water being diverted into each of the canal headings which divert off of the Big Lost River.
3. The watermaster is failing to distinguish between different water types, including available natural flow surface water supplies, storage water releases, and ground water diversions into various canals from ground water right holders, the result of which has deprived the Jensens of water.

Established in 1896



4. The watermaster has failed to maintain a list of water users who are calling for water delivery.
5. The watermaster has failed to enforce the Department's regulations on the adequacy of water diversions and their associated measuring devices.
6. The watermaster has failed to limit water use to the authorized places of use of certain water users, even after having actual knowledge of these violations.
7. The watermaster has failed to continually adjust water deliveries to water users by priority as the different water type supplies change. For example, on Monday June 3rd, Mr. Jensen turned on one of his ground water wells that diverts into one of the local canals. Mr. Jensen ordered the delivery of other water the next day (June 4th). When nothing was delivered under either request, he once again ordered his water supplies on Thursday, June 6th. Despite these requests for water, the Jensens finally began receiving usable quantities of water on Sunday, June 9th, nearly a full week after his well was turned on.

All of the above actions are in violation of the Department of Water Resources Water Distribution Rules—Water District 34 found at IDAPA 37.03.12, the *Water District 34 Guidelines for Operation* prepared by IDWR (dated October 29, 2006), and other provisions of Idaho law. Further, we reserve the right to supplement this complaint with additional items as that information becomes known to us.

In 2006, Kent Foster of my firm submitted a request similar to this complaint for an investigation of the watermaster pursuant to Idaho Code § 42-605(9) citing similar concerns regarding water measurement and accounting in Water District No. 34. The result of that petition was the *Water District 34 Guidelines for Operation* prepared by IDWR (dated October 29, 2006). Only when the guidance was provided did Mr. Foster's clients withdraw their request for further action. Unfortunately, we now know the water users received only guidance, not compliance. The time has come for compliance.

We understand that under the provisions of Idaho Code § 42-605(9) you will commence an investigation, and may commence a hearing with the other water users of Water District No. 34 regarding these allegations. We look forward to hearing from you on the date and time of when you intend to commence your investigation, and when you intend to hold a hearing, if at all.

We recognize that Water District No. 34 has a long history of water disputes, and we are concerned that this complaint may be treated simply as another instance of a complaint being brought because of drought conditions, or that this is something that the water users in Water District No. 34 "just do." However, the problems associated with the current watermaster are

Director Gary Spackman
June 12, 2013
Page 3 of 3

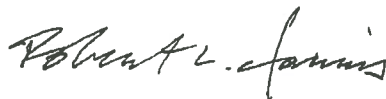
deep and are significant, even though the solutions to these problems are largely fundamental, and we merely request that the watermaster appropriately measure and account for water under the District's guidelines. We are convinced that most water users mainly crave confidence, not merely water. Without confidence in the watermaster, when supplies are tight, there will always be questions about whether users are being shorted for the benefit of others. However, with confidence in the watermaster, water users can plan for and address water shortages. What they have difficulty with is a system that is not operated appropriately. The water users can handle truth and reality—what they can't handle are surprises and inconsistency. We trust that the Director's involvement will help resolve these issues and result in a restored measure of confidence to Water District No. 34 water users.

We note that Water District No. 01, which maintains and delivers a complicated water supply from numerous sources that are tributary to the Snake River, is much more complicated than the Big Lost River and its few tributaries and its single reservoir. The situation in Water District No. 34 can simply no longer continue without a watermaster who will measure and account for water.

Our recommendation to replace Mr. Totten for the remainder of this year is Lyle Swank of Water District 01, who can collect information from on-the-ground deputy watermasters and input that information into IDWR's accounting regime that is being finalized by Nick Miller. Mr. Swank is eminently capable, given his long tenure with Water District 01, and because he is not a resident of the Big Lost River valley, this would eliminate any claim of sympathy or favoritism for any particular class of water users.

We appreciate your immediate attention to this matter. Should you have any questions regarding this complaint, please let us know. We look forward to hearing back from you on when your investigation will commence.

Best Regards,



Robert L. Harris
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

Enclosures



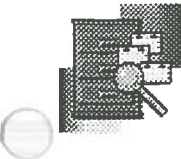
CONSTITUTION OF THE STATE OF IDAHO

ARTICLE XV WATER RIGHTS

Section 4. CONTINUING RIGHTS TO WATER GUARANTEED. Whenever any waters have been, or shall be, appropriated or used for agricultural purposes, under a sale, rental, or distribution thereof, such sale, rental, or distribution shall be deemed an exclusive dedication to such use; and whenever such waters so dedicated shall have once been sold, rented or distributed to any person who has settled upon or improved land for agricultural purposes with the view of receiving the benefit of such water under such dedication, such person, his heirs, executors, administrators, successors, or assigns, shall not thereafter, without his consent, be deprived of the annual use of the same, when needed for domestic purposes, or to irrigate the land so settled upon or improved, upon payment therefor, and compliance with such equitable terms and conditions as to the quantity used and times of use, as may be prescribed by law.

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A logo for Idaho Statutes featuring a stylized map of Idaho with a magnifying glass over it, and a circular seal to the left.

Idaho Statutes

TITLE 59 PUBLIC OFFICERS IN GENERAL

CHAPTER 4 OATH OF OFFICE

59-401. LOYALTY OATH -- FORM. Before any officer elected or appointed to fill any office created by the laws of the state of Idaho enters upon the duties of his office, he must take and subscribe an oath, to be known as the official oath, which is as follows:

"I do solemnly swear (or affirm, as the case may be) that I will support the Constitution of the United States, and the Constitution of the State of Idaho, and that I will faithfully discharge the duties of (insert office) according to the best of my ability."

History:

[59-401, added 1983, ch. 160, sec. 2, p. 463.]

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National Water Information System: Web Interface

[USGS Water Resources](#)

Date Category:

Site Information

Geographic Area:

United States

GO

[News](#) - updated May 28,2013

USGS 434000113215701 04N 26E 21BAA1

Available data for this site

SUMMARY OF ALL AVAILABLE DATA

GO

Well Site

DESCRIPTION: 43,666 944

Latitude 43°40'00", Longitude 113°21'59" NAD27

Butte County, Idaho , Hydrologic Unit 17040218

Well depth: 36.8 feet

Hole depth: 38.0 feet

Land surface altitude: 5,391 feet above NGVD29.

Well completed in "Sediments" (110SDMS) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
<u>Field groundwater-level measurements</u>	1967-12-08	2001-10-23	14

OPERATION:

Record for this site is maintained by the USGS Idaho Water Science Center

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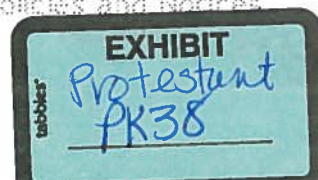
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Title: **NWIS Site Information for USA: Site Inventory**

URL: [http://waterdata.usgs.gov/nwis/inventory?](http://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=434000113215701)

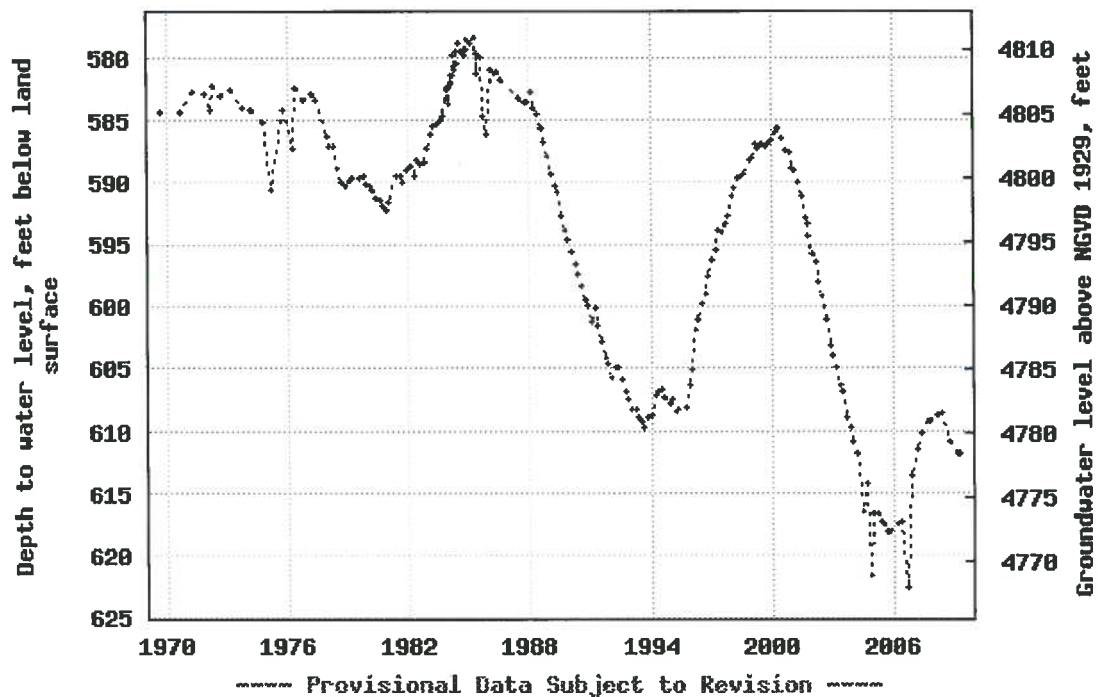


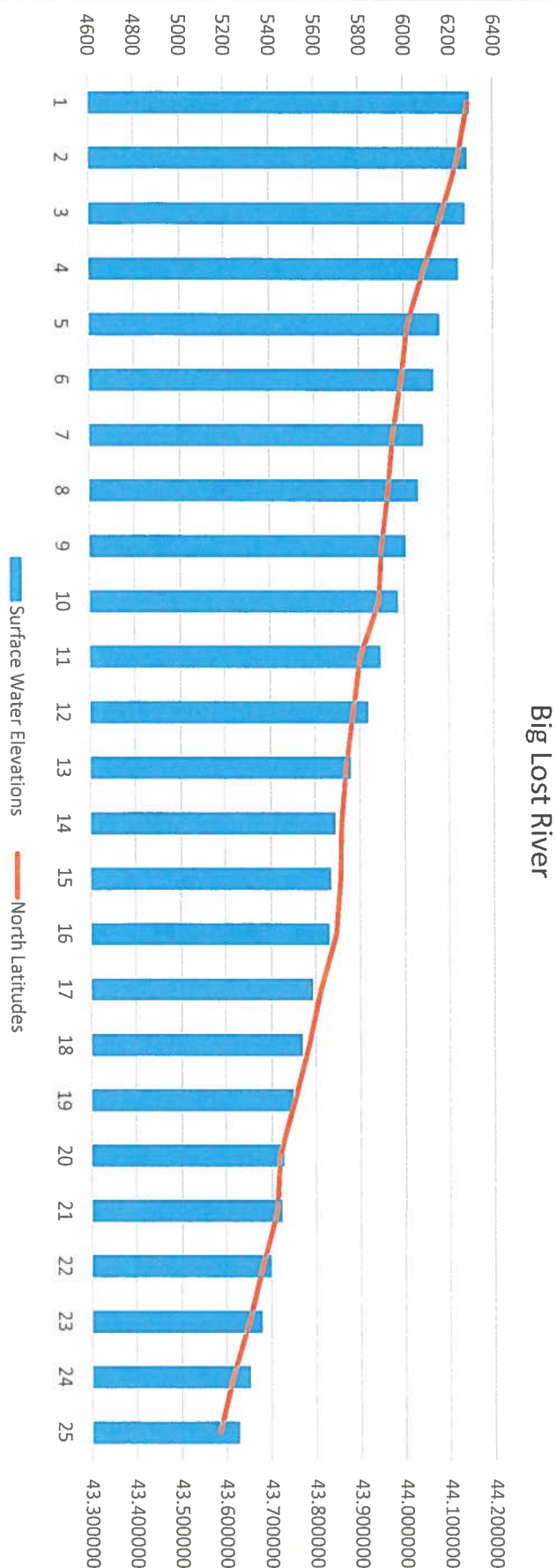
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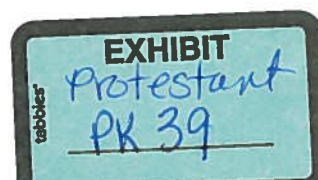


USGS 434001113215201 04N 26E 21ABB1





<u>Location Descriptions</u>	<u>North Latitudes</u>	<u>Surface Water Elevations</u>
Springs, North of Chilly	44.145556	6300
West of Wiley Smiths	44.123611	6290
Chilly Slough	44.087500	6280
River & Chilly Slough meet	44.048056	6250
Pivot, west of hiway	44.010000	6165
Bridge, North of Dam	43.996111	6137
Private Bridge, N of Dam	43.977222	6091
Dam, upper landing	43.966667	6066
Dam, Outlet	43.951111	6009
Trout Haven	43.943889	5976
Mine Hill Bridge	43.902778	5896
Houston Bridge	43.886667	5839
Bridge	43.870278	5762
Leslie Bridge	43.859444	5691
Ditch Heading	43.856667	5671
Blaine Diversion	43.846944	5662
Bridge, East of Darlington	43.813056	5589
Moore Diversion	43.786111	5542
Bridge, King Lane	43.754167	5501
Bridge, South of Moore	43.720556	5459
Parkinson Well	43.714444	5450
Bridge, @ Harolsons	43.681389	5400
Arco Diversion	43.652222	5359
Bridge, @ the Bend Bend	43.615278	5308
Bridge, @ Braswells	43.586111	5259



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