

HEARING EXHIBIT LIST

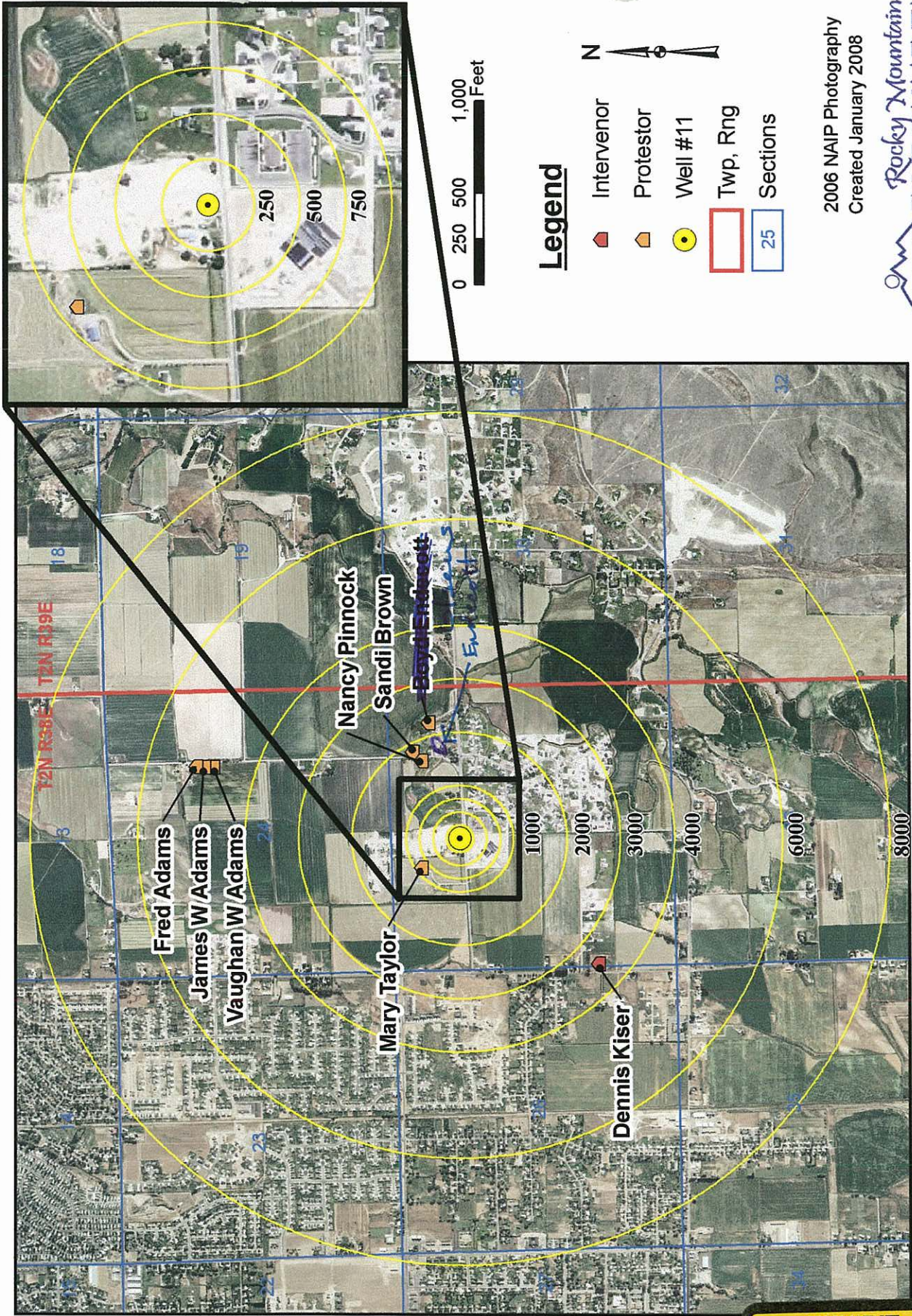
IN THE MATTER OF APPLICATION)
 FOR TRANSFER NO. 72881 IN THE)
 NAME OF THE CITY OF AMMON)

January 16, 2008
 Beginning at 9:00 a.m.
 Hearing Officer: Gary Spackman

EXHIBIT NUMBER	EXHIBIT DESCRIPTION	STATUS OF EVIDENCE	
		INTRODUCED	ADMITTED
Defendants -			
#1	Map.	Yes.	Yes.
#2	Power Point "Water Level etc	Yes	Yes.
#3	photo of Pinnacle property.	Yes	Yes
#4	" " " " " " " " " " " "	Yes.	Yes
#5	photo of Taylor property	Yes	Yes
#6	photo of Taylor property.	Yes	Yes,
Protestants.			
A	Well logs.	Yes.	Yes

City of Ammon

Location of Protestors and Intervenor to Well #11



2006 NAIP Photography
Created January 2008

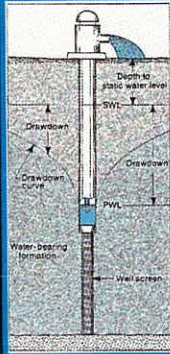


Water Level Effects from Pumping of Proposed City of Ammon Wells

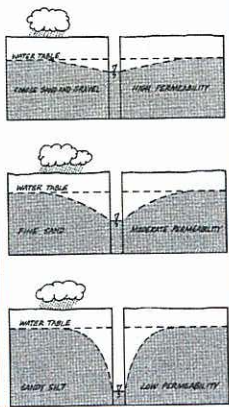
Tom Wood, PhD, P.G.

1

1



Aquifer Draw-down from Well Pumping



2

2



Drawdown Depends on:

- The aquifer's ability to transmit water = Transmissivity
- The aquifer's ability to store water = Storativity
- Pumping rate = gallons per minute
- The duration of pumping = time

3

3

T & S from Pumping Tests and Computer Models of the aquifer

WELL NAME	FLOW gpm	Draw-down ft	Transmissivity ft ² /day
IF 13B	3750	21	27,000
IF Well 15	2100	19	30,000
IF Well 15B	3500	26	33,000
Comora Loma #6	1500	53	9,000

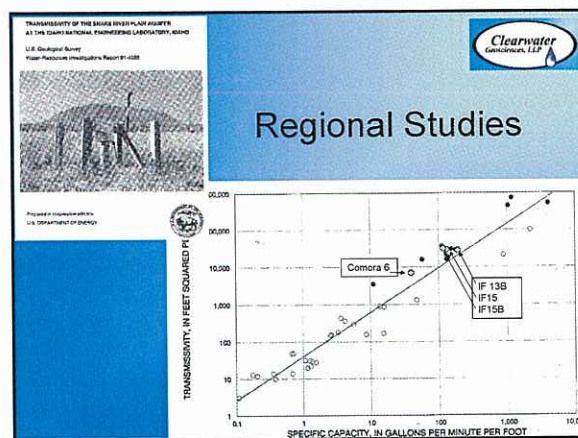


4

4



5

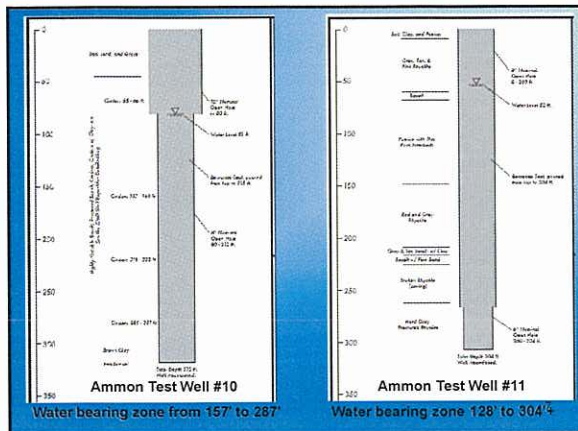


6

EXHIBIT

Applicant ³

#2



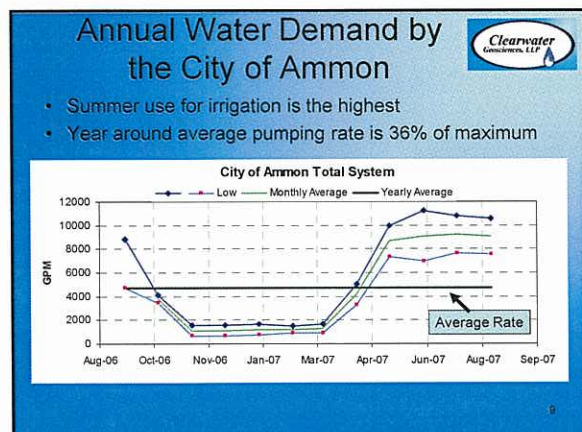
7

Well Parameters

- Ammon #10
 - ~2,500 gpm peak pumping rate
 - Transmissivity ~ 30,000 ft²/day
- Ammon #11
 - ~2,000 gpm peak pumping rate
 - Transmissivity ~ 25,000 ft²/day

*Storativity for both wells ~0.05 (typical)

8



9

Predicted Drawdown Well #11 Scenario #1 - 720 gpm for 3 years

Drawdown is probably less because calculation does not account for

- Recharge/replenishment
 - Precipitation
 - Canal leakage
- Natural layering isolating protestants wells from zone to be tapped by Ammon Well #11
- Confined aquifer solution – has more drawdown than a water table aquifer

Distance feet	Drawdown feet
250	4.4
500	3.7
750	3.4
1000	3.1
2000	2.5
3000	2.2
4000	1.9
6000	1.6
8000	1.3

10

Predicted Drawdown Well #11 Scenario #2 - 2,000 gpm for 3 months

Drawdown is probably less because calculation does not account for

- Recharge/replenishment
 - Precipitation
 - Canal leakage
- Natural layering isolating protestants wells from zone to be tapped by Ammon Well #11
- Confined aquifer solution – has more drawdown than a water table aquifer

Distance feet	Drawdown feet
250	9.4
500	7.7
750	6.7
1000	6.0
2000	4.3
3000	3.4
4000	2.7
6000	1.8
8000	1.2

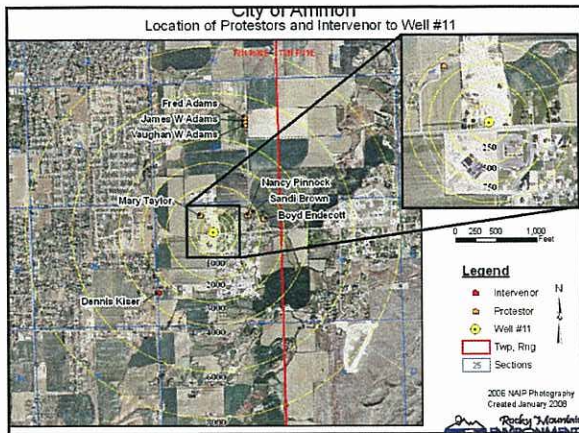
11

Summary of Protestants Wells

Name	Total Depth	Est. Current SWL	radial (ft)
Adams, Fred	na	na	5105
Adams, James	125	51	4945
Adams, Vaughn	120	56	4800
Brown, Sandi	103	71	1840
Endecott, Boyd	100	71	2236
Pinnock, Nancy	135	51	1610
Taylor, Mary	125	56	905
New Ammon 11	378	52	0

- Design for Ammon Well #11 will seal aquifer from land surface to 128 feet
- The well will pull water from below 128 feet
- Only one protestant's well overlaps this lower zone
- Tapping lower aquifer zones will decrease impact to protestants water levels

12



13

Fluctuations in Aquifer Levels Needs to be Considered

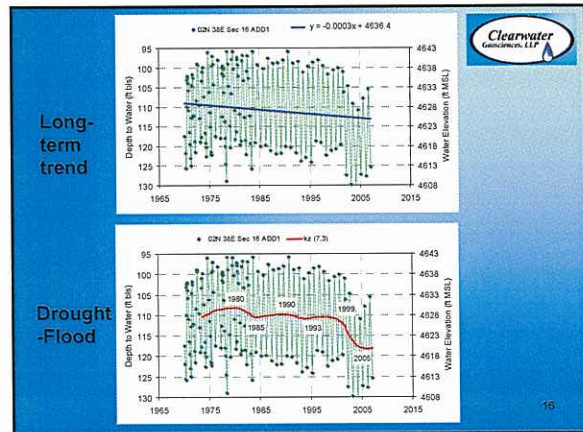
Annual cycles from
River flow and canal leakage

Decade Long Cycles from
Droughts
Wet periods

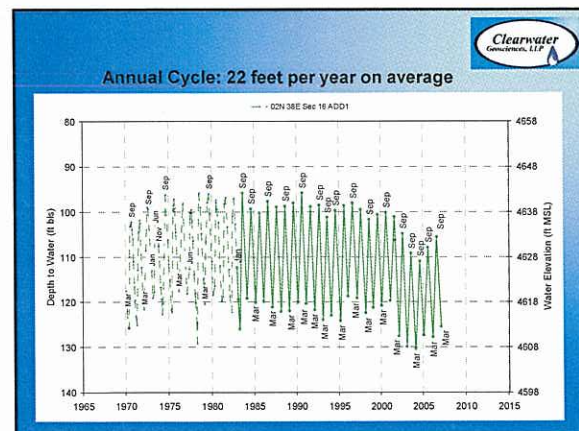
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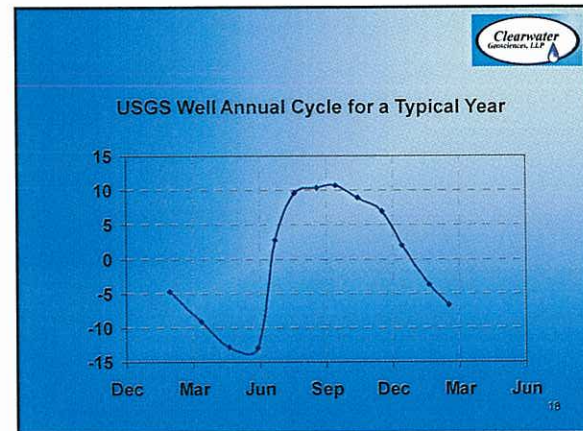
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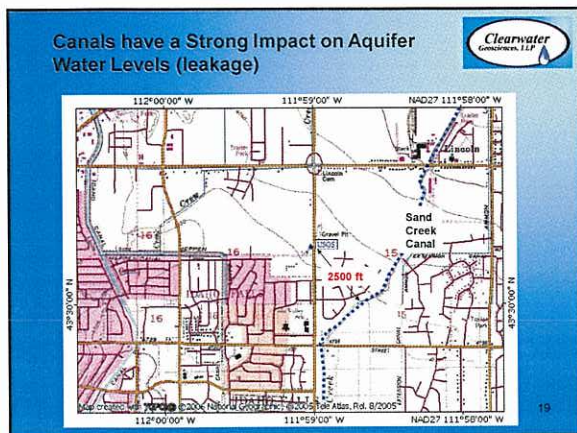
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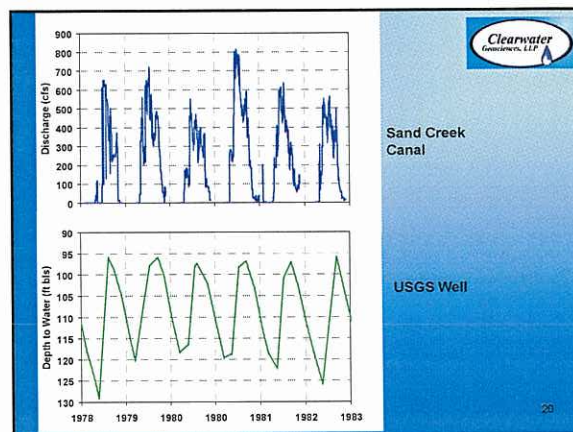
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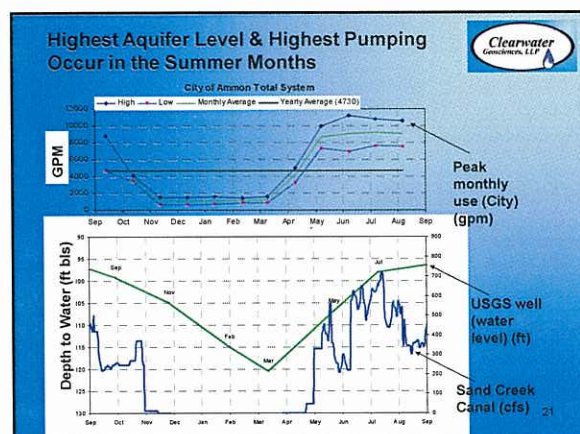
18



19



20



21

Summary of Aquifer Analysis

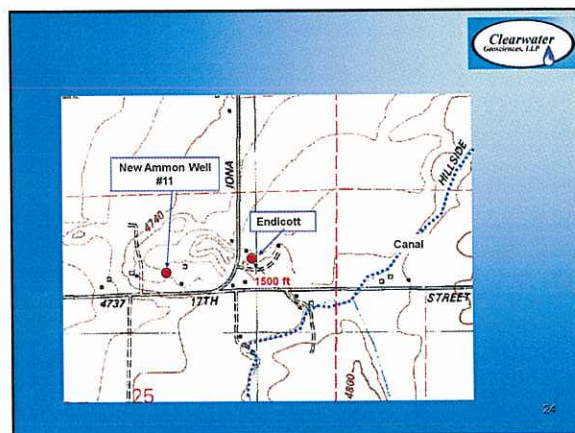
- T&S is known from pumping tests and aquifer model
- Predictive calculations indicate the aquifer drawdown will be minimal at the Protestants wells
- The highest pumping rates in the summer is balanced by water table rise in summer months

22

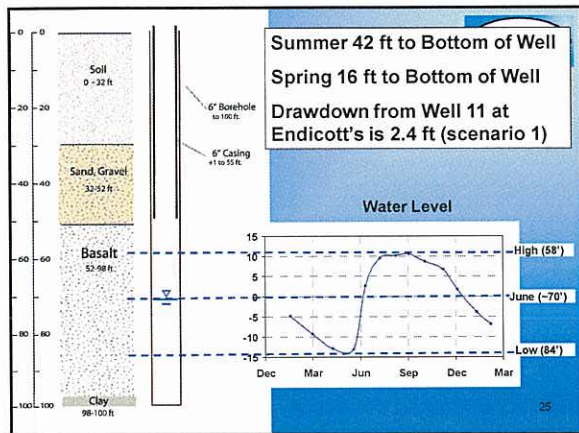
Is there an Injury?

- Consider the drawdown case for the well with the shortest wet interval (i.e. the distance between the water table and the bottom of the well)
- Use Endicott's Well
- Long-term average of 720 gpm

23



24



25

Conclusion: No Injury

- Drawdown in the worse case scenario will not significantly impact neighbors
- Several factors suggest that impacts will be less than predicted
 - State of Idaho groundwater model parameters indicate very, very little drawdown
 - Layering in aquifer and pumping at depth in Well 11 will decrease drawdown
 - Peak pumping during summer is countered by aquifer rise in summer months

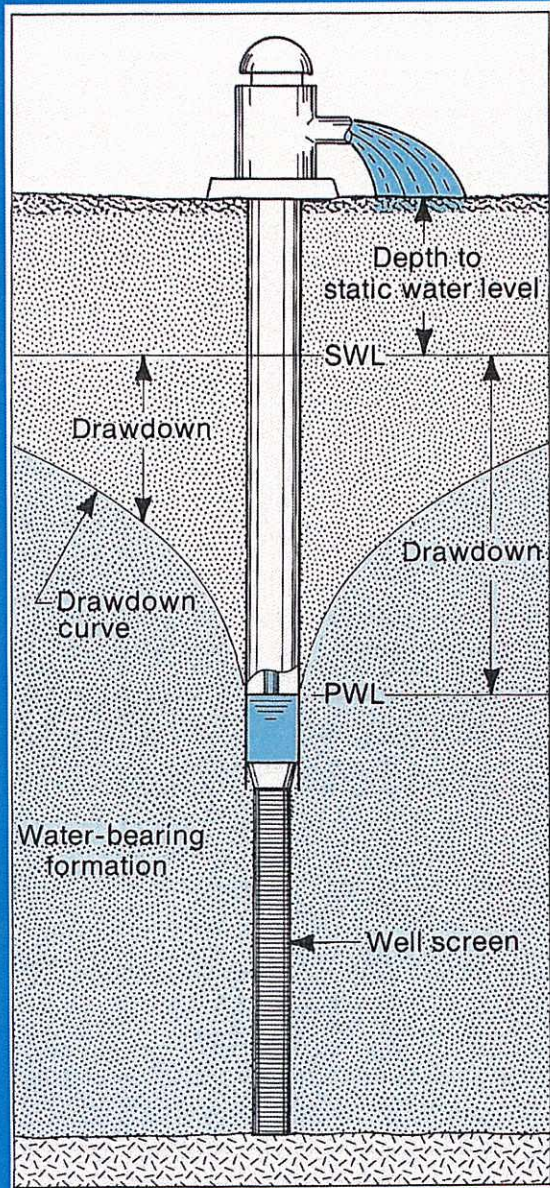
26

26

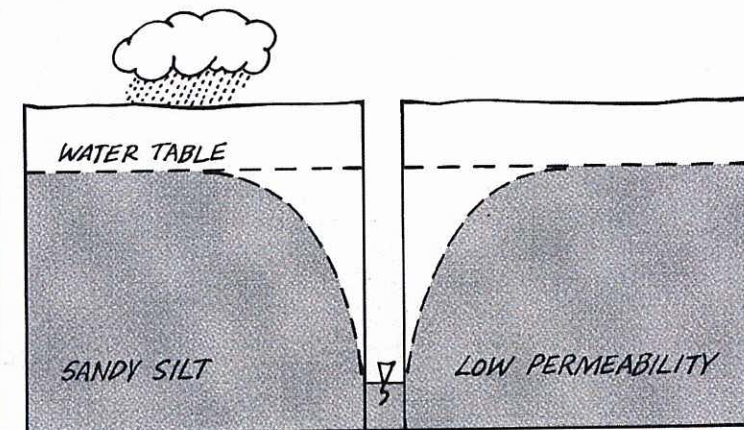
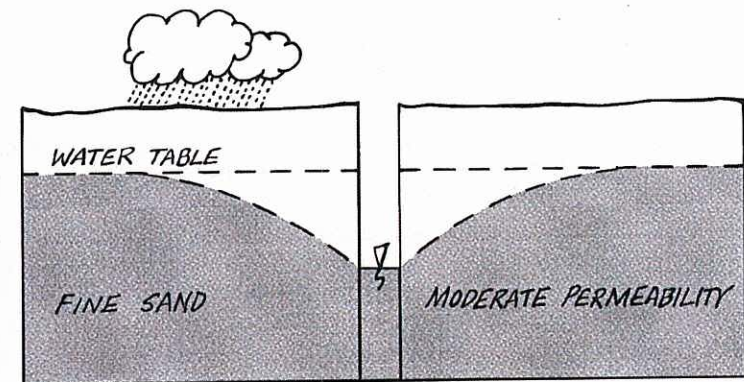
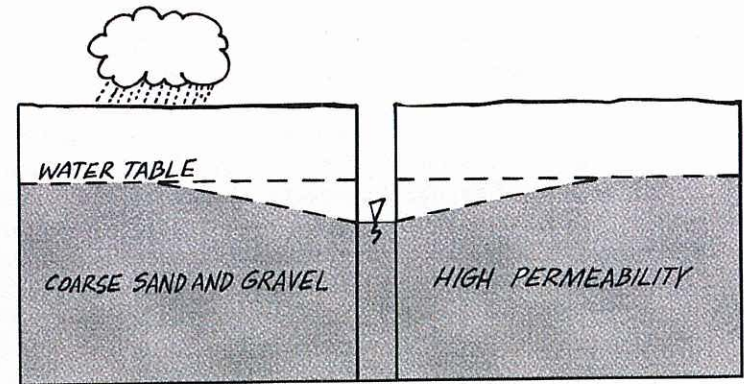


Water Level Effects from Pumping of Proposed City of Ammon Wells

Tom Wood, PhD, P.G.



Aquifer Draw-down from Well Pumping



Drawdown Depends on:

- The aquifer's ability to transmit water =
Transmissivity
- The aquifer's ability to store water =
Storativity
- Pumping rate = gallons per minute
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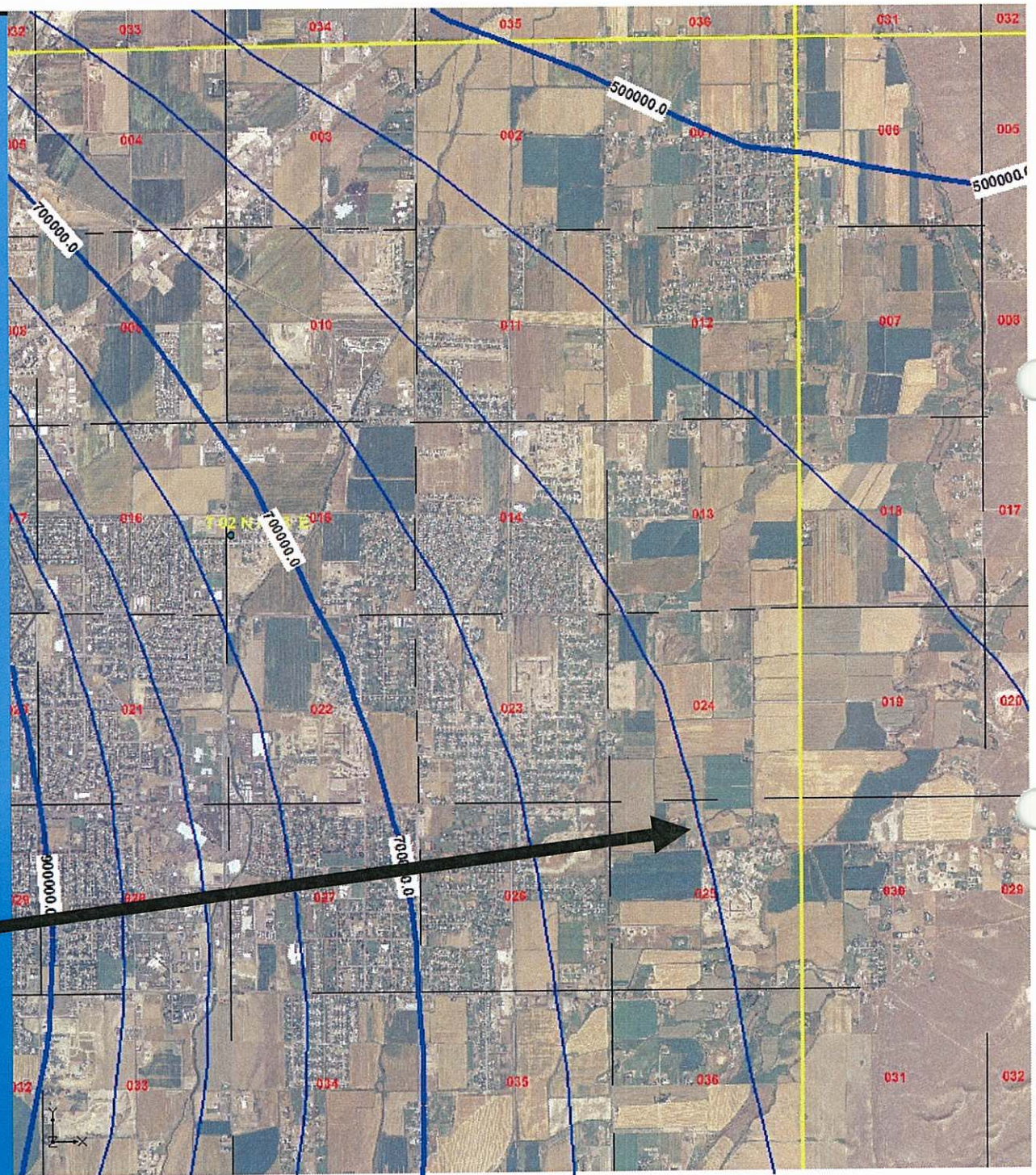
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ESRP Aquifer Model

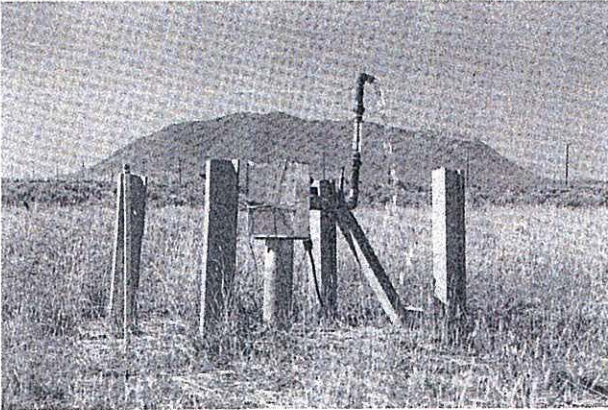
used by IDWR
for Evaluating
Groundwater
Rights

600,000 ft²/day



TRANSMISSIVITY OF THE SNAKE RIVER PLAIN AQUIFER
AT THE IDAHO NATIONAL ENGINEERING LABORATORY, IDAHO

U.S. Geological Survey
Water-Resources Investigations Report 91-4058



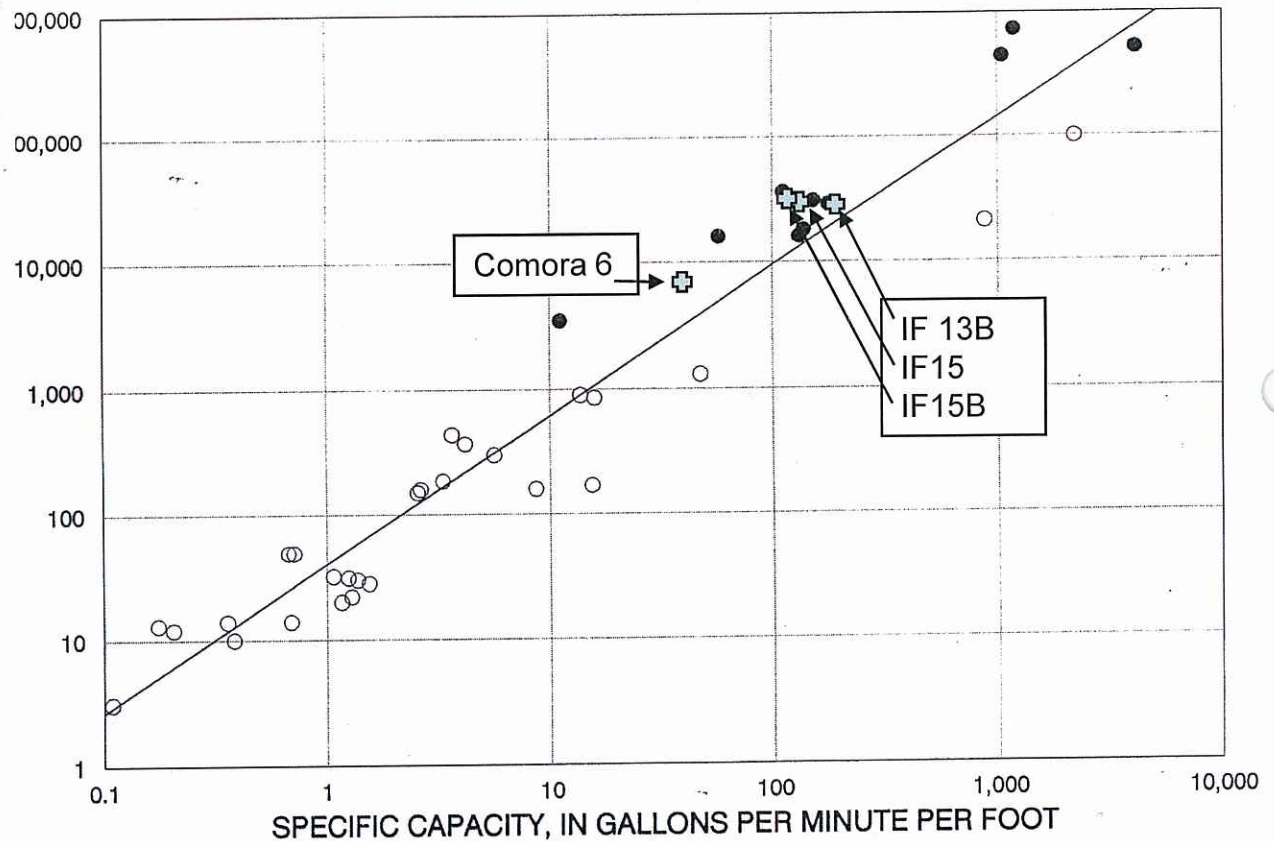
Prepared in cooperation with the
U.S. DEPARTMENT OF ENERGY

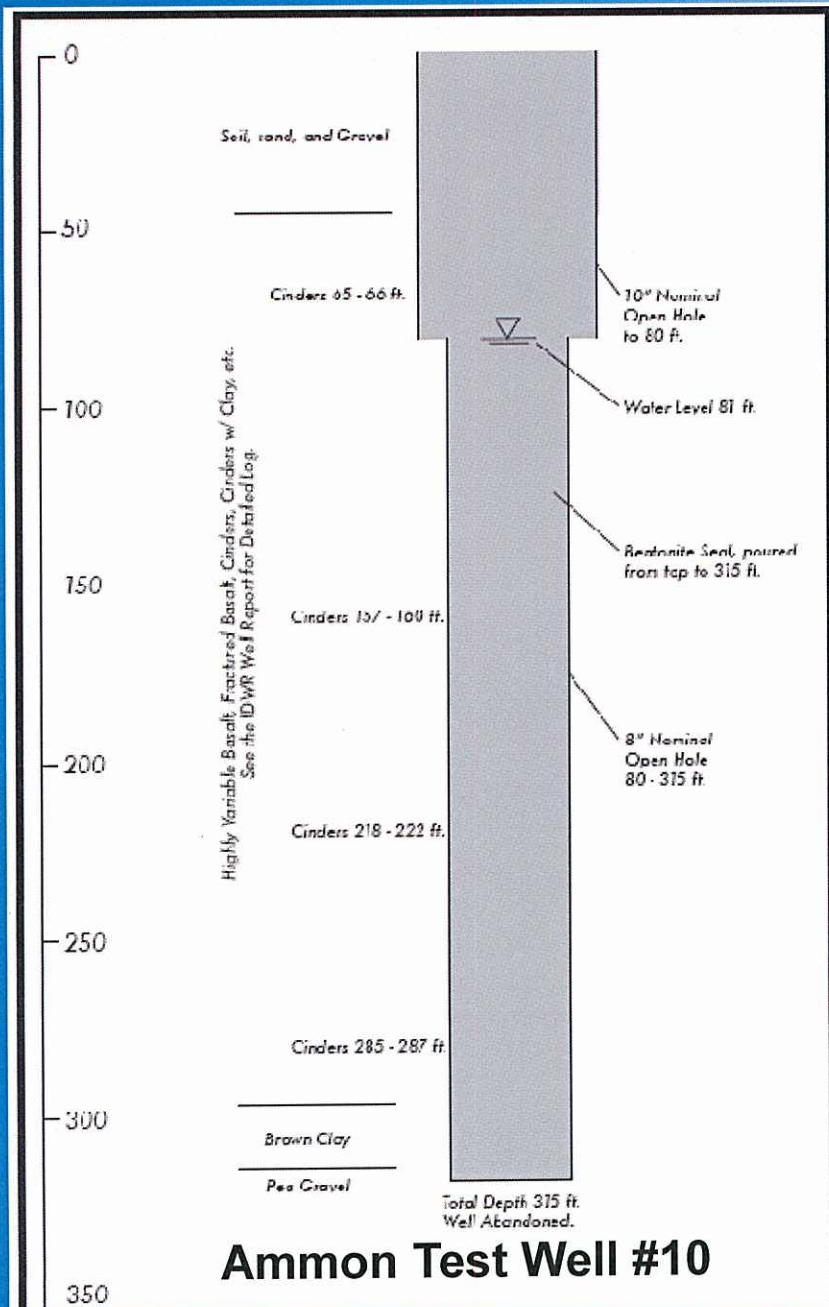


TRANSMISSIVITY, IN FEET SQUARED PER FOOT

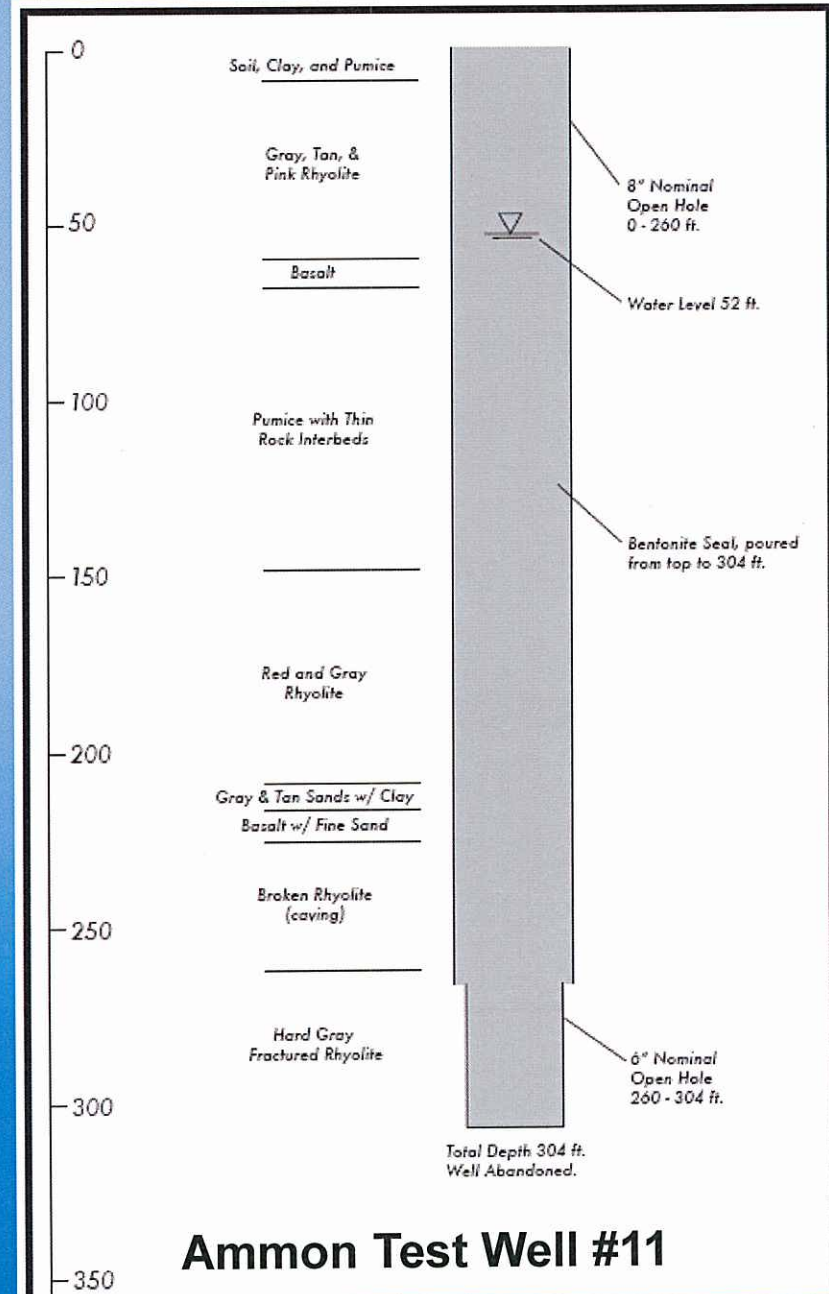


Regional Studies





Water bearing zone from 157' to 287'



Water bearing zone 128' to 304'⁷+

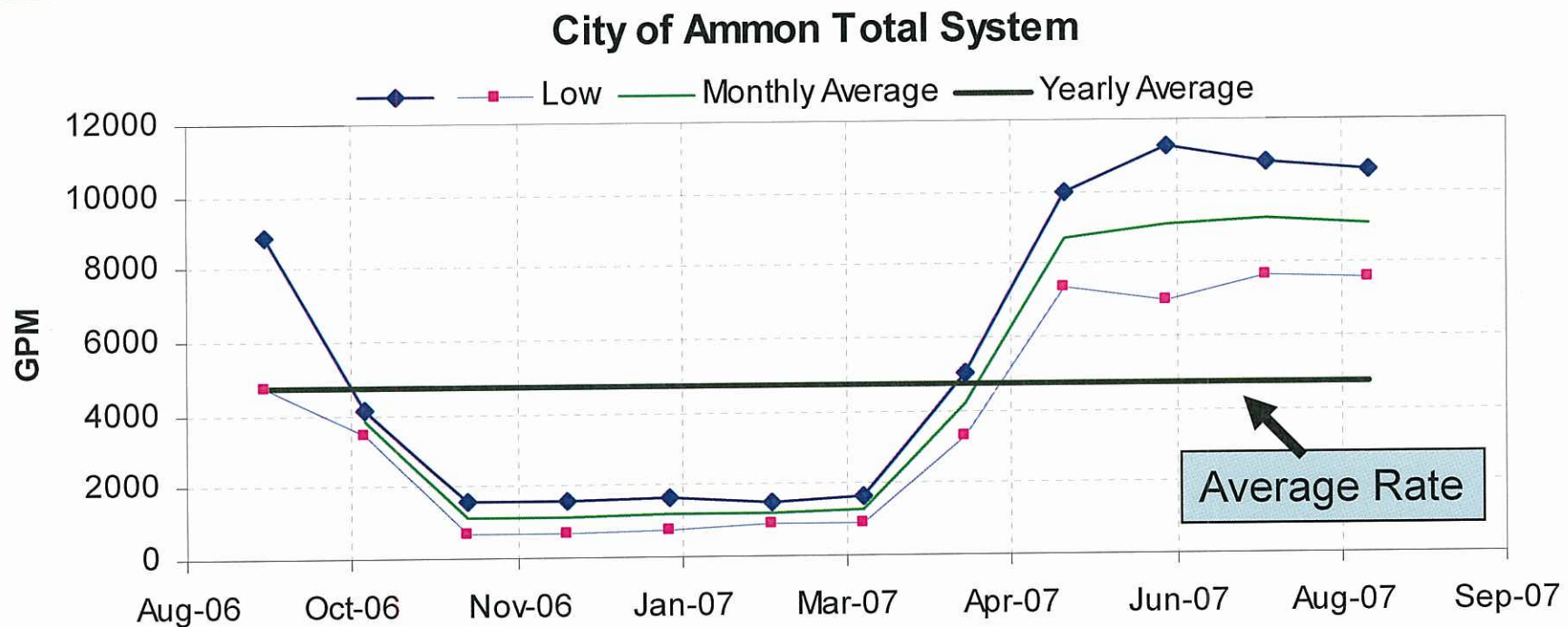
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- *Storativity for both wells ~0.05 (typical)

Annual Water Demand by the City of Ammon



- Summer use for irrigation is the highest
- Year around average pumping rate is 36% of maximum



Predicted Drawdown Well #11

Scenario #1 - - 720 gpm for 3 years



Drawdown is probably less because calculation does not account for

- Recharge/replenishment
 - Precipitation
 - Canal leakage
- Natural layering isolating protestants wells from zone to be tapped by Ammon Well #11
- Confined aquifer solution – has more drawdown than a water table aquifer

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6000	1.6
8000	1.3

Predicted Drawdown Well #11

Scenario #2 - - 2,000 gpm for 3 months

Drawdown is probably less because calculation does not account for

- Recharge/replenishment
 - Precipitation
 - Canal leakage
- Natural layering isolating protestants wells from zone to be tapped by Ammon Well #11
- Confined aquifer solution – has more drawdown than a water table aquifer

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Summary of Protestants Wells

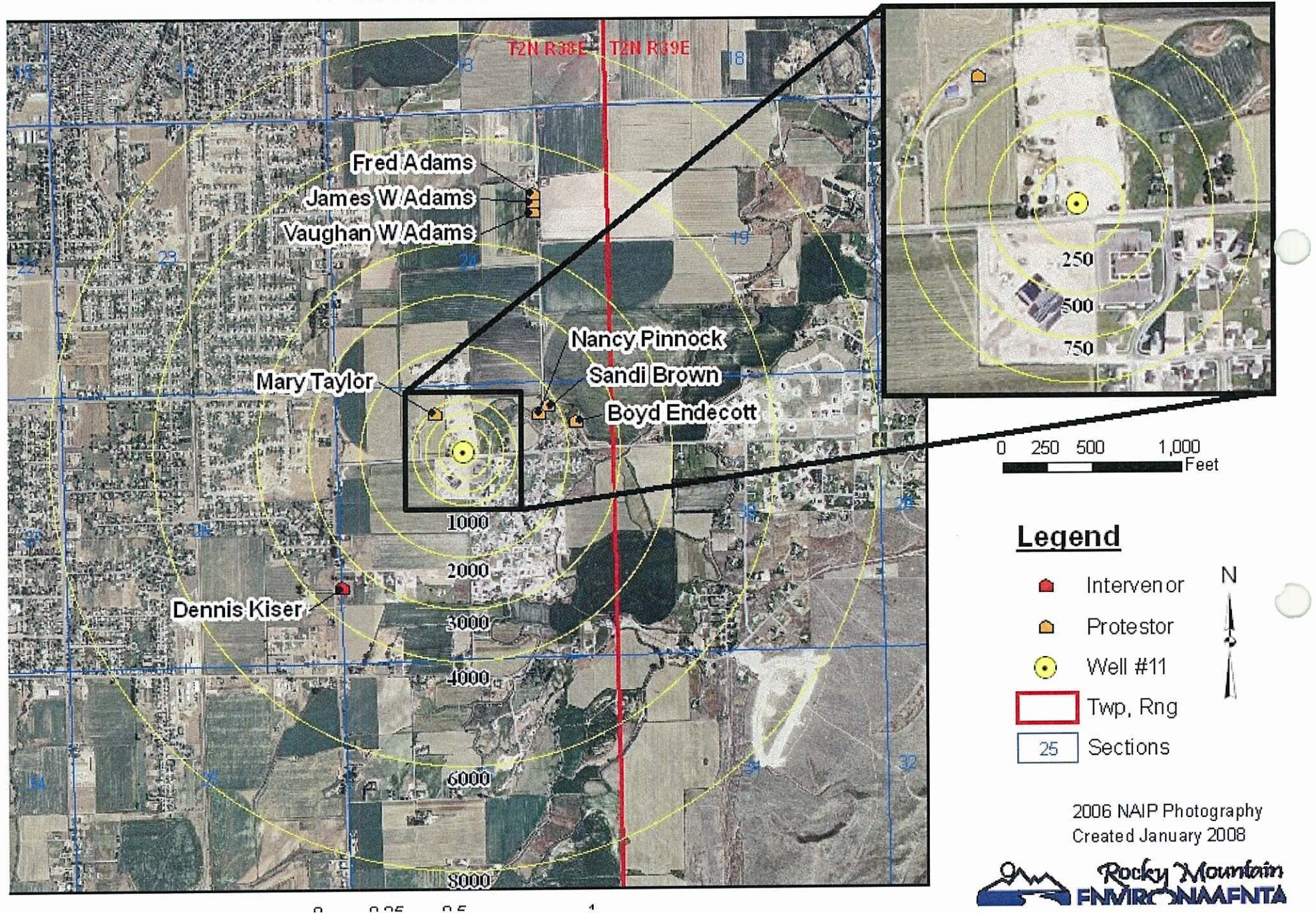


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- Tapping lower aquifer zones will **decrease** impact to protestants water levels

City of Ammon

Location of Protestors and Intervenor to Well #11

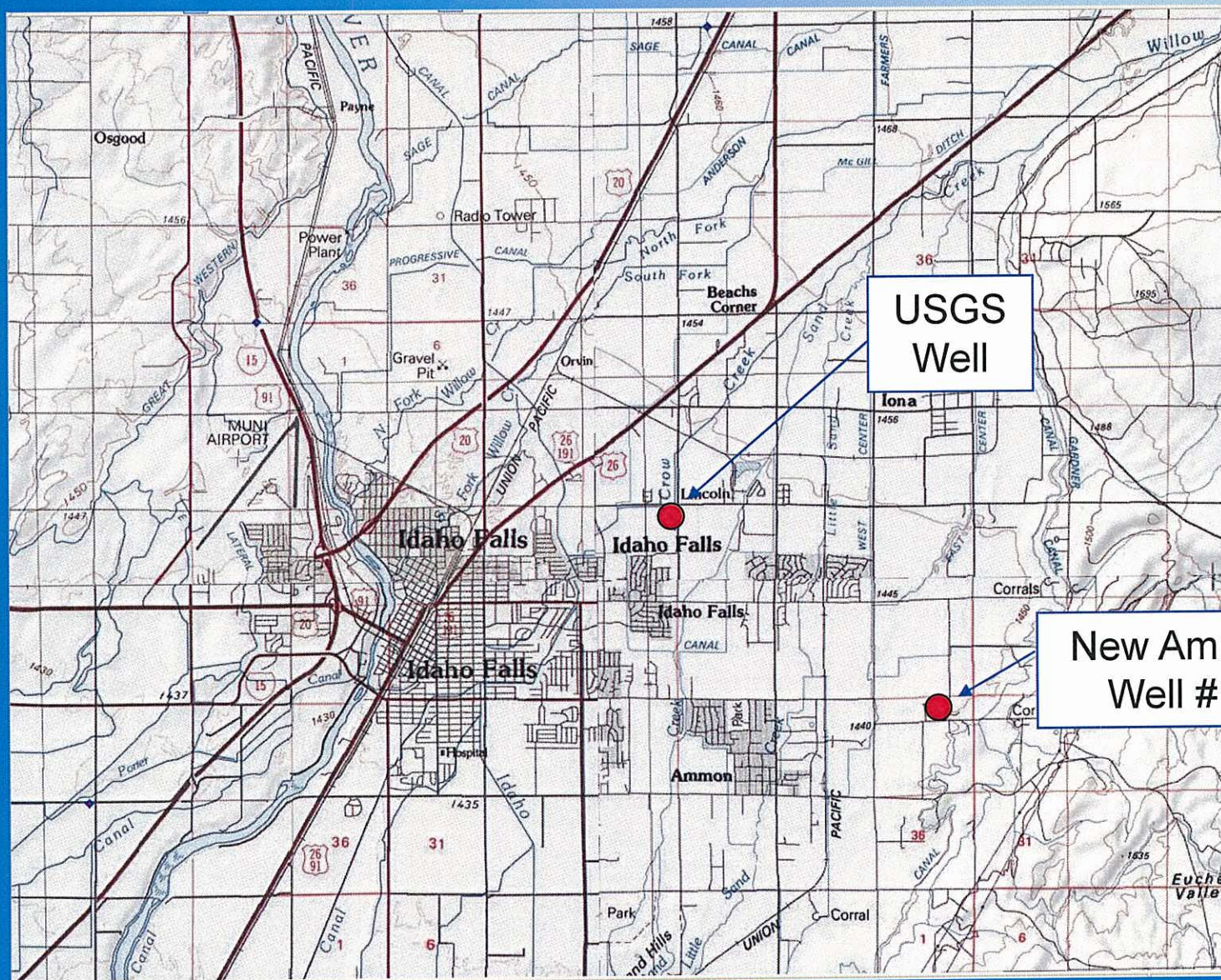


Fluctuations in Aquifer Levels Needs to be Considered

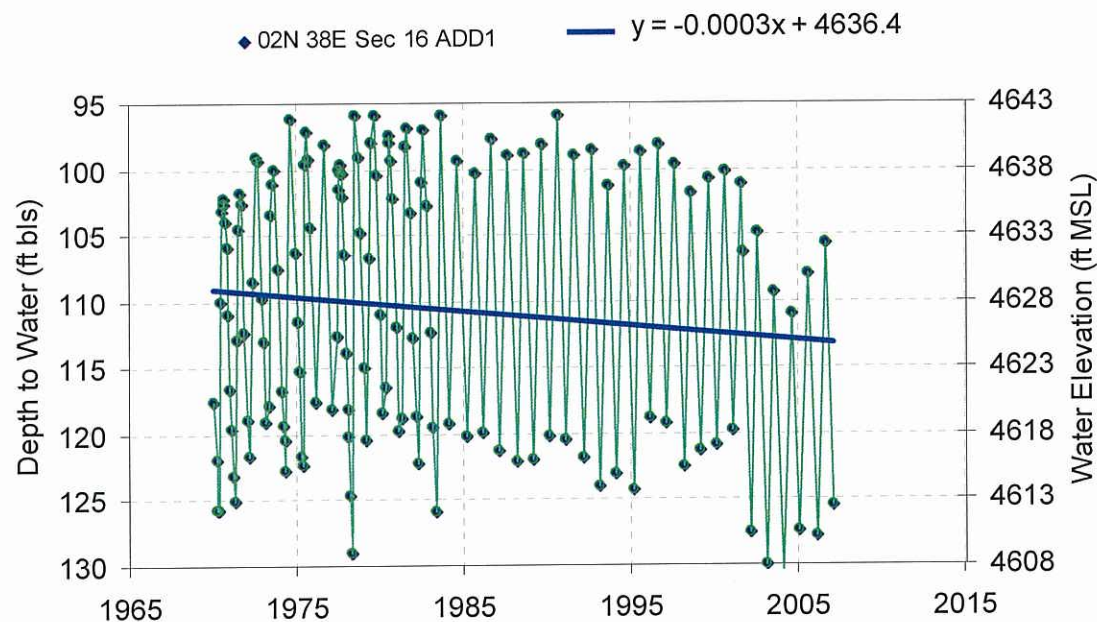
**Annual cycles from
River flow and canal leakage**

**Decade Long Cycles from
Droughts
Wet periods**

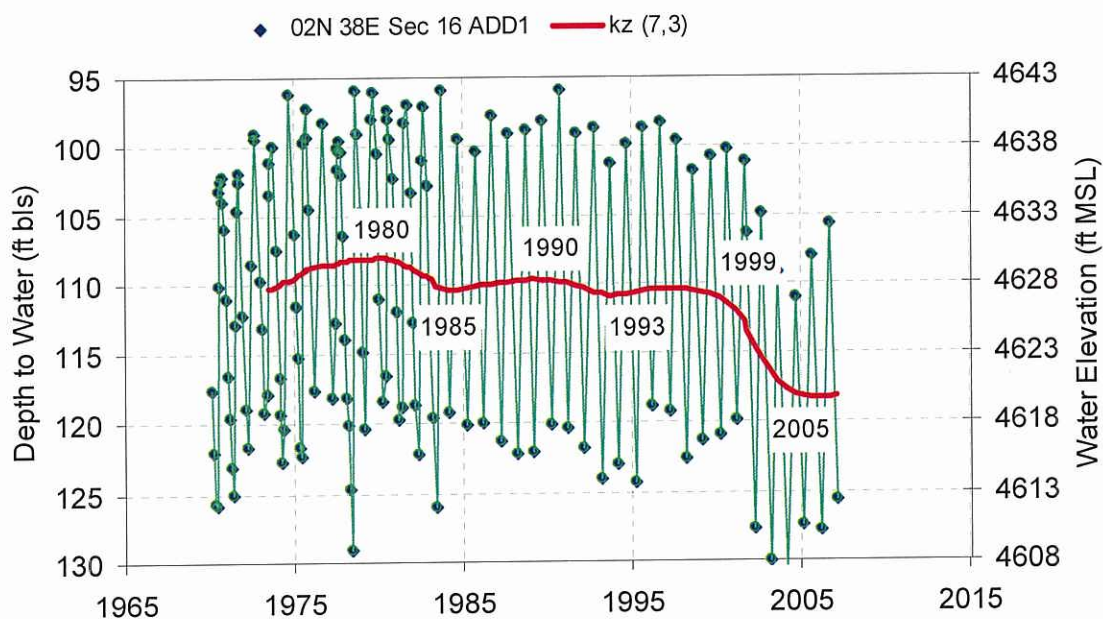
Long Water Level Record



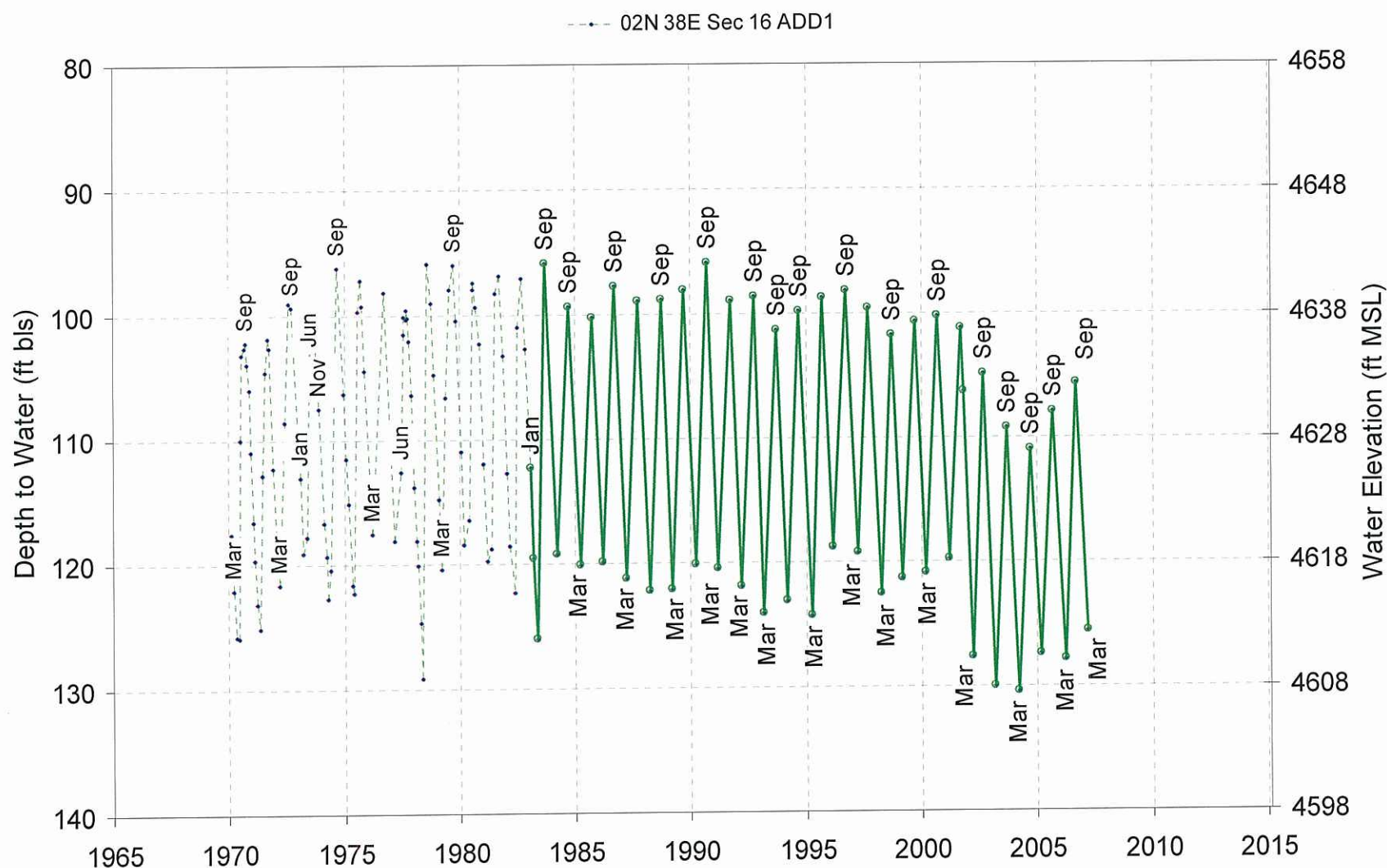
Long-term trend



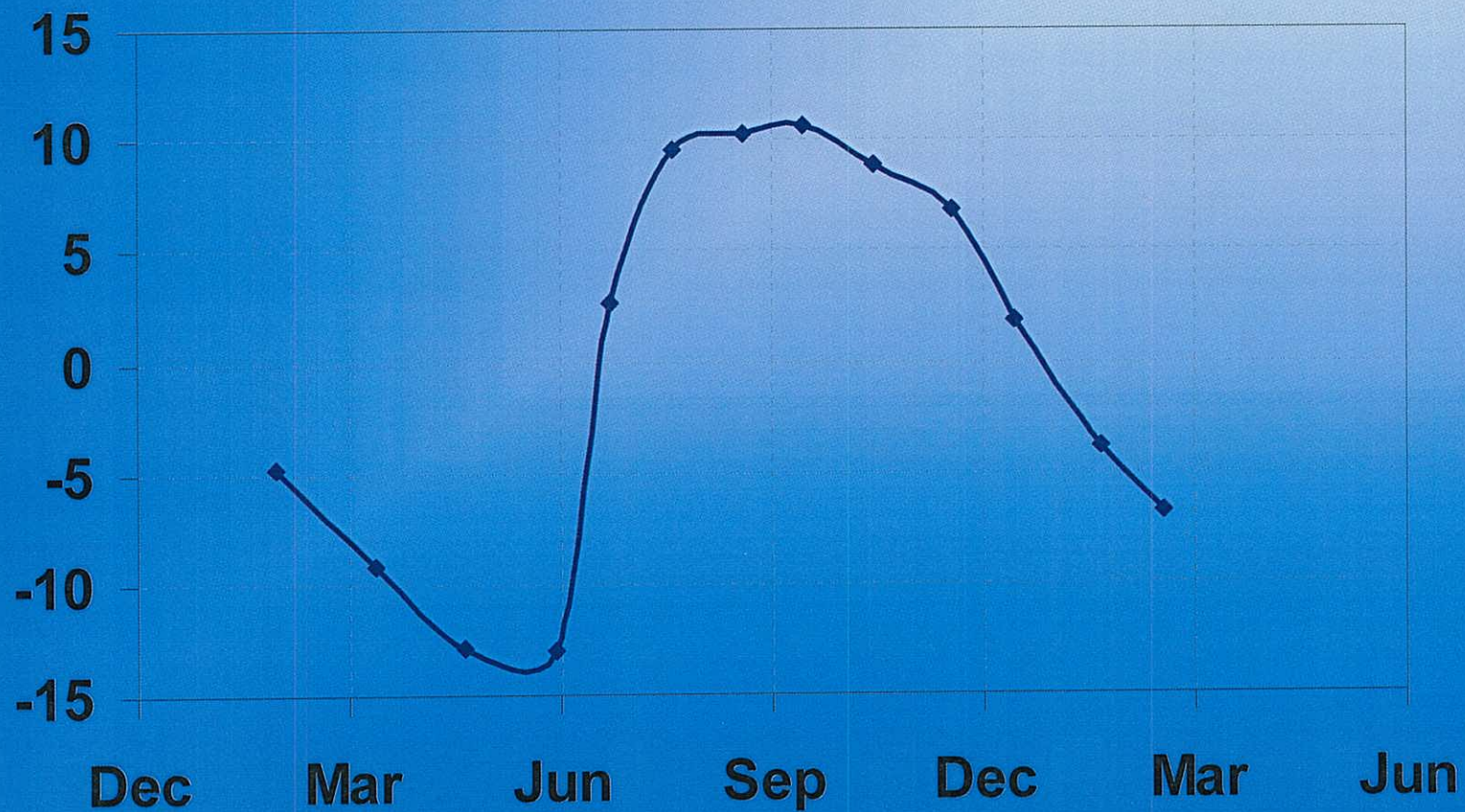
Drought-Flood



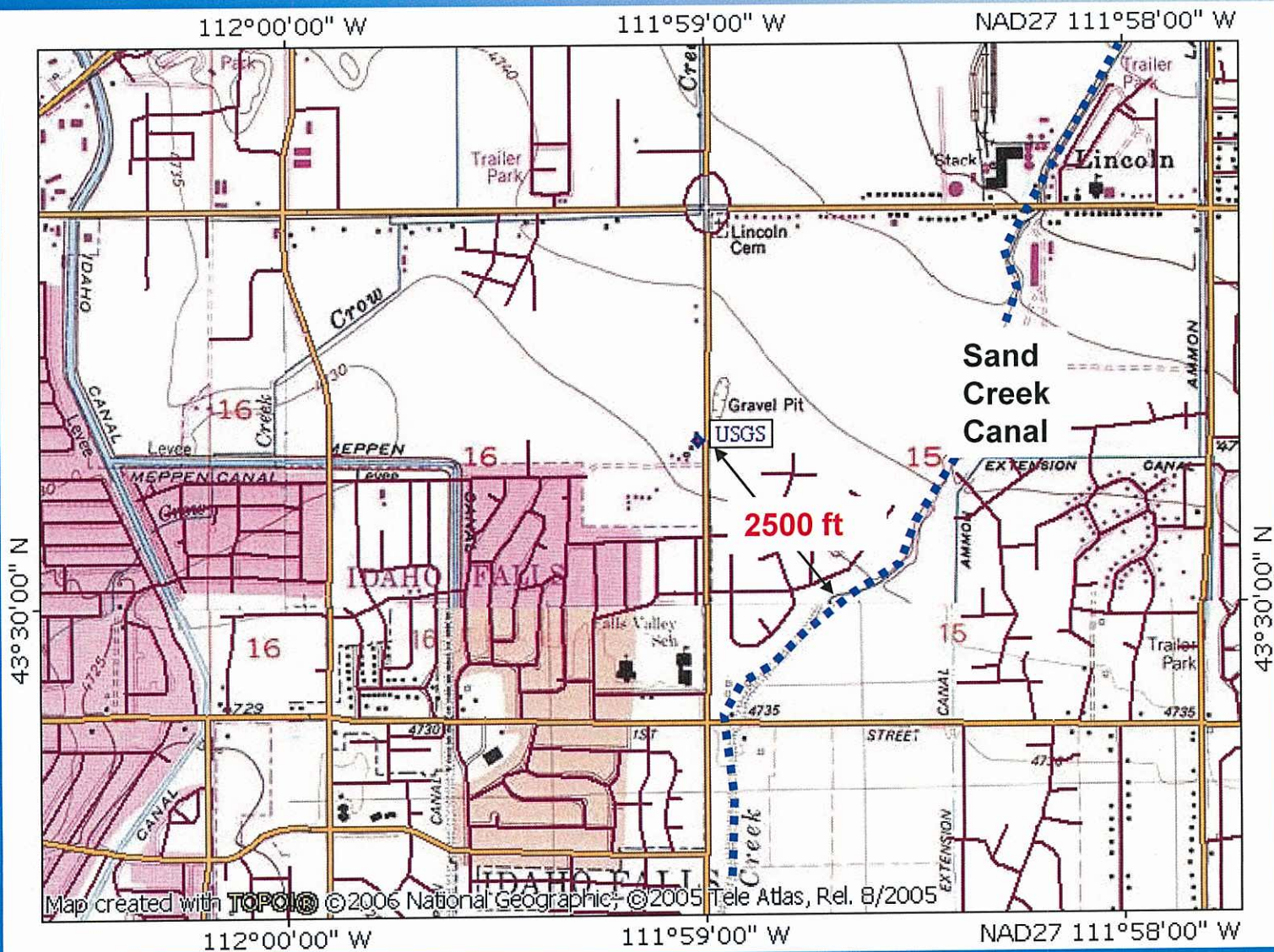
Annual Cycle: 22 feet per year on average

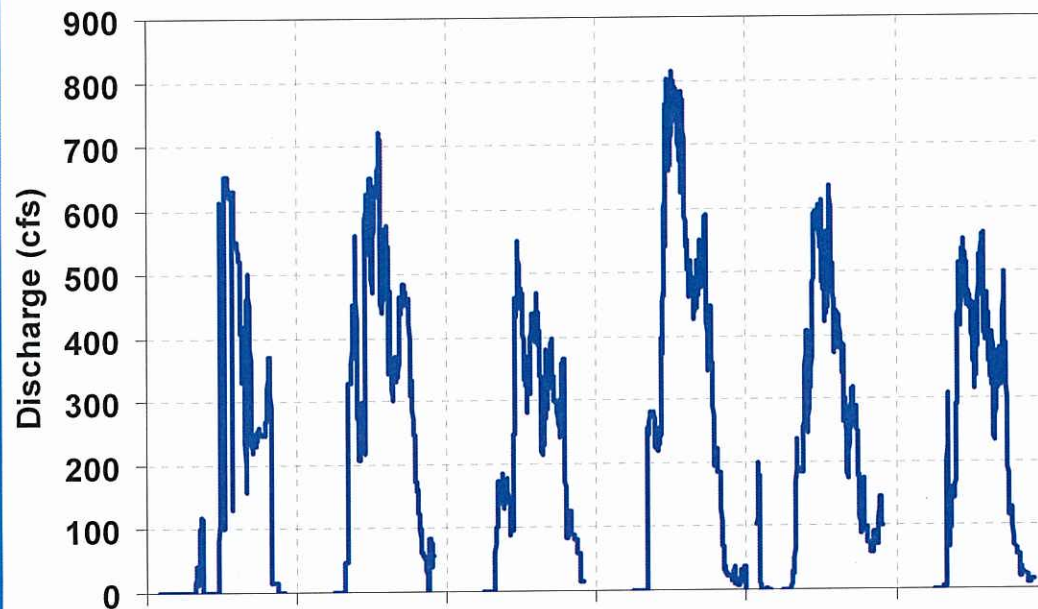


USGS Well Annual Cycle for a Typical Year

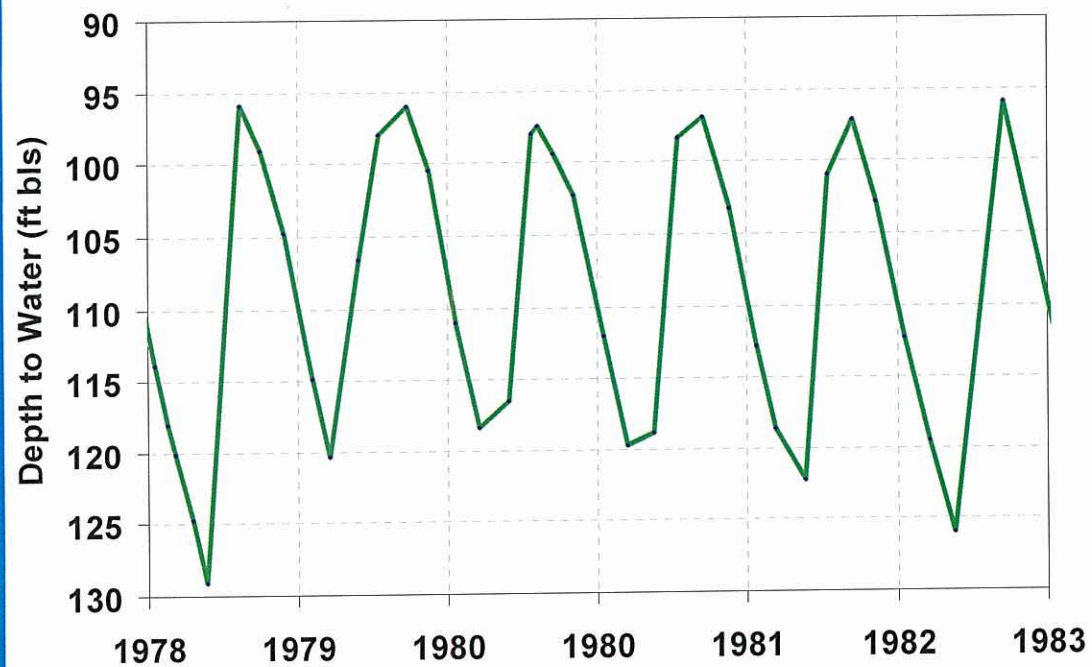


Canals have a Strong Impact on Aquifer Water Levels (leakage)





**Sand Creek
Canal**

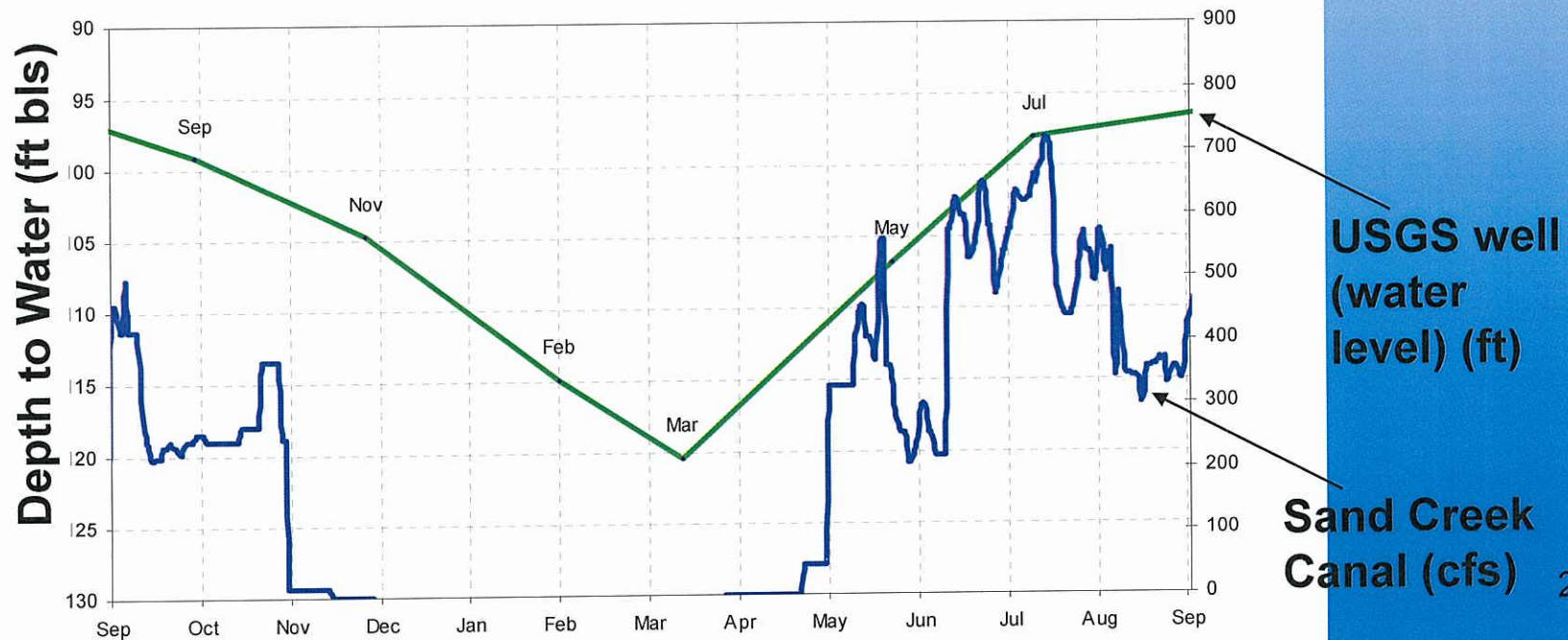
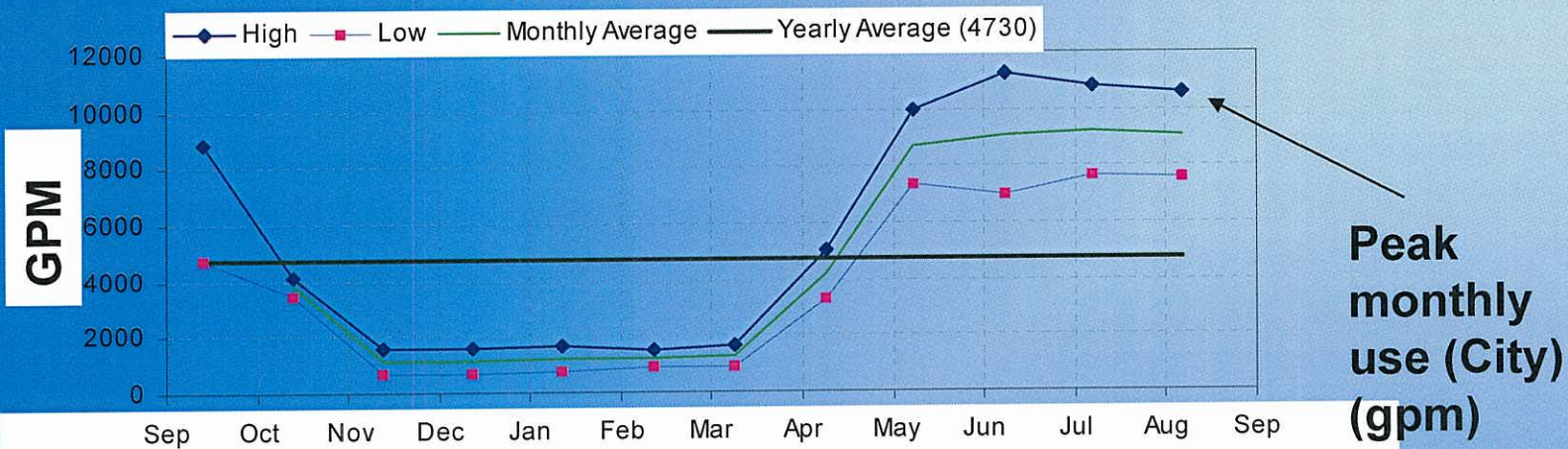


USGS Well

Highest Aquifer Level & Highest Pumping Occur in the Summer Months



City of Ammon Total System



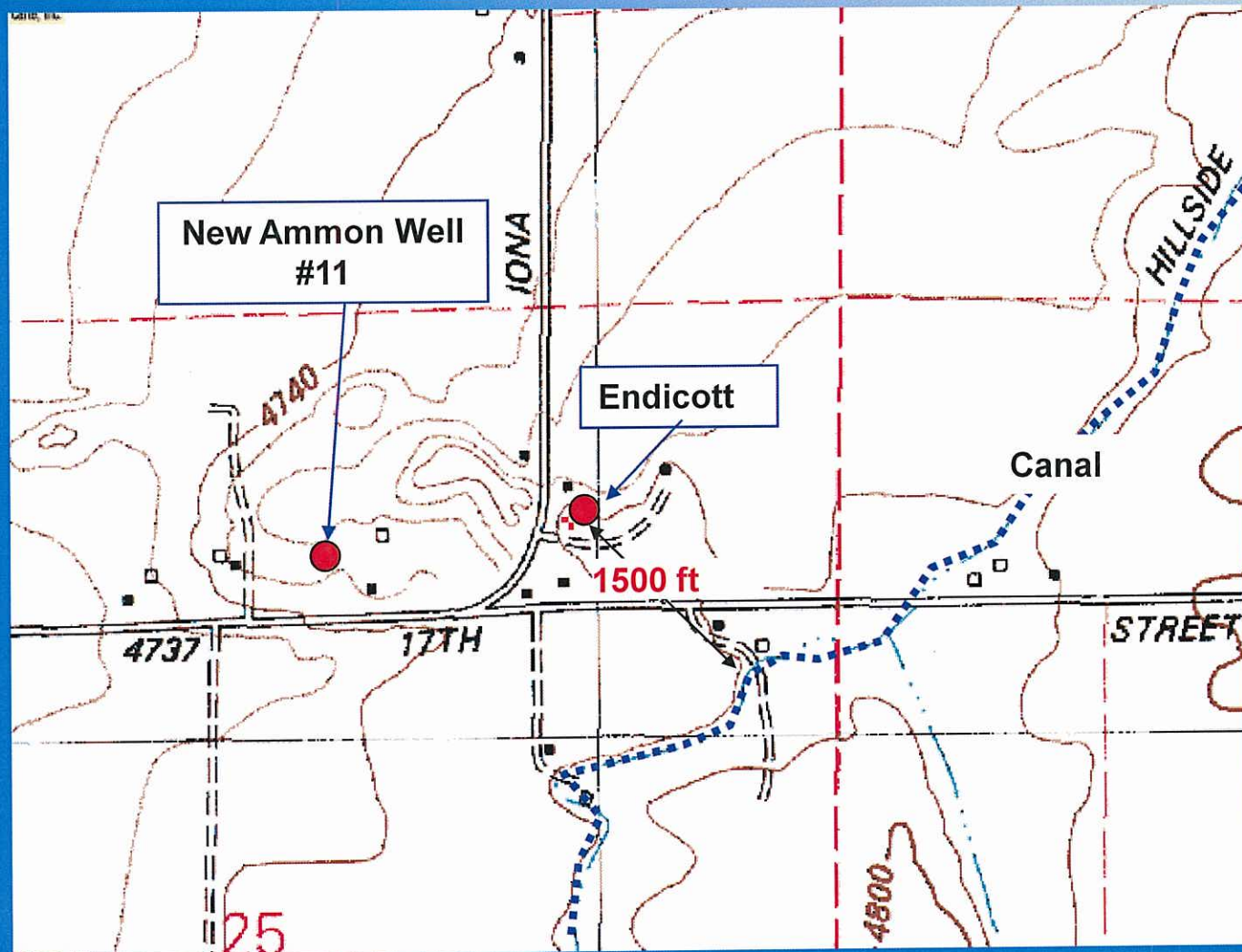


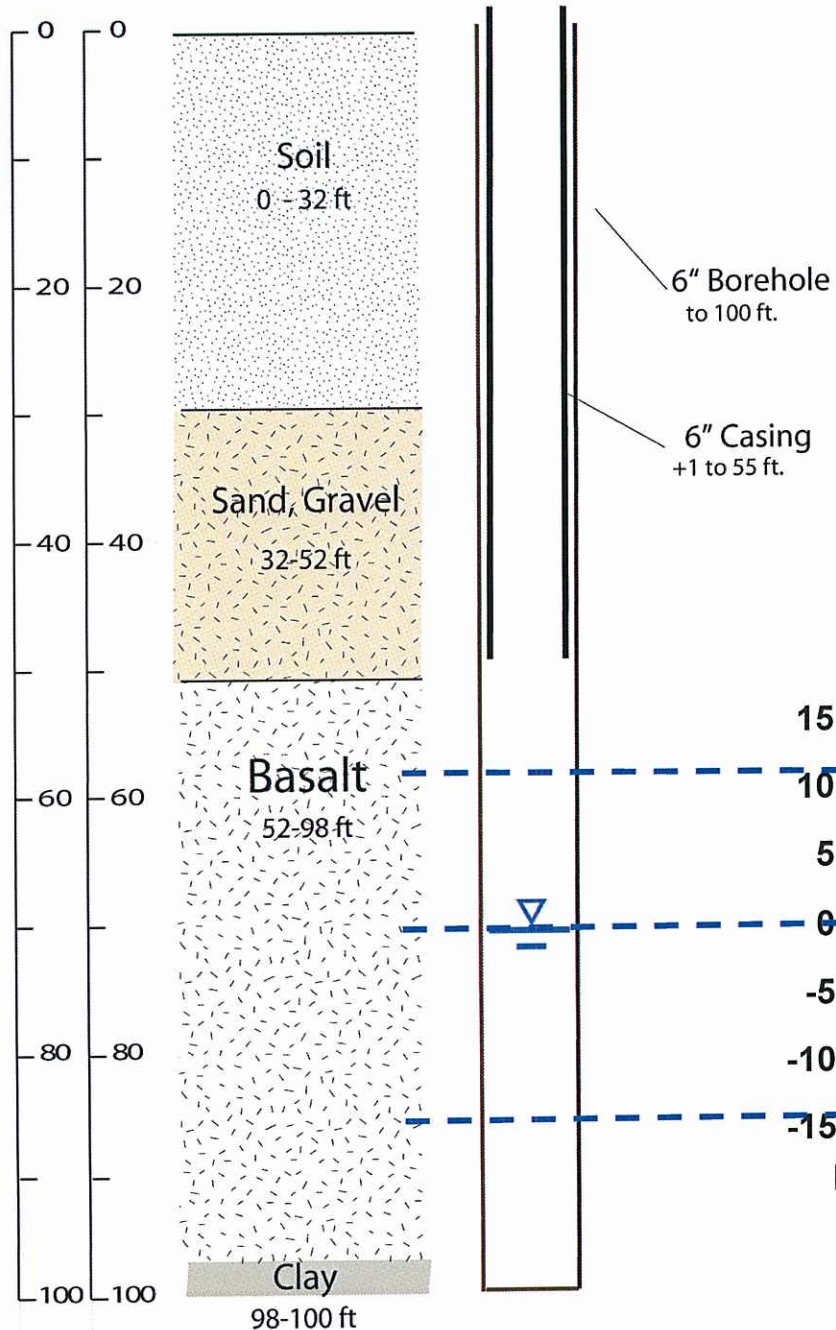
Summary of Aquifer Analysis

- T&S is known from pumping tests and aquifer model
- Predictive calculations indicate the aquifer drawdown will be minimal at the Protestants wells
- The highest pumping rates in the summer is balanced by water table rise in summer months

Is there an Injury?

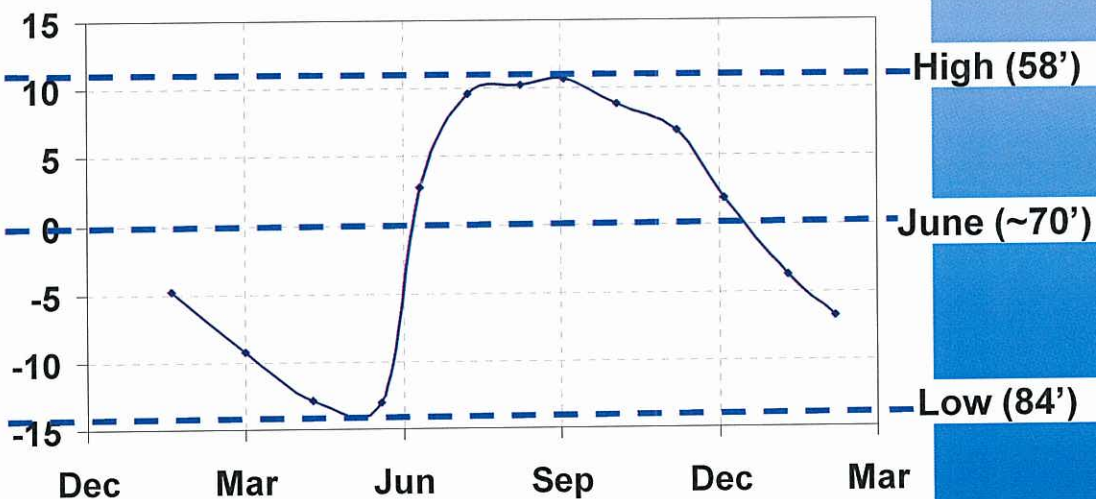
- Consider the drawdown case for the well with the shortest wet interval (i.e. the distance between the water table and the bottom of the well)
- Use Endicott's Well
- Long-term average of 720 gpm





Summer 42 ft to Bottom of Well
Spring 16 ft to Bottom of Well
Drawdown from Well 11 at
Endicott's is 2.4 ft (scenario 1)

Water Level



Conclusion: No Injury

- Drawdown in the worse case scenario will not significantly impact neighbors
- Several factors suggest that impacts will be less than predicted
 - State of Idaho groundwater model parameters indicate very, very little drawdown
 - Layering in aquifer and pumping at depth in Well 11 will decrease drawdown
 - Peak pumping during summer is countered by aquifer rise in summer months

Well #1



Well #2

EXHIBIT
tabbles' Applicant's
#43





EXHIBIT
Applicants
#5

tabbles®



EXHIBIT
Applicant's
#6

*reasonable
pursuing
level*

..0..

0.00 *

123.00 +
100.00 +
124.00 +
125.00 +
120.00 +
103.00 +
120.00 +
140.00 +
80.00 +
100.00 +
130.00 +
135.00 +
120.00 +
100.00 +
135.00 +
75.00 +
120.00 +
110.00 +
75.00 +
93.00 +
80.00 +
115.00 +
125.00 +
80.00 +
91.00 +
100.00 +
2,819.00 *

26 wells
Average $2,819 \div 26 = 108.42 +$

EXHIBIT
Protestant's
A

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only			
Well ID No.			
Inspected by			
Twp	Rge	Sec	
1/4	1/4	1/4	
Lat	:	:	Long: :

1. WELL TAG NO. D 0032221
LING PERMIT NO. _____
Right or Injection Well No. 25

2. OWNER:

Name Bob Hammon
Address P.O. Box 2586
City Idaho Falls State ID Zip 83403

3. LOCATION OF WELL by legal description:

You must provide address or Lot, Blk, Sub. or Directions to well.

Twp. 2 North ☒ or South ☐
Rge. 38 East ☒ or West ☐
Sec. 24 1/4 1/4 1/4 1/4
Gov't Lot _____
County Bonneville State ID
Lat: : : Long: : :
Address of Well Site 5066 E. 1st Street
City Idaho Falls
(Give at least name of road + Distance to Road or Landmark)
Lt. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
Bentonite	0	20	700#	Overbore

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

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8"	+2'	38'	25	steel	☒	☐	☒	☐
6"	23'	123'	25	steel	☐	☒	☒	☐

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☐ N Type _____

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method Torch

Screen Type & Method of Installation _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
83'	123'	1/4"x4"	16		steel	☐	☒

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

50 ft. below ground Artesian pressure _____ lb.

Depth flow encountered _____ ft. Describe access port or control devices: _____

12. WELL TESTS:

☐ Pump ☐ Bailor ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

Depth first Water Encounter _____

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water	Y	N
8"	0	5'	Overburden			☒
	5'	38'	Gravel & Siltment			☒
	38'	53'	Basalt			☒
	53'	63'	Clay		☒	
	63'	120'	Cinders		☒	
	120'	123'	Sand / Gravel		☒	

RECEIVED

JAN 30 2014

Department of Water Resources
Eastern Region

SCANNED

FEB 04 2014

Completed Depth 123' (Measurable)
Date: Started 1/22/04 Completed 1/22/04

14. DRILLER'S CERTIFICATION

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

Company Name Idaho Drilling Firm No. 519Principal Driller John J. Enning Date _____and Driller or Operator John J. Enning Date 1/22/04Operator John J. Enning Date _____

Principal Driller and Rig Operator Required.

Principal Driller and Bin Operator *Required*

Date _____

Firm Official John J. Manning Date 12/1/97

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp _____ Rge _____ Sec _____
_____ 1/4 _____ 1/4 _____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0014279
ILLING PERMIT NO. _____
Other IDWR No. 767475

2. OWNER:

Name Mark Johnson
Address 4530 S 45th E
City Idaho Falls State ID Zip 83406

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N

W E

S

Twp. 2 North ☒ or South ☐

Rge. 38 East ☒ or West ☐

Sec. 25 NE 1/4 SW 1/4

Gov't Lot _____ County Bonneville

Lat: : : Long: : :

Address of Well Site 2771 S

45th E City Idaho Falls

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

Lt. _____ Blk. _____ Sub. _____ Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

DRILL METHOD

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
Bentonite	3	20	500 ~~00~~	Overbone

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

Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8	+2	98	250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

Perforations _____ Method _____
Screens _____ Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

Depth	Artesian pressure	lb.
50 ft. below ground		

Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

Death first Water Encounter

12. LITHOLOGIC LOG: (Describe repairs or abandonment) Water

[illegible]

Completed Depth 120 (Measurable)
Date: Started 11/14/00 Completed 11/15/00

13. DRILLER'S CERTIFICATION

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

Company Name LENNING Firm No. 579

Firm Official [Signature] Date 11/15/00

Driller or Operator _____ Date _____

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Well ID No. _____
Inspected by _____
Twp _____ Rge _____ Sec _____
1/4 _____ 1/4 _____ 1/4 _____
Lat: _____ : _____ : _____ Long: _____ : _____ : _____

1. WELL TAG NO. D 0027274
DRILLING PERMIT NO. _____
Right or Injection Well No. _____

2. OWNER: Rock Ridge
Name _____
Address 2245 S. 45 East
City Idaho Falls State Id Zip 83406

3. LOCATION OF WELL by legal description:

You must provide address or Lot, Blk, Sub. or Directions to well.

Twp. 2 North ☒ or South ☐
Rge. 38 East ☒ or West ☐
Sec. 25 SW 1/4 NW 1/4 1/4
Gov't Lot _____
County Bonneville
Lat: _____ : _____ Long: _____ : _____
Address of Well Site 2245 S. 45 East
City Idaho Falls

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

Lt. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply

(Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☒ Other Replace

6. DRILL METHOD:

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
<u>Bentonite</u>	<u>0</u>	<u>70</u>	<u>250</u>	<u>overport</u>

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

Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
<u>6" 72</u>	<u>140</u>	<u>370</u>	<u>5</u>	<u>steel</u>	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☐ N Type _____

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method _____

Screen Type & Method of Installation _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

33 ft. below ground

Artesian pressure _____ lb.

Depth flow encountered _____ ft. Describe access port or control devices: _____

12. WELL TESTS:

☐ Pump ☐ Bailor ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
<u>20 #</u>			<u>1 hr</u>

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

Depth first Water Encounter 55

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water	Y	N
<u>5"</u>	<u>0</u>	<u>1</u>	<u>dirt</u>			
	<u>1</u>	<u>58</u>	<u>gravel & sand</u>			
	<u>58</u>	<u>103</u>	<u>silt</u>			
	<u>103</u>	<u>114</u>	<u>clay</u>			
	<u>114</u>	<u>140</u>	<u>gravel</u>			

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JUL 09 2003

Department of Water Resources
Eastern Region

SCANNED

JUL 14 2003

Completed Depth 140' (Measurable)
Date: Started 7-1-03 Completed 7/1/03

14. DRILLER'S CERTIFICATION

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

Company Name Teton Water Works Firm No. 500

Principal Driller Kelly Cul Date 7-1-03

Driller or Operator II Aug. Ford Date 7/1/03

Operator I Aug. Ford Date 7/1/03

Principal Driller and Rig Operator Required.

WELL DRILLER'S REPORT

Office Use Only			
Well ID No. _____			
Inspected by _____			
Twp _____	Rge _____	Sec _____	
_____ 1/4	_____ 1/4	_____ 1/4	
Lat: _____	_____	Long: _____	_____

1. WELL TAG NO. D

DRILLING PERMIT NO.

Drill Right or Injection Well No.

2. OWNER:

Name

Address

City

State

Zip

3. LOCATION OF WELL by legal description:

You must provide address or Lot, Blk, Sub. or Directions to well.

Twp. 2 North ☒ or South ☐Rge. 38 East ☒ or West ☐Sec. 24 NE 1/4 NW 1/4 SE 1/4Gov't Lot _____ County Bannock

Lat: _____ Long: _____

Address of Well Site East 1st StreetCity Idaho Falls

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

Lt. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply

(Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☒ Other Replacement

6. DRILL METHOD:

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
<u>Bentonite</u>	<u>0</u>	<u>20</u>	<u>250</u>	<u>over bore</u>

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

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
<u>6"</u>	<u>0</u>	<u>30</u>	<u>20</u>	<u>steel</u>	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☐ N Type _____

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method _____

Screen Type & Method of Installation _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

51 ft. below ground Artesian pressure _____ lb.

Depth flow encountered _____ ft. Describe access port or control devices: _____

12. WELL TESTS:

☐ Pump ☐ Bailor ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
<u>20 +</u>			<u>1 hr</u>

Water Temp. _____ Bottom hole temp. _____

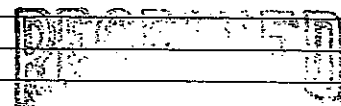
Water Quality test or comments: _____

Depth first Water Encounter 55

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Water

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
<u>8"</u>	<u>0</u>	<u>3</u>	<u>dirt</u>		☒
<u>6"</u>	<u>3</u>	<u>47</u>	<u>sand & gravel</u>		☒
<u>7"</u>	<u>47</u>	<u>80</u>	<u>gravel & sand</u>		☒

SCANNED
MAY 19 2003

APR 23 2003

Department of Water Resources
Eastern District OfficeCompleted Depth 80 (Measurable)Date: Started 3-25-03 Completed 3/26/03

14. DRILLER'S CERTIFICATION

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

Company Name Teton Water Works Firm No. 506Principal Driller Kelly Gail Date 3-26-03

Driller or Operator II _____ Date _____

Operator I Greg Hunt Date 3/26/03

Principal Driller and Rig Operator Required

WELL DRILLER'S REPORT

Office Use Only			
Well ID No.			
Inspected by			
Twp	Rge	Sec	
1/4	1/4	1/4	
Lat:	:	Long:	:

1. WELL TAG NO. D

DRILLING PERMIT NO.

or Right or Injection Well No.

2. OWNER:

Name

Address

City

State Zip

3. LOCATION OF WELL by legal description:

You must provide address or Lot, Blk, Sub. or Directions to well.

Twp. North or South

Rge. East or West

Sec. NE 1/4 NW 1/4 SE 1/4 SW 1/4

Gov't Lot County

Lat: Long:

Address of Well Site City

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

Lt. Blk. Sub. Name

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK check all that apply

(Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
BENTONITE	0	30	300	over bore

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

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	17	40	.250	Steel	☒	☐	☒	☐
6"	17	100	.250	Steel	☒	☐	☒	☐

Length of Headpipe Length of Tailpipe

Packer ☐ Y ☐ N Type

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method

Screen Type & Method of Installation

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

53 ft. below ground

Artesian pressure lb.

Depth flow encountered ft. Describe access port or control devices:

12. WELL TESTS:

☐ Pump ☐ Bailor ☒ Air ☐ Flowing Artesian

Yield gal/min.	Drawdown	Pumping Level	Time
257			1 hr.

Water Temp. Bottom hole temp.

Water Quality test or comments:

Depth first Water Encounter 60

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Water

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
10"	0	2	dirt		
10"	2	17	gravel & sand		
10"	17	63	compacted silt		
8"	63	74	BROKEN Lava		
8"	74	81	Lava		
8"	81	100	BROKEN Lava		

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MAY 19 2003

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APR 23 2003

Department of Water Resources
Eastern District Office

Completed Depth

(Measurable)

Date: Started 3-24-03

Completed 3/25/03

14. DRILLER'S CERTIFICATION

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

Company Name Teton Water Works Firm No. 506

Principal Driller Kelly Grief Date 3-25-03

Driller or Operator II Date

Operator I Date 3/25/03

Principal Driller and Rig Operator Required.

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only

Inspected by _____

Twop _____ Rge _____ Sec _____

_____ 1/4 _____ 1/4 _____ 1/4

Lat: : : Long: : :

1. WELL TAG NO. D 0011670
RILLING PERMIT NO. 764997
Other IDWR No. _____

2. OWNER:

Name Nancy Unifress
Address 1896 S 52 E
City Idaho Falls State ID Zip 83440

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N
 W E
 S
 Twp. 2 North ☒ or South ☐
 Rge. 38 East ☒ or West ☐
 Sec. 25 1/4 52 1/4 52 1/4
 Gov't Lot _____ County Bonnevill
 Lat. : : Long. : :
 Address of Well Site 1896 S
 City FA
 (Give at least name of road - Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☐ New Well ☐ Modify ☐ Abandonment ☐ Other _____

DRILL METHOD

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	
Bentonite	3	25	525#	Overbone

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

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8	72	49	250	Steel	☒	☐	☒	☐
6	43	103	250	Steel	☐	☒	☒	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

Perforations _____ Method _____
Screens _____ Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

50 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or
control devices: _____

11. WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min.	Drawdown	Pumping Level	Time

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment) Water

[illegible]

~~RECEIVED~~

~~AUG 07 2000~~

~~Department of Water Resources~~
Eastern Region

Completed _____ Depth 135 _____ (Measurable)
Date: Started 6/13/00 Completed 6/13/00

13. DRILLER'S CERTIFICATION

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

Company Name LENNING Firm No. 519

Firm Official [Signature] Date 6/13/00

Driller or Operator _____ Date _____

Supervisor or Operator _____ Date _____

USE TYPEWRITER
BALLPOINT PEN

JUL 31 1984

Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld

[illegible]

WELL DRILLER'S REPORT

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

WELL OWNER

Name Johnny Seedall Rt 2 Box 47

Address Crowley Rd., Idaho Falls, Ida.

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

3 PROPOSED USE

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

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection.

1. METHOD DRILLED

☐ Cable ☒ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 120 feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
<u>250</u> inches	<u>6</u> inches	+ <u>1</u> feet	<u>62</u> feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

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

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

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

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

7. WATER LEVEL

Static water level 73' feet below land surface

Flowing? ☐ Yes ☐ No G.P.M. flow _____

Temperature $^{\circ}$ F. Quality _____

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

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
------------------	-----------	--------------

9. LITHOLOGIC LOG

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
	0	7	CLAY		
	7	61'	SHAL + GRAVEL		
	61	73	BLK SAND		
	73		SANDY SILT		
	73	120	SAND W/ GRAVEL		

10-30-1970
 10-30-1970
 10-30-1970
 10-30-1970

DEPARTMENT OF WATER RESOURCES
 Eastern District Office

Department of Labor Resources
Eastern District Office

Placed from _____ feet to _____ feet

Discharge G.P.M.	Draw Down	Hours Pump

Hole Diam.	Depth		Material
	From	To	
6"	0	3	Overburden
	3	25	Gravel & Yint
	25	48	BASALT
	48	63	CLAG
	63	110	BASALT

[illegible]

State of Idaho
Department of Water Administration

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

[illegible]

WELL DRILLER'S REPORT

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

WELL OWNER

Name Rex Coles
Address Rt. 7 Box 53 A
Idaho Falls, Idaho 83401
Owner's Permit No. _____

7. WATER LEVEL

Static water level 45 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature _____ °F. Quality Good

NATURE OF WORK

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

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped

9. LITHOLOGIC LOG

Hole Diam.	Depth		Material	Water Yes/No
	From	To		
8	0	10	Soil	
6	10	50	Gravel and sand	
	50	70	Gravel and sand	x
6	70	80	Gravel & layers shale	x

PROPOSED USE

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

METHOD DRILLED

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

WELL CONSTRUCTION

Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	81 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

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

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

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____

Type _____ Model No. _____
Diameter _____ Slot size _____ Set from _____ feet to _____ feet
Diameter _____ Slot size _____ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 18+ Material used in seal: ☐ Cement grout
Bentonite ☒ Puddling clay ☐ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing

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FEB 21 1980

Department of Water Resources
Eastern District Office

RECEIVED
OCT 24 1977

WELL DRILLER'S REPORT

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

~~Eastern District Office~~

1. WELL OWNER

Name Harold Butters
Address Route 7 Box 89 Idaho Falls Idaho
Owner's Permit No. _____

2. NATURE OF WORK

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

3. PROPOSED USE

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

☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection

4. METHOD DRILLED

☐ Cable ☒ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 91 feet
Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
<u>.250</u> inches	<u>6</u> inches	+ <u>1</u> feet	<u>91</u> feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☒ Yes ☐ No

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

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

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

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

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

Gravel packed? ☐ Yes ☒ No Size of gravel _____

Placed from _____ feet to _____ feet

7. WATER LEVEL

Static water level 60 feet below land surface
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Temperature _____ ° F. Quality good
Artesian closed-in pressure _____ p.s.i.
Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pump
------------------	-----------	------------

9. LITHOLOGIC LOG

[illegible]

State of Idaho
Department of Water Administration

RECEIVED

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

JAN 10 1972

Department of Water Administ
Eastern District Office

7. WATER LEVEL

Static water level 67 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow

Temperature _____ ° F. Quality Good

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

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☐ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
------------------	-----------	--------------

9. LITHOLOGIC LOG

Hole Diam.	Depth		Material	Wat
	From	To		Yes

6	0	5	Soil Brown	
---	---	---	------------	--

5	32	16	16	
---	----	----	----	--

	5	22		
	50	20	Grand Average	

32	32	seed level	
33	33		

32	37	BROWN HARD Chert Rock	
----	----	-----------------------	--

	67	70	Broken Hard Rock	X
--	----	----	------------------	---

70	75	80	85	90	95	100
----	----	----	----	----	----	-----

	75	67	Firm. Hard Rock	X
--	----	----	-----------------	---

87	90	Broken Hero Rock	
----	----	------------------	--

90	95	11	14	16	
----	----	----	----	----	--

6	95	100	C15v		
---	----	-----	------	--	--

[illegible]

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