311

LIETZ

SINCE 1882

TRANSIT FIELD BOOK

No. 8152-00

Property of WALT. E. CURO

HACKENSACK MN

Address _____

_____

Telephone 218. 675 - 6697

INDEX

43	J. RIPKIN	16-140-31
44	H. SPLITSTOESER	4-139-29
45	E. HAYES	22-141-31
46	GIGI ANDERSON	2-139-30
52	R. MUSTONEN	SHALLOW OAKS PLAT
53	BACKUS ST. BANK	29-139-30
54	J. GROVES	23-140-29
55	F. DENNIE	15-140-30
56		SPIDER LK SHORES
57	LARRY CARTER	8-139-30
60	DENTON NEWMAN	8-139-30
61	B. MORRIS	12-140-29
62	B. EKEGRIN	34-140-30
63	R. CODGELL	34-141-31
64	S. LARSON	27-140-31
65	B. MORRIS	12-140-29
66	B. EKEGRIN	34-140-30
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68	J. WESTPHAL	4-139-30
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71	B. WOOCK	12-140-31
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74	R. PURDES	2-138-29
76	V. RODEN	15-140-29
78	R. PURDES	2-138-29

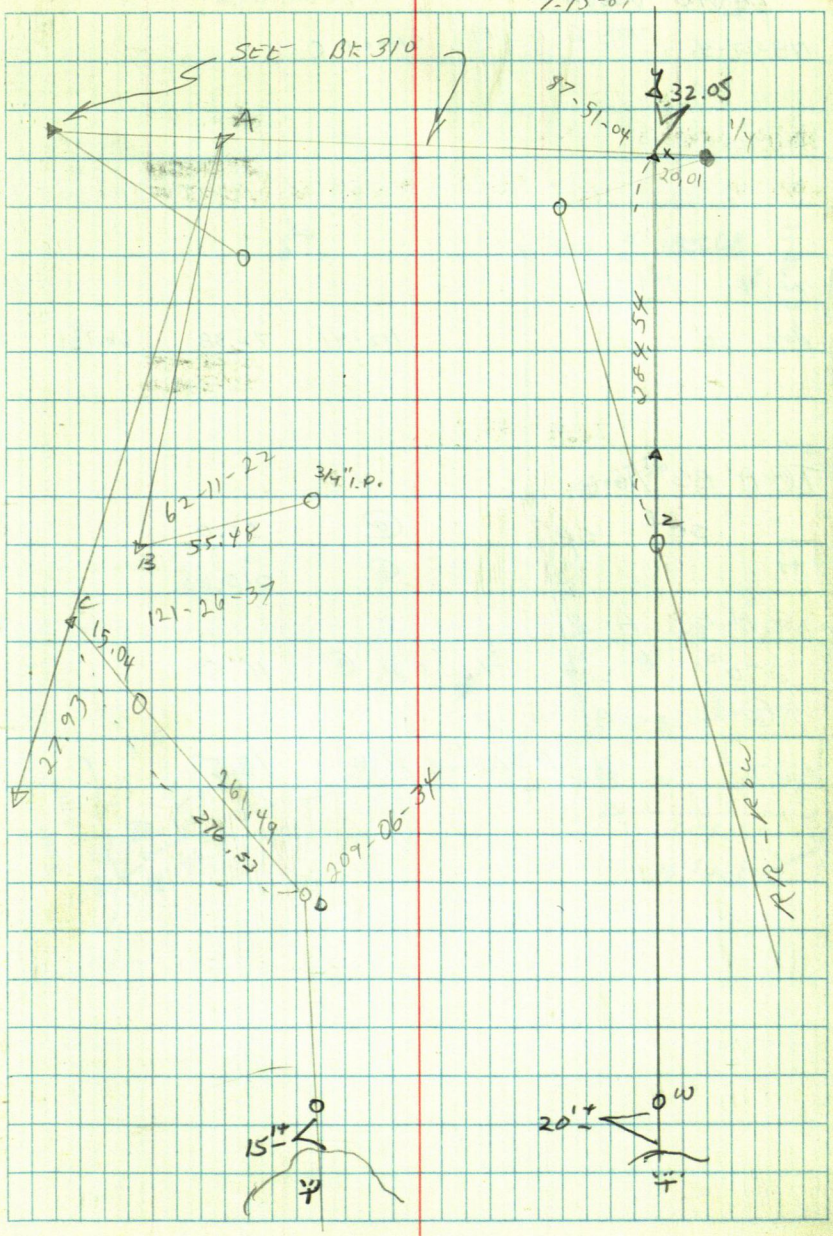
PASTOR BATES — PT WEST 5 ADD TO HACK

T@D BS C
209-06-34 set 3/4" I.P. @ 90-26 — 33.5524 / 110.07 F — 110.071

T@2 BS Y — 91-42 — 572.01F / 174.346M — 571.751
180° set 3/4" I.P.

80° HOT + HUMID

E. CURO
K. METCALF
7-13-84



MARVIN OLSON

178-27-36 T@ B BS A SHOOT C

def 30'		112-41	72.38	66.781

T@ A BS 1/16

set sp @ 30.0

" " @ 215.68

T@ H BS A

270° set 3/4" I.P. @ 16.5

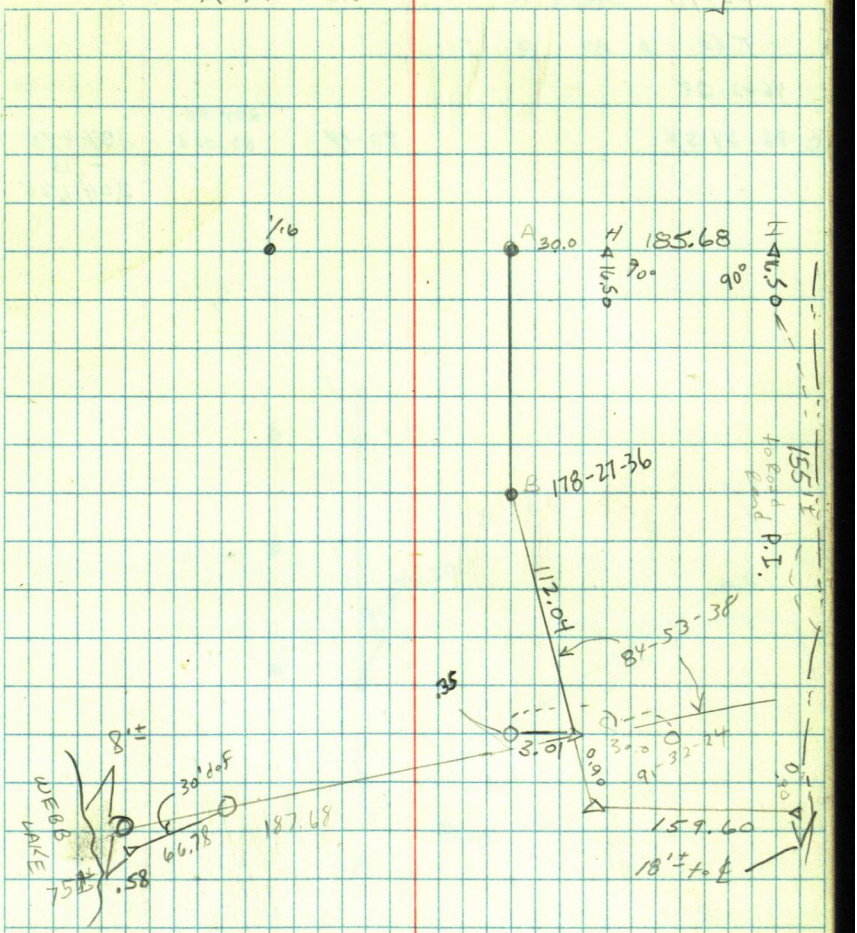
T@ I BS A

270° set 3/4" I.P. @ 16.5

E. Curo
K. Metcalf

July 17, 1984
O.C. 65° Windy

2



LONG PINE
LOT 9 OUTLOT A

FLOYD SHAW

π@ A BS B

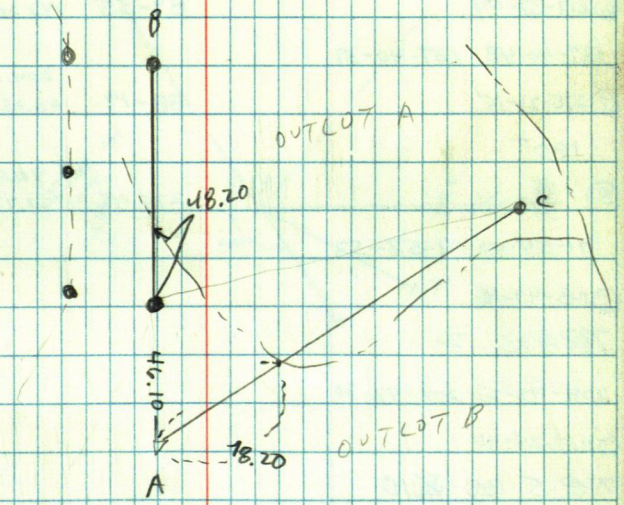
46-12-28

C 92-24-54 90-14 204.48 62.326 204.478 +.15 204.628

80° Hot - windy

E. CORD
K METCALF
7-17-84

3

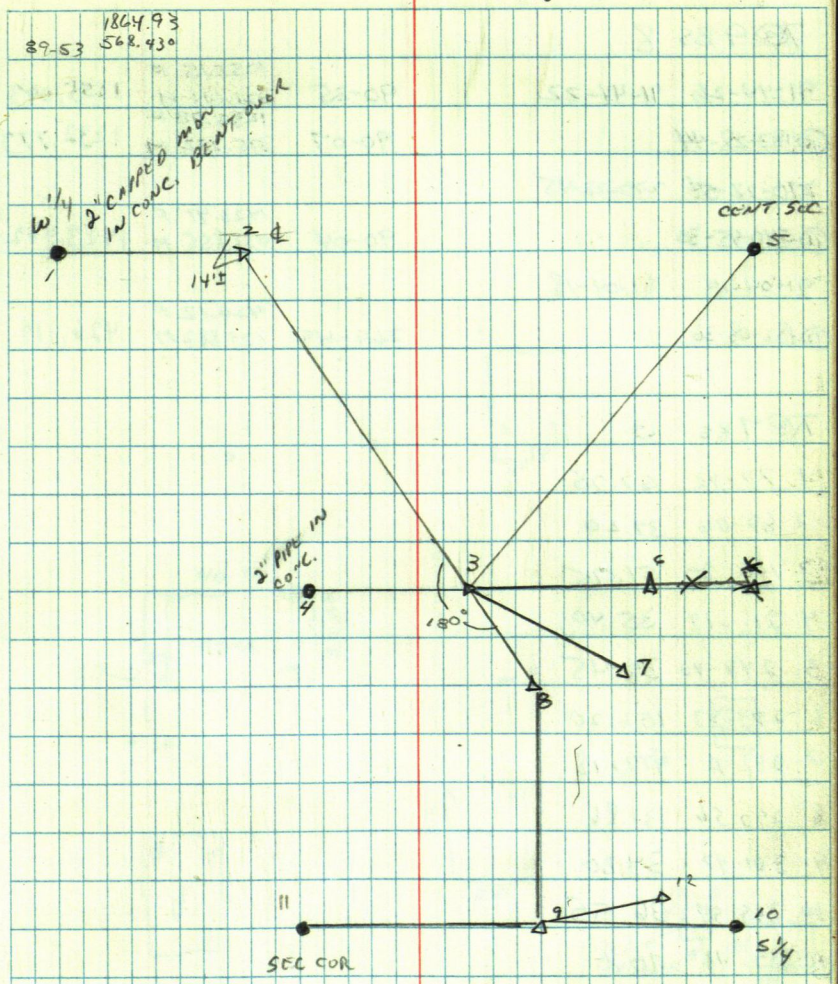


E. Curo
K. Metcalf

July 18, 1984
Sunny 70° A.M.

4

GEORGE	QUEST			
∡@ 2 BS	3			
118-11-24	118-11-27	90-31	1730.16 F 527.353 M	1730.082
① 236-22-54		89-33	580.84 F 177.037 M	580.814
∡@ 3 BS	2			
289-26-06	289-25-59			
④ 578-51-58			chain 59.45	
108-49-00	108-48-52			
⑥ 217-37-44		89-35	466.54 F 142.203 M	466.528
137-40-48	137-40-39			
⑦ 275-21-18		88-17	204.29 F 62.269 M	204.20
180°				
⑧		274-48	90.99 F 27.730 M	90.664
71-54-00	71-53-53			
⑤ 143-47-46				
∡@ 8 BS	2			
208-42-22	208-42-20			
⑨ 417-24-40				
∡@ 5 BS	~~8~~ 10			
43-10-38	43-10-39	89-30	2531.78 F 771.69 M	2531.678
③ 86-21-18		89-53	1864.93 568.430	1864.917
∡@ 10	BS 9			
88-16-43				
⑤ 176-33-22	88-16-41			

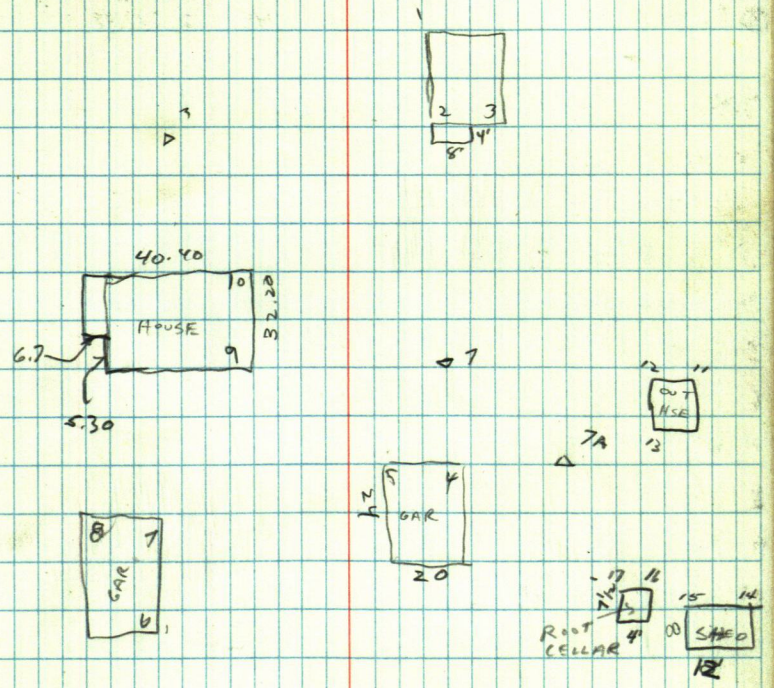


Pt 12 in ℄ of Driveway

E. Curo
K. Metcalf

July 18, 1984
Sunny 80° P.M.

George	Quist			
℄ @ 9 BS	8			
91-44-26	91-44-22	90-35	1055.15 F 321.611 M	1055.093
⑩ 183-28-44		90-07	1232.78 F 375.752 M	1232.773
270-22-54	270-22-45			
⑪ 540-45-30		90-04	1423.41 F 433.855 M	1423.402
91-04-18	91-04-18			
⑫ 182-08-36		269-49	426.12 F 129.883 M	426.119
℄ @ 7 BS	3			
1 70.42	57.75			
2 80.06	39.20.			
3 100.29	51.95			
4 216.19	35.40			
5 249.40	35.45			
6 273.53	152.20			
7 282.11	117.18			
8 290.56	131.84			
9 301.47	34.30			
10 355.54	36.55			
11 167.40	70.10			
12 168.52	65.16			
13 172.14	66.50			
7A 180°	25.00'			

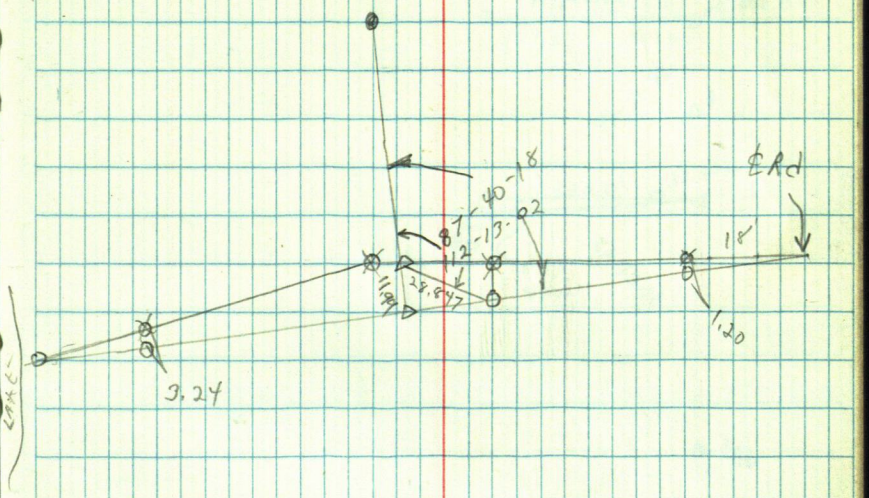


George	Quist				
TC@ 7A	BS 3				
14 215 - 37	106.00				
15 222 - 11	103.82				
16 236 - 58	73.23				
17 240 - 08	72.91				

E. Curo
K. Metcalf

July 18, 1984
Sunny 80°

MARV OLSON



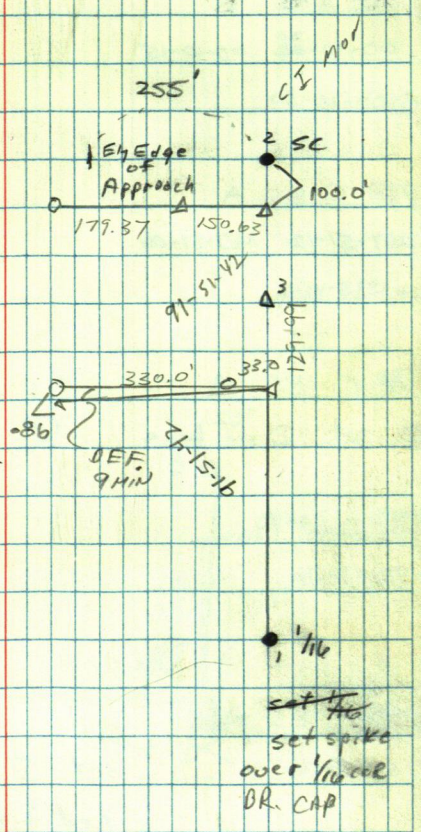
Arvid Bredesen

1/16 BS SC

1/16 SC	1313.49 F	
90-03	400.347 M	1313.476
1/16 3	630.01 F	
90-04	192.029 M	630.01

July 30, 1984 E. Curo
set I.P. K. Metwif

July 19, 1984
Clear 80°

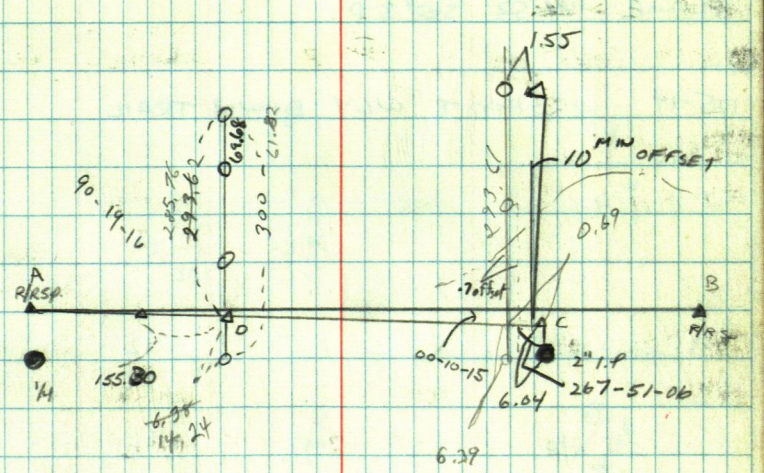


	Bob Helling	E. Inguadona		
℄@ A BS	B			
00-10-~~20~~	00-10-15			
@ 00-20-30				
℄@ C BS	A		1314.91 F	
267-51-12	267-51-06	89-30	400.788 M chain	1314.86
I.P. 535-42-12			6.04	
℄@ C BS	A		760.41 F	
@ set D on Line		@ 89-37	231.772 M	760.388
℄@ D. BS	A			
90-19-16			29.72	
			223.96	
		89-12		223.938
℄@ C BS	A			
90-19-16		set I.P.	60.40	
		set I.P. @	293.61	
		34' ± to ℄		

E. Curo
K. Metcalf

July 20, 1984
Clear 80°

9

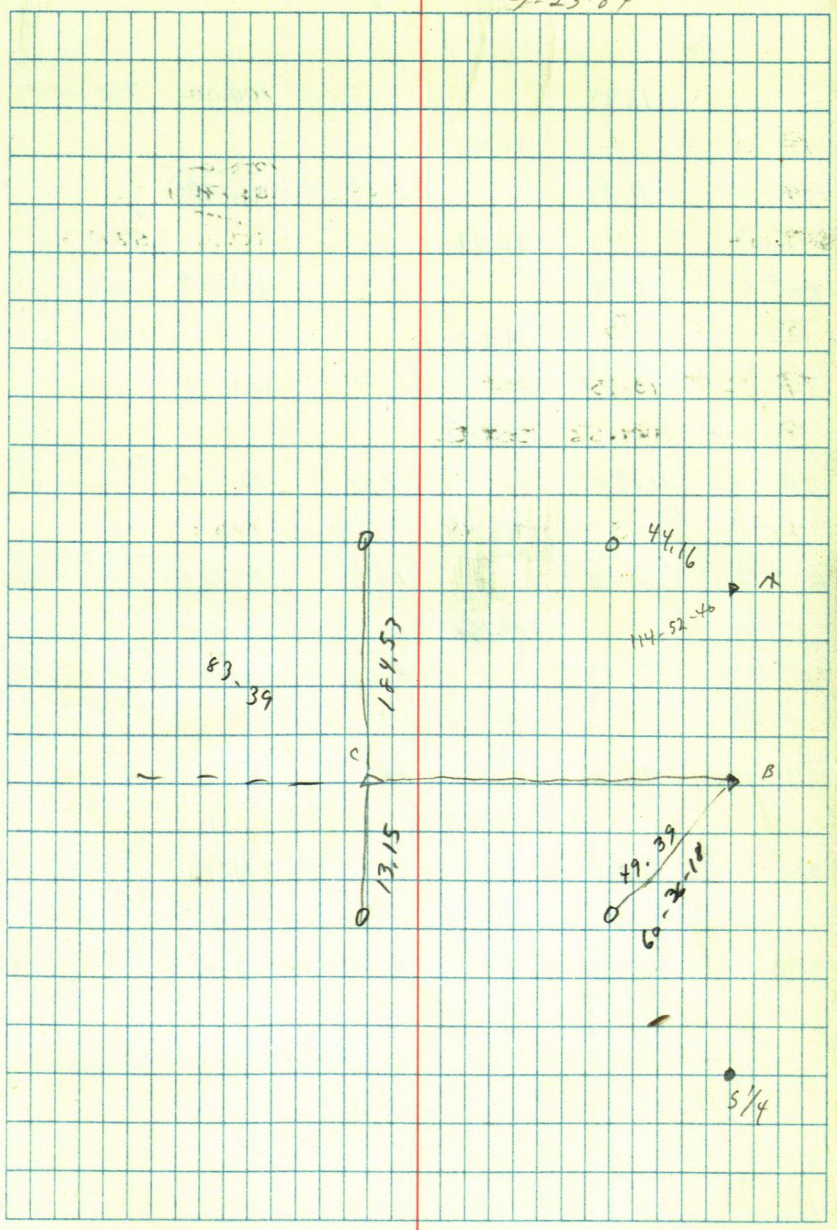


ELM GROVES					
T@ A BS 5 1/4					
			90-28	1264.79 385.503	1264.794
T@B BS 5 1/4					
96-21-08			90-31	1095.06 F 333.770 M	1095.004
© 192.42	96-21-0		90-04	159.245 522.46	522.456
T@C BS B					
83-39	13.15	Set I.P.			
+ PLUNGE	184.53	Set I.P			
175-14	SHOOT WLY DOWN TRAIL				

75° HOT + HUMID

E. CURO
K. MESCHALK
7-23-84

10



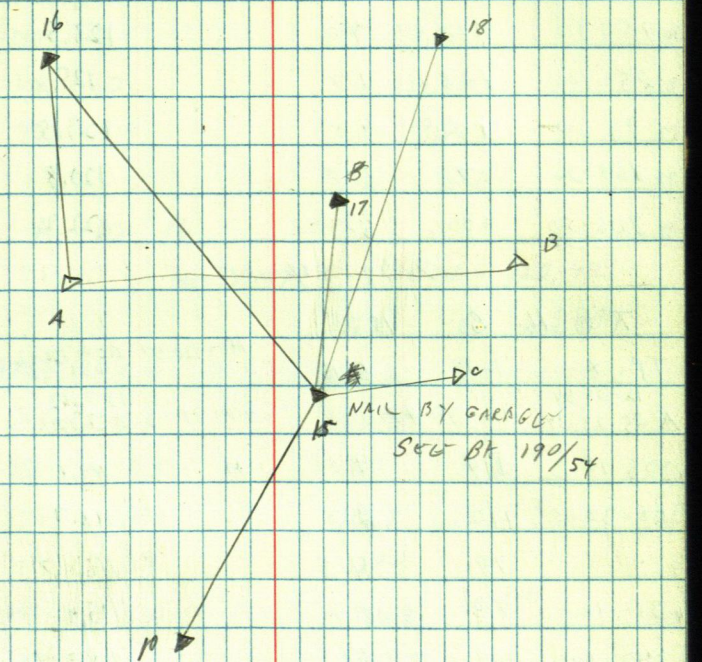
E. Curo
K. Metcalf

July 23, 1984
O.C. 75°

11

SMOKY PT	BS	HI	FS		
				100.00	TOP WATER
	11.99				
		111.99			
TP	11.31		0.29	~~123.01~~ 111.70	
		123.01			NW COR TOP STEP
BM #1	3.39		1.92	121.09	NW COR TOP CONC. PAD ON FRONT STEP CAB 1
		124.48			
TP #2	10.74		1.74	122.74	
		133.48			
BM #2	11.98		7.48	126.00	TOP ROCK IN FRONT OF CAB E OF LODGE
		137.98			
BM #3	12.07		1.62	136.36	TOP ROCK IN FRONT OF CAB
		148.43			
BM #4	0.89		8.66	139.77	TOP ROCK S OF RJ TOW 50' W OF Y
		140.66			
TP	0.50		12.93	127.73	
		128.23			
BM #5	6.28		10.10	118.13	TOP BLUE ROCK N OF 6 9 FT S OF PIPE
		124.41			
TP	0.55		12.35	112.06	
		112.61			
			12.50 ±	100.11	TOP WATER IN WAVES

		DIST	ROD	HI	ELEV	
	T@17	BS 15				
	TP #2		4.76	127.50	122.74	
1	357-13	65	2.2		125.3	SE COR CAB 2 TOE SLOPES
2	335-20	34	1.9		125.6	
3	5-0	81	2.2		125.3	TOE SLOPE
4	19-20	80	2.2		125.3	
5	307-	45	2.7		124.8	
6	269-	43	4.9		122.6	
7	251-30	62	6.6		120.9	
8	210-50	80	6.4		121.1	
9	191-50	115	2.0		125.5	LOT LINE PIPE
10	188-10	66	6.1		121.4	
11	172-40	116	4.8		122.7	TOP CUT
12	169-50	114	8.5		119.0	TOE OF CUT
13	166-10	110	8.8		118.7	" "
14	162-40	110	5.9		121.6	
15	156-30	160	10.2		117.3	TOP BANK
16	162-40	200	13.0		114.5	
17	174-	210	10.2		117.3	PIPE ON BANK
18	136-40	83	6.8		120.7	
19	"	115	8.3		119.2	
20	"	140	7.5		120.0	~~TOP BANK~~
21	"	160	8.7		118.8	TOP
22	119-10	180	6.5		121.0	"
23	"	146	9.0		118.5	
24	"	127	8.2		119.3	



25	116-	105	6.5		121.0	
26	104-40	83	5.3		122.2	
27	86-	62	5.3		122.2	E
28	192-30	39	6.7		120.8	E E
29	58-30	72	4.2		123.3	TOE
30	95-30	142	4.0		123.5	
31	85-10	125	1.7		125.8	
32	93-20	100	4.0		123.5	
33	169-20	78	6.7		120.8	
34	306-50	80	5.9		122.2	TOE SLOPE

7-24-84

T @ 16 Bs 15

TP X	1-10	0.15	HI = 120.57	ELEV = 120.42	TOP ROCK	
12-31-54 A 25-23-34	12-31-47		87-31	187.42 5 7.126	187.294	
1	326-10	114	1.5		119.1	COR CODE
2	300-30	112	2.3		118.3	
3	"	74	4.5		116.07	
4	311-10	80	4.7		115.9	
5	342-50	109	2.1		118.5	
6	47-30	87	4.2		116.4	TANK
7	45-50	97	4.3		116.3	
8	62-05	120	3.2		117.4	
9	73-30	48	1.0		119.6	
10	86-50	73	0.6		120.0	
11	77-20	49	5.5		115.1	

PT. CLOY 70°

E. CURD & MERCALF

7-24-84

12	131-0	28	6.0	38	114.6	
13	279-	25	4.9		116.0	
14	124-20	69	4.9		116.3	
15	114-50	95	5.1		115.5	
16	116-30	121	5.3		115.3	
17	104-50	140	1.6		119.0	
18	99-40	110	0		120.6	
19	99-30	92	1.4		119.2	

T @ A Bs 16

TP X 9.15 HI = 129.57 ELEV = 120.42

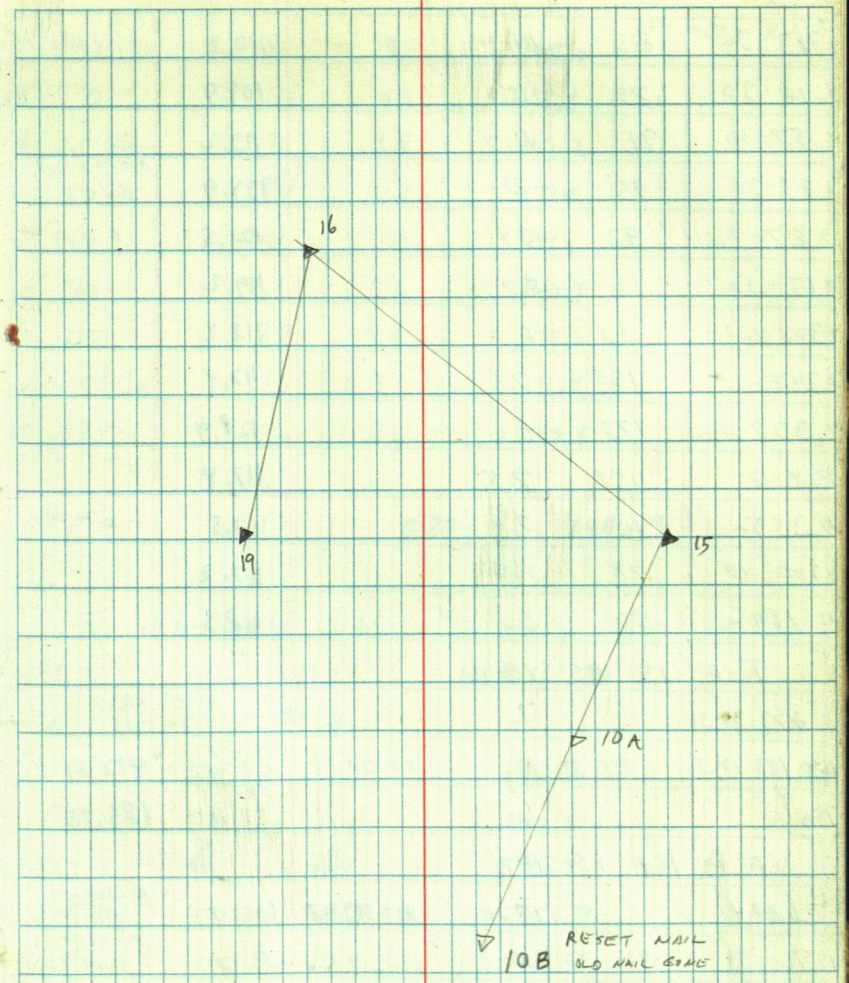
BM #2 357 126.00

1	78-30	176	5.4	124.2	
2	68-30	197	6.6	122.97	
3	66-40	255	11.5	118.1	
4	64-30	270	10.9	118.7	
5	83-30	210	4.7	124.9	
6	83-20	144	3.2	126.4	TOP
7	105-30	184	8.9	128.7	
8	113-	145	4.0	125.6	
9	113-30	170	0.5	129.1	
10	124-20	166	0.9	128.7	
11	129-30	157	0	129.6	
12	127-30	172	1.6	127.97	E
13	118-40	195	4.6	125.0	"

1	126-30	187	0.9		128.7	
2	123-20	214	4.6		125.0	
3	128-10	134	1.1		128.5	EDGE OF RD
4	107-40	129	3.5		126.1	"
5	74-30	135	5.8		123.8	"
6	105-	201	6.5		123.1	
7	95-30	220	7.1		122.5	℄
8	100-	165	1.00		128.6	
9	106-	162	0.9		128.7	
10	66-10	167	7.5		122.1	
11	69-30	47	6.5		123.1	
12	102-36	44	4.3		125.3	
13	138-30	62	4.7		124.9	TOE
14	153-05	51	4.6		125.0	"
15	179	30	6.6		123.0	
16	220-20	43	7.9		121.7	
17	"	14	5.3		124.3	
18	296-50	56	7.8		121.8	
19	278	55	8.7		120.9	
20	273-10	82	13.0		116.6	
21	286-50	100	14.5		115.07	
22	298-20	128	16.9		112.7	
23	318-10	70	8.7		120.9	
24	322-30	100	13		116.6	
	B 127-49 42 250.					
	TPZ			2.10	127.47	

	TP@	5	BS	A		
	TPZ	6.98			HI = 134.45	127.47
1	350-05	27		5.2	129.3	
2	317-30	18		5.2	129.3	
3	206	68		7.0	127.5	
4	157-30	58		14.6	119.9	
5	133-30	60		11.3	123.2	EDGE
6	240-0	68		7.2	127.3	"
7	281	44		7.8	126.7	"
8	323-30	51		6.4	128.1	
	TP@	15	BS	16		
	BM #3	5.30			HI = 141.66	136.36
1	248-30	70		4.2	137.5	
2	150-30	25		6.2	135.5	
3	67-10	55		12.8	128.9	
4	1-30	52		9.4	132.1	W EDGE OF RD
5	"	66		7.3	134.4	
6	303-40	42		6.8	134.9	W EDGE RD
7	"	54		2.0	139.7	
8	294	68		1.8	139.9	
9	281	62		1.5	140.2	℄
10	248-10	68		2.4	138.8	
11	307-30	120		4.9	136.8	
12	328-20	81		4.1	137.6	

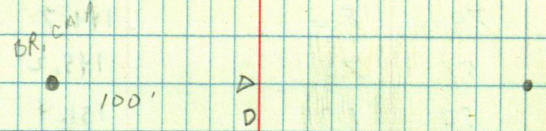
T @	15 BS	16		
163-12	62			
T @	C BS	15		
BM #3	11.04	HI =	147.45	136.36
1 34-0	29	5.7		141.8
2 62-30	21	6.2		141.3
3 135-05	33	11.7		135.8
4 153	65	11.6		135.9
5 145-30	80	2.7		144.8
6 164-10	102	14.3		133.15
7 225	82	5.0		142.5
8 "	134	1.1		146.4
9 "	175	0		147.5
10 207-20	150	0.4		147.1
11 197-10	105	2.8		144.7
12 "	22	7.3		140.2
13 315-30	20	3.3		144.2 BRICK
14 281--	46	1.9		145.6
15 296-40	81	4.3		143.15
16 304-50	54	9.3		138.2
17 309-30	160	3.3		144.2 ℄
18 308-30	200	3.8		143.7
	7-25-84			
T @	19 BS	16		
BM #5		6.74	HI = 124.87	118.13
1 266-10	60	7.1 0.74	~~117~~	117.8
2 318	90	15.4		109.5



3	343-30	85	14,7		110.2	
4	18-30	79	15,0		109.9	
5	57-30	91	11,7		113.2	
6	83-30	95	0		124.9	NEDGE of Rd
7	87-0	37	3.4		121.5	"
8	13-30	16	5,7		119.2	
9	302-20	33	6.7		118.2	
10	347-	155	7.5		117.4	
11	337-30	175	4.0		128.9	
12	4-0	158	7.5		117.4	
13	354-	160	7.4		117.5	
14	200-10	78	7.7		117.2	
15	169-	50	6.6		118.3	
	T @	15	BS	16		
	272-39-30					
	10B 185-18-34	272-39-18		87-25	412.56 125.749 187.07	412.14
	10A				57.01	186.85
	T @	10A	BS	10B		
	BM#4		10,20	HI = 149.97	139.77	N side Rt N side Rd
1	96-30	92	16,8		133.17	
2	111-30	32	10.0		139.97	"
3	167-10	15	5.8		144.2	" @ Y
4	114-20	52	10,6		139.4	
5	292-	11	4,3		145.7	℄ ℄
6	314-30	48	5,6		144.4	

7	824-30	40	4.0	145.0	E edge Rd
8	0-	35	4.2	145.8	W "
9	25-40	31	6.8	143.2	
10	80-	47	12.6	137.4	
11	144-30	51	8.4	141.6	
12	160	64	7.6	142.4	
13	217	37	4.4	145.6	
14	247-30	43	3.3	146.7	
15	22X-	76	2.6	147.4	
	TP 0		0.84	149.13	
	T	10B	BS	15	
	TP 0		12.17	HI = 161.30	
	5A	153-34-15 307-08	153-34		
1	210-	120	16.0	145.3	
2	230	92	13.6	147.7	
3	232-0	45 62	5.9 13.7	155.4	
4	288-10	23	4.6	156.7	
5	293-10	111	14.8	146.5	
6	324-30	65	4.6	156.7	
7	347	50	6.5	154.8	℄
8	354-30	78	6.9	154.4	
9	7-0	97	1.7	159.6	℄
10	58-30	22	5.2	156.1	℄

11	D5-05	71	5.2		156.1	℄
12	107-10	170	10.6		150.7	
13	157-40	85	8.5		152.8	
2	TP R	5.20		3.58	157.72	
3			162.92			
4	TP S	13.18		3.52	159.40	
5			172.58			
6		T@ BR C AP DS 5A				
7	TPS	13.18	HI = 172.58		159.40	
8	3.06-	49	5.2		167.4	
9	273-	7	5.7		166.9	
10	117-	36	4.2		168.4	
11	56-30	90	5.8		166.8	
12	44-10	85	6.3		166.3	BR TOP
13	0	20	6.0		166.6	
14	0	0	4.12		168.46	TOP BR CAP
	T@ D BS	BR CAP				
	BR CAP	10.49		HI = 178.95		
1	0	28	3.8		175.2	
2	180	45	8.0		170.0	
3	180	112	0.3		178.7	
4	180	162	7.2		171.8	D CBR
5	168	125	1.0		178.0	



6	168-30	100	2.0	178.0
7	154	50	8.7	170.3
8	138-30	29	9.3	169.7
9	26-30	40	5.0	174.0
2				
3	⊼ @ 10 A BS E			
4	10 B ~~10-32-06~~ 10-31-54		204.0 ⊼	
5	BM = 4	12.91	HI = 152.68	139.77
6	349-30	90	3.5	149.2
7	27-	70	8.0	144.7
8	72	59	7.5	145.2
9	150-30	50	1.3	151.4
5	257-	40	3.7	149.0
4	257	90	5.0	147.7
7	262-30	90	4.9	147.8
6	316-30	150	4.8	147.9

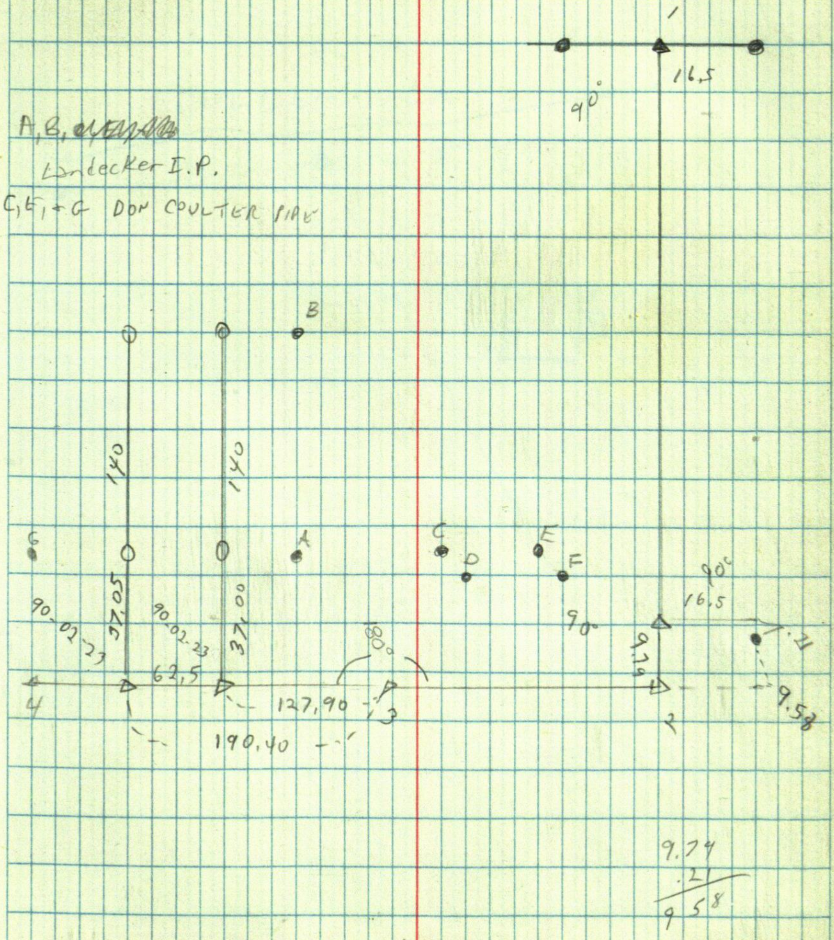
PINE RIVER

78° CLDY

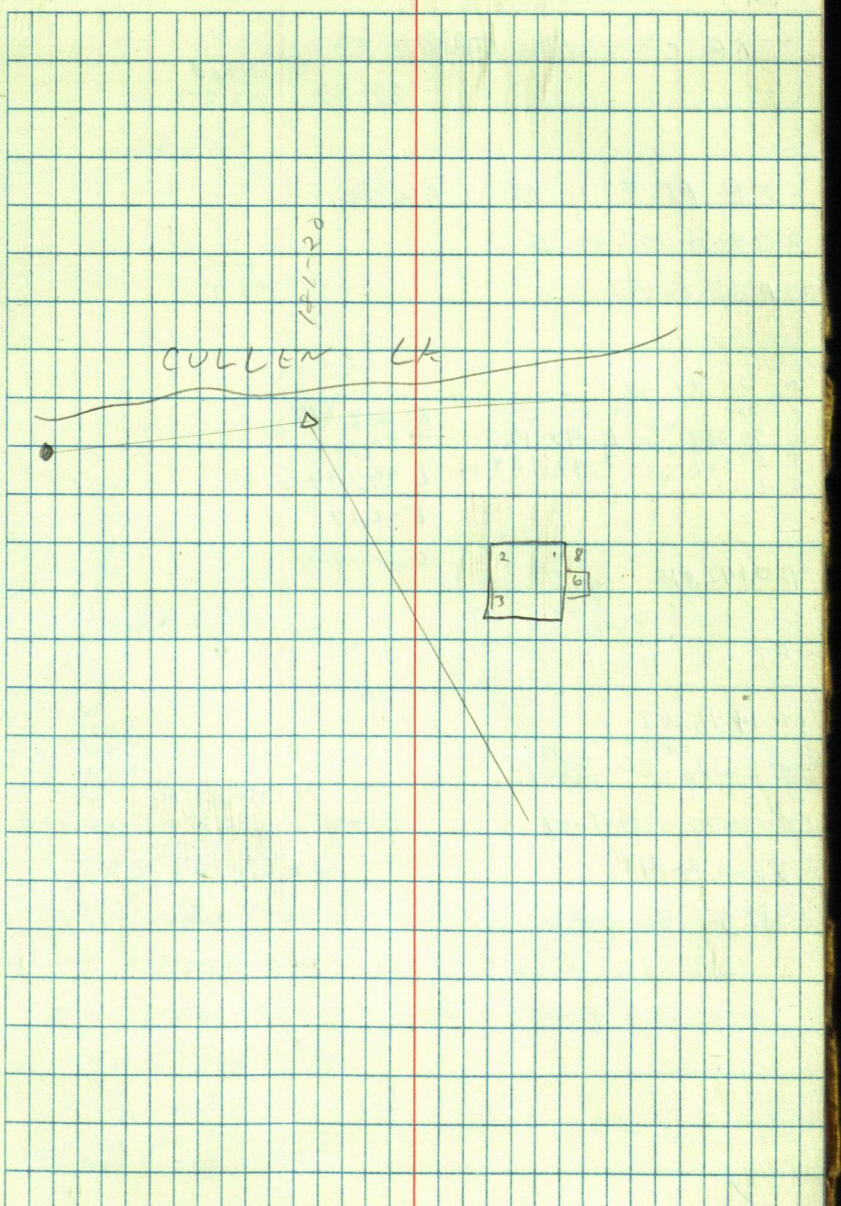
E. CURO
K. METCALF

7-27-84

MRS	FINLEY	LOTS 11 12 E 1/2 13	PARKERS ADD	
⊼ @ 2 BS 1				
90-00		89-59	339.30 103.418	339.297
3		90-06	275.09 83.849	275.091
⊼ @ 3 BS 2				
215-45-48	215-45-45			
A 431-31-30		89-46	64.93 F 19.792 M	64.933
253-24-12	253-24-02			
B 506-48-04		89-54	184.75 F 56.311 M	184.748
322-06-50	322-07-00			
C 644-14-00		91-42	60.17 F 18.340 M	60.144
326-48-36	326-48-31			
D 653-37-02		92-09	60.56 F 18.460 M	60.519
343-19-36	343-19-30			
E 686-39-00		90-56	128.37 F 39.129 M	128.355
345-02-30	345-02-42			
F 690-05-24		89-29	128.46 F 39.159 M	128.461
⊼ @ 4 BS 2				
264-49-00	264-48-30	90-17	649.28 F 197.898 M	649.265
G 529-37-00			Ch 37.33	



CAL	WALLIN
1 207 –	79.4
2 215-20	67.0
3 225-30	82.4



USFS

⊼@ C¼ BS CW1/16

89-59 1319.60 402.213

⊼@ PI # 1 BS CW1/16

207-49-24 207-49-25

B.O.P. 415-38-50 Chain 92.71

Δ 27-49-25

R 200		R= 204.139
L 97.053	L 97.123	T 50.564
T 50.564	T 49. 54	L 99.133
E 6.29		E = 6.17
		D 28-04-01

PC 0+42.#15

PI 92+71

PT 1# 41.283

⊼@CW1/16 BS P.I. 1 =P.I.-2

180-07-12 180-07-07 88-05 350.759 M 1150.79 F 1150.138

P.I.3 360-14-14

⊼@PI3 BS CW1/16

85° CLK

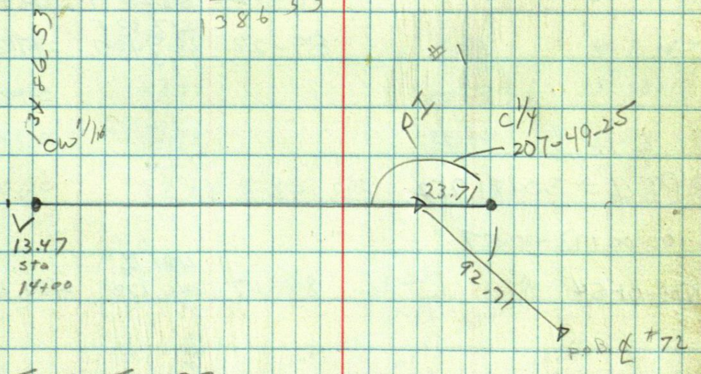
E. CURD
K. O'TOOLE
7-31-84

1150
386
2536 P.I. 3 APPX 25+38.5

25+36.67

1319.60
23.71
1295.89
50.56
1245.33
141.2
1386.53

TIES TO PI #1
10" WP N10°W 40.17
10 RO N50°E 36.29



TIES TO P.I #2

14" J.P. N20°W 27.80

22" N.P. N75°W 44.90

10" N.P. S18°W 48.70

= B.T.'s FOR CW1/16

18+04 to trail ℄

trail Runs NNW

TIES TO POB
4" BIRCH S35E 60.69
4" W OAK N80E 63.17

E. Curo
K. Metcalf

Aug 1, 1984
Clear 85°

USFS

℄ @ P.I. 3 = 25+36.67 BS PI-2

232-58-30 232-58-21

465-56-42 set P.O.T.

℄ @ P.I. 3 BS W¼

53-55-50 53-55-45

P.O.T. 107-51-30
NWLY

℄ @ P.O.T. BS PI-3

180°		90-12	292.95 F 89.290 M	292.945
PI 4		89-22	217.33 F 66.243 M	217.317
				510.262

℄ @ PI 4 = 30+31.952 BS PI 3

193-01-00 193-00-57

PI-5 386-01-54 88-17 481.86 146.872 481.643

Δ	13-0-57			
R	250	248.091	R 250.36	
L	56.867	~~56.460~~	56.359	L 56.87×
T	28.557			T 28.56
E	1.63			E 1.62
D	23-05-41			D 22-53-07
PC	30+03.39			
PT	30+60.26			

TIES TO PI-3

7" N.P. 56°W 54.48

4" R.O. S76°W 44.10

Δ = 52-58-21

L = 187.182 @ 200' Rad.

Tan = 101.08

P.C. = 24+35.59

P.T. 26+22.77

	T	D
24+50	14.58	0.53
25+00	43.47	10.33
25+50	71.18	13.09
26+00	22.72	1.29

TIES TO W¼ 13

6" W.P. 54°W 35.79

8" R.O. N30°E 42.53

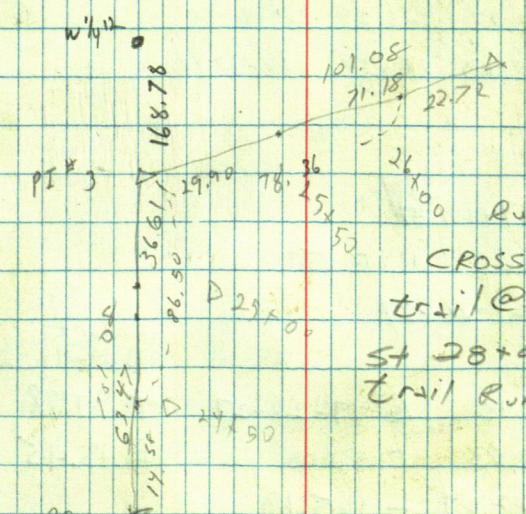
10" N.P. N82°E 43.11

℄ 6' EAST

R 202.857
L 187.55 .37×
T 101.08
E 23.789
D 28-14-40

D

4-10-47
19-30-13
29-50-49
6.34



26+00 Runs E-W

CROSS ℄ OF
trail @ 26+63.77
St 28+00 in
trail Running N-S

USFS

T@PI 5 = 35+13.34 BS PI 4

119-37-32 119-37-24

PI 6 239-14-48 86-58 418.54 1275-71 417.952

Δ 60-22-36

r	200'	20'	201.034
L	211.657	210.75	211.844
T	116.953	116.34	116.95
E	31.69	31.38	31.54
PC	33+96.39	D	28-30-02
PT	36+08.05		

	T	O	Δ
34+50	52.97	7.14	15-21-29
35+00	99.03	26.24	29-40-55
35+50	57.23	8.37	16-37-48

PI #6 39+09.84

T@PI #6 BS PI #5

227-26-36 227-26-27

POT 454-52-54 89-38- 322.60 E 98.328 N 322.591

PC 38+21.93	Δ 47-26-27	T 87.88
PT 39+87.53	r = 200'	E 18.45
POT 42+22.24	L 165.60	

E. Curo
K. Metcalf

Aug. 2, 1984
O.C. 75° Humid

TIES TO P.I. 4

5" Poplar S 72° E 52.44

~~8" Ash~~

8" Maple S 50° W 40.66

TIES TO PI 5

6" RO. NO° 36.98

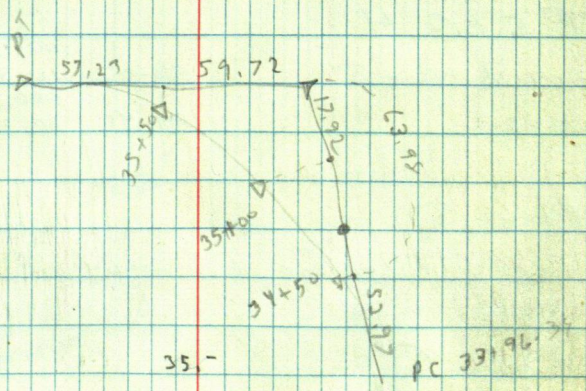
7" N.P N62° E 35.52

63.98
52.97
116.95

CROSS & TRAIL

@ 34+60 E-W

35+00 S



TIES TO PI #6

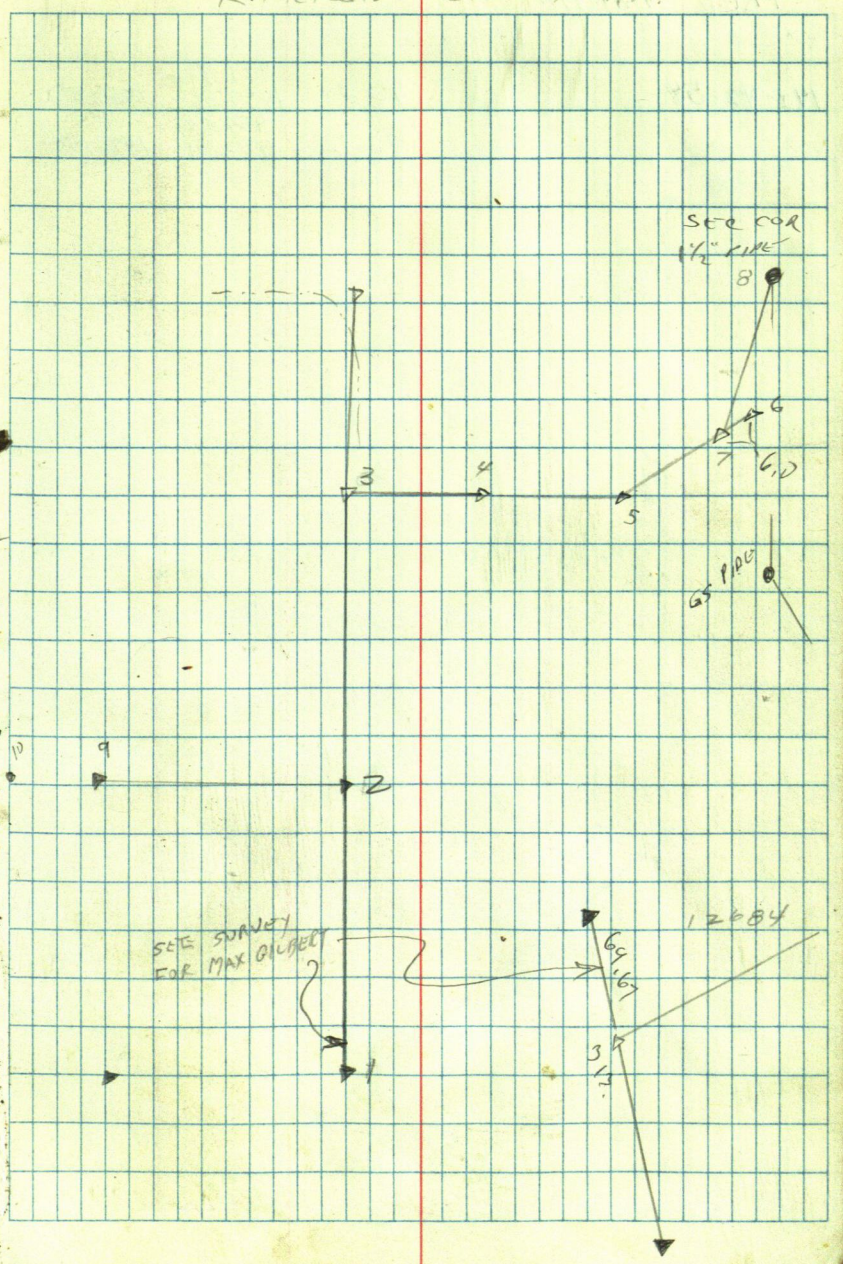
8' RO S15 E 50.08

5" RO S70W 49.90

E. Curo
K. Metcalf

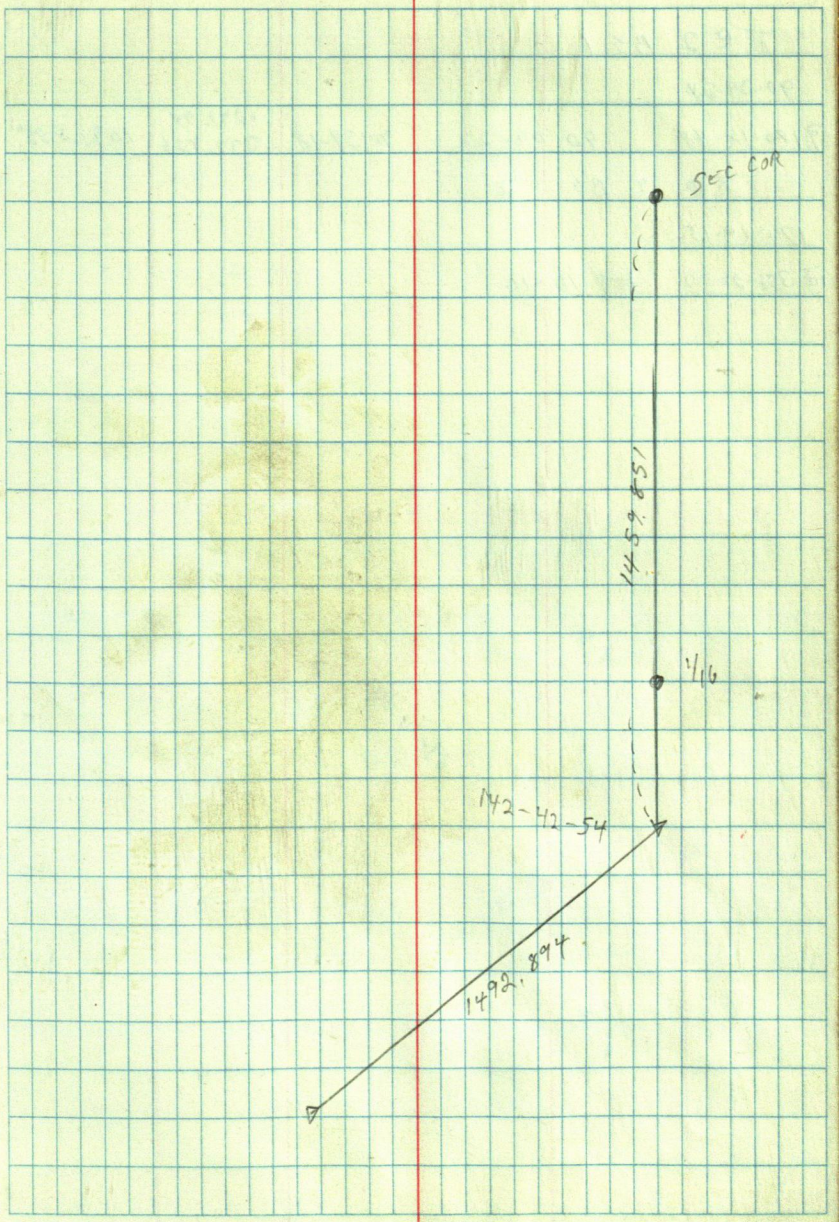
8-17-84
clear 70° A.M.

MARV	OLSON				
@ 2 BS 1					
180-14-24	180-14-30				
3) 360-29-00					
				24	
@ 3 BS 2					
268-03-24	268-03-27		90-04	3410.65 F 1039.565 M	3412.631
4) 536 06-54			89-29	2758.87 F 840.907 M	2758.791
@ 4 BS 3					
180-09-42	180-09-44				
2) 360-19-28					
@ 5 BS 4					
148-12-38	148-10-39		88-02	403.54 F 122.893 M	403.291
3) 276-25-18			89-41	666.80 F 203.240 M	666.786
@ 6 BS 5					
set pt 7 on line 6.0' SWLY of Pt 6					
@ 7 BS 5					
171-45-26	171-45-18				
8) 343-30-36		1½" I.P.	89-16	216.06 F 65.85 M	216.041



FRED MARTIN

142-42-54	90 -	444.964 1459.86 455.079 1492.91	1459.851 1492.894
	90-12		



At 2 BS 1

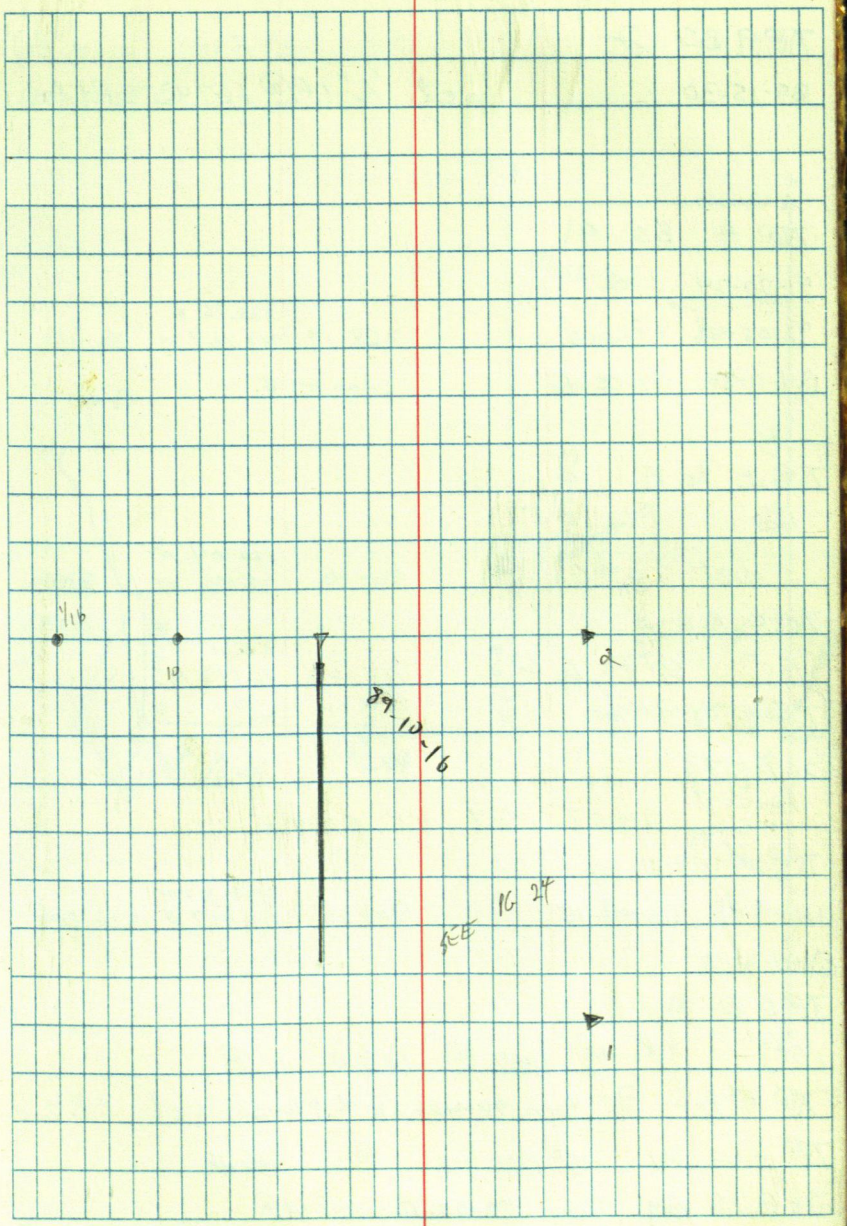
90-09-24

(9) 180-14-44 90-09-22 90-34-18 1041.94 732.826 1091.885

At 9 BS 2

179-10-15

(10) 358-20-32 179-10-16



Mary Olson

@ 9 BS 2					
89-15-30		set ½" I.P. @	667.43	= P.T.A.	
@ A BS 9					
91-20-24					
92-05-48	& Plunge		268-17	138.36 F 42.167 M	138.289
184-11-30	92-05-45		SHOOT B		
@ B BS A					
180°					
	set pt C	@	96-46	122.04 F 37.196 M	121.811
@ C BS B					
180°	set pt D	@	114-33	53.68 F 16.372 M	48.843
@ D BS C					
267-57					
	SHOOT ONLY UP SHORE				
@ D	BS E				
113-48-18	113-48-15		90-13	432.57 F 131.847 M	432.564
©2007-36-30					
@ A BS 9					
set	I.P. on line	@	125.0'	= F	
@ F BS 9	Turn 90-40-20 & Plunge set I.P. on line				
@ 2 BS sly	set pt on line	@	666.16		
@ G BS sly	Turn 90-05-12 set I.P. @				

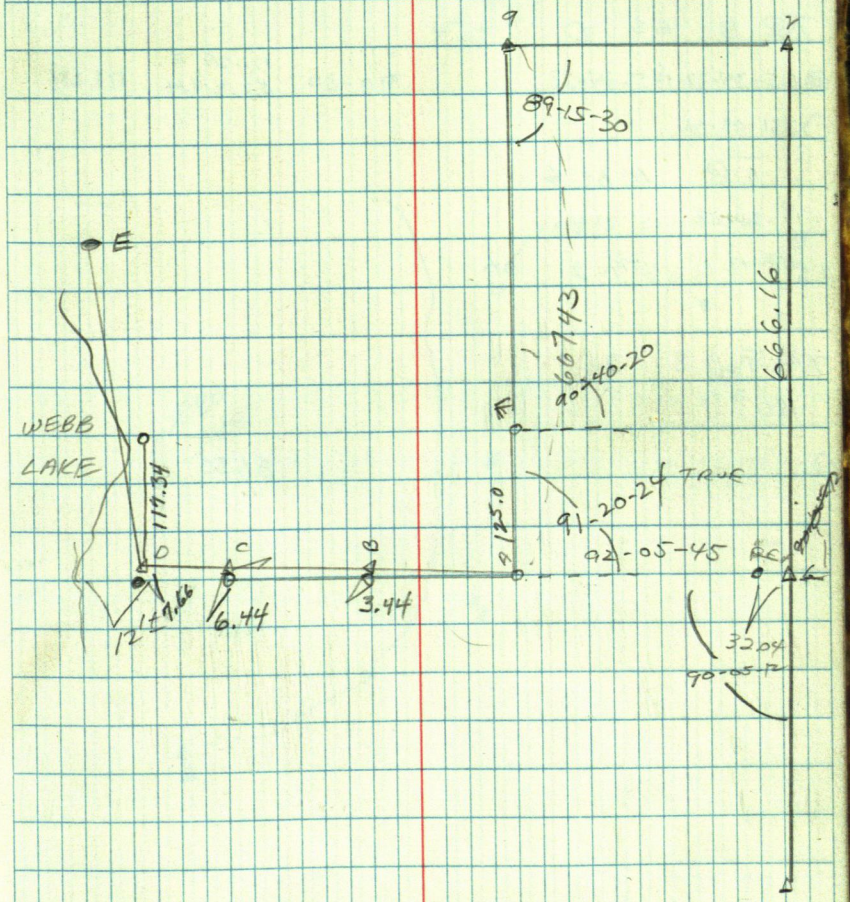
E. Curo
K. Metcalf

8-22-84
O.C. 60°

27

89-10-16 667.43 648?

89-15-30

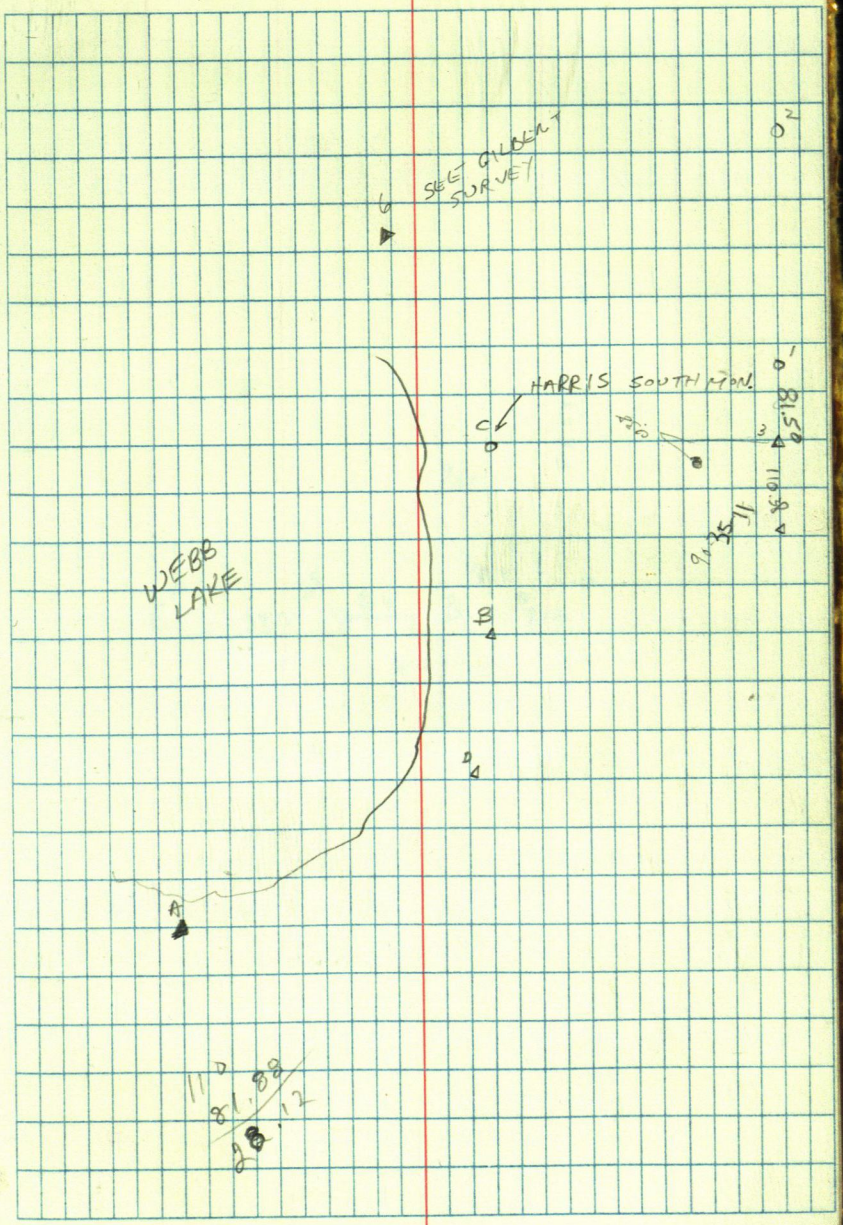


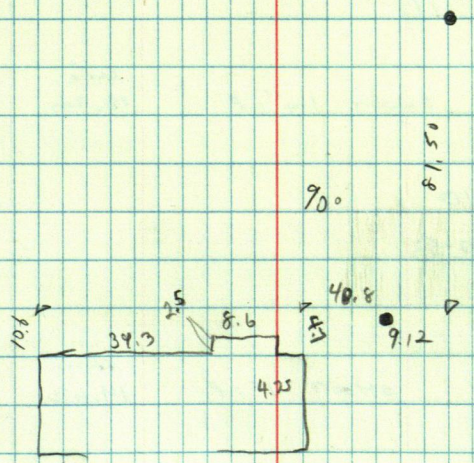
	JONES	WEBB LK			
∠@ B	BS A				
	85-41-02	85-40-58		89-48	2972.69 F 906.074 M
				90-30	160.42 F 48.892 M
∠@ B	BS D				
(B)	165-34-32	165-34-33		90-30	171.29 F 52.21 M
(C)	331-09-06				
∠@	A BS 6				
	14-21-08				
B	38-42-12	19-21-04			
∠@ 1	BS 2				
	180°				
(3)					81.50

E. Curo
K. Metcalf

Sept. 4, 1984
P.C. 55°

28




8.50
90°
40.8
9.12
10.8
34.3
2.5
8.6
4.3
4.25

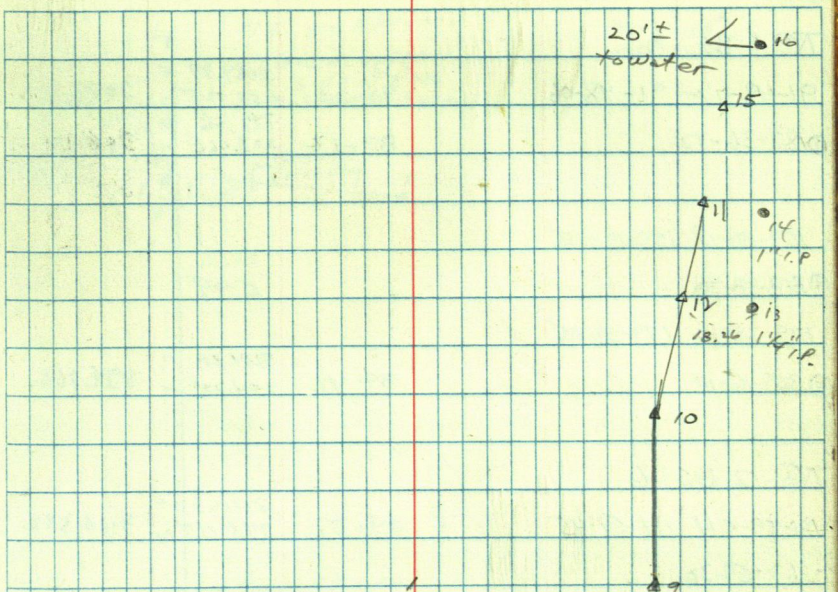
C. Fischer

	@ 10	BS 9			
	216-06-12	216-06-00			
(11)	432-12-12		89-28	508.55 F 155.005 M	508.524
		set 12 on line @	270-25	214.46 F 95.848 M	314.491
	@ 12	BS 11			
	96-08-18				
(13)		SHOOT 1¼" I.P.		Chain 18.26	
	@ 11	BS 10			
	179-03-00	179-02-53			
(15)	358-05-46				
	264-14-00				
(14)		SHOOT 1" I.P.		Chain 14.62	
	@ 15	BS 11			
	183-30-36		662.56 201.949	84-28	662.53
(16)	367-01-48	183-30-3/4" I.P.	61.61 18.780	96-42	61.191 + 0.2 61.391

E. Curo
K. Metcalf

Sept. 4, 1984
P.C. 60°

30

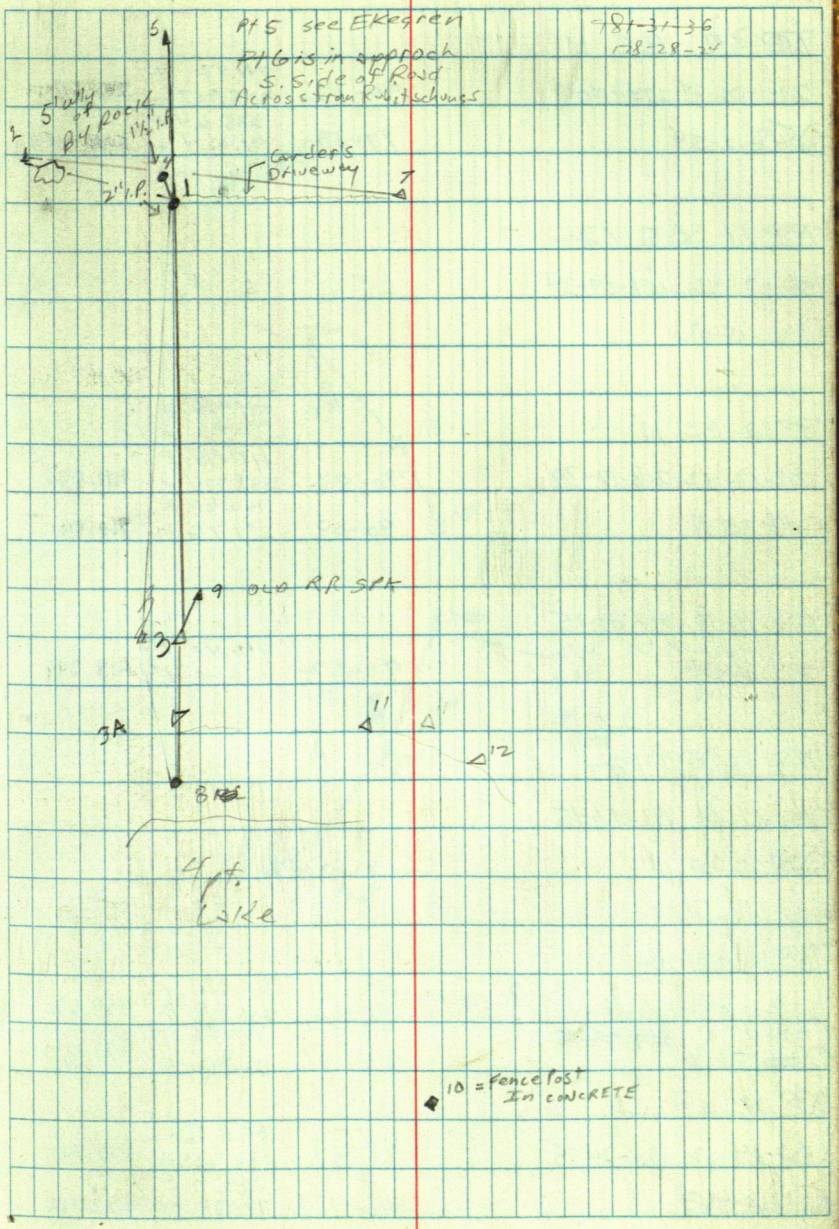


BIG1.	Anderson Four Pt Lake				
TP 1 BS 3					
91-48-12	91-48-06		90-25	2089.99 F 637.025 M	2089,919
⑦ 183-36-12			89-12	748.26 F 228.066 M	748,178
159-19-18	159-19-15				
④ 318-38-30				Chain 5.94	
179-38-12	179-38-05				
⑤ 359-16-10			89-41	834.28 F 254.29° M	834,266
TP 2 BS 6					
181-59-54	181-59-45		89-51	3110.60 F 948.115 M	3110,582
① 363-59-30					
TP 2 BS 7					
01-31-42	01-31-42		90-38	2128.83 F 648.871 M	2128,696
① 03-03-24					
TP 3 BS 1					
180-15-48	180-15-42		—		
② 360-31-24			92-27	496.04 151.191	495,581
02-49-12	02-49-27				
④ 05-38-54				Ch. 35.38	
TP 8 BS 10					
202-05-14	202-05-08				
③ 404-10-18					

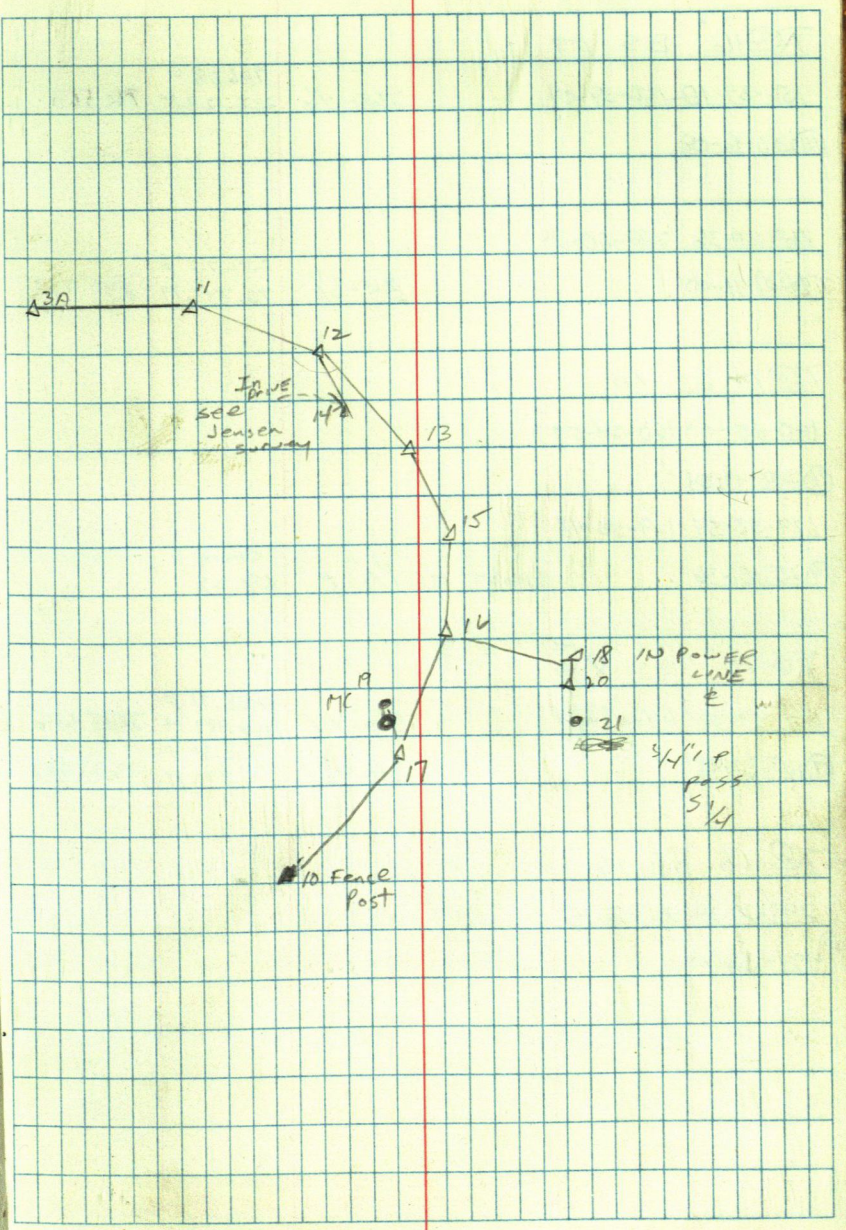
E. Curo
K. Metcalf

Sept. 10, 1984
o.c. 55°

31



∠@ 3A	BS 11				
274-06-24	274-06-27		90-12	741.17 F 225.907 M	741.16
③ 548-12-54			87-39	298.64 F 91.024 M	298.385
∠@ 11	BS 12				
156-07-36	156-07-34				
3A 312-15-08					
				111.46 F M	
∠@ 12	BS 11				
208-17-42	208-17-39		90-03	1111.46 F 338.774 M	1111.456
12 416-35-18			90-09	960.60 F 292.790 M	960.591
212-28-18	212-28-15				
404-56-30			90-52	413.40 F 126.003M	413.349
∠@ 13	BS 12				
198-47-54	198-47-45				
15 397-35-30					
∠@ 15	BS 16				
157-03-48	157-03-45 OK	? CORRECTED	90-12	760.63 F 231.839 M	760.62
12 ~~315~~ 314-07-30	~~157-33-45~~		85-51	370.56 F 112.945 M	370.553
∠@ 20	BS 21				
180-24-12	180-24-15		91-51	601-06 F 183.201 M	600.741
18 360-48-30			95-47	259.11 F 78.974 M	257.786



E. Curo
K. Metcalf

Sept. 10, 1984
O.C. 60°

Anderson 4pt Lake

℄@16' BS 17					
156-39-12	156-39-04		269-46	76.58 F 232.128 M	761,568
(15) 313-8-08					
269-50-36	269-50-30				
(18) 539 41-00			84-38	251.77 F 76.741 M	250.668
℄@17 BS 10					
160-25-00	160-24-57				
(16) 330-49-54					
129-55-54	129-55-48				
(19) 259-51-36		SHOOT MC 1¼", P.		Curve 69.22	
℄@10 BS 8* MC					
64-49-00	64-48-54		90-01	3828.71 F 1166.989 M	3828.689
(17) 109-37-48			89-48	1233.50 F 375.971 M	1233.487
℄@18 BS 16					
247-29-24	247-29-15				
(20) 494-58-30					

MELVIN SABAKA GL 11. 10 - 139 - 30

⊼@ 22 BS 8

280-02-08	280-02-09	90° —		4670.50F 1423.567 M	4670.476
(23) 560-04-18					

⊼@ 8 BS 10

16-12-06					
(22) 32-24-14	16-12-07				

⊼@ SC (NW) BS Pt 179' Wly N 1/4

90-~~32-00~~ 31-48	90-31-45				
W1/4 181-03-30		89-54		2647.41F 806.929M	2647.391

⊼@ W1/4 BS NW COR

set Pt on line = A Look Ely down Driveway

⊼@ A BS NW COR

89-12-10	89-12-12				
(B) 178-24-24		A - B 90-06		511.64 F 155.947 M	511.636
		A - W1/4 89-38		335.70 F 102.320M	335.689

⊼@ B BS A

180-32-30	180-32-21				
(C) 361-04-42		104-07		146.88 44.768	142.442

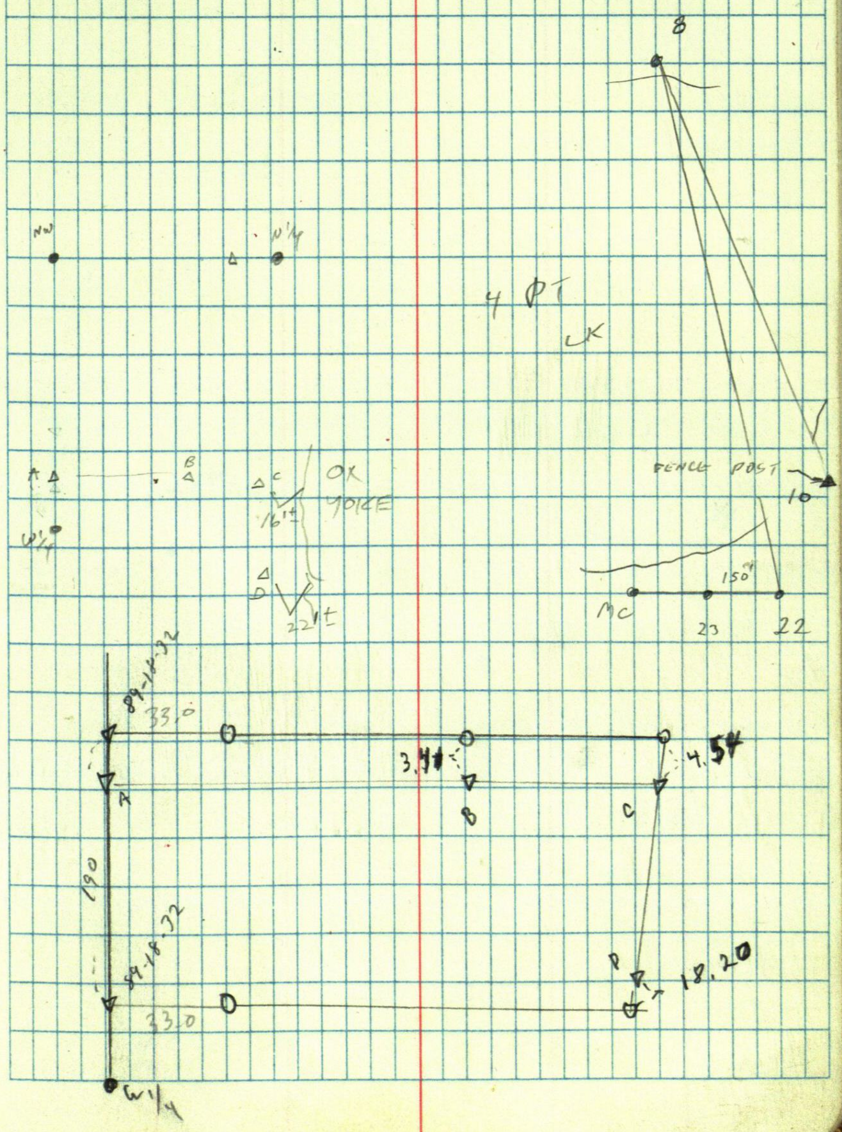
⊼@ C BS B

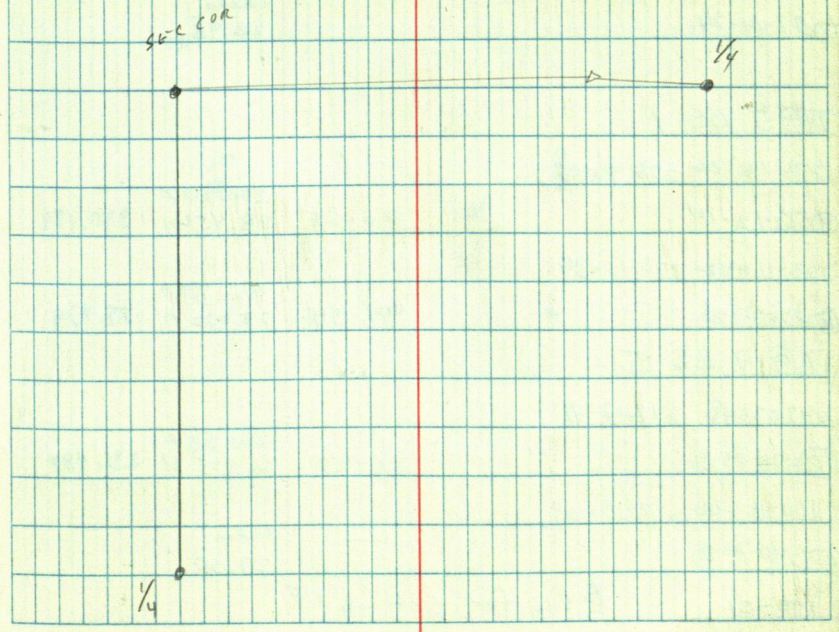
276-51-26	276-51-24				
(D) 553-42-48		89-31		168.80 F 51.447M	168.788

75' CLR

E. CURO
& METCALF

7-11-84



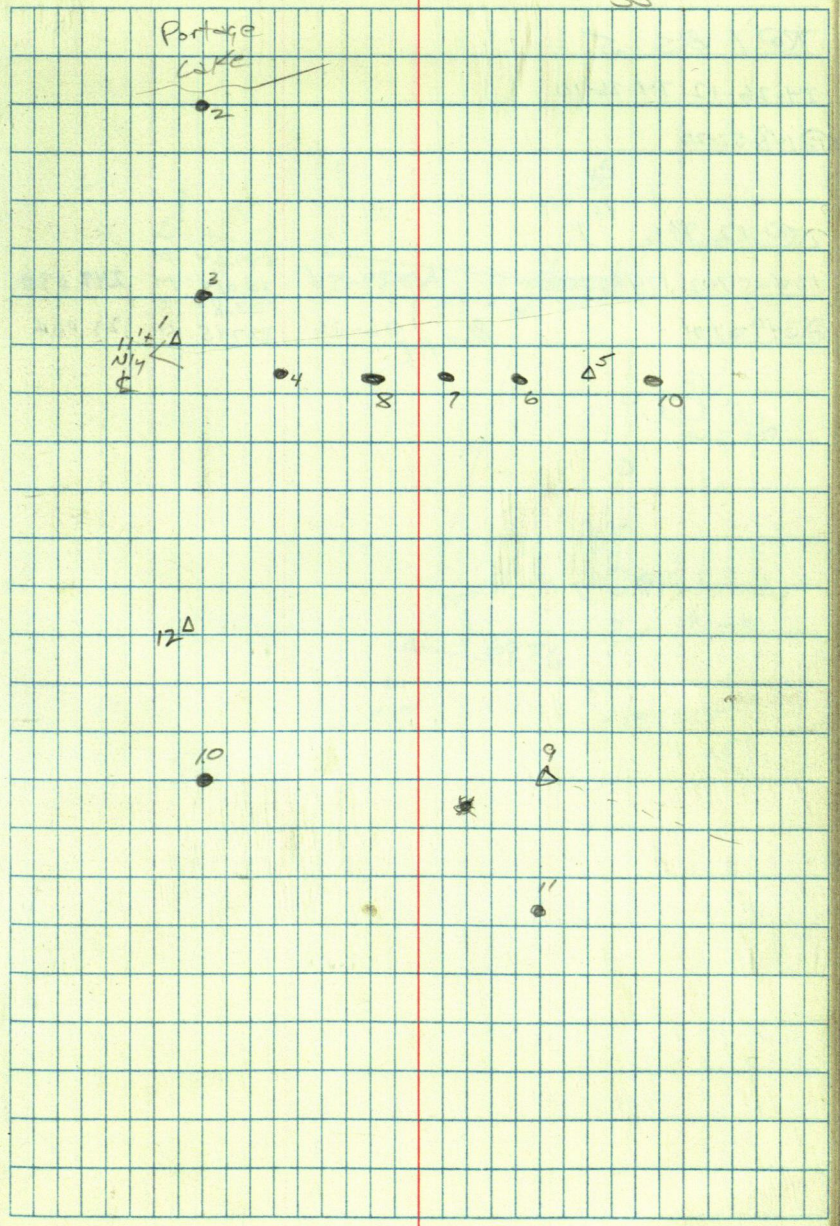

SEC COR
1/4
1/4

E. Curo
K. Metcalf

9-12-84
O.C.: Drizzle
55°

36

	WILLIS				
@ 1 BS 2					
100-11-50	100-11-42		93-22	265.89 F 81.045 M	265.433
⑤ 200-23-24			92-05	362.89 F 110.608 M	362.647
102-15-00	102-14-57				
⑥ 204-29-54			92-56	305.13 F 93.005 M	304.731
105-17-18					
⑦ 210-34-34	105-17-17		92-27	252.85 F 77.066 M	252.613
109-17-					
⑧ 218-33-42	109-16-53		92-38	200.72 F 61.178 M	200.50F
115-08-06					
④ 230-16	115-08		92-29	150.73 F 45.944 M	150.59
48-37-24	48-37-12				
③ 97-14-24				Chain 23.98	
@ 5 BS 1					
276-06-06	276-06-07				
⑨ 562-12-14			90-26	290.20 F 88.452 M	290.189
123-11-42	173-11-39				
⑩ 346-23-18			94-44	75.70 F 23.072 M	75.439
@ 9 BS 5					
247-02-48	247-02-48				
⑩ 494-05-36			88-40	231.55 F 70.575 M	231.48F
170-10-06	170-10-04				
⑪ 340-20-06				Chain 27.30	
100-51	& Elg for Setting I.P.				

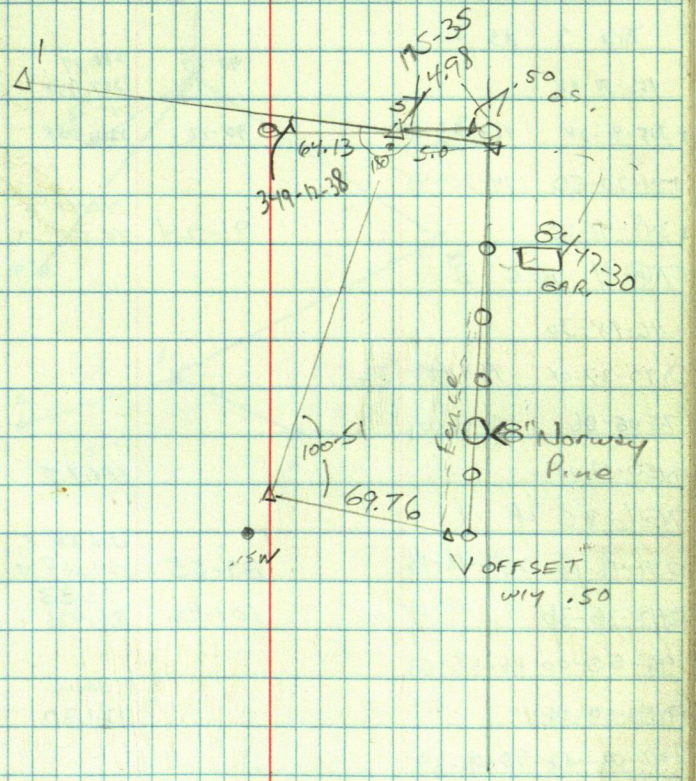


Richard Willis — Ten Mile

@ 1 BS 5				
74-26-12	74-26-10			
(12) 148-52-20				
@ 12 BS 1				
174-57-12	174-57-02	89-54	249.64 F 76.089 M	247.636
(D) 349-54-04		96-39	123.84 F 37.745 M	123.004

E. Curo — 9-12-84
K. Metcalf — o.c. 55°

37



Taraldson

Whitefish Lake

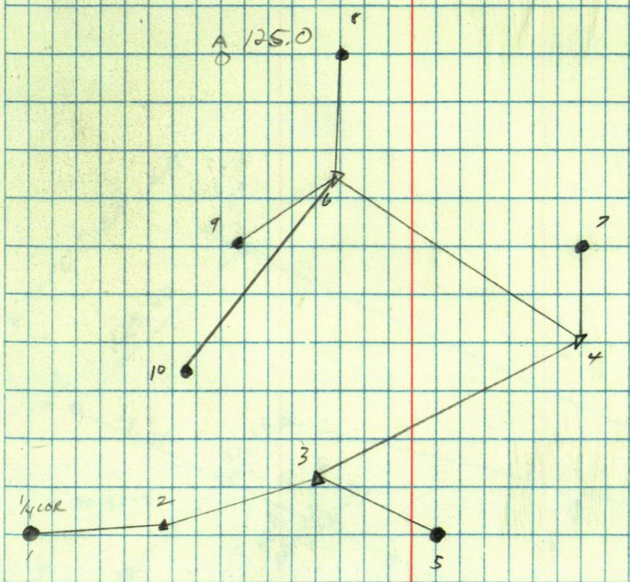
GL 4 & SE1/4 NW1/4 21-137-28

⊼@2 BS 1					
159-23-50	159-23-41				
(3) 318-47-22					
⊼@3 BS 2					
162-50-48			90-23	680.29 207.354	680.274
(4) 325-41-28	162-50-44		90-12	724.28 220.758	724.268
174-20-50	174-20-45				
(5) 348-41-30			91-24	141.41 F 43.104 M	141.371
⊼@4 BS 3					
46-48-30					
(6) 97-37-04	46-48-32				
75-06-06	75-06-09				
(7) 150-12-18				Ch. 44.75	
⊼@6 BS 4					
239-48-18	239-48-18		89-55	416.86 F 127.068 M	416.873
(8) 49-36-36			101-06	93.33 28.476	91.63
96-55-00	96-55-03				
(9) 193-50-06				Chain 121.30	
90-08-42	90-08-39				
(10) 180-17-18			268-48	200.72 F 61.186 M	200.686
⊼@6 BS 4					
133-54-18	133-54-30				
(A) 261-49-00			103-00	65.37 F 19.921 M	63.688

E. Curo
K. Metcalf

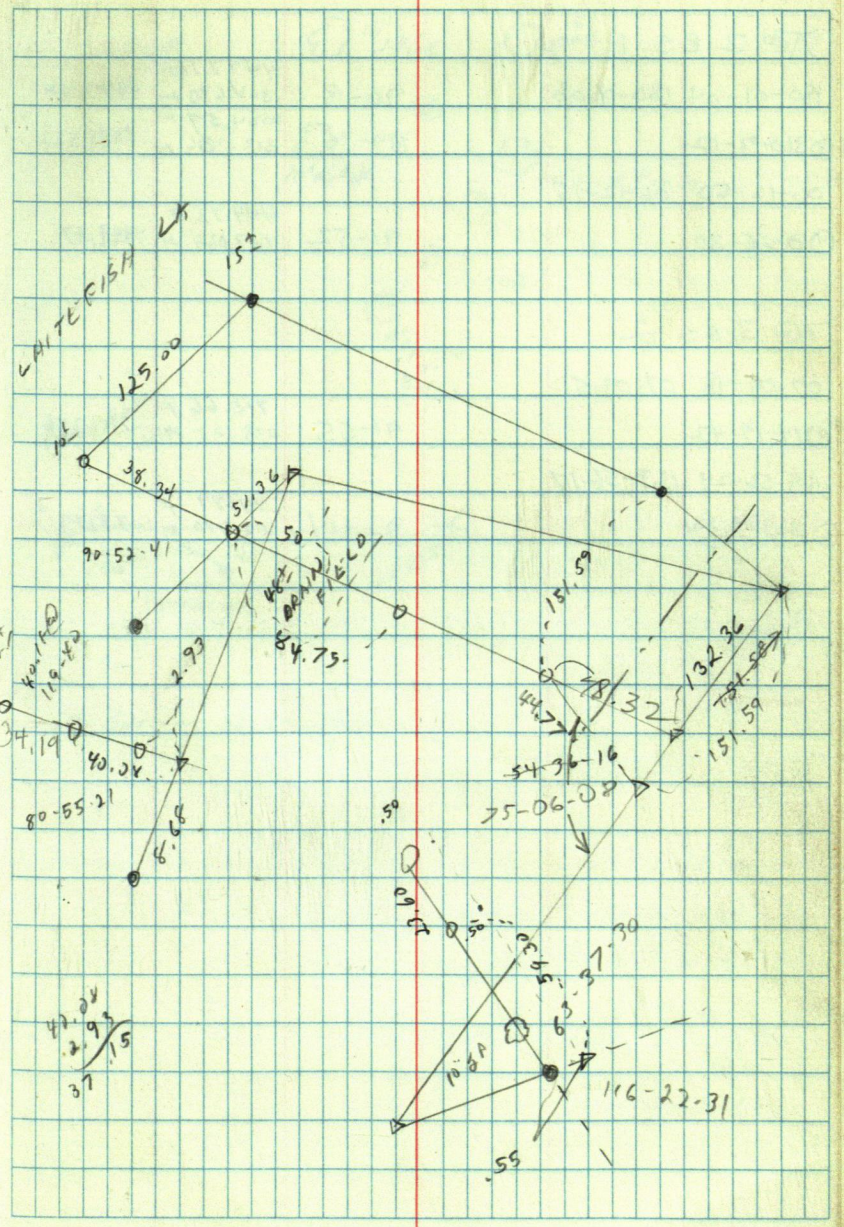
9-13-84

O.C. 50°



Pts. 1 & 2 see survey for Quist

ROBERT TAROLDSON

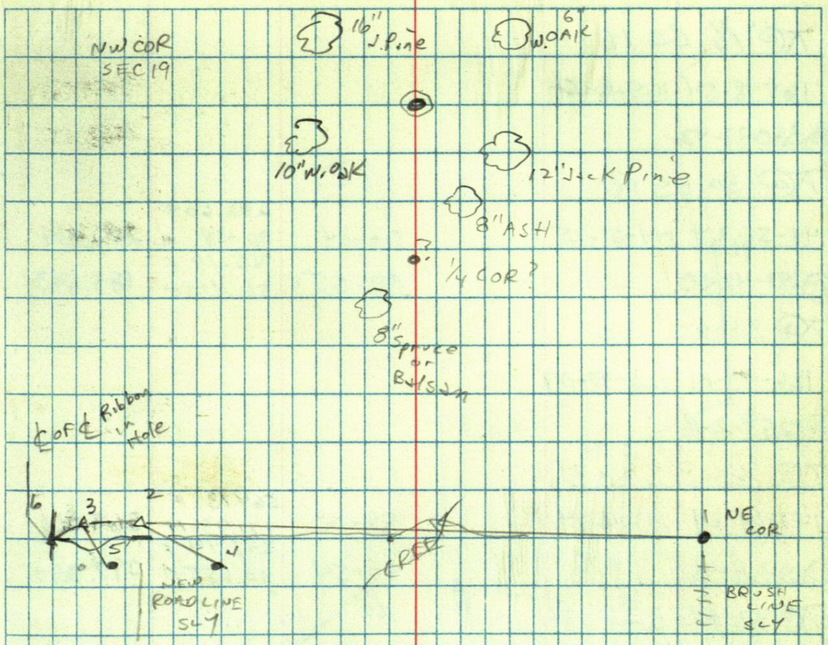


E½ of NW of NW SEC 19 Burleigh Twp.

⊼@2 BS 1					
180-01-04	180-01-06		90-18	4477.11 F 1364.630 M	4477.04
③ 360-02-12			89-30	1024.57 F 312.286 M	1024.522
06-12-50	06-12-45				
④ 12-26-30			91-52	449.72 F 137.069 M	449.47
⊼@3 BS 2					
07-09-48	07-09-51				
⑤ 14-19-42			91-55	715.66 F 218.133 M	715.256
169-56-24	169-56-17				
⑥ 339-52-34			92-14	77.79 F 23.710 M	77.73

K. Metcalf Sept. 14, 1984

O.C. 45°



2x Bare on N shoulder

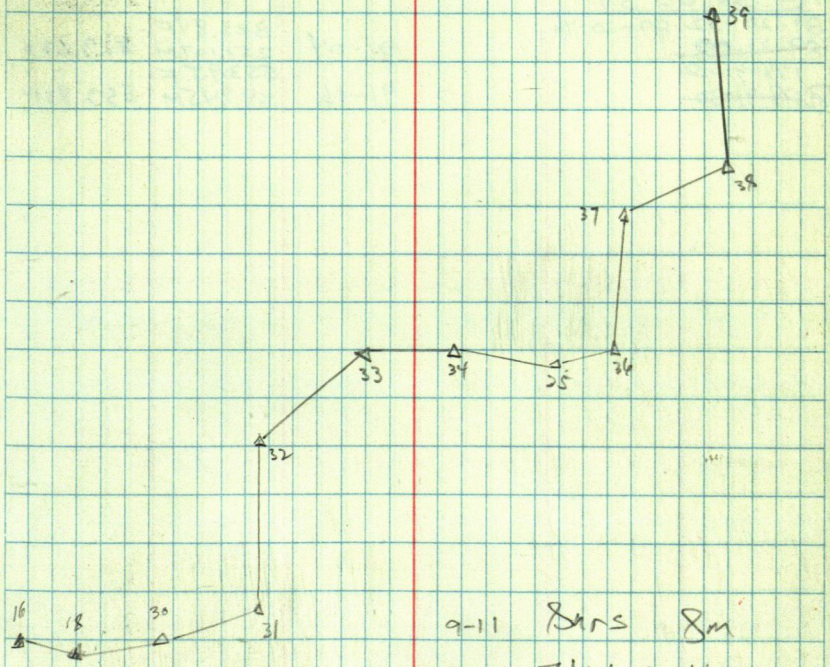
GIGI

@ 18 BS 16				
165-18-54	165-18-51			
(30) 330-37-42				
@ 30 BS 18				
144-51-24	144-51-25	90-04	282.60 F 86.138 M	282.601
(31) 289-42-50		89-55	185.10 F 56.415M	185.093
@ 31 BS 30				
126-40-14	126-40-09			
(32) 253-20-18				
@ 32 BS 33				
147-14-24	147-14-24	88-00	564.13 F 171.936M	563.766
(21) 694-28-48		90-54	297.44 F 90.655M	297.394
@ 33 BS 32				
220-21-00	220-20-57			
(34) 440-41-54				
@ 34 BS 35				
167-52-00	167-51-56	89-48	664.13 F 202.419 M	664.110
(33) 335-43-50		89-49	259.78 F 79.182 M	259.779
@ 35 BS 34				
172-17-12	172-17-08			
(36) 334-34-16				
@ 36 BS 37				
234-50-00	234-50.00	88-31	464.81 F 141.676 M	464.655
(35) 469-10-00		89-15	296.26 F 90.298 M	296.23

K. Metcalf Sept 14. 1984

P.M P.C. 55°

41



9-11 8 hrs 8m

9-14 7 1/2 hrs 42M

50 Miles

@ 37 BS 38

131-04-30 131-04-28

(36) 262-08-56

@ 38 BS 37

89-20-52 89-20-46

~~89-21-00~~

178-41-32

(37) ~~178-41-30~~

91-04 823.84F 823.69M

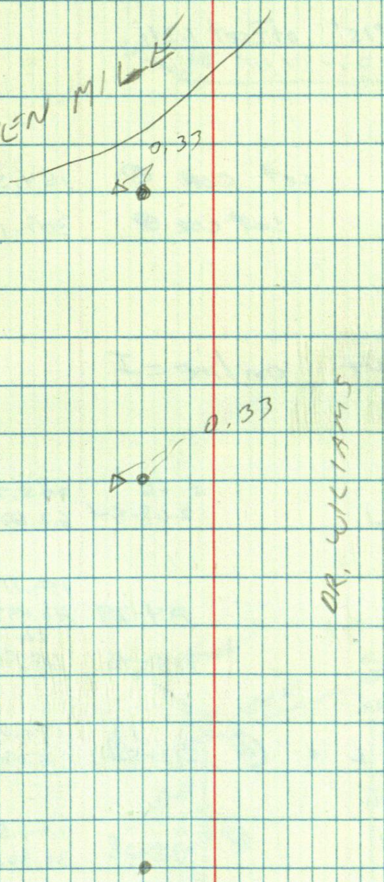
91-16 553.95F 553.81M

JIM RIPKIN

271-53-30	177.77
90-	158.59

E. CURO

9-15-84



HAROLD SPLITSTOSSER

65° WINDY + CLR

E. CURO
K METCALF
9-21-84

@ A BS B

93-48-42 set C @ 150.33

set D @ 300.66

deflect Rt 0°15' offset 1.31'

@ E BS F

76-06 set COR @ 154.59 = G

set COR @ 309.18 = H

@ G BS E

104° set Pt on line = I

@ I BS G

180° set J I-G 268-54 205.71 F 62.693 M 205.654

@ J BS I

180° 84-29 159.11 F 48.497 M 158.373

115-46 CH 69.50 62.95

@ H BS G

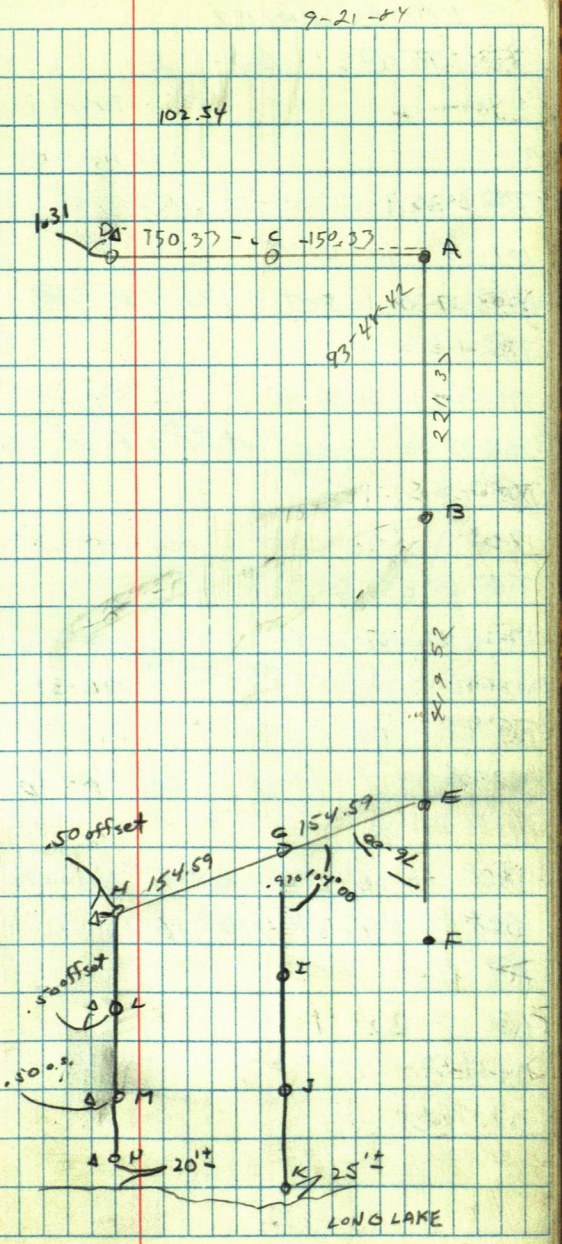
104° set L @ 91-18 174.09 F 53.064 M 174.047

@ L BS H

180° set M @ 95-28 104.54 F 31.862 M 104.061

@ M BS L

180° set N @ 114-31 83.62 76.081



EMMA. HAYES

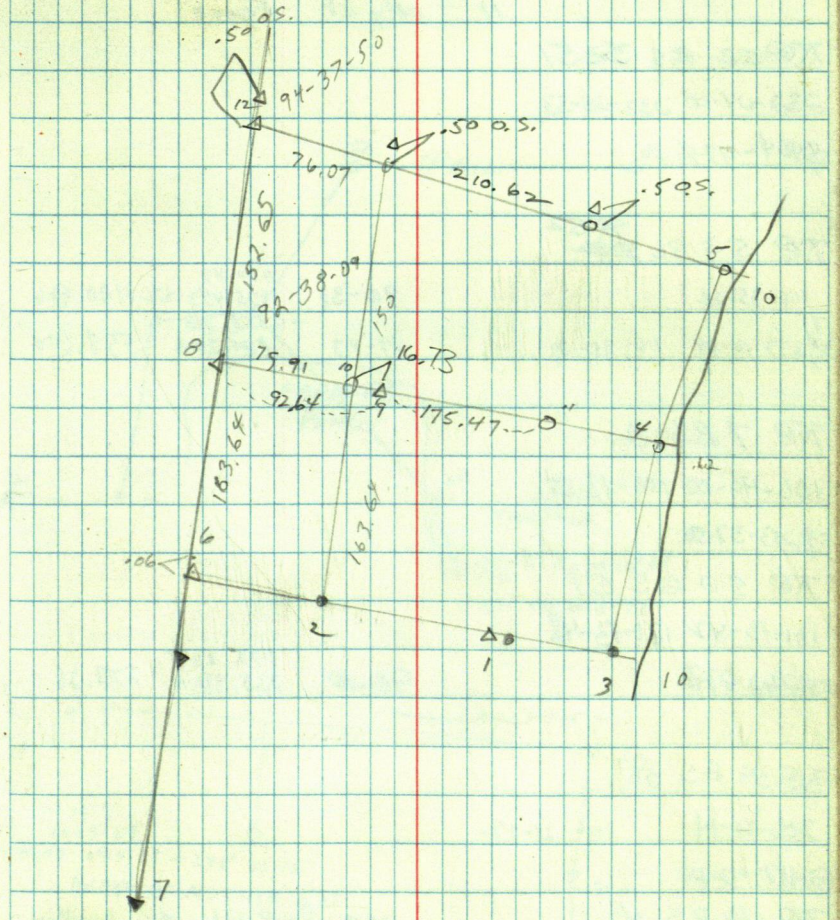
T @ 1 BS 2

180 —		90-19	164.68 50.195	164.678
3		115-35	83.44 25.435	75.263
T@3 BS 1				239.94
101-44	101-43-45			
4) 203-27-30	set 1¼" I.P. @		167.0'	
T@4 BS 3				
191-32-54	191-32-40			
5) 323-05-20	set 1¼" I.P. @		150.0'	
T@2 BS 1				
180°				
T@6 BS 2				
87-21-48	87-21-51			
7) 174-43-42		90-31	569.08 F 173.455M	569.053
T@8 BS 7				
92-38-09 + Plunge	set bad sp.		= 9	
T@9 BS 8				
180° to set 11/4" I.P. = 11		101-07	94.38 F 28.768M	92.64
Set 1¼" I.P. = 10	16.73'			
~~T~~			9 = 11 175.47	
T@12 BS 7				
94-37-50				

85° CLR A.M.
50° CLR to P.C. P.M.

E. EVARD
K. METCALF
9-26-64

45



G.G.

T@ 51 BS 50

118-00-00	118-00-03	90-11	1952.64 F 595.170 M	1952.69
52) 236-00-06		91-09	672.36 F 204.934 M	672.219

51 is 15'± Ely of N-S Fence in ℄ Trail
11'± Nly of E-W Fence

T@ 52 BS ~~52~~ 51

232-24-00	232-23-53			
53) 464-47-46				

T@ 53 BS ~~52~~

116-35-26		90-31	1100.49 335.433	1100.446
7) X 232-10-58	116-35-29	89-43	558.70 170.294	558.694

T@ 7 BS 2

106-49-00	106-48-55			
53) 213-37-50				

T@ 52 BS 51

131-13-42	131-13-48			
54) 262-27-~~24~~		90-10	772.26 E 235.389 M	772.26

T@ 39 BS 38

206-21-14	206-21-12			
10) 412-42-24				

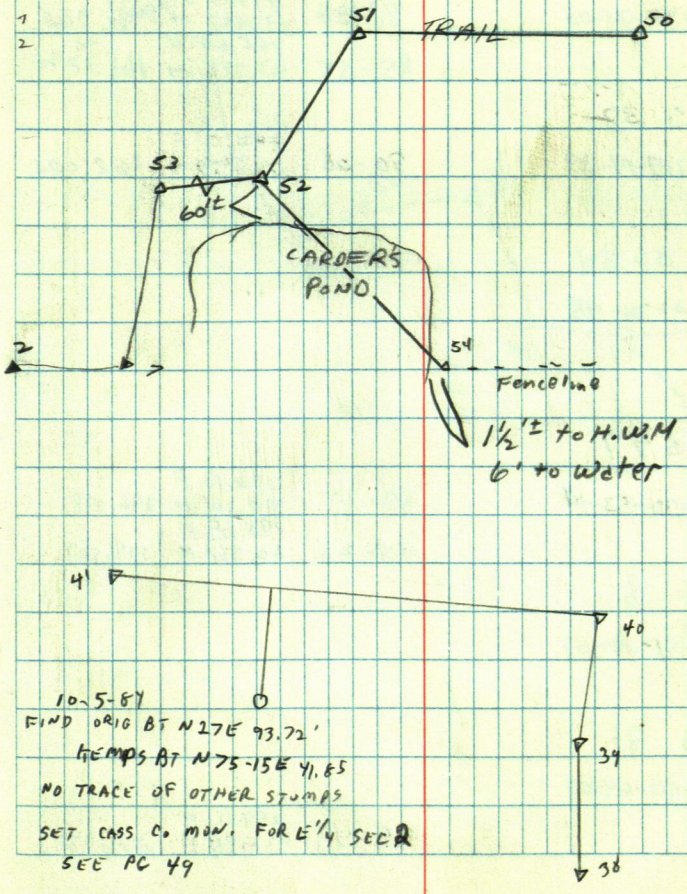
T@ 40 BS 41 — see page 41 This Book

272-54-06	272-54-04	90-35	682.20 F 201.944 M	682.177
39) 545-48-08		88-10	178.11 F 54.287 M	178.017

E. Curo
K. Metcalf

10-3-84
Clear 60°

46



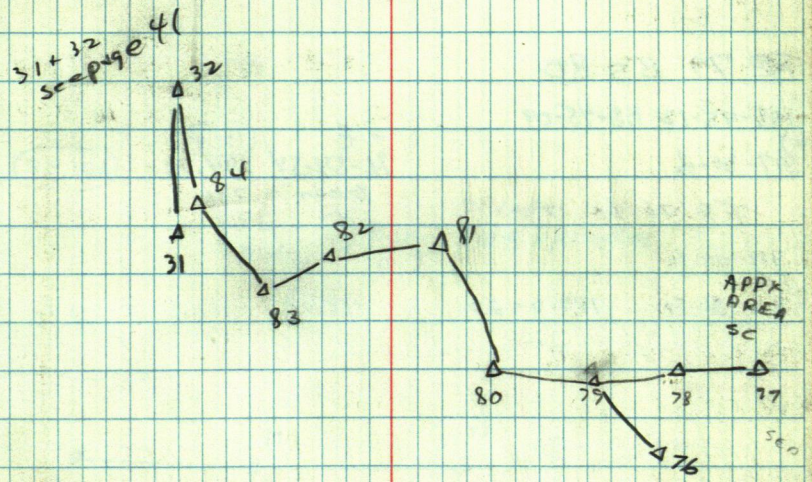
10-5-84
FIND ORIG BT N 27 E 93.72'
TEMPS AT N 75-15 E 41.85
NO TRACE OF OTHER STUMPS
SET CASS Co MON. FOR E¼ SEC 2
SEE PG 49

G.161

K. Metcalf
E. Curo

10-4-84
O.C. 50°

∠@ 81 BS 80				
145-09-00	145-09-05	88-41	686.91 F 209.371 M	686.727
82) 290-18-10		92-34	531.97 F 162.145 M	531.434
∠@ 82 BS 81				
169-21-36	169-21-32			
83) 338-43-04				
∠@ 83 BS 84				
129-34-06	129-34-00	88-26	437.11 F 133.227 M	436.938
82) 259-08-00		85-55	166.60 F 50.783 M	166.187
∠@ 84 BS 32				
117-14-42	117-14-39	90-08	262.01 F 79.859 M	262.005
83) 234-29-18				
∠@ 32 BS 84				
02-01-50	02-01-48			
31) 04-03-36				
∠@ 78 BS 77				
172-53-12	172-53-14	89-10	296.13 F 90.261 M	296.098
79) 345-46-28		94-23	198.69 F 60.560 M	198.107
∠@ 79 BS 78				
191-20-12	191-20-07			
80) 352-40-14				
∠@ 80 BS 81				
154-44-06	154-44-00			
79) 309-28-00		89-44	259.11 F 78.988 M	259.093



E. Curo
K. Metcalf

10-5-84

P.C. 60°

48

T@ 20 Bs 18

179-40-36 179-40-45

-2) 359-21-30 91-49 337.08 F 102.730 M 336.889

60d sp found in tree where 2" Cup Uprooted

Cuss County Land Office Twp Ely

T@ 79 Bs 80

198-45-12 198-45-09

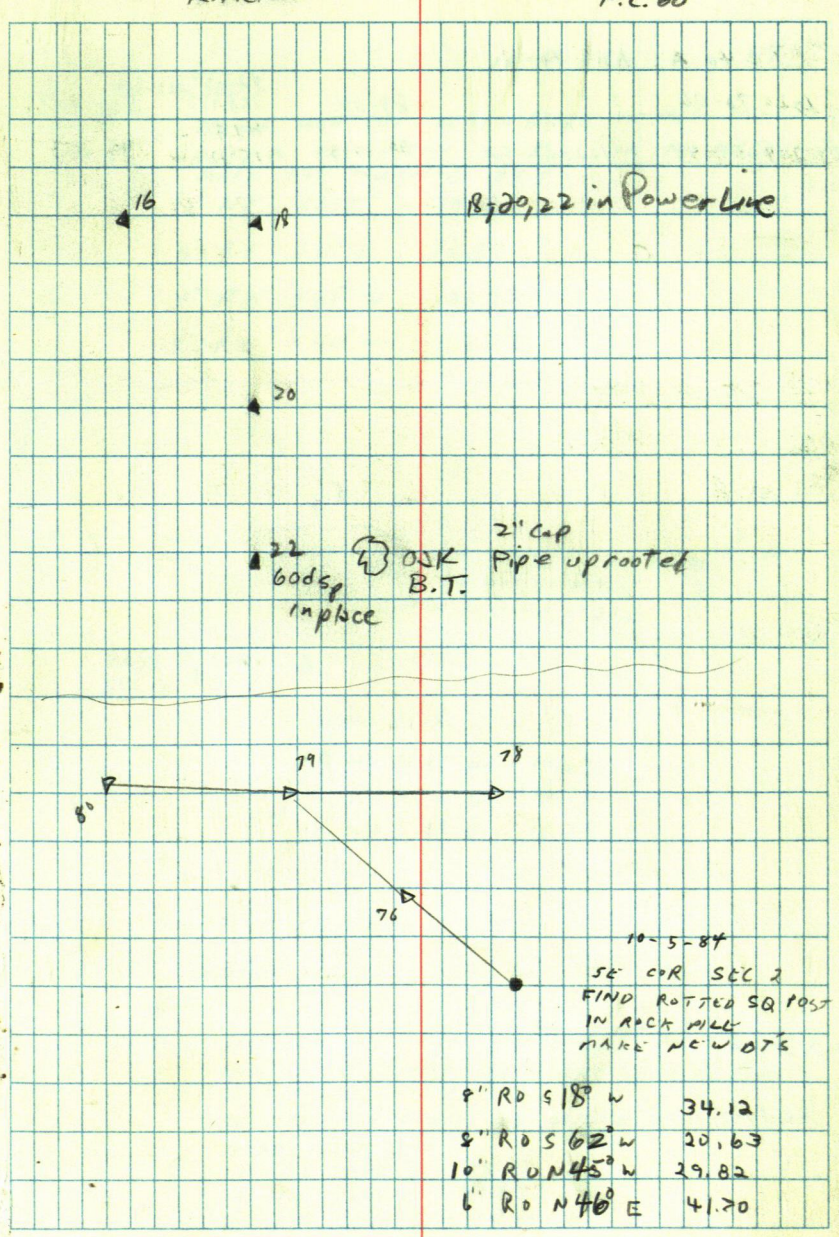
76) 397-30-18 ✓ ℄ 86-54-54 194.42 194.70 (201.98)

Emm + 7.56

T@ 76 Bs 79

189-00-30

SEC COR 378-00-54 189-0-27 115.78



T@ 40 A BS 40

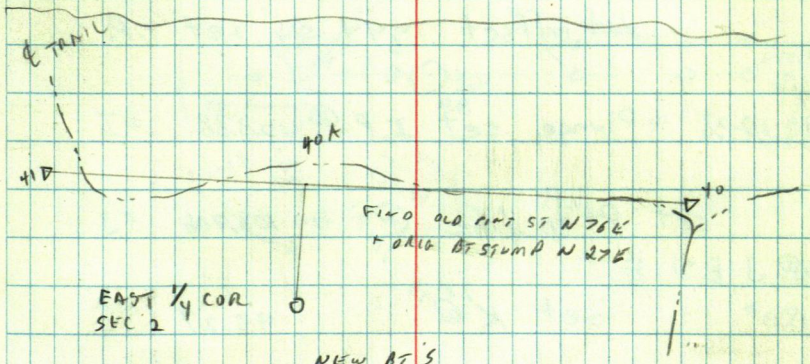
102-30-06		89-04	521.49 158.943 49.91	521.407
E¼ 204-54-44	102-29-57	99-54-30	15.211	49.163

10-9-87

NW COR SEC 2

DIG UP IRON PIPE BENT & BROKE IN HALF &
SET A CAST IRON CO. MON. IN ITS PLACE
MARK THE FOLLOWING BT'S

12" NP	EAST	79.03
6" RO	S60° E	72.57
4" WO	S40° W	105.23
5" RO	N40° W	138.72



NEW BT'S

10" WO	N18 W	102.36
6" RO	N70 E	66.77
3" WO	S29 E	15.38

1.08

SET CO. CAST IRON MONUMENT FOR S¼ SEC 2
FIND 2½" x 5' CAPPED IRON PIPE LYING IN POWER
LINE PULLED OUT BY CAT
SET NEW COR FROM OLD NOTICED PINE STUMPS
MARK NEW BT'S

14" IP	N30 E	88.94
14	RO EAST	44.87
10"	RO S24 W	57.72

GIGI

⊼@B SIGHT SPK. IN TREE ONLINE

set C @		90-34	714.74 F 217.852M	714.700

⊼@F BS 15

90-20-38	set I.P. @		45.12	=G
90-23-24	set pt @		542.425	=H
	~~def~~ offset	.44 sly	set I.P.	
90-20-38 & Plunge	set I.P. @		20.88	=I
	set Pt on line (I.P.) @		108.906	=J

⊼@J BS F

180°	set K (I.P.) @		93.27	

⊼@M BS C (1.0 Nly os)

91-21-19 & Plunge				
set N	@		52.19	
set O	@	270-22	250.79 76.441	250.783
set P @		270-28	472.48 F 144.010 M	472.453

⊼@P BS sp online @ N.P.

180° set Q

⊼@Q BS P

180°		Q-P 97-26	263.67 F 80.371 M	261.456
		Q-R 90-18	346.98 F 105.759	346.97

PT. CLDY 55° 9th
O.C. 60° 10th HUMID

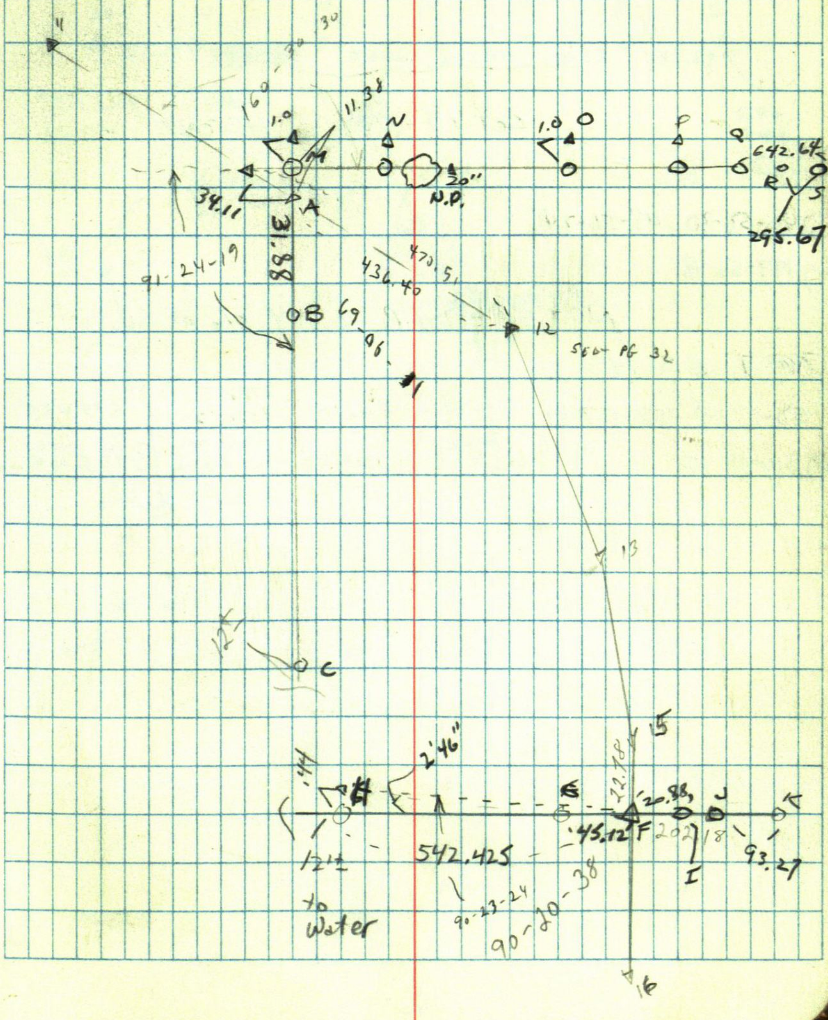
E. CURO
K. METCALF

10-9-84
10-10-84

542.51
90-58 165.354

2'46"

114.92
71-27 35.014
133.92
94-31 297.70 296.71



@ R BS Q

180°

S) 295.67

S = Center Section

Oct 17, 1984 CURO METCALF P.C. 50° WINDY

@ H BS F

248-56-30 248-56-24

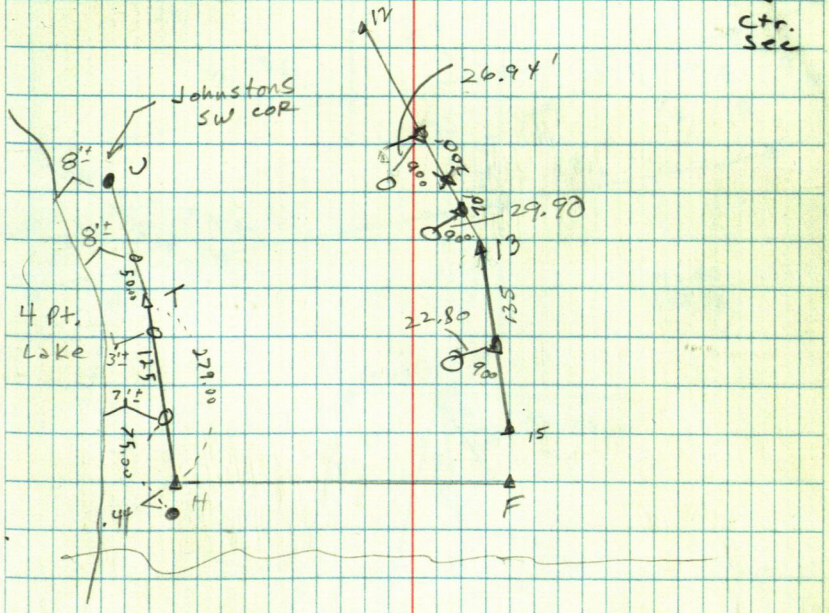
T) 497-52-48

NOTE @ H I.P. is .44 s/y of Sp.

@ T BS H

158-07-48	158-07-51		90-10	279.05 F 85.052 M	279.044
v) 316-15-42			90-24	175.01 F 53.343 M	175.004

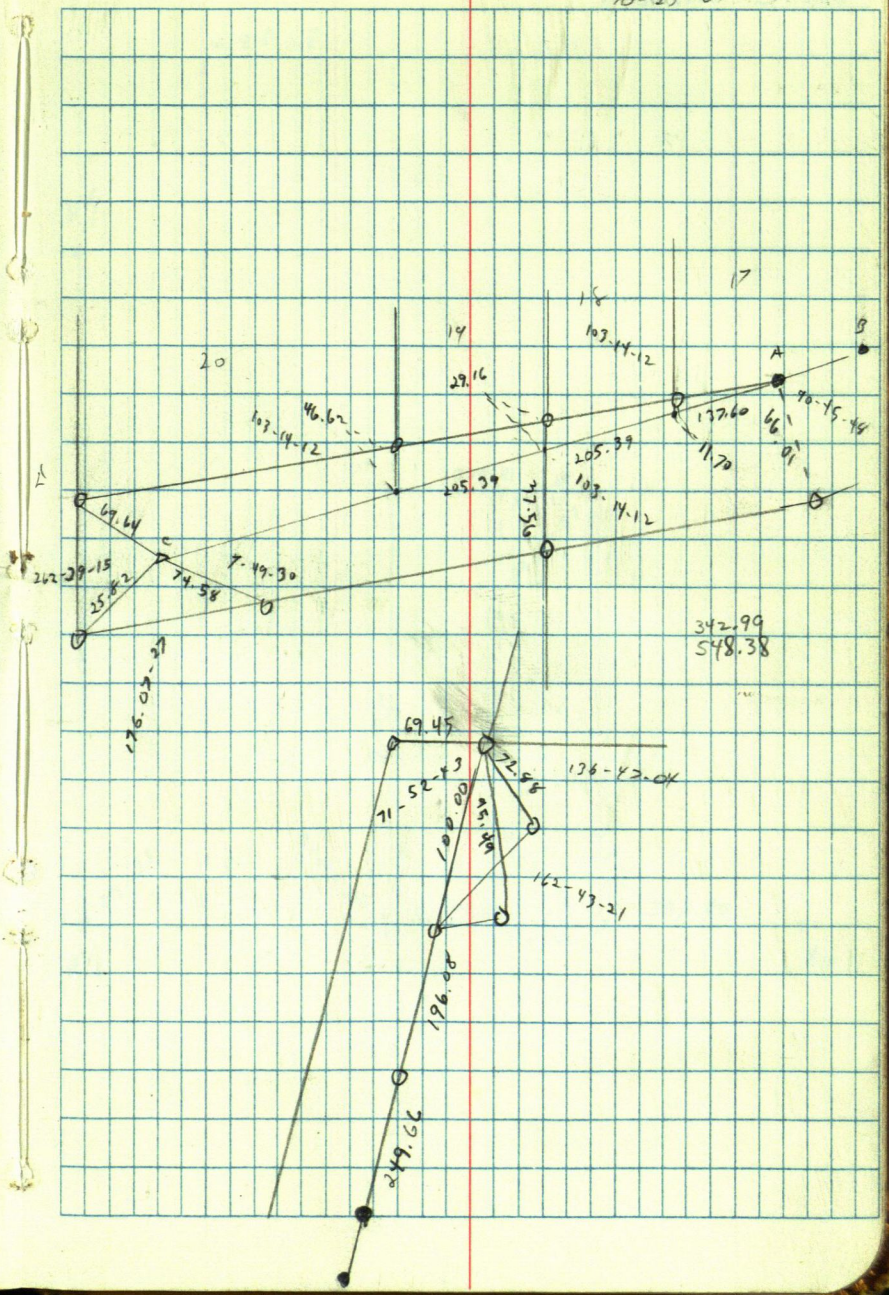
M 52.19 N 198.59 O 221.67 P 241.46 Q 346.97 R 295.67 S (Ctr. Sec)



EO CGRD
KEN METCALF
10-27-64

SHALLOW DAM

	A	@	A	BS	B		
	176-40-54						
C	353-21-08	176-40-34		92-59	739.44 225.378	738.429	

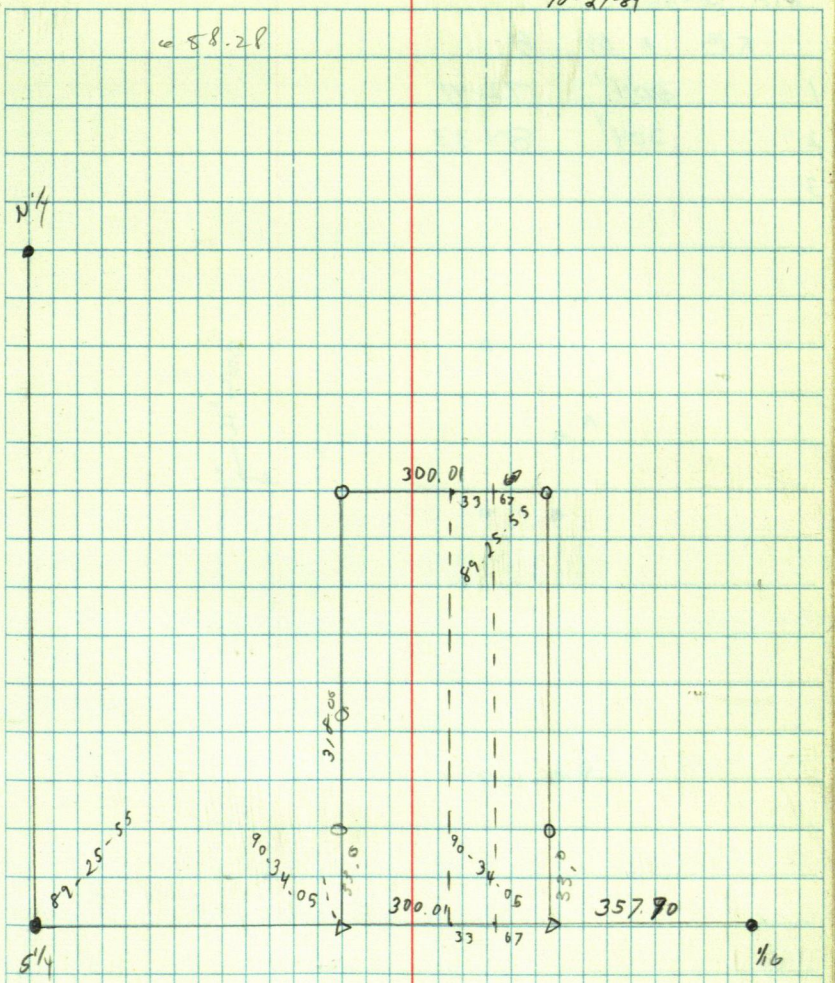


BACKUS ST. BANK

40° CLR WINDY

W. CORD
H. METCALF
10-24-84

c 58.28

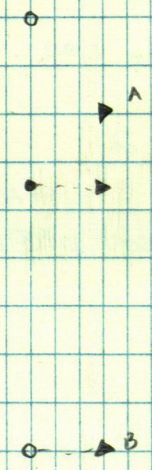


E. Curo
IK-Metcalf

Oct. 29, 1984
Clear 40° Lt. Brz.

SIM GROUND

	@	A Bs	B
1		204'	72-41
2		204'	84-33
3			



F. DENNY

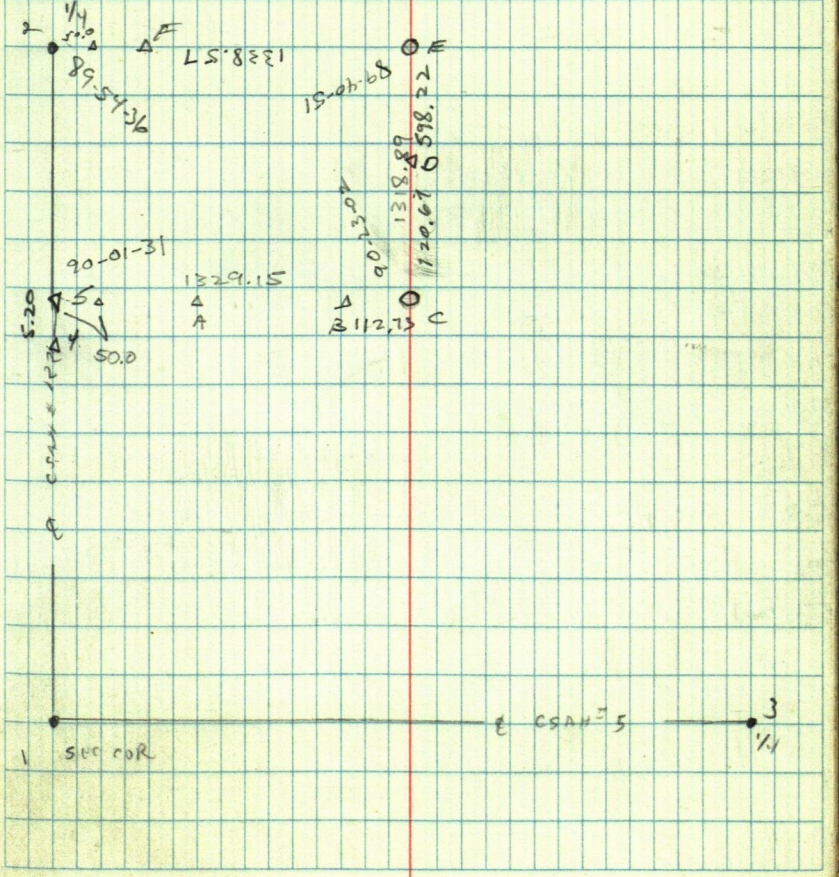
T@ 1	BS 2				
89-57-40	89-57-35		89-45	2640.78 F 804.907 M	2640.743
3179-55-10					
set Pt 4		on line@	89-58	1315.18 F 400.865 M	1315.175
T@4	SIGHT R				
set 1/16 COR.		@	5.20	= Pt 5	
T@ 5	BS 2				
90-01-31		=A	88-44	595.26 F 181.442 M	595.114
set pt@ 50.0 for R/W					
T@A	BS 5				
180°					
B			A-B 89-29	621.30 F 189.373 M	621.27
T@B	BS A				
180°			=C	112.73	
T@C	BS A				
90-23-02			89-42	720.68 F 219.678 M	720.67
T@D	BS C				
180°					

30° COLD WIND CLOY Frz Rain

10° WINDY 11-1-84

G. CURO
K. METCALF
10-31-84

SEdge Ribbon



F. Denny

@ 2 BS 4					
90-05-24	x Plunge		setpt @ 50.0		for R/W
@ FBS 2					
180-00-36	180-00-30		90-49	268.47 F 81.832 M	268.446
E) 360-01-00		+.20	89-56	1069.86 F 326.097 M	1069.86

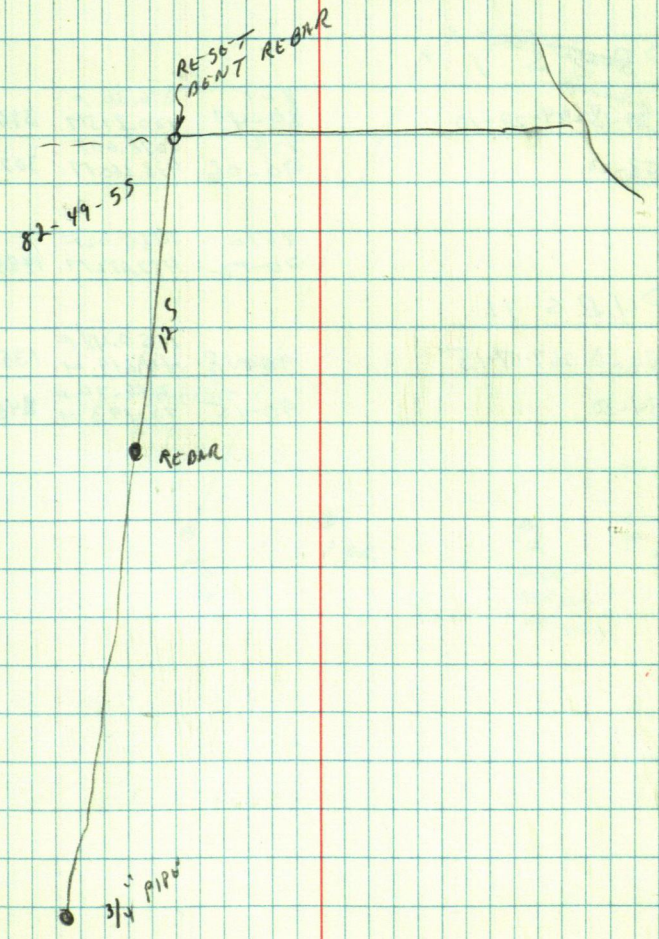
E. Curo
K. Metcalf

Nov 2, 1984
O.C. 10° Lt wind

56

268
1065
1337

SPIDER LK SHORES



LARRY Carter

BL 2-8-139-30

T@1 BS 2

180°

set pt 8

T@8 BS 1

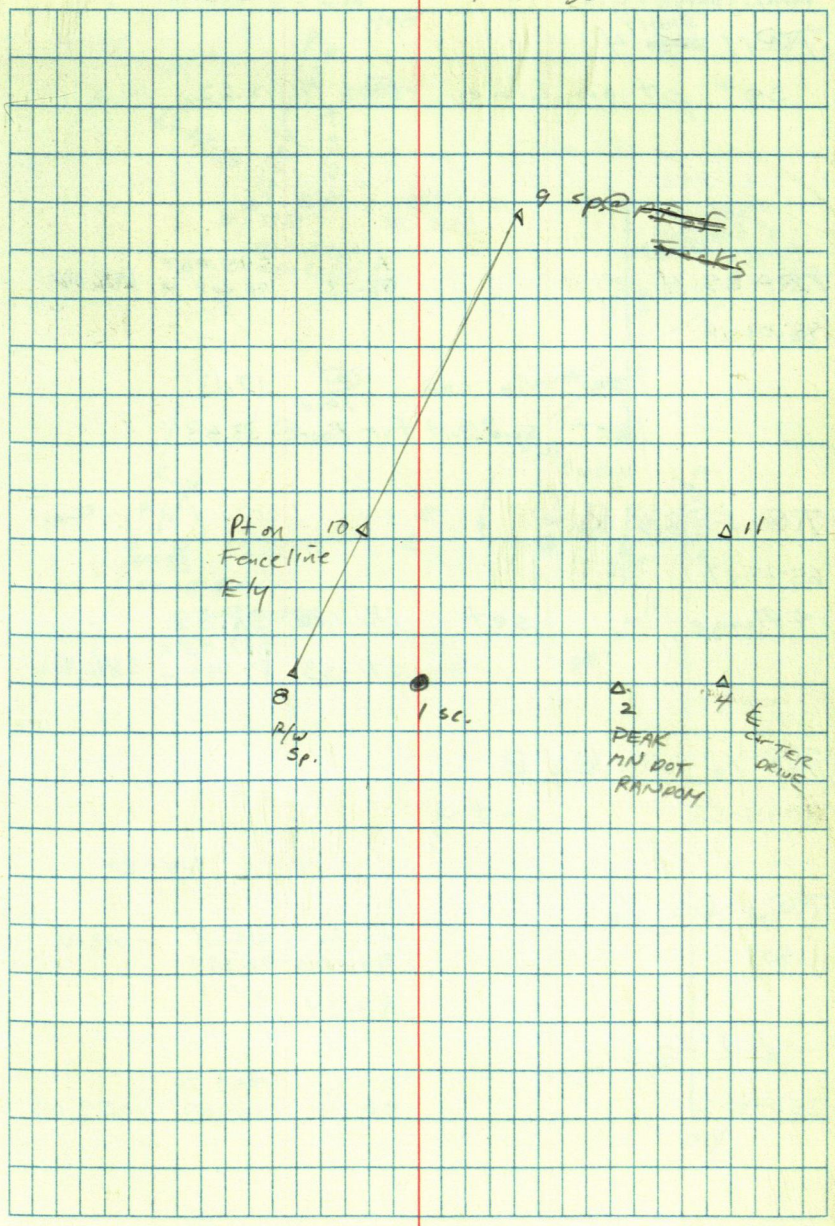
294-29-18	294-29-10	8-1	396.36 F	
		89-41	120.815M	396.361
⑨588-58-20		8-9	3078.60F	
		90-06	938.360M	3078.597
		8-10	1485.02F	
		90-12	452.632M	1485.006

T@4 BS 11

267-17-20	267-17-15	90-18	1350.48F	
			411.619M	1350.488
②534-34-30		90-15	246.70F	
			75.193M	246.696

E. Cura
K. Metcalf

11-12-84
P.C. 30°



LARRY CARTER FL2 - 6-139-30

T@11 SIGHT 4

set pt on Line @ 12.62' = A

T@A BS 4 A-B 645.08 F 645.061
88-03-16 90-23 196.618 M

set 1/16 COR @ 17.13
1 Rod
set Eye Bolt for Rod @ 33.63

T@F BS 8

65-24-17

& Plunge set 1¼" I.P. 38.59
287.05 F
271-53 87.497 M 286.902

T@ 1/16 COR BS B

90-15-55 set J

T@J BS 1/16

180° 1/16 219.18 319.126
91-03 97.287
89-34 690.18

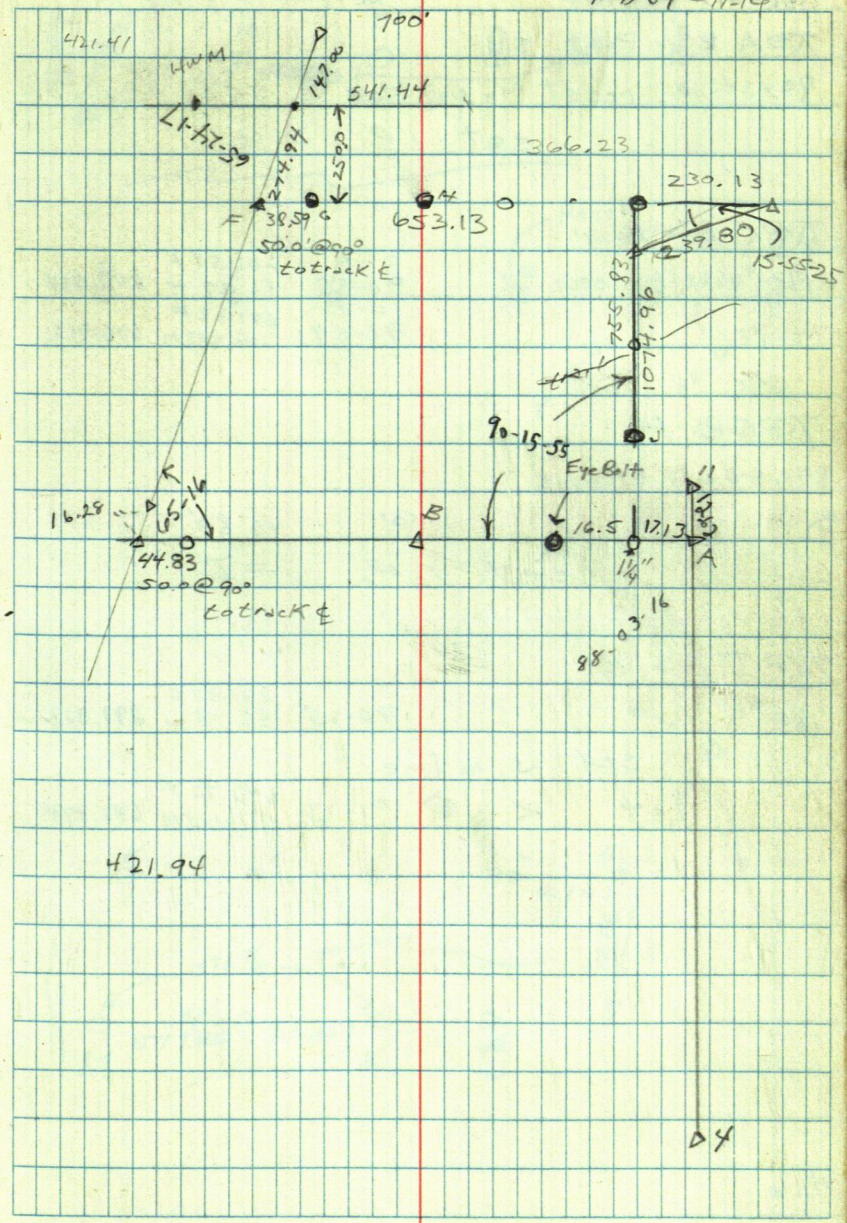
T@K BS J

253-40-24 K 1/16 1009.24
90-41 307.617 1009.168

35'

E. OLEO
K. METCALF
11-13-84 & 11-14

59



DENNIS NEWMAN NE¼-NE¼ 8-139-30

@A BS Point Sly

89-39-30 reset Mn Dot Mon @ 55.0 = B

set I.P. = C

@C BS A

180°

C - A		282.57 F	
90-35		86.127 M	282.554
C - E		677.32 F	
91-59		206.447 M	676.913

@G BS A

89-29-02 x Plunge

(H) @ 46.80'

set I.P. = I

@I BS G

180°

		291.33 F	
90-25		88.798 M	291.323

set J on line

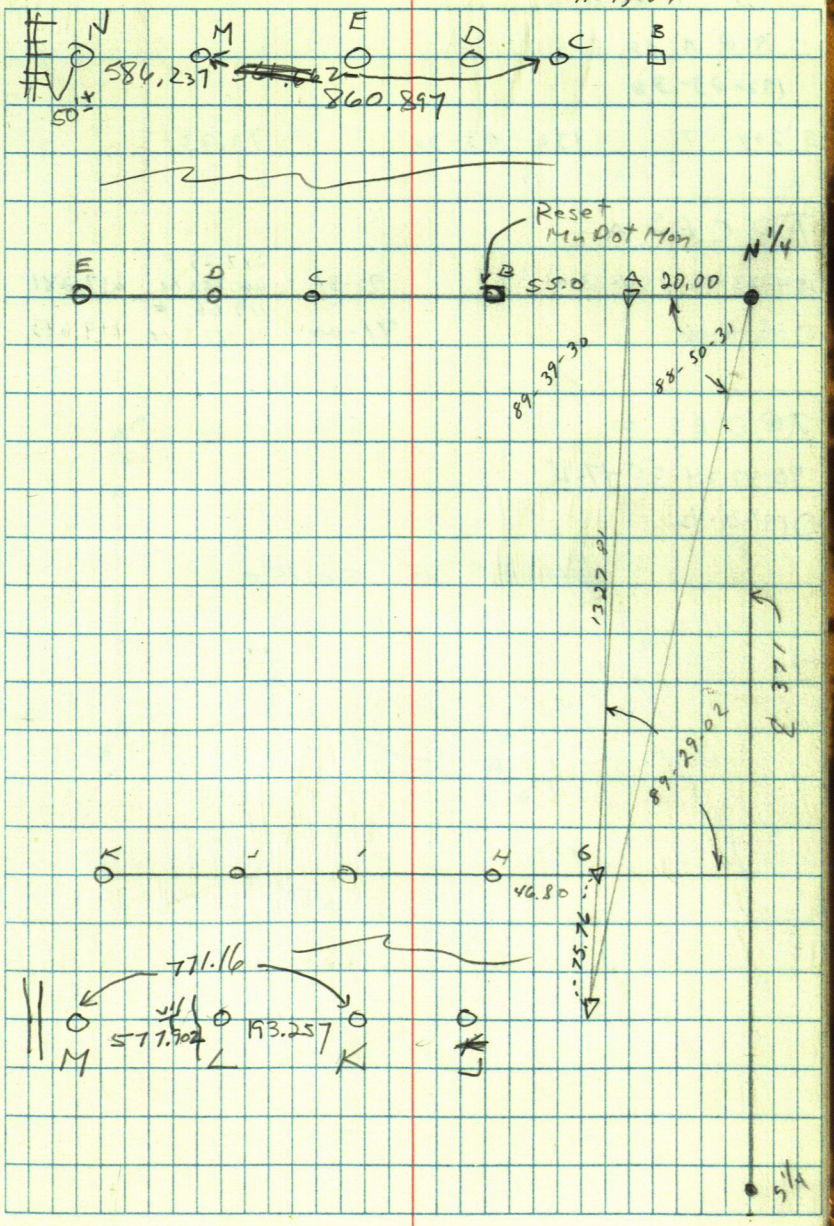
set K @ 91-23

		646.70 F	
91-23		197.104 M	646.494

SNOWING 19° 20 MPH WIND

E. CURD
K. METCALF
11-15-84

60



B. MORIS

Δ@ A BS C

132-03-36

B 264-07 132-03-30 73.93

Δ@ C BS A

154-23-06	154-23-03	90-31	217.29 F 66.230 M	217.281
ⓓ 308-46-06		91-00	119.66 F 36.473 M	119.643

Δ@ O BS E

95-47-24 95-47-21

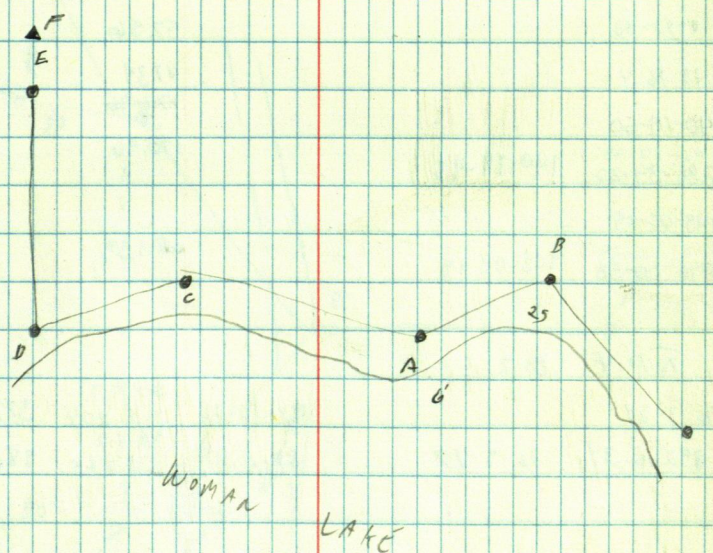
ⓓ 191-34-42

~~SH~~ BS F spike

15° CLR WINDY

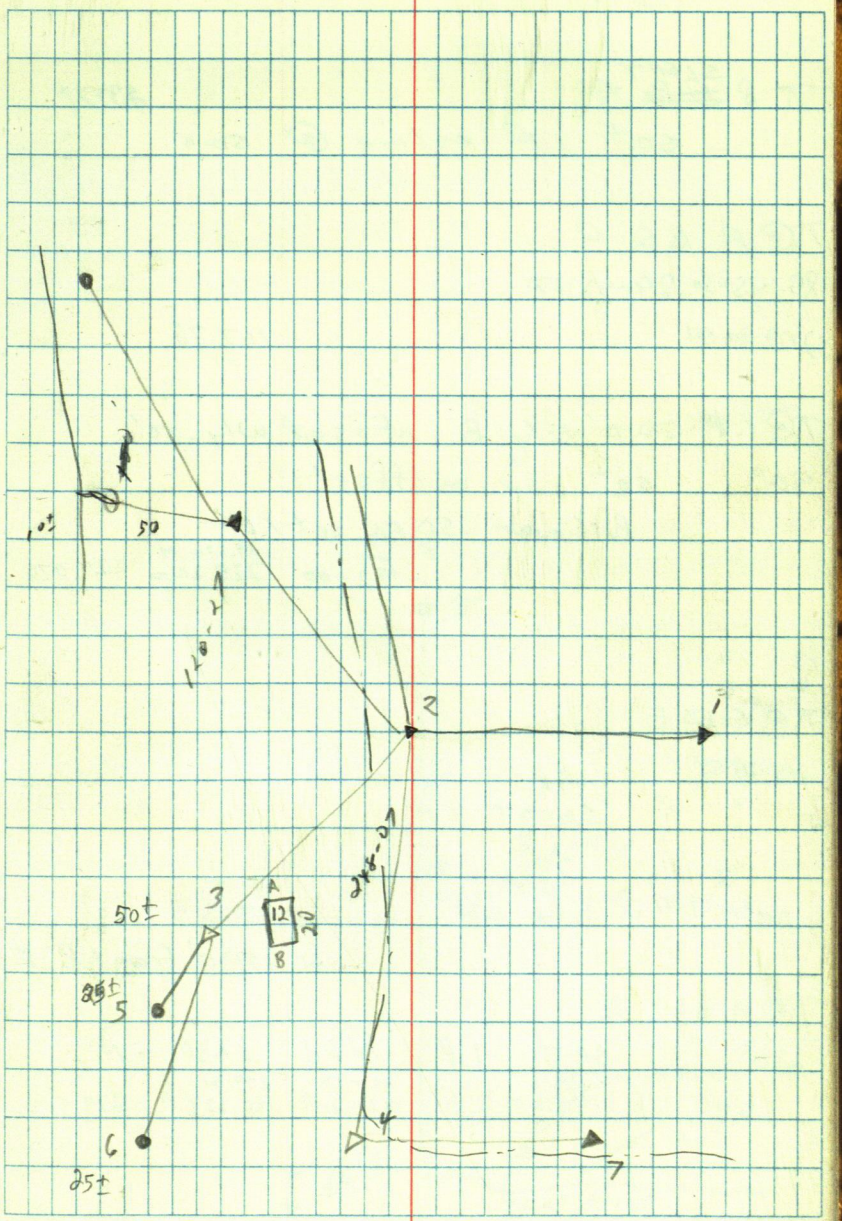
E. CURO
K. METCALF
11-16-84

61



EKEGRIN

∧ @ 2	BS 1			
	84-33-50			
	84-33-56			
	169-07-20			
✱	169-07-17	84-33-40		
	132-05-20			
3	264-10-33	132-05-17		
∧ @ 3	BS 2			
1			90-48-8	222.13 70.753 232.106
A	0-48-50			57.56
B	19-56-42			47.34
	140-19-50			~~170.96~~
	140-19-45			170.96
C	280-39-30	140-19-45		
	148-00-19			
	148-00-29			68.15
5	296-00-58	148-00-19		
∧ @ 4	BS 2			
	96-3-24		269-52-20	377.31 115.004 377.307
7	192-6-34	96-3-17	89-11-33	98.62 30.065 98.619



Codgill

T @ BS SIGHT A 233.74

set I.P. on line @ 50.0

T @ A BS B

89-45-30 89-45-27

179-30-54 117.76

T @ I.P. 50.0' Ely B. offset Wly. 50'

90° set sp on offset

Pull over .50 Ely set I.P.

92-00 69.870 M 229.201 = 229.076

T @ G BS E

245-24-54

J SHOOT I.P.

set I.P on line @ 6-I 99.53

or 100.0' from I.P. F

T @ M BS A

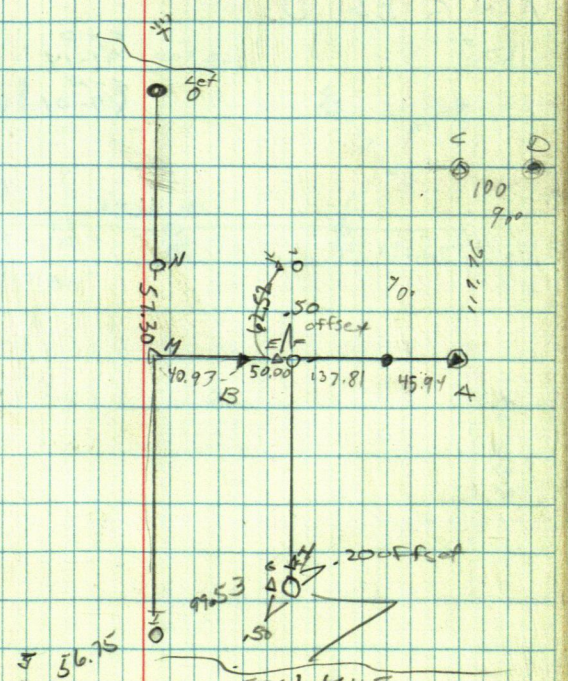
270° set I.P. @ Rd 57.30 = N

set I.P. Wly = 0 @ M-O 91-29 279.61 85.223 M 279.513

E. Curo
K. Metcalf

11-20-84
Clear 10°

63



STAN LARSON   S½ SW¼-SW¼ 27-140-31

⊼@C = WIGGLE IN PT

	C-B 90-24	646.68 197.105	646.659
	90 C-A	1960.73 597.626	1960.721

set Pt on line D @ 5.30

⊼@D BS A

87-14-04

set I.P. 33'± Ely of ℄ D-E 20.33

set I.P. Ely of CREEK = F

set I.P. on Ridge = G

⊼@G BS D

180°	G-D 91-14	918.02 F 279.813 M	917.81
	G-H 89-01	271.26 F 82.688 M	271.22

30° CLR WINDY   E. CURO
K. METCALF

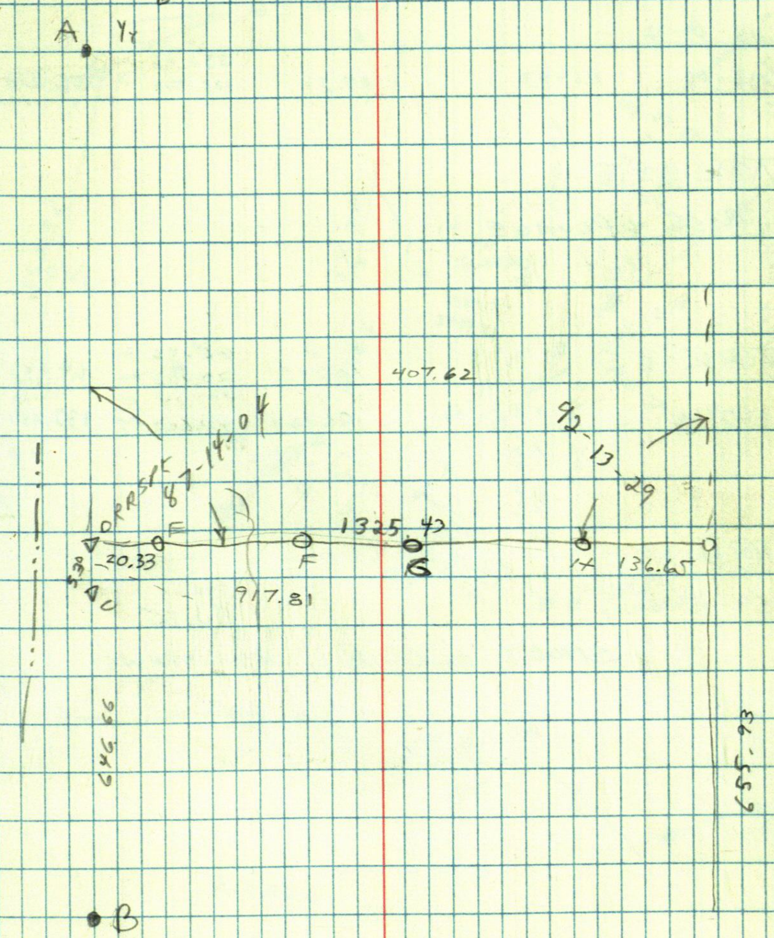
11-21-84

91-15 1189.34
362.507

1189.03
1188.78

138.81

136.65



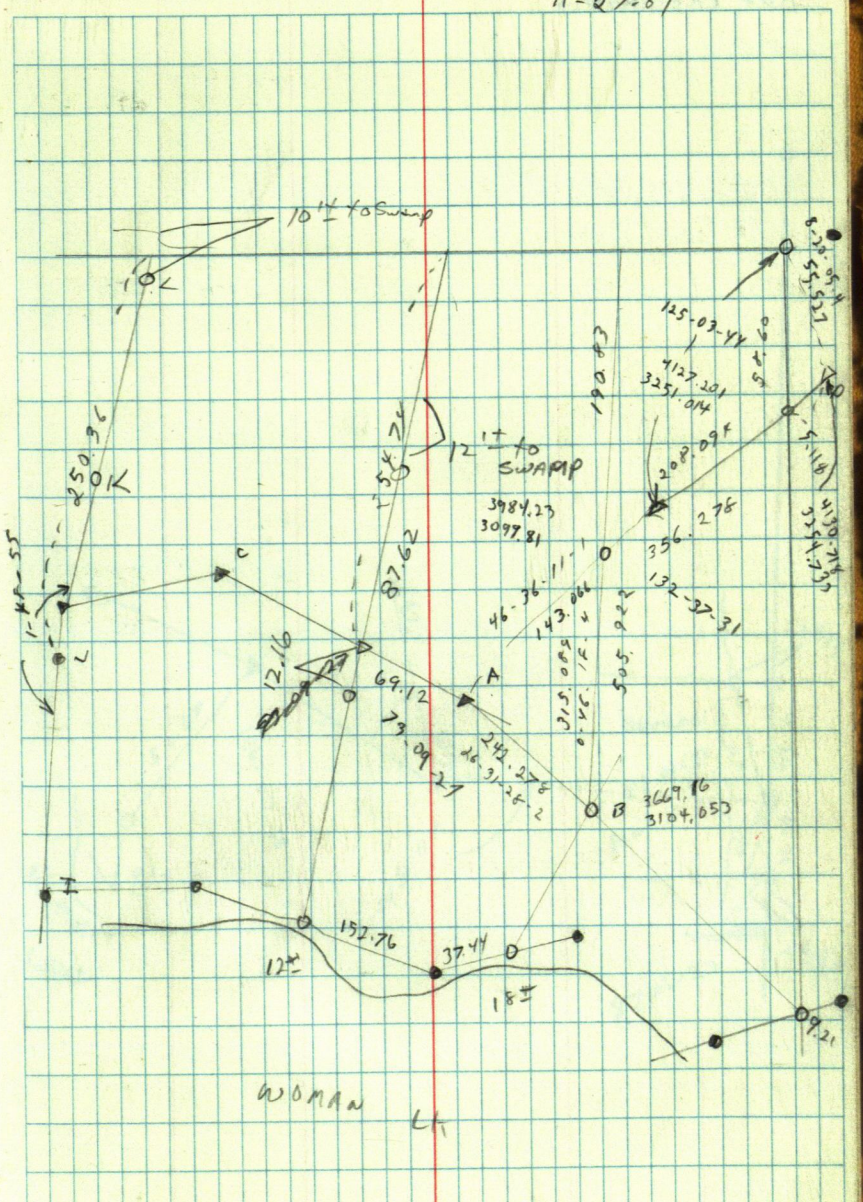
BOB MORIS

T@ A BS B				
137-04-44		88.05	242.53 73.925	242.397
C 274-09-18	137-04-30			
T@ A BS C				
116-03-02		8		
D 236-06	116-03	87.21	356.66 108.710	356.278
T@ V BS I				
1-48-55 & PLUNGE				
K) set K I.P.				
T@ K BS V		K-J 100-01	65.96 F 20.103 M	64.952
180°		K-L 96-01	133.24 F 40.600 M	132.487
T@ D BS A				
159-45-22			Chain 53.85	

SHOOT OLD I.P. BILL SPAINS

30° CLDY

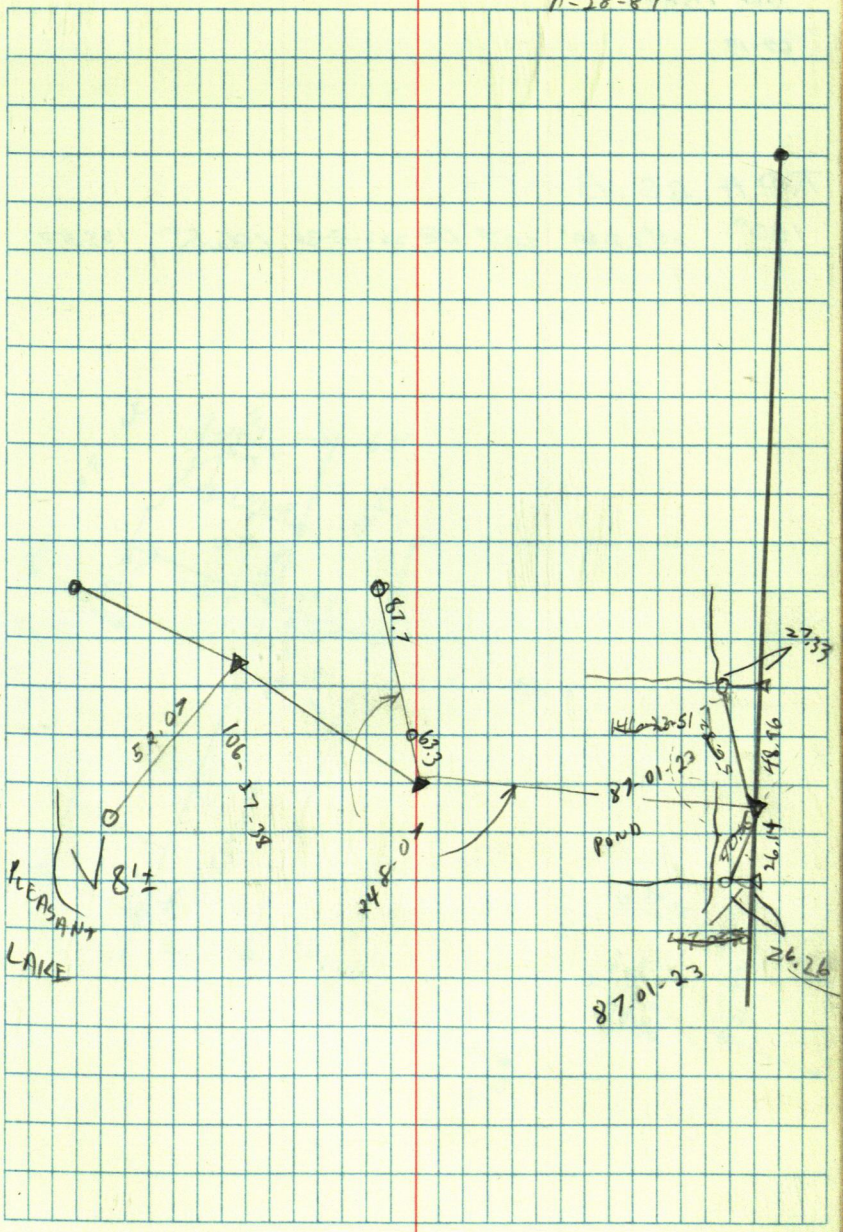
E. CURO
K. METCALF
11-27-87



BUD EKEGREN

30° CLDY & SNOWING

E. CURO
K. METCALF
11-28-84



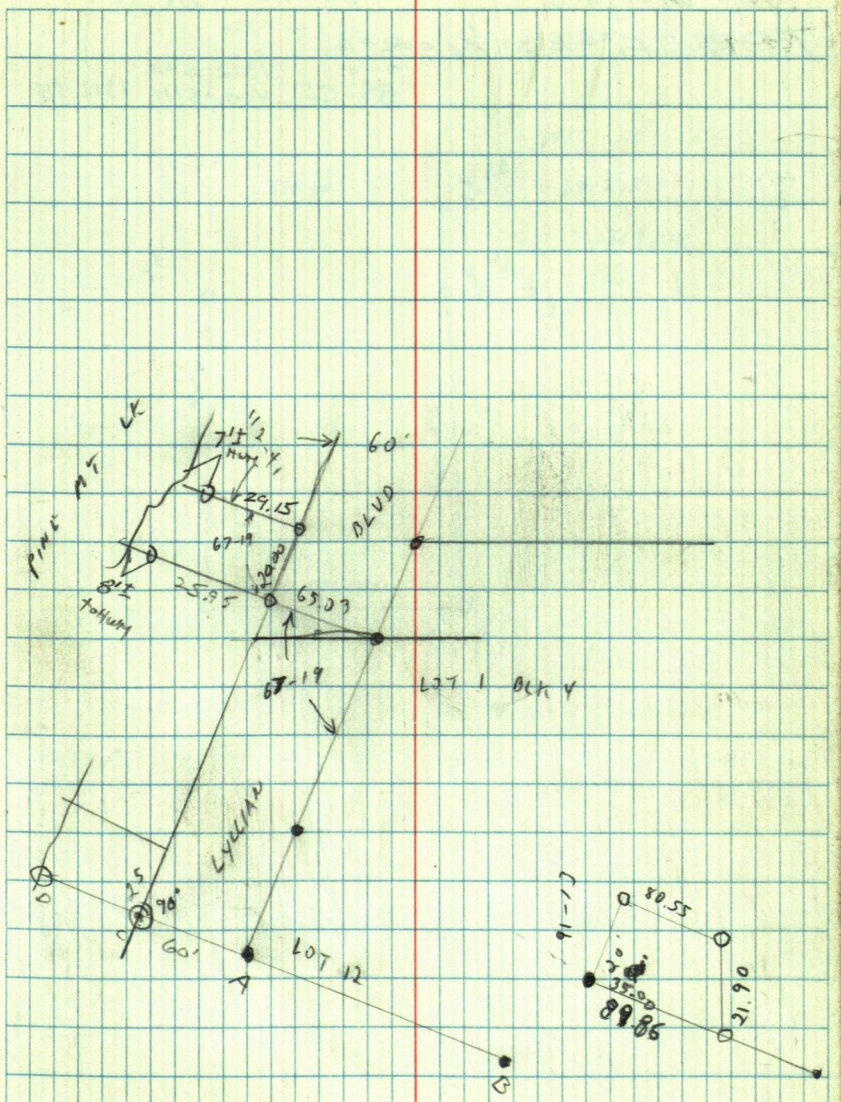
IVAN FISHER

67-19

∠@A	RS	B			
180°	set@60'	set	@ 262-13-36	106.55	105.57

E. Curo
K. Metcalf

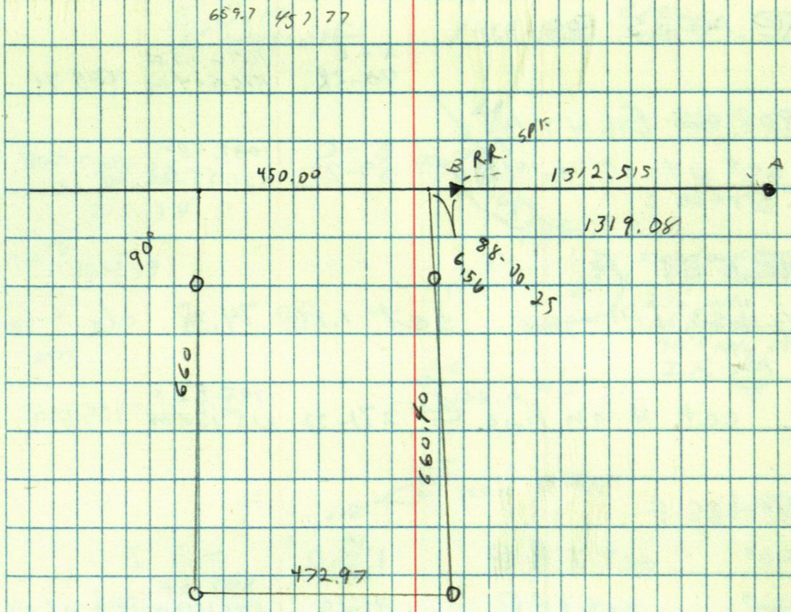
O.C. 25°
Nov. 29, 1984



JEAN WESTPHAL NW - NW - 4 - 139 - 30

π @ RR SP. = B BS 1/4 COR = A

B - A 89-55 1312.50F 400.061M 1312.515



John C. Anderson Pt. GL 2 10-140-31

@ A BS B

	A – B	1696.02F	
	90-38	516.944M	1695.91

@ B ~~BS~~ SIGHT A

set pt C on line@	B – C	1087.78F	1087.708
	89-21	331.555M	

@ F BS A

89-11-53 & Plunge set I.P@ 74.38 = G

set H on line @	271-20	705.82F	705.624
		215.134M	

@ H BS F

90°	set I.P. @	135.0'	= I
180°	set I.P.@	91-39	399.10F = J 398.93
			121.643M

@ J BS H

set I.P.@ 135.0' Wly = K

180°

set I.P.@ 463.44 = L

@ L BS J

168-19 offset .87 ely set I.P. = M@146.68

117-26 164'± to Clear Hse Wly @ Lake Line TO SET I.P.

E. Curo
K. Metcalf

Sunny
Windy 10°

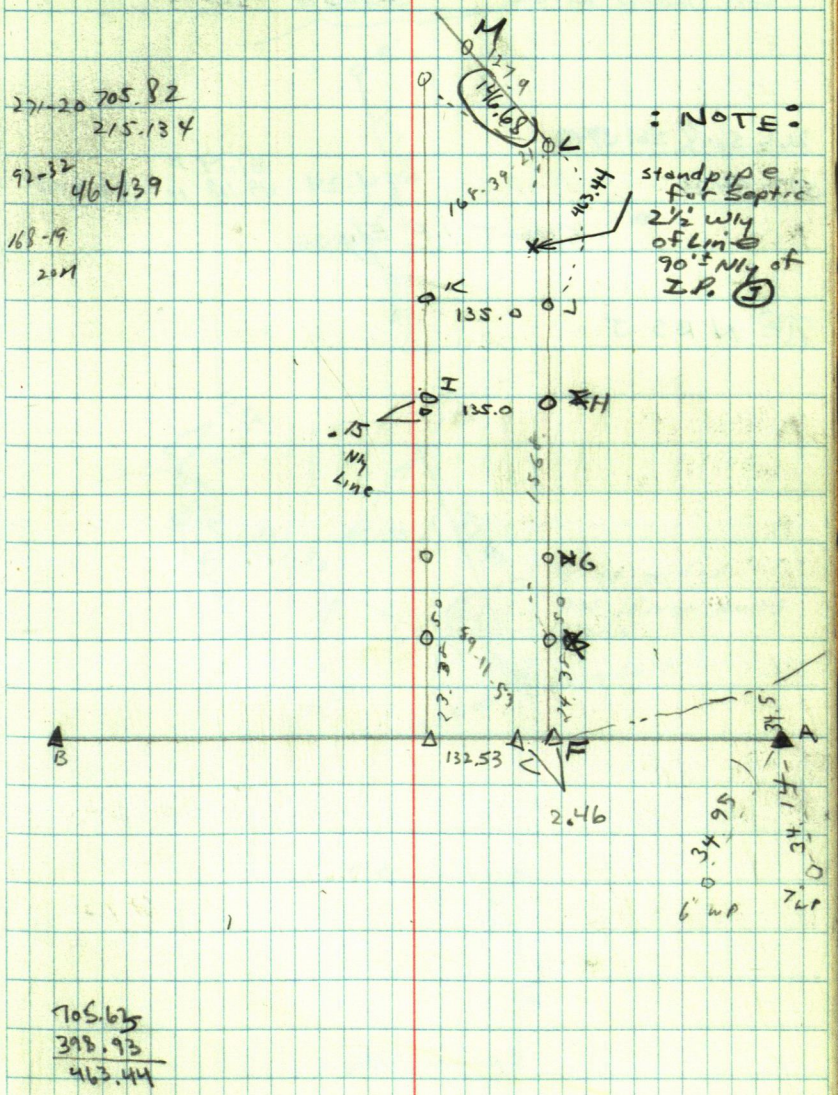
69

E. Curo
K. Metcalf 1-18-85 Clear -15°

271-20 705.82
215.134

92-32 464.39

168-19
20M



705.624
398.93
463.44

T@L BS J

EXTEND LINE 24.38' = ~~N~~ N

261-56-18 261-57-40

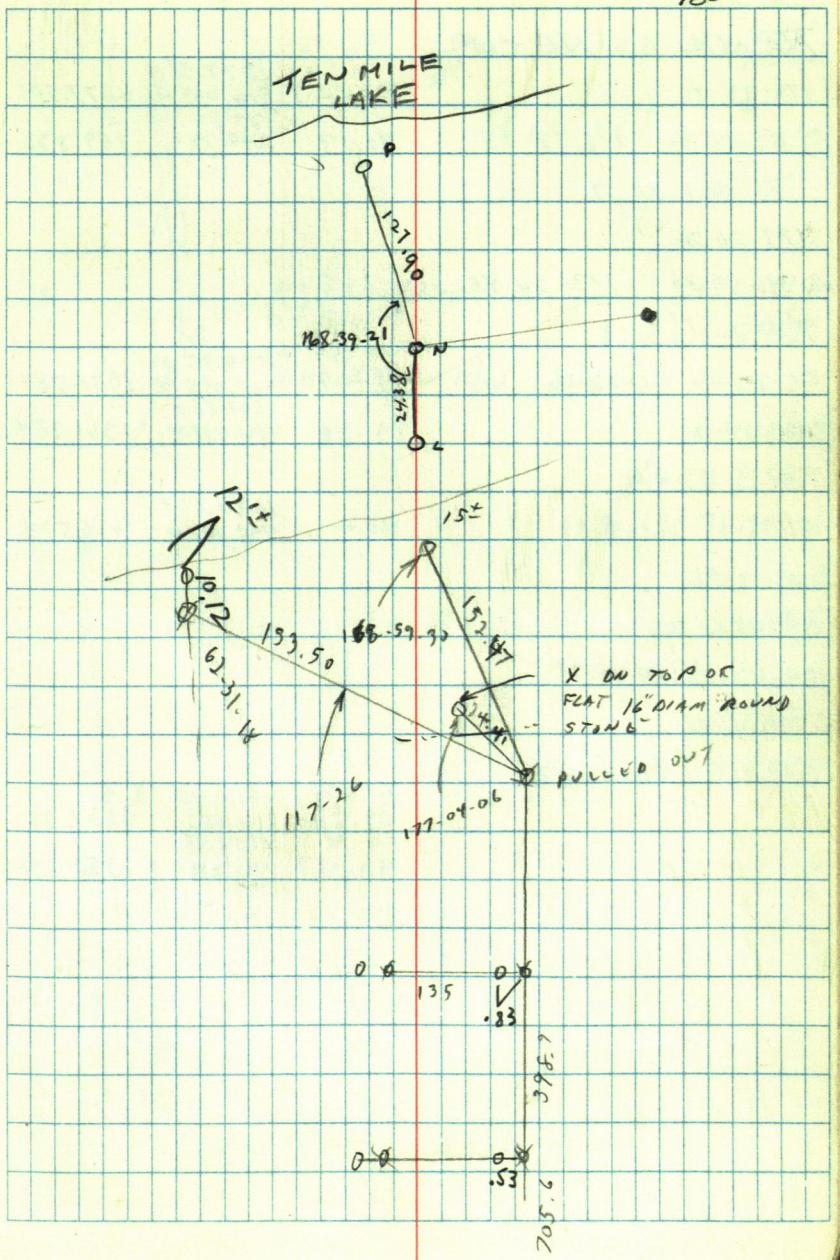
523-54-20 84-24 161.14 F 49.118 M 160.374

SHOOT I.P. Ely

T@ N BS J

E. Curo
K. Metcalf

Jun 22, 1985
Partly Sunny
100



B: WOOD

Δ@N¼ BS NE COR

176-33-½		90-27	2677.38F 816.069M	2677.301
① 353-07-06	176-33-33	90-13	789.84 240.742	789.832

Δ @ 1 BS 2

173-24-5½

N¼ 346-49-30 173-24-½5

Δ@2 BS 1				
95-22-06	95-22-06	88-09	1099.35F 335.085M	1098.781
③ 190-44-12		89-26	1361.36F 414.938M	1361.284

Δ@3 BS W¼

161-38-38	161-38-31	90—	1626.57F 495.782M	1626.574
② 323-17-02				

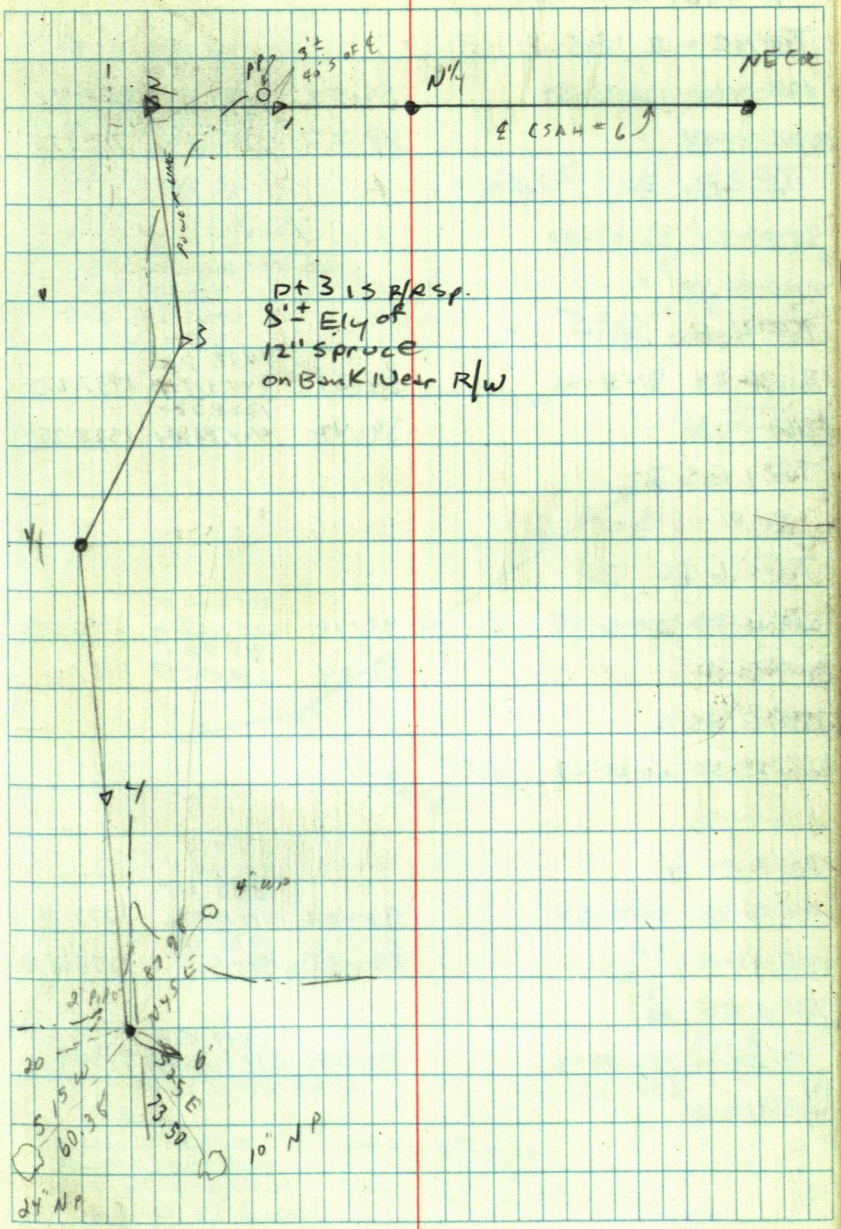
Δ@ W¼ BS

154-43-28 154-43-21

sc 309-26-42

Δ@ SC SIGHT W¼

sc W¼		2637.95	
89-55		804.058	2637.762
sc 4		1352.40	
90-47		412.213	1352.274



V. RODEN

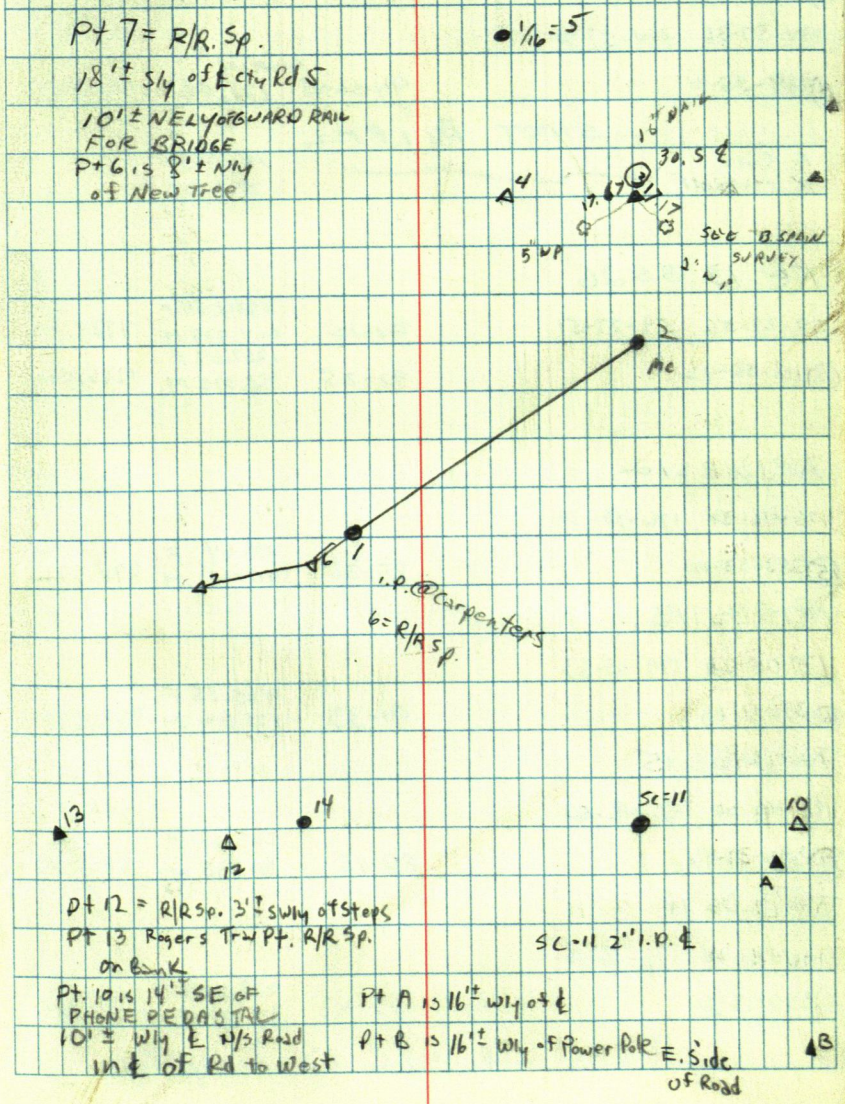
@MC = 2 BS 1				
123-14-00	123-13-57	89-52	2014.20 F 613.93 M	2014.197
③ 246-27-54		88-27	716.53 F 218.401 M	716.272
@ 3 BS 2				
85-07-24	85-07-22			
4) 170-14-44				
@ 4 BS 1/16=5				
81-31-24	81-31-18	89-31	1457.73 F 444.314 M	1457.673
③ 163-02-36		89-42	1328.27 F 404.862 M	1328.259
@ 1 BS 2				
180°	set 6			
@ 6 BS 2				
219-16-00	219-15-55	90-10	2052.66 F 625.656 M	2052.658
⑦ 438-31-50		89-54	918.96 F 280.095 M	918.951
@ B BS A				
00-22-30	00-22-24			
10) 00-44-48				
@ 10 BS B				
94-01-46	94-01-50	90-02	1352.01 F 412.097 M	1352.01
11) 188-03-40		89-51	1278.88 389.801	1278.872
@ 11 BS 12				
179-~~20~~-~~00~~ 19-48	179-19-42	90-44	2840.09 F 865.662 M	2839.859
10) 358-39-24				

Ken Metcalf

Dec. 5, 1984
Snow Windy AM 10° 72
Strong Winds PM 0°

Pt 4 R/R Sp
12'± E/ly & Twp Rd
40'± N'ly & Cty Rd 5

Pt 7 = R/R. Sp.
18'± S'ly of & Cty Rd 5
10'± NELY of GUARD RAIL FOR BRIDGE
Pt 6 is 8'± N'ly of New Tree



Pt 12 = R/R Sp. 3'± S'ly of steps
Pt 13 Rogers Trw Pt. R/R Sp. on Bank
Pt. 10 is 14'± SE of PHONE PEDASTAL 10'± W'ly & N'ly Road in & of Rd to West

SC-11 2" I.P. &

Pt A is 16'± W'ly of &
Pt B is 16'± W'ly of Power Pole E. Side of Road

Roden

T@12 BS 11				
183-23-06	183-22-59			
(13) 306-45-58				
334-57-36	334-57-30			
(14) 669-55-00		94-56-48	CHAIN 171.00	170.363

SHOOT 1¼" I.P.M.C.

E. Curo
K. Metcalf

12-11-84
O.C. 25°

T@ 13 BS 26				
59-27-56	59-27-51	91-12	1984.84 F 604.979 M	1984.402
(12) 118-56-42		92-25	1267.64 F 386.375 M	1266.509
T@13 BS 12				
176-46-30	176-46-30			
(15) 353-33-00		89-38	298.64 F 91.021 M	298.624
T@15 BS 13				
179-05-26	179-05-33			
(16) 358-11-06		91-33	425.85 F 129.802 M	425.699
T@16 BS 15				
186-49-00	186-48-53			
(17) 373-37-46		88-15	265.54 F 80.935 M	265.413
T@17 BS 16				
176-36-24	176-36-16			
(18) 353-12-32		92-43	278.26 F 84.813 M	277.946

18 = SW COR SEC 15 2" Cap Mon.

RICHARD PURDES

Pt 2 BS 3				
			673.14 F	
169-51-54	169-51-51	89-57	205.173 M	673.139
			394.50 F	
① 339-43-42		90-48	120.242 M	394.459

Pt 2 is 21'± Wly of Rd ℄ 27'± Nly Private Trail

Pt 3 BS 4				
182-17-00	182-16-53			
② 264-33-46				

Pt 3 is 6'± Wly of Powerpole

Pt 4 BS 3				
			2370.36 F	
130-13-06	130-13-00	89-27	722.488 M	2370.257
			672.65 F	
③ 260-26-00		88-15	205.023 M	672.334

Pt 4 is 9'± Ely of ℄ Rd ℄ 40'± Nly of ℄ trail to Horseshoe Lodge Resort

Pt 5 BS 6				
147-17-00	147-16-58			
④ 294-33-56				

Pt 5 is on Hill Ely of Rd Appx 100' Red Oak Nwly 10'± sm Red Oak Sswly 15'± Blazes

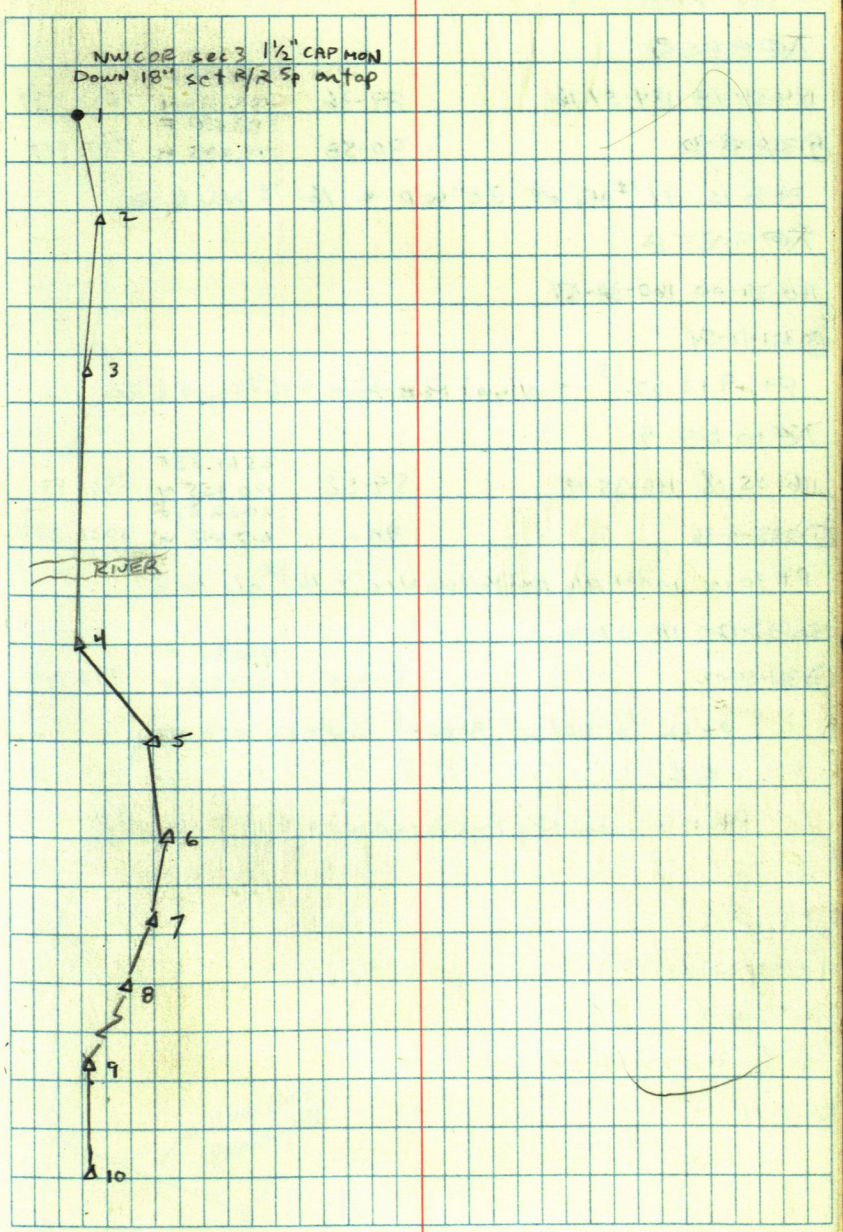
Pt 6 BS 5				
			750.52 F	
214-49-00	214-48-57	89-18	228.752 M	750.453
			409.76 F	
⑦ 429-39-54		87-31	124.895 M	409.075

Pt 6 is 15'± Wly of Power Pole

Pt 7 BS 6				
184-59-48	184-59-46			
⑧ 369-59-32				

Pt 7 is 2'± wly of Power Pole

Ken Metcalf 12-7-84 P.C. 30° 74



RICH. PURDES

T@8 BS 9

184-54-18	184-54-16	89-36	1601.08 F 488.009 M	1601.039
⑨ 369-48-32		90-58	588.53 F 179.385 M	588.447

Pt 8 is 11'± Nly of 30" w.p. & 16'± Wly ℄ Rd.

T@9 BS 8

160-39-00	160-38-57			
⑩ 321-17-54				

Pt 9 is 22'± SWly of Power Pole & 16'± Ely of ℄ Rd

T@10 BS 9

116-35-18	116-35-18	89-58	2561.85 F 780.855 M	2561.85
⑪ 233-10-36		90-	2026.39 F 617.648 M	2026.395

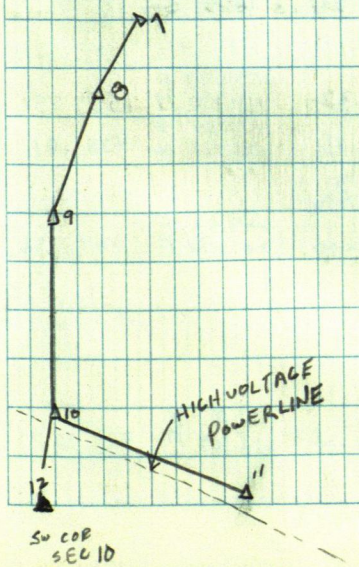
Pt 10 is under Nly High Voltage Wire & 16'± Ely Rd ℄

180-57-12	180-57-06			
⑫ 361-54-12		90-33	930.50 F 283.612 M	930.449

Pt 12 is 60d 3p Area of SW cor SEC 10

℄ ℄

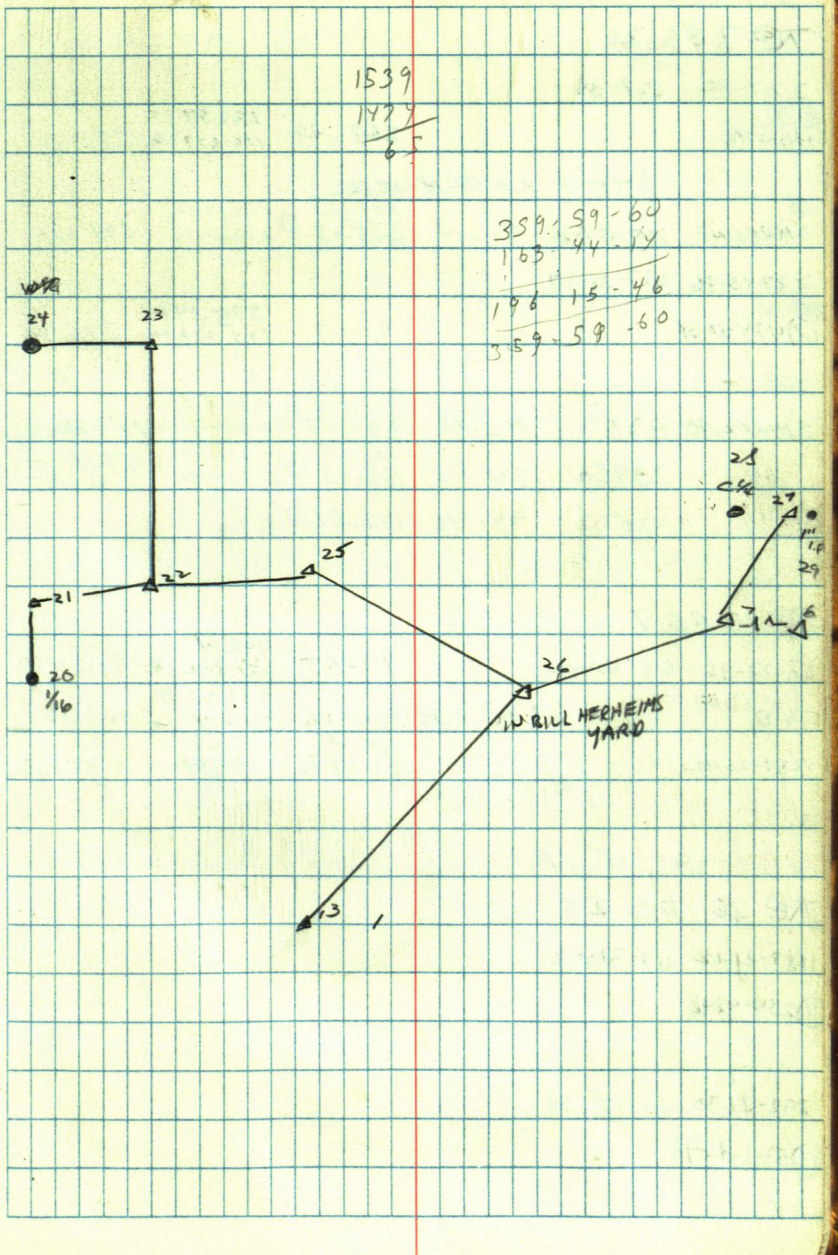
Pt 11 is under Nly High Voltage Wire & 12'± Nly Rd ℄



E. Curo
K. Metcalf
12-11-84
O.C. 25°

Roden

Δ@ 21	BS 22				
67-29-22	67-29-15		89-04	680.61 F 207.451 M	680.521
(29) 134-58-30			81-24	196.54 F 59.907 M	194.333
20 = 1/16 COR		Pt 21 is 35' ± NWly of ℄			
Δ@ 22	BS 21				
115-33-40	115-33-38				
(23) 231-07-16					
Pt 22 is 5' ± Ely of Stop Sign 27' ± Nly of ℄ Ck'd					
Δ@ 22	BS 23				
78-30-36	78-30-30				
(25) 157-01					
Δ@ 23	BS 22				
95-40-00	95-39-55		87-13	810.21 F 246.950 M	809.25
(24) 191-49-50			90-05	315.15 F 96.060 M	315.153
23 is 1' ± Ely of W Branch ℄		24 is W[illegible] Sec 15			
Δ@ 25	BS 26				
151-33-36	151-33-30		90-32	1539.91 F 469.370 M	1539.851
(22) 303-07			88-16	420.39 F 128.131 M	420.191
Δ@ 7	BS 26				
163-44-18 ~~163-44-18~~	163-44-14		89-00	664.63 F 202.584 M	664.536
(27) 327-28-28					
235-41-42	235-41-42				
(6) 47½ 23-24					
213-48-32	213-48-39		90-02	421.16 F 128.369 M	421.127
(A) 47½ 37-18					



V. RODEN

T@ 7 RS 26

227-39	227-39				
(8) (18) 455-R			267-49	382.77 F 116.677 M	382.506
	SHOOT I.P. @ RIVER				
(9) SHORELINE	249-51-24	91-14	644.88 645.03 (1)	N 2689.40 E 8260.56	644.881
237-15-36	237-15-27				
(10) (20) I.P. 474-30-54			91-07	575.04 F 175.272 M	574.93
I.P.					
SHORELINE	233°00'	92-06	370.802 391.07 (2)	N 2875.71 E 8033.632	12'± N'ly River
"	237°19'	94-55	168.01 168.63 (3)	N 2862.39 E 7810.40	4'± N'ly of River
"	220°03'	97-46	101.64 102.58 (4)	N 2897.6 E 7741.61	

T@ 27 RS 7

68-23-36	68-23-42		89-55	498.04 F 151.802 M	498.038
136-47-24 C¼-28	C¼ = 1½" I.P.		90-08	231.67 F 70.614 M	231.67
251-20-12			101-53-06	Calc. 50.24	49.163
29					
	29 = 1", P.				

T@ 26 RS 25

117-21-12	117-21-08				
(7) 234-42-46					
292-21-30	292-21-24				
(13) 58-42-48					

35° CLDY

E CURO
K METCALF

12-11-84

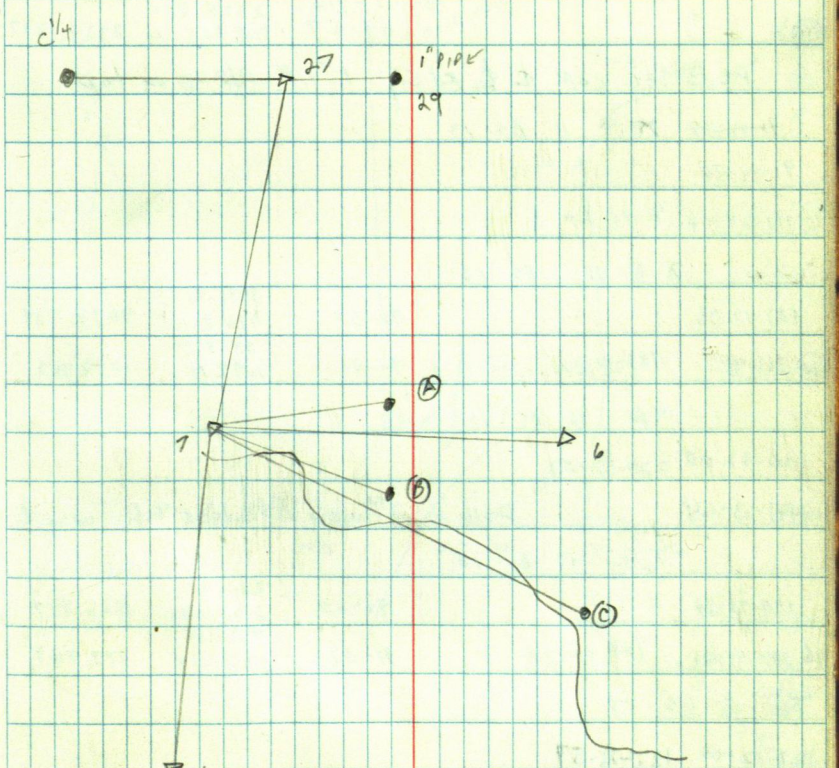
77

T @ 7 RS 27

196-54-46

90-15-12

49+.25
151.862



RICH PURDES

T@ 11 BS 10

153-57-24 153-57-19

(13) 307-54-38 set 11A ONLINE

T@ 13 BS 11

180-29-36	180-29-30		13 - 11 89-47	3477.22 1065.946	3497.181
(14) 360-59-00			13 - 14 89-50	3980.83 1213.361	3980.816
(11A)			13 - 11A 89-57	2325.81 E 708.907 N	2325.807

Pt 13 sec cor & & Rd S/4 1" I.P. R/R Sp on top

~~91-44-38~~ T@ 14 BS 13

91-44-38

(15) 183-28-54 91-44-27

T @ 15 BS 16

183-17-36			90-37	3038.71 926.201	3038.534
(14) 366-35	183-17-30		90-21	334.417 1097.18	1097.153

T@ 16 BS 15

220-37-00 220-36-57

(17) 441-13-54 Pt 16 is 3½ W'ly of Shoulder & 12½ W'ly &

T@ 17 BS 18

159-50-24			90-07	826.90 252.039	826.897
16 389-40-24	159-50-14		91-32	978.08 298.119	977.729

T@ 18 BS 17

121-12-00 121-11-57

(19) 242-23-54

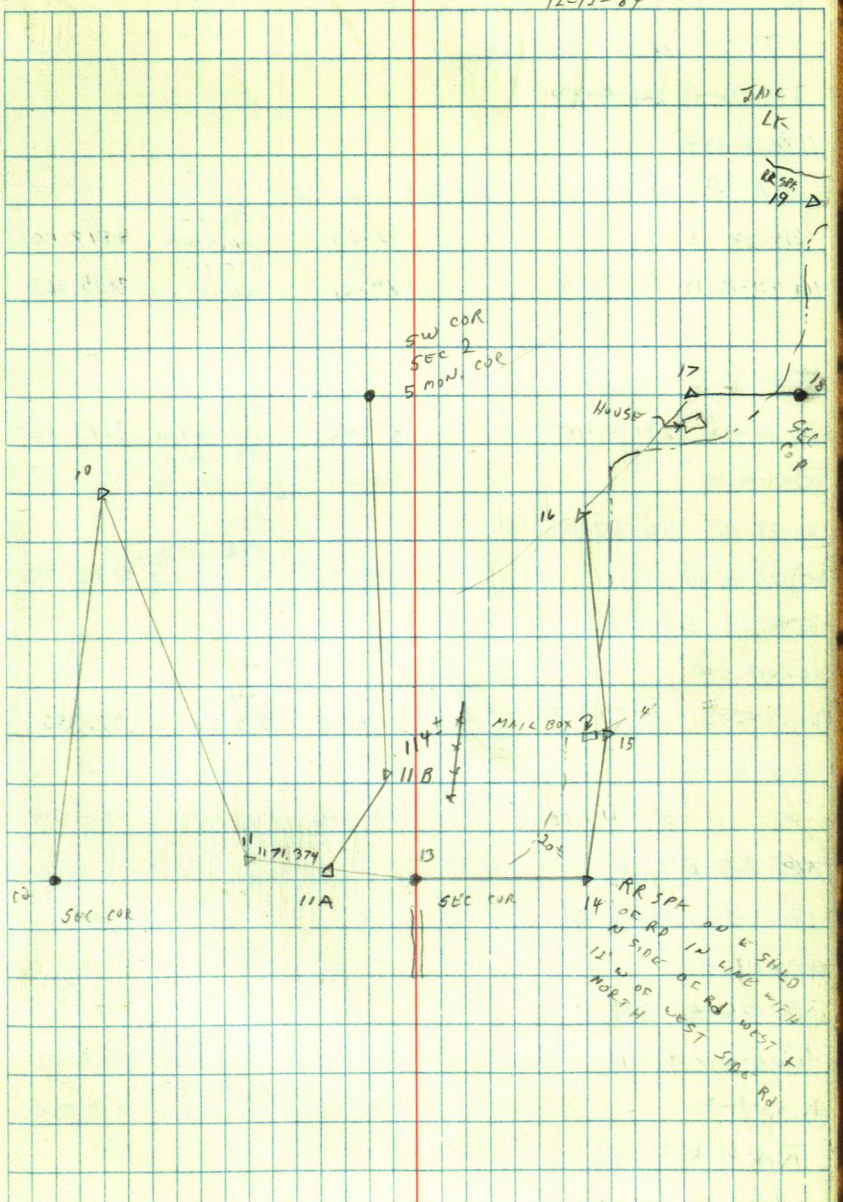
sec is 40± E'ly & Pt 19 is overlooking Jail Lake

Sec Cor 4" Top

-5° CLR + WINDY

E. CURD
K. METCALF

12-12-84



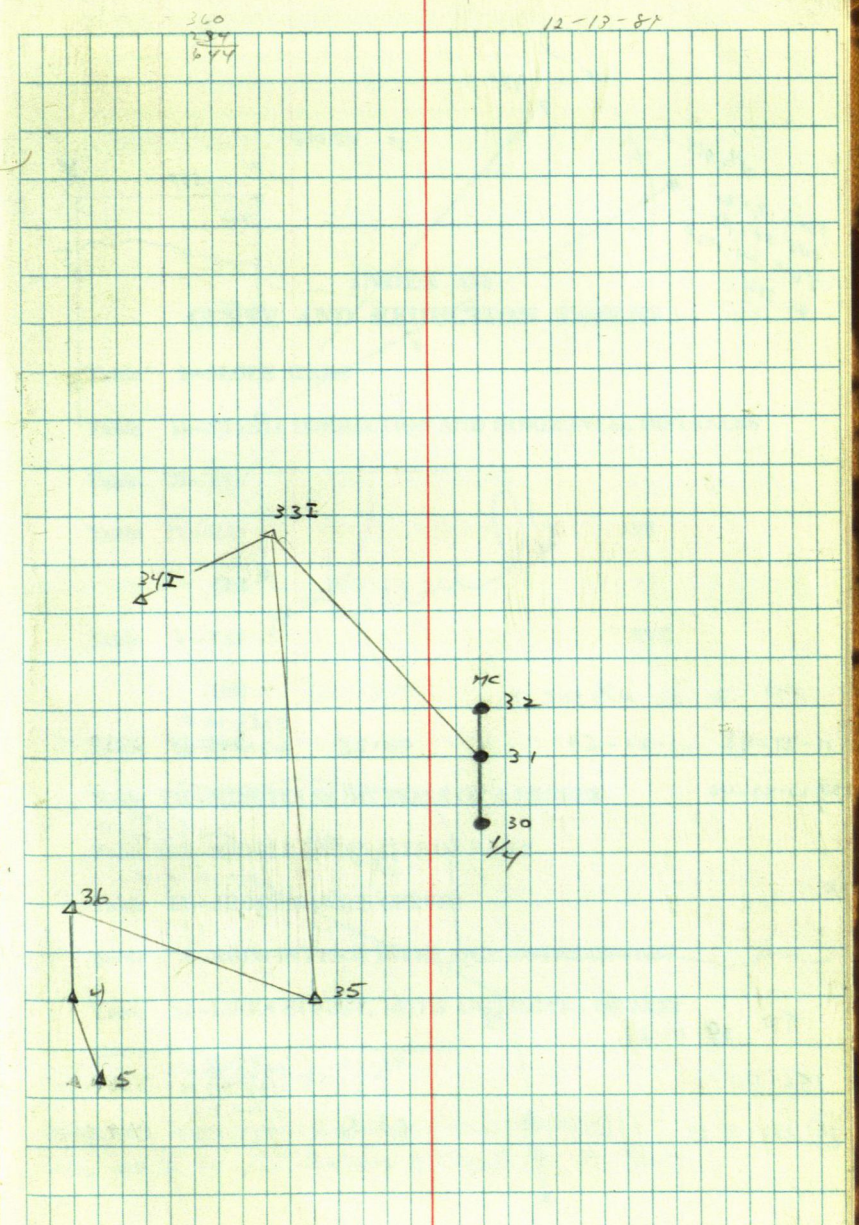
R. PURDES

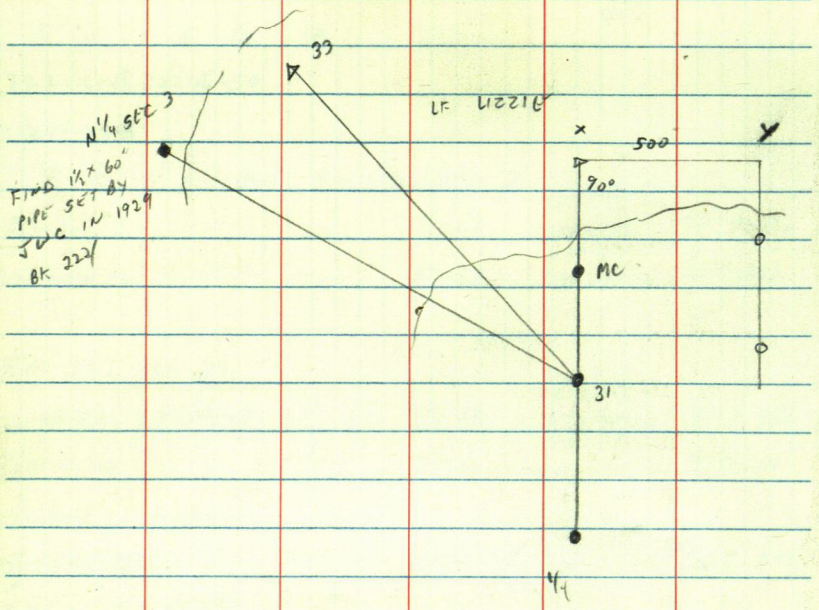
Δ @ 11 A	BS 1B				
322-16-48	322-16-50				
11B) 644-33-40					
Δ @ 11 B	BS SW COR SEC 2				
				4818.52	
215-38-12			90-13	1468.694	4818.496
11A 431-16-12	215-38-06		89-51	1135.67 346.151	1135.663
Δ @ 33I	BS 31				
				3513.99 F	
22-40-42	22-10-45		89-40	1071.069 M	3513.623
(35) 44-21-30			90 —	4251.44 F 1295.842 M	4251.44
62-38-06	62-38-07				
				722.09 F	
34I) 125-16-14			90-10	220,090 M	722.081
Δ @ 31	BS 33I				
33-44-54					
67-29-36	33-44-48		117-19	CH 53.30	47,356
213-00-54					
30 426-01-38	213-00-49		87-34-36	134.92	134.808
Δ @ 35	BS 36				
58-48-18	58-48-21				
33I) 117-36-42					
Δ @ 36	BS 35				
				4212.80 F	
71-45-42	71-45-45		90-05	1284.062 M	4212.792
(4) 143-31-30			90-18	1217.94 F 371.229 M	1217.924
Δ @ 4	BS 36				
129-36-06	129-35-58				
259-11-56	Shoot pt 5				

— 10 CLR LT WIND

E. CURO
K. METCALF

12-13-81

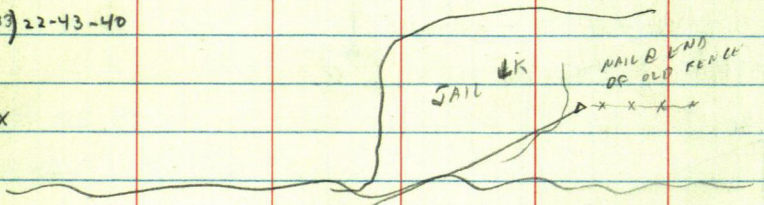




TC @ 31 BS N 1/4 SEC 3

11-21-48	11-21-50	90-25	3383.12 F 1031.175 M	3389.027

33) 22-43-40



TC @ 19 BS 21

166-58-16		90-04	3880.40 F 1182.747 M	3880.387
(18) 333-56-18	166-58-09	88-38	1410.22 429.833	1409.814

19

Kiewit

INDEX OF
CURVE AND REDUCTION TABLES

Ties to 19

N'ly 43.2' to SW cor Block PUMPHOUSE
W'ly 30.2' to 1/2" Rebar @ Chest Hi to Face

LIETZ
SINCE 1882

FIELD BOOKS

Rain resistant fine quality ledger paper, bound in high visibility chrome yellow imitation leather. Printed in waterproof ink.

Left page: blue horizontal lines; red vertical lines.
Right page: 4 horizontal and 8 vertical blue lines; red vertical center line.

Stock No. 8152-00 Transit Field Book. Size 4½ x 7¼ inches.
Stock No. 8152-05 Economy Field Book. Spiral Bound Paperback. Size 4½ x 7¼ inches.

Left page: blue horizontal lines; red vertical lines.
Right page: 8 x 8 blue lines; red vertical center line.

Stock No. 8152-20 Mining Transit Book. Size 4½ x 7¼ inches.

Left page: blue horizontal lines; red vertical lines.
Right page: 10 x 10 blue lines; red vertical center line. Inch lines heavy.

Stock No. 8152-30 Engineers Field Book. Size 4½ x 7¼ inches.

Both pages: blue horizontal lines; red vertical lines. 6 vertical columns.

Stock No. 8152-50 Level Book. Size 4 x 6½ inches.
Stock No. 8152-55 Level Book. Size 4½ x 7¼ inches.

Left page: blue horizontal lines; red vertical lines.
Right page: 4 x 4 blue lines; red vertical center line.

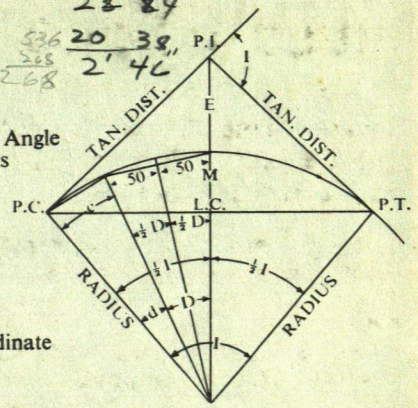
Stock No. 8152-60 Field Book. Size 4½ x 7¼ inches.

Both pages: 10 x 10 blue lines; inch lines slightly heavier.

Stock No. 8152-75 Cross Section Book. Size 6½ x 8½ inches.

CURVE FORMULAE

D = Degree of Curve
1° = 1-Degree of Curve
2° = 2-Degree of Curve
P.C. = Point of Curve
P.T. = Point of Tangent
P.I. = Point of Intersection
I = Intersection of Angle, Angle between Two Tangents
L = Length of Curve, from P.C. to P.T.
T = Tangent Distance
E = External Distance
R = Radius
L.C. = Length of Chord
M = Length of Middle Ordinate
c = Length of Sub-Chord
d = Angle of Sub-Chord



$$R = \frac{L.C.}{2 \sin \frac{1}{2} I} \quad T = R \tan \tfrac{1}{2} I = \frac{L.C.}{2 \cos \frac{1}{2} I}$$

$$\frac{L.C.}{2} = R \sin \frac{I}{2}, \quad D\,1° = R = 5730, \quad D\,2° = \frac{5730}{2}, \quad D = \frac{5730}{R}$$

$$M = R\,(1 - \cos \tfrac{1}{2} I), = R - R \cos \frac{I}{2}$$

$$\frac{E + R}{R} = \sec \frac{I}{2}, \quad \frac{R - M}{R} = \cos \frac{I}{2}$$

$$c = 2\,R \sin \tfrac{1}{2} d, \quad d = \frac{c}{2R}$$

$$L.C. = 2\,R \sin \tfrac{1}{2} I, \quad E = R\,(\sec \tfrac{1}{2} I - 1), = R \sec \frac{I}{2} - R$$

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	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	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