

University Heights.  
Levels over

California St.

Oregon "

Idaho "

Utah "

Kansas " -

LEVEL

189

F.B. 189

Table showing the difference in altitude 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.

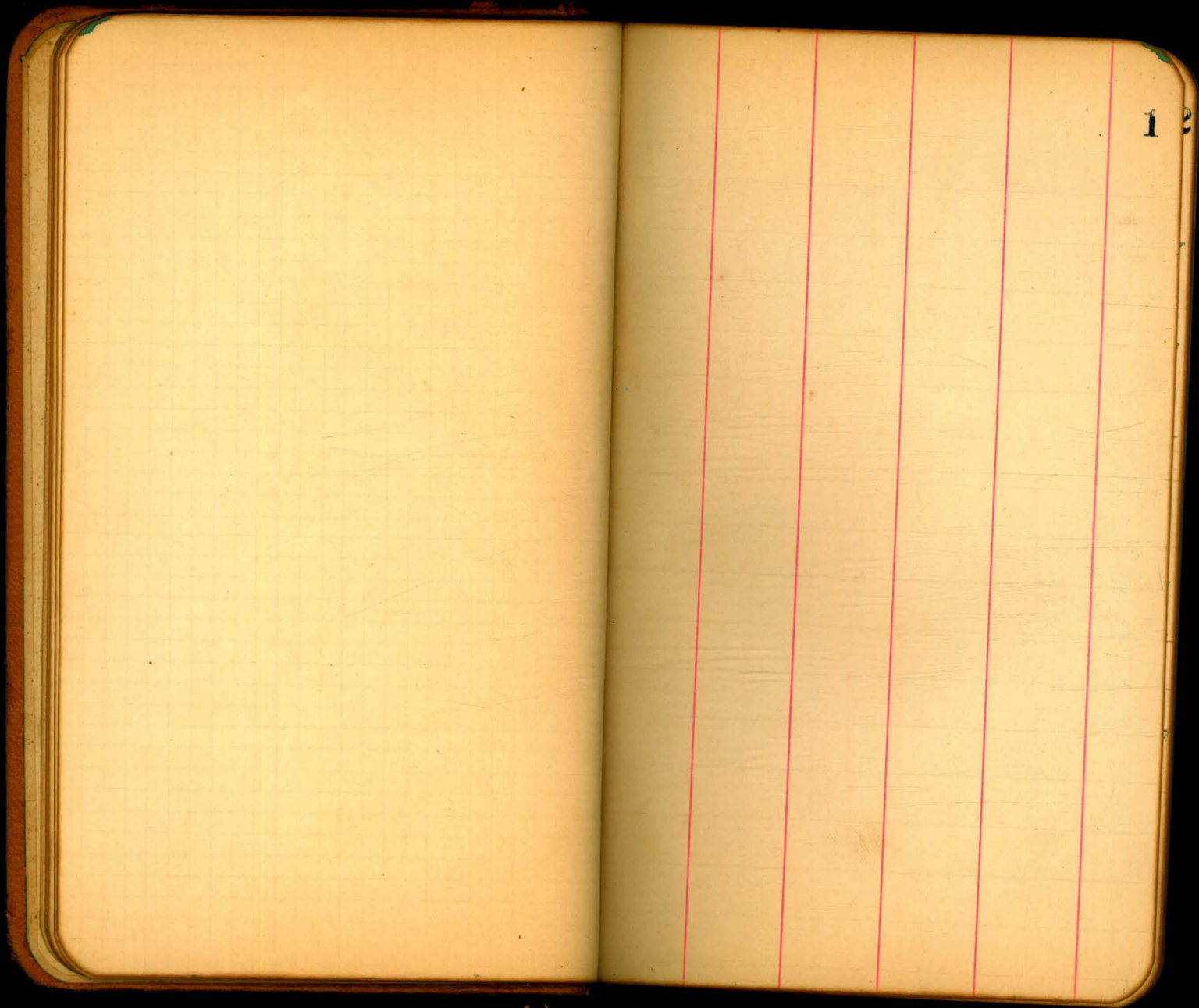
TABLE FOR RUNNING ON SLOPES.

In the following table the first column shows 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.





California

S+

Dane  
Brooks  
65 Haslam  
372.09

6.11 378.20

No line Cl. Cajon

38 No

50 No

68 "

100 "

130 "

150 "

171 "

180 "

200 "

220 "

236 "

250 "

300 "

T.P. 6.485 379.745 4.94

373.26

350 "

363 "

375 "

392 "

Adams Ave. to Univ Ave

2

W

CTR

E

9.3 368.9 9.0 369.2 7.4 370.8

10.2 368.0

9.1 369.1 8.7 369.5 6.9 371.3

8.7 369.5

10.2 368.0 8.7 369.5 6.7 371.5

9.4 368.8 8.8 369.4 7.4 370.8

10.4 367.8 7.0 371.2

10.6 367.6 8.7 369.5 7.3 370.9

6.0 372.2

7.0 371.2

9.7 368.5 6.8 371.4 6.2 372.0

9.2 369.0 7.0 371.2 5.3 372.9

10.3 369.4 7.5 372.2 6.7 373.0

8.9 370.8 6.3 373.4

9.6 370.1



California St

379.745

400 No of El Coyon  
 422 "  
 440 "  
 450 "  
 500 "  
 516 "  
 535 "  
 550 "  
 562 "  
 576 "  
 582 "  
 S. line Jackson  
 23' No of S. line.  
 Ctr Jackson  
 No. line "  
 6.185 379.28 6.65 373.095  
 24' No  
 50' "  
 71 "

W	CTR	E
9.0	370.7	8.2
9.0	372.3	8.1
8.8	370.9	6.8
9.0	370.7	7.4
		5.5
		6.7
7.9	371.8	7.0
8.9	370.9	
7.8		
9.2	370.5	7.7
		6.0
		6.5
9.1	371.6	6.8
9.0	370.7	7.4
		6.2
8.6	370.7	4.8
		4.8
		6.0

371.5 7.0 372.7  
 370.6 5.7 374.0  
 372.8  
 372.9 6.5 373.2  
 372.3 6.8 373.0  
 374.2  
 373.0  
 373.1  
 373.2  
 374.5  
 373.4  
 373.1  
 373.1  
 374.5  
 373.5  
 373.5

California St

379.28

No	
100	No
127	"
150	"
163	"
178	"
188	"
200	"
220	"
224	"
250	"
290	"
300	"
332	"
350	"
364	"
400	"
436	"
450	"
481	"
500	"

W		CTR		E	
8.7	370.6	5.5	373.8	5.7	373.6
8.4	370.9				
7.1	372.2	7.3	372.0	6.3	373.0
8.2	371.0				
8.2	371.1			+7.0 = 7.0	372.3
6.4	372.9	6.8	372.5	4.6	374.7
7.5	371.8			6.5	372.8
7.8	371.5	7.4	371.9	6.2	373.1
8.8	370.5				
7.8	371.5	5.3	374.0	5.9	373.4
				5.8	373.5
7.7	371.6	6.4	372.9	4.8	374.5
7.7	371.6	6.6	372.7	6.3	373.3
				5.2	374.1
7.4	371.9	6.7	372.6	6.3	373.0
5.3	374.0				
5.9	373.4	6.2	373.1	5.5	373.8

4





California St

6 6

37985

100' No Monroe

150 "

200 "

229 "

T.P. 6.17 382.50 3.52

225 "

250 "

300 "

341 "

350 "

362

382

400

421

441

450

464

475

493

172

37693

375

W

CTR

E

W	CTR	E
5.1	374.7	4.3 375.5 3.7 376.1
4.8	375.0	3.3 376.5 3.7 376.1
2.4	377.4	
4.1	375.7	2.4 377.4 3.1 376.7
4.1	375.7	
—	—	3.4 379.1 —
4.6	377.9	6.1 376.4 5.3 377.2
6.1	376.4	5.2 377.3 4.9 377.6
5.5	377.0	
4.5	378.0	5.2 377.3 5.0 377.5
4.3	378.2	4.8 377.7
5.8	376.7	3.6 378.9
5.3	377.2	5.1 377.4 5.3 377.2
5.6	376.9	
4.2	378.3	
4.8	377.7	5.4 377.1 5.4 377.1
6.1	376.4	
4.5	378.0	3.5 379.0



California St

382.50

500 No of Monroe

513

516

533

550

565

578

585

50 line Madison

26' No of So line

CTR

No line Madison

TP 6.90 385.47 3.93

13' No Mad.

50 "

62 "

87

W

CTR

E

4.9 377.6 4.9 377.6 5.2 377.3

6.2 376.3

3.4 379.1

4.0 378.5

5.8 376.7 4.8 377.7 4.0 378.5

6.0 376.5 4.7 377.8

3.5 379.0

3.1 379.4 5.0 377.5 4.2 378.3

4.6 377.9 3.2 379.3

4.5 378.0 3.6 378.9 3.0 379.5

4.3 378.2 3.1 379.4 3.9 378.6

378.57 BM. Plg N.E. Cor Cal & Madison

5.6 379.9

7.5 378.0 5.7 379.8 5.5 380.0

7.0 378.5

4.6 380.9

California St.

385.47

8

100	No. Mad.		
114	"		
128	"		
152	"		
177	"		
200	"		
228	"		
250	"		
270	"		
300	"		
325	"		
326	"		
350	"		
378	"		
400	"		
T.P.	6.45	387.81	4.09

	W.		CTR.		E.	
	6.2	379.3	5.5	380.0	6.0	379.5
	6.6	378.9				
					5.0	380.5
	6.2	379.3	5.1	380.4	5.9	379.6
	3.9	381.6				
	6.1	379.4	4.7	380.8	5.4	380.1
	3.8	381.7				
	5.6	379.9	4.4	381.1	4.9	380.6
	4.6	380.9			3.2	382.3
	5.4	380.1	4.1	381.4	4.8	380.7
	3.9	381.6				
					2.9	382.6
	4.8	380.7	3.7	381.8	4.2	381.3
	3.7	381.8				
	4.6	380.9	3.4	382.1	1.9	383.6

381.36



California

St

9

387.81

425 No. Mad.

W

CTR

E

4.9 382.9

431 No

6.1 381.1

450 "

6.5 381.3 5.4 382.4 5.9 381.9

460 "

6.0 381.8

480 "

3.8 384.0

500 "

6.3 381.5 5.0 382.8 5.5 382.3

525

5.0 382.8

538

5.5 382.3

550

6.1 381.7 4.5 383.3 4.2 383.6

561

576

580

576

4.0 383.8

3.4 384.4

4.8 383.0

5. line Adams.

5.3 382.5 4.2 383.6 4.7 383.1

466

383.15

B.M. Plq. S.E. Cor Adams & Cal.

## California St

10

				W		CTR		E	
	2.55	374.64		372.09					
So. line El Cayon									
30' 50 "					7.3	367.3	6.2	368.4	3.6 371.0
50 "					7.9	366.7			3.8 370.8
70 "					7.6	367.0	6.3	368.3	4.4 370.2
100 "					6.2	368.4			
150 "					8.9	365.7	5.8	368.8	4.9 369.7
200 "					8.6	366.0	6.3	368.3	4.4 370.2
250 "					9.9	364.7	6.5	368.1	5.8 368.8
270 "					9.6	365.0	7.7	366.9	5.8 368.8
300 "									6.8 367.8
338' N. line Howard.					10.6	364.0	8.1	366.5	6.9 367.7
	1.22	369.24	6.62	368.02	11.7	362.9	9.2	365.4	6.2 368.0
CTR line Howard.									
50 "					8.0	361.2	5.0	364.2	3.2 366.0
9' 50 of "					9.9	359.3	5.9	363.3	3.5 365.7
50 " " "									3.3 365.9
					11.4	357.8	7.3	361.9	4.7 364.5

B.M. P19 N.E. Cor Howard &amp; Cal.



California

St.

11

369.24

100' So. of Howard.

W

CTR

E

13.5 355.7 8.7 360.5 6.1 363.1

150' "

14.6 354.6 11.7 357.5 7.7 361.5

166' "

9.0 360.2

T.P. 5.20 361.48 12.96

356.28

200' "

8.5 353.0 4.6 356.9 1.7 359.8

250' "

9.4 352.1 6.2 355.3 3.0 358.5

300' "

11.7 349.8 7.4 354.1 3.8 357.7

350' "

12.4 349.1 8.5 353.0 5.4 356.1

400' "

13.9 347.6 9.3 352.2 6.3 355.2

410' "

6.1 355.4

428' "

7.0 354.5

450' "

10.2 351.3 6.6 354.9

T.P. 5.45 354.81 12.12

349.36

450' "

7.7 347.1

466' "

8.7 346.1

500' "

9.7 345.1 5.4 349.4 1.6 353.2

## California St.

12

				W	CTR	E	
	354.81						
550' So Howard.				11.0	343.8	7.1	347.7 3.4 351.4
No line Polk.				12.5	342.3	8.4	346.4 4.3 350.5
		4.34					
CTR "			350.47				B.M. Plg N.E. Cor Calif & Polk
50 "				13.3	344.5	8.7	346.1 5.2 349.6
50' S.				14.5	340.3	10.0	344.8 6.0 348.8
						10.8	344.0 7.4 347.4
	3.54	347.72	10.63				344.18
50 "				8.8	338.9		
100 "				10.1	337.6	6.2	341.5 1.4 346.3
150 "				11.9	335.8	7.6	340.1 2.8 344.9
200 "				13.4	334.3	9.0	338.7 4.6 343.1
250 "				14.5	333.2	10.9	336.8 7.1 340.6
T.P	4.16	339.23	12.65				335.07
300 "				7.7	331.5	4.9	334.3 1.0 338.2
350 "				9.7	329.5	7.0	332.2 3.3 335.9
400 "				11.2	328.0	8.1	331.1 5.1 334.1



California 51

339.23

450 So Paik

500 So "

550 " "

No. line Lincoln

T.P. 8.48 335.82 11.89

25 So of No. line

37 " " " "

CTR

42 " " " "

57 " " " "

So. line Lincoln

TIP 2.12 324.935 13.005

50 So

100 "

150 "

200

327.34

322.815

W

CTR

E

12.0 327.2 9.8 329.4 7.1 329.1

13.3 325.9 11.6 327.6 8.7 330.5

14.5 324.7 12.9 326.3 10.3 328.9

15.8 324.4 14.3 324.9 11.9 327.3

B.M. P19 N.E. Cor Calif Lincoln

11.3 324.5 10.4 325.4 8.3 327.5

5.4 330.4 4.0 331.8 3.0 332.8

5.0 330.8 3.7 332.1 2.7 333.1

4.9 330.9 3.6 332.2 2.9 333.0

12.7 323.1 11.5 324.3 9.4 324.4

13.4 322.4 11.9 324.9 10.4 325.4

3.7 321.2 2.3 322.6 0.8 324.1

4.4 320.5 3.4 321.5 1.6 323.3

5.8 319.1 4.4 320.5 2.2 322.7

6.1 318.8 5.0 319.9 3.0 321.9

California St

324.935

250 So Lincoln

300 "

350 "

400 "

450 "

500 "

T.P. 3205 317.26 10.88

500 "

550 "

No. line Univ.

5.30.

BM 311.875  
311.96

W

ctr

E

7.1 317.8 6.3 318.6 3.6 321.3

8.7 316.2 7.2 317.6 4.9 320.0

10.1 314.8 8.1 316.8 6.1 318.8

11.4 313.5 9.9 315.0 7.6 317.3

12.4 312.3 11.4 313.5 9.2 315.7

12.0 312.9 9.7 315.2

6.6 310.7

7.2 310.1 5.4 311.9 3.4 313.9

8.2 309.1 7.0 310.3 5.3 312.0



Oregon 5+ - Adams to

University

7 } Dams  
12 } Brooks  
05 } Paulain 15

	2.84	379.35		376.5	W.	CTR		E.		
No. line El Cajon					5.0	374.4	4.2	375.2	4.8	374.6
34' No					3.8	375.6				
25 "									4.6	374.8
41 "									3.1	376.3
50 "					4.7	374.7	4.8	374.6	3.6	375.8
57 "									4.5	374.9
75 "					4.1	375.3				
100 "					5.2	374.2	4.8	374.6	4.3	375.1
125 "							3.7	375.7		
150 "					5.4	374.0	5.2	374.2	5.0	374.4
174 "									3.9	375.5
200 "					5.3	374.1	5.3	374.1	5.2	374.2
250 "					5.3	374.1	5.3	374.1	5.3	374.1
297 "					4.9	374.5				
300 "					5.4	374.0	5.3	374.1	3.9	375.5
340 "					5.2	374.2				
322									4.8	374.6
T.P.	7.46	382.20	4.61	374.74						

Oregon St.

382.20

350' No of E1 C.

360 "

374 "

400 "

423 "

450 "

474 "

500 "

537 "

550 "

562 "

582 "

Soline Jackson 600

Ctr "

20' No of Ctr

No line Jackson

5.85

376.25

W

Ctr

E

7.1 375.1 7.3 374.9 7.6 374.6

6.7 375.5

7.7 374.5

7.6 374.6 6.6 375.6 7.0 375.2

6.0 376.2

7.1 375.1 6.5 375.7 6.7 375.5

5.3 376.9

6.7 375.5 6.1 376.1 5.8 376.4

6.1 376.1

5.7 376.5 5.8 376.4 4.7 377.5

4.3 377.9

6.0 376.2

5.9 376.3 4.9 377.3 5.8 376.4

5.0 377.2 4.9 377.5 6.2 376.0

4.2 378.0

5.8 376.4 6.0 376.2 5.8 376.4

BM P19 NE Cor Oregon & Jackson



Oregon 54

38220

17

				W		Cts.		E.	
27	No of Jackson			4.7	377.5	4.3	378.9		
50	"			5.9	376.3	6.2	376.0	5.7	376.5
75	"			4.1	378.1				
100	"			6.0	376.2	6.0	376.2	6.0	376.2
112	"			6.4	375.8				
125	"			5.3	376.9				
120	"							5.1	377.1
150	"			6.3	375.9	6.0	376.2	5.9	376.3
200	"			6.5	375.7	6.2	376.0	5.3	376.9
215	"			4.6	377.6			4.2	378.0
231	"			6.2	376.0	4.7	377.5		
250	"			5.6	376.6	6.2	376.0	6.2	376.0
267	"							5.1	377.1
275	"			6.5	375.7				
T.P	7.71	383.66	6.25		375.95				
300	"			6.1	377.6	7.1	376.6	7.6	376.1
312	"			7.8	375.9				

Oregon St

$$\begin{array}{r} 7 \\ 13 \\ \hline 20 \end{array} \left. \begin{array}{l} \text{Plains} \\ \text{Brook} \\ \text{Basin} \end{array} \right\}$$

18

383.66

329 N. of Jackson.

308 "

322 "

336 "

358 "

375 "

363 "

381 "

400 "

415 "

438 "

425 "

412 "

433

450

486

W

CTR

E

7.0 376.7

7.3 376.4

6.3 377.4

7.4 376.3

8.1 375.6 7.7 376.0 7.6 376.1

7.5 376.2

7.1 376.6

6.8 376.9

7.5 376.2 7.9 375.8 5.6 378.1

6.2 377.5

7.5 376.2 5.2 378.5

5.7 378.0

7.0 376.7

5.4 378.3

7.4 376.3 7.2 376.5 7.1 376.6

7.2 376.5



Oregon 5+

19

383.66

500 No of Jackson

524 "

539 "

550 "

582 "

592 "

50 Line Monroe

13' No of Sa Line

30. " " "

CTR Monroe

60' No of S.L.

No line "

10' No

16' No Monroe

30'

36 "

50 "

69 "

W

CTR

E

7.2 376.5 6.9 376.8 5.5 378.2

7.3 376.4 7.1 376.6

6.1 377.6 5.4 378.3

6.3 377.4 5.4 378.3 6.6 377.1

3.8 379.9

6.9 376.8

5.8 377.9 6.3 377.4 5.5 378.2

4.9 378.8

6.4 377.3 5.9 377.8

6.3 377.4 5.9 377.8 4.5 379.2

5.3 378.4

6.2 377.5 5.8 377.9 3.9 379.8

6.16

377.50

B.M. Plg N.W. Cor Oregon &amp; Monroe

5.9 377.8

5.2 378.5

3.4 380.3

3.5 380.2

5.6 378.1 4.6 379.1 4.6 379.1

3.7 380.0

Oregon St.

383.66

20

8.7' No Manroo

100 "

125 "

140 "

130 "

150 "

T.P. 6.97 386.18 4.45

170 "

180 "

190 "

159 "

200 "

215 "

231 "

250 "

300 "

329 "

341 "

W

CTR

E

5.4 378.3

4.6 379.1 4.8 378.9 4.9 378.8

5.1 378.6

3.3 380.4

2.2 381.5

3.7 380.0 4.6 379.1 4.4 379.3

379.21

7.2 379.0

5.0 381.2

5.9 380.3

7.3 378.9

7.0 379.2 6.6 379.6 6.6 379.6

7.0 379.2

5.3 380.9 5.5 380.7

6.8 379.4 5.9 380.3 6.8 379.4

6.8 379.4 6.6 379.6 4.0 382.2

5.2 381.0 5.9 380.3

5.4 380.8



Oregon St

386.18

350 No of Monroe

366 "

385 "

400 "

417 "

430 "

450 "

467 "

484 "

459 "

481 "

500 "

510 "

519

550

577

594

W

Chr

E

6.4 379.8 5.9 380.3 6.1 380.1

6.6 379.6

4.6 381.6

5.5 380.7 6.0 380.2 6.0 380.2

5.8 380.4

5.3 380.9 4.9 381.3

6.2 380.0 6.2 380.0 5.8 380.4

5.6 380.6

5.9 380.3 4.1 380.1

6.1 380.1

3.9 382.3

5.4 380.8 4.4 381.8 5.4 380.8

6.1 380.1

6.0 380.2 6.3 379.9

4.9 381.3 5.8 380.4 4.8 381.4

3.6 382.6 3.2 383.0

5.7 380.5

## Oregon St

386.18

567' No Morrow

50.1 ne Madison

26' No of S.L.

5.79 386.85 5.12

CTR of Mad.

55' No of S.L.

66 " " "

No. 1170

29' No

14 " "

30 " "

50 " "

70 " "

100 " "

115 " "

132 "

128

W

CTR

E

5.7 380.5

5.8 380.4 5.9 380.3 5.1 381.1

5.0 381.2 4.6 381.6

B.M. 147 S.E. Cor Oregon &amp; Madison

5.3 381.5 5.5 381.3 5.8 381.0

5.2 381.6

6.3 380.5

6.4 380.4 5.3 381.5 6.5 380.3

4.4 381.4

6.3 380.5

5.0 381.8

6.1 380.7 5.2 381.6 6.2 380.6

4.4 382.4

5.9 380.9 5.1 381.7 6.0 380.8

5.8 381.0

4.1 382.7

4.4 382.4

22



Oregon St

23

386.85

				W		CH		E	
150	No of Mad.			5.2	381.6	4.9	381.9	5.7	381.1
168	"							3.9	382.9
144	"			3.8	383.0				
180	"			5.4	381.4				
190	"						1.9	5.7	380.1
200	"			5.7	381.1	4.4	382.4	5.3	381.5
230	"			3.5	383.3			5.6	381.2
250	"			5.0	381.8	4.2	382.6	3.9	382.9
276	"							4.9	381.9
300	"			4.7	382.1	3.8	383.0	4.9	381.9
328	"			4.6	382.2				
350	"			4.4	384.4	3.5	383.3	3.3	383.5
374	"							4.2	382.6
370	"			4.1	382.7				
400	"			4.1	382.7	3.3	383.5	2.7	384.6
T.P.	6.06	389.10	3.81		383.04				
422								6.1	383.0
431				3.3	385.8				

## Oregon St

24

389.10

450 No Mad.

456

463 "

478 "

500 "

515 "

533 "

520 "

541 "

550 "

559

To line Adams

4.54

384.56 B.M. 1/4 S.W. Cor Oregon &amp; Adams.

W

CTR

E

4.9

384.2

5.0

384.1

4.8

384.3

5.7

383.4

5.9

383.2

4.4

384.7

5.8

383.3

4.6

384.5

5.3

383.8

5.5

383.6

4.1

385.0

3.3

385.8

4.6

384.5

4.9

384.2

4.1

385.0

3.9

385.2

3.3

385.8

4.5

384.6

3.6

385.5

4.1

385.0



Oregon St

Note Readings on E side of St taken on slope of  
fill around reservoir - about 2' above natural ground  
except at block corners.

	φ		W	CTR	$\frac{2'}{E}$ St. Line	25		
3.48	379.99	376.51						
50 line El. Coyoo.			5.4	374.6	5.3	374.7	4.3	375.7
50' 50 of "			5.5	374.5	5.7	374.3	3.1	376.9
67 "			5.4	374.6				
78 "			4.5	375.5				
100 "			5.7	374.3	5.7	374.3	3.0	377.0
113 "			5.7	374.3				
130 "			4.9	375.1				
150 "			5.8	374.2	5.7	374.3	3.1	377.7
200 "			5.8	374.2	5.6	374.4	3.0	377.0
221 "			4.1	374.9				
243 "			6.0	374.0				
250 "			5.7	374.3	5.6	374.4	3.3	376.7
300 "			5.6	374.4	5.8	374.2	3.2	376.8
312			4.6	375.4				
338 No line Howard.			6.0	374.0	5.8	374.2	5.9	374.1





## Oregon St

27

		373.18		
450'	S. of Howard			
500'	"			
550'	"			
600'	Natime Polk			
CTR line	"			
50'	"			
34'	S.	6.75	366.43	
50'	S.			
100'	"			
T.P.	1.49	365.85	8.82	364.36
150'	"			
200'	"			
250'	"			
300'	"			
350'				
400'				

W.		CTR.		E.	
5.8	367.4	5.2	368.0	3.5	369.7
6.7	366.5	5.5	367.7	4.3	368.9
7.0	366.2	6.2	367.0	4.8	368.4
7.9	365.3	6.4	366.8	5.2	368.0
8.7	364.5	7.2	366.0	6.2	367.0
8.9	364.3	8.0	365.2	6.7	366.5
B.M. #14	S.E. Cor	Oregon St	Polk.		
10.3	362.9				
10.0	363.2	9.2	364.0	8.1	365.1
10.7	362.5	10.1	363.1	8.7	364.5
3.9	362.0	3.2	362.7	2.1	363.8
4.2	361.7	3.8	362.1	2.6	363.3
5.8	360.1	4.2	361.7	3.0	362.9
6.9	359.0	6.0	359.9	4.4	361.5
9.0	356.9	7.7	358.2	6.1	359.8
9.6	356.3	8.6	357.3	7.7	358.2

Oregon St

365.85

450	So Polk			
477	"			
500	"			
TIP	1.09	356.78	10.16	355.69
550				
600	No. line Lincoln			
		6.65		350.13
25'	So of N.L.			
35'	" " "			
CTR				
42'	" " "			
55	" " "			
So. line	Lincoln			
50'	So			
100	"			
150	"			

28

W		CTR		E	
10.7	355.2	9.0	356.9	8.3	357.6
11.2	354.7				
12.5	353.4	10.3	355.6	9.1	356.3
5.0	351.8	3.4	353.4	1.9	354.9
6.6	349.2	5.4	351.4	4.0	351.8
B. of Prop NW Cor Lincoln Oregon.					
8.1	348.7	6.2	350.6	4.5	352.3
11.4	342.4	13.0	343.8	11.3	345.5
14.3	342.5	13.2	343.6	12.0	344.8
14.9	341.9	14.3	342.5	12.9	343.9
8.1	348.7	6.1	350.7	4.9	351.9
9.5	347.3	7.8	349.0	5.8	351.0
10.3	346.5	6.1	348.7	5.7	351.1
11.5	345.3	9.0	347.8	7.2	349.6
13.3	343.5	10.4	346.4	8.5	348.3



28

Oregon St

- Next Page

29

W

CTR

E

Oregon St.

30

356.78

T.P. 3.20 347.19 12.79

343.9

200' So Lincoln

250 "

300 "

350 "

400 "

430 "

450 "

472 "

492 "

500 "

550 "

No. line Univ.

7.54

339.565  
339.65

W

CTR

E

5.5 341.7 2.8 344.4 0.2 347.0

6.7 340.5 4.0 343.2 1.7 345.5

8.0 339.2 4.8 342.4 2.5 344.7

9.2 338.0 6.3 340.9 3.8 343.4

10.5 336.7 7.6 339.6 5.2 342.0

6.1 341.1

12.0 335.2 9.4 336.8 9.5 338.7

472 12.3 334.9

15.5 331.7

16.1 331.1 13.9 333.3 9.5 337.7

12.7 334.5 9.9 337.3 7.5 339.7

12.8 334.4 9.8 337.4 7.8 339.4



Idaho St

	4.06	380.93	376.87	W	CTR	E
No. line El Cajon				5.6	375.3	4.8 376.1 4.5 376.4
19' No "				4.4	376.5	
15 "						3.9 377.0
35 "						5.7 375.2
50 "				5.4	375.5	5.1 375.8 5.3 375.6
82 "				4.3	376.6	
91 "						5.8 375.1
100 "				5.2	375.7	5.1 375.8 4.8 376.1
119 "						5.3 375.6
135 "						4.2 376.7
150 "				4.3	376.6	5.4 375.5 4.7 376.2
160 "						4.2 376.7
167 "				5.2	375.7	
173 "						5.5 375.4
187 "				4.6	376.3	
200 "				5.2	375.7	4.5 376.4 3.9 377.0
210 "						5.6 375.3
250 "				5.3	375.6	4.6 376.3 5.3 375.6
260 "				5.4	375.5	4.3 376.6

Idaho St

380.93

No of E1 Cajon	T.P.	5.85	381.02	5.76	375.17
284					
300					
330					
335					
350					
365					
372					
383					
400					
415					
423					
430					
441					
450					
463					
475					
487					
500					
511					
522					

W	Chr	E
3.5	377.4	
4.8	376.1	5.6 375.3 5.9 375.0
	330 =	5.7 375.3
		6.0 375.0
5.5	375.5	4.4 376.6 5.0 376.0
	365 =	5.7 375.3
		6.3 374.7
3.6	377.4	
5.6	375.4	4.8 376.2 5.0 376.0
		5.7 375.3 5.8 375.2
5.8	375.2	
-		4.2 376.8 6.1 375.9
4.7	376.3	
5.3	375.7	5.6 375.4 4.6 376.4
		6.3 374.7
		4.4 376.6
4.0	377.0	
4.4	376.6	5.9 375.1 6.1 374.9
5.5	375.5	
		4.2 376.8



Idaho St

381.02

536' No El Cajon

550 "

567 "

582 "

600 " S.L. Jackson

15' No " "

20' " " "

26' " " "

Chr

50' " " "

60' " " "

No line

T.P. 6.15 381.55 5.62

22' No of Jack

26' "

50' "

62' "

79' "

85' "

W

Chr

E

5.8 375.2

5.1 375.9 6.0 375.0 6.0 375.0

3.8 377.2

5.4 375.6

5.2 375.8 5.6 375.4 5.5 375.5

5.6 375.4 4.6 376.4

5.7 375.3

4.8 376.2

4.9 376.1 4.2 376.8 5.8 375.9

5.3 375.7

3.9 377.1

5.0 376.0 5.4 375.6 5.6 375.4

375.40

B.M. Pla N.E. Cor Idaho & Jackson.

4.0 377.6 4.3 377.3

5.8 375.8

4.3 377.3 6.2 375.4 6.3 375.3

5.6 376.0

3.8 377.8

3.6 378.0

Idaho St

381.55

100' No of Sock

110 "

115 "

129 "

150 "

174 "

192 "

200 "

209 "

232 "

239 "

250 "

260 "

266 "

281 "

290 "

300 "

308 "

320 "

332 "

316 "

W

Chr

E

5.1 376.5 5.4 376.2 5.5 376.1

5.9 375.7 4.2 377.4

4.3 377.3 4.2 377.4

5.2 376.4 5.5 376.1 6.2 375.4

6.1 375.5

4.5 377.1

4.8 376.8 5.9 375.7 5.0 376.6

4.5 377.1 6.0 375.6

4.9 376.7

5.1 376.5 4.9 376.7 6.2 375.4

5.5 376.1 3.9 377.7 6.7 375.9

5.1 376.5

3.6 378.0

4.4 377.2 5.9 375.7 6.2 375.4

5.3 376.3

3.1 378.5 4.2 377.4

6.9 374.5





Idaho St

382.79

Ctr line Monroe

50' No of S.L.

60' No of S.L.

No. line

5.59

377.20

W

Chr

E

4.3

378.5

6.7

376.1

7.0

375.8

5.8

377.0

4.9

377.9

5.6

377.2

6.8

376.0

7.3

375.5

B.M. 119 N.W. Cor Idaho & Monroe

24' No of

3.6

379.2

5.6

377.2

46 "

6.0

376.8

50 "

5.2

377.6

6.4

376.4

9.0

373.8

60 "

4.1

378.7

82 "

5.2

377.6

4.6

377.2

7.6

375.2

77 "

94 "

8.2

374.6

100 "

4.6

378.2

7.2

375.6

7.6

374.2

124 "

6.1

376.7

1P.

8.10

382.02

7.87

374.92

143 "

9.7

373.3

150 "

5.1

377.9

6.6

376.4

8.6

374.4

170 "

4.3

376.7

182 "

7.6

375.4

185 "

5.0

378.0

6.5

376.5

200 "

7.9

375.1

9.3

373.7



Idaho St

383.02

214' No Monroe

217 "

228 "

240 "

250 "

266 "

280 "

288 "

300 "

312 "

320 "

332 "

350 "

365 "

373 "

381 "

400 "

414 "

422 "

438 "

450 "

467 "

477 "

W

5.4

377.6

4.1

378.9

6.5

376.5

6.9

376.1

6.5

376.5

4.6

378.4

6.5

376.5

5.5

377.5

6.9

376.1

4.7

378.3

6.5

377.5

6.6

376.4

6.7

376.3

CH

5.4

377.6

6.7

376.3

6.1

376.9

7.4

375.6

5.8

377.2

7.9

375.1

7.0

376.0

5.3

377.7

7.4

375.6

5.6

377.4

E

8.5

374.5

9.6

373.4

8.1

374.9

9.3

373.7

8.0

375.0

6.9

376.1

8.9

374.2

6.8

376.2

8.0

375.6

7.4

375.6

8.4

374.6

6.7

376.3

7.5

375.5

8.1

374.9

37

Idaho St

38

383.02

484 No Monroe

500 "

526 "

550 "

567 "

579

T.P. 7.41 384.52 5.91

557 "

578 "

SL Madison

13' No of S.L.

24 "

Ctr Mad.

36' No of S.L.

64 "

No Line Mad.

20' No "

W

Ctr

E

5.6 377.4

6.4 376.6

6.0 377.0

6.6 376.4 6.8 376.2

4.3 378.7

5.8 377.2 4.4 378.6

-

5.7 377.3

-

4.8 378.2

377.11

5.5 379.0

7.5 377.0

6.5 378.0

7.0 377.5 7.2 377.3

5.5 379.0

6.4 378.1

6.6 377.9

6.5 378.0 6.6 377.9

6.1 378.4

5.2 379.3

5.7 378.8

6.0 378.5 7.0 377.5

6.5 378.0



Idaho St

39

	384.52		W		CH		E	
		7.01	377.51	B.M. 1/4 N.E. Idaho & Madison				
31' No Mad.							5.2	379.3
50 "				4.3	380.2	5.4	379.1	6.3 378.2
78 "				4.1	378.4			
100 "				4.5	380.0	5.1	379.4	5.9 378.6
111 "				5.4	379.1			
128 "				4.0	380.5			4.1 380.4
150 "				5.0	379.5	4.6	379.9	5.5 379.0
165 "				3.3	381.2			
184 "				5.2	379.3			
200 "				3.6	380.9	4.1	380.4	4.4 380.1
213 "				4.9	379.6			
228 "								4.9 379.6
250 "				4.3	380.2	3.2	381.3	3.2 381.3
269 "								4.5 380.0
T.P.	9.08	389.16	4.44	380.08				

Idaho St

451

389.16

290' No. Mod.

300 "

307 "

319 "

350 "

358 "

375 "

380 "

394 "

400 "

430 "

450 "

475 "

477 "

500 "

520 "

550 "

574 "

600 = S. L. Adams

384.65 - BM P19 S.W. Idaho & Adams

IN

CTR

E

6.9 383.3

7.6 381.6 7.6 381.6 8.6 380.6

8.1 381.1

8.5 380.7

6.5 382.7 6.7 382.5 5.7 383.5

7.1 382.1

7.4 381.8

5.5 383.7

5.9 383.3

6.0 383.2 5.9 383.3 6.4 382.8

5.0 384.2

5.8 383.4 5.2 384.0 5.9 383.3

4.5 384.7

4.6 384.6

5.3 383.9 4.6 384.6 5.1 384.1

3.7 385.5

5.2 384.0 4.0 385.2 5.1 384.1

2.9 386.3

4.6 384.6 3.5 385.7 4.5 384.7

40



Idaho St

	3.21380.08	376.87	W	Chr	E			
S.L. El Cajon			5.0	375.1	4.8	375.3	3.4	376.7
17' 50 "							5.2	374.9
27' "			5.1	375.0				
35' "					-3.6	376.5		
50' "			2.5	377.6	5.1	375.0	5.1	375.0
80' "			5.2	374.9	<del>4.6</del>		4.6	375.5
100' "			5.3	374.8	5.5	374.6	5.0	375.1
127' "			5.4	374.7	5.2	374.9		
150' "			3.7	376.4	3.1	377.0	5.1	375.0
163' "							3.9	376.2
171' "			5.7	374.4	5.7	374.4		
181' "							5.8	374.3
187' "					5.7	374.4		
200' "			5.7	374.4	3.7	376.4	5.7	374.4
220' "			4.2	375.9				
235' "			6.0	374.1	6.3	373.8		
250' "			6.1	374.0	6.2	373.9	6.2	373.9
300' "			6.2	373.9	4.7	375.4	6.5	373.6
320' "					6.8	373.8		
338' " N.L. Howard			6.3	373.8	6.5	373.6	6.7	373.4

Idaho St.

380.08

15' So of N.L. Howard

T.P. 4.10 377.53 6.66

24' So of N.L. Howard.

Chr

S.L.

50' So

100 "

150 "

166 "

183 "

200 "

258 "

T.P. 3.42 375.96 5.19

300 "

350 "

380 "

400 "

373.42

372.34

W

Chr

E

5.0 375.1

B.M. Plg N.E. Cor Idaho & Howard.

3.1 374.4

3.2 374.3 3.0 374.5 4.3 373.2

3.9 373.6 4.3 373.2 4.4 373.1

4.2 373.3 4.6 372.9 4.7 372.8

4.5 373.0 4.7 372.8 4.9 372.6

4.7 372.8 5.2 372.3 5.7 371.8

5.4 372.1

3.8 373.7

4.9 372.6 5.3 372.2 5.5 372.0

5.1 372.4 5.4 372.1 5.8 371.7

3.4 372.4 4.0 371.8 4.5 371.3

4.1 371.7 4.4 371.4 4.7 371.1

3.8 372.0

4.3 371.5 5.0 370.8 5.2 370.6



Idaho St

375.76

450' So of Howard

500 " " "

550 " " "

600 - No. Line Polk

T.P. 2.79 372.77 5.79

Ctr line Polk

55' So of N.L.

65 " " "

S. Line " "

7' 50 " "

20 " " "

29 " " "

50 " " "

100 " " "

150 " " "

180 " " "

188 " " "

200 " " "

210 " " "

220 " " "

369.99

43

W

Ctr

E

4.5 371.3 48 371.0 5.6 370.2

4.8 371.0 5.1 370.7 5.6 370.2

5.2 370.6 5.3 370.5 5.5 370.3

5.5 370.3 5.8 370.0

B.M. 19 N.E. Cr Idaho Polk

2.2 370.6 3.1 369.7 2.9 369.9

1.2 371.6 2.1 369.7

3.0 369.8 2.0 370.8 3.0 369.8

2.5 370.3 3.6 369.2

4.0 368.8

4.1 368.7 3.3 369.5 3.4 369.4

4.1 368.7 4.4 368.4 4.6 368.2

5.2 367.6 5.3 367.5 4.6 368.2

5.8 367.0

4.7 368.1

5.3 367.5 5.8 367.0 5.2 367.6

6.6 366.2

5.9 366.9

Idaho 57

44

					W	Chr		E	
248	50	372.77				6.4	366.4		
4	250	So of Paik			6.4	366.4	5.8	367.0	6.3 366.5
5	260	"					6.8	366.0	
5	T.P.	2.31	368.12	6.96					365.8
6	265	"			2.8	365.3			
7	285	"			1.4	366.7			
8	300	"			2.8	365.3	2.8	365.3	2.4 365.7
5	350	"			3.6	364.5	3.3	364.8	3.0 365.1
6	365	"					2.5	365.6	
5	380	"			4.0	364.1			
7	400	"			3.3	364.8	3.5	364.6	3.7 364.4
20	412	"			4.5	363.6			
2	450	"			4.8	363.3	4.6	363.5	4.4 363.7
1	500	"			6.0	362.1	5.6	362.5	5.0 363.1
1	550	"			6.5	361.6	5.8	362.3	5.7 362.4
1/2	600	No line Lincoln			6.4	361.7			
2			6.41	344.71	B.M. Pij N.W. Cor Idaho & Lincoln				
2	5'	So of N.L.			6.2	362.9	6.3	361.8	5.8 362.3
2	9'	" " " "					3.5	3.6	364.5



# Idaho ST

45

368.12

					W	CTR	E
4	13'	So of N.L.			3.5	364.6	
	15'	" " " "				3.4	364.7
5	25'	" " " "			6.9	361.2	5.4 362.7 6.0 362.1
5		3.30	365.01	3			361.71
6	37'	So N.L.			11.3	353.7	10.8 354.2 10.1 354.9
	CTR	of	Lincoln		11.6	353.4	11.3 353.7 10.3 354.7
4	43'	So of N.L.			12.0	353.0	11.2 353.8 10.2 354.8
	53'	" " " "			2.8	362.2	3.6 361.4 3.5 361.5 2.6 362.4
	56	" " " "					
5	62	" " " "			3.7	361.3	2.3 362.7
7	69	" " " "			2.8	362.2	
2	So. line	of Lincoln			4.7	360.3	4.8 360.2 4.2 360.8
3	50'	So " "			7.6	357.4	7.0 358.0 6.9 358.1
1	100	" " " "			9.3	355.7	9.0 356.0 8.3 356.7
1	150	" " " "			10.7	354.3	10.4 354.6 10.2 354.8
1	200	" " " "			12.3	352.7	11.0 354.0 11.6 353.4
2	T.P.	2.39	355.98	11.42			353.50
2	250	" " " "			4.2	351.8	3.0 353.0 2.3 353.7

7 1/2 Haws  
1 1/2 Brooks  
1 1/2 Kaslam  
dato St

355.98

300 So of Lincoln  
350 "  
400 "  
450 "  
500 "  
550 "  
600 -- No. 1116 On 12

	W		CK		E	
	4.9	351.1	4.2	351.8	3.5	352.5
	6.3	349.7	5.4	350.6	4.7	351.3
	6.6	349.4	6.2	349.8	5.7	350.3
	8.1	348.9	6.9	349.1	6.0	350.0
	8.6	347.4	7.6	348.4	7.1	348.9
	9.5	346.5	8.4	347.6	7.9	348.1
	10.0	346.0	9.2	346.8	8.9	347.1

46



# Utah St.

21 } Davis  
24 } Brooks  
05 } Haslam  
Thomas

47

3.84 377.29

373.45

W

CTR

E

No. line El. Canyon

35 No.  
38 No.

50 "

76 "

90 "

100 "

117 "

140 "

150 "

160 "

167 "

170 "

190 "

200 "

215 "

225 "

229 "

250 "

275 "

295 "

5.1

374.2

6.2

371.1

6.5

370.8

4.3

373.0

4.9

5.6

371.7

6.8

370.5

7.8

369.5

5.0

374.3

5.9

371.4

7.8

369.5

6.2

371.1

7.5

369.8

6.2

371.1

3.8

373.5

5.0

374.3

6.2

371.1

8.5

369.8

7.1

370.2

6.3

371.0

7.2

370.1

7.7

369.6

7.0

370.3

6.3

371.0

8.2

369.1

6.3

371.0

8.0

369.3

5.4

371.9

7.9

369.4

8.2

369.1

9.1

368.2

5.9

371.4

8.3

369.0

## Utah St.

48

			W	ctr	E	
	377.29					
TP 7.22	375.30	9.21				368.07
269 No of El Cajon						7.9 367.4
286 " " "				5.0	370.3	6.3 369.0
300 "			5.5	369.8	6.7	368.6 7.6 367.7
310			4.7	370.6		
328 "			6.4	368.9		8.3 367.0
350 "			5.6	369.7	6.8	368.5 6.8 368.5
365 "			7.2	368.1	7.9	367.4 8.6 366.7
380 "					5.9	369.4
400 "			6.1	369.2	7.3	368.0 8.4 366.9
410 "					8.0	367.3
428 "					6.5	368.8 6.3 369.0
418 "			7.5	367.8		
445 "			4.7	370.6		
450 "			5.2	370.1	7.8	367.5 7.4 367.9
454						8.6 366.7
479			7.4	367.9		
490						7.3 368.0



## Utah St

375.30

500' No of Canyon

520 "

536 "

550 "

566 "

574 "

583 "

600' So. line Jackson

30' No of "

Ctr line "

56' No of "

No "

T.P. 5,57 372.50 8.37

24' No Jackson

2 35' No Jackson

42

50' No Jackson

1 62' "

75' "

1 85' "

1 80' "

2 100' "

116 "

130 "

49

W

Ctr

E

6.4 368.9 7.5 367.8 8.4 366.9

5.4 369.9 5.9 369.4 7.5 367.8

6.7 368.6 7.3 368.0 7.8 367.5

5.3 370.0 6.1 369.2 6.7 368.6

7.5 367.8 8.1 367.2 7.8 367.5

7.8 367.5 5.8 369.5 8.9 366.4

6.7 368.6 8.3 367.0 6.5 369.1

7.7 367.6 8.7 366.6 8.7 366.6

8.4 366.9 7.6 367.7 9.1 366.2

366.93 = B.N.P. N.W. Cor Jack. Y Utah

6.0 366.5

5.9 366.6 3.7 368.8

5.6 366.9 4.1 368.4 4.5 368.0

5.5 367.0 5.9 366.6 5.9 366.6

3.1 369.4 4.9 367.6

5.5 367.0 4.9 367.6 6.3 366.2

3.6 368.9 3.6 368.9

3.3 369.2 6.2 366.3 3.6 368.9

## Utah St

50

372.50

		W		CTR		E	
150'	No of Jack	5.7	366.8	5.8	366.7	4.4 <sup>1</sup>	366.1
170	"			2.8	369.7		
194	"	5.8	366.7				
200	"	5.3	367.2	5.6	366.9	5.8	366.7
223	"	5.9	366.6				
250	"	5.6	366.9	5.7	366.8	5.9	366.6
300	"	5.6	366.9	5.8	366.7	5.0	367.5
311	"					4.1	368.4
326	"					5.8	366.7
335	"			3.2	369.3		
350	"	5.3	367.2	5.1	367.4	5.6	366.9
383	"	3.2	369.2				
400	"	4.4	368.1	5.5	367.0	5.7	366.8
432	"	5.5	367.0	5.4	367.1		
436	"					3.0	369.0
450	"	5.4	367.1	3.3	369.2	3.2	369.3
462	"					4.7	367.8
500	"	4.9	367.6	3.5	369.0	4.7	367.8
532	"					2.5	370.0



Utah ST

51

372.50

550 No Jackson

577 "

590 "

601 So. Line Monroe

ctr. line "

52' No of S.L. "

68 " " " "

T.P. 9.72 379.37 2.85

No line Monroe.

24' No "

30 " "

45 " "

50 " "

60 " "

75 " "

100 "

120 "

134

W

CTR

E

4.3 368.2 2.9 369.6 3.3 369.2

1.7 370.8

1.6 370.9

2.7 369.8 2.4 370.1 2.6 369.9

2.8 369.7 1.5 371.0 0.4 371.1

2.9 369.6

1.1 371.4

369.65 B.M. Pip S.E. Cor Utah &amp; Monroe.

8.7 370.7 8.3 371.1 7.5 371.9

6.4 373.0 8.0 371.4

8.1 371.3 8.5 370.9

7.0 372.4 6.3 373.1 7.3 372.1

5.4 374.0 7.3 372.1 6.5 372.9

7.6 371.8 5.8 373.6 7.5 371.9

7.6 371.8 5.8 373.6 6.6 372.8

5.9 371.5 6.6 372.8

6.6 372.8

Utah St

379.37

52

150' No Monroe  
 172 "  
 183 "  
 200 "  
 230 "  
 250 "  
 274 "  
 300 "  
 334 "  
 350 "  
 363 "  
 400 "  
 T.P. 5.62 381.48 3.51  
 450 "  
 500 "  
 550 "  
 574 "  
 589 "

S. line Madison

4.84

376.64

W		CTR		E	
5.8	373.6	6.4	373.0	4.9	374.5
				6.6	372.8
6.4	373.0				
4.7	374.7	4.6	374.8	5.3	374.1
5.7	373.7				
3.6	375.8	5.2	374.2	4.3	375.1
4.8	374.6				
4.1	375.3	4.1	375.3	4.7	374.7
4.3	375.1				
2.8	376.6	4.1	375.3	2.7	376.7
3.7	375.7			3.5	375.9
3.5	375.9	3.4	376.0	3.6	375.5
5.1	376.4	5.1	376.4	5.2	376.3
4.9	376.6	4.7	376.8	5.0	376.5
5.1	376.4	4.8	376.7	4.6	376.9
4.9	376.6		569 No.	3.5	378.0
3.3	378.2		583 No.	5.0	376.5
3.3	378.2	4.1	377.4	4.8	376.7
B.M. Pk	SE Cor	Utah	Madison		



## Utah St

53

5.48 378.93

373.45

W

CTR

E

50.1 m El Cajon

18' 50 "

29 50 "

33 "

50 "

65 "

71 "

90 "

100 "

114 "

121 "

129 "

137 "

150 "

161 "

200 "

222 "

237 "

250 "

256 "

269 "

290 "

5.9 373.0

5.8 373.1

6.8 372.1

7.8 371.1

7.6 371.3

5.8 373.1

4.5 374.4

5.6 373.3

5.3 373.6

6.0 372.9

7.4 371.15

7.3 371.6

5.4 373.5

5.5 373.4

6.3 372.6

5.5 373.4

5.9 373.0

5.0 373.9

6.8 372.1

5.4 373.5

5.5 373.4

5.2 373.7

6.3 372.6

5.8 373.1

5.6 373.3

6.8 372.1

5.7 373.2

6.9 372.0

5.0 373.9

5.3 373.6

5.6 373.3

5.6 373.3

5.7 373.2

6.1 372.8

5.0 373.9

6.6 372.3

5.2 373.7

## Utah St

378.93

279 So of El Cajon

294 "

300 "

320 "

338 - No Line Howard.

4.18 378.01 5.10

44' So of N.L. Howard.

Ctr

So. line

17' So

28 "

41 "

50 "

64 "

88 "

100 "

140 "

W

CTR

E

5.8 373.1

4.9 374.0

5.3 373.6 5.6 373.3 5.6 373.3

6.0 372.9 7.2 371.7

4.2 374.7 5.6 373.3 5.1 373.8

373.83 B.M. 119 N.E. Cr Utah &amp; Howard

5.7 372.3

5.2 372.8 4.9 373.1 6.0 374.0

5.1 372.9 4.8 373.2 6.0 372.0

4.6 372.4

6.1 372.9

4.6 373.4

5.4 372.6 4.8 373.2 4.9 373.1

6.5 371.5

6.2 371.8

6.0 372.0 5.1 372.9 4.4 373.6

5.9 372.1



Utah 5+

55

378.01

125' So. Howard.

	W		Chr		E	
					4.8	373.2
150 "	4.9	373.1	5.2	372.8	5.8	372.2
157 "					6.7	371.3
178 "	6.0	372.0				
200 "	4.6	373.4	5.5	372.5	6.4	371.6
220 "	6.3	372.7			4.9	373.1
241 "	4.9	373.1			6.8	371.2
258 "	5.6	372.4	5.9	372.1	6.6	371.4
259 "	6.7	371.3				
270 "	—				7.2	370.8
300 "	7.0	371.0	6.7	371.3	6.9	371.1
T.P.	2.24	372.93	7.32			370.69
335 "					2.3	370.6
350 "	3.0	369.9	2.5	370.4	2.2	370.7
386 "					3.2	369.7
400 "	3.9	369.0	3.3	369.6	2.1	370.8
428 "					3.9	369.0

## Utah St

372.93

450 So Howard

500 "

550 "

600 No. line Polk.

CTR Line "

So. Line "

T.P. 3.86 372.55 4.24

50' So. "

100 "

150 "

176 "

200 "

228 "

250 "

300 "

350 "

395 "

W

CTR

E

4.4 367.5 3.8 369.1 4.1 368.8

4.7 368.2 4.4 368.5 4.3 368.6

4.5 368.4 4.2 368.7 4.1 368.8

4.8 368.1 3.9 369.0 4.2 368.7

4.0 368.9 4.0 368.9 4.3 368.6

4.7 368.2 4.0 368.9 4.2 368.7

B.M. P. 5. E. Cor Utah &amp; Polk.

3.9 368.6 3.4 369.1 3.9 368.6

3.9 368.6 3.6 368.9 3.8 368.7

3.8 368.7 3.9 368.6 4.1 368.4

3.8 368.7

4.5 368.0 4.1 368.4 4.8 367.7

3.6 368.9

4.8 367.7 4.6 367.9 5.1 367.4

5.4 367.1 4.8 367.7 5.7 366.8

5.9 366.6 5.4 367.1 5.7 366.8

6.2 366.8



372.55

Next

V

Page

Utah 54

58

		372.55		
T.P.	1.89	368.65	5.79	366.76
400	50	Polk.		
413	"			
427	"			
450	"			
500	"			
550	"			
600	No line	Lincoln		
10' 50"	"	"		
23 "	"	"		
27 "	"	"		
32 "	"	"		
36 "	"	"		
ctr				
44	"	"		
49	"			
53	"			

3.95

364.70

W		CTR		E	
2.5	366.1	2.2	366.4	1.6	367.0
				1.2	367.4
				2.8	365.8
3.0	365.6	2.6	366.0	3.1	365.5
3.5	365.1	3.0	365.6	3.9	364.7
4.0	364.6	3.6	365.0	3.9	364.7
4.6	364.0	4.6	364.0	3.9	364.7
3.6	365.0			4.3	364.3
3.9	364.7				
8.1	360.5			6.8	361.8
7.9	360.7	3.6	363.0	6.9	361.7
7.9	360.7			7.0	361.6
				4.4	364.2
4.4	364.2				

B.M. 119 N.E. Cor Utah & Lincoln



Utah St.

368.65

So. line Lincoln

50' So "

T.P. 1.24 360.98 8.91 359.74

100 " "

150 " "

200 " "

250 " "

300 " "

350 " "

400 " "

T.P. 2.73 355.91 7.80 353.18

450 " "

500 " "

550 " "

600 No line U<sub>112</sub>

4.81

351.15

59

7/26/05 } Laws  
Brooks  
Haslam

W CTS E

7.0 361.6 6.4 362.2 6.0 362.6

9.2 359.3 8.2 360.4 8.1 360.5

2.1 357.9 1.7 359.3 1.8 359.2

3.6 357.4 3.1 357.9 3.6 357.4

5.0 356.0 4.3 356.7 4.4 356.6

5.4 356.6 5.1 355.9 5.4 356.6

6.1 354.9 6.0 355.0 6.2 354.8

7.2 354.8 6.3 354.7 6.5 354.5

7.7 353.3 7.0 354.0 7.1 353.9

3.5 352.4 2.7 353.2 2.8 353.1

3.9 352.0 3.3 352.6 3.6 352.3

5.0 350.9 4.2 351.7 4.4 351.5

5.8 350.1 5.1 350.8 4.8 351.1

B.M. Plg N.E. Cor Utah & U<sub>112</sub>





Kansas St.

373.80

315 No El Cayon

337 "

350 "

T.P. 6.19 371.17 8.82

364.98

378 "

388 "

400 "

409 "

422 "

430 "

437 "

445 "

450 "

465 "

488 "

500 "

541 "

550 "

W

CTR

E

8.6 365.2

8.4 365.4 7.7 366.1

8.2 365.6 8.1 365.7 8.9 364.9

5.9 365.3 4.8 366.4 5.5 365.7

5.7 365.5

4.6 366.6

5.0 366.2 6.0 365.2 6.1 365.1

6.0 365.2 6.1 365.1

5.1 366.1 5.2 366.0 6.2 365.0

5.7 365.5

4.7 366.5 6.2 365.0 6.0 365.2

Kansas St

62

371.17

559 No Cajon  
570 "  
575 "

W

CTR

E

4.4 366.8

5.5 365.7

5.9 365.3

588 "

6.0 365.2

Solino Jackson

5.7 365.5

6.0 365.2

6.2 365.0

25 No of S.L. "

5.4 365.8

CTR

4.4 366.8

5.9 365.3

6.1 365.1

59 No

6.1 365.1

5.8 365.4

5.9 365.3

No. 1170

6.1 365.1

21' No

6.0 365.2

5.92

365.25

B.M. P19 N.E. Cor KANSAS JACKSON

40 "

4.7 366.5

5.1 366.1

50 "

5.7 365.5

5.8 365.4

5.6 365.6

100 "

5.7 365.5

5.9 365.3

5.8 365.4

135 "

5.5 365.7

T.P.

7.11 372.69

5.59

365.58

150 "

Jackson

7.1 365.6

7.4 365.3

5.6 366.1

144 "

7.2 365.5



Kansas St

372169

63

200 No Jackson

222 "

242

250 "

260 "

265 "

286 "

300 "

322 "

335 "

350 "

360 "

376 "

400 "

420 "

435 "

425 "

450 "

460 "

476

W

Chr

E

7.0 365.7 7.2 365.5 6.7 366.0

7.0 365.0

5.5 367.2

6.5 366.2 6.7 366.0 6.3 366.4

5.0 367.0 6.8 365.9

6.8 365.9 5.0 367.7

6.2 366.5 6.8 365.9 6.8 365.9

4.0 368.7

6.7 366.0 6.0 366.7 5.6 367.1

5.1 367.6 6.0 366.7 5.9 366.8

5.7 367.0 5.3 369.4 3.1 369.6

4.6 368.1 5.1 367.6 4.1 368.6

3.2 369.5

5.4 367.3

2.9 369.8 3.3 369.4 3.6 369.1

4.5 368.2

2.3 370.4

Kansas St

64

					W	Chr	E			
		372.69								
500'	No Jackson				3.5	369.2	3.3	369.4	2.9	369.8
524'	"				3.9	368.8				
558'	"				1.3	371.4	2.9	369.8	2.3	370.4
563'	"				3.2	369.5				
T.P.	8.00	378.94	1.75	370.94						
582'	"							6.9		372.0
5.1100	Monroe				8.8	370.1	7.8	371.1	7.5	371.4
12'	No of S.L.				9.0	369.9	6.4	372.5		
32'	" " "				6.4	372.5				
Chr	"				7.0	371.9	7.9	371.0	4.8	374.1
58'	No " "				7.7	371.2				
62'	" " "				6.4	372.5	6.3	372.6		
70'	" " "							6.7		372.2
		5.41		373.53						
B.M. Plg NE Cor Kansas & Monroe										
No. 11120	"				7.2	371.7	6.9	372.0	5.4	373.5
15	No "				7.4	371.5	4.8	374.1	4.3	374.6
20	No Monroe									
39	"				5.6	373.3			6.3	372.6
50	"				6.9	372.0	6.3		5.5	372.4



Kansas St

378.94

73 No Monroe

93 " "

100 " "

110 " "

127 " "

150 "

165 "

176 "

200 "

212 "

240 "

250 "

264 "

264 "

280 "

300 "

315 "

T.P 5.83 381.88 2.89

340 "

350 "

370 "

381 "

376.05

65

W

Chr

E

6.7 372.2 5.5 373.4

4.9 374.0

5.8 373.1 4.8 374.1 2.8 376.1

6.3 374.6 5.5 373.4

4.5 374.4 5.3 373.6

5.8 373.1 2.9 376.0 4.6 374.3

4.5 374.4 5.1 373.8

2.5 376.4

5.2 373.7 3.2 375.7 4.0 374.9

4.6 374.3

4.6 374.3

4.5 374.4 3.5 375.4 2.0 376.4

4.4 374.5 1.7 377.2 3.6 375.3

2.7 376.2 1.4 377.6

3.5 375.4 4.3 374.6 3.1 375.8

2.5 376.4 2.2 376.7 2.2 376.7

4.4 375.5

6.9 375.0 4.6 377.3 6.2 375.7

5.8 376.1

5.1 376.8 6.2 375.7

381.88

400 N. Monroe

410 "

425 "

450 "

460 "

465 "

470 "

485 "

500 "

520 "

550 "

562 "

577 "

582 "

So. line Madison

3.55

378.33

W

CTR

E

6.5 375.4 4.6 377.3 4.7 377.2

5.8 376.1 5.6 376.3

3.6 378.3

6.2 375.7 5.9 376.10 5.1 376.8

5.4 376.5

6.2 375.7

4.0 377.9

3.4 378.5 3.0 378.9

5.5 376.4 5.2 376.7 4.5 377.4

2.8 379.1

5.7 376.2 5.2 376.7 4.3 377.6

4.7 377.2

2.8 379.1

2.6 379.3

5.0 376.9 5.0 376.9 2.8 379.1

B.M. Cap Tack top of White stake SW. Mad. Y Kansas



67

Kansas

St

6.23 375.87

369.14

W

Ctr

E

S. 1170 E 1 Coyin

6.8

369.1

7.4

368.5

7.9

368.0

12 500ft

7.7

368.7

25 "

6.4

369.5

50 "

6.6

369.3

7.1

368.8

7.4

368.5

100 "

6.5

369.4

6.7

369.2

7.2

368.7

122 "

7.2

368.7

135

5.1

370.8

150

6.5

369.4

6.7

369.2

6.3

369.6

162

5.0

370.9

7.2

368.7

170

4.7

371.2

200

6.4

369.5

6.8

369.1

7.2

368.7

228

5.2

370.7

250

6.2

369.7

6.8

369.1

7.3

368.6

275

4.9

371.0

278

6.5

369.4

300

4.8

371.1

6.2

369.7

6.8

369.1

8  
5  
05 } Mrs Ewen  
Laird  
Brooks  
Haslam

67

140545 St

68

				W	ctr	E	
	6	375.87		7.0	368.9	7.4	368.5
326	South of El Cajon						
338	" = N. line of Howard				5.9	370.0	6.4
16'	" of N. " "			6.3	369.6	4.9	371.0
T.P	6.36	375.93	6.30	369.57	= B.M. P19 N.W. Cor Kansas & Howard.		
	Ctr line of Howard			5.0	370.9	6.5	369.4
55'	South " N.L. Howard			6.6	369.8		
	" line "			6.3	369.6	5.3	370.6
32'	" of Howard			6.3	369.6	7.1	368.8
15'	" " "					7.3	368.6
24'	" " "				6.9	369.0	
50'	" " "			4.5	371.4		
74'	" " "			6.3	369.6	6.5	369.4
100'	" " "			4.3	371.6	5.3	370.6
136'	" " "			5.4	370.5	7.0	368.9
150'	" " "			6.3	369.6	5.5	370.4
165'	" " "			4.9	371.0	7.3	368.6
	" " "			6.0	369.9	6	
	" " "			6.0	369.9	6.4	369.5
	" " "					6.1	369.8
	" " "					5.9	370.0



Kansas 54

375.93

185'

200'

214'

231

218

245

250

269

284

300

322

335

350

T.P.

345

350

400

457

374.31

6.19

367.74

W

Cr

E

6.1

369.8

6.6

369.3

7.0

368.9

5.7

370.2

5.1

370.8

6.7

369.2

5.5

370.4

5.2

370.7

5.9

370.0

5.3

370.6

5.8

370.7

6.1

369.8

6.2

369.7

7.3

368.6

6.4

369.5

4.7

371.2

6.1

369.8

5.9

370.5

4.7

369.7

6.7

369.2

6.2

4.2

370.1

4.7

369.6

5.5

368.8

4.5

369.8

4.9

369.4

5.7

368.6

5.0

369.0

Kansas St

70

430 374.31  
 450 So of Howard

463

480

491

500

515

535

530

550

570

575

590

N. Line Polk

31

19

Old Line "

W 4.9 369.4 Ctr E  
 3.9 370.4 5.2 369.1 5.4 368.9

4.8 369.5

3.9 370.4

4.9 369.4

4.6 369.7 5.2 369.1 5.6 368.7

5.8 368.5

4.4 369.9

5.0 369.3

3.7 370.6 5.4 368.9 5.7 368.6

5.1 369.2

5.7 368.6

4.7 369.6

4.6 369.7 4.6 369.7 5.4 368.9

5.8 368.5

5.3 369.0

3.7 370.6 4.9 369.4 4.6 369.7



Kansas St.

570

71

				W	Cr	E	
4							
4	60			5.6	368.7		
4	50'	So of N. Line				4.1	370.20
4		So Line of Polk		AB.	4.5	369.8	6.0 368.37
4	21'	So of South line of Polk				5.4	368.9
4	46'					6.4	367.9
5	T.P.	4.37	372.95	5.73			368.58
5	17'			3.3	369.7		
5	33'			4.7	368.3		
5	50'			4.3	368.7	3.2	369.8 3.9 369.17
5	75'					5.2	367.8
5	100'			5.1	367.9	4.5	368.5 5.3 367.7
5	135'			5.0	368.0	5.2	367.8
5	150			4.3	368.7	3.9	369.1 5.7 367.3
5	167			4.9	368.1		
5	185			4.6	368.4		
5	193			5.3	367.7		
5	190					4.8	368.2

Plug at S. W. Cor. Kansas & Polk.

Kansas St

372.95

200 So Polk

222

232

212

229

250

262

283

300

350

T.P. 432 370.65 6.62

400

409

420

445

450

460

W

Chr

E

4.6 368.4 5.3 368.7 6.0 367.0

5.0 368.0

6.1 366.9

4.4 368.6

6.0 367.0

5.9 367.1 6.1 366.9 5.9 367.1

5.6 367.4

6.2 366.8

6.6 366.1 5.7 367.3 5.3 367.7

7.1 365.9 5.9 367.1 6.7 366.3

5.1 365.6 5.1 365.6 4.6 366.1

4.7 366.0 5.4 365.5

5.6 365.1

4.5 366.2 4.5 366.2 4.5 366.2

3.8 366.9 5.5 365.2 5.9 364.8



Kansas St

370.65

73

483

W

CH

E

5.7 366.0

490

6.0 364.7

500

4.7 366.0 5.6 365.1 4.7 366.0

540

7.1 363.6

515

5.8 364.9 4.7 366.3

531

4.8 365.9

550

6.0 364.7 5.8 364.9 6.6 364.1

555

6.9 363.8

570

7.2 363.5 5.1 365.6

North Line of Lincoln

6.1 364.6 6.0 364.7 7.7 363.0

B.M.

6.15 364.50

= Plug N.W. Cor. Kansas & Lincoln

Cr. Line of Lincoln

7.6 363.1 7.6 363.1 7.7 363.0

46' S. of N. Line

8.1 362.6

50'

6.6 364.1

South Line of Lincoln

7.9 362.8 7.5 363.2 8.2 362.4

15' South of S. Line

6.9 363.8

Kansas St

370.65

38 So. of South Line of Lincoln  
T.P. 1.59 364.55 7.69 362.96

50 3.2 361.4 3.1 361.5

74 3.3 361.3

100 2.6 362.0 3.7 360.9

115 1.9 362.7

150 4.1 360.5 4.3 360.3 4.4 360.2

160 4.9 359.7

171 3.7 360.9

200 5.4 359.2 5.0 359.6 5.7 358.9

208 6.0 358.6

219 4.9 359.7

250 6.7 357.9 6.6 358.0 5.4 359.2

263 7.1 357.5 5.3 359.3

282 6.0 358.6 7 359.3

300 7.2 357.4 7.0 357.6 7.0 357.6

74

W

Ch

E

8.5 X 356.1

1.6 X 365.0

3.3 361.3

3.7 360.9

1.9 362.7

4.4 360.2

3.7 360.9

5.7 358.9

5.4 359.2

5.3 359.3

7 359.3

7.0 357.6



Kansas St

364.55

			W	CHK	E	
310			7.9	356.7		
313	So. of South line of Lincoln				6.8	357.8
338			6.8	357.8		
350			7.4	357.2	7.9	356.7
360			8.3	356.3		
382			7.3	357.3		
400			8.8	355.8	8.6	356.0
427					7.8	356.8
T.P.	337	359.32	8.60	355.95		
413			3.2	356.1		
436			4.3	355.0		
450			3.9	355.4	4.1	355.2
470					3.0	356.3
500			5.0	354.3	4.8	354.5
535					3.1	356.2
515			5.1	354.2	4.9	354.4
530			4.1	355.2		

		W		Cr.		E	
	359.32	6.0	353.3				
550	South of South line of Lincoln	6.0	353.3	5.9	353.4	4.4	354.9
575	N. Lin University Ave					5.2	354.1
		5.30	354.0	6.2	353.1	6.8	354.5
	527 354.05	Plg N. E Cor Kansas Univ					



UTAH ST.  
MADISON - ADAMS.  
COVERT WETMORE MOORE,  
12/5/05

11.34 387.98 376.64

0 = N. L. MADISON.

25-N

50-N

60-N

80-N

100-N

145-N

150-N

200-N

210-N

230-N

250-N

265-N

280-N

290-N

300-N

E. L.

PLUG AT S.E. COR. UTAH & MADISON.

10.6 277.4

9.0 278.0

9.5 278.5

8.7 279.3

10.2 277.8

8.9 279.1

9.2 278.8

9.8 278.2

8.7 279.3

9.2 278.8

7.3 280.9

8.7 279.3

7.7 280.1

W. L.

77

8.4 279.6

10.3 279.7

10.0 278.0

8.2 279.8

9.8 278.2

9.5 278.2

9.9 278.1

8.5 279.5

9.2 278.8

9.2 278.8

7.0 281.0

7.4 280.6

UTAH ST.

387.98

315-N

320-N

330-N

340-N

350-N

375-N

400-N

420-N

450-N

465-N

475-N

500-N

550-N

600 = S. L. ADAMS

E. L

8.8 279.2

6.8 281.2

7.6 280.4

6.6 281.4

6.3 281.7

4.9 283.1

5.0 283.0

4.4 283.6

3.5 284.5

W. L

78

8.0 280.0

6.0 282.0

6.5 281.2

5.5 282.5

5.2 282.8

6.5 281.4

4.3 283.7

5.9 282.1

4.7 283.3

4.4 283.6

3.9 284.1



KANSAS

ST.

79

MADISON - ADAMS.

COVERT.  
WETMORE.  
MOORE

12/5/05

11.34 387.98

376.64

0 = S. L ADAMS.

50-5

100-5

150-5

170-5

180-5

200-5

240-5

210-5

230-5

250-5

260-5

275-5

300-5

320-5

350-5

E. L

W. L

PLUG AT S. E. COR. UTAH & MADISON

+ 0.2 388.2

0.0 388.0

0.0 388.0

0.3 387.7

0.6 387.4

1.1 386.9

0.4 387.6

2.0 386.0

2.0 386.0

3.3 384.7

1.1 386.9

3.2 384.8

0.6 387.4

2.7 385.3

2.3 385.7

2.4 385.5

4.3 383.7

3.8 384.2

2.8 385.2

4.0 384.0

5.5 382.5

2.7 285.3

5.7 282.3

6.0 282

KANSAS ST.

387.98

400-5

410-5

430-5

450-5

460-5

490-5

500-5

515-5

525-5

550-5

570-5

565-5

580-5

600-5 = N. L. MADISON

7.67 378.31

378.33  
378.31  
.02

80

E. L

5.3 282.7

5.4 282.6

7.8 280.2

6.8 281.2

8.6 279.4

7.3 280.7

7.2 280.8

8.6 279.4

8.0 280

9.9 278.1

9.6 278.4

WHITE GUARD STAKE SW. COR. KANSAS & MADISON

W. L

6.0 282

7.2 280.8

7.0 281.0

8.5 279.5

9.6 278.4

7.3 280.7

10.2 277.8

10.2 277.8

8.5 279.5

10.1 277.9



400

410

430

45

46

49

500

51

52

55

57

56

58

60



393.  
 376.51 2.8 - Oregon  
 384.61 Topball inlet pipe Reservoir  
 376.87 Idaho - S.W.  
 373.45 Utah  
 369.64 Kansas  
 367.32 30th  
 377.14  
 370.60  
 370.14  
 370.14  
 355.98  
 6565  
 3.95  
 60700  
 359.37  
 357.1  
 357.1  
 357.1

TRAVERSE TABLE FOR TRANSIT BOOK

From 1° to 90° for a distance of 100.

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	3.03	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	7.55	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	10.59	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	26.50	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							