

W 320

320
FIELD BOOK
1808

320

MICROFILMED

DEC 9th 1964

5/57305/881
1146 176

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Sta. #	Dist	Bearing	Long	Bearing	+ E	- N	Lat	Dep
3	169.2	S 41° 54' E	S 40° 08' E		129.4		- 129.4	+ 109.1
2	79.8	N 84° 17' E	N 86° 03' E	5.5			- 123.9	+ 188.7
1	81.7	S 73° 33' E	S 71° 47' E		25.5		- 149.4	+ 266.3
0	79.7	S 32° 55' E	S 31° 09' E		68.2		- 217.6	+ 307.5
+ 79.7	122.4	N 60° 16' E	N 62° 02' E	57.4			- 160.2	+ 415.6
2+02.1	85.9	N 85° 51' E	N 87° 37' E	3.6			- 156.6	+ 501.4
+ 88.0	77.5	S 75° E	S 73° 14' E		22.4		- 179.0	+ 575.6
3+65.5	176.5	N 26° 58' W	N 25° 12' W	159.7			- 19.3	+ 500.4
5+42.0	77.1	N 20° 24' W	N 18° 38' W	73.1			+ 53.8	+ 475.8
6+19.1	50.0	N 5° 28' W	N 3° 42' W	49.9			+ 103.7	+ 472.6
+ 69.1				349.2	245.5			
6+69.1	66.5	N 25° 58' E	N 27° 44' E	58.8			+ 58.8	+ 31.0
7+35.6	197.6	N 81° 52' E	N 83° 38' E	21.9			+ 80.7	227.4
9+33.2	210.2	N 63° 6' E	N 8° 22' E	208.0			+ 288.7	258.0
11+43.4	87.1	N 45° 15' E	N 47° 01' E	59.4			+ 348.1	321.7
12+30.5	61.6	S 74° 20' E	S 72° 34' E		18.8		+ 329.6	380.5
+ 92.1	206.4	S 59° 10' E	S 57° 24' E		112.3		+ 217.4	554.4
14+98.5	224.9	S 38° 05' E	S 36° 19' E		181.2		+ 36.2	687.6
17+23.4	173.3	S 56° 23' E	S 54° 37' E		100.3		- 64.1	828.9
18+96.7	250.3	N 4° 07' E	N 5° 53' E	249.0			+ 184.9	854.6
21+47.0	52.5	N 46° 42' E	N 48° 38' E	34.8			+ 219.7	893.9
+ 99.5	253.0	S 63° 10' E	S 61° 24' E		121.1		+ 98.6	1116.1
24+52.5	118.6	S 36° 42' E	S 34° 56' E		97.2		+ 14	1184.0
25+71.1	138.8	W 76° 15' E	N 78° 01' E	28.8			+ 30.2	1319.8
27+09.9	102.0	S 87° 51' E	S 86° 12' E		6.7		+ 23.5	1421.6

Sta.	Dist.	Bearing	Dist	+ N	- S	+ E	- W	Lat	Dep.
28+11.9	229.4	S 79° 25' E	77° 39' E		49.1	224.1		- 25.6	1645.7
30+41.3	51.8	S 72° 30' E	70° 44' E		17.1	48.9		- 42.7	1694.6
+931	126.0	S 35° 57' E	34° 11' E		104.2	70.8		- 146.9	1765.4
32+19.1	103.8	N 17° 58' E	N 19° 44' E	97.7		350		- 49.2	1800.4
33+22.9	62.6	N 23° 49' E	N 25° 35' E	56.5		270		+ 7.3	1827.4
+85.5	512.4	N 58° 50' E	N 60° 36' E	251.5		446.4		+ 258.8	2273.8
✓ 38+97.9				1066.4	807.6	2273.8			
+97.9	94.4	N 64° 15' E	N 66° 01' E	38.4		86.2		+ 297.2	+ 2360.0
39+92.3	144.2	N 76° 52' E	N 78° 38' E	28.4		141.3		+ 325.6	2501.3
41+36.5	136.0	S 44° 14' E	S 42° 28' E		100.3	91.8		+ 225.3	2593.1
42+72.5	157.3	S 35° 59' E	S 34° 13' E		130.1	88.5		+ 95.2	2681.6
✓ 44+29.8	366.4	S 60° 53' E	S 59° 07' E		188.1	314.5		- 92.9	2996.1
47+96.2				669	418.5	722.3			
+96.2	1069.3	S 89° 23' E	S 87° 37' E	146	44.4	1068.3		- 44.4	1068.3
58+65.5	80.3	S 43° 06' E	S 41° 20' E		60.2	53.0		- 104.6	1121.3
59+45.8	201.8	N 37° 59' E	N 39° 45' E	155.1		129.0		+ 50.5	1250.3
61+47.6	207.0	N 44° 32' E	N 46° 18' E	148.0		149.6		+ 193.5	1399.9
63+54.6	159.6	N 21° 03' E	N 22° 49' E	147.1		61.8		+ 340.6	1461.7
65+14.2	138.8	N 30° 33' E	N 32° 19' E	117.3		74.2		+ 457.9	1535.9
66+53.0	195.0	S 86° 53' E	S 85° 07' E		166	194.2		+ 441.3	1730.1
68+48.0	306.5	N 37° 27' E	N 39° 13' E	237.4		193.7		+ 678.7	1923.8
71+54.5	69.6	N 46° 35' E	N 48° 21' E	46.2		52.0		+ 724.9	1975.8
72+24.1	54.1	N 81° 57' E	N 83° 43' E	5.9		53.7		730.8	2029.5
+78.2	73.2	N 88° 34' E	N 89° 39' E	0.4		7.31		+ 730.4	2102.6
73+51.4	295.0	S 79° 52' E	S 78° 06' E		60.8	288.6		+ 669.6	2391.2

Sta.	Dist	Bearing	Big + N.	- S.	+ E.	- N.	Lat.	Age
76+464	214.8	N 3° 28' W	N 1° 42' W	214.7			63 + 8843	2384.9
78+612	64.5	N 20° 43' E	N 22° 29' E	59.5	24.6		+ 9438	2409.5
79+257	61.6	N 55° 11' E	N 56° 57' E	33.6	51.6		+ 9774	2461.1
79+873	67.65	S 85° 36' E	S 83° 50' E	7.2	67.2		+ 9702	2528.3
80+549	478.3	S 53° 16' E	S 51° 30' E	297.7	374.3		+ 672.5	2902.6
85+332	50.9	N 83° 39' E	N 85° 25' E	4.0	50.7		+ 676.5	2953.3
+ 841	126.3	S 80° 05' E	S 78° 19' E	25.5	123.6		+ 651.0	3076.9
87+10.4	183.7	N 48° 10' E	N 49° 56' E	118.2	140.5		+ 769.2	3217.4
88+941	180.8	N 60° 34' E	N 62° 20' E	83.9	160.1		+ 853.1	3377.5
90+749	195.0	S 29° 07' E	S 27° 16' E	151 173.3	89.3		+ 679.8	3466.8
92+699	300.7	S 29° 07' E	S 27° 16' E	267.2	137.7		+ 412.6	3604.5
95+706	134.0	S 70° 31' E	S 68° 40' E	487	124.8		+ 363.9	3729.3
97+046	89.8	S 53° 09' E	S 51° 18' E	561	70.0		+ 307.8	3799.3
97+944	80.3	S 44° E	S 42° 09' E	59.5	53.8		+ 248.3	3853.1
98+747	193.3	N 87° 19' E	N 89° 10' E	2.7	193.2		+ 251.0	4046.3
100+68.0	317.0	S 70° 03' E	S 68° 12' E	117.6	294.3		+ 133.4	4340.6
103+85.0	50.1	S 42° 25' E	S 40° 34' E	50.0	22		+ 83.4	4342.8
104+35.1	302.6	S 28° 44' W	S 30° 35' W	260.5		1539	- 177.1	4188.9
107+377	56.4	S 49° 47' E	S 47° 56' E	37.7	41.8		- 214.8	4230.7
107+94.1	66.4	S 16° 47' E	S 14° 56' E	64.1	17.1		- 278.9	4247.8
108+605	127.2	N 76° 41' E	N 78° 32' E	25.2	124.6		- 253.7	4372.4
109+877	46.7	S 33° 46' E	S 31° 55' E	39.6	24.6		- 293.3	4397.0
110+344	308.4	S 7° 42' W	S 9° 33' W	301.1		50.7	- 594.4	4346.3
113+398	174.8	S 16° 50' E	S 14° 59' E	168.9	45.2		- 763.2	4391.5
115+146	37.4	S 4° 02' W	S 5° 53' W	37.2		38	- 800.4	4387.7

Station	Dist	Bearing	Dist	Bearing	+ N	- S	+ E	- W	Lat	Dep
115+520	53.6	S40°09½W	542°00½W		39.8				35.8	- 840.2 + 4351.9
116+056	416.6	S47°16½W	549°07½W		272.6				315.0	- 1112.8 4036.9
120+222	224.4	S17°09½W	519°00½W		212.1				73.0	1324.9 3963.9
122+466	195.3	S37°04½W	538°55½W		151.9				122.7	1476.8 3841.2
124+419	144.8	S53°12½W	555°03½W		82.9				118.6	1559.7 3722.6
125+867	145.2	S71°07E	569°16E		51.4		135.7			1611.1 3858.3
127+319	102.9	S42°57E	541°06E		77.5		67.6			1688.6 3925.9
128+348	307.4	S5°57W	57°48W		304.5				41.7	1993.1 3884.2
131+422	175.3	S33°37W	535°28W		142.7				101.7	2135.8 3782.5
133+175	228.2	S43°47W	545°38W		159.5				163.1	2295.3 3619.4
135+457	85.7	S7°53E	56°02E		85.2					2380.5 3628.4
136+314	84.3	N77°45E	79°36E	15.2			9.0			2365.3 3711.3
137+15.7	86.9	S81°11½E	579°20½E		16.0		82.9			2381.3 3796.7
138+02.6	214.5	S58°14E	556°23E		146.4		85.4			2527.7 4016.9
140+67.1	52.2	S37°32E	535°41E		42.3		220.2			2570.0 4047.3
141+193	49.2	S6°02E	54°09E	+15.0	49.0		30.4			2619.0 4050.8
141+68.5	55.6	S39°52½W	539°45½W		42.7		35			2661.7 4015.3
142+24.1	202.7	S69°08W	571°01W		65.9				35.5	2661.7 4015.3
144+26.8	152.3	S27°09W	529°02W		133.1				191.6	2727.6 3823.7
145+79.1	372.4	S47°49W	549°42W		240.8				73.9	2860.7 3749.8
149+51.5	306.3	S32°13W	534°06W		253.6				284.0	3101.5 3465.8
152+57.8	142.6	S28°10W	530°03W		123.4				171.7	3355.1 3294.1
154+00.4	95.7	N77°19E	79°14E	17.9					71.4	3478.5 3222.7
154+96.1	86.5	N66°35½E	68°30½E	31.7			94.0			+ 17.9 + 94.0
155+82.6	149.5	N77°59½E	79°54½E	26.2			80.5			+ 49.6 + 174.5
							147.2			+ 75.8 + 321.7

Sta.	Dist	Bearing	Cor. Big	+ N.	- S	+ E	- N.	Lat.	Dye
157+321	38.05	6°47'WS	8°42'N		37.6		57	+ 38.2	+ 316.0
157+701	121.3	S16°03'WS	17°58'W		115.4		374	- 77.2	+ 278.6
158+914	282.3	N72°42'E	N74°37'E	74.9		272.2		- 2.3	+ 550.8
161+737	60.05	85°54½'E	83°59½'E		6.3	59.7		- 8.6	610.5
162+337	61.2	S46°56'E	S45°01'E		43.3	43.3		- 51.9	653.8
162+949	48.6	S42°07½'E	S40°12½'E		37.1	31.4		- 89.0	685.2
163+435	83.7	S20°59½'E	S18°44½'E		79.3	26.9		- 168.3	712.1
164+272	76.2	N55°00½'E	N56°55½'E	41.6		63.9		- 126.7	776.0
165+034	94.6	N36°25½'E	N38°20½'E	74.2		58.7		- 52.5	834.7
165+98.0	48.2	N83°32½'E	N85°27½'E	3.8		48.0		- 48.7	882.7
166+46.2	111.3	S54°04½'E	S52°09½'E		68.3	87.9		- 117.0	970.6
167+575	239.4	N80°37½'E	N82°31½'E	31.1		237.4	154	- 85.9	1208.0
169+96.9	129.2	S80°40½'E	S78°46½'E		25.2	126.7		- 111.1	1334.7
171+261	124.9	S21°26'E	S19°32'E		117.7	41.8		- 228.8	1376.5
172+51.0	160.6	S38°04'E	S36°10'E		129.7	94.8		- 358.5	1471.3
174+11.6	155.9	S33°22'E	S31°28'E		133.0	81.4		- 491.5	1552.7
175+67.5	56.6	S17°09½'WS	S19°03½'N		53.5		185	- 545.0	1534.2
176+241	49.6	S33°02'WS	S35°06'W		40.6		285	- 585.6	1505.7
176+737	42.3	S42°25'WS	S44°19'W		30.3		296	- 615.9	1476.1
177+16.0	150.5	S62°29½'WS	S64°23½'W		65.0		1357	- 680.9	1340.4
178+665	148.9	S67°28½'WS	S69°22½'W		52.5		1394	- 733.4	1201.0
180+154	181.0	S58°37½'E	S56°43½'E		99.3	1513		- 832.7	1352.3
181+964	178.5	S60°54'E	S59°00'E		91.9	1530		- 924.6	1505.3
183+749	45.0	S1°23½'E	S0°30½'W		45.0		04	- 969.6	1504.9
184+199	176.5	S25°23½'WS	S27°20½'W	157	156.8		811	- 1126.4	1423.8

Sta.	Dist	Bearing	Cor	Big	+ 9	- 1	+ 6	- 7	Lat	Dep
185+964	87.7	S 79° 00' 1/2 E	S	77° 03' 1/2 E	196		855		11460	+ 15093
186+841	92.8	S 60° 07' 1/2 E	S	58° 10' 1/2 E	489		788		11949	15881
187+769	92.1	S 31° 16 E	S	29° 19 E	803		451		12752	16332
188+690	90.3	S 4° 14' 1/2 E	S	2° 17' 1/2 E	902		36		13654	16368
189+593	50.8	S 12° 19' 1/2 W	S	14° 16' 1/2 W	49.2			125	1414.6	16243
190+101	109.5	S 26° 37' 1/2 W	S	28° 32' 1/2 W	96.2			524	15108	15719
191+196	84.5	S 9° 03 W	S	11° 00 W	82.9			161	15937	15558
192+041	92.2	S 18° 31 W	S	20° 28 W	86.4			322	16801	15236
192+963	33.7	S 49° 04 E	S	47° 07 E	229		247		17030	15483
193+300	39.2	S 12° 45 E	S	10° 48 E	38.5		73		17415	15556
193+642	86.9	S 4° 07 W	S	6° 04 W	86.4			92	18279	15464
194+561	84.2	S 43° 27 E	S	41° 30 E	63.1		558		18910	16022
195+403	112.3	S 27° 31 E	S	27° 23 E	99.7		516		19907	16538
196+526	76.3	S 7° 43 E	S	7° 35 E	75.6		10.1		20663	16639
197+289	48.9	S 8° 09 W	S	8° 17 W	48.4			7.0	21147	16569
197+778	49.0	S 33° 50 W	S	33° 58 W	40.6			27.4	21553	16295
198+268	69.3	S 67° 39 W	S	67° 47 W	26.2			64.2	21815	15653
198+961	95.8	S 6° 09 E	S	6° 01 E	95.3		10.0		22768	15753
199+919	76.9	S 10° 34 W	S	10° 42 W	75.6			14.3	23524	15610
200+68.8	77.6	S 20° 10 E	S	20° 02 E	72.9		26.6		24253	15876
201+46.4	47.2	S 12° 27' 1/2 W	S	12° 35' 1/2 W	46.1			10.3	24714	1577.3
201+936	80.0	S 82° 57' 1/2 E	S	82° 49' 1/2 E	100		794		24814	16567
202+736	78.1	S 75° 29 E	S	75° 21 E	19.7		75.6		25011	17323
203+51.7	50.5	S 45° 36 E	S	45° 28 E	35.4		36.0		25365	17683
204+022	221.9	S 28° 48 E	S	28° 38 E	194.8		106.3		27313	18746

Sta.	Dist	Dir	Dist	Dir	+ N	- S	+ E	- W	Lat	Dep
206+241	141.5	S16°13'E	136.0	S16°03'E			39.1		28673	+ 19137
207+656	80.6	S12°19'E	78.8	S12°09'E			17.0		29461	19307
208+462	163.8	S12°10'E	160.2	S12°-E			34.0		31063	19647
210+10.0	199.6	S2°26'E	199.4	S2°16'E			7.9		33057	19726
212+096	46.8	S42°02'E	34.9	S41°52'E			31.2		33406	20038
212+564	68.6	S18°16'W	65.1	S18°26'W					34057	19821
213+250	139.2	S75°33'E	35.1	S75°23'E			134.7		34408	21168
214+642	80.2	S50°13'E	51.5	S50°03'E			6.5		34923	21783
215+444	129.6	S23°20'E	119.2	S23°08'E	0.12		50.9		36115	22292
216+740	97.4	S12°39'E	95.1	S12°27'E			21.0		37066	22502
217+714	110.4	S24°57'E	100.3	S24°45'E			46.2		38069	22964
218+818	53.8	S1°01'W	53.8	S1°13'W					38607	22953
219+356	136.5	S20°22'W	127.8	S20°34'W					39885	22473
220+721	106.5	S52°15'E	65.5	S52°03'E			84.0		40540	23313
221+786	82.2	S13°32'E	80.0	S13°20'E			19.0		41340	23503
222+608	44.4	S4°41'W	44.2	S4°53'W					41782	23465
223+052	191.0	S22°03'W	176.8	S22°15'W					43550	22742
224+962	70.35	S71°08'E	23.0	S70°56'E			66.4		43780	23406
225+665	105.2	N43°22'E	76.2	N43°34'E			72.5		43018	2413.1
226+717	137.1	N39°01'E	106.2	N39°13'E			86.7		41956	24998
228+088	197.6	N17°19'E	188.4	N17°31'E			59.5		40072	25593
230+06.4	103.9	N19°16'E	98.0	N19°28'E			34.6		39092	25939
231+103	57.4	N37°50'E	45.2	N38°02'E			35.4		38640	26293
231+67.7	70.7	N47°58'E	47.1	N48°10'E	0.12		52.7		38169	26820
232+38.4	90.9	N73°07'E	26.2	N73°19'E	0.12		87.4		261.2	8714

Sta	Dist	Bearing	Dist	Bearing	+ E	- N	Lat	Dep
241+384	987.1	N73°07'E	N73°19'E	283.4	945.6		+ 544.6	+ 1817.0
251+352	69.9	N84°07'E	N84°19'E	6.9	69.6		551.5	1886.6
252+051	52.0	N54°19½E	N54°31½E	30.2	42.3		581.7	1928.9
252+571	44.5	N25°55½W	N25°43½W	40.1		19.3	621.8	1909.6
253+016	341.9	N 6°23'E	N 6°35'E	339.6	392		961.4	1948.8
256+43.5	171.7	N22°53'W	N22°41'W	158.4		66.2	1119.8	1882.6
258+15.2	44.6	N40°23½E	N40°35½E	33.9	29.0		1153.7	1911.6
258+59.8	56.5	N 8°48½E	N 9°00½E	55.8	8.8		1209.5	1920.4
259+16.3	90.2	N38°30½E	N38°42½E	70.4	56.4		1279.9	1976.8
260+065	262.2	N48°19½E	N48°31½E	173.7	196.4		1453.6	2173.2
262+68.7	67.9	N2°12'W	N 2°00'W	67.9		0.12	1521.5	2170.8
263+36.6	177.9	N 8°14'E	N 8°26'E	176.0	26.1		1697.5	2196.9
265+14.5	62.5	N28°38'E	N28°50'E	54.8	30.1		1752.3	2227.0
265+77.0	63.5	N44°29½E	N44°43½E	45.1	44.7	0.4	1797.4	2271.7
266+40.5	69.4	N66°29½E	N66°43½E	27.4	63.8		1824.8	2335.5
267+09.9	64.9	N82°54'E	N83°08'E	7.8	64.4		1832.6	2399.9
267+74.8	119.1	S 8°19'E	S 8°05'E	20.5	117.3		1812.1	2517.2
268+93.9	253.0	S 54°33½E	S 54°19½E	147.5	205.5		1664.6	2722.7
271+46.9	40.4	S 33°18½E	S 33°04½E	33.9	22.0		1630.7	2744.7
271+87.3	49.3	S 16°05½E	S 15°51½E	47.4	13.5		1583.3	2758.2
272+36.6	192.6	S 5°20½E	S 5°06½E	191.8	17.1		1391.5	2775.3
274+29.2	137.5	N58°05'E	N58°19'E	72.2	117.0		1463.7	2892.3
275+66.7	44.0	N85°45'E	N85°59'E	3.1	44.2		1466.8	2936.5
276+11.0	111.8	S 41°47½E	S 41°30½E	83.7	74.1	0.7	1383.1	3010.6
277+22.8	452.7	S 3°56½E	S 3°39½E	451.8	28.9		931.3	3039.5

Sta	Dist	Bearing	Big	+ 21	- 2	+ E	- 24	Lat	Dep
281+75.5	164.6	22° 10½ E	21° 53½ E		152.7	614		778.6	3100.9
283+40.1	130.0	13° 38½ E	13° 21½ E		126.5	300		652.1	3130.9
284+70.1	84.0	44° 14½ E	43° 57½ E		66.5	583		591.6	3189.2
285+54.1	99.1	28° 52½ E	28° 35½ E		87.0	474		504.6	3236.6
286+53.2	117.6	N 6° 18½ E	N 6° 35½ E	116.8		135		621.4	3250.1
287+70.8	135.3	N 14° 10½ W	N 13° 53½ W	131.3			32.5	752.7	3217.6
289+06.1	185.6	N - 49½ E	N 1° 06½ E	185.6		36		938.3	3221.2
290+91.7	55.2	N 14° 14½ W	N 13° 57½ W	53.6			133	991.9	3207.9
291+46.9	311.3	N 12° 30 E	N 12° 47 E	303.6		68.9		1295.5	3276.8
294+58.2	98.1	N 16° 08½ E	N 16° 25½ E	94.1		27.7		1389.6	3304.5
295+56.3	49.7	N 9° 18 W	N 9° 01 W	47.0			16.2	1436.6	3288.3
296+06.0	134.1	N 18° 16 E	N 18° 33 E	127.1		42.7		1563.7	3331.0
297+40.1	17.8	N 48° 48 W	N 48° 31 W	113.1			128.0	1676.8	3203.0
299+10.9	109.4	N 26° 48½ W	N 26° 31½ W	97.9			48.9	1774.7	3154.1
300+20.3	69.6	N 16° 06½ W	N 15° 49½ W	67.0			19.0	1841.7	3135.1
300+89.9	175.8	N 14° 14 E	N 14° 31 E	170.2		44.1		2011.9	3179.2
302+65.7	88.3	N 10° 53 W	N 10° 36 W	86.8			16.2	2098.7	3163.0
303+54.0	112.4	N 3° 57 W	N 3° 40 W	112.2			7.2	2210.9	3155.8
304+66.4	137.4	N 54° 25 E	N 54° 42 E	79.4		112.1		2290.3	3267.9
306+03.8	96.2	N 54° 25 E	N 54° 44 E	55.5	0.19	78.5		2345.8	3346.4
307+00.0	83.3	83° 01 E	82° 42 E	10.6		82.6		2335.2	3429.0
307+83.3	78.3	N 60° 30 E	N 60° 49 E	38.2		68.4		2373.4	3497.4
308+61.6	48.0	N 85° 40 E	N 85° 59 E	3.4		47.9		2376.8	3545.8
309+09.6	114.1	S 32° 31 E	S 32° 12 E	96.5		60.8		2280.3	3606.1
310+23.7	102.4	S 58° 31 E	S 58° 12 E	54.0		87.0		2226.3	3693.1

Sta	Dist	Bearing	Dist	Bearing	+ 21	- 1	+ 8	- 24	Lat	Dep	
311+26.1	89.9	N10°14'W	N9°55'W	88.6					155	23149	36776
312+16.0	176.6	N11°42'E	N12°01'E	172.7			36.8			24876	37144
313+92.6	113.3	N6°08'1/2'W	N5°49'1/2'W	112.7					115	26003	37029
315+05.9	71.1	N-46'1/2'W	N-27'1/2'W	71.1					0.6	26714	37023
315+77.0	77.5	N11°08'1/2'E	N11°27'1/2'E	76.0			154			27474	37177
316+54.5	69.9	N25°25'1/2'E	N25°44'1/2'E	63.0			30.4			28104	37481
317+24.4	94.1	N37°54'1/2'E	N38°13'1/2'E	73.9			58.2			28843	38063
318+18.5	102.3	N51°08'E	N51°27'E	63.8			80.0			29481	38863
319+20.8	53.2	N68°14'E	N68°33'E	19.5			49.5			29675	39358
319+74.0	41.8	S53°59'1/2'E	S53°38'1/2'E	0.21	24.8		33.7			2942.8	39695
320+15.8	209.3	S38°07'E	S37°46'E	165.5			128.2			27773	40977
322+25.1	180.5	S74°28'1/2'E	S74°07'1/2'E	49.4			173.6			27279	42713
324+05.6	61.2	N70°55'E	N71°16'E	19.7			58.0			2747.6	43293
324+66.8	87.3	S84°48'E	S84°27'E	8.4			86.9			2739.2	44162
325+54.1	194.4	S56°10'1/2'E	S55°49'1/2'E	109.2			160.8			2630.0	45770
327+48.5	69.9	S41°19'E	S40°58'E	0.21	52.8		45.8			2577.2	46228
328+18.4	123.2	S30°54'E	S30°29'E	0.25	106.2		62.5			2471.0	46853
329+41.6	35.5	S18°03'1/2'E	S17°38'1/2'E	32.1			10.8			2437.2	46961
329+77.1	161.5	S5°15'W	S5°40'W	160.7					15.9	2276.5	46802
331+38.6	71.2	S60°26'1/2'E	S60°01'1/2'E	35.6			61.7			2240.9	4741.9
332+09.8	50.0	S43°28'E	S43°03'E	36.5			34.1			2204.4	47760
332+59.8	154.5	S26°04'1/2'E	S25°39'1/2'E	139.3			66.9			2065.1	4842.9
334+14.3	88.4	S13°39'1/2'E	S13°14'1/2'E	86.0			20.2			1979.1	48631
335+02.7	72.9	S2°06'W	S2°31'W	72.9					3.2	1906.2	48599
335+75.6	144.5	7°01'W	7°26'W	143.3					18.7	1762.9	48412

Sta	Dist	Bearing	+ N	- S
337+20.1	41.8	S 54° 44' E S 54° 19' E		24.4
337+61.9	49.9	S 36° 56' E S 36° 31' E		40.1
338+11.8	99.9	S 15° 17' E S 14° 52' E		96.6
339+11.7	50.2	S 5° 27' E S 3° 02' E		50.0
339+61.9	20.43	S 17° 30' W S 17° 53' W		19.44
341+66.2	86.7	S 86° 53' E S 86° 28' E		5.3
342+52.9	55.4	S 57° 22' E S 56° 57' E		30.2
343+083	124.2	S 30° 19' E S 29° 54' E		107.7
344+32.5	168.0	S 11° 47' E S 16° 22' E		164.7
346+00.5	49.9	S 4° 30' E S 4° 08' E		49.8
346+50.4	95.9	S 26° 19' W S 26° 44' W		85.6
347+46.3	134.3	S 84° 50' E S 84° 25' E		13.0
348+80.6	108.3	S 77° 33' E S 77° 08' E		24.1
349+88.9	1381.3	S 55° 02' E S 54° 37' E		799.7
363+70.2	44.6	S 53° 02' E S 54° 37' E	(331)	25.8
364+148	524.8	S 55° 02' E S 54° 37' E		303.8
369+39.6	96.5	S 42° 10' E S 41° 39' E		72.1
370+26.1	57.4	S 24° 10' E S 23° 39' E		52.6
370+93.5	34.8	S 4° 33' E S 4° 02' E		34.7
371+283	60.1	S 13° 21' W S 13° 52' W		58.3
371+88.4	111.0	S 22° 57' W S 23° 30' W		101.7
372+99.4	36.7	S 29° 30' W S 30° 01' W		31.8
373+36.1	118.1	S 48° 31' W S 49° 02' W		77.4
374+54.2	69.0	S 15° 54' W S 16° 25' W		66.2
375+23.2	36.7	S 38° 39' W S 39° 00' W		28.5

+ E	- N	Lat	Dep
34.0		1738.5	4875.2
29.7		1698.4	4904.9
25.6		1601.8	4930.5
4.4		1551.8	4934.9
	62.8	1357.4	4872.1
86.5		1352.1	4958.6
46.4		1321.9	5005.0
61.9		1214.2	5066.9
33.1		1049.5	5100.0
3.6		999.7	5103.6
	43.2	914.1	5060.4
133.7		901.1	5194.1
105.6		24.1	105.6
1126.3		823.8	1231.9
36.4		849.6	1268.3
427.9		1153.4	1696.2
64.1		1225.5	1760.3
23.0		1278.1	1783.3
24		1312.8	1785.7
	14.4	1371.1	1771.3
	44.3	1472.8	1727.0
	18.4	1504.6	1708.6
	89.2	1582.0	1619.4
	19.5	1648.2	1599.9
	23.1	1676.7	1576.8

Sta	Dist	Bearing	to	Obj	+ N	- S	+ E	- W	Lat.	Departure
337	375+59.9	85.8	S 22° 32' E	S 22° 01' E			79.5	822	1756.2	16090
337	376+45.7	143.3	N 45° 23 1/2' E	N 45° 54 1/2' E	99.7		1029		16565	17119
338	377+89.0	37.5	N 65° 39 1/2' E	N 66° 10 1/2' E	23.2		52.6		1633.3	17645
339	378+46.5	63.7	N 79° 40' E	N 80° 11' E	10.9		62.8		16224	18273
339	379+10.2	108.9	N 36° 48' E	N 37° 19' E	86.6		66.0		15358	18933
341	380+19.1	144.8	N 48° 20' E	N 48° 51' E	93.3		106.8		14425	20001
342	381+60.9	101.6	N 84° 47' E	N 85° 20' E	8.3	(033)	1013		14342	21014
343	382+62.5	57.5	N 6° 37' W	N 6° 04' W	57.2			6.1	13770	20953
344	383+20.0	41.5	N 5° 24 1/2' E	N 5° 57 1/2' E	41.3		43		13357	20996
346	383+61.5	59.2	N 43° 47 1/2' E	N 44° 20 1/2' E	42.3		414		12934	21410
346	384+20.7	184.5	N 67° 32 1/2' E	N 68° 05 1/2' E	68.8		171.2		1224.6	23122
347	386+05.2	110.1	S 58° 50 1/2' E	S 58° 17 1/2' E		57.9	937		12825	24059
348	387+15.3	193.1	N 11° 03 1/2' E	N 11° 36 1/2' E	189.2		389		10933	24448
349	389+08.4	39.7	N 36° 40 1/2' E	N 37° 14 1/2' E	31.6	(032)	240		10617	24688
363	389+48.1	47.4	N 55° 27' E	N 56° 01' E	26.5		393		10352	25081
364	389+95.5	97.0	N 76° 33' E	N 77° 07' E	21.6		946		10136	26027
369	390+92.5	169.7	N 58° 43' E	N 59° 17' E	86.7		145.9		9269	27486
370	392+62.2	141.5	N 82° 04' E	N 82° 38' E	18.1		1403		9088	28889
370	394+03.7	65.9	S 58° 36 1/2' E	S 58° 02 1/2' E		34.9	559		943.7	29448
371	394+69.6	35.4	S 31° 28 1/2' E	S 30° 54 1/2' E		304	182		974.1	29630
371	395+05.0	607.6	S 24° 25 1/2' E	S 23° 51 1/2' E		555.7	2458		15298	32088
372	401+12.6	545.4	S 24° 25 1/2' E	S 23° 51 1/2' E		498.8	2206		20286	3429.4
372	406+58.0	83.8	S 37° 29 1/2' E	S 36° 55 1/2' E		67.0	503		20956	3479.7
372	407+41.8	70.7	N 37° 23' E	N 37° 57' E	55.7		435		2039.9	35232
375	408+12.5	88.9	N 54° 58' E	N 55° 32' E	50.3		73.3		1989.6	3596.5

Sta	Dist	Bearing: $\frac{S}{N} \frac{W}{E} \frac{S}{N} \frac{W}{E}$	+ N	- S	+ E	- W	- Lat	Dep
409+01.4	90.3	N60°20½E N60°54½E	43.9		78.9		19457	36754
409+91.7	67.5	S85°58½E S85°24½E		5.4	67.3		19511	37427
410+59.2	40.1	N5°36½W N5°02½W	39.9			35	19112	37392
410+99.3	214.7	N50°26½E N51°00½E	135.1		166.9		17761	39061
413+14.0	220.2	N74°11½E N74°45½E	57.9		212.5		17182	41186
415+34.2	43.1	N4°03E N4°37E	43.0		3.5		16752	41321
415+77.3	70.7	N19°44E N20°20E	66.3	(36)	24.6		16089	41567
416+48.3	62.8	N37°35E N38°11E	49.4		38.8		1559.5	41955
417+10.8	39.6	N51°15E N51°51E	24.5		31.1		15350	42266
417+50.4	107.6	N70°47E N71°23E	34.3		102.0		1500.7	43286
418+58.0	72.5	N12°40½E N13°16½E	70.6		16.6		1430.1	43452
419+30.5	43.1	N32°45E N33°21E	36.0		23.7		1394.1	43689
419+73.6	168.1	N50°11E N50°47E	106.3		130.2		1287.8	44991
421+41.7	36.3	N81°4½E N82°17½E	4.9		36.0		1282.9	45351
421+78.0	169.3	S82°07½E S81°31½E		24.9	167.5		1307.8	4702.6
423+47.3	189.5	N16°34½E N17°10½E	181.0		56.0		1126.8	47586
425+36.8	49.6	N39°52½E N40°28½E	37.7	(39)	32.2		1089.1	4790.8
425+86.4	109.8	N59°30½E N60°09½E	54.6		95.2		1034.5	4886.0
426+96.2	55.0	N79°28½E N80°07½E	9.4		54.2		1025.1	4940.2
427+51.2	174.7	S86°09E S85°30E		13.7	174.2		1038.8	5114.4
429+25.9	143.7	N19°31½E N20°10½E	134.9		49.6		903.9	5164.0
430+69.6	241.2	N47°03½E N47°42½E	162.3		178.4		741.6	5342.4
433+10.8	79.8	S74°53½E S74°14½E		21.7	76.8		763.3	5419.2
433+90.6	56.2	S59°01½E S58°22½E		29.5	47.9		792.8	5467.1
434+46.8	130.5	S45°45½E S45°06½E		92.1	92.5		884.9	5559.6

Sta	Dist Bearing from Begin	+N	-S	+E	-W	Lat	Departure
435+77.3	140.8 N66 42 1/2 E N67 21 1/2 E	54.2		129.9		830.7	5689.5
437+18.1	67.8 N82 58 E N83 35 E	7.6		67.4		823.1	5756.9
437+85.9	353.1 S 78 28 E S 77 49 E		74.5	345.1		897.6	6102.0
441+39.0	334.4 N 29 48 W N 29 09 W	292.0			162.9	605.6	5939.1
444+73.4	153.4 N 6 02 W N 5 23 W	152.7			144	452.9	5924.7
446+26.8	49.7 S 80 18 1/2 W S 79 39 1/2 W		8.9		489	461.8	5875.8
446+76.5	55.6 N 78 29 W N 77 5 W	11.7			544	450.1	5821.4
447+32.1	42.6 N 58 34 W N 57 55 W	22.6			361	427.5	5785.3
447+74.7	51.5 N 42 25 W N 41 46 W	38.4			343	389.1	5751.0
448+26.2	70.8 N 27 39 1/2 W N 29 00 1/2 W	61.9			343	327.2	5716.7
448+97.0	49.7 N 14 07 W N 13 28 W	48.3			11.6	278.9	5705.1
449+46.7	38.9 N 9 10 E N 9 49 E	38.3		6.6		240.6	5711.7
449+85.6	215.1 N 49 57 1/2 E N 50 36 1/2	136.5		166.2		104.1	5877.9
452+00.7	135.6 N 13 03 E N 13 42 E	131.7		32.1		27.6	5910.0
453+36.3	55.3 N 34 20 E N 34 56 E	45.3		31.7		72.9	5941.7
453+91.6	40.3 N 38 45 E N 39 21 E	31.2		25.6		104.1	5967.3
454+31.9	171.1 N 69 48 1/2 E N 70 24 1/2 E	57.4		161.2		161.5	6128.5
456+03.0	28.0 N 42 17 W N 41 41 W	20.9			18.6	182.4	6109.9
456+31.0	171.5 N 10 30 1/2 W N 9 54 1/2 W	168.9			29.5	351.3	6080.4
458+02.5	68.3 N 14 00 1/2 E N 14 36 1/2 E	66.1			17.2	417.4	6063.2
458+70.8	85.7 N 37 04 1/2 E N 34 40 1/2 E	70.5		48.8		487.9	6112.0
459+56.5	123.6 N 25 35 1/2 W N 24 59 1/2 W	112.0			52.2	599.9	6059.8
460+80.1	35.5 N 11 10 1/2 W N 10 34 1/2 W	34.9			6.5	634.8	6053.3
461+15.6	71.5 N 12 26 E N 13 02 E	69.7		16.1		704.5	6069.4
461+87.1	107.9 N 20 48 E N 21 24 E	100.5		39.4		805.0	6108.8

Sta.	Dist	Bearing	^{Loc} Bearing	+N	-S	+E	-W	Lat.	Dep.
462+950	182.3	N 35 51 E	N 36 27 E	146.6		108.3		951.6	62171
464+773	452.3	N 35 51 E	N 36 27 E	363.8		268.7		1315.4	64858
469+296	139.8	N 14 02 E	N 14 38 E	135.3		35.3		1450.7	65211
470+694	272.2	N 46 52 E	N 47 28 E	184.0		200.6		1634.7	67217
473+416	187.8	N 46 52 E	N 47 28 E	127.0		138.4		1761.7	68601
475+294	110.8	N 44 36 1/2 E	N 45 12 1/2 E	78.1		78.6		1839.8	69387
476+462	85.2	N 49 42 E	N 50 18 E	54.4		65.6		1894.2	70043
477+254	130.1	N 73 46 1/2 E	N 74 16 1/2 E	35.3		125.2		1929.5	71295
478+555	62.4	N 25 29 E	N 26 05 E	56.0		27.4		1985.5	71569
479+179	91.2	N 62 31 E	N 63 07 E	41.2		81.3		41.2	813
480+091	34.2	N 85 04 E	N 85 40 E	2.6		34.1		438	1154
480+433	118.15	S 9 13 1/2 E	S 8 37 1/2 E		61.5	180.8		17.7	2162
481+614	106.3	N 1 55 1/2 E	N 2 31 1/2 E	106.2		4.7		88.5	2209
482+677	31.8	N 23 23 E	N 23 59 E	29.0		12.9		117.5	2338
482+995	211.5	N 24 46 1/2 W	N 24 10 1/2 W	193.0			86.6	310.5	1472
485+110	49.9	N 6 38 W	N 6 02 W	49.6			52	360.1	1420
485+609	84.6	N 8 23 E	N 8 59 E	83.6		132		443.7	1552
486+455	219.2	N 58 49 1/2 E	N 59 25 1/2 E	111.5		188.7		555.2	343.9
488+647	87.7	N 43 07 1/2 W	N 42 31 1/2 W	64.6			59.3	619.8	2846
489+524	33.9	N 15 03 1/2 W	N 14 30 1/2 W	32.8			85	652.6	2761
489+863	35.9	N 11 08 1/2 E	N 11 44 1/2 E	35.1		73		687.7	2834
490+222	124.0	N 30 01 1/2 E	N 30 37 1/2 E	106.7		63.2		794.4	346.6
491+462	155.0	N 80 25 1/2 W	N 79 49 1/2 W	27.4			152.6	821.8	1940
493+012	47.1	N 69 34 W	N 68 58 W	16.9			44.0	838.7	150.0
493+483	46.0	N 34 59 1/2 W	N 34 33 1/2 W	38.0			26.0	876.7	1240

Sta	Dist	Bearing	^{Low} Bearing	+ N	- S	+ E	- W	Lat	Departure
493+943	35.0	N 8 3/4° E	N 9 13/2° E	34.5		5.6		911.2	129.6
494+293	158.2	N 19 43/2° E	N 20 19/2° E	148.4		54.9		1059.6	184.5
495+87.5	40.7	N 37 11/2° W	N 36 35/2° W	32.7			24.3	1092.3	160.2
496+28.2	143.2	N 30 49' E	N 31 25' E	122.2		74.6		1214.5	234.8
497+71.4	136.3	N 30 03' W	N 29 27' W	118.7			67.0	1333.2	167.8
499+07.7	30.3	N 7 45' W	N 7 09' W	30.1			38	1363.3	164.0
499+180	351.9	N 10 48' E	N 11 24' E	345.3		69.6		1708.3	233.6
502+89.9	44.3	N 53 05/2° E	N 53 43/2° E	26.2		35.7		1734.5	269.3
503+34.2	129.8	N 72 09' E	N 72 47' E	38.4		124.0		1772.9	393.3
504+64.0	249.1	N 35 41' E	N 36 19' E	200.7		147.5		1973.6	540.8
507+13.1	185.2	S 73 45' E	S 73 07' E		53.8	177.2		1919.8	718.0
508+98.3	36.1	S 54 28' E	S 53 50' E		21.3	29.1		1898.5	747.1
509+34.4	150.8	S 41 08' E	S 40 30' E		114.7	97.9		1783.8	845.0
510+85.2	81.8	N 34 55' E	N 35 33' E	66.6		47.6		1850.4	892.6
511+67.0	299.1	N 77 52' E	N 78 30' E	59.6		293.1		1910.0	1185.7
514+66.1	47.6	N 83 27/2° W	N 84 05/2° E	4.9		47.3		1914.9	1233.0
515+13.7	204.5	S 49 16' E	S 48 38' E		13.51	153.5		1779.8	1386.5
517+18.2	295.9	S 42 12' E	S 41 34' E		221.4	196.3		1558.4	1582.8
520+14.1	302.6	N 7 35' W	N 6 57' W	301.0			36.6	1859.4	1546.2
523+16.7	96.1	N 0 37' E	N 1 15' E	96.1		2.1		1955.5	1548.3
524+12.8	99.9	N 60 20/2° E	N 60 58/2° E	48.5		87.4		2004.0	1635.7
525+12.7	226.6	S 59 50/2° E	S 59 12/2° E		116.0	194.7		1888.0	1830.4
527+39.3	237.0	S 83 49/2° E	S 83 11/2° E		28.1	235.3		1859.9	2065.7
529+76.3	262.1	S 64 22' E	S 63 44' E		116.0	235.0		1743.9	2300.7
532+138.4	87.8	S 83 00' E	S 82 22' E		11.7	87.0		1732.2	2387.7

Sta	Dist	Bearing	^{Coor} Bearing	+N	-S	+E	-W	Lat	Departure
533+262	248.3	N 28 40 W	N 28 02 W	219.2			116.7	19514	22710
535+745	326.3	N 56 45 W	N 56 07 W	181.9			270.9	21333	20006
539+008	50.1	N 26 38 1/2 W	N 26 00 1/2 W	45.0			220	21783	19781
539+50.9	99.5	N 16 33 E	N 17 11 E	95.1		29.4		22734	20075
540+50.4	624.0	N 11 26 W	N 10 48 W	612.9			116.9	28863	18906
546+74.4	28.4	N 39 27 E	N 40 05 E	21.7		18.3		29080	19089
547+02.8	110.4	N 74 02 E	N 74 40 E	29.2		106.5		29372	20154
548+13.2	74.3	S 80 02 E	S 79 24 E		13.7	73.0		29235	20884
548+87.5	100.0	S 61 07 E	S 60 29 E		49.3	87.0		28742	21754
549+87.5	294.4	S 81 19 1/2 E	S 80 41 E		47.6	290.5		28266	24659
552+81.9	396.6	S 88 49 1/2 E	S 88 11 1/2 E		12.5	396.4		28141	28623
556+78.5	340.9	S 32 21 1/2 E	S 31 43 1/2 E		290.0	179.3		25241	30416
560+19.4	227.4	S 77 38 E	S 77 00 E		51.2	221.6		24729	32632
562+468	99.3	S 32 55 E	S 32 17 E		84.0	53.0		23889	33162
563+46.1	165.0	S 11 59 E	S 11 21 E		161.8	32.5		22271	33487
565+11.1	71.4	S 69 05 E	S 68 27 E		26.2	66.4		22009	34151
565+82.5	100.2	S 47 19 E	S 46 41 E		68.7	72.9		21322	34880
566+82.7	149.6	S 32 21 1/2 E	S 31 43 1/2 E		127.2	78.7		20050	35667
568+323	193.4	S 28 37 E	S 27 59 E		170.8	90.7		18342	36574
570+25.7	50.0	S 40 7 1/2 E	S 39 29 1/2 E		49.9	30		17843	36604
570+75.7	119.4	S 49 28 E	S 48 50 E		78.6	89.9		17057	37503
571+95.1	186.3	S 24 42 E	S 24 04 E		170.1	76.0		15356	38263
573+81.4	136.0	S 52 18 E	S 51 40 E		84.4	106.7		14512	39330
575+17.4	117.0	S 25 16 1/2 E	S 24 38 1/2 E		106.3	48.8		13449	39818
576+34.4	160.3	S 34 11 W	S 34 49 W		131.6		915	12133	38903

Sta	Dist	Course	Bearing	+ N	- S	+ E	- W	Lat	Departure
577+94.7	255.3	S 48° 36' E	49.14	E	166.7	193.4		10466	40837
580+50.0	162.7	S 139° 1/2 W	2.17	W	162.6		6.5	8840	40772
582+12.7	125.0	S 62° 16' E	61.38	E	59.4	110.0		8246	41872
583+37.7	295.3	S 34° 32' E	33.54	E	245.1	164.7		5795	4351.9
586+33.0	137.1	S 29° 57' W	30.35	W	118.0		69.8	4615	42821
587+70.1	98.1	S 59° 42' W	60.20	W	48.6		85.2	4129	41969
588+68.2	100.0	S 32° 7' E	24.9	E	99.9	4.9		3130	42018
589+68.2	142.7	S 42° 10' E	41.32	E	106.8	94.6		2062	42964
591+10.9	492.4	S 9° 06' W	39.31	W	485.4		82.5	279.2	42139
596+03.3	102.2	S 78° 28' E	77.50	E	21.5	99.9		300.7	43138
597+05.5	145.9	S 33° 18' E	32.40	E	122.8	78.7		4235	4392.5
598+51.4	99.0	S 23° 07' E	22.29	E	91.5	37.9		5150	44364
599+50.4	245.0	N 77° 19' E	77.57	E	51.1	239.6		4639	46700
601+95.4	149.4	S 73° 16' E	72.38	E	446	142.6		508.5	48126
603+44.8		S 71° 48' E	71.10	E					

Chollas Reservoir Enlargement
Levels for Abutments - Crest4/30/31
R.C. Wooster
H.R. Stefanison

+		-		
7.29	436.29		429.00	Top conc. Outlet Tower
11.70	446.60	1.39	434.90 xx	
		(4.1)	442.5	1st left abutment - top proposed fill
3.43	438.33	11.70	434.90	
12.12	443.70	6.75	431.58 x	
		(1.2)	442.5	1st right abutment - top proposed fill
3.54		21.04'		

Levels for X-Sections from 20

0.29	442.79		442.5	Abutment
6.20	438.38	10.61	432.18	0+67
		(6.77)	431.61	T.P. shown as xx above
		(7.16)	431.22	1+00
		(6.41)	431.97	2+00
		(4.83)	433.55	3+00
		(4.89)	433.49	4+00
		(5.95)	432.43	4+75
2.5 4.20+67 1	10.15	443.66	433.51	5+47
2		(8.74)	434.92	T.P. shown as xx above
4 +75		(1.15)	442.51	Abutment
5+47				
6+07				

X - Sections on existing frame
Chollas River enlargement

110 30 50

By soundings

stadia

$$\begin{array}{r} 110/ \\ 414.8 \end{array} \quad \begin{array}{r} 80/ \\ 415.6 \end{array} \quad \begin{array}{r} 50/ \\ 420 \end{array}$$

$$\begin{array}{r} 25.4/7.3/34/ \\ -7.1/-0.1/0.0 \end{array}$$

$$\begin{array}{r} 26/ \\ -20^{\circ}25' \end{array} \quad \begin{array}{r} 84/ \\ -9^{\circ}39' \end{array}$$

$$\begin{array}{r} 110/ \\ 4019 \end{array} \quad \begin{array}{r} 80/ \\ 405.1 \end{array} \quad \begin{array}{r} 50/ \\ 415.1 \end{array}$$

$$\begin{array}{r} 21.3/2.8/49/ \\ -6.8/-0.2/0.0 \end{array}$$

$$\begin{array}{r} 79/25^{\circ}39' \\ 131/17^{\circ}35' \end{array}$$

$$\begin{array}{r} 110/ \\ 3952 \end{array} \quad \begin{array}{r} 80/ \\ 4067 \end{array} \quad \begin{array}{r} 50/ \\ 416.8 \end{array}$$

$$\begin{array}{r} 21.3/2.8/5.0/ \\ -7.4/-0.2/0.2 \end{array}$$

$$\begin{array}{r} 75/25^{\circ}22' \\ 107/18^{\circ}36' \end{array}$$

$$\begin{array}{r} 110/ \\ 3952 \end{array} \quad \begin{array}{r} 80/ \\ 4053 \end{array} \quad \begin{array}{r} 50/ \\ 416.8 \end{array}$$

$$\begin{array}{r} 18.2/4.1/4.4/ \\ -7.7/-0.2/0.0 \end{array}$$

$$\begin{array}{r} 77/24^{\circ}50' \\ 109/17^{\circ}14' \end{array}$$

Flow of Water

$$\begin{array}{r} 145/ \\ -19^{\circ}25' \end{array} \quad \begin{array}{r} 195/ \\ -14^{\circ}05' \end{array}$$

Flow of Water

433^E Δ 3+00
$$\begin{array}{r} 110/ \\ 3968 \end{array} \quad \begin{array}{r} 80/ \\ 4049 \end{array} \quad \begin{array}{r} 50/ \\ 425.1 \end{array}$$

$$\begin{array}{r} 20.3/3.3/49/ \\ -6.2/-0.2/0.1 \end{array}$$

$$\begin{array}{r} 68/24^{\circ}53' \\ 94/18^{\circ}08' \end{array}$$

$$\begin{array}{r} 115/ \\ -17^{\circ}30' \end{array} \quad \begin{array}{r} 136/ \\ -14^{\circ}10' \end{array}$$
432^E Δ 2+00
$$\begin{array}{r} 110/ \\ 4141 \end{array} \quad \begin{array}{r} 80/ \\ 417.9 \end{array} \quad \begin{array}{r} 50/ \\ 422.3 \end{array}$$

$$\begin{array}{r} 25.8/3.4/54/ \\ -6.0/-0.5/0.2 \end{array}$$

$$\begin{array}{r} 024/ \\ -13^{\circ}09' \end{array} \quad \begin{array}{r} 52/ \\ -8^{\circ}12' \end{array}$$

$$\begin{array}{r} 89/ \\ -7^{\circ}22' \end{array}$$
431^E Δ 1+00
$$\begin{array}{r} 110/ \\ 4169 \end{array} \quad \begin{array}{r} 80/ \\ 410.5 \end{array} \quad \begin{array}{r} 50/ \\ 423.6 \end{array}$$

$$\begin{array}{r} 17.7/5.5/53/ \\ -4.0/-0.3/0.0 \end{array}$$

$$\begin{array}{r} 26.4/57.7/ \\ -3.9/-2.0 \end{array}$$
432^E Δ 0+67

Rt Abutment

Δ 0+00 442^E E1

tack in

$$\begin{array}{l} N \\ E \end{array} \quad \begin{array}{l} 1 \times 1 \text{ stake with tack} \\ \text{probably Gottling} \end{array}$$

5/1/31

R.C. Woest

H.R. Stefanson, Kays

Lt Abutment

S

$$\begin{array}{l} \square \\ \square \end{array} \quad \begin{array}{l} 1 \times 1 \text{ stake with tack} \\ \text{probably Gottling} \end{array}$$

Δ 6+07

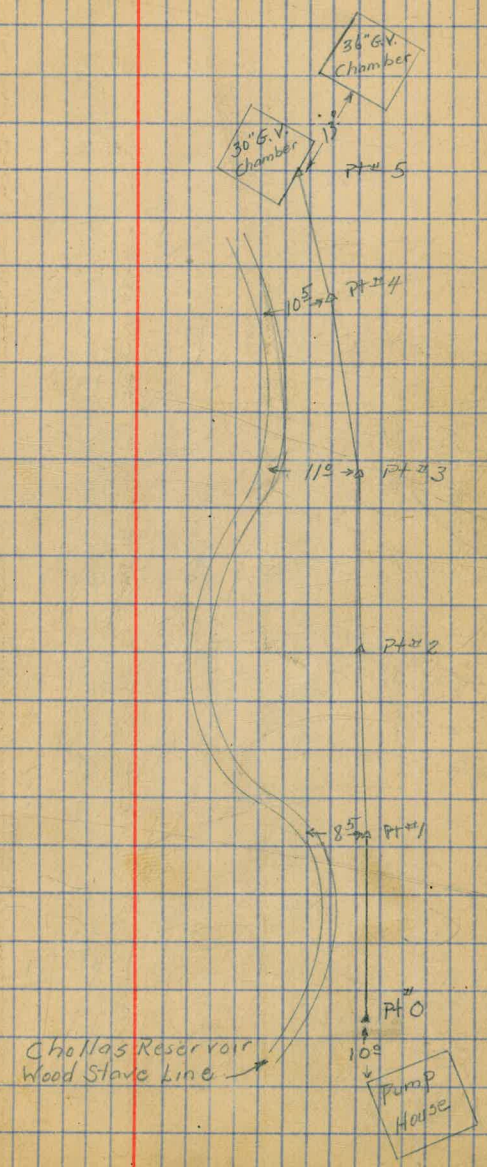
442^E E1433^E Δ 5+47432^E Δ 4+75433^E Δ 4+00

4/16/41
 Super
 Brakes
 Hedgeson. 21

Stadia survey from pump house below Chollas Reservoir to 2nd main at Chollas Station.

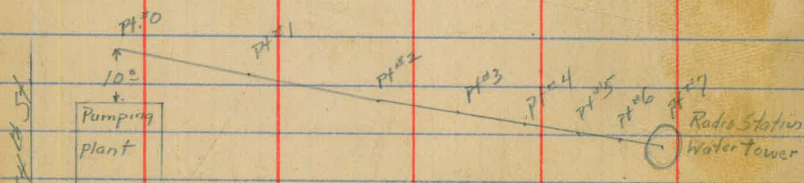
Sta	Dist.	Vert. L	Hor. L	H.I.	Rod.
0 to 1	420' (420)	+0°28'	—	5.0	5.0
1 to 2	1383 (1384)	-1°52'	7°07' Lt	5.0	5.0
2 to 3	684 (684)	+1°00'	0°10' Rt	5.0	5.0
3 to 4	212 (212)	+0°30'	16°02' Lt	4.6	4.6
4 to 5	83 (83)	-3°41'	4°02' Lt	5.0	5.0

0 to 5 = 2782'

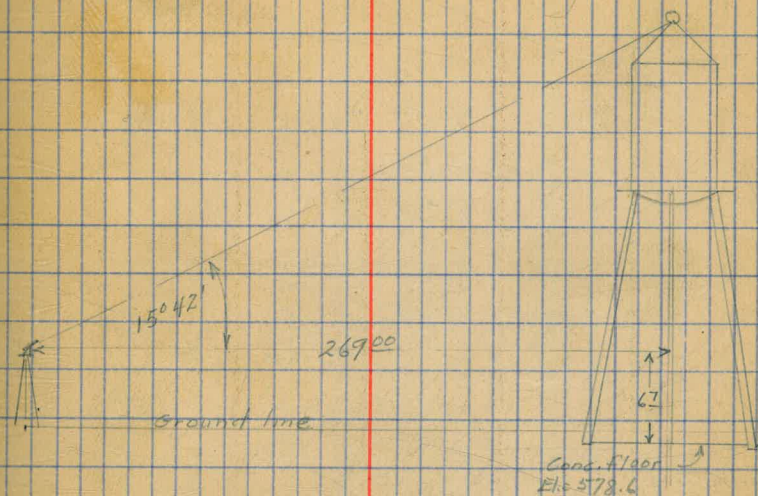


Stadia survey from 54th St. Pumping Plant
to Naval Radio Station water tower

Sta	Dist.	Ver. \angle	Hor. \angle	H.I.	Red.
0 to 1	(526)	+7°30'	—	5.1	5.1
1 to 2	(295)	+5°55'	—	5.1	5.1
2 to 3	(1810)	+1°50'	0°37' Lt	5.0	5.0
3 to 4	(1552)	+1°52'	—	5.0	5.0
4 to 5	20'	—	—	5.0	5.0
5 to 6	(316)	+2°06'	—	5.2	5.2
6 to 7	(376)	-1°00'	—	5.1	5.1



4/17/41
Soper
Brooks
Hochgeson 22



28109
269

252981
168654
56218

75.61321
6.7

82.3

U.S. Navy B.M. 581.8

+ 3.2
585.0 H.I.
- 6.4
578.6 Conc. floor at base of tower.
- 82.3
660.9 Peak of top of tower.

Note: Print shows tower, 77' high, which is probably
to top of tank or

Levels on Pressure Gauges
Chollas Reservoir &
Chollas Sta.

Sta.	B.S.	HI	F.S.	Flev.
B.M.	0.57	368.96		368.39 City Dat.
TP	0.48	356.47	12.97	355.99
	0.24	344.25	12.46	344.01
			1.47	342.78 ✓
			10.48	333.77
			0.29	343.96
			0.40	343.85
			0.28	343.97
TP	0.75	332.93	12.07	332.18
TP	2.56	323.60	11.89	321.04
IP	4.68	318.86	9.42	314.18
		+ 0.84		319.70
		+ 0.84		319.70
		+ 0.84		319.70

Check Levels Back

	-0.84	318.86		319.70
TP	9.57	325.99	2.44	316.42
TP	12.58	337.14	1.43	324.56
TP	11.83	347.10	1.87	335.27
			4.31	342.79
			3.14	343.96
			3.25	343.85
			3.13	343.97

6/17/42
Saper
Adams

B.M. No. 124 Top A.V. 799+90
See sheet 20 of 22 Second
Main P. Profile.
B.M. on N. Chamber marked 342.71 ✓
Nuth. on By-Pass
Gauge - City Side
" Chollas line above Wye
" Otay line above Wye

Chollas Line at Office 40.8 #/0"
Otay
City

Gauge

CHK on B.M. 342.78
Gauge - City Side
Gauge - Chollas Line above Wye
Gauge - Otay Line above Wye

24

Sta.	B.S. ⁺	HI	F.S. ⁻	Elev.
		347.10		
IP	.68	335.02	12.76	334.34
IP	3.49	330.76	7.75	327.27
			3.23	327.53
			0.08	330.68

Level Line from Chollas
Wye to Chollas Res.

		330.76		
IP	10.58	340.55	0.79	329.97
	8.93	343.71	5.77	334.78
	13.05	353.76	3.00	340.71
	13.04	365.92	0.88	352.88
	12.75	377.52	1.15	366.77
	13.10	390.15	0.47	377.05
	13.03	402.42	0.76	389.39
	13.11	415.38	0.15	402.27
	10.75	425.82	0.31	415.07
			4.56	421.26
				6.83
				414.43

6/17/42
T. Soper
Adams

Center base of Pumps 6" above floor
Center of Pumps at Chollas Sta.

Elev. at Gauge Reading 42.0
from 42.0 to w.s.
w.s. at Chollas. El. w.s. from
Bob Simpson 414.50 City Datum

Check Levels Back from
Chollas Res. to Chollas Wye.

Sta.	B.S.	HI	F.S.	Elev.
	4.04	425.30		421.26
	0.50	413.50	12.30	413.00
	0.58	401.32	12.76	400.74
	0.18	388.57	12.93	388.39
	1.38	377.06	12.89	375.68
	1.23	365.37	12.92	364.14
	3.14	355.73	12.78	352.59
	6.49	352.97	9.25	346.48
			10.14	342.83

East S.D. Pumping Plant

	3.89	364.92		361.03
IP	4.21	366.16	2.97	361.95
			3.40	362.76
			1.40	364.76

U.H. Pumping Plant

B.M.	2.57	379.70		377.13
			4.65	375.05
				395.8

6/17/42
Soper
Adams

Elev. on Gauge Reading 42.0

Chk. on B.M. on Valve Chamber 342.78

B.P. N.W. Corner 43rd & Orange

± Pump (both pumps same)

B.M. Corner of G.V. Chamber
Add 20[±] to this elev to get
top of riser pipe.

Otay Filter Plant

Sta	B.S	HI	F.S	Elev.
-1.19				399.86
		398.67		
5.53		394.79	9.41	389.26
			+1.6	396.4
			5.00	389.79
				390.3±

6/18/42
A. Sober
Adams

Outside Top of flange 48" Pipe

Top of reservoir by Cl. House.
Pressure gauge outlet of 40" pipe
Floor of House where pressure gauge
& Gauge was located.

29

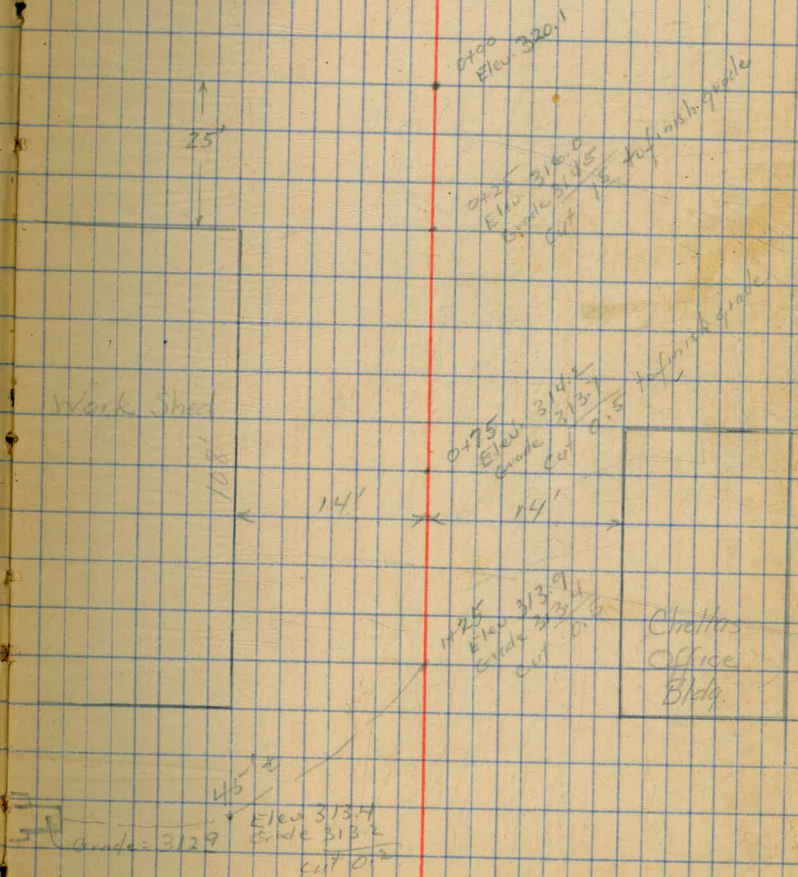
Grades for surfacing road at Chollas Sta.

B.M	1.16	343.88		342.72
TP	0.48	331.56	12.80	331.08
TP	4.16	323.11	12.61	318.95
0+00				
Ground elev & Road			3.0	320.1
0+25				
& Road			7.1	316.0
0+25 - 14 RT				
Floor elev.			8.1	315.0
& Road 0+75			8.9	314.2
Floor shop "B"			8.3	314.8
" office			9.1	314.0
& Road			9.2	313.9
1425				
Floor shed - 14 RT			8.3	314.8
" office			9.1	314.0
TP - Cor. Conc. walk				
Front of office	4.45	318.44	9.12	313.99
			5.0	313.4

Nov. 10 1944

Soper
King
& Allen
Stephens

x on NW



28.

Grades for road surfacing at Chollas Station

Jan. 30, 1945.
Soper
King
Stephens

TP-	12.94	326.93		313.99	
TP	5.53	329.59	2.87	324.06	
#1			4.8	324.8	324.9
#1 - 3' off.			4.7	324.9	
2			4.5	325.1	325.2
2 - 3' off			4.4	325.2	
3 -			4.1	325.5	324.9
3 - 3' off			3.9	325.7	
4			4.8	324.8	324.5
4 - 3' off			4.8	324.8	
5			5.0	324.6	324.2
5 - 3' off			5.8	324. ² / ₃	
6			5.3	324.3	324.2
6 - 3' off			5.5	324.1	
7 - conc.			5.0	324.6	324.6
8 - conc			5.1	324.5	324.5
9			5.2	324.4	324.4
10 -			5.5	324.1	324.1
10 - 3' off			5.4	324.2	
11			5.3	324.3	324.3
12			6.1	323.5	323.6
12 - 3' off			6.0	323.6	
13			5.8	323.8	324.1
13 - 3' off			5.5	324.1	

Cor. of conc. walk - front of office -

Grade

Grade

Cut 08

Cut 03

Set to grade

Grade

Grade

Grade

Set to grade

Grade

Grade

Grade

Note - Numbers refer to points

shown on topog. map of Chollas Sta.

Set grade in E of
turnaround - 324.6

29

		329.59			
TP	0.51	323.81	6.29	323.30	
14			3.3	320.5	320.5 Grade
15			3.7	320.1	320.1
15 - 3' off			3.5	320.3	F03
16			2.5	321.3	321.2
16 - 3' off			2.6	321.2	Grade
17			2.6	321.2	321.1
17 - 3' off			2.7	321.1	Grade
18			0.9	322.9	322.2
18 - 3' off			0.6 ⁷	323.8 ¹	Set to grade
19			1.8	322.0	322.2
19 - 3' off			1.8 ⁷	322.1 ¹	Set to grade
20			4.1	319.7	320.0
20 - 3' off			3.8	320.0	Grade
21			3.9	319.9	319.6
21 - 3' off			4.2	319.6	Grade
22			8.8	315.0	Gene. flow Grade
23			7.8	316.0	
24			5.0	318.5	318.0
24 - 3' off			5.3	318.5	Cut 05
25			6.8	317.0	317.0
25 - 3' off			6.2	317.6	Cut 06
26			6.6	317.2	317.1
26 - 3' off			6.7	317.1	Grade
27			7.5	316.3	316.3
27 - 3' off			7.2	316.6	Cut 03

30

323.81

28			8.7	315.1	315.1	
28	3' off		8.4	315.4		Cut 03
29			8.9	314.9	315.0	
29	3' off		8.7	315.2		Set to grade
30			11.4	312.4	312.3	
30	3' off		11.5	312.3		Grade
31			11.2	312.6		
31	3' off		11.0	312.8	312.5	Cut 03
TP	5.11	318.82	10.10	313.71		
32			6.9	311.9	311.9	
32	3' off		6.4	312.4		Cut 05
33			8.6	310.2	310.2	
33	3' off		7.9	310.9		Cut 02
34			5.4	313.4	313.4	Grade
35			4.8	314.0	314.0	
35	3' off		4.1	314.7		Cut 03
36			5.1	313.7	313.5	Cut 02
37			2.0	316.8	316.7	
37	3' off		2.1	316.7		Grade
38			2.7	316.1	316.3	
38	3' off		3.6	315.2		F. 14
39			0.0	318.8	318.8	Grade
40			0.4	318.3	318.3	Set to grade
41			1.0	317.8	317.8	
41	3' off		1.5	317.3		F. 05
ck on TP			4.83	313.99	Rec 313.99	

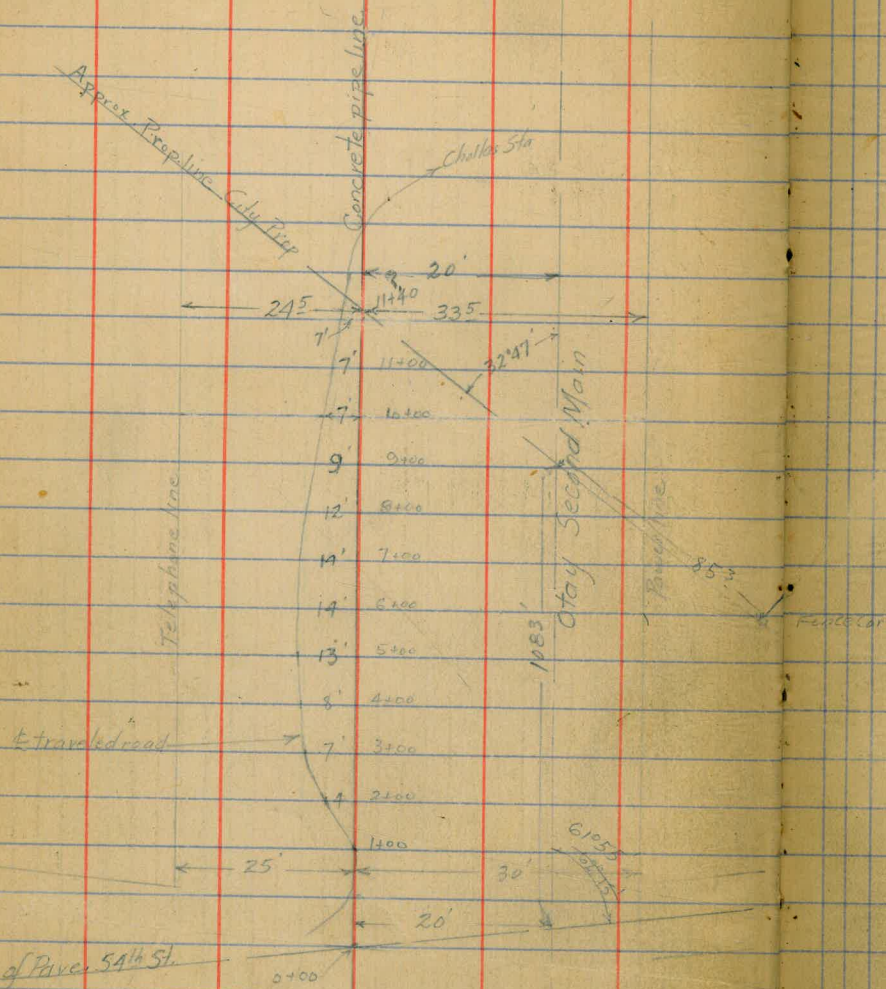
3

TP	4.12	318.11		313.99		
*42			5.3	312.8	312.8	Grade
*43			5.9	312.2	312.2	Grade
44			4.3	313.8	313.8	Grade
45				312.7	312.7	
45 10' off			4.6	313.5		Cut 08
46				311.9	311.9	
46			5.1	313.6		Cut 14
47			3.8	314.3	314.3	
47			3.8	314.3		Grade
48			4.2	313.9	313.9	Grade
49			4.6	313.5	313.5	Grade
50			4.4	313.7	313.2	Cut 05

Jan 31, 1945

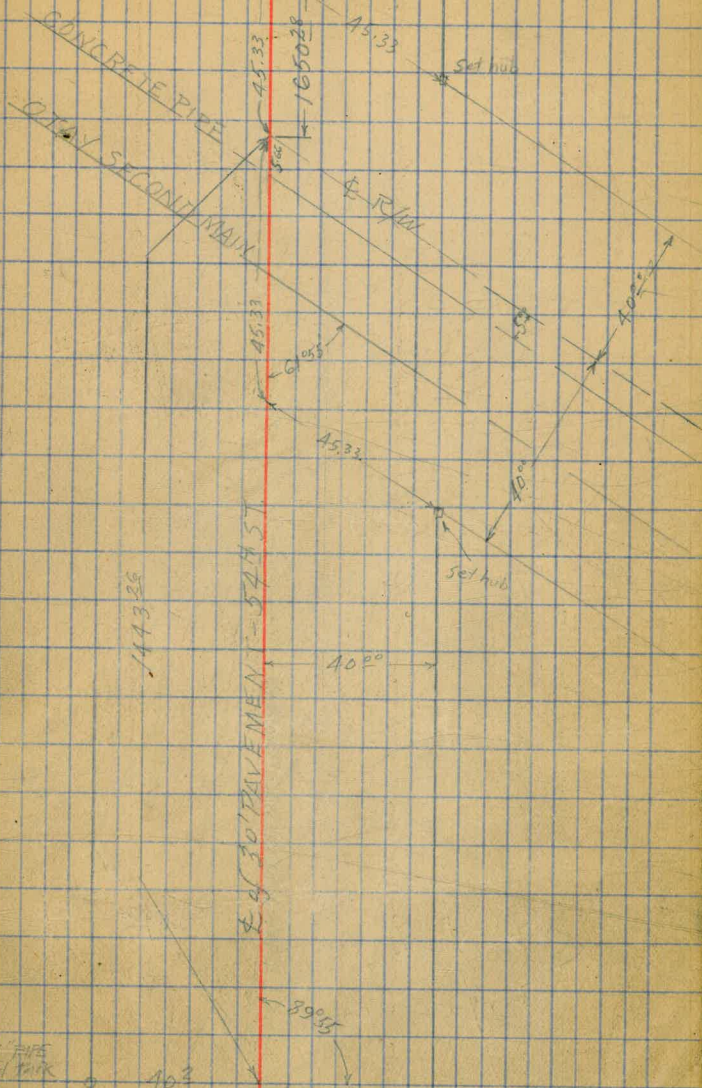
Soper
King
Stephens

Location of traveled road from 54th St. to Chollas Station and Property ties to 54th St.



April 16, 1945
Soper
King
Stephens

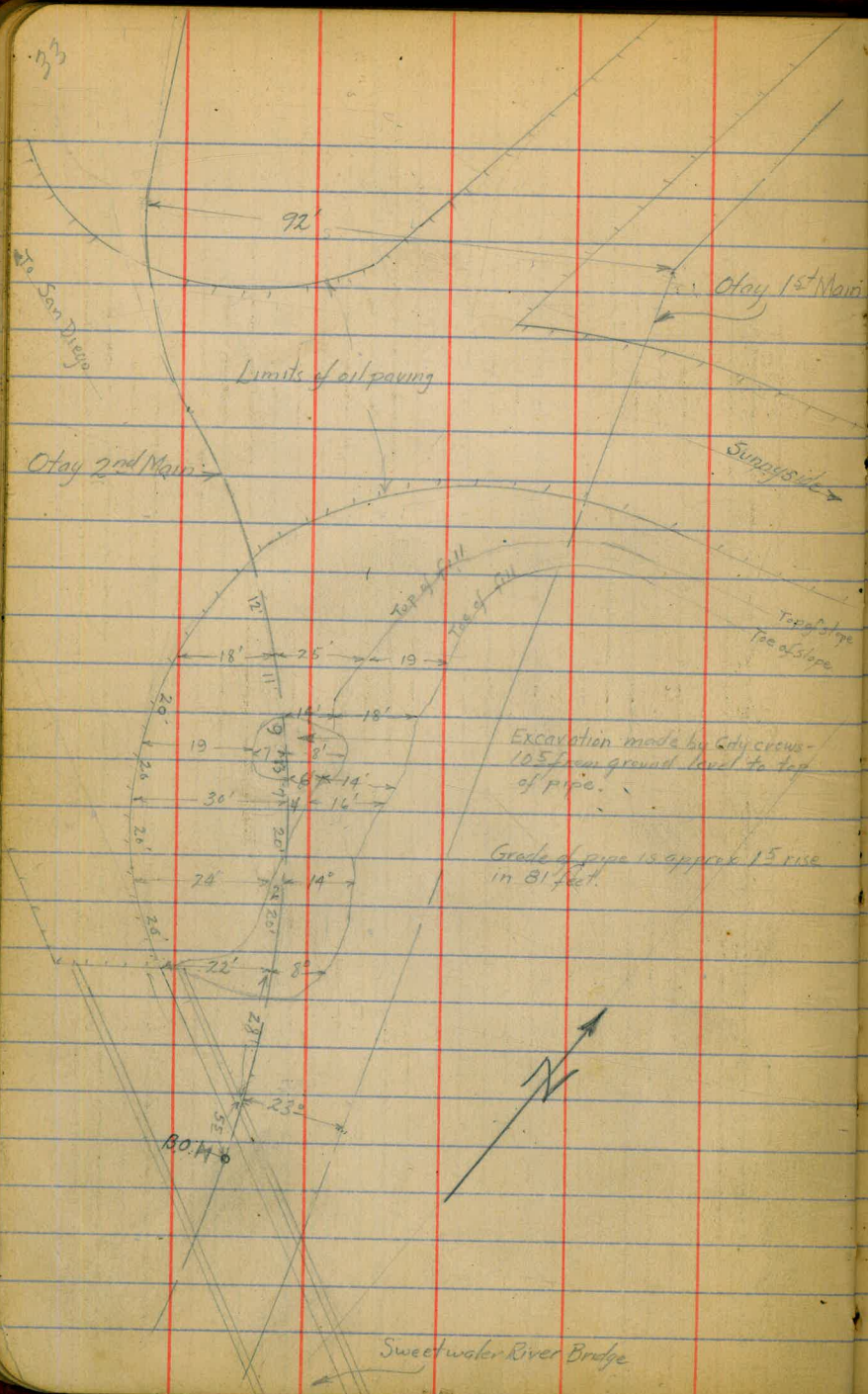
To copper tack in
E 54th St. on North
line of section #34



rd. 3/4\"/>

403

Details of spoil area over Otay 2nd Main
Pipeline at North end of Sweetwater Bridge



34

Ties to N.W. Cor.
Prop. Parcel 116

1-19-58

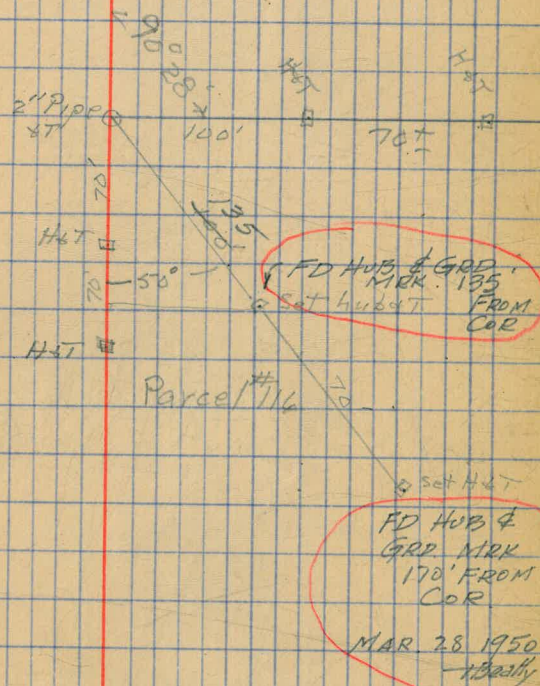
King
Shipman
West
City

See Map 2088B

Cholla Heights - District

Clear
Warm

34



35

2750 5RTH

Bonita Pipe Line Alignment North
of Glen Abbey
10400 End of this job

715 approx Nly. Edge of Prepared air field strip

5700 approx Sly. Edge of Air field Strip

0400

Bonita
Pipeline

5/3/46
Bliss Notes
King
Phillips' claim
Davis "

5'
2750 5RTH

36.

Profile Levels over Bonita Pipeline From
Highway, North of Glen Abbey across Sweetwater
River Valley

BM	5.84	66.61		60.77	Iron pin 150' East M.P.L. Bonita
TP	6.08	69.80	289	63.72	47100ft - See page 30
TP	2.99	69.90	289	66.91	Box 2396
	316	66.22	6.84	63.06	

0+00	N Side of pipe		4.2	62.0
+05			4.2	62.0
+32			16.1	50.1
TP	2.62	56.05	12.79	53.43
+50			6.2	49.9

+50	Top pipe		7.2	48.9
+60	Ground		6.9	49.2

+25			6.9	49.2
+35			5.2	50.9
+50			5.7	50.4
+73	Top pipe		8.1	48.0
+73	Ground		9.2	51.9
+92			6.5	49.5
2+80			6.1	50.0
+12			5.9	50.2
+18			3.8	52.3

Notes reduced by W.H. June 5, 1946

70.3	61	70.9
25		25

37

T
56.05 ✓

+50 3.7 52.4

+65 2.5 53.6

370 4.6 51.5

+28 Top pipe at 80. 8.0 47.7

+47 " " 3.8 52.3

+50 " r Grand letter ^{0.2} 3.7 52.4

440 3.3 52.8

+25 2.6 53.5

+50 Top pipe 4.4 51.7

" Ground 4.2 51.7

540 Top pipe ^{APPROX} SKY Edge ^{4th} Strip 4.5 51.6

540 Ground 4.3 51.8

+50 Ground 3.2 52.9

6400 Top Pipe 4.8 51.3

Ground 3.4 52.7

+50 3.5 52.6

7400 Top Pipe 4.7 51.4

Ground 3.8 52.3

TP. 363 56 85 283 53.22 ✓

4

E

RT

$$\frac{+1.8}{25} \quad \frac{+3.0}{8} \quad 3.7 \quad \frac{+2.3}{10} \quad \frac{+1.3}{25}$$

$$\frac{+1.3}{50} \quad 4.6 \quad \frac{+2.3}{8} \quad \frac{+2.6}{50}$$

$$\frac{+0.4}{100} \quad \frac{+0.9}{50} \quad 3.9 \quad \frac{0.0}{10} \quad \frac{+1.7}{15} \quad \frac{+1.6}{50} \quad \frac{+1.4}{100}$$

$$\frac{+0.2}{100} \quad \frac{+0.6}{50} \quad 3.3 \quad \frac{+1.0}{50} \quad \frac{+0.5}{100}$$

$$\frac{+0.1}{100} \quad \frac{+1.0}{50} \quad 4.4 \quad \frac{0.0}{25} \quad \frac{+1.5}{50} \quad \frac{+1.7}{100}$$

$$\frac{+1.7}{150} \quad \frac{+1.9}{100} \quad \frac{+0.8}{50} \quad 4.3 \quad \frac{+1.0}{50} \quad \frac{+1.4}{100} \quad \frac{+1.3}{150}$$

$$\frac{-0.4}{150} \quad \frac{+0.1}{100} \quad \frac{+0.3}{50} \quad 3.2 \quad \frac{+0.6}{50} \quad \frac{+0.7}{100} \quad \frac{+1.0}{150}$$

$$\frac{-0.4}{150} \quad \frac{-0.2}{100} \quad \frac{-0.2}{50} \quad 3.4 \quad \frac{+0.5}{50} \quad \frac{+0.8}{100} \quad \frac{+0.8}{150}$$

$$\frac{-1.0}{150} \quad \frac{-0.9}{100} \quad \frac{-0.2}{50} \quad 3.8 \quad \frac{+0.8}{50} \quad \frac{+1.1}{100} \quad \frac{+1.3}{150}$$

38

T
56.85 ✓

7+15	App of N/E Edge Proposed string strip	4.6	52.3		
7+50		4.8	52.1		
8+00	Ground + Pipe Same	5.7	51.2		
+35	Begin Trestle				
+50	Top Pipe	6.2	50.7		
+50	Ground	8.3	48.6		
9+00	Top Pipe	6.4	50.5		
	Ground	8.0	48.9		
+50	Top pipe	5.8	51.1		
	Ground	8.3	48.6		
10+00	Top Pipe	5.3	51.6		
	Ground	8.2	48.6		
TP.	258	55.93	3.50	53.25 ✓	
TP	12.89	66.33	2.49	53.44	
Set BM) 1st hole #8944w	4.66	69.29	1.70	64.63	Approx 20 S of 100
TP	5.92	70.00	5.21	64.08	
TP -	3.08	66.34	6.74	63.76	
Check BM			5.98	60.80	
				60.77	
				0.07 = 100	

Lt

E

RT

-0.3	-0.1	0.0	46	+0.9	+1.0	1.1
150	100	50		50	100	150
-0.3	0.0	+0.2	5.7	+0.1	-1.3	+0.5
150	100	50		50	100	150
+0.3	+0.3		83	+1.0	+1.5	
100	50			50	100	
0.0	0.0	8.0	0.0	-0.2		
100	50		50	100		
0.0	+0.3	8.3	+1.7	+1.7		
100	50		50	100		
-0.4	-0.1	8.2	+2.6	+2.6	+2.9	
100	50		32	50	100	

39. PROFILE LEVELS OVER BONITA
PIPELINE - CONTD. FROM P. 38

6-25-46
Clear Hot

Nelson
Leonard
Davis
Rice

	+	H.I.	-	Elev
	1.68	66.91		64.63
T.P.	2.81	56.24	12.88	53.43
T.P.	5.74	57.29	4.69	51.55
T.P.	5.13	56.21	6.21	51.08
10+50	TOP PIPE		4.4	51.8
	GROUND		6.7	49.5
11+00	TOP PIPE		3.7	52.5
	GROUND		6.2	50.0
11+50	TOP PIPE		3.0	53.2
	GROUND		9.3	46.9
T.P.	11.49	64.77	2.93	53.28
12+00	TOP PIPE		10.6	54.2
	GROUND		13.5	51.3
12+50	TOP PIPE		9.3	55.5
	GROUND		11.0	53.7
12+83	PIPE ENTERS GROUND		8.3	56.5
13+00	GROUND OVER PIPE		6.6	58.2
+50	" " "		2.5	62.3

B/M Tel Pole # 89442 20500 0400

Elevs TO Check starting B/M

	+	H. d.	-	ELEV.	B.M.
T.P.	3.55	56.83		53.28	
T.P.	6.77	57.16	6.44	50.39	
T.P.	4.40	56.70	4.86	52.30	
T.P.	12.91	66.34	3.27	53.43	
Check B.M.			1.74	64.60	64.63

Alignment Pipe Line
Chollas RES TO CHOLLAS Wye

P.I
18+43 A=24°51' R

N 81° 30' W

P.O.T
9+50

P.I
5+45¹⁵ Δ=17° 26' L

S 83° 15' W

P.I
1+26.46 A=7° 42' L

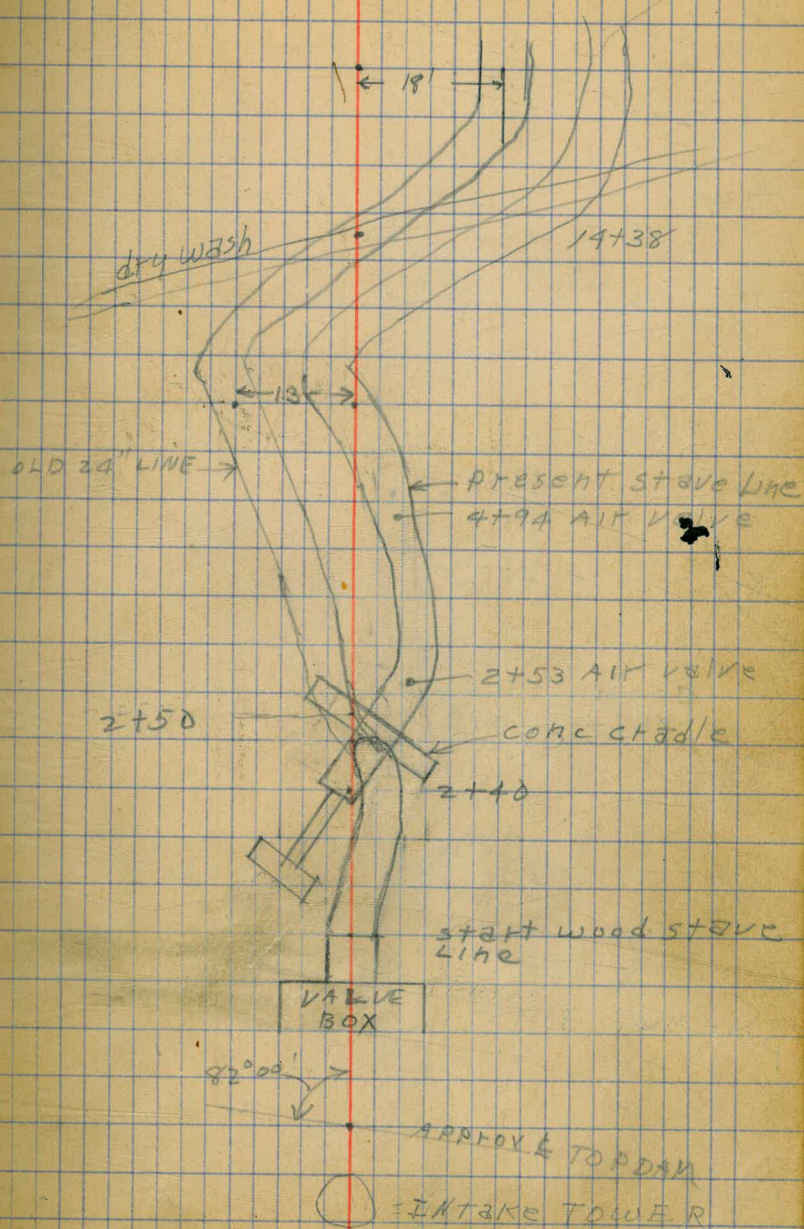
N 90° 00' W

0+00

9-27-46
Clear-HOT

WELSON
LECHMERE
PHILLIPS

41



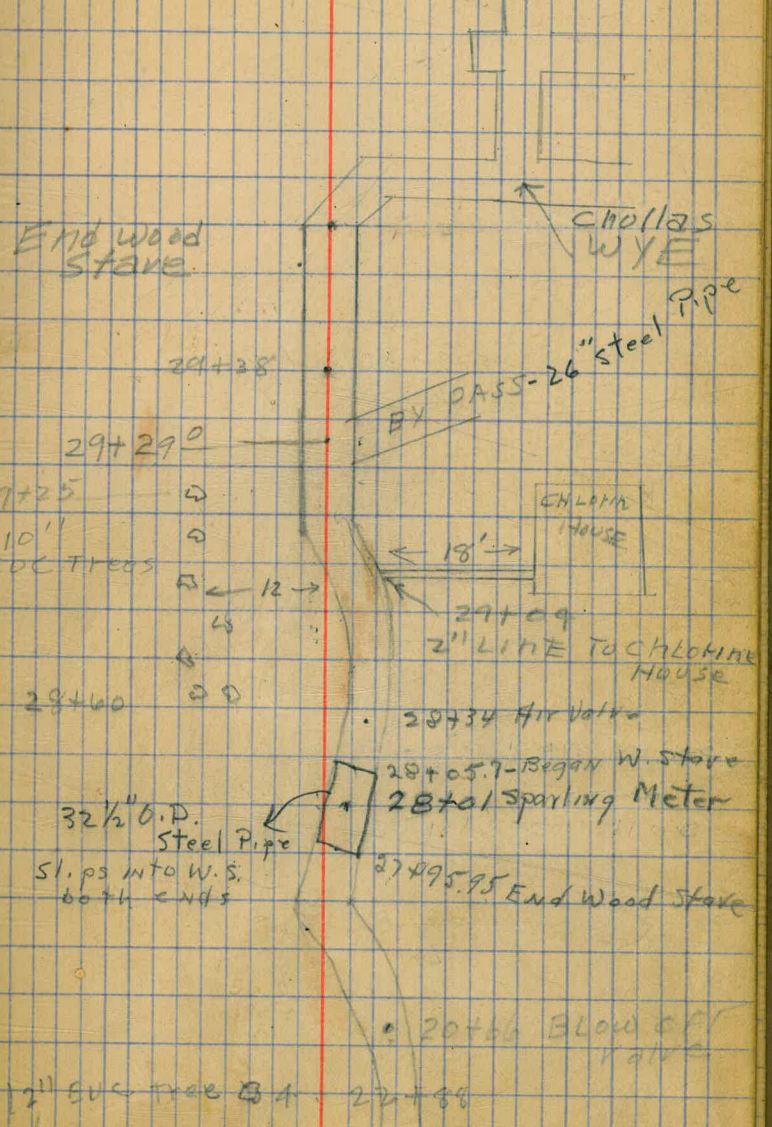
29+

END 28
29+49 Began 36" Covered Bend Steel Pipe

29+30 End cov. steel Pipe 36" O.D.

29+25 Began steel Pipe 36" O.D. Covered Pipe

P.I
27+05° Δ=26° 13' L
S 70° 00' W



Profile & Cross sections pipe
 11 Me Chollas Res. To Chollas Wye

9-30-46
 Cool cloudy

Nelson K. Rose #3
 Leonard
 Phillips
 Griffith

	0.69	421.95		421.26
T.P	2.15	411.08	13.02	408.93
T.P	1.58	399.80	12.86	398.22
T.P	0.26	387.12	12.94	386.86

Elev 429 Gauge at intake (Lake)
 City Datum - GRS

1+26 46			T.O.P PIPE 8.26	378.86
+50			9.6	377.5
T.P	5.28	383.06	9.34	377.78
2+00			7.4	375.7
+40				
+50			2.0	381.1
3+00			5.9	377.2
+50			7.2	375.9
4+00			7.0	376.1
+50			6.3	376.8
5+00			4.0	379.1

381.1	382.7	376.3	375.9	380.6	383.1	377.3
0.0	4.4	10.8	11.2	6.5	4.0	9.8
18	82	22	2	5	13	27
385.6	381.8	376.1	378.2	375.5	380.1	378.0
1.5	5.3	11.0	8.9	11.6	7.0	9.1
16	6	0.5	1.5	3	8	22
			T.O.P.P			
381.1	382.3		378.0	375.6	379.0	381.7
12.0	0.8		5.1	7.5	4.1	1.4
17	4.0		3.0	5	10	16
			T.O.P.P			
			5.15			
			T.O.P.P			
382.4	379.0		382.4	377.4	378.3	
0.7	4.1		0.67	5.7	4.8	
16	11.0		T.O.P.P	5.0	20.0	
382.0	381.1		376.4	376.8	379.2	378.5
1.1	2.0		6.7	6.3	3.9	4.6
16	8		1.0	4.0	8	13
						15
						24
						T.O.P.P
382.8	380.9	76.4	76.3	78.9	78.4	81.7
0.8	2.2	6.7	6.8	4.2	4.7	1.4
16	11	1.0	2.0	7.0	12	14
						18
						26
						T.O.P.P
383.1	81.7	76.4	76.6	79.1	79.7	81.8
0.0	1.4	6.7	6.5	4.0	4.9	1.3
17	9.0	2.0	1.0	6.0	10	12
						16
						23
						T.O.P.P
82.5	81.1	76.6	78.8	78.7	82.1	78.5
0.6	2.0	6.3	4.3	4.4	1.0	4.6
16	13	4.0	5.0	8.0	10	14
						21
						T.O.P.P
82.5	79.7	79.8	78.8	81.1	78.9	77.7
0.6	5.2	5.4	4.3	1.0	4.2	5.4
16	10	7	4.0	6.0	8.0	18
						T.O.P.P

375.54

9+50 5.6 369.9

+74 7.8 - 367.7

+75 11.7 363.8

10+00 12.3 363.2

T.P. 1.31 365.70 11.15 364.39

+50 6.1 359.6

11+00 9.7 356.0

11+40 OLD ditch running water from leaks

+50 12.3 353.4

T.P. 3.66 358.04 11.32 354.38

12+00 7.2 350.8

+50 8.4 349.6

13+00 9.4 348.6

+50 10.9 347.1

14+00 12.0 346.0

+38 13.9 344.6

+50 old pipe Not out 11.1 346.9

45

375.5 75.1 73.1 70.3 69.2 72.2 68.5 65.9
0.4 2.7 5.2 6.3 3.3 7.0 9.6
20 10 5.0 10 12 18 25
TOP72.6 70.0 67.6 65.6 67.9 67.1 70.2 66.7 64.2
2.9 5.5 7.9 9.9 7.6 8.4 5.3 8.8 10.7
20 10 3 2 3 10 12 18 25
TOP71.0 69.7 66.0 63.5 66.7 65.1 68.3 64.9 62.9
4.5 5.8 9.5 12.0 8.8 10.4 7.2 10.7 12.6
30 10 3 2 5 9 11 17 25
TOP365.7 64.5 63.8 60.7 59.9 61.9 61.0 64.2 60.3
1.2 1.9 5.0 5.8 3.8 4.7 1.5 5.4
20 7 3 2 5 10 12 25
TOP61.0 59.9 61.1 56.7 59.9 58.3 61.6 58.1
4.7 4.8 4.6 9.0 6.8 7.4 4.1 7.6
20 15 8 2 5 11 13 25
TOP57.7 56.9 57.4 53.7 54.5 56.3 56.1 59.0 55.7
8.0 8.8 8.3 12.0 11.2 9.4 9.6 6.7 10.0
20 15 6 1 2 6 11 13 25
TOP358.0 54.9 55.7 54.3 53.6 56.8 53.4
3.1 2.3 3.7 4.4 4.2 4.6
15 8.0 7 11 13 25
TOP52.8 53.9 53.4 52.4 55.4 51.7
3.2 4.1 4.6 5.6 2.6 6.3
15 7 6 11 13 25
TOP51.8 51.8 49.0 49.0 51.4 51.3 54.5 50.9
6.2 6.2 9.0 9.0 6.6 6.7 3.5 7.3
15 7 2 1 5 14 13 25
TOP52.3 52.2 49.2 51.5 50.4 53.6 50.5
5.7 5.8 10.8 6.5 7.6 4.4 7.5
15 7 2 7 12 14 25
TOP49.8 50.3 46.2 50.1 49.3 52.5 48.4
8.2 7.7 11.8 7.9 8.7 5.5 9.6
15 8 2 6 12 14 25
TOP48.0 46.2 44.6 51.6 44.6
10.0 11.8 13.4 6.4 13.4
25 19 12 14 25
TOP50.5 49.7 64.8 51.5 47.5
7.5 8.3 11.2 6.5 10.5
15 10 12 14 25
TOP

358.04

15+00 10.8 347.2

+50 10.5 347.5

T.P. 8.41 356.49 9.96 348.08

16+00 10.5 346.0

+50 10.5 346.0

17+00 10.2 346.3

+50 9.1 347.4

18+00 7.5 349.0

P.I 18+43 7.9 348.6

19+00 10.4 346.1

T.P. 4.30 349.49 11.30 345.19

+50 7.0 342.5

+84 8.3 341.2

+85 11.6 337.9

20+00 11.3 338.2

358.

48.3 48 51.2 47.1
9.7 10.0 6.8 10.3
15 11 13
TOP 25

48.7 47.6 49.5 50.6 46.5
9.3 10.4 10.5 7.4 11.5
20 12 11 13
TOP 25

356.5 48.5 47.9 47.0 50.0 46.6
8.0 8.6 9.5 6.6 9.9
20 13 12 14
TOP 25

49.9 49.6 46.4 49.3 45.2
6.6 6.9 10.1 7.2 11.3
15 7 12 14
TOP 25

48.5 48.1 46.0 48.9 44.6
8.0 8.4 10.5 7.6 11.9
15 6 13 15
TOP 25

49.9 45.5 48.6 46.0
6.6 11.0 7.9 10.5
15 16 18
TOP.P. 25

52.5 52.1 46.1 44.0 44.6 49.4 45.0
4.0 4.4 10.4 12.5 11.9 8.1 11.5
15 12 10 12 22 24 34
TOP

53.3 47.1 44.0 45.8 45.0 48.0 43.6
3.2 9.4 12.5 11.3 11.5 8.5 12.9
15 11 18 20 29 31 39
TOP

50.0 45.3 42.7 45.1 43.3 46.4 42.8
6.5 11.2 13.8 11.4 13.2 10.1 13.7
15 3 10 14 21 23 33
TOP

349.5 46.3 45.1 41.5 41.3 42.9 41.6 44.6 40.6
3.2 4.4 8.0 8.2 6.6 7.9 4.9 8.9
15 4 2 6 10 14 16
TOP 25

45.7 43.5 41.5 40.5 43.5 39.9
3.8 6.0 8.0 9.0 6.0 9.6
15 7 6 12 14
TOP 25

43.6 42.3 37.9 40.9 40 43.1 39.5
5.9 7.2 7.1 8.6 9.5 6.4 10.0
16 9 3 4 9 11
TOP 25

	5 349.49		4		
20+50			11.3	338.2	
21+00			13.3	336.2	
T.P.	5.75	345.77	9.47	340.02	
+50			10.6	335.2	
22+00			10.7	335.1	
+50			11.0	334.8	
23+00			10.6	335.7	
+50			9.7	336.1	
24+00			8.6	337.2	
T.P.	10.74	352.00	4.51	341.26	
+50			11.3	340.7	
25+00			7.4	344.6	
ditch dry from 25+00 to 26+50					
+50			5.5	346.5	
T.P.	4.02	353.84	2.18	349.82	
26+00			9.2	346.6	
+50			7.4	346.4	

10-1-46
CLOUDY RAIN AM

Nelson
Leonard
Phillips
Griffith

47

(349.5)	42.4 7.1 18	41.3 8.2 13	37.1 12.4 8	36.9 12.6 2	39.2 10.3 4	38.1 11.4 10	41.1 8.4 12 TOP	36.7 12.8 23
	40.3 9.2 20	39.2 10.3 12	36.1 13.4 5		38.0 11.5 4	37.7 11.8 9	40.8 8.7 11 TOP	34.9 12.6 21
ROCK 25' L	21+70							
(345.8)	40.0 5.8 20	39.3 6.5 15	35.4 10.4 6		37.7 8.1 4	37.8 8.0 8	39.0 4.8 10 TOP	37.5 8.3 18 24
	40.3 5.5 20	38.5 7.3 10	35.4 10.4 5		38.7 7.1 4	38.3 7.5 8	41.6 4.2 10 TOP	38.3 7.5 18 25
	40.1 5.7 18	40.6 5.2 11	38.7 7.1 7	35.1 10.7 3	38.9 6.9 5	38.7 7.1 18	41.8 4.0 10 TOP	38.3 7.5 18 25
	40.3 5.5 20	38.7 7.1 7	35.7 10.1 4		38.8 10.0 1.0	38.7 7.1 5	38.7 3.8 9 TOP	42.0 7.9 19 26
	40.3 5.5 20	40.4 5.4 13	36.4 4.4 4		36.7 7.1 1.0	38.9 6.9 5	38.7 7.1 9	41.9 3.9 16 TOP
	42.8 2.0 20	42.7 3.1 11	38.3 7.5 2		37.9 7.9 2	40.3 5.5 6	39.7 6.1 10	42.0 3.8 12 TOP
(352.0)	48.7 3.3 18	45.9 6.1 10	41.4 10.6 2		41.4 10.6 2	43.3 8.7 6	42.9 4.1 11	46.0 10.0 13 TOP
	52.0 0.0 13	50.2 1.8 17	46.5 5.5 3		45.3 6.7 3	47.1 4.9 7	46.6 5.4 11	48.9 3.1 13 TOP
	54.0 2.0 13	51.6 0.4 10	48.1 1.1 9		46.9 5.1 3	48.4 3.6 8	47.4 4.0 13	50.4 1.6 15 TOP
(353.8)	55.8 2.0 13	52.8 1.0 10	52.1 1.7 7		46.8 7.0 3	48.7 5.1 7	47.6 6.2 14	50.7 3.1 16 TOP
	53.0 0.8 13	50.5 3.3 10	7.8 6.0 4		7.2 6.6 2	48.9 4.9 10	47.4 6.4 11	50.3 3.5 13 TOP
								47.1 6.7 19 24

353.84

26457 7.1 346.7

+70 4.9 348.9

27700 6.4 347.4

+50 6.4 347.4

28700 6.2 347.6

T.P 2.14 351.26 4.72 349.12

+50 4.3 347.0

29700 5.6 345.7

29729 ON Top By Pass 10.16 341.10

29449²⁸ 11.7 339.6

CK B.M 8.58 342.68 =

GRS 8 JAN 47

48

(353.8)

52.0	50.4	46.6	46.4	48.5	50.5	46.6	43.5
1.8	3.4	7.2	7.4	5.3	3.3	7.2	10.3
25	20	13	10	5	TOP	8	13

51.3	49.0	46.9	46.9	48.8	47.4	50.4	46.6	48.1
2.5	4.8	6.9	6.9	5.0	6.4	3.4	7.2	10.7
20	16	13	8	4	3	5	13	20

52.7	51.2	46.9	46.9	49.3	47.0	49.4	46.6	43.1
1.1	2.6	6.9	6.9	4.5	6.8	4.4	7.2	10.7
24	20	14	11	6	4	TOP	11	18

(351.3)	50.7	47.6	46.7	49.2	47.0	49.7	46.9	45.0	41.2	
	0.6	3.7	4.6	4.1	4.3	1.6	4.4	6.3	10.1	
	20	19	10	7	1	3	TOP	9	13	18

47.5	44.8	44.4	45.9	43.5	46.0	42.9	46.2	45.5	44.5
3.8	6.3	6.9	6.0	7.8	5.3	6.4	5.1	5.8	6.8
18	13	8	5	1.0	1.0	4.0	6	13	20

43.7	43.9	36.3	36.3		36.3	36.3	44.2	44.6	42.4
7.6	7.4	15	15.0		15.0	15.0	7.1	6.7	8.9
17	7	4	2		2	4	7	11	21

CROSS ON VALVE BOX Elev marked
342.72 USED AS 342.78 page 23 This book

6+26.29 EC
 5+50.22 BC
 38.33 = T

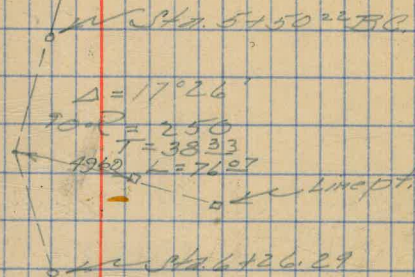
Railway
 King
 Baker

June 13-16
 1947

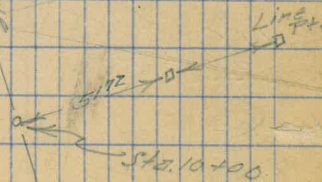
49.

Reprofile Chollas 36" Pipeline
 Profile for Sta. 5+50.22 - Original

Sta. 1+26.46		378.86
5.65	384.51	
5+50.22 BC	5.9	378.6 ✓
6+00	7.2	377.3 ✓
6+26.29 EC	7.1	377.4 ✓
6+50	7.8	376.7 ✓
7+00	8.4	376.1 ✓
7+50	9.0	375.5 ✓
TP #1	7.04	377.47 ✓
0.17	377.64	
7+84	2.5	375.1 ✓
7+86	4.0	373.6 ✓
7+88	3.6	374.0 ✓
8+00	3.7	373.9 ✓
8+50	3.9	373.7 ✓
8+83	4.9	372.7 ✓
8+84	6.1	371.5 ✓
8+85	4.9	372.7 ✓
9+00	5.3	372.3 ✓
9+19	6.2	371.4 ✓
9+20	7.3	370.3 ✓
9+21	6.4	371.2 ✓
9+50	7.9	369.7 ✓
10+00	12.1	365.5 ✓



ON EXISTING GRADE



Profile Chollas Pipeline

377.64

TP#2		12.61	365.03
	0.11	365.14	
10+50		3.8	361.3
11+00		6.6	358.5
11+50		8.9	356.2
12+00		11.2	353.9
12+50		12.6	352.5
13+00		13.6	351.5
TP#3		11.70	353.44
	1.52	355.00	
		354.96	
13+50		4.2	350.8
14+00		5.3	349.7
14+38		6.0	349.0
14+50		10.0	345.0
14+59		6.6	348.4
15+00		6.8	348.2
15+50		7.3	347.7
16+00		7.8	347.2
16+59 BC		8.5	346.5
17+00		9.0	346.0
17+50		9.2	345.8
18+00		9.3	345.7
18+86		9.8	345.2
18+93		14.4	340.6

On Existing Pipeline

BC Sta 16+46.02

R.P. 2618 Linept



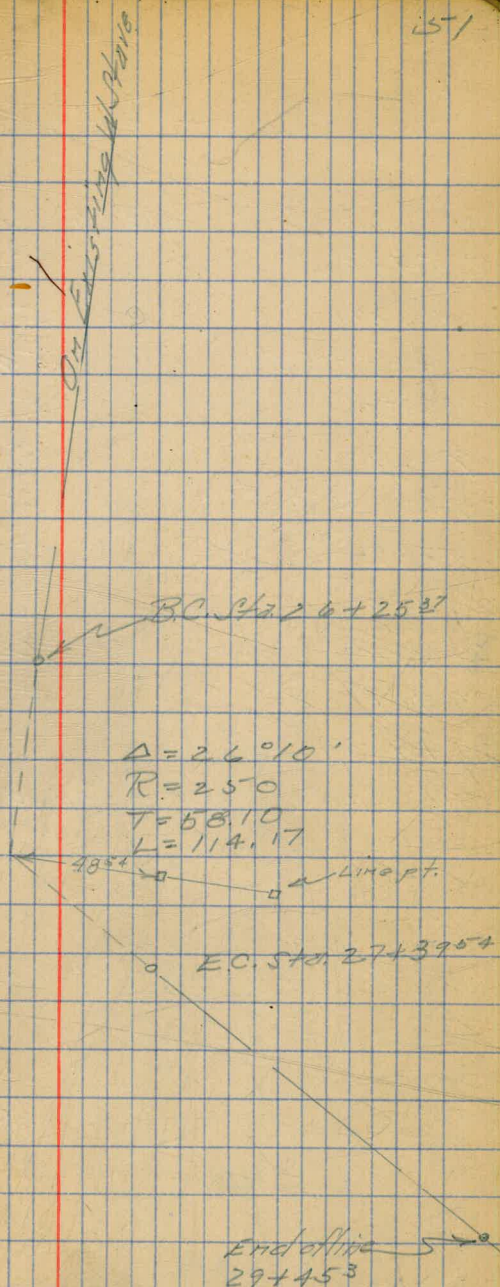
BC Sta 20+94.84 EC

R.P. 6120 Linept

18. Reprofile Chollas Pipeline

354.96

18+50	14.8	340.2	
18+55	8.8	346.2	?
19+00	11.7	343.3	
T.P. #4	9.92	345.04	
	5		
3.45	348.49		
19+50	6.8	341.7	
20+00	8.7	339.8	
20+34 ²¹ EC.	10.1	338.4	
20+50	10.4	338.1	
21+00	10.8	337.7	
21+19	11.3	337.2	
21+22	15.4	333.1	
21+25	11.3	337.2	
21+50	10.6	337.9	
22+00	10.2	338.3	
22+50	9.8	338.7	
23+00	9.7	338.8	
23+50	9.6	338.9	
24+00	8.5	340.0	
24+50	5.3	343.2	
25+00	2.3	346.2	
T.P. #5	10.79	347.70	
5.64	357.34		



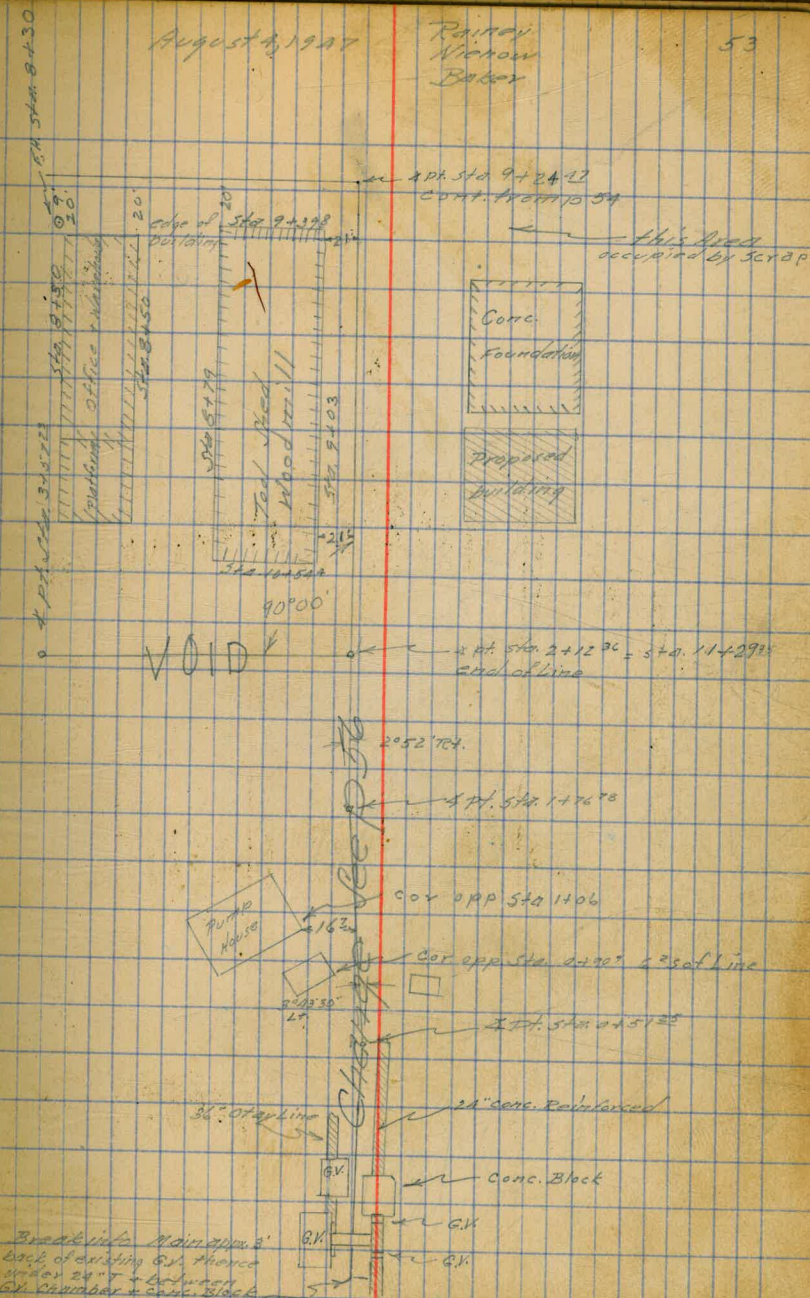
Reprofile Chollas Pipeline

353.34

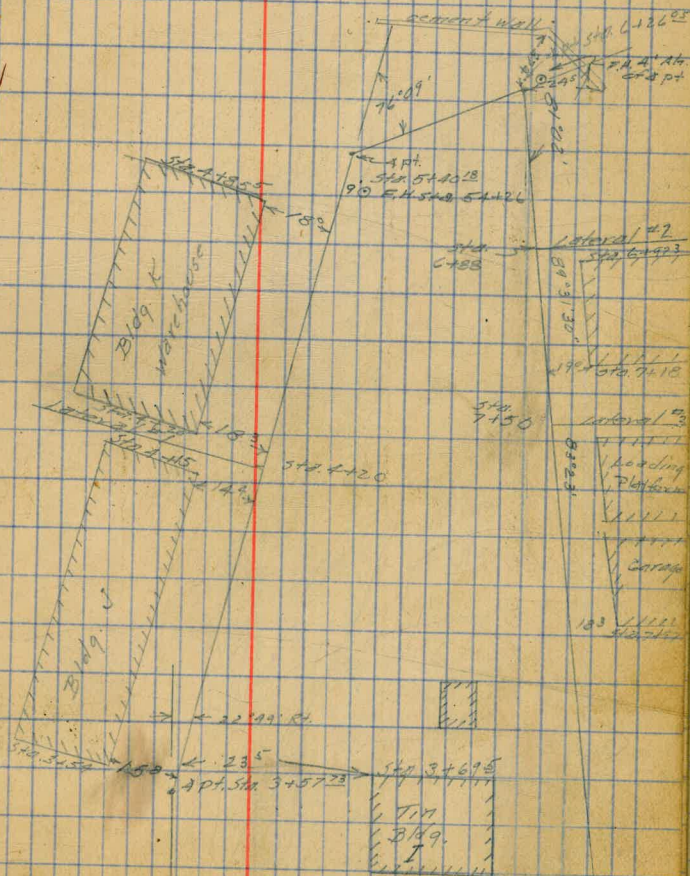
25+50	5.7	347.6 ✓
26+00	5.3	348.0 ✓
26+25 ³⁷ BC	5.4	347.9 ✓
26+50	5.5	347.8 ✓
27+00	5.7	347.6 ✓
27+39 ⁵⁴ EC	5.8	347.5 ✓
27+50	5.7	347.6 ✓
28+00	6.0	347.3 ✓
28+50	6.3	347.0 ✓
29+00	9.0	345.3 ⁸
29+45 end		
chk BM GV Chamber PA 1060		342.74 ✓

August 1947

Randy
Nichols
Baker



Location Chonas Transit to SA
Line

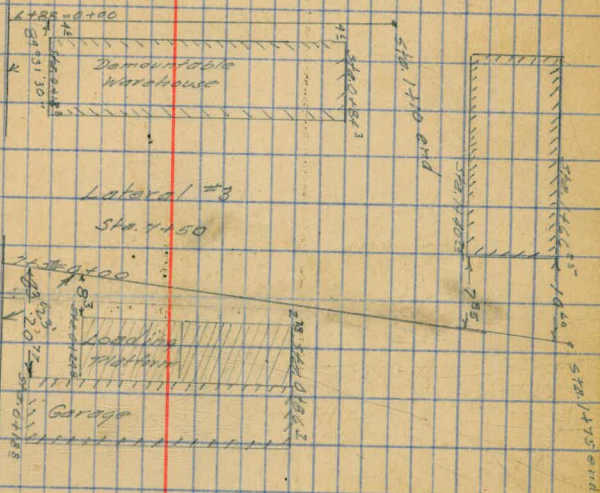


N
 S
 54122
 54123
 54124

Laterals for Chollas pipeline (Detail)

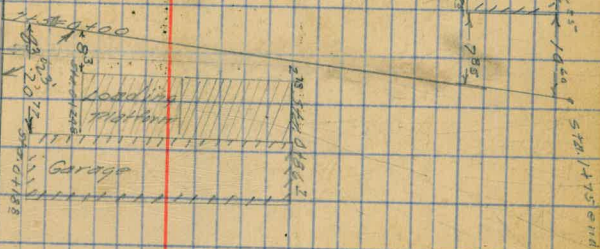
Lateral #2

Sta. 4+88



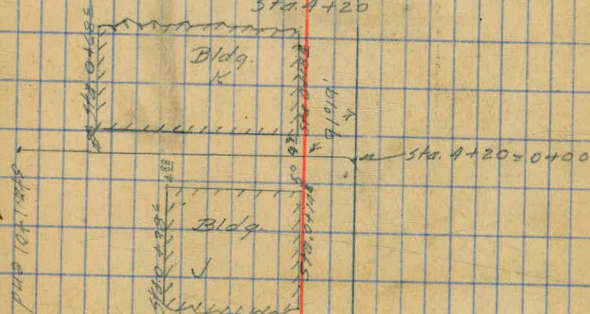
Lateral #3

Sta. 4+150

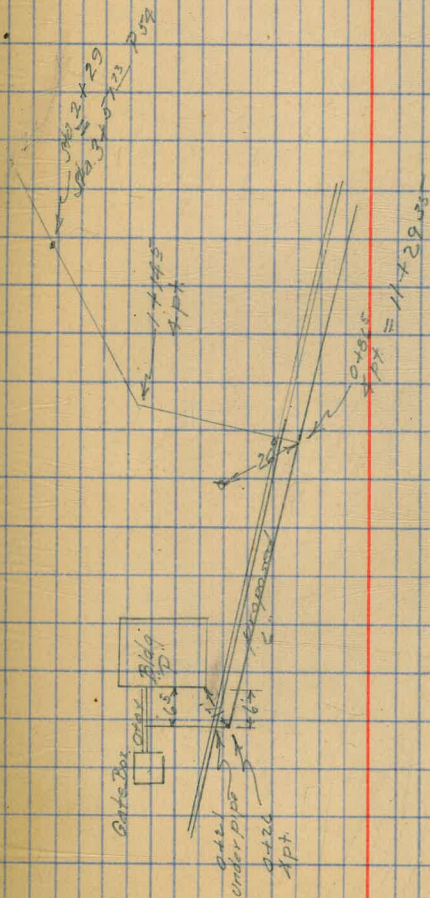


Lateral #1

Sta. 4+20



Relocation of Chollas Pipeline 56
 Pt. P. 53-54



New Bldg - Cholla Station 40' x 99' 11"

B.M.	1.22	343.94		342.72	
T.P.	0.04	331.06	12.92	331.02	
T.B.M.	4.76	323.83	11.99	319.07	Top Fire Hydr - 3' so. drinking fountain
S.E. Cor.	ground	2.5	320.3	= 100.95	ON PRINT
offset #1		3.45	320.32	319.04	C 1.34
" #2		3.50	320.33	319.04	C 1.29
S.W. Cor.	ground	4.7	319.1		
offset #3		4.72	319.11	319.04	C 0.07
" #4		4.89	318.94	319.04	F 0.10
Pier	ground	5.2	318.6		F 0.18
offset #5		5.55	318.28		F 0.76
Pier	ground	6.0	317.8		
offset #6		6.12	317.71		F 1.33
Pier	ground	6.4	317.4		
offset #7		6.62	317.21		F 1.83
Pier	ground	7.0	316.8		
offset #8		7.10	316.73		F 2.31
N.W. Cor.	ground	7.5	316.3		
offset #9		7.70	316.13		F 2.91
" #10		7.65	316.18		F 2.86
N.E. Cor.	ground	5.7	318.1		
offset #11		5.75	318.08		F 0.96
" #12		5.58	318.29		F 0.77

323.83

Pier	ground	5.3	318.5		
Offset #13		5.32	318.51		FO. 53
Pier	"	5.1	318.7		
Offset #14		5.15	318.68		FO. 30
Pier #	"	4.7	319.1		
Offset #15		4.76	319.07	319.04	CO. 03
Pier	"	4.0	319.8		
Offset #16		3.90	319.93	319.04	CO. 89

T.P.	10.78	334.19	0.42	323.41	
T.P.	11.37	344.57	0.99	333.20	
B.M.			1.86	342.71	342.72

318.05

319.07

2.63 321.70

59

	+	H.d.	GRADE	G. Rod	-
36" HOLLERS PIPE LINE,			8' OFF	CUT STAKES	
R.M.	+10.07	352.79		342.72	ON BOX

29+45.3			336.6	16.2	8.6	7.6
29+20			338.9	13.9	9.0	4.9
19+00			339.6	13.7	7.6	5.6
28+50			341.2	11.6	5.7	5.9
28+00			341.6	11.2	2.7	8.5
27+50			341.6	11.2	2.3	8.9
27+39.54	E.C.		341.6	11.2	2.9	8.3
CHECK R.M.			-10.07	342.72	ON CONC BOX	

+12.45 355.17

27+25			341.6	13.6	5.1	8.5
27+00			341.6	13.6	5.9	7.7
26+75			341.7	13.5	5.0	8.5
26+50			341.8	13.4	5.1	8.5
26+25.31	BC.		341.9	13.3	5.2	8.1
26+00			342.0	13.2	5.3	7.9
25+75			342.0	13.2	5.8	7.4
25+50			341.7	13.5	6.3	7.2
25+00			341.0	14.2	7.9	6.3
24+50			337.5	17.7	10.9	6.8
T.P.			-10.94	344.23	ON HOR	

+0.49 344.72

24+00			334.0	10.7	3.3	7.4
23+50			333.7	11.5	5.2	6.3

COT.

5-12-48 LEONARD NIENOW SHIMMAN 60

5-13-48
LEONARD NIENOW SHIMMAN

+ H.d. GRADE G. ROD - CUT

344.72

23+00		333.1	11.6	6.8	4.8
22+50		332.9	11.8	7.3	4.5
22+00		332.8	11.9	7.0	4.9
21+50		332.5	12.2	7.5	4.7
21+00		332.2	12.5	7.9	4.6
20+65		332.2	12.5	7.4	5.1
T.P.		-7.28	337.94	²⁰⁺⁶⁵ ON HUB	

+11.34 348.68

20+50		332.2	16.0	10.7	5.3
20+34.34		333.0	15.7	10.4	5.3
20+25		333.5	15.2	10.1	5.1
20+00		334.4	14.3	8.7	5.6
19+75		335.2	13.5	7.7	5.8
19+50		336.1	12.6	7.0	5.6
19+25		336.9	11.8	6.3	5.5
19+00		337.7	11.0	5.2	5.8
18+75		338.6	10.1	4.9	5.2
18+50		339.4	9.3	4.5	4.8
18+25		339.6	9.1	4.1	5.0
18+00		339.8	8.9	3.4	5.5
17+75		340.0	8.7	3.2	5.5
17+50		340.2	8.5	3.0	5.5
17+25		340.4	8.3	2.9	5.4
17+00		340.6	8.1	2.7	5.4
16+75		340.8	7.9	2.1	5.8

	+	H. d.	GRADE	G. Rod	-	COT
		348.68				
16+46 ⁰⁷ R.C.			341.0	7.7	2.3	5.4
T.P.			-2.27	346.41	R.C. HOC.	
	+6.53	352.94				
SET T.B.M.			-0.97	351.97	ON R.P.	MOR 66 ¹⁸ LEFT OF R.C. 16+46 ⁰⁷
	+8.25	360.22				
16+00			341.4	18.8	13.1	5.7
15+50			341.8	18.4	12.4	6.0
15+00			342.2	18.0	12.4	5.6
14+50			342.6	17.6	12.4	5.2
14+00			343.6	16.6	10.7	5.9
13+50			344.6	15.6	9.9	5.7
13+00			345.6	14.6	9.1	5.5
12+50			346.8	13.4	8.0	5.4
12+00			348.0	12.2	6.7	5.5
11+50			350.5	9.7	4.7	5.0
11+00			352.9	7.3	1.8	5.5
T.P.			-0.93	359.29		
	+12.88	372.17				
10+50			355.4	16.8	10.4	6.4
10+00			359.3	12.9	4.9	8.0
9+50			363.7	9.0	1.6	7.4
T.P.			-0.85	371.52	Rock.	
	+13.09	384.41				
9+00			366.7	18.7	11.0	7.2
8+50			367.4	17.0	9.0	8.0

SAT. MAY 15, 1948
LEONARD NIENOW
CHAIRMAN

82

	+	H.d.	GRADE	G. Rod.	-	COT
		384.41				
8+00			368.6	15.8	7.5	8.3
7+50			369.9	15.1	7.0	8.1
7+00			370.0	14.4	6.3	8.1
6+50			370.7	13.7	5.7	8.0
6+26.29 E.B.			371.1	13.3	6.0	7.3
6+00			371.5	12.9	6.2	6.7
5+75			371.8	12.6	5.9	6.7
5+50.22 R.B.			372.2	12.2	4.0	8.2
5+00			372.6	11.8	4.4	7.4
4+50			372.9	11.5	4.5	7.0
4+00			373.3	11.1	5.1	6.0
3+50			373.7	10.7	4.0	6.7
T.P.			-4.04	380.37	ON 3+50 H.C. 8' 0"	

+6.09 386.46

3+00			374.0	12.5	4.7	7.8
2+50			374.4	12.1	2.0	10.1
2+00			374.8	11.7	2.5	9.2
1+50			375.1	11.4	2.6	8.9
1+26.46			375.5	11.2	4.0	7.2
CHECK LEVELS.			-260	378.86 = 378.86		

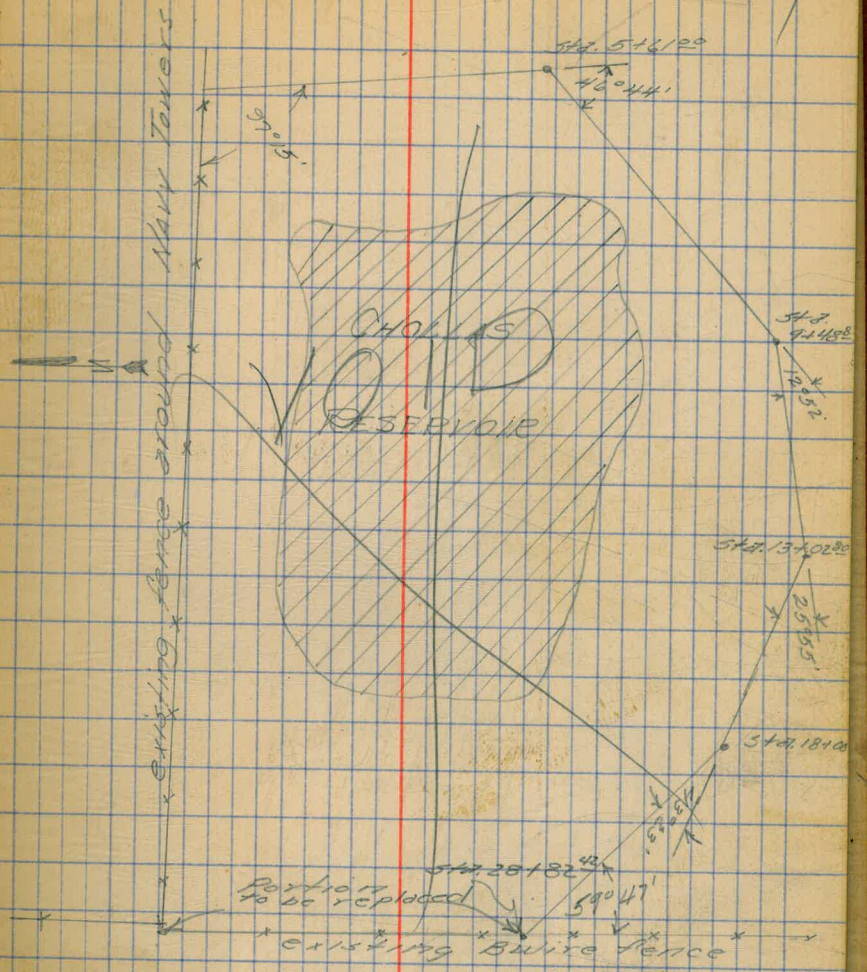
NOTE: END OF STEEL IS AT 1+26.8
 ELEV. ON TOP OF STEEL PIPE AT 1+26.46
 PAGE 43 IN THIS BOOK.

Proposed fence line
around CHOLLAS RESERVOIR

M. N. G.
Shipman

8-9-49

64



35

King
Shipman Aug. 12, 1940
West

2773.90
465.35
22139.25
281.80
3901.05

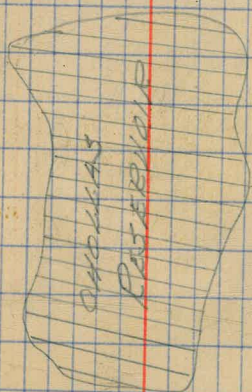
Total length of fence

15,390.05'

Traverse for fence around
CHOLLAS RESERVOIR 65.

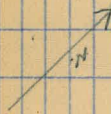
Ad 2 1/2" Pipe St. Cor. Navy Prop

U.S. NAVY PROPERTY

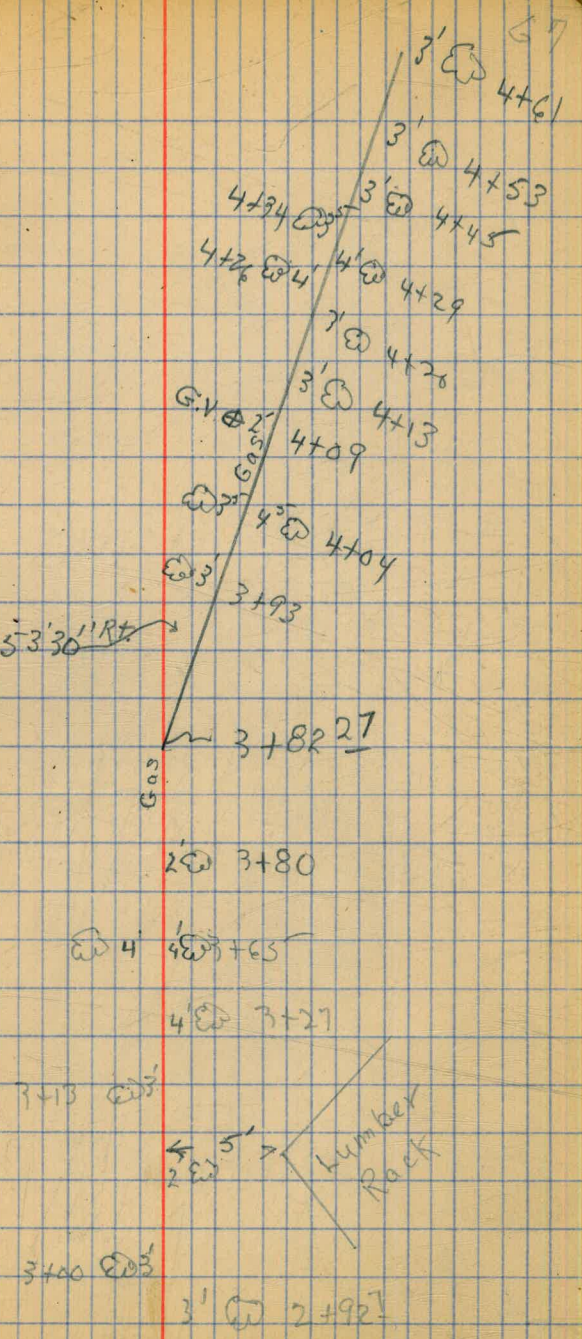


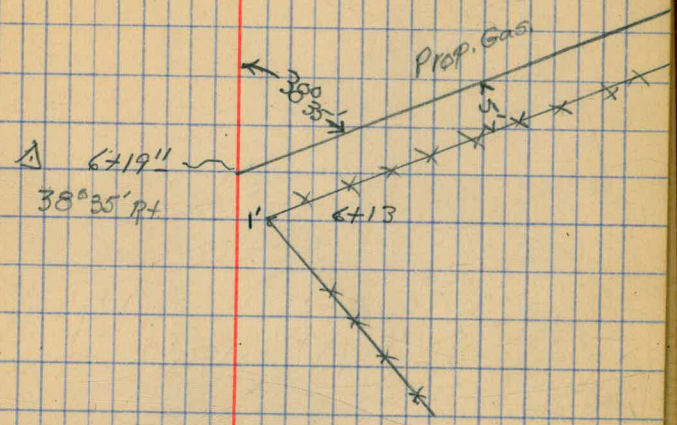
Alignment 8" Water & VCP Sewer
Cholla Hgts.

KING
Shuman
west



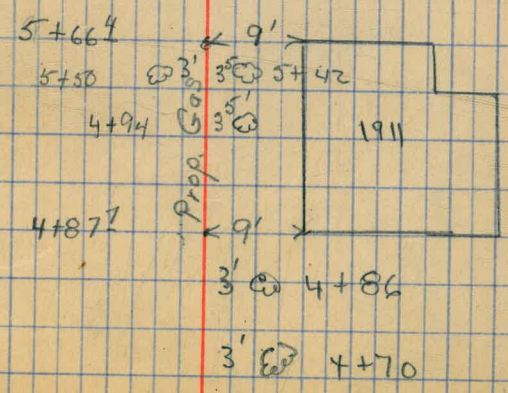
260° 53' 30" RT



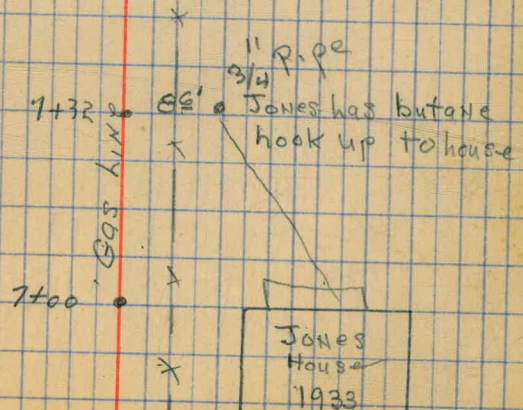
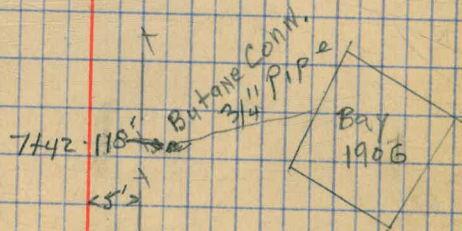
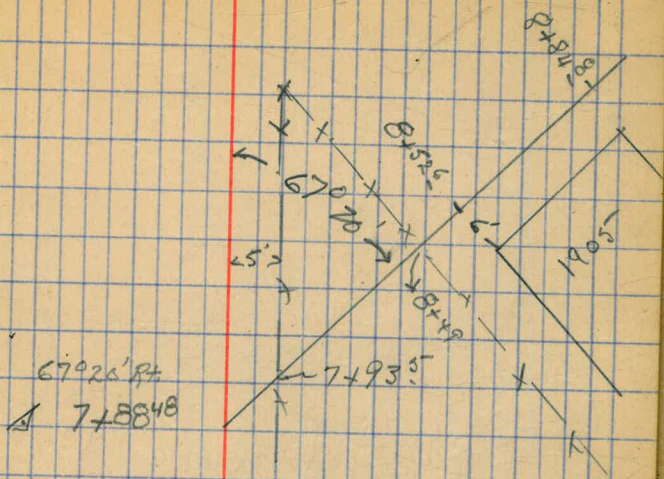


3' @ 5+75

5+69 2' // // // // // Wood Walk



69.



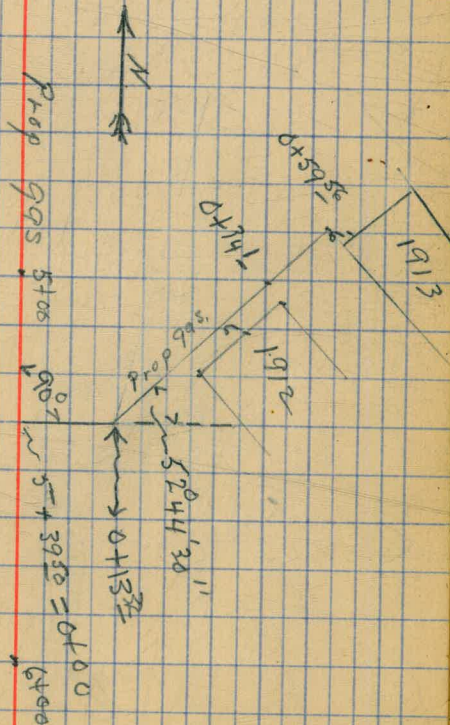
Nov. 21 1949
Beatty
Rogers
Finney

GRADES SET FOR 8" SEWER (Page 71)

TBM	5.36	319.20		313.84	(pp. 71)
CK # 0400			0.20	319.00	
0+00 @ SOUTH			+0.4	319.60	314.0 C56
0+00 @ East			0.1	318.80	" C48
0+50 @ "			2.3	316.90	311.2 C57
1+00 @ "			4.0	315.2	308.4 C68
+50 @ "			5.4	312.8	305.6 C82
2+00 @ "			6.4	312.8	302.8 C102
+50 @ "			8.6	310.6	300.0 C106
+59 @ (East)	} M.H.		9.1	310.1	299.5 C106
+59 @ (Nor)			10.0	309.2	299.5 C97
IP (Reck)	1.17	309.58	10.79	308.41	
3+00 @ (Nor)			4.9	304.7	298.2 C64
+50 @ Nor			9.2	300.4	296.7 C37
+94.53 @ (Nor)	} M.H.		9.0	300.6	295.3 C53
+94.53 @ West			9.5	300.1	295.3 C28
CK # DRAIN			15.79	293.79	293.7 # 18" DRAIN
P.	6.29	315.25	0.62	308.96	
CK TBM			1.41	313.84	= 313.84

(TBM Elev from pp. 71)

NOTE: THIS Elev. is error
Should be 313.99
See pgs. 27-28



45

Proposed Water & Sewer Extensions - Cholla Hgts.

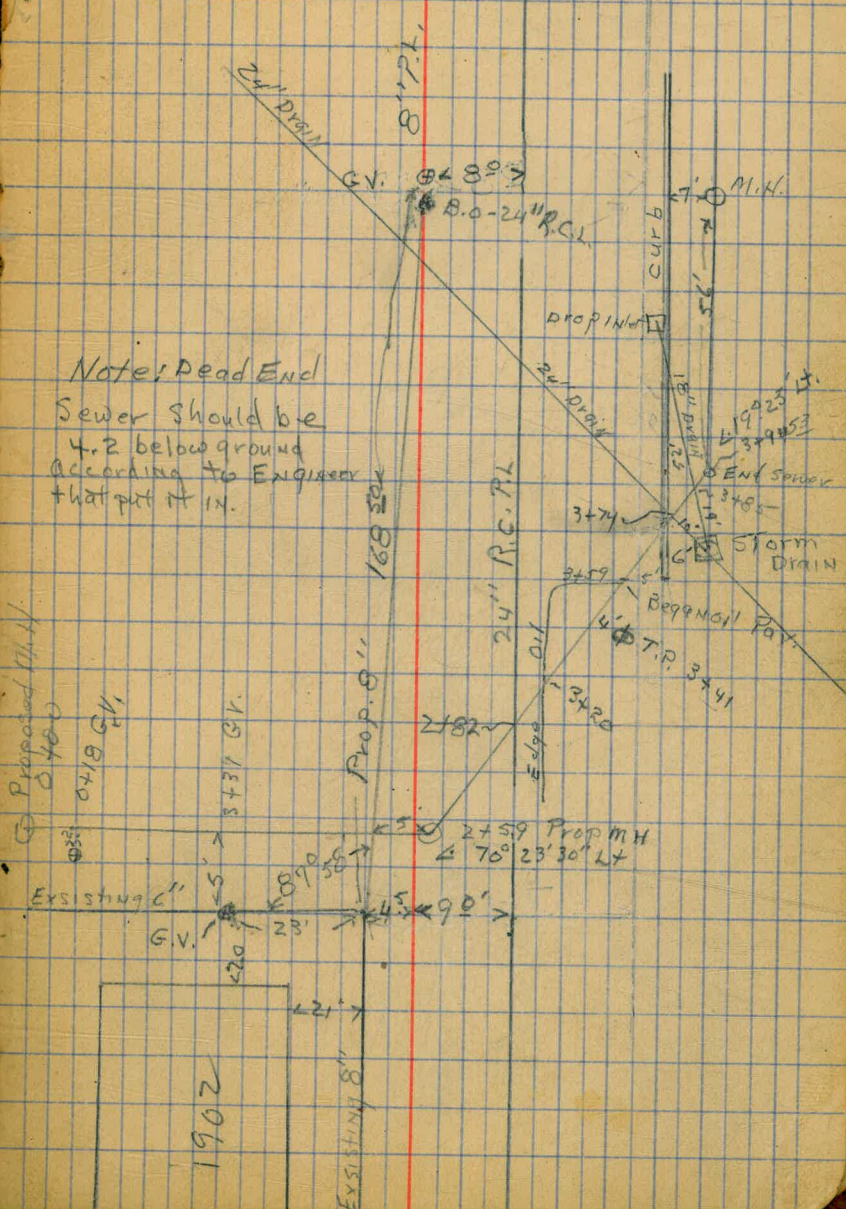
T.B.M.	6.74	320.58 ✓		313.84	See Note Previous page.
			1.6	319.0	Reduced by M.H.
0+00			3.4	317.2	
0+50			5.3	315.3	
1+00			6.9	313.7	
1+50			7.9	312.7	
2+00					
T.P.	2.47	314.67 ✓	8.38	312.20 ✓	
2+25			2.5	312.2	
2+50			4.5	310.2	
2+59 Δ			5.2	309.5	
3+00			10.0	304.7	
T.P.	2.11	305.19 ✓	11.59	303.08 ✓	
3+50			4.7	300.5	
3+59 O.I.			5.1	300.1	
3+74 O.I.			5.6	299.6	
3+94.53			5.2	300.0	
E.L. Drop in let an 18" Drain on curb			11.5	293.7 ✓	
E.L. 8" sewer M.H. 56' West.			10.3	294.9	
Top 18" Drain at M.H.			11.15	294.04	
" 24" " " M.H.			12.65	292.54	
T.P.	11.10	315.38 ✓	0.91	304.28 ✓	
			1.54	313.84 ✓	

King Shipman West

8-25-49

71.

G.V. @ 55' Cholla Sta. Rd.



Note: Dead End Sewer should be 4.2 below ground according to Engineer that put it in.

		Elev.
Top	36" Otay	305.9
248211	36" Otay P.C. Pipe	303.9
Top	24"	309.0

Elev 319.09
 7715 319.5

DIRECTIONS FOR USE OF TABLES

TABLE No. 1

Distance of slope stake from side or shoulder stake for any width, roadway slope 1% to 1%. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body

of table in same row and column gives distance level estimate the difference in elevation between the side stake and slope stake lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at and find distance in table. Set up target. If it does not make the slight adjustment necessary.

TABLE No. 2

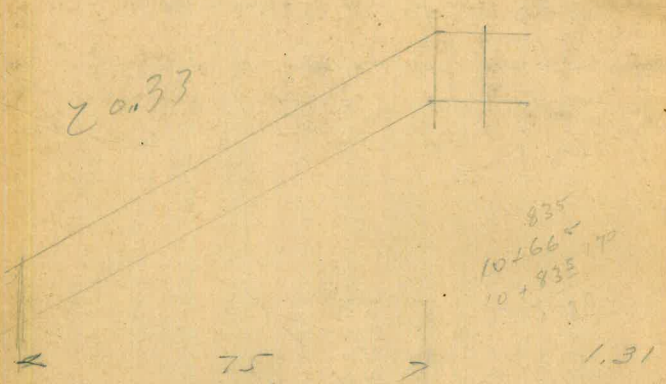
To find Tangent and External for curve of any other degree divide by degree of curve and add correction found in column of corrections. Degree of curve with a given I may be found by dividing tangent (or external) opposite I by given tangent (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

75	433.49	433.49	348.4
72	<u>472</u>	<u>310</u>	<u>390</u>
147	438.21	436.59	420.80
		<u>11.73</u>	<u>13</u>
		424.86	423.6

123
55
6.8

1316725



75
34.2
442.2
408
105
522.2
442
390

168.40

56.21	56.11
5.8	-4.55
<u>50.4</u>	<u>51.36</u>

424.9	424.9	424.9	424.9
<u>3.6</u>	<u>98</u>	<u>8.4</u>	<u>81</u>
421.3	415.1	416.5	416.8

424.9	424.9	424.9	424.9
<u>98</u>	<u>49</u>	<u>93</u>	<u>198</u>
415.1	420.0	415.6	405.1

424.9	424.9	424.9	424.9	424.9
<u>18.2</u>	<u>19.6</u>	<u>200</u>	<u>7.0</u>	<u>40</u>
406.7	405.3	404.9	417.9	420.5

424.9	424.9	424.9	424.9	424.9
<u>8</u>	<u>10.8</u>	<u>28.1</u>	<u>297</u>	<u>230</u>
416.9	414.1	396.8	305.2	401.7

424.9	61.34	61.34
<u>10.1</u>	<u>548</u>	<u>308</u>
414.8	60.89	63.26
	<u>600</u>	<u>6.96</u>
	67.80	70.20
		<u>61.9</u>
		<u>62.10</u>
		580

23.71
38.33
62.04

66.39
12.93
53.46

52.0
64.62
117.5
56.39
53.49
12.85
1.

16+76.31
6.150
10+26.31