


ERWIN U. MOSER
P. O. BOX 404
LOGAN, UTAH

65938

Made in U. S. A.

316

58 376 19

Richmond City
 Water Lines

- 1-8 Ballantine Spring
- 9-10 Reservoir Line
- 11-14 from Y branch to Reservoir
- 15-17 N reservoir NEly
- 18-22a Spring Hoop down
- 23-24 Valve & Hydrant Measurements

360B

**FIELD
BOOK**

25 Milton J. Carson - Richmond

28 Richmond City Police

IF FOUND RETURN TO
ERWIN U. MOSEB
P. O. BOX 404
LOGAN, UTAH

FULL

CHECKED 7-14-69

KEUFFEL & ESSER CO.

ERWIN U. MOSER
P. O. BOX 464
ECSTON, MICH

Page	Subject
1-8	Richmond Water line to Ballantine Spring
9-10	Richmond Reservoir line
11-14	Richmond from Y to Reservoir
15-17	Richmond N Reservoir NE 1/4
18-22a	Richmond Spring House down.
23-24	Richmond Valve & Hydrant Meas.
25-27	Alton J. Carson.
28	Richmond City

FULL

19

7-8-54 7-9-54
50176.7 50276.6

K+R

7-10-54
50306. et Richmond

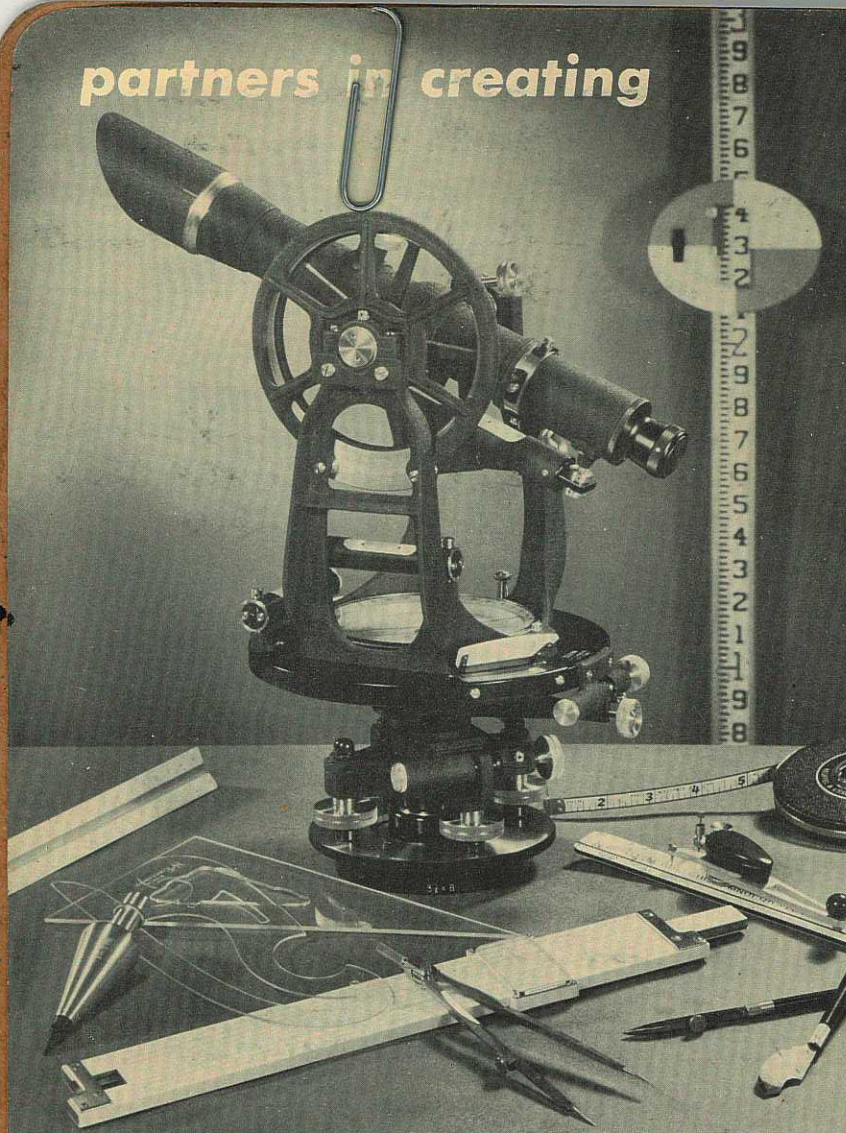
FIELD BOOK

KEUFFEL & ESSER CO.

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Richardson City Water Line
to Ballantine Spring.
Power Pole # 317 is — A
North of E of Line

Old tile pipe is 706.5'
S from South line of Road
in West Power Line.

959
Pole # 317 is 789.5' So
from Road

1980	7300 + 200
415	7400
789.5	

850' W from Y to Creek
Crossing 50' width

1980' W. to Chlorine house

415' From Chlorine house
to Reservoir

2395

10-4-54

Sta	Red	HI	Elev	F.S.	B.S.
BM	7.87	1405.74	1415.70		
0+00	7.96	1423.57	1415.61		
1+00	10.58		1421.76	10.38	1.181
T.P.		1432.13	1431.98	12.76	0.16
2+00	13.3				
2+92.2	3.12				
BM Hub	4.34		1440.40	Stake on Pole #317	
3+00	3.35				
3+05.5	2.44				
T.P.		1444.74	1442.94	14.96	1.80
4+00	10.54				
5+00	4.74				
T.P.		1457.90	1456.75	14.39	1.15
6+00	9.63				
7+00	3.50				
T.P.		1471.14	1470.69	14.96	0.45
8+00	12.76				
9+00	5.06				
T.P.		1485.65	1485.16	14.83	0.49
10+00	5.55				
T.P.		1499.99	1499.88	14.92	0.11
		1514.80			

2x2' placed 10' North of Sta. 0+00

959' 5" from Rod to fence crossing
 990' 36" left to fence line parallel
 to Power Line. Pole #317 is 169' ft N
 Approx E of Lane

East fence line of Lane

11/20

11+00 10.16

120
70

11+05.4 9.53

8,400

12+00 4.30

T.P. top of stake 1514.80 1514.10 14.26 0.70

13+00 14.45

~~14.26 0.70~~

14+00 8.08

T.P. 1528.36 1526.89 14.94 1.47

15+00 13.33

16+00 4.85

T.P. 1541.83 1541.72 14.83 0.11

17+00 9.88

18+00 4.01

T.P. 1556.55 1556.45 14.84 0.10

19+00 11.42

20+00 4.04

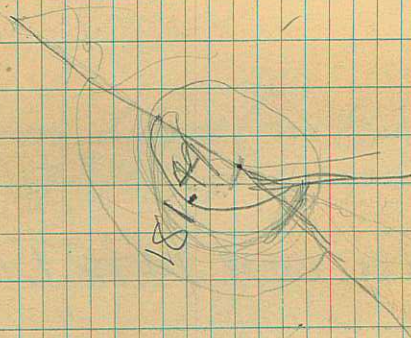
T.P. 1571.29 1570.77 14.97 0.52

21+00 11.88

21+25.9 10.71

1585.74

181°40' Left at fence from
forward Station (at fence)



169°55' Left from pt in fence
forward Sta 18+00 is in open
Attala field.

Fence Line N-S. Ernest Tripp west of
Reed Tippetts
362' S from apparent Section ^{5 side} _{of line}

FS B.S.

22+00	7.54				
T.P.				14.89	0.56
22+50	3.60				
23+00	5.1				
T.P.		1585.74	1585.38	14.88	0.36
24+00	7.91				
T.P.		1600.26	1599.76	14.79	0.50
25+00	7.96				
26+00	15.65				
26+60	8.82				
26+75	9.36				
27+00	3.66				
T.P.		1619.55	1613.38	14.78	1.17
28+00	7.33				
T.P.		1628.16	1626.60	14.93	1.56
29+00	11.93				
T.P.		1641.53	1640.53	14.86	1.00
30+00	11.78				
T.P.				14.98	0.67
31+00	12.70				
31+20	16.90				
31+75	13.45				
32+25	15.45				
wash	15.45	1655.51	1655.34		
T.P.		1670.21		14.87	0.17

Farm Lane (reference) N-S.
4' gully crossing N-S.

⊥ of 5' wash 4' @ - SW
30' from top to top
⊥ of N. edge of wash (Bdy. p.)
to East edge of wash 100' wide
10 to 12' deep. & parallel to line 50'

Sta	Red	H1	Elev	P.S.	B.S.
32+50	9.14				
gully So.		22.00			
33+00	7.52				
34+00	5.23				
gully		6.45			
T.P.		1670.21	1669.96	14.58	0.25
35+00	13.60				
35+35	13.53				
35+44	9.06				
36+00	4.82				
T.P.		1684.54	1684.54	14.96	0.00
37+00	13.23				
38+00	5.65				
	13.23				
38+28	5.65				
T.P.		1699.50	1698.77	14.76	0.73
39+00	7.18				
T.P.		1713.53	1712.89	14.90	0.64
40+00	9.70				
T.P.		1727.79	1726.95	14.89	1.04
41+00	13.85				
42+00	6.26				

1741.64

gully 20' South

Shallow gully E-W 7' So of 34+00

Shallow gully E-W
 deep gully
 fence NE-SW. and out of gully
 deep gully

fence gully 15' } 3' deep
 } leads to 38+43

42+00	5.8	1741.64	1740.97	14.7	0.67
T.P.					
43+00	9.84	1755.67	1755.05	14.94	0.62
T.P.					
44+00	12.4	1769.99	1769.07	14.84	0.92
T.P.					
45+00	14.56	1783.91	1782.51	14.58	1.40
T.P.					
46+00	18.20				
47+00	3.66				
Ground 0.5					
47+17	0.48	1797.09	1796.69	16.02	0.45
T.P.				11.76	
48+00	8.38	1812.66	1811.30	14.96	1.36
T.P.					
49+00	11.52				
T.P.					
50+00	5.23	1826.26	1825.17	14.9	1.09
T.P.					
51+00	10.88	1840.07	1838.33	14.46	1.74
T.P.					
52+00	11.73				
53+00	4.2	1852.79	1851.61	14.46	1.18
T.P.		1866.07			

11.76
4.26
16.02

3' gully NE-SW

Fence corner N-S & NE-SW.
This pt is 590' S from ^{SE 1/4} of Sec 36, T14N
& a line is 48' S from opposite
of a sec.

in small patch of ^{low} brush

1271
 54+00 8.17 ↑ 1453.73
 T.P. 1866.07 1863.86 19.45 2.21

55+00 10.36

~~56+00~~
~~56+00~~

56+00 6.95 ↑ 166.50
 T.P. 1878.31 1878.07 14.84 -0.24-

56+5 21.30

57+00 16.05

58+00 6.65

B.M. 13.99 ↑ 1742.17
 1878.07 1878.92 13.99 -0.06-

59+00 10.55

T.P. 1892.91 1891.32 14.13 1.59
 60+00 11.54

T.P. 1905.25 1902.21 14.04 1.24
 61+00 14.29

T.P. 1918.25 1915.07 14.66 3.18

62+00 13.08

63+00 4.57 ↑ 1950.19
 T.P. 1929.68 1929.46 15.05 0.22

64+00 11.64

65+00 4.35 ↑ 1986.73
 T.P. 1944.51 1943.83 14.82 0.68

1958.65

4°09' Left. Stake on rise in
 wheat stubble. Shooting at flag
 in maple tree at pt. East

E. edge of stubble
 Bot. of shallow gully
 E. edge of weed veg. alfalfa

in Alfalfa
 Top of 2x2 at 3rd iron post N. in fence
 in plowed field

Top of Stake No 64+00

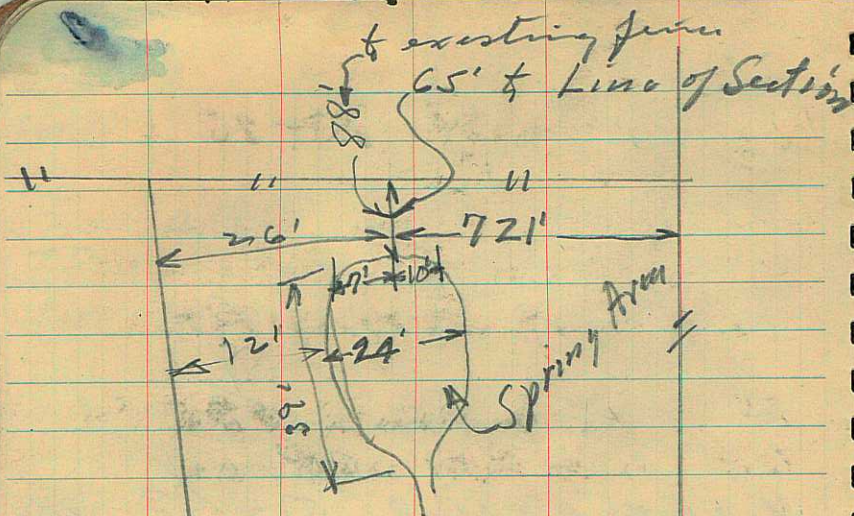
Sta	Rod HI	HI	Elev	F.S.	B.S.
66+00	9.14	1958.65	1958.65	14.38	0+00
67+00	4.10				
T.P.		1958.65	1958.65	14.38	0+00
68+00	11.81				
69+00	14.43	1939.21	1936.73	14.43	2.48
70+00	4.84				
T.P.		1973.03	1972.62	14.55	0.41
71+00	11.03				
71+50	6.00	1989.77	1981.17		
T.P.		1987.17	1984.28	8.71	2.89
72+00	6.01		1986.98		
T.P.		1992.99	1992.48	13.3	0.51
73+00	9.57 Ground 9.14 Stake		1996.21		5.10
Water	15.18		1990.60		
73+44	6.43		1999.35		
73+69.4	6.66		1999.12		
			2003.08		
73+95	ground 2.70 2.21 Stake		2003.57		
B.M.	5.78	2005.78	2000.00		
74+833					

721' S. to Apparent Sec. Line

88.3
 55
 74.8 3.3
 83.3
 23
 60
 74+ 17
 7+43

W. edge of brush
 17' S. to edge of water.

50° 17' Left in Check Cherry brush
 20' S. to N edge of water
 E. edge of bushes
 8' S. to edge of water
 Proposed site of Collection Box
 5' S. ditch, 18' South to N Edge of water
 Spring ditch 10' wide
 fence N-W west of E. side of Post
 Stake at approx North E. of Spring
 Stake in line with E end of Spring
 Bot. Wire 50'± So. on E side of Maple
 Fence N-S V.B. Tripp on E.
 Read Tippot's on West of fence
 fence appears to be 23.5' too far East



Elev.
Water 1163

26' S from Sta. 73+95 to
E E of Spring

36' S from Sta 73+95 to
SE Cor of Spring Area

19' S from Sta 73+95 to
NE Cor of Spring Area

12' S. from Sta 73+69.4 to
N. edge of Spring Area

36' S from Sta 73+69.4 to
S edge of Spring Area

39' = Approx E-W. length of
Spring Area.

{ Elev. of Water at least end of
Spring Area 10-4-54

Res H1 Elev F.S. B.S.

Sub

Add

B.M.

B.M. 0.0000 1000.00 1000.00

0+00

0+00 7.5 992.5

0+00 4.7 995.3

#1 8.15 1000.00 991.85 8.15 3.38

#2 2+00 5.16 995.23 990.07 5.16 7.07

#3 3+31 7.21 997.14 989.93 7.21 3.87

#4 5+00 5.00 993.80 988.80 5.01 4.36
996.66

#5 7+00 4.16 993.16 989.00 4.16 3.61

9-10-54

{ Cemetery Reservoir Line

8' wide

18.34' long

10' deep to window

Spring in Sec 24 T14N R1E

Page 349 Plat

} Reservoir

Nail in blaze on W. side of
15" Cottonwood tree located
20' NE of present collecting box
center of nail head is
H.I. and B.M.

bot. of water outlet from
bot. of collecting box

Top of Cone Box

Stake	Rod	HI	Elev	F.S	B.S
12+00	5.16	992.61	987.45	5.16	2.78
17+00	4.56	990.23	985.67	4.56	2.32
21+24	8.34	987.99	979.65	8.34	0.
21+44.6	9.30	979.65	970.35	9.30	0.08
22+71	14.9	970.93	955.53	14.9	0.63
25+12	14.87	956.16	941.29	14.87	0.95
26+64	15.0	942.24	927.24	15.0	1.05
27+78					
29+98	14.75	928.29	913.54	14.75	1.07
29+78					
32+12	14.9	914.61	899.71	14.9	1.26
35+69	15.00	900.97	885.97	15.0	1.77
37+47	6.37	887.74	881.37		

881.97
15.22

to E of window in N. end
of Conc Reservoir

Top of 1 1/2" pipe overflow in
SE Cor of Reservoir

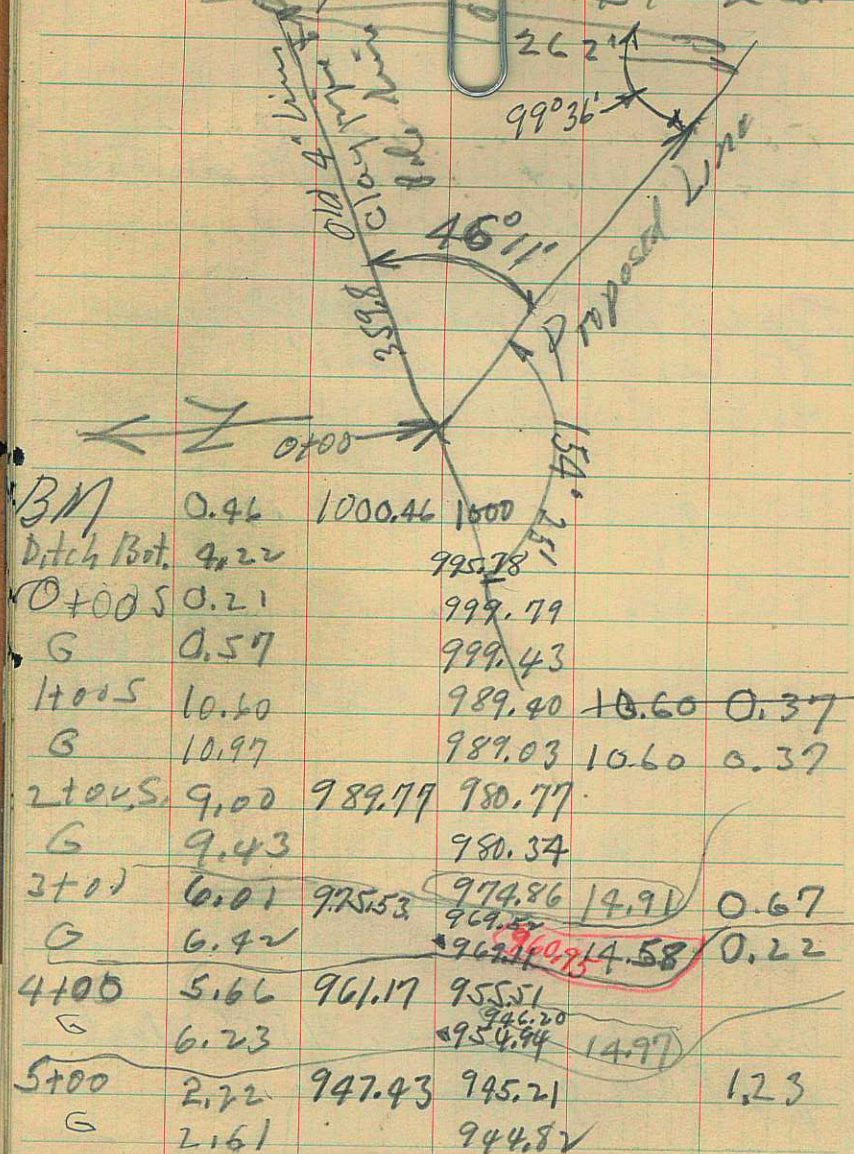
No Stake

970
961
950
99

2x2 hole in fence 15.5' West
of NE Cor of Cemetery

50376.0

Sta Rod HI Elev FS B.S.

Lane for ~~HP & L Co.~~ HP & L Co.

BM	0.46	1000.46	1000		
Ditch Bot.	4.22		995.78		
0+00 S	0.21		999.79		
G	0.57		999.43		
1+00 S	10.60		989.40	10.60	0.37
G	10.97		989.03	10.60	0.37
2+00 S	9.00	989.77	980.77		
G	9.43		980.34		
3+00	6.01	975.53	974.86	14.91	0.67
G	6.42		969.50		
			967.11	14.58	0.22
4+00	5.66	961.17	955.51		
G	6.23		946.20		
			944.94	14.97	
5+00	2.72	947.43	945.21		1.23
G	2.61		944.82		

11

Roy Murray
Alvin Johnson

9-13-54

to be

Lane & Pole Line assumed in N-S line

Following is line from
0+00 at proposed Y
and running West only
to Clarence house and
Reservoir

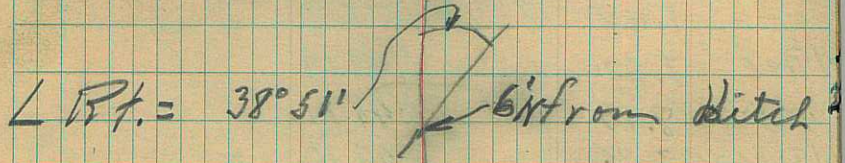
2x2 hub placed 10' N of Sta. 0+00

Station over old clay line

Sta	Rod	H.I.	Elev	F.S.	B.S.
6+00	11.00	947.43	936.43		
	11.46		935.97	14.76	1.83
7+00	10.01	934.50	924.49		
	10.82		923.68	14.88	0.58
		920.20			
7+81	2.02	909.69	907.67	14.6	4.09
	2.68		907.01		
8+03					
8+00	9.62		900.07		
	10.05		899.64		
8					
8+485	2.95		906.74		
	3.45		906.24		
9+105	5.46		904.23		
9+92.6	7.46		902.23	7.46	1.09
	7.93		901.76		
	3.48	903.27	899.84		
10+00	4.89				
	5.48				
11+00	4.89		898.43		
	5.48		897.84		
12+00	11.63		891.69		
	12.13		891.19		
13+00	16.88		886.44	16.88	1.10
	1.46	887.54	886.08		

179.60
 151.10
 28.50

Pt. where E bank begins to drop fast.
 Approx ~~2'~~ bot of ditch.
 E. side of ditch bottom
 bot. is 6' wide & 2' deep



L Lt = 23° 56' (Ground slope to bot)
 from this station K

K: Stake (center of 2' wide & 2' deep ditch)

	Rod	^{12.72} HI	^{42.6} Elev	F.S.	B.S.
14+00	5.68	887.54	881.86		
	6.20		881.34	5.64	
15+00	15.64		871.90	15.64	0.606
	0.92	872.50	871.58		
16+00	6.30		866.20		
	6.58		865.92		
17+00	11.36		861.14		
	11.59		860.93		
18+00	16.65		855.85	16.65	1.16
	1.48	857.01	855.53		
19+00	7.87		749.14		
	8.10		848.91		
19+46.2	9.85		847.16		
	10.27		846.74		
19+68	11.26		845.75		
	11.67		845.34		
20+00	11.89		845.12		
	12.4		844.61		
20+14	13.10		843.91	13.10	1.20
		845.11			
21+00	5.87		839.24		
	6.30		838.81		
22+00	12.45		832.66		
	12.85		832.26	12.45	1.55
23+00	8.37	834.21	825.84		
	8.69		825.52		

73
118

9100
5280

3820
2640

1180

in Lane E. of Barn

at NE Cor of Barn

Fence in E side of Rd.

L Rt. 15° 51' (Stake in E edge of traveled Road. ^{Mag. N. 15} RT 84° 22' W. bank of ditch)

Fence in W. line of Road.

Sta Rod H.I. Elev. F.S. B.S.

234827 14.64 834.2 819.57
15.14 819.07

234987

Hub 14.7 819.51

14.64 819.57

14

fence at Reservoir

at Reservoir

2" x 2" hub by post 3' N. of Line

Conc under Tub by East
window

50899

Sta Horiz. L Vert. L

0+00

+

2+46 21°37'R 12°50'L

Rt. 0.4" lin 25°05'R 16°45'OK

+

3+84 22°46'R 17°00'L

+

3+77 3°08'R 10°06'L

+

3+89 7°19'L 6°00'+

2+25 1°16'L 0°38'-

8+65 3°12'R 2°50'+

5+66 0°53'R 2°41'+

1+71 11°05'R 2°21'+

N. Reservoir NEly

Stake is 9'W & 2' N. from NE Cor of fenced enclosure

Pt where 4" line joins from E 338' Rt. along 4" line from junction with New line

pt where 1" line to Clarinator takes off from Main line

{ Pole # 395 is 49 ft S. of Stake in fence line 19°01'L = L from line to Pole line going North (MST&T Co

running E-W
Pt in fence line 1105' W of NE Cor of Christensen fence. The E-W fence separates Albert Hill & Christensen
Pt in fence running N-S 145.5' N. from E-W fence

High V Foot V

2+70 $5^{\circ}50' L 1^{\circ}35' +$

2+32 $9^{\circ}20' R 0^{\circ}42' +$

5+24 $13^{\circ}24' R 3^{\circ}54' +$

2+35 $12^{\circ}01' R 2^{\circ}42' +$

3+46 $25^{\circ}34' R 4^{\circ}35' +$

7+60 $9^{\circ}57' R 2^{\circ}58' +$

Pt in line at 2" take off for
Albert Hill. Stake is 95' E.
from Cone Mt. with steel led.
fence is 168' N. of this Stake
Fence Co is 50' W. of pt where
line crosses fence line

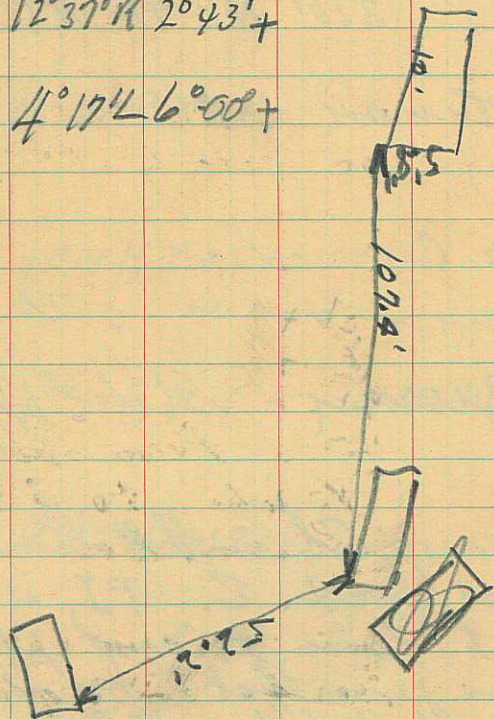
Power Pole 349 is 90' West
of fence passed thru is 69' S of
Stake. 310' NE to NS fence

on Curve

on Curve
curve is 40' W of this line
end of ~~curve~~ Stake #14

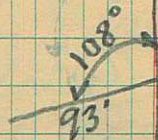
end of straight line is
100' further E. PI is 38'
S. of line to next pt.
Crosses fence that is boundary
between Albert Hill on W. & Alma
Sparkman on E at pt 426 ft
to farm corner at County Road

Sta
 ↓ Horizl Vert. L
 2+47 24°05' L 1°52' H
 ↓
 6+20 13°14' R 2°26' H
 ↓
 4+86 13°29' R 1°25' -
 ↓
 8+38 12°37' R 2°43' H
 ↓
 2+52 4°17' L 6°00' H



Boundary fence betw Alma
 Spackman and Tom
 Engledow where line crosses N-S
 fence line (apparent Sec.
 or 1/4 Sec line) is 70' S of Road.

Ref. Pt. on hill 108°00' L at 93'
 to Pipe Line Vert L = 6°47'



246' @ 22°27' L from above R.P.
 with 0°40' Vert. L to SW Cor
 of Red Collection Box

213' @ 13°04' L from above PP
 with 0°48' Vert. L. SW Cor of Red

300' @ 8°22' R from R.P.
 with 3°18' V-L NW Cor of Box

Sta.	Horz. L	Vert L	Pt. No	
0+00			①	
4+10 3+78	77° 07' L	3° 22'	②	
7+80	80° 12' L	4° 06'	③	pt. of Inst.
3+90	61° 44' R	5° 16'	④	pt. of Inst.
2+44	1° 03' L	5° 24'	⑤	pt. of Inst.
5+42	1° 18' L	5° 36'	⑥	" "
3+23	7° 35' L	5° 00'	⑦	" "
1+80	1° 53' L	5° 00'	⑧	" "
2+05	12° 59' L	6° 00'	⑨	" "
0+87	6° 40' R	3° 45'	⑩	" "

2.50
37
4
15
11.77
3
23

1.5
1.1
3.7

7.2
7.8

15
11.1
3.9

51291.6

18

10-1-54

Pt. in Spring House

Pt. over Repair in Line 109 ft from
Chokecherry bush yard stake south
from ~~line~~ 15' left from
Map. North Chokecherry tree is S
Mag. from water line

Pt. over Repair in Line 109 ft from
Maple tree with Stake (Tree is S. of line
N 80° 12' W left to Sta 0+00 from
Mag. North

∠ Rt. from Mag North to pt ④

Pt. over Repair in Line 11' South
from Stake on Chokecherry bush

Pt. over repair 35' S. from
Stake on Maple tree

Pt. over Line 22' N. from Stake
on Apple Tree

Pt. in Line 6' N. from Stake
in small maple tree

Pt 5' S. from Stake in Maple

Pt 6' N " " " "

Sta	Horiz	Vert	Pt. No	
0+93	18°07' R	5°45'	11	Pt. of Ind.
1+52	19°33' L	8°34'	12	" "
1+52	19°33' L	8°39'	12	" "
2+05	3°20' R	0°50'	13	" "
2+91	11°04' L	5°38'	14	" "
1+84	7°26' L	3°41'	15	" "
2+38	6°10' L	8°47'	16	" "
2+38	0°00'	4°38'	17	" "
1+95	21°09' L	1°03'	18	" "
1+42	2°53' L	4°17'	19	" "
1+15	0°00'	2°14'	20	" "
2+20	16°02' R	5°49'	21	" "
1+30	26°42' L	6°58'	22	" "
1+40	40°10' R	5°00'	23	" "

$\frac{2.00}{5.52}$
 $\frac{1.44}{1.52}$

Pt. 4' S. of blaze on
 4" Maple tree (Stake at base)

Pt 11 N. from blaze on 5" Maple ^{Stake at base}

Pt 19' S. from blaze on 2" maple ^{No Stake?}

Pt. 14' N from blaze on 6" Maple

Pt 11' S from " " 3" box elder

Pt. 7' N. " " 3" Maple

Pt 14' S " " 9" Maple

Pt 11' N " " 1.5" "

Pt. on top of Valve Box over
 Flow Line to Reservoir

Pt. 6' N. to ^{4" Maple} ⁵³² 1499 10-6-54

Pt 5' N. of 4" choke cherry with stake.

Pt 6' N. of Stake on 5" Maple

Sta	Horiz	Vert
2+05	11°52' L	5°23' ± 24
1+40	20°26' L	7°01' ± 25
0+91	4°08' R	7°35' ± 26
3+00	19°31' L	4°31' ± 27
0+88	7°55' R	3°08' ± 28
3+40	25°56' R	5°00' ± 29
1+16	48°39' L	1°50' - 30
0+93'	13°37' L	7°16' ± 31
0+81	46°16' R	8°00' ± 32
1+08	20°14' R	7°25' ± 33
1+22	27°30' R	9°50' ± 34
0+78	1°20' R	6°22' ± 35

Pt. 7' N. of Stake on 5" Maple

Pt 6' N. of stake on 3 1/2" Maple

Pt 5' S of Stake on 4" Maple

{ Stake on 5" Maple is 18' South of Water Line. Pt. #27 is 8' South of water line

{ Stake on 4" Maple is 22' South of Water Line. Point of Inst. is 4' N. of Water line

{ Stake on 3 1/2" maple 6' So of water pt. of Inst. is 3' So. of Water

{ Stake 12' E of water line on 7" Quaken Aspen tree

{ Stake is 8' S. of Water line on 3" Maple

Stake is 6' S. of Water on 2 1/2" maple

Stake is 40' N. of water on 4" maple

Stake is 30' N. of water on 4" Maple

Stake is 15' N. of water on 4" maple

10-11-54
51650

Sta	Horiz	Vert	No
0+80	32°40'R	4°37'+	36
+62 0+00	14°52'R	2°30'+	37
1+14	3°25'R	5°00'+	38
1+52	55°24'R	0°00'	①
1+30	42°06'L	1°42'+	②
0+50	32°20'L	2°05'+	③
1+68	23°35'L	5°33'+	④
			39
1+93	18°24'L	8°05'+	39
2+10	16°34'L	5°00'+	40

Pt 20' South from stake 5" Maple
1" Valve & Y is 11' So. from Stake on 3" Maple

Pt 27' S of Stake on 3" Maple

Going Pt. on 1st branch Feed
Line Pt 4' W. of Stake on 3" choke
Pt 6' N of Stake on 8" Boulder

Pt 5' S of Stake on 9" Boulder

Pt. on top Center of Concr Box

Note Approx 12' of 6" pipe
is exposed. Should be
wrapped and capped
and protected from Rock

Pt 29' S. of Stake on 3" Maple

Pt. 8' S. of Stake on 3" choke
Pipe exposed 15' E of this pt. for 12'
Pt 30' S. of Stake on 7" Boulder

Sta Horiz Vert No
1+32 24°57'L 6°08'+ 41

1+01 9°46'R 2°40'+ 42

1+28 4°11'R 7°40'+ 43

0+99 26°12'R 7°12'+ 44

1+28 26°37'L 9°35'+ 45

1+62 19°32'L 5°35'+ 46

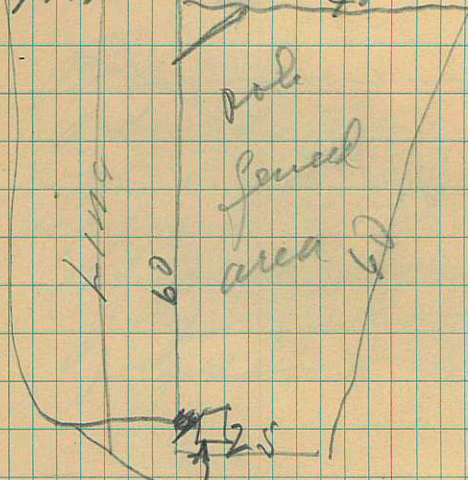
2+30 19°16'R 8°36'+ 47

1+65 20°14'R 1°15'+ 48

Pt 13' S of Stake on 5" Maple

Point on W. center of Collector Box
at 27 W Co of fenced enclosure

Pt. 12' S of Stake on 6" Maple



Pt 5' N. of Stake on 5" Maple

Pt 10' N. of Stake on 8" Boulders

{ Pt 9' N. " " 5" Maple
1" Valve 4' East in LINA

Pt 11' S of " " 4" " "

Pt. 6' S of Stake on 4" Maple

Sta Horiz Vert No
1482 29°42' R 4°10' + 49

0498 22°31' 8°39' +

8 v 67' to top collection

Pt 27' S. from Stake on 7" Boulder

Pf over Center of West side
of cone box
12" pipe into box
6" " out of box

Recommend that
Richardson open
box and allow extra
spring to enter.
Also a larger outlet
pipe should replace
present 6" pipe

63809 Richmond Valve & Hydrant measurements

63765 8-12-55

4.4 miles
Valves

5th St & State 511.5' E of FH
Hydrant 5 1/2' N of N. FH 85.2' E of wall
Valve 1' E of Hydrant

Hydr Valve Dist E Dist N Dist W Dist S

Valve 29' South of Hydrant
11' E of N. Prop Line

Valve 25' S. from Canal Bridge Culvert

27.5' E from prop line
2nd Valve 30' South of 1st Valve

4" line ends ^{14 1/2'} S. of valve
4 way cross at this pt
relating to 2 1/2" pipe
plugs E & W with
pipe running South

1st W & 1st N
1 1/4" line E-W 32' S from N FH

1st W & Main Valve 32' W of FH
1 1/4" line N 21.7' S of N FH
Valve on Main E-W
line is 6' S. of above
valve

1st W & 1st S
Valve { 25' W of E Walk & 27' W of FH
" { 26.5' of N FH. 2 1/2' E-W

1st E & 2nd S
Valve { 27' W of E FH
" { 6" N of N FH

~~1st E & 1st S W. of Rocky
Ridge Reservoir
Valve 20 1/2' E of W FH~~ (on map)

Fire Plug 17 1/2' W & 3 1/2' N
of FH at NE Cor of Intersection
of 1st E & 4 South

Fire Plug 1st E & 2nd N
24' W & 5 1/2' S of SE Cor
of intersection

Valve 27 1/2' W & 14' S of SE Cor of
Intersection of 2nd E 3rd N

RICHARD

2nd S & 3rd E
 Value 1' N & 30' W of NE Cor
 of Intersection
 Hyd 15.4' N & 12.7' W of R
 at NE cor of 280' x 2' E

~~1st S & 3rd E~~
 Value 25 1/2' E on N R
 Hyd. 6' N & 12 1/2' E of NW Cor
 Value 26 1/2' E on S R at SW Cor

3rd E 3rd S
 Value 11 1/2' N & 26' E of SW Cor
 Hyd. 7' N & on W R of NW Cor
 1" line 2' x 2' on 3 1/2' line
 name 1 block E at dist
 of 22 1/2' S of N R

~~2nd S of State
 Hyd on NW Cor~~

8-12-55

Phone

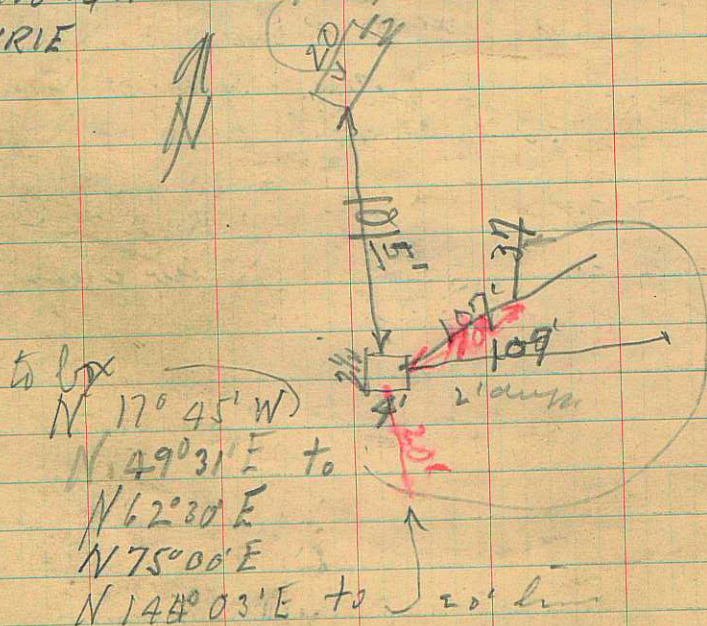
Alton I Carson 07R4 Richmond
Richmond Utah Box 7
Collection Box 12x20x9' day

Phone betw 7-8 morning or noon

07R4 Richmond

Page 13-14 of
13 HRIE

9' day



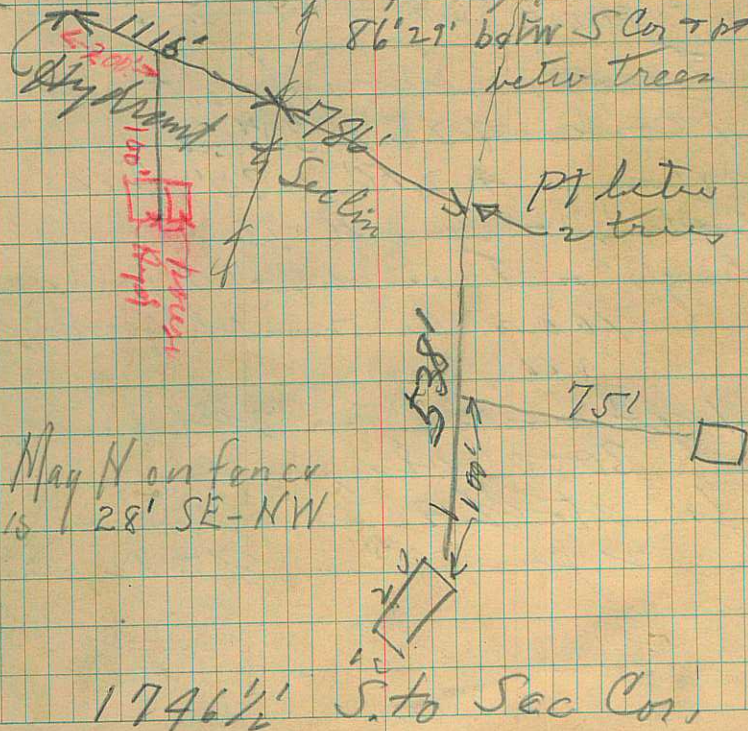
N 51° 46' E to Mandershill box
from line between
two boxes of Carson

N 4° 37' W to Junction

N 80° 19' W to pt betw 2 trees
on section line

N 20° 18' W to Pole with transform
near Mandershill box

S 123° 33' W from box to hgd
from pt betw trees
86' 29' betw S Cor & pt
betw trees



Carson
 Cheat
 (water)
 1746 1/2' N
 to crossing of
 water line
 Funks from
 Funks
 West 1/4 Cor of Sec 11 T13 N
 R1 E of S1 B4 N1
 Rt. of way is S. of 1/4 line of Sec.
 To Everett Smith

Troughs Trough at barn
 1 conc 4 x 6 x 30" deep
 Cooling 4 x 10 x 30" deep
 calves - barrel 10 gal milk can
 hogs - Trough 4-30 gal barrel
 100 gals milk cooled
 per day
 1 qt water per 3 lbs feed
 3000 gals per day
 for stock & chickens
 21 families (8 to 12 per)

amount 75 26
 Thrown 80 7

We have been
 residents of Richman
 all our lives, and
 are acquainted with
 the water ~~line~~
 along J. Carson is
 filing a delinquent
 claim on the town
 that the water
 in question has
 been used by him
 and his predecessors
 continuously prior 1905

bucket 11 3/8 top } = .878' dia
 8 1/2 bot } = 0.5647 cu ft
 12" deep }
 3 buckets in one round

Bush 30 / 301-302
 .5647
 1.123
 169.41 =
 ct per M.

Reservoir 12' x 20' x 9' deep
 and 2 1/2' x 4' x 2' deep

Carson

11-3-55

62° 05' Left from Hyd
to Milk house 189'

58° 47' L to pt. going into barn
196'

0° 14' RT to SE of Poultry house
water enters 40' N.
120'

3° 11' L to Hog Pen 255'
6 - 15 gal tanks by 30 gal

20x10 Milk cooling 23 days
x 30" w x 79" long

Water trough

70 x 36 x 27 days
Barn 80 x 12 washed

27
6" trip to Collector box
1 1/2" to Reservoir

3" 4 2" to house

+ 3/4" lines from house
to barn, chook etc

Richmond City

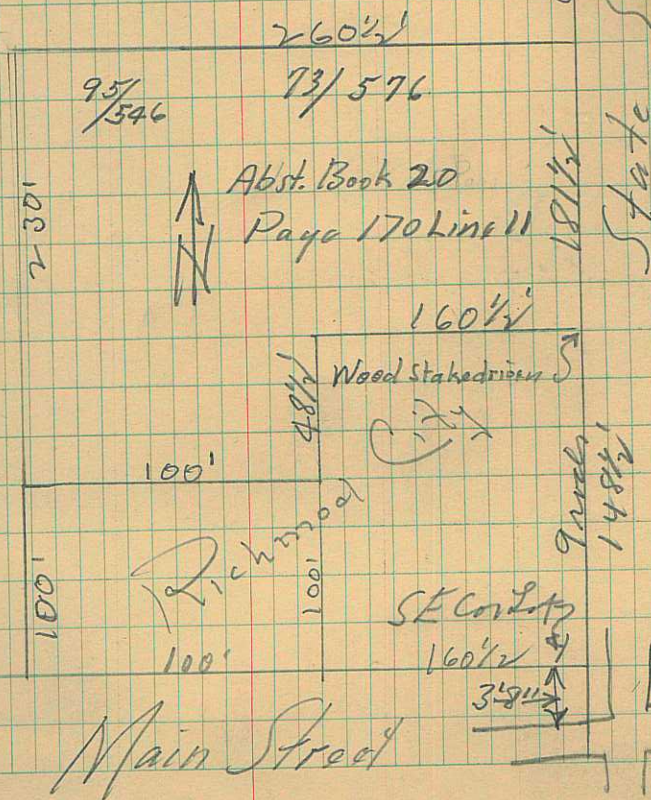
Beg. at SE Cor. of Lot 6, Blk
23, W 160 1/2'; N 9 rods;
E 160 1/2'; S. 9 rods to beg.

Beg. pt. is 3'-8" N. of
N. edge of Side walk.

The N. end of Blk
commences 3'-8" S from
S. edge of Walk. A
picket fence exists
at this date ¹¹⁻²¹⁻⁵⁵ on
line of Blocks at
NE Cor.

Richmond City ^{3.51 to walk}
page 38 of 147 RIE 11-21-55

Blk 23



$\frac{0.77}{0.4} = 1.925$
 $\frac{37}{.13} = 284.6$
 $\frac{284.6}{1.925} = 148$

CURVE FORMULAS

$$\begin{array}{l}
 T = R \tan \frac{1}{2} I \\
 T = \frac{50 \tan \frac{1}{2} I}{\text{Sin. } \frac{1}{2} D} \\
 \text{Sin. } \frac{1}{2} D = \frac{50}{R} \\
 \text{Sin. } \frac{1}{2} D = \frac{50 \tan \frac{1}{2} I}{T}
 \end{array}
 \quad
 \begin{array}{l}
 R = T \cot. \frac{1}{2} I \\
 R = \frac{50}{\text{Sin. } \frac{1}{2} D} \\
 E = R \text{ ex. sec } \frac{1}{2} I \\
 E = T \tan \frac{1}{4} I
 \end{array}
 \quad
 \begin{array}{l}
 \text{Chord def.} = \frac{\text{chord}^2}{R} \\
 \text{No. chords} = \frac{I}{D} \\
 \text{Tan. def.} = \frac{1}{2} \text{ chord def.}
 \end{array}$$

The square of any distance, divided by twice the radius, will equal the distance from tangent to curve. very nearly.

To find angle for a given distance and deflection.

Rule 1. Multiply the given distance by .01745 (def. for 1° for 1 ft.) and divide given deflection by the product.

Rule 2. Multiply given deflection by 57.3, and divide the product by the given distance.

To find deflection for a given angle and distance. Multiply the angle by .01745, and the product by the distance.

GENERAL DATA

RIGHT ANGLE TRIANGLES. Square the altitude, divide by twice the base. Add quotient to base for hypotenuse.

Given Base 100, Alt. $10.10^2 \div 200 = .5$. $100 + .5 = 100.5$ hyp.

Given Hyp. 100, Alt. $25.25^2 \div 200 = 3.125$. $100 - 3.125 = 96.875 =$ Base.

Error in first example, .002; in last, .045.

To find Tons of Rail in one mile of track: multiply weight per yard by 11, and divide by 7.

LEVELING. The correction for curvature and refraction, in feet and decimals of feet is equal to $0.574 d^2$, where d is the distance in miles. The correction for curvature alone is closely, $\frac{3}{8} d^2$. The combined correction is negative.

PROBABLE ERROR. If d_1, d_2, d_3 , etc. are the discrepancies of various results from the mean, and if $\sum d^2$ —the sum of the squares of these differences and n —the number of observations, then the probable error of the mean = $\pm 0.6745 \sqrt{\frac{\sum d^2}{n(n-1)}}$

MINUTES IN DECIMALS OF A DEGREE

1'	.0167	11'	.1833	21'	.3500	31'	.5167	41'	.6833	51'	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

INCHES IN DECIMALS OF A FOOT

1-16	3-32	$\frac{1}{8}$	3-16	$\frac{1}{4}$	5-16	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625	.0729
1	2	3	4	5	6	7	8	9	10	11
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167