

FIELD BOOK

21

MINING
TRANSIT BOOK

384

W139

MICROFILMED

693

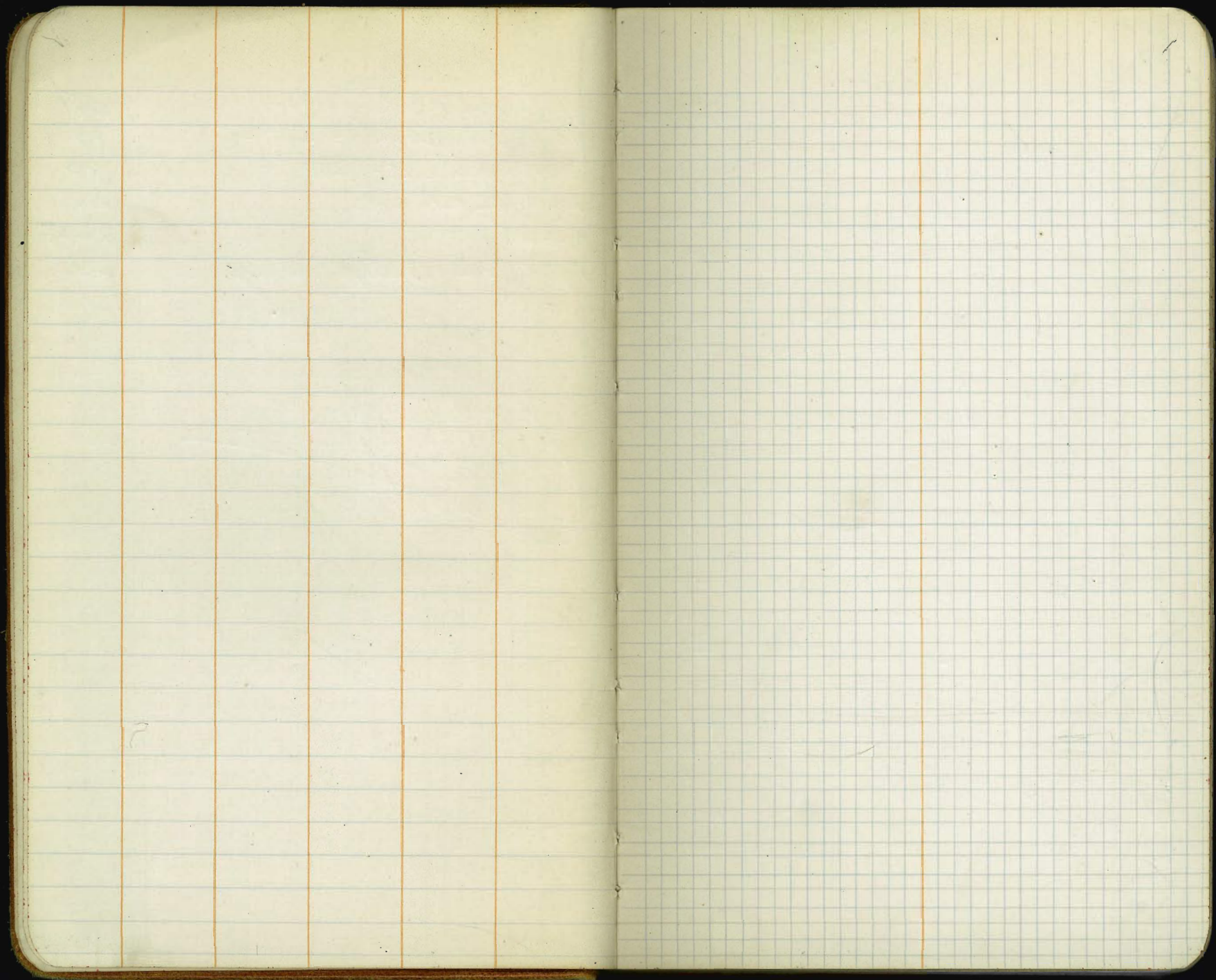
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Filled



8/30/21
Bub
Fisher
Mixer
Markon
Wall

Excavation Est -
August 1921

5.17	1520.17	1515.00
curtain Wall - 00 (54 Line)		
27.8	143	05.9 ✓
28.5	15.8	04.4 ✓
36.0	9.8	70.4 ✓
42	80	12.2 ✓
48	4.9	15.3 ✓
48	+ 1.1	21.3 ✓
54.	3.1	23.3 ✓

(56 Line)

00	10.6	09.6 ✓
12	11.7	08.5 ✓
20	17.9	05.3 ✓
38	5.1	15.1 ✓
44	40	16.2 ✓
44	+ 10.0 60	70 26.2 ✓
58 Line		
41	+ 9.2	29.4 ✓
35	0.8	19.4 ✓
30	2.6	17.6 ✓
20	3.2	18.0 ✓
10	1.1	19.1 ✓

Platted 8-31-21

chamber
step

0
-7
+8
14
26
33
35
40

T.P. (top of rock)

At 72-325 Chained North - 97.35 =
(72-422.75) (Hud)

72-422.75
420
416

70-413

70-408

72-407

72-407

72-ADD

3 91

3 89

(60 Line)

1.35	1536.35	1535.00
5.0	31.4 ✓	
3.0	33.4 ✓	
5.0	31.4 ✓	
7.7	28.7 ✓	
7.1	28.3 ✓	
3.6	32.8 ✓	
1.0	36.4 ✓	
+ 4.0	40.4 ✓	

0.84 35.51

1.35 26-35 1625.00

(72 Line) 22.5 24.90

2.7 23.7 ✓

4.6 21.8 ✓

1.39 15.32 12.42 15.93

(90 Line) 3.5 11.8 ✓

5.7 09.6 ✓

(72 Line) 3.6 21.7 ✓

6.2 11.1 ✓

8.1 07.2 ✓

6.2 09.1 ✓

4.2 11.1 ✓

Platted 8-31-21

72 Line

615.32

68 Section
86.1

380		2.7	12.61	
368		2.7	12.61	360 40
	0.0 = 74105			354 46
	add 50 cu yds			349 51
72-400 14.6	1.33 1608.54	8.11	1607.21	T.P.
T.P.				T.P.
	- 70 Section -			
400		11.9	96.61	
393		11.1	97.41	399.5
387		9.6	98.91	399.5
381		13.5	95.01	406
387		13.0	95.51	394
361		8.2	100.51	383
353		8.2	100.51	349
T.P.	00 96.62	11.92	96.62	358
	2.6 86.1	13.1	83.5	352
	68 Section			346
00		7.6	78.51	336
402		6.6	79.51	328
402		3.6	87.51	T.P.
405.7		00	86.1	
396.5		9.8	76.3	400
394		6.3	79.8	398
386		4.8	81.3	385
381		6.6	79.5	374
369		15.7	70.4	359
				344

Platted 8-31-21

	14.5	71.61	
	7.5	76.6	
	02.5	83.61	
0.30	73.6	128	73.3
1.7	62.8	125	61.1
	66 Line		
	17	61.1	
	+ 5.5	66.6	
	+ 7.5	68.6	
	9.8	58.0	
	7.2	55.6	
	7.0	55.8	
	5.5	57.3	
	4.5	58.3	
	+ 4.0	63.5	
	0.5	61.3	
	+ 1.0	63.8	
0.30	50.1	13.0	49.8
	64 Line		
	7.7	42.4	
	9.7	40.4	
	13.0	37.1	
	10.0	40.1	
	10.5	39.6	
	4.5	45.6	

TP	4.5	50.1 41.8 62 line	128	37.3
Top of ^{no} Conduit			89	32.9 ✓
Top of Conduit			90	32.8 ✓
End of Dist			76	34.2
24			8.3	33.5 ✓
42			5.7	36.1 ✓
57				
66-429	3.4	988 66 line	1595.41	
421			48	94.0 ✓
417			80	90.8 ✓
411			103	88.5 ✓
66-429	12.4	16078 68 line	95.91	
4154			68	01.0 ✓
413			70	00.8 ✓
489			10.0	97.8 ✓
72-325	1.0	163456	33.56	
361			74	27.2 ✓
366			74	27.2 ✓
70-345			136	21.0 ✓
70 350			136	21.0 ✓

Platted 8-31-21

68-325	338
68 335	338
66-275	
313 38	
317 42	
317	
69-275	
312 (37)	
317 42	
317	
62-275	
315 40	
318 43	
7-30-21	
Bob Fisher Mixer	
34-382.36	

Platted 8-31-21

Chamber Strip
East lot # 1 Joint

68 Line	4.4	1617.00	1612.60
66 Line	5.3	1605.81	1600.51
64 Line	8.4	96.97	1588.57
62 Line	10.0	89.76	1579.76
60 Line	12.4		1579.76
58 Line	14.8		1579.76
56 Line	17.2		1579.76
54 Line	19.6		1579.76
52 Line	22.0		1579.76
50 Line	24.4		1579.76
48 Line	26.8		1579.76
46 Line	29.2		1579.76
44 Line	31.6		1579.76
42 Line	34.0		1579.76
40 Line	36.4		1579.76
38 Line	38.8		1579.76
36 Line	41.2		1579.76
34 Line	43.6		1579.76
32 Line	46.0		1579.76
30 Line	48.4		1579.76
28 Line	50.8		1579.76
26 Line	53.2		1579.76
24 Line	55.6		1579.76
22 Line	58.0		1579.76
20 Line	60.4		1579.76
18 Line	62.8		1579.76
16 Line	65.2		1579.76
14 Line	67.6		1579.76
12 Line	70.0		1579.76
10 Line	72.4		1579.76
8 Line	74.8		1579.76
6 Line	77.2		1579.76
4 Line	79.6		1579.76
2 Line	82.0		1579.76
0 Line	84.4		1579.76
	86.8		1579.76
	89.2		1579.76
	91.6		1579.76
	94.0		1579.76
	96.4		1579.76
	98.8		1579.76
	101.2		1579.76
	103.6		1579.76
	106.0		1579.76
	108.4		1579.76
	110.8		1579.76
	113.2		1579.76
	115.6		1579.76
	118.0		1579.76
	120.4		1579.76
	122.8		1579.76
	125.2		1579.76
	127.6		1579.76
	130.0		1579.76
	132.4		1579.76
	134.8		1579.76
	137.2		1579.76
	139.6		1579.76
	142.0		1579.76
	144.4		1579.76
	146.8		1579.76
	149.2		1579.76
	151.6		1579.76
	154.0		1579.76
	156.4		1579.76
	158.8		1579.76
	161.2		1579.76
	163.6		1579.76
	166.0		1579.76
	168.4		1579.76
	170.8		1579.76
	173.2		1579.76
	175.6		1579.76
	178.0		1579.76
	180.4		1579.76
	182.8		1579.76
	185.2		1579.76
	187.6		1579.76
	190.0		1579.76
	192.4		1579.76
	194.8		1579.76
	197.2		1579.76
	199.6		1579.76
	202.0		1579.76
	204.4		1579.76
	206.8		1579.76
	209.2		1579.76
	211.6		1579.76
	214.0		1579.76
	216.4		1579.76
	218.8		1579.76
	221.2		1579.76
	223.6		1579.76
	226.0		1579.76
	228.4		1579.76
	230.8		1579.76
	233.2		1579.76
	235.6		1579.76
	238.0		1579.76
	240.4		1579.76
	242.8		1579.76
	245.2		1579.76
	247.6		1579.76
	250.0		1579.76
	252.4		1579.76
	254.8		1579.76
	257.2		1579.76
	259.6		1579.76
	262.0		1579.76
	264.4		1579.76
	266.8		1579.76
	269.2		1579.76
	271.6		1579.76
	274.0		1579.76
	276.4		1579.76
	278.8		1579.76
	281.2		1579.76
	283.6		1579.76
	286.0		1579.76
	288.4		1579.76
	290.8		1579.76
	293.2		1579.76
	295.6		1579.76
	298.0		1579.76
	300.4		1579.76
	302.8		1579.76
	305.2		1579.76
	307.6		1579.76
	310.0		1579.76
	312.4		1579.76
	314.8		1579.76
	317.2		1579.76
	319.6		1579.76
	322.0		1579.76
	324.4		1579.76
	326.8		1579.76
	329.2		1579.76
	331.6		1579.76
	334.0		1579.76
	336.4		1579.76
	338.8		1579.76
	341.2		1579.76
	343.6		1579.76
	346.0		1579.76
	348.4		1579.76
	350.8		1579.76
	353.2		1579.76
	355.6		1579.76
	358.0		1579.76
	360.4		1579.76
	362.8		1579.76
	365.2		1579.76
	367.6		1579.76
	370.0		1579.76
	372.4		1579.76
	374.8		1579.76
	377.2		1579.76
	379.6		1579.76
	382.0		1579.76
	384.4		1579.76
	386.8		1579.76
	389.2		1579.76
	391.6		1579.76
	394.0		1579.76
	396.4		1579.76
	398.8		1579.76
	401.2		1579.76
	403.6		1579.76
	406.0		1579.76
	408.4		1579.76
	410.8		1579.76
	413.2		1579.76
	415.6		1579.76
	418.0		1579.76
	420.4		1579.76
	422.8		1579.76
	425.2		1579.76
	427.6		1579.76
	430.0		1579.76
	432.4		1579.76
	434.8		1579.76
	437.2		1579.76
	439.6		1579.76
	442.0		1579.76
	444.4		1579.76
	446.8		1579.76
	449.2		1579.76
	451.6		1579.76
	454.0		1579.76
	456.4		1579.76
	458.8		1579.76
	461.2		1579.76
	463.6		1579.76
	466.0		1579.76
	468.4		1579.76
	470.8		1579.76
	473.2		1579.76
	475.6		1579.76
	478.0		1579.76
	480.4		1579.76
	482.8		1579.76
	485.2		1579.76
	487.6		1579.76
	490.0		1579.76
	492.4		1579.76
	494.8		1579.76
	497.2		1579.76
	499.6		1579.76
	502.0		1579.76
	504.4		1579.76
	506.8		1579.76
	509.2		1579.76
	511.6		1579.76
	514.0		1579.76
	516.4		1579.76
	518.8		1579.76
	521.2		1579.76
	523.6		1579.76
	526.0		1579.76
	528.4		1579.76
	530.8		1579.76
	533.2		1579.76
	535.6		1579.76
	538.0		1579.76
	540.4		1579.76
	542.8		1579.76
	545.2		1579.76
	547.6		1579.76
	550.0		1579.76
	552.4		1579.76
	554.8		1579.76
	557.2		1579.76
	559.6		1579.76
	562.0		1579.76
	564.4		1579.76
	566.8		1579.76
	569.2		1579.76
	571.6		1579.76
	574.0		1579.76
	576.4		1579.76
	578.8		1579.76
	581.2		1579.76
	583.6		1579.76
	586.0		1579.76
	588.4		1579.76
	590.8		1579.76
	593.2		1579.76
	595.6		1579.76
	598.0		1579.76
	600.4		1579.76
	602.8		1579.76
	605.2		1579.76
	607.6		1579.76
	610.0		1579.76
	612.4		1579.76
	614.8		1579.76
	617.2		1579.76
	619.6		1579.76
	622.0		1579.76
	624.4		

8/31/1
Fisher
Mixer

Concrete Sections
August Estimate
West of #1 Joint.

chamber
strip

Chamber Strip	Estimate	Actual	Diff	Notes	Estimate	Actual
	4.96	1539.76	1535.00		0+60	39.96
		00 section				
00	3.4	36.61	36			8.9 31.1 ✓
12	4.3	35.71	18.0			8.1 31.9 ✓
19	2.8	37.21	29			9.9 30.1 ✓
30	3.8	38.21	36			7.9 32.1 ✓
39	4.8	35.21	49			7.54 31.6 ✓
475	5.0	35.00	7.6		0+80	9.2 30.8 ✓
		0+20	18.0			8.5 31.5 ✓
00	6.7	33.3 ✓	31			6.7 33.3 ✓
13	6.4	33.6 ✓	41			7.8 32.2 ✓
19	7.0	33.0 ✓	50		1+04	7.5 32.5 ✓
34	4.3	35.7 ✓	6.0			9.8 30.2 ✓
39	4.9	35.1 ✓	16.0			8.7 31.3 ✓
48	5.0	35.0 ✓	26			7.5 32.5 ✓
		0+40	31.0			7.2 32.8 ✓
7.5	10.2	29.8 ✓	36			5.1 34.9 ✓
16	8.7	31.3 ✓	48			4.9 35.0 ✓
29	9.0	31.0 ✓	0.5 from		1+22	4.8 35.2 ✓
40	8.6	31.4 ✓	- 5.5			5.8 34.2 ✓
49	8.9	31.1 ✓				

931-21
Fisher Concrete Sections - August 6th.
Mixer East of Joint #1

34-382.36 504 34.83 1529.79
(0-0 section)

5.5 4.8 30.0 ✓
19.0 4.4 30.4 ✓
32 4.5 30.3 ✓
4.5 4.5 30.3 ✓
50.7 4.5 30.3 ✓

(0+20)

5.0
16
29
42
49.5

Platted 8/31-21

(0+40)

6.0
12
25
38
50

(0+60)

6.8
148
27
37
44
50.5

00
7.3
12
19
32
42
51

Chump Strip

60
7
20
28
34
42
4525
00
13.0
26
39
54

(0+80) 34.83

5

Platted 5-31-21

4.5 30.3 ✓
4.1 30.7 ✓
4.9 29.9 ✓
5.4 29.4 ✓
7.6 30.2 ✓
4.2 30.6 ✓
4.5 30.3 ✓

(0+80)

2.7 37.7

1535.00

4.7 33.0 ✓
5.1 32.6 ✓
5.5 32.2 ✓
4.7 38.0 ✓
4.8 32.9 ✓
3.3 37.4 ✓
2.7 38.0 ✓

14.20

3.8 38.9
3.6 34.1
2.9 34.8
2.2 35.5
2.7 35.0

Platted 8-31-21

37.7

1+32.7

00	40	33.7 ✓
13	32	34.5 ✓
26	26	35.1 ✓
32	29	34.8 ✓
45	26	35.1 ✓
54		35.0

1+40

00	37	34.0 ✓
6	33	34.3 ✓
11	26	35.1 ✓
24	22	35.5 ✓
324	20	35.7 ✓

1+57.5

25 35.2

Pia Hed - 8-31-21

9/2/21
Bob
Fisher
Mixer.

D.S.F. Elev. 1535-1545
Radius 343.4

At 40' East of 28-343.40 sight
C 28 for 3'-20' - Turn

20	1-40
40	3-20 ✓
60	5-00 ✓
70	5-50 ✓✓
80	6-40 ✓
90	7-30 ✓
100	8-21 ✓
110	9-14
1+20	10-01 - use -
1+30	10-51
1+37	11-26

Form
1+37.5

93.93
Champion
strip

7-50' Contr Joint.

5.14 1549.11 1535.00

{
66
60.59 34.2
50

3286 334

51 1540.1

1533.00

5.8 34.3

7

At 110' South of 28-343.40 -
Sight 28-343.40 for 00 -

40-	3-20
60	5-00
70	5-50
80	
90	
100	
110	

~~2-2-86~~

2286 ok use

9/4/21
Fisher
No. Rec.

D.S. Face Liff. 1535-1545-

At 40' South of 28.343⁴⁰ Sight
20' South of 28.3434⁰ for
1-40

20' 1-40'

30 2-30

40 3-20

Set on 28-3434⁰ Sight point -

1.5 Put points on Tangent -
10 - correct -

20

30

40

50

9/8/21

Bub
Mixer

Champer Strip.

Nail in lift 1545
1+97.2

508 504

1545.06
514 1545.00

9/8/21

Alignment 1545 lift.

Radius = 35110

35110 | 17188700 | 4.895' for lift

14044
314.47
78088
33590
31599
19910
17555

1' = 0° - 4.90'
10' = 0° - 49'
20' = 1° - 38'
30' = 2° - 27'
40' = 3° - 16'
50' = 4° - 05'

Alignment 1545 left

9

Offset 2' North Seton 1+99.43

35310 | 171887000 | 4.8768
14124
30647
28248
73990
24717
21186
78040

1' = 0° - 4.87
10' = 0° - 48.68
20' = 1° - 37.36
30' = 2° - 26.04
40' = 3° - 14.72
50' = 4° - 03.40

1057
339
718

7057
245
7302

0+10.57 Nail set at 1+99.43
339
2+02.82

1+99.43 Transit at
73.02 - dist.
2+72.45 = Center Joint on 1545 level 35310R

9/11/21
Fisher
Palmer

Chamber Strip

1799.43
30 310

4.96 15 60.00 1555.00

5.00 5.00

9/12/21
Fisher
Mixer

Chamber Strip

1797.29
345.40

5.09 50.15 45.06

Elev. Lift

5.15 45.00

9/15/21

Sub
Fisher
Mixer

D.S. Face Ptu
351.10 Radius -

At 28-351.10 - Sight c 28 for 90°
Turn

15 1° 13' ✓

20 1-35 ✓

30 2-27 ✓

40 3-16 ✓

41.45 To Form.

7.44 on Tangent to Centre Point -

1497.22

345.90

4.75 49.81

1545.06

9/16/21

Fisher
Mixer

4.81 =

At 40' East of 28-351.10 Sight 20' East Pt
of 28-351.10 for 1-38'

25 2-02

30 2-27

40 3-16

9/16/21
Fisher
Mixer

Location of Buildings + River
Const Camp

HI 46

At 28+84.8 Sight 26+63.00
V.A.

Cor House 83 17-45 ✓
Cor House 69 21-0 ✓
Cor House 73.5 29-40 ✓

Cor Barn 60.5 33-30 ✓
Cor Corral 50.5 13-0 ✓
Cor Corral 25.6 21-40 ✓
Cor Corral 20.2 66-30 ✓
Cor Barn 34.0 84-40 ✓

edge fence 40.8 174-45 ✓ 16-0 368
215
128 657 205-30 ✓ 19-21 638

HI 46

At 11+00.9 Sight 12+54.60 for Zoo Az RT.

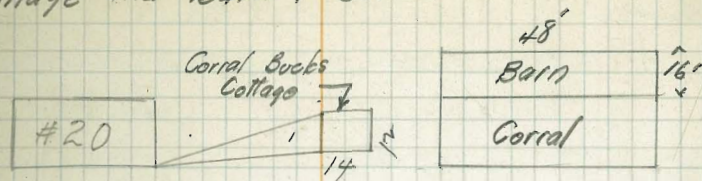
212 542 84.0 16-45 796 ✓
580
234 446 54-45 21-0 395 ✓
201
216 485 109-0 19-0 434 ✓
226
194 532 136-0 17-0 486

HI 48

At 32.2 East of New Help - Bank House
Sight Cor - Technical Office

678
280 398 164-30 15-06 374

Tie from Cottage #20 to Corral Bucks
Cottage and Barn + Corral 12



1.28 4.6 7.85

190 4.6 73.2 84-0 - 16-45 ✓
6.80 4.6 23.4 84-45 21-0
701 4.6 21.6 109-0 19-0
226 4.6 19.4 136-0 17-0

226
194
32

285
128
657

732
190
542

682
23
436

9/20/21
Bryson
Fisher
Mixer

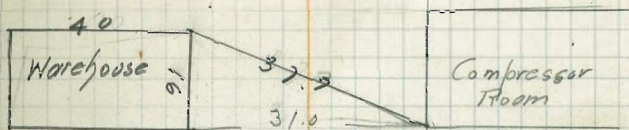
D.S.F. Elev 1545-1545

3.51 \perp Radius

At 34-35110 Sight center for 90°
Turn

20	1-38'
40	3-16
55	4-29.26
85	6-56
90	7-21
100	8-10
110	8-59
120	9-48
1285	10-29

Construction 13
Location, Equipment Warehouse
Tie to Compressor Room



9/16/21 Fisher Mixer

Location of Break in Gallery - 1+86.07

337.29
1+81.88

6.57 1541.62 1535.05

Grade at Break

4.58 37.04

Chained from CR8 - 83.98
to nail in concrete. ^D 1+96.02
Chained 7.67 more = 1+88.55
on 400' Radius. set nail -

Occupy D 1+88.55 Sight RP on
400 Radius + turn 90° Chain
12.50 South set-nail = ^{Gallery - 1+86.07} D 83
not check Form by about 0.06

Chained on Gallery Line 10.86 Set nail =

(Gallery - 1+75.15)

337.7
1+81.88

4.88 39.93 1535.05

1535.05

1+75.15

1542.47 ✓

3.30 36.63

5.84 = 5'-10 1/4"

9/10/21
Fisher
Mixer.

Gallery Points

At D 0+60 Sight R.P. East for Zero
Chain 2.04 Set Hub = D 0+62.04

At D 0+62.04 Sight R.P. East Turn 90°
Chain 8' Set 2x2 Hub = Gallery Pt.
Checked Right Angles - by measurement from R.P.

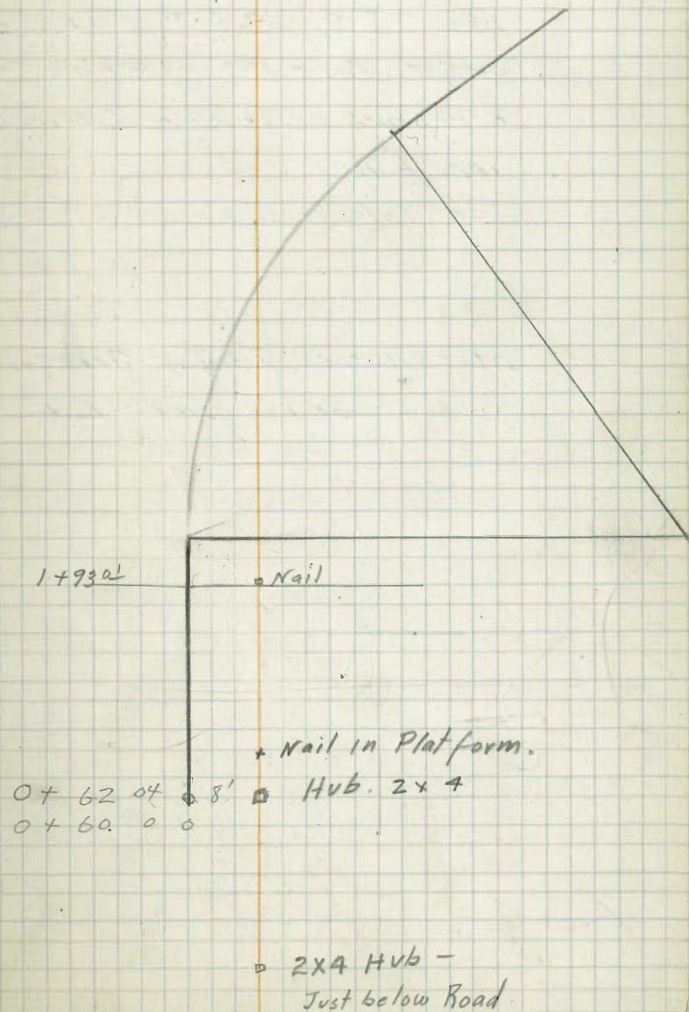
At 8' South of 62.04 = Gallery Pt. Sight
Sight hub R.P. ^{East} - Set nail Top of Dam.
1555 Elev.

At Nail in Dam Sight Hub 0+62.04
Set nail R.P. on Land Platform
Set Hub - below road. (2x4)

Gallery Points

15

2x4 Hub □

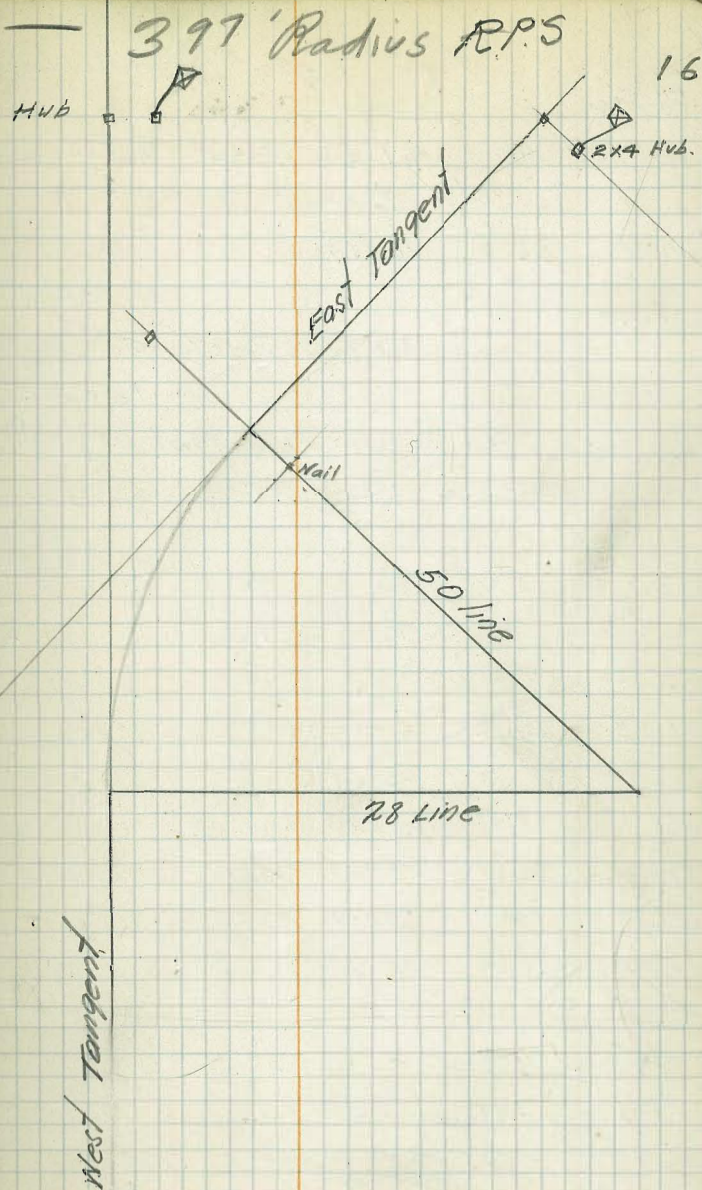
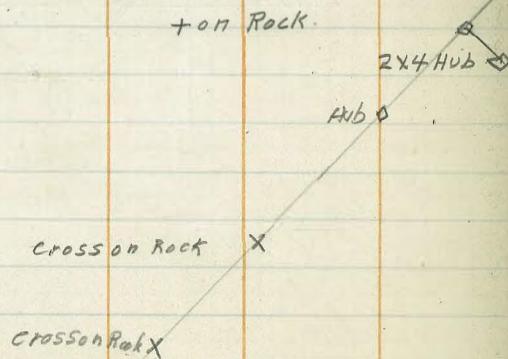


400' Radius
 At R.P. Hub East. sight C 28 for zero
 turn 90 chain 3' set 2x4
 Hub - change flag. To 397 Radius.

At C 78 Sight R.P. + on Rock -
 West - Turn 90° - chain 3' set
 2x4 Hub = 78-397 - Changed Flag to
 this Hub

Set intersection nail at C 50-397.

400' Radius
 At + on rock R.P. East Tangent. West
 side of canyon sight. C 78 for
 Zero turn 90° - chain 3' set
 2x4 Hub.



9/22/1
Bryson
Fisher
Maxter

Final Topog Right Abutment.

At 1+97.19 - ^{37720 R.} Sight P.P. - West
for Zero

3.50 38.55

Auxil Pt 33.0 16-24 ✓

1+81.88
377.70

3.28 38.33 1535.05

Auxil Pt.

10.50 27.83

At Auxil Pt Sight 1+97.19 for
Zero A2 R1 ✓

HI

4.05 31.88 27.83

Prod 68⁰

15.25 6.2 6-0 ✓

8.5 26-0 ✓

11.6 38-15 ✓

11.1 46-30 ✓

Warrant 9.0 51-0 ✓

5.6 61-15 ✓

Bottom 10.9 23.0

Red 119

15.20 12.4 255-30 ✓

12.3 230-0 ✓

13.3 203-30 ✓

6.9 231-0 ✓ 10.3 21.6

Add - Additional Undercut.

4.0 x 34 x 15 = Undercut.

6.0 x 20 x 15

add 2 yds.

added -
Sept. Est.

Chamber Strip.

149943
35310

1.09 1556.13

155504

1.13 1555-0

9/21/21

Chamber Strip:

Fisher
Mixer

149729
345.40

503 155509

1545.06

1545.00

5.09 154500

9/23/21
Fisher
Mixer

Section's Star Drill Holes
Quarry

19

HI 4.8 At 5+18² Sight. 3+24⁰ for Zero Az Pt.

5+18² 4.8 1750.92 1745.62

stadia rod	Vert Angle	Hor Angle	Rod	Dist	
166	10°-20'	320-15	4.8	160 ²⁹³	1784.9 [✓]
138	7-26	305-45	4.8	136 ¹⁸²	1763.6 [✓]
142	7-45	286-30	4.8	139 ¹⁹	1764.6 [✓]
158	11-55	287-30	4.8	152 ²⁹⁵	1775.1 [✓]
171	10-30	277-15	4.8	165 ³⁰	1775.6 [✓]
191	11-35	269-30	4.8	183 ³⁵	1780.6 [✓]
208	14-15	260-30	4.8	195 ⁴⁹⁵	1795.1 [✓]
218	14-0	255-30	4.8	205 ⁵¹	1796.6 [✓]

Platted 9/23/21

160	2°-0	248-15	4.8	160 ^{5.6}	1751.2 [✓]
169	4- 45 ⁵⁰	254-15	4.8	168 ¹²²	1759.8 [✓]
155	7-45	263-0	4.8	153 ²⁰⁶	1766.2 [✓]

HI. 4.63

At Sight for Zero Az Pt

Top of Block Hole #	At	Sight		for Zero Az Pt
	4.63	1851.83		1847.20
Hole #1	183	59-45 ✓	6.3	45.5
Hole #2	202	59-35 ✓	5.9	45.9
Hole #3	220	58-30 ✓	4.3	47.5
Hole #4	240	57-45 ✓	2.6	49.2
Hole #5	258	57-15	6.1	45.7
Hole #6 Top of Plank	281	57-0	6.6	45.2

9/23/21

Night
7-11

QUARRY CROSS

Bryson
Fisher
Mixer

Sections Star Drill Holes 20

Hole #	Depth	HI	Red	
1 ^{Top of Plug}		2.90	1848.40	1845.50
0 0 Gr.				5.40 1843.00
-4.6				4.40 44.0
-5.2				2.50 45.9
-6.5				1.30 1847.10
-6.5				1849.10
-11.5				1856.10
+00	1.80	1844.80		1843.00
+3.0				2.20 1842.60
+5.8				4.30 40.5
+7.4				7.10 37.7
+10.0				8.60 36.2
+12.5				11.30 33.5
+12.5				19.60 25.2
+16.5				19.60 25.2
#2 ^{Top Plug}	4.10	1850.0		1845.9
0 Grd.				5.5 44.5
-4.5				4.9 45.1
-5.0				2.7 47.3
-10.0				10.4 1849.6
-10.0				1859.6
0	3.50	1849.4		1845.9
+2				5.0 1444.4
+5				7.1 42.3
+5				9.8 39.6
18.5 TP	1.20	1838.40	12.2	1837.2

Quarry -

Hole #	+	π	-	EL
+15.5		1838.4	6.20	32.2 ✓
+19.0			11.20	27.2
+23.0			14.20	24.2
Hole 3	4.7	1851.5		1847.5
0 Grd			5.50	1846.0
-4.2			4.80	46.7 ✓
-7.0			1.60	49.9 ✓
-9.3			.20	1851.30 ✓
-10.0				1851.80 ✓
-14.0				1856.80 ✓
14.0				1861.80 ✓
0	2.3	1849.80		1847.50
+5.0			2.50	1847.30
+13.0			5.60	1844.20
+16.5			10.30	39.5 ✓
T.P.	.80	1845.00	5.60	1844.20 ✓
+17.5			6.80	38.2 ✓
+17.5			11.00	34.0
+21.0			13.50	32.5 ✓
Hole #4	7.00	1856.20		1849.20
0 Grd			9.80	1846.40 ✓
-5			8.60	47.6 ✓
-7			6.10	50.1 ✓
-18.0			0.00	56.2
vert.				

Quarry			
Hole #	+	π	- El.
#4 Gr.	2.00	1848.40	1846.40
+3			1.70 46.7
+14			8.90 39.5
+18			13.30 35.1
+20			16.60 31.8
Hole 5	6.50	1852.20	1845.7
Gr. 0			6.50 1848.7
-5.5			5.70 46.5 ✓
-15.0			2.00 1850.20 ✓
-19.0			1860.20
0	1.90	1847.60	1845.7
+6			2.00 45.6 ✓
+13			6.50 41.1 ✓
+15			13.00 34.6 ✓
Hole 6	5.40	1850.60	1845.2
0 Drill platform			5.20 1845.40
0 Gr			6.20 1844.40
-4			5.20 45.4 ✓
-7			2.70 1847.90 ✓
-9			1852.90 ✓
BM	2.46	1847.60	1845.20
+6			5.10 42.5
+11			11.30 36.3
+13			14.50 33.1

$\frac{1844.40}{1745.62}$ Hole 102
 98.78

9/24/21
Bryson
Fisher
Mixer

Downstream Face Pts

35110 Radius

A+34-35110 Sight C 34 ft

90° - Turn

20 1-38

40 3-16

50 4-05

60 4-54

70 5-43

80 6-32

84.6 6-54

9/24/21
Fisher
Mixer

Left Abtment.

24

AT 50-339.79 Sight R.P. North
for Zero

3.75 1518.75 1515.0

1515
Comets

31.5	121-0 ✓
31.0	104.5 ✓
38.0	106-30 ✓
48.0	106-30
54.0	103-0 ✓
59.3	100-45 ✓
74.5	96-0 ✓
88.5	94-30 ✓
99.5	91-0 ✓

At 50-339.23 Sight R.P. North for Zero

Auxil Pt 41.3 72-24

At Auxil Pt Sight 50-339.23 for Zero

1516

Red 083

- 417 1510.83 1510

Comets	23.5	3-30	11.7	295.45
	23.0	345-30	23.0	286-0
	21.0	337-30	22.5	277-0
	17.5	337-0	26.0	260-0
	17.5	321-0	29.0	251-0
	15.5	308	39.0	228-0

1510

46.0	221-0 ✓	25.0	265-30
50.0	221.0 ✓	24.5	275-31
50.5	216-30 ✓	23.3	286-15
55.5	211-15 ✓		
61.0	208-30 ✓		
65.5	205-30 ✓		
66.5	195-0		
70.0	187-30		
Comets 64.0	181-30		

Red 583 1505

54.0	177-0 ✓
58.0	184-0 ✓
57.5	194-0 ✓
58.3	197-0 ✓
56.0	205-0 ✓
52.0	205-30 ✓
43.5	191-0 ✓
47.3	210-0 ✓
49.0	220-0 ✓
45.3	219-0 ✓
39.0	228-0
35.0	243-0
28.5	251-30

9/24/2
Fisher
Mixer

Left Abutment.

At Auxil Pt. Sight 52-3 39.23 for Zero

1575	- 446	1510.54	1515
Red 5.5	38.3	230.0 ✓	"B"
	29.0	252.0 ✓	Auxil Pt 3765 189-30
	22.0	265-30	
	14.0	284-30	TP
	6.5	300-30 ✓	
	4.0	218-0 ✓	
	8.0	168-0	
	19.0	152-30	
	26.5	166-30	
	28.0	172-0	
Concrete	39.0	169-0	
Red 10.5			
1580	25.5	174-	
	22.0	174-0	
	18.5	168-0	
	13-0	176-0	
	4.5	230-0 ✓	
	23.0	256-0 ✓	
	28-0	248-0 ✓	
	37.5	225-30 ✓	
	46.0	211-0 ✓	
	37.5	200- ✓	
	32.5	201 ✓	
	33.0	1870	

Fisher
Mixer

25

At Auxil "B" Sight Auxil A for Zero

TP	4.0	06.25	02.25
	18.5	5-0	12.5 93.8
	31.5	355-30	12.3 93.0
	30.5	318-0	13.0 93.3
	24.5	299-30	12.8 93.5

9/26/21

Bryson
Fisher

Location of Upstream face

26

At D 1+96.02 Chain West - Set nails
 1+83.93
 345.40 2.23 1547.30 1545.07

10

20

30

40

50

Nail in Rock

Average Elev. 4.00 1543.30

Set nails - El. 1548.3 = 1548.3 Dist out. 1.67

Set Contr Joint -

1+43.2 -

Location of Gallery -

At D 1+88.55 Turn 90° Chain

12.50 Set nail - = Gallery - 1+86.01

At Gallery 1+86.01 chained 25.17

West = Sta 1+60.84 Set nail

1+83.93
 345.40 1.54 46.61 1545.07

Gallery
 1+60.84 1549.62 4.40 42.41

7.21 = 7' 2 1/2"

Check on
 1+75.15 1542.47 4.15 42.46

checked elev. 0.01

Outline of Concrete.

27

At 1+8393 Sight TRP West.

5.0 1550.07 1545.07

16.9 354-20 ✓

18.6 348-20 ✓

20.2 351-0 ✓

24.5 348-45 ✓

25.1 351-45 ✓

1/2 27.5 352-0 ✓

28.3 355-30 ✓

32.5 1-30 ✓

36-0 2-0 ✓

39.2 8-30 ✓

At 1+97-19-337.20 R - Sight TRP West.

edge of
curb

17.8 353-0 ✓

21.5 343-0 ✓

+ 10

25.4 353-30 ✓

26.8 359-0 ✓

31.2 8-0 ✓

9/27/21
Fisher
Mixer.

Outline Concrete

28

A+D 18 ⁴¹⁴²³ Sight RP on Chute-D18

D-18	5.25	52.82		42.57
Contr Joint	17.2	311-40	/	12.6
	12.8	334-30	/	12.5
	11.8	334-0	/	12.6
	12.2	314-0	/	12.9
<hr/>				
	12.8	334-30	/	9.8
	9.4	354-0	/	9.7
	9.7	40-0	/	9.5
	15.0	61-30	/	9.4
	22.4	70-0	/	9.7
	27.0	69-0	/	9.4
	29.3	67-15	/	9.3

43.2

A+D 156 ⁰² Sight RP East.

Gallory Pl	5.83	48.24		42.41
	48.3	134-40	/	3.1
	52.0	125-30	/	3.3
	58.0	116-30	/	11.3

11.3
48.3
52.0
58.0

9/28/21

D.S.F. Litt 1555-1565
Radius 35.880At C 45 Sight C 28 fr 12°-10'-30"
Turn 90° Chained 4120 set nail 45-35880

10' def from 45 = 460.048'

20' " " = 470 = 10' 36'

30' " " = 480 = 20' 24'

33' " " = 483 = 2° 38'

10' " " " = 440 = 0° 48'

12.4 " " = 4376.0594'

9/28/21

At 1483.93 Sight RP West for Zero Az Rt.

From 356 9-30 ✓

RC 36.7 7-0 ✓

Platted
9/28/21

55.2 To Form

9/28/21

Fisher
MinterAt 1485.62-35310 Sight RP West
for Zero Az Right.

503 1560.04 1555.01

38.9 350-30 ✓

47.0 353-0 ✓ Platted

51.5 355-30 ✓

55.6 358-0 ✓ 9/30/21

29

9/28/21

Fisher
Mixer
Scotland

Monthly Estimate - Excavation

Top of 6'00 Concrete	6.54	49.54	1543.00	
40 = 00		67 Line		
18 382			13.5	36.01
33 367			9.5	40.01
52 348			9.5	40.01
T.P.	11.50	60.10	0.94	49.60
		66 Line		
20.5			6.5	53.61
33.7			10.0	50.11
43			11.1	49.01
48			8.5	51.61
56			6.5	53.61
T.P.	12.7	72.5	0.30	59.80
T.P.	12.4	84.9	00	72.5
		68 Line		
19			15.0	79.91
24			10.5	74.41
26			13.5	71.41
32			14.5	70.41
40			18.0	66.91
41			15.0	69.91
T.P.	12.7	97.3	0.30	84.60

Platted 9/29/21

	97.3 ✓		
TP	9.4	1606.3 ✓	0.4 96.9 ✓
	(70)		
16			8.3 98.0 ✓
19			10.2 96.1 ✓
22			13.0 93.3 ✓
31			11.4 94.9 ✓
38			5.0 01.3 ✓
46			6.0 00.3 ✓

TP	11.6	14.8	3.1 1603.2
	(72)		
400 ⁵⁰ 78			7.8 07.0 ✓
4.0			7.9 06.9 ✓
13.			4.5 10.3 ✓
19.			5.8 09.0 ✓
31			3.9 10.9 ✓
35 Volt 90°			0.6 14.2

13⁰⁰ = Same as (72)

Platted
9/29/21

9/28/21

Fisher
Mixer

Concrete Sections -

Block 5 -

32

Chamber Strip.	48	1559.80	1555.0
00			4.8
10			4.8
13			4.6
20			4.6
27			4.7
35.5			4.8

0 + 20

00			6.2
6			6.4
16			5.0
27			4.6
34.4			4.8

0 + 40

00			7.3
9			6.0
18			4.8
26			4.7
34.4			4.8

0 + 42

00			6.5
7			5.7
13			4.0
26			4.7
34.5			4.8

0 + 57

6.0 5.381

Platted
9/29/21

9/28/21
Fisher
Mixer

Concrete Sections -
Block A

33

Top of concrete	5.1	50.3	1545.2
00		73	43.01
7		6.6	43.71
28		5.1	45.21
35.2		5.1	45.21

0+20

00		74	42.91
13		6.3	44.01
23		5.0	45.31
33.8		5.2	45.11

0+40

00		58	44.51
12		5.3	45.01
18		6.0	44.31
22		5.0	45.31
33.8		5.0	45.31

0+46.8

00		4.7	45.61
7		4.4	45.91
20		4.8	45.51
34.0		5.1	45.21

0+50.6

		4.7	45.61
--	--	-----	-------

Platted
9/29/21

Concrete Estimate -
Block 3

Chamber
Strip

0.30 1545.30 1545.00

00

00 48 40.51

12 5.0 40.31

22 4.9 40.41

32 4.9 40.41

41.8 4.9 40.41

0 + 20

0.0 6.6 38.71

8.0 7.1 38.21

17 5.6 39.71

25 5.0 40.31

29 5.3 40.01

41.6 5.0 40.31

0 + 40

00 6.6 38.71

11 6.3 39.01

14 5.4 39.91

26 6.5 38.81

32 5.1 40.21

42.0 4.9 40.41

453
Block 3
0 + 47.1

34

00

9

18

29

33

42.3

0 + 56.7

61 39.21

52 40.11

57 39.61

58 39.51

50 40.31

48 40.51

61 49.21

Platted
9/29/21

9/28/21
Fisher
Mixture

Concrete Estimate
Block 2

6.0 51.2 1545.20

00

00 47 4651

8 45 4671

16 55 4571

18 52 4601

24 53 4591

34.8 60 45.21

0+20

00 43 4691

10 55 4571

16 54 4581

22 60 4521

34.3 56 45.61

0+40

00 51 4611

8 51 4611

15 47 4651

18 55 4571

22 50 4621

34.4 60 4521

0+486

00 63 4491

7 64 4481

12 58 4541

25 59 4531

35.0 60 4521

0-151 00

Platted 9/29/21

9/28/21

Concrete Estimate
Block 1

1560.3

36

0+60

5.30 / 1560.30
00

1555.00

Radius
2+71 on 90d

~~42~~

DSF 10

5.2

55.1

Front Face

12.0 48.3 ✓

14

5.2

55.1

16

9.3 51.0 ✓

17

7.3

53.0

26

5.7 54.6 ✓

0+69-00

37

5.7 54.6 ✓

43

5.2 55.1 ✓

0+70

00

12.0 48.3 ✓

12

9.3 51.0 ✓

17

7.6 52.7 ✓

25

5.6 54.7 ✓

33

5.0 55.3 ✓

43

5.2 55.1 ✓

0+40

00

12.0 48.3 ✓

13

8.7 51.6 ✓

22

7.7 52.6 ✓

30

5.6 54.7 ✓

43

5.2 55.1 ✓

0+51

-7

10.1 50.2 ✓

00

18.7 51.6 ✓

7

6.5 53.8 ✓

21

5.2 55.1 ✓

Platted
9/29/21

9/28/21
Fisher
Mixer

Gallery -

	7.95	53.02	1545.07
55.86			
48.71	Void -	4.79	48.23
		6.15	46.87
		3.87	49.15

7-63 = 7-7 1/2"

37

Form
353

9/28/21
Fisher
Mixer

At D 1+96.02 Sight R.P. West
for zero chain - 46.92 =
D 1+49.10

#39

9/28/21
Fisher
Mixer

At A 1+99.10 Sight R.P. Turn
90 - chain 11.09 = 1+46 = Gallery
At Gallery 7' on Concrete - checked
nail = 0.02 - North of Line

1+83.93
545.40

7.70 52.77 1545.07

Gallery
1+46

56.78

4.34 48.43

8.35 8-4 1/4"

1+60 84

1549.62

3.62 49.15

Does not check by 0.47 in Elev. Line 1/2" off

9/29/21
Fisher
Mixer.

Final Topog Left Abut.

Mark on
Curtain Wall

At Auxil A Sight 339.23 for Zen Az. Rt.

-4.7 1310.3 .1515

Auxil B	31.52	187-40 ✓	12.8	975
Auxil C ⁶	51.95	202-43 ✓	9.8	1500.5
Rod 03				
1510	55-0	235 ✓	53.5	211-30 ✓
	348	232 ✓	56.5	210-30 ✓
	21.5	341-30 ✓	59.5	210-30 ✓
	17.5	337-30 ✓	61.0	208-30 ✓
	17.5	322-0 ✓	63.5	208-0 ✓
	16.0	311-0 ✓	64.5	205-0 ✓
	11.0	296-0 ✓	65.0	198-15 ✓
	23.5	286-15 ✓	68.5	202-0 ✓
	23.0	281-0 ✓	69.5	201-0 ✓
	26.0	278-0 ✓	71.0	199-15 ✓
	24.0	270-30 ✓	71.0	196-30 ✓
	25.8	262-0 ✓	73.0	195-15 ✓
	29.0	251-30 ✓	70.0	193-30 ✓
	34.0	243-15 ✓	72.0	190-30 ✓
	38.5	229-0 ✓	72.5	186-30 ✓
	41.5	224-30 ✓	73.0	
	45.5	220-30 ✓		
	50.5	222-0 ✓		
	55.5	215-0 ✓		
	53.5	212-0 ✓		

Platted
9/29/21

9/29/30

39

HF 49

At Auxil "C" Sight Auxil "A" for zero

AZA1

49 1505.4 1500.50

Rod 0.4

1505

5.20	515	354-30 ✓	16.0	105-01
450°	348	✓	19.5	97-01
52.0	345.0	Comute	23.2	88-451
47.5	339-30	✓ ^{gap}		
			29.0	
45.5	334-30	✓ Comute	28.5	49-01
41.5	330-0	✓	31.0	41-301
39.5	327-0	✓	31.5	29-01
advent	35.0	321-30 ✓	37.5	27-30 ✓
	326-0	315-45 ✓	42.0	23-01
	21.5	314-15 ✓	45.0	22-30 ✓
	15.0	304-15 ✓	49.5	18-30 ✓
	15.0	289-30	43.0	17-0 ✓
	10.5	300.30 ✓	45.0	18-01
	6.0	296-0 ✓	51.0	357-30 ✓
	4.0	271-30 ✓		
	5.5	250.0 ✓		
	9.5	210-30 ✓		
	10.5	210-0 ✓		
	9.5	194-0 ✓		
	7.5	183-0 ✓		
	8.5	145-0 ✓		
	11.5	130-0 ✓		
	11.0	119-0 ✓		
	13.0	117-30 ✓		

6/29/21

40

At Auxil B Sight Auxil A to Zen.

	3.7	1500.9		1497.5		27.0	290-30 ✓
Concrete	14.7	130-0 ✓		20.0	242.0 ✓	20.9	276-15 ✓
	9.1	122-0 ✓		19.2	227.0 ✓	18.7	262-0 ✓
	7.7	95-45 ✓		20.6	215.0 ✓		
	6.8	68-0 ✓		22.5	203-30 ✓		
	9.8	61-0 ✓		22.1	196-0 ✓		
	11.8	32-0 ✓		23.0	190-30 ✓		
	16.3	23-30 ✓		22.4	186-30 ✓		
	18.6	8-0 ✓		25.3	180-30 ✓		
	21.5	3-0 Concrete		24.9	159-30 ✓		
	25.0	3-0 ✓					
	28.9	357-30, Rod 5.9					
	28.6	337-0 / R.C. 14.95		11.6	9-0 ✓		
	30.7	320-0 ✓		16.3	10-0 ✓		
	30.2	315-0 ✓		22.1	0-45 ✓		
	31.4	310-30 ✓		22.5	357-0 ✓		
	29.2	302-30 ✓		24.7	347-30 ✓		
	29.8	299-0 ✓		24.4	339-0 ✓		
	24.5	280-30 ✓		26.0	336-0 ✓		
	24.0	272-0 ✓		27.8	318-0 ✓		
	22.1	267-0 ✓		29.1	309-0 ✓		
	24.2	259-30 ✓		27.8	308-30 ✓		
	22.0	255-15 ✓		28.2	305-30 ✓		
	22.8	252-0 ✓		27.4	301-45 ✓		
				26.2	297-30 ✓		

Plated 9/29/21

8/29/21
Fisher
Mixer

At Auxil 'B' Sight Auxil 'A' for Zero

	4.7	1502.2		1497.5
Rod 7.2			Rod 7.2	
14.5	19.2	257-0	18.5	189-30 ✓
	14.1	236-0 ✓	20.3	186-0 ✓
	9.7	238-0 ✓	20.0	174-0 ✓
	12.6	278-30 ✓	18.5	160-0 ✓
	10.2	314-15 ✓	16.9	146.45
	9.4	326-30 ✓		
	9.0	347-0 ✓	Rod 9.2	1
	10.6	348-0 ✓	1498.2	16.5
				163-15 ✓
Rod 12.3			17.3	175-0 ✓
1498	18.2	356-30 ✓	18.9	171-0 ✓
	19.1	338-30 ✓	18.6	161-30 ✓
	21.3	315-30 ✓		
	25.3	296-30 ✓		
	24.0	292-15 ✓		
	19.3	313-0 ✓		
	17.2	330-0 ✓		
	18.4	350-0 ✓		
Platted				
Rod 7.2	14.8	141-0 ✓		
1495	12.3	144-30 ✓		
	11.1	153-30 ✓		
	10.1	167-0 ✓		
	11.6	184-30 ✓		

9/30/21

Fisher
MixerTop of
Lift

Concrete Sections:

Right Abutment.

- Rain -

42

0.4	1555.40	1555.00
-----	---------	---------

Section 00 = 10' on lead

00 Section

00	4.0	50.4 ✓
----	-----	--------

10	3.0	52.4 ✓
----	-----	--------

20	5.7	49.7 ✓
----	-----	--------

31	7.1	48.3 ✓
----	-----	--------

40	6.7	48.7 ✓
----	-----	--------

49	7.2	48.2 ✓
----	-----	--------

00	5.0	50.4 ✓
----	-----	--------

8	5.6	49.8 ✓
---	-----	--------

19	3.5	51.9 ✓
----	-----	--------

37	8.0	47.4 ✓
----	-----	--------

37	7.2	48.2 ✓
----	-----	--------

49	7.2	48.2 ✓
----	-----	--------

0+40

0	3.0	50.4 ✓
---	-----	--------

7	4.9	50.5 ✓
---	-----	--------

17	2.6	52.8 ✓
----	-----	--------

25	5.0	50.4 ✓
----	-----	--------

32	6.3	49.1 ✓
----	-----	--------

48.4	6.4	49.0 ✓
------	-----	--------

Platted
9-30-21

0+20

1555.4

0+50

0-0	5.0	50.4 ✓
13	4.6	50.8 ✓
23	5.6	49.8 ✓
33	5.7	49.7 ✓
39	6.9	48.0 ✓
49.2	6.0	49.4 ✓

9/30/21

0+55

00	4.8	50.6 ✓
13	4.0	51.9 ✓
R.C. 27	5.0	50.4 ✓

Plotted

+80 one end = 00 Section

187 1556.88

1555.01

6.7

1555.2

10/3/21

Final Topog Right Abutment

Bud
Fisher
Mixer

At D 16-414²³ Sight D 18-414²³ for 200

6.22 1561.23 1555.01

Rod 11.23
1550-

Form	60.0	130-0	✓
	59.5	130-0	✓
	55.0	130-0	✓
	52.3	133-30	✓
	49.5	134-0	✓
	47.5	132-0	✓
	39.1	132-0	✓
	35.1	138-30	✓

Rod 6.23

1555	36.4	139-0	✓
	37.9	136-0	✓
	42.3	132-30	✓
	47.0	132-15	✓
	50.3	138-0	✓
	51.2	135-30	✓
	52.9	136-0	✓
	56-0	134-0	✓

Form 58.5 134-30 ✓

pencil mark on back

Auxil Pt. 52.6 114-45

Platted 10/3/21

10/3/21
Bub
Fisher
Mixer

Final Topog Right Abutment

At Auxil sight 16-412²³ for Zero

2.92 1557.93 1555.01

Rod 7.9

check shot
15.50

24.8 324-30 ✓

29.1 327-0 ✓

36.0 325-0 ✓

36.2 329-0 ✓

34.8 330-0 ✓

33.6 345-0 ✓

Form 35.2 347-0 ✓

Rod 7.9

15.55 34.7 341-80 ✓

35.9 329-0 ✓

36.6 328-0 ✓

36.5 323-0 ✓

34.8 320-30 ✓

28.0 319-30 ✓

Platted 10/21

537
832
522
1491
4.97

10/3/21

Fisher
Mixer

U.S.F Points

199A To - 1+40

3.73 1556.74 1555.01

Top of Form
5' higher

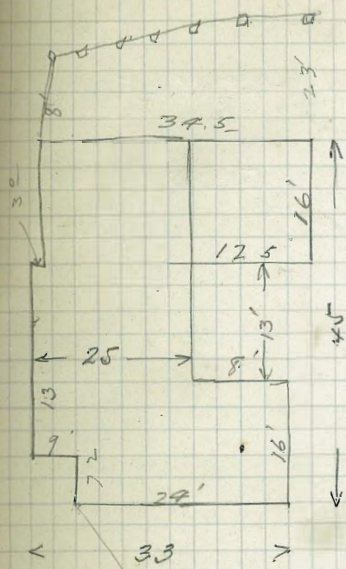
4.97 53.77
588

Dist out
0.62

5/15
Fisher
Mixer

Location of Barn near Head Tower
Cableway -

Tie from Transformer Station
to Barn - on Quarry Road



6
12
67.4

24'



Transformer
station

Bryson
 Bub
 M. H. H.

Oct 7 1921

Final Topog Lt About

At 50-328-

Set point North on 50 line 43' =

50-371

At 50-371 sight 50 line South

Rod 182

1515

43.0 328° ✓

49.3 326° 45' ✓

47.7 322° 30' ✓

54.9 319° 30' ✓

54.4 318° 15' ✓

55.8 317° 15' ✓

59.2 317° 30' ✓

59.9 315° 15' ✓

63.5 315° 15' ✓

64.3 313° ✓

71.5 312° 30' ✓

74.9 307° 15' ✓

72.5 309° 45' ✓

66.9 309° 30' ✓

62.3 313° ✓

61.9 315° ✓

59.7 315° ✓

58.3 316° 15' ✓

51.0 312° 30' ✓

47.9 308° ✓

Rod 682

1510

74.9 307° 15' ✓

72.5 309° 45' ✓

66.9 309° 30' ✓

62.3 313° ✓

61.9 315° ✓

59.7 315° ✓

58.3 316° 15' ✓

51.0 312° 30' ✓

47.9 308° ✓

M=19.69

At 56-331-70 Sight 52-33170
 for zero 42 Right

47

52-328

413

1519.69

1515.56

Concrete outline

293 -

0°-45' ✓

R 5.1

1514.6

243 -

354° ✓

46

15.1

22.1

354-30 ✓

45

15.2

20.3

346- ✓

42

15.5

18.4

349 ✓

44

15.3

16.6

336-45 ✓

40

15.7

13.9

337-45 ✓

43

15.4

12.6

308-45 ✓

39

15.8

6.3

277 ✓

45

15.2

6.5

213 ✓

5.3

14.4

13.8

179-15 ✓

5.2

14.5

20.0

178 ✓

5.5

14.2

24.0

180-30 ✓

6.6

13.1

28.5

172-45 ✓

7.2

12.5

40.2

168-30 ✓

8.8

10.9

Contour 1515

Platted
 Oct 11 1921
 J. R. R.

Rod 469

1515

51

169-15 ✓

1515

20.2

177-30 ✓

"

45

169-30 ✓

"

17.1

181-30 ✓

"

41.5

171-15 ✓

"

15.1

179-30 ✓

"

39.7

169-30 ✓

"

12.0

186-40 ✓

"

33.9

173-15 ✓

"

7.6

208-30 ✓

"

32.5

172-10 ✓

"

5.0

245-30 ✓

"

29.7

176-30 ✓

"

7.2

291-15 ✓

"

24.3

180-35 ✓

"

18.7

307-35 Corner ✓

Oct 12, 1921 Divide Wall and 1515 Contour
 Bub
 mixer at 52-33170 Sight 52 line
 1 North for zero Az Pt
 April Pt 10348 75°19' ✓ 591 1514.23
 52-328 458 1520.14 1515.56
 Gr Divide Wall
 52-33170 1539.637 449 1515.65

H1-443
 H1-151866 At Auxil Pt A Set from 52-33170 Sight
 52-33170 for 00 Az Pt
 Auxil Pt A 443 1518.66 1514.23
 Rd 366

Contour 1515 22.1 320-45 ✓
 " 19.5 315-45 ✓
 " 11.6 309-05 ✓
 " 10.3 290-0 ✓
 " 7.5 281-45 ✓
 " 2.9 197-30 ✓
 " 5.0 89-0 ✓
 " 10.3 55-15 ✓

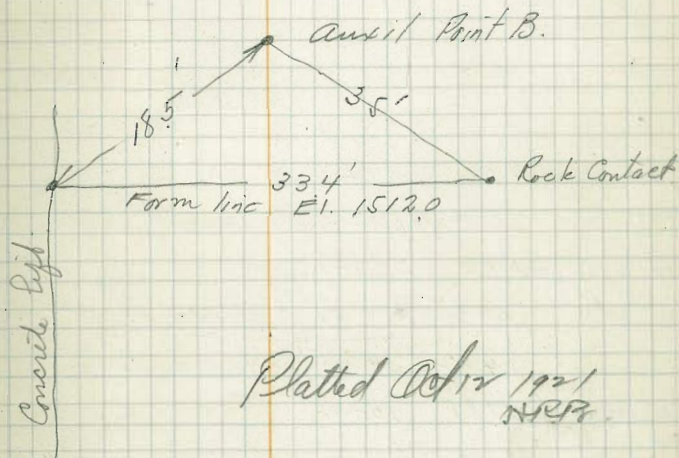
Concrete 137 67-10 ✓
 Auxil Point B 10.42 71°22' ✓ 2.74 1515.92
 T.B.M. on Concrete Wall near Auxil B 2.23 1516.44

Platted
 Oct 12, 1921
 HRP

48

1515.65
 3.02
 1518.67

End of Divide Wall Lt Abutment =
 52-319.9



Platted Oct 12, 1921
 HRP

Oct 15 1921
 Bub
 Minto

Upstream points
 Set 179412 = form
 179315

178315
 177315
 176315
 175315
 174219 = Form

18-44²³ 1308 1560.65 : 1547.57

Top Form 228 58.37
 " " 232 58.33
 " " 223 58.35

Nail in whole front face of joint 356 1557.09

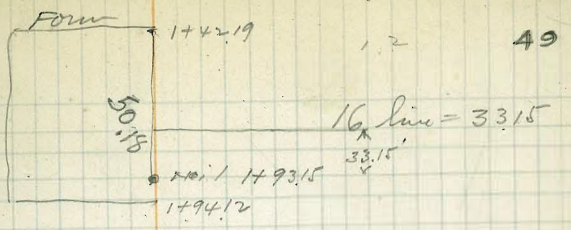
At 179315 sight line west angles to left.

Cov. offset joint 94 86°-45'
 Cov joint 41.25 87°-35' Average elev 1554
 " 64.72 89°-15' Average elev 1555
 End Gallery 5781 10°-46'

El. End Gallery Rt Abut Oct 15 21

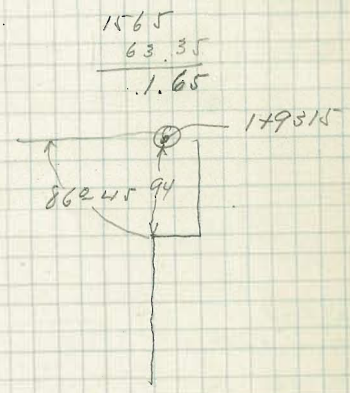
610 1563.19 1557.09

El End Gallery Oct 15-1921 7.05 1563.24

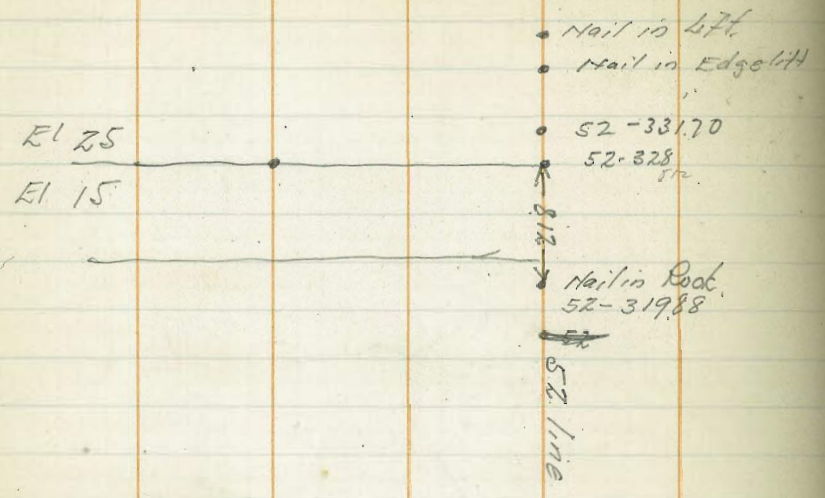


1.4
 .9

10.5
 1565
 58.35
 0.65
 Average 58.35 + 5 = 63.35
 TRM.



Divide Wall



10/10/21
Byron-Pub

			e/e	Grade
44-258	6.63	1519.78		1513.15
52-328			4.22	1515.56 1534.90
52-319.88			2.72	1517.06 1524.17
52-33170			4.13	1515.65 1518.65 1539.64

Fill = $19' 4 \frac{1}{8}''$
 $v = 7' 1 \frac{3}{8}''$
 $F = 24' = 2 \frac{1}{2}' \text{ out.}$

Bub
Mitter Oct 18-21

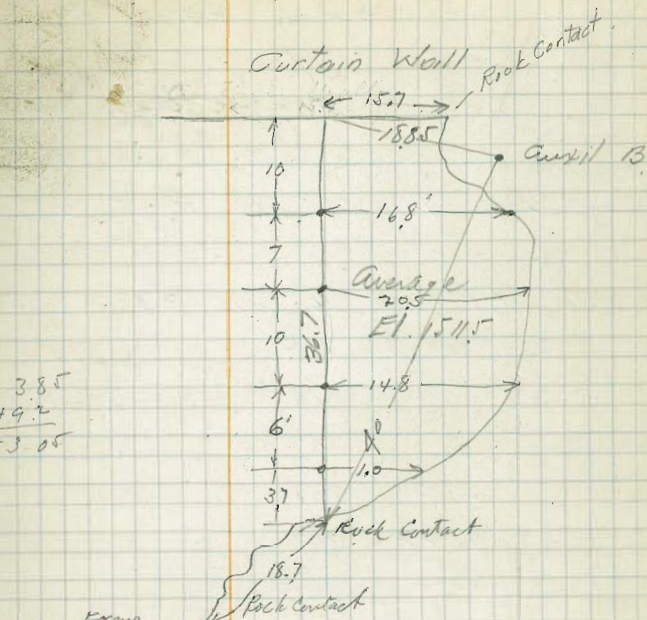
Champhor Strip Block 142-144

	764	1564.73	1557.09	
			+0.27	1565.00
C18-488			3.67	61.06
3m Nail in oak Strip	0.65	7359		1572.94
Hub C18-488	369	64.78	1250	61.09
			+0.22	1565.00

Champhor Strip Lt Abut

46-250	985	1529.93	1520.08	
			4.93	1525.00

385
492
5305



Plotted
10/18/21
2503

10/18/21

Bob
Mittler

Final Topog Lt About

Set on 50-295⁹⁵ Sight 50-400
for angle left to nail in 1525 left

Nail in 1525 left 37.91 190.41' Point a

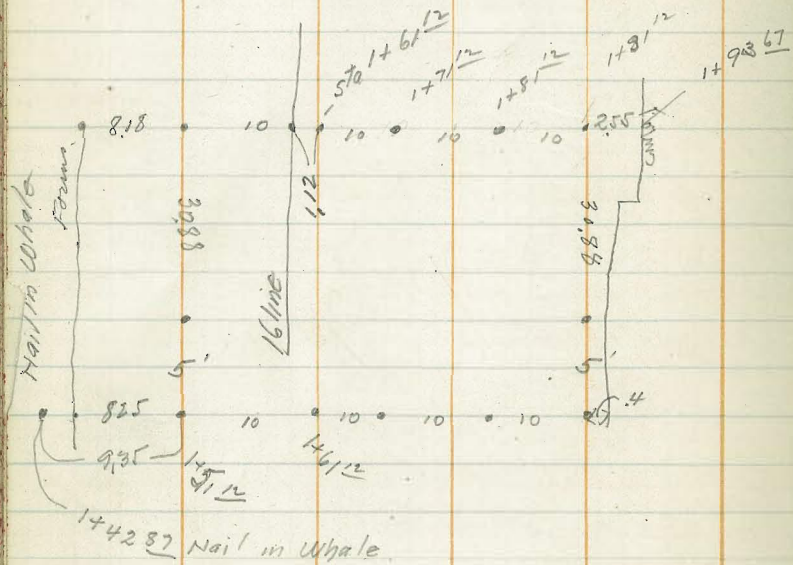
At 29.95 At Point a Sight 50-295⁹⁵ for
Zero Az Rt.

		495	1529.95	1525.00
Cont 1520	37	309°	✓	
Red 9.95	37.3	304	✓	
"	41.2	303	✓	
"	41.2	301-15	✓	
"	43.3	302	✓	
"	49.0	294	✓	Platted 10/18/21 24.258
"	55.7	298	✓	
"	58.8	296-45	✓	
"	62.5	300	✓	
"	71.0	295	✓	
"	74.8	294-15	✓	
"	77.5	293-45	✓	
"	86.8	290-45	✓	
"	92.1	291.15	✓	
"	94.0	290-30	✓	
"	97.8	290-N	✓	

10/22/21
 Bub
 Mixer

Upstream Points Block 1+42-1+94

Set Point on 397 Radius on O+20 line
 sight R.P. 397 across canyon for
 alignment.



C 18-488700

9.19

70.28

1561.09

5.38

1565.00

10/24/21

Bryson
FisherD. S.F. Elev. 1555-1565.
BK 3+81.5 to 4+36-At C 44 Sight C 28 for 11°-28' Turn
90° Chain 41.2 Set nail = 44-358.8At 44-358.8 Sight C. 44 for 90°-
Turn -

10	0-48
20	1-36
30	2-24
40	3-12
51	4-04

10/24/21

Up stream face Pts.
BK- 3+81.5 - 4+36-

At C 44 Sight C 28 for 11°-28' Turn

10'	0'-43
20'	1'-26
30	2'-08'
40	2'-51
50	3'-34'
58'	4'-10'

Champer Strip.	4.74	1559.74	1555.00
----------------	------	---------	---------

Average Elev of Lift	6.30	1553.44	
----------------------	------	---------	--

1557.4

0.66

Dist out.

10/25/21

Bryson
Fisher

U. S. F. Elev. 1545-1555

Radius 351.10

BK 3+27^m — 3+81.50

At C 34 Sight R.P. East — Turn

Chain south 48.9. Set nail =

34 - 351.10 -

$$\begin{array}{r} 48.96 \\ 11.26 \\ \hline 37.64 \end{array}$$

At 24 - 351.10 Sight C 34 for 90°

90° turn

10

0-49'

Wall - 37.7

20

1-38

04.89
77

30 = 2° 27'

30

2-27

34.23
34.23

7.7

37.65

272

3-16

37.53

3° 05'

50

7-35

60

7-54

U. S. Face Pts. - BK - 2+18^m - 2+72.5

405

1559.05

1555.00

Dist out

0.68

1558.37

1558.4 =

0.66

0.68

1558.37

0.50

1558.55

10/27/21
Fisher
Mixer.

Reservoir Gauge -

70.8

57

Old gauge

9.30 1501.30 11.00 = 1497.00

400.15

7.3 63.5 ✓

New Gauge

8.30 1493.00

397

7.0 63.8 ✓

Bottom of Gauge =

1493.00

384

6.2 64.6 ✓

Elev. water - 10/27/21

2.15 1495.15

380

5.6 65.2 ✓

Sections - 1742² - 1799¹²

376

5.8 65.0 ✓

10/27/21
Fisher
Mixer
400.15

5.76 1570.76

1565.00

371

4.9 65.9 ✓

1742.5

7.3 63.5 ✓

368

5.7 65.1 ✓

397

7.2 63.6 ✓

358

5.8 65.0 ✓

389

6.5 64.3 ✓

400.15

7.4 63.4 ✓

381

5.1 65.7 ✓

397

7.0 63.8 ✓

373

5.1 65.7 ✓

393

7.3 63.5 ✓

368

5.6 65.2 ✓

386

5.6 65.2 ✓

358

5.8 65.0 ✓

376

6.6 64.2 ✓

1750

366

5.6 65.2 ✓

400.15

7.3 63.5 ✓

358

5.8 65.0 ✓

397

7.2 63.6 ✓

400.15

1450

7.4 63.4 ✓

391

7.0 63.8 ✓

392

7.3 63.5 ✓

378

5.1 65.7 ✓

390

6.6 64.2 ✓

370

5.6 65.2 ✓

384

6.1 64.7 ✓

358

5.8 65.0 ✓

377

5.6 65.2 ✓

367

5.7 65.1 ✓

358

5.8 65.0 ✓

Platted

Platted

708.
Form 1492

40015	74	6341
397	73	6351
386	70	6381
381	50	6581
370	5.6	6521
361.6	5.8	65001

Platted

Fisher
Mixer.

10/27/21

366¹² radius

At 1+51.12 Chain West 25.65

set nail = 1+25.47-366¹² Radius

At 1+25.47 Sight at 1+51.12 for
Zero Az Right.

Outline of concrete -

champion
strip

6.3	1561.3	1555.00
18.2	26-15 ✓	
10.6	224-36 ✓	5.1 562
12.4	246-15 ✓	5.1 582
12.5	255-30 ✓	5.1 58.2
14.9	256-0 ✓	4.9 56.4
17.3	284-0 ✓	5.4 55.9
11.0	287-30 ✓	5.7 55.6
22.1	287-30 ✓	6.1 55.2
34.1	278-0 ✓	7.4 53.9
37.7	283-0 ✓	7.4 53.9
		7.1 54.2

10/31/21
Fisher
Mixer.

3727 - 3815

58

Upstream face

At C 40 Sight C 28 for 8-36' - Turn
5.16 60.2 1555

7.93	0-43	
19.85	1-26	6.6
29.78	2-09	
39.70	2-52	6.6
49.63	3-35	
59.55	4-18	6.6 6.6 53.6
69.48	5-01	58.6

3727-3815 Downstream Face Pts

At 40-397 Sight 28-397 for 8-36'

turn 90° - Chain 382 for 40-358.8

At 40-358.8 Sight 40-397 for 90
Turn

15.2	1-13	
25.2	2-00 ✓	
35.2	2-48 ✓	46.2
45.2	3-36 ✓	
55.2	4-24 ✓	
65.2	5-12 ✓	

10/29/21

Fisher

Mixer

BIK - 2+06± to 2+72.5

Upstream face Pts

At C28 - Sight RP East - 397 P.M.

Chain West -

Nail in whale

7.28

11.91

20

30

40

50

60

70

80

1563±

Dustout

3.16

BIK 3+27± to 3+81.50

Chamber Strip

10/30-31

Fisher

1+99 ±

353 ± Radio

4.88 59.92

155504

4.92 1555.02

10/29/21
Fisher
Mixer

397 Radms - 28 line - East
to 30 line

At 28-397 Sight West Tangent R.P.
East for Zero - Turn

Nail	30	
19.85		10-26
Nail	32	
39.70		2-52
Nail	34	
59.55		4-18
	36	
79.40		5-44 ✓
	38	
99.25		7-10 ✓
	40	
119.10		8-36 ✓
	42	
138.95		10-02 ✓
	44	
158.80		11-25 ✓
	46	
178.65		12-53
	48	
198.50		1A-19

60

At 48-397 Sight 28-397 for

14°-19' - Turn -

19.85 - 1°-26'

Chain Distance = 19.83 =

Line missed nail to the north - 0.04 -

Chamber Strip -

BK - 1494 - 2472.50

H.S.
18-488.00

499

66.10

1561.11

1.10

1565.0

10/31/21
Fisher
Mixer

Excavation Estimate
East Tangent

	6.30	1549.30		1549.00
TP			0.20	1549.10
	0.40	1437.60	12.1	37.20
40 = 0	62 Line			
26?			6.2	29.41
28			8.7	28.91
28			17.0	20.61
TP	00	35.7	11.8	25.8
33			11.2	14.61
47			11.0	14.81
55			5.5	20.31
60			5.0	20.81
67				35.81
	- 64 - Line			
	0.60	37.80		37.20
19			2.0	35.51
25			12.0	25.81
32			10.0	27.81
41			11.3	26.51
57			00	37.81

Platted

66 Line

7.0	56.10		49.10
		3.6	52.51
		11.6	44.51
		17.6	38.51
		16.5	39.61
		10.0	46.11
		7.0	48.11

Excavation Est - West Tangent

DATA 409.78	0.4	1595.9		1595.49
			5.8	90.1
	1.2	84.8	12.3	83.6
			7.0	77.8
	5.4	1570.4		1565.00
387			4.2	66.21
387			6.0	64.41
383			2.5	60.91
379			11.5	58.91
372			9.6	60.81
359			7.2	63.21
357			7.2	63.21
352			3.0	67.41
352			3.0	67.41
334				

Platted

10/31/21
Fisher
Mixer
Chamber
Strip

Concrete Estimate —
Curtain Wall — 00

28.4

62

54 Line

3.4	28.4	1525.00	00
50	115		
00		3.6	24.81
13		3.2	25.21
23		2.1	26.31
30		2.1	26.31
38		3.3	25.11
42.5		3.3	25.11
505.			25.01

50

+ 42.5

00		5.2	23.21
8		3.8	24.61
16		3.9	24.51
29		2.6	25.91
34		3.2	25.21
41.4		3.3	25.11
49.4			25.01

52

Platted
11/2/21

00		5.4	23.01
7		4.4	24.01
15		3.2	25.21
17		3.5	24.91
27		2.4	26.01
36		2.6	25.81
41.6		3.3	25.11
47.7			25.51

00

3

6

15

21

29

35

40.9

Platted
11/2/21

56

58

4.3	24.11
4.0	24.41
4.1	24.31
3.3	25.11
2.8	25.61
2.8	25.61
3.3	25.11
3.3	25.11

5.5	22.91
4.9	23.51
4.7	23.71
3.5	24.91
5.9	22.51
5.6	22.81

10.5	17.91
10.6	17.81
9.8	18.61
10.2	18.21
9.7	18.71
11.1	17.31
9.8	18.61
10.4	18.01
12.6	15.8

Top of Form

+ 15

11/1/21
Fisher
Miller
Chamber
Strip

B/K.1+99 - 2+725

	12	1566.20	1565.00
		-62	1794
Form	↑		
00		2.9	63.31
13		2.3	63.91
20		3.9	62.31
28	2.7	3.2	63.01
35		2.6	63.61
41.4	↓	3.1	63.11
			2+00
Form			
00		2.8	63.41
10		2.5	63.71
17		2.2	64.01
20		3.0	63.21
26		2.8	63.41
30		3.3	62.91
41.4		3.3	62.91
			2.2+00
00		2.6	63.61
10		2.4	63.81
16		3.2	63.01
26		3.0	63.21
33		2.6	63.61
41.4		3.5	62.71

Platted 11/1/21

1566.2

63

2+40

00	56	60.21
7	47	61.51
23 23	56	60.61
36	52	61.01
39	57	60.51
41.4		
		26+00
00	↑	
8		
16		
28		
41.4		
		2+72.5
00	7.8	58.41
7	7.0	59.21
14	6.0	60.21
21	5.6	60.61
28	5.3	60.91
35	6.0	60.21
41.4	6.2	60.01

Platted 11/1/21

11/1/21
Fisher
Mixer

2 + 725
0.4 1555.4 1555.00

Form - 00

0	6.8	48.61
10	5.6	49.81
15	5.2	50.21
15	6.2	49.21
25	7.5	48.41
33	7.1	48.31
38	6.2	49.41
43	6.6	48.81
50.5	5.4	50.01
00	7.0	48.41
11	4.3	51.11
15	4.8	50.61
23	2.7	52.71
38	2.7	52.71
46	3.9	51.51
50.5	5.0	50.41

28 + 00

30 + 00

00	7.2	48.21
15	4.9	50.51
15	7.0	48.41
28	5.7	49.71
35	5.4	50.01

1555.4

64

3 + 00

6.0	49.41
6.5	48.91

32 + 00

↑

6.7

7.0	48.41
6.0	49.41
5.0	50.41
3.8	51.61
4.0	51.41
5.0	50.41

3 + 27

6.8	48.61
6.5	48.91
5.4	50.01
3.6	51.81
3.7	51.71
4.7	50.71

Platted
11/1/21

11/2/21
 Fisher
 Mixer
 Churner
 Strip

Concrete Sections

B/K 3+27 - to 4+36

5.1
 6.7 1560.1

1555.0

+

00	7.0	53.1 ✓
3.9	6.5	53.6 ✓
4.3		
8	6.1	54.0 ✓
15	4.2	55.9 ✓
25	3.2	56.9 ✓
35	4.6	55.5 ✓
41	5.0	55.1 ✓
49.9	5.1	55.0 ✓

34

00	6.4	53.7 ✓
4.2	6.3	53.8 ✓
7	6.2	53.9 ✓
14	3.9	56.2 ✓
20	4.2	55.9 ✓
28	3.6	56.5 ✓
40	5.0	55.1 ✓
49.9	5.1	55.0 ✓

36

00	4.5	53.6 ✓
6	6.2	53.9 ✓
19	3.9	56.2 ✓
23	3.3	56.8 ✓
28	3.3	56.8 ✓
40	4.8	55.3 ✓
49.9	5.1	55.0 ✓

Platted
 11/2/21

38 1560.1

65

00	6.5	53.6 ✓
8	6.0	54.1 ✓
16	4.4	55.7 ✓
29	4.4	55.7 ✓
42	4.9	55.2 ✓
49.9	5.1	55.0 ✓

40

00	6.8	53.3 ✓
6	6.0	54.1 ✓
14	4.6	55.5 ✓
22	4.0	56.1 ✓
27	4.1	56.0 ✓
30	4.0	56.1 ✓
34	4.5	55.6 ✓
39	4.5	55.6 ✓
42	5.0	55.1 ✓
49.9	5.1	55.0 ✓

42

00	6.7	53.4 ✓
12	5.7	54.4 ✓
15	5.7	54.4 ✓
19	4.9	55.2 ✓
22	5.3	55.8 ✓
35	4.4	55.7 ✓
40	5.0	55.1 ✓
49.9	5.1	55.0 ✓

601
Toilet
4736

00	6.9	53.21
13	6.7	53.41
26	5.2	54.91
39	4.8	55.31
49.9	5.1	55.01

4736

antenna
wall 00

00	6.3	53.81
13	5.0	55.11
21	4.6	55.51
27	5.0	55.11
34.4	5.1	55.01

44

00	6.6	53.51
7	5.9	54.21
13	4.6	55.51
26.9	5.0	55.11
34.6	5.1	55.01

46

00	7.4	52.71
16	5.3	54.81
26.8	5.0	55.11
34.5	5.1	55.01

Platted
11/2/21

601

66

48

00	5.4	54.61
13	4.7	55.41
22	4.6	55.51
27.2	5.0	55.11
34.7	5.1	55.01

48 + 86.5

00	5.1	55.01
10	5.1	55.01
16	4.7	55.41
27	5.0	55.11
34.7	5.1	55.01

Platted
11/2/21

11/2/21

Fisher
Mixer.

Top of Form Outlet Gallery

18-48600

2.51 63.62

15.61.11

outside form

6.79 56.83

inside form

7.12 56.50

Elevations of Coordinate +

Reference Points.

-BARRETT DATUM.-

Harris B.M. Iron Pin set in rock 40' South Comayor ⁴²	1626.33
Nail in rock 30' North of 3+00 (Cableway west)	1764.33
End of P Line above Quarry Road - Hub	1751.67
6-470 ⁶⁵ Hub	1615.38
8-450 Hub	1601.89
10-350 Hub	1576.97
10-446 ⁵⁸ End of steel pipe Sewer Joint	1597.77
12-330 - B.M. Nail in Stump.	1570.96
12-426 ³² Nail in Rock	1567.34
12-437 ⁰⁰ Nail in rock	1588.39
12-455 ⁷⁹ Nail in rock	1587.34
12-502 ⁰⁹ Nail in rock	1600.83
14-417 ⁹² + on rock	1575.02
14-436 ²⁸ + on rock	1574.94
14-455 ⁷⁹ Hub	1577.19
14-495 ¹⁰ Nail in rock	1588.91
16-446 ¹⁷ Nail in rock	1567.82
16-468 ⁰⁰ BM Nail in Stump	1572.94
16-490 ⁰⁹ Nail in rock	1577.99
18-438 ⁰⁹ Hub	1559.12
18-470-75 Nail in rock	1561.57
18-488 ⁰⁰ Hub	1561.11
18-502 ¹⁷ Nail in rock	1564.95
0+20 ⁰⁵ & Tunnel Outlet Tower	1541.11

S.W. Cor. Outlet Tower - Fillet	1524.18
N.W. Cor. Outlet Tower - Fillet	1524.30
Top of Nail 7+70	1548.85
1+99.43 - 353 ¹⁰ RADIUS Nail in Lift	1555.04
1+85 ⁶² 353 ¹⁰ " Nail in Lift	1555.01
1+97 ²⁹ 345 ⁴⁰ " " " "	1545.06
1+83.93 345 ⁴⁰ " " " "	1545.07
1+97 ¹⁹ 337 ⁷⁰ " " " "	1535.02
1+81.55 337 ⁷⁰ " " " "	1535.05
34-382 ³⁶ Nail in 4 th Lift Curtain Wall	1529.79
34-375.28 " " 3 rd " " "	1508.88
34-369 ⁵⁸ " " 2 nd " " "	1498.59
34-363.51 " " 1 st " " "	1488.79
34-274.14 + on rock	1467.17
Nail in Top of Stringer supporting Hopper Tower #2	1479.56
Nail in rock Right Abut. (about 24-250)	1464.85
Top of Plumb rock 2 nd Lift of Dam	1472.91
38-250	1491.69
40-250	1496.43
42-250	1507.27
44-250	1513.15
46-250	1520.08
48-250	1526.32
50-250	1526.80
52-250	1538.45
60-250	1568.29

60-275	Hub	1567.83	68-450	Nail in rock	1617.52
62-275	Hub	1579.76	70-450	Hub	1624.06
64-275	Hub	1588.57	64-428.92	Hub	1586.06
66-275	Hub	1600.51	66-429.86	Hub	1595.41
68-275	Hub	1614.90	68-411.26		1600.60
70-275	Hub	1622.83	BM Hub + Witness about C 7+60		1649.86
72-275	Hub	1633.37	72-322.78	Hub	
60-310	Hub	1571.58			
56-325	Hub	1553.95			
58-325	Hub	1562.11			
62-325	Hub	1582.64			
64-325	Hub	1591.63			
66-325	Hub	1602.66			
68-325	Hub	1612.60			
70-325	Hub	1623.08			
72-325	Hub	1633.56			
66-360	Hub	1598.55			
68-360	Hub	1607.89			
56-450	Hub	1550.30			
58-450	Hub	1559.50			
64-450	Nail in rock	1588.48			
66-45	Nail top of rock	1603.39			

"D" Line Reference Points.

0+20-371²⁵ Nail in Post Landing Platform
 0+20-425²³ Iron pin under Blacksmith shop. 1626.95
 D-0+40 HUB
 D 0+60-317²⁶ HUB.
 D-0+60 418-9²² HUB 1608.14
 D 0+08 Nail in rock
 D 1+00
 D 1+00-307⁴⁹ HUB.
 D 1+00-409⁷⁸ 1595.49
 D 1+00 - R.P. on rock (North)
 D 1+36 58
 D 1+36 58 - 31270 HUB?
 D 1+36 58 - 412.16 1573.21
 D 1+36 58 - R.P. on rock North.
 D 1+80-306⁵⁵ HUB
 D 1+80 - 414²³ HUB 1547.57
 D-1+20 903⁶⁷ 1581.28
~~D-16-468 1572.71~~
 D-16-414²³ 1557.00
 1+20 335²⁰ 1572.30

69

Radius 351.10

$$\begin{array}{r} 8^{\circ} 58' 53 \\ 48' 93 \\ \hline 89^{\circ} 07' 48 \\ 90^{\circ} 47' 48 \\ \hline 4.9957 \\ 351.1 \overline{) 1718870} \\ \underline{14044} \\ 31447 \\ \underline{28088} \\ 33590 \\ 04.8957 \overline{) 31599} \\ \underline{391656} \\ 19910 \\ 08.45 \overline{) 17555} \\ \underline{4161} \\ 23550 \end{array}$$

$$\begin{array}{r} 35881 \overline{) 1718870} \\ \underline{35881} \\ 1718870 \\ \underline{14044} \\ 31447 \\ \underline{28088} \\ 33590 \\ 04.8957 \overline{) 31599} \\ \underline{391656} \\ 19910 \\ 08.45 \overline{) 17555} \\ \underline{4161} \\ 23550 \end{array}$$

$$\begin{array}{r} 9^{\circ} 47' 48 \\ 48' 93 \\ \hline 9^{\circ} 09' 43 \\ 8^{\circ} 09' 57 \\ 48' 96 \\ \hline 8^{\circ} 58' 53 \\ 48' 96 \\ \hline 49 \\ 9^{\circ} 47' 48 \\ 41.61 \\ \hline 9^{\circ} 89' 09 \text{ From } 34 \end{array}$$

$$\begin{array}{r} 50 = 4^{\circ} 04' 78.35 \\ 5 = 24' 48 \\ \hline 55 = 4^{\circ} 29' 26 \\ 226.87 \\ \hline 85 = 6^{\circ} 55' 43 \\ 70 = 7^{\circ} 20' 61 \\ \hline 100 = 8^{\circ} 09' 57 \\ 110 = 8^{\circ} 58' 53 \\ 120 = 9^{\circ} 47' 48 \\ 128.5 = 10^{\circ} 29' \end{array}$$

From 34
 9/24/20

$$\begin{array}{r} 64.89 \\ 46 \\ \hline 2934 \\ 19516 \\ \hline 22494 \end{array}$$

$$\begin{array}{r} 20 = 1^{\circ} 38' \\ 40 = 3^{\circ} 16' \\ 50 = 4^{\circ} 05' \\ 60 = 4^{\circ} 57' \\ 70 = 5^{\circ} 04.31 \\ 80 = 6^{\circ} 32' \\ 84.6 = 6^{\circ} 54' \end{array}$$

Radius 353.10

$$\begin{array}{r} 1 = 0-04.8679 \\ 10 = 0 48.679 \\ 20 = 1-37.358 \\ 30 = 2-26.037 \\ 40 = 3-14.716 \\ 50 = 4-03.395 \end{array}$$

01

35880 Radius

10/24

$$\begin{array}{r} 4.7906 \\ 3588 \overline{) 1718.87000} \\ \underline{14352} \\ 28367 \\ \underline{25116} \\ 32510 \\ \underline{32292} \\ 21800 \\ \underline{21528} \\ 272 \end{array}$$

$$\begin{array}{r} 50 = 359.53 \\ 479 \\ \hline 400432 \end{array}$$

From CA4 West

10' = 48'
 20' = 1°36'
 30' = 2°24'
 40' = 3°12'
 50' = 4°04' ✓

$$\begin{array}{r} 4.79 \\ \hline 14.37 \end{array}$$

3-11.62

$$\begin{array}{r} 3-59.53 \\ 4.79 \\ \hline 4.0432 \end{array}$$

1	0 - 4.7906
5	0 - 23.953
10	0 - 47.906
20	1 - 35.812
30	2 - 23.718
40	3 - 11.624
50	3 - 59.530
60	4 - 47.436
70	5 - 35.342
80	6 - 23.248
90	7 - 11.154
100	7 - 59.060

70

$$\begin{array}{l} 360 \\ \swarrow \\ \searrow \end{array}$$

DIRECTIONS FOR USE OF TABLES
 TABLE No. 1.
 Distance of slope stake 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 both columns is the distance from the stake to the center of the road.
 Read Inside Vermin At Pt.
IMPROVED TABLES
 AND
INFORMATION
 R/1716.57

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 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.

$$\begin{array}{r} 1561 \frac{11}{2} \\ \underline{967} \\ 157078 \end{array}$$

771

$$\begin{array}{r} 13 \\ 27 \\ \hline 42 \end{array}$$
$$\begin{array}{r} 1796.02 \\ \underline{40} \\ 50 \end{array}$$
$$\begin{array}{r} 24 \\ \underline{23} \\ 67 \end{array}$$

17.17

$$\begin{array}{r} 3588 \\ \underline{77} \\ 366.5 \end{array}$$