

24

MINING
TRANSIT BOOK

384

W156

4

6

10/27

MICROFILMED

JAN 8 1965

Barrett Dam

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JAN 8 1982

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Filled

$$\begin{array}{r}
 46028 \\
 \underline{16} \\
 276168 \\
 \underline{46028} \\
 736748 \\
 \underline{6} \\
 113
 \end{array}$$

D. S. F. Radiüs

Lift. 1575 - 1585

$$\begin{array}{r}
 373.44 \quad 4.6028 \\
 \underline{1718.87} \\
 1493.76
 \end{array}$$

1 - 0-04.6028 ✓
 10 - 0-46.028 ✓
 20 - 1-32.056 ✓
 30 - 2-18.084 ✓
 40 - 3-04.112 ✓
 50 - 3-50.140 ✓
 60 - 4-36.168 ✓
 70 - 5-22.196 ✓
 80 - 6-08.224 ✓
 90 - 6-54.252 ✓
 100 - 7-40.280 ✓

$$\begin{array}{r}
 775170 \\
 \underline{224064} \\
 104600 \\
 \underline{74688} \\
 299120 \\
 \underline{298752}
 \end{array}$$

1-16-22

Fisher

Mixed

6+05 - 6+60

Upstream Face -

328 156828

1565.00

6+05

1565.00

4.44 63.84

1.16

6500
6384 1-2"

4.48 63.80

1.20

1.16

4.33 63.95

1.05

1-2 3/8
1-1 1/4

4.43 63.85

1.15

1-1 3/4 ✓

4.36 63.92

1.08

1-1" ✓

4.43 63.85

1.15

1-1 3/4 ✓

1-17-22

Fisher

Mixer

Upstream Face Points

5+00 - East.

At 50³⁹⁷ Sight (R.P. West-) East Tangent

9.725

0-43

14.90

1-04

Put - Pts - East.

5+10

5+20

5+30

5+40

5+60

5+70

5+80

5+90

At 5+90³⁹⁷ Sight R.P. East Turn

90° - chain - 52 South -

5+84 - 392 Radius - Gallery Pt.

- Set Gallery Pt - on Rock -

See Book - 23 pages⁴² for 19.21

Last gradeset -

6+01.59 - 392 Radius = 1568.46

end form = 16.76 + 584 = 600.76

1-17-22

Bryson
Fisher
Mixer.

123

Champer
Strip
D.S.F.
374.14

Gallery Pts Rt Abut

5.65	1580.65	1575.00
5.60	1575.05	
4.89	75.76	
4.41	76.24	

Gallery Left Abut

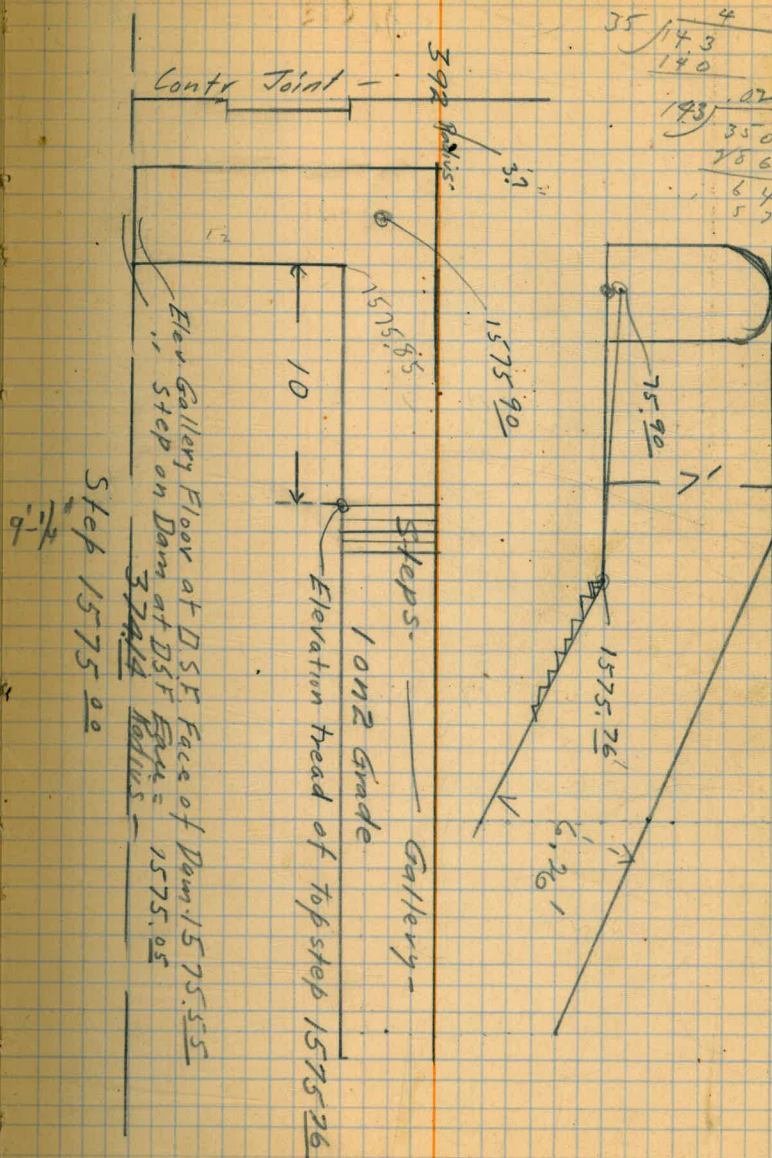
B.M.	6.42	1571.42	1571.00	Champer
End Pres. Gall form.	6+00.76	3.86	1567.56	
El. Nail at	6+15.07	5.24	1566.18	1575.20

Gallery Rtht Abut

Nail in Stamp	8.34	1581.28	1572.74
		5.38	75.90
		5.50	75.78
			75.90
		5.43	75.85
		6.19	75.09

Rt Abut. Gallery

33
14.5



1-19-22

Bv6
Fisher
Minter

Location of Gallery Rt Abut

At Δ 1+36.58 397 Rods - Sight R.P. South
for Zero

end of level	26.54	75-18
Section	40.15	81-09

1-21-22

Chamber Strip

1+43 - 1+93

6.61	77.57	1570.96
------	-------	---------

2.57	1575
------	------

6827
799
<hr/>
7628
941
<hr/>
6687

1-22-22

Chamber Strip

60-250

7.99	76.28	1568.29
------	-------	---------

9.97	1566.87
------	---------

Top of 1st
Rail - East of West Wall 5+20

9.41	1566.87
------	---------

1-23-22

Bvd
Fisher
M. H. H. H.

~~793~~

At 50 - 397 - Sight RP

5

10 9.93

20

30

40

50

60

70

80

90

100

110

120

140

150

160

170

180 178.65

+40 182.65

190

220 C28 -

4-18 ✓

5-01 ✓

5-44 ✓

6-29 ✓

7-10 ✓

7-58 ✓

8-36 ✓

9-18 ✓

10-02 ✓

10-44 ✓

11-27 ✓

12-10 ✓

~~12-53~~

12-27

12-53

13-36

14-19 ✓

15-02 ✓

15-45 ✓

Did not check nail that
was in by 10

1-23-22

Bub
Fisher
Mixer

Location of Forms

6

Ran Inter Section of 64-397 -

At 64-39- Sight RP West - from
Zero Az Right

79.86

# 1	41.1	331-30 ✓	9.1 4.1	75.8
2	32.8	323-0 ✓	3.6	76.3
3	38.9	313-0 ✓	4.9	75.00
A ⁴ C	31.3	174-30 ✓	4.7	75.2
R.C.F.	38.1	199-30 ✓		
	20.7	222-30 ✓		
	31.1	244-30 ✓	4.9	75.00

$$\begin{array}{r} 81 \\ 50 \\ \hline 31 \end{array}$$
1st Nail East of
B.M. 5120

9.51 76.38 1566.87

Nail on Form

3.86 79.86 0.38 76.00

Nail 6+15

B.M.

3.07 76.79

Nail

6+81-397

3.30 76.56

Average Elevation of all 5.7 74.2

Final Topog

At 6+70 - Sight RP. East.

6+81-397		2.59	79.15		76.56
Average Elev - of Cornets				4.9	74.3
Rod 4.2	16.0	230-0 2-30		19	
15.75	11.0	259-30			
	8.7	300-0		19.5	19-30
	10.1	315-30		21.4	35-45
	10.8	335-0		23.4	34-30
	17.4	352-15		28.6	38-0
	19.0	359-0			
	14.5	16-30		9.3	
	15.7	29-0	1159.0		93-0
	19.5	35-30	1156.0		86-30
	20.4	38-30			
	29.15 46.15	46-15			
Rod 4.08					
15.80	15.9 16.0	240-0			
	11-0	281-15			
	13.2	326-30			
	20.0	345-30			
	20.4	351-0			
	23.8	358-30			
	19.4	8-30			

1-23-22.
Bob
Fisher
mixed

Divide Wall 5+20

7

8.54	75.41	1566.87
	0.19	75.22
	0.41	75.00

Radius - $\frac{97.00}{358.27}$ Divide Wall at 1575.0
3.8.73

checkup

8.87 75.74 66.87

Chamfer strip - .74 75.00
4+86.5 To - 5+20

B-24-2v
Fisher
Mixer

End of Gallery -
East Tangent.

8

At 6+30 - 397 Radius Sight P.P.C.S.D

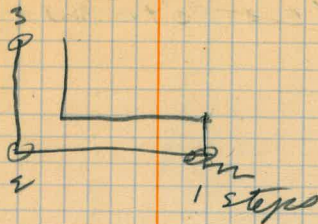
5.22 80.22 1575.00

1 8.4 326.0 4.56 75.56

2 5.7 240.50 4.30 75.94

3 22.95 263.45 4.72 75.30

5.22 75.00



4x

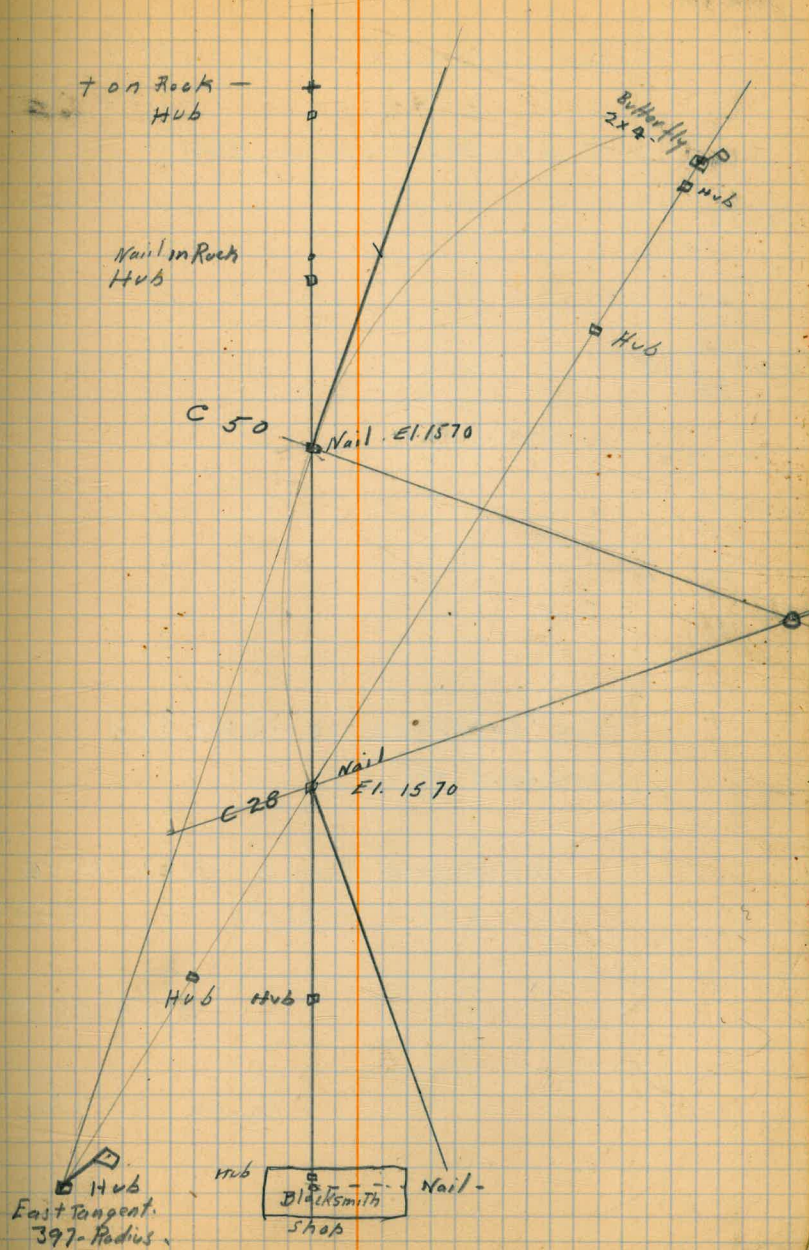
4.56

1-24-22
Fisher
Mixer

Tie to C 28 - by Intersection

+

Line between - C 28 & C 50



1-2
F
M

1-25-22
Bub
Fisher
Maxter

Ran Intersection 64-397-

At 64-397- chain - West

6+30
10
6+20
20
6+10
30
nail - 6+15
35

Chain East

6+50
10
6+55
15
6+60
20
6+81
41

Ran Intersection - 72-397
set nail -

Upstream Face - 3+27 - 4+36
6.81 1561.81 1555.00

3,67 58.14

63.14

69

- 3.19 out

Jan
156
3.74

10

1-27-22
Bvd
Fisher
Minder

Final Topog

At D $\left\{ \begin{matrix} 1400 \\ 307.49 \end{matrix} \right\}$ Sight D $\left\{ \begin{matrix} 1400 \\ 409.28 \end{matrix} \right\}$

10-350

15.17 92.14

1576.97

Rod 2.1

1590 28.3 297-0

33.5 304.20

56.0 308-0

Rod 7.1

1585 57.1 308-30

32.9 308-30

24.0 304-30

18.6 303-20

10.8 8-30

7.1 34-0

Rod 12.1

1580 16.3 34-0

21-0 18-45

15.9 13-40

16.2 339-30

20.0 310-45

31.7 309-30

41.0 308-0

49.3 310-30

55.0 310-15

Platted

1-28-22

Con - 8' - west of last shot
note for next page

1-27-22

At D 136.58 312.20 Sight D 1400 4409.28

Left 1500

57.7

356-45

71.1

344-30

At Auxil "B" Sight 1738.58 312.20 for zero

3.33

80.30

1576.97

Rod 5.3

46.2

6-45

1575

39.9

8-15

36.7

106-0

38.1

14-0

35.8

110-30

Rod 4.3

40.9

19-15

Rod 10.3

40.3

19-30

34.3

114-30

36.4

10-15

34.8

124-30

1570

35.0

4-45

30.0

126-0

35.3

3-0

29.5

119-0

38.9

00-0

31.0

110-30

38.7

356-30

1570

34.0

105-0

44.6

353-30

37.8

95-30

49.0

351-30

35.0

80-30

Rod 5.3

44.6

36-0

36.1

67-45

1575

47.0

43-0

38.3

44-0

50.0

49-0

37.5

35-0

46.6

57-45

41.1

29-0

45.0

69-30

44.2

79-0

41.9

86-0

Platted
1-28-22

1-27-22
Bus
Fisher
Minter

Final Topog

Champs
strip
Rod 52

At April "A" Sight 1+36⁵⁸ 312²⁰ for 2ew
5.20 1570.20 1565.00

36.0	346-30	✓	19.5	17-0	
31.5	348-15	✓	20.8	12-0	
1565	25.5	4-0	✓	23.0	5-00
"	25.3	15-0	✓	25.5	355-30
"	23.2	27-20	✓	30.1	340-0
"	27.6	32-15	✓	35.2	334-15
"	28.6	40-0	✓		
	33.3	45-30	✓		
	32.5	51-0	✓		
	33.6	61-0	✓		
	37.5	76-45	✓		
	40.3	86-0	✓		
	44.2	99-0	✓		
	47.6	111-30	✓		
	46.5	119-45			

Rod

10²

1560	30.5	98-30	✓
	20.0	68-30	✓
	24.5	47-15	✓
	21.5	32-0	
	20.2	25-30	

12

Champed strip- 3+27- 4+36

50² 1570.02 1565
50² 1565.00

Final Topog

At 1400-397 Radius- Sight R.P. East
11.66 1586.66 1575.00

Rod 1.7

(1585)

19.5	193-15	✓
16.4	194-0	✓
15.7	198-45	✓
8.5	208-30	✓
5.8	230-45	✓
10.8	317-0	✓
13.5	329-45	✓
15.0	326-15	✓
21.7	334-30	✓

Platted
1-26-22

Rod 9.2 340-30
R.L. 9.1 317-0

3.5 81.0
5.3 81.

Band Intersection 1+00 - + 397' Radius

622
0193.93

1+00 1+00 09

1+10

1+20

1+30

1+40

1+50

1+60

1+70

1+80

1+90

1+936² Nail in form.

Bottom of form.

1+00
~~42.78~~
 47.22
 90.00
 15.55
 2+05.55
~~2+05.53~~
 .02 error
 93.60

93.67 nail in form

Bottom of form 15.7500

sta = 1+90
 28
 36
 22.7
 Platted -

1-7-8-22

Bub
Fisher

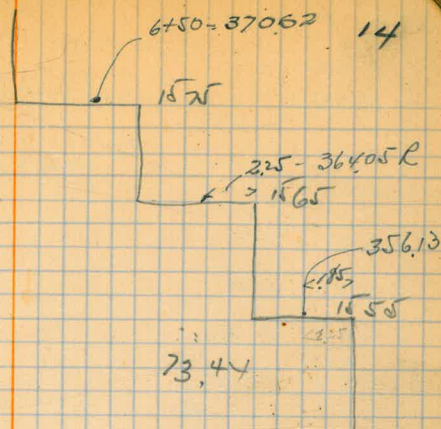
At 397 - 6+50 sight AP Net for 2 lines
Turn 90° Chain -

1	26.38	370.62	left 1575 to 1585	1.90 from back of left
2			left 1565 " 1575	2.25 back of left
3			1555 1565	1.85 back of left

9.99 86.96 1576.97

73.44 81
362.09
 11.35

368.61
361.80
 6.81
2.25
 4.56



97 0
364.63
 32.

11.55
10.55

361.80
370.62
 67.80
8.82
 370.62
368.61
 20.1
1.20

361.80
2.25
 364.05

354.28
1.85
 356.13

1+31-22
 Bub
 Fisher
 Mxten

Concrete Sections
 January Est. = 24

	00	1585.00 (+ 93.8)	1585.00
397		3.5	81.5
- 40		3.5	81.5
+ 70		31	819
14		29	821
From D.S.F. 229		2.9	821

Platted 1-31-22

1+00
 Same as 0+93.8

	1+06.5		
397 ✓		3.3	81.7
- 64 ✓		3.3	81.7
60 ✓		2.9	82.1
12		3.4	81.6
229		3.7	81.3

1+08
 Same as 1+06 except -

	- 3.0		
	1+20		
397		4.7	80.3
- 32		4.7	80.3
5		3.4	81.6
12		4.2	80.8
22.9		5.3	79.7

229
 122
 35.1

1- 1585.00
 1+28.5

397	53	79.7
- 3	53	79.7
- 7	42	80.8
14	44	80.6
229	4.5	80.5

1+30.5
 Same as 1+28.8 - D.S.F.

	35.1		
	1+32.8		
397		5.3	79.7
- 3		5.3	79.7
7		5.2	79.5
12		5.1	79.9
236		4.8 D.S.F. 80.6	
34.9		4.5	80.5

Platted 1-31-22

1+40

397	54	79.6
- 3	54	79.6
13	43	80.7
192	4.8	80.2
236	4.8	80.2

Contn Jan 7
 1+42.75

5.0 - 15.80

1-31-22

1585.00

1750

397
-3
9
12
236

47 80.6
47 80.3
26 82.4
26 82.4
44 80.6

1

0.90 1585.90

NY 60

~~80~~ ~~80~~
50 80.0
55 79.5
40 81.0
36 81.4
42 80.8
44 80.6
56 79.4

1770

397
-3
+ 96
13
238

50 80.0
55 79.5
43 80.7
43 80.7
55 79.5

Plotted 1-31-22

1-31-22

1585.9

1780

397
-3
10
236

397

3
9
15
238

397

3
6
13 10
14
236
309

Plotted 1-31-22

1790

1493.6

Same as 1790

1493.6

47 81.2
54 80.5
49 81.0
56 80.3
52 80.7
55 80.7
51 80.8
50 80.9
55 80.4

10.3 75.6
10.3 75.6
9.5 76.4
8.3 77.6
10.0 75.9
10.0 75.9
10.9 75.0

2100

Same as 2100

16

1-31-22

	5.8	1580.8	1575
	2+05.53		
397	57	75.1	
-3	57	75.1	
7	54	75.4	
10	48	76.0	
19	56	75.2	
309	58	75.0	

2+10

397	57	75.1
-3	57	75.1
8	51	75.7
14	52	75.6
21	54	75.4
309	58	75.0

2+20

397	57	75.1
3	57	75.1
6	53	75.5
10	54	75.4
17	54	75.4
309	58	75.0

Platted
1-31-22

17

6.0	1581.0	1575.00
2+30		

397	58	75.2
-3	58	75.2
6	50	75.0
14	49	76.1
20	54	75.6
309	60	75.0

2+40

397	54	75.6
-3	58	75.2
8	52	75.8
11	47	76.3
17	50	76.0
21.7	57	75.3
309	60	75.0

1-31-22

2+50

397	58	75.2
-3	58	75.2
3	50	76.1
9	48	76.2
14	52	75.8
22	55	75.5
309	60	75.0

Platted

1-31-22

158100

2760

397	58	75.21
-3	58	75.21
8	53	75.71
16	56	75.41
21	57	75.31
309	60	75.01

27725

397	70	74.01
-3	70	74.01
10	60	75.01
17	60	75.01
22	56	75.41
309	60	75.01

27725

397	108	70.21
-3	108	70.21
9	109	70.11
17	104	70.61
309	108	70.21

Platted 1-31-22

1-31-22

18

0.30 1575.3 1575.00

397	55	69.81
397	55	69.81
10	50	70.31
15	45	70.81
19	50	70.31
23	55	69.81
309	56	69.71

2790

-3	53	70.01
8	52	70.01
309	44	70.91
	51	70.21

Platted 1-31-22

3101

397	52	70.11
-3	52	70.11
8	42	71.11
18	45	70.81
23	43	71.01
309	50	70.31

3100

397	51	70.21
-3	52	70.11
11	46	70.71
309	53	70.01

1-31-24

15753

3+25

397	66	68.71
-3	66	68.71
8	58	69.51
19	48	70.61
309	51	70.21

Planted
1-31-22

1-31-24

2.2 1567.20

1565.00

3+25

397	39	63.31
-3	41	63.11
7	37	63.51
13	45	62.71
22	34	63.81
38.2	36	63.61

3+40

377	56	61.61
-3	56	61.61
6	46	62.61
23	33	63.91
38.2	4.0	63.21

3+50

397	5.8	61.4
-3	5.8	61.4
19	42	63.0
38.2	4.5	62.7

HI = 67.2

19

3+60

397	54	61.8
3	54	61.8
9	47	62.5
17	42	63.0
31	35	63.7
38.2	35	63.7

377.0

377	55	61.7
32	55	61.7
11	42	63.0
21	35	63.7
38	34	63.8

3+70

37	55	61.7
8	46	62.6
30	30	64.2
38.2	34	63.8

3+90

317	65	60.7
35	65	60.7
8	50	62.2
26	35	63.7
38.2	37	63.5

HI 66.8

1.5 1586.8

1565.00

343

54 61.41

4+00

38.2

54 61.41

00
32
21.0
30
38.2

60 60.81
6.0 60.81
38 63.01
33 63.51
3.5 63.31

39.7
39
18
31
34.8

7+36

57 61.11
57 61.11
56 61.21
44 62.41
51 61.01
58 61.01

4+10

38.2

357
32
11
23
32
38.2

65 60.31
65 60.31
45 62.31
46 62.21
34 63.41
38 63.01

30
730
8
15

4-36

32 63.61
32 63.61
26 64.21
14 65.41
0.7 66.11
0.9 65.91
16 65.21
68 65.0

4+20

27
30
38.2

397
32
8.0
21
30
38.2

62 60.61
62 60.61
5.7 61.11
45 62.31
38 63.01
44 62.41

4+30

-3
397
16
22
32

58 61.01
58 61.01
53 61.51
47 62.11
47 62.11

5.4 70.4
4+50

65.00

397	68	62.61
-30	68	63.61
6	61	64.31
15	38	66.61
25	70	66.41
30	56	64.81
382	54	65.01
4+60		
397	70	63.41
-3	70	63.41
6	62	64.21
10	44	66.01
15	34	67.01
20	38	66.61
29	52	65.21
382	54	65.01
4+70		
397	69	63.51
-3	69	63.51
4	60	64.41
11	50	65.41
18	30	67.41
22	33	67.11
29	53	65.11
382	54	65.01

HI 704

21

4+85

-3	68	63.61
397	68	63.61
47 69.70 4+85		
12	39	65.81
19	33	66.41
26	37	66.01
31	40	65.71
382	47	65.01
31 15781 4+85		
-3	42	73.91
397	42	73.91
10	30	75.11
19	27	75.41
309	31	75.01
5+60		
-3	44	73.71
397	44	73.71
10	27	75.41
20	28	75.31
308	31	75.01

15781

5+10

-3	45	73.6 ✓
397	45	73.6 ✓
7	55	72.6 ✓
14	32	74.9 ✓
30.9	32	74.9 ✓

5+20

Chapman Steps

2.4 774

-30	42	73.2 ✓
397	42	73.2 ✓
11	50	72.4 ✓
25	50	72.4 ✓
30.9	61	71.5 ✓
42.0	7.6	69.8 ✓

5+22

3	42	73.2 ✓
397	42	73.2 ✓
11	50	72.4 ✓
19	50	72.4 ✓
26	56	72.5 ✓
30.9	67	70.4 ✓
42.0	76	69.8 ✓

5+24

11	42	73.2 ✓
20	42	73.2 ✓
284	58	71.5 ✓
	54	72.0 ✓
	62	71.2 ✓

781

5+50

22

397	50	73.1 ✓
-3	50	73.1 ✓
397	50	73.1 ✓
10	6.5	71.6 ✓
22	72	70.9 ✓
282	77	70.4 ✓

5+40

-3	57	72.4 ✓
397	54	72.7 ✓
10	67	71.4 ✓
23	87	69.4 ✓
283	86	69.5 ✓

5+50

-3	50	73.1 ✓
397	50	73.1 ✓
2	49	73.2 ✓
11	65	71.6 ✓
18	7.5	70.6 ✓
254	90	69.1 ✓
284	92	68.9 ✓

5+60

-3	48	73.3 ✓
397	40	74.1 ✓
11	67	71.4 ✓
18	73	70.8 ✓
283	79	70.2 ✓

H.I. 78.1

5+70

-3	5.8	72.31
397	5.0	73.11
3	4.5	73.61
11	6.2	71.91
19	5.8	72.31
25.3	6.3	71.81

5+70

-3	7.2	70.91
397	7.2	70.91
9	6.9	71.21
21	6.4	71.71
28.3	6.9	71.21

5+90

12.00 15.770

15.650

-3	6.6	70.41
397	6.6	70.41
8	6.1	70.91
16	6.1	70.91
25.3	6.1	70.91

6+04.5

-3	6.7	70.31
397	6.7	70.31
4	6.1	70.91
10	6.6	70.41
23	6.8	70.21
28.3	6.8	70.21

Rail at
6+15

8.0 84.8

6+04.5

397

19.5

6+75

-3

397

9

20

23

6+20

3

397

9

20

23

6+30

-3

397

23

-3

397

9

17

23

6+40

23

12.00

76.79

4.3

4.3

~~4.3~~

4.3

4.3

3.7

4.1

4.4

4.3

4.3

3.7

4.1

4.4

4.5

4.5

4.5

4.4

4.4

3.5

3.5

2.5

80.51

80.51

80.51

80.51

80.51

81.11

80.71

80.41

80.51

80.51

81.11

80.71

80.31

80.31

80.31

80.31

80.41

80.41

81.31

81.31

80.51

84.8

6+50

397

11

22.8

6+55

3

397

11

22.8

1-31-22

Chamber
Strip
at
end of
Concrete

Top of

Elev of last
hoopElev of last
Step Outside
Elev of last
guard-outsideLast Step
Inside
Last Guard
Inside

4.5 80.3 ✓

4.5 80.3 ✓

3.8 81.0 ✓

4.2 80.6 ✓

4.2 80.6 ✓

4.2 80.6 ✓

4.3 80.5 ✓

4.3 80.5 ✓

Outlet Tower Elev.

5.6 1580.60 1575.

12.4 1568.2

7.50 1573.1

10.0 70.6

12.3 68.3

12.8 67.8

12.5 69.1

13.0 67.6

Bob
Fisher
Mud.

Jan 31, 1921

(24)

Rails in Dam placed during Jan.

1+43 to 1+93 lift 1575 - 6-30" Rod

3+27 to 4+26 " 1565 - 12-30" and 1-40"

4+85 - 5+40 " 1575 - 5-30" and

6+05 to 6+55 " 1575 - 2-30" and 4-40"

5+20 to 5+60 Upstream Face 1-30" and 13-40"

All rails 5'

Reinforcing -

Divide Wall - 5+20 - elev 1575

" " 1+328 elev. 1582

2-1-22

Fisher
Mixer

stump
16-468

1743 - - 1790

Chamber Strip -

1252 85.46

0.46

1572.94

1585.00

25

2-2-22
Bib
Fisher
Mixer

Block 3+27- 4+36

Upstream face Pts -

0.25 ^{71.21} ~~0.26~~ 1570, 96

At C28 sight R.P. for ~~C50~~
for 15-45'

450 R							
30	!	2-09	✓				
40		2-52	✓		Elev.		
50	1565.00	3-35	X	7.07	64.14	.86	
60		4-18	X	7.01	64.20	.80	
70		5-01	X	7.04	64.17	.83	
80		5-44	X	7.02	64.19	.81	
90		6-27	X	7.15	64.03	.97	
100		7-10	X	6.92	64.29	.71	
110		7-53	✓	7.35	63.86	1.14	
120		8-36	✓	7.19	64.02	.98	
130		9-19	✓	7.34	63.87	1.13	
140		10-02	✓	7.30	63.91	1.09	
150		10-45	✓	7.19	64.02	.98	
160		11-25					

6.31 64.90

(26)

4-29 825
46 948
5-16 723
46 948
6 03 ~~26.7~~ 1718.87
469
6-50

97.50
366.12
30.88

10 3/8
9-5/8
10"
9 3/4
11 5/8
8 1/2

4.6948
12.55
234740
234740
93896
46948
58919740

1-15/8 I.S.F. 1565-1575

11 3/4 7-45 -0-35 ✓
1-1 1/2 17-45 1-22 ✓
1-1 1/8 27 2-08 ✓
11 3/4 37 2-58 ✓
47 3-43 ✓
57- 4-29 ✓
67 5-16 ✓
6-04 ✓
6-50

(235)
23474
23474
93896
118727 X
46948
745
234740
187792
328636
39975260
5-49

34.9753
46.948
81.9233
1-21 9233
46 948
2 07-871
46.948
2-54829
46 948
3 42877
46 948
4-29825

2-3-22

Bib
Fisher
Mixer

Set Gauge -

3.00 1564.11 1561.11

11.99 52.12

1552.12
461.2
10600 = Gauge

1-4-22

Fisher
Mixer

Elev of Star Drill Hole -

El. Hub
Point #A

13.0 60.2 1847.2

5.4 65.6 0.06 60.2

25 631

Top of casing

Top of casing

#2 1861.4

Bottom of hole to be level with
Quarry floor = El 1747

1861.4
1747
114.4

27

2-4-22
Burb
Fisher
Mixer

Final Topog.

At Pt = on 1555' Lift. 6750 Sight
South from Zero

Avx./Pt	13.42	5-10	4.90	1557.70	1555.00		
00							
1580	28.0	332-30	1580	215	328-30		
"	36.1	16-15		18.5	00-0		
	58.4	35-30		27.3	35-30		
	59.6	38-0		48.5	46-30		
	58.0	42-30		61.3	48-30		
	59.3	44-45		62.7	55-0		
	62.3	44-45		68.5	57-30		
	65.1	52-15		75.5	62-45		
	68.0	55-30		89.3	62-0		
				918	65-0		
1555	67.5	55-00					
"	67.2	53-15					
"	64.9	49-30					
"	60.5	48-0					
"	57.5	43-0					
	57.5	39-30					
	34.5	22-30					
	25.5	354-30					
	23.5	328-15					

28

At Avxil Pt 519 at Lift 1555

	7.80	52.80	1545.00		
Avx 78					
(1545)	9.9	97-0	1540	32.1	41-0
	16.0	82-0		27.0	44-30
	17.2	74-30			
	23.8	64-30			
	26.1	59-0	1570		166-0
	26.2	56-0			
			1580		188-0
1540	25.2	52-0	1576		195-30
"	18.6	60-0	1567		221-30
"	12.4	58-30			
	8.5	48-30			
	7.2	57-30			
			Sight Avxil Pt from Lift 1565		
			1580		31-0
	35.0	48-0	1580		43-0
	37.5	36-0	1576		46-0
	37.6	28-15	1567		72-15
	37.6	18-30			
	32.2	21-0			
	34.0	26-			
	34.2	32-30			

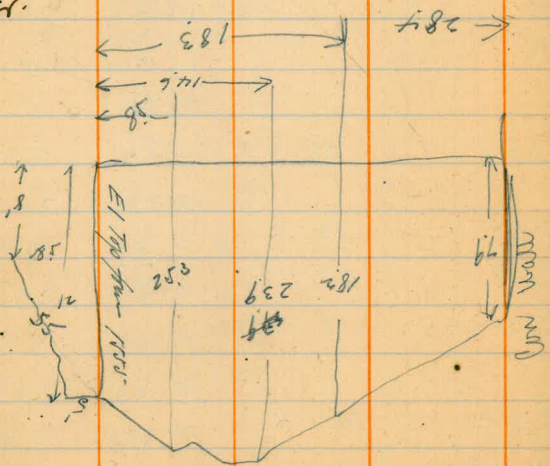
2-4-22

1545.00

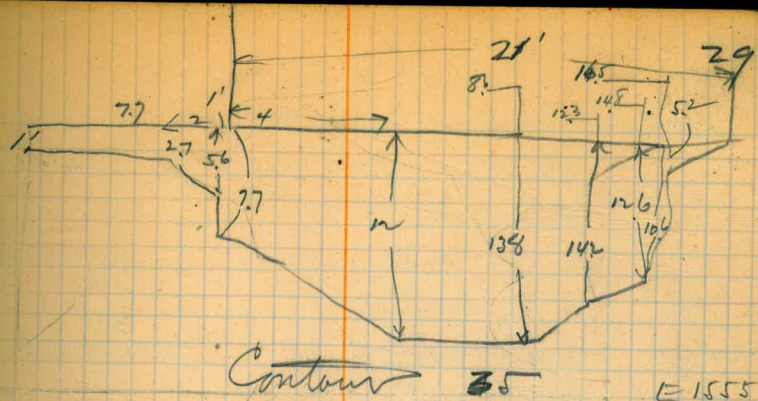
1545.00
- 92
1535.8
1.9
1537.7
77

15300 Elev of Concrete,

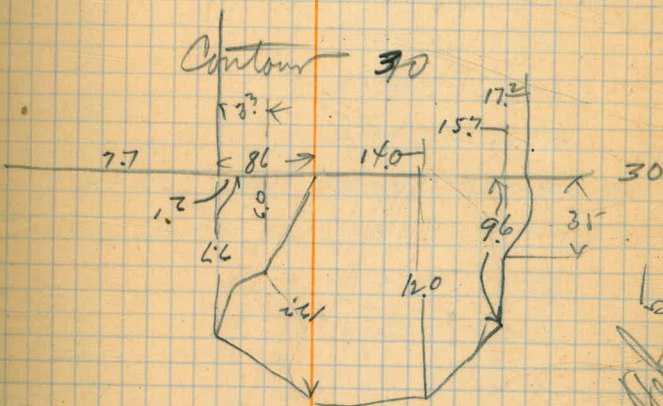
Feb. 6 1922
Bub & Minter.



Contour 1555



E 1555



Platted Feb 6 1922
Bub & Minter.

2-4-22

Bub
Fisher
MixerFinal Topog -
East TangleAt 58-250 - Sight 60-250 for
Zero Az Rt -

4.63 1565.14 1560.51

1565- 569 292-30 ✓ 1555 678 280-30

" 65.3 293-30 ✓

" 68.4 296-45 ✓

" 68.5 300-15 ✓

514 ~~---~~

1560 679 298-0 ✓

" 68.5 296-30 ✓

69.0 294-0 ✓

66.5 293-30 ✓

68.0 284-0 ✓

68.0 280-0 ✓

66.6 277-0 ✓

72.6 274-30 ✓

63.0 264-0 ✓

54.0 258-0 ✓

59.2 254-30 ✓

54.5 250-30 ✓

Rod 10! 64.2
13-55 63.7 255-30

59.6 260-0

62.8 274-0

66.3 277-

478
473

30

At 60-275 Sight 60 for Zero Az Rt

50 1572.83 1567.83

1565 20.3
197-30 ✓
17.0 190 15 ✓
9.0 329-0 ✓

Rod 28

1570 6.2 26-30 ✓

139 33-0 ✓

26.8 23-15 ✓

29.6 21-0 ✓

Vent 67' 37.3
37.7 22.30 ✓

At 62-275 Sight 70-275 for 90°

4.44 84.20 879.76

Rod 92

1575 11.3 327-30

" 14.4 341-0

23.7 346-30

27.9 350-0

4.7 31.7 0000

1580 9.5 351-30 ✓

" 16.9 3-0 ✓

" 28.0 60.00 ✓

29.3 6-30

Platted
2-5-22

2-4-22

At 64-275 Sight 70-275 for 90°

Row 8.3	4.7	93.3	1588.57
1585			

"	18.9	310-0	✓
---	------	-------	---

"	21.9	326-0	✓
---	------	-------	---

"	28.0	327-0	✓
---	------	-------	---

"	31.0	335-30	✓
---	------	--------	---

Row 1575	36.0	335-30	✓
----------	------	--------	---

Row 37 (138)	31.4	2-30	
-------------------------	------	------	--

Row 1585	31.8	4-15	
----------	------	------	--

Row 3.3	—————		
---------	-------	--	--

1590	25.8	355-0	
------	------	-------	--

"	29.9	355-30	
---	------	--------	--

"	29.0	5-0	
---	------	-----	--

"	38.2	23-30	
---	------	-------	--

At 66-275 Sight 66-275 for 270°

4.25	1604.76	1600.51
------	---------	---------

Row 9.8	28.9	333-30	✓
---------	------	--------	---

1595	31.4	348-0	✓	1600	37.0	10-0	✓
------	------	-------	---	------	------	------	---

"	33.8	356-0	✓
---	------	-------	---

"	36.5	7-0	✓
---	------	-----	---

Row 4.8	1600	27.0	350.0	✓
---------	------	------	-------	---

"	33.0	0-45	✓
---	------	------	---

Plathead
4-25-22

31

2-5-22
Bub.
Fisher.

Final Topog.

At 6+0759 - 348.84 - Sight South
on 6+0759 Line for zero Az Rt.

1550 1550 1545

Rod 0 31.6 18-30

1550 35.1 9-0

32.2 353-0

30.7 338-0

33.5 305-45

45.6 285-30

Rod 50
1545

26.5 337-0

29.8 300-30

32.5 7-0

28.7 15-30

2-

Auxil Pt 278-30

At Auxil Pt from 1555 Lift -
Sight 6+0759 - 348.84 for zero

7.5 1552.5 1545

Rod 2.5 14.5 189-45 v-10 37.7 120-0

1550 18.5 170-0 Correct to line of Force

26.6 153-0

28.8 144-30

35.4 135-30

36.1 130-45

Bub
Minter

Upstream Points - Downstream Points.

Block 0+93^m Nail in West form
to 1+42⁸⁰ Nail in form

Reset 397-D 1400 by inter section set
10 ft point on 397R - to 1+42⁸⁰ Nail in E Form

Set on 397-1400 and set Nail for D.S.F.
at Dist 205^m on Gravity for EI 1590
also set D.S.F. on Overflow at Dist 19.89
for EI 1590.

Set point - Nail in form in face West Wall
EI 1585.85 Dist from 397R = 29.18 from
397-1+32⁸⁰

Nail for Dir Wall EI-1590 - Gravity S. = 376.48R

376.09 Dir Wall = 1603

376.73 " " = 1604

.64 = diff. 1'

$\frac{1}{.64} \times 39 = .61$

1603

.61

1603.61 - Dir Wall EI 376.48

1590

$13.61 \times 1\frac{1}{4} = 1.42$

142 + 2 = 342

10-350

1348

1590.45

1576.97

Nail in Dir Wall 29.18 - F 4.15 = 4'-1 $\frac{1}{8}$ " 460 85.85

" in Whale D.S.F 376.48 R 478 1585.67

33

Dist to Face D.W. at EI 1586 = 31.73 from
397 R

Dist to Face Dir from 397R at EI 1590
= 29.18

Feb 7 1972 - Bub Minter

B.M.

Nail in Stamp 1118 1584.12 1572.94

Hub about 430-120 line 0.16 1583.96

7.34 1591.30

Nail in Whale 376.48 R F 4.33 = 4'-4" 563 check
85.67

1+00 - 376.48 - EI 390 F 4.49 = 4'-5 $\frac{7}{8}$ " 579 85.51

1+10 " " F 5.18 = 5'-2 $\frac{1}{4}$ " 648 84.82

1+20 " " F 4.17 = 4'-2" 547 85.83

1+29³⁸ " " F 3.85 = 3'-10 $\frac{1}{2}$ " 515 86.15

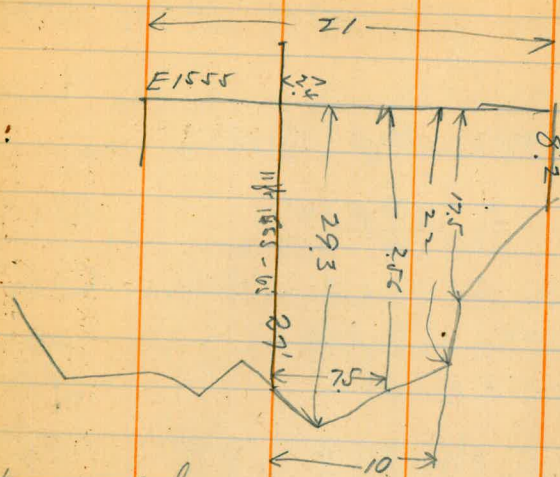
Overflow Downstream Face

1+32.8 - 377 $\frac{1}{2}$ R. F 3.78 = 3'-9 $\frac{3}{8}$ " 508 86.22

1+40. " F 4.32 = 4'-3 $\frac{7}{8}$ " 562 85.68

1+92.3 form O.S.F.

Feb 7 60' Contain
Bib Mixer



Plotted Feb 7
0423 1972

Feb 7 ^{sub} mixer.

Contraction joint 5+48

Reset point for joint 5+48

Bottom elevation of form on downstream

face about 1568 on upstream face

about 1571 See section for Feb, at

Estimate station 5+50

306
Miles
Feb 8.

1+43-1+93

D.S. Face Overflow.

Forms for EI 1590.

Wall
1+43 in. 118585

	EI for 1590	524 159109		118585
1+40	377 ^{1/2} R F	433 = 4'-4"	642	85.67
1+50	F = 431 =	4'-3 ^{3/4} "	540	85.69
1+60	F = 407	4'-0 ^{1/4} "	511	85.98
1+70	F = 384	3'-10"	493	86.16
1+80	F = 396	3'-11 ^{1/4} "	505	86.04
1+90	F = 420	4'-2 ^{3/8} "	529	85.80

Bob
Minter
Feb 8.

Topog. Journal

Set on 650 line north in Concrete in
1565 left. Sta = 6750 - 364⁰⁵R

31.2	230°
296	242.30
310	248
390	263
412	266

Platted Feb 8.

B+B4A1

Left about forms

1570.25
3.60
1576.65

37

2/9/22

At 6+50 running West

26.38 Dist from 397R. to

Nail in 1575 left 370.62 R.

374.14

370.62

3.52 net north for Nail in Rock

Azimuth at 0 at 6+50 on 397

Contour	1580	El 1576.60	El. 1575.50
Rod 25	Dist	Azimuth	Dist Az.
	46.4	131°	40.2 39°30' ✓
✓ 1580	42.4	129°	23.6 35°30' ✓
	43.7	121°30'	26.3 12°45' ✓
✓	40.3	117°30'	40.2 46°45' ✓
✓	44.6	108°30'	5.25 42.0 49°45' ✓
✓	44.2	106°30'	36.8 58°30' ✓
✓	49.6	98°30'	35.5 69°45' ✓
	49.1	96°45'	38.5 73° ✓
	50.4	95°15'	40.3 79°30' ✓
	47.5	90°15'	43.3 86°15' ✓
	47.1	85°	44.2 92°15' ✓
	45.3	81°	43.6 95° ✓
	43.5	73°30'	1575 44.0 96°45' ✓
	40.7	59°	✓ 41.7 104° ✓
	44.8	56°	✓ 42.5 106°30' ✓
	45.0	52°15'	✓ 40.0 112° ✓
	43.9	50°30'	✓ 39.7 115°45' ✓
			42.0 118°30' ✓
			39.9 124°15' ✓
			43.9 127°45' ✓

Plotted Feb. 10, 1922

2/10/19
Bub
Mixer

Final Topog Lt Abul
Set on 397R-640
Sight West for zero Az. Rt.
Contours 1585

Champion Strip		1027	1585.27	1575.00
Rod 27	285	74-30 ✓		
	250	88-30 ✓		
1580	20.3	101-0 ✓		
	16.3	113-45 ✓		
	16.3	128-0 ✓		
	23.2	151-30 ✓		
	29.0	162-0 ✓		
	34.8	172-30 ✓		

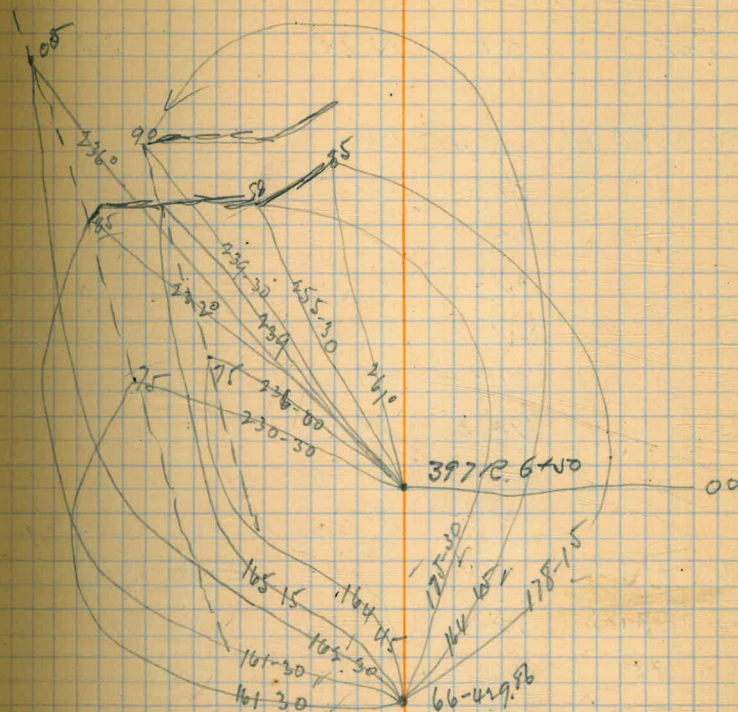
Plotted
Feb 10 1922

Contours 1590

Set on 66-429.86 Sight North for zero Az. Pt. 1595.41

	485	1600.26	1595.41
Rd 10.26	1590	11.5	246° ✓
		14.7	184° ✓
		20.8	158 ✓
		27.4	143 ✓
		36.0	137-30 ✓
R-526	1595		
	364	137 ✓	
	300	137-45 ✓	
	220	141-15 ✓	
	180	146-30 ✓	
	120	142 ✓	

2/10/19
Bub-Mixer



Set 66-429.86 Sight North for zero Az. Rt.
1600.26

Cont. 1600.

Rd. 0.26

228	128.0°
357	131-30 ✓

Feb 10 1952

Bob

Mixes

at Mac in 1565 hgt. D space 364 05 R
Sight North for Zero Az Pt

Champhor Strip 50 1570 1565

Cont 70 Rd 00 36.4 1340 ✓

36.5 128° ✓

37.5 117° ✓

34.6 111° ✓

38.6 99-30 ✓

38.4 94-15 ✓

39.0 92.0 ✓

39.9 88-30 ✓

41.3 86.30 ✓

40.4 82-30 ✓

From
Cont 1565 R 50

34.8 140. ✓

35.4 126-15 ✓

34.6 125-0 ✓

34.8 116-0 ✓

32.9 112-0 ✓

33-9 109-30 ✓

R Contact 32.0 105-45 ✓

End Form 35.7 93° ✓

36.6 86° ✓

Form 15-N 37.3 83 ✓

Plotted
Feb 10 1952
41913

minor Final Topog Pt about
But
2/11/22 at 397R 1700 Sight 1400-409²⁵

North for zero Ang. Pt
1740 DB ~~face~~ Nail
on Overflow Sect. 377 88.95 8568

Contours 1590			
R. + 105	15.3	39-45 ✓	
	106	27-0 ✓	
	8.2	356-30 ✓	
	7.0	334-45 ✓	
End from	80	320-15 ✓	
Top from	78	32-15 ✓	
Rock Contact		-05	05 88.45

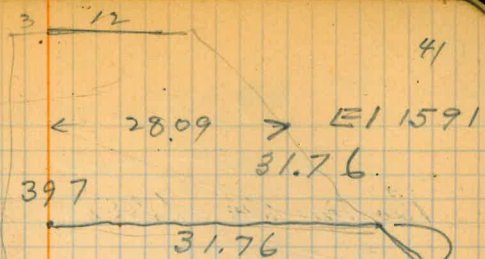
Plotted
Feb 11 1922
54710

1440 DSF
Overflow Nail 7.40 93.08

365.24R

85.68
2.08 91.00 -
7.08 86.00 -
8.03 85.05

Wall as built.



$$\text{Rate} = \frac{31.95}{19.76} = 1.617$$

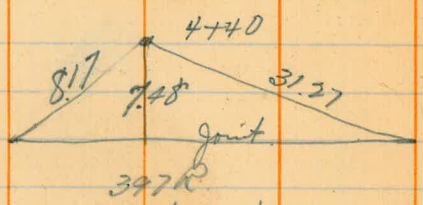
Feb 15
B. b. B. p. m.
Writer

397R
Set on 5+00, Set by Intersector

Upstream Points 5+00 West to
A+32[±] from Center Joint.

Bottom Elevation of DS Face = 1565 at Upstream
face = 1568

Tie to Center Joint.



Set on 5+00, turn to DS Face and set
nail dist 23.56

397R
373.44 EI-1572.495
23.56

Set on 373.44 Radius.
Defl for 1' = 46.29'
10' = 462.9'

Dir. Wall Grade

5+20	240	1579.75	1577.05
Nail in from Wash wall	4.51	1575.24	1581.00
			75.76
			576

5.76 feet = 5' 9 1/8"

373.44 / 17188700 (4.603)
149376
225110
224664
010460

2/16/22 Stadia for Quarry Sections

M=4.25

Instrument at 5+18 El. 1746.23

Azimuth 0 at 3+24 Left.

Dist	Az.	Ver. Ang.	Cor. Dist.	H.I. El.	Dist
186'	73°30'	+12°10'	178'	4.25	84.2 ✓
178'	77°55'	+10°37'	174'	3.2	78.0 ✓
170'	84°45'	+8°30'	166'	2.8	71.0 ✓
170'	93°59'	+7°43'	167'	2.7	69.9 ✓
166'	100°45'	+6°42'	164'	1.9	65.4 ✓
177'	111°17'	+4°28'	175'	1.3	60.0 ✓
172'	115°35'	+4°22'	171'	1.3	59.4 ✓

Inst at A - Sight 0 Az. #6

Elev A = 1847.2 H.I. 4.50

Top Hole	Dist	Az.	Ver. Ang.	Cor. Dist.	Dist
1	183'	71°	+4°36'	184'	14.6
2	207'	67°22'	+6°28'	203'	13.2

T.P.	Dist	El.	Dist	El.	Notes
	4.50	1851.70	1.91	1849.79	on Rock
	12.64	1862.43		1849.79	

T.P.	Dist	El.	Dist	El.
Top Quarry Face 17.5 from Hole #1	0.62	1861.81		
	4.30	1858.13		

Inst. at A Sight 0 Az #6 H.I. 4.40
For Loc. Stake at Hole 3.

231'	65°56'	6°46'
------	--------	-------

Elev. hub A, on hillside = 1847.2
Elev. hub on Q. Floor (3+24) 1741.63

Add 10' to corr. dist.

Add 5' to corr. dist.

Hole 6 West of shot.

Top Casing Hole 1
West

Dist	El.	Dist	El.	Dist	El.
20'	1865.9	9'	1864.4	4'	1861.8
14.5	1876.8	4.5	1873.8	4.5	1869.8
				8'	1869.8
				10'	1873.7
				12'	1870

Hole H1 Top Casing East 1861.81

Ground of str.

40
4
5

5+18 Point
El. 1746.23

194'
197°03'

3+24
El. 1746.3

East

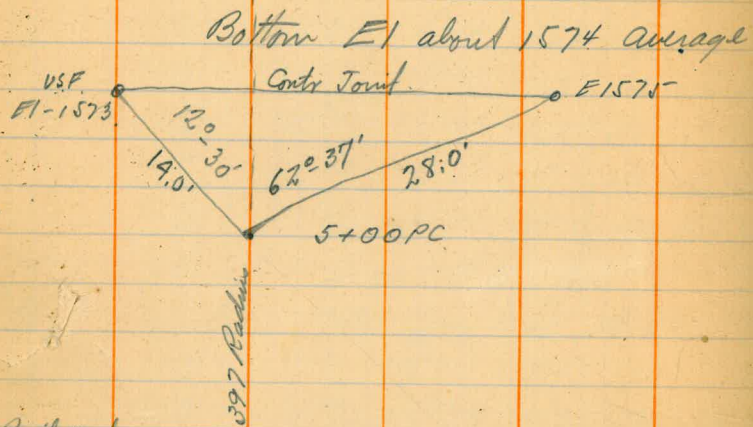
Top Cas. Hole #2

194
5.2
1670
4.6

Champoer Strip

Block 4+86 - 4+36

1st Rail West of Wash Wall left 1575	108	78.43	1577.35
		343	1575



1st Rail West of Wash Wall 1575 left	117	78.52	1577.35
		352	1575.00

B
B 2/30/22
M

At. 6+600

Block 6+55th Rock Contact

660
25
655

92°37'

44

428.92

387

89.93

1586.6

6+55.5

4.50 = 4'6"

4.43

1585.50

6+60.5

4.29 = 4'3 1/2"

4.22

1585.71

6+75.5

4.26 = 4'3 1/8"

4.19

1585.74

6+75.5

4.81 = 4'9 3/4"

4.74

1585.19

6+85.5

5.35 = 5'4 1/4"

5.28

1584.65

6+95.5

Final Topog. Left Abt

at 6+60. Azimuth 0 on 397R East

Inst.
Contour
1590

Dist Azimuth

25.1 344° ✓

29.3 351° ✓

29.5 353° 45' ✓

34.5 359° 15' ✓

36.8 6° 30' ✓

38.0 8° ✓

38.3 10° 45' ✓

44.2 14° 30' ✓

48.7 21° 30' ✓

57.8 26° 30' ✓

51.8 29° 30' ✓

53.4 40° ✓

56.8 43° ✓

50.0 60° 30' ✓

Inst. at 6+95.5 on 3.97R

Az. 0 on 397R West
To Rock Point

92°37'

Plotted
Feb 20, 1922

222-22 1/14/24
Bub
Boyson -
Mixer

Upstream face Pts

10	43'	✓	
20	1-26	✓	
30	2-09	✓	
40	2-52	x	✓
50	3-35	x	
60	4-18	x	
70	5-01	x	✓
80	5-44	x	
90	6-27	x	
100	7-10	x	
110	7-53	x	✓
120	8-36	x	
130	9-19	x	
140	10-02	x	
150	10-45	x	✓
160	11-28	x	5.4
170	12-11	x	
180	12-54	x	— here
190	13-37	x	
200	14-19	x	
210	15-02	x	
220	15-45		

2/24/22
Bob
Fisher
Mixer

Set C-28 by Intersection
measured west on top of hump wall
setting nails at

2+70

2+60

2+50

2+40

2+30

2+20

2+10

2+00

1+95 last nail on wall

1+93'90" Nail in top form E1 1590

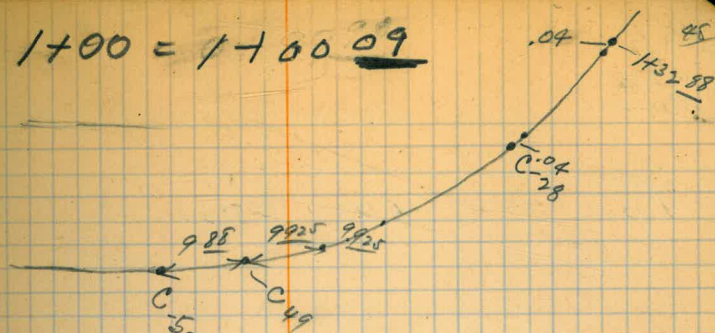
1+90.02 nail run from

1+43.0 nail in form - Contr Joint

1+32.88 = nail for - Wash Wall
from C-28

Run 9925 Cords to 4+90, Set C50 by
Intersection + checked 4+90 to 5+00 dist of
9.88 or .04 short.

$$1+00 = 1+00 \underline{09}$$



$$1+93.90$$

50

$$1+43.90$$

90

$$1+43.00 = \text{Contr Joint}$$

10.12

$$1+32.88 = \text{Wash Wall}$$

7390

6102

3288

$$1+00 = 1+00 \underline{09}$$

OK

3712

1999

57.11

32.80

89.91

50.02

11.02

61.02

37.12

32.80

69.92

2/24/22

Fisher
Mixer

Elev. of Spillway - Section

Chamber
strip

6.20 1581.20 1575.00

11

12

13

14

13

12

Average
Elev of
Spillway -

6 $\overline{)75}$ 1.25 1580.00
125

1580.00

$\overline{)1446.12}$

Gauge Height = 133.88

At C 5+70 - 397 Radius Sight RP East

Zero Az Right

23.6 352-30

22.9 358-45

19.2 13-0

25.0 20-30

36.1 29-15

39.0 35-30

5+14.9

Platted
2/27/22
4+35

Bub
Fisher
Mixer
High Point on Rail
15 West of 5+20

Divide Wall 5+20

1575 Lift 7.10 1584.45 1577.35

35.46 7.55 79.90

Elev. 1585 Nail set in form
32.37 = dist from 397 Radin
Wash Well

7.14 80.31

5+10 - To 5+60

Chamber Elev -

9.12 86.47 1577.35

1.47 1585.00

Chamber Strip - 8+05 To

Nail in Form

4.13 94.81 90.68

9.81 85.00

9.22 9

.0885

50

397.00

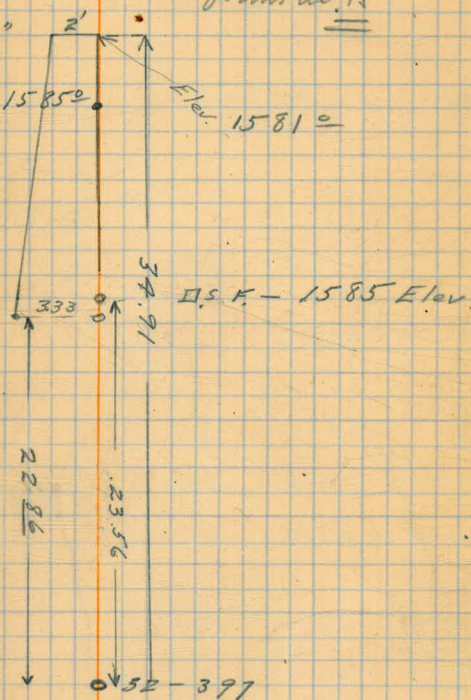
364.63

32.37

As built - dist from 397 R = 35.46 E / 79.90 Call for 35.61
form in 15

F 4.69 = 4' 8 3/8"

Set nail = 1585.00



2/25/22
B.S.B.
Fisher
Mixer

207

Final Topog.

855

At 58-250 Sight North for Zero Az Pt.
Axial Pt. 618 12-50

At Axial Pt from 58-250 Sight 58-250 for Zero

60-250 0.70 1568.99 1568.29

257-20 ✓

vent 11 down
60-65-70 21.5 260.0 ✓
vent 10 up 72.3 257.15 ✓

1565 66.3 245-30 ✓

1570 65.2 250-0 ✓

1570 69.6 245-30 ✓

1575 65.2 253-15 ✓

vent 13' up.
1580 63.5 256-30 ✓

At 68-775 Sight 70-298 for Zero

Rod 14.3 4.40 19.3 1614.90

1605 33.7 243-30 ✓ 1600 55.7 271-0 ✓

vent 60
edge of cliff 35.6 245-0 ✓ 1605 53.0 276-30 ✓

13'
1492 39.6 245-0 ✓ 1605 58.9 279-30 ✓

1605 40.0 257-30 ✓ 1605 68.7 281-30 ✓

1600 43.0 259-30 ✓

45.7 272-0 ✓

~~platted
2/25/22~~

57

At 68-275

Rod 9.3

1610 39.4 263-0 ✓

① 46.0 271-0 ✓

49.7 277-30 ✓

57.2 278-30 ✓

~~platted
2/25/22~~

Rod 4.3

1615 46.5 275-30 ✓

1615 50.6 278-0 ✓

1615 57.4 280-0 ✓

~~platted 2/25/22~~

At 70-325 Sight north for zero

77 1627.73 1623.08

2/26/22
Bub
Fisher

U.S. Face Pts.

BIK - 6+55.43 to 6+95.42

6+55.43
4.57

6+65.43

6+75.43

6+85.43

R.C. 6+95.43

397.00
378.57
18.43

U.S. Face -

EI-1595-

U.S.F Pts

At C50 - Chain east

Nail in wheel

12.67

1" Nail in form

27 13.77 5+13.72

16.10 5+16.10

3.90

5+20

5+30

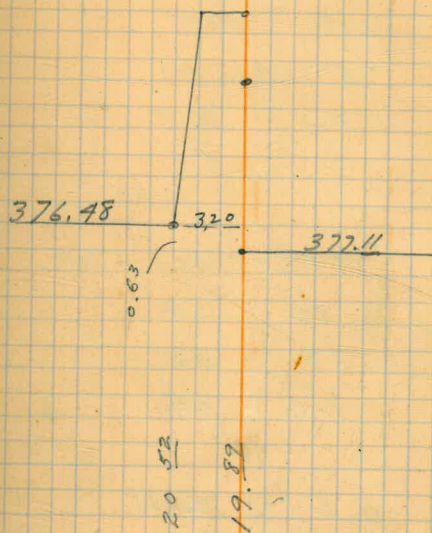
5+42.23

52

397.00
367.82

29.18 ✓

Set U.S.F. 2/27/22



Bub
Fisher
Mixer

2/27/22

U.S.F. 0.52-397.
12.97 90.32 Elev.

1577.35

5+13.77
Form

5+13.77 Nail in form

Grade

- 32 =

~~90.64~~

90.00 ✓

5+20 4.26

4- 3"

4.58

85.74

5+23 4.16

4- 2"

4.48

85.84

5+33 4.14

4- 1 5/8"

4.46

85.86

5+43 4.17

4- 2"

4.49

85.83

5+51.52 Nail in form

Grade

0.32

90.0

2/25/22
Fisher
Mixer.

February Est

53

Top of steel - $1+368$
 $5+20 = 1590$

12 nails @ 40# x 5' Spilling Section

1+32.80 - West -

30# 40#

1555

5

1565

2

3

1575

5

1+32 - 10 5+20

1555

12

34

1565

18

30

1575

16

34

5+20 East

1555

1

20

1565

2

15

1575

8

13

Total to Date 64 154 in I.S. Lifts.

2/25/22

BK 5+42.3 70.6+55.43

12.97 90.32 1572.35

T.P.

5.80 1586.59 9.53 80.99

5.7 5.8 7.2 ^{15.2}_{8.2} 6.2

6.4 4.3 6.0 16.2 5.6

6.0 4.8 6.4 17.2 6.4

5.8 5.6 5.7 17.1 5.7

6.4 6.2 6.4 19.0 6.3

6.3 5.5 6.0 17.8 5.9
613.61 6.0 1580.60

6+55.43 To P.C

1.32 1591.32 1590.00

1595 L.H.
Top of nail - 14 form

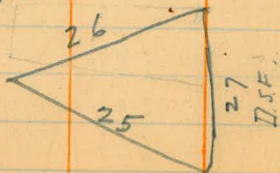
2.2 92.88 .64 90.68

2.3 2.4 2.4 90.48

Bottom El.

Deduct.

2.6 88.3



90 68
 4 13

 94 81

2/25/22

Bud
Fisher
Minded1+40 7 5 F
overflows

Outlet Tower.

6.55 92.23 1585.68

Outlet Tower Elev

Top of Concrete 3.38 88.85

Top of outside Form 3.2 89.0

Bottom of South
Concrete on Hole 6.1 86.1Bottom of
Hole North 5.5 86.7Top of Last
1/2" Hoop 5.4 86.8Top of outside
step 3.8 88.4Top of outside
guard 4.4 87.8Top of inside
steps + guard 3.1 89.1

7.57 93.25 1585.68

Top of Form 0.13 93.12

Top of Pipe 1.03 92.22

1.01 90.24

2/28/22

55

Height of Rails

Outlet Tower

Elev - above - 1589.00

2 - 11.0 ✓ 2 - 1600 ✓

1 - 6.3 ✓ 1 - 1595.3 ✓

1 - 12.0 ✓ 1 - 1601.0 ✓

1 - 3.5 ✓ 1 - 1592.5 ✓

1 - 5.2 ✓ 1 - 94.2 ✓

2 - 5.7 ✓ 2 - 94.7 ✓

1 - 6.5 ✓ 1 - 66 1 - 95.6 ✓

2 - 6.6 ✓ 1 - 66 1 - 95.6 ✓

1 - 3.7 ✓ 1 - 68 1 - 95.8 ✓

1 - 6.7 ✓ 1 - 3.5 92.5 ✓

1 - 10.6 ✓ 1 - 6.7 95.7 ✓

1 - 6.7 ✓ 1 - 10.7 99.7 ✓

1 - 13.0 ✓ 1 - 6.7 95.7 ✓

1 - 3.6 ✓ 1 - 13.0 1603.0 ✓

1 - 5.2 ✓ 1 - 3.7 92.7 ✓

1 - 11.7 ✓ 1 - 5.2 94.2 ✓

1 - 7.2 ✓ 1 - 2.0 91.0 ✓

1 - 3.5 ✓ 1 - 14.8 1600.8 ✓

1 - 7.2 ✓ 1 - 7.2 96.2 ✓

1 - 7.2 ✓ 1 - 3.5 92.5 ✓

1 - 2.3 ✓ 1 - 7.2 96.2 ✓

1 - 2.5 ✓ 1 - 2.5 91.5 ✓

2/28/27
Bub
Fisher
Mintel

BK- 0+945.70

7.57 93.3 1585 68
U.S.F 200
0+94.5

00
RL - 2
10.5
19.2
25.0x
7.2 86.1 ✓
7.2 86.1 ✓
6.2 87.1 ✓
5.9 87.4 ✓
6.3 87.0

1+055
- 5
0
10.5
25.0
7.5 85.8 ✓
6.8 86.5 ✓
5.4 87.9 ✓
5.6 87.7 ✓

1+09
00
90.9
18
24.7
7.3 86.0 ✓
5.7 87.6 ✓
5.9 87.4 ✓

1+17
00
7.7
19.4
25.2
8.5 84.8 ✓
7.0 86.3 ✓
6.6 86.7 ✓
7.0 86.3 ✓

93.3

1+20

233
14
56
30F
328

00
#7
11
15.4
25.6
8.6 84.9 ✓
7.3 86.0 ✓
6.0 87.3 ✓
6.0 87.3 ✓
7.4 85.9 ✓

1+28.8

00
7.3
13.0
21.1
25.2
8.1 85.2 ✓
6.6 86.7 ✓
5.9 87.4 ✓
6.6 86.6 ✓
7.2 86.1 ✓

1+308
Same as 1+288 to 2.52

34.6
00
3.0
6.8
13.5
4.57
34.7
7.6 85.7 ✓
7.8 85.5 ✓
7.7 85.6 ✓
6.7 86.6 ✓
6.3 87.0 ✓
7.0 86.3 ✓
7.6 85.7 ✓

1+2

2/28/2
Bus
Fisher
Mixer

93.3
1740

00

9.2

26.1

1750

00

9.3

14.5

26.1

00

8.0

16.6

26.0

1760

00

7.8

12.2

17.0

26.0

1770

00

7.6

14.2

17.6

26

1780

7.5

85.8

7.4

85.9

7.6

85.7

8.0

85.3

7.6

85.7

6.7

86.6

7.6

85.7

7.8

85.5

7.3

86.0

7.1

86.2

7.2

86.1

7.7

85.6

6.8

86.5

6.0

87.3

6.1

87.2

7.3

86.0

7.9

85.4

7.1

86.2

7.1

86.2

6.5

86.8

7.2

86.1

56

93.3

1793.8

00

11.6

26.0

00

4.0

4.0

8.0

12

16.7

23.7

30

31

~~25.5~~

00

4.0

4.0

11.0

16.0

24.6

26.6

7.8

7.2

7.4

5.8

1580.8

Cont. Jam

00

4.0

8.0

12

16.7

23.7

30

31

~~25.5~~

00

4.0

4.0

11.0

16.0

24.6

26.6

1575.00

0.5

0.5

4.0

5.0

4.3

5.4

5.4

5.4

3.8

~~5.5~~

~~0.8~~

0.8

0.8

4.1

4.9

4.8

5.0

5.8

85.5

86.1

85.9

80.3

80.3

76.0

75.0

76.5

75.4

75.4

75.4

75.0

75.0

80.0

80.0

76.7

75.9

76.0

75.8

75.0

2/28/22

Bob
fisher
1917/20.

1580.8

2+30

00	0.8	80.0 ✓
4	0.8	80.0 ✓
4	5.0	75.8 ✓
12.6	5.0	75.8 ✓
15.8	4.8	76.0 ✓
20.7	5.3	75.5 ✓
23.2	5.1	75.7 ✓
26	5.5	75.3 ✓
D.S.F.	5.8	75.0 ✓

2+40

5.14 80.14

5.10 85.1

0.14 80.0

1575.00

0		
4	5.1	80.0 ✓
4	5.1	80.0 ✓
4	8.5	76.6 ✓
19.2	9.3	75.8 ✓
17.6	9.3	75.8 ✓
22	9.7	75.4 ✓
25.2	10.0	75.1 ✓
33.6	10.1	75.0 ✓

1585.1

2+50

9

33.7	10.1	75.0 ✓
27.9	9.9	75.2 ✓
22.7	9.9	75.2 ✓
16.5	9.2	75.9 ✓
4	8.5	76.6 ✓
4	5.1	80.0 ✓
00	5.1	80.0 ✓

2+60

0	5.1	80.0 ✓
4	5.1	80.0 ✓
4	8.6	76.5 ✓
10.5	9.2	75.9 ✓
18.8	10.0	75.1 ✓
22.5	10.0	75.1 ✓
28.2	9.8	75.3 ✓
33.8	10.1	75.0 ✓

2+70

00	5.0	80.1 ✓
4	5.0	80.1 ✓
4	8.2	76.9 ✓
10	10.0	75.1 ✓
19.4	10.0	75.1 ✓
25.3	9.7	75.4 ✓
33.9	10.1	75.0 ✓

2+76¹⁵ end of wall.

2/28/2 ✓

2 + 80

80.14

00

5

11

18

26

336

36

76.50

43

75.8

56

74.5

53

74.8

51

75.0

5.1

75.0

2 + 50

00

6

9

12

19

25

336

36

76.5

41

76.0

46

75.5

59

74.6

56

74.5

51

75.0

5.1

75.0

3 + 00

336

25

19

13

6

00

3

5.1

75.0

53

74.8

62

73.9

48

75.3

35

74.6

3 + 10

00

6

17

20

27

336

34

76.7

34

76.7

48

75.3

34

74.7

51

75.0

58

801

3 + 20

00

7

15

18

24

27

33.6

00

6

10

16

22

25

33.6

0

7

19

25

33.6

33-34

60 x 5.2 x 3.25

32-33

6 x 5.1 x 3.6

31-32

6 x 5.1 x 3.0

30-31

6 x 5.1 x 3.7

29-30

6 x 5.1 x 3.7

28-29

6 x 5.1 x 3.8

36

76.5 ✓

37

76.4 ✓

48

75.3 ✓

52

74.9 ✓

46

75.5 ✓

50

75.1 ✓

51

75.0 ✓

3 + 30

35

75.6 ✓

36

75.5 ✓

37

76.4 ✓

48

76.3 ✓

43

75.8 ✓

50

75.1 ✓

51

75.0 ✓

3 + 40

32

76.9 ✓

30

77.1 ✓

43

75.8 ✓

50

75.1 ✓

51

75.0 ✓

41
35
76
35

2/28/24

10.2	15857	1575	10
	3+430		140
00	80	77.2 ✓	26.5
4	80	77.2 ✓	00
9	83	76.9 ✓	14
23	10.0	75.2 ✓	17
32.6		75.0 ✓	26.5
0	5.2	80.0 ✓	
4	5.2	80.0 ✓	

same as above -

	3+58		
07	5.2	80.0 ✓	
4	5.2	80.0 ✓	
4	7.5	77.4 ✓	
12	9.1	76.1 ✓	
24	10.0	75.2 ✓	

3+58

0	5.2	80.0 ✓	
4	5.2	80.0 ✓	
4	8.8	76.4 ✓	
15	7.8	77.4 ✓	
26.5	7.1	78.1 ✓	

85.2
3+75

57

5.2	80.0 ✓
51	80.1 ✓
51	80.1 ✓
3+90	
51	80.1 ✓
53	79.9 ✓
47	80.5 ✓
49	80.3 ✓
4+10	
51	80.1 ✓
52	80.0 ✓
5.1	80.1 ✓
4+20	
5.2	80.0 ✓
5.2	80.0 ✓
5.8	79.4 ✓
4+35.5	
5.2	80.0 ✓
5.2	80.0 ✓
7.0	78.2 ✓
7.7	77.5 ✓
7.8	77.4 ✓
4+35.5	
4.3	80.9 ✓
4.5	80.7 ✓
3.6	79.6 ✓
6.6	78.6 ✓
6.9	78.3 ✓

2/28

1585.2

4+40

∞	38	81.4 ✓
4	39	81.2 ✓
12	6.1	79.1 ✓
19	6.3	78.9 ✓
26.5	6.3	78.9 ✓

4+60

∞	42	81.0 ✓
4	4.3	80.9 ✓
14	4.4	80.8 ✓
26.5	4.7	80.5 ✓

4+80

0	40	81.2 ✓
5	40	81.2 ✓
12	47	80.5 ✓
17	48	80.4 ✓
26.5	52	80.0 ✓

4+90

∞	27	82.5 ✓
10	25	82.7 ✓
18	48	80.4 ✓
26.5	58	79.4 ✓

5+00

∞	44	80.8 ✓
10	42	81.0 ✓
14	35	81.7 ✓
21	47	80.5 ✓
26.5	55	79.7 ✓

1585.2

60

5+161

∞	57	79.5 ✓
6	52	80.0 ✓
14	27	82.5 ✓
20	37	81.5 ✓
26.5	51	80.1 ✓

5+161 to 5+427

40 1594.2

1590

Average elev -

3.6

1590.4

Top of Air Vents - to Gallery
1585.2

4+95	2.7	82.5 ✓
470	2.7	82.5 ✓
4+36	2.8	82.4 ✓
4+10	3.6	81.6 ✓
3+75	3.2	82.0 ✓
3+55	2.8	77.4 ✓
3+35	8.8	76.4 ✓
3+15	8.1	77.1 ✓
2+80	8.0	77.2 ✓
2+50	7.9	77.3 ✓
2+20	8.5	76.7 ✓

6.9 92.6

1.6 1585.65

17 37

91.00

2/28/22

Bub
Fisher
Mixed

U.S.F Pts

Chained from 5+50 - West

5+45.54
4.46
5+42.3
3.24 Form
5+40
2.3

5+30

5+20

5+13.69

U.S.F Pts Radius from Dist. 1/2
Gravity Section el. 1595 = 378.57 = 18.43
Overflow " " 380.77 = 16.23

Dist out 325

U.S. Face 5+13.7 to 5+51.6

5+13.77

5.43 1595.43 1590.0
Elev. 1595.00

Station	Description	Dist	Angle	Dist	Radius
5+13.7	Nail in Form Overflow	4.28	4-3 3/8"	4.71	90.77
5+20	Overflow	5.0	5-0"	5.43	89.90
5+23.05	Gravity	4.88	4-10 1/2"	5.31	90.02
5+30	"	4.56	4-6 3/4"	4.99	90.34
5+40	"	4.53	4-6 3/8"	4.96	90.44
5+51.6	"	4.78	4-2 1/8"	4.61	90.37
Nail for Dams Wall	El. 1595.2	4-2"		5.17	90.82
					90.73
					90.93

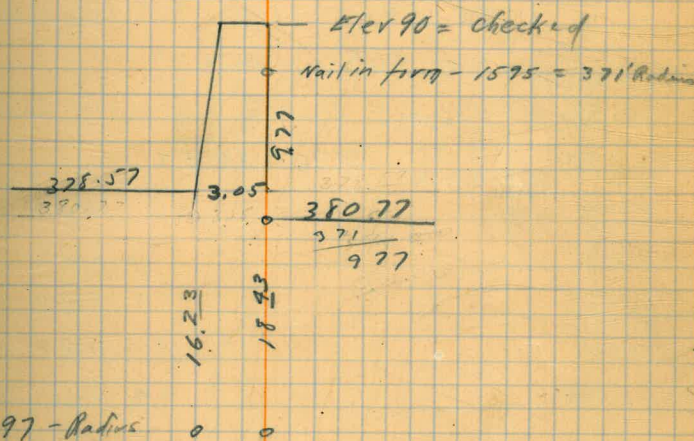
Note change See Book 25 page 23

4.46
3.24
7.70

5+50
4.46
5+45.54
3.24
42.30
2.30
5+40.00
10.00
30.00
10.00
20.00
6.31
5+13.69

5+7.70
42.30 6.31

5.00
90.83
4.17



checked 1590 Radius = 29.18

371' Radius = 1595 - el Dams Wall = 26.00

3-1-22
Bub
Fisher
Mixer

U S Face Pts
~~54970~~ To 6+55

At 6+65.43 Chain 1543 =

6+50
6+40
6+30
6+20
6+10
6+00
5+9724

I S T

At 6+00 Sight RP East for Zero

Turn 90° chain

I S T E. 1170
20.52 = 376.48 Radius - Gravity Section

64-275	Nail in form	9.76	89.52	4.26	1579.76
5+				5.52	85.26
6+00				6.02	84.00
6+10				5.77	83.50
6+20				4.79	83.75
6+30				5.18	84.73
6+40				4.72	84.34
6+50					84.80

7976
976

8952

9700
7648

2052

7857
7648

209

9700
7857

1843

9700
7648

2052
1943

109

4.74	-	4-8 7/8	✓
6-00	-	6-00	✓
5.50	-	6-6"	✓
6.25	-	6-3"	✓
5.27	-	5-3 1/4	✓
5.66	-	5-8"	✓
5.20	-	5-2 3/8	✓

3-1/22

Bub
Fisher
Mixer

— Out line of Form —

At 6+10-397' Sight R.P. West for

Zero

10.25 16-30

18.30 343-15

30.6 311-30

Fisher
Mixer
33-22

Outlet Tower Points.

Top of
Pipe —

1.84 94.07 1592.23

Bot. of Beam

2.84 1591.23

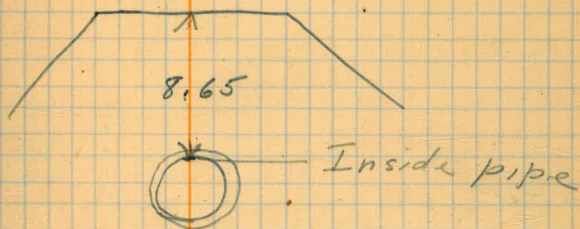
Bot. of Bracket
below Beam

5.50 1588.57

Bot. of Bracket
for Saucer Valve —

4.10 89.97

63



3/3/22
Fisher
Mixer.

Blk - 5+972 to 6+55

64

Upstream Face - Pts -

At 6+6593 - 397 Radius - chain

6+50

15.43

6+40

6+30

6+20

6+10

6+00

5+972

397.00
378.57
18.43

D.S.F.

Elev 1595 = Radius 378.57

D.S.F. Rad 397
5+516

5.26 96.08 1590.82

5+93.3 1595 45

5.64 90.94

4.56 - 4 - 6 3/4"

6+00

5.47 90.61

4.39 4 - 4 5/8"

6+10

5.36 90.72

4.28 4 - 3 3/8"

6+20

5.22 90.86

4.14 4 - 1 5/8"

6+30

5.30 90.78

4.22 4 - 2 5/8"

6+40

5.33 90.75

4.25 4 - 3"

6+50

5.52 90.56

4.44 4 - 5 1/4"

6+60

5.45 90.63

4.37 4 - 4 1/2"

6+70

5.54 90.54

4.46 4 - 5 1/2"

6+80

5.34 90.74

4.26 4 - 3 1/8"

6+90

5.54 90.54

4.46 4 - 5 1/2"

7+00

5.56 90.52

4.48 4 - 5 3/4"

7+06

5.48 90.60

4.40 4 - 4 3/8"

Elevations of Coordinate
Reference Points.

6-470 ⁶⁵	1515.38	Hub.
8-450	1601.89	Hub
10-350	1576.97	Hub
B.M. 12-330	1570.96	Nail in Stump.
12-455 ⁷⁹	1587.34	Nail in Rock
12-502 ⁰⁹	1600.83	Nail in Rock.
14-436 ²⁸	1574.94	+ on Rock
14-495 ¹⁰	1588.91	Nail in Rock
16-446 ¹⁷	1567.82	Nail in Rock
B.M. 16-468	1572.94	Nail in Stump
16-490 ⁰⁹	1577.79	Nail in Rock
18-438 ⁰⁹	1554.12	Hub.
15-470 ⁷⁵	1561.52	Nail in Rock
18-488 ⁰	1561.11	Hub.

DSFA # 1595
5+30

4 79 95.23

1
1590.44

10.23 1585.02

65

Harris B.M. - Ironpin - Set in Rock 40' S of Conveyer #2	1626.33
Nail in Rock 30' N of 3+00 (Cableway West)	1764.33
End of "P" Line above Quarry Road	1751.67

New Points -

B.M. Top of Rail 1st east of Divide Wall 500 1566.87
 " " Top of Rail - 6+15 1576.79
 Nail 6+81 - 397 1576.56

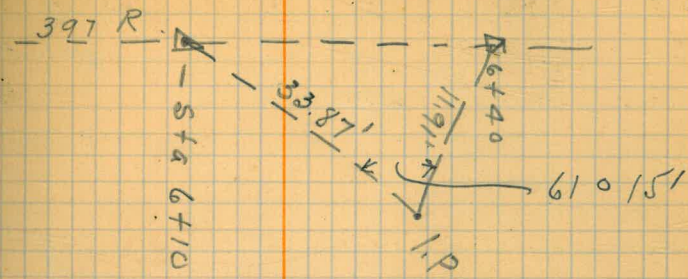
Top Rail 6+0 1160 1578.47 1566.87
 1st East of
 Divide Wall

High point on
 Top Rail 1575.1 ft
 1st West of Divide
 Wall 50+2.0 8.90 1586.25 1.12 77.35

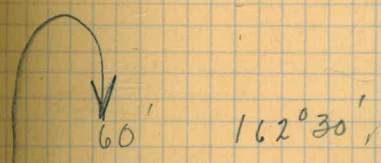
85 Contour Rod 12.5 1.25 1585.00

	Azimuth 0 at 6+40			
	Dist.	Azimuth	Dist	AZ.
Cont. Joint U.F. Fillet Rod 6.25	20.4	51°45'		
Fillet U.F. Rod 6.25	39.4	72°45'	55.3	101°30'
Fillet U.F. Rod 6.25	36.2	75°15'	56.9	101°45'
Fillet Cor Rod 10.0	42.4	78°30'	59.4	103°45'
Fillet R.C. Rod 9.0	37.4	71°30'	61.2	107°30'
Y Rod 10'	35.2	72°0'	60.7	109°30'
Contour Rod 12.5	43.9	74°30'	63.7	112°45'
End form R.C.	46.4	80°15'	61.5	115°15'
Contour	51.8	85°	63.2	122°
	51.8	86°15'	55.2	136°15'
	50.9	87°45'	16.7	139°15'
	53.5	98°30'	58.2	138°
			56.2	144°45'
			58.2	145.00

Location Inst point 65

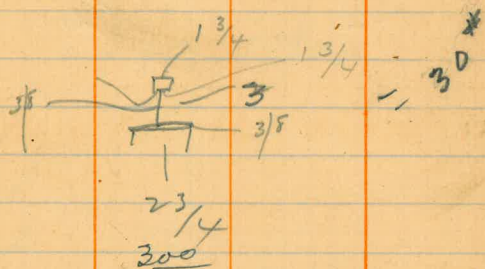
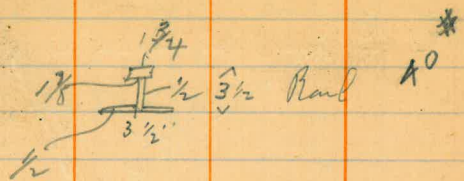


x



1-31-22

Rail in D.S.F Dam



DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stakes from side or shoulder stake for any width roadway, slope 1% to 1%. If ground is nearly level, the cut or fill at side stake is located by the double entry method in the column and top row. The number in body of table in same row and column gives distance level estimate the distance by elevation between the side stake and shoulder stake by this amount. Add this amount to cut or fill at side stake to get up or down at shoulder stake. It does not make the slight adjustment target.

IMPROVED TABLES

AND

INFORMATION

TABLE No. 2.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections. Degree of curve with a given L may be found by dividing tangent (or external), opposite L by given tangent (or external). The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

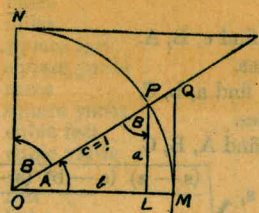


TABLE II

TRIGONOMETRIC FORMULÆ.

$$\angle A = \angle MOP \quad \angle B = \angle PON = \angle OPL$$

$$R = OB = c = 1$$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

$$\sin \frac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \quad \cos \frac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \quad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Lines} \quad \frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$$

235

40

280

450
92

33.8
19

37.7

77

30.0

Count