

Table showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.

| MINUTES | LKS. | MINUTES | LKS. | MINUTES | LKS. |
|---------|--------|---------|--------|---------|---------|
| 1 | 2 1/3 | 21 | 49 | 41 | 95 2/3 |
| 2 | 4 2/3 | 22 | 51 1/3 | 42 | 98 |
| 3 | 7 | 23 | 53 2/3 | 43 | 100 1/3 |
| 4 | 9 1/3 | 24 | 56 | 44 | 102 2/3 |
| 5 | 11 2/3 | 25 | 58 1/3 | 45 | 105 |
| 6 | 14 | 26 | 60 2/3 | 46 | 107 1/3 |
| 7 | 16 1/3 | 27 | 63 | 47 | 109 2/3 |
| 8 | 18 2/3 | 28 | 65 1/3 | 48 | 112 |
| 9 | 21 | 29 | 67 2/3 | 49 | 114 1/3 |
| 10 | 23 1/3 | 30 | 70 | 50 | 116 2/3 |
| 11 | 25 2/3 | 31 | 72 1/3 | 51 | 119 |
| 12 | 28 | 32 | 74 2/3 | 52 | 121 1/3 |
| 13 | 30 1/3 | 33 | 77 | 53 | 123 2/3 |
| 14 | 32 2/3 | 34 | 79 1/3 | 54 | 126 |
| 15 | 35 | 35 | 81 2/3 | 55 | 128 1/3 |
| 16 | 37 1/3 | 36 | 84 | 56 | 130 2/3 |
| 17 | 39 2/3 | 37 | 86 1/3 | 57 | 133 |
| 18 | 42 | 38 | 88 2/3 | 58 | 135 1/3 |
| 19 | 44 1/3 | 39 | 91 | 59 | 137 2/3 |
| 20 | 46 2/3 | 40 | 93 1/3 | 60 | 140 |

MICROFILMED

JAN 6 1965

TABLE FOR RUNNING ON SLOPES.

In the following table the first column shows the angle, the second the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

| COR. IN LINKS | Angle | COR. IN LINKS | Angle | COR. IN LINKS | Angle | COR. IN LINKS |
|---------------|-------|---------------|-------|---------------|-------|---------------|
| 0 | 0 | 18 | 0 | 25 | 0 | 10.54 |
| 11 | 1.88 | 19 | 5.14 | 26 | 10.54 | |
| 2 | 2.24 | 20 | 5.76 | 27 | 11.26 | |
| | 2.63 | 21 | 6.42 | 28 | 12.24 | |
| | 3.06 | 22 | 7.11 | 29 | 13.37 | |
| | 3.53 | 23 | 7.85 | 30 | 14.34 | |
| | 4.02 | 24 | 8.64 | 31 | 15.47 | |
| | 4.56 | | 9.47 | 35 | 22.07 | |

Corrected to 10 Hrs
 Cray's old line Course Road
 Give goods -
 Run line to dam

6 x 8 x 10

5 x 7 x 17 = 640
 32
 12
 640
 29 1/2
 29 1/2
 29 1/2

\$1000
 56
 29 1/2
 41 2
 32 7 1/2
 7.33
 7.39
 7.33

Index

Tunnel Grades & Lengths
Progress Notes

~~_____~~
~~_____~~
~~_____~~
~~_____~~
~~_____~~

3
76
16

926
2756

1276
16

~~_____~~
~~_____~~
fence
Tunnels
Cottonwood Camp

35
10

45
50

100
10

110

Goodby camp
~~_____~~
Indygo

20
102

122
1262

1384

76
16

92
264

356
422

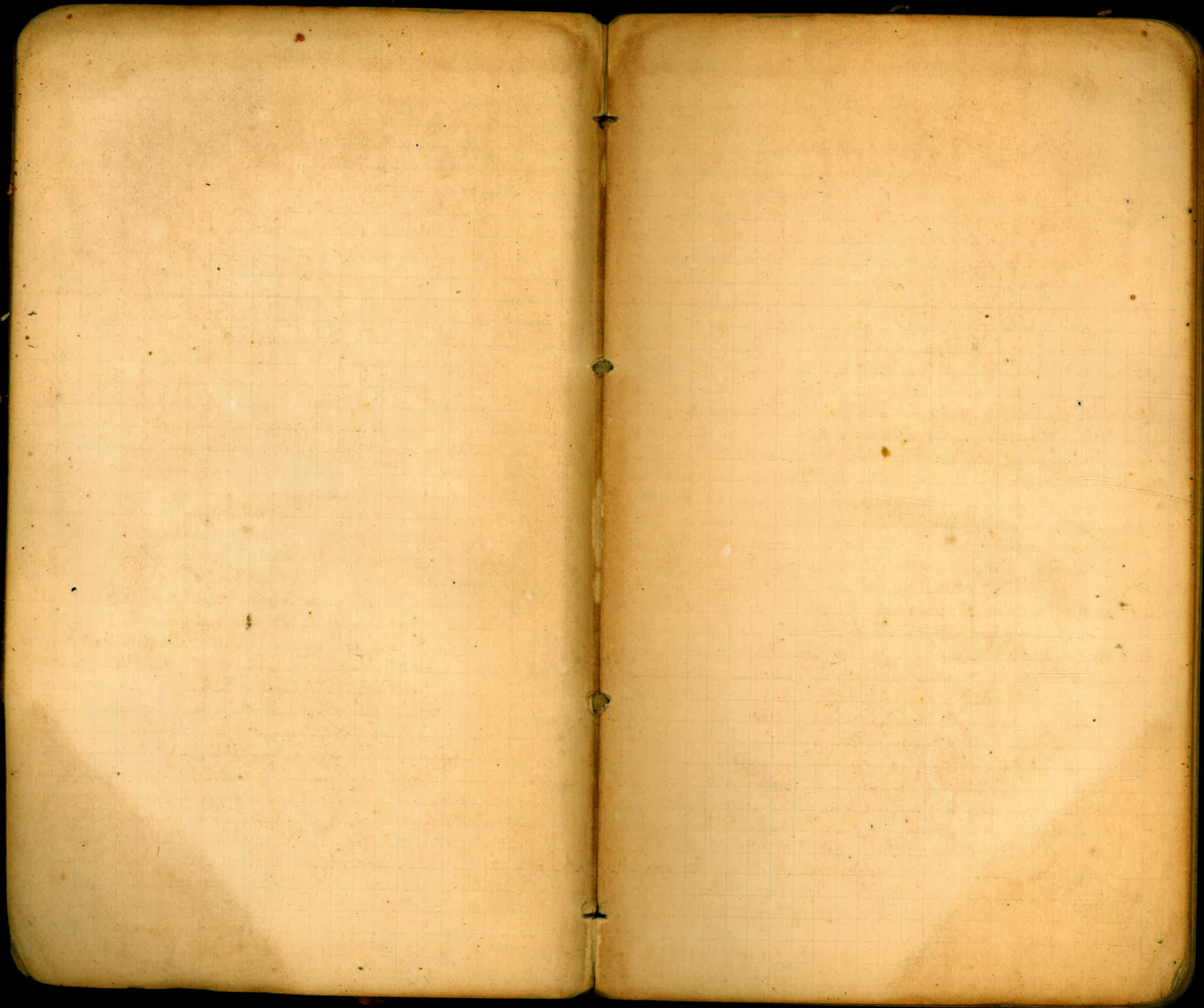
778
1584

5908
462

6370
1215

7585
808

7608



Flume across Lautubach Creek ends
sta. 130+00

Flume begins sta. 149+50 and runs
to sta 1 — into tunnel. Tunnel
exit at sta 147+94.

Flume begins at sta 166+30 —
and ends at sta. 168+08.

O'Byrne partly finished bench to 176+45

Flume ends - sta 341+14 and begins
at sta.

2.

The Sta. Nos. are those obtained
by chaining over hill

125+73

#3. Entr. face Sta. 225+52
Exit face sta. 244+49
N. $37\frac{1}{2}^\circ$ E (mag.)

3.

Tunnel Grades and Lengths.

Tunnel #1. Length =

Entrance grade stake set 1'
from Face. Grade = 1493.67

Exit grade stake set 2'-6" from
face. Grade = 1492.56

TUNNEL No. 2 Length = 338'

Entr. Grade stake set
from Face. Grade =

Exit Grade stake set
from Face. Grade =

TUNNEL #3. Length = 1897.'

Entr. Grade stake set 5'-6"
from Face. Grade = 1484.53

Exit Grade stake set
from Face. Grade = 1483.06

TUNNEL No. 4. Length =

Entrance Grade stake
from Face. Grade = ^{1481.65 in cut.} 1481.35

Exit Grade stake set 2'-0"
from face. Grade = 1480.07

Exit face sta. 288+04

Entr. face sta. 26

N. 39° E. (mag.)

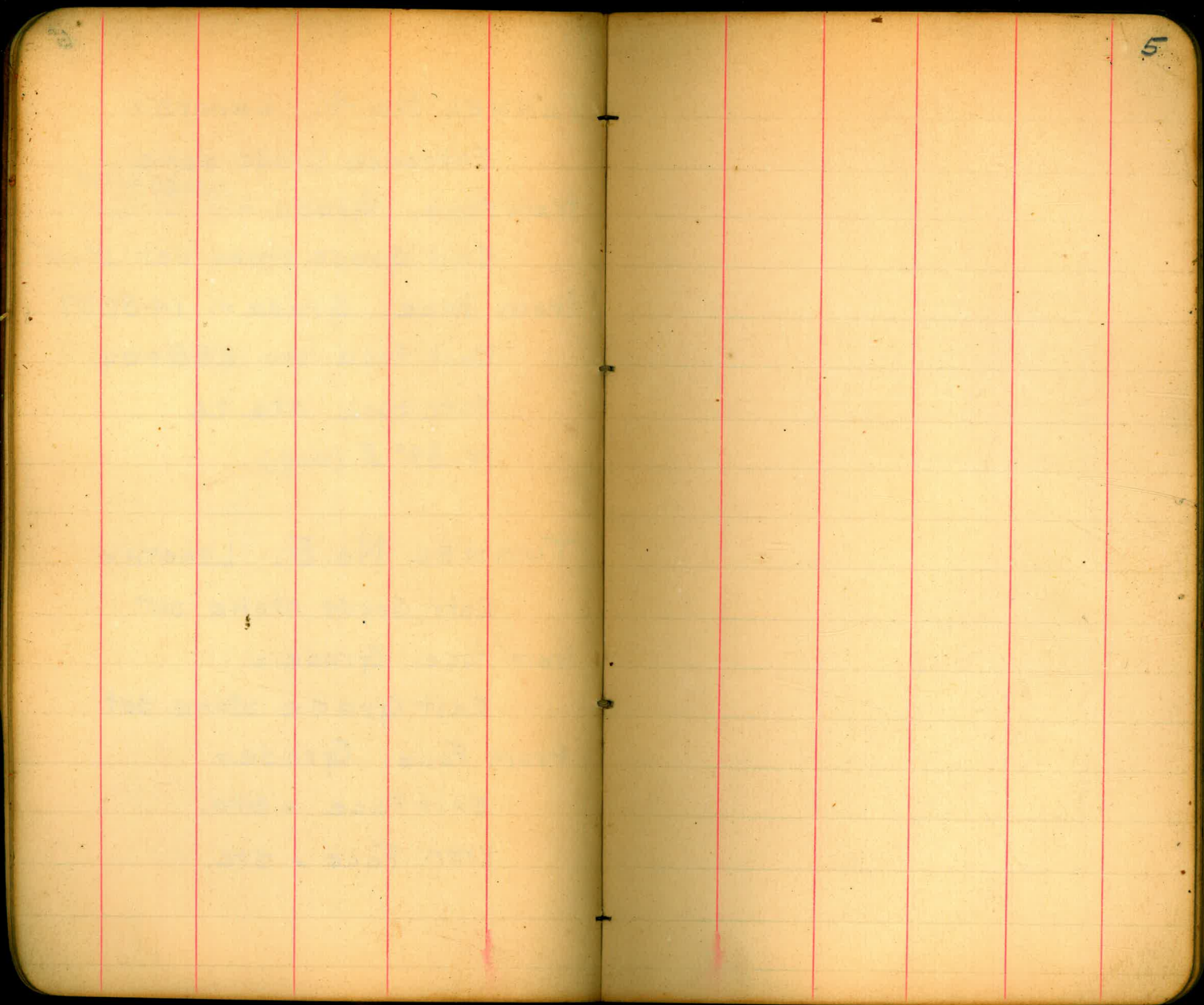
TUNNEL No. 5. LENGTH =

Entr. Grade stake set
from face. Grade =

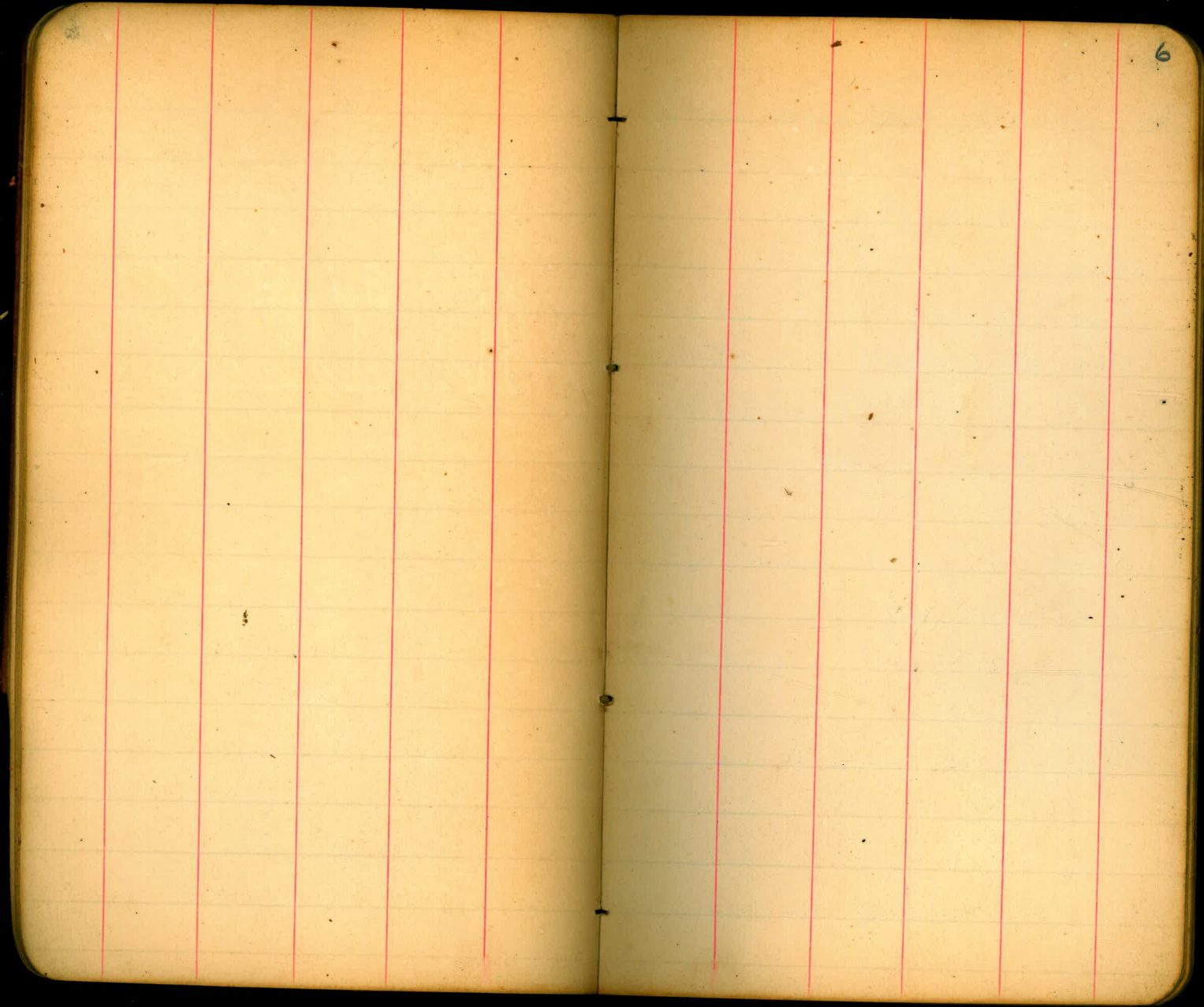
Exit Grade stake set
from Face. Grade =

Exit Face = sta.

Entr. Face = sta.



5



Oct. 6, 1907. Sunday

Ditch at sta 55+40

66+10

86 to 87+15

Flume at sta 87+15 to 87+65

Burn brush sta 87 morning Oct. 7.

Flume 90+15 = 98-70 about 160' or 50'

Ditch ⁹⁶ 97+29 to ⁹⁶ 97+80 and on

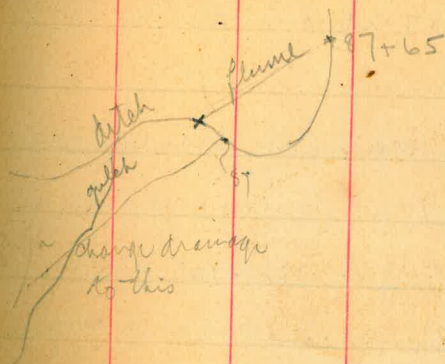
flume 97+60 about 20'

N Tunnel = 1 80' Bedrock 4' high
from bottom & rising
5' 1 in 31'

Flume begins at sta ¹²⁸⁺⁸⁶ 98+96 to about
20 N of square rock

Flume begins under big boulder 106+73
40'

6' pipe across road at



split off lower half rock 162+50
to 168 and wall up on outside for
ditch

Tunnel begins at sta 178+26
runs to 178+70

Tunnel begins 186+70 runs
to sta 188+08 run this at angle
of about 3° to trail then about
20' ditch. Then possibly half
tunnel.

Make ditch all the way around
rocky gulch just beyond sta.

210.

more slopes

Flume from sta 222 to 222+61

N Tunnel #3 - 102'
S " #3 - 44.5

Lumber at Goodbody's -

22 pcs 4' x 6" - 14'

140 pcs 6' x 6" - 16'

6 pcs 2' x 8" - 14'

October 7 - Monday -

S tunnel #4 - 80' - 4 miles

1 mi 2' off hump at 304

Label off more at N end of flume

above block's #5 Entrance to old line

Flume from Johnson's gulch to
beyond second rock ledge -

50' of tunnel under old Camp

Road.

Have one end entrance only
in large cement house and platform
about 2 1/2 to 3' high above road

Portal of Tunnel in Mendoza cut
at Sta 554+87.

Other end at 564+50.

943

Cut 9-07 + 41 - ELEV.

At 92+49 = 8.07

93+15 8.10

93+40 8.14

93+55 8.15

93+65 8.17

94+15 8.19

BM 22 1054 1521.095 1510.555

BM 22A 109 1520.005

On Rock 40' R. Sta 101+70
1510.5
20' R. old bench 22 on top

Oct 9

Grade π #1 84.4 - 4' from left side tunnel in 86 ft.

Grade π #3 - 100' both sides floor 5" to bottom

Oct 10.

| | | |
|---------|----|--------|
| π 1 | S1 | put |
| π 2 | S3 | atch 7 |
| π 4 | S4 | atch |

Went -

Plumb lines -

~~Plumb~~ - Flagging

Axe - Grad - Contour - Chain

Told Godbody to move current lumber
lumber - Told Smith (foreman) to
go back to slope stakes

3 meals at small's

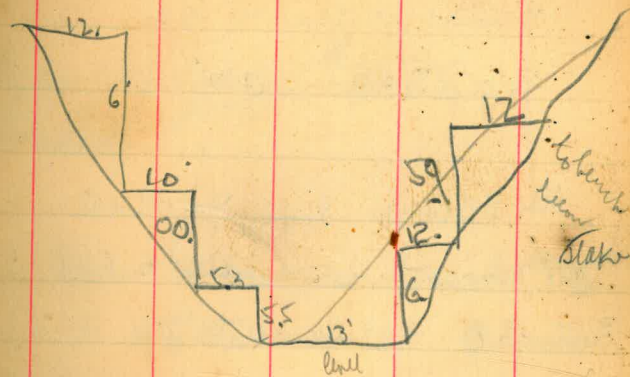
4 meals for horse at small's.

Made arrangements with small to
camp on his place in Happy Valley.

FRIDAY. Oct. 11.

Told Bert to fix up camp
outfit for Waco. also to order
laths ~~and~~, paint & tarpaulin.
2 meals at goodbyes.

depth about 6 or 7



Sat Oct 12 -

Tunnel at dam in 52'

gauge 7 AM .40'

Sta 331+38 Rock $4 \times 3\frac{1}{2} \times 4$

Sta 330+50 40' high trench 1' deep high 10' wide

Sta 326 Rock $11 \times 11 \times 4$

" " " $3\frac{1}{4} \times 5\frac{1}{2} \times 6\frac{1}{2}$

Sta 326+75 - 327+75 = 100' bet. trench 1' high

" 328 - 35' " " 1' "

14

Oct 13.

6:30 AM. gauge = .41

~~gauge 7 AM .41~~
~~gauge 7 AM .41~~

Oct 14 Run lines over tunnels #5
and #5' tunnel at about
Sta 148 -

Oct 17

N1 97' - 6 men

S1 37' - 5 "

Ditch 20 men

N2 - Began lat. $\frac{1}{2}$ Sunday Mon Tues ^{3 men W+T} ^{2 men}S2 - ^{Tunnel} W.W.T. 8 men Cut?N3 4 - 5th men first 7 days ago.

S3 2 Machine

Ditch 13

N4 2

S4 5 men all along

Ditch 32

Sta 306 - 30' flume

Sta 331 Rock $\frac{4' \times 10' \times 7'}{2}$

Sta 326+50 Rock $\frac{4 \times 5 \times 5}{2}$

" " 2 x 6 x 2

" 317+50 Rock 3' x 3' x 3' maybe

" 337+50 45' flume

" 339+05 to 341+14 209'

Flume Sta 373+26 to sta 384+25

Oct 18, 1907

17

B.M. 6 1.06 1527.42 ~~1527.42~~ 26

0 11.42 1516.00

4.04 1520.74

0 7.26

1.26

1535.59

1527.49 TRUE

B.M. 5 8.10 1535.537

1527.437

B.M. 6

9.00

1526.36

1526.77

B.M. 6 1.50 1528.99

1527.49

0 11.45 1517.045

9.365 1517.41

6.70

1510.71

~~B.M. 6~~ (3.95) 1514.6

11.8

1503.50
1508.00

T.P.

20+00

9.52

1505.14

#1

Rock 13' x 7' x 3' at sta 252+40

1 ~~sample~~ ~~just~~ ~~below~~ ~~sta~~ ~~700~~ ~~-~~ ~~from~~ ~~trail~~.
just below sta 700 -

1481.71

| | | | | |
|-------|-----|---------|-------|---------|
| Bm 37 | 220 | 1507.68 | | 1505.48 |
| 0 | | | 10.66 | 1497.02 |

| | | | | |
|------|---------|-------|--|---------|
| 0.13 | 1497.15 | | | |
| 0 | | 11.96 | | 1485.19 |

| | | | | |
|-----|---------|--|--|--|
| 123 | 1486.42 | | | |
|-----|---------|--|--|--|

Tunnel Grade

4.71 1481.71

19.

| | | | | |
|--------|--------------------|-------|--------------------|--------------------|
| 362+50 | $\frac{+11.4}{12}$ | +15.3 | $\frac{+18.8}{12}$ | $\frac{+20.1}{15}$ |
|--------|--------------------|-------|--------------------|--------------------|

| | | | | |
|--------|----------------------|-------|---------------------|--|
| Amount | $\frac{+25.6}{17.8}$ | +24.5 | $\frac{27.2}{18.6}$ | |
|--------|----------------------|-------|---------------------|--|

| | | | | |
|--------|----------------------|-------|----------------------|--|
| 363+50 | $\frac{+17.4}{11.7}$ | +15.8 | $\frac{+20.9}{15.5}$ | |
|--------|----------------------|-------|----------------------|--|

Meals by Exped. Camps at
 date no meals Sherer's during Sept. 07.

| date | no meals | date | no meals |
|------|----------|-----------|----------|
| 1 | 4 | 18 | 11 |
| 2 | 13 | 19 | 12 |
| 3 | 15 | 20 | 12 |
| 4 | 17 | 21 | 12 |
| 5 | 15 | 22 | 6 |
| 6 | 15 | 23 | 12 |
| 7 | 13 | 24 | 12 |
| 8 | 11 | 25 | 9 |
| 9 | 14 | total 295 | |
| 10 | 15 | | |
| 11 | 14 | | |
| 12 | 10 | | |
| 13 | 9 | | |
| 14 | 12 | | |
| 15 | 8 | | |
| 16 | 12 | | |
| 17 | 12 | | |

Oct 21

| | | | | |
|-------|-----------------|-----------|----------------------------|------|
| N1 | 102? | 102? | X | 1006 |
| S1 | 71? | 39? | X | |
| Pitch | | | | |
| N2 | 4 | 7 in | | |
| S2 | 5 | 21' | | |
| N3 | 5 | 136' | Struck water and sandstone | |
| S3 | 2 | 50' | | |
| Pitch | 11 | | | |
| N4 | 7 | Beginning | | |
| S4 | 5 | 103½ | | |
| Pitch | | | | |

0900

21.

| | |
|-----------------------|-------------|
| 482+20 | |
| Sta 522+50 | - 36' flume |
| 472+50 | 78' |
| 464+18 | 47' 0 |
| 406 | 75' |
| 398+65 | 50' |

Winter camp -

1 doz Salmon
 1 doz small cans Corn beef
 1/2 doz " " Tomatoes
 10# Cheese
 5# butter
 2 doz cans milk
 20# Sugar
 1 sack Flour ✓
 Bacon ✓
 Nutmeg
 Lard
 Lima beans
 1 doz Corn + Peas ✓

1200' fm - .96'
600' fm .48

S#5 same elev as 299+50
N#5 Elev. 48' lower than 287+50

Rod 288+50 ~ 4.34
Tunnel = 4.78

287+50

Tunnel from

287

286+50

286+00

285+50

285+00

284+50

284+00

283+50

283

282+50

Elev

P.M.

OK 4.90

890

4.86

4.82

4.78

4.74

4.70

4.66

4.62

4.58^{1/2}

4.68

4.64

Oct. 26, 1907

Drift in 31' from tunnel

Oct 30. Drift in $37\frac{1}{2}'$

Oct 31

$\pi_1 - 4 \text{ min} \quad 114'$
 $S_1 \quad 4 \text{ min (today)} - 47'$
 $\pi \frac{1}{2} \quad 2'' \quad 10'$

Sta 167+50

Rock 15.5 x 6.5 x 5'

 $\pi_2 - 4 \text{ min} - 45 \frac{1}{2}'$ $S_2 - 4 \text{ min} \quad 44 \frac{1}{2}'$ $\pi_3 \quad 5 \text{ min} \quad 147 \frac{1}{2}'$ $S_3 - 3 \text{ min} \quad 63'$ $S_4 - \checkmark \quad 120'$

185

on with ab leg cut

| | |
|------|------|
| 148 | 2.41 |
| | |
| 148 | 1.65 |
| | |
| 148 | 6.26 |
| | |
| 148 | 1.69 |
| | |
| 4.57 | |

Centimeter # 4

| | | | | |
|----------------|------|---------|-------|---------|
| | 0.75 | 1506.23 | | 1505.48 |
| o | | | 11.65 | 1494.58 |
| | 0.93 | 1495.51 | | |
| o | | | 11.10 | 1484.41 |
| | 2.96 | 1487.37 | | |
| Terminal grade | | | 5.66 | 1481.71 |
| | 2.43 | 1486.84 | | |
| Terminal grade | | | 5.13 | 1481.71 |

| | |
|---------|--|
| 1484.41 | |
| 1481.71 | |
| | |
| 2.70 | |

Nov 1.

1 med Sunday

Nov 4.

Bye cut 7 men

55 - 2 men

25 - 3 4

Notch - 6

54 - 5

24 - 8

7

1481.71
 450
 1.21

1481.67

~~2.71~~
 1486.8
 1487.71

1486.41

~~2.71~~

1.65

1486.06

~~4.35~~ 1487.71

3.39 1482.69

3.47

1486.14

1486.67

4.47

No. 3.

Start tunnel at Sta 7
 20x20 make cut about
 20' to line thence
 towards large rock

7

✓

| Nov. 7 | Nov 8 | 9 | 11 |
|--------|-------|----|-------------------------|
| N1 | 4 | | 4 |
| S1 | 4 | | 4 |
| N14 | 2 | | 3 |
| Ditch | 15 | | 2 ^{turn} 13 |
| N2 | 3 | 2 | 2 |
| S2 | 5 | 4 | 2 |
| N3 | 3 | 4 | 4 |
| S3 | 4 | 4 | 6 |
| Ditch | | 1 | 1 |
| N4 | | 2 | 2 |
| S4 | | 5 | 5 |
| Ditch | 6 | 24 | 13 |
| S5 | | | 2 |

maths
comp for
Blankets &
Poles

| 7 |
|--------------|
| 5 |
| 4 |
| 1 |
| 2 |
| 2 |
| 4? |
| 6 |
| 84 |
| 1 |
| 6 |
| 5 |
| 1 |
| 1 |

~~RAIN~~

ADJUSTMENT OF LEVEL NOV. 13, 1907.

Nov. 17, 1907

Progress # 3 South
Tate.

Bridge Sta 204

See Mills -

Sitch 4+5 ✓

2 shifts 5³

Engelhardt bench - ✓

Tents -

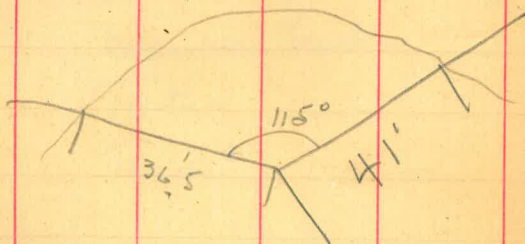
Tunnel #7.

J. Dalton
E. Witt

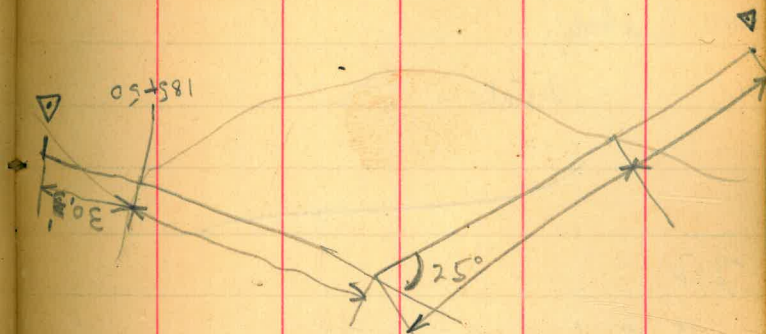
- 24²⁸ 24⁸⁰

24⁴⁷

Tunnel # 1 1/2 Nov 18.



Tunnel # 1 3/4 Line Nov 18
Measurements Nov 26



M. Barrera - Lima

5.6

5.7

8.9

11.

15.3

6.6

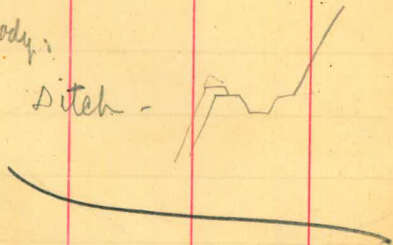
Δ

Nov. 20

Phone Sawyer about cementing over.

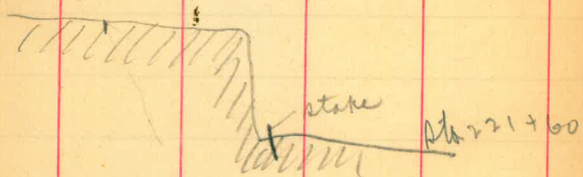
See Good body.

Ditch -



22

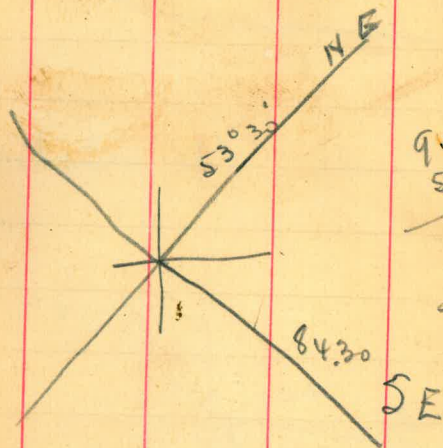
Ditch 93 also 84



Determination of Stadia Interval

| Reading | Dist |
|---------|-------|
| 26 | 27.15 |
| 162 | 62.15 |
| 97 | 97.9 |
| 137 | 139.3 |
| 234 | |

11.10
8:16
2.34

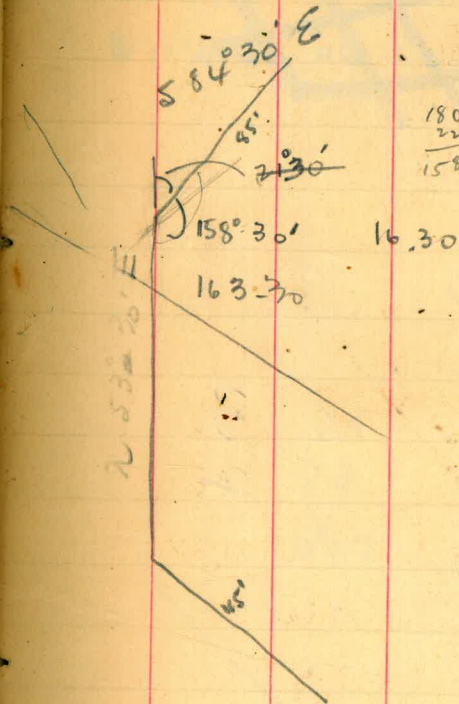


90
53 30

36 5-30

42° 0

tunnel 18 Nov 24 Sunday



180
22

158

~~Tunnel 1/2
first corner
A
N 46° 00' W
50°~~

Nov 30

| | | | |
|-----|----|-------|---|
| 21 | 4 | NS | 3 |
| 51 | 5 | SS | 2 |
| 1-2 | 12 | Hotel | |
| 22 | 5 | | |
| 52 | 3 | | |
| 2-3 | 28 | | |
| 25 | | | |
| 53 | 1 | | |
| 24 | 1 | | |
| 54 | 6 | | |



Nov. 25-

About Sta 98 oblique take
off a couple of feet 30 long.

Rt way. Langwier

Nov 27

1-2 13m
2-3 3 hours
16

53

24 6

54 7

9/10 40

55 2

25 3

1/2

336 + 25
8' out

536 20' W

Cement Tests -

Nov-28. 1907

~~Large box cement sand water~~
~~5 20 5~~
~~#1 1 3 1~~

| No. | Kind Sand | Sand | Cement | Water |
|-----|--------------------------------------|------|--------|-------|
| 1 | Cat. Creek ^{cut} c.h. | 3 | 1 | |
| 2 | " " | 5 | 1 | |
| 3 | S. G. Turn $\frac{1}{2}$ | 3 | 1 | |
| 4 | S. G. Turn $\frac{1}{2}$ | 5 | 1 | |
| 5 | Cat. Cr. Sand | 20 | 5 | |
| 6 | Pine Cr. Sand | 4 | 1 | |
| 7 | Cat. Sand Turn $\frac{1}{2}$ Chan | 2 | 2 | 4 gr. |
| 8 | Turn $\frac{1}{4}$ gr | 4 | 2 | |
| 9 | Cat. Sand | 4 | 2 | |

Thurs - Dec 17.

52 } 3.73
0 }
732' } 7.31
0 } 269
0 } 4.58
0.13 }

X 3 } 4.48

11.17 }

11.75 }

11.75
11.17

0.58

52 3.98

0

4.00

3.88

+10

+43
375

4.28

#10

4.40

3.57

11021450

12.38

8.10

4.28

0.65

8.10

28 ft

Dist. 344 feet

Sta 214+50 ~~036~~

~~1490.07~~
~~1480.00~~

1499.71 bunch

214+75

~~388~~

215

~~440~~

~~1489.56~~ ~~1486.22~~

225

442

+50

~~392~~

+75

~~394~~

216

396

+50

~~394~~

+75

394

Sta 218
~~218~~

1489.71

bunch

~~1489.69~~

~~1489.67~~

~~1485.65~~

~~1485.63~~

~~1485.61~~

~~1485.59~~

1485.43

- 210

217+25

~~Unit~~

~~the~~

~~... ..~~

ch

~~Phone Number~~ ✓

~~Insurance~~

~~Tell them to check~~

~~and when time comes~~

~~get letter file~~

~~Tell Tracy to find out how much~~

✓ ~~to 24th RW roads at Daly City~~

~~and his name in Oyster~~

~~Ask for job about Dutch goods~~

~~Tell Cooper to measure tunnel~~

~~to~~

n3

Siteh

1³/₄

Band 12

6

~~16~~

7

Frame 6

. Force Act.

52 386

0

3.87

0

4.30

~~12.03~~

~~7.78~~

.78

3.61

3.69

~~.26~~

1.75

214.50 .75

715

425

~~18.19~~

216

719

~~175~~ Ranch

~~149.96~~

~~4.80~~

~~149.35~~

1489.21

~~141.67~~

~~48.66~~

1485.60

4.29

~~4.30~~

3.75

~~4.02~~

Start 5v

5v

4.17 1489.60

218

+25

Bunch

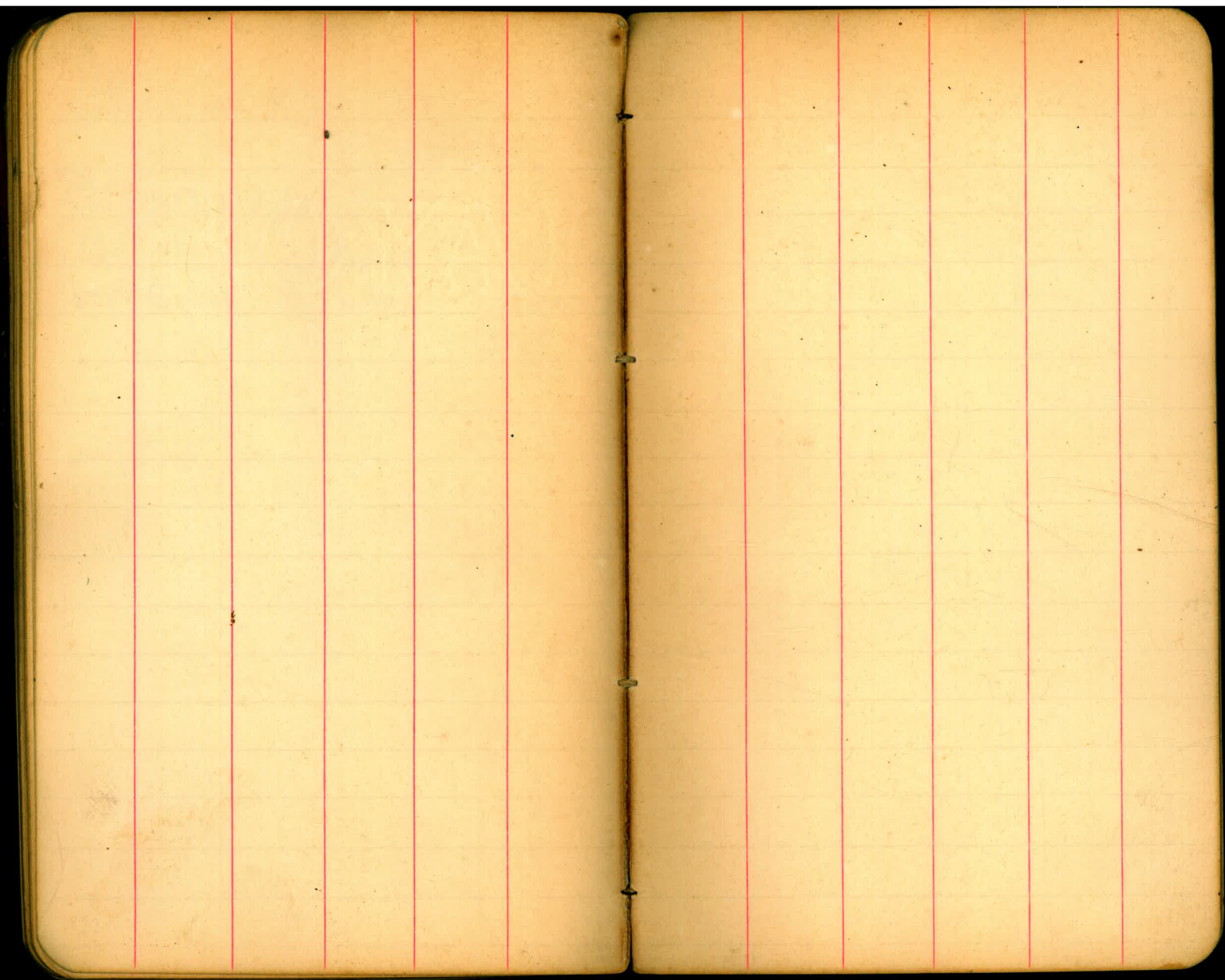
1485.43

8.17

0.19

1489.43

1489.41



additional total

41440+50

39+60 ——— 37+60 total 34+10

165
246
411

126

26 50
3 11
179

13 → 38

| Dist | Sta | 128+50 | To | Sta | 215 |
|-------|-------------|------------|-------|-------|-------|
| ✓ 75 | FLUME ✓ 130 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 |
| ✓ 100 | TUNNEL ✓ 47 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 77 |
| ✓ 100 | ✓ 100 | ✓ 24 | ✓ 100 | ✓ 100 | ✓ 7 |
| ✓ 100 | ✓ 100 | FLUME ✓ 41 | ✓ 100 | ✓ 100 | ✓ 1 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 1 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 1 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 1 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 975 | ✓ 100 | ✓ 1 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 138 | ✓ 100 | ✓ 1 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 1 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 1 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 |
| ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 100 | ✓ 180 |
| ✓ 100 | ✓ 100 | ✓ 97 | ✓ 100 | ✓ 100 | ✓ 100 |
| ✓ 27 | ✓ 100 | ✓ 97.6 | ✓ 100 | ✓ 100 | ✓ 100 |

838
154
684

690

75.00
165
180
112
174.5
232.5
157

8521.0

128+96
9521
214+17

37+50
130+50

Shuntles Force acct. against Semwa per full acct.

No. of Labour Cross-sections

2 hrs.

11 " Gndos-

7

12 " (Jap) "

5

13 " Jap "

~~5~~ 5

14 " " "

5

15 " " "

5

16 " " "

3

21 " Mex -

6

27 " "

6 ³/₄

28 " "

6-

6
6
6
6
4

1 day
1 day
1 day

|||||

Next man - 8 AM - 3 PM

Grades in tunnels

| | R | L | S1 | R | L |
|----|------|------|----|---|-----|
| N1 | 116' | 115' | 51 | - | 50' |

| | R | L | S5 | R | L |
|----|---|-------------------------|----|---|---|
| N5 | | 35' <small>from</small> | 55 | | |

| | R | L | S2 | R | L |
|----|---|-------------------------------|----|-----------------|-------|
| N2 | Dist. 6' too low - $\frac{65'}{115}$ | $\frac{63.9}{115}$.2 high | 52 | 66.5 | 65.5' |
| | | | | $\frac{66}{53}$ | 119 |

| | R | L | S3 | R | L |
|----|--------|-------|----|---------------------|---|
| N3 | 150 | 150 | 53 | 7'-4" above grade - | |
| | 4 high | | | .6 low | |
| | 183.5 | 183.5 | | | |

| | R | L | S4 | R | L |
|----|----------------|-----|----|-------------------------|-------|
| N4 | - | - | 54 | grade stakes on grade - | |
| | 1 Foot Too Low | | | 122.5 | 126.5 |
| | 36' | 36' | | | |

Rocks on line

Sta Size

252+40 13x7x3 (not moved yet) Jan 3
Dec 3

~~167+50 15.5x6.5x5~~ Put in ^{Nov.} look page 9.
moved onto bench with new powder.
Rock was above top of not to page one
on edge - Nov. bk. Pg. 12

186 ~~3'x11'x29'~~ }
Rocky Gully }
210 ~~9'x4'x6'~~ } New book Pg. 14
~~10'x5'x4'~~ }
~~4'x3'x6'~~ }
~~6'x4'x4'~~ }

221+60 13 1/2 x 5 1/2 x 2 another about 5x5x5 Reams (11/22)
9'x9'x8' } not done Nov 30 -
10'x6'x4' } DEC Book PAGE 51

~~175+75 3'x3'x6'~~ Nov book page 11

~~211 7'x15'x3 1/2'~~ Nov bk Pg 15

~~210 8'x10'x6'~~ Nov bk. Pg 14

17 - 25'x11'x4' Moved in Jan 09 - force

Dec 19

Nov force

56 7 -

76 20 40

60 + 20 + 1200

Jan 15 5#v

Rock 6'x3'x3'

Meals Nov 1907

| | | | |
|-------|---|------------|-----------------|
| Nov 1 | 1 | Good body: | |
| ✓ 3 | 1 | Camp 3 | |
| ✓ 4 | 1 | " | |
| ✓ 11 | 1 | Camp 2 | |
| ✓ " | 1 | " " | Alexander |
| ✓ 12 | 1 | " " | Shanahan |
| ✓ 14 | 1 | " 1 | Louis Leabo - |
| ✓ 17 | 1 | " 1 | |
| ✓ 20 | 1 | " 2 | |
| ✓ " | 3 | " 1 | Primer + Cooper |

(✓)
(✓)

Dec

19 1 Camp 7.

25
17

175
25

425

025 / 3200

Mrs
5' 2 1/8
2 1/8
2 1/8
2 1/8
2 1/8
2 1/8

Progress Report on *Thomomys*
 Progress Dept. 11/07

| Date | Depth | Sample | Notes |
|---------|-------|--------|------------|
| Sept 10 | 5' | N#1 | |
| Sept 20 | 41' | N#3 | out at 19' |
| Sept 30 | 68' | N#3 | |
| Oct 10 | 47' | N#3 | |
| Oct 20 | 141' | N#3 | |
| Oct 30 | 161' | N#3 | |
| Oct 10 | 8' | N#4 | out at 19' |
| Oct 20 | 19' | N#4 | in out yet |
| Oct 30 | 32' | N#4 | " " " |
| Oct 10 | 40' | N#4 | " " " |
| Oct 20 | 63' | N#4 | |
| Oct 30 | 88' | N#4 | |
| Nov 10 | 92' | N#4 | |
| Nov 20 | 121' | N#4 | |
| Nov 30 | 151' | N#4 | |
| Nov 30 | 206' | N#4 | |

13 1/4 - 46' found

| Date | Depth | Sample | Notes |
|---------|-------|--------|------------|
| Sept 10 | 5' | S#5 | |
| Sept 20 | 18' | S#4 | out at 19' |
| Sept 30 | 50' | S#4 | out at 19' |
| Oct 10 | 69' | S#4 | |
| Oct 20 | 120' | S#2 | |
| Oct 30 | 149' | S#2 | |
| Nov 10 | 158' | S#2 | |
| Nov 20 | 114' | S#5 | |
| Nov 30 | 114' | S#5 | (start) 10 |

15x10x4
4x3x3
4x4x4
8x4x2
2

Proc 4x8x12 365+50

5x4x3

10x6x3 1/2 6x8 1/2 x 6

8x4x4 4 1/2 x 6 x 3 1/2

5x11x4

366+50-367

10x5x4

4x6x6.5

8x5 1/2 x 9

Rocks 365-367-

West to East

4-
1-
5
3

14

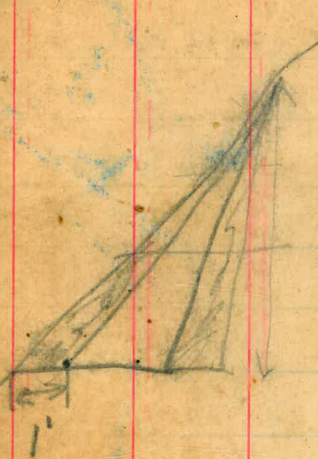
350

4 1/2

175

14.00

15.75



7 1/2) 36
 30

 60

(4.8

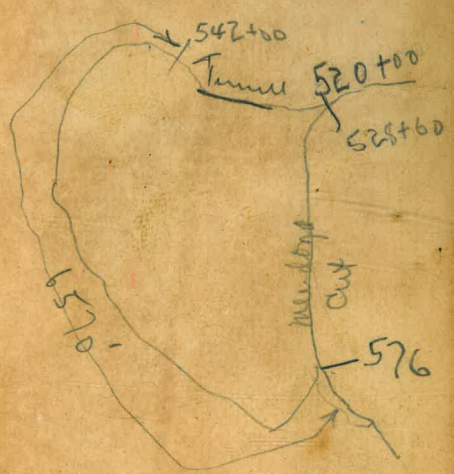
Dist. Head of Bulgeon Creek to line in Ferguson's Field.

| | | | | |
|--------|----|----|----|----|
| 522+00 | | | | |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |
| 90 | 90 | 90 | 90 | 90 |

strike line through
mudlog cut at
Sta 576+00

$90 \times 73 = 6570$

total dist Tunnel line 2200
 6570
8770
 Total dist mudlog line 4800'



31) 35 113
31
 40
31
 90

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

| Degrees. | DEGREES. | | ¼ DEGREE. | | ½ DEGREE. | | ¾ DEGREE. | | Degrees. |
|----------|----------|-------|-----------|-------|-----------|-------|-----------|-------|----------|
| | Lat. | Dep. | Lat. | Dep. | Lat. | Dep. | Lat. | Dep. | |
| 0 | | | 100.00 | 0.44 | 100.00 | 0.87 | 99.99 | 1.31 | 89 |
| 1 | 99.98 | 1.75 | 99.98 | 2.18 | 99.97 | 2.62 | 99.95 | 3.05 | 88 |
| 2 | 99.94 | 3.49 | 99.92 | 3.93 | 99.91 | 4.37 | 99.88 | 4.80 | 87 |
| 3 | 99.86 | 5.23 | 99.84 | 5.67 | 99.81 | 6.10 | 99.79 | 6.54 | 86 |
| 4 | 99.76 | 6.98 | 99.73 | 7.41 | 99.69 | 7.85 | 99.66 | 8.28 | 85 |
| 5 | 99.62 | 8.73 | 99.58 | 9.15 | 99.54 | 9.58 | 99.50 | 10.02 | 84 |
| 6 | 99.45 | 10.45 | 99.41 | 10.89 | 99.36 | 11.32 | 99.31 | 11.75 | 83 |
| 7 | 99.25 | 12.19 | 99.20 | 12.62 | 99.14 | 13.05 | 99.09 | 13.49 | 82 |
| 8 | 99.03 | 13.92 | 98.97 | 14.35 | 98.90 | 14.78 | 98.84 | 15.21 | 81 |
| 9 | 98.77 | 15.64 | 98.70 | 16.07 | 98.63 | 16.50 | 98.56 | 16.93 | 80 |
| 10 | 98.48 | 17.36 | 98.40 | 17.79 | 98.33 | 18.22 | 98.25 | 18.65 | 79 |
| 11 | 98.16 | 19.08 | 98.08 | 19.51 | 97.99 | 19.94 | 97.90 | 20.36 | 78 |
| 12 | 97.81 | 20.79 | 97.72 | 21.22 | 97.63 | 21.64 | 97.53 | 22.07 | 77 |
| 13 | 97.44 | 22.50 | 97.34 | 22.92 | 97.24 | 23.34 | 97.13 | 23.77 | 76 |
| 14 | 97.03 | 24.19 | 96.92 | 24.68 | 96.81 | 25.04 | 96.70 | 25.46 | 75 |
| 15 | 96.59 | 25.88 | 96.48 | 26.30 | 96.36 | 26.72 | 96.25 | 27.14 | 74 |
| 16 | 96.13 | 27.56 | 96.00 | 27.98 | 95.88 | 28.40 | 95.76 | 28.52 | 73 |
| 17 | 95.63 | 29.24 | 95.50 | 29.65 | 95.37 | 30.07 | 95.24 | 30.49 | 72 |
| 18 | 95.11 | 30.90 | 94.97 | 31.32 | 94.83 | 31.73 | 94.69 | 32.14 | 71 |
| 19 | 94.55 | 32.56 | 94.41 | 32.97 | 94.26 | 33.38 | 94.12 | 33.79 | 70 |
| 20 | 93.97 | 34.20 | 93.83 | 34.61 | 93.67 | 35.02 | 93.51 | 35.43 | 69 |
| 21 | 93.36 | 35.84 | 93.20 | 36.24 | 93.04 | 36.65 | 92.88 | 37.06 | 68 |
| 22 | 92.72 | 37.46 | 92.55 | 37.86 | 92.39 | 38.27 | 92.22 | 38.67 | 67 |
| 23 | 92.05 | 39.07 | 91.88 | 39.47 | 91.71 | 39.87 | 91.55 | 40.27 | 66 |
| 24 | 91.35 | 40.67 | 91.18 | 41.07 | 91.00 | 41.47 | 90.81 | 41.87 | 65 |
| 25 | 90.63 | 42.26 | 90.45 | 42.66 | 90.26 | 43.05 | 90.07 | 43.44 | 64 |
| 26 | 89.88 | 43.84 | 89.69 | 44.23 | 89.49 | 44.62 | 89.30 | 45.01 | 63 |
| 27 | 89.10 | 45.40 | 88.90 | 45.79 | 88.70 | 46.17 | 88.50 | 46.56 | 62 |
| 28 | 88.29 | 46.95 | 88.09 | 47.33 | 87.88 | 47.72 | 87.67 | 48.10 | 61 |
| 29 | 87.46 | 48.48 | 87.25 | 48.86 | 87.04 | 49.24 | 86.82 | 49.62 | 60 |
| 30 | 86.60 | 50.00 | 86.38 | 50.38 | 86.16 | 50.75 | 85.94 | 51.13 | 59 |
| 31 | 85.72 | 51.56 | 85.49 | 51.88 | 85.26 | 52.25 | 85.04 | 52.62 | 58 |
| 32 | 84.80 | 52.80 | 84.57 | 53.36 | 84.34 | 53.73 | 84.10 | 54.10 | 57 |
| 33 | 83.87 | 54.46 | 83.63 | 54.83 | 83.39 | 55.19 | 83.15 | 55.56 | 56 |
| 34 | 82.90 | 55.92 | 82.66 | 56.28 | 82.41 | 56.64 | 82.16 | 57.00 | 55 |
| 35 | 81.92 | 57.36 | 81.36 | 57.71 | 81.41 | 58.07 | 81.16 | 58.42 | 54 |
| 36 | 80.90 | 58.78 | 80.64 | 59.13 | 80.39 | 59.48 | 80.13 | 59.83 | 53 |
| 37 | 79.86 | 60.18 | 79.60 | 60.53 | 79.24 | 60.88 | 79.07 | 61.22 | 52 |
| 38 | 78.80 | 61.57 | 78.53 | 61.91 | 78.26 | 62.25 | 77.99 | 62.59 | 51 |
| 39 | 77.71 | 62.93 | 77.44 | 63.27 | 77.16 | 63.61 | 76.83 | 63.94 | 50 |
| 40 | 76.60 | 64.28 | 76.32 | 64.61 | 76.04 | 64.94 | 75.76 | 65.28 | 49 |
| 41 | 75.47 | 65.61 | 75.18 | 65.93 | 74.90 | 66.26 | 74.61 | 66.59 | 48 |
| 42 | 74.31 | 66.91 | 74.02 | 67.24 | 73.73 | 67.56 | 73.43 | 67.88 | 47 |
| 43 | 73.14 | 68.20 | 72.84 | 68.52 | 72.54 | 68.84 | 72.24 | 69.15 | 46 |
| 44 | 71.93 | 69.47 | 71.63 | 69.78 | 71.33 | 70.09 | 71.02 | 70.40 | 45 |
| 45 | 70.71 | 70.71 | | | | | | | |

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with floor 1684
 Grademark 7' 171
 8 7' 437 3
 10 7' 513
 12 7' 513
 17 7' 513
 20 7' 513
 25 7' 513
 30 5 1/2' 156 113 51
 35 5 1/2' 166 109 28
 40- 5 1/2' 144 137 318
 Top
 CROSS-SECTIONS - CUT N. END # 4.
 1100
 1250
 1300
 1400
 1485.71
 28
 1485.43
 16
 224
 88 24