26

FIELD BOOK

MINING

TRANSIT BOOK

384

W158

MICROFILMED
JAN 8 1965

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4/4/22
Bub
Fisher
Mixter

Piers for Roadway —

At Elev - 1607 -

Chained from 1+39.832 - 397' Radius

4.215
1+44.727 R.P. 2' West of Pier -

6.895
1+46.727 ℄ of Pier #1

20
1+48.727 R.P. 2' East of ℄ of pier

5.463
1+54.190 ℄ of Opening

1+59.654 2' R.P. nail

1+61.654 ℄ of Pier #2

1+63.654 2' R.P. nail

4/5/22
Bub
Fisher
Mixter

		5.67	1603.67		1598.00
	Elev of water			~~43~~	
3+23	1597.4			4.3	99.4
3+25				4.3	99.4
3+25				7.5	96.2
3+33				7.5	96.2
3+33				5.0	98.7
3+52.6				4.7	99.0
3+52.6				7.7	96.00
3+60.6				7.7	96.00
3+60.6				5.1	98.6
3+74				5.1	98.6
3+74				7.7	96.00
3+82				7.7	96.00
3+82				4.0	99.7
3+90				4.2	99.5
4+00				4.2	99.5
4+10				4.3	99.4
4+20				4.3	99.4
4+30				4.0	99.7
4+40				4.1	99.6
4+50				4.1	99.6
4+60				5.2	98.5
4+70				5.8	97.8
4+80				4.5	99.2

1603.7

4+90	4.7	99.0
5+00	5.4	98.3
5+10	4.5	99.2
5+20	4.6	99.1
5+27	3.8	99.9
5+27	+0.2	1604.0
	6.2	97.5

7/9/52
Fisher
Nelson -

Final Tprg
Right About.

At. 60 - 4.8 North of. Lift. 1565-75

Rod 12?		Rod 12.7	1555'
1555'	293	96-0	✓
-	276	87-30	✓
Strength	270	80-0	✓
	28.1	56-0	✓
	17.6	42.30	✓
	12.4	78.0	✓
	125	98-0	✓
	13.0	12.4	✓

Plotted
7/10/52

3/10/22
Brisin
Fisher.

Levels for Setting Overflow Arch Ribs

BM	3.08	1601.08		1598.00	Grade	
℄ Pier 16			2.38	1598.70	1607.00	8.30 = 8' 3 5/8" Fill
℄ " 15			5.04	1596.04		10.96 = 10' = 11 1/2" "
℄ " 14			2.32	1598.76		8.24 = 8' 2 7/8" "
B.M.	10.64	1608.64		1598.00	~~1607~~	
℄ Pier 22			8.77	1599.87	1607	7.13 = 7' 1 5/8"
℄ Pier 21			5.35	1603.29	1607	3.71 = 3' 8 1/2"
" 20			5.07	1603.57		3.43 = 3' 5 1/8"
" 19			4.96	1603.68		3.32 = 3' 3 7/8"
" 18			5.02	1603.62		3.38 = 3' 4 1/2"
" 17			4.95	1603.69		3.31 = 3' 3 3/4
Check			1.60	1607.04	OK 4 ft	

Byron
Asher
Proxter

Absent

Final Topog -
Right About

At 60 - 4.8 North of Lift 1565-1575

Sight R.P. 60 - North for Zero

Bench	2.90	1567.90			1565 ro
Rod 7.90	31.9'	87°	Rod 2.90	Dist. 40.2	Azimuth 149°15'
Cont 1560	29.8	83°	Cont 1565	34.8	161°30'
	29.0	77°45		25.4	188°
	29.1	71°45'		24.4	206°
	28.3'	64°45'		21.0	211°
	28.2	65°15		18.3	208°30'
	27.6	60°30		14.0	219°45'
	28.5'	53°15'		10.5	213°
	19.5'	39°30'		7.2	214°30'
	14.2'	47°30'		8.0	241°30'
	10.8'	56°		7.4	282°
	6.6'	99°30'		1.6'	317°
	7.2'	133°15		7.4	8°
	8.0	147°30'		10.7	3°
	11.2	145°		13.7'	15°15'
West. Cor Form Top form 1565	12.9	153°		14.4	29°15'
	16.7	164°30		22.1	36°
	19.0'	177°		28'	48°45'
	22.7	165°45'		29.1	53°
	28.0	138°45'		34.2	53°30'
	33.0	139°30'		30.6	61°
				30.5	71°
			Rod 5.0	2.3	116°
			Rod 5.2	5.0'	188°

Rod 5.2	10.8'	198°30'
Ring Cont 1565	16.5	187°30
Rod 3.9		
	13.4	164°15'
	9.6	150°30'
	8.8'	170°30'
	12.0'	187°45'
Rod 1.45	14.5	183 30'
Rod 1.40	9.3	159°30'

4/11/22
Bob
Fisher

Final Topog.

At 3+07.49 (II 1+00) Sight C6- 470.65

Auxil. Pt 339.39

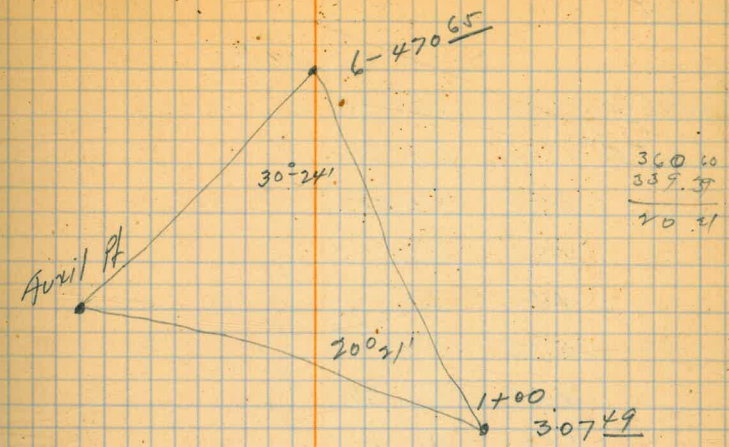
At 6 - 470.65 Sight □ 1+00 - 3+07.49 for zero -

Auxil Pt 30° 24' 22 60-49

At Auxil Point sight 1+00 - 307.49 for zero Az Rt. 157.47

		247			1575
Cor of 65-25 left on Center Joint	52.0 ~~51.5~~	314°			
Cont 1570	60.5	284°-15'		27.3	263
R. 7.5	68.5	282°-45'		18.5	263-30
	57.0	282		15.3	271-0
	56.8	282-45		10.8	270
	54-3	280-45		11.3	280
	50.0	282-50'	End of form	8.3	309-45
	46.5	280-15'		8.8	323-45
	44.0	277		7.0	333-30
	38.5	273		8.5	356-45
	37.5	275		7.0	6°-45'
	33.8	272		12.0	2-30

Plotted 4/11/22



360.00
339.39
20.61

	11.8	58-30	Cont. 1575	10'	81-30
	18.0	27-30	"	5'	73-15
	27.0	14.45	"	5'	119
	44.0	7-30		7'	155-30
	57.0	8-30		6	173-45
	57.0	353-45		2.7	192
Rt 25				6.5	220-15
157.5	60	356°-15'		9.0	218-
	58	3°-45'		9.5	207
	53	8-30		15.0	222
	46.5	9-0		23.5	225
	34.5	14-30		24.3	229-15
	30.5	19-15		24.3	232
V. up 5'	18.8	28-30		27.0	244
V. up 8'	14.3	63		29.7	259-30

Plotted 4/11/22

4/11/22
Bob Fisher

At Aerial Pt. from 1+00 - 307+42

			157747
Cont 1575	30	261-30	✓
Rod 75	37.5	271-30	✓
	39.5	270-45	✓
	42.5	277-	✓
	44.5	275	✓
	47.0	278-15	✓
	49.0	282-30	✓
	52.5	281-15	✓
	55.0	280-15	✓
	56.5	281-45	
	61.0	283-15	

4/11/22
Bub
Fisher

El- 1610 -
Downstream face Pts
Gravity section - East Tangent

6+62		6.10	1610.21		1604.11		
6+71	Check shot			1.37	08.84	Corrected 08.85	
6+62	1610				1604.11	5.89	5-11 3/4
6+50	1610			6.33	03.88	6.12	6-1-1/2
6+40	1610			5.78	04.43	5.57	5-6 7/8
6+30	✓			5.36	04.85	5.15	5-1 3/8
6+20	✓			5.37	04.84	5.16	5-2"
6+10	✓			6.02	04.19	5.81	5-9 3/4
6+00	✓			6.05	04.16	5.84	5-10 1/8
5+90	✓			6.92	03.29	6.71	6-8 1/2
5+80				6.95	04.16	5.84	5-10 1/8

4/15/22
~~5+80~~
Bub
Fisher
Mixter

~~1609.16~~

		3.13	1609.13		1606.02		
5+80	Check			4.97	1604.16	5.84	5'-10 1/8"
5+70	1610			5.34	1603.79	6.21	6'-2 1/2"
5+50	"			6.63	1602.50	7.50	7'-6"
5+40	"			5.11	1604.02	5.98	5'-11 3/4"
5+30	"			4.88	1604.25	5.75	5-9"
5+22 4	"			4.80	1604.33	5.67	5-8"

4/1/22
Bob
Fisher

Upstream Face Pts.
El. 1617 - for Parapet Wall.

Ran in Intersection 12-397 -
Set points

7+46				
7+40				
7+30				
7+20				
7+10				
7+01				
Book 25 Page 42				
Pier #13	10.10	1609.36		1599.26
			3.36	1606

4/12/22
Bob
Fisher -

At Pier #16 Sight Pier #13 for
3-13
chained from Pier #13 -

Pier # 12
14.889 4-18
#11
#10
#9

4/12/22
Bob
Fisher
Mixter

Final Topog

At ∅ 1+00 - 307.49 Sight ℄ 6 - 470.65

∅-1 - 307.49		14.35	91.32		1576.97
HI 4.36				4.36	1586.96
		109-22			
R.P. 0+75	25.48	54-42			
Rod 11.3					
1580	26.5	323-30	✓	59.4	322-30
✓	36.5	320-30	✓	61.6	327-15
"	37.5	325-0	✓		
"	40.0	324-30	✓ T.P.	0.01	91.31
"	44.7	323-0	✓		
	49.9	326-0	✓		
	54.8	326-30	✓		
	57.7	326-30	✓		
Rod 6.3					
1585	57.7	326-30	✓		
	52.7	322-00	✓		
	49.7	319-0	✓		
	42.1	315-30	✓		
	37.0	319-0	✓		
Rod 13					
1590	34.1	315-0	✓		
✓	41.1	316-10	✓		
✓	48.3	317-0	✓		
✓	57.1	319-0	✓		

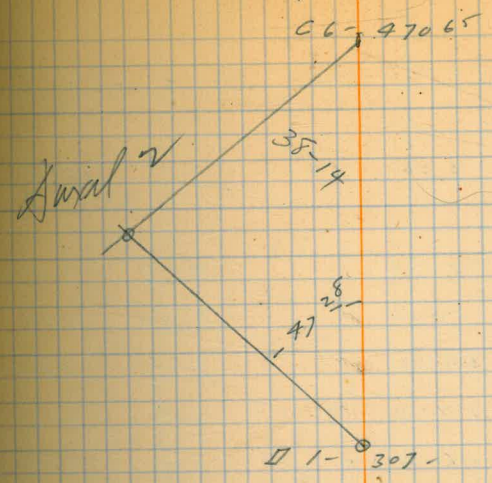
Plotted 4/13/22 ✓

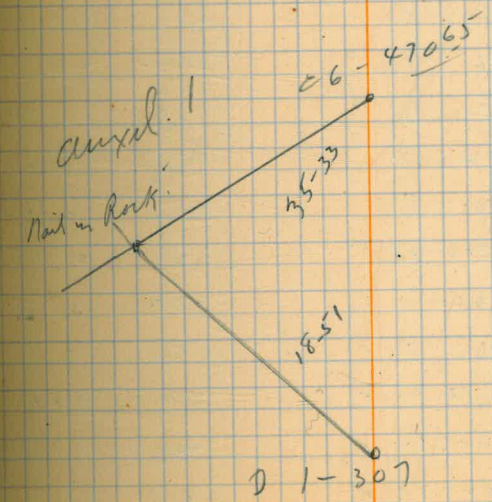
4/12/27

	At 0+75 — for Zero		Sight G-6-470.65		
		8.86	95.82		1586.96
60 — R.P. 08	15.0	76-15			
1595	8.3	315-30			
	16.7	314-0			
	25.0	317-0			
	~~30.6~~ 31.1	316-0			
	36.8	319-0			
	39.7	325-30			
	43.0	326-15			

Plotted 4/13/27

	At 0+60-R.P.		Sight North - 0+60 R.P.		
		12.89	164.20		1591.31
1600	4.0	340-0	Rod +08	42.5	316-0
	13.5	325-0	1605	34.3	317-0
	20.9	321-0		24.8	311-30
	29.5	322-0		8.9	287-0
	32.5	324-30			
	38.0	319-30	1610	12.0	264-0
	42.7	318-0		18.5	289-0
				23.5	304-0
				30.8	307-0





4/17/22

Final Topog

At Auxil #1 Sight D-1 - 307

Lift		6.00	1581		1575
1580	28.7	20-30		46.1	282-0
	25.3	34-0		51.0	289-01
	16.9	56-0		51.5	286-01
	14.4	64-0	80 55X	55.0	286-01
	11.6	66-0	80 85X	62-0	289-01
	9.3	100-0			
	5.3	148-0	1585	62-0	289-01
	7.3	192-0		55-	286-
	11.9	203-0		50.0	282-30
	17.6	216-30		45.0	279-0
	20.3	235-30		43.9	278-0
	24.1	242-0		40.3	274-30
Form.	26.8	250-30		40.6	272-30
(Form 1575.8)	14.0	318-35		38.6	270-30
	28.7	264-0		37.2	273-0
	28.2	266-30		29.5	264-0
	36.5	277-0		30.0	260-0
	38.3	275-0		26.8	247-30
	39.4	275-30		24.3	233-0
	39.9	279-0		22.0	217-0
	45.1	283-		19.7	207-0

13.5	193-0
8.0	180-0
7.6	140-0
11.8	89-0
13.6	72-30
19.0	55-0
24.6	39-0
28.6	27-0
30.7	24-0

4/13/22

9/13/22 Bob Fisher Maxter	RT About	0+50 – 0+93 Downstream Face Pts. Elev 1590			
C10 – 350		10.73	87.70		1576.97
	1590	8.44	9.21	2.93	84.77
		El. 1606 – 4+60 – 5+20			
DSF Pt.		10.88	1608.88		1598 ±v
	1606			2.88	1606.±

5.23 – 5-2 3/4"

5 5
7 1
5 9 7 6
7 6

4/13/22
BWB
Fisher
Mixter

Final Topog –

At ▯ 1+00 – 39.7' – Sight R.P. 39.7 West

Nail BM		6 48	1606.07		1599.59
(18.43)	1595			~~4.07~~	
	1595			12.11	93.96 – 1-04 = 1-0½
Rod					
11.1					
1595					
End of Form	35.5	15-0 ✓	1600	38.2	20-30 ✓
95	36.7	18-30 ✓	✓	35.1	19-30 ✓
✓	34.7	13-0 ✓	✓	28.9	27-0 ✓
✓	18.3	24-30 ✓	✓	22.9	30-30 ✓
✓	13.7	35-30 ✓			
✓	12.0	44-30 ✓			
96	7.7	48-30 ✓			
✓	16.7	17-15 ✓			
✓	24.1	13-0 ✓			
✓	29.0	10-30 ✓			
✓	32.5	11-0 ✓			
✓	34.3	13-15 ✓			
✓	38.0	12-0 ✓			

Plotted 4/13/22

4/14/22
Bob
Fisher

D S F Gravity Section
Rt Abut

		10 12	09.71		1599.59	
Top of Post TP		7.03	1606.44	10.31	99.41	
	1600			7.48	98.96	= 1.04 = 1-½
		8.10	1606 10		1598	
Left 14.97 1605	1605			3.12	02.98	2.02 = 2-0¼
		5.74	1611.74		1606 00	
Top of 12x12				7.47	04.27	
					03.27	

00 00
98.96
1.04 = 1

4/13/22
Bob
Fisher
Mixter -

Piers -

At 28 - 397 - Sight 50-397 for 15-45-30

E-10-11	
2+88.513	0 - 37
2+93.957	1 - 00
Pier #11	
2+95.957	1 - 09
2+97.957	1 - 18
E 11-12	
3+03.402	1 - 41
3+08.846	2 - 05
3+10.846	2 - 13-30
3+12.846	2 - 22
13-14	
E 3+20.291	2 - 46

2' = 0 - 08. 659

7.445 = 0 - 32. 233

4/14/22
Bob
Fisher
Mixter

Ran Intersection of 50-397 /
Occupy 50-397 — Chain East.

4.073
5+02.419
6.073 #25
5+04.419

#-24 + Underwall
5+11.883

5+17.346
Divide wall.
5+18.346

1.387
1→387

Sight 28-397 for 15-45-30
0-06.

4+91.514
4+89.514

0-29-30 ✓
0-38 ✓

4/15/22
Bob
Fisher
Mixter

Location of Forms.

At 0+80 - 397 Sight RP West

top of Spillway		40	1611.0		1607.0
end of form	21.9	316-30	✓	6.3	04.7 ✓
	15.5	12-0	✓	4.7	06.3 ✓
end of form	24.1	56-30	✓	3.2	07.8 ✓
RC	21.3	63-30	✓	3.0	08.0 ✓
RC	22.4	73-30	✓	3.0	08.0 ✓
end of form	21-0	80-15	✓	3.1	07.9 ✓
Cor	12.7	132-30	✓	4.3	06.7 ✓
Cor	15.8	206-30	✓	6.8	04.2 ✓
	19.9	230-0	✓	6.9	04.1 ✓
Average Elev - 1604.5				5.7	05.3 ✓
				3.6	07.4 ✓

Block 84.4
Photo RC 75.0

S
-42

Spillway Section
1+42.5 — 3+23.7
5+20 — to 4+91.2

✓

	305	160805	1606
Spillway #3		10.2	97.8
Block 2		4.8	03.3
Spillway #2		10.2	97.8
Block 1		4.6	03.5
3+27.2 Spillway 1		10.2	97.8
Fillet		4.6	03.5

✓

4/15/22

4/15/22

At 58 – Lift – 1610 Sight 5+20
for Zero

Plotted 4/15/22

U.S. Cor Fay 14.2 181-15
Cor Fawn 17.6 150-30

5+80 4.06 1608 22 1604 16
5+20 – 70

4.1
4.1 1604.0
45

45 44 44

42

Deduct 5 Cuyds +2 +2 +10 = 19 Cuyds

40 40 40

Average Elev 4.3 63.9

4/15/22

Concrete Est –

Lift - 1615

At 6+80 = Sight RP - 6+50

~~H.I.~~ 13.65

11.9	160-15			
21.0	162-0	Average		
25.4	142-45	Elev –	0.7	1300
19.0	126-30			

Sta – 6+91.3 = Conc Joint

Block - 6+06 to - 6+91.3

4.4	3.9	4.6	4.9
4.5	4.5	4.5	4.5
4.2	4.0	4.6	4.0
3.8	4.2	4.4	4.1

average – 4.3 1600 9.4

At 6+10 - 397 - Sight RP West

4.8	36-40
15.6	337-0
8.6	301-0

Platted

4/15/22

4/15/22

Downstream Face Pt

Elev 1615

8.35 1614.35 1606.50

6+20	1615		5.10	09.25	5.75	5-9"
6+30	✓		5.19	09.16	5.84	~~5-10½~~ 5'10 1/8
6+40	✓		5.02	09.33	5.67	5-8"
6+50	✓		4.80	09.55	5.45	5-5 3/8"
6+60	✓		5.02	09.33	5.67	5-8"
6+70	✓		5.51	08.84	6.16	6-1 7/8
6+80	✓		5.34	09.01	5.99	5-11 7/8
6+90			5.24	09.11	5.89	5-10 5/8

Elev 1606-

3+82 - 4+30

10.26 1608.26 1598.00

3.26 1606

6+20		5.15	14.40		09.25	
6+10	1615			5.45	08.95	6.05 - 6-1 1/8

DSFPt

El. ~~1610~~ 1605

		7.36	1605-36		1598.00	
Divide Wall	1605			6.40	1598.96	6.04 = 6' - 1/2"
1+20	1605			5.60	1599.76	5-24 = 5' - 2 7/8"
1+10	1605			5.43	1599.93	5-07 = 5' - 7/8"
1+00	1605			5.40	1599.96	5-04 = 5' - 1/2"
1+30 05	1605			6.74	98.62	6.38 - 6-4 1/2

El. 1610 -

BM Nail in Rock		3.66	12.07		1608.41	
13.58 0+80	1610			7.01 ~~7.06~~	1605.06	4.94 4 - 11 1/4
13.58 1+32.8	1610			6.92	05.15	4.85 - 4' - 10 1/4"
Divide Wall 2.74	1610			6.97	05.10	4.90 4 - 10 3/4
				5.07	1607	
℄ 1+2				5.09	1606.98	
℄ 2-3				5.07	1607.00	
℄ 3-4				5.07	1607.00	
℄ 4-5				5.09	1606.98	
℄ 5-6				5-11	1606.96	

4/16/22

Sedrons — near
— #2 Tower —

		1577.5		1575.0
		00 Section		
00	level		8.4	66.1 ✓
		~~0+13~~		
		0+13		
00			8.3	69.2 ✓
10			6.9	70.6 ✓
15			5.1	72.4 ✓
23			4.8	72.7 ✓
28			6.7	70.8 ✓
		0+26		
00			7.0	70.5 ✓
10			7.0	70.5 ✓
17			2.1	75.4 ✓
24			4.0	73.5 ✓
34			6.4	71.1 ✓
		0+36		
00			7.4	70.1 ✓
6			7.4	70.1 ✓
10			3.3	74.2 ✓
16		+30		80.5 ✓
22			2.5	75.0 ✓
32			5.0	72.5 ✓

HI = 1577.5

West side of Tower = 0+53

00	6.4	71.1 ✓
3	6.4	71.1 ✓
6	3.4	72.1 ✓
10	4.8	72.7 ✓
17	—	1579.01
27	0.6	76.9 ✓

Elev. 1606

4/17/22

Bob Fisher
Meter
1606

2.65	1608.25	1606.00
2.65		1606

4/17/22
Bus
Fisher
Mixter

Piers

At Pier #22 - 397. Sight 50 - 397 for
2 - 47'

21	1°-04'.465"
20	2 - 09
19	3 - 13
18	4 - 18

At Pier 18 - 397 Sight Pier 22 - 397 for
4° - 18

17	1 - 04
16	2 - 09
15	3. 13
14	4 18

4/18/22
Bob
Fisher

Sand Storage Est —

Sect 4	55 ~~4.8~~ ~~6.8~~	35 7		1730 19
Sect 3+04 00 =			68	
	Sect 3 —			
	00 sect			10 yds
	— Sect 2			
00 sect 2				
1+32 8	12.0	~~44.6~~	3.1	326
~~48~~				
— 18.0			00	446
- 21			00	446
25				41.1
00 Sect 2		00	32.6	326
+ 8 =			5.2	274
18			10.0	22.6
22.5	0.1	20.6	12.1	205
28.5			5.2	15.4
44.5			13.7	08.9
64.5			00	Sect.
TP	2.1	10.7	12.0	08.6
Sect	Set-1 —		~~00~~	
44.5			52	05.5
64.5		00	Sect —	
	9.0	41.6		326
- 7			00	416
- 11			+ 3	44.6

Sect 1

-15				Road	
		Sect 00			
T.P.		00	39.3	23	39.3
00				00	39.3
+ 5				52	34.1
18				12.6	26.7
26	T.P.	00	23.3	16.0	23.3
41				10.5	12.8

— 10 — 00 Sect.

add 20 cuyds

add 54 cuyds

Total

635 cuyds

in Stock pile

4/18/22

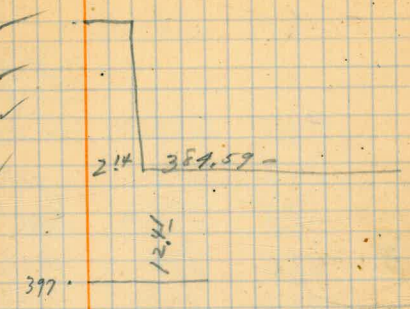
BM Nail in Rock		3.74	1612.15		1608.41
℄ Pier 1 & 2				5.16	1606.99
℄ Pier 2-3				5.16 ~~5.145~~	1606.99
℄ Pier 3-4				5.145	1607.00
℄ Pier 4-5				5.17	1606.99
℄ Pier 5-6				5.17	1606.98
Gauge ~~99~~ 14.00				0.56	11.59 − 14.00 = 97.59
℄ Pier		4.93	1611.93		1607.00
				0.34	11.59

16.11.59
14.00
97.59

4/18/22
Bu 6
Fisher
Mixter

D.S Face Pts El 1615.00
Blk. 0+92.5 To 1+32.5

		6.88	13.87		1606.99			
1+30	1615			496	08.91	6.09	= 6-1 1/8"	✓
1+20	✓			4.84	09.03	5.97	5-11 5/8	✓
1+10	✓			4.55	09.32	5.68	5-8 1/8"	✓
1+00	✓			4.60	09.27	5.73	5-8 3/4"	✓
0+84	✓			4.89	08.98	6.02	6-0 1/4"	✓
0+82.51	Form –							
1749								
				11.5				
				12.1				
				12.1				
				12.3				
				12.4				
				604				
		Ave Elev –		12.1	1600.8			



7/19/22
Bryson
Fisher
Mixter.

Final Topog

(14.5)

Present

Af 60 - 382 40 Sight TP North 0+60

Inston 882.37 R.

10-350	12.35	1589.32			1576.97
			4.32	1585.00	
T.P.	4.07	1589.12	4.27	1585.05	
Rod:	Dist	Azi.			
9.12	19.8	328°30'	Rod	Dist	Az.
Cont. 1580	22.0	319°	4.12	24.4	313°
	21.3	313°30'	1585	19.5	331°30'
	22.3	307°30'		18.1	344°45'
	29.3	299°30'		16.8	346°
	27.9	293°30'		16.4	2°30'
	27.9	285°	Rod -.25	17.5	15°15'
	27.2	273°	Cont 1590	26.6	9°30'
	27.9	259°		26.2	0°30'
Form Cor.	30.3	254°30'		19.8	355°
	32.8	248°		19.9	339°
Cont 1585				21.8	324°
Rod 4.12	33.1	255°		25.4	312°30'
Form Cor.	30.2	265°		28.7	309°
	32.0	278°15'		29.9	306°30'
	34.0	285°15'		33.3	302°30'
	33.9	294°		34.1	293°30'
	32.4	299°		34.3	284°45'
	28.4	306°		33.4	278°
	27.4	309°		32.1	269°30'
				33.3	261°
				36.1	254°30'
				37.9	245°

82.37

Contour	Dist	Az.
1590	36.8	235°15'
	38.1	226°15'
	40.4	219°
	38.8	212°30'
	42.1	195°30'

Platted 4/19

U.S.F. P/S —

Elev 1590

Nail 60-397 Radius 4.30 1589.35 1585.05

4.35 1585

60-397 — 396 89.01 1585.05

1590 { 4-47 - 4-5 5/8 4.48 85.53

1590 { 4-5 = 4-6" 4.51 85.50

4/20/22 Piers – 24 – 19

Fisher
Mixter.

At C 50 Sight C 28 A.P. for 15-45-30

8.832	
Pier # 24	0 – 38.
10.832	
1'	0 – 46
℄ Piers 23-24	
	1 – 10-30
-2'	1 – 34
Pier 23	1 – 43
+2'	1 – 51
℄ Piers 22-23	2 – 15
-2'	2 – 38-30
Pier # 22	2-47
+2'	2-56
℄ Piers 21-22	3-19
-2	3-43
Pier 21	3-52
+2	4-00
℄ Piers 20-21	4-24
-2	4-47
Pier 20	4-56
+2'	5-05
℄ Piers 19-20	5-28
-2	5-52
Pier 19	6-00 30
+2'	6-09
℄ 18-19	6-33

2' = 0 – 08.659'
7.445 = 0 – 32.233'
14.889 = 1° – 4.465'

+2'		6-56 ✓		
Pier 18		7-05 ✓		
−2		7-14 ✓		
℄ 17-18		7-37		
−2				
Pier 17				

Set on Pier 19. Sight C50

C 50		~~6°00'30"~~ 6°00'30"		
Pier 18			1°04'46.5	
+2'			1°13.124	
+7.44			1°36'.69	
Pier 17			2 08 93	
−2			2°00.28	
+2			2°17'.58	
+7.44			2 41°.16	
Pier 16			3°13.395	
−2			3°04'	
+2			3 22.05	
+7.44			3 45.625	
BM	5.30	1612.30		1607.00
50	10.34	1617.35	5.29	1607.01
℄ 25+06			10.34	1607.01

Nail ℄ Piers 3 & 4

4/20/22
Bob
Fisher
Mixter

Final Topog. Right Abut

At 60-397 Sight R.P. South for Zero Az. Rt

		4.7	1589.75	1585.05
1595 -	11.2	206-30		
✓	14.0	196-0		
✓	14.5	154-0		
✓	9.5	138-0		
-	22.3	100-30		
3'- to right	26.2	99-0		
✓	29.3	100-0		
✓	33.5	97-0		
✓	38.0	84-0		
✓	39.5	68-0		
✓	42.0	62-0		
✓	44.0	59-0		
✓	43.2	55-0		
✓	46.3	50-30		
✓	46.4	48-0		

Platted 4/28/22

Final Topog

	At 1+00 39.7 R Sight RP 397 - West				
℄ Pier 162		6.95	13.93		1606.98
Auxil Pt	33.3	22-10		6.18	1607.75
℄ pier 0+1				6.92	07.01
	At Auxil Pt Sight 1+00 -397 fr Zero				
		4.78	1612.53		1607.75
Rod 12.53					
1600	31	175-30		58.2	120-0
✓	11.6	170-30	Rod 7.5		
✓	13.6	170-0	1605	63.8	120-30
✓	~~15.4~~ 16.4	165-0	✓	66.5	124-0
✓	21.3	163-30	✓	65.2	127-0
✓	22.5	153-30	✓	60-0	130-30
✓	28.2	152-0	✓	58.5	136-30
✓	32.5	160-0	✓	58.0	140-0
✓	33.0	152-45	✓	52-0	144-0
✓	~~49.9~~	~~147-0~~	✓	49.4	147-30
✓	~~50.4~~	~~144-0~~	✓	47.3	153-0
✓	48.3	146-30		add 2 empt underout.	
2' Right 1605	48.3	146-30	✓	38.0	158-0
1600	51.5	138-15	✓	35.8	160-0
	50.5	136-30	1610	37.7	164-45
	57.7	129-30	1610	38.7	162-0
	58.5	126-0	1610	39.3	159-30
✓	59.7	122-0	1610	47.3	153-0

1+32.8
1+32.8
1+00

1605	31.0	159-15
✓	24.3	163-0
✓	23.5	171-0
✓	14.3	180-30
✓	7.8	196-0
✓	8.2	214-0
	6.6	224-30
Rod		
7.5	8.3	233-0
1610	16.0	201-15
✓ *	22-0	199-0
✓	27.8	199-0
7' Right Angles to wall *	22-0	199-0
	24.5	180-30
	32.0	170-0
Note Cor - 1605 -		
	50.0	148-15
	59.0	157-30
	59-0	147-0
	65.2	141-0
	61.8	136-30
	63.7	134-0
	68.3	130-0
	71.4	124-0
	64.3	122-0

Plotted

4/20/2~
Bub Fisher
Mixter..

El. — 1615 —

6+10	See Page —	▱ SF Pt			
~~5+27~~		6.22	1615.17		1608.95
5+27 12	1615	5-59	5'-7 1/8"	5.76	09.41
5+31	✓	5.63	5-7 1/2"	5.80	09.37
5+41	✓	5.98	5'-11 3/4"	6.15	09.02
5+51	✓	6.70	6-8 1/2"	6.87	08.30
5+61	✓	5.97	5'-11 5/8"	6.14	09.03
5+71	✓	6.32	6'-4"	6.49	08.68
5+81	✓	5.63	5-7 1/2"	5.80	09.37
	✓				
5+95	✓	6.02	6'-1/4"	6.19	08.98
6+00	✓	6.~~30~~ 13	6'-1 5/8"	6.30	08.87
~~5+10~~	—				
380.23	✓			1.17	14.00
▱ S.F. Divide Wall		5.50		5.67	09.50
Check 6+10				5.93	09.24 (09.25) ✓
5+31		4.89	14.26		1609.37
5+41				5.24	09.02
℄ of Trunion —				4.84	09.42

47.00
84.59
12.41 ✓

Gravity

5+20

1617
4+1615

384.59
8.436
63 / 1.23 .365
189
4.10
3.28
.820

0.365
.89
5

1616.37
15.00
1.37
.89
2.33
1.96
2.219

84.59
383.73
0.86

84.59
383.09
1.50

14.26
9.42
4.84

5-11"

El. 1609.42 • 5'-9 1/2"

4/21/22 El Top of Completed Dam Gravity Abut

Sub Mitter					
70-450		0.79	1624.85		1624.06
7+01				7.83	17.02
7+10	Use El. from			7.83	17.02
7+20	Rt. Abut			7.86	1699
7+30				7.84	17.01
7+40				7.84	17.01
				7.91	1694
				8.95	15.90
BM	3.67	1612.08		1608.41	
℄ 00 x Pier 1			5.05	1607.03	
℄ 1+2			5.08	1607.00	
2+3			5.08	1607.00	
3+4			5.07	1607.01	
4+5			5.08	1607.00	
2' W of 6			5.09	1606.99	
2' W of 7			5.10	1606.98	
℄ 7+8			5.10	1606.98	
℄ 8+9			5.12	1606.96	
℄ 9+10			5.09	1606.99	
℄ 10+11			5.03	1607.05	
℄ 11+12			5.04	1607.04	
℄ 12+13			5.06	1607.02	
℄ 16+17	10.34	1617.34	5.08	1607.00	
℄ 17+18			10.41	1606.93	
℄ 18+9			10.38	1606.96	

Overflow Elevations

			17.34	
℄ 19+20			10.36	1606.98
20+21			10.40	1606.94
21+22			10.38	1606.96
22+23			10.36	1606.98
23+24			10.33	1607.01
50			10.33	1607.01
25+26			10.33	1607.01
T.P	2.135	1619.13	345	1616.995
70+01		2.08		1617.05
BM & Piers 16+17	5.12	1612.12		1607.00
			5.20	1606.92
℄ 15-16			5.14	1606.98
2' W. of 15			5.11	1607.01
2' E of 14			5.15	1606.97
2' W of 14			5.17	1606.95
2' E of 13			5.11	1607.01
℄ 12+13				
2' W of 6		5.03	12.02	1606.99
℄ 6-7			5.02	06.99
℄ 5-6			5.02	07.00
℄ 2+3			5.02	07.00
℄ 1+2			5.02	07.00

4/21/22
CHS
HBM

Piers Overflow Sec.

Inst. on Pier 17 ℄

Sight 6° 26.79'

℄ Pier 16	1° 04.46
+2'	1° 13'
+7.44	1° 36.69
℄ Pier 15	2° 08.93'
−2'	2 00.28'
+2	2° 17.58
℄ Pier 14	3° 13.39
−2'	3° 04
+2	3° 22'

Inst ℄ Pier 10

Sight ℄ 12 & 13 2° 41.16.

℄ 13	3° 13.38
−2'	3° 04'
+2'	3° 22'
+7.44	3 45.30"
℄ 14	4° 18'
−2'	4° 09'

4/22/22
Bob
Fisher
Mixter

see page 34

II SF Pts

Auxil Pt		1.59	1609.34		1607.75
T.P. Top of pipe	–	-1.5	1595.00	12.84	96.50

1595 – 1 ft = 97.00
378.57
Dist from 397 = 18.43

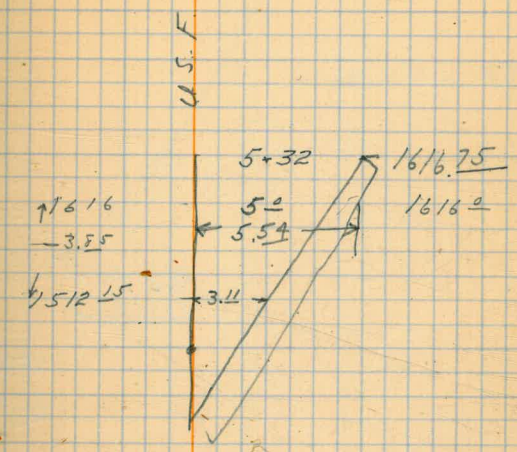
1-04465
104465
104465
3-13395

4/22/22
Bob +
Fisher
Mixter

5+20 –

50-397		12.81	19.82		1607.01
				3.82	1616.00
				3.83	1615.99
					76

1615.99
76
1616.75

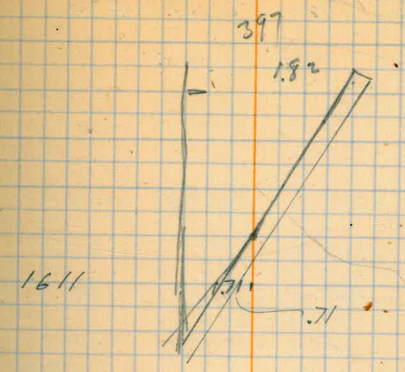


1607.01
12.81
19.82
16
3.82

16.00
3.84
12.20

4/22/22
Bub
Fisher
Mixter,
Pin
℄ 00 + 1

	1+32 δ			
	4.76	1611.79		1607.03
			1.44	1610.35
				6.65
Top of Iron –				1617.00
		160955		1607.75
	1.8	~~160883~~		~~160703~~
			~~6.55~~	~~160738~~
			6.55	1603.00



4/22/22
Bob
Fisher
Mixter

Final Topog Rt Abut

At Auxil #2 Sight 0+00 — 307 49 fm
Zero Az Right

		0.11	1617.11		1617.00
Rod 12.1					
1605	14.0	338-0	1615	62.5	229-0
✓	12.5	324-0	✓	67.0	233-0
✓	12.3	289-0	✓	70.5	237-0
add 1 =	1800 — 2'	1595	✓	67.0	243-0
1605	15.0	259-30	✓	~~67.4~~ 68.4	245-30
—	—	—	✓	~~6~~ 70.0	246-0
Rod 7.1			✓	72.3	249-30
1610	14.7	248-0	✓	78.4	252-30
✓	5.5	270-30	✓	80.9	257-0
✓	7.5	340-0	✓		
✓	11.0	350-30	✓		
—	—	—			
1615	5.3	83-0	✓		
✓	19.0	230-0	✓		
✓	36.4	234-0	✓		
✓	37.2	225-0	✓		
✓	54.3	226-30	✓		
✓	53.8	232-0	✓		
✓	59.1	235-30	✓		
✓	61.0	234-30	✓		

Platted
4/22/22

4+00 x Pu 1		4.06	1611.09		1607.03
					1608.50
00	1608.50			2.74	1608.35
1+00				1.6	1609.5
4/2+/2 2		H.S.F. Pts. 1617.00			
Bub Fisher Mixture		5+80 - To 7+00			
7+01		4.76	1621.81		1617.05
	1617			4.81	

4/25/22
Bub
Fisher
Mixter.

Tie to Upstream Forms

see page 34
At Auxil Pt from 1 to Sight 1 to for 2 on

Auxil Pt		4.80	1612.55		1607.75
Cor Form	10.4	94-0	✓	12.5	
	17.2	125-0	✓	11.91	1600.64
	18.7	163 20	✓	12.25	

Bottom of Form = 1595.00

4/24/22
Bub
Fisher
Mixter.

D.S.F. Pts. -1605-

0+93 To Rock Contact

39700
38203
14.97

4/24/22	4.36	1605.00		1600.64

Bub
Fisher
Mixter.

Resetting Reservoir Gauge -

4 3+4	5.00	1612.01		1607.01
			13.11	98.90
				46.12
Bottom of Gauge				152.78

Platted - 4/25/22

$ 20-21

5.34 12.28

1606.94

1616
12.28
3.82

372

4/24/22
Bob Fisher.

Elev. below Outlet Gallery –

Top of Gallery		2.4			1477	
0+75				5.1		C 4.3
				"		
		00	1475.00		1475 00	
Bott of Hole	water "			5.4	69.6 ~~70~~	00
0+25				4.3	70.7	C 1.1
0-50				4.1	70.9	C 1.3
0+90				00	69.6	00
		24	1574.4		1472 00	
				5.1	1469.3	
1.75	water 8° 1465			13.1	61.3	
2.75		4.5	73.8		69.3	
3.25				5.2	68.6	3.6
3.75 T.P.	1465	3.7	72.00	5.5	68.3	3.3
4.25				4.3	67.7	2.7
4.75				5.2	66.8	1.8
5+25				7.0	65 00	

4/25/22
Bub
Fisher

0+60 - West

D S F Pts

Auxil Pt		5 29	13.04		1607.75
	1610			8.26	1604.78
	1610			304	3
				8.25	94.79
T.P.				7.14	95.90

5.22 = 5-2 5/8"

97 95.90
47
100.1

D S F Pts Elev 1615

4/26/22
Bub
Fisher
Mixter

0+60 - West -

Auxil Pt		5.66	13.41		1607.75
	1615			+ 1.59	
	1615			- 3.76	09.65

5.35 = 5-4 1/4"

9.7 00
3.8459
12.41

Tie to Forms

At Auxil Pt from 1+00 Sight 1+00-39 for Zero

Auxil pt		4 0	1611.75	1607.75
D S-F.	26.8	79-30		
	17.1	88-30		
	13.5	114-15		
	17.5	124-30		2.2
	19.9	167-		2.6

Plotted
4/29/22

USF	25.8	359-30
	20.0	28-0
BSF	29.4	40-30

Plotted
4/29/22

4/26/22.
Bub.
Fisher.
Mixter.

Outlet Tower
Concrete -

& 1 + 2	945	1616.45		1607.00
Top of Concrete				
Top of Form			3.04	1613.41
Top of outside Step			4.05	12.4
"				
Top of Gaurd			3.65	12.8
Top of Inside Step				13.25
Top of Inside Gaurd -			4.05	12.4

Reinforcing Steel

Bottom of Steel = El 1605

24' Pc 10' above Concrete = Elev. 23.4

24 " 7 " " " 20.4

24 × 18.4 = 442' × 1.328 = 587#

24 × 15.4 = 370' × 1.328 = 491#

Outside Step 8 step 3/4" @ 6.0 = 48 lin ft @ 1.5 = 72#

Outside Gaurd 5 gaurd 3/4" @ 8.21 = 41.05 " " @ 15 62#

Inside steps - 8 step 3/4" @ 4 1/2 = 36 " " @ 1.5 54#

Inside Gaurd 5 gaurds 3/4" @ 8.21 = 37 " " @ 15 67.0

* 2 Hoops added above Concrete elev. 250.0

* Horizontal Steel. 8 hoops 1/2" @ 64.33 = 514.64 lin ft

514.64 × 0.85 = 437#

Elev March 31	Diff in Elev.			
1600.8	− 12.6	= 12.6 × 97.55	=	45.52 cu yds
1604.4	8.0	8 steps		
1604.4	8.9	5 gaurds		
1605.1	8.2	8 steps		
1604.5	7.9	5 gaurds		

Note see - bottom of Page

97.55
126
58530
19510
97.55) 12291.30 (45.52
12291
1638
1464
1365
441
435
60

234
050
184
204
05
154

Vert. Steel 587#

" " 491#

Steps + gaurd - 250.0#

Horz. Steel 437.0

1765.0

4/26/22
Bob
Fisher

Elev of Bott of Floor - Roadway

℄ 19.20	11.96	18.94		1606.98
			2.94	1616.00

R.C. East Tangent to 5+80
El 1625

	4.95	1622.00		1617.05
			+ 3.0	

4/27/22
Bob
Fisher
Mixter

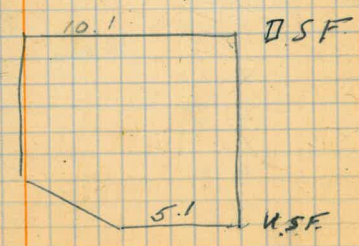
□ S.F. Pts:
Bk-1732 — 0+95

Avail Pt. from 1+00 0+92.5		11.47	19.22		1607.75
7.65 From	1617			4.69	14.53
1+00	✓			4.84	14.38
1+10	✓			4.78	14.44
1+20	✓			4.75	14.47
1+30.14	✓			3.73	~~14~~ 15.49
Block 0+93 - West				10.3	08.9
				10.6	08.6

4/27/22 U.S.F Pt

0+93.5
1+00
1+10
1+20
1+30.14

2.47	= 2' - 5 5/8" ✓
2.62	= 2' - 7 1/2" ✓
2.56	= 2' - 6 3/4" ✓
2.53	= 2' - 6 3/8" ✓
1.51 ✓	= 1' - 6 1/8" ✓



4/27/22 — Piers —
Bob
Fisher
Mixter

℄ 19-20	13.06	20.04		1606.98
Rev 20 - 397 ft.		4.04	13.16	1606.88
" 21 "		4.04	12.95	1607.09
" 22 "		4.03	13.13	1606.91
" 23 "		4.03	12.99	1607.05
" 24 "		4.04	13.00	1607.04
" 25 "		4.04	12.95	1607.09
19			13.20	1606.84
			4.04	
Pier 25	12.53	19.62		
	12.57	19.60		1607.09
			11.62	
Grades				
Bottom Ship Channel 1608.00			11.60	1608.00
Top Channel 1616.00 front.			12.35	
Bottom Hole Angle 1607.27			12.33	
Top Hole Angle 1608.60			11.02	
			11.00	
℄ Trunion 1609.43			10.19	
			10.17	
11.89				
Piers - continued from				
11.89				
6			4.83	
5			4.91	
4			5.02	
3			4.74	07.15
2			4.90	
1			4.91	1606.98
			4.57	1607.02

Pier # 19	11.80	1618.64		1606.84
			2.64	1616.00

4/28/22 — Piers —
Bob
Fisher
Mixter

Pier 23 -	12.17	19.22		1607.05
Bottom Ship Channel 1608			11.22	1608.00
Bottom Hole angle 1607.27			11.95	1607.27
Top Hole Angle 1608.60			10.62	1608.60
℄ Trunnion 1609.43			9.79	1609.43
Pier # 18			12.24	1606.98
Pier # 17			12.28	1606.94
Pier # 16			12.20	1607.02
Pier # 15			12.24	1606.98
Pier # 14			12.27	1606.95
Rev # 13			12.29	1606.93
℄ - 12 - 13 -	4.88	1611.89	12.21	1607.01
Pier # 12			4.83	1607.06
" # 11			4.80	1607.09
# 10			4.61	07.28
9			4.23	1607.66
8			4.71	1607.18
7			4.81	1607.08

4/27/22
Bob
Fisher
Mixter

Final Topog.

39.4
29
68.5

At 0+25 - 397' Sight next - RP - 397'
-1.5 1613.5 1615.0

Rod 3.5

1610	10.6	15-0	
—	14.3	9-0	
—	15.4	5-0	
—	18.0	357-30	
—	17.1	348-0	
—	21.7	344-30	
—	23.2	330-0	
—	19.2	319.30	
1615	22.8	327-0	
—	26.7	335-0	
—	25.9	356-0	
—	23.0	1-30	
—	23.5	4-0	
—	22.4	10-0	
—	18.3	15-0	
—	12.2	11.30	

Plotted 4/29/22

from rail 2

0+93.5
68.5
25.0

IIS F pt
0+43 to RC

	10.66	18.41		1607.75
From	1617 -	2.57 : 2-6 7/8"	3.98	14.43
0+12 =	16.17	3.49 - 3.6"	4.90	13.51
		1+32 - 0+93.5		
℄ 1+2 per	12.28	19.28		1607.00
	1617.00		2.28	1617.00

935
497
44.1

4/28/22
But
Fisher
Mixter

Final To page

At 0+22 17 - 397'R - Sight East for Zero

Avril Pt	17.24	261-0			
May 1st/922 Fisher Mixter	At Avril Point Sight Avril from 1+00 for Zero				
		10.00	1627-0		1617.00
5-Down Rod 12 e	30.8	317-0			
1615	31.0	305-0		20.2	151-0
	31.4	299-0		17.5	153-0
	28.8	300-0		14.2	152-0
	27.4	310-0		12.3	147-0
	14.8	320-0		11.5	118-0
	11.3	357-0		9.1	114-0
	10.3	1-30		7.1	88-0
	9.9	7-0		4.8	52-0
	7.0	22-0		5.6	1-30
	8.7	71-30		10.7	339-0
	11.0	95-0		13.4	319-0
Rod 7 o				17.4	299-0
1620	44.7	111-0		19.7	292-30
	37-0	121-0		21.4	297-30
	35-0	124-15		24.0	313-0
	31.9	128-30		26.6	310-0
Not Found	29.1	134-0		28.3	306-0
" "	25.2	139-0		29.1	298-30
	23.6	149-0			

Plotted 5-1-22

		9350		3940	
		7133		31.93	
		22.17		71.33	
				9	

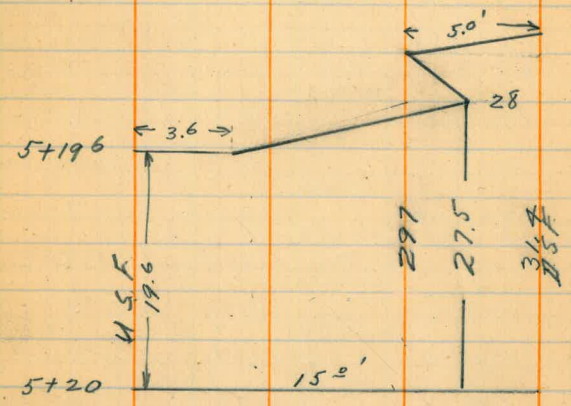
				9.6	
				164	
				172	
Rod 7 e					
1620	30.0	291-0	1625	10.3	156-0
	31.6	290-30		16.6	163-30
	31-0	303-15		21.7	157-30
	30.6	316-0		25.3	158-0
				30.1	163-0
Rod 2 e					
1625	33.8	303-0		33.4	150-0
	31.8	300-30		33.2	136-30
	31.6	293-0		33.2	130-30
	31.7	290-15		37.3	125-0
	30.2	289-45		44.5	119-0
	29.0	295-0		47.1	107-30
	28.3	295-0		52.0	104-0
	27.2	291-0			
	22.9	288-0			
	21.5	289-0			
	17.3	289-0			
	12.3	296-0			
	Break -				

Plotted 5-1-22

4/28/22
Bob Fisher

Location of Forms

Left Abutment.



Plotted
4/29/22

4/29/22 Bryson Fisher Mixter

Levels For Pierstuds

℄ Pier 1 & 2	12.96	1619.96		1607.00	BM
℄ 7 & 8			12.97	1606.99	
11 & 12			12.91	1607.05	
12 & 13	12.94		12.94	1607.02	
			3.96	1616.00	Bot. Floor
B.M. ℄ 17 18	11.80	1618.73		1606.93	
℄ 16 17			12.73	1607.00	
			2.73	1616.00	

4/29/22 Fisher Bryson

B.M. ℄ 11 & 12	12.85	1619.89		1607.04	
12 & 13			12.88	1607.01	
10 & 11			1616	3.89	
			12.84	1607.05	

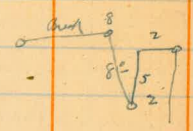
5/1/22

BM ℄ 1 & 2		12.			1607.00
Pier # 2		12.89	12.87		1606.98
				3.87	1616.00
Pier # 10		11.26	1618.54		1607.28
				2.54	1616.00

5/1/22
Fisher
Mystec

Final Topog + Outline of Concrete -

	At Auxil Pt.	from 1+00	Sight Auxil	from 0+25
Auxil Pt. 1+00	~~Sight~~	5.0	1612.75	1607.75
Rod 28				
1610	34.1	36-30 ~~34.1~~		
Trench 2'	34.1 ②			
- 2'	29.0			
	Break			
1610	38.9	5-30		
	37.5	0-45		
	39.3	359-0		
	39.7	356-0		



Plotted 5-1-22

Outline Concrete

?A	23.5	12-30	4.5
	27.7	5-30	4.5
	37.6	2-0	4.6
	40.5	355-0	4.6
	46.5	350-0	4.6
	48.5	344-30	4.1
		47 47 47	4.7

1608 ±

5-1-22
Fisher
Mixter

Final Topog Right Abut -

Arc Radius
At 0-17.9 Sight RP. East for zero —

Top of Roadway		19.45	36.45		1617 ±
TP		8.4	42.00	3.0	3345
Rod 12					
1630	21.9	330-30		8.3	67-0
	18.3	321-0			
	16.0	323-15	Auxi/Pt	31.1	16.05
	11.7	313-0			
	7.3	314-30	At Auxi/Pt Sight		0-179
	5.4	344-0	for Zero Az Rt.		
	7.3	39-30	9.7	1621.7	1617 ±
	11.6	35-30			
	14 ~	43-15	D.S.F.	14.8	319-30
	24.6	64-45		14.1	347-45
	32.2	63-15		15.3	5-0
	41.7	66-45		15.5	26-0
	49.8	66-45		15.1	38-0
Rod 7.0				16.3	51-15
1535	11.5	56-45		14.2	62-30
	8.8	54-45		10.5	60-30
	4.6	64-45		9.6	74-0
	9.5	291-30		8.8	79-0
	14.2	306-30			
Rod 5.0					
1537	11.6	295-30			
	9.6	292			
	5.2	74-30			

Platted 5-1-22

Platted 5-11-22

181
130
31.1

5/2/22
BLL
Fisher
Mixter.

Sta-nail West Tangent

@ 1+2	12.81	1619.81		1607 ±
			3.81	1616 ±

Nail West Tangent

Measured 11.08' from
1 + 33.8 = 1+22+72

5/2/22 - Piers - Page 48

Back Fish u Water

Pier #17	11.71	18.65		160694
Check #16			11.62	1607.03
Check #18			11.67	1606.98
Bottom Ship Channel			10.65	1608.00
Top of Channel			2.65	1616.00
Bottom Hole			11.38	1607.27
Top Hole			10.05	1608.60
℄ Trunnion			9.22	160943
Pier #15	11.60	18.58		160698
			16.58	1608.00
			2.58	1616.00
			11.31	1607.27
			9.15	1609.43
			9.98	160860

Piers

Pier # 7		12.87	19.95 99		1607.08
Bottom Slip Channel			~~11.95~~	11.95	1608.00
Top of Channel				3.95	1616.00
Bottom Hole				12.68	1607.27
Top Hole				11.35	1608.60
℄ Trunnion				10.52	1609.43
				3.96	1608.99
				3.54	1616.01
5-4½ Bot Either Mitter		Outlet Tower		99	15.96
	1616			3.95	1616
		Piers			
Pier #3		12.90	20.05		1607.15

1596 8 796 — 1600 943 657 — 1600 860 740 — 1599 727 872

1597 943 654 — 1597 727 870 — 1597 860 737

1600 727 873 — 1599 943 656

1600 943 1657 — 1600 5

1600 860 740

5.99 8 799 — 1600 0727 873 — 1598 943 655

15.98

1598 943 655 — 1598 810 738 — 1598 727 871

1598 8

1599 943 656 — 1599 860 739

5.98 086 738

1598 727 871 — 1597 8 797

Pier # 3		12.90	1620.05		1607.15
				405	1616.00
		Pier # 2			
East	1608.50	7.99		406	15.99
"	1607.27	8.73		405	16.00
"	1608.60	7.39		406	15.99
"	1609.43	6.56		406	1599
		Pier # 2			
	1608.0	8.0		405	1616.00
	1607.27	8.73		405	1616.00
	1608.60	7.40		405	1616.00
	1609.43	6.57		405	1616.0
					~~1616~~
		Pier # 1			
	1608.0	7.99		406	15.99
	1607.27	8.71		407	15.95
	1608.60	7.39		406	15.99
	1609.43	6.56		406	1599
				40	
West.	1608	8.03		402	16.03
	1607.27	8.76		402	16.03
	1608.60	7.43		402	16.03
	1609.43	6.61		401	16.04

20.05

Bot Chord	1608	7.95	407	15.98
Trunnion	1609.43	6.53	404	15.96
Top-hole	1608.6	7.36	409	1596
Check. #1 pier			1306	0.99

Pier # 3	12.72	19.87		1607.15
			390	1615.97
			388	15.99
			388	15.99
			389	15.98
			390	15.97
			390	1597
			390	1597
			391	15.96

5/4/22
Fisher
Mixter.

Elevs to Drain Water from Outlet Gallery

Top of Outlet		4.82	1476.82		1472.00	
	1465.00			11.82	65.00	
Top of Rock	1465.00			8.22	68.60	3.60 = 3-7"
Top of Rock	1465.00			8.70	68.12	3.12 = 3-1½"
				10.05	66.77	

Elev of 16" pipe thru dam –

Flow line of pipe		0.96	1469.06		1468.10	See Book 19 page 66
				2.96	1466.10	
Top of Board				2.90	1467.16	
Mark on Wall				1.96	1467.10	

Levels For Outlet Tower

5/7/22

BM	-5.93	1621.93		1616.00
Check			5.93	1616.00
El. Bot. of Bracket under Column			5.43	1616.50
Top Existing Conc			8.52	1613.41

5/13/22
Bryson
Fisher

Est. of Yardage to Place
near #2 Concrete Hoisting Tower

Top of Lift		00	75.00	1475.00
00			7.9	67.1
		0+10		
80			79	67.1
13			79	67.1
14			53	69.7
16			50	70.0
18			35	71.5
		0+20	(add 10 cy over hau)	
00			79	67.1
8			77	67.3
10			3.8	71.2
14			3.8	71.2
16			2.0	73.0
		0+30		
00			7.4	67.6
5			7.4	67.6
11			7.6	67.4
12			20	73.0

Plotted 5/13/22

Keyway 10x14x1

11.7

Block 10'x 8.08 x 94'
20'x 16' x 2'
5.3'x 8.0'x 8'

Add Keyway
10 x 6 x 1
10 x 6 x 1

162 x 62' x 18'
40' x 8' x 2'

Deduct.

Height	Width
14.0	7.7
14.5	8.0
15.0	7.7
14.5	7.3
14.5	5.5
14.0	5.2
90	41.4

X 64 = 850 cu yds

955 | 13.6
7
21
21
41

5.9

5/13/22
Bryan
Fisher

7500

— 0400 —

0		7.9	67.1
5		7.6	67.4
7.0		7.0	68.0
8.		6.0	69.0
9.		2.5	72.5
11		2.5	72.5
12		1.5	73.5
18		−1.5	76.5

0450

0		7.9	67.1
3		7.9	67.1
5		5.4	69.6
8		5.4	69.6
12		2.9	72.1
13		2.9	72.1

Plotted
5/13/22

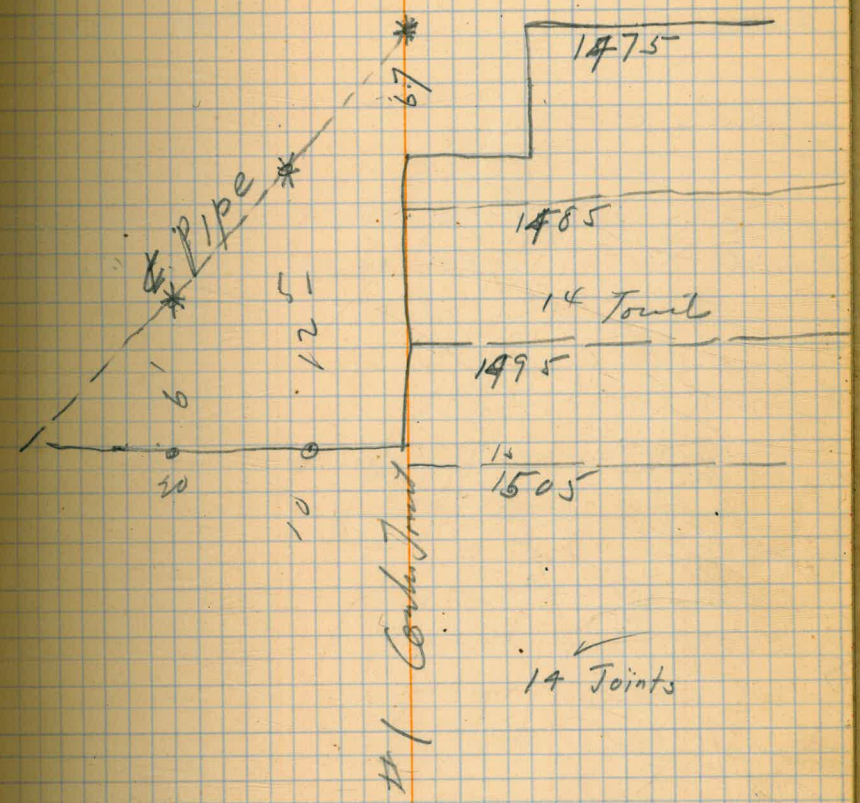
Wall near Section

we overhang for Tower

Sections
850 Cu yds

5/13/22

Location of
Concrete pipe thru Dam —



5/13/22
Bub
Fisher

Outlet Tower Pts-

Nail in Stump BM. Mean O/K Smith Shop		3.92	21.85		1617.93
Bottom of Floor	1619.17			2.68-	
Bott of Bracket				5.33	16.52

5/15/22

Parapet Wall-

Bott of Bracket		5.48	22.00		1616.52

Ovr
273
17.27

20
1.65
16.35

Inside Step 1619.15
Inside guard 1617.27

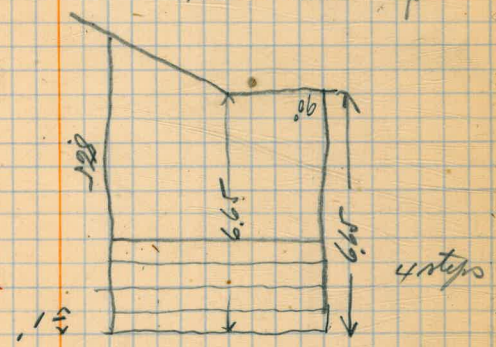
Outside guard 1619.42
Outside Step 1618.35

13 ~~14~~ vert post in
Right abutment.

5/17/22 Bub Fisher

Concrete stairs to Outlet
Tower Operating floor.

Tower west step



El. floor 1617

El Top Step 1620

5/17/22
Bob
Fisher
Mixter.

U.S. F Pts

At. Random Pt. Sight.

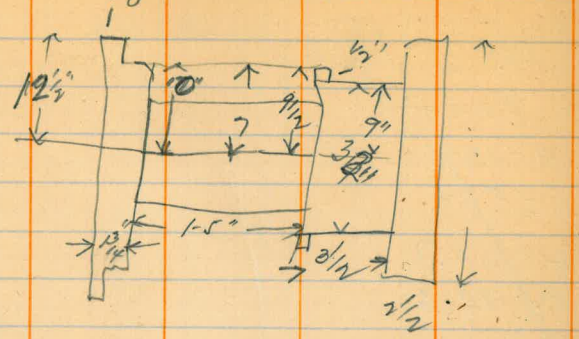
5.6.9 = 1 ft.

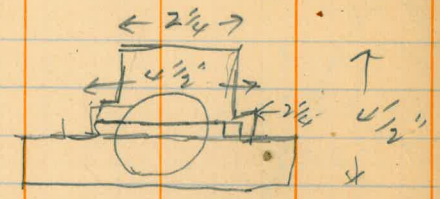
Radius 301.73

	0 - 56.9
20	1 - 53.8
30	2 - 50.7
40	3 - 47.6
50	4 - 44.5
60	5 - 41.4
70	6 - 38.3
80	7 - 35.2
90	8 - 32.1
100	9 - 29.0

5/18/1?
Bob Fisher

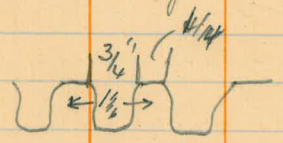
Measurements ~~for~~ of Drum 2 for Use on Operating Floor — Outlet Tower —
5/8" to raise Sauer Valve Covers





1 1/16" =

teeth 3/4" deep



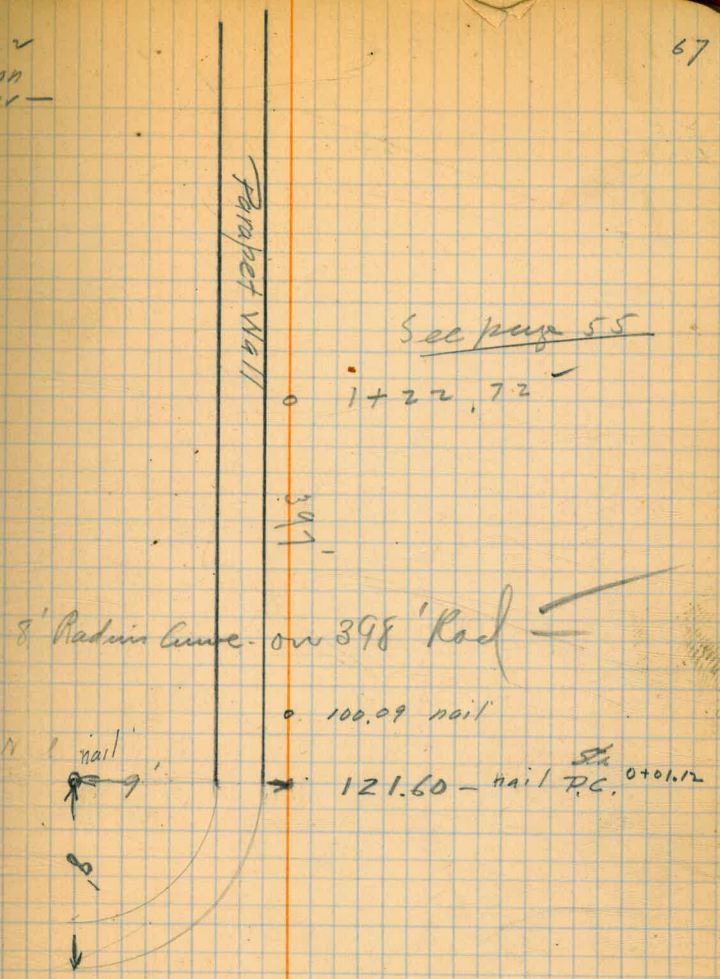
4/18/22
Bub
Fisher

D S F Champer

D S F
Lift

5 15 1500.15 1495 ☐

5/19/22
Bryson
Fisher



3/9/22
Bryson.
Fisher.

LEVELS FOR Pipe Rail
Right Abt

BM	497	1621.97		1617.00		
Top Nipple in overflow sec			3.08 3.12 3.13 3.11 3.10 3.08	1618.87	1618.87	
Pipe 1			4.94	1617.03		1.84 = 1'10 1/8"
2			4.89	1617.08		1.79 = 1'9 1/2"
3			4.93	1617.04		1.83 = 1'10"
4			4.90	1617.07		1.80 = 1'9 5/8"
5			4.95	1617.02		1.85 = 1'10 1/4"
6			4.95	1617.02		1.85 = 1'10 1/4"
7			4.98	1616.99		1.88 = 1'10 1/2"
8			4.96	1617.01		1.86 = 1'10 3/8"
9			4.99	1616.98		1.89 = 1'10 5/8"
10			4.99	1616.98		1.89 = 1'10 5/8"
11			4.96	1617.01		1.86 = 1'10 3/8"
12			4.95	1617.02		1.85 = 1'10 1/4"
13			4.98	1616.99		1.88 = 1'10 1/2"

Elev. for Sewer line –

Water Surface		14.7	1622.82		1608.12
		4.65	1624.27	3.2	1619.62
End of steel Pipe				12.8	11.5

Outlet Tower Pts

		7.84	24.84		1617.00
	1628.59				

5/26/22
Cut
Fresh

Pipe Parking
East Tangent
5+20 = 00

1	1.85	1-10 1/4
2	1.85	1-10 1/4
3	1.87	1-10 1/2
4	1.86	1-10 3/8
5	1.86	1-10 3/8
6	1.85	1-10 1/4
7	1.88	1-10 5/8
8	1.88	1-10 5/8
9	1.85	1-10 1/4 ✓
10	1.84	1-10 1/8 ✓
11	1.87	1-10 1/2 ✓
12	1.79	1-9 1/2
13	1.82	1-9 7/8
14	1.80	1-9 5/8
15	1.85	1-10 1/4
16	1.87	1-10 1/2
17	1.84	1-10 1/8
18	1.84	1-10 1/8
19	1.83	1-10
20	1.83	1-10
21	1.85	1-10 1/4
22	1.82	1-9 7/8
23	1.83	1-10

New B.M.

BM	Near Blacksmith shop Nail in Stump	1617.93
BM	Nail in Rock with witness.	1608.41
BM	" " " " "	1599.59
BM	See page 9 Book 8 for Left Abut-	

IMPROVED TABLES AND INFORMATION

Table II—Continued

TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find c, B, A.
Use Law of Lines.

Given A, B, c; to find a, b, C.
Use Law of Lines.

Given a, b, c; to find A, B, C.

Let $\frac{a+b+c}{2} = s$, $\sqrt{\frac{(s-a)\ (s-b)\ (s-c)}{s}} = r$

$$\cos \tfrac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \tfrac{1}{2} A = \frac{r}{s-a}$$

$$\tan \tfrac{1}{2} B = \frac{r}{s-b}$$

$$\tan \tfrac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

Area $= \frac{1}{2}$ ab Sin C

Area $= \sqrt{s\,(s-a)\,(s-b)\,(s-c)}$

PRISMOIDAL FORMULA.

$$\text{Vol.} = \frac{h}{6}\,(B+b+4M)$$

h = altitude; b, B = bases; M = midsection

Table III

INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11	
1/16	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219	1/16
1/8	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271	1/8
3/16	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323	3/16
1/4	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375	1/4
5/16	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	6927	.7760	.8594	.9427	5/16
3/8	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479	3/8
7/16	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531	7/16
1/2	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583	1/2
9/16	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635	9/16
5/8	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688	5/8
11/16	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740	11/16
3/4	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792	3/4
13/16	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844	13/16
7/8	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896	7/8
15/16	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948	15/16
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.000	1
	0	1	2	3	4	5	6	7	8	9	10	11	

Table IV

USEFUL RELATIONS.

Lineal feet	×.00019	= miles
Lineal yards	×.0006	= miles
Square inches	×.007	= square feet
Square feet	×.111	= square yards
Square yards	×.0002067	= acres
Acres	×4840	= square yards
Cubic inches	×.00058	= cubic feet
Cubic feet	×.03704	= cubic yards
Links	×.22	= yards
Links	×.66	= feet
Feet	×1.5	= links

360° = 21600′ = 1296000″

Radius = arc of 57.2957790°

Arc of 1° (radius = 1) = .017453292

Arc of 1′ (radius = 1) = .000290888

Arc of 1″ (radius = 1) = .000004848

$\pi = 3.141592654$ $\qquad \sqrt{\frac{1}{4}} = 0.564190$

$\frac{\pi}{4} = 0.785398163$ $\qquad \sqrt[3]{\frac{6}{\pi}} = 1.240700982$

$\frac{\pi}{6} = 0.523598776$ $\qquad \pi^2 = 9.869604401$

$\sqrt{\frac{4}{\pi}} = 1.128379167$ $\qquad \frac{1}{\pi^2} = 0.101321184$

$\frac{\pi}{6} = 0.523598776$ $\qquad \sqrt{\pi} = 1.772453851$

$\frac{4.\pi}{3} = 4.188790205$ $\qquad \frac{1}{\pi} = 0.3183099$

Curvature of Earth's surface = about 0.7 feet in 1 mile

Curvature in feet = 0.667 (Dist. in miles)²

Difference between arc and chord length, 0.05 feet in 11½ miles

Probable error of a single observation $= 0.6754\sqrt{\frac{M v^2}{n-1}}$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULÆ.

Horizontal Distance $= R - R \sin^2 a + C \cos a$

Vertical Distance $= R\ \frac{1}{2} \sin 2\,a + C \sin a$

$$R = \text{Reading} \times \frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

a = angle of elevation for mid Reading

9167

5-92

1565
72.02

1228
372
16.00