APPENDIX A

PROPOSED PLAN FOR AMD ABATEMENT

(Backup Data)

Abatement Projects:

Upper Coal Brook AMD Abatement Project A-1 Lower Coal Brook AMD Abatement Project A-7 Major Stream Abatement Projects: A-10

Laurel Run A-12

Mill Creek A-13

Gardner Creek A-13

Fox Hill Flume AMD Abatement Project A-13

Flow Comparisons - Loss/Gain A-15

Loss Computations A-28

UPPER COAL BROOK AMD ABATEMENT PROJECT

PROJECT DESCRIPTION. The AMD abatement project presented consists of two major items; stream restoration, including lining to prevent streambed water losses, and strip mine area reclamation, including grading and seeding to prevent off-stream water losses into the deep mines through stripped areas.

In general, mined areas are not recommended for restoration in as much as the land will eventually be reclaimed by local interests. However, reclamation is recommended in the few isolated areas shown on Figure 11. These are remote areas with difficult access and which are not likely to be developed in the near future by private interests, but could be developed by the public as recreation and/or industrial sites. AMD benefits are greater in the recommended areas because strip mining intercepts runoff from the unmined areas above them.

Estimate Criteria. To facilitate a more accurate determination of project cost, the tributary was subdivided into stream reaches.. Major breaks in the natural slope of each portion of the stream constitutes the criteria of the subdivision into stream reaches. Relationship between the rate of flow and the cost per foot of channel for various slopes was computed and is presented in Figure A-1. The unit cost is based on trapezoidal concrete channel sections and includes allowance for contingencies, such as extra depth for excavation and transitions between adjacent channel reaches of different dimensions. Flow determination for each reach (design flow) is based on the Soil Conservation Service (SCS) method, "Determination of Peak Rates of Discharge for Small Watersheds".* Maximum flow resulting from a 24 hour storm of a 50 year frequency was the adopted criteria for the determination of channel costs.

Restoration of strip mine areas will result in increased runoff into the restored streams. Therefore, the capacity of existing culverts and bridges to pass, the design flow in the restored channels was checked where applicable. If the capacity of these structures was found to be inadequate, the cost of replacement was added to the total project cost.

** Engineering Design Manual, Chapter 2, Drawing No. ES 1027*

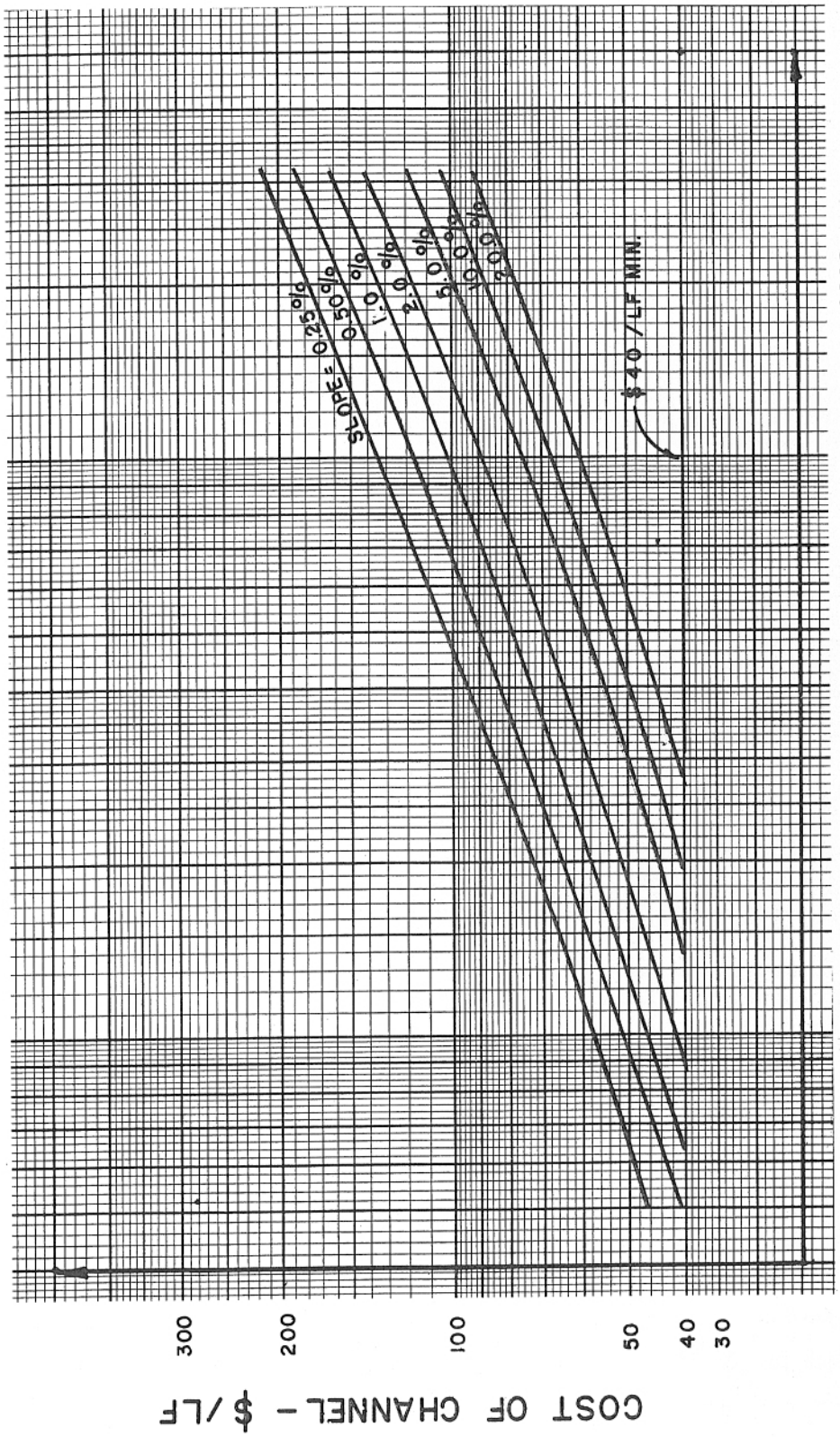

COST OF CHANNEL - $/LF
300
200
100
50
40
30
CHANNEL DISCHARGE - CFS
40
50
100
500
1000
2000
$40 /LF MIN.
SLOPE = 0.25 %
0.50 %
1.0 %
2.0 %
5.0 %
10.0 %
20.0 %

FIGURE A-1

UPPER COAL BROOK PROJECT

STREAM RESTORATION

(Restore & Line Stream Channels)

	REACH	Dr. Area[1] (Acres)	SLOPE (%)	LENGTH (LF)	Q 50 (cfs)	COST/LF ($/LF)	COST ($)
COAL BROOK	1-2	176	10.8	1,200	480	53	63,600
	2-3	220	11.5	1,000	550	55	55,000
	4-5	231	13.8	1,300	560	54	70,200
	5-6	300	8.8	800	630	60	48,000
	7-8	136	15.0	1,200	400	48	57,600
	8-9	264	8.9	900	620	59	53,100
	10-11	184	14.3	1,400	470	50	70,000
	11-9	264	4.1	2,200	470	64	140,000
	9-6	626	2.2	2,300	950	85	195,500
	6-3	870	1.0	1,500	1,020	104	156,000
	3-C		1.0	1,600	1,020	104	166,400
	C-D		0.5	1,000	1,300	128	128,000
							1,204,200
SOLOMON CREEK	Above A		2.5	4,000	400	63	252,000
	A-B	365	12.5	1,300	800	62	80,600
	B-C		10.0	1,000	800	62	68,200
	D-R[2]	130	4.7	1,200	330	54	64,800
							465,600
							1,669,800

(1) *Drainage Area to Lower Point*

(2) *R - Reservoir*

Upper Coal Brook
Abatement Project

ESTIMATE STRUCTURE REPLACEMENT/REPAIR COSTS

1.	Haulroad Crossings	
	Assume pipe culverts 5 req'd.	$ 25,000
2.	Railroad Crossings	
	Assume Repair & improve inlets @ 7,500 ea. 5 req'd.	$ 37,500
3.	I-81 Crossings	
	Assume improved inlets @ 7,500 6 req'd.	$ 45,000
4.	Apartment Access Road	
	Assume box culvert	$ 15,000
		$122,500
	Contingencies + 25%	30,500
		$153,000

Upper Coal Brook
Abatement Project
MAR Costs

AREA A

ITEM	QUANTITY	UNIT COST	COST
MAJOR COLLECTION CHANNELS	500LF	$40	$20,000
MINOR COLLECTION CHANNELS	2000LF	$25	$50,000
FEEDER CHANNELS	3000LF	$10	$30,000
PIT BACKFILL & ROUGH GRADING	50000CY	$1	$50,000
FINE GRADING	40AC	$1000	$40,000
SEEDING & PLANTING	40AC	$750	$30,000
		TOTAL	$220,000

AREA B

ITEM	QUANTITY	UNIT COST	COST
MAJOR COLLECTION CHANNELS	500LF	$40	$20,000
MINOR COLLECTION CHANNELS	1500LF	$25	$37,500
FEEDER CHANNELS	2000LF	$10	$20,000
PIT BACKFILL & ROUGH GRADING	20000CY	$1	$20,000
FINE GRADING	30AC	$1000	$30,000
SEEDING & PLANTING	30AC	$750	$22,500
		TOTAL	$150,000

AREA C

ITEM	QUANTITY	UNIT COST	COST
MAJOR COLLECTION CHANNELS	500LF	$40	$20,000
MINOR COLLECTION CHANNELS	1000LF	$25	$25,000
FEEDER CHANNELS	2000LF	$10	$20,000
PIT BACKFILL & ROUGH GRADING	20000CY	$1	$20,000
FINE GRADING	25AC	$1000	$25,000
SEEDING & PLANTING	25AC	$750	$18,800
		TOTAL	$128,800

AREA D

ITEM	QUANTITY	UNIT COST	COST
MAJOR COLLECTION CHANNELS	500LF	$40	$20,000
MINOR COLLECTION CHANNELS	800LF	$25	$20,000
FEEDER CHANNELS	1000LF	$10	$10,000
PIT BACKFILL & ROUGH GRADING	50000CY	$1	$50,000
FINE GRADING	30AC	$1000	$30,000
SEEDING & PLANTING	30AC	$750	$22,500
		TOTAL	$152,500

AREA E

ITEM	QUANTITY	UNIT COST	COST
MAJOR COLLECTION CHANNELS	2000LF	$40	$80,000
MINOR COLLECTION CHANNELS	2000LF	$25	$50,000
FEEDER CHANNELS	1000LF	$10	$10,000
PIT BACKFILL & ROUGH GRADING	250000CY	$1	$250,000
FINE GRADING	50AC	$1000	$50,000
SEEDING & PLANTING	50AC	$750	$37,500
		TOTAL	$477,500

Upper Coal Brook
Abatement Project

COST SUMMARY AND BENEFITS.

Cost Summary.

Stream Restoration	$1,671,000
Replace/Repair Structures	153,000
Mine Area Restoration (MAR)	1,129,000
	$2,953,000

Water Loss to Mines.

Loss prevented = 0.027 R (0.9B + 0.5 C)

Where:

B = Drainage area of "B" areas in acres

C = Drainage area of "C" areas in acres

R = Assumed average annual runoff - 20.4"*

With MAR:- B = 876 and C = 1,331 ∴ Loss = 775 MG

W/O MAR:- B = 826 and C = 67 ∴ Loss = 409 MG

Benefits.

Assuming an average acid concentration of 360 Lb/day**

With MAR:-

Lbs of Acid Prevented = 6,417/day

Cost/Lb/Day = $ 460

W/O MAR:-

Lbs of Acid Prevented = 3,386

Cost/Lb/Day = $ 539

* *See SL 181-3 Report for derivation*
20.4" ≃ average annual flow at Toby Creek USGS gage

** *LBS Acid/Day = 8.28 x MGY*

LOWER COAL BROOK AMD ABATEMENT PROJECT

PROJECT DESCRIPTION. The lower portion of the Coal Brook watershed is, for the most part, highly urbanized and some areas of mining activity have been restored by local interests. In spite of the overall watershed conditions, no outflow from the watershed was observed. It is assumed that the greater losses occurred in the stream channel itself as the watershed has a history of flooding from localized storms. (The blocking of the stream channel by refuse piles near the "Zayre Strippings" precludes any runoff from the Upper Coal Brook watershed from reaching the lower reaches of this stream).

The proposed project consists of constructing a concrete channel within the limits shown on Figure 13, page 101.

Estimate Criteria. To facilitate a more accurate determination of project cost, the tributary was subdivided into stream reaches. Major breaks in the natural slope of each portion of the stream constitutes the criteria of the subdivision into stream reaches. Relationship between the rate of flow and the cost per foot of channel for various slopes was computed and is presented in Figure A-1 (page A-2). The unit cost is based on trapezoidal concrete channel sections and includes allowance for contingencies, such as extra depth for excavation and transition between adjacent channel reaches of different dimensions. Flow determination for each reach (design flow) is based on the Soil Conservation Service (SCS) method, "Determination of Peak Rates of Discharge for Small Watersheds".* Maximum flow resulting from a 24 hour storm of a 50 year frequency was the adopted criteria for the determination of channel costs.

Restoration of strip mine areas will result in increased runoff into the restored streams. Therefore, the capacity of existing culverts and bridges to pass the design flow in the restored channels was checked where applicable. If the capacity of these structures was found to be inadequate, the cost of replacement was added to the total project cost.

* Engineering Design Manual, Chapter 2, Drawing No. ES 1027

Lower Coal Brook
Abatement Project

ESTIMATED COSTS

CHANNEL COSTS

REACH	SLOPE	Q_p*	$/LF	CHANNEL LENGTH	COST ($)
Begin - 1	3.3	750	75	3,000	225,000
1 - 2	1.3	750	80	500	40,000
2 - 3	0.6	750	100	400	40,000
3 - 4	0.4	800	105	500	52,500
4 - 5	0.5	800	105	300	31,500
5 - 6	0.9	850	105	800	84,000
6 - 7	0.5	900	110	900	99,000
7 - 8	0.8	925	110	700	77,000
8 - 9	0.5	950	115	900	103,500
9 - End	0.2	1,000	130	600	78,000
				TOTAL	830,500

* *Assumes overflow from upper property*

STRUCTURE COSTS

1. Driveway**	Replace exist. 6' CMP with 15' x 9' arch	35,000
2. R.R.	Existing 12' x 6' CMP arch †	5,000
3. Rte. 309	Existing 12.5' Bridge †	5,000
4. Spring St.	Existing 15.5' Bridge †	5,000
5. Scott St.	Existing 17.5' Bridge †	5,000
6. Kidder St. to R.R.	Replace existing 2.5' x 5' Dbl Box with 5' CMP downstream	200,000
7. R.R. Bridges	Existing 10' x 10'/10.5' Bridges †	10,000
8. R.R. Pipe	Replace existing 3' RCP	25,000
9. Brewery Road	Replace existing 5' RCP	25,000
	TOTAL	305,000

** *Reach numbers 1 through 9 correspond with structure numbers and locations shown on Figure 13.*

† *Clean and lower invert and improve inlets.*

COST SUMMARY AND BENEFITS

Cost Summary.

Stream Restoration	$ 830,500
Replace/Repair Structures	305,000
	$1,135,500

Water Loss to Mines.

The lower Coal Brook watershed is assumed to be, or will be in the near future, completely urbanized with direct runoff approaching 90% of precipitation. Assuming an average annual precipitation of 40" (see Hydrologic Conditions) and assuming, arbitrarily, that 50% of the runoff loss could be prevented, water loss prevention equals:

$$17.38 \times \text{Area } (1.5 \text{ mi}^2) \times .9 \times .50 \times 40 = 469 \text{ MG/year}$$

Benefits.

Using the average annual acid load of the South Wilkes-Barre Boreholes (360 mg/l):

Lbs of Acid Prevented = $8.28 \times 469 = 3,883$

Cost/Lb/Day:- $1,135,000 \div 3,883$ Lbs = $292

Major Stream AMD Abatement Projects.

Substantial losses were observed in all of the major streams within the coal measures (Laurel Run, Mill Creek and Gardner Creek). Generally, the losses were observed over long reaches of the streams. Major "point" losses in streambeds were not identified. Therefore, it is presumed that streambed loss prevention is required throughout the stream reaches within the coal measures*.

Estimate Criteria.

Two types of construction are considered:

1. Where the stream flows on unconsolidated sediments, an im pervious liner with erosion protection is proposed.
2. Where the stream flows on bedrock, cleaning and grouting of the open joints in the channel bottom is proposed.

Basic Cost for Sediment Stream Reaches.

Excavation including dewatering	$ 3.20/SY
Subgrade Preparation	0.60/SY
PVC Liner	6.50/SY
Riprap Liner Protection	18.70/SY
Jute Mat and Slope Seeding	1.00/SY
TOTAL per SY	$30.00/SY

Substantial savings could be realized if the insitu sediments can be used for:

1. Mixing with "Bentonite" for the impermeable liner.
2. Mixing with cement to provide soil cement for protective covering for the liner.
3. Constructing "gabions" for the liner and slope protection. Field and laboratory investigations are required to determine the feasibility of these possibilities.

'~ Estimates are based on preventing low flow losses only. No costs are included for increasing the streams capacities to handle flood conditions. By inspection, no major stream 'constrictions were apparent. The Projects as proposed should not increase the flooding potential of the streams.

Basic Cost Estimate for Bedrock Stream Reaches.

Control of Water	$ 3.10/SY
Surface Preparation	1.00/SY
Grout Joints with Non-Shrink Grout*	5.90/SY
TOTAL per SY	$10.00/SY

* *Rate of application = .013 CY/SY of surface area.*
Cost of premixed grout and placement = $425/CY
NOTE: Cement/Concrete would be used for large area grouting.

Drainage Structures.

All existing drainage structures within these projects are of adequate size to convey the design flow.

Construction Types:

A - Surface Grouting of Bedrock @ $10.00/SY
B - Construction of Impervious Liner @ $30.00/SY

Laurel Run Abatement Project.

REACH*	LENGTH	EST. WIDTH	TREATMENT		COST ($)
B-1	1,200	25	A		33,300
1-2	800	30	B		80,000
2-3	3,700	30	A		123,300
3-4	2,500	45	A		125,000
4-5	2,000	36	B		240,000
5-E	400	40	B		53,500
				TOTAL	654,900

Mill Creek Abatement Project

B-1	5,500	25	B		458,300
1-2	500	25	A		14,000
2-3	3,400	25	B		340,000
3-4	3,500	30	B		50,000
4-5	500	30	A		16,700
5-6	2,500	35	B		291,700
6-7	1,900	40	A		84,400
7-E	3,700	30	B		370,000
				TOTAL	1,611,800

* *Stream reaches shown on Figure 13, page 101.*

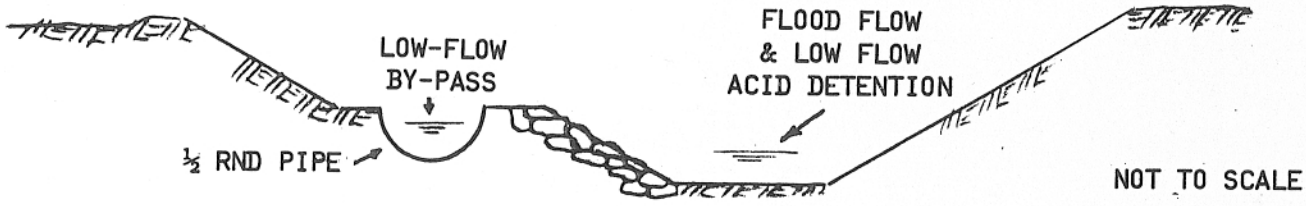
Gardner Creek Abatement Project.

REACH	LENGTH	EST. WIDTH	TREATMENT	COST ($)
B-1	4,200	25	B	350,000
1-E	1,700	25	*	47,200

* Channel improvement without lining @ $10/SY. The stream reach from Point 1 to the End parallels a large breaker waste pile. This waste is a source of high acid and iron concentration contamination (see water quality records G-8A). It is presumed that the waste pile will eventually be reclaimed. However, an interim solution to prevent acid "slugs" during low flow periods is proposed as follows:

1. Clean existing channel and provide a small detention area for the acid seepage.
2. Provide a separate bypass channel to convey the clean water past the area of contamination during low flow periods (see sketch).

TYPICAL SECTION
ACID SEEPAGE REACH



Cost of Low Flow Bypass Channel	900LF @ $30/LF	27,000
	TOTAL COST	424,000

Benefits of Major Stream AMD Abatement Projects.

For water lost to South-East Mine Pool Complex, use:
Average Acid Concentration = 360 mg/l (S. W.-B. Boreholes)
For water lost to North-West Mine Pool Complex, use:
Average Acid Concentration = 182 mg/l (Buttonwood Tunnel)

Laurel Run:- Estimated Cost of Abatement = $ 654,900
Annual Streambed Loss . . . . . 540 MG
All losses contribute to South-East Complex, therefore,
Lbs of Acid/Day prevented 4,471
Cost/Lb of Acid Prevention = 654,900 ÷ 4,471 = $ 147/Lb

Mill Creek:- Individual reaches of Mill Creek have varying losses and contribute to different Mine Pool Complexes.

REACH	ANNUAL LOSS MG*	#/ACID/DAY	POOL COMPLEX RECEIVING LOSS	COST ($)	COST/LB ACID PREVENTION
B-2	485	4,016	SOUTH-EAST	472,300	$118.00
2-3	410	3,395	SOUTH-EAST	340,000	100.00
3-7	200**	1,656	SOUTH-EAST	442,100	267.00
7-E	450	1,884	NORTH-WEST	370,000	196.00
		10,951		1,541,800	$141.00

** *Includes estimate of leakage from Storm and Sanitary Sewer Flows into the Stream Reach*

Gardner Creek:-

Estimated Cost	$424,000.00
Estimated Annual Stream Loss Prevention . .	401 MG
Pounds of Acid per Day Prevented	1,655 Lbs
Cost per Pound of Acid per Day	$ 256.00

FOX HILL FLUME AMD ABATEMENT PROJECT.

PROJECT DESCRIPTION. The project consists of providing an impermeable liner for the Pennsylvania Gas and Water Company's diversion flume. The flume diverts water from the Mill Creek watershed to the Water Company's intakes at the Cole Brook Dam. Representatives of the Water Company have stated that there are no immediate plans to take the flume out of service and it is a necessary part of their system. Water currently leaking from the flume is intercepted by .strip mine pits downslope of the flume and recharges deep mine pools.

Estimate Criteria.

Assume lining will consist of 2 round bituminous fiber pipe. Maximum observed flow in flume = 6,300 GPM
Capacity of a 2 round (48") pipe (assuming a minimum slope of 0.2%) - 13,400 GPM

' Annual loss computations are based on station relationships developed with the average annual flow in Toby Creek and are presented in this Appendix on pages A-29 through A-31.

Cost Estimate.

ITEM	QUANT.	UNIT	UNIT COST	COST
Half Round Bituminous Pipe (in place with sand bed)	8,000	LF	$30	$240,000
Concrete Anchors	1,200	CY	$120	144,000
Clearing and Access	18,000	SY	$1.10	19,800
Seeding	18,000	SY	$0.95	17,100
Paving Inlets	5	Ea.	$1,000	5,000
Control Structures	2	Ea.	$3,000	6,000
		SUB-TOTAL		$431,900

Benefits.

Estimated Annual Stream Loss Prevented* . . . . . 120 MG/Year

Pounds of Acid per Day Prevented** . . . . . 994 Lbs/Day

Cost per Pound of Acid per Day $435.00

* *Page A-31*

** *120 x 8.28 = 994 Lbs/Day*

FLOW COMPARISONS
AT SELECTED STATIONS

Combined Flows:

M-4Y = M-5 + M-6 + G-7

M-4Z = M-3 + M-5 +M-6 + G-7

M-6Z = M-14 + M-15 + M-16 + M-17 + M-18 + M-19

G-9Z = G-10 + G-11 + G-12 + G-13

L-21Z = F-21 + L-21A

DATE	FLOW STA. M-4Z	FLOW STA. M-2	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	6120CM	5010CM	-1110	2/35
09/30/75	5869CM	5228CM	-641	2/00
10/29/75	2921CM	2277CM	-644	1/30
12/04/75	4545CM	4396CM	-149	2/15
12/30/75	7068CM	7774CM	+706	6/35

DATE	FLOW STA. M-4Y	FLOW STA. M-4	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	6099CM	5575CM	-524	1/55
09/30/75	5829CM	6523CM	+694	1/10
10/29/75	2903CM	2725CM	-178	1/00
12/04/75	4525CM	4828CM	+303	1/15
12/30/75	7033CM	7554CM	+521	1/35

DATE	FLOW STA. M-4Y	FLOW STA. M-4A	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	6099CM	5482CM	-617	1/10
09/30/75	5829CM	5829CM	+0	0/50
10/29/75	2903CM	2589CM	-314	0/35
12/04/75	4525CM	4141CM	-384	0/45
12/30/75	7033CM	5519CM	-1514	0/35

DATE	FLOW STA. M-4+3	FLOW STA. M-2	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	5596V	5010CM	-586	0/30
09/30/75	6563V	5228CM	-1335	0/30
10/29/75	2743V	2277CM	-466	0/05
12/04/75	4848V	4396CM	-452	0/30

DATE	FLOW STA. M-4A+3	FLOW STA. M-2	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	5503CM	5010CM	-493	1/25
09/30/75	5869CM	5228CM	-641	1/10
10/29/75	2607CM	2277CM	-330	0/55
12/04/75	4161CM	4396CM	+235	1/30
12/30/75	5554CM	7774CM	+2220	6/00

DATE	FLOW STA. M-4	FLOW STA. M-2	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/28/75	5158CM	4402CM	-756	0/45
06/25/75	5575CM	5010CM	-565	0/40
07/23/75	885CM	800CM	-85	0/45
08/27/75	749CM	637CM	-112	0/20
09/30/75	6523CM	5228CM	-1295	0/50
10/29/75	2725CM	2277CM	-448	0/30
12/04/75	4828CM	4396CM	-432	1/00
12/30/75	7554CM	7774CM	+220	5/00
02/26/76	15118CM	13321CM	-1797	5/15
03/30/76	8831CM	7346CM	-1485	0/45
05/27/76	7309CM	5929CM	-1380	0/40
06/29/76	9938CM	8543CM	-1395	0/30

DATE	FLOW STA. M-4A	FLOW STA. M-2	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	5482CM	5010CM	-472	1/25
07/23/75	853CM	800CM	-53	1/15
08/27/75	590CM	637CM	+47	0/50
09/30/75	5829CM	5228CM	-601	1/10
10/29/75	2589CM	2277CM	-312	0/55
12/04/75	4141CM	4396CM	+255	1/30
12/30/75	5519CM	7774CM	+2255	6/00

DATE	FLOW STA. M-4A	FLOW STA. M-4	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	5482CM	5575CM	+93	0/45
07/23/75	853CM	885CM	+32	0/30
08/27/75	590CM	749CM	+159	0/30
09/30/75	5829CM	6523CM	+694	0/20
10/29/75	2589CM	2725CM	+136	0/25
12/04/75	4141CM	4828CM	+687	0/30
12/30/75	5519CM	7554CM	+2035	1/00

DATE	FLOW STA. M-6Z	FLOW STA. M-6	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
03/24/75	8545WC	10832CM	+2287	3/42
04/24/75	3275WC	1500E	-1775	2/00
05/28/75	4395WC	2427CM	-1968	2/55
06/25/75	3349WC	4811CM	+1462	2/15
07/23/75	555WC	600CM	+45	2/40
08/27/75	795WC	315CM	-480	0/20
09/30/75	1985WC	2530CM	+545	2/35
10/29/75	1442WC	1486CM	+44	2/10

DATE	FLOW STA. M-6A	FLOW STA. M-6	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	2830CM	4811CM	+1981	4/30
07/23/75	837CM	600CM	-237	2/55
08/27/75	627CM	315CM	-312	4/00
09/30/75	1775CM	2530CM	+755	2/05
10/29/75	1658CM	1486CM	-172	2/45
12/04/75	2017CM	2302CM	+285	0/00
12/30/75	8180CM	4452CM	-3728	1/25
02/26/76	9546CM	10206CM	+660	1/35
04/28/76	4603CM	3361CM	-1242	5/15
05/27/76	5374CM	4898CM	-476	4/15
06/29/76	7017CM	5715CM	-1302	2/38

DATE	FLOW STA. M-6Z	FLOW STA. M-6A	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	3349WC	2830CM	-519	2/15
07/23/75	555WC	837CM	+282	0/15
08/27/75	795WC	627CM	-168	4/20
09/30/75	1985WC	1775CM	-210	0/30
10/29/75	1442WC	1658CM	+216	0/35

DATE	FLOW STA. G-8	FLOW STA. G-7	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
01/30/75	4600W	8129CM	+3529	6/10
02/26/75	15035W	21525CM	+6490	0/30
03/24/75	6544W	7280CM	+736	0/25
04/24/75	2226W	1998CM	-228	0/20
05/28/75	1820W	2194CM	+374	0/30
06/25/75	1214W	1273CM	+59	0/35
07/23/75	819CM	122CM	-697	0/50
08/27/75	548CM	20V	-528	0/50
09/30/75	2762CM	3281CM	+519	0/40
10/29/75	1716CM	1407CM	-309	0/50
12/04/75	2374CM	2213CM	-161	0/45
12/30/75	1923CM	2566CM	+643	0/55

DATE	FLOW STA. G-8A	FLOW STA. G-7	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	0-1	1273CM	+1273	0/20
07/23/75	79CM	122CM	+43	0/20
08/27/75	20E	20V	+0	0/25
09/30/75	2517CM	3281CM	+764	0/20
10/29/75	1726CM	1407CM	-319	0/25
12/04/75	2098CM	2213CM	+115	0/15
12/30/75	2368CM	2566CM	+198	0/15

DATE	FLOW STA. G-9	FLOW STA. G-7	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
01/30/75	7335CM	8129CM	+794	5/35
02/26/75	22161CM	21525CM	-636	1/00
03/24/75	8457CM	7280CM	-1177	2/00
04/24/75	1965CM	1998CM	+33	0/50
05/28/75	2451CM	2194CM	-257	0/50
06/25/75	1776CM	1273CM	-503	0/45
07/23/75	890CM	122CM	-768	1/20
08/27/75	575CM	20V	-555	1/05
09/30/75	3837CM	3281CM	-556	3/30
10/29/75	1915CM	1407CM	-508	1/05
12/04/75	3351CM	2213CM	-1138	1/00
12/30/75	3286CM	2566CM	-720	1/05

DATE	FLOW STA. G-9A	FLOW STA. G-8	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
12/30/75	3125CM	1923CM	-1202	0/15
02/26/76	5133CM	3898CM	-1235	0/25
03/30/76	4127CM	2930CM	-1197	0/20
04/28/76	2665CM	1992CM	-673	0/30
05/27/76	1981CM	2211CM	+230	0/30
06/29/76	3413CM	2814CM	-599	0/27

DATE	FLOW STA. G-9A	FLOW STA. G-8A	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
12/30/75	3125CM	2368CM	-757	0/25
02/26/76	5133CM	3993CM	-1140	0/15
03/30/76	4127CM	3322CM	-805	0/25
04/28/76	2665CM	1669CM	-996	0/15
05/27/76	1981CM	1603CM	-378	0/30
06/29/76	3413CM	1743CM	-1670	1/15

DATE	FLOW STA. G-9A	FLOW STA. G-7	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
12/30/75	3125CM	2566CM	-559	0/40

DATE	FLOW STA. G-8	FLOW STA. G-8A	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	1214W	0-1	-1214	0/15
07/23/75	819CM	79CM	-740	0/30
08/27/75	548CM	20E	-528	0/25
09/30/75	2762CM	2517CM	-245	0/20
10/29/75	1716CM	1726CM	+10	0/25
12/04/75	2374CM	2098CM	-276	0/30
12/30/75	1923CM	2368CM	+445	0/40
02/26/76	3898CM	3993CM	+95	0/40
03/30/76	2930CM	3322CM	+392	0/45
04/28/76	1992CM	1669CM	-323	0/45
05/27/76	2211CM	1603CM	-608	1/00
06/29/76	2814CM	1743CM	-1071.	1/42

DATE	FLOW STA. G-9	FLOW STA. G-9A	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
12/30/75	3286CM	3125CM	-161	0/25
02/26/76	4680CM	5133CM	+453	0/45
03/30/76	4032CM	4127CM	+95	0/35
04/28/76	3004CM	2665CM	-339	0/50
05/27/76	2967CM	1981CM	-986	0/45
06/29/76	2457CM	3413CM	+956	0/42

DATE	FLOW STA. G-9	FLOW STA. G-8	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
01/30/75	7335CM	4600W	-2735	0/35
02/26/75	22161CM	15035W	-7126	0/30
03/24/75	8457CM	6544W	-1913	1/35
04/24/75	1965CM	2226W	+261	0/30
05/28/75	2451CM	1820W	-631	0/20
06/25/75	1776CM	1214W	-562	0/10
07/23/75	890CM	819CM	-71	0/30
08/27/75	575CM	548CM	-27	0/15
09/30/75	3837CM	2762CM	-1075	2/50
10/29/75	1915CM	1716CM	-199	0/15
12/04/75	3351CM	2374CM	-977	0/15
12/30/75	3286CM	1923CM	-1363	0/10
02/26/76	4680CM	3898CM	-782	0/20
03/30/76	4032CM	2930CM	-1102	0/15
04/28/76	3004CM	1992CM	-1012	0/20
05/27/76	2967CM	2211CM	-756	0/15
06/29/76	2457CM	2814CM	+357	0/15

DATE	FLOW STA. G-9	FLOW STA. G-8A	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	1776CM	0-1	-1776	0/25
07/23/75	890CM	79CM	-811	1/00
08/27/75	575CM	20E	-555	0/40
09/30/75	3837CM	2517CM	-1320	3/10
10/29/75	1915CM	1726CM	-189	0/40
12/04/75	3351CM	2098CM	-1253	0/45
12/30/75	3286CM	2368CM	-918	0/50
02/26/76	4680CM	3993CM	-687	1/00
03/30/76	4032CM	3322CM	-710	1/00
04/28/76	3004CM	1669CM	-1335	1/05
05/27/76	2967CM	1603CM	-1364	1/15
06/29/76	2457CM	1743CM	-714	1/57

DATE	FLOW STA. G-9	FLOW STA. G-7	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
01/30/75	7335CM	8129CM	+794	5/35
02/26/75	22161CM	21525CM	-636	1/00
03/24/75	8457CM	7280CM	-1177	2/00
04/24/75	1965CM	1998CM	+33	0/50
05/28/75	2451CM	2194CM	-257	0/50
06/25/75	1776CM	1273CM	-503	0/45
07/23/75	890CM	122CM	-768	1/20
08/27/75	575CM	20V	-555	1/05
09/30/75	3837CM	3281CM	-556	3/30
10/29/75	1915CM	1407CM	-508	1/05

DATE	FLOW STA. G-9Z	FLOW STA. G-7	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/28/75	3115W	2194CM	-921	1/30
06/25/75	2704W	1273CM	-1431	1/20
12/04/75	3311W	2213CM	-1098	1/40

DATE	FLOW STA. G-9Z	FLOW STA. G-8	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/28/75	3115W	1820W	-1295	1/00
06/25/75	2704W	1214W	-1490	0/45
12/04/75	3311W	2374CM	-937	0/55

DATE	FLOW STA. G-9Z	FLOW STA. G-8A	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/25/75	2704W	0-1	-2704	1/00
12/04/75	3311W	2098CM	-1213	1/25

DATE	FLOW STA. G-9Z	FLOW STA. G-9A	GAIN(+) LOSS(-)	TIME BETWEEN READINGS

DATE	FLOW STA. G-9Z	FLOW STA. G-9	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/28/75	3115W	2451CM	-664	0/40
06/25/75	2704W	1776CM	-928	0/35
12/04/75	3311W	3351CM	+40	0/40

DATE	STA. F-20	STA. F-20A	GAIN(+) LOSS(-)	BETWEEN READINGS
05/29/75	4795CM	5177CM	+382	0/00
06/26/75	2774CM	2109CM	-665	11/15
07/24/75	889CM	956CM	+67	0/20
08/28/75	979CM	797CM	-182	0/15
10/01/75	3052CM	3574CM	+522	0/10
10/30/75	3818CM	4429CM	+611	0/15
12/05/75	3640CM	3769CM	+129	0/05
12/30/75	5361CM	4877CM	-484	0/05

DATE	FLOW STA. F-20	FLOW STA. F-20B	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	4795CM	4121CM	-674	0/00
06/26/75	2774CM	1910CM	-864	0/45
07/24/75	889CM	821CM	-68	0/40
08/28/75	979CM	860CM	-119	0/40
10/01/75	3052CM	2396CM	-656	0/35
10/30/75	3818CM	4597CM	+779	0/30
12/05/75	3640CM	3543CM	-97	0/10

DATE	FLOW STA. F-20A	FLOW STA. F-20B	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	5177CM	4121CM	-1056	0/00
06/26/75	2109CM	1910CM	-199	12/00
07/24/75	956CM	821CM	-135	0/20
08/28/75	797CM	860CM	+63	0/25
10/01/75	3574CM	2396CM	-1178	0/25
10/30/75	4429CM	4597CM	+168	0/15
12/05/75	3769CM	3543CM	-226	0/05
02/26/76	3082CM	3426CM	+344	0/20
03/30/76	2927CM	2927CM	+0	0/00
04/28/76	2145CM	1904CM	-241	0/20
05/27/76	3449CM	3452CM	+3	0/20
06/29/76	1144CM	1641CM	+497	0/19

DATE	FLOW STA. F-20B	FLOW STA. F-21	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	4121CM	3073CM	-1048	2/05
06/26/75	1910CM	1638CM	-272	0/15
07/24/75	821CM	1049CM	+228	0/15
08/28/75	860CM	826CM	-34	1/00
10/01/75	2396CM	3401CM	+1005	0/00
10/30/75	4597CM	4512CM	-85	0/15
12/05/75	3543CM	3653CM	+110	0/50

DATE	FLOW STA. L-21Z	FLOW STA. L-23	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
04/25/75	4190EC	3408CM	-782	7/10
05/29/75	4273EC	6896CM	+2623	2/55
06/26/75	4743CM	4855CM	+112	4/00
07/24/75	3736CM	2234CM	-1502	1/15
08/28/75	1411CM	352CM	-1059	1/55
10/01/75	12541CM	10913CM	-1628	1/35
10/30/75	8664CM	7008CM	-1656	1/55
12/05/75	8834CM	6988CM	-1846	1/50
12/30/75	14426CM	15290CM	+864	2/00

DATE	FLOW STA. L-22	FLOW STA. L-23	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
01/29/75	28520W	18259CM	-10261	6/15
02/25/75	58000W	62434CM	+4434	0/30
04/25/75	4660W	3408CM	-1252	8/30
05/29/75	8080W	6896CM	-1184	2/45
06/26/75	2860W	4855CM	+1995	4/35
07/24/75	1500E	2234CM	+734	0/45
10/01/75	- 1W	10913CM	+10914	1/05
10/30/75	- 1W	7008CM	+7009	1/30
12/05/75	4690W	6988CM	+2298	1/20

DATE	FLOW STA. L-22A	FLOW STA. L-23	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/26/75	2742CM	4855CM	+2113	4/35
08/28/75	660CM	352CM	-308	1/20
10/01/75	13900W	10913CM	-2987	1/00
10/30/75	8550W	7008CM	-1542	1/25
12/30/75	13716CM	6988CM	+1574	1/37
02/26/76	11641CM	13044CM	+1403	2/10
03/30/76	6599CM	8604CM	+2005	1/15
04/28/76	5068CM	5501CM	+433	1/50
05/27/76	7343CM	10041CM	+2698	2/30
06/29/76	24020CM	24104CM	+84	2/52

DATE	FLOW STA. L-23C	FLOW STA. L-23	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	7449CM	6896CM	-553	0/30
06/26/75	3744CM	4855CM	+1111	1/45
08/28/75	457CM	352CM	-105	0/50
10/01/75	11507CM	10913CM	-594	0/45
10/30/75	8200CM	7008CM	-1192	1/00
12/05/75	8178CM	6988CM	-1190	0/55
12/30/75	17142CM	15290CM	-1852	0/55
02/26/76	14489CM	13044CM	-1445	1/40
03/30/76	9886CM	8604CM	-1282	1/00
04/28/76	7357CM	5501CM	-1856	0/45
05/27/76	12465CM	10041CM	-2424	0/30
06/29/76	31349CM	24104CM	-7245	1/06

DATE	FLOW STA. L-23B	FLOW STA. L-23	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	8223CM	6896CM	-1327	0/10
06/26/75	3403CM	4855CM	+1452	1/00
08/28/75	415CM	352CM	-63	0/20
10/01/75	11872CM	10913CM	-959	0/20
10/30/75	9224CM	7008CM	-2216	0/35
12/05/75	7605CM	6988CM	-617	0/30
12/30/75	17318CM	15290CM	-2028	0/35
02/26/76	13835CM	13044CM	-791	1/10
03/30/76	9834CM	8604CM	-1230	0/30
04/28/76	5517CM	5501CM	-16	0/45
05/27/76	9199CM	10041CM	+842	0/30
06/29/76	30405CM	24104CM	-6301	0/40

DATE	FLOW STA. L-21Z	FLOW STA. L-23B	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	4273EC	8223CM	+3950	2/45
06/26/75	4743CM	3403CM	-1340	3/00
08/28/75	1411CM	415CM	-996	1/35
10/01/75	12541CM	11872CM	-669	1/15
10/30/75	8664CM	9224CM	+560	1/20
12/05/75	8834CM	7605CM	-1229	1/20
12/30/75	14426CM	17318CM	+2892	1/25

DATE	FLOW STA. L-22	FLOW STA. L-23B	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	8080W	8223CM	+143	2/35
06/26/75	2860W	3403CM	+543	3/35
12/05/75	4690W	7605CM	+2915	0/50

DATE	FLOW STA. L-22A	FLOW STA. L-23B	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/26/75	2742CM	3403CM	+661	3/35
08/28/75	660CM	415CM	-245	1/00
10/01/75	13900W	11872CM	-2028	0/40
10/30/75	8550W	9224CM	+674	0/50
12/30/75	13716CM	7605CM	+3602	1/02
02/26/76	11641CM	13835CM	+2194	1/00
03/30/76	6599CM	9834CM	+3235	0/45
04/28/76	5068CM	5517CM	+449	1/05
05/27/76	7343CM	9199CM	+1856	3/00
06/29/76	24020CM	30405CM	+6385	2/12

DATE	FLOW STA. L-23C	FLOW STA. L-23B	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	7449CM	8223CM	+774	0/20
06/26/75	3744CM	3403CM	-341	0/45
08/28/75	457CM	415CM	-42	0/30
10/01/75	11507CM	11872CM	+365	0/25
10/30/75	8200CM	9224CM	+1024	0/25
12/05/75	8178CM	7605CM	-573	0/25
12/30/75	17142CM	17318CM	+176	0/20
02/26/76	14489CM	13835CM	-654	0/30
03/30/76	9886CM	9834CM	-52	0/30
04/28/76	7357CM	5517CM	-1840	0/00
05/27/76	12465CM	9199CM	-3266	1/00
06/29/76	31349CM	30405CM	-944	0/26

DATE	FLOW STA. L-21Z	FLOW STA. L-23C	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	4273EC	7449CM	+3176	2/25
06/26/75	4743CM	3744CM	-999	2/15
08/28/75	1411CM	457CM	-954	1/05
10/01/75	12541CM	11507CM	-1034	0/50
10/30/75	8664CM	8200CM	-464	0/55
12/05/75	8834CM	8178CM	-656	0/55
12/30/75	14426CM	17142CM	+2716	1/05

DATE	FLOW STA. L-22	FLOW STA. L-23C	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
05/29/75	8080W	7449CM	-631	2/15
06/26/75	2860W	3744CM	+884	2/50
12/05/75	4690W	8178CM	+3488	0/25

DATE	FLOW STA. L-22A	FLOW STA. L-23C	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/26/75	2742CM	3744CM	+1002	2/50
08/28/75	660CM	457CM	-203	0/30
10/01/75	13900W	11507CM	-2393	0/15
10/30/75	8550W	8200CM	-350	0/25
12/30/75	13716CM	8178CM	+3426	0/42
02/26/76	11641CM	14489CM	+2848	0/30
03/30/76	6599CM	9886CM	+3287	0/15
04/28/76	5068CM	7357CM	+2289	1/05
05/27/76	7343CM	12465CM	+5122	2/00
06/29/76	24020CM	31349CM	+7329	1/46

DATE	FLOW STA. L-21Z	FLOW STA. L-22A	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
06/26/75	4743CM	2742CM	-2001	0/35
08/28/75	1411CM	660CM	-751	0/35
10/01/75	12541CM	13900W	+1359	0/35
10/30/75	8664CM	8550W	-114	0/30
12/30/75	14426CM	6340CM	-710	0/23

DATE	FLOW STA. L-21Z	FLOW STA. L-22	GAIN(+) LOSS(-)	TIME BETWEEN READINGS
04/25/75	4190EC	4660W	+470	1/20
05/29/75	4273EC	8080W	+3807	0/10
06/26/75	4743CM	2860W	-1883	0/35
07/24/75	3736CM	1500E	-2236	0/30
12/05/75	8834CM	4690W	-4144	0/30

LOSS COMPUTATIONS

MILL CREEK
M-6&G-7 TO M-4A

TIME %	TOBY FLOW CFS	TIME DAYS	AVE. FLOW CFSM	STA. FLOW CFS	STA. LOSS CFS	VOL. LOSS MG
0	3010					
		7.30	50.15	747.2	6.68	31.5
2	240	10.95	6.01	89.6	6.13	43.4
5	150	18.25	3.85	57.4	4.84	57.1
10	100	36.50	2.53	37.7	3.79	89.4
20	64	36.50	1.68	25.0	2.66	62.9
30	45	36.50	1.15	17.2	1.83	43.2
40	30	36.50	0.78	11.7	1.24	29.2
50	21	36.50	0.54	8.0	0.84	19.9
60	14	36.50	0.35	5.3	0.55	13.1
70	9	36.50	0.24	3.5	0.36	8.6
80	6	36.50	0.15	2.3	0.23	5.6
90	4	18.25	0.10	1.6	0.22	2.6
95	3	10.95	0.08	1.2	0.22	1.5
98	2	7.30	0.03	0.5	0.22	1.0
100	0					

TOTAL LOSS = 410 MGY

MILL CREEK
M-4 TO M-2

TIME %	TOBY FLOW CFS	TIME DAYS	AVE. FLOW CFSM	STA. FLOW CFS	STA. LOSS CFS	VOL. LOSS MG
0	3010					
		7.30	50.15	837.5	6.68	31.5
2	240	10.95	6.01	100.5	6.68	47.3
5	150	18.25	3.85	64.4	6.00	70.8
10	100	36.50	2.53	42.2	5.27	124.4
20	64	36.50	1.68	28.0	4.14	97.6
30	45	36.50	1.15	19.3	3.23	76.2
40	30	36.50	0.78	13.1	2.29	54.2
50	21	36.50	0.54	9.0	1.57	37.1
60	14	36.50	0.35	6.0	1.04	24.6
70	9	36.50	0.24	4.0	0.69	16.3
80	6	36.50	0.15	2.6	0.45	10.7
90	4	18.25	0.10	1.8	0.30	3.6
95	3	10.95	0.08	1.4	0.23	1.6
98	2	7.30	0.03	0.6	0.22	1.0
100	0					

TOTAL LOSS = 598 MGY

GARDNER RUN
G-9 TO G-8A

TIME %	TOBY FLOW CFS	TIME DAYS	AVE. FLOW CFSM	STA. FLOW CFS	STA. LOSS CFS	VOL. LOSS MG
0	3010					
2	240	7.30	50.15	275.9	3.34	15.7
5	150	10.95	6.01	33.1	3.00	21.2
10	100	18.25	3.85	21.2	2.87	33.8
20	64	36.50	2.53	13.9	2.68	63.4
30	45	36.50	1.68	9.2	2.46	58.2
40	30	36.50	1.15	6.3	2.03	48.0
50	21	36.50	0.78	4.3	1.71	40.3
60	14	36.50	0.54	2.9	1.54	36.3
70	9	36.50	0.35	1.9	1.32	31.3
80	6	36.50	0.24	1.3	1.01	23.9
90	4	36.50	0.15	0.8	0.75	17.7
95	3	18.25	0.10	0.6	0.57	6.7
98	2	10.95	0.08	0.4	0.46	3.3
100	0	7.30	0.03	0.2	0.21	1.0

TOTAL LOSS = 401 MGY

MILL CREEK
M-6A TO M-6

TIME %	TOBY FLOW CFS	TIME DAYS	AVE. FLOW CFSM	STA. FLOW CFS	STA. LOSS CFS	VOL. LOSS MG
0	3010					
2	240	7.30	50.15	461.4	8.91	42.0
5	150	10.95	6.01	55.3	6.16	43.6
10	100	18.25	3.85	35.4	4.95	58.4
20	64	36.50	2.53	23.2	3.97	93.8
30	45	36.50	1.68	15.4	3.10	73.1
40	30	36.50	1.15	10.6	2.37	56.0
50	21	36.50	0.78	7.2	1.75	41.4
60	14	36.50	0.54	4.9	1.26	29.9
70	9	36.50	0.35	3.3	0.84	20.0
80	6	36.50	0.24	2.2	0.55	13.0
90	4	36.50	0.15	1.4	0.32	7.7
95	3	18.25	0.10	1.0	0.22	2.6
98	2	10.95	0.08	0.7	0.22	1.5
100	0	7.30	0.03	0.3	0.22	1.0

TOTAL LOSS = 485 MGY

LAUREL RUN

L-23C TO L-23

TIME %	TOBY FLOW CFS	TIME DAYS	AVE. FLOW CFSM	STA. FLOW CFS	STA. LOSS CFS	VOL. LOSS MG
0	3010					
		7.30	50.15	782.4	11.14	52.5
2	240	10.95	6.01	93.8	8.57	60.6
5	150	18.25	3.85	60.1	6.51	76.8
10	100	36.50	2.53	39.4	4.50	106.2
20	64	36.50	1.68	26.2	3.08	72.7
30	45	36.50	1.15	18.0	2.20	51.9
40	30	36.50	0.78	12.2	1.58	37.5
50	21	36.50	0.54	8.4	1.18	27.9
60	14	36.50	0.35	5.6	0.86	20.4
70	9	36.50	0.24	3.7	0.63	14.9
80	6	36.50	0.15	2.4	0.47	11.1
90	4	18.25	0.10	1.7	0.36	4.2
95	3	10.95	0.08	1.3	0.30	2.1
98	2	7.30	0.03	0.6	0.22	1.0
100	0					

TOTAL LOSS = 540 MGY

FLUME

F-20 TO F-21

TIME %	TOBY FLOW CFS	TIME DAYS	AVE. FLOW CFSM	STA. FLOW CFS	STA. LOSS CFS	VOL. LOSS MG
0	3010					
		7.30	50.15	432.5	9.44	44.5
2	240	10.95	6.01	51.9	1.64	11.6
5	150	18.25	3.85	33.2	0.91	10.7
10	100	36.50	2.53	21.8	0.46	11.0
20	64	36.50	1.68	14.5	0.22	5.2
30	45	36.50	1.15	9.9	0.22	5.2
40	30	36.50	0.78	6.7	0.22	5.2
50	21	36.50	0.54	4.6	0.22	5.2
60	14	36.50	0.35	3.1	0.22	5.2
70	9	36.50	0.24	2.0	0.22	5.2
80	6	36.50	0.15	1.3	0.22	5.2
90	4	18.25	0.10	0.9	0.22	2.6
95	3	10.95	0.08	0.7	0.22	1.5
98	2	7.30	0.03	0.3	0.22	1.0
100	0					

TOTAL LOSS = 120 MGY