

Form 222
1-87STATE OF IDAHO
DEPARTMENT OF WATER RESOURCESAPPLICATION FOR TRANSFER OF WATER RIGHT
PART 1

RECEIVED

MAR 08 2007

Department of Water Resources
Eastern RegionName of Applicant Twin Lakes Canal Company Phone (208) 523-0620
Post Office address c/o Holden, Kidwell, Hahn & Crapo, P.L.L.C., P.O. Box 50130, Idaho Falls, Idaho 83405

A. PURPOSE OF TRANSFER

1. ☐ Change point of diversion ☐ Add diversion point(s) ☒ Change place of use
☒ Change nature of use ☐ Change period of use ☐ Other _____

2. Describe the reason for the proposed changes To better define the company's place of use.

B. DESCRIPTION OF RIGHT(S) OR PORTION THEREOF, AFTER THE REQUESTED CHANGE

1. Right Number Priority Amount (cfs/acft) Nature of Use Period of Use
- SEE ATTACHED SPREADSHEET
- _____ to _____
 _____ to _____
 _____ to _____
 _____ to _____
 _____ to _____

2. Total amount of water being transferred _____ cubic feet per second and/or _____ acre-feet per annum.

3. Source of water _____

4. Point(s) of Diversion:

Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Local name for diversion
		SW	SE	01	14S	40E	FRANKLIN	
		NE	NE	26	14S	38E	FRANKLIN	
		SW	NW	14	14S	39E	FRANKLIN	

5. Lands irrigated or place of use: (Permissible place of use for all water rights)

Twp	Rge	Sec	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

Total Acres POU described in accompanying CD.

SCANNED

AUG 08 2011

73430

Form 222
1-87STATE OF IDAHO
DEPARTMENT OF WATER RESOURCESAPPLICATION FOR TRANSFER OF WATER RIGHT
PART 1

RECEIVED

MAR 08 2007

Department of Water Resources
Eastern RegionName of Applicant Twin Lakes Canal Company Phone (208) 523-0620Post Office address c/o Holden, Kidwell, Hahn & Crapo, P.L.L.C., P.O. Box 50130, Idaho Falls, Idaho 83405

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1.	Right Number	Priority	Amount (cfs/ac-ft)	Nature of Use	Period of Use
	SEE ATTACHED SPREADSHEET				_____ to _____
	_____	_____	_____	_____	_____ to _____
	_____	_____	_____	_____	_____ to _____
	_____	_____	_____	_____	_____ to _____
	_____	_____	_____	_____	_____ to _____

2. Total amount of water being transferred _____ cubic feet per second and/or _____ acre-feet per annum.

3. Source of water _____

4. Point(s) of Diversion:

Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Local name for diversion
		SW	SE	01	14S	40E	FRANKLIN	
		NE	NE	26	14S	38E	FRANKLIN	
		SW	NW	14	14S	39E	FRANKLIN	

5. Lands irrigated or place of use: (Permissible place of use for all water rights)

Twp	Rge	Sec	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

Total Acres POU described in accompanying CD.

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6. General Information:

- a. Description of diversion system _____
- b. Are the lands from which you propose to transfer the water right subject to any liens, deeds of trust, mortgages, or contracts?
Yes _____ No _____. If yes, provide a notarized statement from the holder of the lien, deed of trust, mortgage or contract agreeing to the proposed changes.
- c. Describe the effect on the land now irrigated if the place of use is changed pursuant to this transfer:

- d. Remarks:
Water to be stored in Condie Reservoir, Winder Reservoir, and Twin Lakes Reservoir.

ACTION OF THE DIRECTOR DEPARTMENT OF WATER RESOURCES

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

Witness my hand this _____ day of _____, 2002.

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TWIN LAKES CANAL COMPANY WATER RIGHTS

Water Right	Priority	Basis	Amount (cfs)	Amount (AFA)	Nature of Use	Period of Use			Source	Place of Use
13-896B	05/01/1882	Decreed	4		Irrigation	4/20	to	7/25	Mink Creek	See POU contained in accompanying CD.
			3.03		Irrigation	7/25	to	9/01		
			2		Irrigation	9/01	to	9/30		
				18500	Irrigation Storage	1/01	to	12/31		
			4		Diversion to Storage	1/01	to	12/31		
				18500	Irrigation from Storage	5/01	to	9/30		
13-901	04/01/1901	Decreed	300		Irrigation	4/20	to	9/30	Mink Creek	See POU contained in accompanying CD.
				18500	Irrigation Storage	1/01	to	12/31		
				18500	Irrigation from Storage	5/01	to	12/31		
			300		Diversion to Storage	1/01	to	12/31		
13-946B	05/06/1911	Decreed	9.95	3611.7	Irrigation	4/15	to	10/15	Deep Creek	See POU contained in accompanying CD.
13-2289	08/19/1940	License		18500	Irrigation Storage	1/01	to	12/31	Mink Creek	See POU contained in accompanying CD.
				18500	Irrigation from Storage	5/01	to	9/30		
13-2296	03/25/1956	License	5.56	1900	Irrigation	4/01	to	10/31	Mink Creek	See POU contained in accompanying CD.
				18500	Irrigation Storage	1/01	to	12/31		
			4		Diversion to Storage	1/01	to	12/31		
				18500	Irrigation from Storage	5/01	to	9/30		

Yellow highlight indicates an element to be changed.

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IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 13-896B

WATER RIGHT NUMBER: 13-896B

<u>Owner Type</u>	<u>Name and Address</u>
Original Owner	MINK CREEK IRRIGATION CO C/O JAMES F SHAW 2072 N MINK CREEK RD POCATELLO, ID 83204
Current Owner	TWIN LAKES CANAL CO DAYTON, ID 83232

Priority Date: 05/01/1882

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
MINK CREEK	BEAR RIVER

<u>Beneficial Use</u>	<u>From</u> <u>To</u>	<u>Diversion Rate</u>	<u>Annual Volume</u>
IRRIGATION	4/20 to 7/25	4.000 CFS	
IRRIGATION	7/25 to 9/01	3.030 CFS	
IRRIGATION	9/01 to 9/30	2.000 CFS	
	<u>Total Diversion:</u>	4.000 CFS	

Location of Point(s) of Diversion

MINK CREEK	SW1/4SE1/4	Sec. 1, Twp 14S, Rge 40E, B.M.
FRANKLIN County		

Place of Use

IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
14S	38E	1																	
14S	38E	11																	
14S	38E	12																	
14S	38E	14																	
14S	38E	15																	
14S	38E	22																	

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IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report 13-896B

16S 38E 2					
16S 38E 10					
16S 38E 11					
16S 38E 12					
16S 38E 13					
16S 38E 14					
16S 38E 15					
16S 38E 23					
16S 38E 24					
16S 38E 25					
16S 38E 26					
16S 39E 5					
16S 39E 6					
16S 39E 7					
16S 39E 18					
16S 39E 19					
16S 39E 30					

Conditions of Approval:

1. P/D TWIN LAKES CANAL LEGAL FROM USGS MAP.
P/U INCOMPLETE LANDS UNDER TWIN LAKES CANAL CO.
P/U AC. IRR. = 16000 FROM RT. 11-0841.

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IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 13-901

WATER RIGHT NUMBER: 13-901

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	TWIN LAKES CANAL COMPANY C/O HOLDEN KIDWELL HAHN & CRAPO PLLC PO BOX 50130 IDAHO FALLS, ID 83405 (208)523-0620

Priority Date: 04/01/1901

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
MINK CREEK	BEAR RIVER

<u>Beneficial Use</u>	<u>From</u> <u>To</u>	<u>Diversion Rate</u>	<u>Annual Volume</u>
IRRIGATION	4/20 to 9/30	300.000 CFS	
IRRIGATION STORAGE	1/01 to 12/31		4,040.00 AF
DIVERSION TO STORAGE	9/30 to 5/01	300.000 CFS	
	<u>Total Diversion:</u>	300.000 CFS	

Location of Point(s) of Diversion

MINK CREEK	SW1/4SE1/4	Sec. 1, Twp 14S, Rge 40E, B.M.
FRANKLIN County		

Place of Use

IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
14S	38E	1																	
14S	38E	11																	
14S	38E	12																	
14S	38E	14																	
14S	38E	15																	
14S	38E	22																	
14S	38E	23																	

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 13-901

16S 38E 10					
16S 38E 11					
16S 38E 12					
16S 38E 13					
16S 38E 14					
16S 38E 15					
16S 38E 23					
16S 38E 24					
16S 38E 25					
16S 38E 26					
16S 39E 5					
16S 39E 6					
16S 39E 7					
16S 39E 18					
16S 39E 19					
16S 39E 30					

Conditions of Approval:

1. P/U AC. IRR. = 16000.

Remarks:

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IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 13-946B

WATER RIGHT NUMBER: 13-946B

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	TWIN LAKES CANAL CO PO BOX 187 PRESTON, ID 83263 (208)852-3475
Original Owner	WEST CACHE IRRIGATION CO 1560 E 1630 N LOGAN, UT 84341 (801)753-0258

Priority Date: 05/06/1911

Basis: Decreed

Status: Active

<u>Source</u>	<u>Tributary</u>
DEEP CREEK	BEAR RIVER

<u>Beneficial Use</u>	<u>From</u> <u>To</u>	<u>Diversion Rate</u>	<u>Annual Volume</u>
IRRIGATION	4/15 to 10/15	9.950 CFS	3,611.70 AF
	<u>Total Diversion:</u>	9.950 CFS	3,611.70 AF

Location of Point(s) of Diversion

DEEP CREEK	NE1/4NE1/4	Sec. 26, Twp 14S, Rge 38E, B.M.
FRANKLIN County		

Place of Use

IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
14S	38E	14					40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0					320.0
14S	38E	15	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
14S	38E	22	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
14S	38E	23	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
14S	38E	25	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
14S	38E	26	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0

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IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 13-946B

14S 38E 27		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
14S 38E 34		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
14S 38E 35		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
14S 38E 36		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 1		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 2		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 3		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 10		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 11		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 12		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 13		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 14		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 15		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 22		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 23		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 24		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 25		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 26		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 27		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0
15S 38E 34		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		40.0	40.0	40.0	40.0		640.0

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IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 13-946B

15S 38E 35	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
15S 38E 36	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
15S 39E 7	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
15S 39E 18	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
15S 39E 19	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
15S 39E 29	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
15S 39E 30	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
15S 39E 31	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
15S 39E 32	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 1	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 2	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 3	40.0	40.0	40.0	40.0										40.0	40.0	40.0	40.0	320.0
16S 38E 10	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 11	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 12	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 13	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 14	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 15	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 23	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 24	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 13-946B

16S 38E 25	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 38E 26	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 39E 5	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 39E 6	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 39E 7	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 39E 18	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 39E 19	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
16S 39E 30	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0

Total Acres: 33920

Conditions of Approval:

1. R04 Use of water under this water right will be regulated by the watermaster of State Water District No. &DISTRICT.
2. T08 Failure of the right holder to comply with the conditions of this transfer is cause for the Director to rescind approval of the transfer.
3. R43 The right holder shall maintain a measuring device and lockable controlling works of a type approved by the Department in a manner that will provide the watermaster suitable control of the diversion.
4. R63 This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 3.5 afa per acre at the field headgate for irrigation of the lands above.
5. Right 13-00946B is limited to the supplemental irrigation of 5,903.1 acres within the 33,920.0 acre permissible place of use described above.
Approval of Transfer 5115 does not grant any right-of-way or easement for use of a delivery system owned by person(s) other than the right owner.
The use of water approved under Transfer 5115 shall be considered junior to Right 13-02264.
6. T07 The right holder shall accomplish the change authorized by this transfer within one (1) year of the date of this approval.

Remarks:

Comments:

1. PSKAGGS 2/19/1998 TRANSFER 5115

Comment: Transfer 5115 changes the point of diversion & place of use under a portion of Right 13-00946, splitting the right into Parts A & B. (Part of a trade for shares in Bear Lake with Twin Lakes Canal Co.)

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 13-2296

WATER RIGHT NUMBER: 13-2296

Owner Type Name and Address
Current Owner TWIN LAKES CANAL CO
PRESTON, ID 83263

Priority Date: 03/25/1956

Basis: License

Status: Active

Source Tributary
MINK CREEK BEAR RIVER

<u>Beneficial Use</u>	<u>From</u> <u>To</u>	<u>Diversion Rate</u>	<u>Annual Volume</u>
IRRIGATION	4/01 to 10/31	5.560 CFS	1,900.00 AF
	<u>Total Diversion:</u>	5.560 CFS	1,900.00 AF

Location of Point(s) of Diversion

MINK CREEK SW1/4SE1/4 Sec. 1, Twp 14S, Rge 40E, B.M.
FRANKLIN County

Place of Use

IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
14S	39E	20									38.0		37.0		36.0	38.0	38.0	23.0	210.0
14S	39E	21											37.0						37.0
14S	39E	28																	
14S	39E	29																	
14S	39E	32																	
14S	39E	33																	

Total Acres: 1496

Conditions of Approval:

1. AC. IRR. = 1495.3.

page 13 of 15

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Page 2

03/17/2007

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report 13-2296

Remarks:

Comments:

Dates and Other Information:

Licensed Date: 6/26/1970
Decreed Date:
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
State or Federal:
Owner Name Connector:
Water District Number: 13N
Generic Max Rate Per Acre:
Generic Max Volume Per Acre:
Decree Defendant:
Decree Plaintiff:
Civil Case Number:
Judicial District:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Carey Act Number:
Mitigation Plan: False

Combined Use Limits:

Element Reviewed/Verified Dates:

<u>Element</u>	<u>Last Reviewed Date</u>	<u>Reviewer</u>	<u>Last Verified Date</u>	<u>Verifier</u>	<u>Status</u>
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Verification Log:

<u>Element</u>	<u>Date Time Stamp</u>	<u>Reviewer</u>	<u>Log text</u>
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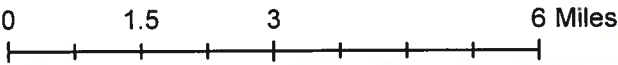
Water Supply Bank:

73430

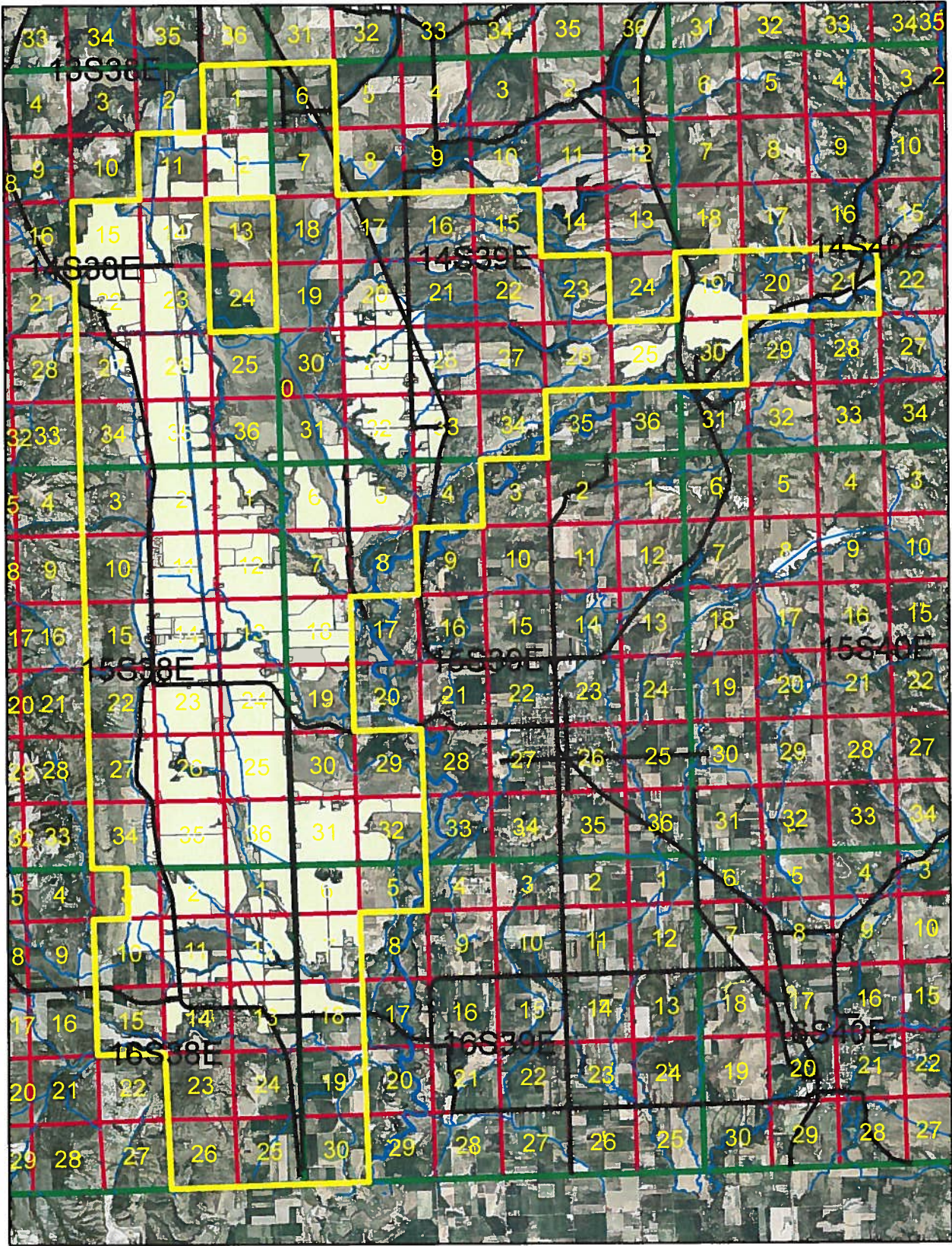
TWIN LAKES CANAL COMPANY

Prepared by:
Robert L. Harris
2006 NAIP
Aerial Photo

page 14 of 15



73430



Legend

- Twin_Lakes_Service_Area
- MajorRoads
- Rivers
- Section_Lines
- TL_Total_Irr_Acres
- MajorRivers
- Township_Lines

73430

B. CHANGES IN NATURE OF USE

1. New Nature of Use Amount Hours/days/year Period of Use
 (cfs/ac-ft)
SEE ATTACHED SPREADSHEET _____ to _____
 _____ to _____

2. Quantity and quality of return flows and location of discharge:

No change in return flows.

3. Describe effects on other water uses resulting from the proposed change:

No effects.

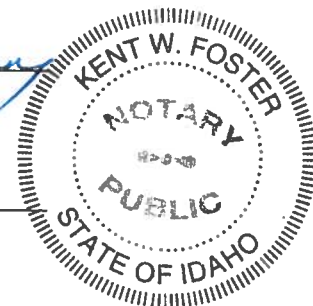
I hereby asset that no one will be injured by such change and that the change does not constitute an enlargement in use of the original right. The information contained in this application is true to the best of my knowledge.

I understand that any willful misrepresentations made in this application may result in voiding its approval.

Michael J. DeLong
 (Signature of Applicant)

Subscribed and sworn to before me this 8th day of March, 2008

Kent W. Foster
 Notary Public



My Commission Expires 11/20/2010

FOR DEPARTMENT USE ONLY

Transfer contains 15 pages and _____ attachments

Received by SC Date 3/8/07 Protest filed by _____

Prelim. check by _____ Fee 4910 -

Receipted by SC Date 3/8/07 EO32671

Published in Statewide Copies of protest forwarded by _____

Pub. dates _____ Hearing held by _____ Date _____

Watermaster recommendation requested on _____ Recommended for ☐ approval ☐ denial

_____ rec'd _____ by _____

Copy of transfer sent to lien holder _____

Law Offices
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER
CHARLES A. HOMER
GARY L. MEIKLE
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(1877-1967)
Robert B. Holden
(1911-1971)
Terry L. Crapo
(1939-1982)
William S. Holden
(1907-1988)

Of Counsel
Fred J. Hahn

*Also Licensed in Missouri & Kansas

**Also Licensed in Utah & Colorado

March 8, 2007

RECEIVED
MAR 08 2007
Department of Water Resources
Eastern Region

Sharla Cox
Idaho Department of Water Resources
900 N. Skyline Dr., Ste. A
Idaho Falls, ID 83402

RE: Application for Transfer and Application for Permit on Behalf of Twin Lakes
Canal Company.

Dear Sharla:

Enclosed you will find an Application for Transfer and an Application for Permit filed by Twin Lakes Canal Company. In addition, based upon our calculation of the filing fees to be submitted pursuant to *Idaho Code* § 42-221, we are also enclosing a check in the amount \$13,380.00. However, we are paying this filing fee under protest as it seems to be somewhat excessive to, as stated in the Statute, "pay for legal advertising, the publication of public notices and for investigations, research, and providing public data as required of the Department in the performance of its statutory duties."

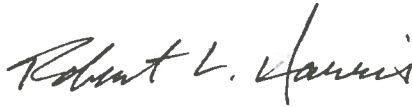
Generally speaking, the Application for Permit is for storage rights associated with the Twin Lakes Canal Company dam being proposed on the Bear River. As to the Transfer Application, the transfer is intended to define the company's permissible place of use and to add storage uses to the Twin Lakes' water rights. Because Twin Lakes Canal Company is such a large company, the permissible place of use description is contained in the attached CD. In addition, we have prepared a shapefile outlining the acres currently irrigated by Twin Lakes.

If you have any questions or concerns, please do not hesitate to call.

73430

Sharla Cox
Idaho Department of Water Resources
March 8, 2007
Page 2 of 2

Sincerely,



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

Enclosures

G:\WPDATA\KWF\7168 TWIN LAKES CANAL COMPANY\Sharla Cox ltr 030807.wpd.cdv



**RB&G
ENGINEERING
INC.**

1435 WEST 820 NORTH
PROVO, UT 84601-1343
801 374-5771 Provo
801 521-5771 SLC

ONEIDA NARROWS RESERVOIR PROJECT

near Preston, Idaho

July 2004

Phase I Study



**RB&G
ENGINEERING
INC.**

July 6, 2004

David Schiess, P.E.
Schiess & Associates
7103 South 45th West
Idaho Falls, Idaho 83402

Dear Mr. Schiess,

Subject: Oneida Narrows Reservoir Project
Phase I Study

Gentlemen:

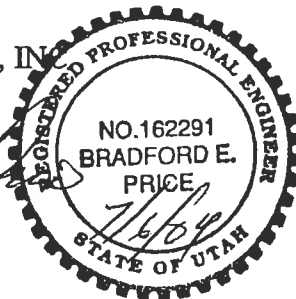
A Phase I Study has been completed for the Oneida Narrows Reservoir Project near Preston, Idaho. The investigation has been conducted in accordance with a proposal submitted to your organization for the work, and the results of the study are summarized in the report transmitted herewith.

We appreciate the opportunity of providing this service for you. If there are any questions relating to the information contained herein, please call.

Sincerely,

RB&G ENGINEERING, INC.


Bradford E. Price, P.E.



bep/jag

1435 WEST 820 NORTH
PROVO, UTAH 84601-1343

PROVO 801-374-5771
SALT LAKE CITY 801-521-5771

Phase I Study

Oneida Narrows Reservoir Project

near Preston, Idaho

July 2004

R B & G E N G I N E E R I N G , I N C .

Professional Engineers

173 43 0



**RB&G
ENGINEERING
INC.**

1435 WEST 820 NORTH
PROVO, UT 84601-1343
801 374-5771 Provo
801 521-5771 SLC

ONEIDA NARROWS RESERVOIR PROJECT

Near Preston, Idaho

PHASE I STUDY

1. INTRODUCTION

We have completed the Phase I study for the Oneida Narrows Reservoir Project near Preston, Idaho. Work to be performed for this phase was outlined in our proposal dated May 18, 2004 and included (1) a review of previous studies and reports, (2) site reconnaissance, and (3) a summary report to include our opinion of the feasibility based upon items 1 and 2; recommendations relating to the scope of additional geotechnical and geological work required for final design; and an estimate of the cost to perform the work. Each of the tasks is discussed below as follows:

2. REVIEW OF PREVIOUS STUDIES AND REPORTS

Several dam sites have been considered for development within the lower section of the Oneida Narrows along the Bear River about 10 miles northeast of Preston Idaho. Two of the sites investigated in the early 1960's by the U S Bureau of Reclamation (USBR) are referred to as the Lower (Axis A) and Upper (Axis B) dam sites. These sites are shown on the geologic map in Figure 1. The upper dam site is located within the S1/2 of the NE1/4 of Sec. 16, T14S, R40E BBM, in Franklin County, Idaho. The lower site is located within the W1/2 of the SE1/4 of Sec. 16. Geologic conditions at the Lower Site have been considered by several geologists to be unfavorable in comparison to the Upper Site located about 1,600 feet upstream of the Lower Site.

Previous studies and reports available for review included the following:

- Calder, March 1960, U.S. Bureau of Reclamation (USBR) G-135, Reconnaissance Geological Report: Oneida Narrows Dam and Reservoir Sites
- Calder, July 1960, USBR G-140, Reconnaissance Geological Report: Oneida Narrows Dam and Reservoir Sites
- Calder, October 1961, USBR G-170, Feasibility Geologic Report—Oneida Narrows Dam (Upper Axis)
- Thompson, January 1959, USBR EM-30, Test Results of Earth Materials for the Proposed Oneida Narrows Dam
- Rollins, May 1987, Oneida Dam Site No. 2 Preliminary Subsurface Investigation for the Utah State Division of Water Resources
- Rollins, January 1988, Oneida Hydro Embankment, Preliminary Feasibility Study
- Montgomery, June 1989, Preliminary and Supplemental Report for Proposed Oneida Narrows Hydropower Dam, Bear River, Idaho prepared for RB&G Engineering, Inc.
- Rollins, November, 1989, Preliminary Design of Oneida Hydropower Embankment

3. SITE RECONNAISSANCE

A visit was made to the site on May 3, 2004 by Brad Price (Geotechnical Engineer) and Michael Hansen (Engineering Geologist), RB&G Engineering. We were met at the site by yourself and representatives of the irrigation company. A visual examination of the upper and lower sites was performed. Base upon the site visit and review of previous studies, the upper site appears to be geologically superior to the lower site and, in discussion with the owners, it was concluded that further investigation should be centered on the upper site. During the site reconnaissance, features described in previous geologic reports were observed. Particular attention was given to surface features such as solution cavities in the left abutment dolomite and landslide and/or potential landslides in the reservoir basin. Our observations were consistent with those reported in the above reports and summarized below; specifically, Montgomery's June 1989 report.

4. SUMMARY OF FINDINGS

In the USBR G-135 report, it was noted that bedrock at the lower site consists of 90% dark gray to blue gray limestone (referred to in later reports as limestone and dolomite of the Cambrian age Nounan Formation). The other 10% consists of orange to red calcareous shale and siltstone located high on the left abutment. This placed brittle highly fractured limestone at both the left and right abutments. Also in this report they state; "Of greater concern is the extent of solution channels along bedding planes which dip steeply to the east and strike roughly parallel to the river. If these channels prove to be extensive and are continuous or interconnecting, it may be impossible to prevent serious seepage past the dam." They also noted from the core taken from test borings that some of the solution channels were clay filled while others were open. Based on

the questionable geologic conditions at this lower site, an alternate upper site (Axis B) located about 1,600 feet upstream was recommended for further investigation. While the distance between abutments is greater, requiring a longer dam at the upper site, the right abutment is no longer located on soluble limestone, but on a less pervious siltstone and shale (non-air slaking). Although the left abutment is still located on the same blue to gray limestone (dolomite) as the lower site, the report states that "At the surface there is less evidence of brecciation, but solution cavities are present."

Subsequent to the Bureau's No. G-135 report, additional geologic studies including test borings was conducted at the upper site. A joint field examination by USBR members from the Denver, Regional and Area offices was conducted in April 1960. In a later report (USBR G-140), the statement is made that: "The exploration and geologic studies completed to date show that the upper axis is greatly superior to the lower axis and indicate that the reservoir basin will be water tight provided an adequate grout curtain can be established on the left side of the river, tying into the non-soluble east flanking formations." Additional studies by RB&G Engineering in the late 1980's concurred that the upper site (Axis B) is superior to the lower axis.

A. Regional Geology

Montgomery's 1989 report describes the regional geology as:

The subject dam site is situated at the southeast end of the southeast-trending Portneuf Mountain Range at its junction with the west edge of the northerly trending Bear River Mountain Range. Downstream to the southwest about 5 miles from the dam site is the northeastern edge of the 60 mile-long, northerly trending Cache Valley, through which the Bear River passes on its way to discharge into the Great Salt Lake. Ten miles from here, across Cache Valley, is the northerly-trending Bannock Mountain Range. The cores of these mountain ranges and the basement of Cache Valley are composed of the older Precambrian and Paleozoic-age sedimentary and metamorphic rock formations. These formations consisting of quartzites, shales, dolomites, limestones, siltstones, and sandstones, were originally deposited in shallow seas which inundated the continent. ~~See Maps 1 and 2 with Figures 1 and 2.~~

This was followed by westerly centered, compressive folding, overthrusting and tear-faulting, fracturing, and a major uplift of the Idaho, Utah, Wyoming region. Following this, was extensive erosion and subsequent reversing of the compressive folding forces to tensional forces, or pulling- apart, which resulted in further fractioning and block-faulting, with the formation of an extensive sequence of interrupted mountains, having down- dropped basins between them,

and the subsequent erosion of the highs with sediment-filling of the lows. Associated with this was later extensive volcanism to the west and northwest which produced a large volume of volcanic ash fall-out and coverage over the subject area, contributing to the valley-filling with sediments. These resulting sediments have formed the Tertiary-age Wasatch Formation (called basal Salt Lake Formation by others) and Salt Lake Formation, within both ancient stream valleys and lakes. They consist of conglomerates, sandstones, tuffs, marlstones, limestones, and siltstones.

Recurrent and later tensional-faulting resulted in the continued uplift of the adjacent mountains and lowering of the valleys with some new and later valleys being formed by continued erosion and sedimentation. This process is continuing into the present time. A part of this uplift included glaciation of the higher regional areas with later warming and increased water-runoff into the lower areas, which resulted in the creation of the ancient and extensive, Lake Bonneville during Pliocene-time (beginning about 75,000 years ago). The highest shoreline-level of this lake preserved as terrace cuts and sedimentary deposits in the Cache Valley and its tributaries (such as the Oneida Narrows) was at an elevation of 5,140 feet. Thus, deposits within it consisting of sands, silts, clays, and gravels (much of which were originally derived from the soft Salt Lake Formation) have accumulated in the lower slopes of the Oneida Narrows canyon and its tributaries, including the proposed dam site and reservoir basin.

B. Dam Site Geology

The axis for the upper dam site is located across a strike valley which has been eroded by the Bear River predominately along the contact between the Cambrian age Nounan Formation on the east (left abutment) and Bloomington Formations on the west (right abutment).

Montgomery's 1989 report described the Bloomington Formation as; ". . . composed of light-greenish-gray-brown, platy-fissile but brittle, hard, silty shale (in part calcareous) that is well jointed and fractured, and is steeply dipping to the south east... Many of the joint faces and bedding planes are colored light gray-brown to rust-brown from calcareous, iron oxide. The rock does not air-slack but weathers out as platy gravel and silt and sand-sized fines, with gravel clast sizes generally 1/2-3 inches, but up to 6 inches where there are limestone beds present. The upper approximately 200 feet of the formation, immediately downstream from the right abutment, includes more limestone beds and grades into a limestone with thin interbeds of gray-brown shale in the upper 90 feet...

...Much jointing exists within the Bloomington Formation with spacing varying from 1 - 48 inches apart. Some of the jointing 400 feet south of the dam alignment is shear jointing across the bedding. Joints at the right abutment are generally striking N40°W with a 75°N dip, and 200 feet to the south striking N52°W, dipping 80°W, intersecting with joints striking N25°E, dipping 60°NW."

"The dolomite section of the Nounan Formation, which forms the left abutment of the proposed dam, is extensively fractured and brecciated, and recemented with lime and limey clay, yet its thick to massive bedding tends to form hard intermittent cliffs and ridges that are resistant to erosion. The bedding is, in large part, obscured by this brecciation, fracturing and shearing. The most prominent joints and shear planes strike N65°W dipping 36°NE and N8°E dipping 62°W. Bedding strikes N20-32°E and dips 62-80°SE. At some intersections of joints and bedding planes, the rock has weathered out forming isolated cavities up to 1 x 3 feet in size, which are likely interconnected in part by the numerous joints which are generally recemented... Because of the extensive brecciation and fracturing, the dolomite weathers-out as angular gravel, cobbles, boulders, and blocks which further weather into smaller sizes with time. A sharp impact with the hammer results in similar breakdown of it into an angular gravel."

"Groundwater levels measured in the USBR drill holes at the proposed damsite and within adjacent areas show the groundwater aquifer beneath the dam and bottom of the reservoir basin to be at or near the water level within the Bear River. Away from the river on both sides, upslope within the river valley drainage, the groundwater levels are progressively higher which show a general, potentiometric groundwater surface sloping toward the river... Thus, at the damsite and within the proposed reservoir basin, the river channel is at or near the low point of the potentiometric groundwater surface."

"Faulting and folding of the rock strata is prominent throughout the proposed dam and reservoir areas... however, no appreciable faulting was found right at the dam abutments."

"Known cavities up to 1 x 3 feet in size exist within the brecciated dolomite at shear-joint intersections, where it outcrops within the dam left abutment. It is likely that such open cavities have been developed principally by weathering, above the known groundwater surface..."

Obviously, to adequately determine the nature of the bedrock, presence of cavities and some idea of their size, and permeability at the proposed damsite, drill holes involving coring and low water pressure circulation and water permeability tests will need to be conducted throughout the foundation and within the abutments of the proposed dam."

C. Reservoir Basin Geology

Montgomery's June 1989 report addresses the principal soils within the project area as well as landslide potential within the proposed basin. Montgomery states the following:

Failure of soil masses due to construction and filling and releases of the reservoir are limited to relatively small volumes in patches along the lower slopes of the Oneida Narrows, the maximum thickness of which is the talus gravel deposits up to 20-30 feet thick within the existing gravel pits in the W/2 NE/ Sec. 16, T14S, R40E. Here, where the supporting toe of these materials has already been removed, I recommend that during dam construction, the unstable material upslope be removed to form a stable slope of repose, as far up the slope as is necessary....

Farther on up the canyon through the Oneida Narrows the main unstable patches of colluvium have been outlined on the ~~attached geologic map~~. These deposits generally do not exceed 10-15 feet thick and their volumes are such that their shifting due to rise and fall of the reservoir do not provide enough volume displacement to cause large seiches and overtopping of the dam. However, such potentially unstable patches of colluvium do pose a dangerous situation to any foot-paths or camping areas placed upon them after filling of the reservoir.

Based upon Montgomery's field examination and review of geologic maps and previous studies, he concludes that:

For an earth embankment dam there appears to be ample borrow materials favorable for construction, within 2000 feet upstream of the dam on both sides of the river. However, adequate gravels and sands for filter drains and concrete production have not been designated, but are likely available from known, ancient stream terrace and ancient lake terrace deposits found within the Mink Creek-Bear River Valley downstream approximately 1-2 miles distance.

.....

No known massive landslides have occurred or exist within the Oneida Narrows dam and reservoir area in late-geologic time, but landslides have occurred within the west slope of the broader river valley between the Narrows and existing power plant.

D. Preliminary Earth Embankment Design

The originally proposed (1960's) USBR dam was to have a height of about 300 feet. The Oneida HydroPower Dam (1989) was to have a height similar to the currently proposed structure of about 110 to 113 feet, with the high water level about 100 feet above the existing Bear River. Lowering the structure reduces the hydrostatic pressures and the treatment area needed for highly fractured geologic units.

The Bear River at this location is at an elevation of about 4,635 feet. The USBR drilled 4 test holes at the Upper Site at the approximate locations shown in plan view in Figure 3 and in the cross section in Figure 25 of the RB&G Engineering, Inc. preliminary embankment design report. (These figures are included in the appendix) Only one boring was located below the currently proposed high water level. This boring found the depth to bedrock beneath the stream alluvium to be about 85 feet. The preliminary design proposed construction of a partial earthfill cutoff extending 40 feet below the stream channel combined with a slurry wall extending into the bedrock. A source of embankment material was located approximately 4,000 feet upstream from the dam site during the preliminary design. The source appears to be above the high water level of the proposed reservoir and will require further evaluation during final design.

The design also includes a grout curtain in the foundation to varying depths with the depth dependant upon additional drilling. A roller compacted concrete cap was proposed on the downstream slope to allow for passing of the probable maximum flood event. The maximum cross section shown in Figure 24 of the report is included in the appendix.

Also included in the 1989 preliminary design report is an opinion of probable cost. Following submittal of the report, the Federal Energy Regulatory Commission (FERC) requested that the preliminary cost estimate be revised to include extending the grout curtain to a minimum depth of 150 feet in the limestone foundation, using a triple row curtain, and a concrete slurry wall. This increased the 1989 estimate from about \$1.93 million to \$2.6 million dollars. The estimate did not contain several items including the cost for the outlet works, filters, and the RCC cap on the downstream slope. In addition, the estimate only included 5000 sq ft for the slurry wall. This appears to be grossly underestimated, with an actual square footage of about 15,000 based on the 1989 design. We believe that final design, based upon the subsurface investigation, will result in a significantly greater square footage of wall. We recommend that the cost estimate be re-evaluated using 2004 costs, with the inclusion of the items outlined above. It is our opinion that the cost of the structure will be in the \$6 to \$8 million dollar range.

E. Scope of Additional Geotechnical/Geological Work Required for Final Design

Based upon our review of previous reports, comments and responses relating to the site, and our site reconnaissance, we have not identified any fatal flaws which would eliminate the feasibility of constructing a safe, functional reservoir at this site. At this stage of study, we consider the site to be geologically feasible. Additional investigations are required to determine if conditions exist which have not been identified to date. The damsite is located in an area of complex geology. Of primary concern is the competency of the bedrock in the left (east) abutment and foundation which consists of highly fractured and brecciated dolomite. This rock contains known cavities in the weathered exposures above the water table. Whether cavities extend through the abutment, their size, and continuity can only be evaluated with additional investigation. We recommend the following scope of work for final design:

Task 1-Subsurface Investigation at Dam Site

It is our opinion that the following drilling program will be required to determine that characteristics of the foundation for the dam.

Test Hole No.	Location	Orientation	Est. Depth (ft)
04-1	CL Left Abutment @ Top of Dam	Angle 30° east	300
04-2	CL Left Abutment @ Top of Dam	Vertical	150
04-3	CL Left Abutment @ Base of Abut.	Angle 30° east	300
04-4	CL Left Abutment @ Base of Abut	Vertical	300
04-5	CL Left Edge of Stream	Vertical	150
04-6	CL Right Edge of Stream	Vertical	150
04-7	CL Right Abutment Base of Abut	Angle 30° west	150
04-8	CL Right Abutment @ Top of Dam	Angle 30° west	150
04-9	CL Right Abutment @ Top of Dam	Vertical	150
04-10	Downstream Max. Section	Vertical	150
04-11	Upstream Max. Section	Vertical	150

We anticipate that sampling will be performed at about 5 foot intervals in the overburden and that continuous coring will be performed in the bedrock. Permeability testing will be performed at 5 to 10 foot intervals. It is anticipated that a skid rig transported by helicopter will be required for the top of dam abutment borings.

Task 2-Additional Borrow Investigations

We recommend that additional borrow sources be investigated during final design. Sources should include areas which can be readily shaped and vegetated following the borrow operation to prevent erosion and unsightly conditions. We propose to use a trackhoe to excavate 15 additional test pits.

Task 3-Laboratory Testing

A detailed laboratory program will be designed to define the characteristics of the materials recovered from the subsurface and borrow investigations. It is anticipated that this work will include (1) gradation analyses, (2) Atterberg Limits, (3) soluble salt content, (4) unconfined compressive strength, (5) lab permeability, (6) soil moisture-density, (7) abrasion, (8) specific gravity, (9) direct shear, (10) triaxial shear, (11) hydrometer, and (12) sodium soundness tests. An RCC mix design should be performed using available materials.

Task 4-Geology

Additional research to evaluate more recent geologic and seismic studies and maps that have been published since the earlier reports will be performed. Detailed field mapping of outcrops within the dam abutments and basin will be performed. This information will supplement the previous detailed geologic reports. The Maximum Credible Earthquake (MCE) will be evaluated using both deterministic and probalistic approaches.

Task 5-Foundation Design

Based upon the results of the subsurface investigations, a detailed foundation design will be performed. The design will include foundation preparation, cutoff and seepage control, grout curtain design and drainage. The foundation will be evaluated for static and seismic performance.

Task 6-Embankment Design

Cross sections will be developed for embankment design options which will include a multi-zoned earth embankment, an RCC embankment and a combination of earth and RCC. Due to the depth to bedrock and ample source of earthfill, it is our opinion that a multi-zoned earthfill structure with an RCC section similar to that proposed in the 1989 preliminary study will be the most efficient section for this site.

Task 7-Geotechnical Design Report

A report will be prepared summarizing the results of the findings obtained during completion of Tasks 1 through 6. Five copies of the report will be delivered.

F. Cost Estimate for Above Scope of Work

Task 1 Subsurface Investigation at Dam Site

Skid Rig	280 hrs	@ \$130.00/hr	\$ 36,400.00
Truck mounted Drill Rig	382 hrs	@ \$130.00/hr	49,660.00
Engineering Geologist	662 hrs	@ \$60.00/hr	39,720.00
Helicopter	3 trips	@ \$4,000.00/trip	12,000.00
Dozer	16 hrs	@ \$125.00/hr	2,000.00
Direct Expenses			
Diamond Bits, Water Pumps, Cement Etc.	(cost +15%) est.		5,000.00
Per Diem	83 days x 3 men	@ \$50.00/day	12,450.00
Project Geot. Engineer	32 hrs	@ \$100.00/hr	3,200.00
Subtotal Task 1			\$ 160,430.00

Task 2 Additional Borrow Investigations

Trackhoe	30 hrs	@ \$125.00/hr	\$ 3,750.00
Geot. Engineer	40 hrs	@ \$ 60.00/hr	2,400.00
Per Diem	5 days	@ \$50.00/day	250.00
Proj. Geot. Engineer	8 hrs	@ \$100.00/hr	800.00
Subtotal Task 2			\$ 7,200.00

Task 3 Laboratory Testing

Unconfined Compressive Strength	40 ea	@ \$ 50.00/test	\$ 2,000.00
Triaxial Shear Tests	2 ea	@ \$600.00/test	1,200.00
Direct Shear Tests	2 ea	@ \$150.00/test	300.00
Proctor Tests	5 ea	@ \$85.00/test	425.00
Permeability Tests	3 ea	@ \$125.00/test	375.00
Soluble Salt Tests	10 ea	@ \$25.00/test	250.00
Sodium Soundness Tests	10 ea	@ \$50.00/test	500.00
Specific Gravity Tests	5 ea	@ \$55.00/test	275.00
Gradation Tests	30 ea	@ \$35.00/test	1,050.00
Atterberg Limit Tests	30 ea	@ \$35.00/test	1,050.00
Hydrometer Tests	30 ea	@ \$50.00/test	1,500.00
RCC Mix Design			2,000.00
Subtotal Task 3			\$ 10,925.00

Task 4 Geology

Geologist	80 hrs	@ \$60.00/hr	\$ 4,800.00
Consulting Geologist	24 hrs	@ \$95.00/hr	2,280.00
Subtotal Task 4			\$ 7,080.00

Task 5 Foundation Design

Project Geotechnical Engineer	24 hrs	@ 100.00/hr	\$ 2,400.00
Geot. Design Engineer	80 hrs	@ 75.00/hr	6,000.00
CADD Draftsman	40 hrs	@ 50.00/hr	<u>2,000.00</u>
Subtotal Task 2			\$ 10,400.00

Task 6 Embankment Design

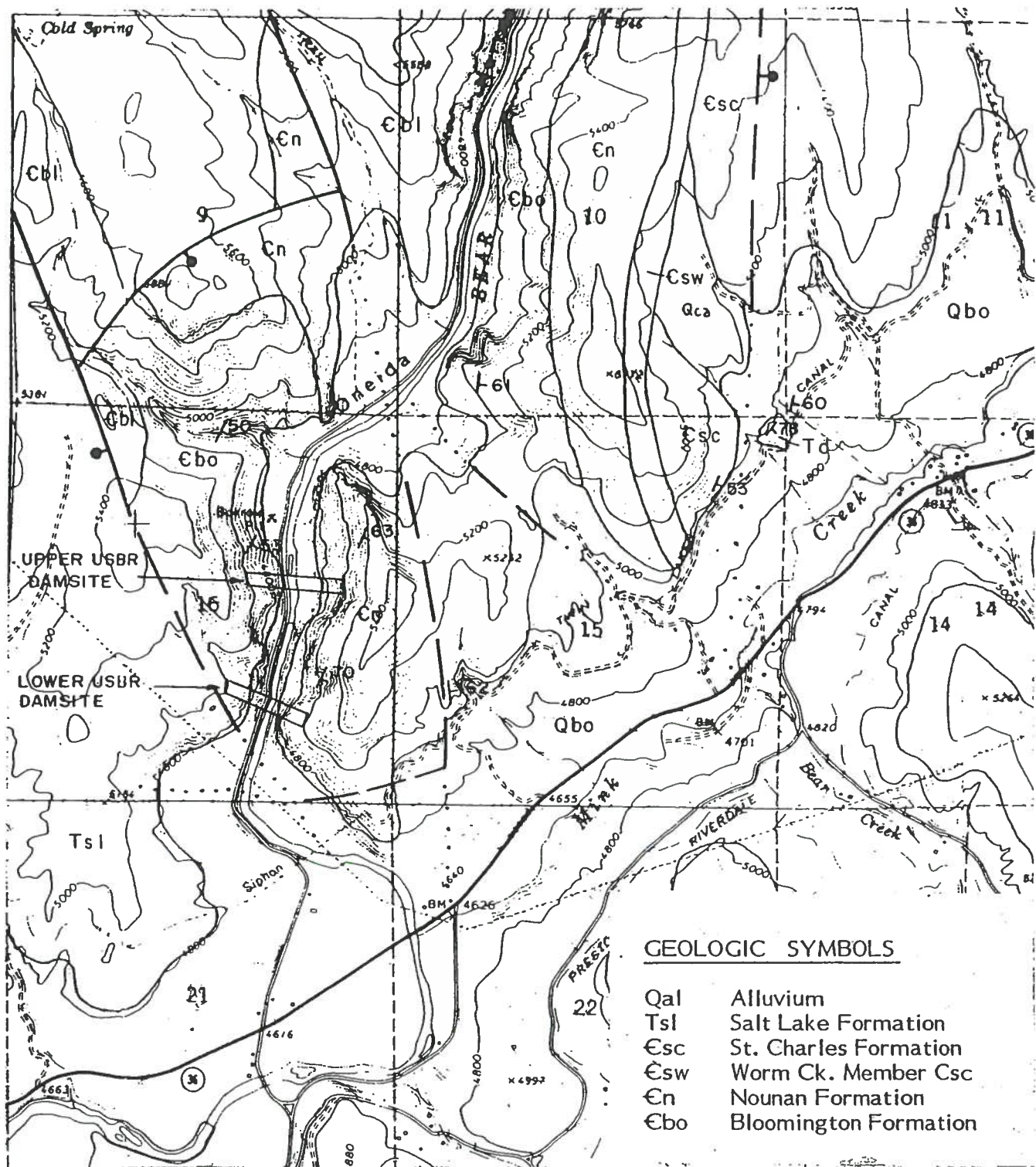
Project Geotechnical Engineer	40 hrs	@ 100.00/hr	\$ 4,000.00
Geot. Design Engineer	120 hrs	@ 75.00/hr	9,000.00
CADD Draftsman	40 hrs	@ 50.00/hr	<u>2,000.00</u>
Subtotal Task 2			\$ 15,000.00

Task 7 Geotechnical Design Report

Project Geotechnical Engineer	24 hrs	@ 100.00/hr	\$ 2,400.00
Geot. Design Engineer	40 hrs	@ 75.00/hr	3,000.00
CADD Draftsman	40 hrs	@ 50.00/hr	2,000.00
Secretary	24 hrs	@ 45.00/hr	1,080.00
Printing Report	5 copies	@ 20.00/hr	<u>100.00</u>
Subtotal Task 2			\$ 8,580.00

TOTAL.....\$ 219,615.00

Figures



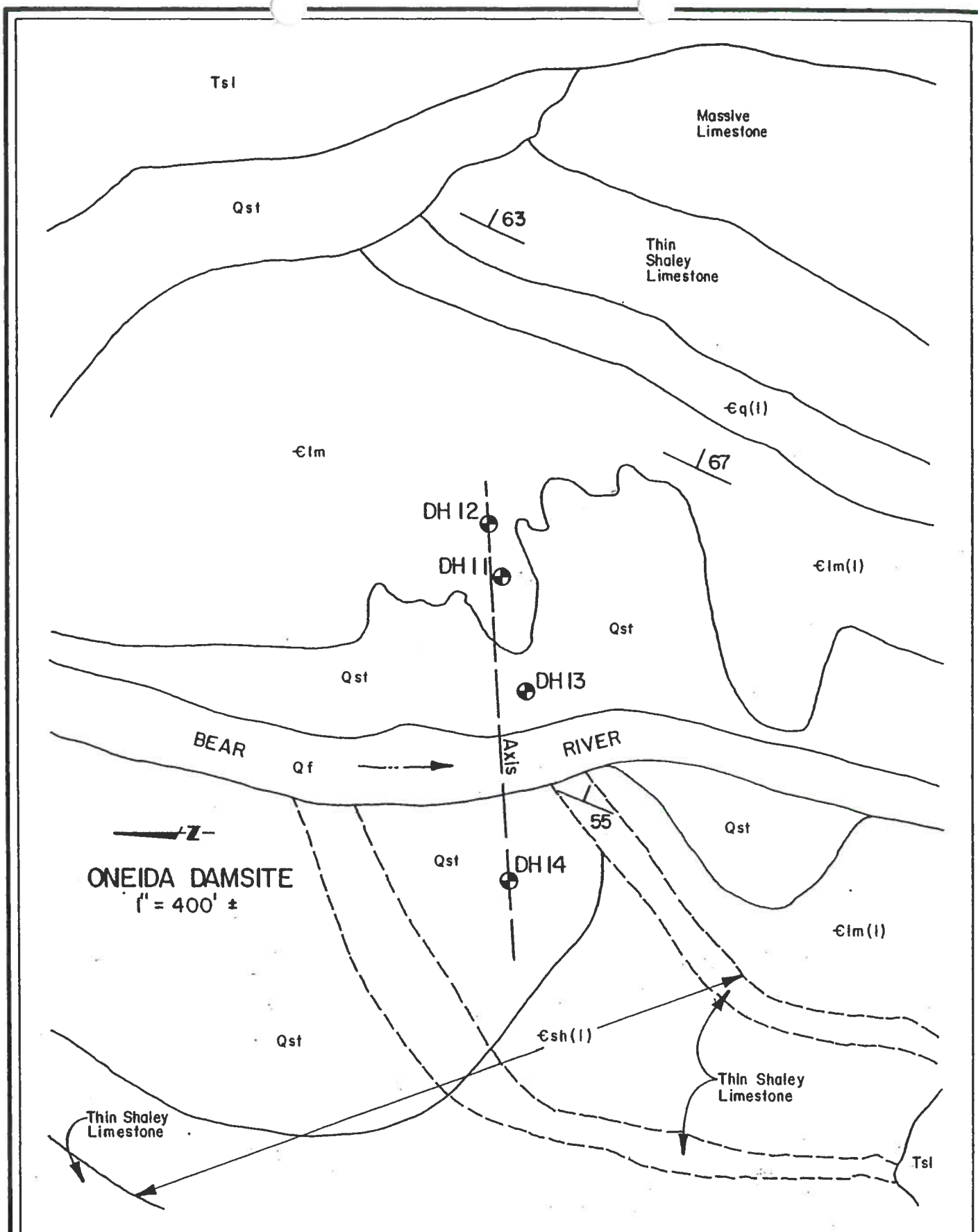
Damsite located in section 16
Township 14 South, Range 40 East
Boise Base and Meridian

ONEIDA HYDRO EMBANKMENT

SITE LOCATION
AND
GEOLOGIC MAP

FIGURE
NO. 1

Appendix



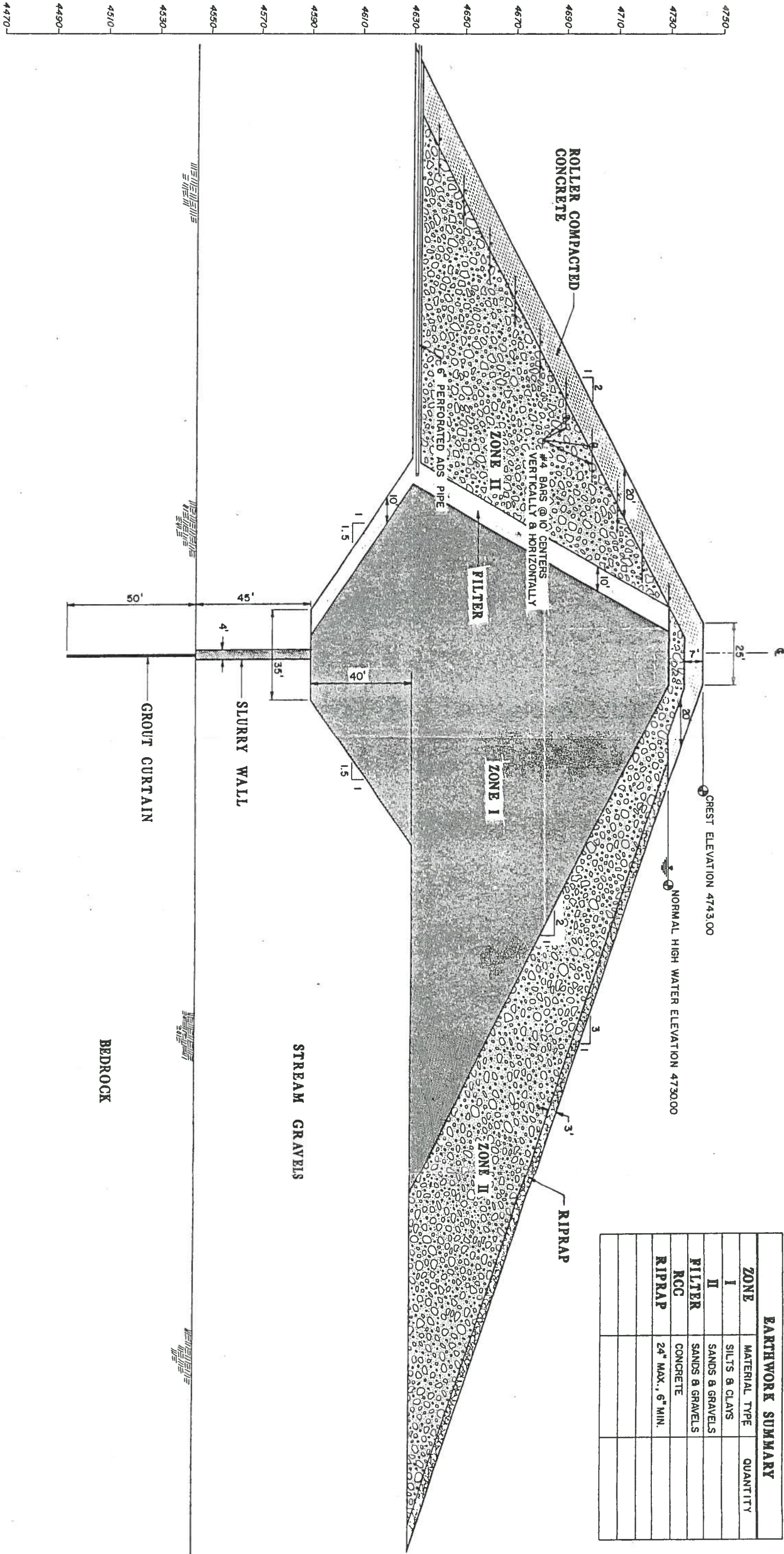
ROLLINS, BROWN AND GUNNELL, INC.
PROFESSIONAL ENGINEERS

Location of Borings

FIGURE
NO. 3

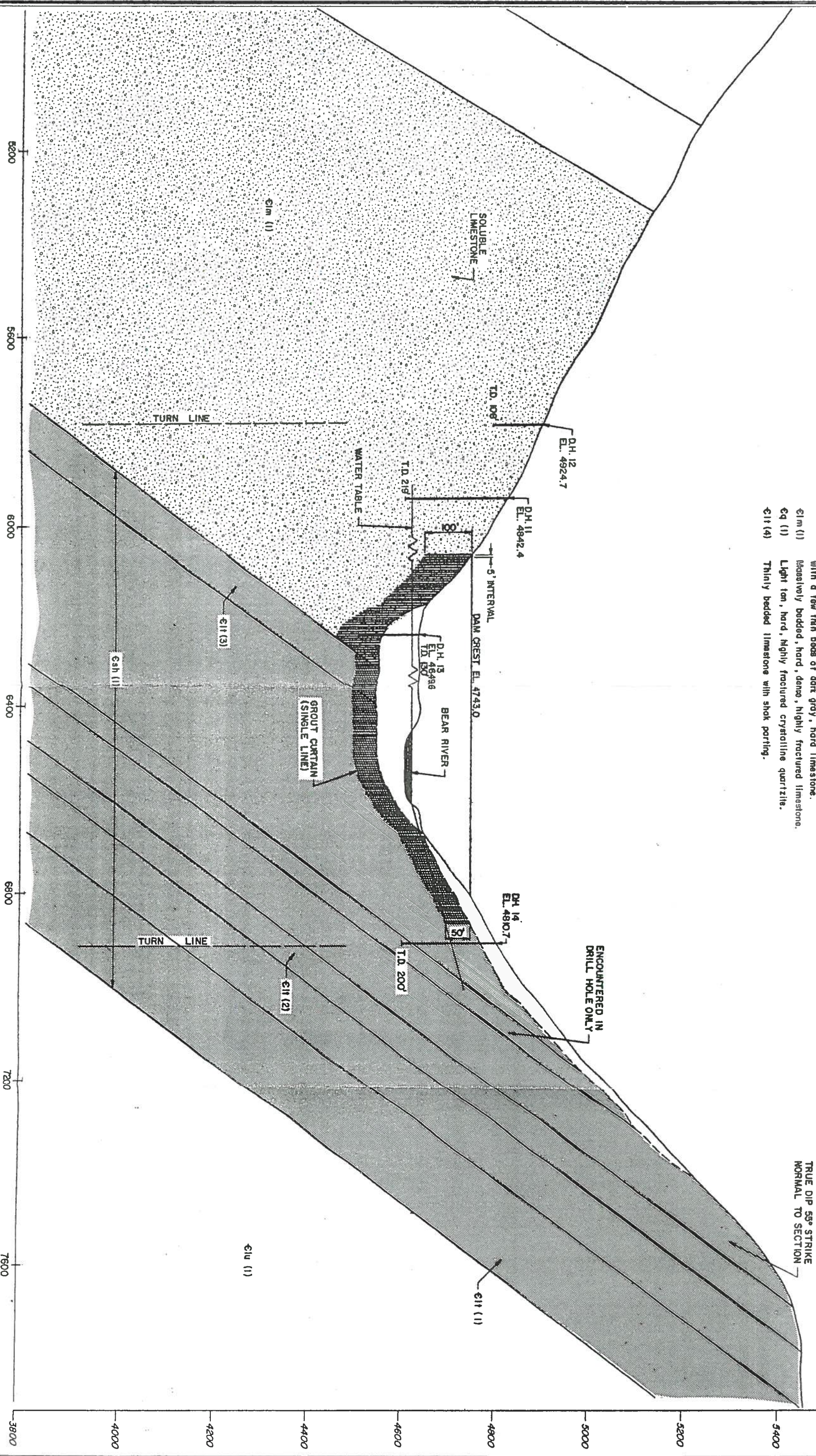
73 43 0

EARTHWORK SUMMARY		
ZONE	MATERIAL TYPE	QUANTITY
I	SILTS & CLAYS	
II	SANDS & GRAVELS	
FILTER	SANDS & GRAVELS	
RCC	CONCRETE	
RIPRAP	24" MAX., 6" MIN.	



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- esh (1) Tan to greenish-grey, hard, well-cemented, shale and siltstone with a few thin beds of dark grey, hard limestone.
- elim (1) Massively bedded, hard, dense, highly fractured limestone.
- eq (1) Light tan, hard, highly fractured crystalline quartzite.
- eli (4) Thinly bedded limestone with shak parting.



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