



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

April 7, 1999

School District No. 411
201 Main Avenue West
Twin Falls ID 83301

Re: Twin Falls Geothermal Area 1998 **Monitoring Report** and
Invoices

Gentlemen:

Enclosed is a summary of geothermal ground water withdrawals for the Twin Falls Geothermal Area. Also enclosed is an invoice for geothermal monitoring by IDWR for calendar year 1998.

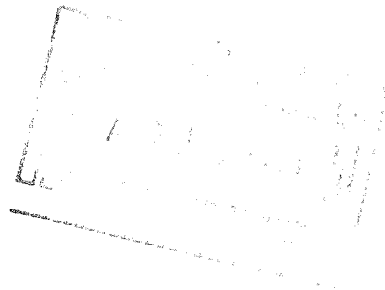
Questions regarding data collection, water use and reporting should be directed to Ken Neely at 327-5455. Questions about invoices and water rights may be directed to Tim Luke at 327-7864.

Thank you for your participation and cooperation with the geothermal monitoring effort.

Sincerely,

Tim Luke
Water Allocations

cc: Southern Region





State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

INVOICE

BILL TO	School District No. 411		
	201 Main Avenue West		
	Twin Falls, ID 83301		
DATE: April 6, 1999			0229/21 58112 1155
Twin Falls geothermal monitoring by IDWR for calendar year 1998 9.61 Credit from prior years (48.26) Credit Balance (38.65)			
Thank you,			
		FINANCIAL MANAGER	TOTAL \$0.00

PRODUCTION SUMMARY FOR THE GEOTHERMAL USERS IN THE TWIN FALLS AREA, 1990-1998

Kenneth W. Neely
March 12, 1999

Since 1990, monitoring data have been collected at the wells of four geothermal users in the Twin Falls area: 1) Pristine Springs, 2) Canyon Springs, 3) College of Southern Idaho (CSI), and 4) Twin Falls High School. Gary Funderberg, IDWR Southern Region, collects monitoring data monthly at the Pristine Springs, Canyon Springs and Twin Falls High School wells. The College of Southern Idaho submits their monthly monitoring data directly to the State Office of the IDWR.

Table 1 shows the annual production in acre-feet for the major users with each individual well listed separately. Figure 2 shows the cumulative annual production in acre-feet for each of the major geothermal users (i.e. the withdrawals for the two Pristine Springs wells and for the two CSI wells were combined respectively). Since 1993, production for Canyon Springs, Pristine Springs and the Twin Falls High School has been fairly consistent. Production at CSI increased from 710 acre-feet in 1995 to 1,422 acre-feet in 1998.

Table 2 lists: 1) the annual production in acre-feet according to the type of use, and 2) the total annual production for the major uses. Annual withdrawals have been fairly consistent from 1992 through 1998 (Figure 3); the average for the last six years is about 8,150 acre-feet.

Water levels in the USGS Filer test well (calculated from shut in pressure data) declined about 35 feet from the late 1980's to the mid 1990's (Figure 4). This drop occurred at the same time that total production increased about 60 percent. Clearly, the geothermal system is highly transmissive based on the fact that the USGS Filer test well is at least 6 miles from the nearest geothermal production in the Twin Falls area. Water levels rebounded slightly in 1997 and 1998; it is possible that the geothermal system may have reached a new equilibrium.

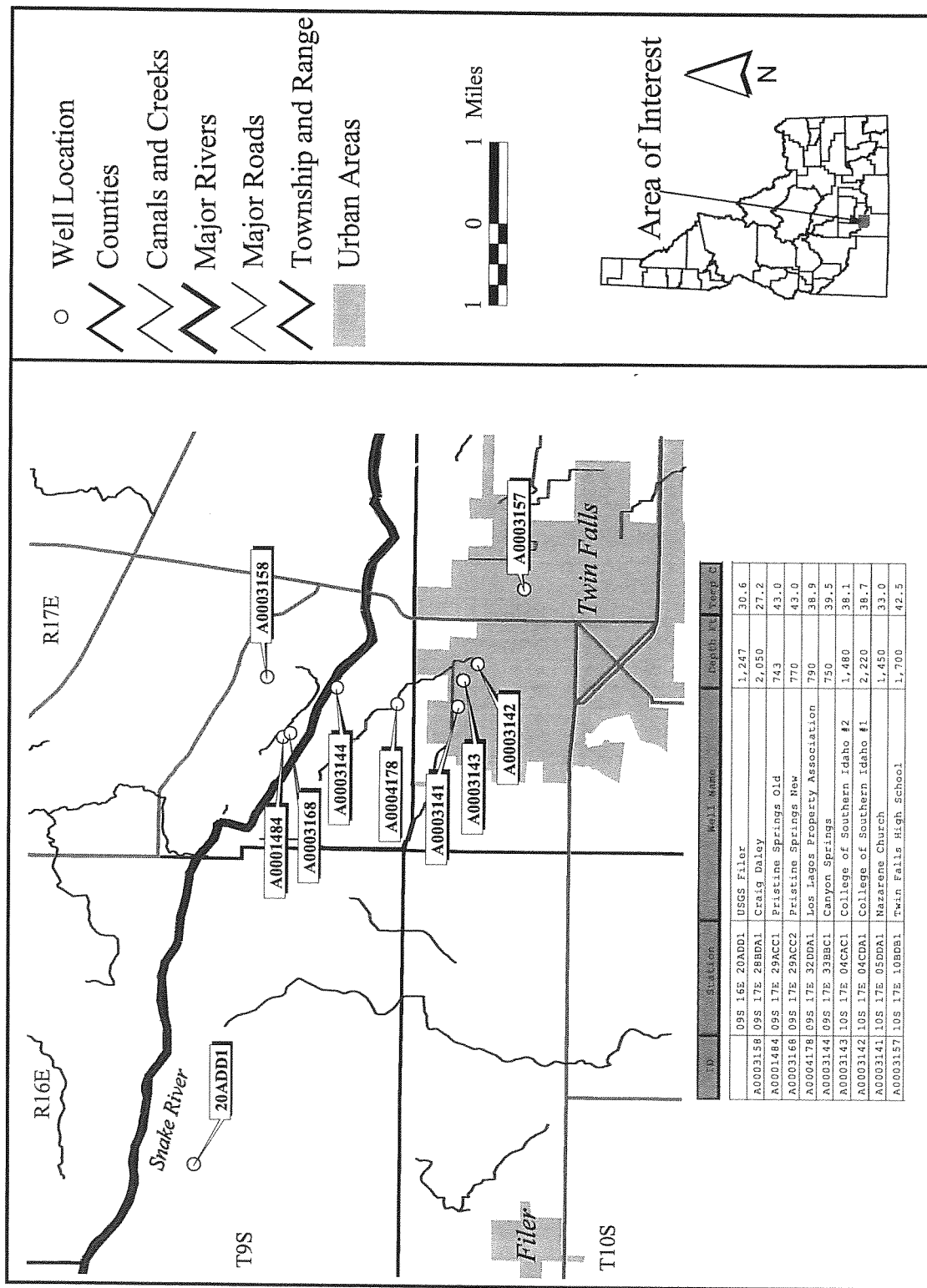


Figure 1. Location of selected geothermal wells in the Twin Falls area.

Table 1. Twin Falls Geothermal Annual Withdrawals by User in Acre-Feet

Site ID # (Well Name)	1990	1991	1992	1993	1994	1995	1996	1997	1998
A0001484 (Pristine Springs -Old)	17	873	597	139	14	0	0	0	0
A0003168 (Pristine Springs - New)	-	-	1,927	3,124	3,165	2,807 ¹ or 3,446 ²	3,558	3,082	3,016
A0003144 (Canyon Springs)	4,420	4,508	4,188	4,106	3,702	3,599	3,903 ³	3,705	3,781
A0003143 (CSI #2)	456	457	423	312	462	323	347	703	1019
A0003142 (CSI #1)	278	269	147	376	365	387	616	516	403
A0003157 (Twin Falls High School)	154	130	149	137	121	117	115	112	109

¹ Based on Totalizer readings (Totalizer readings may be in error for the first 10 months of 1995 as the result of discharge measurements that may have been 15-20% too low for that time period).

² Based on an average discharge reading of 2,200 gallons per minute.

³ Based on an average discharge reading of 2,420 gallons per minute (totalizer was not operational for about four months in 1996).

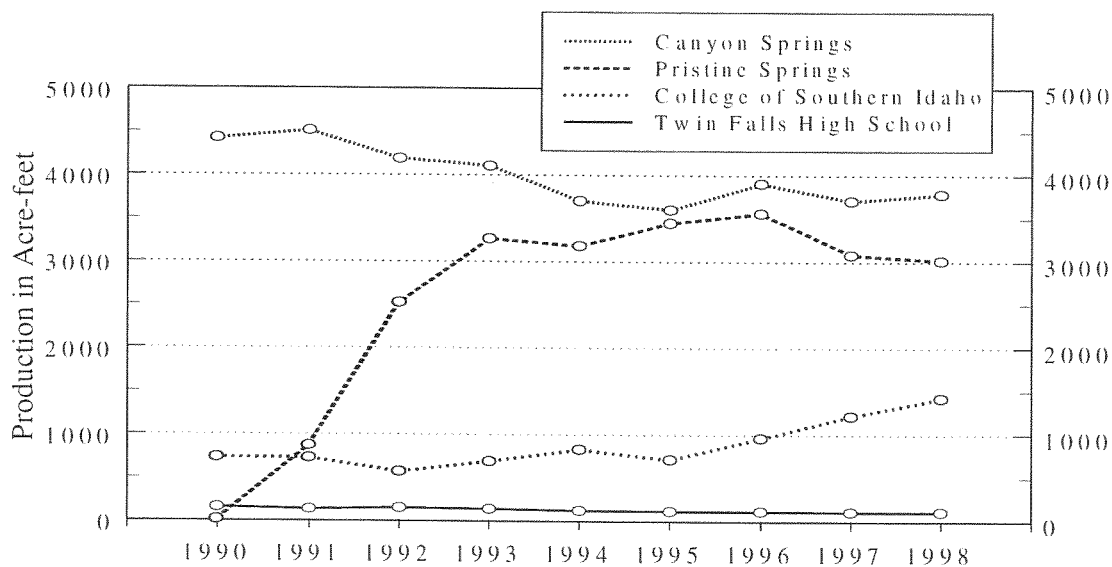


Figure 2. Cumulative production for the major geothermal users in the Twin Falls area, 1990-1998.

Table 2. Twin Falls Geothermal Annual Withdrawals by Type of Use in Acre-feet

USE	1990	1991	1992	1993	1994	1995	1996	1997	1998
Space Heating	888	856	719	825	948	827	1,078	1,331	1,531
Power Generation and Fish Farming	4,437	5,381	6,712	7,369	6,881	6,406 or 7,045	7,461	6,787	6,797
TOTAL	5,325	6,237	7,431	8,194	7,829	7,233 or 7,872	8,539	8,118	8,328

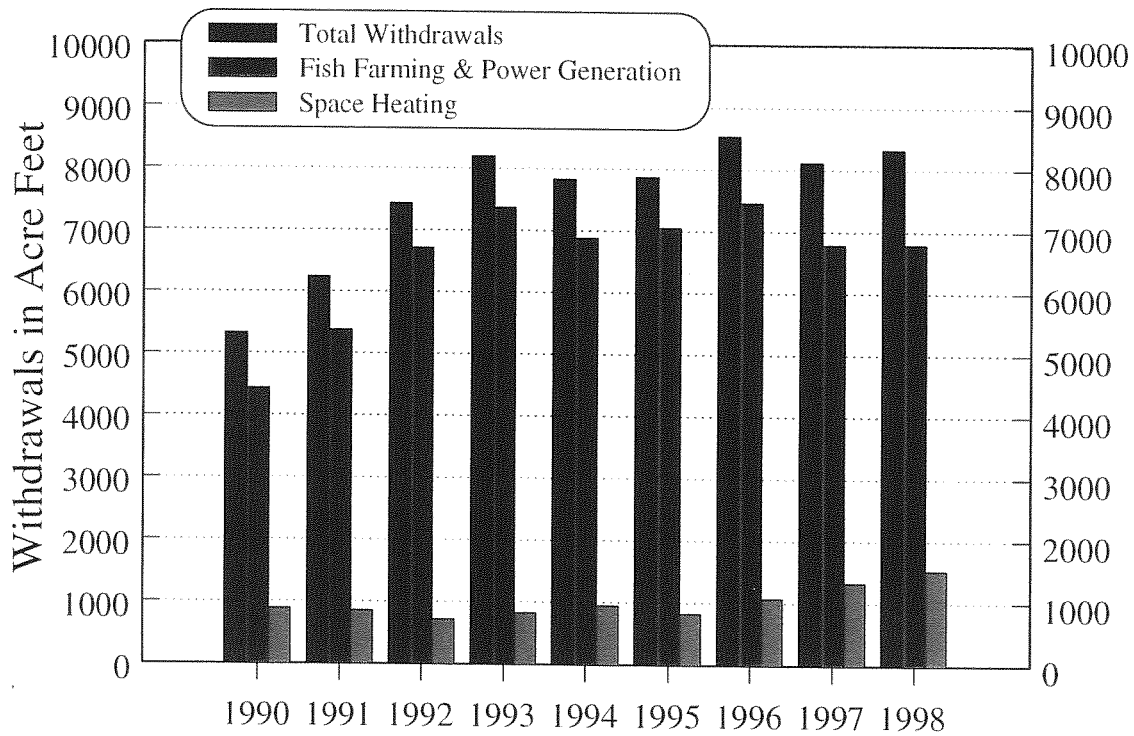


Figure 3. Total production and production by type of use for the major geothermal users in the Twin Falls area, 1990-1998.

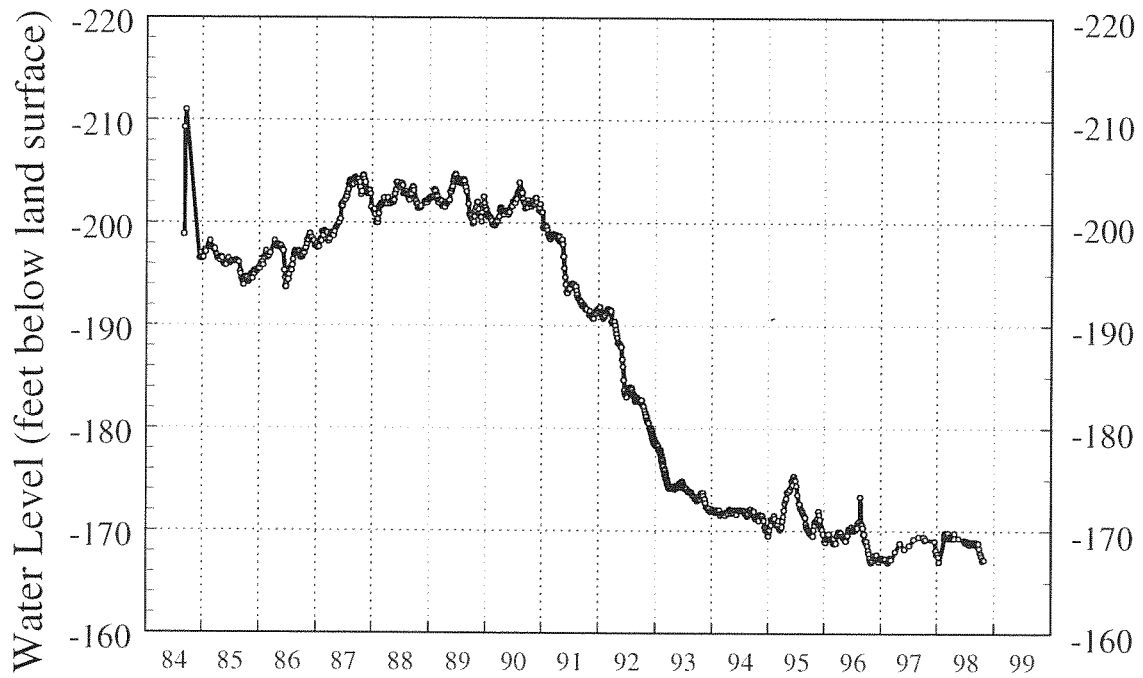


Figure 4. Hydrograph for the USGS Filer Test well (09S 16E 20ADD1).



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

Handwritten signature
7/7/98

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

July 2, 1998

School District No. 411
201 Main Avenue West
Twin Falls, ID 83301

Re: Twin Falls Geothermal Area 1997 Monitoring Report and
Invoices

Gentlemen:

Enclosed is a summary of geothermal ground water withdrawals
for the Twin Falls Geothermal Area. Also enclosed is an invoice
for geothermal monitoring by IDWR for calendar year 1997.

Questions regarding data collection, water use and reporting
should be directed to Ken Neely at 327-5455. Questions about
invoices and water rights may be directed to Tim Luke at 327-
7864.

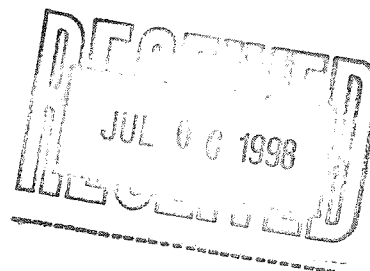
Thank you for your participation and cooperation with the
geothermal monitoring effort.

Sincerely,

Robert L. Sorell

for Tim Luke
Water Allocations

cc: Ken Neely, IDWR
Norm Young, IDWR
Southern Region





State of Idaho

DEPARTMENT OF WATER RESOURCES

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Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

INVOICE

BILL TO	School District No. 411		
	201 Main Avenue West		
	Twin Falls, ID 83301		
DATE: July 2, 1998			0229/21 58112 1155
Twin Falls geothermal monitoring by IDWR for calendar year 1997 10.40 Credit from prior years (58.66) Credit Balance (48.26)			
Thank you,			
		ACCOUNTING MANAGER	TOTAL \$0.00

PRODUCTION SUMMARY FOR THE GEOTHERMAL USERS IN THE TWIN FALLS AREA, 1990-1997

Kenneth W. Neely

May 22, 1998

Since 1990, monitoring data have been collected at the wells of four geothermal users in the Twin Falls area: 1) Pristine Springs, 2) Canyon Springs, 3) College of Southern Idaho (CSI), and 4) Twin Falls High School (TFHS) (Figure 1). Pristine Springs and Canyon Springs use geothermal water for power generation and fish farming. The College of Southern Idaho and the Twin Falls High School use geothermal water for space heating campus buildings and greenhouses. There are a few other geothermal users in the Twin Falls area. One of these users is the Nazarene Church whose well was used for monitoring wellhead pressures until it began being used as a production well in the mid 1990's (Figure 1). The primary observation well for the Twin Falls geothermal system is the USGS Filer Test well (Figure 1).

Geothermal monitoring data have been collected by the U.S. Geological Survey (USGS) and the Idaho Department of Water Resources (IDWR) for the Twin Falls area. The USGS was contracted initially by the users and by IDWR to record production and well head pressure monthly. The contract with the USGS was discontinued in 1994 due to prohibitive costs. The IDWR (Gary Funderberg-Southern Region) has collected monitoring data monthly at the Pristine Springs, Canyon Springs and Twin Falls High School wells since the beginning of 1995. The College of Southern Idaho submits their monthly monitoring data directly to the State Office of the IDWR.

Table 1 shows the annual production in acre-feet for the major users with each individual well listed separately. Figure 2 shows the cumulative annual production in acre-feet for each of the major geothermal users (i.e. the withdrawals for the two Pristine Springs wells and for the two CSI wells were combined respectively). Table 1 and Figure 2 show that Pristine Springs had a large increase in production from 1990 through 1993. Since 1993 production for Canyon Springs, Pristine Springs and the Twin Falls High School has been fairly consistent. Production as CSI increased from 688 acre-feet in 1992 to 1219 acre-feet in 1997.

Table 2 lists: 1) the annual production in acre-feet according to the type of use, and 2) the total annual production for the major uses. Figure 3 shows that total production increased about 3,000 acre-feet from 1990 to 1993. Annual withdrawals have been fairly consistent from 1993 through 1997 with the average for the five years being about 8,100 acre-feet.

Shut in pressures at the USGS Filer test well declined about 13 pounds from late 1990 to the end of 1993 (this corresponds to a water level drop of about 30 feet). This drop occurred at the same time that total production increased about 60 percent. Clearly, the geothermal system

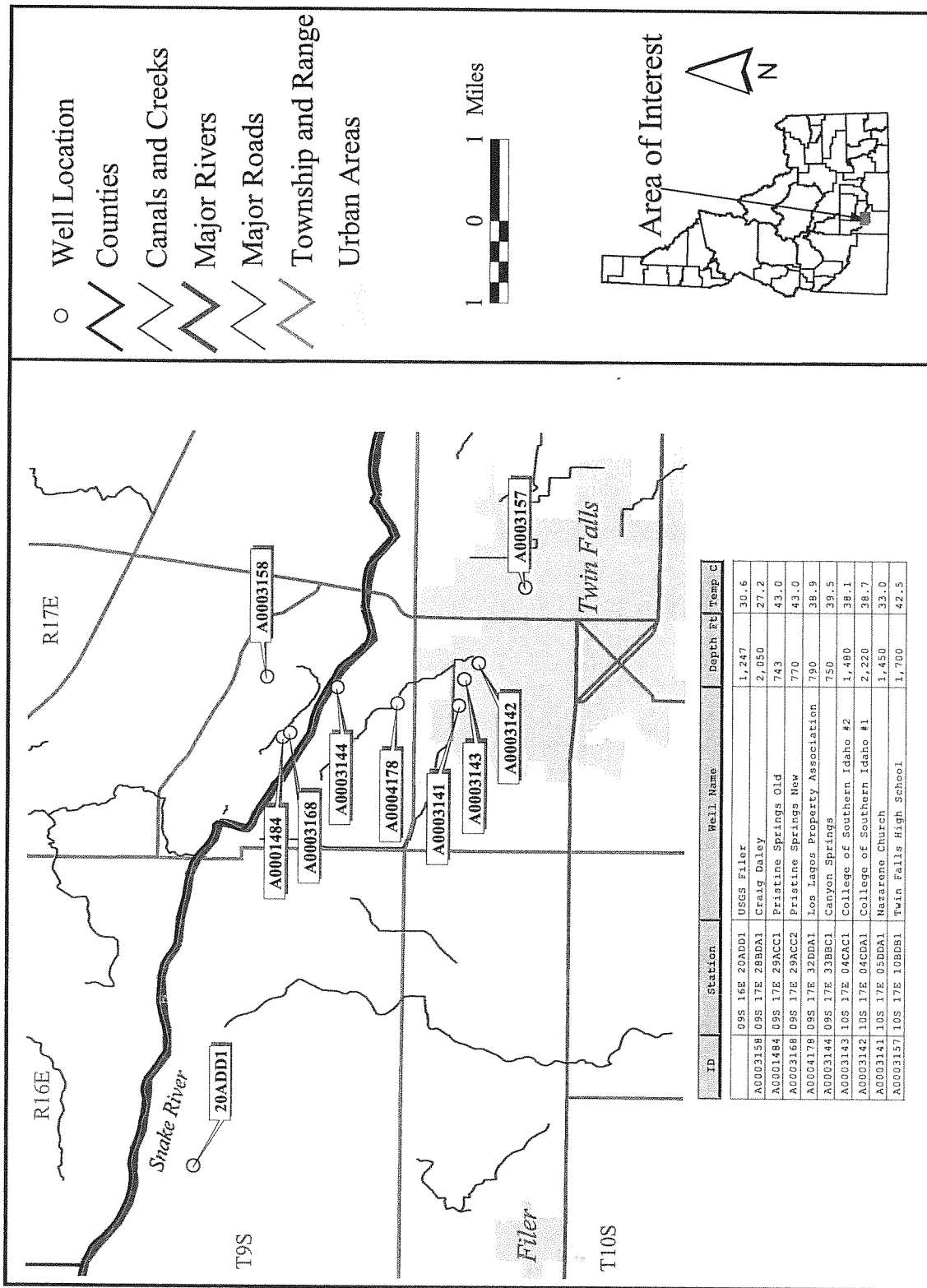


Figure 1. Location of selected geothermal wells in the Twin Falls area.

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Site ID # (Well Name)	1990	1991	1992	1993	1994	1995	1996	1997
A0001484 (Pristine Springs - Old)	17	873	597	139	14	0	0	0
A0003168 (Pristine Springs - New)	-	-	1,927	3,124	3,165	2,807 ¹ or 3,446 ²	3,558	3,082
A0003144 (Canyon Springs)	4,420	4,508	4,188	4,106	3,702	3,599	3,903 ³	3,705
A0003143 (CSI #2)	456	457	423	312	462	323	347	703
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¹ Based on Totalizer readings (Totalizer readings may be in error for the first 10 months of 1995 as the result of discharge measurements that may have been 15-20% too low for that time period).

² Based on an average discharge reading of 2,200 gallons per minute.

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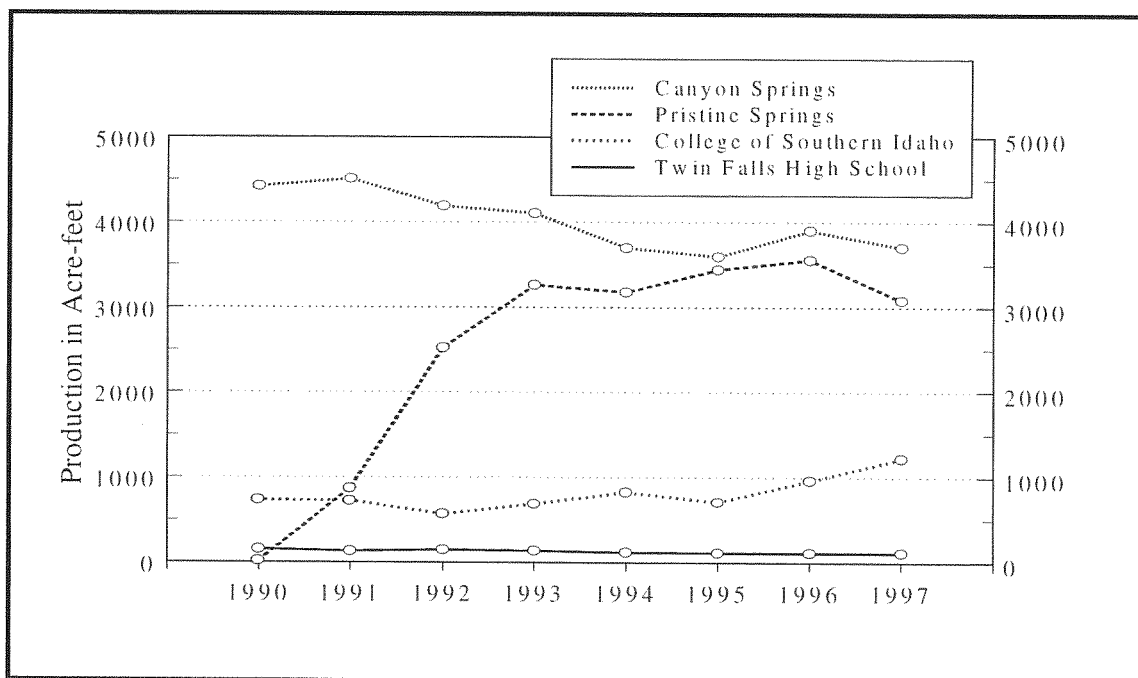


Figure 2. Cumulative production for the major geothermal users in the Twin Falls area, 1990-1997.

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Space Heating	888	856	719	825	948	827	1,078	1,331
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TOTAL	5,325	6,237	7,431	8,194	7,829	7,233 or 7,872	8,539	8,118

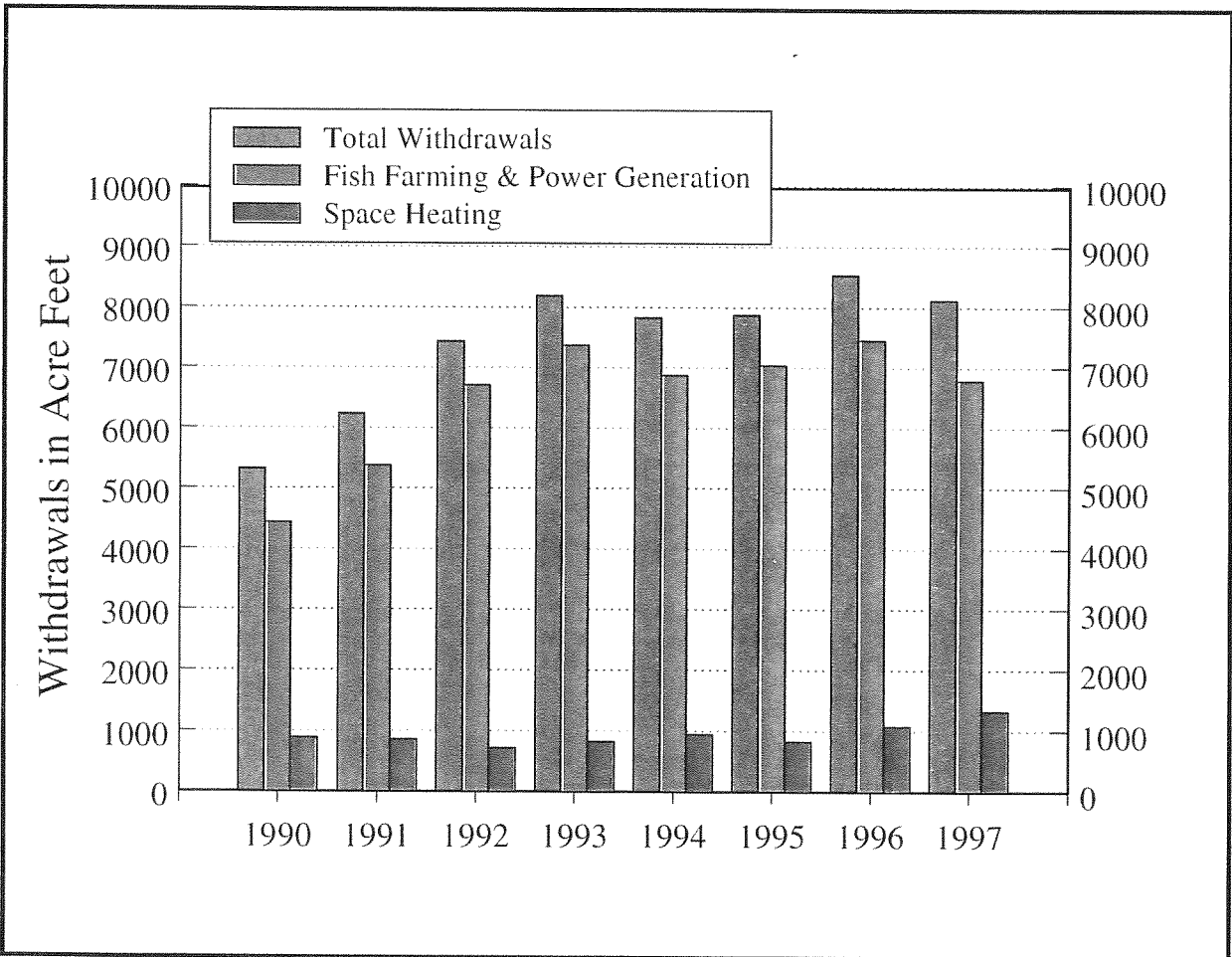


Figure 3. Total production and production by type of use for the major geothermal users in the Twin Falls area, 1990-1997.

is highly transmissive based on the fact that the USGS Filer test well is at least 6 miles from the nearest geothermal production in the Twin Falls area. Shut in pressures declined about 2 pound from 1994 through 1996. Pressures increased slightly in 1997 and early 1998 at the USGS Filer test well. This increase may have been in response to a slight decrease in total production in 1997.

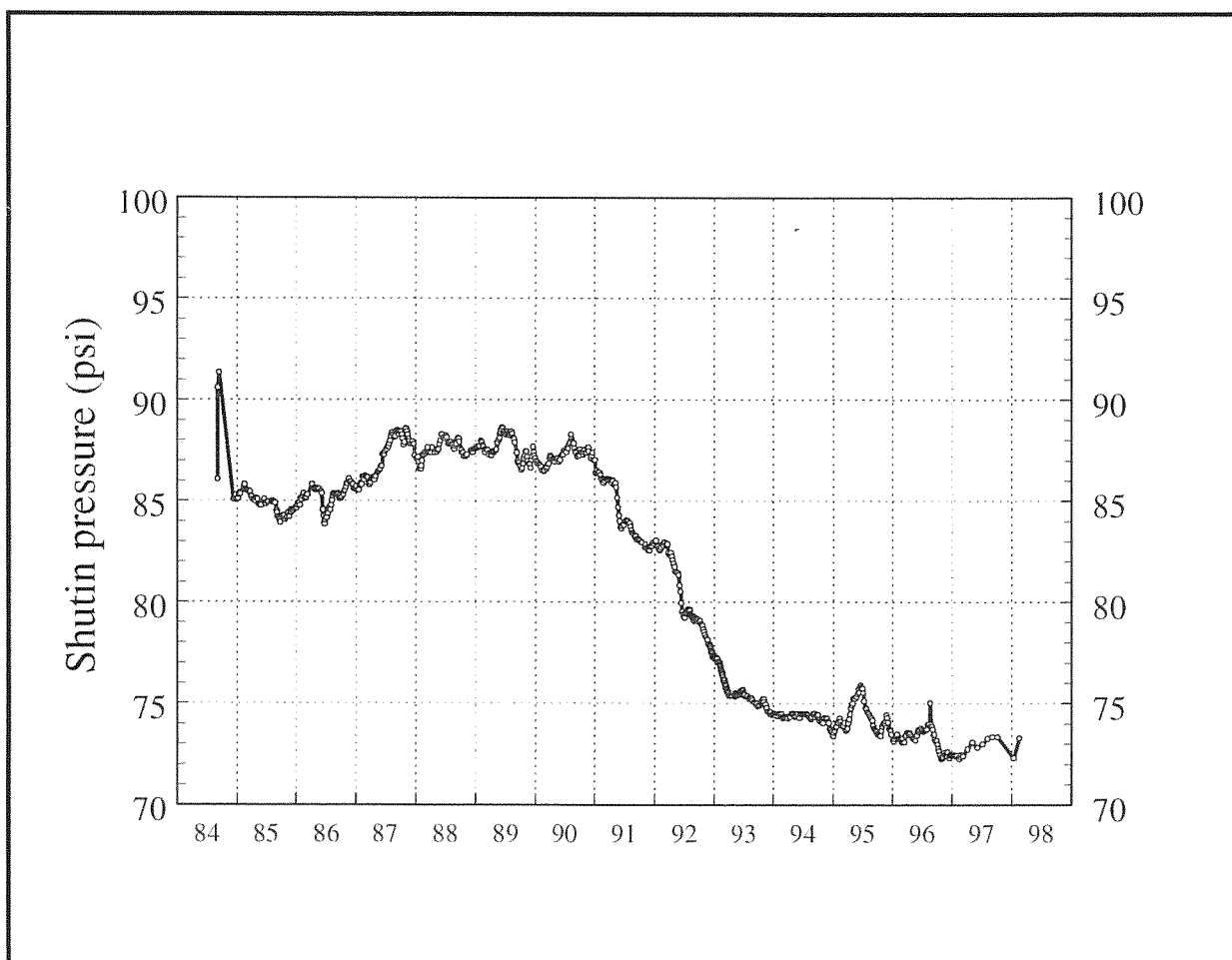


Figure 3. Hydrograph for the USGS Filer Test well (09S 16E 20ADD1).

Memo

To: Tim Luke
From: Ken Neely
Subject: Twin Falls Geothermal
Date: May 22, 1998
CC: Paul Castelin, Norm Young

Attached is a summary of the monitoring data that has been collected for the Twin Falls geothermal area for the time period from 1990 through 1997. The data show that total annual production appears to be fairly stable for the major uses and that the dramatic shut in pressure declines of the early 1990's at the USGS Filer Test well have ceased. Please let me know if you need additional information for this system.

PRODUCTION SUMMARY FOR THE GEOTHERMAL USERS IN THE TWIN FALLS AREA, 1990-1997

Kenneth W. Neely

May 22, 1998

Since 1990, monitoring data have been collected at the wells of four geothermal users in the Twin Falls area: 1) Pristine Springs, 2) Canyon Springs, 3) College of Southern Idaho (CSI), and 4) Twin Falls High School (TFHS) (Figure 1). Pristine Springs and Canyon Springs use geothermal water for power generation and fish farming. The College of Southern Idaho and the Twin Falls High School use geothermal water for space heating campus buildings and greenhouses. There are a few other geothermal users in the Twin Falls area. One of these users is the Nazarene Church whose well was used for monitoring wellhead pressures until it began being used as a production well in the mid 1990's (Figure 1). The primary observation well for the Twin Falls geothermal system is the USGS Filer Test well (Figure 1).

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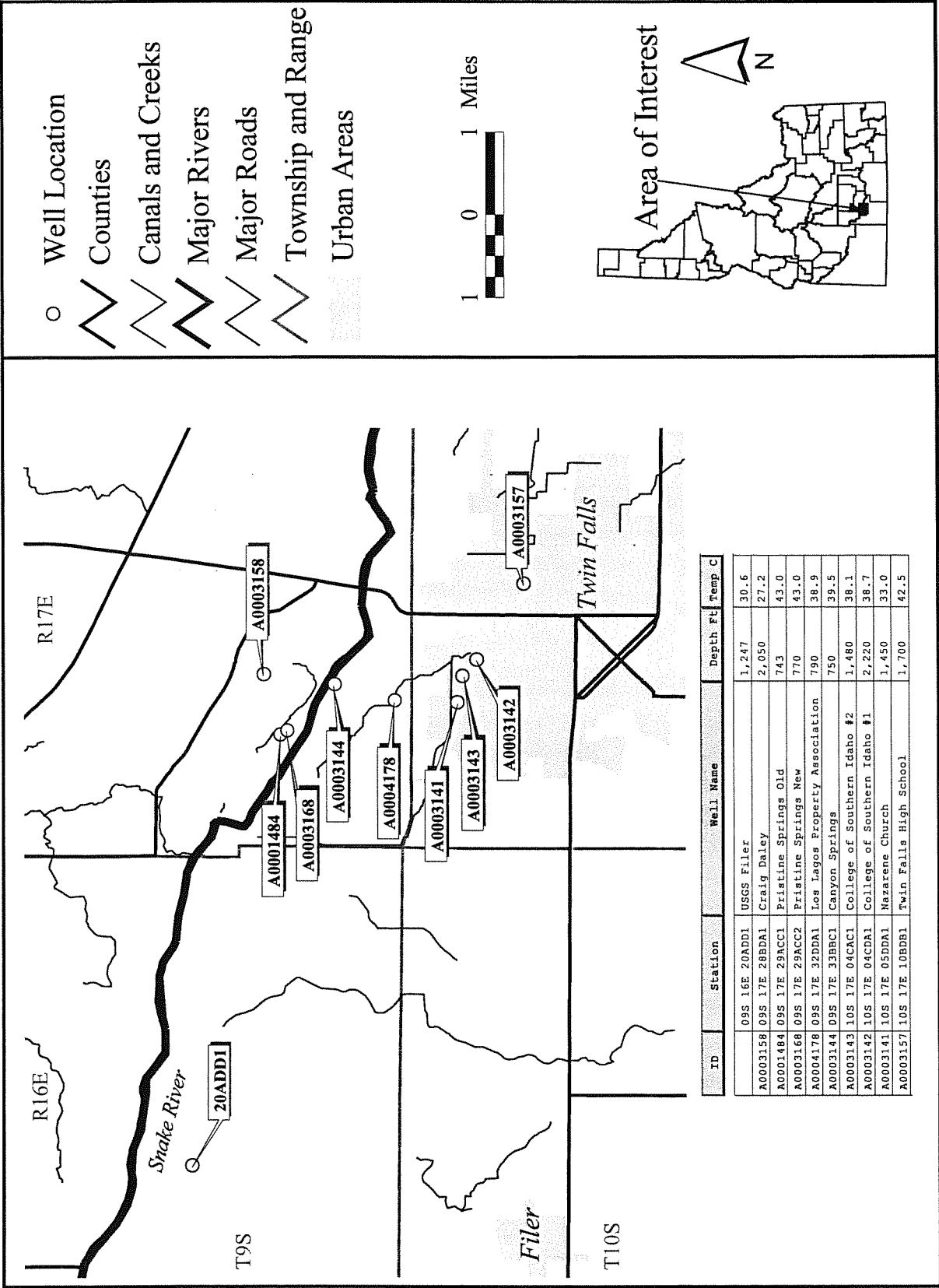


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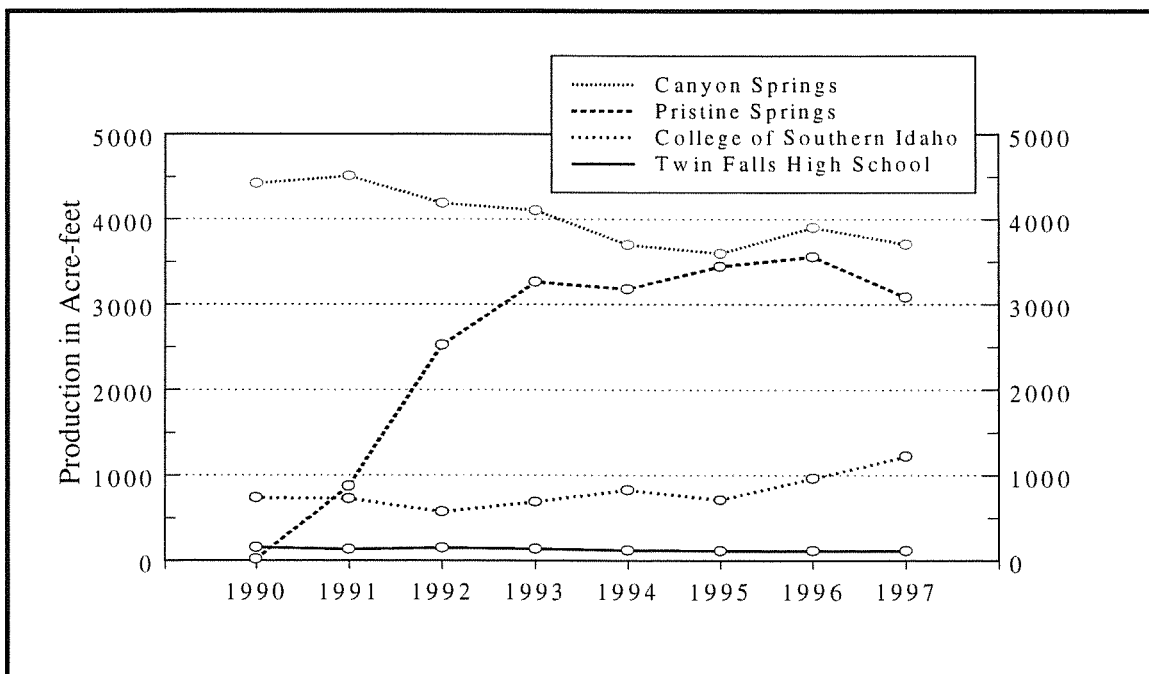


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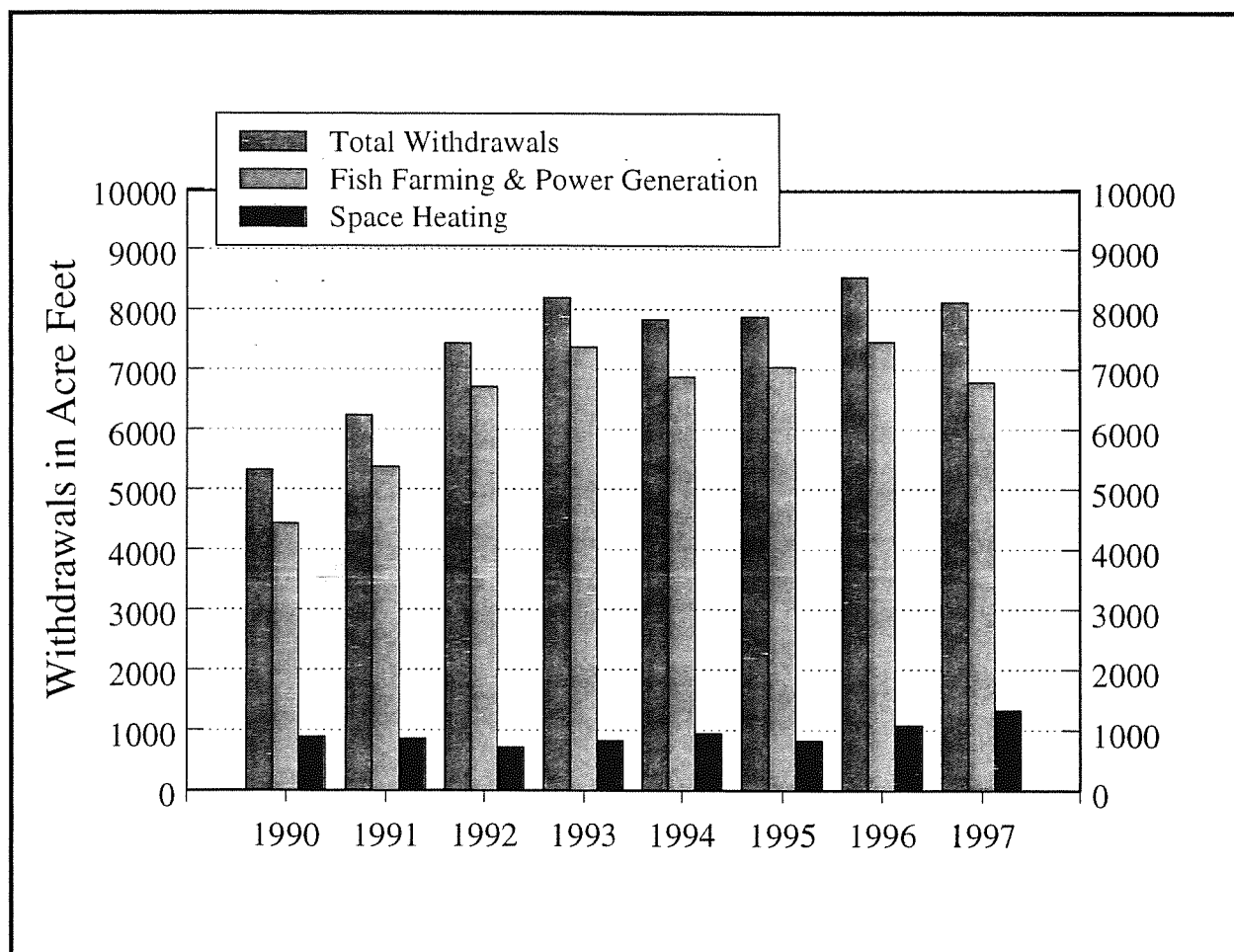


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Figure 3. Hydrograph for the USGS Filer Test well (09S 16E 20ADD1).



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

Lead
7-17-96

July 15, 1996

PHILIP E. BATT
GOVERNOR

School District 411
201 Main Ave West
Twin Falls, ID 83301

KARL J. DREHER
DIRECTOR

Re: Twin Falls Geothermal Area 1995 Monitoring Report and Assessments

Dear Gentlemen:

Enclosed is a summary of geothermal ground water withdrawals for the Twin Falls Geothermal Area. Also enclosed is an invoice for geothermal monitoring by IDWR for calendar year 1995. I apologize for the delay in submitting the reports and invoices to you. A summary of the water rights under the Twin Falls Geothermal Area Agreement and comparison to 1995 reported volumes is also provided.

You will note on your invoice that a credit has been applied to your monitoring expense balance. This credit developed from an overpayment of monitoring expenses for calendar year 1994. The Department intends to apply this credit towards future invoices until City accrues a zero or negative balance. We hope this is an acceptable method of reconciling your monitoring expense balance.

Questions regarding data collection, water use and reporting should be directed to Ken Neely at 327-7900. Mr. Neely is an IDWR hydrogeologist who is overseeing the monitoring and data collection efforts. Questions about invoices and water rights may be directed to Tim Luke at 327-7864.

Thank you for your participation and cooperation with the geothermal monitoring effort.

Sincerely,

Tim Luke

cc: Ken Neely
Southern Region



State of Idaho

DEPARTMENT OF WATER RESOURCES

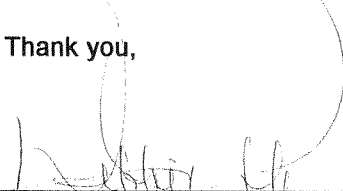
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000

Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

INVOICE

BILL TO	School District No. 411		
	201 Main Avenue West		
	Twin Falls, ID 83301		
DATE: July 11, 1996			0229/21 58112 1155
Twin Falls geothermal monitoring by IDWR for calendar year 199511.16 Credit from prior years(79.66) Credit Balance(68.50)			
Thank you, 			
ACCOUNTING MANAGER			TOTAL \$0.00

TWIN FALLS GEOTHERMAL WITHDRAWALS IN ACRE FEET

Kenneth W. Neely

April 11, 1996

WELL #	1990	1991	1992	1993	1994	1995
09S 17E 29ACC1 Pristine Springs (old)	17	873	597	139	14	0
09S 17E 29ACC2 Pristine Springs (new)	-	-	1,927	3,124	3,165	2,807 ¹ or 3,446 ²
09S 17E 33BBC1 Canyon Springs	4,420	4,508	4,188	4,106	3,702	3,599
10S 17E 04CAC1 CSI #2	456	457	423	312	462	323
10S 17E 04CDA1 CSI #1	278	269	147	376	365	387
10S 17E 10BDA1 TF High School	154	130	149	137	121	117
TOTAL	5,325	6,237	7,431	8,194	7,829	7,233 or 7,872

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² Based on an average discharge reading of 2,200 gallons per minute.

IDAHO DEPARTMENT OF WATER RESOURCES

GEOHERMAL MONITORING WELL DATA FORM

Station Number 10S 17E 10BDA1 USGS Site ID 423421114270601 GPS Site ID A0003157
 EDMS # 2941 Other Well Name Twin Falls High School (TFHS) #1 Owner TFHS
 Measuring Point Access hole on top of casing

Date	Time	Water Temp.		Operating Pressure	10 minute shutin pressure (or water level)	Discharge-GPM	Totalizer Reading	Remarks	Meas. by
		°F.	°C.	psi	ft below MP				
01/04/95		83.3	28.5	-		80.9	190,816,100	Pumping	BY (USGS)
2/7/95	1300	-	-	-	120.67	78.5	194,742,500	Pumped recently	GF/KN (IDWR)
4/4/95	-	-	-	-	-	75.6	200,963,900	Needs chart meter fixed.	GF
5/10/95	825	75.0	24.9	-	-	-	205,518,800		GF
6/13/95	1355	-	-	-	120.7	75.4	208,590,900		GF
7/19/95	1340	-	-	-	-	72.3	212,432,200	No water level reading-cascading water.	GF
8/15/95	1512	-	-	-	116.6	72.0	215,247,900		GF
9/20/95	915	-	-	-	114.6	70.7	218,924,900		GF
10/24/95		-	-	-	124.9	73.0	222,555,200		GF
11/28/95	1635	-	-	-	-	73.2	226,169,200		GF
12/21/95	1400	-	-	-	122.3	72.1	228,572,500		GF

KWNNeely 4/96

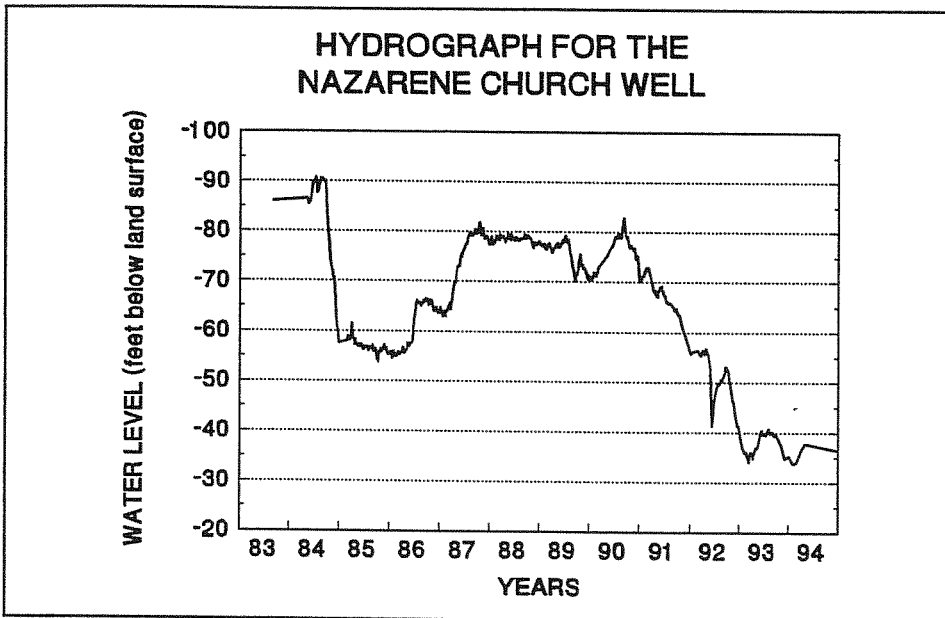


Figure 1. Hydrograph for the Nazarene Church well (10S 17E 05DAA1).

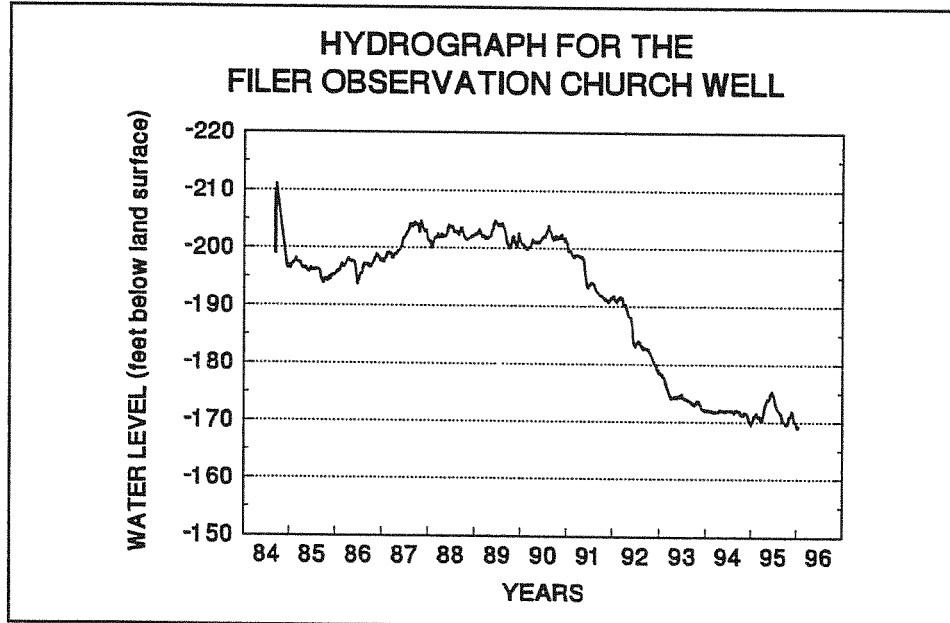


Figure 2. Hydrograph for the Filer Observation well (09S 16E 20ADD1)

WATER RIGHTS IN TWIN FALLS GEOTHERMAL AREA AGREEMENT

Water Right	Priority Date	Water Right Value		Agreement Value		1995 Reported Vol	
		cfs	ac-ft	cfs	ac-ft		
36-07130 Pristine Springs	5/06/70	6.00	4344	4.50	3258	3446 or 2807^	
47-07478 CSI	6/12/78	1.21 ¹	876	6.00 ²	4344	710	
47-07492 Kestler	12/13/78	0.31	224	0.31	224	NM	
47-07606 CSI	12/05/79	7.76 ²					
47-07714 Stone	3/11/81	2.00	1448	0.50	361	NM	
47-07745 Nazarene	6/26/81	0.70	507	0.70	507	NM	
47-07758 McCollum	9/25/81	10.00	7240	8.10 ³	5864	3599	
47-07813 McCollum	4/22/82	4.86 ³	3518				
47-07964 TF High School	10/03/83	1.11	804	0.75	543	117	
47-07969 City of TF	10/26/83	1.92	1390	0.95	687	%TFHS*	



State of Idaho

DEPARTMENT OF WATER RESOURCES

Southern Region, 222 Shoshone St. East, Twin Falls, Idaho 83301 (208) 736-3033

*Rec'd
2-22-94*

CECIL D. ANDRUS
Governor

18-Feb-1994

R. KEITH HIGGINSON
Director

School District No. 411
201 Main Avenue West
Twin Falls, ID 83301

*File
US*

*Will
Monitor
1993*

Re: USGS Geothermal water use report for 1993

Gentlemen::

Enclosed is a copy of the USGS report of water use and aquifer pressures in the Twin Falls Groundwater Management Area for 1993.

If you have any questions, please contact this office.

Sincerely,

Loren O. Holmes
Loren O. Holmes, P. E.
Southern Region Manager



United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
230 Collins Road
Boise, Idaho 83702



January 6, 1993

RECEIVED

JAN 10 1994

Department of Water Resources
Southern Region Office

Mr. Norman Young
Idaho Department of Water Resources
1301 North Orchard
Boise, Idaho 83706

Dear Norm,

The intent of this letter is to present the results of our cooperative study to monitor pressure and withdrawals from the geothermal system in and near Twin Falls. The effort consisted of operating continuous water-level recorders and taking monthly readings from owner installed measuring devices for the period January 1993 to January 1994.

Enclosed for your use are hydrographs of water levels for wells 9S-16E-20ADD1 (U.S.G.S. test hole near Filer) and 10S-17E-5DAA1 (Nazarene Church well in Twin Falls), summary of 1993 withdrawals for six wells in and near Twin Falls, and a summary of withdrawals for the period 1990 through 1993.

In October 1993, the Nazarene Church began using water from well 10S-17E-5DAA1 for space heating. The continuous water level recorder and shelter were removed and arrangements were made to measure the well monthly.

The current Joint Funding Agreement for this program is satisfied. Therefore, to ensure the continued collection of these valuable data, we must move quickly on this years program.

If you have any questions, please call me at (208)387-1314.

Sincerely,

Bill

H.W. Young
Hydrologist

Enclosures

Copy to: Loren Holmes, Southern Regional Manager, IDWR

METER READINGS

Well Number	Date	Gallons	Discharge rate in gallons per minute	Use in acre- feet	Operating/ shut in pressure in pounds per square inch	Water temperature (°C)	Remarks
<i>Old Pristine well</i>							
9S 17E 29ACC1	1/4/93	371,368,000	160	-	128	43.0	
	2/2/93	371,482,000	-	23.3	131	43.0	Meter not working estimated use (160 gallons per minute)
	3/2/93	374,494,000	160	9.2	129	43.0	
	4/5/93	377,526,000	170	9.3	130	43.0	
	5/5/93	380,564,000	160	9.3	130	43.0	
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	1/4/94	395,465,000	-	10.2	190	43.0	Meter not working estimated use (70 gallons per minute)
				total 139 (Rd)			

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Well Number	Date	Gallons	Discharge rate in gallons per minute	Use in acre- foot	Operating/ shut in pressure in pounds per square inch	Water temperature (°C)	Remarks
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	12/2/93	700,662,000	1970	250	200	43.0	
	1/4/94	793,202,000	1960	284	200	43.0	
				Total 3,124			

METER READING

Well Number	Date	Gallons	Discharge rate in gallons per minute	Use in acre- feet	Operating/ shut in pressure in pounds per square inch	Water temperature (°C)	Remarks
<i>McCullum Well</i>							
9S 17E 33BBC1	1/4/93	1,068,028,000	2480	-	158	39.5	
	2/2/93	101,588,000	-	365	156	39.5	Meter not working estimated use (2500 gallons per minute)
	3/2/93	101,588,000	-	298	156	39.5	Meter not working estimated use (2500 gallons per minute)
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	8/9/93	101,588,000	-	365	159	39.5	Meter not working estimated use (2500 gallons per minute)
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	1/4/94	101,588,000	-	365	160	39.5	Meter not working estimated use (2500 gallons per minute)
				total 4,106			

METER READINGS

Well Number	Date	Gallons	Discharge rate in gallons per minute	Use in acre- feet	Operating/ shut in pressure in pounds per square inch	Water temperature (°C)	Remarks
10S 17E 4CAC1	1/4/93	503,253,000	1070	-	-	38.5	Pumping
	2/2/93	544,427,000	50.9	43.5	-	38.5	Pumping
	3/2/93	569,682,000	934	77.3	-	38.5	Pumping
	4/5/93	579,980,000	0	31.6	-	-	Shut In
	5/3/93	588,184,000	262	25.2	-	38.5	Pumping
	6/7/93	597,560,000	269	28.8	-	38.5	Pumping
	7/7/93	599,348,000	0	5.46	-	-	Shut In
	8/9/93	599,531,000	0	.56	-	-	Shut In
	9/3/93	600,011,000	0	1.47	-	-	Shut In
	10/4/93	600,012,000	0	.003	-	-	Shut In
	11/2/93	600,037,000	0	.08	-	-	Shut In
	12/2/93	604,216,000	0	12.8	-	-	Shut In
	1/4/94	632,151,000	915	85.7	-	38.5	Pumping
				Total 312 (Rd)			

METER READINGS

Well Number	Date	Gallons	Discharge rate in gallons per minute	Use in acre-foot	Operating/shut in pressure in pounds per square inch	Water temperature (°C)	Remarks
CSZ Well #1							
10S-17E-4CDA1	1/4/93	351,625,000	0	-	-	-	shut in
	2/2/93	377,911,000	840	8.24	-	38.0	pumping
	3/2/93	389,352,000	290	35.1	-	38.0	pumping
	4/5/93	412,703,000	818	70.0	-	38.0	pumping
	5/3/93	426,248,000	0	41.6	-	-	shut in
	6/7/93	426,251,000	0	.01	-	-	shut in
	7/7/93	430,013,000	122	11.6	-	38.0	pumping
	8/9/93	434,203,000	0	12.9	-	-	shut in
	9/3/93	434,968,000	359	2.35	-	38.0	pumping
	10/4/93	443,373,000	147	25.8	-	38.0	pumping
	11/2/93	459,411,000	755	49.2	-	38.0	pumping
	12/2/93	487,904,000	940	87.4	-	38.0	pumping
	1/4/94	498,418,000	0	32.3	-	-	shut in
				total 376 (Rd)			

METER READINGS

Well Number	Date	Gallons	Discharge rate in gallons per minute	Use in acre- feet	Operating/ shut in pressure in pounds per square inch	Water temperature (°C)	Remarks
<i>High School well</i>							
10S-17E-10BDA1	1/4/93	106,643,400	89.3	-	-	28.5	pumping
	2/2/93	110,294,800	87.1	11.2	-	28.5	pumping
	3/2/93	113,775,300	86.0	10.7	-	28.5	pumping
	4/5/93	117,998,100	85.3	13.0	-	28.5	pumping
	5/3/93	121,459,100	86.6	10.6	-	28.5	pumping
	6/7/93	125,797,900	86.6	13.3	-	28.5	pumping
	7/7/93	129,518,000	86.6	11.4	-	28.5	pumping
	8/9/93	133,625,500	85.8	12.6	-	28.5	pumping
	9/3/93	136,681,400	84.3	9.38	-	28.5	pumping
	10/4/93	140,450,200	83.5	11.6	-	28.5	pumping
	11/2/93	143,911,600	82.5	10.6	-	28.5	pumping
	12/2/93	147,455,100	82.0	10.9	-	28.5	pumping
	1/4/94	151,308,300	80.9	11.8	-	28.5	pumping
				total 137 (Rd)			

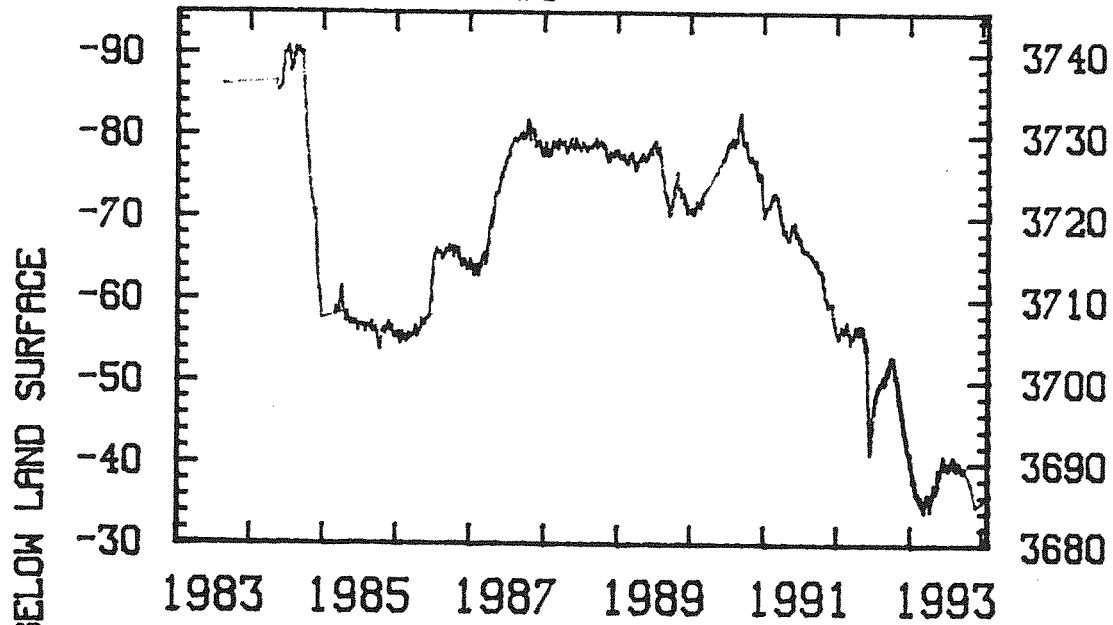
TWIN FALLS GEOTHERMAL
WITHDRAWALS
 (acre feet)

Well #	1990	1991	1992	1993
9S-17E-29ACC1	17	873	597	139
9S-17E-29ACC2	-	-	1,927	3,124
9S-17E-33BBC1	4,420	4,508	4,188	4,106
10S-17E-04CAC1	456	457	423	312
10S-17E-04CDA1	278	269	147	376
10S-17E-10BDA1	154	130	149	137
TOTAL	5,325	6,237	7,431	8,194

USE	1990	1991	1992	1993
Space Heating	888	856	719	825
Power Generation and Fish Farming	4,437	5,381	6,712	7,369
TOTAL	5,325	6,237	7,431	8,194

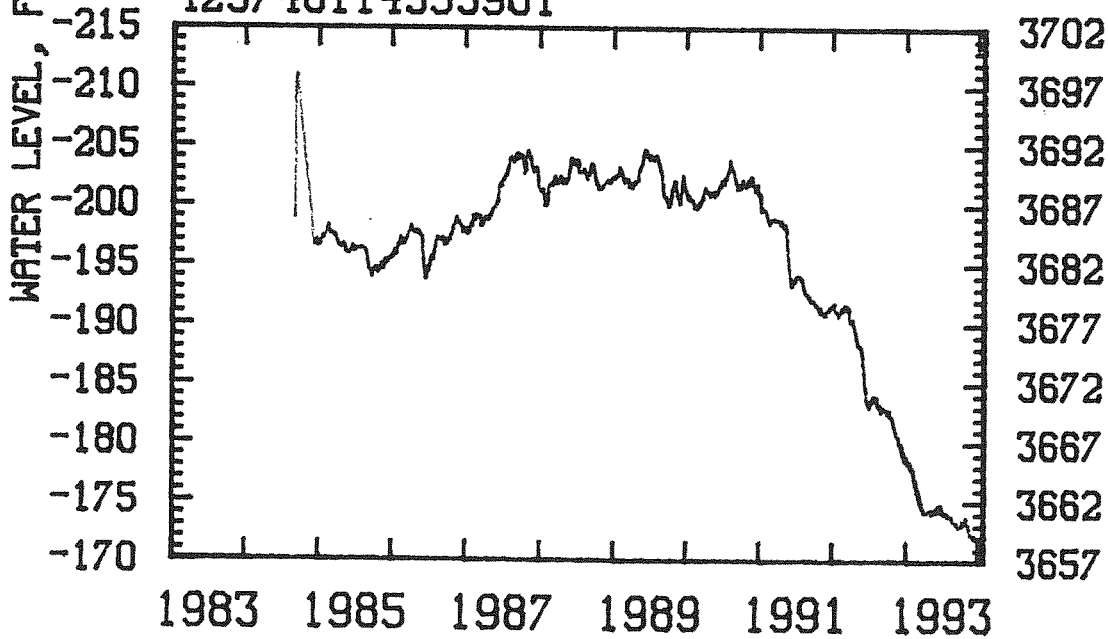
Nazatone CBS Well

10S 17E 05DAA1
423502114284801



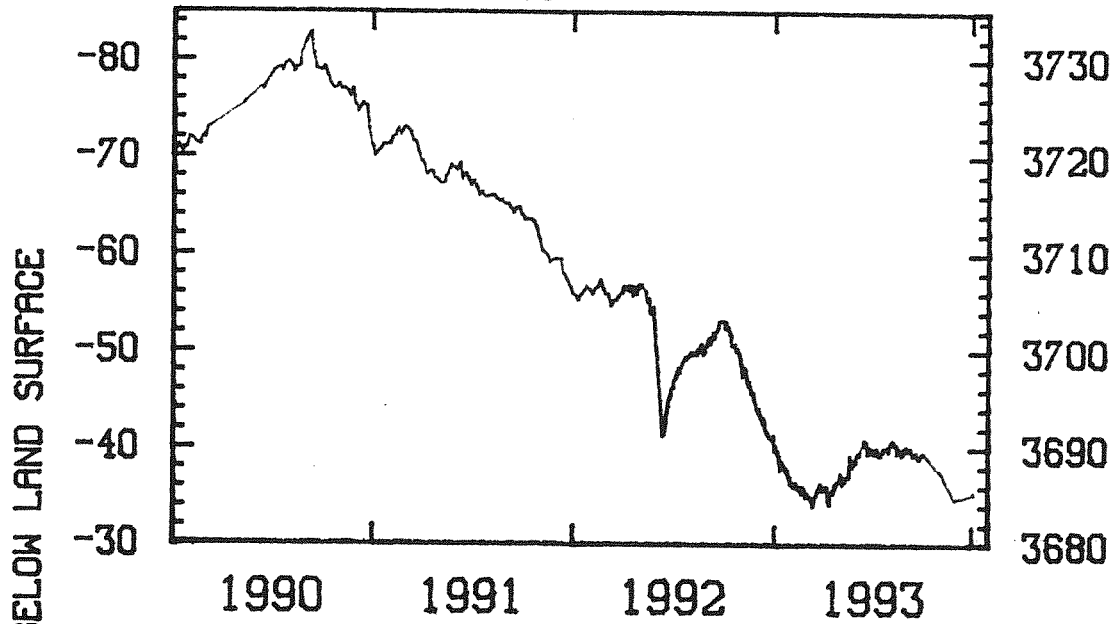
Felct OBS well

09S 16E 20ADD1
423748114353901



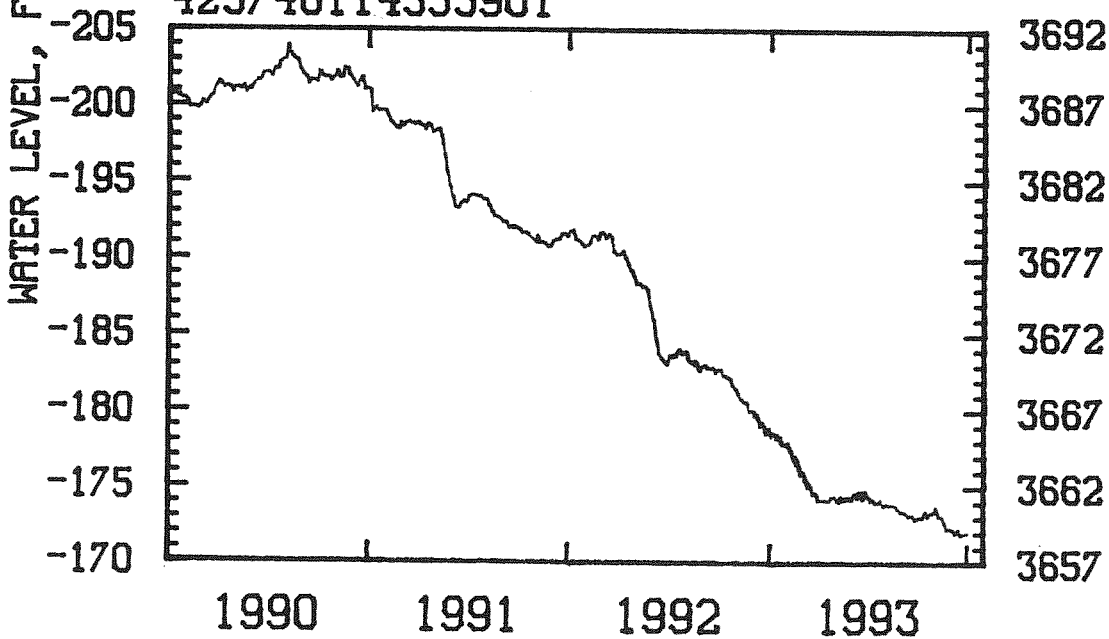
Nazative Obs Well

10S 17E 05DAA1
423502114284801



Fillet Obs. Well

09S 16E 20ADD1
423748114353901





State of Idaho
DEPARTMENT OF WATER RESOURCES

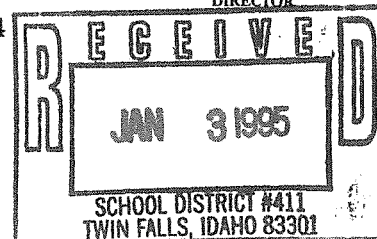
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

Well
1993

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

December 23, 1994



Bill Young
United States Geological Survey
230 Collins Road
Boise, Idaho 83702

RE: Measuring Program in the Twin Falls Moratorium Area

Dear Bill:

In October of this year, a memorandum was sent to each of the waterusers participating in funding the contract to monitor withdrawals from the Twin Falls low-temperature geothermal aquifer. Written responses have been received from Simplot (Canyon Springs) and College of Southern Idaho. Twin Falls School District provided a response by telephone. The general tenor of these responses is that continued monitoring is essential and that monitoring by the USGS is the preferred option. Those paying the smaller assessments have expressed a willingness to continue support for the USGS contract, but those paying the larger assessments have either not commented (and payments have not been received for the 1994 contract assessment) or have indicated that a less expensive option is preferred.

I appreciate the offer to revise the USGS monitoring program to reduce the cost and perhaps make continuation of the USGS monitoring possible. Given the uncertainty of user financial support for any monitoring more expensive than that provided for in the agreement, IDWR cannot commit to a contract for a revised monitoring program. The attached memo from Ken Neely, IDWR hydrogeologist, suggests some additional revisions to the monitoring program in the Twin Falls area. If a combination of your suggestions and those of Ken's can be agreed upon, it may be possible to meet with the users and gain support for a revised monitoring program involving the USGS.

However at this time, without a commitment of financial support by the larger users, IDWR cannot enter into a contract to continue the monitoring by the USGS during 1995. This letter confirms our telephone conversation of last week that monitoring of the Twin Falls moratorium area wells by the USGS under contract with IDWR is not to continue after the December 1994 measurements and that the contract will not be renewed for 1995. I have asked Allen Merritt, IDWR regional manager at Twin Falls,

Bill Young
Page 2
December 23, 1994

to assign regional staff to continue monthly measurements at the wells that have been measured under the contract. IDWR will not maintain a continuous recorder on any of the wells.

I have appreciated your professional involvement in this matter and hope to continue the good working relationship that our agencies have enjoyed for many years.

Sincerely,



NORMAN C. YOUNG
Administrator
Water Management Division

c.: College of Southern Idaho (Sterling)
Simplot (Vic Conrad)
Pristine Springs (Eggleston)
Nazarene Church
✓ School Board 411
City of Twin Falls (Young)
Allen Merritt
Paul Castelin
Ken Neely
Debbie Allen

encl.: Neely memo dated 11/17/94



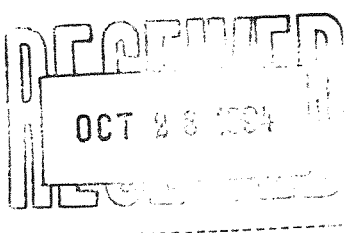
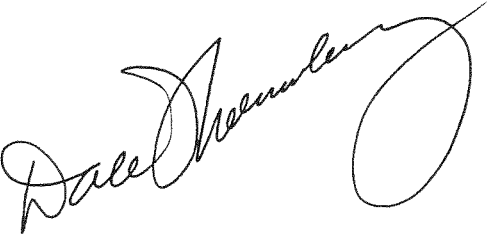
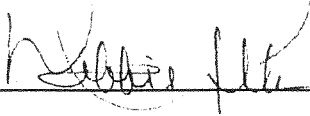
State of Idaho
DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

INVOICE

BILL TO	School District No. 411		
	201 Main Avenue West		
	Twin Falls, Idaho 83301		
DATE: Oct. 27, 1994			0630 3602000
Monitoring of the Twin Falls geothermal wells under Joint Funding Agreement #ID9402600 (01/01/94 - 12/31/94) 90.88			
			
Thank you,			
		ACCOUNTING MANAGER	TOTAL \$90.88



State of Idaho
DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

Leid
10-18-94

October 13, 1994

MEMORANDUM

TO: TWIN FALLS LOW-TEMPERATURE GEOTHERMAL WATER USERS

FROM: NORM YOUNG *NCY*

RE: MONITORING OF THE RESOURCE PRESSURE AND WITHDRAWALS

10/20
Called and TALKed
to Norm Young - #2
Recommended option #2
\$90-100.00 per year and
IDWR will do monitoring
Dale

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

The water rights agreement signed by the users and IDWR in July 1987, provides for monitoring of the low-temperature geothermal resource and withdrawals made by the users. In recent years the U.S. Geological Survey has contracted with IDWR to do the monitoring. The purpose of this memo is to review the monitoring program, its current status and to seek your comments on the program.

BACKGROUND

1. The agreement allows IDWR to assess users based upon the proportionate share of the diversion for the cost of the monitoring up to a total assessment of \$1,000.00 per year. The monitoring has been done under a cooperative agreement with the USGS to measure pressure and withdrawals from user wells once per month with the users being assessed \$1000 per year.

2. The USGS also began a cooperative program with City of Twin Falls and then the College of Southern Idaho to operate a continuous recorder monitoring pressure in the Nazarene Church well. CSI contacted IDWR for assistance in paying the cost of operating the recorder. IDWR found general agreement from the users that the data were needed in the overall management of the resource and that all users benefitted. Based upon this understanding, IDWR assumed responsibility for contracting with USGS to operate the recorder on the Nazarene Church well. Users were billed for a combined assessment of \$3000 for 1992 (\$1000 for monthly measurement program on the users wells plus \$2000 for the recorder on the Nazarene Church well).

3. In 1993 the USGS combined the programs into a single contract and users were billed \$2600 to monitor withdrawals for the period June through December and

Twin Falls Low-Temperature

Geothermal Water Users

Page 2

October 13, 1994

pressure for the period May through December. The period January through April was included under the earlier contract.

4. For 1994, the Nazarene Church well recorder was removed and monthly measurement of pressure at this well are being made. USGS is operating a continuous recorder on a low-temperature geothermal well near Filer and has suggested that this is a substitute for the discontinued continuous monitoring of pressures at the Nazarene Church well. Measurement of operating or shut-in pressure, water temperature, and recording of monthly withdrawals at six wells are being made during 1994. The data will be presented in an annual report provided to IDWR for distribution to the water users. The USGS contract for the work is \$10,300. The users' cost is \$5150 with the USGS providing a matching amount. Users have not yet been billed for the 1994 contract.

5. Pristine Springs has not paid assessments since 1991, and the Church of the Nazarene and Canyon Springs (McCollum) have not paid assessments since 1992.

6. Water levels (pressures) are not recovering or continue to decline. Attached is the annual report for 1993 provided by USGS and up-to-date hydrographs for the Nazarene Church and Filer wells including pressure collected during 1994. Monitoring of the resource remains a high priority with the department.

7. The 1987 agreement provides that unpaid assessments create a lien against the water right. Immediate payment of all unpaid assessments is requested. Notices for the 1994 are being prepared and will be mailed to the users soon.

8. IDWR is not budgeted to pay for the monitoring program. IDWR has advised USGS that the cooperative agreement cannot be renewed for 1995 without adequate water user financial support.

9. Senate Bill 1562, passed by the 1994 legislature provides authority for IDWR to require installation of measuring devices and reporting of withdrawals. The 1987 agreement provides for the installation of monitoring equipment and reporting data quarterly.

OPTIONS

1. Revise the 1987 agreement to provide for adequate funding to allow the USGS cooperative program to continue. The amended agreement should also include a

Twin Falls Low-Temperature
Geothermal Water Users
Page 3
October 13, 1994

direct method of collecting unpaid assessments. An additional consideration is whether the cost of operating a continuous recorder on a well near Filer should be included.

2. Operate a monitoring program within the \$1000 per year authorized in the 1987 agreement. The USGS cooperative program could not be continued, but IDWR regional staff would collect data from the users wells each month.

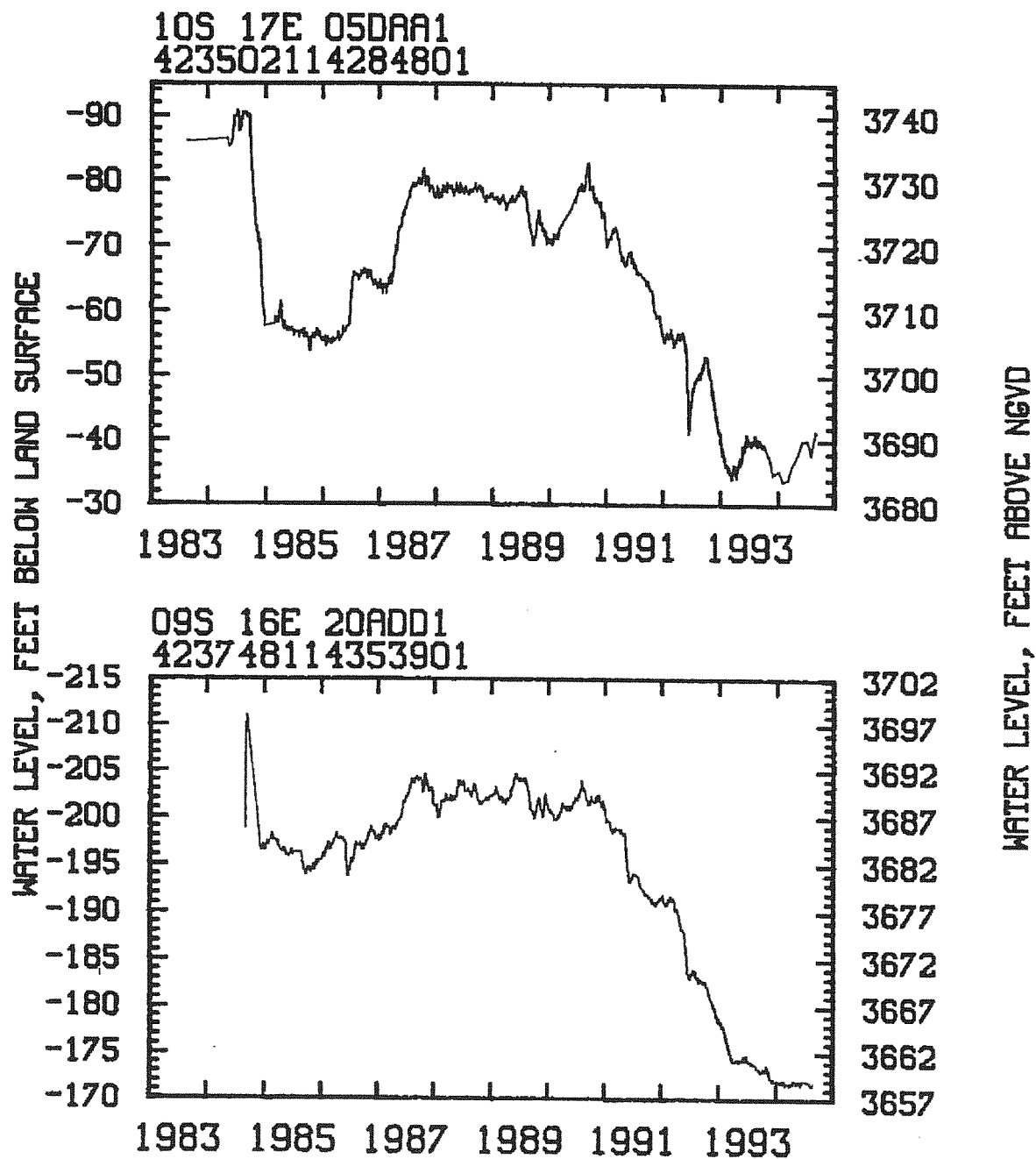
3. Have the water users install and maintain any needed measuring and recording devices and report water levels, temperatures, pressures and withdrawals.

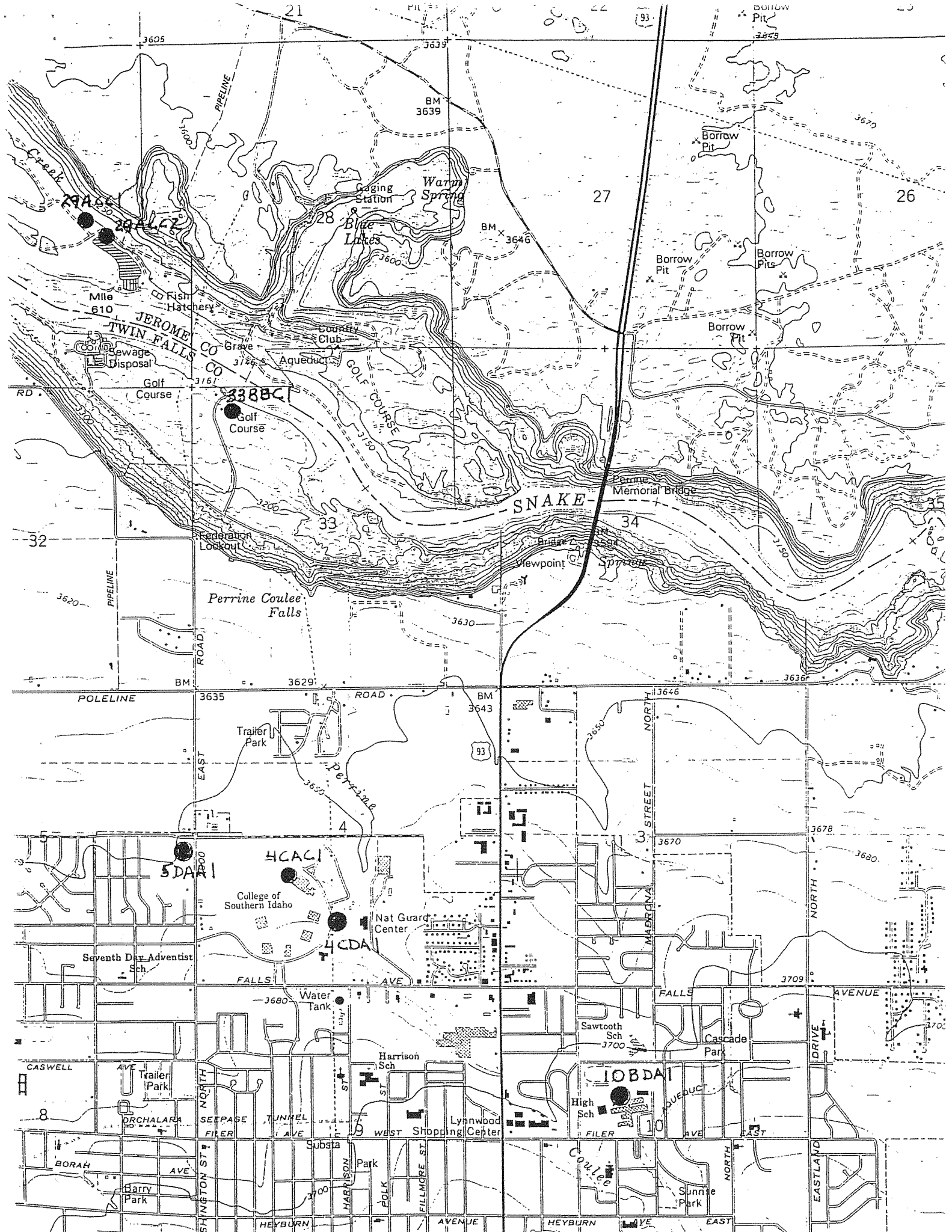
There may be other options, perhaps more acceptable than these. Please provide your comments and suggestions to me by November 4, 1994. I am available to discuss this matter, if you would like to meet.

Mailing List

College of Southern Idaho
David McCollum
Pristine Springs
Nazarene Church
School Board 411
City of Twin Falls

cc: Bill Young, USGS
Allen Merritt, IDWR Twin Falls
Paul Castelin, IDWR Boise
Debbie Allen, IDWR Boise





METER READINGS

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	6/7/93	210,814,000	1960	295	198	43.0	
	7/7/93	293,705,000	1950	255	200	43.0	
	8/9/93	386,127,000	1960	284	200	43.0	
	9/3/93	454,633,000	1940	210	200	43.0	
	10/4/93	540,646,000	1880	264	200	43.0	
	11/2/93	619,219,000	1880	241	200	43.0	
	12/2/93	700,662,000	1970	250	200	43.0	
	1/4/94	793,202,000	1960	284	200	43.0	
				Total 3,124			

METER READINGS

Well Number	Date	Gallons	Discharge rate in gallons per minute	Use in acre- feet	Operating/ shut in pressure in pounds per square inch	Water temperature (°C)	Remarks
10S 17E 4CAC1	1/4/93	503,253,000	1070	-	-	38.5	Pumping
	2/2/93	544,427,000	50.9	43.5	-	38.5	Pumping
	3/2/93	569,682,000	934	77.3	-	38.5	Pumping
	4/5/93	579,980,000	0	31.6	-	-	Shut In
	5/3/93	588,184,000	262	25.2	-	38.5	Pumping
	6/7/93	597,560,000	269	28.8	-	38.5	Pumping
	7/7/93	599,348,000	0	5.46	-	-	Shut In
	8/9/93	599,531,000	0	.56	-	-	Shut In
	9/3/93	600,011,000	0	1.47	-	-	Shut In
	10/4/93	600,012,000	0	.003	-	-	Shut In
	11/2/93	600,037,000	0	.08	-	-	Shut In
	12/2/93	604,216,000	0	12.8	-	-	Shut In
	1/4/94	632,151,000	915	85.7	-	38.5	Pumping
				Total 312 (Rd)			

METER READINGS

Well Number	Date	Gallons	Discharge rate in gallons per minute	Use in acre- feet	Operating/ shut in pressure in pounds per square inch	Water temperature (°C)	Remarks
10S-17E-4CDA1	1/4/93	351,625,000	0	-	-	-	shut in
	2/2/93	377,911,000	840	8.24	-	38.0	pumping
	3/2/93	389,352,000	290	35.1	-	38.0	pumping
	4/5/93	412,703,000	818	70.0	-	38.0	pumping
	5/3/93	426,248,000	0	41.6	-	-	shut in
	6/7/93	426,251,000	0	.01	-	-	shut in
	7/7/93	430,013,000	122	11.6	-	38.0	pumping
	8/9/93	434,203,000	0	12.9	-	-	shut in
	9/3/93	434,968,000	359	2.35	-	38.0	pumping
	10/4/93	443,373,000	147	25.8	-	38.0	pumping
	11/2/93	459,411,000	755	49.2	-	38.0	pumping
	12/2/93	487,904,000	940	87.4	-	38.0	pumping
	1/4/94	498,418,000	0	32.3	-	-	shut in
				total 376 (Rd)			

METER READINGS

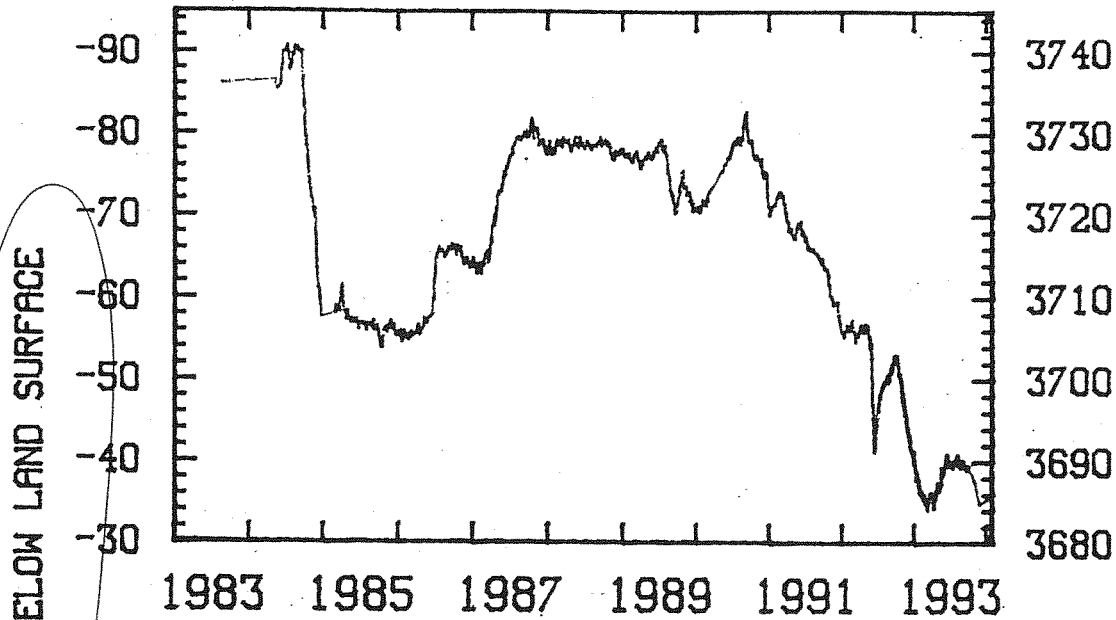
Well Number	Date	Gallons	Discharge rate in gallons per minute	Use in acre- feet	Operating/ shut in pressure in pounds per square inch	Water temperature (°C)	Remarks
10S-17E-10BDA1	1/4/93	106,643,400	89.3	-	-	28.5	pumping
	2/2/93	110,294,800	87.1	11.2	-	28.5	pumping
	3/2/93	113,775,300	86.0	10.7	-	28.5	pumping
	4/5/93	117,998,100	85.3	13.0	-	28.5	pumping
	5/3/93	121,459,100	86.6	10.6	-	28.5	pumping
	6/7/93	125,797,900	86.6	13.3	-	28.5	pumping
	7/7/93	129,518,000	86.6	11.4	-	28.5	pumping
	8/9/93	133,625,500	85.8	12.6	-	28.5	pumping
	9/3/93	136,681,400	84.3	9.38	-	28.5	pumping
	10/4/93	140,450,200	83.5	11.6	-	28.5	pumping
	11/2/93	143,911,600	82.5	10.6	-	28.5	pumping
	12/2/93	147,455,100	82.0	10.9	-	28.5	pumping
	1/4/94	151,308,300	80.9	11.8	-	28.5	pumping
				total 137 (Rd)			

TWIN FALLS GEOTHERMAL
WITHDRAWALS
 (acre feet)

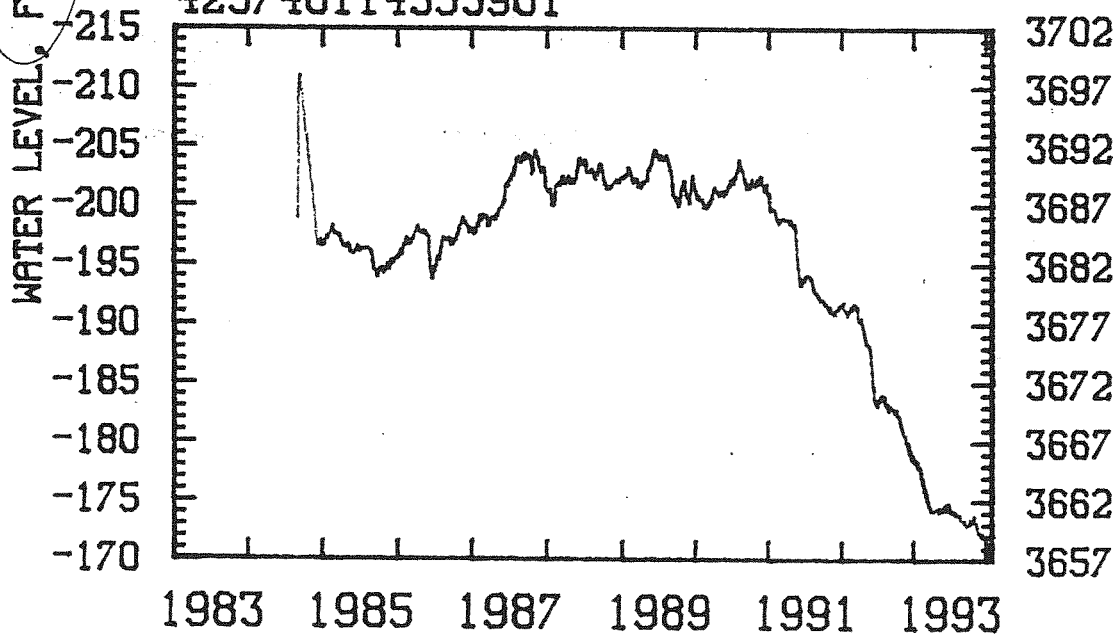
Well #	1990	1991	1992	1993
9S-17E-29ACC1	17	873	597	139
9S-17E-29ACC2	-	-	1,927	3,124
9S-17E-33BBC1	4,420	4,508	4,188	4,106
10S-17E-04CAC1	456	457	423	312
10S-17E-04CDA1	278	269	147	376
10S-17E-10BDA1	154	130	149	137
TOTAL	5,325	6,237	7,431	8,194

USE	1990	1991	1992	1993
Space Heating	888	856	719	825
Power Generation and Fish Farming	4,437	5,381	6,712	7,369
TOTAL	5,325	6,237	7,431	8,194

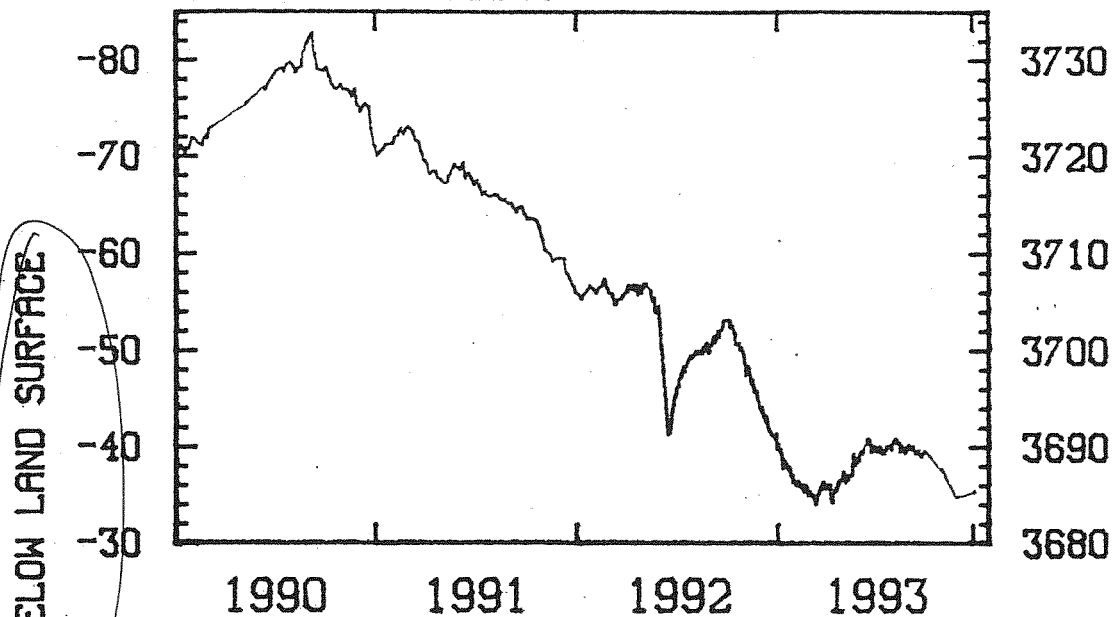
10S 17E 05DAA1
423502114284801



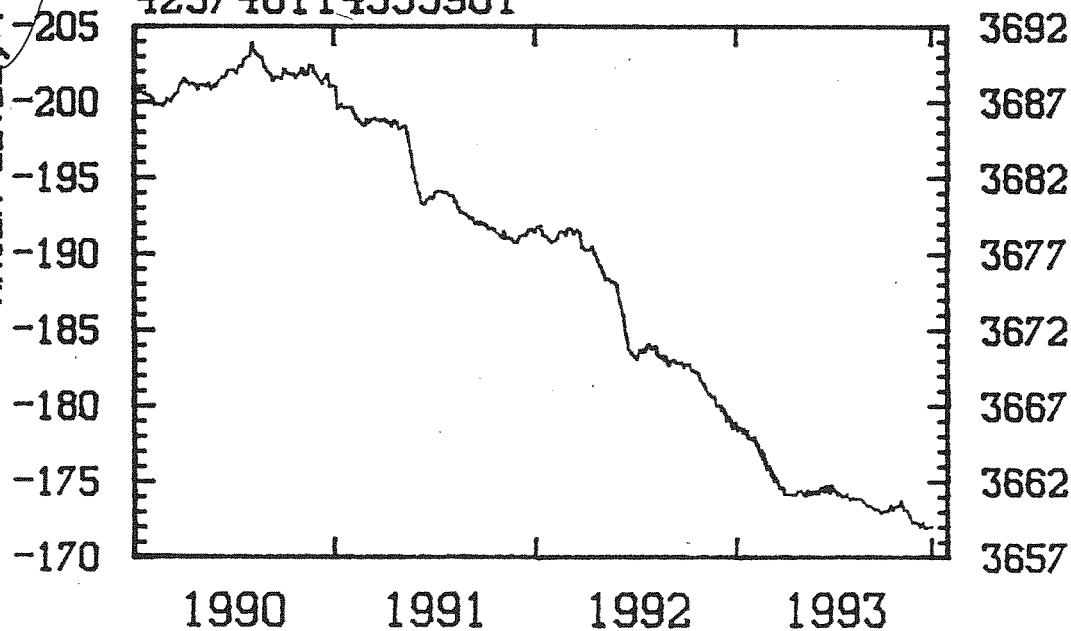
09S 16E 20ADD1
423748114353901



10S 17E 05DAA1 *NABARENE Church*
423502114284801



09S 16E 20ADD1 *FILER TEST WELL*
423748114353901





State of Idaho

DEPARTMENT OF WATER RESOURCES

Southern Region, 222 Shoshone St. East, Twin Falls, Idaho 83301 (208) 736-3033

Well Monitoring 1993

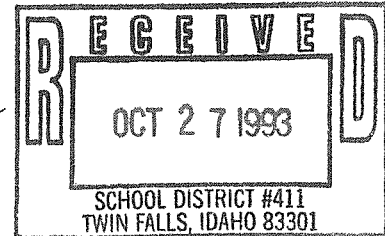
CECIL D. ANDRUS
Governor

25-Oct-1993

R. KEITH HIGGINSON
Director

SCHOOL DISTRICT NO 411
201 MAIN AVENUE WEST
TWIN FALLS ID 83301

Please file



Gentlemen:

Enclosed is a copy of the USGS report of groundwater usage data and artesian pressures in the Twin Falls geothermal aquifer for the period covering the period from January 1992 to April, 1993.

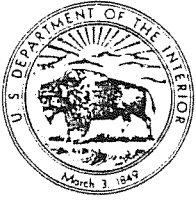
Billing statements for each wateruser's share of the cost of the monitoring program will be mailed shortly to bring billing up to date under the current joint funding agreements, which run through December 1993.

If you have questions about the report, please contact me.

Sincerely,

Loren O. Holmes

Loren O. Holmes, P. E.
Southern Region Manager



United States Department of the Interior

GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

230 Collins Road
Boise, ID 83702-4520

TAKE
PRIDE IN
AMERICA

January 14, 1993

RECEIVED

Mr. Loren O. Holmes
Southern Region Manager
Idaho Department of Water Resources
222 Shoshone Street East
Twin Falls, Idaho 83301

MAR 08 1993

Department of Water Resources
Southern Region Office

RECEIVED

JAN 20 1993

Department of Water Resources
Southern Region Office

Dear Mr. Holmes:

Enclosed are the results of our cooperative study to monitor geothermal ground-water withdrawals in vicinity of Twin Falls. The effort consisted of taking monthly readings from owner installed measuring devices for the period January 1992 to January 1993. The number of wells in the network has increased to six with the new Pristine Springs well becoming operational. Please note a change in the old Pristine springs well number from 9S-17E-29ACD1 to 9S-17E-29ACC1. The new Pristine spring is well number 9S-17E-29ACC2.

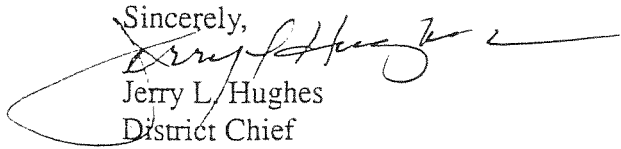
Withdrawals in 1992 were 7,431 acre-feet compared to 6,237 acre-feet in 1991 and 5,325 acre-feet in 1990. Withdrawals from the geothermal system in Twin Falls have increased about 40 percent since 1990.

In addition, I have enclosed hydrographs of water levels in two wells completed in the geothermal system in and near Twin Falls. For your convenience, a map showing the locations of each monitoring well, with the exception of well 9S-16E-20ADD1, which is a U.S. Geological Survey test hole located approximately 7 miles west of Twin Falls, is enclosed.

Also enclosed are two originals of our standard Joint Funding Agreement (JFA) to continue the collection of valuable data during the period January through December 1993. As you requested in discussion with Bill Young, we have also included the costs to continue the monitoring of the pressure in the geothermal system from May 1 through December 1993. The estimated cost of the work is \$5,200. Your share of the cost is \$2,600, which will be equally matched by the U.S. Geological Survey. If this is acceptable, please sign and return one original JFA and retain the other for your files.

If you have any questions or you would like clarification of the work, please contact Bill Young at (208) 334-1566.

Sincerely,


Jerry L. Hughes
District Chief

Enclosures

Department of the Interior
Geological Survey
Joint Funding Agreement
FOR

Agreement No. ID9303600
Customer No. ID001

WATER RESOURCES INVESTIGATIONS

THIS AGREEMENT is entered into as of the 14th day of January 1993 by the GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the IDAHO DEPARTMENT OF WATER RESOURCES, party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation a program to continue collection of data and monitoring of the pressure in the geothermal system in the Twin Falls area, hereinafter called the program.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and office work directly related to this program, but excluding any bureau level general administrative or accounting work in the office of either party.

(a) \$2,600 by the party of the first part during the period January 1, 1993
to December 31, 1993

(b) \$2,600 by the party of the second part during the period January 1, 1993
to December 31, 1993

(c) Additional amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.

3. Expenses incurred in the performance of this program may be paid by either party in conformity with the laws and regulations respectively governing each party, provided that so far as may be mutually agreeable all expenses shall be paid in the first instance by the party of the first part with appropriate reimbursement thereafter by the party of the second part. Each party shall furnish to the other party such statements or reports of expenditures as may be needed to satisfy fiscal requirements.

4. The field and office work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

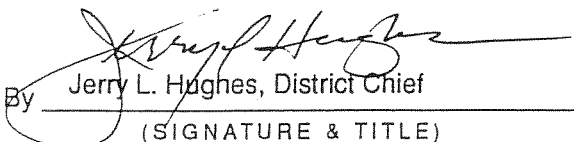
6. During the progress of the work all operations of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

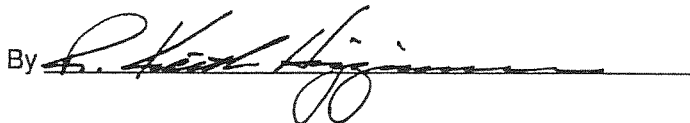
8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program and, if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties.

9. Billing for this agreement will be rendered at least annually. Payments of bills are due within 60 days after the billing data. If not paid by the due date, interest will be charged at the current Treasury rate for each 30-day period, or portion thereof, that the payment is delayed beyond the due date. (31 USC 3717; Comptroller General File B-212222, August 23, 1983.).

GEOLOGICAL SURVEY
UNITED STATES
DEPARTMENT OF THE INTERIOR

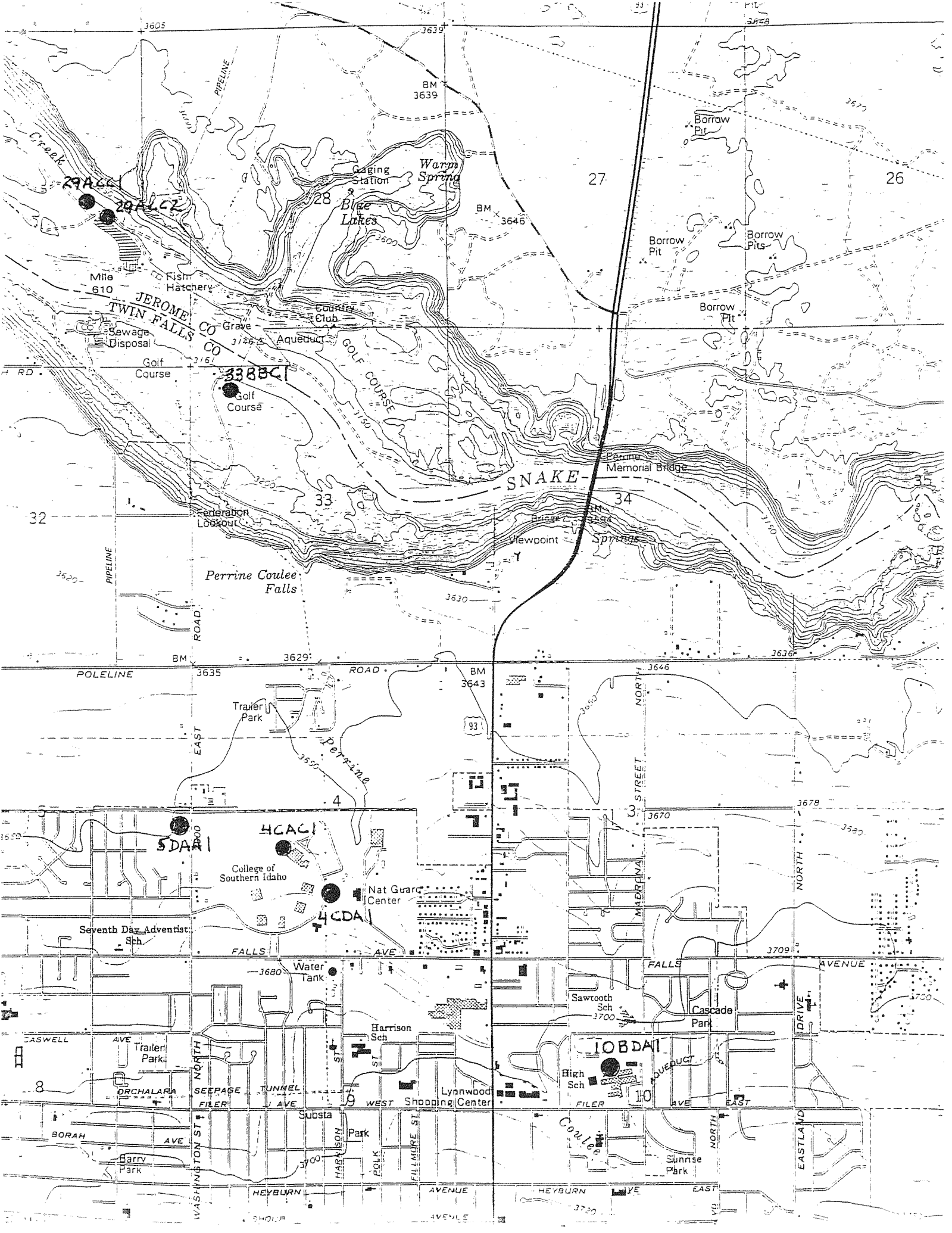
By 
Jerry L. Hughes, District Chief
(SIGNATURE & TITLE)

IDAHO DEPARTMENT OF WATER RESOURCES

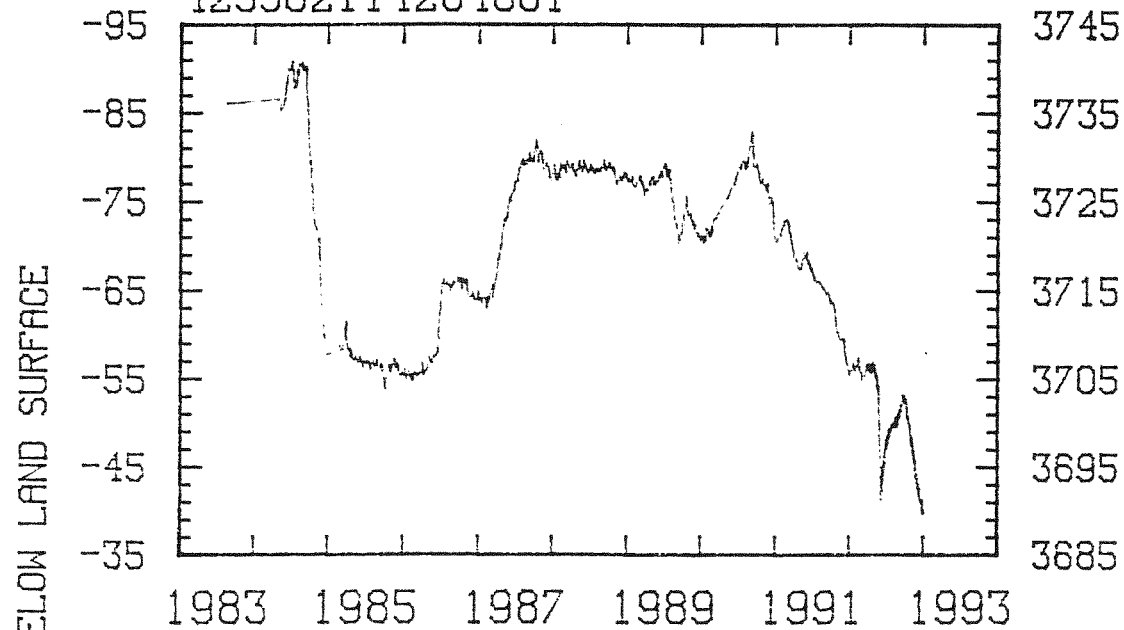
By 

By _____

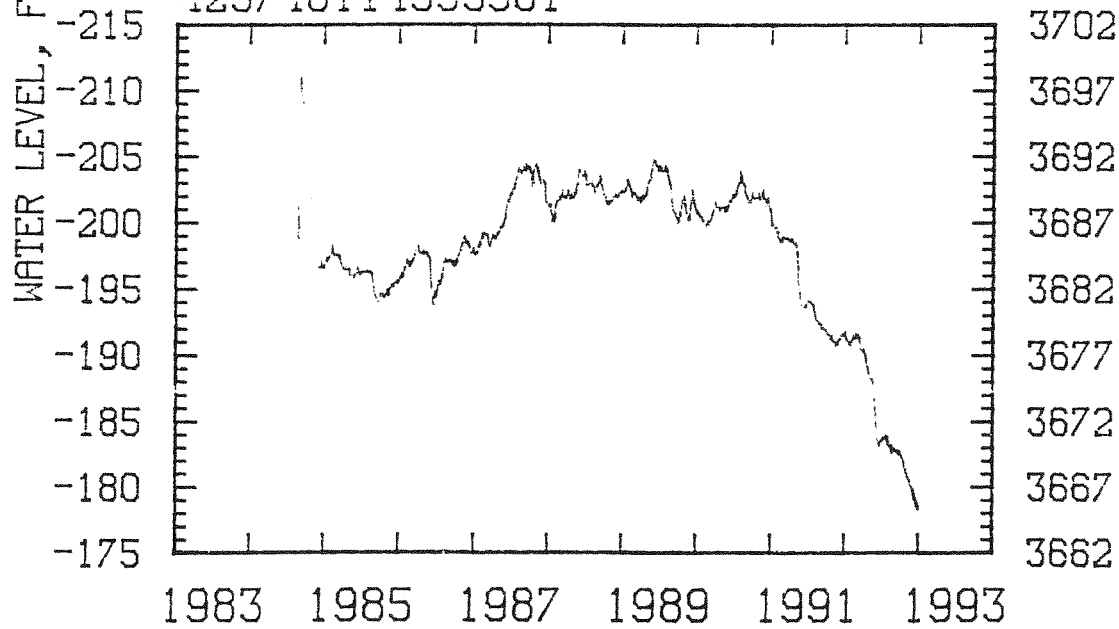
By _____



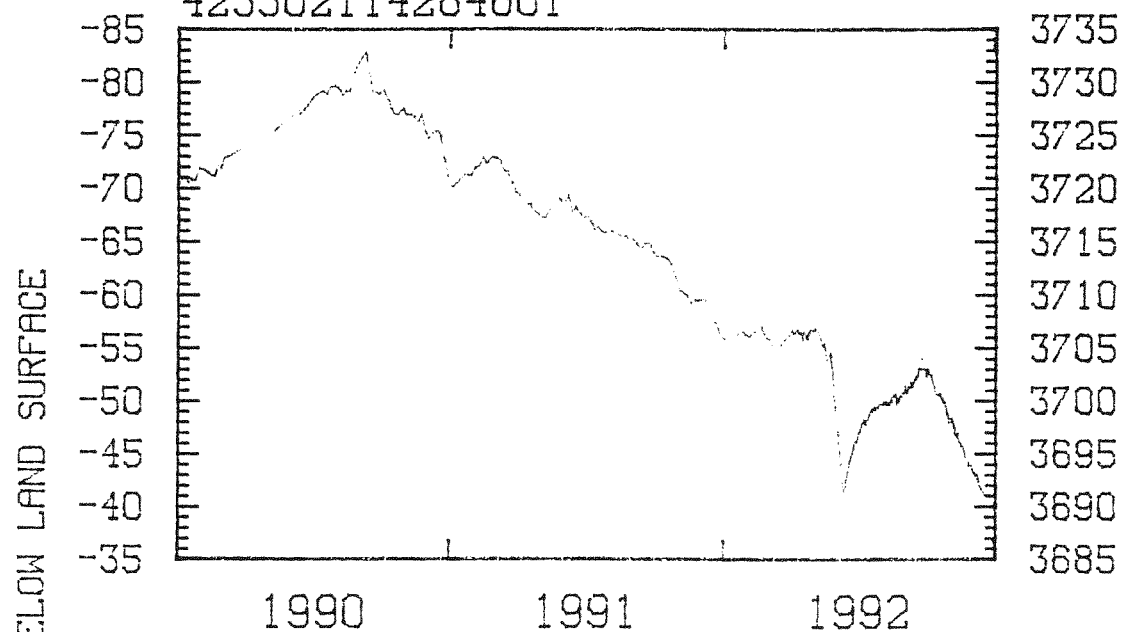
10S 17E 05DAA1 Nazarine Obs Well
423502114284801



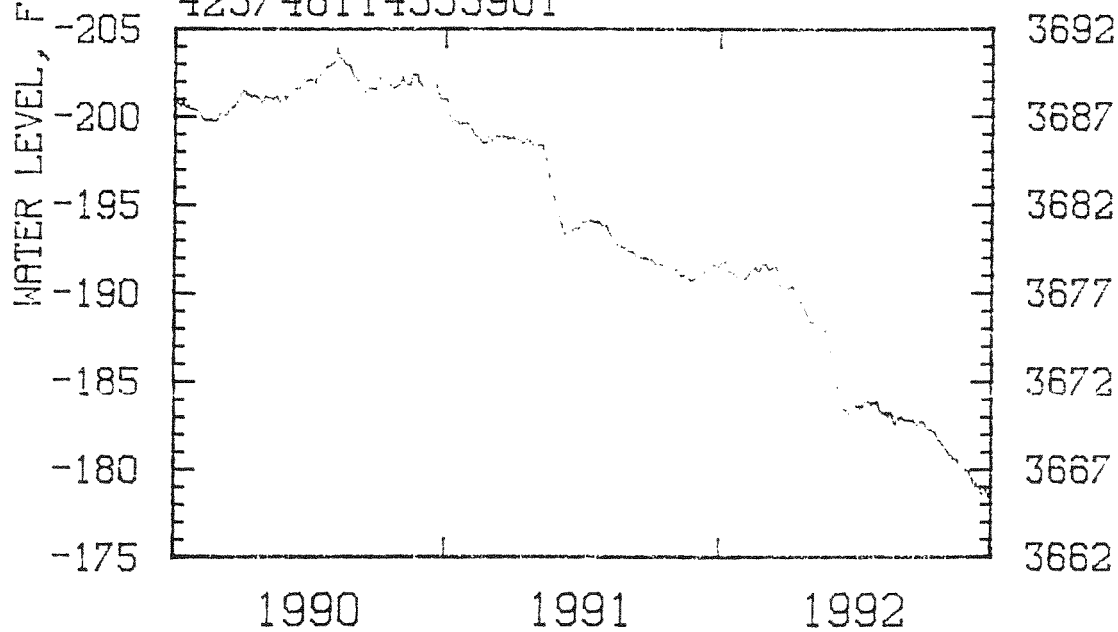
09S 16E 20ADD1 North of Fitch Obs Well
423748114353901



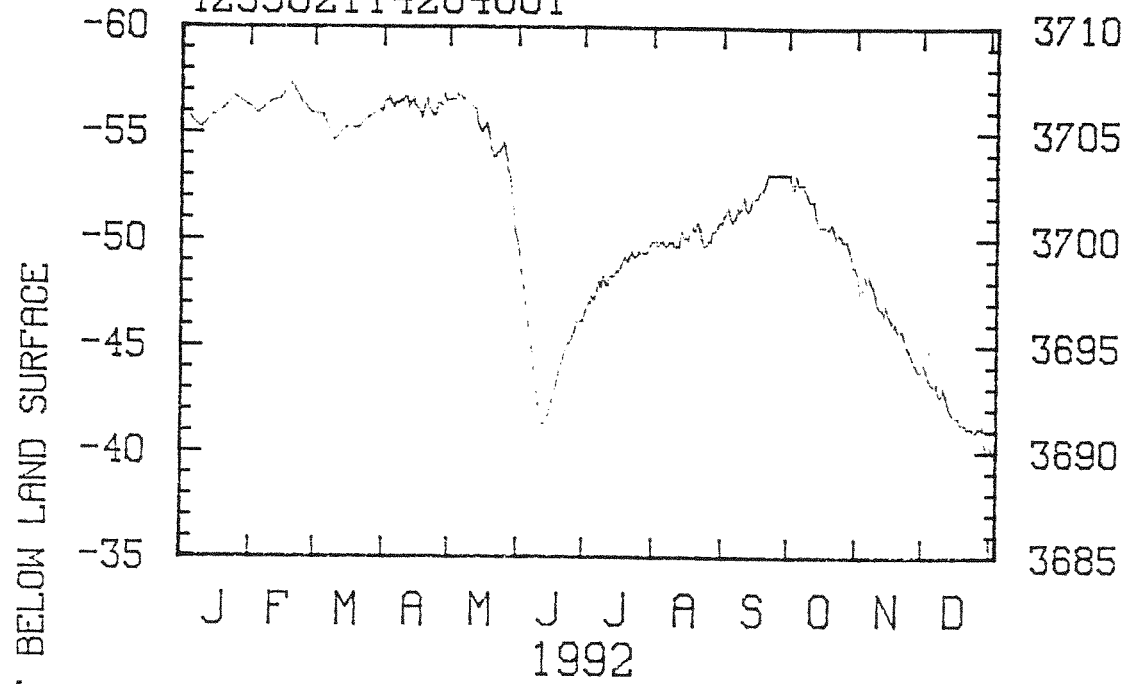
10S 17E 05DAA1
423502114284801



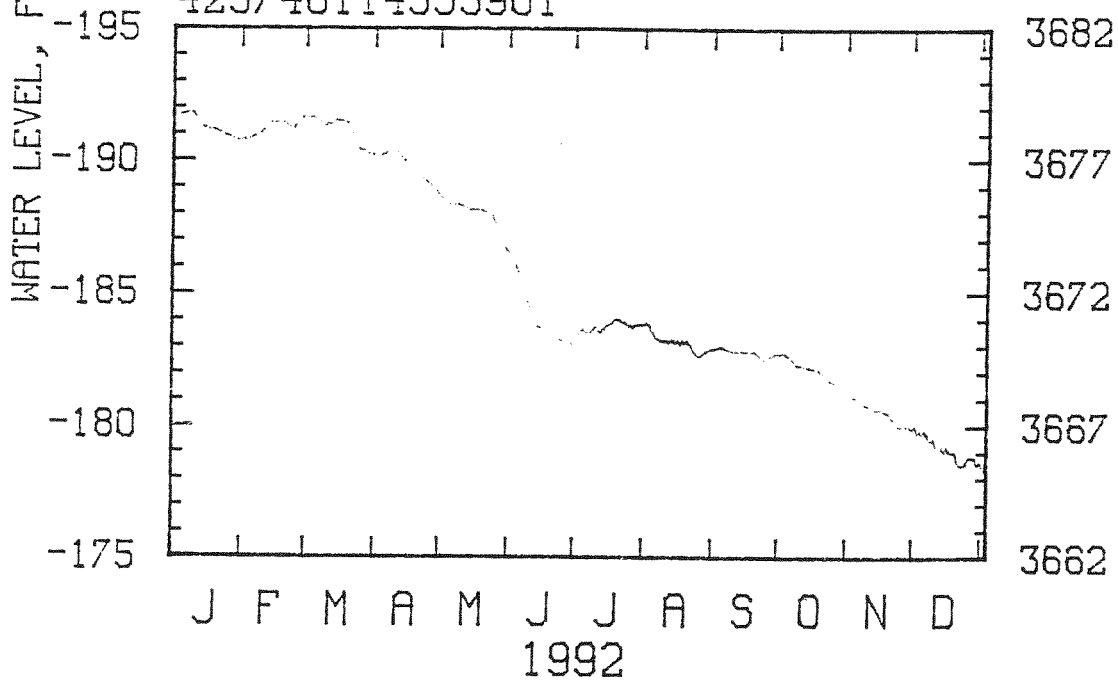
09S 16E 20ADD1
423748114353901



10S 17E 05DAA1
423502114284801



09S 16E 20ADD1
423748114353901



[illegible]

WELL NUMBER	DATE	GALLONS	DISCHARGE RATE IN		USE IN	OPERATING OR SHUT IN	WATER	REMARKS			
			GALLONS PER MINUTE						ACRE FEET	PRESSURE IN POUNDS	TEMPERATURE
9S 17E 33BBC1	1/7/92										
	2/4/92							Meter not working			
	3/3/92							Meter not working			
	4/2/92	79,398,000	2,640		910			Meter not working – est. use			
	5/5/92	204,740,000	2,650		385	166	39.0	New meter			
	6/9/92	330,760,000	2,320		387	150	39.0				
	7/6/92	423,782,000	2,540		285	163	39.5				
	8/5/92	531,387,000	2,480		330	164	39.5				
	9/3/92	635,534,000	2,580		320	166	39.5				
	10/6/92	753,969,000	2,560		363	167	39.5				
	11/3/92	852,879,000	2,440		304	165	39.5				
	12/3/92	957,297,000	2,430		320	162	39.5				
	1/4/93	1,068,028,000	2,480		340	158	39.5				
			Total	4188							
10S 17E 4CAC1	1/7/92	392,309,000	493								
	2/4/92	408,006,000	531	48.2							
	3/3/92	421,473,000	463	41.3							
	4/2/92	433,632,000	331	37.3			39.0				
	5/5/92	447,525,000	192	42.6			39.0				
	6/9/92	453,287,000	0	17.7				Well shut in			
	7/6/92	456,725,000	84	10.6			38.0				
	8/5/92	461,295,000	0	14				Well shut in			
	9/3/92	461,606,000	0	1				Well shut in			
	10/6/92	465,401,000	154	11.7			38.5				
	11/3/92	473,006,000	886	23.2			38.5	Pump Installed-pumping			
	12/3/92	504,347,000	1,110	96.2			38.5	Pumping			
	1/4/93	530,253,000	1,070	79.5			38.5	Pumping			
			Total	423 [Rd]							

WELL NUMBER	DATE	GALLONS	DISCHARGE RATE IN		USE IN	OPERATING OR SHUT IN		WATER	REMARKS	
			GALLONS PER MINUTE	ACRE FEET		PRESSURE IN POUNDS	TEMPERATURE			
						PER SQUARE INCH	[Centigrade]			
10S 17E 4CDA1	1/7/92	294,581,000	272							
	2/4/92	305,084,000	394	32.2						
	3/3/92	314,456,000	318	28.8						
	4/2/92	322,666,000	205	25.2			38.0			
	5/5/92	332,269,000	107	1.8			38.0			
	6/9/92	333,328,000	0	3.2					Well shut in	
	7/6/92	333,345,000	0	0.1					Well shut in	
	8/5/92	333,346,000	0	0.01					Well shut in	
	9/3/92	333,346,000	0	0					Well shut in	
	10/6/92	333,346,000	0	0					Well shut in	
10S 17E 10BDA1	11/3/92	335,485,000	291	6.6					Pump installed-not pumping	
	12/3/92	336,176,000	0	2.1			38.0			
	1/4/93	351,625,000	0	47.4			38.0			
				Total	147 [Rd]					
	1/7/92	57,972,800	94.7						Pumping	
	2/4/92	61,779,400	95.1	11.7					Pumping	
	3/3/92	65,614,300	94.9	11.8					Pumping	
	4/2/92	69,697,400	94.2	12.5			*28.5		Pumping	
	5/5/92	74,179,800	94.2	13.8			*28.5		Pumping	
	6/9/92	78,902,900	93.3	14.5			*28.5		Pumping	
10S 17E 10BDA1	7/6/92	82,526,700	91.9	11.1			*28.5		Pumping	
	8/5/92	86,528,700	91.5	12.3			*28.5		Pumping	
	9/3/92	90,406,000	91.6	11.9			*28.5		Pumping	
	10/6/92	94,802,200	92.2	13.5			*28.5		Pumping	
	11/3/92	98,527,000	92.4	11.4			*28.5		Pumping	
	12/3/92	102,470,700	89.9	12.1			*28.5		Pumping	
	1/4/93	106,643,400	89.3	12.8			*28.5		Pumping	
				Total	149 [Rd]					
						*Water Temperature from owner's inline thermometer				
	</									

CSI#1

School
Dist.
City



State of Idaho

DEPARTMENT OF WATER RESOURCES

Southern Region, 222 Shoshone St. East, Twin Falls, Idaho 83301 (208) 736-3033

*Rec'd
3-6-92*

CECIL D. ANDRUS
Governor

05-Mar-1992

R. KEITH HIGGINSON
Director

*Well
Monitoring
1991*

School District No. 411
201 Main Avenue West
Twin Falls, ID 83301

Re: Geothermal aquifer water levels & withdrawals

Dear Wateruser:

Enclosed is the USGS report showing 1991 water withdrawals and aquifer pressures in the area covered by the CSI agreement.

There is also a hydrograph from an observation well located north of Filer (well 09S 16E 20ADD1).

If you have any questions, please contact this office.

Sincerely,

Loren O. Holmes
Loren O. Holmes, P. E.
Southern Region Manager

Meter Reading

<u>Well Number</u>	<u>Date</u>	<u>(gallons)</u>	(Discharge rate in <u>gallons per minute</u>)	(Use) <u>acre-ft</u>	<u>Remarks</u>
10S-17E-4CAC1	1/10/91	243,330,000	641		
	2/07/91	264,367,000	547	64.6	
	3/06/91	280,941,000	655	50.9	
	4/03/91	297,240,000	376	50.0	
	4/30/91	311,404,000	527	43.5	
	5/14/91	317,934,000	270	20.0	
	6/12/91	327,541,000	280	29.5	
	7/10/91	333,019,000	77	16.8	
	8/06/91	335,466,000	0	7.5	
	9/10/91	338,753,000	92	10.1	
	10/3/91	343,157,000	193	13.5	
	11/5/91	356,025,000	411	39.5	
	12/3/91	372,029,000	650	49.1	
	1/07/92	392,308,000	493	62.2	

ac ft/yr

457 (rd)

QSI well North well

Meter Reading

<u>Well Number</u>	<u>Date</u>	<u>(gallons)</u>	<u>(Discharge rate in gallons per minute)</u>	<u>(Use) acre-ft</u>	<u>Remarks</u>
10S-17E-4CDA1	1/10/91	206,936,000	484		
	2/07/91	222,511,000	375	47.8	
	3/06/91	234,526,000	499	36.9	
	4/03/91	246,449,000	316	36.6	
	4/30/91	256,806,000	406	31.8	
	5/14/91	261,449,000	172	14.2	
	6/12/91	262,847,000	0	4.3	
	7/10/91	262,868,000	0	.06	
	8/06/91	262,879,000	0	.03	
	9/10/91	262,898,000	0	.06	
	10/3/91	262,908,000	0	.03	
	11/5/91	268,630,000	378	17.6	
	12/3/91	280,055,000	542	35.1	
	1/07/92	294,581,000	272	44.6	
				269 (rd)	

05 I

Meter Reading

<u>Well Number</u>	<u>Date</u>	<u>(gallons)</u>	<u>(Discharge rate in gallons per minute)</u>	<u>(Use) acre-ft</u>	<u>Remarks</u>
9S-17E-29ACD1	1/10/91	209,920,000			
	2/07/91	209,920,000			well shut in
	3/06/91	212,745,000	1,170	8.7	well shut in
	4/03/91				
	4/30/91				
	5/14/91	498,000	140	*323	meter not working
	6/12/91	10,559,000	560		meter not working
	7/10/91	30,423,000	1,330	30.9	new meter installed
	8/06/91	55,842,000	1,320	61.0	
	9/10/91	86,215,000	910	78.0	
	10/3/91	100,286,000	800	93.2	
	11/5/91	123,100,000	1,140	43.2	
	12/3/91	145,402,000	1,050	70.0	
	1/07/92	176,835,000	1,270	68.4	
				<u>96.5</u>	
				873 (rd)	

* Estimated use 3/16/91 to 5/14/91 using discharge rate of 1,170 gallons per minute.

Insurance Co well
Pioneer Sprinklers
Pioneer Rpts
1st well

Meter Reading

<u>Well Number</u>	<u>Date</u>	<u>(gallons)</u>	<u>(Discharge rate in gallons per minute)</u>	<u>(Use) acre-ft</u>	<u>Remarks</u>
9S-17E-33BBC1	1/10/91				meter not working
	2/07/91				meter not working
	3/06/91				meter not working
	4/03/91				meter not working
	4/30/91				meter not working
	5/14/91				meter not working
	6/12/91				meter not working
	7/10/91				meter not working
	8/06/91				meter not working
	9/10/91				meter not working
	10/3/91				meter not working
	11/5/91				meter not working
	12/3/91				meter not working
	1/07/92				meter not working

*4,508

* Estimated use 1/10/91 to 1/7/92 using discharge rate of 2,810 gallons per minute.

*Joe McCullough's well
been told to get
his meter fixed*

Meter Reading

<u>Well Number</u>	<u>Date</u>	<u>(gallons)</u>	<u>(Discharge rate in gallons per minute)</u>	<u>(Use) acre-ft</u>	<u>Remarks</u>
10S-17E-4CDA1	1/10/91	206,936,000	484		
	2/07/91	222,511,000	375	47.8	
	3/06/91	234,526,000	499	36.9	
	4/03/91	246,449,000	316	36.6	
	4/30/91	256,806,000	406	31.8	
	5/14/91	261,449,000	172	14.2	
	6/12/91	262,847,000	0	4.3	
	7/10/91	262,868,000	0	.06	
	8/06/91	262,879,000	0	.03	
	9/10/91	262,898,000	0	.06	
	10/3/91	262,908,000	0	.03	
	11/5/91	268,630,000	378	17.6	
	12/3/91	280,055,000	542	35.1	
	1/07/92	294,581,000	272	44.6	
				269 (rd)	

*~~FHS well~~
Colley well*

Meter Reading

<u>Well Number</u>	<u>Date</u>	<u>(gallons)</u>	<u>(Discharge rate in gallons per minute)</u>	<u>(Use) acre-ft</u>	<u>Remarks</u>
10S-17E-10BDA1	1/10/91	29,290,400	98		
	2/07/91	33,164,800	96	11.9	
	3/06/91	36,882,900	96	11.4	
	4/03/91	40,751,300	96	11.9	
	4/30/91	44,471,300	92	11.4	
	5/14/91	46,404,700	96	5.9	
	6/12/91	50,336,100	94	12.1	
	7/10/91	54,141,500	94	11.7	
	8/06/91				meter not working
	9/10/91				meter not working
	10/3/91				meter not working
	11/5/91				meter not working
	12/3/91				meter not working
	1/07/92	57,972,800	95	* 63.6	
					meter not working

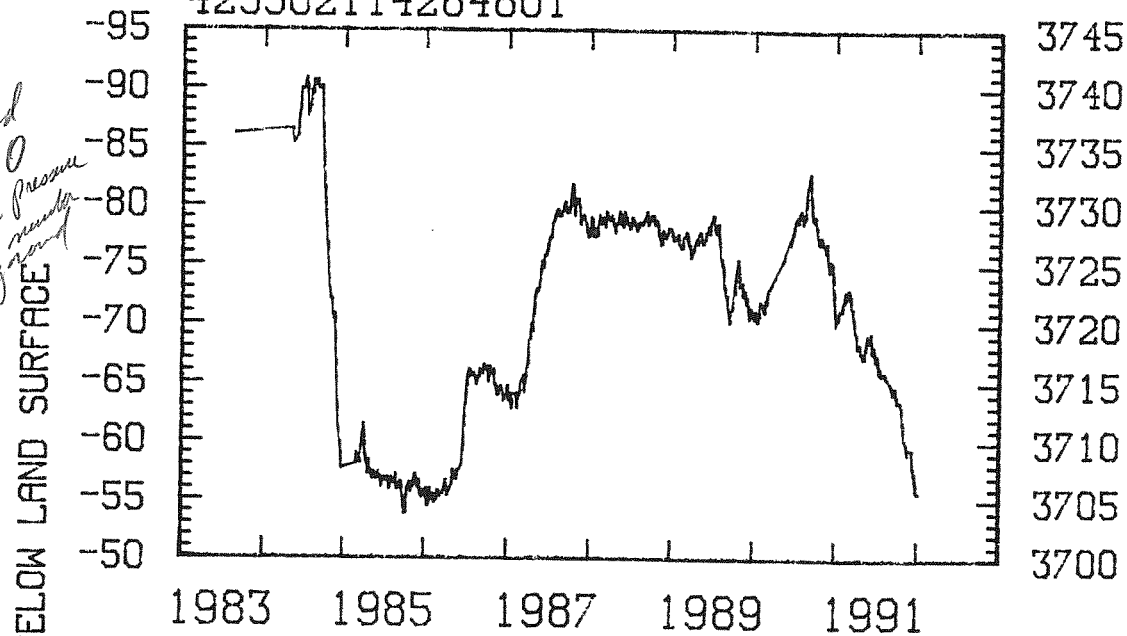
* Estimated use 7/10/91 to 1/7/92 using discharge rate of 94 gallons per minute.

TFS well

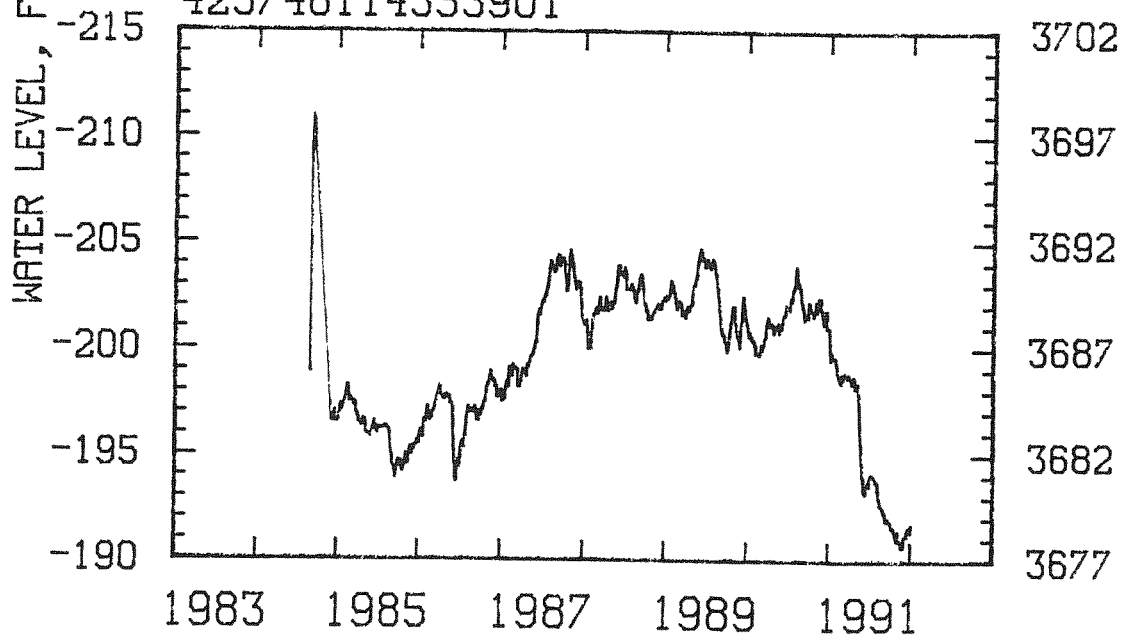
130 (rd)

10S 17E 05DAA1
423502114284801

*Ground
Level 0
Alaskan Pressure
Gages - mounted
above ground*

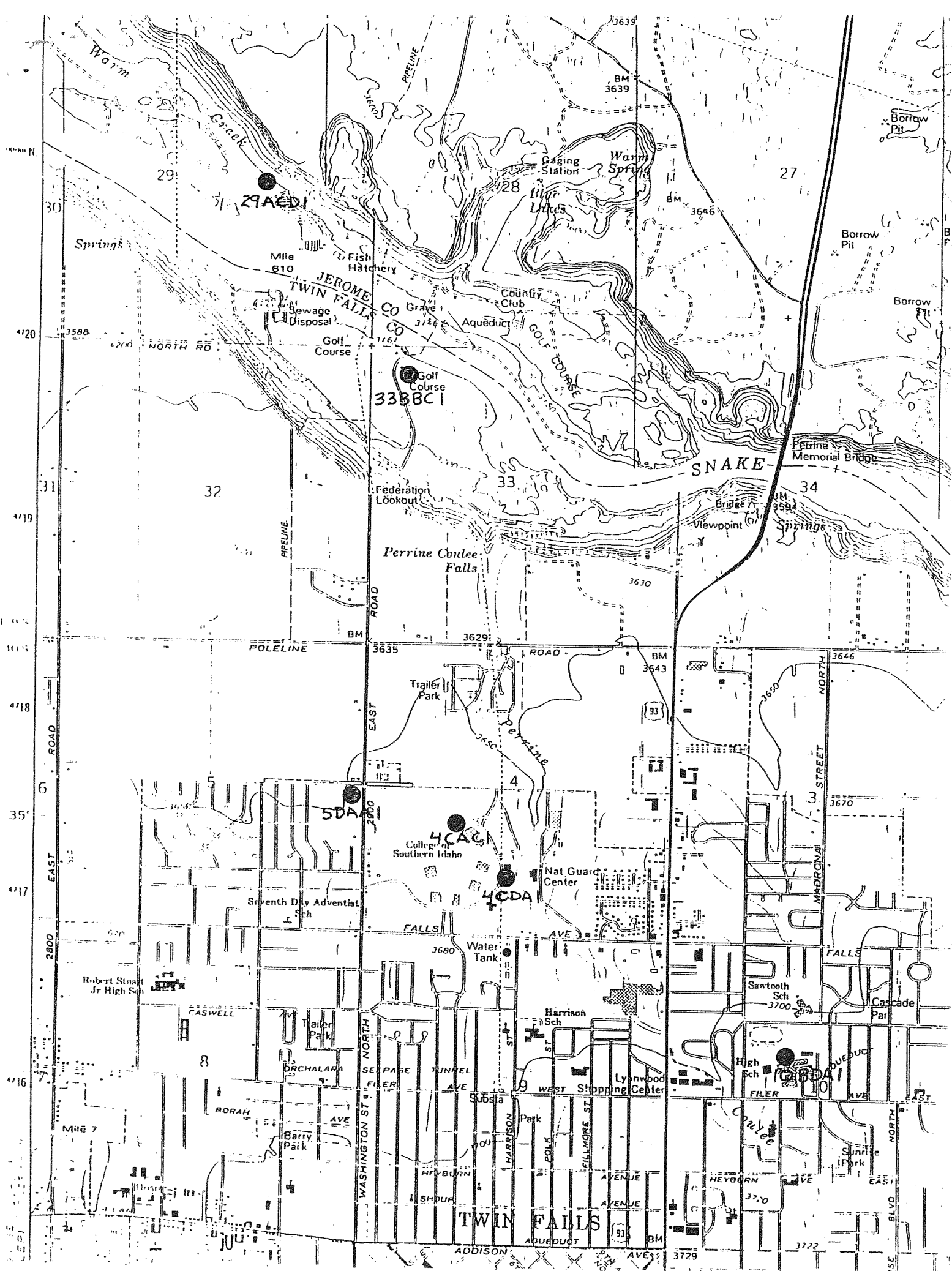


09S 16E 20ADD1
423748114353901



WATER LEVEL, FEET ABOVE NGVD

(Carbon Sea Level)





United States Department of the Interior

GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

230 Collins Road
Boise, Idaho 83702

TAKE
PRIDE IN
AMERICA

July 31, 1991

School District No. 411
201 Main Avenue West
Twin Falls, Idaho 83301

Dear Sir:

Enclosed for your use is a hydrograph of water level fluctuations in well 10S-17E-5DAA1 (Nazarene Church well). The water levels shown on the hydrograph are representative of water level fluctuations in the Twin Falls Geothermal system.

If you have any questions or need additional information, please call me at (208) 334-1566.

Sincerely,

Bill

H.W. Young
Hydrologist

Enclosure

HWY/mrl

Well (3) T.F.H.S.

Water Level Readings -

Water in Geo-thermal Well Tested 10/2/84

Water was flowing out of well (artesian) @ 30-40
gals/minute @ 91°F. When Valve and
plate were installed on well casing, the water
stood at the top of Valve.

date		Location of Water level measured from top of Valve.	
11/8/84	- 51"		
11/17/84	- 98"		
11/26/84	- 108"		
11/28/84	- 109"		
12/5/84	- 118 ³ / ₄ "		
12/12/84	- 119 ¹ / ₂ "		
12/19/84	- 124 ¹ / ₂ "		
12/26/84	- 131 ³ / ₄ "		
1-2-85	- 142 ³ / ₈ "		
1-9-85	- 143 ⁷ / ₈ "		
1-16-85	- 151		
1-23-85	- 152 ³ / ₄ "		
1-30	- 155		
2-6	- 156 ¹ / ₂ "		
2-13	- 158 ³ / ₄ "		
2-20	- 155 ¹ / ₂ "		
2-27	- 159		
3-6	- 156 ¹ / ₂ "		
3-13	- 162 ¹ / ₄ "		
3-20	- 163 ¹ / ₄ "		
		Date	Level
		3-27	162 ¹ / ₄ "
		4-3	163 ¹ / ₄ "
		4-10	162 ¹ / ₄ "
		4-17	163 ¹ / ₄ "
		4-24	169 ³ / ₄ "
		5-1	173 ¹ / ₄ "
		5-8	173 ³ / ₄ "
		5-15	172 ¹ / ₂ "
		5-22	167 ¹ / ₄ "
		5-29	165 ¹ / ₂ "



State of Idaho

DEPARTMENT OF WATER RESOURCES

Southern Region, 222 Shoshone St. East, Twin Falls, Idaho 83301 (208) 734-3578

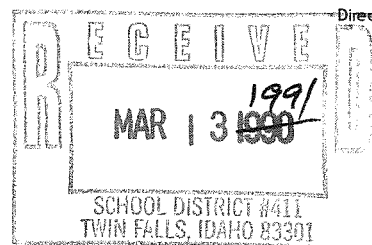
CECIL D. ANDRUS
Governor

R. KEITH HIGGINSON
Director

12-Mar-1991

School District No. 411
201 Main Ave. West
Twin Falls, ID 83301

*File
DS*



Re: Twin Falls geothermal wells *3-14-91*

Gentlemen:

Enclosed is a copy of the USGS report on water use from the Twin Falls geothermal wells in 1990.

Also enclosed is a summary of cost distribution for 1990 and a proposed distribution for continued monitoring in 1991. Actual bills will be mailed when the 1991 contract is signed.

The five-year moratorium on new appropriations from the geothermal aquifer will end on July 24, 1992.

If you have any questions, please feel free to contact me.

Sincerely,

Loren O. Holmes

Loren O. Holmes, P. E.
Southern Region Manager



United States Department of the Interior

GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

230 Collins Road
Boise, Idaho 83702

TAKE
PRIDE IN
AMERICA

February 14, 1991

RECEIVED

FEB 15 1991

Mr. Loren O. Holmes
Southern Region Manager
Idaho Department of Water Resources
222 Shoshone Street East
Twin Falls, Idaho 83301

Department of Water Resources
Southern Region Office

Dear Mr. Holmes:

Enclosed are the results of our cooperative study to monitor geothermal ground-water-withdrawals in the vicinity of Twin Falls. The effort consisted of taking monthly readings from owner installed measuring devices in five (5) wells for the period January 1990 to January 1991.

In addition, I have enclosed hydrographs from two wells completed in the geothermal system in and near Twin Falls. Water levels for well 10S-17E-5DAA1 are collected as part of our cooperative agreement with the College of Southern Idaho. For your convenience, a map showing the locations of each monitoring well, with the exception of well 9S-16E-20ADD1, which is a U.S. Geological Survey test hole located approximately 7 miles west of Twin Falls, is enclosed.

Also enclosed are two originals of our standard Joint Funding Agreement to continue the collection of these valuable data during the period January 1991 through December 1991. The estimated cost of the work is \$2,000. Your share of the cost is \$1,000, which will be equally matched by the Geological Survey. If this is acceptable, please sign and return one agreement and retain the other for your files.

If you have any questions or you would like clarification of the work, please contact Bill Young at (208) 334-1566.

Sincerely,

Jerry L. Hughes
for Jerry L. Hughes
District Chief

Enclosures

HWY/mrl

METER READING

<u>Well No.</u>	<u>Date</u>	(Discharge rate in gallons per minute)		(Use) acre-ft	<u>Remarks</u>
		(gallons)			
9S-17E-29ACD1 Professional (Yamke)	1/19/90	204,300,000			
	2/15/90	204,962,000		2.03	
	3/13/90	208,395,000		10.53	
	4/11/90	209,836,000		4.42	
	5/11/90	209,838,000		.01	
	6/13/90	209,898,000		.18	
	7/06/90	209,898,000		0	
	8/08/90	209,898,000		0	
	9/11/90	209,920,000		.07	
	10/12/90	209,920,000		0	
	11/01/90	209,920,000		0	
	12/31/90	209,920,000		0	
	1/10/91	209,920,000		0	
			Total	17.24	

9S-17E-33BEC1 McCollum	1/19/90				No meter
	7/06/90				No meter
	8/08/90	277,363,000	2,750	850.8	meter installed
	9/11/90	412,708,000	2,790	415.2	
	10/12/90	540,636,000	2,890	392.4	
	11/01/90	616,090,000	-	231.4	meter not working
	12/13/90				meter not working
	1/10/91				meter not working

metered use 1,890 (rd)
estimated use 1/19/90 to 1/10/91
using discharge rate of 2810 gallons per minute
4,420

METER READING

<u>Well No.</u>	<u>Date</u>	<u>(Discharge rate</u> <u>in gallons</u> <u>(gallons) per minute)</u>		<u>(Use)</u> <u>acre-ft</u>	<u>Remarks</u>
10S-17E-4CDA1 CSI # 2	1/19/90	94,497,000	775		
	2/16/90	114,878,000	663	62.5	
	3/13/90	131,466,000	348	50.9	
	4/11/90	145,646,000	175	43.5	
	5/09/90	153,353,000	50	23.6	
	6/13/90	160,862,000	79	23.0	
	7/06/90	163,492,000	100	8.1	
	8/08/90	167,273,000	93	11.6	
	9/11/90	172,528,000	163	16.1	
	10/12/90	179,553,000	616	21.6	
	11/01/90	190,543,000	317	33.7	
	12/13/90	218,313,000	672	85.2	
	1/10/91	243,380,000	641	76.7	
			Total	456 (rd)	
10S-17E-4CDA1 CSI # 1	1/19/90	116,354,000	600		
	2/16/90	131,026,000	500	45.0	
	3/13/90	142,599,000	257	35.5	
	4/11/90	152,268,000	102	29.7	
	5/09/90	157,031,000	No Flow	14.6	
	6/13/90	158,299,000	No Flow	3.9	
	7/06/90	158,300,000	No Flow	.003	
	8/08/90	158,304,000	No Flow	.01	
	9/11/90	158,316,000	No Flow	.04	
	10/12/90	160,081,000	465	5.4	
	11/01/90	167,898,000	287	24.0	
	12/13/90	188,096,000	486	62.2	
	1/10/91	206,936,000	484	57.8	
			Total	278 (rd)	

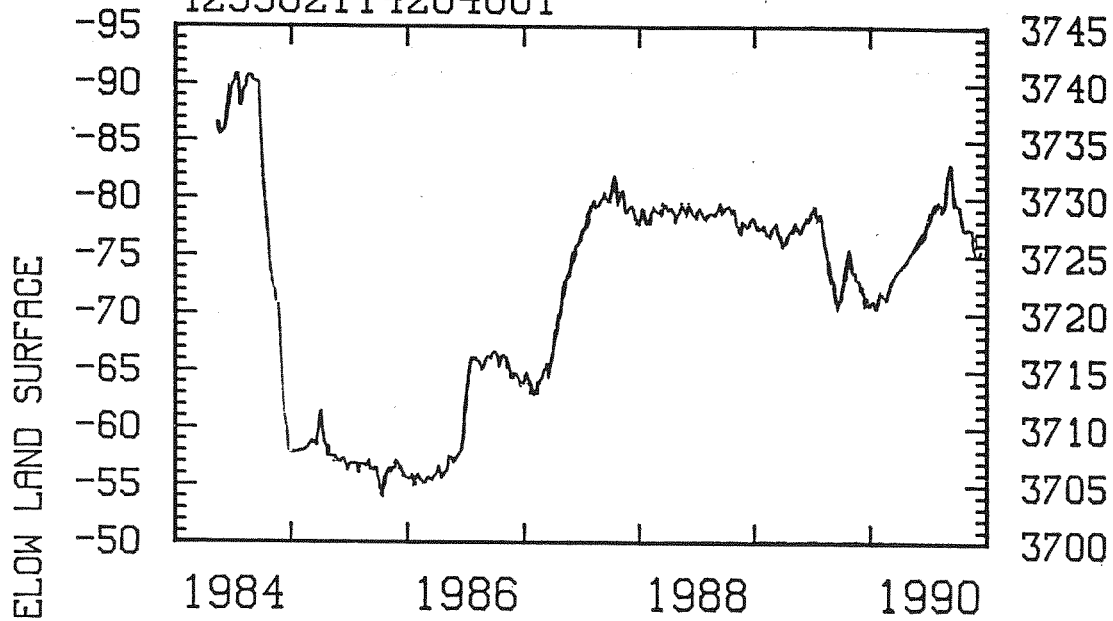
Total CSI 734

METER READING

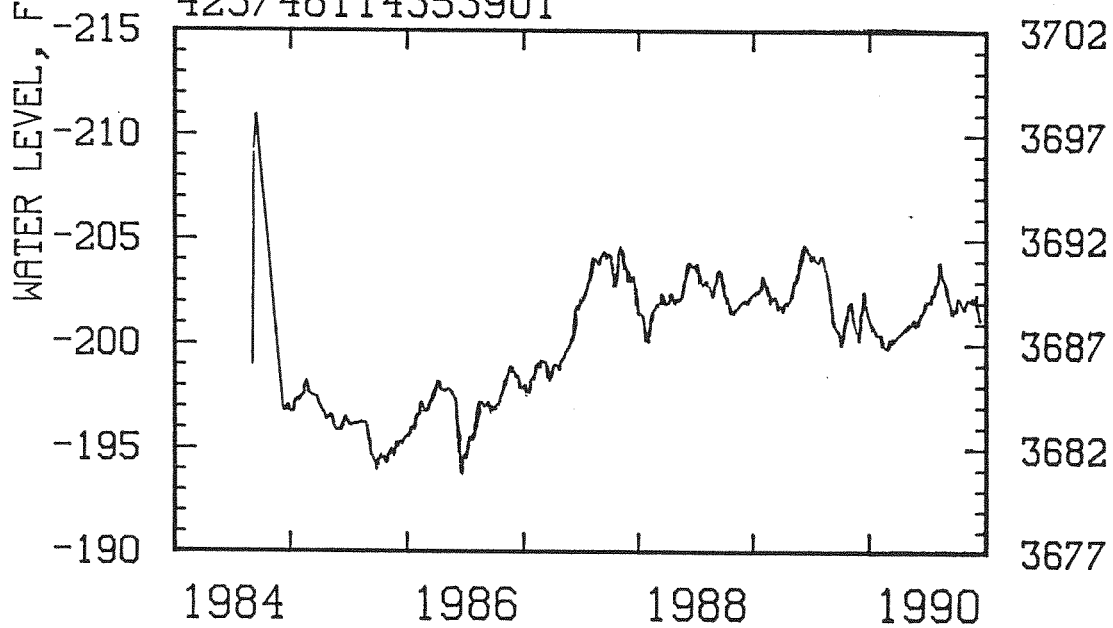
<u>Well No.</u>	<u>Date</u>	<u>(gallons)</u>	<u>(Discharge rate in gallons per minute)</u>	<u>Use (acre-ft)</u>	<u>Remarks</u>
10S-17E-10BDAL	1/19/90				
Sch. Dist #	7/06/90	36,228			meter not working
	8/08/90	74,698	98	0.12	meter not working
	9/10/90	121,708	97	.14	
	10/12/90	166,230	97	.14	
	11/01/90	194,795	97	.09	
	12/13/90	253,625	98	.18	
	1/10/91	292,904	98	.12	
				metered use 0.79	
				estimated use 1/19/90 to 1/10/91	
				using discharge rate of 98 gallons per minute	
					154

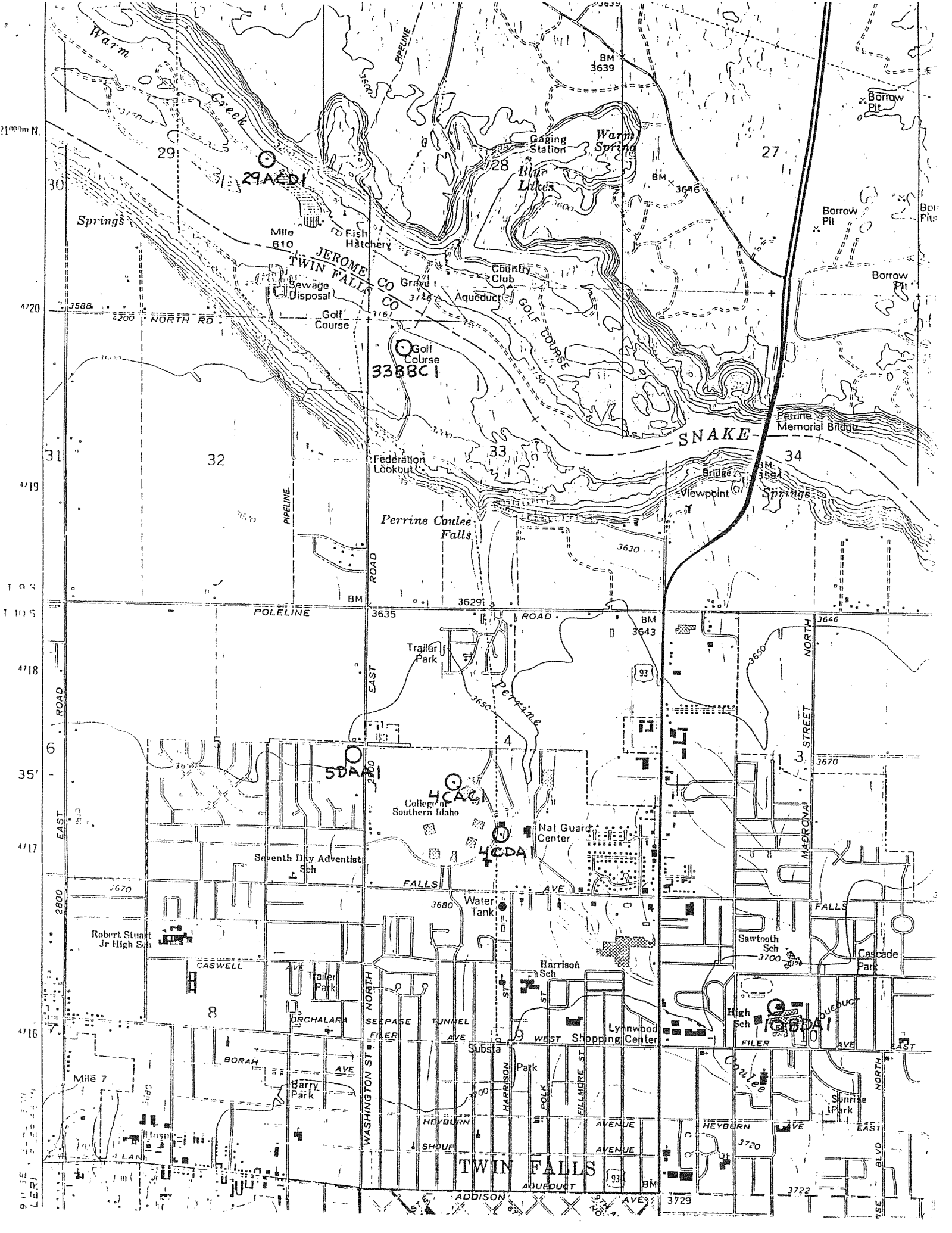
City of TF.

10S 17E 05DAA1
423502114284801



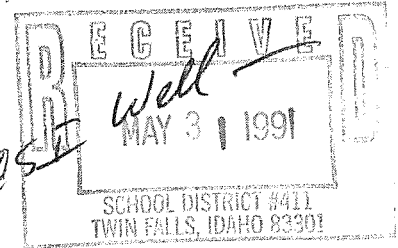
09S 16E 20ADD1
423748114353901





COLLEGE OF SOUTHERN IDAHO

315 Falls Avenue • P.O. Box 1238
Phone 208-733-9554 FAX 208-734-2362
Twin Falls, Idaho 83303-1238



May 28, 1991

School District No. 411
201 Main Avenue West
Twin Falls, ID 83301

RE: Twin Falls Nazarene Church Well Monitoring

Dear Sirs:

In April, 1986, the College of Southern Idaho and U.S. Geological Survey entered into a yearly renewable joint funding agreement to monitor the pressure of the Twin Falls Nazarene Church geothermal well. Because the well is not actually flowing, it provides an excellent monitor of pressure changes within the geothermal aquifer. By monitoring this activity, very valuable historical data has been collected and provided to IDWR as part of the moratorium.

For the last five years the College has paid the entire \$2,000.00 yearly matching monitoring cost, however, the last contract with the U.S. Geological Survey expired April 30, 1991 and at this time the College does not intend to renew it. We believe that the data that has been obtained is well worth the cost but we can no longer justify the entire expense of this monitoring activity alone. We would like to propose a monitoring plan that will spread the cost more equitably among the parties benefiting from the moratorium.

We propose that IDWR enter into a monitoring contract with the USGS similar to our old agreement, and the cost be shared on a pro rata basis by the parties to the moratorium that are actually using water.

IDWR estimates a total of 7934 AF of geothermal water will be used in 1991. We suggest that the parties divide the \$2,000.00 matching fee according to the IDWR estimate for each user as follows:

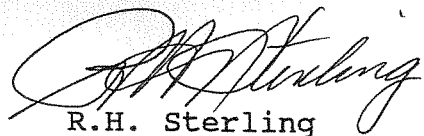
Well Monitoring
Page 2

	1991	est AF	%	fee
Stone	0		0	\$0
Nazarene	0		0	\$0
Hydrotube	0		0	\$0
Elsing	0		0	\$0
M.G.	0		0	\$0
Kessler	0		0	\$0
City of TF	167		2.1	\$42
McCollum	4400		55.5	\$1110
Professional	2400		30.2	\$604
Sch Dist 411	167		2.1	\$42
CSI	<u>800</u>		<u>10.1</u>	<u>\$202</u>
TOTALS:	7934		100	\$2000

Please notify us if you support this proposal and would be willing to pay your fair share. If all parties agree, we will try to arrange the appropriate agreement with all concerned. If we fail to hear from you or if you are opposed to the additional, we will assume that you do not feel this monitoring activity is necessary or valuable. We would remind you that the present moratorium ends July 22, 1992 and interest is already being shown in this water by other parties.

Please consider this proposal and let us know your feelings.

Sincerely,


R.H. Sterling
Maintenance Director

xc: Loren Holmes, TF IDWR
Bill Young, USGS



State of Idaho

DEPARTMENT OF WATER RESOURCES

Southern Region, 222 Shoshone St. East, Twin Falls, Idaho 83301 (208) 736-3033

CECIL D. ANDRUS
Governor

01-Oct-1991

R. KEITH HIGGINSON
Director

*Well
Monitoring
1990*

SCHOOL DISTRICT NO 411
201 MAIN AVE WEST
TWIN FALLS ID 83301

Re: Cost assesment for geothermal monitoring.

Gentlemen:

Please consider this letter a bill for your estimated share of the cost of monitoring the Twin Falls geothermal wells under two joint funding agreements between the department of water resources and the U. S. Geological Survey.

The department will be contracting with USGS to monitor the withdrawals of water from the wells at a cost of \$1000, and for the maintenance of a continuous record of aquifer pressure at a cost of \$2000.

Your estimated share of the total monitoring cost for 1991-92 is:

\$42.10

Please make checks payable to the Department of Water Resources.

Sincerely,

Loren O. Holmes
Loren O. Holmes, P. E.
Southern Region Manager

10-18-91

*Naomi will pay with check for Oct -
she'll give me check*