

Dr. 8-Bk. 8

CROSS-SECTIONS
MCMENEMY GRAVEL PIT

West side of McMenemy Str.
 $\frac{1}{2}$ Mi. N. of St. Paul City Limits

FILE NO. 13

ORIGINAL & FINAL

of Ramsey Co. Engineer
ST. PAUL, MINN.

Filed 8-3-25

File No. "13"

	+	H.I	-	Elev.
B.M.	4.76	950.84		946.08
T.P.	1.97	946.86	5.95	944.89
"	0.59	937.11	10.34	936.52
"	0.16	925.59	11.68	925.43
"	1.54	915.99	11.14	914.45
"	4.40	911.93	8.46	907.53
"	6.45	913.21	5.17	906.76
"	5.49	914.32	4.38	908.83
B.M.	4.62	915.82	3.12	911.20

915.82

0+00 = R.M. McNamey

0+33 10.8

0+55 11.5

0+75 06.8

1+00 04.0

1+25

1+50

W.C.
 6/1/3
 A.L.P. 7-28-75
 M.E.
 E.G.

Lake Imp B.M. P.P. S.W. cor. Co. Rd. "B" & McMenemy.

on McMenemy
 Spike in T.P. #191 - near center of Gravel Pit.

Cross-Section.
 Left ——— Right
 South. ——— North.

5.7 5.3 5.7 6.5 6.6
 190 100 0 100 190

5.5 5.5 5.0 ✓ 5.0 5.7 5.4 1.2 7.7 2.5
 190 100 0 70 100-105-111-139 190

(cont'd) 6.4 6.1 7.6 7.6 1.6 (cont'd) 15.0 4.3 ✓ 4.3 4.5 6.5 5.4 1.5
 160 137 130 125 100 18 0 53 100 110 150 190

(cont'd) 6.4 13.5 (cont'd) 17.0 9.0 ✓ 4.1 4.0 4.6 5.5 7.0 3.3 2.8
 133 123 26 0 4 54 87 100 122 145 190

(cont'd) 2.0 6.0 12.8 (cont'd) 55.0 11.8 ✓ 3.7 3.9 4.3 5.0 8.3 7.0 7.6 6.9 5.5
 143 140 133 11 0 13 30 70 100 110 130 150 170 190

(cont'd) 0.9 (cont'd) 23.9 16.0 14.4 4.5 5.6 10.1 7.9 6.6 4.5
 144 30 47 70 100 112 160 180 190

(cont'd) 0.9 (cont'd) 24.6 8.7 7.2 7.2 9.1 7.2 7.2
 127 93 100 110 122 160 170 180

35 4.5
 190 180

Station	+	H.I	-	Elev.
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915.82

1+75

2+00

T.P. #1	12.30	927.71	0.41	915.41
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0+55

0+75

1+00

1+25

1+50

1+75

2+00

T.P. #2			0.16	927.55
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B.M.	1.61	912.81		911.20
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T.P. #3	0.87	900.81	12.87	899.94
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0+55

0+75

Lt.

L

Rt.

(cont'd)

2.0

107

(cont'd)

34.8

7.0	5.1	8.0	5.6	5.2	4.0
125	130	150	175	185	190

(cont'd)

2.0

195

(cont'd)

32.4

10.7	8.4	4.2	4.8	3.3	3.6
130	140	160	170	180	190

Top Stake 127' Lt. Sta. 1450

20.0	19.6	10.2
190	180	172

(cont'd Sec.)

16.2

17.2	6.2	6.1	10.9
190	172	165	136

(cont'd Sec.)

20.9

16.0	7.9
190	178

(cont'd Sec.)

23.7

13.2	8.2	10.2
190	175	155

(cont'd Sec.)

25.6

19.6	5.0	8.6	7.3
192	180	170	155

(cont'd Sec.)

40.7

10.0	5.6	3.4	7.0	7.8
190	165	145	125	114

(cont'd Sec.)

46.7

10.7	4.0	2.2	0.8
190	160	148	110

(cont'd Sec.)

44.3

Top Stake 111' Lt. Sta. 2400

6.9	1.9
45	30

(cont'd Sec.)

-10.7

6.9	15.0	10.2
100	70	45

(cont'd Sec.)

+6.0

Station	+	H.I	-	Elev.
		900.81		
1+25				891.9
1+50				
T.P. #4	1.50	890.52	11.79	889.02
1+00				
1+25				87.0
1+50				87.0
1+75				81.0
2+00				83.4
T.P. #5	11.39	898.46	3.45	887.07
2+25				93.9
T.P. (hooking)	11.81	909.21	1.06	897.40
T.P.	8.86	916.15	1.92	907.29
B.M.			4.97	911.18 ✓.02
T.P. #2	12.67	940.22		927.55
2+25				
2+60				24.6
2+75				26.3
T.P.	5.69	944.14	1.77	938.45

Lt.

Z

Rt.

(cont'd)

89

(cont'd)

(cont'd)

13.8

11.1
10 11.0
70

12.0
892.5 1.3 54 6.2 1.4
116 100 75 50 33

-13.1

13.0
893.5 0.8 5.9 8.2 54
115 100 75 50 32

-1.0

13.0 4.1 8.1 9.5 46 3.9
893.5 85 50 25 10 6
100

0.0 0.0 6.4 8.2 9.7 9.7 6.3 2.0
75 60 50 30 20 50 70 85

110 uniform 0.0 6.4 7.5 8.0 8.3 3.8 0.0
30 10 0 40 65 85 93

Top Rock

11.0
899.5 4.6 7.7 4.3
30 40 70

Top shale 111 Lt. 5/2 2100

25.8 13.6 9.3 9.3 (cont'd)
190 139 102 72

46.3

24.8 8.4 2.2 6.4 11.4 15.6 16.2 4.7
190 121 66 42 20 40 128

25.2 7.6 0.6 13.4 15.4 14.6 5.7
190 120 63 20 68 128

Station	T	H.I	—	Elev.
		944.14		
3+00				30.9
3+50				32.7
4+00				34.8
4+50				38.4
5+00				39.0
5+33				39.9
T.P.	1.65	935.21	10.58	933.56
3+00				
3+50				
T.P.	2.44	926.38	11.27	923.94
2+25				
2+60				
2+75				
T.P. checking	1.22	916.25	11.35	915.03
B.M.			5.08	911.17 1.03

Lt. Z Rt.

$\frac{32.0}{190}$ $\frac{13.0}{128}$ $\frac{6.5}{105}$ $\frac{3.4}{65}$ $\frac{4.8}{46}$ 13.2 ✓

$\frac{31.5}{190}$ $\frac{13.0}{124}$ $\frac{9.1}{110}$ $\frac{3.4}{70}$ $\frac{4.8}{45}$ 11.4 ✓

$\frac{26.7}{190}$ $\frac{13.0}{100}$ $\frac{8.3}{60}$ 9.3 ✓ $\frac{9.2}{31}$ $\frac{11.1}{60}$ $\frac{18.0}{135}$ $\frac{26.0}{163}$ $\frac{33.7}{190}$

$\frac{30.6}{190}$ $\frac{24.0}{130}$ $\frac{18.6}{100}$ $\frac{11.4}{50}$ 5.7 $\frac{8.2}{40}$ $\frac{13.0}{80}$ $\frac{21.0}{120}$ $\frac{30.3}{145}$ $\frac{38.4}{163}$ $\frac{45.8}{190}$

4.9
 $\frac{25.7}{190}$ $\frac{28.7}{180}$ $\frac{26.6}{125}$ $\frac{21.3}{100}$ $\frac{17.4}{80}$ $\frac{12.2}{60}$ 5.1 $\frac{7.3}{35}$ $\frac{13.0}{58}$ $\frac{21.0}{96}$ $\frac{28.0}{119}$ $\frac{34}{125}$ $\frac{40.2}{150}$

$\frac{12.7}{190}$ $\frac{23.3}{160}$ $\frac{23.3}{136}$ $\frac{17.3}{100}$ $\frac{13.0}{77}$ $\frac{6.4}{60}$ 4.2 $\frac{6.7}{20}$ $\frac{13.3}{45}$ $\frac{24.3}{78}$ $\frac{32.5}{104}$ $\frac{37.6}{121}$ $\frac{45.8}{190}$

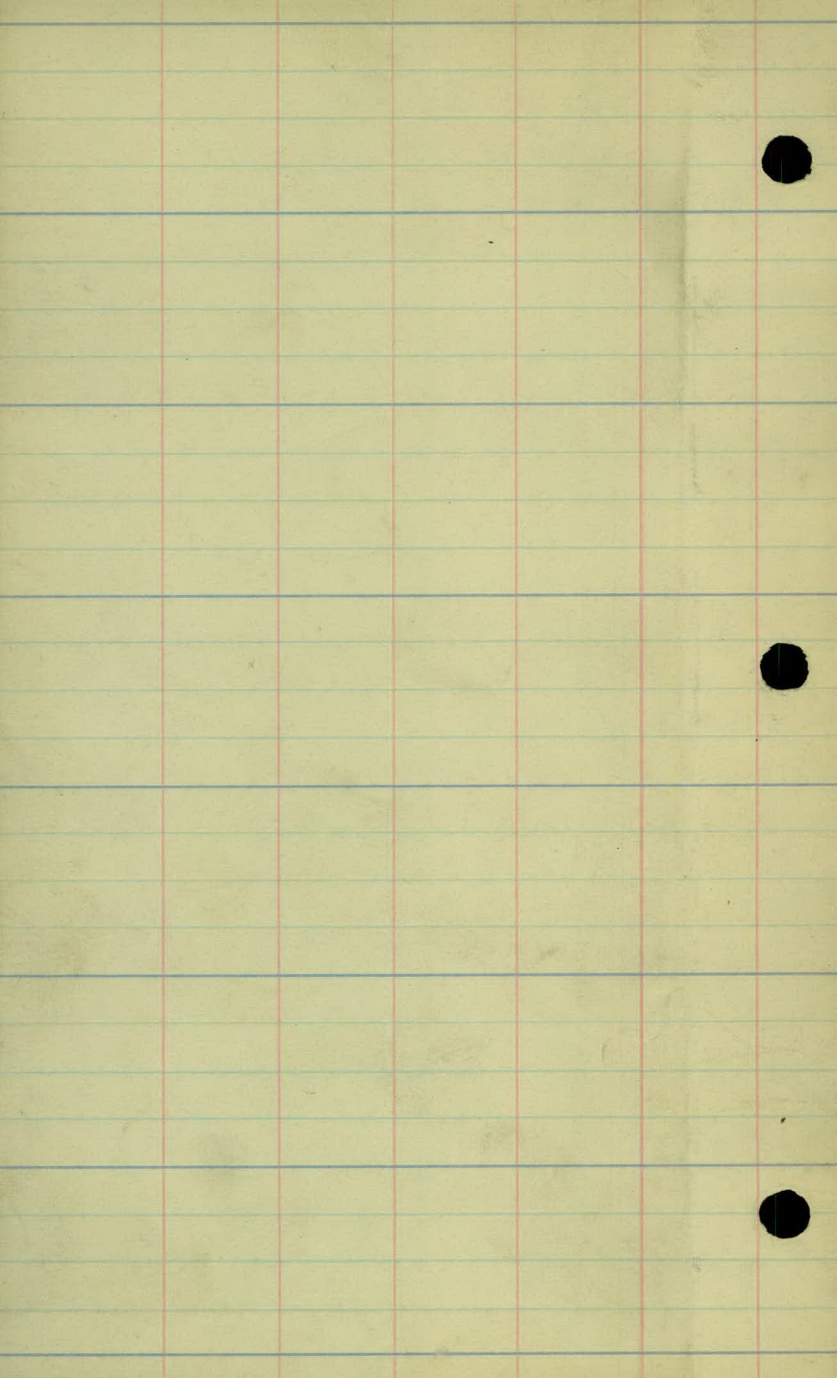
4.3 $\frac{4.7}{71}$ $\frac{5.0}{100}$ $\frac{2.5}{135}$ $\frac{11.5}{155}$ $\frac{10.9}{176}$ $\frac{14.4}{190}$

2.5 $\frac{6.9}{65}$ $\frac{5.2}{100}$ $\frac{2.1}{127}$ $\frac{10.7}{156}$ $\frac{19.4}{190}$

32.5 $\frac{15.4}{114}$ $\frac{8.1}{146}$ $\frac{7.7}{159}$ $\frac{11.1}{175}$ $\frac{12.1}{190}$

1.8 $\frac{1.4}{145}$ $\frac{6.4}{162}$ $\frac{6.8}{190}$

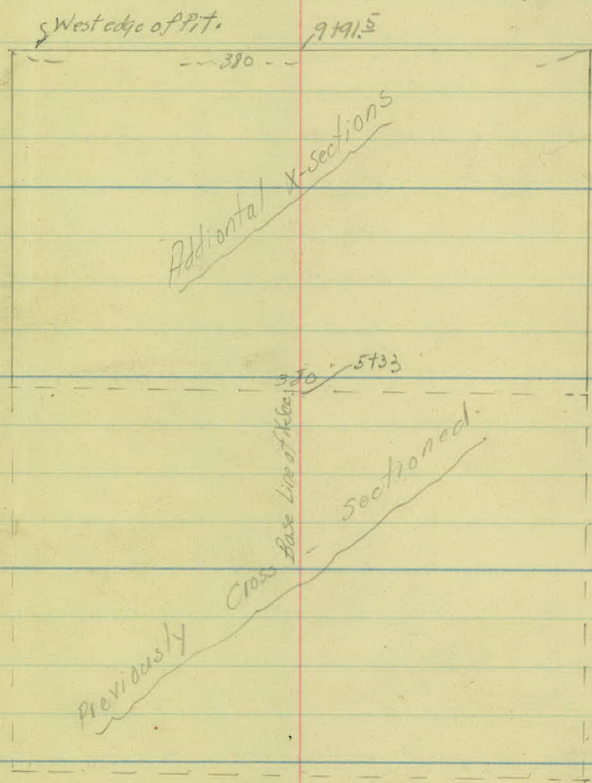
0.1 $\frac{3.0}{153}$ $\frac{5.4}{190}$



ADDITIONAL CROSS - SECTIONS

M^c MENEMY GRAVEL PIT.

November 13, 1925



See page 1 of Orig. notes.

Station	+	H.I	-	Elev.
B.M.	6.37	917.57		911.20
T.P.	11.29	928.60	0.26	917.31
T.P.	10.27	937.94	0.93	927.67
T.P.	7.38	944.93	0.39	937.55

5+60

5+80

6+00

6+40

6+70

7+00

7+35

7+55

7+70

8+00

8+35

South.

North.

Lt.

C.

Rt.

p-7

Spikes in T.P. # 191 on Mammometry
Near 2 of Gravel Pit.

W.H.C.
Olson.
Fritz
Bell

HI 9449

Nov. 13, 25

34.2	29.7	30.7	37.6	39.3	37.7	39.6	40.1	39.3	33.8
$\frac{10.7}{190}$	$\frac{15.7}{181}$	$\frac{15.2}{153}$	$\frac{9.0}{109}$	$\frac{7.3}{100}$	$\frac{5.6}{90}$	$\frac{7.2}{50}$	$\frac{4.5}{35}$	$\frac{4.0}{20}$	$\frac{5.6}{11.1}$
									cont'd

36.6	32.1	32.1	35.7	35.2	37.7	41.6	40.9	34.5
$\frac{8.0}{190}$	$\frac{6.8}{180}$	$\frac{7.8}{140}$	$\frac{9.2}{112}$	$\frac{9.1}{90}$	$\frac{7.0}{50}$	$\frac{2.0}{38}$	$\frac{4.0}{12}$	$\frac{10.4}{10.4}$

34.3	33.4	32.2	36.3	42.0	41.1	29.4
$\frac{10.1}{190}$	$\frac{11.5}{165}$	$\frac{12.6}{136}$	cont'd	$\frac{6.0}{46}$	$\frac{2.9}{43}$	$\frac{3.8}{24}$

34.8	35.1	37.4	41.6	41.2
$\frac{10.1}{91}$	$\frac{9.2}{81}$	cont'd	$\frac{7.5}{55}$	$\frac{3.3}{52}$
				$\frac{3.7}{39}$

34.3	34.2	21.7	39.4	44.6	40.1
$\frac{10.6}{220}$	$\frac{10.7}{204}$	$\frac{23.0}{200}$	$\frac{10.5}{160}$	$\frac{4.0}{55}$	$\frac{4.8}{47}$

28.4	31.7	37.7	37.3
$\frac{16.5}{220}$	cont'd	$\frac{13.0}{70}$	$\frac{5.0}{67}$
		$\frac{5.6}{47}$	

28.9	39.1	39.4
$\frac{16.0}{200}$	$\frac{5.8}{76}$	$\frac{5.1}{74}$
		$\frac{5.1}{44}$

27.6	36.7	38.3	36.6
cont'd	$\frac{15.8}{100}$	$\frac{8.2}{85}$	$\frac{6.1}{60}$
		$\frac{6.2}{28}$	

21.7	27.7	31.1	35.2	37.6	40.9	33.0
cont'd	$\frac{29.2}{120}$	$\frac{11.2}{115}$	$\frac{13.8}{107}$	$\frac{9.7}{92}$	$\frac{7.9}{70}$	$\frac{4.0}{35}$
					$\frac{6.9}{23}$	

28.1	33.3	38.2	41.1	32.6
cont'd	$\frac{16.8}{105}$	$\frac{11.6}{105}$	$\frac{6.7}{70}$	$\frac{3.8}{40}$
				$\frac{6.3}{17}$

32.8	36.7	40.0	38.5	36.7
cont'd	$\frac{11.1}{105}$	$\frac{8.0}{68}$	$\frac{1.9}{35}$	$\frac{6.4}{82}$
				$\frac{1.9}{19}$

944.93

8+65

T.P. 1.38 936.74 7.57 939.36

9+00

9+50

~~9+45~~ 9+75

9+91.5

T.P. 7.15 933.14 10.75 925.99

7+35

7+55

7+70

8+00

8+35

8+65

T.P. 3.59 924.39 12.34 920.80

6+00

6+40

Lt.

L

Rt.

HI 44.9

32.6	37.8	39.9	38.1
12.3	7.1	5.0	6.8
90	35		20

Top Stake Sta. 9+00 L 34.7 35.3 38.2 30.4

HI 36.9

17.9	16.8	14.9	8.0	3.9	2.0	1.4	2.5	6.3
	190	155	90	50		30	60	100

07.7	23.0	26.7	30.2	29.5	30.8	27.5
29.0	13.7	10.0	6.5	7.2	5.9	9.2
190	90	50		45	73	100

04.7	16.7	20.2	25.6	26.2	24.6	24.7
32.0	20.0	16.5	11.1	10.5	10.1	12.0
190	90	50		15	45	100

02.0	7.4	12.7	15.9	20.7	22.1	23.2
34.7	29.3	24.0	20.8	16.0	14.6	13.5
190	130	90	50		60	100

HI

33.1

25.8

7.3
212

25.5

7.6
212

26.5

6.6
208

24.6 27.5

5.5	5.6
190	140

22.4 27.5 29.8

10.7	5.6	3.3
190	140	110

23.8 23.8 25.4

9.0	7.0	1.1
190	150	120

HI 24.4

16.0	19.3	20.8
8.0	5.1	3.6
125	90	72

16.2	08.7	11.4
8.2	15.7	18.0
165	120	90

Station	+	H.I	-	Elev.
		924.39		
T.P.	0.64	913.59	11.44	912.95

6+70

7+00

7+35

7+55

7+70

T.P.	2.05	937.41		935.36
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5+60

5+80

6+00

6+40

6+70

7+00

7+35

L

L

Rt.

P 9

HI 913.6

8.1	050	11.4
<u>5.5</u>	<u>8.6</u>	<u>2.2</u>
170	120	95

13.1	051	03.1
<u>9.5</u>	<u>8.5</u>	<u>10.5</u>
190	160	120

11.6	50	51	105
<u>2.0</u>	<u>8.6</u>	<u>8.5</u>	<u>3.1</u>
190	165	150	120

5.7	1.6	13.6
<u>7.9</u>	<u>7.0</u>	<u>0.0</u>
175	165	125

11.5
<u>2.0</u>
165

Top stake sta 9100 L

HI 39.4

26.7
<u>10.7</u>
40

25.9
<u>11.5</u>
30

20.7
<u>16.7</u>
30

29.9
<u>7.5</u>
20

22.0
<u>15.4</u>

28.9
<u>8.5</u>
30

20.1
<u>17.3</u>

29.3
<u>10.1</u>
30

20.7
<u>14.7</u>

26.0
<u>11.4</u>
15

24.2
<u>13.2</u>

Station

+

H.I.

-

Elev.

937.41

7+55

7+70

8+00

8+35

8+65

T.P.

1.37

927.09

11.69

925.72

5+80

6+00

6+40

6+70

7+00

7+35

7+55

7+70

It

L

RT.

R10

HI 374

$$\begin{array}{r} 274 \\ 100 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 25.7 \\ 117 \\ \hline \end{array}$$

$$\begin{array}{r} 26.0 \\ 11.5 \\ \hline 45 \end{array}$$

$$\begin{array}{r} 265 \\ 109 \\ \hline \end{array}$$

$$\begin{array}{r} 243 \\ 13.1 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 294 \\ 80 \\ \hline \end{array}$$

$$\begin{array}{r} 26.1 \\ 11.3 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 21.1 \\ 16.3 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 274 \\ 100 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 25.7 \\ 11.5 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 31.0 \\ 6.4 \\ \hline 45 \end{array}$$

$$\begin{array}{r} 28.9 \\ 8.5 \\ \hline 100 \end{array}$$

HI 27.1

$$\begin{array}{r} 156 \\ 11.5 \\ \hline 60 \end{array}$$

$$\begin{array}{r} 148 \\ 12.3 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 153 \\ 11.8 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 14.1 \\ 13.0 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 156 \\ 11.5 \\ \hline 60 \end{array}$$

$$\begin{array}{r} 09.9 \\ 17.2 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 20.0 \\ 7.1 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 15.1 \\ 12.0 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 22.5 \\ 46 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 17.7 \\ 9.4 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 12.4 \\ 14.7 \\ \hline 130 \end{array}$$

$$\begin{array}{r} 23.1 \\ 40 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 19.0 \\ 8.1 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 14.4 \\ 12.1 \\ \hline 130 \end{array}$$

Station	+	H.I	-	Elev.
		927.09		
8+00				
8+35				
8+65				
9+00				
9+50				
9+75				
9+91.5				
T.P.	0.46	919.98	7.57	919.52
5+60				
5+80				
6+00				
6+40				
6+70				
7+00				

Lt.

L

Rt.

P-11

HI 27.1

16.0

11.1

140

14.3

12.8

150

17.5

9.6

150

21.1

6.0

150

19.2

7.9

150

14.5

12.6

190

20.7

6.4

140

16.8

10.3

190

21.5

5.6

150

16.8

10.3

190

Top stake 7+70 100' RT.

HI 20.00

17.0 9.5

3.0 10.5

70 100

3.5

16.5

150

1.0

19.0

190

8.5

11.5

100

4.0

16.0

150

1.5

18.5

190

8.1

11.9

100

4.1

15.9

150

1.5

18.5

190

9.8

10.2

70

7.7

12.3

100

4.7

15.3

140

1.8

18.2

170

1.9

18.1

190

9.5

10.5

70

7.2

12.8

100

3.5

16.5

150

2.4

17.4

190

4.8

15.2

150

3.0

17.0

170

0.40

19.6

190

Station	+	H.I	-	Elev.
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919.98

7+35

7+55

7+70

8+00

8+35

8+65

9+00

T.P.	8.68	927.79	0.87	919.11
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T.P.	0.54	916.20	12.13	915.66
------	------	--------	-------	--------

B.M.			5.02	911.18
------	--	--	------	--------

L

Z

Rt.

P-12

HE 200

85 898.2

$$\begin{array}{r} 11.5 \\ \hline 150 \end{array} \quad \begin{array}{r} 21.8 \\ \hline 190 \end{array}$$

$$\begin{array}{r} 10.7 \\ \hline 91 \\ \hline 150 \end{array} \quad \begin{array}{r} 898.2 \\ \hline 20.8 \\ \hline 190 \end{array}$$

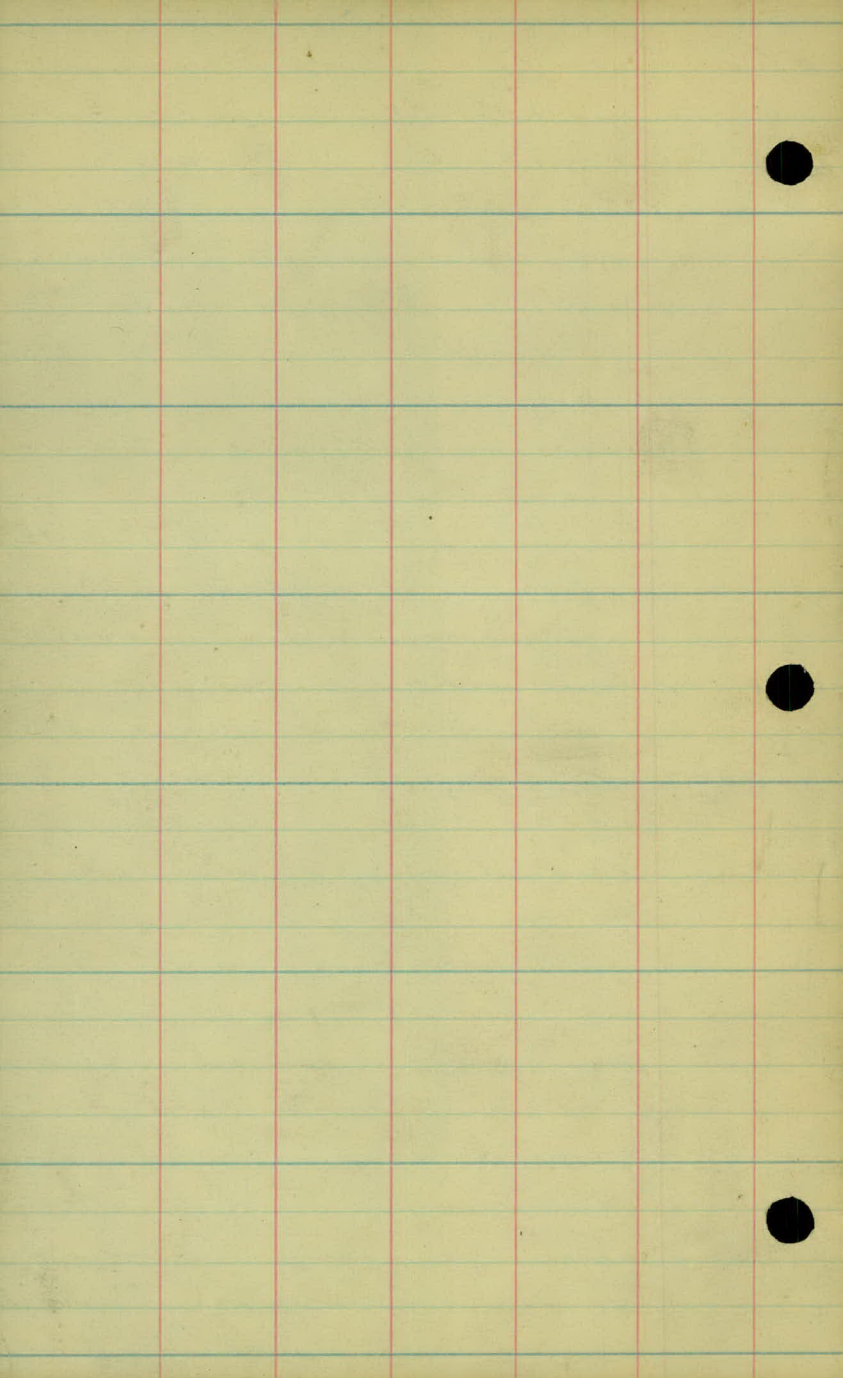
$$\begin{array}{r} 12.7 \\ \hline 7.1 \\ \hline 150 \end{array} \quad \begin{array}{r} 899.9 \\ \hline 20.1 \\ \hline 190 \end{array}$$

$$\begin{array}{r} 14.7 \\ \hline 53 \\ \hline 150 \end{array} \quad \begin{array}{r} 01.0 \\ \hline 199 \\ \hline 190 \end{array}$$

$$\begin{array}{r} 01.7 \\ \hline 18.3 \\ \hline 190 \end{array}$$

$$\begin{array}{r} 15.4 \\ \hline 4.5 \\ \hline 165 \end{array} \quad \begin{array}{r} 8.0 \\ \hline 12.0 \\ \hline 190 \end{array}$$

$$\begin{array}{r} 9.3 \\ \hline 10.7 \\ \hline 190 \end{array}$$



X-Sections

To Determine Overrun
of Gravel Pit

Mc Goffin Pit

Sta	+	H I	-	Elev.
-----	---	-----	---	-------

B.M.	10.92	922.12		911.20
------	-------	--------	--	--------

3+50

3+00

2+75

2+60

2+25

2+00

1+75

1+50

1+25

1+00

0+75

0+55

0+30

0+00 = 2 McMonery

24.
South.

±

Right
North

14

W.H.C.

A.L.P.

W.A.

H.T.P.

Sept 17, 1926

X- Sec's - same as Dr. 14

Don

161

190

-8.8

260	10.7	0.7	1.1
160	187	189	190

-4.1

370	2.40	10	13
160	187	189	190

-2.5

400	2.20	1.8	2.4
160	175	189	190

28.2

183	7.3		7.7
160	166		190

Slope Line Gravel Pit

11.2
159

9.7
190

16.9
159

10.4
190

35.1

21.0	13.5	12.6	10.1
159	172	179	190

30.2

280	2.20	2.23	11.3
158	170	176	186

18.0

190	2.12	2.12	11.2
158	180	183	189

15.3

190	19.4	19.4	9.4
157	170	178	186

10.6

170	17.2	9.2	7.7
157	170	179	190

Slope Line of Road

7.8
157

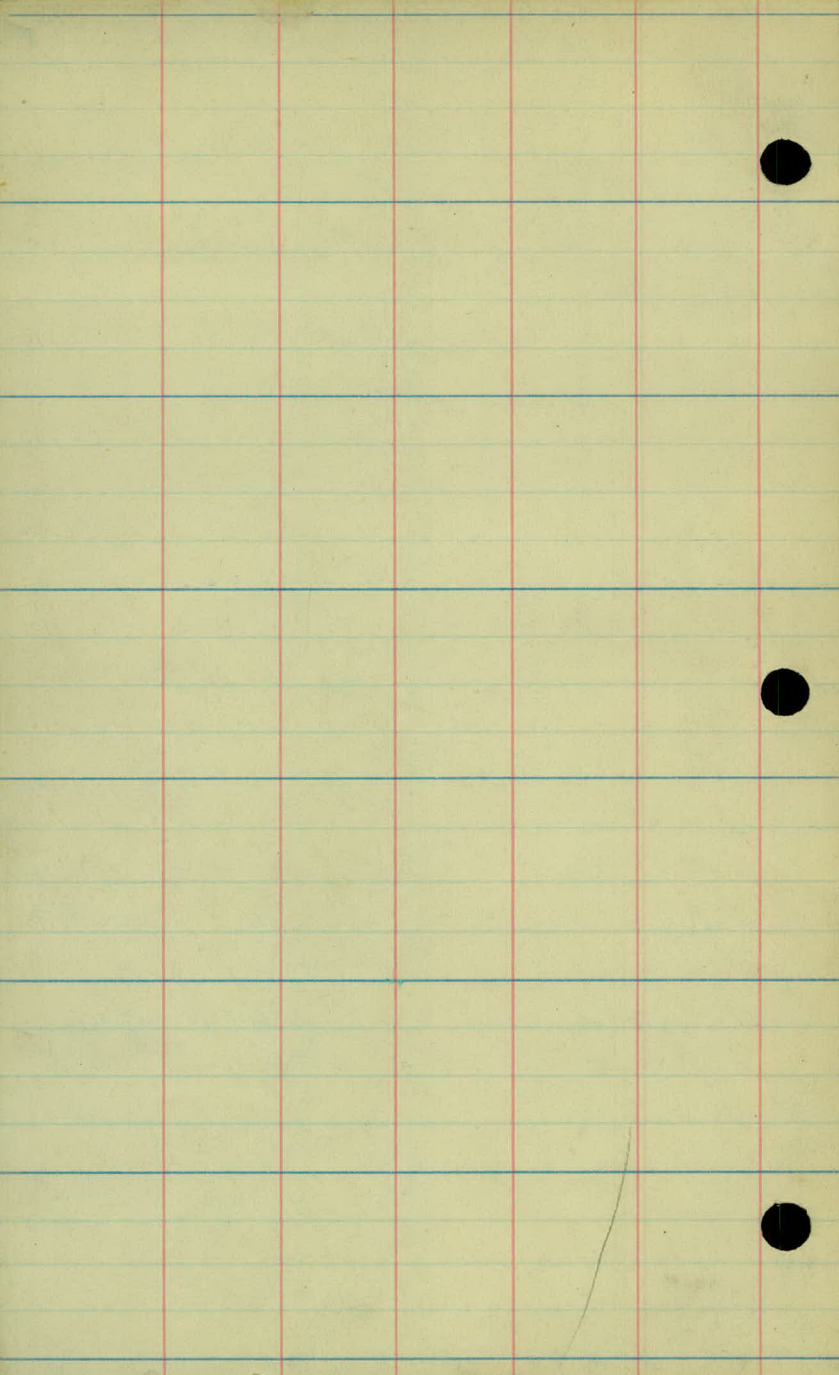
6.9
175

7.7
190

Don

orig

Hub



Final X-sections

Mc Menemy Gravel Pit.

November 30, 1926

5/10

+

H.I

-

Elev.

12.70

923.90

911.20

2+00

0+33

0+55

0+75

1+00

1+25

1+50

1+75

2+00

2+25

2+60

2+75

10.8

10.8

11.5

05.2

900.0

South = Lt.

L

Rt. = North

16

on me me norry
Spike in T.P. #191 - near center of Gravel Pit

W.H.C.

A.L.P.

A.M.E.

W.A.

Nov. 30, 1926

same as original

X $\frac{14.5}{146}$ $\frac{16.8}{85}$ $\frac{20.0}{40}$ $\frac{13.0}{25}$ $\frac{13.1}{13.1}$ $\frac{13.2}{63}$ $\frac{17.2}{117}$ $\frac{9.5}{152}$

X $\frac{14.5}{185}$ $\frac{16.0}{135}$ $\frac{12.3}{123}$ $\frac{12.4}{12.4}$ $\frac{12.8}{91}$ $\frac{16.8}{100}$ $\frac{20.0}{170}$ $\frac{10.7}{180}$

X $\frac{6.0}{178}$ $\frac{17.0}{160}$ $\frac{15.7}{142}$ $\frac{18.5}{18.5}$ $\frac{24}{5}$ $\frac{13.3}{100}$ $\frac{14.4}{140}$ $\frac{21.6}{150}$ $\frac{24.6}{176}$ $\frac{11.0}{186}$

X $\frac{9.8}{182}$ $\frac{16.0}{170}$ $\frac{14.8}{143}$ $\frac{23.9}{23.9}$ $\frac{11.7}{13}$ $\frac{13.1}{100}$ $\frac{16.2}{110}$ $\frac{15.8}{147}$ $\frac{22.6}{157}$ $\frac{23.0}{179}$ $\frac{12.7}{190}$

X $\frac{8.5}{185}$ $\frac{16.5}{175}$ $\frac{14.5}{130}$ $\frac{31.0}{31.0}$ $\frac{12.6}{65}$ $\frac{13.3}{100}$ $\frac{25.4}{144}$ $\frac{22.1}{173}$ $\frac{13.0}{186}$

$\frac{6.3}{190}$ $\frac{15.9}{180}$ $\frac{16.0}{150}$ $\frac{7.0}{140}$ $\frac{8.9}{127}$ $\frac{31.5}{31.5}$ $\frac{230}{150}$ $\frac{150}{169}$

$\frac{25}{125}$ $\frac{5.0}{100}$ $\frac{37.6}{37.6}$ $\frac{13.8}{138}$

$\frac{28.6}{28.6}$ $\frac{14.2}{151}$

$\frac{28.1}{28.1}$ $\frac{20.1}{160}$ $\frac{8.1}{171}$

$\frac{23.9}{23.9}$ $\frac{17.8}{188}$ $\frac{4.8}{172}$

$\frac{26.6}{26.6}$ $\frac{17.3}{170}$ $\frac{4.3}{195}$

Station + HI - E/ov.

923.90 ✓

3+00

T.P. 12.00 933.80 ✓ 2.10 921.80 ✓

2+00

2+25

T.P. 10.05 941.55 ✓ 2.30 931.50 ✓

2+60

2+75

3+00

3+50

4+00

4+25

T.P. 0.95 929.80 ✓ 12.70 928.85 ✓

4+00

3+50

T.P. 1.17 921.47 ✓ 9.50 920.30 ✓

B.M. 1.29 912.49 ✓ 10.27 911.20 ✓

0+55

T.P. 0.58 900.42 ✓ 12.65 899.84 ✓

L.

E

R1.

17

8.6

$$\begin{array}{r} 12.8 \\ 180 \end{array} \quad \begin{array}{r} 2.8 \\ 190 \end{array}$$

X

$$\begin{array}{r} 6.4 \\ 110 \end{array} \quad \begin{array}{r} 18.4 \\ 100 \end{array}$$
38.7

X

$$\begin{array}{r} 20 \\ 85 \end{array} \quad \begin{array}{r} 100 \\ 65 \end{array}$$
30.5~~38.0~~

$$\begin{array}{r} 67 \\ 49 \end{array}$$
41.6

$$\begin{array}{r} 90 \\ 52 \end{array}$$
36.3

$$\begin{array}{r} 71 \\ 19 \end{array} \quad \begin{array}{r} 170 \\ 15 \end{array}$$
26.38.8

$$\begin{array}{r} 12.8 \\ 42 \end{array} \quad \begin{array}{r} 27.0 \\ 55 \end{array}$$
6.6

$$\begin{array}{r} 7.4 \\ 46 \end{array}$$

$$\begin{array}{r} 22.0 \\ 100 \end{array}$$

(0.0. cut)

+5.0

$$\begin{array}{r} 4.5 \\ 131 \end{array}$$
+3.0

$$\begin{array}{r} 5.3 \\ 157 \end{array}$$

$$\begin{array}{r} 8.0 \\ 85 \end{array} \quad \begin{array}{r} 12.4 \\ 21 \end{array}$$
1.0

Station	+	H.I	-	Elev.
0+75		900.42 ✓		
400				
1+25				92.9
1+50				92.4
1+75				86.3 ✓
T.P.	10.40	903.71 ✓	7.11	893.31 ✓
1+50				
1+75				
2+00				95.1
2+25				95.8
2+60				
2+75				
3+00				
T.P.				

14.

2

21.

18

$$\frac{10.0}{85} \quad \frac{1.0}{54} \quad \frac{2.6}{20}$$

-5.4

-4.4

$$\frac{6.5}{115} \quad \frac{13.6}{85} \quad \frac{14.0}{60} \quad \frac{5.1}{41} \quad \frac{5.6}{14}$$

-3.4

.4

$$\frac{9.0}{103} \quad \frac{12.8}{85} \quad \frac{14.7}{46} \quad \frac{7.5}{30}$$

7.5

7.5

30

$$\frac{12.1}{85}$$

$$\frac{17.0}{28}$$

20

$$\frac{2.6}{85}$$

$$\frac{14.1}{45}$$

$$\frac{14.1}{45}$$

$$\frac{14.1}{20}$$

11.7

$$\frac{7.8}{100}$$

17.4

$$\frac{9.6}{50}$$

$$\frac{6.9}{100}$$

$$\frac{6.7}{134}$$

X

$$\frac{9.0}{75}$$

$$\frac{4.2}{50}$$

$$\frac{5.3}{20}$$

$$\frac{11.0}{80}$$

$$\frac{3.0}{115}$$

X

$$\frac{4.3}{43}$$

$$\frac{4.6}{43}$$

$$\frac{11.0}{80}$$

$$\frac{3.4}{105}$$

$$\frac{18.0}{132}$$

$$\frac{18.0}{145}$$

3.7

$$\frac{5.9}{21} \quad \frac{6.0}{80} \quad \frac{0.0}{100} \quad \frac{19.0}{125} \quad \frac{17.0}{150} \quad \frac{10.6}{170}$$

8.4

$$\frac{6.1}{20}$$

$$\frac{7.0}{90}$$

$$\frac{1.8}{100}$$

$$\frac{19.0}{142}$$

$$\frac{9.1}{170}$$

+11.6

$$\frac{5.2}{44}$$

$$\frac{0.0}{100}$$

Station	+	H.I. ✓	-	Elev.
---------	---	--------	---	-------

90371

3+50

T.P.	9.54	912.50 ✓	0.75	90296 ✓
------	------	----------	------	---------

B.M.

1.28 911.22 ✓ = 911.20

27

2

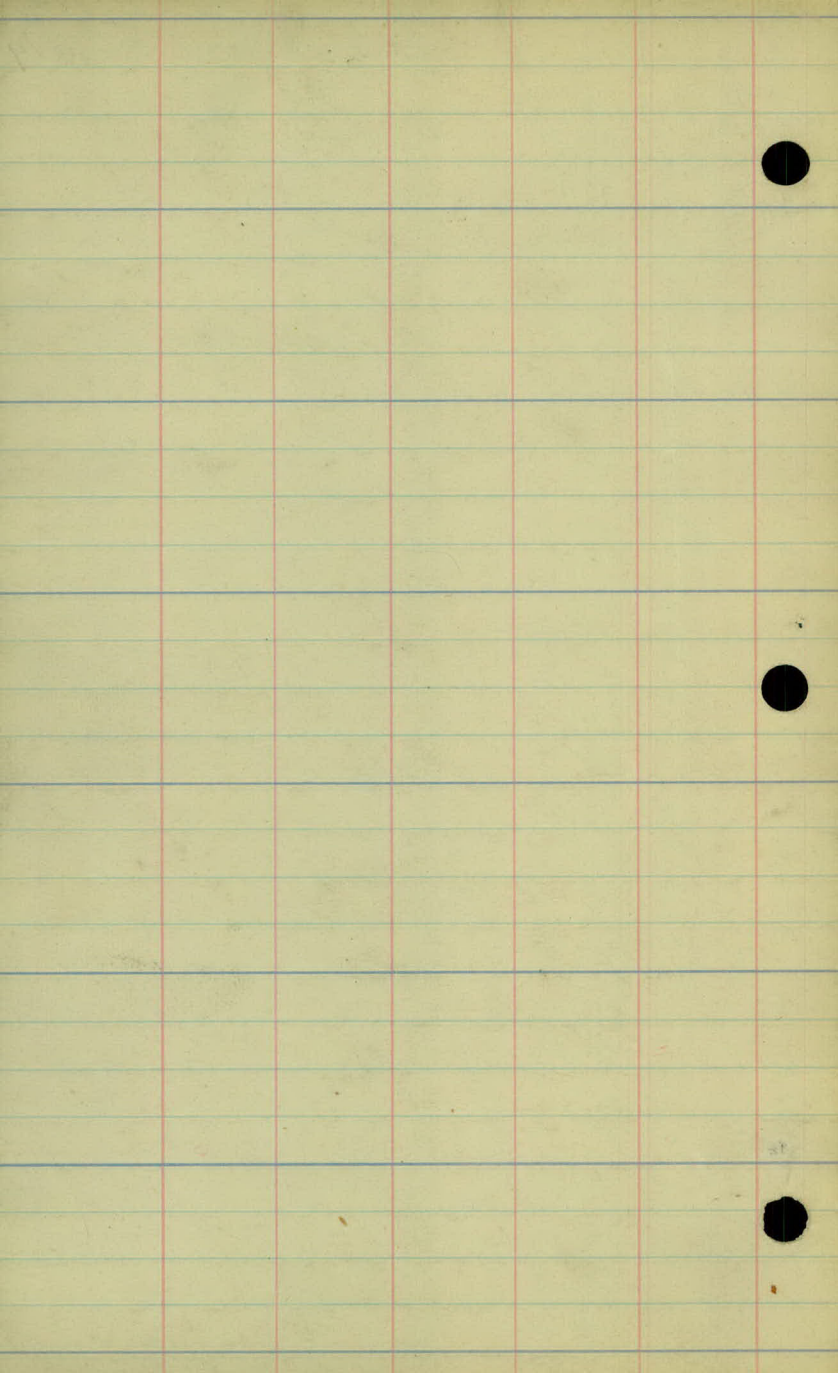
27

19

+ (2.91)

$\frac{14.0}{80}$

$\frac{14.0}{120}$



Final x Sections.
of M² Menemey Gravel pit.
August 18, 1927.

Party #1
P. J. Crane.

Sta.	+	H.I.	-	Red.	Elev.
B.M.	5.42	916.62		911.20	
0+00					

0+33

0+55

0+75

1+00

T.P.	0.60	905.41	11.81	904.81
T.P.	9.75	903.30	11.86	893.55

1+25

1+50

1+75

2+00

2+25

2+60

2+75

Same as Original. X Section.

6.5 7.9 7.2 8.8 10.3 12.4 6.8 10.8 5.8 (5.8) 5.7 6.0 8.4 9.7 3.6 2.2 1.8
 190 163 135 100 70 47 24 17 8 5.8 27 61 100 107 141 159 190
07.7 08.3 09.0 09.6 11.9 08.0 03.6 01.8 99.3 99.8 11.5
8.7 8.3 7.6 7.0 4.7 8.6 1.80 1.48 1.25 1.68 (5.1) 5.4 5.7 13.6 11.2 13.0 12.8 2.7 2.1
 190 167 156 156 124 118 81 54 33 19 5.1 41 94 119 151 120 170 179 190

10.5 16.6 08.6 09.4 08.3 90.4 92.1 96.7 97.5 96.3 07.0 (11.4) 4.7 5.0 5.3 7.1 7.3 15.4 15.0 2.4 1.9
 61 00 80 72 25 262 245 179 191 103 47 50 53 71 73 154 150 24 159
 190 150 167 151 135 72 72 55 27 23 8.6 6 41 82 100 135 154 157 170 175
07.7 8.7 12.4 14.8 87.6 90.6 95.5 95.1 94.0 10.2 (16.6) 4.7 5.2 6.2 9.2 8.3 16.0 14.5 13.9
 174 186 190 290 260 211 215 226 47 52 62 9.2 8.3 160 145 13.9
7.7 7.4 21.0 28.0 29.0 26.0 21.1 21.5 22.6 (16.6) 4.7 5.2 6.2 9.2 8.3 16.0 14.5 13.9
 099 092 85.6 88.6 163 140 117 76 77 57 42 20 17 124 15 75 101 111 148 158 162 176

Above H.I.

8.6 12.7 12.4 18.0 16.9 8.7 (10.4) 8.7 0.2 18.0 18.0 5.0 3.2 2.0 2.5
 111 100 77 60 45 31 10.2 26 62 68 77 155 156 172 178

14.8 17.6 18.5 12.3 10.6 (10.9) 10.4 7.5 4.7 3.7
 89 69 50 24 4 10.4 36 96 135 160

2.2 5.2 12.0 15.3 14.6 (17.0) 17.0 9.1 9.5 8.0 6.7 6.5 0.0
 74 88 77 60 24 170 18 28 54 81 88 121 135

0.0 4.8 3.5 5.0 (8.2) 7.0 9.6 10.5 5.0 5.5 11.7 11.7
 80 45 50 10 6.1 22 50 82 100 120 129 135

Above H.I.

5.5 10.5 5.9 (7.5) 5.1 4.7 8.8 10.4 10.4 5.5 5.1 16.2 16.2
 63 46 14 5.5 15 32 45 60 75 94 112 138 140

Above H.I.

14.0 0.0 (21.3) 4.8 6.6 6.6 4.3 4.6 6.7 2.2 19.1 16.1
 10 7 3.8 14 15 19 22 38 61 100 120 156

Above H.I.

15.0 5.7 4.2 6.7 6.7 3.5 4.2 6.2 4.9 6.0 6.0
 7 0.0 11 78 22 27 31 43 54 63 87 105

Sta. + H.I. - Rod Elev

903.30

3+00

3+50

T.I.P. 7.16 907.29 3.17 900.13

T.I.P. 7.59 914.40 2.48 904.81

1+25

10.79 921.62 3.57 910.83

1+50

1+75

11.04 931.39 1.27 920.35

1+75

2+00

2+25

2+60

2+75

3+00

3+50

$$\begin{array}{r}
 43 \quad 27 \quad 113 \quad 71 \quad 77 \quad 58 \\
 167 \quad 142 \quad 15 \quad 118 \quad 100 \quad 845 \\
 \hline
 \text{Above H.I.} \quad 0.0 \quad 3.2 \quad 6.7 \quad 6.7 \quad 3.4 \quad 2.4 \quad 90 \quad 90 \\
 +120 \quad 16 \quad 27 \quad 53 \quad 58 \quad 42 \quad 62 \quad 71 \quad 76 \\
 \hline
 \text{Above H.I.} \quad 233 \quad 245 \quad 195 \\
 135 \quad 128 \quad 115 \\
 +29.5 \quad +3.0 \quad 0.0 \quad 0.3 \quad 2.0 \quad 7.0 \quad 0.4 \quad 0.4 \quad 87 \quad 87 \\
 34 \quad 40 \quad 54 \quad 57 \quad 71 \quad 77 \quad 81 \quad 93 \quad 90
 \end{array}$$

→ Above H.I.

$$\begin{array}{r}
 10.8 \quad 3.0 \quad 6.2 \quad 5.8 \quad 6.1 \quad 4.9 \\
 190 \quad 187 \quad 181 \quad 160 \quad 140 \quad 130
 \end{array}$$

$$\begin{array}{r}
 4.1 \quad 7.2 \quad 12.8 \quad 13.8 \quad 12.9 \quad 5.0 \quad 6.8 \quad 15.8 \\
 194 \quad 188 \quad 183 \quad 170 \quad 154 \quad 140 \quad 129 \quad 124
 \end{array}$$

29.2

$$\begin{array}{r}
 1.5 \quad 10.2 \\
 111 \quad 107
 \end{array}$$

35.3

$$\begin{array}{r}
 13.6 \quad 16.8 \quad 23 \quad 26 \quad 11.9 \\
 190 \quad 173 \quad 157 \quad 142 \quad 124
 \end{array}$$

$$\begin{array}{r}
 14.5 \quad 7.0 \quad 5.2 \quad 4.1 \quad 12.2 \\
 190 \quad 155 \quad 140 \quad 117 \quad 113
 \end{array}$$

36.3

$$\begin{array}{r}
 16.3 \quad 7.6 \quad 5.3 \quad 3.2 \quad 1.3 \quad 6.3 \quad 7.4 \\
 190 \quad 163 \quad 143 \quad 114 \quad 97 \quad 93 \quad 70
 \end{array}$$

35.6

$$\begin{array}{r}
 17.2 \quad 10.5 \quad 6.6 \quad 3.3 \\
 190 \quad 161 \quad 146 \quad 133
 \end{array}$$

31.4

6.8

$$\begin{array}{r}
 17.4 \quad 13.6 \quad 2.0 \quad 3.1 \\
 190 \quad 172 \quad 155 \quad 135
 \end{array}$$

28.1

$$\begin{array}{r}
 18.2 \quad 10.2 \quad 2.0 \\
 190 \quad 161 \quad 133
 \end{array}$$

16.1

$$\begin{array}{r}
 19.3 \quad 13.7 \quad 9.1 \quad 2.8 \\
 190 \quad 171 \quad 154 \quad 135
 \end{array}$$

11.4

Sta.	+	H.I.	-	Rod	Elev.
		931.39			

4+00

4+50

5+00

T.P.	12.89	943.80	0.48	930.91
------	-------	--------	------	--------

2+60

2+75

3+00

3+50

4+00

4+50

5+00

T.P.	0.95	934.07	10.68	923.12
------	------	--------	-------	--------

5+00

4+50

T.P.	0.95	923.39	11.64	922.41
------	------	--------	-------	--------

$$\begin{array}{r} 14.1 \quad 14.1 \quad 9.0 \quad 5.9 \\ 190 \quad 174 \quad 156 \quad 135 \end{array} \quad (+3.4)$$

$$\begin{array}{r} 14.9 \quad 15.3 \quad 11.9 \\ 190 \quad 158 \quad 135 \end{array} \quad (+7.0)$$

$$\begin{array}{r} 9.7 \quad 13.5 \quad 13.7 \\ 190 \quad 182 \quad 135 \end{array} \quad (+7.8)$$

$$\begin{array}{r} 9.4 \quad 5.3 \quad 5.7 \quad 9.4 \quad 15.4 \\ 107 \quad 80 \quad 64 \quad 49 \quad 40 \end{array} \quad (+3.8)$$

$$\begin{array}{r} 8.2 \quad 4.3 \quad 4.4 \quad 10.5 \quad 16.0 \quad 19.0 \\ 104 \quad 80 \quad 59 \quad 32 \quad 19 \quad 22 \end{array}$$

$$\begin{array}{r} 6.4 \quad 3.1 \quad 3.9 \quad 5.7 \quad 9.4 \quad 15.5 \\ 105 \quad 80 \quad 51 \quad 37 \quad 20 \quad 18 \end{array}$$

$$\begin{array}{r} 9.2 \quad 5.1 \quad 3.0 \quad 3.5 \quad 6.2 \quad 13.5 \\ 113 \quad 91 \quad 72 \quad 58 \quad 29 \quad 11.0 \quad 17 \end{array}$$

$$\begin{array}{r} 14.5 \quad 12.3 \quad 10.1 \quad 8.9 \quad 8.5 \quad 9.1 \quad 8.5 \quad 13.0 \quad 36.0 \quad 51.0 \quad 32.0 \\ 112 \quad 100 \quad 80 \quad 67 \quad 50 \quad 24 \quad 9.0 \quad 24 \quad 25 \quad 52 \quad 77 \quad 103 \end{array}$$

$$\begin{array}{r} 18.2 \quad 15.0 \quad 10.8 \quad 7.7 \quad 6.6 \quad 11.9 \\ 101 \quad 80 \quad 50 \quad 22 \quad 5.4 \quad 30 \quad 34 \end{array}$$

$$\begin{array}{r} 24.6 \quad 14.1 \quad 10.6 \quad 6.6 \quad 5.2 \quad 9.9 \quad 15.0 \\ 113 \quad 68 \quad 47 \quad 22 \quad 4.6 \quad 26 \quad 46 \quad 58 \end{array}$$

$$\begin{array}{r} (+5.1) \quad 9.1 \quad 24.0 \quad 32.0 \quad 58.0 \quad 39.5 \\ 86 \quad 128 \quad 50 \quad 165 \quad 203 \end{array}$$

$$\begin{array}{r} (+4.3) \quad 17.0 \quad 11.6 \quad 6.9 \quad 13.0 \\ 64 \quad 103 \quad 104 \quad 121 \end{array}$$

Sta. + H.I. - Rod Elev
923.34

4+50

4+00

3+50

3+00

2+75

2+60

2+25

2+00

T.P. 4.30 916.64 11.02 912.34

1+75

1+50

1+25

B.M.

5.46 911.18 911.20

$$\begin{array}{r} \textcircled{+15.0} \quad \begin{array}{r} 13.0 \\ 144 \end{array} \quad \begin{array}{r} 24.0 \\ 170 \end{array} \quad \begin{array}{r} 28.2 \\ 203 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{+11.4} \quad \begin{array}{r} 15.1 \\ 147 \end{array} \quad \begin{array}{r} 4.1 \\ 148 \end{array} \quad \begin{array}{r} 13.0 \\ 170 \end{array} \quad \begin{array}{r} 21.7 \\ 203 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{+9.4} \quad \begin{array}{r} 15.0 \\ 173 \end{array} \quad \begin{array}{r} 5.0 \\ 175 \end{array} \quad \begin{array}{r} 7.7 \\ 203 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{8.1} \quad \begin{array}{r} 12.6 \\ 173 \end{array} \quad \begin{array}{r} 5.6 \\ 175 \end{array} \quad \begin{array}{r} 5.1 \\ 200 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{20.1} \quad \begin{array}{r} 12.0 \\ 176 \end{array} \quad \begin{array}{r} 4.4 \\ 178 \end{array} \quad \begin{array}{r} 5.1 \\ 200 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{-1.2} \quad \textcircled{23.4} \quad \begin{array}{r} 14.6 \\ 191 \end{array} \quad \begin{array}{r} 4.6 \\ 193 \end{array} \quad \begin{array}{r} 5.9 \\ 200 \end{array} \end{array}$$

$$\begin{array}{r} -1. \quad \textcircled{27.6} \quad \begin{array}{r} 11.7 \\ 168 \end{array} \quad \begin{array}{r} 7.7 \\ 172 \end{array} \quad \begin{array}{r} 9.5 \\ 190 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{24.3} \quad \begin{array}{r} 18.2 \\ 157 \end{array} \quad \begin{array}{r} 13.2 \\ 154 \end{array} \quad \begin{array}{r} 10.9 \\ 190 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{30.3} \quad \begin{array}{r} 7.2 \\ 140 \end{array} \quad \begin{array}{r} 8.8 \\ 153 \end{array} \quad \begin{array}{r} 6.2 \\ 175 \end{array} \quad \begin{array}{r} 4.8 \\ 190 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{24.2} \quad \begin{array}{r} 7.6 \\ 171 \end{array} \quad \begin{array}{r} 5.0 \\ 190 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{23.7} \quad \begin{array}{r} 6.0 \\ 184 \end{array} \quad \begin{array}{r} 5.5 \\ 190 \end{array} \end{array}$$

