

State of Idaho
Department of Water Resources
WATER RIGHT LICENSE

License of Water Right No. 43-7176 Priority December 31, 1981 Amount 0.35 cfs

THIS IS TO CERTIFY, that Almo LDS Church
of Almo, Idaho, has complied with the terms and conditions of Permit
No. 43-7176 issued pursuant to Application for Permit dated December 31, 1981,
and has submitted proof to the Department of Water Resources on March 11, 1983,
that he has applied water to a beneficial use; an examination by the Department indicates that the works have a
capacity for the diversion of 0.35 cfs of water from a groundwater source,
tributary to _____, and that the permit holder has applied to a beneficial use and
established a right to use water as follows:

Beneficial Use	Period of Use	Rate of Diversion	Annual Volume
<u>Heating</u>	from <u>September 1</u> to <u>June 1</u>	at <u>0.35</u> cfs and	<u>N/A</u>
	from _____ to _____	at _____ cfs and	_____
	from _____ to _____	at _____ cfs and	_____

(both dates inclusive)

Subject, however, to the condition that no more than 0.35 cfs of water be diverted at any one time, and
that the amount of water so diverted and to which such right is entitled and confirmed is for the purpose
aforementioned and is limited to the amount which can actually be beneficially used and shall not exceed
N/A acre feet per year, said waters to be diverted within the SE1/4 SE1/4 Section 22,
Twp 15S, Rge 24E in the County of Cassia

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	
<u>15S</u>	<u>24E</u>	<u>22</u>																	X

Total number of acres irrigated _____



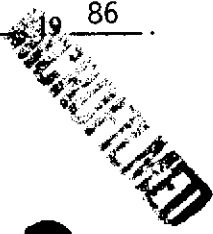
CONDITIONS OF APPROVAL

a. Modifications to or variance from this license must be made within the limits of Section 42-222, Idaho Code, or the applicable Idaho Law. This right may be forfeited by five years of non-use.

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

c. Any water right confirmed in this license for hydropower purposes shall be junior and subordinate to all rights to the use of water, other than hydropower, within the State of Idaho that are initiated later in time than the priority of this license and shall not give rise to any right or claim against any future rights to the use of water other than hydropower, within the State of Idaho initiated later in time than the priority of this license.

Witness the seal and signature of the Director, affixed at Boise, Idaho, this 22ND day of OCTOBER 19 86.



Norman C Young
Director

AS
5/12

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

APPROVED

RECEIVED
DEC 25 1981
Department of Water Resources
Sawtooth District Office

To appropriate the public waters of the State of Idaho

1. Name of applicant BISHOP IVAN DARRINGTON
ALMO LDS CHURCH Phone 824-5511

Post office address Almo, Idaho 83312

2. Source of water supply GROUNDWATER 3/25/82 J.J.
New Geo-Thermal Well which is a tributary of _____

3. Location of point of diversion is SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 22 Township 15S

Range 24E B.M. Cassia County, additional points of diversion if any: _____

4. Water will be used for the following purposes:

Amount .5 cfs for heating purposes from Sept. 1 to June 1 (both dates inclusive)
(cfs or acre-feet per annum)

Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

5. Total quantity to be appropriated:

a. .5 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. 16" Cased Well

b. Height of storage dam _____ feet, active reservoir capacity _____ acre-feet; total reservoir
capacity _____ acre-feet, materials used in storage dam: _____

Period of year when water will be diverted to storage _____ to _____ inclusive.
(Month/Day) (Month/Day)

c. Proposed well diameter is 16 inches; proposed depth of well is 500 feet.

7. Time required for the completion of the works and application of the water to the proposed beneficial
use is 1 years (minimum 1 year - maximum 5 years).

8. Description of proposed uses:

a. If water is not for irrigation: SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 22 Township 15S
(1) Give the place of use of water: _____

Range 24E B.M.

(2) Amount of power to be generated: _____ horsepower under _____ feet of head.

(3) List number of each kind of livestock to be watered _____

(4) Name of municipality to be served _____, or number of families to be
supplied with domestic water _____.

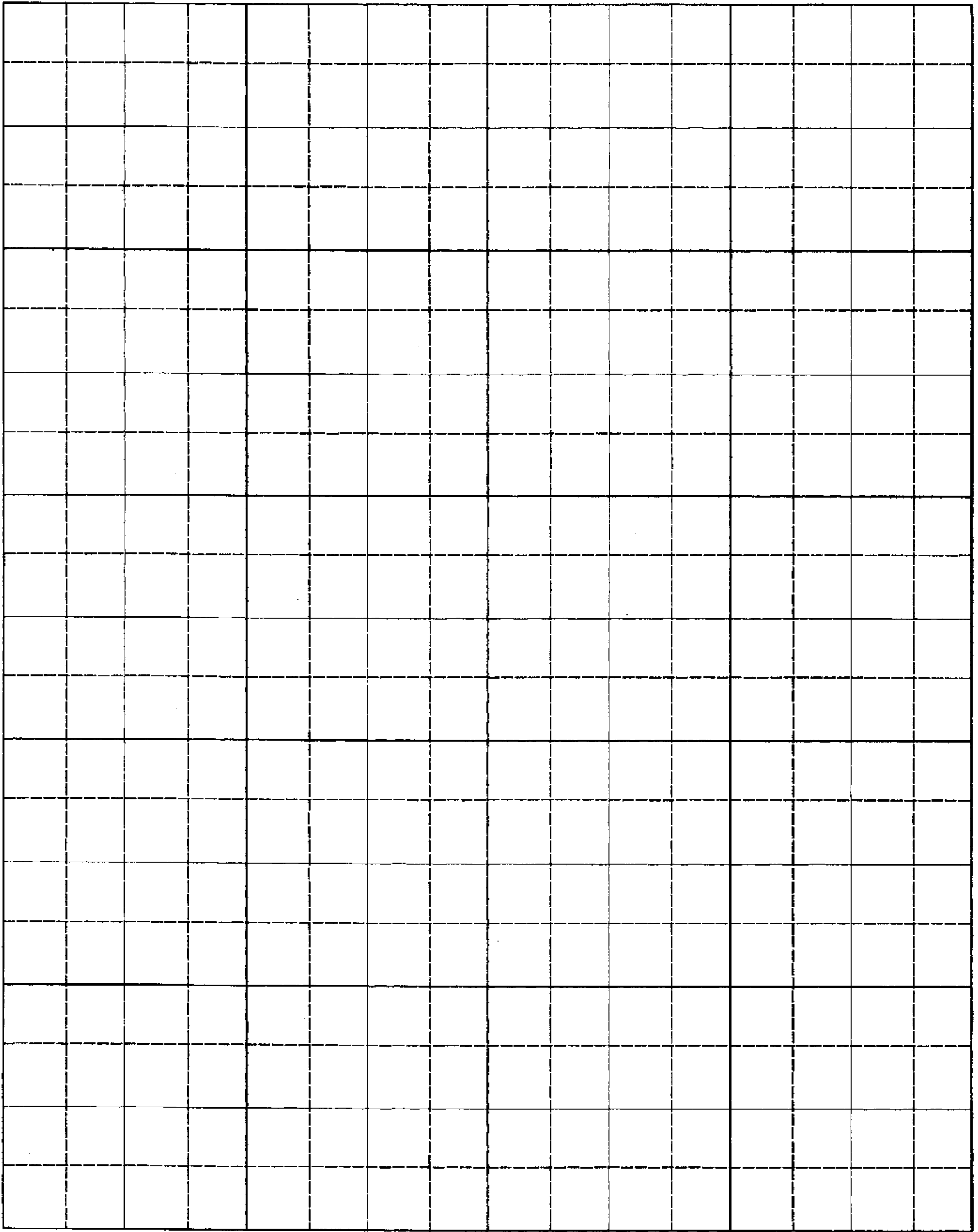
(5) If water is to be used for other purposes describe: Heating of the building.

130° F Geo-Thermal water will be run thru a heat exchanger in the new Church
Building to provide the only heating source for the building.

MICROFILMED

11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.

SEE ATTACHED SITE PLAN.



Scale: 2 inches equal 1 mile.

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.

MICHOIGAN

Charles L. Sudweeks P.E.
(Applicant)

Mechanical Engineer for Almo LDS Church

Proposed Priority 12/31/1981

Received by maeyo Date 12-31-81 Time 2:45 p

Preliminary check by ADM Fee \$42.00 # 20744

Receipted by maeyo Date 12-31-81

Publication prepared by maeyo Date 1/8/82

Published in south ida press

Publication dates 1/21 + 1/28/82

Publication approved maeyo Date 1/15/82

Protests filed by: None

Copies of protests forwarded by _____

Hearing held by _____ Date _____

Recommended for approval denial by ADM Jemi

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. 43-7176 , and said application is hereby APPROVED .

1. Approval of said application is subject to the following limitations and conditions:

a. SUBJECT TO ALL PRIOR WATER RIGHTS.

b. Proof of construction of works and application of water to beneficial use shall be submitted on or before April 1 , 19 83 .

c. The rate of diversion, if water is to be used for irrigation under this permit, when combined with all other water rights for the same land shall not exceed 0.02 cubic feet per second for each acre of land.

d. Other: Return flow if discharged to a subsurface system must be authorized by a separate injection well permit, and return flow if discharged to a surface water system shall meet Idaho Water Quality Standards.

Witness my hand this 26th day of March, 1982.

A. Glen Saylor
Chief, Operations Bureau

MICROFILMED

**SOUTH IDAHO PRESS
BURLEY, IDAHO**

AFFIDAVIT OF PUBLICATION

County of Cassia,)
) ss.
STATE OF IDAHO)

..... Mary Summers being first
duly sworn, deposes and says that she is the

..... Clerk of the South Idaho
Press, a daily newspaper published at Bur-
ley, Idaho, in the county aforesaid and that
the paper is of general circulation therein.
Deponent further states that the printed no-
tice attached hereto was duly published
according to law in the regular editions of

The South Idaho Press for Two
consecutive weeks, commencing with the issue
dated January 21 19...82w and ending
with the issue dated JANUARY 28 th, 19 82.

.....
Mary Summers.....

Subscribed and sworn to before me
this 9th day of Feb
19...82.

.....
Notary Public

Cost of Publication \$ 11.70
Notary Fee
Total Cost \$ 11.70

NOTARY PUBLIC RESIDING AT
RUPERT, IDAHO. MY COMMISSION
EXPIRES JUNE 21, 1985.

48-7176

ALMO LDS CHURCH, c/o BISHOP IVAN
DARRINGTON, ALMO, ID. 83312. Source:
GROUNDWATER. Date Filed: 12/31/1981.
Amount: 0.50 CFS. Diversion Point: SESE Sec 22 T
15S R 24E, CASSIA Co. Use: HEATING (0.50 CFS)
from 09/01 to 06/01. Place of Use: SESE Sec. 22
T 15S R 24E. Diversion Means: WELL.

If issued, the permit(s) will be subject to all
prior water rights. Protests against the granting of
any permit must be filed with the Director of the
Idaho Department of Water Resources, 1041 Blue
Lakes Blvd. North, Twin Falls, Idaho 83301 and
received on or before FEBRUARY 8, 1982.

A. KENNETH DUNN
Director

Published in the South Idaho Press January 21
and 28, 1982.

Handwritten signature

.....
.....

.....
Department of Water Resources
.....



State of Idaho
DEPARTMENT OF WATER RESOURCES

STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

October 15, 1986

RE: Permit No. 43-7176

Almo LDS Church
c/o Bishop Ivan Darrington
Almo, ID 83312

Dear Permit Holder(s):

Enclosed is a draft copy of the license proposed to be issued on the above referenced water right.

If you do not concur with the information shown on the draft license, please advise the Department within ten (10) days. If you have any questions, please let us know; otherwise, the license will be issued as identified on the draft copy.

Sincerely,

JIM JOHNSON
Water Rights Supervisor

JJ:sc

Enclosure





State of Idaho

DEPARTMENT OF WATER RESOURCES

STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

November 19, 1986

RE: Permit No. 43-7176

Almo LDS Church
c/o Bishop Ivan Darrington
Almo, ID 83312

Gentlemen:

Enclosed herewith is a copy of the Water Right License issued on the above referenced Permit.

Sincerely,

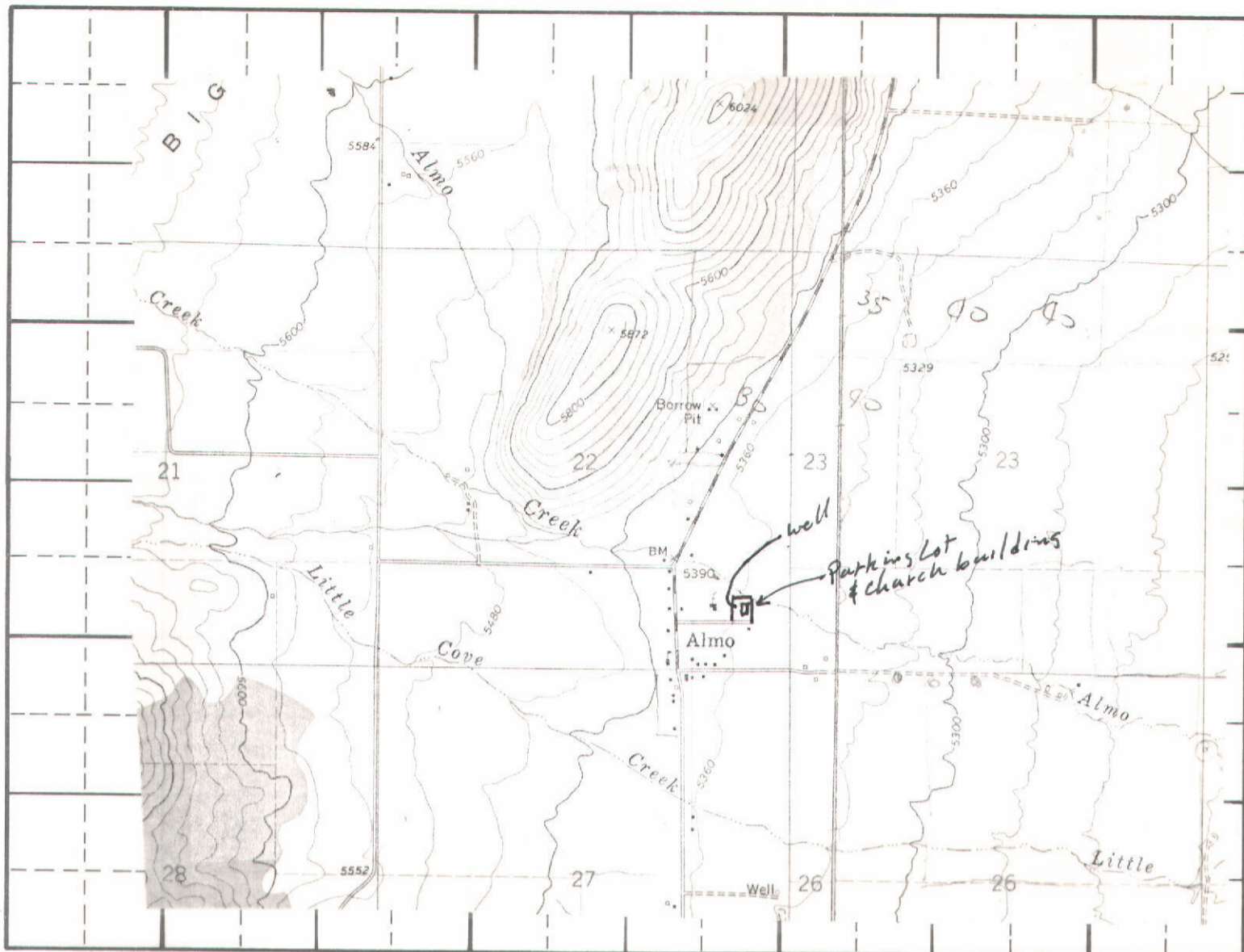
JIM JOHNSON
Water Distribution Supervisor

JJ:sc

Enclosure

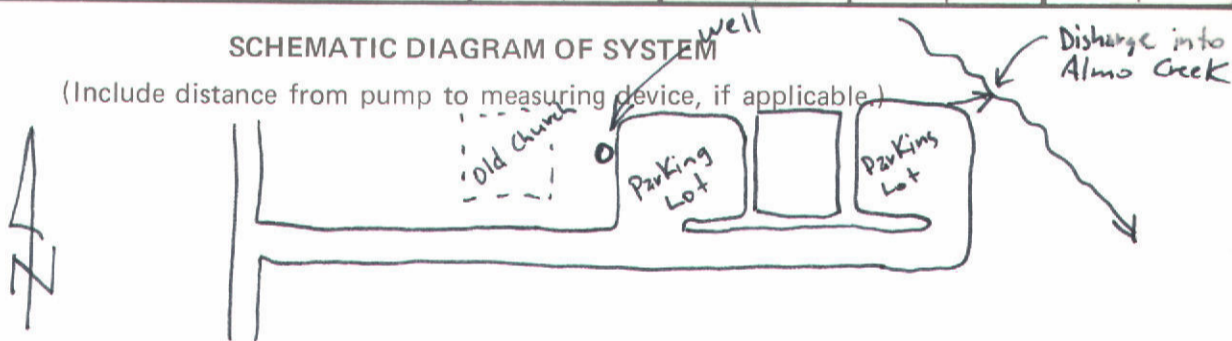
NOV 22 1986

MAP (Attach Aerial Photo)



SCHMATIC DIAGRAM OF SYSTEM

(Include distance from pump to measuring device, if applicable)



Point(s) of diversion: SE¹/₄ SE¹/₄ Sec. 22 T.15S., R24E., B.M.

Place(s) of Use

TWP.	RGE.	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	
15S.	24E.	22																X	

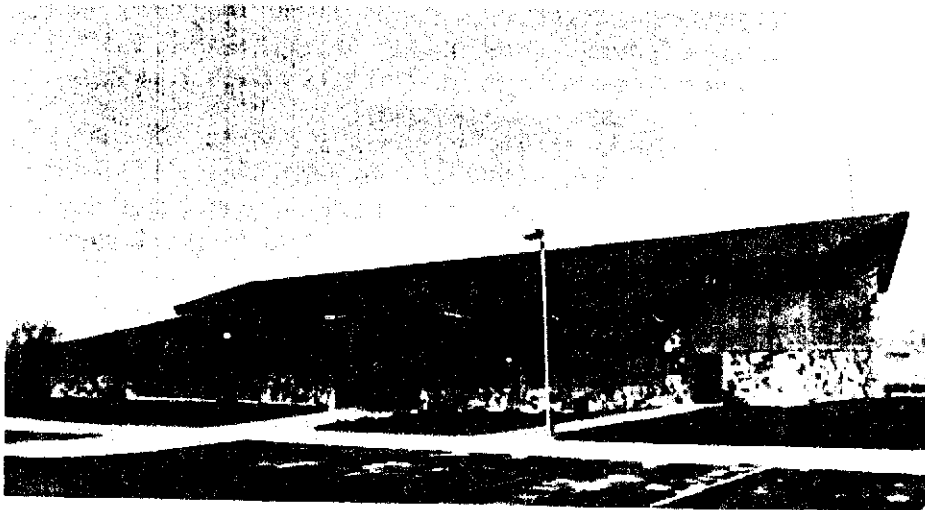
Recommended Amendments:

- Change P.D. as reflected above
- Change P.U. as reflected above
- Add P.D. as reflected above
- Add P.U. as reflected above
- None
- Other

Examiner's Signature Allen D Merritt
 Checked by Terry A. Blau
 Approved by K. Walker

Date 12/12/83
 Date 1-30/84
 Date 9-16-86

COPY FILED



This red brick, Idaho stone LDS meeting house is heated by artesian geothermal water, saving considerable money for the Almo Ward in the Cassia County community. The building was dedicated in November of 1982. See adjacent story. (Photo reprinted courtesy of the South Idaho Press, Burley, ID.)

Geothermal Heat

(Continued from page 1)

to radiators in the complex. Since the artesian water is relatively mineral free, Darrington said, this probably wasn't necessary, but it was installed to keep the mineral scale from building up in the pipes. The water temperature only drops about two degrees as it circulates throughout the building, the bishop said.

A standard electric hot water heater boosts the temperature to 120° F for use in the kitchen and rest rooms. Hot water also circulates through pipes under sidewalks to keep them clear of winter ice and dry all year. The spent water is discharged into nearby Almo Creek.

Darrington said the design of the one-story complex is such that heat loss is kept to a minimum, with the geothermal water from the artesian well providing this necessary heat at a very minimal cost.

"In February, for instance, our electricity bill was \$227.90," Darrington said. In contrast, the Malta ward meeting house, which is 16,566 square feet, had a electricity bill of \$853.10 for heating and lights, according to D. Jay Harper, First Councilor, Declo, Idaho, Stake. Malta is about 20 miles from Almo.

Natural Hot Water Heats Almo Church

The Almo Ward, Church of Jesus Christ of Latter Day Saints, paid less than \$300 monthly this winter for heating and power at its new facility, by taking advantage of geothermal water, according to Bishop Ivan Darrington. Almo is a small community about 50 miles south of Burley in Cassia County, near the Idaho-Utah border.

The chapel, according to Bishop Ivan Darrington, seats 300, but the complex includes four offices, 16 classrooms, an 18'x20' kitchen, library, a 45'x60' cultural hall and two mechanical rooms, one for air conditioning and one for the geothermal equipment. Darrington said the total space is 13,792 square feet.

A 500 foot well was drilled last summer to provide the hot water necessary to heat the complex; drillers reached hot water at the 330 foot level. Construction of the building took over a year, and dedication ceremonies were conducted in November, 1982.

Darrington said water from the artesian geothermal well keeps the temperature in the cultural hall, which is often used for ball games, at 60° F and 70° F in the rest of the complex. Four separate circuits, each with a 1 hp motor, allow the staff to heat the cultural hall, chapel or either wing as needed.

The 94° F geothermal water flows from the well through a heat exchanger, warming water from a domestic well, which is then routed

(Continued on page 4)

ENCLOSURE

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Southern Region

1041 Blue Lakes Blvd. N.
Twin Falls, Idaho 83301
(208) 734-3578

APRIL 8, 1983

ALMO LDS CHURCH
C/O BISHOP IVAN DARRINGTON
ALMO ID 83312

RE: Permit No. 43-7176

Dear Permit Holder:

We acknowledge receipt of your statement submitted as proof of beneficial use for the above referenced permit.

Before a license can be issued, a field examination must be made by a representative of this department.

A field examiner will contact you to arrange to examine your system.

If you have any questions regarding the field examination, please contact this office by phone at 734-3578 or in person at our office at 1041 Blue Lakes Blvd. N. Twin Falls, Idaho.

Sincerely,
s/Mary A. Newby
Secretary

RECEIVED
APR 11 1983

DEPARTMENT OF WATER RESOURCES

The Idaho Department of Water Resources will consider this card as a statement that the permit holder(s) has completed development to the extent shown below of Permit No. 43-7176.

Name(s) of Permit Holder: ALMO L.D.S. CHURCH

Post Office Address: ALMO, Idaho 83312

10 Bishop Warrington 824-5511 Tel. No. 824-5722
church

Source of Water: Ground Water

Extent of Use: Domestic (number of households)
 Stockwater (number and type of stock)
 Irrigation (acres)
 Other Heating (only source)

Measuring Device: Required? Yes No Installed? Yes No
 Access Port: Required? Yes No Installed? Yes No

The above information is a true statement of the extent to which the above numbered permit has been developed.

11 March 1983
 Date

Jean Warrington
 Signature of Permit Holder

Almo L.S. Church
c/o Bishop Ivan Darrington
Almo, Idaho 83312



IDAHO DEPARTMENT OF WATER RESOURCES
STATEHOUSE
BOISE, IDAHO 83720

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

STATEHOUSE
BOISE, IDAHO 83720
(208) 334-4440
CERTIFIED MAIL

138199

ALMO LDS CHURCH
C/O BISHOP IVAN DARRINGTON
ALMO, ID 83312

PROOF DUE NOTICE

JANUARY 31, 1983

DEAR PERMIT HOLDER:

ONE OF THE CONDITIONS OF APPROVAL OF YOUR WATER PERMIT NO. 43-7176 WAS THAT PROOF OF THE EXTENT OF YOUR BENEFICIAL USE MUST BE SUBMITTED TO THIS OFFICE ON OR BEFORE APRIL 01, 1983. (SEE LAST PAGE OF YOUR APPROVED PERMIT OR YOUR LAST APPROVED EXTENSION REQUEST). ENCLOSED IS A POSTCARD WHICH MAY BE USED TO SUBMIT THE REQUIRED PROOF.

IF YOU HAVE NOT FULLY COMPLETED YOUR PROJECT, AND YOU OR A PREVIOUS OWNER OF THIS PERMIT HAVE NOT RECEIVED A PRIOR EXTENSION OF TIME, YOU MAY REQUEST AN EXTENSION OF TIME IF THE DELAY IS FOR REASONABLE CAUSE AS PROVIDED IN SECTION 42-204, IDAHO CODE. IF YOU HAVE BEEN PREVENTED FROM PROCEEDING BY A GOVERNMENTAL AGENCY OR BY LITIGATION, MORE THAN ONE EXTENSION OF TIME CAN BE GRANTED. AN EXTENSION OF TIME REQUEST FORM IS ENCLOSED FOR YOUR CONVENIENCE.

EITHER THE BENEFICIAL USE POSTCARD OR A REQUEST FOR AN EXTENSION OF TIME MUST BE RECEIVED BY THIS DEPARTMENT ON OR BEFORE THE ABOVE DESCRIBED PROOF DUE DATE. IF NEITHER IS RECEIVED, THE DEPARTMENT WILL SEND YOU A LAPSE NOTICE. WITHIN SIXTY (60) DAYS OF THE MAILING OF THE LAPSE NOTICE, THE PERMIT WILL NO LONGER BE OF ANY FORCE NOR EFFECT.

SINCERELY,

MICROFILMED

RITA FLECK
SECRETARY/RECORDS MANAGER

ENCLOSURES

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

STATEHOUSE
BOISE, IDAHO 83720
(208) 334-4440

ALMO LDS CHURCH
C/O BISHOP IVAN DARRINGTON
ALMO, ID 83312

APRIL 07, 1982

RE: PERMIT NO. 43-7176

DEAR PERMIT HOLDER:

ENCLOSED IS A COPY OF YOUR APPROVED APPLICATION FOR PERMIT. WE DIRECT YOUR ATTENTION TO THE CONDITIONS OF APPROVAL ON THE FOURTH PAGE.

WE HAVE ENCLOSED A FORM ENTITLED "MAKING PROOF OF BENEFICIAL USE". PLEASE READ THE INSTRUCTIONS CAREFULLY SINCE YOU MUST TAKE FURTHER ACTION TO DEVELOP THIS PERMIT INTO A LICENSE.

SINCERELY,

DAVID R. TUTHILL, JR., P.E.
SUPERVISOR, WATER ALLOCATION SECTION

ENCLOSURE

MILWAUKEE

State of Idaho
Department of Water Resources

APPLICATION FOR PERMIT ANALYSIS SHEET

ALMO LDS CHURCH

INITIAL REVIEW BY: ADM

APPLICATION NUMBER: 13-776

CHECK:

- Source.
- Point of diversion.
- County.
- Quantity of water and period of use.
- Description of diverting works.
- Time required for beneficial use of water.
- Place of use or acres irrigated.
- Map.
- Signature.
- Fee.
- Yes No Field check required.
- Yes No Critical groundwater area.
- Yes No Request dam safety information. Sent by: _____ Date: _____
- Yes No* In form to receipt.

Field check by: _____
 Date: _____
 Comments: _____

*REQUEST THE FOLLOWING ADDITIONAL INFORMATION FROM THE APPLICANT: _____

SEND COPIES TO:

- Idaho State Health Department. Copies sent by: _____ Date: _____
- Idaho Fish and Game Department. _____
- Idaho Department of Lands. _____
- U.S. Bureau of Land Management. _____
- U.S. Forest Service. _____
- Other _____

PROCESSING:

- Yes No Platted by: ADM Map No. DD-79
- Yes No Other rights on same place of use. Not listed on P/C Report
- Yes No* In form for advertising. Final date for protests: 2/8/82
- Yes No Protests received. If yes, record information on 4th page of application.

FINAL REGIONAL PROCESSING REVIEW:

- Affidavit of publication received. Date: 2/8/82
- Application published correctly. If not, record action taken: _____
- Fee amount, receipt date & number, recorded on application.
- Publication dates and paper, recorded on application.
- Protests, dates, withdrawal, etc., recorded on application.
- Recommendation & initial, recorded on application.
- Yes No Measuring device required.
- Yes No Access port required.
- Yes No Will water be delivered by watermaster? If yes, what district? _____
- 12/31/81 Date of priority recommended.
- Special conditions of approval or cover letter. 09C

By: ADM Date: 2/25/82

STATE OFFICE REVIEW:

09C

See attached sheet for more information.
 By: Jam Date: 3/25/82

RECEIVED

MAR 04 1982

MICROFILMED

POINT OF DIVERSION AND STREAM INDEX INFORMATION

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

IDAHO STREAM CODE INDEX

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

IDAHO STREAM CODE INDEX

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

IDAHO STREAM CODE INDEX

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

IDAHO STREAM CODE INDEX

TRACT SEC TWP RGE gov't rediv. REACH
lot (R)

IDAHO STREAM CODE INDEX

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
Southern Region

1041 Blue Lakes Blvd N.
Twin Falls, Idaho 83301
(208) 734-3578

JANUARY 8, 1982

South Idaho Press
P.O. Box 190
Twinley, Idaho 83318

Gentlemen:

Enclosed you will find a legal notice which we wish to have published on the dates indicated (once a week for two consecutive weekly issues) in your newspaper. We have allowed ample time for you to submit a galley proof to this office for review before the first publication date. If you cannot publish the notice on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill. Your cooperation is appreciated.

Please send the affidavit of publication and publication billings to this office before FEBRUARY 8, 1982.

Yours truly,

Greg A. Hill
Secretary

cc:

MICROFILMED

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application(s) have been submitted for permit to appropriate the public waters of the State of Idaho:

43-7176

ALMO LDS CHURCH

C/O BISHOP IVAN DARRINGTON, ALMO, ID 83312

Source: GROUNDWATER

Date Filed: 12/31/1981

Amount: 0.50 CFS

Diversion Point: SESE Sec 22 T 15S R 24E, CASSIA Co.

Use: HEATING (0.50 CFS) from 09/01 to 06/01

Place of Use: SESE Sec 22 T 15S R 24E

Diversion Means: WELL

If issued, the permit(s) will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1041 Blue Lakes Blvd. North, Twin Falls, Idaho 83301 and received on or before FEBRUARY 8, 1982.

A. KENNETH DUNN

Director

Filed 1/21 & 1/28/82.

MICROFILMED

43-7176

ALMO LDS CHURCH, c/o BISHOP IVAN
DARRINGTON, ALMO, ID. 83312. Source:
GROUNDWATER. Date Filed: 12/31/1981.
Amount: 0.50 CFS. Diversion Point: SESE Sec 22 T
15S R 24E, CASSIA Co. Use: HEATING (0.50 CFS)
from 09/01 to 06/01. Place of Use: SESE Sec. 22
T 15S R 24E. Diversion Means: WELL.

If issued, the permit(s) will be subject to all
prior water rights. Protests against the granting of
any permit must be filed with the Director of the
Idaho Department of Water Resources, 1041 Blue
Lakes Blvd. North, Twin Falls, Idaho 83301 and
received on or before FEBRUARY 8, 1982.

A. KENNETH DUNN
Director

Published in the South Idaho Press January 21
and 28, 1982.

*ok
maga
1/15/82*

ESA

Engineered Systems Associates, Inc.
MECHANICAL - ELECTRICAL - ENGINEERS

224 SOUTH ARTHUR, POCA TELLO, IDAHO 83204
TELEPHONE - 208-233-0501
C. SUDWEEKS, P.E.

December 30, 1981

Mr. Loren Holmes
Idaho Dept. of Water Resources
1041 Blue Lakes Blvd. North
Twin Falls, Idaho 83301

Subject: Almo LDS Church Geo-Thermal Well

Dear Mr. Holmes:

In accordance with our telephone conversation today I am enclosing a completed application for permit for the proposed geo-thermal well at the subject job. Also please find my check in the amount of \$45.00 for the application fee.

As I mentioned over the telephone it is necessary for us to drill a new well for domestic heating since we planned to use the Harold Ward Well #2 but found that the data supplied in the State Water Information Bulletin #30 was not accurate.

I would appreciate your help in processing the application as quickly as possible.

Very Truly Yours,

ENGINEERED SYSTEMS ASSOCIATES, INC.

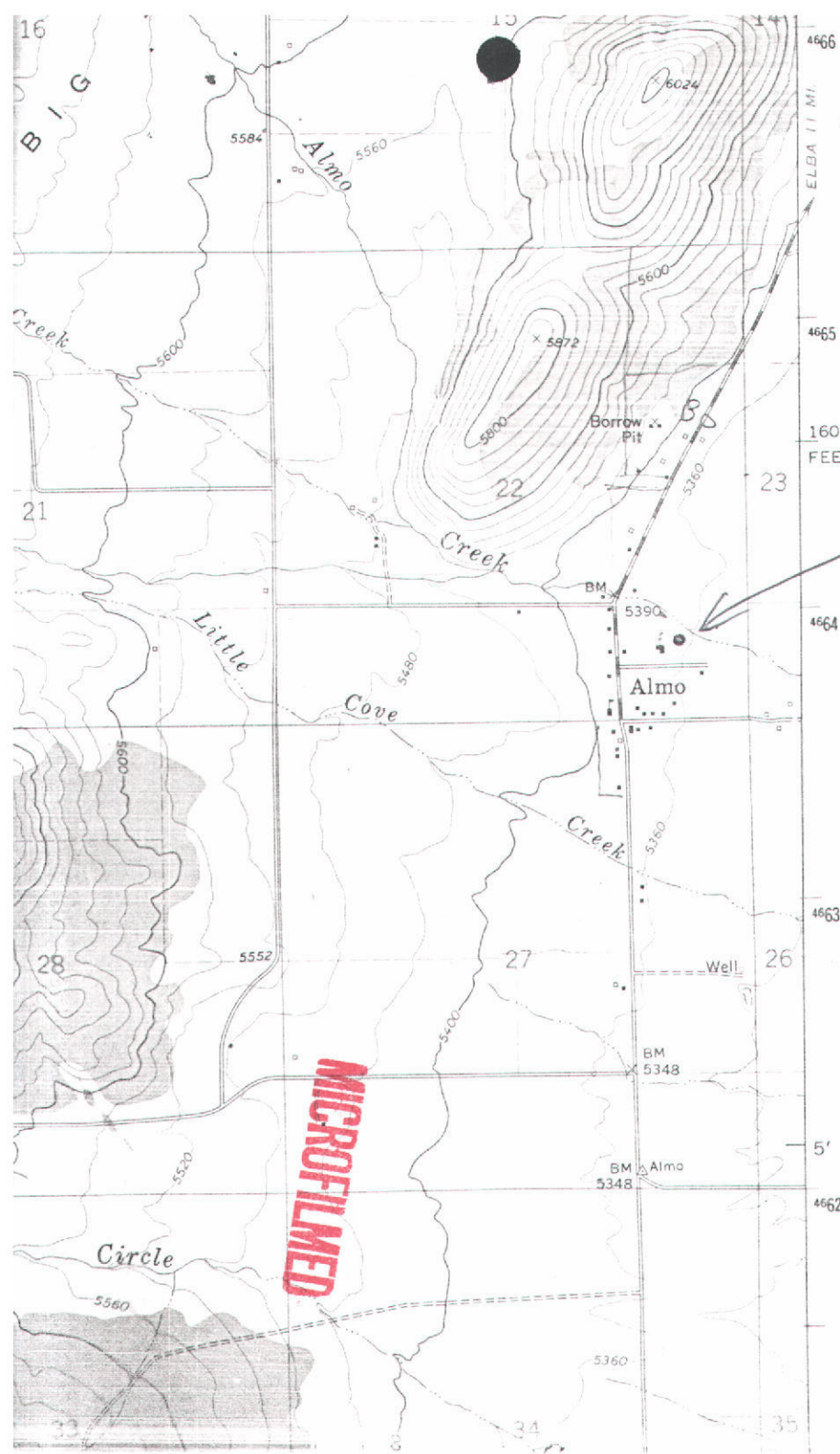
Charles L. Sudweeks

Charles L. Sudweeks

CLS/smr

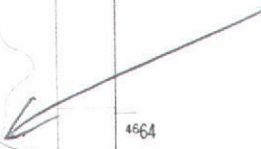
cc: Vern Hancock, Architect

MICROFILMED



T155, R24E,
B.M.

P/D & P/U



MICROFILMED

DD-79

Basic Data Table 4. Location, Geologic Environment, Present Use and Potential Use of Thermal Springs and Wells in Idaho (continued)

Spring/well Identification Number & Name	Dis-charge (l/min)	Aquifer Age and Rock Type	Geologic Structure	Remarks	Gas	Deposition		Present Use	Well Depth (m)	Surt. Temp. (°C)	Aqui-fer Temp. (°C)	Potential Use Based on Surface Temperature**	Potential Use Based on Best Estimate of Subsurface Temperature***	Chem/Trace Anal.	Latitude & Longitude	Reference
						Silt-aceous	Car-bon-ates									
<i>Cassia County (cont'd.)</i>																
DURFEE SPRING 155 24E 220A15	189	QUATERNARY ALLUVIUM						UNUSED	39			DE-ICING			42.1015 113.6319	ROSS, 1971
HAROLD WARD WELL #2 155 24E 220B1	378	QUATERNARY ALLUVIUM		flowing				DOMESTIC	107 32	38 32		AQUACULTURE	SEEDLING CONIFERS	YES	42.0991 113.6311	ROSS, 1971
GRAPE CREEK W S 155 25E 290A15	75			MARSH AREA				STOCK WATERING	22			FISH FARMING AND HATCHING			42.0854 113.5639	
BLM 155 25E 290C1				NOT FIELD CHECKED FOR THIS REPORT					60	128		POULTRY HATCHERY	EVAPORATION AND CRYSTALLIZATION OF SALT	YES	42.0828 113.5623	
BLM 155 26E 12AC1		PLIOCENE SEDIMENTS		NOT FIELD CHECKED FOR THIS REPORT; DRILLER'S LOG AVAILABLE				TESTING	26	50		CATFISH FARMING	ALFALFA DEHYDRATION	YES	42.1355 113.5620	LOG, 1974
EG&G THERMAL #5 155 26E 220A1				RAFT RIVER PROJECT; *SURFACE TEMPERATURE IS 125 DEGREES C				TESTING	1476			CANNING AND PRESERVING			42.0993 113.5793	
BLM 155 26E 220D1	1892			NOT FIELD CHECKED FOR THIS REPORT; DRILLER'S LOG AVAILABLE				TESTING	442	28	103	FRUIT AND VEGETABLE DEHYDRATION	WASHING AND DRYING OF WOOL	YES	42.0971 113.5959	LOG, 1974
IVAN DARRINGTON WELL #1 155 26E 23AAA1				SURFACE TEMPERATURE REACHES 140 DEGREES C AFTER BEING PUMPED FOR A PERIOD OF TIME					85	149		PASTEURIZATION	BET SUGAR PROCESSING	YES	42.1104 113.5757	
IVAN DARRINGTON WELL #2 155 26E 23ABD1	208	PLEISTOCENE SEDIMENTS		DRILLER'S LOG AVAILABLE				IRRIGATION	109	28		FISH FARMING AND HATCHING			42.1087 113.3782	HACE AND OTHERS, 1961
FRAZIER H S WELL 155 26E 23BCC1	219			FLOWING WELL; SLIGHT SULFUR ODOR; NOT FIELD CHECKED FOR THIS REPORT	YES				126	93	146	BLANCHING	CORN PRODUCTS (SYRUP, OIL)	YES	42.1079 113.3910	

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Basic Data Table 2. Estimated Aquifer Temperatures, Atomic and Molar Ratios of Selected Chemical Constituents, Free Energies of Formation of Selected Minerals, Partial Pressures of CO₂ Gas and R Values from Selected Thermal Springs and Wells in Idaho (continued)

Spring/well Identification Number & Name	Discharge (l/min.)	Measured Surface Temperature (°C)	Aquifer Temperatures and Percentage of Cold Water Estimated from Geochemical Thermometers (see footnotes)											Atomic Ratios							Molar Ratios							Free Energies of Formation of			Partial Pressure of CO ₂ Gas (atmospheres)	R = Magnesium + Calcium + Potassium	
			T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	T ₈	T ₉	T ₁₀	T ₁₁	% ₉	% ₁₁	Na/K	Ca/Mg	Mg/Ca	Cl/Br	Cl/I	Cl/Na	Ca/Na	Ca/CO ₃	Cl/CO ₃ + HCO ₃	NH ₄ /Cl	NH ₄ /F	Cl/SO ₄	Ca/Na	Quartz	Chalcedony			Amorphous Silice
			ΔG	ΔG	ΔG	CO ₂	Mg+Ca+K																										
<i>Cassia County (cont'd.)</i>																																	
HAROLD WARD WELL #1 143 27E 180001 3399.	24	131	127	11	104	201	180	256	165	999	215	999	0	0	10.0	5.39	0.07	146.17	0.0	23.70	0.19	0.64	3.88	0.0	0.0	35.32	5.01	1.59	1.00	0.28	0.00317	4.9	
MUNNIS MITCHELL WELL #2 173 21E 250001 38.	46	76	80	-35	45	94	52	39	94	999	56	999	0	0	103.9	95.89	0.08	3.80	64.74	0.40	0.01	0.01	0.12	0.0	0.0	2.19	1.48	0.39	-0.14	-0.92	0.00059	5.3	
HAROLD WARD WELL #2 155 24E 220001 378.	95	97	-19	65	47	47	105	89	119	108	999	76	0	38.4	3.30	0.41	14.79	0.0	6.05	0.30	0.33	0.80	0.0	0.0	6.56	9.98	0.94	0.39	-0.37	0.00834	0.0		
BLM 155 25E 290001 0.	60	116	115	-1	88	126	128	72	128	151	127	126	66	69	60.0	58.11	0.05	5.78	0.0	0.22	0.02	0.08	1.63	0.0	0.0	5.55	1.82	0.59	0.10	-0.70	0.00007	3.0	
SLR 155 26E 120001 0.	26	150	126	10	102	220	213	222	220	999	201	999	0	0	12.6	11.62	0.01	555.97	1351.71	36.47	0.09	7.87	115.85	0.0	0.0	234.70	0.99	1.56	0.98	0.25	0.00074	0.5	
BLM 155 26E 220001 189.	82	107	107	-9	77	103	103	18	103	112	109	75	29	0	157.9	40.47	0.01	214.39	*****	5.31	0.02	1.35	53.75	0.0	0.0	104.16	0.66	0.31	-0.11	-0.93	0.00092	1.3	
IVAN DARRINGTON WELL #1 155 26E 230001 15.	85	156	149	34	132	185	183	175	185	219	153	216	65	65	18.4	16.22	0.04	40.05	0.0	2.24	0.06	1.04	18.27	0.0	0.0	46.04	1.88	0.89	0.47	-0.35	0.00069	2.6	
FRAZIER H S WELL 155 26E 250001 220.	95	151	127	11	104	146	146	95	146	150	127	107	40	12	43.3	18.42	0.01	84.65	0.0	4.41	0.05	1.47	27.71	0.0	0.0	42.76	1.49	0.51	0.11	-0.71	0.00476	1.0	
HARRIAT CRANK WELL 155 26E 230001 227.	90	155	131	15	108	139	120	79	139	165	132	123	49	30	53.9	14.89	0.01	72.74	0.0	4.40	0.07	5.50	89.36	0.0	0.0	84.35	1.18	0.60	0.20	-0.62	0.00102	0.4	
IVAN DARRINGTON WELL #3 155 26E 230001 0.	33	104	104	-11	74	94	92	101	94	164	132	123	86	81	40.3	5.60	0.10	191.08	0.0	28.86	0.18	1.22	7.98	0.0	0.0	32.18	3.02	1.14	0.58	-0.17	0.01823	8.4	
REID STEWART WELL 155 26E 240001 3399.	52	98	100	-16	68	94	94	101	100	136	120	98	84	77	40.4	6.62	0.10	183.36	0.0	24.95	0.15	0.86	6.22	0.0	0.0	27.08	3.02	1.08	0.51	-0.23	0.00931	8.8	
IVAN DARRINGTON WELL #4 155 26E 240001 3399.	51	106	106	-10	76	96	96	110	109	180	139	131	89	85	36.1	6.74	0.13	120.06	0.0	16.69	0.15	0.83	5.89	0.0	0.0	29.16	3.17	1.19	0.62	-0.12	0.00528	10.9	
BLM 155 26E 250001 83.	50	130	126	10	102	185	146	174	149	999	186	999	0	0	18.5	18.43	0.18	109.11	830.88	5.93	0.05	0.30	5.48	0.0	0.0	48.24	1.84	1.48	0.91	0.18	0.00564	10.9	
BLM 105 26E 300001 151.	40	88	90	-25	57	94	94	122	97	83	88	999	60	0	31.4	7.21	0.26	46.29	832.87	6.25	0.14	0.64	4.66	0.0	0.0	23.39	3.64	0.80	0.25	-0.50	0.02705	18.7	
<i>Clark County</i>																																	
LIDY H S #1 104 33E 200001 946.	50	84	87	-26	53	66	66	540	144	89	91	999	46	0	3.1	0.54	0.30	0.71	0.0	6.87	1.85	0.74	0.08	0.0	0.0	0.11	39.57	0.58	0.06	-0.72	0.12949	0.0	
LIDY H S WELL 104 33E 330001 6813.	59	88	90	-25	57	68	68	503	176	89	95	999	34	0	3.4	0.76	0.42	0.86	24.03	5.93	1.31	0.47	0.07	0.0	0.0	0.19	35.49	0.47	-0.02	-0.82	0.00758	0.0	

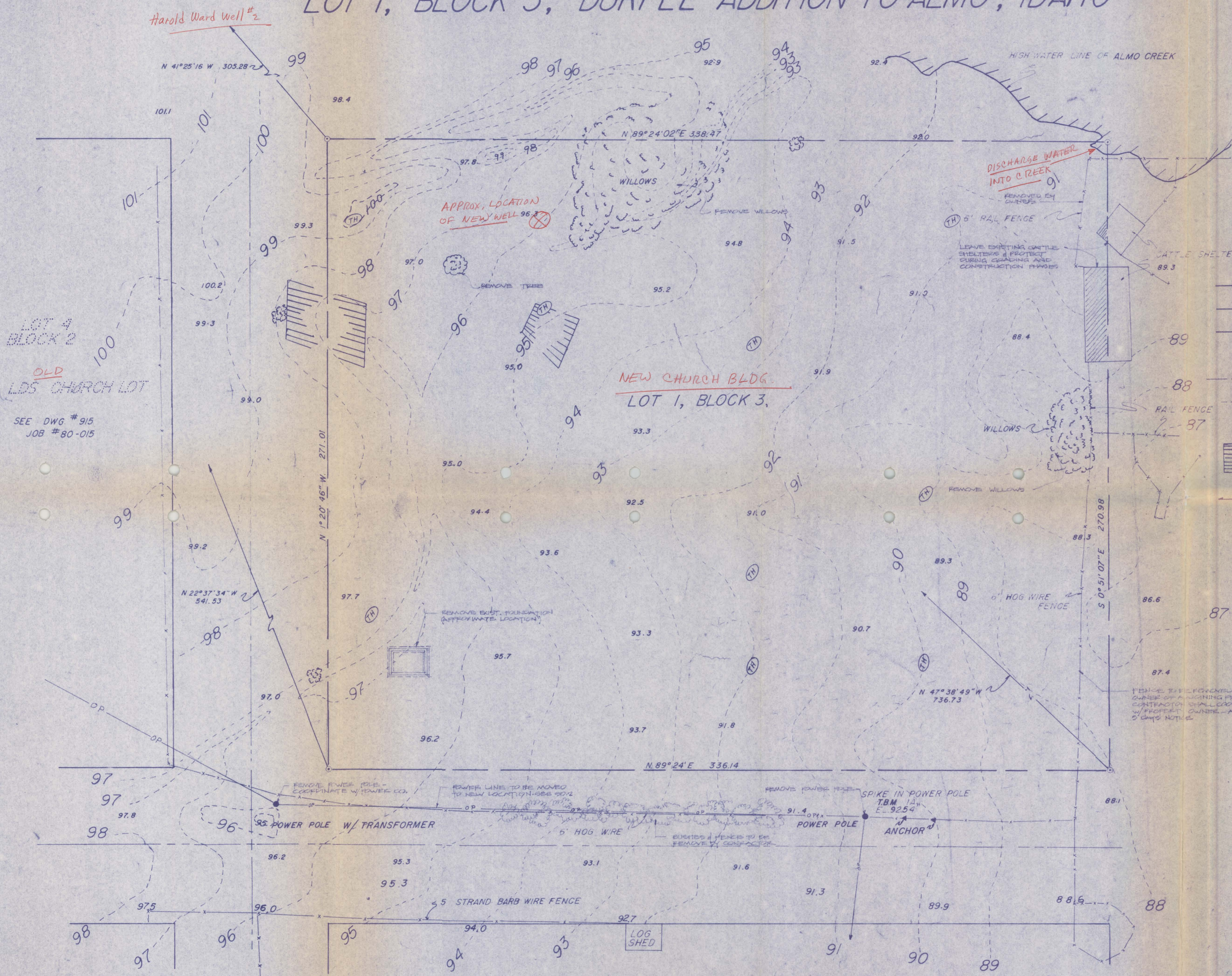
-230-

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Basic Data Table 1. Chemical Analyses of Thermal Water from Selected Springs and Wells in Idaho (continued)

Spring or Well Identification Number and Name	Sample Collection Date	Measured Surface Temperature °C	Reported Well Depth below Land Surface (meters)	Discharge (l/min)	Silica (SiO ₂)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO ₃)	Carbonate (CO ₃)	Sulfate (SO ₄)	Phosphate (PO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Boron (B)	Ammonia (NH ₃)	Specific Conductance (field)	pH (field)	Total Dissolved Solids (TDS)	Hardness		Alkalinity as CaCO ₃	Percent Sodium (Na)	Sodium Absorption Ratio (SAR)	Calcium-Anion Balance	Data Reference*	
																						Carbonate	Non-Carbonate						
<u>Cassia County (cont'd.)</u>																													
SEARS SPRING 145 25E 688B15	8/ 5/75	28	0.	662.	22	29.0	7.50	15	3.30	120.	0.0	10.00	0.0	19.0	0.40	0.0	0.0	0.0	270	8.2	165	103.	5.	98.	23.3	0.6	0.365	9	
GRIFFETH-WIGHT WELL 145 26E 18001	0/ 0/ 77	1982.	378.	64	5.0	12.00	14	2.50	116.	124.00	27.00	0.01	62.0	0.0	1.20	1.00	0.0	10000	8.4	368	62.	0.	302.	51.9	0.8	-62.093	10		
HAROLD WIGHT WELL 145 26E 10DA1	6/14/77	63	0.	0.	83	1.0	0.20	170	2.90	240.	36.00	25.00	0.0	72.0	7.30	0.50	0.0	0.08	600	9.3	515	3.	0.	257.	98.1	40.6	-3.683	12	
HAROLD WARD WELL #1 145 27E 180CC1	7/24/75	24	0.	1399.	90	55.0	2.20	170	29.00	131.	0.0	23.00	0.0	300.0	1.10	0.0	0.0	0.0	960	7.6	734	146.	39.	107.	66.8	6.1	-0.457	9	
MORRIS MITCHELL WELL #2 155 21E 250CC1	9/22/77	46	0.	38.	28	2.0	0.10	110	1.80	230.	11.00	21.00	0.02	17.0	2.40	0.03	0.0	0.08	475	8.7	306	5.	0.	207.	96.9	20.6	-2.673	10	
HAROLD WARD WELL #2 155 24E 2200B1	7/25/72	32-107	32-152	378.	44	37.0	9.50	70	3.10	169.	0.0	33.00	0.03	80.0	2.90	0.56	0.0	0.0	606	7.4	362	131.	0.	138.	53.1	9.7	-1.377	3	
BLM 155 25E 290CC1	10/ 7/76	60	0.	0.	68	3.6	0.10	120	3.40	65.	20.00	40.00	0.0	82.0	7.60	0.0	0.0	0.0	540	8.9	376	9.	0.	87.	95.0	17.0	1.840	9	
BLM 155 26E 124CC1	12/ 5/74	26	0.	0.	88	300.0	1.40	2000	270.00	58.	0.0	45.00	0.0	3900.0	3.90	0.0	0.0	0.88	998	7.8	6636	734.	707.	46.	79.8	31.7	-1.427	9	
BLM 155 26E 220001	12/ 6/74	82	0.	189.	56	56.0	0.50	1300	14.00	63.	0.0	52.00	0.0	2000.0	5.00	0.0	0.0	0.04	6609	8.0	3514	142.	90.	52.	94.7	47.5	0.762	9	
IVAN DARRINGTON WELL #1 155 26E 23AA1	10/23/75	85	0.	15.	140	43.0	1.00	400	37.00	63.	0.0	40.00	0.0	680.0	9.10	0.0	0.0	0.0	1879	8.1	1381	111.	60.	52.	84.6	16.5	-2.265	9	
FRAZIER H S WELL 155 26E 238CC1	5/18/72	95	126.	220.	90	53.0	0.40	560	22.00	55.	0.0	57.00	0.0	900.0	5.70	0.54	0.0	0.0	3049	7.4	1715	134.	89.	45.	88.3	21.1	-0.381	3	
HARRIAT DRANK WELL 155 26E 230CC1	5/18/72	90	165.	227.	97	130.0	0.40	1110	35.00	36.	0.0	61.00	0.01	1900.0	14.00	0.57	0.0	0.0	6089	7.7	3365	326.	296.	30.	86.7	26.7	-0.474	3	
IVAN DARRINGTON WELL #3 155 26E 230001	7/30/75	33	0.	0.	53	140.0	8.30	450	19.00	174.	0.0	69.00	0.0	820.0	2.30	1.10	0.0	0.0	2459	7.0	1648	383.	241.	143.	70.6	10.0	0.265	12	
REID STEWART WELL 155 26E 24BA1	7/24/75	52	0.	3399.	47	100.0	6.30	580	16.00	177.	0.0	65.00	0.0	650.0	1.90	0.0	0.0	0.0	2179	7.3	1553	275.	130.	145.	73.6	10.0	-0.596	9	
IVAN DARRINGTON WELL #4 155 26E 240CC1	7/29/75	31	0.	3399.	55	88.0	7.10	340	16.00	161.	0.0	52.00	0.0	560.0	2.50	0.0	0.0	0.0	1839	7.5	1199	249.	117.	132.	73.3	9.4	1.293	9	
BLM 155 26E 25ACA1	1/14/75	50	0.	83.	88	35.0	3.90	370	34.00	176.	0.0	32.00	0.0	570.0	2.80	0.0	0.0	0.21	1949	7.7	1222	103.	0.	144.	84.6	15.8	-2.119	9	
BLM 165 26E 56BA1	3/28/75	40	0.	151.	37	58.0	9.00	240	13.00	138.	0.0	44.00	0.0	380.0	4.40	0.0	0.0	0.14	1539	6.8	853	182.	69.	113.	72.5	7.7	0.971	9	

LOT 1, BLOCK 3, DURFEE ADDITION TO ALMO, IDAHO



LEGEND

- SEED LINES
- OP—OP— OVERHEAD POWER
- x—x— FENCE
- ⊙ 1/2" X 24" REBAR TAGGED L.S. 968
- OF 56' RIGHT OF WAY
- - - - - EXISTING CONTOURS
- (TH) SOIL TEST HOLE
- [Hatched Box] POSSIBLE WET AREA
- TIE TO EXISTING 20" HOT WATER WELL HAROLD WARD WELL #2
- (Tree Symbol) 1"-2" RUSSIAN OLIVE TREE

NOTE:
CONTRACTOR SHALL REMOVE ANY STRUCTURES ABOVE OR BELOW GROUND, UNLESS OTHERWISE NOTED. FILL SHALL BE FREE FROM ROCKS & OTHER DEBRIS. ALL CONSTRUCTION SHALL BE APPROVED BY ARCHITECT PRIOR TO PLACEMENT.

FENCE TO BE REMOVED BY OWNER OF ADJACENT PROPERTY. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER - ALLOW 2 DAYS NOTICE.

LOT 4
BLOCK 2
OLD
LDS CHURCH LOT
SEE DWG # 915
JOB # 80-015

ALMO LDS CHURCH

Scale: 1" = 20'
Date: 1-2-81
Drawn: SPW
CHK'd: TWS
Job No: 80-044
SHEET 1E 1

NORTH
SCALE 1" = 20'

NORTHWESTERN ENGINEERING INC.
ENGINEERING · PLANNING · SURVEYING
136 PARK AVE. POCAHELLO, IDAHO
PHONE (208) 233-7341 P.O. BOX 846

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