ENGINEERS'

LEVEL BOOK

No. 412 F

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 ft. wide. Side Slopes 1 on 1.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36 0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be 30.6+(20—16)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

INDEX (a)

(6) MEASUREMENT OF CRACKS FOR PAYMENT. (VOID)

(1) ~~(2)~~ VOID

4. LOG OF CRACKS UPSTREAM FACE.

9. LOG OF GROIN STEEL, BUTTRESSES #6 & 7.

10. LOG OF CONCRETE & GUNITE CYLINDERS

11. HOLE DETAILS AT GROINS.

12. GUNITE COVER FOR HORIZ STRESSED RODS.

17. Extra Work

21 REINFORCING BARS RETURNED

(6)

ACKS

N

TH

D IN

mastic.

WN TO

HIPPED.

N.

BREAK

FT)

32.5'.

24.0'

ARCH

EFT

GROIN.

'. FROM

O 2'

AT BREAK

AST &

to
of
ex
30

SAN DIEGUITO DAM

MEASUREMENT OF CHIPPED CRACKS FOR PAYMENT

ARCH 3 HORIZ CRACK 8½' DOWN FROM UNDERSIDE OF DECK LENGTH 45.5'. FILLED WITH GUNITE.* ONLY CRACK CHIPPED IN THIS ARCH. *7' adjacent butt #4 mastic.

BUTTRESS 4 VERT CRACK. TOP DOWN TO BREAK. 14' LONG. UPPER HALF CHIPPED.

ARCH 4. (1) HORIZ CRACK 8½' DOWN. LENGTH 62'. DRY-PACKED.

(2) HORIZ CRACK 1' ABOVE BREAK (RUNS FROM GROIN OUT TO LEFT) IN SLOPE OF ARCH. LENGTH 32.5'.

(3) HORIZ CRACK. LENGTH 24.0' 1' BELOW BREAK NEAR ℄ ARCH TO 4' BELOW BREAK AT LEFT GROIN.

ALL DRY-PACKED 174'

(4) HORIZ CRACK. LENGTH 23.5'. FROM FOOTING NEAR ℄ OF ARCH TO 2' ABOVE FOOTING AT LEFT GROIN.

(5) HORIZ CRACK. LENGTH 32.0'. AT BREAK IN SLOPE. FROM GROIN RT. TO PAST ℄

62
32.5
24
23.5
32
174.0

ARCH 5. BOTTOM ~~33.0'~~ 57' 25 consist 32 mastic

ABOVE BREAK 36.0'

18'	DOWN	31.'	57 36 31
8'		60'	60 184

Void

SAN DIEGUITO DAM (C)

CRACKS IN ARCH CURB BRACES.

# ARCH	# BRACE	RUNNING	WIDTH	DEPTH.
1	4	HORZ	1/64	10"
	5	HORZ	1/64	10"
2	1	HORZ VERT	SMALL	
2	2	HORZ VERT	SMALL	
2	3	HORZ VERT	"	
2	4	HORZ	"	
2	5	HORZ	"	
3	3	HORZ	"	

No Significance

SAN DIEGUITO DAM

LOCATION OF CRACKS

# ARCH	MEAS. FROM BUTT #	MEAS. DOWN	RUNNING	FROM	TO
1	~~2~~	20"	HORZ	19'	BUTT
1	~~2~~	6"	HORZ	15'	①
1	~~2~~	15'	VERT	24"	42"
1	2	11'	VERT	18"	42"
2	2	8"	HORZ	5½'	18'
2	2	Fr. 68" To 92"	HORZ	5'	14'
2	2	4	VERT	0	60"
2	2	1½	HORZ	5'	31'
2	2	9½'	VERT	0	12"
2	ARCH ℄	2' R.	VERT	6"	21"
2	ARCH ℄	4 R	VERT	0"	21"
2	ARCH ℄	2½ L	VERT	0"	18"
2	ARCH ℄	4½ L	VERT	0"	19"
2	ARCH ℄	8 L	VERT	3"	15"
2	3	8½	VERT	0	18"
2	3	14'	VERT	0'	12"
2	3	42"	HORZ	0	4'

DAM

IN FACE (UPSTREAM)

CRACK WIDTH	CRACK DEPTH	CAULKING
SMALL	SHALLOW	NONE
SMALL	SHALLOW	NONE
SMALL	SHALLOW	NONE
"	"	"
"	"	"
"	"	"
1/64	½	"
SMALL		"
"		"
1/32	—	"

ARCH NO.	MEAS BUTT#	RUNNING	VERT FROM	VERT TO	HORZ FROM	HORZ TO	CRACK WIDTH	CRACK DEPTH	CAULKING
2	3	HORZ	9'	—	0	14'	1/32	—	NONE
3½	3	VERT	0'	5'	ONE IN CORNER	EACH OF GROIN	—	—	"
3	3	HORZ	9'	—	BUTT	BUTT	1/16	—	FROM BUTT #4 ON 44½'
3	3	VERT	0	58"	12'	11'	—	—	—
3	3	HORZ	6"	& ARCH	18'	—	—	—	—
3	& ARCH	VERT	0	16	3'L	—	—	—	—
3	& ARCH	HORZ	66"	—	12"L	36"L	—	—	—
3	4	VERT	0	72"	17'	—	—	—	—
3	4	VERT	12"	60"	9½'	—	—	—	—
BUTT #4	& GROIN	VERT	TOP	BASE	—	—	1/8		

PAGE

SEE #5

San Dieguito Dam

Location of Cracks in Strengthening

NOTE: MEASURED DOWN FROM E.249

4

Arch No.	Crack Running	Mers fr. Butt. No.	Horz. From	Horz. To	Vert From	Vert To	Crack Width	Area Chipped.
1	Horz	2	0	25½'	20"	—	Minor	—
1	Horz	2	10½'	21½'	6"	—	"	—
1	Vert	2	21½'	—	24"	42"	"	—
1	Vert	2	17½'	—	18"	42	"	—
2	Horz	2	12½'	19'	8"	—	"	—
2	Horz	2	14'	39'	60"	42"	"	—
2	Vert	2	11'	—	0	60"	"	—
2	Vert	2	18½'	—	13"	31"	"	—
2	Vert	2	16½'	—	0	12"	"	—
2	Vert	2 & Arch	2' R	—	6"	21"	"	—
2	Vert	Arch & Arch	4' R	—	0	21"	"	—
2	Vert	Arch & Arch	2½' L	—	0	18"	"	—
2	Vert	Arch & Arch	4½' L	—	0	14"	"	—
2	Vert	Arch & Arch	8' L	—	3"	15"	"	—
2	Vert	3	8½'	—	0	18"	1/32	—
2	Vert	3	14'	—	0	12"	Minor	—
2	Horz	3	0	4'	42"	—	"	—

NOTE: MEASUREMENT IS FROM EL. 249. DOWN

LOCATION OF CRACKS IN THE

ARCH NO.	CRACK RUNNING	MEAS FR BUTT #	HORZ FROM	HORZ TO	VERT FROM
2	HORZ	3	0	14'	9'
—	VERT	3	IN RIGHT GROIN		0
—	VERT	3	IN LEFT GROIN		0
3	HORZ	3	BUTT #3	BUTT #4	9'
3	VERT	3	12'	11'	0
3	HORZ	3 & ARCH	18'	& ARCH	6"
3	VERT	& ARCH	3'L	-	0
3	HORZ	& ARCH	12'L	36'L	66"
3	VERT	4	17'	-	0
3	VERT	4	9½'	-	12"
—	VERT	4	& OF GROIN		0
4	VERT	4			12"
4	HORIZ	4	7'		5' near butt 4
—	VERT	~~4~~ 5	& OF GROIN		0
4	HORIZ	4	BUTT #4	BUTT # 5	8½'
4	HORIZ	4	0	32½'	15'
4	HORIZ	5	0	5'	24'

UPSTREAM FACE (CONT'D)

TO	CRACK WIDTH	AREA	CHIPPED	PACKING
—	1/32	—		
5'	1/32	—		
5'	1/32	—		(LEFT)
—	1/16	BUTT #4 ON 45½'		MASTIC 6' GUNITE 39½'
58"	MINOR	—		
—	"	—		
16"	"	-		
—	"	—		
72"	"	—		
60"	"	-		
BASE	1/8	UPPER 7'		GUNITE
27"	1/32	—		
1' ℄ arch 1' butt 5	MINOR	—		
18'	1/8	—		—
—	1/16	ALL	(62')	DRY PACK
—	1/16	ALL	(32.5')	DRY PACK
—	1/32	—		—

LOCATION OF CRACKS IN UPSTREAM FACE OF DAM (CONT)

ARCH NO	DIRECTION	MEAS FROM BUTT	HORIZ FROM	HORIZ TO	VERTICAL FROM	VERTICAL TO	WIDTH	LENGTH	CHIPPED		PACKING
4	HORIZ	5	0	7'	22'	—	MINOR	—			—
4	HORIZ	5	0	24'	20' AT GROIN	17' AT ℄ ARCH	1/16	ALL	(24')		DRY PACK
4	HORIZ	5	0	23½'	20'	—	1/16	ALL	(23.5')		DRY PACK
4	HORIZ	5	0	32'	16'	—	1/16	ALL	(32')		DRY PACK
5	HORIZ	5	0	60'	8'	—	1/16	ALL	(60')	LEFT 27' RT 33'	DRY PACK MASTIC
5	HORIZ	5	0	31'	11½'	—	1/16	ALL	(31')		MASTIC
5	HORIZ	5	0	36'	15'	—	1/16	ALL	(36')		MASTIC
5	HORIZ	6	0 (24' / 33') 24'	24' 57'	16' 23' @ RT GROIN	—	1/16	ALL	(57')	24' 33'	DRY PACK MASTIC
5	HORIZ	5	0	12'	20' @ RT GROIN	22' AT LT. END	1/32	—			—
5	HORIZ	5	BUTT #5	48'	4'	—	1/32	—			—
~~5~~	~~HORIZ~~	~~5~~	BUTT #5	BUTT #6	8'	—					
~~5~~	~~HORIZ~~	~~5~~	16'	BUTT #6	10½	DUPLICATION					
5	VERT	5	48½	—	0	3'	MINOR	—			—
5	HORIZ	5	~~16'~~	30'	15'	—					
~~5~~	~~HORIZ~~	~~5~~	26' BUTT 5	BUTT 8'	~~18'~~	22' BUTT	DUPLICATION				
~~12~~	~~HORIZ~~	~~12~~	BUTT 12	AND ON	7'	—	1/32	—	DUPLICATION		—
12	HORIZ	12	BUTT 12	9'	8"	—	MINOR	—			—

ARCH #	DIRECTION	MEAS FROM BUTT #	HORIZ FROM	HORIZ TO	VERT FROM	TO	WIDTH	LENGTH CHIPPED	PACKING
—	VERT	12	℄ GROIN. ~~TOP~~	~~BASE~~	TOP	BASE	1/8	—	—
11	HORIZ	12	BUTT 12	BUTT 11	8"	—	MINOR	—	—
11	HORIZ	12	BUTT 12	6	3'	—	1/32	—	—
~~11~~	~~HORIZ~~	~~12~~	~~BUTT 12~~	~~BUTT 11~~	~~9'~~	~~—~~	DUPLICATION		
—	VERT	11	℄ GROIN		TOP	—	1/16	ALL	MASTIC
~~10~~	~~HORIZ~~	~~11~~	BUTT 11	6'	4'	BASE	1/8	—	—
~~10~~	~~HORIZ~~	~~11~~	BUTT 11	6'	8'	—	DUPLICATION		
—	VERT	10	℄ GROIN		TOP	—	DUPLICATION		
~~10~~	~~HORIZ~~	~~10~~	BUTT 10	14'	9½'	BASE	1/8	—	—
~~10~~	~~HORIZ~~	~~10~~	BUTT 10	18'	15'	—	DUPLICATION		
~~9~~	~~HORIZ~~	~~10~~	BUTT 10	BUTT 9	8'	—	DUPLICATION		
~~9~~	~~HORIZ~~	~~10~~	BUTT 10	16'	16'	—	DUP.		
~~9~~	~~HORIZ~~	~~10~~	BUTT 10	26	20'	—	DUP.		
~~9~~	~~HORIZ~~	~~10~~	16'	37	15'	~~16'~~	DUP.		
9	HORIZ	10	BUTT 10	28	4'	—	DUP.		
~~9~~	~~HORIZ~~	~~10~~	36'	BUTT 9	16'	—	1/32	—	—
						—	DUP.		

CONTINUED ON PAGE # 19

GROIN RODS

		RT	LEFT
#6	(1)	34.5'	34.5
	(2)	34.0	34.5
	(3)	33.5	33.5
	4	33.0	32.5
GROIN LENGTH		33.1'	
#7	(1)	35.0	33.5
	(2)	34.0	32.5
	(3)	33.0	32.5
	(4)	32.5	32.5
GROIN LENGTH		32.8	

ARCH 6 @ ℄ = 34.1'

MARK	LOCATION	ADMIX	DAYS	BREAKING STRESS
C-19	COUNTERWEIGHT BUTT #12	—	28	2010
C-20	COUNTER FORT BUTT #7, EL 208	—	7	1410
C-21	" "	—	28	3385
C-22	" " EL 220	—	28	3200
C-23	COUNTERFORT @ BUTT #6-EL 235	—	28	3200
C-24			28	4280

BREAKING STRENGTH CONCRETE

MARK	LOCATION	ADMIX	DAYS	BREAKING STRESS
C-1	GROIN #2 COUNTERWEIGHT	NONE	7	1610
C-2	" "	"	28	3915
C-3	BUTT #7 ANCHORS	CA CL_2 Hi-E	5	3070
C-4	" "	"	7	4005
C-5	" "	"	28	5065
C-6	BUTT #6 ANCHORS	Ca Cl_2 Hi-E	4	2120
C-7	" "	"	7	2670
C-8	" "	"	28	4610
C-9	BUTT #4 & 5 ANCHORS	Ca Cl_2 Hi-E	5	3985
C-10	"	"	28	6105
C-11	BUTT #8 ANCHORS	Ca Cl_2	6	3290
C-12	"	"	28	4425
C-13	BUTT #3 ANCHOR	Ca Cl_2	5	3400
C-14	"	"	28	5065
C-15	BUTT #9 ANCHORS	Ca Cl_2	3	2375
C-16	"	"	28	5265
C-17	BUTT #10 & 11 ANCHORS	Ca Cl_2	3	1830
C-18				

NOTE: All anchors 8-sack.
All counterforts & counterweight #12 6-sack.
Counter weight #2 6½-sack.

(CONT PRECEDING PAGE)

BREAKING STRENGTH GUNITE (All 6-sack)

MARK	LOCATION	DAYS	BREAK
G-1	ARCH #1	7	3025
G-2	"	28	3680
G-3	ARCH #2	7	2160
G-4	"	28	3890
G-5	ARCH #3	7	1940
G-6	"	28	2655
G-7	ARCH #3	7	1940
G-8	"	28	2615
G-9	ARCHES #5,6 & 7	7	2290
G-10	"	28	3450
G-11	ARCHES #5,6 & 7	7	2015
G-12		28	3820
G-13	GROIN #5	3	1280
G-14	ARCHES #5,6 & 7	7	2015
G-15	"	28	3440
G-16	ARCHES #5,6 & 7	7	2035
G-17	"	28	3820
G-18	ARCHES #4, 5, 6, & 7.	7	2210

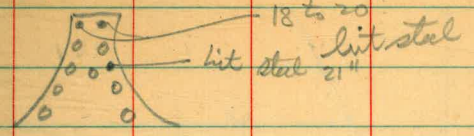
(CONT NEXT PAGE)

MARK	LOCATION	DAYS	BREAK
G-19	ARCHES #4, 5, 6 & 7	28	2970
G-20	ARCHES #4, 5, 6, 7 & 8	7	2015
G-21	"	28	3840
G-22	ARCHES #4, 5, 6 & 7	7	2090
G-23	"	28	3765
G-24	ARCHES #4, 5, 6, 7 & 8	7	1575
G-25	"	28	2475
G-26	ARCHES #3, 4, 5, 6, 7 & 8	7	2620
G-27	"	28	4455
G-28	ARCHES #7 & 8	7	2245
G-29	"	28	3236
G-30	ARCHES #8, 9, 10 & 11	7	2210
G-31	"	28	3060
G-32	ARCHES #9, 10 & 11	7	1715
G-33	"	28	2880
G-34	ARCHES #9, 10, 11 & 12	7	2460
G-35	"	28	2615
G-36	ARCHES #9, 10, 11 & 12	7	2175
G-37	"	28	2920

HOLE DETAILS AT GROINS

#2 NO HOLES

#3



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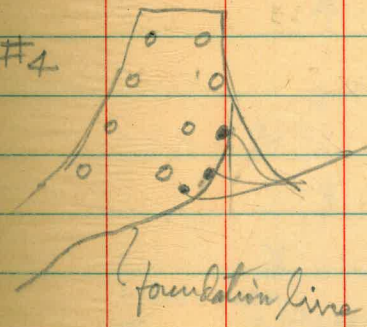
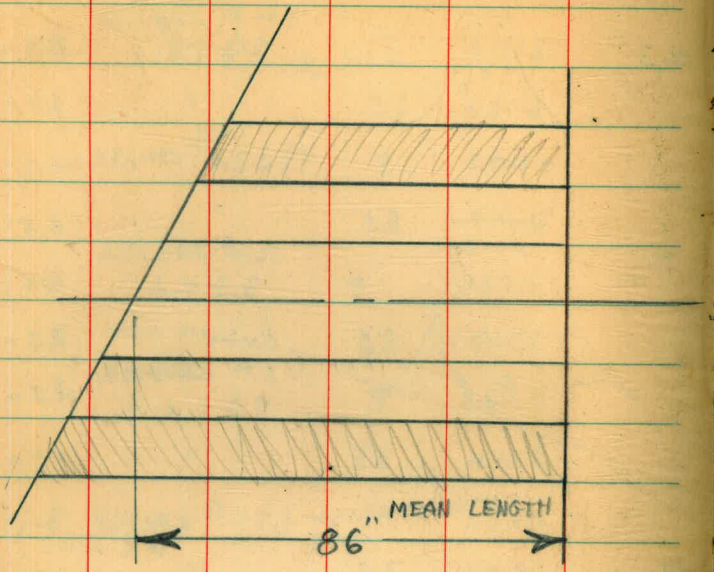


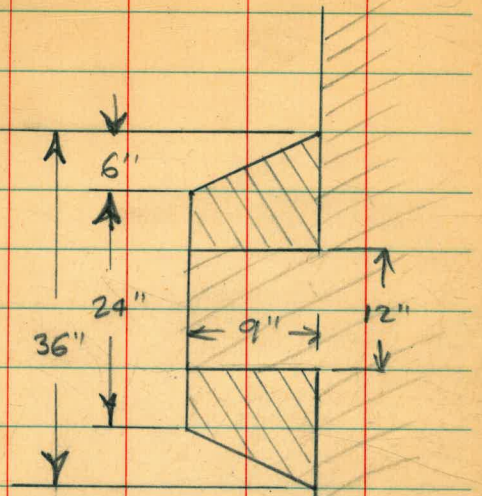
duds - about 12" deep.

#5 REGULAR - MOSTLY CONC (OR ROCK) ALL WAY, BUT HIT CLAY @ 7' ONE HOLE.

#6 & #7 APPARENTLY ALL IN CONCRETE OR ROCK.

GUNITE COVER FOR BUTTRESS STIFFNER & HORIZ. STRESS STEEL





ASSUMED SECTION (MEASURED)

SECTION OF FACE OF DRAWING

Extra Work - Time basis

(1) Foundation chipping - ~~48~~ 50 hrs
man & small jackhammer

(2) Welding pipe for culvert - 8 hrs.
man & arc welder

(3) Stressing rods in groins - foreman and 2 men, with wrench & tackle

#6	- 2½ hrs.	2.3.48
#7	- ½ "	"
#5	- 2 "	2.6.48
#8	- 1½ "	2.9.48
#4	- 1 "	"
#3	- ½ "	"
#9	- 1 "	2.11.48
#10	- ¾ "	2.14.48
#11	- ¾ "	"

10½ x 3 = 31½ man hours

(4) Excavation dst toe buttress #7
Truck crane & clam - 3½ hrs
incl change over & change back.
2 men about 1½ hr ea to
finish excavation.

LOCATION OF CRACKS IN THE UPSTREAM FACE (CONTINUED)

ARCH NO.	DIRECTION	MEAS. FROM BUTT.	HORIZ FROM	HORIZ TO	VERTICAL FROM LEFT	VERTICAL TO RIGHT	WIDTH	LENGTH	CHIPPED	PACKING
6	H	7	~~50~~ 0	~~67~~ 62	7	—	1/16	ALL	(62')	MASTIC
6	H	7	0	48	11	—	1/16	ALL	(48')	"
6	H	6	14	27	15	—	1/16	ALL	(23')	"
6	H	6	0	27	18	21	1/16	ALL	(27')	"
6	H	7	0	35	28	24	1/16	ALL	(35')	"
6	H	6	0	42	29	31	1/16	ALL	(42')	"
7	H	7	0	14	26	28	1/16	ALL	(14')	"
7	H	7	0	38	20	29	1/16	ALL	(38')	"
7	H	7	0	62	15-15	22	1/16	ALL	(62')	"
7	H	7	16	33	14	—	1/16	ALL	(17')	"
7	H	7	0	30	9	11	1/16	ALL	(30')	"
7	H	7	0	8	8	—	1/16	ALL	(8')	"
7	H	7	23	62	11	11	1/16	ALL	(39')	"
7	H	7	28	38	7.5	—	1/16	ALL	(10')	"
7	H	7	37	62	8.0	—	1/16	ALL	(25')	"
7	H	7	1.5	27	5.5	—	1/16	ALL	(12')	"

(OVER)

LOCATION OF CRACKS IN THE UPSTREAM FACE

ARCH NO.	DIRECTION	MEAS. FROM BUTT.	HORIZ. FROM	HORIZ. TO	VERTICAL FROM LEFT	VERTICAL TO RIGHT	WIDTH	LENGTH	CHIPPED	PACKING
8	H	8	0	30	20	24	1/16	ALL	(30')	MASTIC
8	H	9	0	21	22	19			(21')	
8	H	9	~~50~~ 0	~~0~~ 62	16	16			(62')	
8	H	9	~~50~~ 0	~~0~~ 62	7.5	7.5			(62')	
8	H	8	0	8	22	23			(8')	
9	H	9	0	~~50~~ 62	8	8			(62')	
9	H	9	12	26	12	11			(14')	
9	H	9	6	16	14.5	14.5			(10')	
9	H	9	22	46	15.0	15.0			(24')	
9	H	9	0	27	16	16			(27')	
9	H	9	0	16	21.5	22			(16')	
9	H	~~9~~ 10	0	16	16	16			(16')	
9	H	10	2	24	19	16			(22')	
10	H	10	0	19	9.5	9.5			(19')	
10	H	10	0	8	4	4			(8')	
10	H	10	2	17	15	15			(15')	
10	H	11	0	11	8	8			(11')	
11	H	11	0	~~50~~ 62	8.5	9		ALL	(62')	MASTIC
12	H	12	0	8	7	7	1/16	—		—

Reinforcing Bars Returned.

44 pcs	3/4" ø	- 60'-0"
19 pcs	1/2" ø	- 60'-0"
3 pcs	1 1/8" ø	- 10'-9"
1 pcs	5/8" ø	- 8'-9"
1 pcs	5/8" ø	- 9'-9"
1 pcs	5/8" ø	- 12'-10"
2 pcs	1/2" ø	- 4'-0"
1 pcs	3/4" ø	- 21'-10"
738 pcs	5/8" ø	- 1'-10" (Dowels)
2 pcs	1 1/2" ø	- 5'-0"

1 1/2" ø	1 pc 9'	ON SITE 3-26-48, BUT SHOULD BE RETURNED. JK
	1 pc 7 1/2'	
	1 pc 7'	
1 1/8" ø	1 pc 6'	

MASTIC CRACK FILLER - ROOF MASTIC

TEST - 1½" CRACK 1½" DEEP - FULL.
10# for 7' crack 15 min.

ACTUAL USE - CRACKS ABOUT ⅓ FULL
TOOK ABOUT 1 DRUM.

11	FIRM O.G. nt to bottom	3
10	BROKEN ROCK IN FIRM DIRT nt to bottom	4
9	ditto	5
8	Very good rock - seamed - bottom on n. side	6
7	Very good rock - almost solid - bottom n. side	8
6	l.g. south - some rock north - bottom	8
	bottom south	
5	semi-l.g. - with head pieces -	5
	bottom south side - head north	8
4	Firm l.g. - nt to bottom	3
3	ditto	2
		44

COUNTERFORT EXCAVATION

	FEB EST N. SIDE	FEB EST S. SIDE	ACTUAL BOTTOM N. SIDE	ACTUAL BOTTOM S. SIDE
#3	3'	3'	234	233
4	4'	3½'	228	227
5	4'	3½'	217.5	217
6	6'	EL 200	EL 204	EL 200.5
7	EL 204	EL 206	EL 204	EL 206
8	EL 214.5 4'	EL 215.5 4½'	EL 214.5	EL 215.5
9	7'	5'	218	219.5
10	4'	4'	223	224
11	2'	4'	230	229

SAN DIEGUITO IRREGATION

DIST. OUTLET

ARCH #3

LID DOWN 13'

FROM ℄ ARCH TO 9' LEFT

OF ℄ OF ARCH —

OUT 3' FROM FACE.

7N 22W

7S 22W

FILE 2830 D 4 for

original deflection points.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20—16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.