EL CAPITAN
Pipe Line Levels
Cuts and Grades
Sta. 941+25 to 995+25

B

FIELD BOOK
1312

W208

MICROFILMED
JAN 11 1965

FILL				AREA		CUBIC YARDS		
RIGHT				EXCAVA	EMBANK.	EXCAVA.	EMBANK.	
				Index				
		Sta. 985 to			to 941+25			

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT		RIGHT	C.
B.M.# 120				334.936					
	8.515	343.451							
985+50			9.2	334.3	330.0			4.	3
+25			7.6	335.9	331.4			4.	5
985+00			6.7	336.8	332.8			4.	0
+75			5.2	338.3	334.2			4.	1
+50			4.7	338.8	335.6			3.	2
+25			3.0	340.5	337.0			3.	5
T.P.	10.24	351.90	1.79	341.66					
984+00			10.5	341.4	338.4			3.	0
+75			9.0	342.9	339.8			3.	1
+50			8.0	343.9	341.2			2.	7
+25			6.1	345.8	342.6			3.	2
983+00			3.9	348.0	344.0			4.	0

~~FILL~~ Cut ~~RIGHT~~					AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
		℄						

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT	CUT OR FILL RIGHT	CUT OR FILL C.	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
983+00		351.90			344.0							
+75			0.7	351.2	346.786			4.4				
	12.05	362.55	1.40	350.50								
+50			8.5	354.1	349.572			4.5				
+25			4.7	357.9	352.358			5.5				
982			1.8	360.8	355.144			5.7				
	12.71	373.97	1.29	361.26								
+75			10.7	363.3	357.930			5.4				
+50			7.8	366.2	360.716			5.5				
+25			5.2	368.8	363.502			5.3				
981			2.6	371.4	366.288			5.1				
	12.17	384.58	1.56	372.41								
+75			10.7	373.9	369.074			4.8				
+50			9.3	375.3	371.860			3.4				
+35			7.0	377.6	373.476			4.1				
980+13			3.3	381.3	375.939			5.4				

976+50 388.0

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT	CUT OR FILL RIGHT	C.	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
980+13 4		384.58			375.939							
+88 4			0.7	383.9	378.725		5	2				
	12.63	396.40	0.81	383.77								
+63 4			9.6	386.8	381.511		5	3				
+50					383.0							
+38 4			7.3	389.1	383.155		5	9				
979+13 4			7.1	389.3	383.488		5	8				
+88 4			7.7	388.7	383.821		4	9				
+63 4			7.5	388.9	384.155		4	7				
+38 4			7.3	389.1	384.488		4	6				
978+13 4			6.9	389.5	384.821		4	7				
+88 4 B.C.			6.6	389.8	385.154		4	6				
+75			6.5	389.9	385.335		4	6				
+50			4.8	391.6	385.668		5	9				
977+25			4.0	392.4	386.002		6	4				

Mon 6-28 →

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT		C.	RIGHT		AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
977+25		396.40			386.00									
977			4.3	392.1	386.667			5	4					
+75			4.0	392.4	387.333			5	1					
+50			3.9	392.5	388.0		5.5	4	5		✓	✓		
+25			4.6	391.8	387.6		5.2	4	2					
976			4.1	392.3	387.2		6.1	3	1					
+75			4.4	392.0	386.8			5	2					
+50			5.2	391.2	386.4			4	8					
+25			5.4	391.0	386.0			5	0					
975			5.1	391.3	385.6			5	7					
	4.56	396.09	4.87	391.53										
+75			4.5	391.6	385.2			6	4					
+50			4.9	391.2	384.8			6	4					
+25			5.8	390.3	384.4			5	9					

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT				RIGHT	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
		396.09												
974+25					384.4									
974			7.8	388.3	384.0			4	3					
+75			9.8	386.3	381.667			4	6					
+50			11.9	384.2	379.333			4	9					
	2.32	386.47	11.94	384.15										
+25			5.2	381.3	377.000			4	3					
973			8.2	378.3	374.667			3	7					
+75			9.7	376.8	372.333			4	5					
+50			11.2	375.3	370.0			5	3					
	2.01	377.43	11.05	375.42										
+25			5.8	371.6	368.5			3	1					
+10			9.8	367.6	367.6			0	0					
			3.25	374.18										
972					367.0									
B.M.	0.63	374.78		374.15	#16A									
+75					367.5									
+50			6.8	368.0	368.0			0	0					

Supports

June 28, 1926 Clear
Converse Scribe
Peirce ⊼
Simpson Rod Duermit Rod

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT	CUT OR FILL RIGHT	C.		AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
+50		374.78			368.0	Grade Rod							
+25			1.2	373.6	371.0			2	6				
	11.40	386.18	0.08	374.78									
971			7.8	378.4	374.0			4	4				
+75			4.6	381.6	378.0			3	6				
	12.52	398.50	0.11	386.07									
+50			12.0	385.98 386.5	382.0	16	5	4	5				
+25			8.5	390.0	386.0	12	5	4	0				
970			4.6	393.9	390.0	8	5	3	9				
	12.16	410.20	0.46	398.04									
+75			1.5	397.0	392.125	6	4	4	9				
+50			10.2	400.1	394.250	16	0	5	8				
+25			8.1	402.1	396.375	13	8	5	7				
969			6.4	403.8	398.50	11	7	5	3				
+75			3.8	406.4	400.625	9	6	5	8				

June 29, 1926 Clear
Peirce
Simpson Rod
Duermit Rod

STA.	B. S. +	H. I.	F. S. −	ELEVA.	GRADE	CUT OR FILL LEFT	RIGHT	C.		AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
968+75		410.20			400.615	Grade Rod							
+50			1.9	408.3	402.740	7	5	5	6				
	7.43	416.17	1.46	408.74									
+25			5.8	410.4	404.75	11	4	5	6				
+15.63 E.C.			5.4	410.8	405.50	10	7	5	3				
+00			5.3	410.9	406.42	3.00% 9	8	4	5				
968					407.0								
				V.C.	406.75								
+79			4.1	412.1	406.65	0.50% 9	5	5	4				
+54.13 B.C.			4.8	411.4	406.52	+ 9	7	4	9				
+50			4.8		406.50			4	9				
+25			5.0	411.2	406.25	9	9	4	9				
967			5.4	410.8	406.0	10	2	4	8				
+75			7.0	409.2	404.83	11	4	4	4				
+50			8.6	407.6	403.66	12	5	3	9				
+25			9.5		402.43	13	1						

STA.	B. S. +	H. I.	F. S. −	ELEVA.	GRADE	CUT OR FILL LEFT		RIGHT	C.	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
966+25		416.17			402.49	G Rod.							
966			11.6	404.5	401.32	14	8	3	2				
T.P.	2.77	407.69	11.25	404.92									
+75			3.9	403.8	400.16	7	5	3	6				
+50			5.8	401.9	398.99	8	7	2	9				
+32.8	E.C.		6.3	401.4	398.20	9	5	3	2				
965+21.1			6.5	401.2	397.65	10	0	3	5				
+96.1			6.9	400.8	396.49	11	2	4	3				
+71.1			7.1	400.6	395.32	12	4	5	3				
+46.1			6.8	400.9	394.15	13	5	6	7				
964+21.1			7.3	400.4	392.99	14	7	7	4				
64	392.00												
+96.1			8.8	398.9	391.67	16	0	7	2				
+71.1			12.5	394.2	389.33	18	4	5	9				
	0.77	396.14	12.32	395.37									
+46.1			2.5	393.6	387.00	9	1	6	6				

STA.	B. S. +	H. I.	F. S. −	ELEVA.	GRADE	CUT OR FILL LEFT		C.	RIGHT	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
963+46.1		396.14			387.00								
+21.1			6.4	389.8	384.66	11	5	5	1				
962+96.1	B.C.		9.7	386.9	382.30	13	8	4	6				
+75			11.0	385.1	380.33	15	8	4	8				
	0.35	383.99	12.50	383.64									
+50			1.6	382.4	378.00	6	0	4	4				
+25			4.3	379.7	375.67	8	3	4	0				
962+00			9.1	374.8	373.33	10	6	1	5				
+75			8.8	375.2	371.00	9.33% 13	0	4	2				
+50			11.1	372.9	368.66	15	3	4	2				
+25			12.8	371.2	366.33	17	7	4	9				
	0.35	372.40	11.94	372.05									
961			4.1	368.3	364.00	8	4	4	3				
+75			6.6	365.8	361.66	10	7	4	1				
+50			8.9	363.5	359.33	13	1	4	2				

STA.	B. S. +	H. I.	F. S. −	ELEVA.	GRADE	CUT OR FILL LEFT	RIGHT	AREA EXCAVA	EMBANK.	CUBIC YARDS EXCAVA.	EMBANK.
960+50		372.40			359.33						
					+ 9.332 %						
+25			12.1	360.3	357.00	1 5 4		3 3			
	0.79	361.86	11.33	361.07							
960			3.7	358.1	354.54	7 3		3 6			
+75			6.0	355.9	352.08	9 3		3 8			
+50			7.2	354.6	349.62	1 2 2		5 0			
+25			9.6	352.3	347.15	1 4 7		5 1			
959			12.2	349.7	344.79	1 1 7 1		4 9			
	1.69	351.55	12.00	349.86							
+75			3.5	348.0	342.32	+ 9.842 9 2		5 7			
+50			6.2	345.4	339.86	1 1 7		5 5			
+25			8.3	343.3	337.39	1 4 2		5 9			
958			11.6	339.9	334.93	1 6 6		5 0			
	0.89	340.76	11.68	339.87							
+78.9			~~4.3~~		332.84	7 8		~~3 5~~			

June 30, 1926 Clear
Peirce
Simpson Road
G.E. Moultrie Road

STA.	B. S. +	H. I.	F. S. −	ELEVA.	GRADE		CUT OR FILL LEFT	RIGHT	AREA EXCAVA	EMBANK.	CUBIC YARDS EXCAVA.	EMBANK.
957+789		340.76			332.84							
+75			4.3	336.5	332.46	+2.84%	8	3	4	0		
+50			6.7	334.1	330.00		10	8	4	1		
	3.88	333.26	11.38	329.88								
+25			3.2	330.1	325.38		7	9	4	7		
957			8.0	325.3	320.75		12	5	4	5		
+75			11.9	321.3	316.12		17	1	5	2		
	0.62	321.33	12.55	320.71								
+50			3.8	317.5	311.50		9	8	6	0		
	7.85	317.50	11.68	309.65								
+25	8.90	316.57	9.83	B.M. 307.67	306.88	+8.5%	9	9	6	4		
			3.5									
956			8.6	308.0	302.25		14	3	5	7		
	0.18	303.74	13.01	303.56								
+75				302.7	297.63							
			1.0		298.13	V.C.	5.6		4	6		
+50				298.3	293.00							
			5.4		~~295.00~~	V.C.	8.7		3	3		
+25				297.1	292.50							
			6.6		~~293.00~~	V.C.	10.7		4	1		

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT	CUT OR FILL RIGHT	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
955+25		303.74			292.50						
955			5.0	298.7	292.00	11 7	6 7				
+75			2.9	300.8	291.50	2.00% 12 2	9 3				
+50			3.0	300.7	291.00	12 7	9 7				
+25			3.9	299.8	290.50	13 2	9 3				
954			5.0	298.7	290.00	13 7	8 7				
+78.3			5.8	298.0	289.57	14 2	8 4				
+53.3			6.4	297.3	289.07	14 7	8 2				
+28.3			7.5	296.3	288.57	15 2	7 7				
+03.3			8.5	295.3	288.07	15 7	7 2				
952+78.3			9.6	294.0	287.57	16 2	6 4				
	0.96	293.30	11.40	292.34							
+53.3	P.C.		04	292.9	287.07	6 2	5 8				

	STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT		RIGHT		AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
95	952+53.3	P.C.	293.30			287.07								
	+25			1.6	291.7	286.50	6	8	5	2				
	952			2.5	290.8	286.00	7	3	4	8				
	+75			3.5	289.8	285.50	7	8	4	3				
9	+50			4.5	288.8	285.00	8	3	3	8				
	+25			5.6	287.7	284.50	8	8	3	2				
	951			6.1	287.2	284.00	9	3	3	2				
	+75			6.6	286.7	283.50	9	8	3	2				
9	+50			6.7	286.6	283.00	10	3	3	6				
	+25			7.2	286.1	282.50	10	8	3	6				
	950			7.5	285.8	282.00	11	3	3	8				
	+75			7.3	286.0	281.50	11	8	4	5				

1.00%

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE		CUT OR FILL LEFT	CUT OR FILL RIGHT	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
949+75		293.30			281.50	+2.00%						
+50			10.0	283.3	281.00		12 3	2 3				
+25			6.9	286.4	282.50	-1.00%	10 8	3 9				
949			5.4	287.9	284.00		9 3	3 9				
+75			3.2	290.1	286.38		6 9	3 7				
948+50			0.7	292.7	288.75		4 6	3 9				
	12.47	304.43	1.28	292.02								
+25			9.5	295.0	291.13		13 4	3 9				
948			7.2	297.3	293.50		11 0	3 8				
+75			4.8	299.7	295.88	-0.50%	8 6	3 8				
+50			2.3	302.2	298.25		6 2	3 9				
+25			0.2	304.3	300.63		3 9	3 7				
	11.86	315.60	0.75	303.74								
947				306.1	303.00		12 6	3 1				

	STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE		CUT OR FILL LEFT	CUT OR FILL RIGHT	CUT OR FILL C.		AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
9	947		315.60			303.00									
	+75			7.4	308.2	303.50		121		47					
	+50			5.7	309.9	304.00	2.00%	116		59					
	+25			3.9	301.7	304.50		111		72					
9	946			3.3	314.3	307.00	X	106		73					
				6.59	309.01										
	+75	3.40	312.41		309.01	305.50		69							
	+50					304.00	0.60%								
	+25					302.50									
9	945					301.00	X								
	+75					298.54									
	+50					296.07	0.27%								
	+25					293.60									

309.16 Marked

New Grades

Grade Change

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT	CUT OR FILL C.	CUT OR FILL RIGHT	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
9 944+25					293.60							
944					291.14							
+75					288.67							
+50					286.20							
9 +25					283.74							
943					281.27							
+75					278.80							
+50					276.34							
9 +25					273.87							
942					271.40							
+75					268.93							
+50					266.47							
941+25					264.00							

7.26 %

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT	C.	RIGHT	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
995+25					234.00							
								232.75	B.M			
+50												
								+ H.I.	– Elev			
+75									232.75			
~~996~~						0.50						
996												
+												
+25												
+50												
+75												
996												
+25												
+50												
+75												
997												

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT	CUT OR FILL RIGHT	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
997											
+25					233.00	8.2					
+50					231.00	10.2					
+75					229.00	12.2					
998					227.00	14.2	11.0				
+25					226.75	.92					
+50					226.67	14.6					
+75											
999											
+178											
+50					226.00						

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT		CUT OR FILL RIGHT		AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
							Pod			+	H.I.	−	Elev
990+00					254.00					2.80	242.80		240.00
										9.72	239.85	12.67	230.13
										7.52	247.20	−0.17	239.68 T.P.
												2.41	244.79 ✓
						22.00%							
991					232.00								
+20	Bux				230.40		9.5		+2				
+25					230.00								
					230.								
+30					230.03	12.8	9.8		5.0				
+40					230.12		9.7		−1.7				
+50	Pier				230.20		9.6		−3.7				
+60					230.28		9.6		−4.3				
+70					230.36		9.5		−5.0				
+80	Pier				230.44		9.4		−5.6				
+90					230.52		9.3		−2.0				
992+00					230.60		9.2		+2.9				
992+10					230.68		9.2		+6.6				
+20					230.76		9.1		+5.2		+40	Cut 1.3	
+30					230.84		9.0		+3.7				
992+50					231.00								

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT			C.	RIGHT					AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.	
2937.50					2.40														

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL							AREA		CUBIC YARDS		
						LEFT			C.		RIGHT		EXCAVA	EMBANK.	EXCAVA.	EMBANK.	

STA.	B. S. +	H. I.	F. S. −	ELEVA.	GRADE	CUT OR FILL LEFT	C.	RIGHT	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
	0.50	144.56		144.06								
	2.70	135.98	12.36	132.20								

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT (Grade Rd)	CUT OR FILL RIGHT (Rod ℄ 15')	C.	FILL RIGHT (Rod 15'R)	AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
1009+50	5.44	367.55		B.M. 362.11	348.00					~~8.2~~			
1011+00			6.72	360.83	351.~~49~~ .56								
	5.42	366.25 ~~355.41~~											
+25					352.08	14.17		6.0	6.1	8.2	8.1		
+50					352.~~56~~ 66	13.69		5.8	6.5	7.9	7.2		
+75					353.25	13.00		4.9	5.7	8.1	7.3		
1012					353.83	12.42		5.1	5.3	7.3	7.1		
+25					354.41	11.82		5.6	5.2	6.2	6.6		
+50					355.00	11.25		3.9	4.7	7.3	6.5		
+75					355.31	10.9		4.3	4.7	6.6	6.2		
1013					355.62	10.6		5.7	4.6	4.9	6.0		
+25					355.92	10.3		5.1	5.4	5.2	4.9		
+50					356.23	10.0		5.1	4.8	4.9	5.2		
+75					356.54	9.7		4.8	4.7	4.9	5.0		

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR FILL LEFT			C.	RIGHT			AREA EXCAVA	AREA EMBANK.	CUBIC YARDS EXCAVA.	CUBIC YARDS EMBANK.
1014		366.25			356.85	9	4		4.0			6.3	5.4	3.1		
+25					357.16	9	1		4.2			4.5	4.9	4.6		
+50					357.46	8	8		5.2			4.8	3.6	4.0		
+75					357.77	8	5		5.5			5.7	3.0	2.8		
1015					358.08	.25% 8	2		4.5			4.9	3.7	3.3		
+25					358.39	7	9		5.1			4.8	1.8	3.1		
+50					358.70	9 7	5		3.8			3.8	3.7	3.7		
+75					359.00	7	2		5.6			4.5	1.6	2.7		
1016																
+25																
+50																
+75																

998+ 5.5

STA.	B. S.	H. I.	F. S.	ELEVA.	GRADE	CUT OR LEFT			C.
993+57 B.C									
					4°13'				
+82'									
			E 1.6		2°58'				
994+07			T 42.2						
			∏ 10°		1°43'				
+32			L 84.3						
					0°28'				
994+41.4 E.C.									

IMPROVED TABLES AND INFORMATION

Table II—Continued

TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find c, B, A.

Use Law of Lines.

Given A, B, c; to find a, b, C.

Use Law of Lines.

Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \sqrt{\frac{(s-a)\ (s-b)\ (s-c)}{s}} = r$$

$$\cos \tfrac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \tfrac{1}{2} A = \frac{r}{s-a}$$

$$\tan \tfrac{1}{2} B = \frac{r}{s-b}$$

$$\tan \tfrac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

$$\text{Area} = \tfrac{1}{2}\, ab \sin C$$

$$\text{Area} = \sqrt{s\,(s-a)\,(s-b)\,(s-c)}$$

PRISMOIDAL FORMULA.

$$\text{Vol.} = \frac{h}{6}\,(B+b+4M)$$

h = altitude; b, B = bases; M = midsection

Table III

INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11
1/16	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	6719	.7552	.8385	.9219
1/8	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271
3/16	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323
1/4	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375
5/16	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	6927	.7760	.8594	.9427
3/8	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479
7/16	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531
1/2	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583
9/16	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635
5/8	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	9688
11/16	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740
3/4	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792
13/16	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844
7/8	.0729	.1563	.2396	.3229	4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896
15/16	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.000
	0	1	2	3	4	5	6	7	8	9	10	11

Lineal feet
Lineal yards
Square inche
Square feet
Square yard
Acres
Cubic inche
Cubic feet
Links
Links
Feet
360° = 27
Radius =
Arc of 1°
Arc of 1'
Arc of 1"

π = 3.1

π/4 =

π/6 =

π/6

4.π/3

Cu
C
D

tu

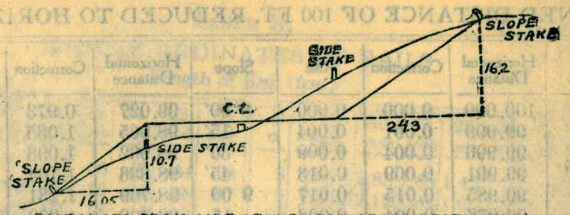
cor

a = angle of ele

bject

ORIGINAL COPR. 1910 BY J. C. PARKER
TRADE MARK
LEFAX, PHILADELPHIA, PA.

66.25	66.25	66.25	66.25
57.16	56.85	57.46	57.77
9.09	9.40	8.79	8.48
66.25	66.25	66.25	66.25
58.08	58.39	58.70	59.00
8.17	7.86	7.55	7.25



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.

B.M.	112.	961+00 Hub near	383.643
113	50'R.	962+66	390.248
114	30'L.	969+00 Rock	405.190
115	15'R.	970+65 Rock	385.983
116	35'R.	972+00	363.822
116.A.	50'L.	971+80	374.152
117	50'R.	976+65	389.319
118.	15'L.	980+18	380.950
119	50'R.	984+70	339.990
120	20'R.	986+90	334.936
121			

997+75 End 7-13-26

5
8
40

1.4
4)5.6
4
16

2.786
4)11.143
8
31
28
34
32
23

1142+70	182.60
1143+00	182.00
1143+30	181.40
1143+60	180.80
1143+60	

2
3