

3

*City Park Contours*

*Return to City Engineers Office  
City Hall, San Diego, Cal.*

157

400

LEVEL

F.B. 157

Table showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.

MINUTES	LKS.	MINUTES	LKS.	MINUTES	LKS.
1	2 1/3	21	49	41	95 2/3
2	4 2/3	22	51 1/3	42	98
3	7	23	53 2/3	43	100 1/3
4	9 1/3	24	56	44	102 2/3
5	11 2/3	25	58 1/3	45	105
6	14	26	60 2/3	46	107 1/3
7	16 1/3	27	63	47	109 2/3
8	18 2/3	28	65 1/3	48	112
9	21	29	67 2/3	49	114 1/3
10	23 1/3	30	70	50	116 2/3
11	25 2/3	31	72 1/3	51	119
12	28	32	74 2/3	52	121 1/3
13	30 1/3	33	77	53	123 2/3
14	32 2/3	34	79 1/3	54	126
15	35	35	81 2/3	55	128 1/3
16	37 1/3	36	84	56	130 2/3
17	39 2/3	37	86 1/3	57	133
18	42	38	88 2/3	58	135 1/3
19	44 1/3	39	91	59	137 2/3
20	46 2/3	40	93 1/3	60	140

Return to City Engineers Office  
 City Hall, San Diego, Cal.  
 MICHAEL M. EDWARDS  
 TABLE FOR RUNNING ON SLOPES.

In the following table the first column is the angle, the second the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

Angle	COR. IN LINKS	Angle	COR. IN LINKS	Angle	COR. IN LINKS	Angle	COR. IN LINKS
0		0		0		0	
4	0.24	11	1.88	18	5.14	25	10.54
5	0.38	12	2.24	19	5.76	26	11.26
6	0.55	13	2.63	20	6.42	27	12.24
7	0.76	14	3.06	21	7.11	28	13.37
8	0.98	15	3.53	22	7.85	29	14.34
9	1.24	16	4.02	23	8.64	30	15.47
10	1.55	17	4.56	24	9.47	35	22.07

Return to City Engineers Office  
 City Hall, San Diego, Cal.

Contour Survey City Park

City Park Contours

1

Feb 12/03

2/12/03 -  
Alverson  
Mrs Laren  
Anginsold  
Lube

Δ Pt. on 5<sup>th</sup> St. range line 40 ft  
northerly from initial pt.  
on below st.

→ A.O.

160 ft. Contour.

150'	98°05' R	220	220° ✓
145'	91°03' R	238	238° ✓
135'	86°48' R	256	256° ✓
135'	86°20' R	288	288° ✓

## Vertical Horiz. Rod.

120'	85°25'R	3.27	327 ✓
115'	83°20'R	3.47	347 ✓
115'	85°15'R	3.73	373 ✓
105'	86°55'R	4.00	400 ✓
100'	88°25'R	4.23	423 ✓

## 165 ft. Contour.

015'	88°20'R	4.55	455 ✓
010'	83°30'R	4.26	426 ✓
015'	85°38'R	3.90	390 ✓
020'	81°30'R	3.54	354 ✓
020'	79°55'R	3.20	320 ✓
020'	76°00'R	3.07	307 ✓
020'	69°38'R	2.83	283 ✓
015'	68°40'R	2.57	257 ✓
015'	70°45'R	2.40	240 ✓
015'	71°10'R	2.13	213 ✓

015'	70°10'R	1.77	177 ✓
020'	69°15'R	1.73	173 ✓
030'	69°45'R	1.53	153 ✓
040'	65°50'R	1.17	117 ✓
040'	74°05'R	1.26	126 ✓
030'	84°00'R	1.15	115 ✓
025'	92°45'R	0.63	63 ✓
020'	82°50'R	0.20	20 ✓

The preceding 160 and 165 ft. contours are on east slope of ridge. Do not connect with those on west slope.

△ Pt. on 6<sup>th</sup> range line at pt. 300 ft. N. of So. line of Park.  
→ O on So. line of Park.

## 145 ft. Contour.

245'	41°15'R	1.66	166 ✓
250'	0°10'L	1.43	143 ✓

245'	8°00'L	1.65	165	✓
230'	16°00'L	1.80	180	✓
230'	20°05'L	2.03	203	✓
230'	26°50'L	2.05	205	✓
220'	30°00'L	2.33	233	✓
230'	27°15'L	2.52	252	✓
200'	28°25'L	2.90	290	✓
130'	31°00'L	3.25	325	✓

150ft. contour

050'	38°45'L	3.55	355	✓
040'	41°20'L	3.60	360	✓
040'	43°15'L	3.40	340	✓
045'	47°08'L	3.25	325	✓
030'	52°22'L	3.30	330	✓
030'	52°00'L	3.00	300	✓
040'	52°10'L	2.77	277	✓
050'	53°05'L	2.57	257	✓

040'	54°00'L	2.54	254	✓
030'	43°22'L	2.57	257	✓
030'	44°45'L	2.35	235	✓
050'	48°55'L	2.04	204	✓
030'	53°30'L	1.82	182	✓
035'	51°55'L	1.63	163	✓
050'	54°50'L	1.37	137	✓
105'	58°00'L	1.18	118	✓
120'	62°10'L	1.08	108	✓
105'	40°00'L	1.15	115	✓
100'	37°25'L	1.20	120	✓
115'	41°00'L	1.00	100	✓
135'	46°25'L	0.75	75	✓
135'	39°30'L	0.68	68	✓
130'	38°35'L	0.53	53	✓
130'	35°00'L	0.34	34	✓
135'	28°00'L	0.22	22	✓
130'	2°25'N	0.38	38	✓

130'	39°30'R	0.32	32	✓
115'	135°15'R	0.57	57	✓
120'	158°40'R	0.82	82	✓
120'	162°00'R	1.00	100	✓

## 155 ft. Contour.

0°30'	173°45'R	273	273	✓
0°30'	179°10'R	260	260	✓
0°30'	180°50'R	247	247	✓
0°30'	177°15'R	230	230	✓
0°30'	175°25'R	212	212	✓
0°30'	176°00'R	192	192	✓
0°45'	182°25'R	170	170	✓
0°50'	173°25'L	147	147	✓
0°50'	171°15'L	112	112	✓
0°55'	161°35'L	78	78	✓
1°0'	135°20'L	73	73	✓
1°15'	126°52'L	87	87	✓

120'	106°55'L	1.01	101	✓
120'	91°55'L	1.24	124	✓
130'	83°25'L	1.37	137	✓
100'	76°30'L	1.63	163	✓
100'	73°00'L	1.83	183	✓
100'	76°40'L	2.00	200	✓
0°30'	73°15'L	228	228	✓
0°25'	68°35'L	260	260	✓
0°25'	63°45'L	290	290	✓
0°25'	61°30'H	312	312	✓
0°30'	63°55'L	334	334	✓
0°30'	62°00'L	337	337	✓
0°30'	59°20'L	360	360	✓
0°30'	54°10'L	387	387	✓
0°30'	48°25'L	400	400	✓
0°20'	42°45'L	410	410	✓

## 157½ ft. Bontour.

0°30'	49°10' L	4.60	460	✓
0°25'	54°00' L	4.48	448	✓
0°35'	60°00' L	4.47	447	✓
0°45'	67°30' L	4.45	445	✓
0°45'	61°30' L	4.02	402	✓
0°45'	62°35' L	3.67	367	✓
0°45'	66°30' L	3.55	355	✓
0°45'	65°22' L	3.18	318	✓
0°35'	65°55' L	3.00	300	✓
0°45'	70°05' L	2.74	274	✓
0°50'	75°45' L	2.53	253	✓
1°00'	79°50' L	2.34	234	✓
0°45'	86°00' L	2.02	202	✓
0°45'	90°20' L	1.73	173	✓
1°00'	102°45' L	1.72	172	✓
1°10'	111°40' L	1.55	155	✓
1°00'	124°35' L	1.49	147	✓

1°5'	141°00' L	1.42	142	✓
1°00'	154°30' L	1.30	130	✓
1°00'	162°10' L	1.61	161	✓
1°75'	170°10' L	2.02	202	✓
1°00'	172°15' L	2.38	238	✓
1°00'	173°15' L	2.68	268	✓
1°00'	177°25' L	2.77	277	✓
1°00'	179°15' L	2.70	270	✓
1°00'	185°00' L	2.96	296	✓

## 160 ft. Bontour.

1°00'	182°45' L	3.30	330	✓
0°55'	177°10' L	3.20	320	✓
0°50'	173°45' L	2.87	287	✓
1°5'	170°45' L	2.55	255	✓
1°5'	170°00' L	2.27	227	✓
1°30'	165°05' L	1.97	197	✓
1°30'	157°15' L	1.93	193	✓

130'	149°06'L	1.80	180	✓
130'	138°35'L	1.82	182	✓
130'	129°56'L	1.77	177	✓
135'	119°45'L	1.70	170	✓
145'	110°10'L	1.83	183	✓
145'	99°35'L	1.88	188	✓
145'	94°35'L	1.97	197	✓
140'	87°00'L	2.16	216	✓
140'	83°15'L	2.43	243	✓
130'	77°35'L	2.62	262	✓
130'	72°20'L	2.78	278	✓
125'	69°00'L	3.07	307	✓
100'	68°45'L	3.47	347	✓
100'	69°25'L	3.73	373	✓
100'	64°40'L	3.78	378	✓
100'	63°35'L	4.15	415	✓
105'	66°05'L	4.68	468	✓
100'	59°45'L	4.73	473	✓

100'	55°30'L	4.87	487	✓
100'	50°00'L	4.67	467	✓

162½ ft. Contour.

150'	164°25'L	2.65	265	✓
150'	158°25'L	2.20	220	✓
150'	153°05'L	2.04	204	✓
150'	145°00'L	2.10	210	✓
150'	135°35'L	2.10	210	✓
200'	126°25'L	1.88	188	✓
210'	114°25'L	1.96	196	✓
200'	109°10'L	2.25	225	✓
155'	97°15'L	2.28	228	✓
155'	90°10'L	2.30	230	✓
145'	88°00'L	2.50	250	✓
200'	81°18'L	2.68	268	✓
200'	74°32'L	3.04	304	✓
145'	70°45'L	3.40	340	✓

Not completed. See page

## 165 ft. Contour.

200'	73°05' L	3.32	332	✓
155'	76°55' L	3.03	303	✓
155'	80°06' L	2.80	280	✓
200'	86°25' L	2.60	260	✓
225'	95°00' L	2.40	240	✓
225'	103°52' L	2.45	245	✓
220'	112°50' L	2.35	235	✓
230'	120°55' L	2.26	226	✓
225'	130°20' L	2.33	233	✓
225'	135°04' L	2.27	227	✓
220'	144°30' L	2.30	230	✓
230'	150°22' L	2.26	226	✓
230'	155°35' L	2.45	245	✓
220'	160°45' L	2.78	278	✓

## 167 1/2 ft. Contour.

220'	157°40' L	2.95	295	✓
230'	153°00' L	2.57	257	✓
235'	149°40' L	2.50	250	✓
235'	144°35' L	2.68	268	✓
240'	137°55' L	2.57	257	✓
300'	132°45' L	2.43	243	✓
250'	126°35' L	2.52	252	✓
245'	118°35' L	2.53	253	✓
250'	113°10' L	2.47	247	✓
245'	105°55' L	2.48	248	✓
245'	98°40' L	2.50	250	✓
245'	90°40' L	2.63	263	✓
215'	83°45' L	2.88	288	✓
230'	76°25' L	3.26	326	✓

## 170 ft. contours

240'	80°10' L	317	317	✓
300'	86°50' L	295	295	✓
300'	93°30' L	275	275	✓
300'	101°05' L	262	262	✓
330'	107°10' L	257	257	✓
330'	114°15' L	258	258	✓
330'	119°15' L	260	260	✓
330'	124°45' L	264	264	✓
325'	129°50' L	258	258	✓
325'	136°05' L	273	273	✓
330'	141°45' L	290	290	✓
330'	148°15' L	298	298	✓
330'	151°55' L	267	267	✓
315'	156°15' L	304	304	✓

## 172½ ft. contours

315'	154°35' L	313	313	✓
320'	151°20' L	285	285	✓
325'	148°50' L	300	300	✓
330'	144°15' L	304	304	✓
330'	139°15' L	297	297	✓
330'	135°20' L	280	280	✓
335'	132°15' L	267	267	✓
335'	127°35' L	267	267	✓
330'	122°25' L	277	277	✓
335'	117°10' L	273	273	✓
335'	109°20' L	265	265	✓
320'	101°45' L	280	280	✓
335'	97°35' L	287	287	✓
335'	90°00' L	295	295	✓
335'	85°45' L	322	322	✓

## 175 ft. contours

355'	96°05' L	3.09	309	✓
345'	101°55' L	2.96	296	✓
400'	109°42' L	2.83	283	✓
400'	114°40' L	2.93	293	✓
400'	119°55' L	2.93	293	✓
400'	125°45' L	2.77	277	✓
480'	130°45' L	2.80	280	✓
400'	133°05' L	2.76	276	✓
400'	136°52' L	2.87	287	✓
480'	140°35' L	3.04	304	✓
480'	145°06' L	3.07	307	✓
480'	149°05' L	3.00	300	✓
400'	153°35' L	3.30	330	✓

## 177½ ft. contours

400'	150°46' L	3.47	347	✓
400'	149°05' L	3.23	323	✓

410'	148°25' L	3.12	312	✓
410'	145°06' L	3.07	307	✓
430'	139°35' L	3.07	307	✓
430'	136°50' L	2.90	290	✓
435'	132°50' L	2.80	280	✓
435'	128°15' L	2.88	288	✓
430'	124°00' L	2.90	290	✓
430'	120°45' L	3.10	310	✓
410'	116°55' L	3.37	337	✓
410'	112°55' L	3.33	333	✓
410'	111°00' L	3.04	304	✓
490'	105°03' L	3.02	302	✓
415'	102°50' L	3.07	307	✓

## 180 ft. contours

495'	117°06' L	2.53	253	✓
420'	119°36' L	3.39	339	✓
440'	123°16' L	3.03	303	✓

## Vertical Horiz Rod.

445'	127°15'L	2.98	298	✓
455'	130°56'L	2.90	290	✓
500'	133°55'L	2.83	281	-
500'	136°30'L	2.90	288	-
450'	139°10'L	3.03	301	✓
450'	139°04'L	3.07	305	✓
450'	141°33'L	3.08	306	✓
450'	144°10'L	3.15	314	✓
435'	145°05'L	3.46	345	✓
415'	147°50'L	3.57	356	

## 18 7/2 ft contour

430'	146°45'L	3.67	367	✓
445'	143°45'L	3.43	343	✓
500'	142°10'L	3.17	315	✓
510'	138°55'L	3.10	308	✓
515'	136°25'L	2.90	288	

530'	133°45'L	2.88	285	✓
520'	131°35'L	3.05	302	✓
515'	127°15'L	3.14	311	✓
515'	123°20'L	3.24	321	✓
500'	120°00'L	3.46	344	✓
500'	118°53'L	3.60	358	

## 185 ft. contour

450'	122°55'L	3.65	363	✓
455'	123°45'L	3.47	345	✓
515'	129°00'L	3.22	319	✓
520'	132°35'L	3.17	314	✓
535'	134°52'L	3.20	317	✓
530'	137°15'L	3.10	307	✓
530'	140°30'L	3.27	324	✓
500'	144°20'L	3.60	358	✓
445'	145°55'L	3.75	370	✓

187 1/2 ft Contour

510'	144°20'L	3.87	384	✓
520'	141°15'L	3.56	354	✓
540'	136°45'L	3.24	321	✓
540'	132°00'L	3.35	332	✓
530'	128°55'L	3.67	364	✓
530'	127°05'L	3.77	374	✓

Δ Pt. on 6th St. range line 300ft  
 N. of So. line of Park  
 → 6th St range line produced  
 northerly

190ft. Contour

530'	49°30'R	3.90	387	✓
545'	47°10'R	3.66	363	✓
600'	43°15'R	3.50	346	✓
535'	39°00'R	3.80	377	✓
515'	36°00'R	4.18	415	✓

415'	32°35'R	4.42	440	✓
430'	30°00'R	4.60	458	✓
430'	25°55'R	4.75	473	U
420'	22°55'R	5.87	(6-85)	
420'	20°05'R	5.00	498	✓
400'	17°25'R	5.20	518	✓
350'	14°20'R	5.48	546	✓
340'	12°30'R	5.72	571	✓
340'	12°15'R	6.13	612	✓

185ft Contour

300'	9°30'R	6.10	610	✓
300'	9°42'R	5.84	584	✓
320'	12°00'R	5.38	538	✓
340'	16°00'R	5.00	500	✓
340'	18°30'R	4.73	473	✓
400'	22°05'R	4.58	458	✓
400'	25°10'R	4.47	447	✓

405	2918R	423	423	✓
410	3124R	405	405	✓
445	3353R	378	378	✓
450	3608R	350	350	✓
505	3870R	338	335	✓

## 180 ft. Contour

415	3115R	364	362	✓
415	2630R	387	385	✓
345	2320R	418	416	✓
350	2000R	440	438	✓
330	1635R	465	464	✓
330	1225R	500	500	✓
315	1015R	522	522	✓
300	815R	553	553	✓
245	700R	594	594	✓

## 175 ft. Contour

200	500R	600	600	✓
200	630R	574	574	✓
210	637R	547	547	✓
215	803R	526	528	✓
215	905R	496	496	✓
230	1038R	470	470	✓
235	1230R	448	448	✓
300	1607R	420	420	✓
310	1938R	385	385	✓
330	2330R	357	357	✓
335	2745R	330	330	✓

## 172 1/2 ft. Contour

330	2530R	315	315	✓
315	2230R	338	338	✓
300	1945R	361	367	✓
245	1725R	390	390	✓

240'	14°40'R	4.02	402 ✓
230'	11°00'R	4.38	438 ✓
215'	10°00'R	4.70	470 ✓
210'	9°05'R	4.90	490 ✓
200'	7°55'R	5.12	512 ✓
200'	6°45'R	5.40	540 ✓
150'	5°25'R	5.64	564 ✓
150'	4°20'R	5.83	583 ✓

170 ft. Contour.

145'	3°55'R	5.77	577 ✓
145'	5°55'R	5.47	547 ✓
145'	6°45'R	5.28	528 ✓
130'	7°45'R	5.07	507 ✓
200'	8°35'R	4.86	486 ✓
210'	10°20'R	4.57	457 ✓
210'	10°25'R	4.30	430 ✓
210'	11°35'R	4.07	407 ✓

215'	16°05'R	3.80	380 ✓
235'	20°00'R	3.48	348 ✓
240'	22°20'R	3.15	315 ✓
245'	23°35'R	3.00	300 ✓

167½ ft. Contour.

230'	22°18'R	2.96	296 ✓
215'	19°50'R	3.12	312 ✓
200'	16°25'R	3.30	330 ✓
200'	12°10'R	3.74	374 ✓
200'	10°25'R	3.95	395 ✓
200'	9°05'R	4.07	407 ✓
200'	9°55'R	4.30	430 ✓
200'	9°25'R	4.50	450 ✓
145'	8°00'R	4.73	473 ✓
140'	7°15'R	5.10	510 ✓
130'	5°55'R	5.30	530 ✓
135'	4°05'R	5.53	553 ✓

125 2°47'R 5.74 574 ✓

165 ft. Contour.

110' 2°25'R 5.67 567 ✓

115' 3°40'R 5.47 547 ✓

115' 5°06'R 5.27 527 ✓

115' 6°35'R 5.10 510 ✓

115' 6°40'R 4.86 486 ✓

130' 7°12'R 4.53 453 ✓

130' 7°35'R 4.26 426 ✓

135' 8°35'R 4.07 407 ✓

135' 10°26'R 3.96 396 ✓

135' 12°08'R 3.72 372 ✓

115' 14°45'R 3.40 340 ✓

200' 16°15'R 3.20 320 ✓

200' 15°55'R 3.05 305 ✓

200' 14°35'R 2.78 278 ✓

162 1/2 ft. Contour.

200' 15°10'R 2.63 263 ✓

200' 14°45'R 2.93 293 ✓

200' 15°00'R 3.13 313 ✓

200' 15°08'R 3.34 334 ✓

200' 12°30'R 3.65 365 ✓

200' 10°30'R 3.90 390 ✓

200' 9°00'R 4.07 407 ✓

120' 6°55'R 4.25 425 ✓

110' 6°10'R 4.53 453 ✓

115' 5°22'R 4.88 488 ✓

115' 4°10'R 5.24 524 ✓

100' 2°15'R 5.53 553 ✓

160 ft. Contour I

100' 1°12'R 5.47 547 ✓

110' 3°15'R 5.17 517 ✓

115' 4°25'R 4.76 476 ✓

## Vertical Height Rods

120'	5°4'R	430	430	✓
120'	8°25'R	400	400	✓
130'	11°08'R	378	378	✓
130'	12°30'R	348	348	✓
145'	14°35'R	325	325	✓
145'	14°15'R	300	300	✓
140'	11°55'R	280	280	✓
145'	8°00'R	300	300	✓
145'	6°30'R	324	324	✓
145'	4°45'R	347	347	✓
145'	2°50'R	368	368	✓
140'	4°15'R	385	385	✓
140'	3°35'R	407	407	✓
140'	5°40'R	427	427	✓

The contours above numbers  
around deep hole on 6<sup>th</sup> St.

△ Pt. on 6<sup>th</sup> St. range line at  
848 ft. N. of So. line of Park  
→ 6<sup>th</sup> St. range line produced  
northerly.

150 ft. Contour

730'	68°35'L	0.41	40	✓
730'	39°45'L	0.58	57	✓
715'	26°35'L	0.80	79	✓
715'	17°45'L	0.92	81	✓
700'	20°15'L	0.95	84	✓
720'	10°45'L	0.49	48	✓
730'	1°00'L	0.70	69	✓
530'	1°55'R	1.04	103	✓
515'	3°25'R	1.30	129	✓
3°50'	3°35'R	1.60	160	✓

152½ ft. Contour

500'	6°05'R	1.67	167	✓
------	--------	------	-----	---

Contours 150-152½ - 155 contours all hole &  
Recovery on 6<sup>th</sup> St. just north of Fin

3°00'	535'R	128	128	✓
3°30'	530'R	0.97	97	✓
3°45'	480'R	0.62	62	✓
4°15'	375'L	0.40	40	✓
10°00'	1845'L	0.34	33	✓
10°00'	2640'L	0.43	42	✓
7°30'	* 2305'L	0.61	60	✓
7°10'	3810'L	0.61	60	✓
7°10'	5115'L	0.44	43	✓
7°00'	6945'L	0.37	36	✓

## 155 ft Contour.

7°30'	7155'L	0.33	32	✓
7°00'	4815'L	0.42	41	✓
7°00'	3330'L	0.38	37	✓
9°15'	4010'L	0.22	21	✓
7°30'	2735'L	0.18	18	✓
5°00'	3°45'R	0.39	39	✓

5°10'	1110'R	0.62	61	✓
5°10'	1355'R	0.91	90	✓
7°30'	850'R	1.18	118	✓
7°30'	1120'R	1.50	150	✓
7°00'	900'R	1.75	175	✓
11°0'	1245'R	2.08	208	✓
10°0'	1035'R	2.34	234	✓
10°0'	635'R	2.58	258	✓
8°00'	400'R	2.83	283	✓
11°0'	3°15'L	2.45	245	✓
11°0'	5°05'L	2.20	220	✓
11°0'	10°00'L	2.02	202	✓
11°5'	1120'L	1.96	196	✓

## 160 ft Contour.

1°00'	3745'R	0.32	32	✓
11°0'	2508'R	0.67	67	✓
11°5'	1800'R	1.18	118	✓

115	1425R	1.51	1.51	✓
030	1345R	1.79	1.79	✓
130	1542R	2.08	2.08	✓
130	1700R	2.45	2.45	✓
130	920R	2.78	2.78	✓
180	715R	3.20	3.20	✓
180	730R	3.60	3.60	✓
000	115L	3.47	3.47	✓
070	435L	3.73	3.73	✓
045	625L	3.03	3.03	✓
045	705L	2.67	2.67	✓
045	635L	2.38	2.38	✓
045	1345L	2.03	2.03	✓

165 ft. bottom

045	1015L	2.30	2.30	✓
100	815L	2.58	2.58	✓
130	907L	2.90	2.90	✓

115	715L	3.20	3.20	✓
180	350L	3.47	3.47	✓
180	140L	3.65	3.65	✓
180	020R	3.90	3.90	✓
180	132R	4.10	4.10	✓
180	325R	4.40	4.40	✓
185	515R	4.68	4.68	✓
180	555R	4.95	4.95	✓
180	715R	5.30	5.30	✓
180	910R	5.63	5.63	✓
180	1005R	5.45	5.45	✓
120	1035R	5.10	5.10	✓
130	1030R	4.65	4.65	✓
120	925R	4.27	4.27	✓
120	915R	3.96	3.96	✓
130	955R	3.63	3.63	✓
110	940R	3.78	3.78	✓
110	1200R	3.00	3.00	✓

110'	12°50'R	2.68	268 ✓
190'	16°10'R	2.33	233 ✓
220'	18°20'R	2.08	208 ✓
200'	16°35'R	1.66	166 ✓
200'	18°35'R	1.32	132 ✓
200'	22°22'R	1.15	115 ✓
215'	24°30'R	0.84	84 ✓
230'	34°85'R	0.50	50 ✓
530'	59°45'R	0.38	28 ✓

2/14/03  
 Above on  
 Mc Loren  
 Anymore  
 Lude.

A Pt on 6th St. range line 300 ft  
 W. of So. line of Park  
 → 0 on So. line of Park.  
 147 1/2 ft Contour.

200'	15°20'R	1.60	160 ✓
200'	16°35'R	1.09	109 ✓
400'	17°15'R	0.68	68 ✓
400'	13°55'L	0.65	65 ✓
400'	20°45'L	1.08	108 ✓
320'	27°40'L	1.35	135 ✓
240'	35°45'L	1.48	148 ✓
230'	44°20'L	1.65	165 ✓
210'	47°10'L	1.96	196 ✓
150'	35°18'L	2.28	228 ✓
130'	38°42'L	2.58	258 ✓

1°0'	40°55'L	290	290 ✓
1°0'	37°32'L	317	317 ✓
1°00'	34°20'L	337	337 ✓

## 152½ ft. Contour

0°15'	41°07'L	400	400 ✓
0°15'	42°10'L	371	371 ✓
0°15'	44°00'L	353	353 ✓
0°10'	54°52'L	358	358 ✓
0°00'	56°20'L	331	331 ✓
0°10'	58°07'L	300	300 ✓
0°15'	62°55'L	256	256 ✓
0°15'	63°45'L	222	222 ✓
0°30'	65°47'L	188	188 ✓
0°30'	70°46'L	156	156 ✓
0°35'	71°00'L	135	135 ✓
1°00'	79°25'L	105	105 ✓
1°00'	78°10'L	84	84 ✓

1°00'	78°42'L	0.79	79 ✓
1°00'	71°00'L	0.61	61 ✓
1°00'	58°35'L	0.44	44 ✓
1°00'	94°55'L	0.23	23 ✓
1°00'	108°00'R	0.17	17 ✓

△ From 8<sup>th</sup> ft range line at  
B 5+25 left  
→ B0

## 170 ft Contour

15°00'	171°45'L	0.31	31 ✓
10°30'	119°00'L	0.42	42 ✓
5°40'	102°12'L	0.84	84 ✓
4°10'	93°45'L	1.10	110 ✓
4°00'	87°25'L	1.44	144 ✓
3°20'	89°10'L	1.89	189 ✓
3°10'	89°25'L	2.22	222 ✓
2°15'	88°30'L	2.50	250 ✓

225' 90°40'L 2.75 275 ✓

170' 88°40'L 3.17 317 ✓

105' 89°00'L 3.55 355 ✓

### 175 ft Contour

110' 87°05'L 3.57 357 ✓

055' 86°00'L 3.28 328 ✓

130' 87°55'L 2.88 288 ✓

135' 86°42'L 2.62 262 ✓

145' 85°30'L 2.43 243 ✓

150' 85°50'L 2.23 223 ✓

200' 86°00'L 1.96 196 ✓

200' 83°30'L 1.60 160 ✓

215' 85°00'L 1.32 132 ✓

215' 87°50'L 1.05 105 ✓

430' 92°15'L 0.70 70 ✓

720' 100°13'L 0.39 38 ✓

1635' 196°35'L 0.18 17 ✓

### 180 ft Contour

000' 156°45'L 0.05 5 ✓

050' 87°40'L 0.30 30 ✓

035' 76°25'L 0.70 70 ✓

035' 79°25'L 0.98 98 ✓

050' 78°20'L 1.40 140 ✓

055' 81°55'L 1.84 184 ✓

045' 82°35'L 2.23 223 ✓

045' 82°25'L 2.47 247 ✓

045' 85°00'L 2.75 275 ✓

015' 84°55'L 3.00 300 ✓

005' 84°15'L 3.25 325 ✓

000' 84°50'L 3.57 357 ✓

### 185 ft Contour

030' 83°00'L 3.57 357 ✓

045' 82°00'L 3.30 330 ✓

040' 82°45'L 2.90 290 ✓

035	79°25' L	253	253 ✓
040	79°08' L	117	(117) ✓
840	76°25' L	170	170 ✓
180	72°00' L	133	133 ✓
100	62°25' L	98	98 ✓
210	55°10' L	50	50 ✓
145	9°06' L	31	31 ✓

## 190 ft. Bontour.

600	8°45' L	0.57	56 ✓
600	32°00' L	0.73	72 ✓
345	49°35' L	0.96	96 ✓
345	58°45' L	1.26	126 ✓
300	66°05' L	1.68	168 ✓
215	71°47' L	2.98	198 (298) ✓
215	72°25' L	2.47	247 ✓
130	76°42' L	2.88	288 ✓
150	79°35' L	3.16	316 ✓

130	79°30' L	334	334 ✓
130	80°45' L	357	357 ✓

## 195 ft. Bontour.

200	75°15' L	363	363 ✓
210	75°25' L	325	325 ✓
230	71°22' L	296	296 ✓
245	78°12' L	277	(277) ✓
320	65°00' L	243	243 ✓
330	64°20' L	210	210 ✓
330	60°20' L	168	168 ✓
530	52°25' L	140	140 ✓
550	43°52' L	110	109 ✓
645	24°00' L	0.83	82 ✓

## 200 ft. Bontour.

850	5°12' L	1.05	103 ✓
835	23°05' L	1.05	103 ✓

700'	38°10'L	128	126 ✓
630'	45°56'L	153	151 ✓
530'	52°30'L	181	180 ✓
435'	60°10'L	222	221 ✓
410'	62°38'L	260	259 ✓
320'	68°35'L	284	284 ✓
325'	69°40'L	308	308 ✓
300'	71°56'L	333	333 ✓
250'	75°06'L	367	367 ✓

Δ Pt on 8th range line at

G6

→ G0

200 ft. Contour

040'	55°37'R	300	300 ✓
030'	49°30'R	267	267 ✓
030'	43°25'R	243	243 ✓
035'	31°45'R	205	205 ✓

035'	24°20'R	204	204 ✓
030'	15°08'R	204	204 ✓
030'	3°05'R	215	215 ✓
030'	6°45'L	217	217 ✓
035'	19°50'L	232	232 ✓
035'	27°15'L	234	234 ✓

205 ft. Contour

030'	26°15'L	243	243 ✓
030'	17°00'L	240	240 ✓
035'	9°22'L	233	233 ✓
030'	2°36'L	225	225 ✓
030'	2°28'R	226	226 ✓
040'	10°10'R	217	217 ✓
040'	22°50'R	214	214 ✓
030'	31°10'R	222	222 ✓
030'	39°00'R	243	243 ✓
030'	45°00'R	266	266 ✓

## Vertical Horiz. Rod.

0°30'	49°30'R	2.87	287	✓
0°30'	53°15'R	3.15	315	✓
0°30'	54°48'R	3.40	340	✓
0°30'	55°55'R	3.73	373	✓
0°30'	57°20'R	4.04	404	✓
0°30'	60°00'R	4.30	430	✓
0°30'	63°30'R	4.64	464	✓
0°30'	65°52'R	4.96	496	✓
0°15'	68°30'R	5.48	548	✓

## 210 ft Contour.

0°45'	63°12'R	5.53	553	✓
1°00'	67°04'R	5.05	505	✓
1°00'	58°55'R	4.57	457	✓
1°00'	55°00'R	4.25	425	✓
1°00'	53°30'R	3.93	393	✓
1°00'	51°07'R	3.57	357	✓

1°5'	49°40'R	3.12	312	✓
1°15'	42°05'R	2.78	278	✓
2°00'	37°45'R	2.47	247	✓
2°00'	34°20'R	2.33	233	✓
2°00'	15°00'R	2.24	224	✓
2°00'	11°00'R	2.23	223	✓
2°00'	2°05'L	2.38	238	✓
2°00'	5°45'L	2.38	238	✓
1°50'	13°52'L	2.47	247	✓
2°00'	20°30'L	2.50	250	✓
2°00'	25°13'L	2.54	254	✓

## 215 ft. Contour.

3°10'	24°30'L	2.64	264	✓
3°15'	14°55'L	2.57	257	✓
3°15'	9°50'L	2.53	253	✓
3°15'	6°22'L	2.46	246	✓
3°15'	1°50'L	2.47	247	✓

3°00'	2°20' R	2.48	248	✓
3°15'	10°05' R	2.42	242	✓
3°15'	17°07' R	2.43	243	✓
3°15'	27°37' R	2.66	266	✓
3°00'	35°25' R	2.96	296	✓
3°00'	39°42' R	3.28	328	✓
2°40'	44°35' R	3.60	360	✓
2°20'	49°00' R	4.16	416	✓

Δ Pt on 8<sup>th</sup> St. range line at  
C4 left  
→ C6

### 170 ft. Contour

4°00'	64°07' L	2.67	267	✓
4°15'	63°45' L	2.34	234	✓
5°00'	61°00' L	1.95	194	✓
6°45'	53°00' L	1.47	145	✓
8°15'	38°35' L	1.20	118	✓

8°00'	32°25' L	0.75	74	✓
17°00'	3°15' L	0.58	53	✓
17°00'	41°55' R	0.59	52	✓
12°30'	57°00' R	0.78	74	✓
8°30'	57°30' R	1.18	115	✓
13°00'	58°12' R	0.77	73	✓
14°20'	29°25' R	0.68	64	✓
12°40'	0°30' L	0.78	74	✓
9°30'	18°10' L	1.05	102	✓
7°20'	20°10' L	1.34	132	✓
7°00'	26°30' L	1.55	153	✓
6°40'	33°45' L	1.68	166	✓
6°15'	42°25' L	1.88	186	✓
5°00'	47°15' L	2.37	235	✓
4°00'	48°50' L	2.77	276	✓
3°30'	50°18' L	3.13	313	✓
3°20'	52°30' L	3.43	343	✓
3°10'	52°45' L	3.77	377	✓

3<sup>10</sup>' 52°30'L 3.93 393 ✓3<sup>00</sup>' 52°50'L 4.04 404 ✓

## 17 1/2 ft. contour

3<sup>30</sup>' 51°20'L 3.90 390 ✓3<sup>00</sup>' 51°45'L 3.55 355 ✓3<sup>30</sup>' 50°15'L 3.30 330 ✓3<sup>30</sup>' 48°00'L 3.07 307 ✓4<sup>00</sup>' 46°15'L 2.70 270 ✓5<sup>00</sup>' 43°00'L 2.28 226 ✓6<sup>00</sup>' 39°55'L 1.87 185 ✓6<sup>20</sup>' 38°00'L 1.70 168 ✓6<sup>30</sup>' 19°40'L 1.51 149 ✓7<sup>50</sup>' 13°30'L 1.28 126 ✓10<sup>00</sup>' 5°35'L 0.97 94 ✓12<sup>00</sup>' 15°20'R 0.82 78 ✓11<sup>30</sup>' 44°20'R 0.87 84 ✓8<sup>30</sup>' 50°50'R 1.15 112 ✓8<sup>30</sup>' 58°55'R 1.34 131 ✓6<sup>35</sup>' 68°35'R 1.50 148 ✓5<sup>15</sup>' 72°15'R 1.68 167 ✓6<sup>00</sup>' 71°18'R 1.45 143 ✓8<sup>00</sup>' 62°15'R 1.23 121 ✓9<sup>45</sup>' 63°00'R 1.04 101 ✓15<sup>00</sup>' 61°45'R 0.67 63 ✓22<sup>00</sup>' 29°35'R 0.45 39 ✓18<sup>00</sup>' 29°40'L 0.54 49 ✓12<sup>00</sup>' 41°10'L 0.83 79 ✓9<sup>20</sup>' 44°20'L 1.12 109 ✓7<sup>50</sup>' 54°00'L 1.31 129 ✓4<sup>50</sup>' 69°15'L 1.64 164 ✓2<sup>30</sup>' 65°30'L 2.05 205 ✓1<sup>20</sup>' 66°30'L 2.70 270 ✓

## 18 1/2 ft. contour

1<sup>00</sup>' 69°15'L 2.65 265 ✓

100'	70°06'L	2.05	205	✓
400'	61°55'L	1.38	138	✓
645'	52°46'L	1.01	99	✓
900'	43°30'L	0.70	68	✓
1530'	37°15'L	0.44	41	✓
2200'	16°10'R	0.31	27	✓
1430'	66°50'R	0.50	47	✓
940'	78°25'R	0.84	82	✓
720'	70°18'R	1.15	113	✓
300'	78°45'R	1.50	150	✓
300'	75°25'R	1.90	190	✓
205'	78°45'R	2.24	224	✓
200'	75°45'R	2.56	256	✓
200'	76°08'R	2.75	275	✓
210'	75°45'R	2.40	240	✓
210'	74°35'R	2.20	220	✓
250'	69°20'R	1.96	196	✓
300'	68°45'R	1.70	170	✓

330'	61°35'R	1.51	151	✓
400'	51°15'R	1.31	131	✓
500'	45°05'R	1.07	107	✓
500'	38°30'R	0.94	93	✓
530'	47°25'R	0.94	93	✓
500'	4°30'L	1.17	116	✓
410'	9°55'L	1.38	138	✓
325'	15°42'L	1.60	160	✓
315'	26°35'L	1.77	177	✓
250'	35°00'L	1.93	193	✓
230'	40°15'L	2.30	230	✓
200'	42°50'L	2.53	253	✓
150'	45°35'L	3.02	302	✓
230'	49°45'L	3.40	340	✓
200'	50°05'L	3.63	363	✓

185 ft contour

145'	45°15'L	3.30	330	✓
------	---------	------	-----	---

740'	43°25'L	2.90	290 ✓
200'	40°00'L	2.50	250 ✓
200'	33°05'L	2.00	200 ✓
3°30'	15°10'L	1.73	173 ✓
3°50'	4°10'L	1.40	140 ✓
3°35'	6°40'R	1.10	110 ✓
3°45'	76°55'R	1.07	107 ✓
3°30'	43°00'R	1.25	125 ✓
3°25'	56°50'R	1.60	160 ✓
3°00'	65°55'R	1.92	192 ✓
2°00'	72°10'R	2.43	243 ✓
2°00'	72°25'R	2.77	277 ✓
1°20'	80°30'R	3.25	325 ✓
1°00'	78°25'R	3.53	353 ✓

## 190 ft. Contour.

1°00'	77°40'R	3.20	320 ✓
1°00'	74°30'R	3.04	304 ✓

1°00'	70°50'R	2.83	283 ✓
1°00'	69°30'R	2.50	250 ✓
1°00'	65°45'R	2.23	223 ✓
1°00'	62°00'R	1.85	185 ✓
2°00'	51°55'R	1.68	168 ✓
2°00'	48°25'R	1.48	148 ✓
2°15'	35°15'R	1.22	122 ✓
2°15'	28°25'R	1.17	117 ✓
2°00'	4°15'R	1.31	131 ✓
2°00'	5°40'L	1.60	160 ✓
2°00'	14°05'L	1.83	183 ✓
1°30'	22°35'L	1.90	190 ✓
1°30'	31°45'L	2.10	210 ✓
1°00'	35°15'L	2.48	248 ✓

## 195 ft. Contour.

0°00'	24°35'L	2.40	240 ✓
0°00'	18°10'L	2.00	200 ✓

0°00'	10°5' L	1.88	188 ✓
0°00'	2°00' L	1.63	163 ✓
0°00'	11°40' R	1.30	130 ✓
0°30'	26°18' R	1.31	131 ✓
0°30'	39°00' R	1.50	150 ✓
0°30'	44°55' R	1.72	172 ✓
0°00'	54°50' R	1.91	191 ✓
0°00'	60°00' R	2.00	200 ✓
0°10'	61°00' R	2.34	234 ✓
0°00'	67°15' R	2.60	260 ✓
0°00'	69°55' R	2.90	290 ✓
0°00'	74°05' R	3.26	326 ✓

## 200 ft. Contour

1°00'	71°25' R	3.33	333 ✓
1°00'	69°10' R	3.00	300 ✓
1°00'	66°20' R	2.70	270 ✓
1°00'	68°45' R	2.37	237 ✓

1°15'	57°55' R	2.12	212 ✓
1°15'	49°45' R	2.00	200 ✓
1°30'	42°25' R	1.82	182 ✓
1°30'	30°45' R	1.60	160 ✓
1°30'	19°20' R	1.58	158 ✓
1°30'	10°45' R	1.62	162 ✓
1°30'	9°5' L	1.88	188 ✓

## 205 ft. Contour

2°30'	32°15' R	1.98	198 ✓
2°25'	46°05' R	2.18	218 ✓
2°25'	54°50' R	2.17	217 ✓
2°25'	68°22' R	2.50	250 ✓
2°30'	64°40' R	2.75	275 ✓
2°15'	69°35' R	3.25	325 ✓

## 210 ft. Contour

2°45'	68°00' R	3.28	328 ✓
-------	----------	------	-------

3°00'	65°38'R	303	303 ✓
3°00'	62°05'R	273	273 ✓
3°25'	55°06'R	244	244 ✓
3°15'	46°10'R	243	243 ✓

Δ Pt. on 8<sup>th</sup> St range line at

C 6

→ C 4

195 ft. Contour.

130'	59°07'R	287	287 ✓
130'	52°15'R	258	258 ✓
130'	46°56'R	240	240 ✓
145'	40°30'R	220	220 ✓
215'	32°05'R	200	200 ✓
230'	17°45'R	196	196 ✓
220'	6°55'R	200	200 ✓
215'	3°15'L	207	207 ✓
215'	11°10'L	213	213 ✓

200'	16°35'L	220	220 ✓
145'	21°45'L	223	223 ✓
135'	27°20'L	224	224 ✓

190 ft. Contour.

330'	28°52'L	213	213 ✓
330'	18°15'L	210	210 ✓
330'	11°08'L	205	205 ✓
330'	1°00'R	193	193 ✓
330'	11°56'R	188	188 ✓
330'	22°30'R	180	180 ✓
400'	32°10'R	188	188 ✓
400'	39°00'R	202	202 ✓
325'	45°55'R	220	220 ✓
315'	52°35'R	245	245 ✓
300'	61°00'R	273	273 ✓

## 185 ft. Contour

2°45'	63°45'R	268	268	✓
3°00'	55°00'R	240	240	✓
3°00'	46°45'R	210	210	✓
4°00'	38°45'R	186	186	✓
4°00'	26°15'R	168	168	✓
4°00'	9°30'R	180	180	✓
4°00'	0°45'L	184	184	✓
4°00'	8°45'L	190	190	✓
3°45'	15°00'L	198	198	✓
3°45'	23°50'L	200	200	✓
3°35'	28°25'L	202	202	✓

216.03  
 Albrecht  
 McFarland  
 Co. private  
 Luke

Δ Oron 8<sup>th</sup> Lt range line at  
 C3+35 left.

→ C6

## 185 ft. Contour.

13°00'	47°50'R	137	130	x
13°10'	53°50'R	160	152	x
11°10'	59°45'R	176	169	x
9°30'	61°40'R	215	209	x
8°00'	64°20'R	237	232	x
8°10'	66°25'R	258	253	x
7°35'	65°20'R	292	287	x
6°00'	68°35'R	320	317	x
4°30'	73°00'R	330	329	✓
5°00'	71°30'R	360	357	x
4°45'	69°45'R	385	383	✓

## 190 ft. Contour

3 <sup>20</sup> '	63°20'R	470	470	✓
3 <sup>30</sup> '	63°00'R	437	437	✓
3 <sup>45</sup> '	62°00'R	413	413	✓
3 <sup>45</sup> '	67°45'R	398	398	✓
4 <sup>00</sup> '	70°50'R	380	380	✓
4 <sup>15</sup> '	73°20'R	352	352	✓
3 <sup>00</sup> '	76°35'R	335	335	✓
4 <sup>46</sup> '	72°30'R	318	318	✓
5 <sup>30</sup> '	68°15'R	296	293	X
5 <sup>45</sup> '	68°20'R	258	255	X
7 <sup>10</sup> '	66°18'R	222	219	✓
9 <sup>00</sup> '	64°15'R	182	178	X
9 <sup>15</sup> '	58°30'R	160	156	X
12 <sup>00</sup> '	52°30'R	134	129	X

## 195 ft. Contour

10 <sup>00</sup> '	56°50'R	124	120	X
--------------------	---------	-----	-----	---

9 <sup>35</sup> '	61°50'R	152	148	X
6 <sup>35</sup> '	68°15'R	180	178	X
6 <sup>30</sup> '	69°30'R	210	208	X
5 <sup>15</sup> '	70°15'R	245	243	X
5 <sup>15</sup> '	71°00'R	275	273	X
5 <sup>10</sup> '	71°10'R	300	298	X
3 <sup>40</sup> '	75°05'R	315	315	✓
2 <sup>15</sup> '	78°30'R	335	335	✓
2 <sup>45</sup> '	75°50'R	345	345	✓
3 <sup>20</sup> '	72°40'R	377	377	✓
5 <sup>30</sup> '	70°50'R	400	400	✓
3 <sup>30</sup> '	66°35'R	415	415	✓
3 <sup>30</sup> '	64°18'R	443	443	✓
3 <sup>15</sup> '	64°10'R	488	488	✓
3 <sup>00</sup> '	64°15'R	530	530	✓

## 200 ft. Contour

2 <sup>15</sup> '	65°45'R	522	522	
-------------------	---------	-----	-----	--

## Vertical Horiz Rods

220'	65°55'R	4.83	483	✓
215'	65°55'R	4.60	460	✓
220'	68°10'R	4.30	430	✓
220'	72°30'R	4.13	413	✓
230'	74°38'R	3.78	378	✓
235'	78°10'R	3.50	350	✓
200'	79°40'R	3.45	345	✓
230'	77°38'R	3.12	312	✓
330'	72°55'R	2.90	290	✓
335'	73°12'R	2.50	250	✓
445'	72°20'R	2.18	218	✓
440'	71°50'R	1.84	184	✓
620'	68°30'R	1.52	150	✓
730'	67°45'R	1.22	120	

205 ft. Contour

715'	66°55'R	1.17	115	✓
------	---------	------	-----	---

545'	71°35'R	1.50	148	✓
345'	74°45'R	1.77	177	✓
345'	75°10'R	2.11	211	✓
330'	75°30'R	2.47	247	✓
330'	75°06'R	2.88	288	✓
150'	80°00'R	3.11	311	✓
125'	81°00'R	3.48	348	✓
125'	80°20'R	3.75	375	✓
140'	77°30'R	3.71	371	✓
135'	75°20'R	4.06	406	✓
140'	72°05'R	4.28	428	✓
140'	69°05'R	4.47	447	✓
150'	69°00'R	4.63	463	✓
200'	67°30'R	4.67	467	✓
150'	66°55'R	5.18	518	✓

210 ft. Contour

125'	68°15'R	5.18	518	✓
------	---------	------	-----	---

1°30'	69°00'R	4.74	474 ✓
1°30'	70°16'R	4.67	467 ✓
1°35'	72°00'R	4.47	447 ✓
1°35'	73°36'R	4.28	428 ✓
1°40'	78°00'R	3.87	387 ✓
1°00'	81°37'R	3.90	390 ✓
0°40'	81°36'R	3.56	356 ✓
0°45'	82°05'R	3.17	317 ✓
1°30'	79°00'R	2.90	290 ✓
1°30'	77°22'R	2.48	248 ✓
1°30'	77°52'R	2.08	208 ✓
1°30'	77°37'R	1.78	178 ✓
3°15'	73°35'R	1.36	136 ✓
3°30'	71°50'R	1.16	116 ✓

## 215 ft. Bontown.

3°40'	77°05'R	1.10	110 ✓
3°15'	78°16'R	1.43	143 ✓

1°35'	81°15'R	1.75	175 ✓
1°30'	80°40'R	2.12	212 ✓
0°50'	81°55'R	2.48	248 ✓
0°50'	82°00'R	2.88	288 ✓
0°20'	84°45'R	3.17	317 ✓
0°15'	79°30'R	3.50	350 ✓
0°15'	83°35'R	3.84	384 ✓
0°15'	83°05'R	4.10	410 ✓
0°15'	79°30'R	4.00	400 ✓
0°15'	77°05'R	4.34	434 ✓
0°15'	72°30'R	4.57	457 ✓
0°15'	70°10'R	4.77	477 ✓
0°15'	69°30'R	5.05	505 ✓
0°15'	69°52'R	5.17	517 ✓

## 220 ft. Bontown

0°15'	70°20'R	5.17	517 ✓
0°15'	71°08'R	4.88	488 ✓

0°15'	72°00'R	4.73	473 <sup>v</sup>
0°15'	75°10'R	4.63	463 <sup>v</sup>
0°15'	78°10'R	4.45	445 <sup>v</sup>
0°00'	82°00'R	4.32	432 <sup>v</sup>
0°00'	84°07'R	4.24	424 <sup>v</sup>
0°00'	85°45'R	3.90	390 <sup>v</sup>
0°00'	86°45'R	3.45	345 <sup>v</sup>
0°15'	86°55'R	3.04	304 <sup>v</sup>
0°20'	85°50'R	2.67	267 <sup>v</sup>
0°15'	85°12'R	2.24	224 <sup>v</sup>
0°15'	84°50'R	1.84	184 <sup>v</sup>
0°30'	83°42'R	1.44	144 <sup>v</sup>
0°20'	83°15'R	1.04	104 <sup>v</sup>

Δ Pt on 8<sup>th</sup> range line at  
 D 5+87 left.  
 → D 0.

### 220 ft Contour

3°10'	53°00'R	1.20	120 <sup>v</sup>
3°10'	54°15'R	1.00	100 <sup>v</sup>
3°30'	53°05'R	0.86	86 <sup>v</sup>
5°00'	48°55'R	0.77	76 <sup>v</sup>
5°00'	5°45'R	0.77	76 <sup>v</sup>
5°00'	14°30'L	0.80	79 <sup>v</sup>

The above readings do join, and  
 overlie readings taken in Book 1.  
 Following are contours on right  
 bank of Mulvey Canyon.

### 220 ft Contour

2°20'	96°10'R	2.17	217 <sup>v</sup>
2°20'	96°35'R	1.74	174 <sup>v</sup>

250'	98°00'R	1.48	148 <sup>✓</sup>
300'	103°50'R	1.20	120 <sup>✓</sup>
330'	111°00'R	0.93	93 <sup>✓</sup>
645'	116°00'R	0.58	57 <sup>✓</sup>
645'	115°30'R	0.45	45 <sup>✓</sup>

## 215 ft Contour

650'	104°45'R	0.49	48 <sup>✓</sup>
630'	107°15'R	0.73	72 <sup>✓</sup>
630'	104°50'R	0.98	97 <sup>✓</sup>
630'	100°00'R	1.20	118 <sup>✓</sup>
430'	95°05'R	1.46	146 <sup>✓</sup>
410'	94°30'R	1.78	178 <sup>✓</sup>
400'	92°50'R	2.08	208 <sup>✓</sup>
340'	92°25'R	2.32	232 <sup>✓</sup>
310'	88°55'R	2.55	255 <sup>✓</sup>
300'	85°08'R	2.73	273 <sup>✓</sup>
250'	81°30'R	2.87	287 <sup>✓</sup>

250'	79°20'R	2.96	296 <sup>✓</sup>
------	---------	------	------------------

## 210 ft Contour

315'	77°37'R	3.00	300 <sup>✓</sup>
330'	81°40'R	2.75	275 <sup>✓</sup>
400'	86°15'R	2.55	255 <sup>✓</sup>
415'	90°00'R	2.28	228 <sup>✓</sup>
600'	92°00'R	1.90	188 <sup>✓</sup>
615'	92°08'R	1.51	149 <sup>✓</sup>
1015'	95°55'R	1.23	119 <sup>✓</sup>
1035'	100°18'R	0.92	89 <sup>✓</sup>
1515'	99°25'R	0.70	65 <sup>✓</sup>
1730'	91°47'R	0.56	51 <sup>✓</sup>

## 205 ft Contour

2215'	88°30'R	0.60	51 <sup>✓</sup>
1600'	91°20'R	0.83	77 <sup>✓</sup>
10°00'	92°50'R	1.20	116 <sup>✓</sup>

800'	89°5'R	1.55	152 <sup>✓</sup>
745'	88°35'R	1.90	187 <sup>✓</sup>
535'	89°15'R	2.33	231 <sup>✓</sup>
530'	87°15'R	2.63	261 <sup>✓</sup>
430'	76°00'R	2.96	295 <sup>✓</sup>

## 200 ft Contour

530'	74°10'R	3.00	297 <sup>✓</sup>
545'	77°10'R	2.68	265 <sup>✓</sup>
700'	81°5'R	2.45	241 <sup>✓</sup>
700'	85°15'R	2.10	206 <sup>✓</sup>
1015'	84°35'R	1.72	167 <sup>✓</sup>
1035'	85°37'R	1.43	138 <sup>✓</sup>
1300'	89°45'R	1.20	114 <sup>✓</sup>
1775'	84°00'R	0.90	82 <sup>✓</sup>
2210'	80°35'R	0.75	44 <sup>✓</sup>

## 195 ft Contour

9200'	73°35'	0.88	76 <sup>✓</sup>
1780'	83°45'R	1.14	104 <sup>✓</sup>
1400'	82°50'R	1.43	135 <sup>✓</sup>
1030'	80°30'R	1.78	172 <sup>✓</sup>
830'	81°00'R	2.20	215 <sup>✓</sup>
730'	76°15'R	2.58	254 <sup>✓</sup>
700'	75°10'R	2.83	279 <sup>✓</sup>

Δ Pt on 8<sup>th</sup> St. range line at  
E 3+10 right

→ E<sub>0</sub>

The contours following are taken  
on right bank of ravine.

## 225 ft Contour

110'	86°45'	1.487	482 <sup>✓</sup>
120'	80°5'	1.437	437 <sup>✓</sup>

130'	73°30'L	4.05	405	✓
130'	65°32'L	3.88	388	✓
130'	59°00'L	4.00	400	✓
120'	50°25'L	4.23	423	✓
130'	44°35'L	4.13	413	✓
130'	39°40'L	4.00	400	✓
140'	35°10'L	3.64	364	✓
150'	30°10'L	3.35	335	✓
150'	24°30'L	3.00	300	✓
230'	21°00'L	2.62	262	✓
230'	19°32'L	2.62	262	✓
230'	19°06'L	2.76	276	✓
230'	5°15'R	2.73	273	✓
230'	11°45'R	2.78	278	✓
230'	18°45'R	3.07	307	✓
200'	25°15'R	3.40	340	✓
200'	31°55'R	3.33	333	✓
200'	37°05'R	3.47	347	✓

200' 42°30'R 3.52 352 ✓

320 ft. Contour

230' 42°45'R 3.42 342 ✓

300' 37°15'R 3.37 337 ✓

300' 32°35'R 3.18 318 ✓

300' 25°30'R 3.25 325 ✓

300' 20°00'R 3.00 300 ✓

330' 12°25'R 2.68 268 ✓

330' 32°0'R 2.64 264 ✓

330' 42°5'L 2.63 263 ✓

340' 8°05'L 2.60 260 ✓

340' 12°15'L 2.42 242 ✓

440' 20°30'L 2.14 214 ✓

430' 30°05'L 2.13 213 ✓

400' 32°35'L 2.53 253 ✓

300' 32°12'L 2.97 297 ✓

235' 36°06' 3.44 344 ✓

730'	39°45'L	3.68	368 ✓
730'	42°55'L	3.64	364 ✓
730'	48°30'L	3.92	392 ✓
730'	53°30'L	3.80	380 ✓
730'	59°25'L	3.67	367 ✓
730'	67°32'L	3.70	370 ✓
730'	73°55'L	3.62	362 ✓
730'	78°35'L	3.93	393 ✓
7200'	82°20'L	4.20	420 ✓
7200'	87°30'L	4.46	446 ✓
7200'	90°35'L	4.70	470 ✓
1245'	92°40'L	5.04	504 ✓

## 915 ft. Contour.

200'	93°50'L	4.88	488 ✓
235'	91°22'L	4.52	452 ✓
235'	86°55'L	4.34	434 ✓
300'	81°00'L	3.93	393 ✓

310'	77°55'L	3.74	374 ✓
315'	71°55'L	3.63	363 ✓
320'	64°08'L	3.57	357 ✓
320'	59°15'L	3.53	353 ✓
315'	53°10'L	3.64	364 ✓
315'	48°15'L	3.78	378 ✓
315'	44°12'L	3.76	376 ✓
315'	40°40'L	3.56	356 ✓
400'	36°15'L	3.11	311 ✓
420'	35°35'L	2.65	265 ✓
535'	37°00'L	3.17	317 ✓
545'	32°05'L	1.96	194 ✓
550'	22°12'L	2.00	198 ✓
545'	13°52'L	2.13	211 ✓
500'	8°00'L	2.48	246 ✓
500'	0°05'L	2.55	253 ✓
500'	18°20'R	2.52	250 ✓
430'	18°30'R	2.83	282 ✓

350'	24 <sup>25</sup> R	3.10	310 ✓
350'	29 <sup>50</sup> R	3.10	310 ✓
350'	34 <sup>15</sup> R	3.12	312 ✓
330'	38 <sup>15</sup> R	3.23	323 ✓
330'	43 <sup>07</sup> R	3.30	330 ✓

## 210 ft. Contour.

415'	42 <sup>50</sup> R	3.20	320 ✓
500'	36 <sup>20</sup> R	3.10	308 ✓
500'	32 <sup>15</sup> R	3.00	298 ✓
500'	26 <sup>18</sup> R	3.04	302 ✓
500'	21 <sup>25</sup> R	2.83	281 ✓
550'	16 <sup>15</sup> R	2.62	260 ✓
550'	11 <sup>20</sup> R	2.44	242 ✓
550'	1 <sup>50</sup> R	2.17	245 ✓
550'	5 <sup>30</sup> L	2.40	238 ✓
710'	10 <sup>30</sup> L	2.13	210 ✓
710'	20 <sup>13</sup> L	1.90	188 ✓

710'	32 <sup>25</sup> L	1.89	186 ✓
700'	40 <sup>45</sup> L	2.10	207 ✓
600'	39 <sup>25</sup> L	2.52	250 ✓
445'	38 <sup>25</sup> L	3.00	300 ✓
430'	41 <sup>45</sup> L	3.45	345 ✓
400'	46 <sup>40</sup> L	3.60	360 ✓
400'	52 <sup>25</sup> L	3.53	353 ✓
400'	58 <sup>00</sup> L	3.40	340 ✓
410'	63 <sup>45</sup> L	3.40	340 ✓
410'	69 <sup>08</sup> L	3.46	346 ✓
415'	75 <sup>42</sup> L	3.54	354 ✓
410'	79 <sup>45</sup> L	3.67	367 ✓
400'	82 <sup>50</sup> L	3.88	388 ✓
330'	85 <sup>45</sup> L	4.15	415 ✓
330'	91 <sup>45</sup> L	4.30	430 ✓
330'	94 <sup>15</sup> L	4.43	443 ✓
300'	96 <sup>55</sup> L	4.63	463 ✓

785

A Pt on 8<sup>th</sup> Lt. range line at E<sub>0</sub>

→ E produced easterly

The contours following are taken on the left of ravine as which preceding contours were taken.

## 225 ft. Contour

X	030'	84°05'L	240	240 <sup>✓</sup>
	020'	76°42'L	277	277 <sup>✓</sup>
	020'	72°00'L	290	290 <sup>✓</sup>
	020'	69°45'L	320	320 <sup>✓</sup>
	030'	66°45'L	287	287 <sup>✓</sup>
	030'	66°45'L	233	233 <sup>✓</sup>
	030'	56°45'L	213	213 <sup>✓</sup>
	030'	45°35'L	210	210 <sup>✓</sup>
	030'	36°00'L	295	295 <sup>✓</sup>   205
	030'	24°50'L	204	204 <sup>✓</sup>
	030'	15°10'L	213	213 <sup>✓</sup>

7940

030'	74°5'L	231	231 <sup>✓</sup>
030'	29°05'L	252	252 <sup>✓</sup>
015'	4°05'R	273	273 <sup>✓</sup>
015'	9°15'R	295	295 <sup>✓</sup>
020'	13°45'R	330	330 <sup>✓</sup>
020'	16°30'R	377	377 <sup>✓</sup>

## 220 ft. Contour

105'	17°35'R	393	393
195'	17°20'R	357	357
120'	14°50'R	317	317
130'	10°50'R	287	287
140'	5°10'R	263	263
235'	2°05'L	238	238
230'	8°15'L	218	218
230'	19°40'L	196	196
230'	32°55'L	196	196
230'	44°10'L	198	198

230'	56°13'L	202	202
230'	66°15'L	216	216
230'	69°21'L	240	240
210'	69°10'L	280	280
215'	74°35'L	265	265
210'	80°15'L	243	243

215 ft. bontown.

360'	79°30'L	230	230
250'	71°35'L	259	259
330'	70°08'L	220	220
330'	61°50'L	197	197
330'	50°15'L	190	190
330'	41°40'L	188	188
340'	28°35'L	186	186
330'	18°40'L	188	188
330'	13°04'L	200	200
330'	4°40'L	223	223

315'	255°R	248	248
245'	650°R	260	260
230'	12°35'R	288	288
225'	16°10'R	316	316
230'	18°40'R	347	347
200'	19°30'R	378	378
200'	19°25'R	400'	400

210 ft. bontown

225'	2215°R	432	432
300'	2307°R	403	403
200'	2200°R	370	370
310'	2010°R	337	337
320'	1820°R	316	316
400'	1455°R	287	287
400'	1125°R	267	267
415'	520°R	246	246
500'	020°L	226	224

510'	64°51'L	204	202
600'	14°15'L	185	183
610'	15°12'L	177	175
600'	34°50'L	180	178
555'	47°20'L	179	177
600'	59°07'L	183	181
600'	67°45'L	193	191
440'	73°15'L	215	215
430'	73°46'L	233	233

84  
2/24/103Alberson  
McLaren  
Annamaker  
Lute

3:30 P.M.

△ Pt on Round Canyon base line  
at Sta. 55

→ Sta. 48

735 ft Contour

1300 55°25'R 4.12 391 ✓

1340' 59°30'R 3.92 370 ✓

1445' 67°55'R 3.66 342 ✓

1530' 74°20'R 3.42 318 ✓

1535' 83°30'R 3.35 311 ✓

730 ft Contour

1520' 81°04'R 3.22 300 ✓

1530' 78°00'R 3.20 302 ✓

1440' 69°25'R 3.38 316 ✓

1400' 63°55'R 3.60 339 ✓

85  
43

1320' 58°00'R 3.80 360 ✓

1300' 53°25'R 3.96 376 ✓

1210' 49°20'R 4.10 392 ✓

140 ft Contour

030' 22°45'R 6.30 630 ✓

030' 5°00'R 5.83 583 ✓

030' 5°30'R 5.16 516 ✓

030' 7°10'R 4.60 460 ✓

030' 7°47'R 4.08 408 ✓

030' 7°35'R 3.64 364 ✓

030' 11°00'R 3.08 308 ✓

030' 8°34'R 2.31 231 ✓

145 ft Contour

030' 169°30'R 0.61 61 ✓

030' 99°40'R 0.40 40 ✓

030' 69°04'R 0.70 70 ✓

## Vertical Horiz Rod

0°30'	43°15'R	1.04	1.04	✓
0°30'	38°20'R	1.37	1.37	✓
0°15'	29°00'R	1.74	1.74	✓
0°30'	21°50'R	2.16	2.16	✓
0°30'	18°07'R	2.53	2.53	✓
0°30'	16°33'R	2.90	2.90	✓
0°20'	15°00'R	3.27	3.27	✓
0°20'	13°30'R	3.50	3.50	✓
0°20'	11°48'R	3.88	3.88	✓
0°10'	10°03'R	4.31	4.31	✓
0°10'	9°00'R	4.77	4.77	✓
0°00'	7°45'R	5.15	5.15	✓
0°00'	7°20'R	5.30	5.30	✓
0°00'	9°00'R	5.48	5.48	✓
0°00'	7°20'R	5.76	5.76	✓
0°00'	6°55'R	5.78	5.78	✓

## 150 ft. Contour

0°30'	8°30'R	5.63	5.63	✓
0°20'	8°35'R	5.38	5.38	✓
0°30'	10°10'R	4.94	4.94	✓
0°45'	11°50'R	4.35	4.35	✓
0°45'	13°46'R	3.90	3.90	✓
0°45'	16°30'R	3.47	3.47	✓
0°45'	19°25'R	2.93	2.93	✓
0°45'	21°00'R	2.47	2.47	✓
0°45'	33°06'R	1.92	1.92	✓
1°00'	42°15'R	1.44	1.44	✓
1°05'	59°08'R	1.07	1.07	✓
1°15'	92°46'R	0.88	0.88	✓
1°30'	126°30'R	1.08	1.08	✓
1°30'	129°10'R	1.14	1.14	✓

2105103 Alpersen  
McLaren  
by general  
Lyle

155 ft. contour

250'	132°55'R	154	✓
350'	120°00'R	123	✓
330'	97°20'R	105	✓
345'	67°50'R	117	✓
340'	51°36'R	150	✓
220'	40°15'R	185	✓
200'	31°42'R	228	✓
200'	24°42'R	277	✓
130'	70°35'R	322	✓
130'	17°05'R	366	✓
115'	15°05'R	397	✓
115'	13°04'R	448	✓
110'	11°30'R	497	✓
115'	10°36'R	538	✓

100' 9°55'R 568

160 ft contour

140'	11°55'R	566	✓
140'	12°18'R	528	✓
200'	13°05'R	498	✓
200'	14°30'R	443	✓
215'	16°40'R	400	✓
210'	19°30'R	358	✓
225'	23°30'R	314	✓
240'	27°05'R	280	✓
300'	34°08'R	242	✓
330'	41°52'R	204	✓
420'	52°50'R	169	✓
520'	66°10'R	138	✓
600'	83°45'R	119	✓
600'	99°38'R	121	✓
520'	117°00'R	138	✓

## Vertical Heavy Rods.

440'	127°30'R	176	✓
------	----------	-----	---

## 165 ft. Contour

530'	124°45'R	190	188	✓
700'	118°50'R	161	159	✓
730'	102°25'R	135	133	✓
730'	88°50'R	131	129	✓
700'	73°15'R	141	139	✓
610'	61°52'R	166	164	✓
530'	51°40'R	191	189	✓
450'	42°22'R	214	214	✓
410'	36°48'R	249	249	✓
330'	28°50'R	298	298	✓
315'	24°08'R	333	333	✓
300'	19°55'R	373	373	✓
245'	17°45'R	408	408	✓
245'	16°45'R	432	432	✓

2°30'	15°00'R	480	480	✓
-------	---------	-----	-----	---

2°15'	14°00'R	514	514	✓
-------	---------	-----	-----	---

## 170 ft. Contour

3°00'	15°40'R	528	528	✓
3°00'	16°15'R	489	487	✓
3°15'	17°42'R	445	445	✓
3°30'	19°10'R	407	407	✓
3°30'	21°05'R	375	357	✓
4°00'	24°40'R	348	348	✓
4°00'	27°08'R	323	323	✓
4°30'	32°34'R	290	290	✓
5°00'	37°00'R	263	261	✓
5°30'	42°45'R	238	236	✓
6°10'	49°20'R	215	213	✓
7°00'	57°40'R	196	193	✓
8°00'	68°10'R	168	165	✓
8°40'	77°45'R	150	147	✓

9°25'	100°46'R	149	143	✓
8°00'	117°52'R	177	174	✓
7°00'	122°25'R	202	199	✓

175 ft. Contour

8°00'	120°10'R	213	210	✓
9°00'	116°10'R	194	189	✓
9°30'	109°20'R	173	168	✓
10°00'	99°55'R	160	156	✓
10°15'	88°35'R	153	148	✓
9°30'	74°20'R	173	168	✓
8°30'	63°20'R	193	189	✓
7°30'	56°22'R	217	213	✓
7°00'	47°08'R	238	235	✓
6°00'	38°30'R	277	274	✓
5°30'	33°30'R	305	302	✓
4°50'	27°35'R	336	338	✓
4°30'	23°52'R	368	368	✓

4°10'	21°25'R	399	398	✓
3°50'	19°00'R	450	450	✓
4°00'	15°00'R	490	490	✓

180 ft. Contour

4°15'	19°22'R	487	487	✓
4°15'	20°55'R	442	442	✓
5°15'	22°36'R	412	408	✓
5°10'	22°40'R	376	373	✓
5°45'	29°35'R	346	343	✓
6°00'	33°50'R	321	318	✓
6°30'	38°45'R	291	287	✓
7°30'	44°20'R	263	259	✓
8°00'	50°10'R	243	238	✓
8°30'	57°00'R	237	232	✓
9°25'	63°07'R	207	202	✓
10°10'	73°05'R	191	185	✓
11°10'	82°50'R	174	168	✓

1130'	94°22'R.169	162	✓
1115'	106°45'R.183	176	✓
900'	117°04'R.223	218	✓

2126103  
 2126103  
 11 AM

### 185 ft. Bantown.

530'	20°20'R.473	469	✓
545'	22°20'R.443	439	✓
620'	24°50'R.397	392	✓
630'	26°45'R.380	375	✓
630'	31°55'R.347	343	✓
700'	35°45'R.325	320	✓
740'	41°15'R.293	288	✓
850'	48°10'R.258	252	✓
920'	57°08'R.243	237	✓
1000'	64°20'R.224	217	✓

1115'	75°45'R.202	194	✓
1230'	90°00'R.188	179	✓
1246'	99°10'R.183	174	✓
1130'	107°35'R.200	192	✓
1000'	114°10'R.234	227	✓

### 190 ft. Bantown.

1200'	108°30'R.246	230	✓
1200'	105°30'R.212	202	✓
1245'	94°35'R.202	192	✓
1220'	82°00'R.207	198	✓
1100'	67°45'R.239	228	✓
1010'	60°30'R.252	244	✓
1000'	58°30'R.260	252	✓
915'	47°30'R.278	270	✓
830'	42°45'R.300	293	✓
750'	37°08'R.332	326	✓
700'	31°35'R.370	365	✓

## Vertical Horiz. Rod

6'40"	27°30'R	392	387	✓
6'30"	25°00'R	423	418	✓
5'45"	22°55'R	460	455	✓

## 195 ft. Contour.

6'45"	25°00'R	450	444	✓
6'50"	27°00'R	417	411	✓
7'30"	31°00'R	386	379	✓
8'00"	35°55'R	362	355	✓
8'45"	41°20'R	327	319	✓
9'30"	47°00'R	303	295	✓
10'10"	53°08'R	283	274	✓
11'00"	60°37'R	269	259	✓
11'30"	66°22'R	252	242	✓
12'00"	71°30'R	237	227	✓
13'00"	85°20'R	220	209	✓
15'00"	96°40'R	221	210	✓

12'45"	104°20'R	238	226	✓
--------	----------	-----	-----	---

## 200 ft. Contour.

13'15"	99°40'R	258	245	✓
13'30"	93°40'R	238	225	✓
13'30"	86°50'R	239	226	✓
13'00"	76°30'R	249	236	✓
12'00"	67°15'R	262	251	✓
11'20"	61°55'R	283	271	✓
10'40"	54°20'R	300	290	✓
10'00"	47°50'R	322	312	✓
9'15"	41°40'R	343	334	✓
8'45"	37°47'R	371	362	✓
8'00"	31°36'R	404	396	✓
12'45"	77°45'R	438	417	✓

## 205 ft. Contour.

8'30"	30°42'R	425	416	✓
-------	---------	-----	-----	---

9 <sup>00</sup> '	35 <sup>40</sup> 'R	3.93	383	✓
9 <sup>30</sup> '	41 <sup>42</sup> 'R	3.63	353	✓
10 <sup>15</sup> '	49 <sup>00</sup> 'R	3.40	329	✓
11 <sup>00</sup> '	52 <sup>00</sup> 'R	3.21	309	✓
12 <sup>00</sup> '	57 <sup>30</sup> 'R	3.00	287	✓
12 <sup>00</sup> '	64 <sup>20</sup> 'R	2.91	278	✓
13 <sup>15</sup> '	73 <sup>50</sup> 'R	2.67	253	✓
13 <sup>45</sup> '	81 <sup>40</sup> 'R	2.55	241	✓
13 <sup>50</sup> '	89 <sup>45</sup> 'R	2.53	239	✓
13 <sup>15</sup> '	95 <sup>52</sup> 'R	2.67	253	✓

## 710 ft. contour.

13 <sup>45</sup> '	94 <sup>08</sup> 'R	2.90	274	✓
14 <sup>20</sup> '	86 <sup>45</sup> 'R	2.71	254	✓
14 <sup>00</sup> '	78 <sup>30</sup> 'R	2.73	257	✓
13 <sup>30</sup> '	70 <sup>25</sup> 'R	2.88	272	✓
12 <sup>30</sup> '	66 <sup>07</sup> 'R	3.04	290	✓
12 <sup>15</sup> '	59 <sup>45</sup> 'R	3.12	298	✓

11 <sup>30</sup> '	53 <sup>05</sup> 'R	3.24	311	✓
11 <sup>00</sup> '	48 <sup>15</sup> 'R	3.48	335	✓
10 <sup>00</sup> '	42 <sup>30</sup> 'R	3.80	369	✓
9 <sup>30</sup> '	38 <sup>45</sup> 'R	3.97	386	✓
9 <sup>00</sup> '	33 <sup>52</sup> 'R	4.23	413	✓

## 715 ft. contour.

9 <sup>40</sup> '	37 <sup>46</sup> 'R	4.20	408	✓
10 <sup>10</sup> '	40 <sup>46</sup> 'R	4.02	390	✓
11 <sup>00</sup> '	45 <sup>46</sup> 'R	3.72	359	✓
11 <sup>30</sup> '	51 <sup>12</sup> 'R	3.51	337	✓
12 <sup>30</sup> '	57 <sup>50</sup> 'R	3.28	313	✓
13 <sup>00</sup> '	63 <sup>12</sup> 'R	3.20	304	✓
13 <sup>00</sup> '	62 <sup>20</sup> 'R	3.20	304	✓
13 <sup>45</sup> '	69 <sup>50</sup> 'R	3.04	290	✓
14 <sup>20</sup> '	75 <sup>20</sup> 'R	2.87	269	✓
14 <sup>30</sup> '	82 <sup>00</sup> 'R	2.83	265	✓
14 <sup>00</sup> '	92 <sup>36</sup> 'R	3.04	286	✓

220 ft Contour

14°00'	91°00'R	3.23	304	✓
14°55'	85°30'R	3.00	280	✓
15°00'	77°20'R	3.00	280	✓
14°25'	71°20'R	3.14	295	✓
13°45'	68°20'R	3.27	309	✓
13°40'	65°08'R	3.27	309	✓
13°00'	59°35'R	3.47	329	✓
12°15'	51°45'R	3.67	351	✓
11°30'	46°30'R	3.88	373	✓
10°50'	41°45'R	4.16	401	✓

225 ft Contour

11°30'	44°30'R	4.17	400	✓
12°00'	49°20'R	3.96	379	✓
12°45'	54°30'R	3.74	356	✓
13°30'	59°45'R	3.55	336	✓
14°00'	66°00'R	3.33	314	✓

14°30'	69°25'R	3.34	313	✓
14°50'	71°40'R	3.27	306	✓
15°00'	77°30'R	3.15	294	✓
15°15'	83°05'R	3.17	295	✓
14°30'	89°05'R	3.30	309	✓

onbound boundary by the line  
 Δ Pt. 210 ft from Sta. 55 at angle  
 47°00' L

→ line produced

150 ft Contour

5°00'	139°20'R	0.73	93	✓
3°45'	128°55'R	1.20	120	✓
3°00'	109°00'R	1.71	171	✓
2°30'	101°10'R	1.72	172	✓

point of  
 intersection

155 ft contour

8°35'	99°30'R	1.72	172	✓
8°40'	101°15'R	1.50	150	✓

## 220 ft Contour.

14°00'	91°00'R	3.23	304	✓
14°55'	85°30'R	3.00	280	✓
15°00'	77°20'R	3.00	280	✓
14°25'	71°25'R	3.14	295	✓
13°45'	68°20'R	3.27	309	✓
13°40'	65°00'R	3.27	309	✓
13°00'	57°35'R	3.47	329	✓
12°15'	51°45'R	3.67	351	✓
11°30'	46°30'R	3.88	373	✓
10°50'	41°45'R	4.16	401	✓

## 225 ft Contour

11°30'	44°30'R	4.17	400	✓
12°00'	49°20'R	3.96	379	✓
12°45'	54°30'R	3.74	356	✓
13°30'	59°45'R	3.55	336	✓
14°00'	66°00'R	3.33	314	✓

14°30'	69°25'R	3.34	313	✓
14°50'	71°40'R	3.27	306	✓
15°00'	77°36'R	3.15	294	✓
15°15'	83°05'R	3.17	295	✓
14°30'	89°05'R	3.30	309	✓

on Round Canyon base line  
 A Pt. 210 ft from Sta. 55 at angle  
 47°00' L.

→ line produced

## 150 ft Contour.

5°00'	139°22'R	0.43	93	✓
3°45'	120°55'R	1.20	120	✓
3°00'	109°00'R	1.71	171	✓
2°30'	101°10'R	1.72	172	✓

## 155 ft contour.

0°35'	99°30'R	1.72	172	✓
0°40'	101°15'R	1.50	150	✓

040'	103°40'R	1.17	117	✓
050'	106°30'R	0.83	83	✓
195'	105°15'R	0.53	53	✓
130'	79°55'R	0.90	20	✓
190'	151°00'R	0.40	40	✓

## 160 ft. Contour

115'	148°20'L	0.17	17	✓
195'	50°00'L	0.10	10	✓
120'	28°00'L	0.29	29	✓
145'	21°15'L	0.51	51	✓
015'	30°40'L	0.88	88	✓
015'	11°10'L	0.63	63	✓
000'	16°50'R	0.43	43	✓
000'	62°10'R	0.50	50	✓
000'	84°40'R	0.80	80	✓
020'	92°25'R	1.13	113	✓
030'	92°00'R	1.42	142	✓

030'	93°26'R	1.66	166	✓
------	---------	------	-----	---

## 160 ft. Contour

130'	87°30'R	1.60	160	✓
140'	86°45'R	1.40	140	✓
200'	83°50'R	1.14	114	✓
200'	72°45'R	0.94	94	✓
200'	56°00'R	0.93	93	✓
140'	42°45'R	0.94	94	✓
200'	27°35'R	0.73	73	✓
200'	24°0'R	0.72	72	✓
150'	17°30'L	0.88	88	✓
200'	29°10'L	1.17	117	✓
200'	33°12'L	1.57	157	✓
145'	37°00'L	1.31	131	✓
230'	38°40'L	1.06	106	✓
230'	37°45'L	0.76	76	✓
110'	40°30'L	0.50	50	✓

400' 80°50'L 0.74 24 ✓

170 ft. Contour

1200' 83°40'L 0.38 36 ✓

1150' 58°40'L 0.50 48 ✓

650' 47°40'L 0.80 79 ✓

500' 44°30'L 1.18 117 ✓

300' 39°30' 1.52 152 ✓

300' 37°40' 1.81 181 ✓

230' 36°07'L 2.21 221 ✓

220' 33°30'L 2.07 207 ✓

315' 29°05'L 1.68 168 ✓

495' 20°50'L 1.20 120 ✓

500' 8°45'L 1.00 99 ✓

600' 12°15' R 0.88 87 ✓

500' 28°05' R 0.93 92 ✓

400' 36°45' R 1.28 128 ✓

330' 42°05' R 1.48 148 ✓

continuation of  
 previous  
 numbers  
 ↓

330' 57°00' R 1.32 132 ✓

400' 63°35' R 1.10 110 ✓

400' 73°40' R 1.13 113 ✓

400' 81°00' R 1.31 131 ✓

300' 83°10' R 1.58 158 ✓

Δ Pt. W 8<sup>th</sup> ft. range line 200 ft

N. of G.O.

→ G.O.

175 ft. Contour

345' 98°25' L 3.04 304 ✓

400' 96°25' L 2.66 266 ✓

500' 97°30' L 2.20 218 ✓

600' 98°45' L 1.86 184 ✓

740' 98°25' L 1.46 143 ✓

1130' 95°00' L 0.96 92 ✓

1145' 107°15' L 1.00 96 ✓

## 180 ft. contours

1710'	10550L	0.83	79	✓
1140'	8010L	0.74	71	✓
1145'	7230L	0.93	70	✓
930'	8445L	0.94	91	✓
720'	9130L	1.20	118	✓
535'	9430L	1.57	156	✓
445'	9445L	2.04	204	✓
430'	9425L	2.39	238	✓
340'	9500L	2.60	260	✓
300'	9615L	2.83	283	✓
300'	9605L	3.04	304	✓

## 185 ft. contours

300'	9348L	2.93	293	✓
230'	9240L	2.64	264	✓
230'	9120L	2.47	247	✓
230'	9118L	2.18	218	✓

300'	9000L	1.87	187	✓
315'	8900L	1.64	164	✓
300'	8710L	1.37	137	✓
450'	8404L	1.13	113	✓
500'	7045L	0.87	87	✓
520'	5955L	0.70	70	✓
815'	4330L	0.61	60	✓
800'	7030L	0.57	56	✓
730'	9050L	0.61	60	✓
725'	10455L	0.60	59	✓

## 190 ft. contours

730'	10335L	0.35	35	✓
650'	5930L	0.32	32	✓
630'	3230L	0.48	48	✓
435'	2840L	0.67	67	✓
430'	5500L	0.83	83	✓
300'	7338L	1.08	108	✓

3 <sup>00</sup> '	80°00'L	135	135	✓
2 <sup>30</sup> '	83°20'L	168	168	✓
2 <sup>15</sup> '	86°55'L	200	200	✓
2 <sup>15</sup> '	89°35'L	230	230	✓
2 <sup>15</sup> '	88°55'L	257	257	✓
2 <sup>00</sup> '	90°20'L	287	287	✓

## 195 ft. Contour

0 <sup>45</sup> '	89°00'L	283	283	✓
0 <sup>45</sup> '	85°22'L	247	247	✓
0 <sup>30</sup> '	84°05'L	214	214	✓
0 <sup>40</sup> '	81°46'L	188	188	✓
0 <sup>15</sup> '	78°00'L	159	159	✓
0 <sup>15</sup> '	72°35'L	136	136	✓
0 <sup>15</sup> '	68°00'L	118	118	✓
0 <sup>15</sup> '	58°45'L	104	104	✓
0 <sup>30</sup> '	46°00'L	91	91	✓
0 <sup>30</sup> '	24°40'L	86	86	✓

0 <sup>30</sup> '	6°00'L	81	81	✓
0 <sup>30</sup> '	0°30'L	56	56	✓
0 <sup>30</sup> '	5°20'L	28	28	✓
0 <sup>30</sup> '	33°10'L	11	11	✓
0 <sup>30</sup> '	136°35'L	8	8	✓

## 200 ft. Contour

0 <sup>00</sup> '	104°00'R	0.05	5	✓
0 <sup>00</sup> '	29°20'E	0.23	23	✓
0 <sup>15</sup> '	175°2'R	0.60	60	✓
0 <sup>15</sup> '	11°00'R	0.94	94	✓
0 <sup>15</sup> '	5°45'R	1.08	108	✓
0 <sup>00</sup> '	10°00'L	0.99	99	✓
0 <sup>30</sup> '	29°50'L	1.03	103	✓
0 <sup>30</sup> '	48°25'L	1.08	108	✓
0 <sup>30</sup> '	63°45'L	1.30	130	✓
0 <sup>30</sup> '	72°35'L	1.58	158	✓
0 <sup>30</sup> '	77°30'L	1.88	188	✓

0'15"	79°45' L	2.13	213	✓
0'15"	81°30' L	2.58	258	✓
0'15"	82°20' L	2.77	277	✓

## 205 ft. Contour

1'15"	79°25' L	2.78	278	✓
1'15"	77°55' L	2.43	243	✓
1'20"	75°35' L	2.10	210	✓
1'10"	72°25' L	1.77	177	✓
1'30"	63°45' L	1.50	150	✓
1'35"	50°00' L	1.26	126	✓
1'35"	39°30' L	1.17	117	✓
1'45"	14°15' L	1.13	113	✓
2'00"	1°42' R	1.27	127	✓
2'00"	13°30' R	1.33	133	✓
2'00"	22°15' R	1.07	107	✓
3'00"	32°30' R	0.86	86	✓
3'30"	38°00' R	0.50	50	✓

7'00"	62°12' R	0.76	26	✓
7'00"	86°25' R	0.21	21	✓

2/27/03

Alverson  
m<sup>o</sup> Lauen  
Amundsen  
Lutzel

## 210 ft. Contour

1'25"	108°40' R	0.38	36	✓
1'30"	72°25' R	0.38	36	✓
7'00"	46°55' R	0.66	65	✓
1'45"	37°15' R	1.04	104	✓
2'50"	27°30' R	1.28	128	✓
3'10"	17°52' R	1.50	150	✓
3'15"	6°46' R	1.50	150	✓
3'30"	5°00' L	1.36	136	✓
3'45"	12°13' L	1.24	124	✓
3'45"	32°42' L	1.30	130	✓
3'30"	47°38' L	1.37	137	✓

## Vertical Survey Rod

3°00'	58°52'L	154	154	✓
3°00'	68°10'L	182	182	✓
2°15'	73°50'L	226	226	✓
2°15'	74°52'L	262	262	✓
2°00'	76°00'L	277	277	✓

## 715 ft. Contour

3°30'	72°10'L	267	267	✓
3°30'	70°25'L	232	232	✓
4°30'	67°40'L	207	207	✓
4°15'	63°30'L	185	185	✓
4°45'	56°55'L	163	163	✓
5°15'	48°15'L	152	151	✓
5°30'	35°35'L	142	141	✓
5°30'	20°55'L	138	137	✓
5°30'	9°52'L	142	141	✓
5°00'	0°20'R	158	157	✓

4°30'	9°30'R	173	173	✓
4°30'	15°50'R	170	170	✓
4°30'	22°55'R	169	169	✓
5°00'	38°50'R	150	149	✓
6°30'	48°15'R	122	120	✓
9°25'	51°30'R	109	106	✓
9°15'	55°12'R	081	79	✓
13°00'	65°35'R	060	57	✓
14°30'	94°40'R	045	42	✓
14°30'	105°37'R	054	51	✓

## 220 ft. Contour

16°00'	104°45'R	073	69	✓
16°30'	90°45'R	062	57	✓
14°10'	68°25'R	081	76	✓
12°30'	63°30'R	108	103	✓
13°00'	60°10'R	118	112	✓
8°35'	49°05'R	123	120	✓

710'	41°10'R	149	147	✓
620'	35°35'R	170	168	✓
545'	29°20'R	188	186	✓
540'	19°05'R	193	191	✓
530'	10°15'R	193	191	✓
600'	7°12'R	187	185	✓
645'	5°15'L	170	168	✓
795'	15°00'L	150	148	✓
715'	29°40'L	154	152	✓
710'	42°33'L	157	155	✓
625'	53°00'L	174	172	✓
525'	62°15'L	203	201	✓
500'	67°12'L	231	229	✓
445'	68°40'L	258	257	✓

225 ft Contour

515'	66°45'L	257	255	✓
600'	64°10'L	230	228	✓

700'	59°35'L	200	197	✓
800'	44°35'L	171	168	✓
820'	34°30'L	164	161	✓
830'	21°25'L	162	158	✓
810'	12°18'L	169	166	✓
730'	5°30'L	180	177	✓
700'	0°00'	196	193	✓
635'	5°50'R	206	203	✓
645'	13°22'R	205	202	✓
645'	20°45'R	204	201	✓
650'	24°35'R	200	197	✓
720'	37°50'R	188	185	✓
915'	43°35'R	168	164	✓
945'	49°10'R	142	138	✓
1145'	58°05'R	132	127	✓
1330'	66°00'R	130	123	✓
1430'	71°55'R	105	98	✓
1745'	86°45'R	080	73	✓

1630' 100°50'R 0.87 80 ✓

230 ft. Bontour

1810' 99°05'R 1.05 95

1810' 92°48'R 0.97 88

1730' 78°25'R 1.11 101

1500' 69°30'R 1.42 132

1200' 58°08'R 1.43 13.7

1190' 51°30'R 1.50 144

915' 46°00'R 1.81 176

815' 38°20'R 2.04 200

745' 29°15'R 2.17 213

745' 20°50'R 2.17 213

740' 11°30'R 2.18 214

740' 3°15'R 2.20 216

820' 2°10'L 2.00 196

905' 8°45'L 1.86 181 ✓

1010' 18°10'L 1.73 168 ✓

Taken twice

940' 28°18'L 1.73 168 ✓

930' 40°25'L 1.77 172 ✓

830' 52°35'L 2.00 196 ✓

730' 59°15'L 2.27 223 ✓

700' 63°20'L 2.58 254 ✓

630' 64°10'L 2.81 277 ✓

235 ft. Bontour

730' 62°05'L 2.70 265 ✓

820' 59°12'L 2.47 242 ✓

900' 55°40'L 2.24 219 ✓

930' 50°35'L 2.08 202 ✓

1030' 43°45'L 1.90 184 ✓

1100' 35°30'L 1.84 177 ✓

1100' 25°45'L 1.80 173 ✓

1110' 18°53'L 1.80 173 ✓

1025' 11°25'L 1.91 185 ✓

1000' 4°35'L 2.05 199 ✓

8°50'	1°35' L	226	221
8°30'	4°52' R	233	228
8°30'	14°40' R	228	223
8°30'	22°40' R	233	228
8°30'	29°00' R	230	225
8°50'	35°00' R	220	215
9°30'	49°30' R	206	200
10°45'	48°30' R	190	183
11°30'	51°30' R	175	168
12°40'	55°45' R	159	149
14°35'	68°15' R	159	147
15°20'	74°22' R	150	140
17°10'	82°07' R	120	110
18°25'	90°00' R	111	100
18°05'	91°38' R	120	109

Taken twice

Δ Brown's <sup>8th</sup> traverse line of H.H.70 L

→ H0

735 ft. Contour.

3°55'	82°40' R	387	387	✓
3°55'	87°50' R	375	375	✓
3°55'	91°10' R	360	360	✓
3°30'	92°38' R	330	330	✓
3°30'	92°30' R	300	300	✓
4°00'	89°07' R	265	265	✓
4°00'	86°22' R	240	240	
5°00'	91°00' R	212	210	
5°00'	90°55' R	195	193	
6°20'	85°30' R	172	170	
6°20'	81°25' R	156	154	
8°55'	83°38' R	120	117	
11°35'	73°15' R	88	84	
16°00'	62°55' R	63	58	
16°00'	33°50' R	64	59	

Taken twice

twice	11°30'	12°50'R	0.81	84
	10°00'	32°00'R	1.14	111
	7°30'	35°15'R	1.47	145
	6°00'	37°45'R	1.83	181
	5°30'	38°20'R	2.15	213
	5°00'	37°45'R	2.43	241

## 230 ft. Contour.

twice	5°20'	39°40'R	2.55	253 ✓
	6°00'	41°05'R	2.28	226
	6°30'	41°00'R	2.05	202
	7°00'	40°50'R	1.77	174
	9°00'	39°52'R	1.47	143
	11°15'	39°00'R	1.18	114
	13°30'	78°50'R	0.98	93
	15°00'	73°20'R	0.88	82
	17°00'	40°10'R	0.78	71
	17°00'	57°00'R	0.80	73

twice	13°30'	70°50'R	1.04	98
	11°00'	78°15'R	1.28	123
	8°30'	78°18'R	1.60	157
	7°00'	86°55'R	1.97	194
	6°00'	84°48'R	2.28	226
	6°00'	84°25'R	2.50	248
	4°00'	90°25'R	2.94	294 ✓
	4°00'	91°00'R	3.30	330 ✓
	4°00'	89°35'R	3.54	354 ✓
	4°00'	86°30'R	3.70	370 ✓
3°30'	82°25'R	3.80	380 ✓	

## 225 ft. Contour

4°00'	78°25'R	3.95	385 ✓
4°25'	83°00'R	3.67	367 ✓
3°00'	86°52'R	3.53	350 ✓
4°40'	89°00'R	3.27	327 ✓
4°45'	88°50'R	3.18	317 ✓

Traced

540'	86°15'R	282	279	✓
600'	81°30'R	256	253	✓
635'	80°36'R	240	237	
835'	83°46'R	210	205	
900'	80°56'R	184	179	
1020'	74°25'R	163	158	
1300'	72°45'R	132	125	
1630'	61°10'R	0.98	90	
1820'	41°18'R	0.90	81	
1545'	30°00'R	0.93	86	
1330'	42°36'R	1.14	108	
1120'	45°38'R	1.35	129	
1020'	41°00'R	1.64	159	
830'	44°35'R	1.95	191	
715'	43°30'R	2.27	223	
630'	43°10'R	2.53	253	

220 ft. contour.

730'	45°55'R	2.60	256	
900'	47°20'R	2.18	213	
930'	48°25'R	1.90	185	
1100'	48°12'R	1.65	159	
1235'	49°52'R	1.48	141	
1620'	48°30'R	1.18	109	
1815'	44°52'R	1.02	92	
1645'	59°50'R	1.14	105	
1500'	67°35'R	1.34	125	
1110'	72°25'R	1.75	168	
900'	80°00'R	2.11	206	
725'	78°10'R	2.48	243	
645'	82°00'R	2.80	276	✓
530'	85°09'R	3.12	309	✓
530'	84°30'R	3.47	344	✓
530'	77°25'R	3.72	369	✓
530'	75°30'R	3.88	385	✓

## 215 ft Bontour

600'	73°45'R	384	380	✓
600'	78°00'R	358	354	✓
630'	82°12'R	340	336	✓
645'	83°25'R	315	311	✓
730'	79°35'R	290	285	✓
815'	76°35'R	269	262	✓
870'	75°50'R	240	234	✓
1030'	77°12'R	214	207	✓
1215'	69°48'R	182	174	✓
1430'	65°22'R	158	148	✓
1715'	60°06'R	135	123	✓
1800'	54°30'R	125	113	✓
1300'	54°15'R	153	143	✓
1210'	52°30'R	188	180	✓
1045'	51°00'R	222	214	✓
930'	49°12'R	248	241	✓
830'	47°55'R	272	266	✓

## 210 ft Bontour

830'	50°35'R	280	274	✓
1030'	52°53'R	255	247	✓
1135'	55°10'R	223	214	✓
1300'	57°00'R	190	180	✓
1300'	58°22'R	150	140	✓
1500'	65°42'R	178	166	✓
1230'	71°05'R	210	200	✓
1125'	74°07'R	220	211	✓
1000'	73°05'R	248	240	✓
900'	74°40'R	278	271	✓
900'	80°30'R	318	310	✓
730'	78°55'R	340	334	✓
700'	73°15'R	364	359	✓
620'	71°20'R	395	390	✓

△ P.E. on 8<sup>th</sup> H range line 260 ft N  
of G.O.  
→ H.O.

205 ft Contour

15°45'	113°30' L	1.047	44	✓
9°30'	84°35' L	0.91	69	✓
6°30'	74°20' L	1.03	102	✓
6°00'	52°05' L	1.11	110	✓
6°00'	39°55' L	1.36	135	✓
4°00'	32°35' L	1.76	176	✓
4°00'	25°50' L	2.02	202	✓
4°30'	22°45' L	1.74	174	✓
5°50'	14°42' L	1.43	142	✓
6°30'	2°05' L	1.14	113	✓
5°20'	14°00' R	1.08	107	✓
6°15'	31°00' R	1.18	117	✓
5°00'	36°45' R	1.52	151	✓
4°35'	38°30' R	1.79	179	✓

4°00'	45°45' R	1.80	180	✓
4°00'	53°05' R	1.78	178	✓
4°00'	56°50' R	1.86	186	✓

200 ft Contour

3°00'	61°48' R	1.66	166	✓
3°00'	53°05' R	1.63	163	✓
3°20'	44°25' R	1.64	164	✓
4°00'	40°00' R	1.32	132	✓
4°30'	34°55' R	1.09	109	✓
5°00'	13°00' R	0.97	97	✓
5°00'	11°35' L	1.14	113	✓
3°30'	21°42' L	1.41	141	✓
3°00'	28°10' L	1.68	168	✓
4°00'	35°35' L	1.39	139	✓
4°30'	58°30' L	1.03	103	✓
5°00'	62°18' L	0.94	93	✓
6°00'	74°10' L	0.86	85	✓

129

8°35'	82°40'L	0.54	53	✓
13°50'	122°35'L	0.31	29	✓
14°00'	163°35'L	0.43	40	✓

## 195 ft. Bontour.

5°30'	183°50'L	0.38	38	✓
5°30'	143°30'L	0.16	16	✓
5°30'	75°35'L	0.29	29	✓
2°00'	60°40'L	0.67	67	✓
2°20'	40°40'L	0.98	98	✓
2°10'	31°00'L	1.30	130	✓
2°20'	75°30'L	1.07	107	✓
2°30'	1°00'L	0.82	82	✓
2°30'	77°15'R	0.83	83	✓
5°15'	41°30'R	0.93	93	✓
3°00'	45°40'R	1.27	127	✓
1°35'	49°22'R	1.40	140	✓
1°50'	56°35'R	1.32	132	✓

## 190 ft. Bontour.

1°30'	139°10'R	0.46	46	✓
1°30'	131°25'R	0.20	20	✓
1°00'	37°55'L	0.20	20	✓
1°00'	38°35'L	0.56	56	✓
0°45'	33°25'L	0.58	58	✓
0°45'	105°00'L	0.49	49	✓
0°30'	41°25'R	0.60	60	✓
0°30'	55°55'R	0.86	86	✓
0°30'	58°35'R	1.08	108	✓
0°30'	68°25'R	1.21	121	✓
0°30'	71°50'R	1.47	147	✓

## 185 ft. Bontour.

0°00'	71°30'R	1.46	146	✓
-------	---------	------	-----	---

210'	77°05'R	1.17	117	✓
215'	68°30'R	0.90	90	✓
250'	77°20'R	0.63	63	✓
400'	62°46'R	0.30	30	✓
400'	77°50'R	0.23	23	✓
300'	73°00'R	0.17	17	✓
300'	110°55'R	0.30	30	✓
300'	115°15'R	0.60	60	✓

## 180 ft. Contour.

520'	111°45'R	0.73	73	✓
710'	101°45'R	0.43	43	✓
715'	78°50'R	0.26	26	✓
700'	98°15'R	0.53	53	✓
700'	93°25'R	0.81	80	✓
620'	76°10'R	0.88	87	✓
445'	81°00'R	1.10	110	✓
320'	82°00'R	1.42	142	✓

300'	81°35'R	1.54	154	✓
------	---------	------	-----	---

## 175 ft. Contour

430'	86°00'R	1.57	157	✓
540'	87°30'R	1.31	130	✓
545'	89°40'R	1.03	102	✓
600'	101°10'R	0.87	86	✓
900'	105°38'R	0.70	68	✓
800'	107°00'R	0.88	86	✓

## 210 ft. Contour.

800'	120°5'R	1.27	125	✓
730'	27°30'R	1.34	132	✓
615'	32°50'R	1.65	163	✓
530'	36°45'R	1.97	195	✓
500'	43°10'R	2.05	203	✓
500'	46°50'R	2.22	220	✓

## 215 ft. Contour

530' 39°45'R 237 235 ✓

600' 34°38'R 218 216 ✓

700' 30°35'R 183 181 ✓

900' 23°45'R 152 148 ✓

900' 10°07'R 144 140 ✓

## 220 ft. Contour

1000' 10°30'R 158 153 ✓

995' 23°15'R 170 166 ✓

915' 28°55'R 199 196 ✓

950' 29°05'R 227 223 ✓

800' 26°45'R 257 252 ✓

## 225 ft. Contour

920' 25°38'R 240 234 ✓

900' 25°45'R 205 200 ✓

1020' 17°45'R 183 177 ✓

1100' 9°07'R 173 167 ✓

## 230 ft. Contour

1130' 14°15'R 190 182 ✓

1030' 21°30'R 203 196 ✓

1100' 23°35'R 230 222 ✓

1040' 23°15'R 240 232 ✓

## 235 ft. Contour

1050' 21°17'R 240 232 ✓

1130' 19°35'R 218 209 ✓

1200' 15°10'R 206 198 ✓

1215' 11°30'R 204 195 ✓

△ Pt on Round Canyon base line,  
270 ft. from Sta. 55 at angle  $47^{\circ}00'$

→ line produced

175 ft. Contour

500'	$24^{\circ}35'$ R	1.67	166	✓
600'	$17^{\circ}40'$ L	1.38	137	✓
630'	$4^{\circ}40'$ L	1.11	110	✓
710'	$10^{\circ}35'$ R	1.03	101	✓
700'	$25^{\circ}15'$ R	1.07	105	✓
530'	$33^{\circ}16'$ R	1.38	137	✓
500'	$36^{\circ}37'$ R	1.67	166	✓
480'	$41^{\circ}10'$ R	1.90	190	✓
500'	$45^{\circ}10'$ R	1.77	176	✓
500'	$51^{\circ}55'$ R	1.55	154	✓
520'	$60^{\circ}55'$ R	1.38	137	✓
535'	$68^{\circ}48'$ R	1.32	131	✓
500'	$77^{\circ}00'$ R	1.43	142	✓
500'	$79^{\circ}00'$ R	1.55	154	✓

180 ft. Contour

630'	$73^{\circ}20'$ R	1.65	143	✓
615'	$63^{\circ}50'$ R	1.54	152	✓
655'	$56^{\circ}20'$ R	1.70	168	✓
545'	$51^{\circ}00'$ R	1.93	191	✓
530'	$47^{\circ}05'$ R	2.16	214	✓
430'	$42^{\circ}46'$ R	2.38	238	✓
500'	$38^{\circ}50'$ R	2.13	211	✓
600'	$34^{\circ}25'$ R	1.84	182	✓
725'	$31^{\circ}50'$ R	1.53	151	✓
830'	$24^{\circ}45'$ R	1.25	122	✓
1010'	$11^{\circ}45'$ R	1.14	110	✓
830'	$1^{\circ}50'$ L	1.24	121	✓
700'	$15^{\circ}00'$ L	1.49	147	✓
625'	$21^{\circ}40'$ L	1.76	174	✓

185 ft. Contour

700'	$19^{\circ}00'$ L	1.86	183	✓
------	-------------------	------	-----	---

8 <sup>00</sup>	15 <sup>00</sup> L	1.65	162	✓
9 <sup>00</sup>	9 <sup>20</sup> L	1.50	146	✓
10 <sup>00</sup>	0 <sup>50</sup> R	1.34	130	✓
10 <sup>00</sup>	13 <sup>15</sup> P	1.78	124	✓
9 <sup>30</sup>	73 <sup>10</sup> R	1.40	136	✓
8 <sup>30</sup>	29 <sup>10</sup> R	1.62	158	✓
7 <sup>30</sup>	31 <sup>22</sup> R	1.90	187	✓
6 <sup>00</sup>	35 <sup>55</sup> R	2.21	219	✓
5 <sup>20</sup>	39 <sup>30</sup> R	2.57	255	✓
5 <sup>00</sup>	42 <sup>00</sup> R	2.79	277	✓
5 <sup>00</sup>	44 <sup>55</sup> R	2.60	258	✓
5 <sup>50</sup>	48 <sup>55</sup> R	2.38	236	✓
6 <sup>30</sup>	52 <sup>20</sup> R	2.13	210	✓
6 <sup>35</sup>	54 <sup>00</sup> R	1.97	194	✓
7 <sup>15</sup>	59 <sup>22</sup> R	1.83	180	✓
7 <sup>30</sup>	67 <sup>10</sup> R	1.76	173	✓
7 <sup>00</sup>	71 <sup>50</sup> R	1.93	190	✓

## 190 ft. Bantown.

7 <sup>30</sup>	70 <sup>20</sup> R	2.17	213	✓
8 <sup>15</sup>	66 <sup>20</sup> R	2.02	198	✓
8 <sup>30</sup>	60 <sup>35</sup> R	1.97	193	✓
7 <sup>30</sup>	53 <sup>25</sup> R	2.31	227	✓
6 <sup>45</sup>	50 <sup>50</sup> R	2.60	256	✓
6 <sup>00</sup>	47 <sup>10</sup> R	2.86	283	✓
5 <sup>20</sup>	43 <sup>20</sup> R	3.17	314	✓
5 <sup>40</sup>	39 <sup>12</sup> R	2.91	288	✓
6 <sup>35</sup>	36 <sup>40</sup> R	2.57	254	✓
7 <sup>30</sup>	32 <sup>50</sup> R	2.76	272	✓
8 <sup>30</sup>	29 <sup>22</sup> R	2.05	201	✓
10 <sup>00</sup>	25 <sup>10</sup> R	1.78	173	✓
11 <sup>30</sup>	15 <sup>10</sup> R	1.51	145	✓
11 <sup>30</sup>	4 <sup>45</sup> R	1.52	146	✓
10 <sup>15</sup>	6 <sup>12</sup> L	1.62	157	✓
9 <sup>30</sup>	13 <sup>35</sup> L	1.83	178	✓

139

69

146

1470

43

71

2/25/03  
 Alverson  
 M. L. Larent  
 Arginosa  
 Lube

0 20 P M

△ Pt. on 8<sup>th</sup> ft range line at

A 2 left

→ A.O.

165 ft contour

240'	128°00'R	122	122	✓
245'	112°00'R	0.95	95	✓
245'	89°40'R	0.74	74	✓
245'	77°00'R	0.96	96	✓
245'	59°25'R	0.87	87	✓
250'	35°20'R	0.68	68	✓
300'	31°35'R	1.12	112	✓
230'	41°05'R	1.53	153	✓
220'	51°45'R	1.83	183	✓
200'	48°40'R	2.31	231	✓
100'	52°20'R	4.87	287	✓

100'	51°00'R	3.38	338	✓
100'	44°05'R	3.60	360	✓
100'	36°00'R	3.75	375	✓
030'	24°00'R	4.17	417	✓
030'	19°20'R	4.60	460	✓

170 ft contour

000'	16°00'R	6.30	630	✓
000'	14°52'R	5.60	560	✓
000'	12°00'R	5.15	515	✓
000'	9°20'R	4.88	488	✓
000'	5°36'R	4.47	447	✓
000'	1°30'R	3.96	396	✓
000'	1°50'R	3.43	343	✓
000'	9°15'R	3.10	310	✓
000'	18°40'R	3.00	300	✓
000'	19°05'R	2.90	290	✓
000'	20°00'R	2.63	263	✓

## Vertical Horiz Rod

0°00'	24°12'R	253	✓
0°00'	23°55'R	203	✓
0°00'	15°00'R	154	✓
0°00'	8°40'R	114	✓
0°00'	8°15'L	85	✓
0°00'	28°30'L	63	✓
0°00'	44°35'L	37	✓
0°00'	89°00'L	17	✓
0°00'	172°50'R	31	✓
0°00'	134°15'R	53	✓
0°00'	139°55'R	91	✓
0°00'	146°25'R	99	✓

Δ Pt. on 8<sup>th</sup> St range line B 1450 right

→ B produced easterly

175 ft. Contour

3°20'	71°15'L	226	✓
-------	---------	-----	---

3°30'	81°30'L	197	✓
3°30'	91°35'L	184	✓
3°30'	105°20'L	198	✓
3°35'	114°05'L	180	✓
5°45'	128°22'L	146	✓
5°10'	129°35'L	116	✓
7°10'	127°12'L	79	✓
11°20'	84°35'L	46	✓
12°30'	29°20'L	43	✓
7°10'	15°10'R	76	✓
5°00'	32°20'R	114	✓
3°15'	39°30'R	143	✓
2°35'	42°45'R	215	✓
2°15'	46°40'R	253	✓
1°35'	49°35'R	282	✓

170 ft. Contour

2°30'	45°35'R	287	✓
-------	---------	-----	---

3°00'	39°25'R	237	✓
4°00'	35°45'R	187	✓
5°15'	29°30'R	145	✓
6°35'	21°10'R	105	✓
7°45'	3°00'L	81	✓
11°30'	33°30'L	62	✓
11°20'	74°30'L	59	✓
9°15'	113°18'L	77	✓
6°30'	121°45'L	111	✓
4°50'	112°45'L	150	✓
3°50'	105°00'L	178	✓
4°00'	90°48'L	170	✓
3°30'	76°12'L	200	✓
3°00'	71°35'L	237	✓

160 ft. Bontown

4°30'	68°00'L	243	✓
5°00'	69°42'L	211	✓

6°30'	74°45'L	183	✓
6°45'	85°00'L	162	✓
7°00'	91°08'L	158	✓
7°00'	103°20'L	155	✓
7°00'	108°00'L	148	✓
8°30'	113°45'L	121	✓
11°00'	111°45'L	93	✓
14°00'	89°22'L	73	✓
14°00'	53°20'L	74	✓
13°30'	39°35'L	84	✓
11°00'	4°05'L	100	✓
8°30'	15°52'R	125	✓
7°35'	25°10'R	147	✓
5°30'	29°49'R	191	✓
5°00'	31°37'R	225	✓
4°10'	37°30'R	262	✓
3°30'	40°50'R	288	✓

## 160 ft. Contour

430'	38°00'R	292	✓
430'	33°40'R	260	✓
500'	29°18'R	232	✓
615'	24°20'R	192	✓
800'	19°50'R	149	✓
910'	8°40'R	130	✓
930'	8°00'L	115	✓
1100'	22°10'L	109	✓
1300'	44°45'L	93	✓
1315'	68°15'L	84	✓
1245'	98°52'L	92	✓
1100'	104°40'L	114	✓
920'	103°40'L	133	✓
920'	95°45'L	138	✓
830'	82°20'L	150	✓
700'	71°05'L	181	✓
620'	65°45'L	208	✓

530'	63°25'L	243	✓
450'	64°15'L	273	✓
495'	68°30'L	318	✓
400'	69°55'L	363	✓
300'	72°30'R	400	✓
300'	73°15'L	423	✓

Δ Pt. on 8th St. range line at B3+65L  
→ B0

## 210 ft. Contour

0°00'	88°35'L	130	✓
0°00'	75°15'L	89	✓
0°00'	41°45'L	70	✓
0°00'	21°35'L	71	✓
0°00'	0°05'L	96	✓
0°00'	14°05'L	130	✓
0°30'	19°08'L	168	✓
0°30'	22°40'L	202	✓

## 205 ft. Contour

0°00'	8°07'L	213	213 ✓
0°00'	1°25'R	183	183 ✓
0°00'	9°00'R	153	153 ✓
0°00'	29°45'R	147	147 ✓
0°00'	45°00'R	140	140 ✓
0°00'	55°45'R	146	146 ✓
0°00'	55°45'R	98	98 ✓
0°00'	84°32'R	60	60 ✓
0°00'	117°30'R	22	22 ✓
0°00'	135°00'L	32	32 ✓
0°00'	110°50'L	94	94 ✓

## 200 ft. Contour

<del>4°20'</del>	<del>145°30'L</del>	<del>0.69</del>	
<del>6°30'</del>	<del>179°35'R</del>	<del>0.45</del>	
<del>5°00'</del>	<del>112°25'R</del>	<del>0.65</del>	
<del>3°00'</del>	<del>94°30'R</del>	<del>1.04</del>	

<del>2°30'</del>	<del>73°45'R</del>	<del>1.78</del>	
<del>2°30'</del>	<del>70°00'R</del>	<del>1.77</del>	
<del>1°30'</del>	<del>63°07'R</del>	<del>2.74</del>	
<del>1°45'</del>	<del>50°25'R</del>	<del>2.05</del>	
<del>1°46'</del>	<del>30°00'R</del>	<del>1.95</del>	

## 200 ft. Contour

1°10'	70°00'R	207	207 ✓
1°20'	32°17'R	202	202 ✓
1°30'	46°05'R	204	204 ✓
1°15'	60°00'R	227	227 ✓
2°30'	72°15'R	228	228 ✓
2°30'	74°05'R	178	178 ✓
2°15'	79°55'R	138	138 ✓
2°15'	97°30'R	110	110 ✓
4°00'	118°15'R	78	78 ✓
3°00'	158°25'R	51	51 ✓
4°05'	163°30'L	60	60 ✓

430' 139°45'L 0.78 ✓

195 ft. Contour.

430' 138°45'L 1.05 105 ✓

400' 160°15'L 0.89 89 ✓

400' 161°50'R 0.78 78 ✓

400' 178°07'R 1.00 100 ✓

480' 102°07'R 1.30 130 ✓

345' 89°55'R 1.60 160 ✓

300' 82°36'R 1.96 196 ✓

300' 79°40'R 2.45 245 ✓

220' 75°30'R 2.96 296 ✓

230' 69°30'R 2.88 288 ✓

200' 60°00'R 2.74 274 ✓

200' 50°00'R 2.60 260 ✓

200' 39°10'R 2.56 256 ✓

200' 31°00'R 2.73 273 ✓

110' 23°30'R 2.92 292 ✓

Δ Ptong<sup>th</sup> thru range line at G2 h  
→ G6. h

220 ft. Contour.

110' 45°20'R 2.12 212 ✓

105' 34°35'R 1.77 177 ✓

120' 23°25'R 1.47 147 ✓

120' 2°05'L 1.40 140 ✓

130' 30°50'L 1.47 147 ✓

130' 53°25'L 1.68 168 ✓

135' 68°30'L 2.16 216 ✓

140' 77°15'L 2.70 270 ✓

140' 83°35'L 3.44 344 ✓

120' 85°52'L 3.63 363 ✓

120' 92°20'L 3.04 304 ✓

225 ft. Contour.

120' 75°15'L 1.05 105 ✓

140' 48°35'L 0.72 72 ✓

1°20'	10°40'R	0.92	72 ✓
1°20'	39°00'R	1.14	114 ✓
1°15'	47°30'R	1.82	182 ✓
0°45'	56°15'R	2.26	226 ✓
0°30'	62°05'R	2.80	280 ✓
0°15'	66°55'R	3.22	322 ✓

## 230 ft. Contour.

0°05'	72°10'R	3.22	322 ✓
0°05'	73°00'R	2.58	258 ✓
0°10'	74°55'R	2.20	220 ✓
0°00'	83°20'R	2.00	200 ✓
0°00'	91°40'R	2.00	200 ✓

Δ from 8th H. range line at □ 0

→ Co

## 225 ft. Contour.

0°00'	100°00'L	2.63	263 ✓
0°00'	85°30'L	1.22	122 ✓
0°00'	68°05'L	0.73	73 ✓
0°00'	41°36'L	0.47	47 ✓
0°00'	1°35'R	0.78	78 ✓
0°00'	12°06'R	1.38	138 ✓
0°00'	19°00'R	1.87	187 ✓

## 230 ft. Contour.

0°10'	78°05'R	1.96	196 ✓
0°10'	78°30'R	1.55	155 ✓
0°10'	75°00'R	1.16	116 ✓
0°10'	35°00'R	0.66	66 ✓
0°10'	86°25'R	0.30	30 ✓
0°10'	152°50'R	0.33	33 ✓

## 735 ft contour

770' 175°12'R 0.74 74 ✓

730' 94°15'R 0.76 76 ✓

370' 62°00'R 0.90 90 ✓

700' 45°10'R 1.76 176 ✓

700' 40°30'R 1.73 173 ✓

700' 38°00'R 1.97 197 ✓

2/26/03  
 depression  
 N. Loren  
 Gargisola  
 Lake

Δ Pt. on 6th St. range line 948 ft  
 700' So line of Park

→ Range line produced northward  
 150 ft contour.

630' 41°15'L 0.56 56 ✓

630' 45°15'L 0.51 50 ✓

370' 83°10'L 1.05 105 ✓

330' 68°45'L 1.10 110 ✓

310' 52°00'L 1.26 126 ✓

255' 42°25'L 1.44 144 ✓

370' 78°55'L 1.22 122 ✓

300' 73°55'L 1.36 136 ✓

270' 15°22'L 1.66 166 ✓

220' 9°10'L 1.90 190 ✓

210' 2°15'L 2.12 212 ✓

0°10' 0°25'L 2.42 242 ✓

100' 3°40'L 2.75 275 ✓

100' 1°00'L 3.02 302 ✓

100' 0°05'L 2.80 280 ✓

100' 43°7'R 2.53 253 ✓

100' 7°10'R 2.43 243 ✓

100' 10°30'R 2.07 207 ✓

100' 28°40'R 1.68 168 ✓

130' 2°45'R 1.27 127 ✓

200' 0°45'R 0.88 88 ✓

(vert)

△ Pt. on 8<sup>th</sup> Strangeline

at C2

→ G0

210 ft Contour (Approx)

245° 69°10'R 3.14

245° 69°10'R 2.14

245° 9°10'W 0.52 52

△ Pt. on 6<sup>th</sup> Strangeline 1250 ft W  
of So line of Park

→ Range line produced northward  
160 ft Contour

600' 78°05'R 0.56 55 ✓

600' 62°15'R 0.73 72 ✓

500' 49°25'R 0.96 95 ✓

200' 38°50'R 1.23 123 ✓

vert	Hoz	Rod	
130'	33°08'R	1.56	156 ✓ 80
080'	28°30'R	1.71	171 ✓
030'	32°25'R	1.52	152 ✓
115'	33°45'R	1.21	121 ✓
100'	34°42'R	0.99	99 ✓
100'	45°38'R	0.68	68 ✓
100'	53°48'R	0.36	36 ✓

#

Return to City Engineers Office  
City Hall, San Diego, Cal.

157

TRAVERSE TABLE FOR TRANSIT BOOK.  
Return to City Engineers Office  
From 1° to 90° for a distance of 100.  
City Hall, San Diego, Cal.

Degrees	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		Degrees
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¼ DEGREE.		½ DEGREE.		¾ DEGREE.		

Published by H. S. CROCKER COMPANY, Stationers, Drawing Materials,  
Mathematical Instruments, etc., San Francisco.