

PACIFIC
WATERPROOF

841184
Eagle Prospect
June 1974

Mining Transit Book

FILLER No. 321



Mag Survey

Lang Dick

EAGLE PROSPECT

Chehalis Area

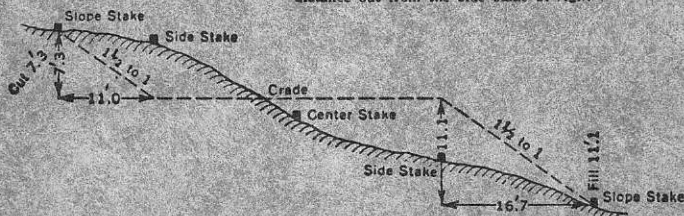
6 June 74

NTS 92 H/G

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes $1\frac{1}{2}$ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

located Hi 61662

at this location is a heap of posts

. Hi 154, 155, 156, 157.

@ edge of open area below cliff
proceed N. along base of cliff



Top line

begin at base of cliff directly above claim post

Hi 59-60/61-62

↓ parallel base of cliff

* First station is base station 3000 ♂

Station	Reading	Corrected Rdg
Base 1	3000 ♂	3000 ♂
TL 2	2100 ♂	
TL 3	4300 ♂	
TL 4	6100 ♂	

at waterfall coming off cliff face

50' farther	6200 ♂
TL 5	5900 ♂

just before turning bend in cliff face

TL 6	5300 ♂
TL 7	4700 ♂
8	6300 ♂
9	6100 ♂
10	4700 ♂
11	4100

note set @
1K so knock
off 1(0)

still at base of cliff

Nearing fan?
small waterfall.

st	Readings
TL 12	350 ♂
13	320 ♂
14	350 ♂
15	390 ♂
1 st stream of fan 1	
16	360 ♂
17	300 ♂
cross ^{first} stream.	
18	280 ♂
middle of fan	

now walk down fan to establish base station for 2nd line so we can have some control out here.

Base Station 2

half way between top line & stream
230 ♂

now back up to top line & continue across fan with TL 19

Back to TL-18 & check

→ 280 ♂ o.k.

Stn.	Reading	
	across fan	
TL-19	215 δ	needle fluctuating
20	370 δ	approaching other side of fan
21	410 δ	cross other side
22	330 δ	
23	330 δ	bald spot (top of it) on photo
24	400 δ	middle of top of bald spot
25	410 δ	still on large avalanche
26	460 δ	"
27	470 δ	other edge
28	450 δ	
29	170 δ	
	Stream	150-170 across
30	560 δ	
	other side stream	
31	470	

another stream

Now down to middle line ML

300' downstream from TL-29 → claim posts

Hi 95/96

Hi 94 & Hi 92 lying on ground beside

Also standing 2 more posts

Hi 97/98

and Hi 91/92 May 3/71

Also standing !!!

Hi 63/64

Check with claim map - something wrong.

Try to follow claim line & see
whats going on.

Start ML at all these posts.

ML-1 @ stream

Sta	Reading
ML-1	490 y down to 250 y middle of stream and back to 400 y on the other side
ML-2	500 y following flagged claim line more or less following Eagle Ct
ML-3	400 y edge of bald spot
ML-4	420 y "
ML-5	370 y middle of bald spot
ML-6	330 y fan edge of bald spot
ML-7	260 y still following flagged line Approaching edge of fan
ML-8	240 y edge of fan
ML-9	230 y on fan looking right up gorge
ML-10	= Base sta on fan

Check now = 240 y
was 230 y

Back to ML claim line
middle of fan



ML-11 270 y directly down fan
from base str

ML-12 320 y approaching other
side of fan

ML-13 270 y "

ML-14 320 y "

* ML-15 350 y

claim post here

Also edge of fan - 1st stream.

Hi 61-62

Hi 63-64

ML-16 340 y other side of fan
stream heading towards
the truck

TL-15

ML-17

390 y

ML-18

480 y

base of cliff again

still on claim line

ML-19 540 y

↗ TL-10

ML-20 640 y

↗ TL-10

ML-21 670 y

ML-22 720 y

ML-23 780 y ↗ TL-7

still below cliff in snow

ML-24 750 y

ML-25 600 y

ML-26 500 y Base of cliff

ML-27 650 y ' "

ML-28 780 y

50' farther 650 y

↘ ML-29 420 y

↘ original claim post where we began the day.

Now go to first station and tie

M value

= 310 y was 300 y

a few readings towards the truck
from ML-29 to see what values do.

Random

ML-30

370 Y

ML-31

430 Y

32

430 Y

33

790 Y

34

820 Y

35

700 Y

36

450 Y

37

370 Y

approx every 100'
to end of road

base of cliff

Rock bluffs
at end of road

Lize BL

June 6

Rain in the morning
cloudy/showers

Go to first claim post seen yesterday & take
base reading then go to stream & take another
base reading & traverse up stream & back again
plus look at the rocks.

Base Reading @ 1st claim post

$$= \frac{350}{360} \times$$

yesterday was 420

$$\text{diff} = 60$$

Recheck ML-27 = ~~630~~⁶³⁰

✓ yesterday was 670 diff = 40

Recheck ML-28 = 730

yesterday = 780

$$\text{diff} = 50$$

$$\text{Avg diff} = 50$$

proceed directly downslope to
vicinity of stream for BL-1

which will also be a base sta.
- add 50 to today's readings.

BL-1 = 400 lateral feet direct by
downslope toward stream from M-29.
Rain!

= 830 y

BL-2 810 y

* 3 1310 y Red 3k scale.
25' farther 1400 y 50' farther 1100 y
4 940 y

5 1025 y

6 995 y snow 5' deep.

just crossed stream running from
cliff into Eagle CK

7 1075 y

still red 3k scale

8 1050 y

Below cliff

9 870 y

1k scale on stream

10 850 y

11 750 y

1st stream of fan

12 750 y

13 670 y

fan? can't tell

from here

BL-14	580 y	
		must be fan giant boulders?!
BL-15	510 y	
BL-16	450 y	
BL-17	240 y	Stream w large boulders
BL-18	170 y	Middle of fan
BL-19	110 y	Many large boulders
BL-20	30 y	
BL-21	90 y	middle of fan
		can look straight up gorge new dirt slide overnight
BL-22	130 y	
BL-23	180 y	
BL-24	170 y	
25	170 y	other edge of fan (stream)
26	170 y	Rainy head
27	160 y	stream after fan
28	40 y	(claim post stream)

bl 29	-108 *
30	808
31	-1308 beside stream
32	258
33	-508
<u>end</u>	

Rechecks on way back (random)

25 = 170° ✓ check o.k.

18 = ~~200~~¹⁷⁰ was ~~270~~¹⁷⁰ ✓ ok

16 450 ✓ ok ✓

14 580 ✓ ok ✓

12 750 ✓ ok ✓

10 830 ✓ ok ✓

8 1050 ✓ ok ✓

5 1025 ✓ ok ✓

3 1320 ✓ ok ✓

Ret. 1 830 ✓ !! ok @ base str

Now take random readings approx.
every 100' downstream towards camp
for a while

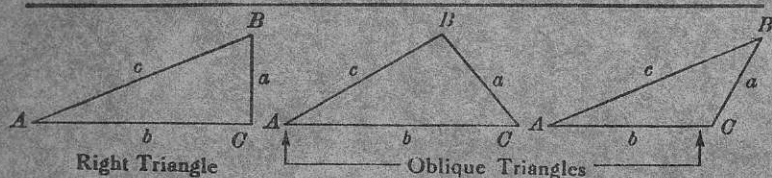
towards truck from BL Base Stn ①

BL

0-1	1370 y
0-2	900 y
0-3	750 y
0-4	600 y
0-5	650 y
0-6	650 y
0-7	810 y

11" \bar{w} below rock bluff at end of road.

TRIGONOMETRIC FORMULÆ



Right Triangle

Oblique Triangles

Solution of Right Triangles

For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\operatorname{cosec} = \frac{c}{a}$

Given	Required
a, b	A, B, c
a, c	A, B, b
A, a	B, b, c
A, b	B, a, c
A, c	B, a, b

$$\tan A = \frac{a}{b} = \cot B, c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$$

$$\sin A = \frac{a}{c} = \cos B, b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$$

$$B = 90^\circ - A, b = a \cot A, c = \frac{a}{\sin A}$$

$$B = 90^\circ - A, a = b \tan A, c = \frac{b}{\cos A}$$

$$B = 90^\circ - A, a = c \sin A, b = c \cos A$$

Solution of Oblique Triangles

Given	Required
A, B, a	b, c, C
A, a, b	B, c, C
a, b, C	A, B, c
a, b, c	A, B, C
a, b, c	Area
A, b, c	Area
A, B, C, a	Area

$$b = \frac{a \sin B}{\sin A}, C = 180^\circ - (A + B), c = \frac{a \sin C}{\sin A}$$

$$\sin B = \frac{b \sin A}{a}, C = 180^\circ - (A + B), c = \frac{a \sin C}{\sin A}$$

$$A + B = 180^\circ - C, \tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b}$$

$$c = \frac{a \sin C}{\sin A}$$

$$s = \frac{a + b + c}{2}, \sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{bc}}$$

$$\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{ac}}, C = 180^\circ - (A + B)$$

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

$$\text{area} = \frac{bc \sin A}{2}$$

$$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$$

REDUCTION TO HORIZONTAL



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance 319.4 ft. Vert. angle $5^\circ 10'$. From Table, Page IX. $\cos 5^\circ 10' = .9959$. Horizontal distance = $319.4 \times .9959 = 318.09$ ft. Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. Cosine $5^\circ 10' = .9959$. $1 - .9959 = .0041$. $319.4 \times .0041 = 1.31$. $319.4 - 1.31 = 318.09$ ft.

When the rise is known, the horizontal distance is approximately:—the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance = $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.

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