Note[illegible]d by R. C. BOWE[illegible]

Survey of Portugese Bend Landslide F. B. 2485 PG. 5
JN 0301.00 Tape Std 84 °F
Surveyed by FEB
Notes FEB Date 10 of 75
Indexed L. M. PALMER OCT 2 4 '75

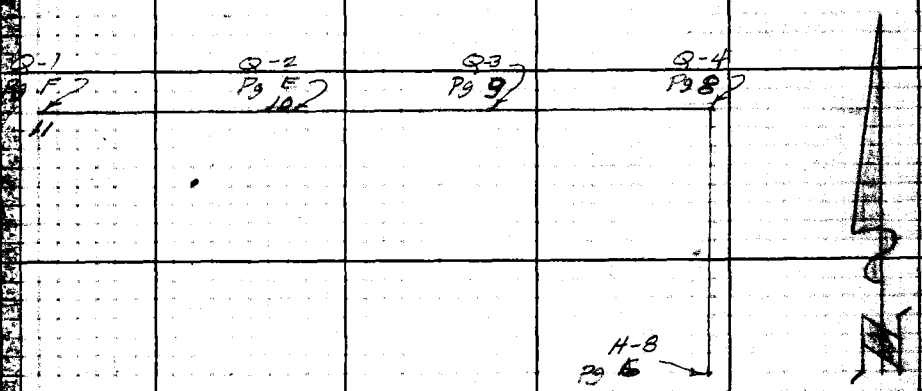
S. N. 0301.00

L. A. COUNTY SURVEY CONTROL SYSTEM

PORTUGUESE BEND

LANDSLIDE AREA

Q-LINE RECOVERY

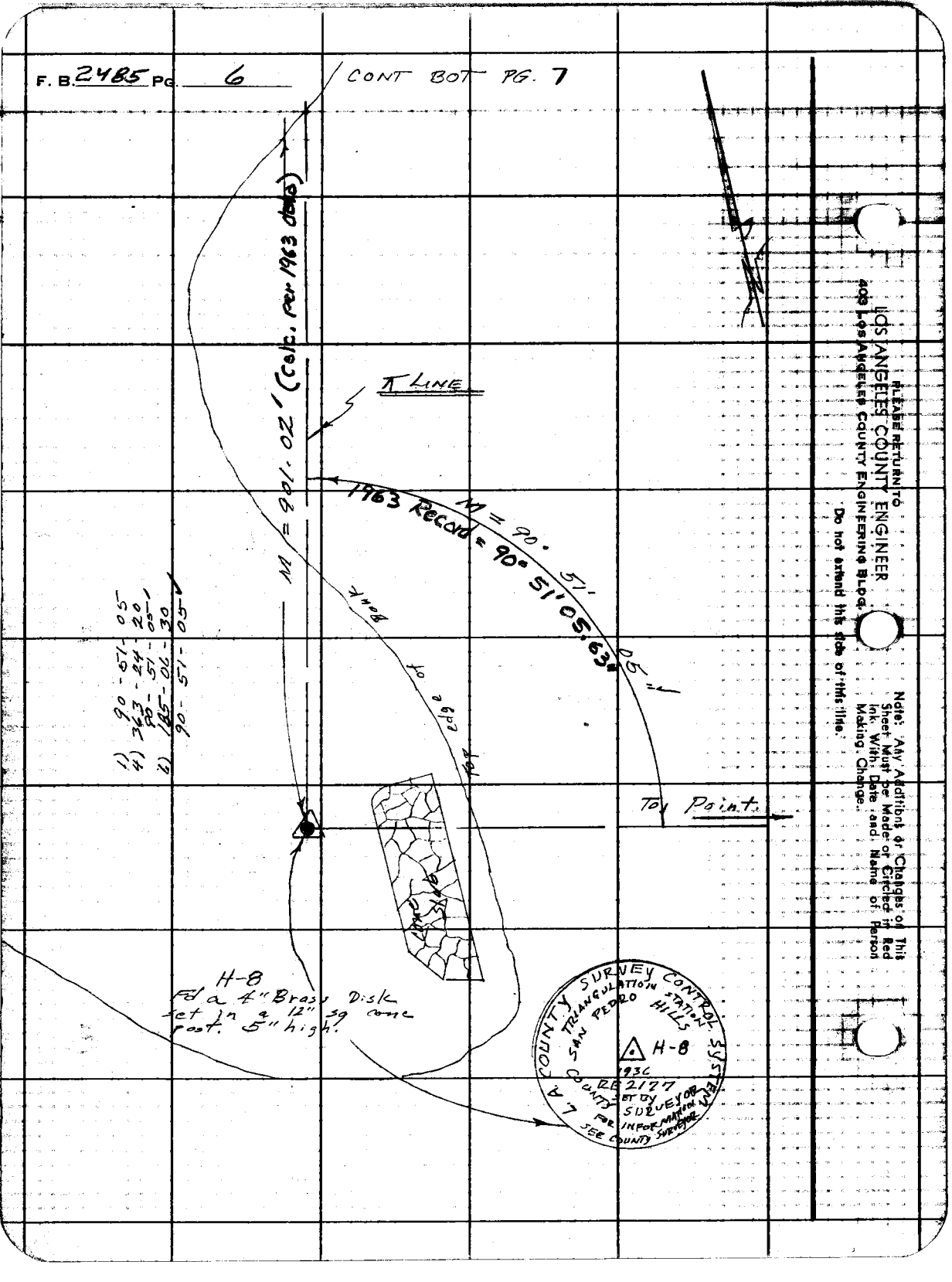


Brooks
Smith
Krohn
Crowder
Peterson

Microfilmed June '85

F. B. 2485 PG. 6

CONT BOT PG. 7



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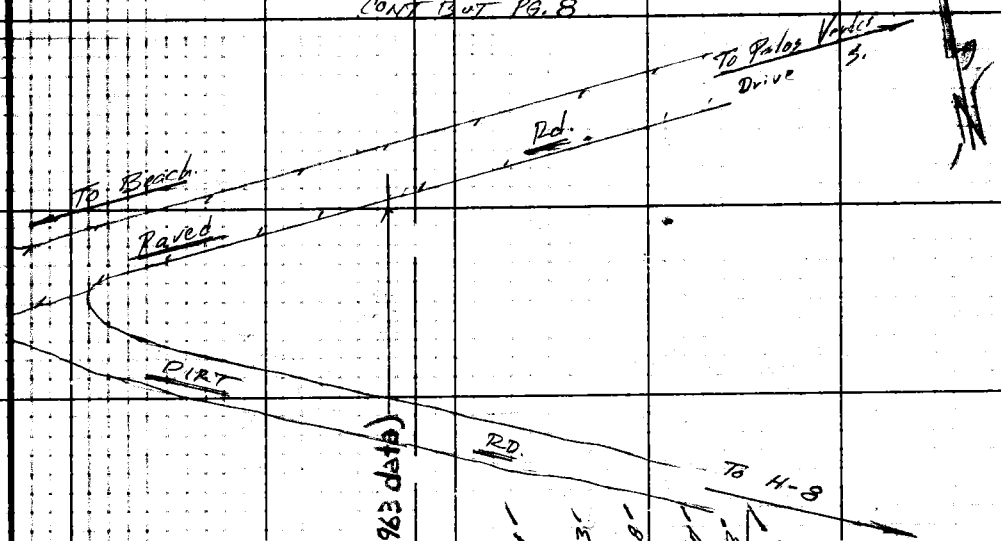
Notes Ck'd by **R. C. BOWERS**	Survey of Portugese Bend Land Slide F. B. 2485 PG. 7
Map No.	JN 0701.00 Tape 202 Std 84 °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 10 Oct 75
Date	Indexed T. M. PALMER OCT 2 4 '75

CONT BUT PG. 8



M = 901.02' (Calc. per 1963 data)

T LINE

T=72° # 265.23 (265.21') @ 3°10'20" = 264.803'
265.17 (265.15') @ 2°51'20 = 264.820' M = 264.81'

T=72° 295.20 (295.18') @ 2°17'50" = 294.942'
295.24 (295.22') @ 2°32'40" = 294.928' M = 294.93'

T=74° 208.19 (208.18') @ 12°12'50" = 203.467'
208.50 (208.50') @ 12°34'32" = 203.400' M = 203.48'

T=68° 108.07 (108.06') @ 16°24'35" = 103.667'
108.17 (108.16') @ 16°33'35" = 103.673' M = 103.67'

Level 34.13 T=68° = 34.13'

Total = 901.02'

CONT TOP Pg. 6

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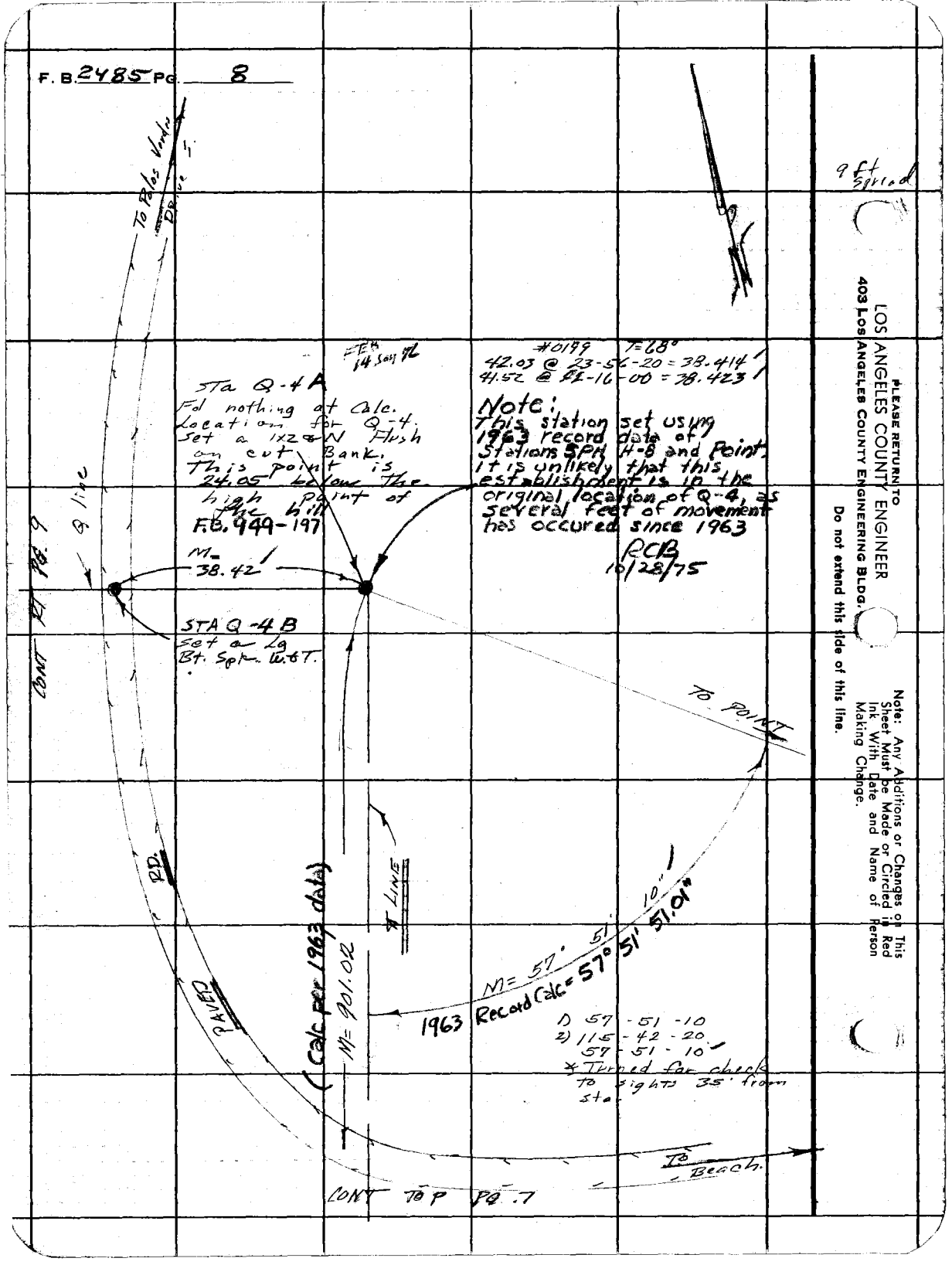
76F309S CE#310 1-65

F.B. 2485 PG. 8



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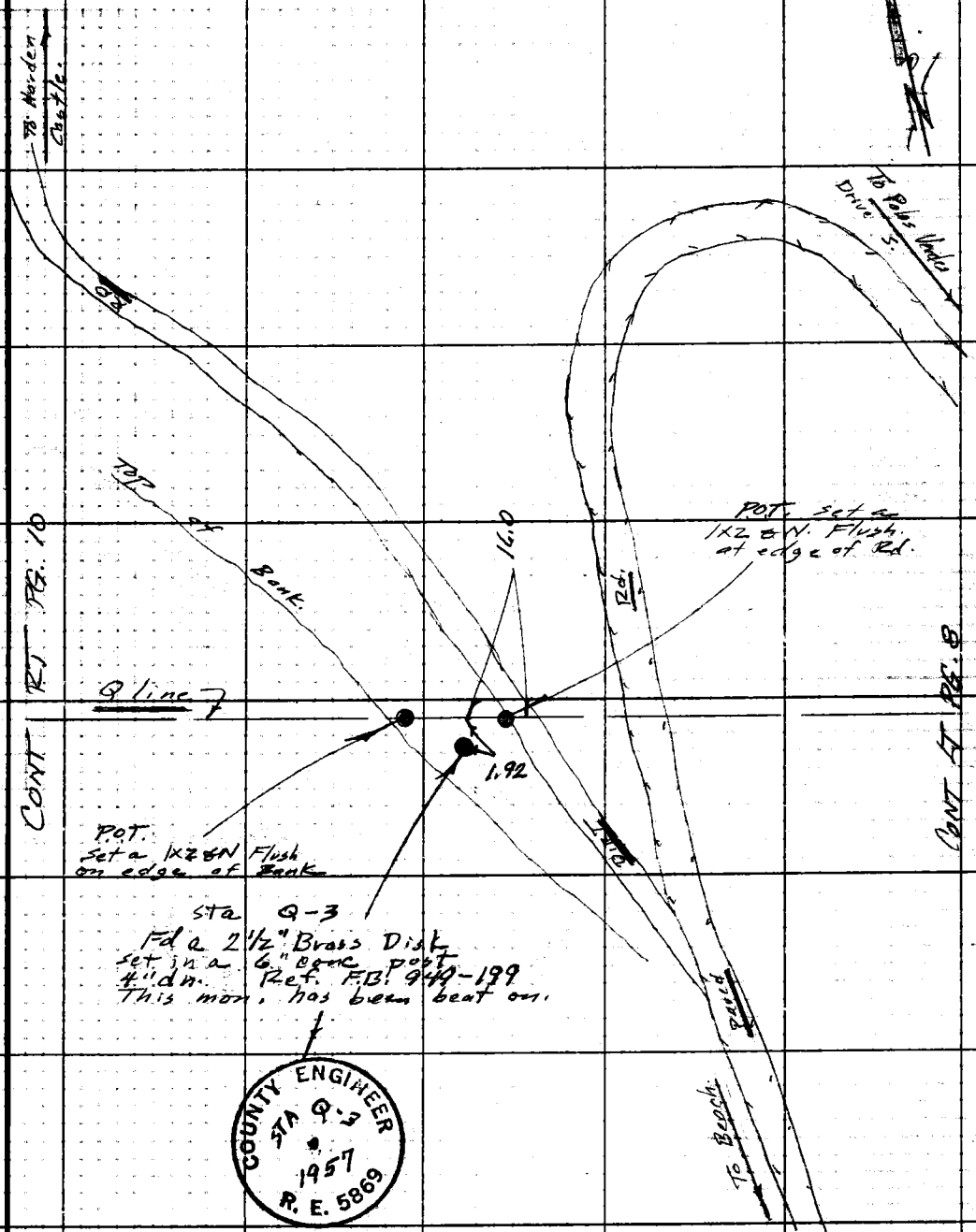
Notes Ck'd by R. C. BOWERS	Survey of Portuguese Bend Landslide F. B. 2485 PG. 9
Map No.	JN 0301.00 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 22 Oct 75
Date	Indexed T. M. PALMER OCT 2 6 '75



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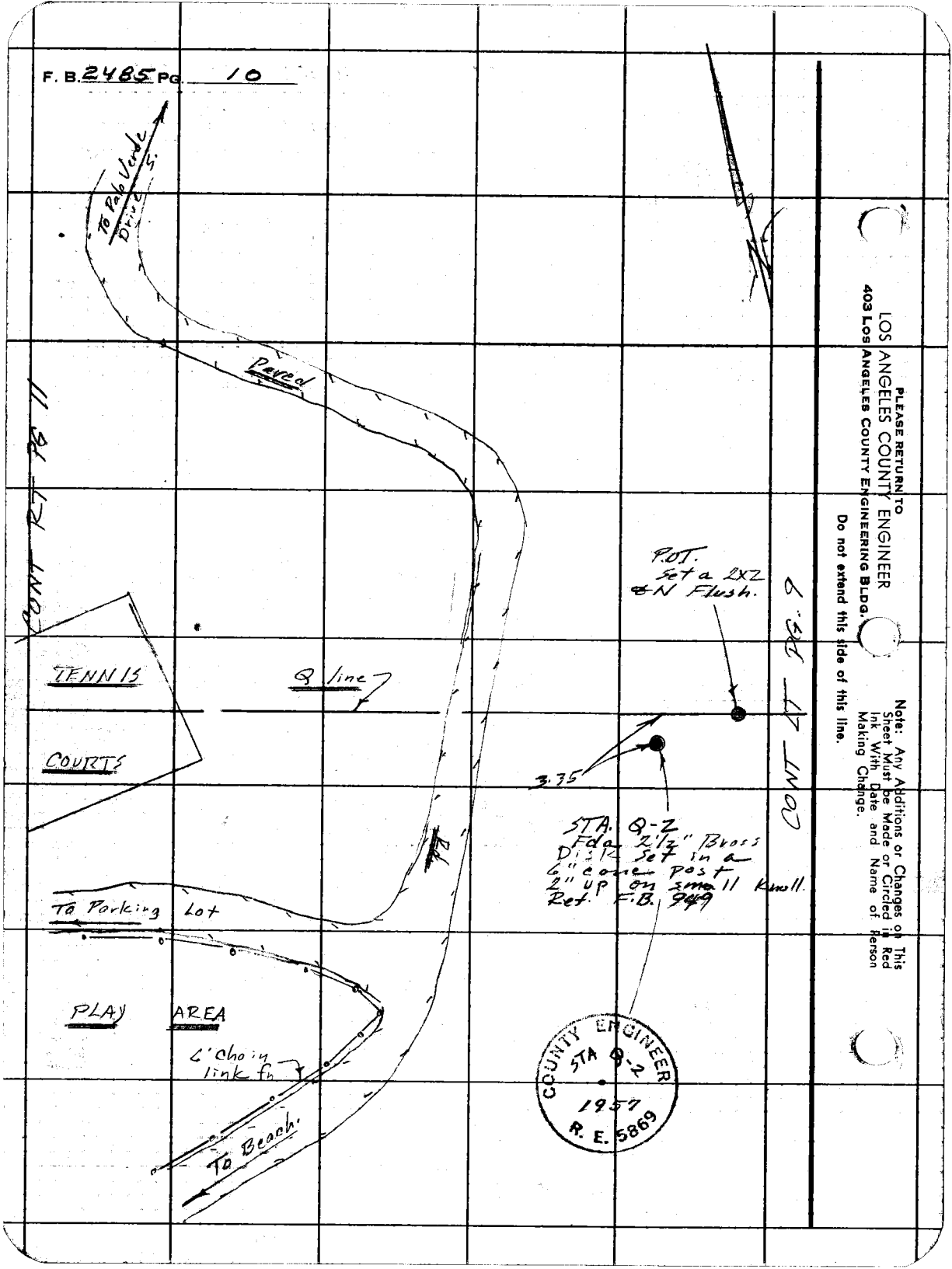
F. B. 2485 PG. 10



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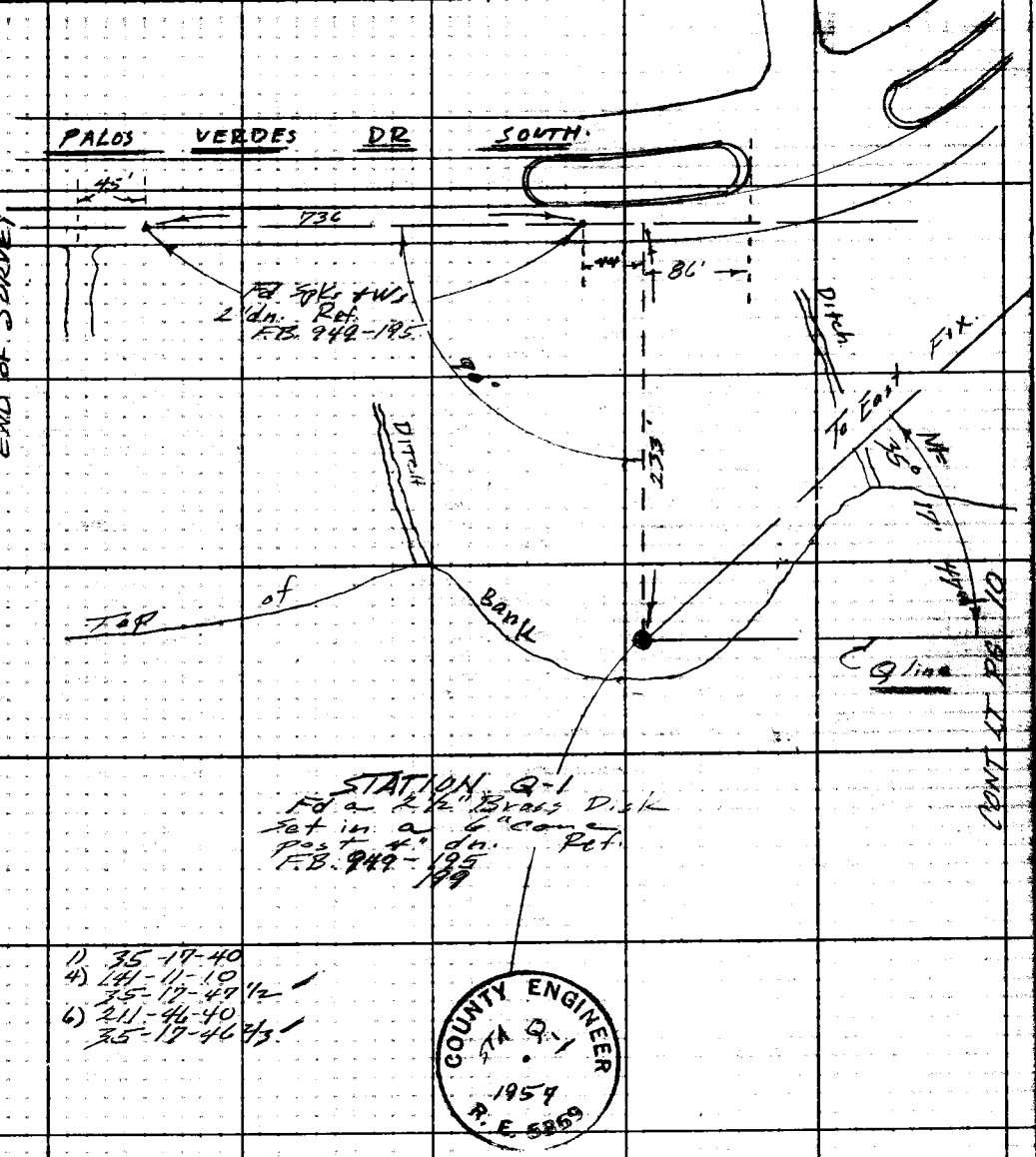
Notes Ck'd by R. C. BOWERS
Map No.
Office Work
Checked
Date

Survey of Portuguese Bend Land Slide
JN 0301.00 Tape Std °F
Surveyed by FEB
Notes F.E.B. Date 2-04-75
Indexed T. M. PALMER OCT 24 '75

F. B. 2485 PG. 11

Entrance to WAYFARER'S CHAPEL



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76F309S CE F310 1-65

Notes Ck'd by	Survey of Portuguese Bend Landslide F. B. 2485 PG. 13
Map No.	JN 0021.64 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date Jan 76
Date	Indexed T. M. PALMERI FEB 25 1976

J.N. 00 21.64

PORTUGUEZE BEND LANDSLIDE

Location of 'SAN' LINE.

Brooks
Smith
Moore
Pomingueu

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F. B. 2485 PG 14

151.44
17.71
133.73

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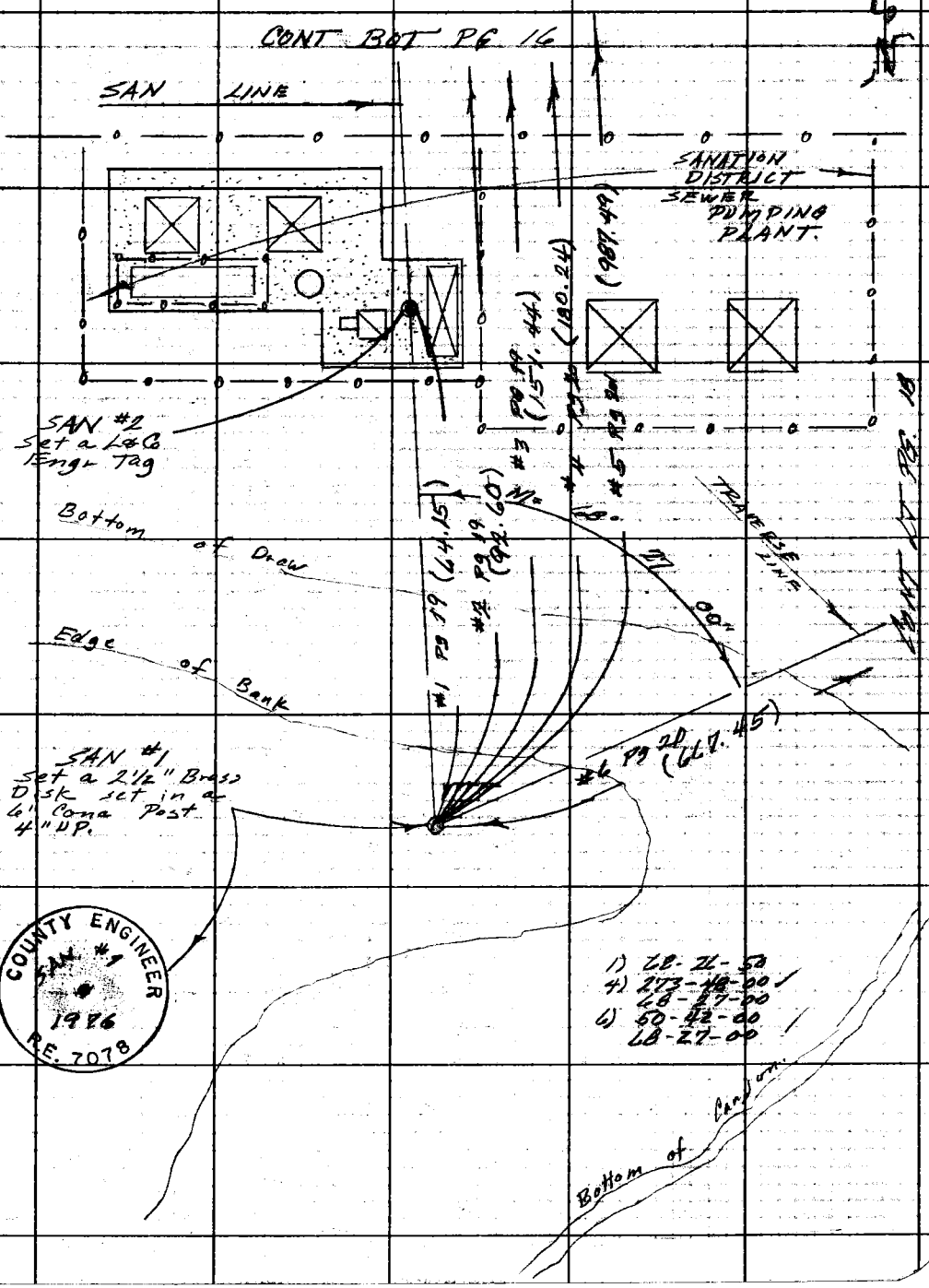
Notes Ck'd by	Survey of Portuguese Bend Landslide
Map No.	JN 0021.L4 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 12 Jan 76
Date	Indexed L. M. PALMER FEB 25 1976

F. B. 2485 PG. 15



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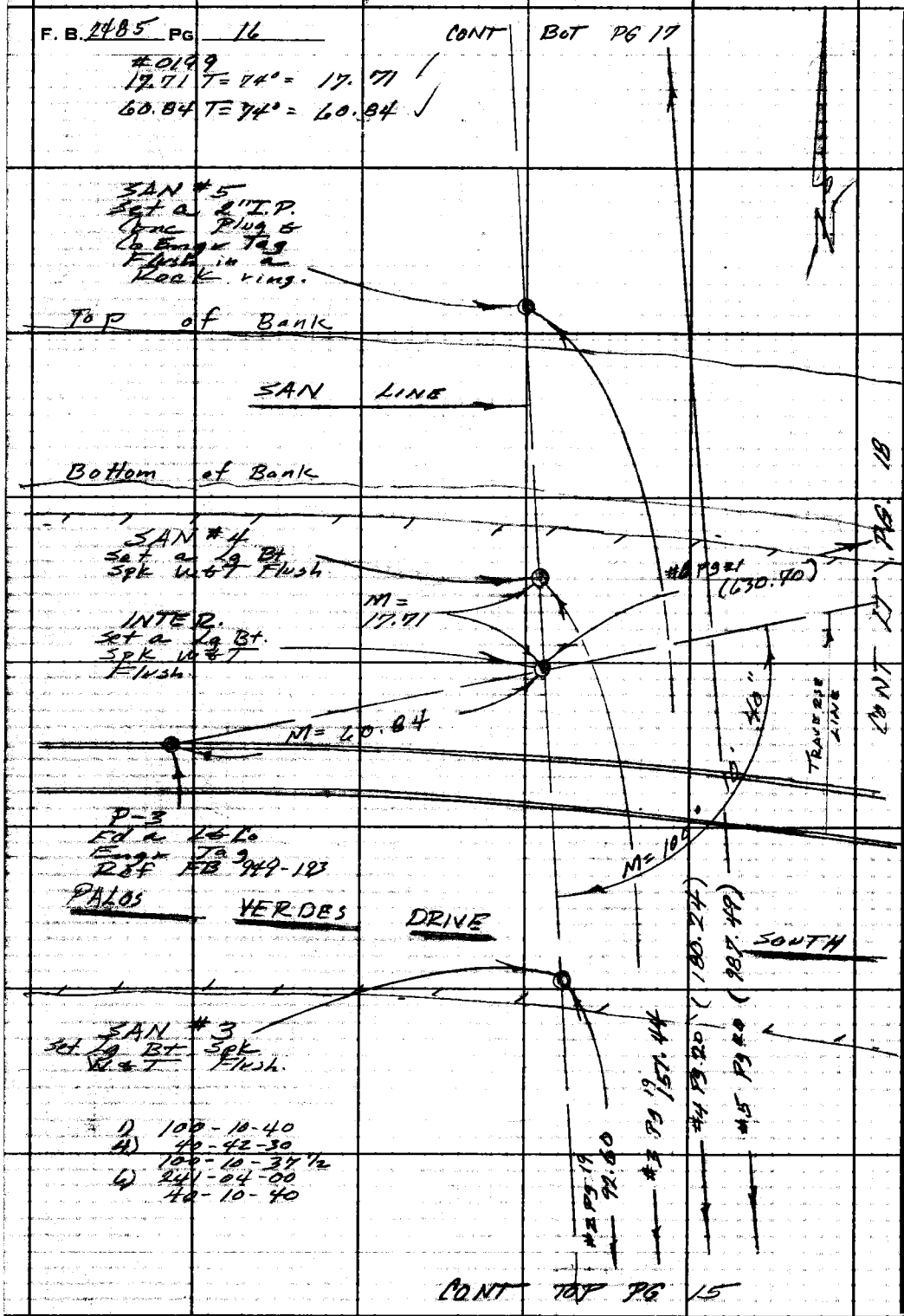
76F309S CE#310 1-65

F. B. 2485 PG 16

CONT BOT PG 17

#0199
17.71 T = 74° = 17.71
60.84 T = 74° = 60.84



1) 100-10-40
4) 40-42-30
100-10-37 1/2
6) 241-04-00
40-10-40

CONT TOP PG 15

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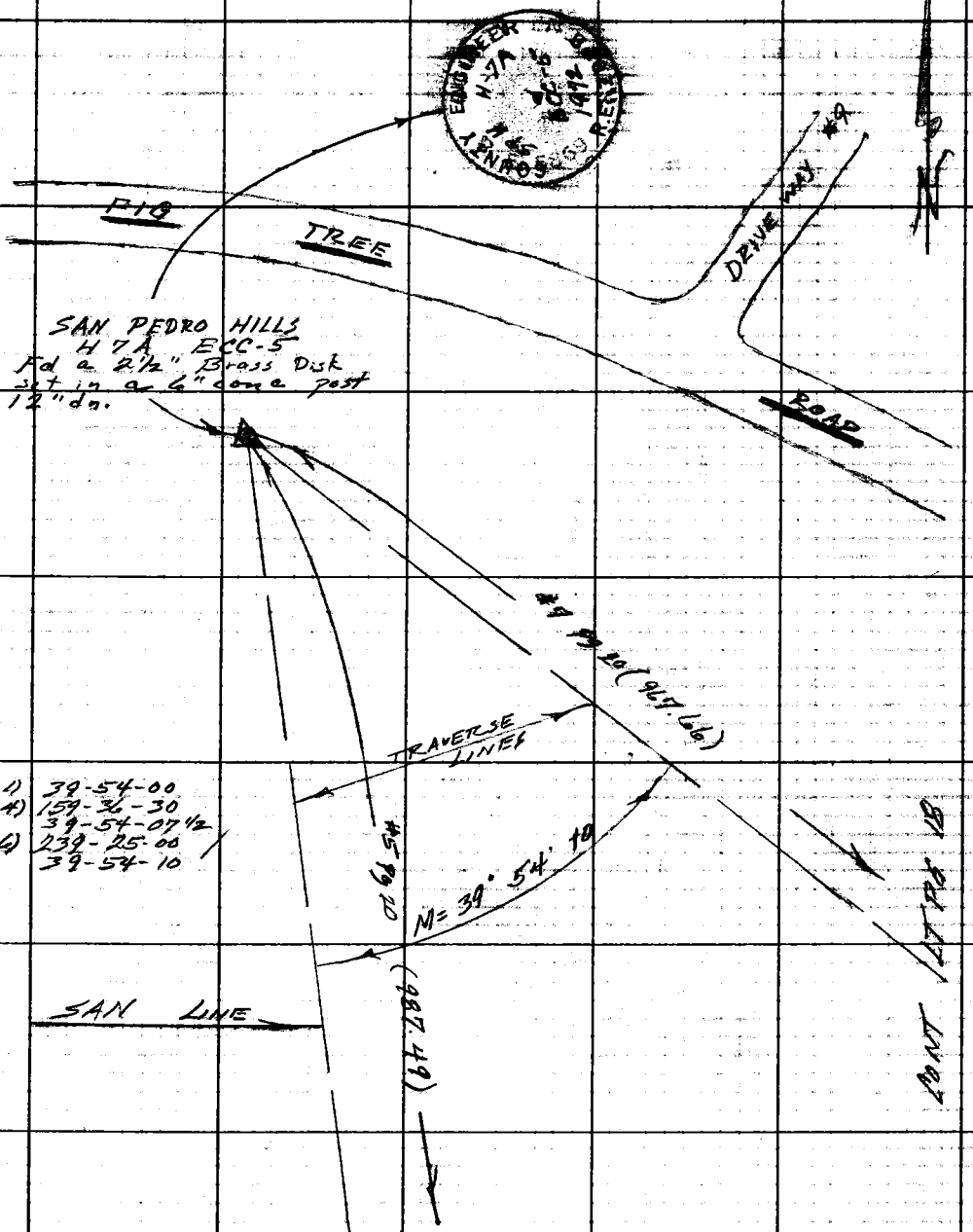
Notes Ck'd by	Survey of Portuguese Bend Landslide
Map No.	JN 0021.64 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 12 Sept 76
Date	Indexed L. M. PALMERI FEB 25 1976

F. B. 2485 Pg. 17



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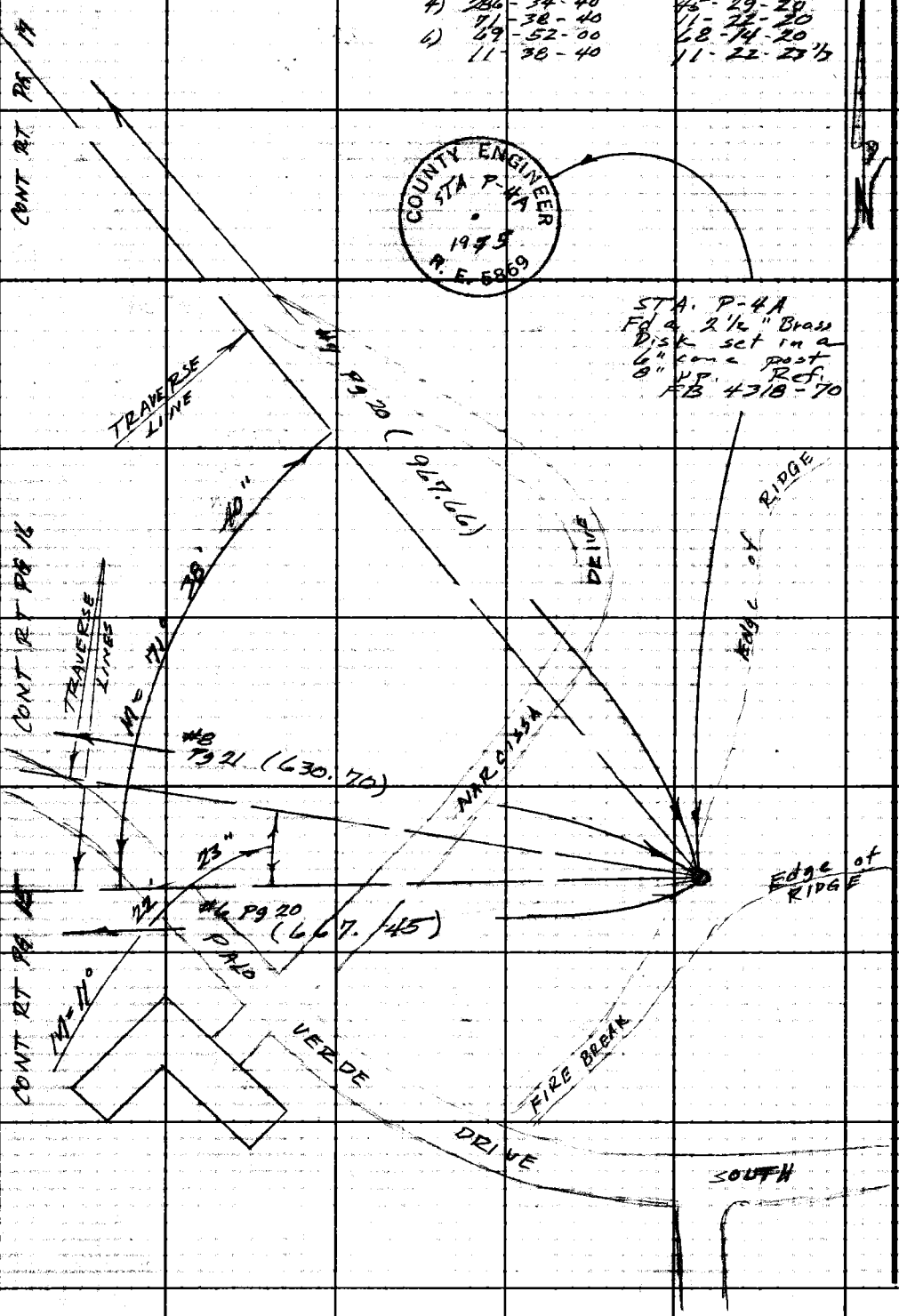
76F309S CE#310 1-65

F. B. 2485 PG 118

1) 71-38-30 11-22-20
4) 286-34-40 45-29-20
71-38-40 11-22-20
6) 69-52-00 68-14-20
11-38-40 11-22-21 1/2



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Notes Ck'd by	Survey of Portugeze Bend Landslide	F. B. 2485 PG. 19
Map No.	JN 0021.64 Tape Std °F	
Office Work	Surveyed by FEB	
Checked	Notes FEB Date 13 Jan 76	
Date	Indexed L. M. PALMERI FEB 25 1976	

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ELECTRONIC DISTANCES BY HP 3800

#1

SAN #1 — SAN #2

T = 68°

Bar = 30.1 EV = +3

13 Jan 76

Inst HI @ SAN #1 = 5.12
Target HI @ SAN #2 = 5.30

Mean Ver ∡ = −9° 30' 15"

Machine Dist = 65.040

Corrected Dist = 64.147 = 64.15 ✓

#2

SAN #1 — SAN #3

T = 68°

Bar = 30.1 EV = +3

13 Jan 76

Inst HI @ SAN #1 = 5.12
Target HI @ SAN #3 = 5.08

Mean Ver ∡ = −5° 58' 30"

Machine Dist = 93.104

Corrected Dist = 92.598 = 92.60 ✓

#3

SAN #1 — SAN #4

T = 74°

Bar = 30.1 EV = +6

13 Jan 76

Inst HI @ SAN #1 = 5.12
Target HI @ SAN #4 = 5.22

Mean Ver ∡ = −2° 48' 45"

Machine Dist = 151.620

Corrected Dist = 151.437 = 151.44 ✓

CONT PG 20

76F309S CE#310 1-65

F. B. 2485 PG. 20

#4

SAN #1 — SAN # 5

T = 74°

Bar = 30.1 EV = +6

13 Jan 76

Inst HI @ SAN #1 = 5.12
Target HI @ SAN #5 = 4.35

Mean Ver ∡ = +3° 50' 55"

Machine Dist = 180.244

Corrected Dist = 180.236 = 180.24 ✓

#5

SAN #1 — S.P.H. H-7A ECC 5

T = 74°

Bar = 30.1 EV = +6

13 Jan 76

Inst HI @ SAN #1 = 5.12
Target HI @ ECC-5 = 4.35

Mean Ver ∡ = +6° 51' 40"

Machine Dist = 994.616

Corrected Dist = 987.493 = 987.49 ✓

#6

SAN #1 — STA P-4A

T = 66°

Bar = 30.1 EV = +2

13 Jan 76

Inst HI @ SAN #1 = 5.12
Target HI @ P-4A = 4.70

Mean Ver ∡ = +11° 44' 55"

Machine Dist = 681.732

Corrected Dist = 667.449 = 667.45 ✓

#7

S.P.H. H-7A ECC-5 — STA P-4A

T = 72°

Bar = 30.1 EV = +5

14 Jan 76

Inst HI @ ECC-5 = 4.61
Target HI @ P-4A = 4.85

Mean Ver ∡ = +1° 11' 35"

Machine Dist = 967.872

Corrected Dist = 967.662 = 968.66 ✓

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Notes Ck'd by	Survey of Portugeze Bend Landslide
Map No.	JN 2021.64 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 13 Jan 76
Date	Indexed L. M. PALMERI FEB 25 1976

F. B. 2485 PG. 21

#B

INTER — STA P-4A

T = 74°

Bar = 30.15 EV = +6

14 Jan 76

Inst HIC Inter = 5.37

Target HIC P-4A = 4.40

Mean Ver ∡ = + 13° 03' 10"

Machine Dist = 647.426

Corrected Dist = 630.698 = 630.70 ✓

Distance #	Corrected Dist.	Differences.
#1	64.147 ✓	
		28.451 ✓
#2	92.598 ✓	
		58.839 ✓
#3	151.437 ✓	
		28.799 ✓
#4	180.236 ✓	
		807.257 ✓
#5	987.493 ✓	

13 Jan 76

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JGF309S CE#310 1-65

Notes Ck'd by	Survey of Portugeze Bend Landslide
Map No.	JN 0021.64 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date Jan 76
Date	Indexed E. M. PALMERI FEB 25 1976

F. B. 2485 PG. 23

JN 0021.64

PORTUGUEZE BEND LANDSLIDE

Q LINE.

The wrong verticle ∡s were Recorded and used to calc the Distances Q 5 To Q 3 and Q 5 To Q 2.

FEB 17 Mar. 76

Brooks
Smith
Moore
Dominguez

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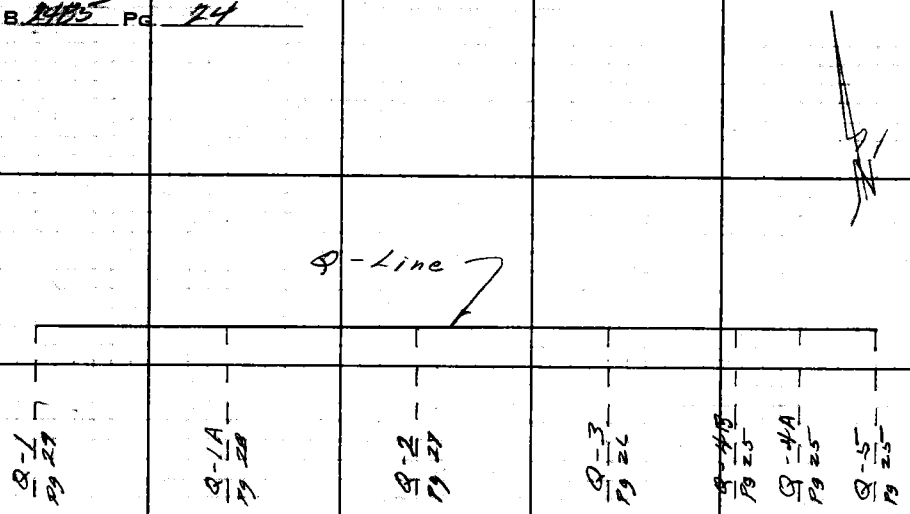
76F309S CE#310 1-65

F. B. 2485 PG. 24



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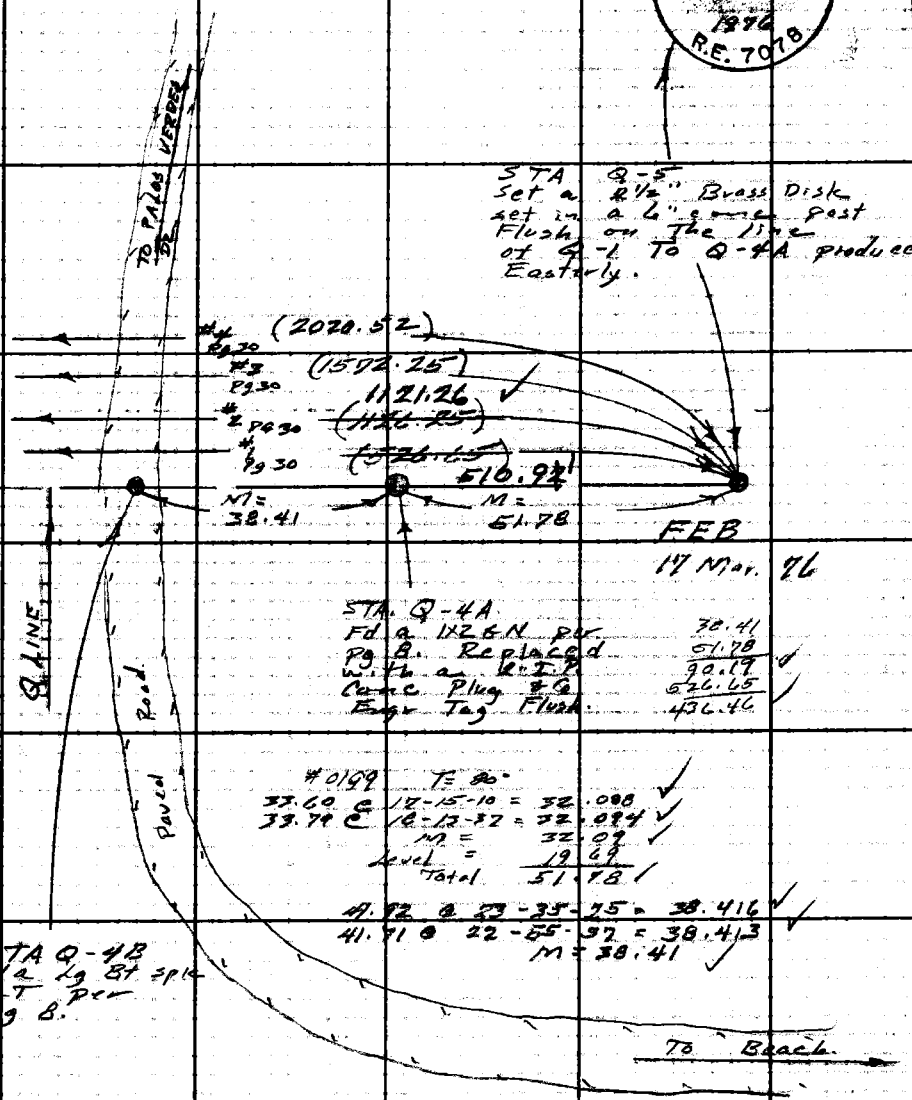
Notes Ck'd by	Survey of Portugese Pond Landslide
Map No.	JN [illegible] Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 15 Jan 76
Date	Indexed E. M. PALMERI FEB 25 1976

F. B. 2485 PG. 25

COUNTY ENGINEER STA. Q-5 1976 R.E. 7078



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F. B. 2485 PG. 26

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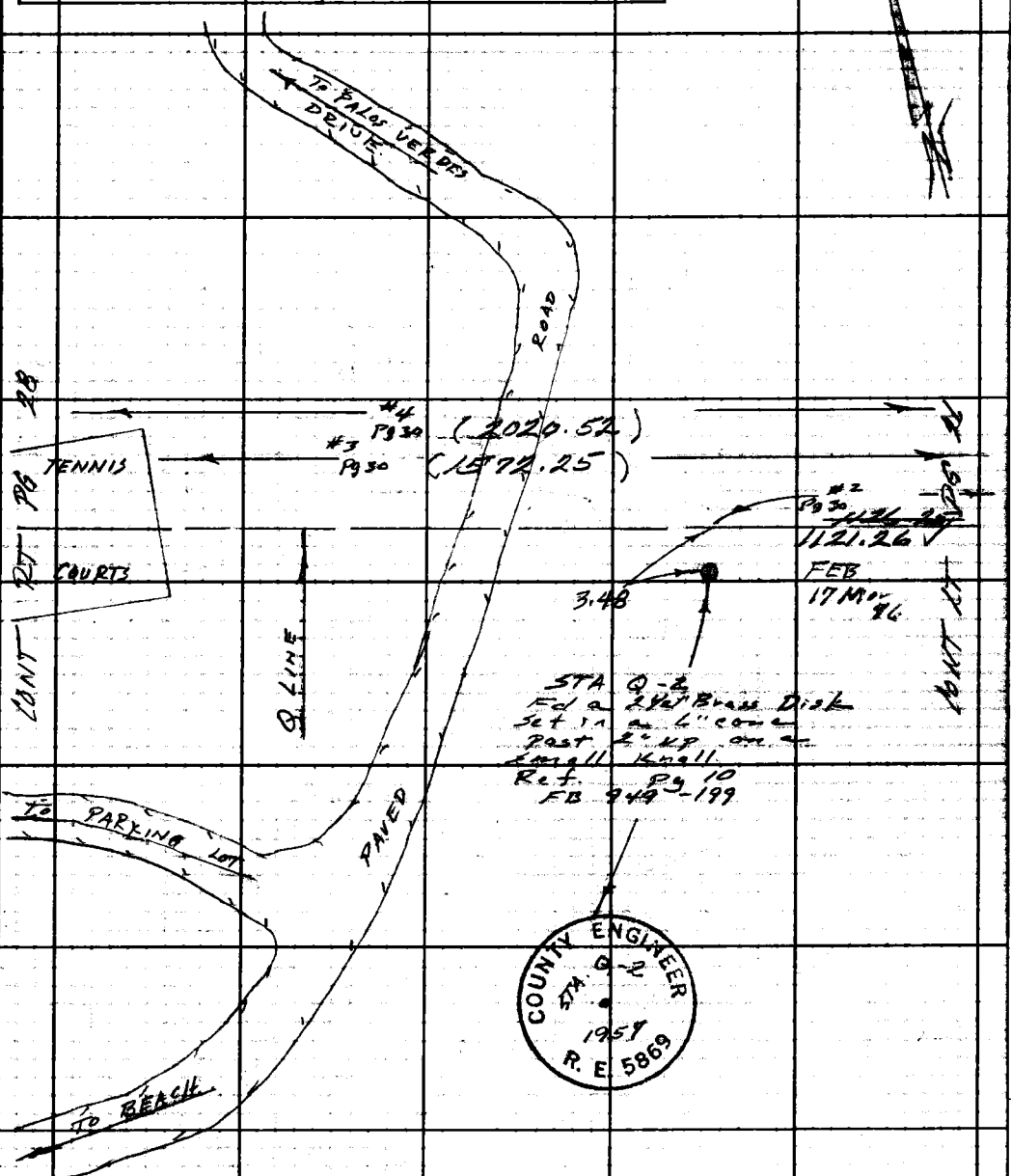
Notes Ck'd by	Survey of Portugese Bend Landslide
Map No.	JN 0021.64 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 15 Jan 76
Date	Indexed T. M. PALMERI FEB 25 1976

F. B. 2485 PG. 27



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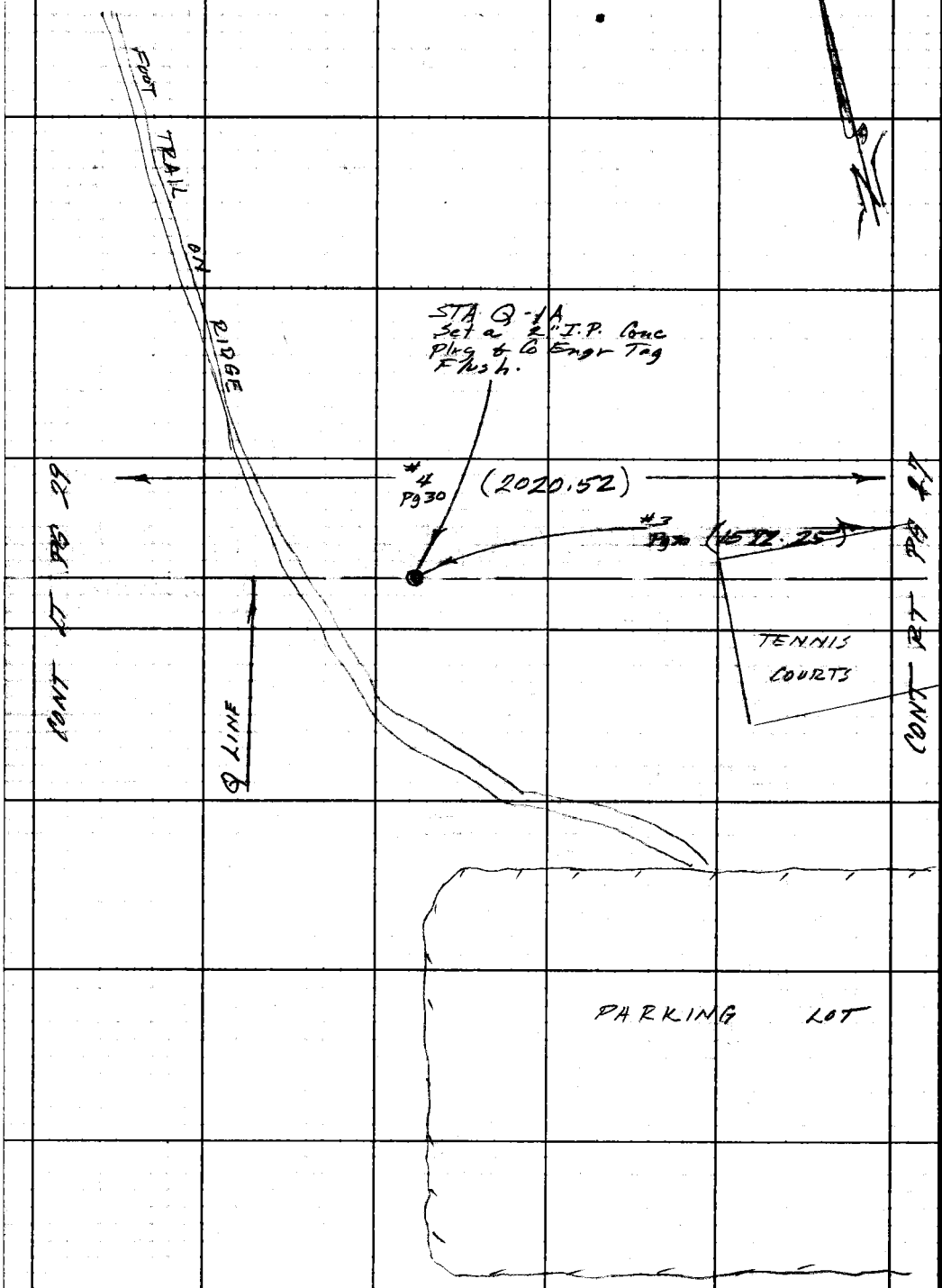
76F309S CE# 310 1-65

F. B. 2485 PG 28



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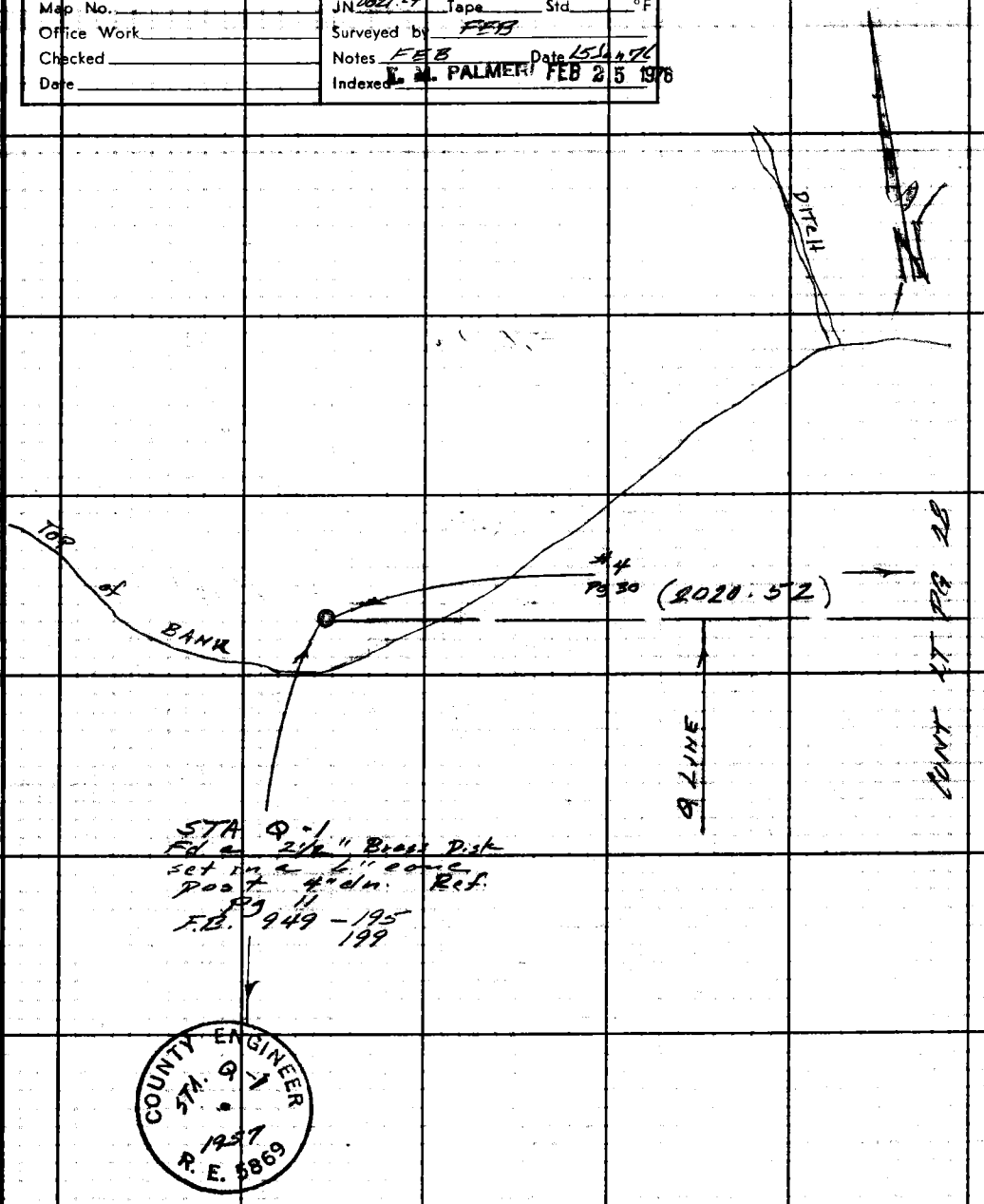
Notes Ck'd by	Survey of Portuguese Bend Landslide
Map No.	JN 0021.14 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 15 Jan 76
Date	Indexed L. M. PALMER FEB 25 1976

F. B. 2485 PG. 29



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26F3095 CE#310 1-65

F. B. 3485 Pg. 30

ELECTRONIC DISTANCES BY HP 3800

#1 Q-5 — Q-3

T 80°
Bar 30.1 EV +8

20 Jan 76 Inst HI @ Q-5 5.02
Target HI @ Q-3 4.75
Mean Ver ∡ ~~8° 14' 10"~~ -16° 14' 05"
Machine Dist 532.136
Corrected Dist. ~~526.647 ✓ = 526.65 ✓~~
510.9142 = 510.92 ✓

See Pg 23.

#2 Q-5 — Q-2

FEB. 17 Mar. 76

1126.25
526.65
599.60

1121.26 ✓
510.92 ✓
610.34 ✓
5

T 80°
Bar 30.1 EV +8

20 Jan 76 Inst HI @ Q-5 5.02
Target HI @ Q-2 4.96
Mean Ver ∡ ~~6° 14' 05"~~ -6° 14' 10"
Machine Dist 1132.950
Corrected Dist ~~1126.248 = 1126.25 ✓~~
1121.264 ✓ = 1121.26 ✓

#3 Q-5 — Q-1A

1572.25
1126.25
446.00

1572.25 ✓
1121.26 ✓
450.99 ✓

T 76°
Bar 30.1 EV +7

20 Jan 76 Inst HI @ Q-5 5.02
Target HI @ Q-1A 4.25
Mean Ver ∡ -5° 53' 20"
Machine Dist 1580.590
Corrected Dist. 1572.248 = 1572.25 ✓

#4 Q-5 — Q-1

2020.52
1572.25
448.27

T 76°
Bar 30.1 EV +7

20 Jan 76 Inst HI @ Q-5 5.02
Target HI @ Q-1 5.00
Mean Ver ∡ - 2° 26' 05"
Machine Dist. 2022.350
Corrected Dist. 2020.524 = 2020.52 ✓

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NOTES RED. _____ JOB NO. 0021.64 SURVEY OF PORTUGEZE BEND LANDSLIDE

DATE _____ SURVEY BY FEB

NOTES CHKD. _____ NOTES BY FEB DATE 16 Jan 76

DATE _____ INDEXED T. M. PALMERI DATE FEB 25 1976

F. B. 2485 PG. 31

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
S.N. 0021.64						
PORTUGUEZE BEND LAND SLIDE.						
1st ELEVATIONS ON						
'SAN' LINE						
				Brooks		
				Smith		
				Moore		
				Domingue		

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765420 S & E-353 9-55

768420 S & E-353-9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM 34-18	168.560					BM 34-18 Elev 168.560 (1970 adj.) F.B. 1355 Pg 22
+	1424		1532			Palos Verdes Dr. S. and Narcissa Dr
⊼	169984	-5826 ✓	-5825			87.0' S'Ely of Gate 3.2 S'wly of wall
-	7250		7357			Co. Engr Button Brass Cap.
TP	162734					
+	2167		2244 ✓			
⊼	164901	-4697	-4698			
-	6864		6942			
TP	158037					
+	4242		4201			
⊼	162279	+0040 ✓	0041			
-	4202		4160			
P-3	158077 ✓		158.078			P-3 Elev 158.06
+	4114		4210 ✓			Palos Verdes Dr. S.
⊼	162191	-0009	-0009			
-	4123		4219			
SAN # 4	158068 ✓		158069			SAN 4 Lg Bt Spk W&T pg 16
+	4277					
⊼	162345		4327 ✓			
-	6383	-2106	-2104			
SAN # 3	155962 ✓		6431	155.965		SAN 3 Lg Bt Spk W&T pg 16
+	6205		6280 ✓			
⊼	162167	+1645	+1648			
-	4560		4632			
INTER	157607 ✓			157.613		INTER Lg Bt Spk W&T pg 16
+	3914		3979 ✓			
⊼	161521	-2924	-2925			
-	6838		6904			
SAN # 2	154683 ✓			154.688		SAN 2 Lg Co Engr Tag pg 15

NOTES RED. DATE
NOTES CHAD. DATE
ED BERMENDER
DATE FEB 25 1976
JOB NO. 02164 SURVEY OF PORTUGEZE PEND LANDSLIDE
SURVEY BY FEB DATE 16 Jan 76
NOTES BY FEB
INDEXED L. M. PALMERI

F.B. 2485 PG. 32

768420 S & E-353 9-55

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W

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAN 2	154.683 ✓					SAN 2 L&G Engr Tag 89 15
+	8 076		7964	8027		
Σ	162 759	+ 7728	+ 7 681	+ 7730		
−	0 348		0283	0297		
TP	162 411		~~162~~	162413		
+	6 758		6868			
Σ	169 169	+ 3 395	+ 3 395			
−	3 363		3473			
SAN 1	165 806 ✓			165.808		SAN 1 Co. Engr Mon 89 15
+	3 303		3 392			
Σ	169 109	− 3395	− 3 395			
−	6 698		6 787			
TP	162 411					
+	0 260		0 337			
Σ	162 671	− 4 050	− 4 049			
−	4 310		4 386			
TP	158 361					
+	5665		5614			
Σ	164 026	+ 4987	+ 4 987			
−	0 678		0 627			
T.P.	163 348					
+	9670		9 830			
Σ	173 018	+ 9083	+ 9 085			
−	0 587		0 745			
TP	172 431					
+	8560		8697			
Σ	180 991	+ 8 258	+ 8 260			
−	0 302		0 437			
TP	180 689					

NOTES RED _____ JOB NO. 6621.64 SURVEY OF FIRTH BEE BEND LANDSLIDE
DATE _____ SURVEY BY FEB
~~NOTES BY~~ RECOMMENDER ~~NOTES BY~~ DATE 16 Jan 76
~~DATE~~ ~~INDEXED BY~~ L. M. PALMERI ~~DATE~~ DATE FEB 25 1976

F. B. 2485 PG. 37

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP	180.689					
+	6.907		7112			
π	187 596	-2 171	-2 170			
−	9 078		9282			
SAN 5	178 518 ✓			178 526 ✓		SAN 5 2" I.P. Conc plug & Co Engr Tag pg 16
+	9 448		9 346			
π	187 966	+2 172	+2 171			
−	7 276		7 175			
TP	180 690					
+	0 510		0 435			
π	181 200	-8 259	-8 259			
−	8 769		8694			
TP	172 431					
+	0 437		0 543			
π	172 864	-9 085	-9 084			
−	9 518		9627			
TP	163 346					
+	0 610		0683			
π	163 956	-4 989	-4 987			
−	5 599		5670			
TP	158 357					
+	4 898	4 898	4 844			
π	163 255	-0 292	-0 291			
−	5 190	5190	5135			
P-3	158 065 ✓			158076 ✓		P-3 L & Co Engr Tag pg.

F.B. 2485 PG. 34

JOB NO. 0021 64 SURVEY OF LAND SLIDE PORTUGUEZ BEND

SURVEY BY FEB

NOTES BY FEB DATE 16 Jan 76

INDEXED L. M. PALMERI DATE FEB 25 1976

NOTES RED. DATE

ED BERMENDER DATE

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NOTES RED. JOB NO. 0021.64 SURVEY OF Portuguese Bend Landslide F. B. 2485 PG. 35
DATE SURVEY BY FEB
NOTES CHK. ED BERMENDER NOTES BY FEB DATE
DATE INDEXED E. M. PALMERI DATE FEB 25 1976

SAN LINE ELEVATION COMPARISONS

BM 34-18 Elev. 168.560 Hold.

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION				
	P-3			SAN #1			SAN #2			
Date	Elev	Diff	Total	Elev	Diff	Total	Elev	Diff	Total	
16 Jan 76	158 077			165 806			154 683			Pg 31-34
19 Jan 76	158 084	+0.007	+0.007	165 819	+ 0.013	+0.013	154 693	+0.010	+0.010	Pg 53-
22 Jan 76	158 079	-0.005	+0.002	165 814	- 0.005	+0.008	154 686	-0.007	+0.003	Pg 59
28 Jan 76	158 075	-0.004	-0.002	165 812	- 0.002	+0.006	154 682	-0.004	-0.001	Pg 75-78
20 Feb 76	158 087	+0.012	+0.010	165 822	+ 0.010	+0.016	154 687	+0.005	+0.004	Pg 87-90
11 Mar 76	158 085	-0.002	+0.008	165 820	- 0.002	+0.014	154 687	0.000	+0.004	Pg 97-100
12 Apr 76	158 088	+0.003	+0.011	165 826	+0.006	+0.020	154 683	-0.004	0.000	Pg 121 124
7 June 76	158 091	+0.003	+0.014	165 816	-0.010	+0.010	154 671	-0.012	-0.012	Pg 143 146

768420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION				
	SAN #3			INTER			SAN #4			
Date	Elev	Diff	Total	Elev	Diff	Total	Elev	Diff	Total	
16 Jan 76	155 962			157 607			158 068			pg 31-34
19 Jan 76	155 971	+0.009	+0.009	157 618	+ 0.011	+0.011	158 075	+0.007	+0.007	pg 53-56
22 Jan 76	155 966	-0.005	+0.004	157 612	- 0.006	+0.005	158 070	-0.005	+0.002	pg 59-62
28 Jan 76	155 959	-0.007	-0.003	157 611	-0.001	+0.004	158 067	-0.003	-0.001	pg 76-79
20 Feb 76	155 967	+0.008	+0.005	157 617	+ 0.006	+0.010	158 074	+0.007	+0.006	pg 87-90
11 Mar 76	155 966	-0.001	+0.004	157 617	0.000	+0.010	158 075	+0.008	+0.007	pg 97-100
12 Apr 76	155 971	+0.005	+0.009	157 624	+ 0.007	+0.017	158 081	+0.006	+0.013	pg 121 129
7 June 76	155 961	-0.010	-0.001	157 615	-0.009	+0.008	158 071	-0.010	+0.003	pg 143 146

JOB NO. 0021.64 SURVEY OF Portuguese Band Landslide
SURVEY BY FEB
NOTES BY FEB DATE
INDEXED L. M. PALMERI DATE FEB 25 1978
NOTES RED. DATE
NOTES CHKD. DATE

F. B. 2485 PG. 36

768420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
	SAN #5				P-3	
Date	Elev	Diff	Total	Elev	Diff	Total
16 Jan 76	178.518			158.065		Pg 31-34
19 Jan 76	178.532	+0.014	+0.014	158.088	+0.023	+0.023 Pg 53-56
22 Jan 76	178.529	-0.003	+0.011	158.077	-0.011	+0.012 Pg 59-62
28 Jan 76	178.526	-0.003	+0.008	158.076	-0.001	+0.011 Pg 75-78
20 Feb 76	178.540	+0.014	+0.022	158.089	+0.013	+0.024 Pg 87-90
11 Mar 76	178.537	-0.003	+0.019	158.086	-0.003	+0.021 Pg 97-100
12 Apr 76	178.545	+0.008	+0.027	158.098	+0.012	+0.033 Pg 121-124
7 June 76	178.532	-0.013	+0.014	158.077	+0.021	+0.012 Pg 143 146

NOTES RED. JOB NO. 0021.64 SURVEY OF Portuguese Bend Landslide
DATE SURVEY BY FEB
NOTES CHKD. NOTES BY FEB
DATE INDEXED T. H. PALMERI DATE FEB 25 1976

F. B. 2485 PG. 37

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NOTES CHKD. DATE

JOB NO. 0021.64 SURVEY OF Portuguese Bend Land S/d/c
SURVEY BY FEB
NOTES BY FEB DATE
INDEXED L. M. PALMERI DATE FEB 25 1976

F.B. 2465 PG. 38

'SAN' LINE ALINEMENT COMPARISONS
HOLDING SAN #1 and S.R.H. H-74 ECC-5

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION				
			SAN #2				SAN #3			
	Date	LINE	OFFSET	DIFF	TOTAL	LINE	OFFSET	DIFF	TOTAL	
	12 Jan 76	LINE				LINE				Pg 15-17
	19 Jan 76		W 0.01	0.01	0.01		W 0.01	0.01	0.01	Pg 43
	22 Jan 76		W 0.01		0.01		W 0.005	0.005	0.005	Pg 59
	26 Jan 76		W 0.005	0.005	0.005		W 0.005	0.000	0.005	Pg 73
	20 Feb 76		W 0.01	0.005	0.01		W 0.01	0.005	0.01	Pg 85
	11 Mar 76		W 0.005	0.005	0.005		W 0.01	0.000	0.01	Pg 95
	12 Apr 76	LINE		0.005	0.00		W 0.005	0.005	0.005	Pg 119
	7 June 76		E 0.01	0.01	0.01	LINE		0.005	0.00	Pg 141

768420 S & E-353 9-55

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NOTES RED _____ JOB NO. 0021.14 SURVEY OF Portuguese Bend Landslide
DATE _____ SURVEY BY FEB
NOTES CHKD. _____ NOTES BY FEB. DATE _____
DATE _____ INDEXED BY PALMERI DATE FEB 25 1978

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION				
		INTER				SAN # 4				
Date	LINE	OFFSET	DIFF	TOTAL	LINE	OFFSET	DIFF	TOTAL		
12 Jan 76	LINE	—	—	—	LINE	—	—	—		pg 15-17
19 Jan 76	LINE	—	—	—	—	W 0.01	0.01	0.01		pg 43
22 Jan 76	—	E 0.002	0.002	0.002	LINE	—	0.01	0.00		pg 57
26 Jan 76	—	E 0.005	0.003	0.005	—	W 0.005	0.005	0.005		pg 73
20 Feb 76	—	E 0.01	0.005	0.01	—	W 0.01	0.005	0.01		pg 85
11 Mar 76	—	E 0.01	0.00	0.01	LINE	—	0.01	0.00		pg 95
12 Apr 76	—	E 0.005	0.005	0.005	LINE	—	0.00	0.00		pg 119
8 June 76		E 0.025	0.02	0.025		E 0.01	0.01	0.01		pg 144

F.B. 4485 PG. 39

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.
	SAN # 5				
Date	LINE	OFFSET	DIFF	TOTAL	
12 Jan 76	LINE	—	—	—	Pg 15-17
19 Jan 76	—	W 0.01	0.01	0.01	Pg 43
22 Jan 76	—	W 0.005	0.005	0.005	Pg 57
26 Jan 76	—	W 0.01	0.005	0.01	Pg 73
20 Feb 76	—	W 0.005	0.005	0.005	Pg 85
11 Mar 76	LINE	—	0.005	0.00	Pg 95
12 Apr 76	LINE	—	0.000	0.00	Pg 119
7 June 76	LINE		0.00	0.00	Pg 141

DESCRIPTION

'SAN' LINE DISTANCE COMPARISONS

SAN # 1		To SAN # 2		
DATE	DIST.	DIFF	TOTAL	
13 Jan 76	64 15	—	—	Pg 15-21
19 Jan 76	64 17	+0.02	+0.02	Pg 43-44
22 Jan 76	64 16	-0.01	+0.01	Pg 57-58
26 Jan 76	64 16	0.00	+0.01	Pg 73-74
29 Jan 76	64 17	+0.01	+0.02	Pg 79-80
20 Feb 76	64 18	+0.01	+0.03	Pg 85-86
11 Mar 76	64 17	-0.01	+0.02	Pg 95-96
12 Apr 76	64 18	+0.01	+0.03	Pg 119-120
7 June 76	64 18	0.00	+0.03	Pg 141-142

NOTES RED. DATE
NOTES CHKD. DATE
DATE FEB 25 1976
JOB NO. 0021.64 SURVEY OF Portuguese Bend Land slide
SURVEY BY FEB
NOTES BY FEB
INDEXED L. M. PALMERI

F.B. 2485 PG. 40

76S420 S & E-353 9-55

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B.M.	1ST RUN		DIFF.	2ND RUN	3RD RUN		ADJ. ELEV.	DESCRIPTION				
	SAN #2 TO SAN #3				SAN #3 TO INTER			INTER TO SAN #4				
DATE	DIST		DIFF	TOTAL	DIST		DIFF	TOTAL	DIST		DIFF	TOTAL	
13 Jan 76	28	45	—	—	41	13	—	—	17	71	—	—	Pg 15-21
19 Jan 76	28	44	-0.01	-0.01	41	11	-0.02	-0.02	17	71	—	—	Pg 43-44
22 Jan 76	28	43	-0.01	-0.02	41	10	-0.01	-0.03	17	71	—	—	Pg 57-58
26 Jan 76	28	44	+0.01	-0.01	41	11	+0.01	-0.02	17	72	+0.01	+0.01	Pg 73-74
29 Jan 76	28	44	0.00	-0.01	41	11	0.00	-0.02	17	72	0.00	+0.01	Pg 79-80
20 Feb 76	28	43	-0.01	-0.02	41	12	+0.01	-0.01	17	72	0.00	+0.01	Pg 85-86
11 Mar 76	28	43	0.00	-0.02	41	12	0.00	-0.01	17	72	0.00	+0.01	Pg 95-96
12 Apr 76	28	42	-0.01	-0.03	41	13	+0.01	0.00	17	72	0.00	+0.01	Pg 119-120
7 June 76	28	41	-0.01	-0.04	41	11	-0.02	-0.02	17	72	0.00	+0.01	Pg 141-142

NOTES RED _____ JOB NO. 0021.64 SURVEY OF Portuguese Bend Landslide
DATE _____ SURVEY BY FEB
NOTES CHKD. _____ NOTES BY FEB DATE _____
DATE _____ INDEXED L. M. PALMERI DATE FEB 25 1976

F. B. 2485 PG. 41

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION				
	SAN #4 TO SAN #5			SAN #1 TO SPH H-7A ECC-5			SAN #1 TO P-4A			
DATE	DIST	DIFF	TOTAL	DIST	DIFF	TOTAL	Dist	Diff	Total	
13 Jan 76	28 80	—	—	987 49	—	—	667 45	—	—	pg 15-21
19 Jan 76	28 79	-0.01	-0.01	987 52	+0.03	+0.03	667 47	+0.02	+0.02	pg 43-44
22 Jan 76	28 91	+0.12	+0.11	987 53	+0.01	+0.04	667 48	+0.01	+0.03	pg 57-58
26 Jan 76	28 79	-0.12	-0.01	987 50	-0.03	+0.01	667 53	+0.05	+0.08	pg 73-74
28 Jan 76	28 79	0.00	-0.01	987 47	-0.03	-0.02	667 53	0.00	+0.08	pg 79-80
20 Feb 76	28 79	0.00	-0.01	987 50	+0.03	+0.01	667 49	-0.04	+0.04	pg 85-86
11 Mar 76	28 79	0.00	-0.01	987 50	0.00	+0.01	667 47	-0.02	+0.02	pg 95-96
12 Apr 76	28 76	-0.03	-0.04	987 50	0.00	+0.01	667 51	+0.04	+0.06	pg 119-120
7 June 76	28 79	+0.03	-0.01	987 53	+0.03	+0.04	667 49	-0.02	+0.04	pg 141-142

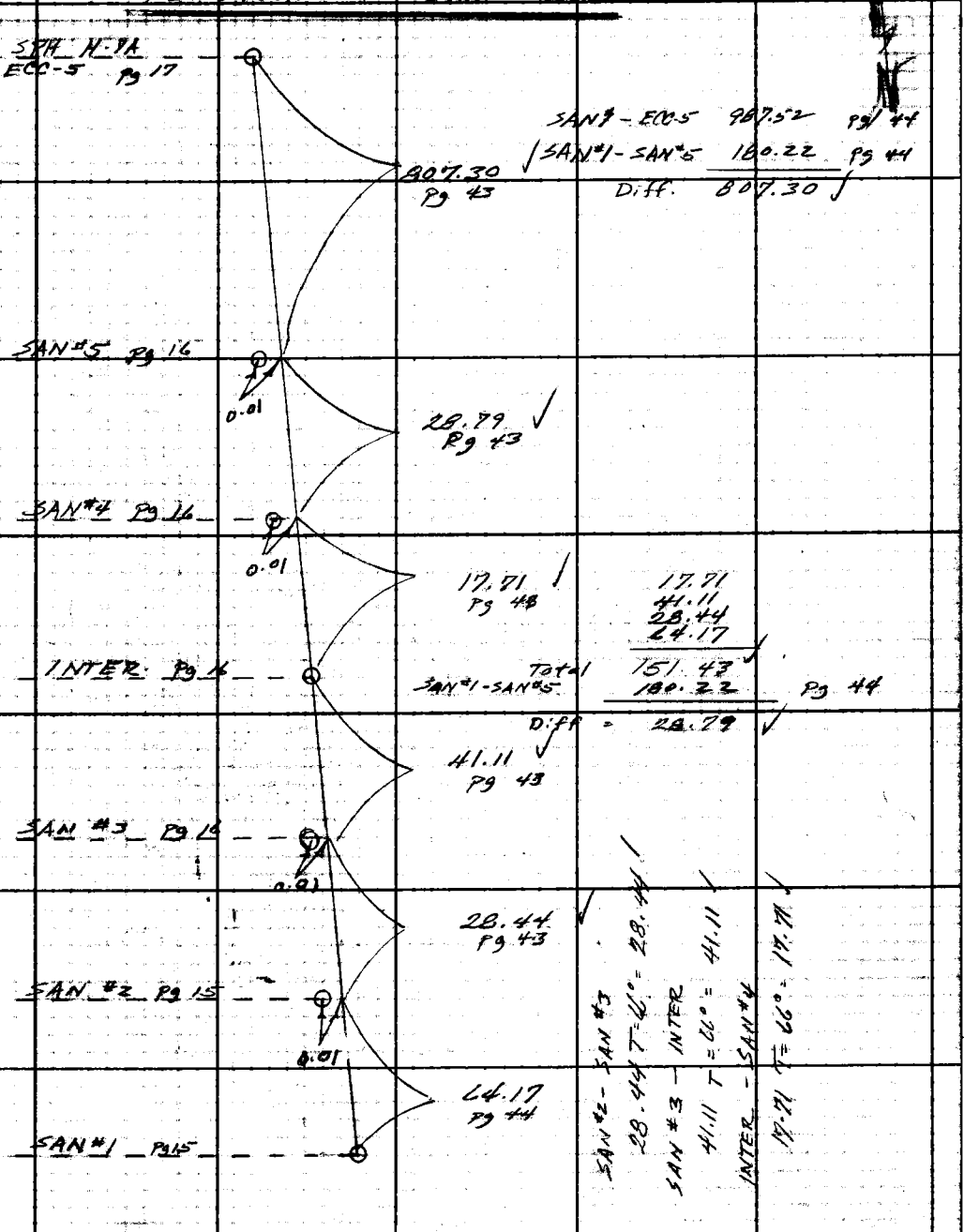
JOB NO. 0021.64 SURVEY OF Portuguese Bend Land Slide
SURVEY BY FEB
NOTES BY FEB DATE
INDEXED L. M. PALMERI DATE FEB 25 1976
NOTES RED. DATE
NOTES CHKD. DATE

F. B. 2485 PG. 42

Notes Ck'd by
Map No.
Office Work
Checked
Date

Survey of Portugese Bend Landslide F. B. 2485 PG. 43
JN 2021.04 Tape Std °F
Surveyed by FEB
Notes FEB. Date 19 Jan 76
Indexed PALMERI FEB 25 1976

1st CHECK OF SAN LINE



54.51
17.71
41.11

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26F309S CE#310 1-65

F. B. 2885 Pg. 44

#1

SAN #1 — SAN #5

T 64°

Bar 30.0 EV +2

19 Jan 76 Inst. HI @ SAN 1 = 4.98
Target HI @ SAN 2 =

Mean Ver ∡ +3° 49' 20

Machine Dist = 180.024

Corrected Dist. = 180.222 = 180.22

#2

SAN #1 — SAN #2

T = 64°

Bar 30.0 EV +2

19 Jan 76 Inst HI @ SAN 1 4.98
Target HI @ SAN 2 4.85

Mean Ver ∡ -9° 44' 35"

Machine Dist. 65.108

Corrected Dist. 64.168 = 64.17

#3

SAN #1 — S.P.H H-2A ECC-5

T 70

Bar 30.0 EV +5

19 Jan 76 Inst HI @ SAN 1 4.98
Target HI @ ECC-5 4.65

Mean Ver ∡ +6° 50' 55"

Machine Dist 994.618

Corrected Dist. 987.521 = 987.52

#4

SAN #1 — P-4A

T = 84°

Bar 30.1 EV +11

20 Jan 76 Inst HI @ SAN #1 5.10
Target HI @ P-4A 4.43

Mean Ver ∡ +11° 42' 25"

Machine Dist 681.646

Corrected Dist. 667.466 = 667.47

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NOTES RED. JOB NO. 0021.64 SURVEY OF Portuguese Bend Landslide

F. B. 2485 PG. 45

DATE SURVEY BY FEB

NOTES CHKD. NOTES BY FEB DATE

DATE INDEXED T. M. PALMERI DATE FEB 9 5 1976

Q LINE ELEVATION COMPARISONS

BM TBM 31 Elev. 167.182 Hold.

Check in BM 34-18 Elev. 168.560

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.		DESCRIPTION		
	Q-1				Q-1A		Q-2		
Date	Elev.	Diff	Total	Elev	Diff	Total	Elev	Diff	Total
17 Feb 76	145.307	—	—	69.938	—	—	69.274	—	—
17 Mar 76	145.309	+0.002	+0.002	69.927	-0.011	-0.011	69.261	-0.013	-0.013
15 Apr 76	145.304	-0.005	-0.003	69.927	0.000	-0.011	69.247	-0.014	-0.027
9 Jun 76	145.305	+0.001	-0.002	69.926	-0.001	-0.012	69.236	-0.011	-0.038

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765420 S & E-353 9-55

768420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
	Q-3				Q-4B			Q-4A		SPH H8A	
Date	Elev	Diff	Total	Elev	Diff	Total	Elev	Diff	Total	Elev.	Diff.
17 Feb 76	82.711	—	—	201.004	—	—	215.956	—	—	137.502	—
17 18 Mar 76	82.696	-0.015	-0.015	201.000	-0.004	-0.004	215.957	-0.005	-0.005	137.491	-0.011
15 Apr 76	82.684	-0.012	-0.027	201.001	+0.001	-0.003	215.955	+0.004	-0.001	137.486	-0.005
10 June 76	82.673	-0.011	-0.038	200.996	-0.005	-0.008	215.953	-0.002	-0.003	137.482	-0.004

JOB NO. 0021.64 SURVEY OF Portuguese Bend Landslide NOTES RED.
SURVEY BY FEB DATE
NOTES BY FEB DATE NOTES CHKD.
INDEXED L. M. PALMER DATE FEB 25 1976 DATE

F.B. 2485 PG. 46

NOTES RED. JOB NO. 0021.64 SURVEY OF Portuguese Bend Landslide

DATE SURVEY BY FEB

NOTES CHKD. NOTES BY FEB DATE

DATE INDEXED T. M. PALMERI DATE FEB 25 1976

F. B. 2485 PG. 48

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76S420 S & E-353 9-55

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
	Q-1A					SPH H 8			Q-5		
Date	LINE	OFFSET	DIFF	TOTAL		Elev	Diff	Date	Elev	Diff	Total
22 Oct 75	Not set				PS 5-9	114.202	—	17 Feb 76	231.098	—	—
15 Jan 76	Set LINE				PS 23-30	114.198	-0.004	17 18 Mar 76	231.091	-0.007	-0.007
29 Jan 76	LINE				PS 81-82	114.195	-0.003	15 Apr 76	231.091	0.000	-0.008
17 Mar 76	LINE					114.189	-0.006	14 June 76	231.087	-0.004	-0.011
13 Apr 76	LINE				PS 125 126						
8 June 76	LINE				PS 147 148						

Q LINE ALINEMENT COMPARISONS
HOLDING Q-1 and Q-5

765420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION

	Q-2					Q-3				
Date	LINE	OFFSET	DIFF	TOTAL	LINE	OFFSET	DIFF	TOTAL		
22 Oct 75	—	S 3.35	—	—	—	S 1.92	—	—		Pg 5-11
15 Jan 76	—	S 3.48	0.13	0.13	—	S 1.96	0.04	0.04		Pg 23-30
29 Jan 76	—	S 3.48	0.00	0.13	—	S 1.91	0.05	0.01		Pg 81-82
17 Mar 76	—	S 3.57	0.09	0.22	—	S 1.91	—	0.01		Pg 101-102
13 Apr 76	—	S 3.61	0.04	0.26	—	S 1.94	0.03	0.02		Pg 125-126
8 June 76	—	S 3.64	0.03	0.29	—	S 1.94	0.00	0.02		Pg 147-148

NOTES RED. DATE
NOTES CHKD. DATE
DATE FEB 25 1976
DATE

SURVEY OF Portuguese Bend Landslide
JOB NO. 0021.64
SURVEY BY FEB
NOTES BY FEB
INDEXED L. M. PALMERI

F.B. 2485 PG. 48

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION			
		Q-4 B				Q-4 A			
Date	LINE	OFFSET	DIFF	TOTAL	LINE	OFFSET	DIFF	TOTAL	
22 Oct 75	LINE	—	—	—	LINE	—	—	—	pg 5-11
15 Jan 76	LINE	—	—	0.00	LINE	—	—	0.00	pg 23-30
29 Jan 76	No. check	—	—	—	No. check	—	—	—	pg 81-82
17 Mar 76	No check				No check				pg 101-102
13 Apr. 76	No check				No check				pg 125-126
8 June 76	No check				No check				pg 147-148

NOTES RED. JOB NO. 0821.64 SURVEY OF Portuguese Bend Landslide
DATE SURVEY BY FEB
NOTES CHKD. NOTES BY FEB DATE
DATE INDEXED L. M. PALMERI DATE FEB 25 1976

F. B. 2485 PG. 49

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JOB NO. 002.64 SURVEY OF Portuguese Bend Landslide
SURVEY BY FEB
NOTES BY FEB DATE
INDEXED L. M. PALMERI DATE FEB 25 1976
NOTES RED. DATE
NOTES CHKD. DATE

F.B. 2485 PG. 50

Q-LINE DISTANCE COMPARISON

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.		DESCRIPTION					
		Q-1 To	Q-1A		Q-1A To		Q-2		Q-2 To		Q-3	
	Date	Dist	DIFF	TOTAL	DIST		DIFF	TOTAL	DIST	DIFF	TOTAL	
	20 Jan 76	~~448~~ 27	—	—	~~446~~ ~~00~~		—	—	~~594~~ ~~60~~	—	—	Pg 23-30
					450	99	FEB.		610 34	17 Mar 76		
	16 Nov 76	448 29	+ 0 02		450	93	- 0 06	- 0 06	610 38	+ 0 04	+ 0 04	Pg 102-107
	13 Apr 76	448 26	- 0 03	- 0 01	450	93	0 00	- 0 06	610 36	- 0 02	+ 0 02	Pg 125-126
	8 June 76	448 29	+ 0 03	+ 0 02	450	89	- 0 04	- 0 10	610 38	+ 0 02	+ 0 04	Pg 147-148

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION				
	Q-3 To Q-4B			Q-4B To Q-4A			Q-4A To Q-5			
Date	Dist	DIFF	TOTAL	DIST	DIFF	TOTAL	DIST	DIFF	TOTAL	
20 Jan 76	436.46	—	—	38.41	—	—	51.78	—	—	Pg 23-30
16 Mar 76		no check			no check			no check		
13 Apr 76		no check			no check			no check		
8 June 76		no check			no check			no check		Pg 147-148

NOTES RED. JOB NO. 0021.64 SURVEY OF Portuguese Bend Landslide
DATE SURVEY BY FEB
NOTES CHKD. NOTES BY FEB DATE
DATE INDEXED L. M. PALMERI DATE FEB 25 1978

F.B. 2485 PG. 57

765420 S & E-353 9-55

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NOTES RED. _____ DATE _____ NOTES CHKD. _____ DATE _____

SURVEY OF _____ DATE _____ DATE _____

JOB NO. _____ SURVEY BY _____ NOTES BY _____ INDEXED _____

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
	Q 3	To Q 5				
Date	Dist	Diff	Total			
20 Jan. 76	510.91	———	———	Pg 29-30		
16 Mar. 76	510.90	0.01	0.01	Pg 101-102		
13 Apr. 76	510.91	0.01	0.00	Pg 125-126		
8 June 76	510.88	-0.03	-0.03	Pg 147 148		

F. B. 2484 PG. 52

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND

DATE SURVEY BY F. E. BROOKS

NOTES CHKD. ED BERMENDER NOTES BY R. SMITH DATE 1-19-76

DATE INDEXED L. M. PALMERI DATE FEB 25 1976

F. BZ485 PG. 53

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
						J.N. 0021.64.
						PORTUGUEZE BEND LAND SLIDE
						ELEV ON "SAN" LINE.
						1-19-76.
						Brooks Smith Moore Domingues

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM 34-18	168.560					BM. 34-18 ELEV. 168.560 (1970 ADJ)
+	1.727					F.B. 1355 - 22
⊼	170.287 ✓					PALOS VERDES DR SO. & NARCISSA
−	7.551					DR. 87° S'ELY OF GATE 3.2 S'WLY.
T.P	162.736					OF WALL CO ENG. BRASS
+	2.402					BUTTON MON.
⊼	165.138					
−	7.098					
T.P	158040					
+	4.457					
⊼	162.497					
−	4.413					
P-3	158.084 ✓					P-3
+	4.774					
⊼	162.858					
−	4.783					
SAN #4	158.075 ✓					SAN #4
+	4.772					
⊼	162.847					
−	6.876					
SAN #3	155.971 ✓					SAN #3
+	6.844					
⊼	162.815					
−	5.197					
INTER	157.618 ✓					INTER
+	5.189					
⊼	162.807					
−	8.114					
SAN #2	154.693 ✓					SAN #2

NOTES RED.
NOTES CHKD. ED BERMENDER
DATE
DATE 19 Jan 76
DATE FEB 25 1976
JOB NO. 0021.64
SURVEY OF Portuguese Bend
SURVEY BY F E Brooks
NOTES BY RD Smith
INDEXED S. M. PALMERI

F. B 2485 PG. 54

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAN #2	154.693	✓				SAN #2
+	8.070					
⊼	162.763					
−	0.338					
T.P.	162.425					
+	6.658					
⊼	169.083					
−	3.264					
SAN #1	165.819	✓				SAN #1
+	3.172					
⊼	168.991					
−	6.567					
TP.	162.424					
+	0.247					
⊼	162.671					
−	4.246					
TP.	158.375					
+	5.701					
⊼	164.076					
−	0.713					
TP	163.363					
+	9.917					
⊼	173.280					
−	0.834					
TP	172.446					
+	9.045					
⊼	181.491					
−	0.786					
TP	180.705					

NOTES RED _____ JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE _____ SURVEY BY F E Brooks
ED BERMINDER NOTES BY RD Smith DATE 19 Jan 76
DATE _____ INDEXED [illegible] PALMERI DATE FEB 2 [illegible]

F.B. PG. 55

765420 S & E-353-9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	180.705					
+	7633					
⊼	188.338					
−	9806					
SAN #5	178.532 ✓					SAN #5
+	9.780					
⊼	188.312					
−	7.607					
T.P	180.705					
+	0.775					
⊼	181.480					
−	9.034					
TP	172.446					
+	0.857					
⊼	173.303					
−	9934					
T.P	163.369					
+	0.933					
⊼	164.302					
−	5.922					
T.P	158.380					
+	5.148					
⊼	163.528					
−	5.440					
P-3	158.088 ✓					P-3

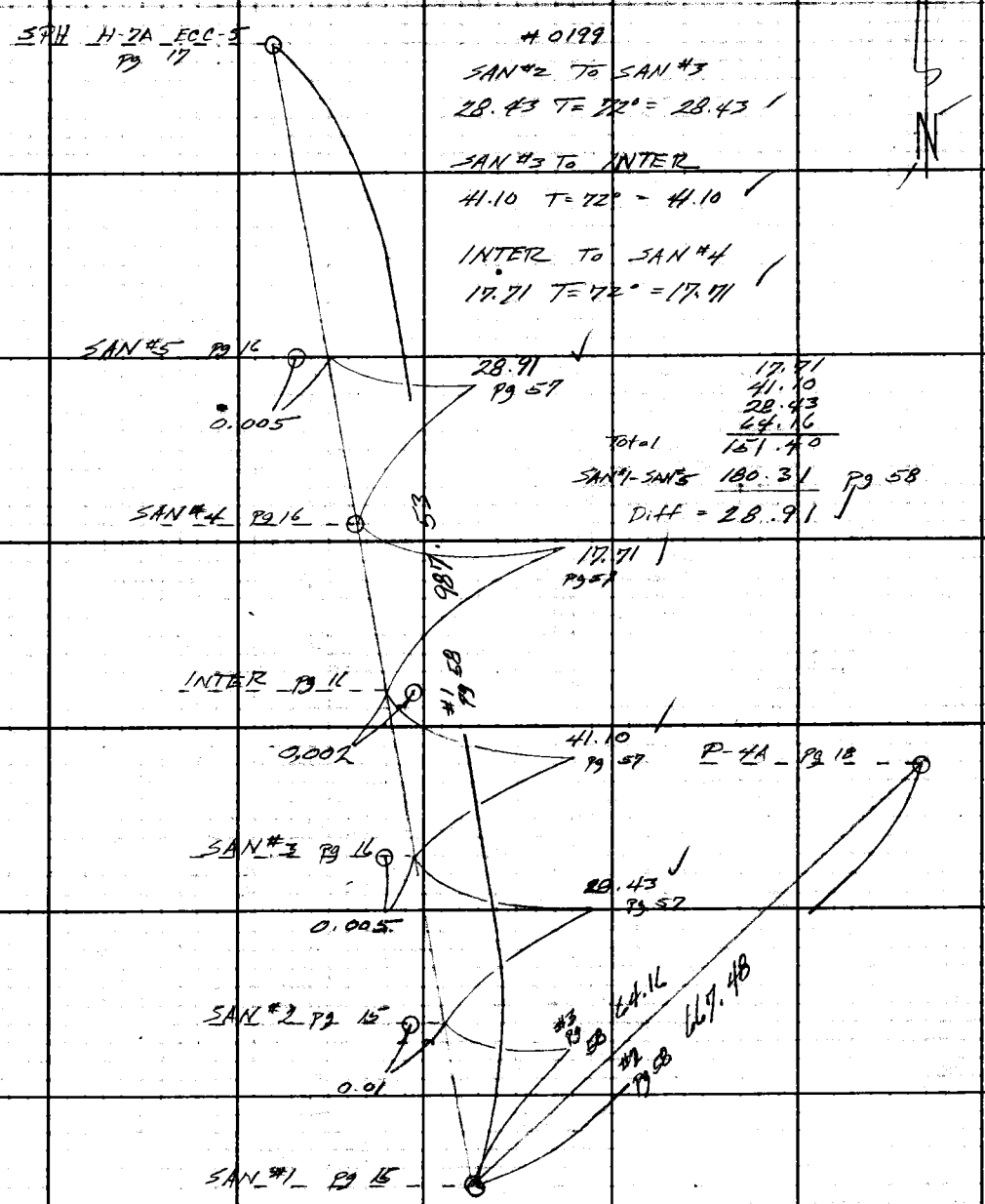
JOB NO. 0021.64 SURVEY OF Portuguese Bend
SURVEY BY F.E. Brooks
NOTES BY R.D. Smith DATE 19 Jan 76
INDEXED L. M. PALMERI DATE FEB 25 1976
NOTES RED. DATE
RED PERMENDER DATE

FTB 3485 PG. 66

Notes Ck'd by	Survey of Portuguese Bend Landslide
Map No.	JN 0021.64 Tape 0199 Std 68 °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 22 Jan 76
Date	Indexed L. M. PALMERI FEB 25 1976

F. B. 2485 PG. 57

2nd CHECK OF SAN LINE



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F. B. 2485 PG. 58

#1 SAN #1 — SPH H-7A ECC-5

T 76°
Bar 30.1 EV. +7

22 Jan 76 Inst HI @ SAN 1 5.15
Target HI @ ECC-5 4.80
Mean Ver ∡ + 6° 51' 20"
Machine Dist 994.638
Corrected Dist 987.526 = 987.53 ✓

#2 SAN #1 — P-4A

T 76°
Bar 30.1 EV +7

22 Jan 76 Inst HI @ SAN 1 5.15
Target HI @ P-4A 4.50
Mean Ver ∡ + 11° 44' 05"
Machine Dist 681.730
Corrected Dist. 667.481 = 667.48 ✓

#3 SAN #1 — SAN #2

T 76°
Bar 30.1 EV +7

22 Jan 76 Inst HI @ SAN 1 5.15
Target HI @ SAN 2 4.97
Mean Ver ∡ - 9° 44' 05"
Machine Dist 65.096
Corrected Dist. 64.158 = 64.16

#4 SAN #1 — SAN #5

T 76°
Bar 30.1 EV +7

22 Jan 76 Inst HI @ SAN 1 5.15
Target HI @ SAN 5 4.20
Mean Ver ∡ + 3° 47' 50"
Machine Dist 180.640
Corrected Dist 180.307 = 180.31

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NOTES RED _____ JOB NO. 0021.64 SURVEY OF Portuguese Bend

F. B. 2485 PG. 59

DATE _____ SURVEY BY FEB

ED BERMENDER

NOTES CHKD. _____ NOTES BY RD Smith DATE 22 Jan 76

DATE _____ INDEXED W. M. PALMER DATE FEB 25 1976

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
S.N. 0021.64						
PORTUGUEZE BEND LANDSLIDE						
Elev. on 'SAN' LINE						
				Brooks Smith Moore Domiguez.		

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768420 S & E-383 9-55

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM 34-18	168 560					BM 34-18 Elev. 168.560 (1970 adj)
+	1 554					F.B. 1355-22
⊼	170 114					Palos Verdes Dr. S and Narcissa Dr.
−	7 379					87.0 S'Ely of Gate 3.2' W'ly of wall a
TP	162 735					Co. Engr Butten Brass Cap Mon
+	2 199					
⊼	164 934					
−	6 896					
TP	158 038					
+	4 341					
⊼	162 379					
−	4 300					
P-3	158 079 ✓					P-3
+	4 817					
⊼	162 896					
−	6 930					
SAN #3	155 966 ✓					SAN #3
+	6 861					
⊼	162 827					
−	8 141					
SAN #2	154 686 ✓					SAN #2
+	8 059					
⊼	162 745					
−	5 133					
INTER	157 612 ✓					INTER
+	5 162					
⊼	162 774					
−	4 704					
SAN #4	158 070 ✓					SAN #4

NOTES RED. DATE ED BERMENDER
NOTES CHKD. DATE
JOB NO. 2004.64 SURVEY OF Portuguese Bend
SURVEY BY FEB
NOTES BY RDSmith DATE 22 Jan 76
INDEXED L. M. PALMERI DATE FEB 25 1976
F. B. 2405 PG. 60

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAN #4	158.070	✓				SAN #4
+	4.737					
⊼	162.807					
−	0.388					
T.P	162.419					
+	6.865					
⊼	169.284					
−	3.470					
SAN #1	165.814	✓				SAN #1
+	3.327					
⊼	169.141					
−	6.722					
T.P	162.419					
+	0.365					
⊼	162.784					
−	4.706					
T.P.	158.078					
+	5.295					
⊼	163.373					
−	5.003					
T.P	158.370					
+	5.656					
⊼	164.026					
−	0.668					
T.P	163.358					
+	9.883					
⊼	173.241					
−	0.799					
T.P	172.442					

NOTES RED ____ JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE ____ SURVEY BY FE B
NOTES CHKD. NOTES BY RD Smith DATE 22 Jan 76
DATE ____ INDEXED L. M. PALMERI DATE FEB 25 1976

F. B. 2485 PG. 61

768420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	172.442	✓				
+	8.719					
⊼	181.161					
−	0.460					
TP	180.701	✓				
+	7.280					
⊼	187.981					
−	9.452					
SAN #5	178.529	✓				SAN #5
+	9.571					
⊼	188.100					
−	7.400					
T.P.	180700					
+	0.649					
⊼	181.349					
−	8.906					
T.P	172443					
+	0.689					
⊼	173.132					
−	9.774					
T.P	163.358					
+	0.720					
⊼	164.078					
−	5709					
T.P	158.369					
+	5.093					
⊼	163.462					
−	5.385					
P-3	158.077	✓				P-3

NOTES RED. DATE
NOTES BLK. DATE
JOB NO. 0021.64 SURVEY OF Portuguese Bend
SURVEY BY FEB
NOTES BY RD Smith DATE 22 Jan 71
INDEXED L. M. PALMERI DATE FEB 25 1978
F. B. 2485 PG. 62

Notes Ck'd by	Survey of Portuguese Bend	F. B. 2485 PG. 63
Map No.	JN 0021.64 Tape Std °F	
Office Work	Surveyed by FEB	
Checked	Notes FEB Date 13 Jan 76	
Date	Indexed T. M. PALMER FEB 25 1976	

JN 00.21. 64

PORTUGUEZE BEND LANDSLIDE.

TRAVERSE

THROUGH POINTS P-4A ; P-3 ; A ; P-2 ; SPH HBA.

Brooks
Smith
Moore
Dominguez

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76F309S CE#310 1-65

F. B 2485 PG. 64

71 - 38 - 40 per pg 18
11 - 22 - 23 per pg 18
60 - 16 - 17 calc ✓

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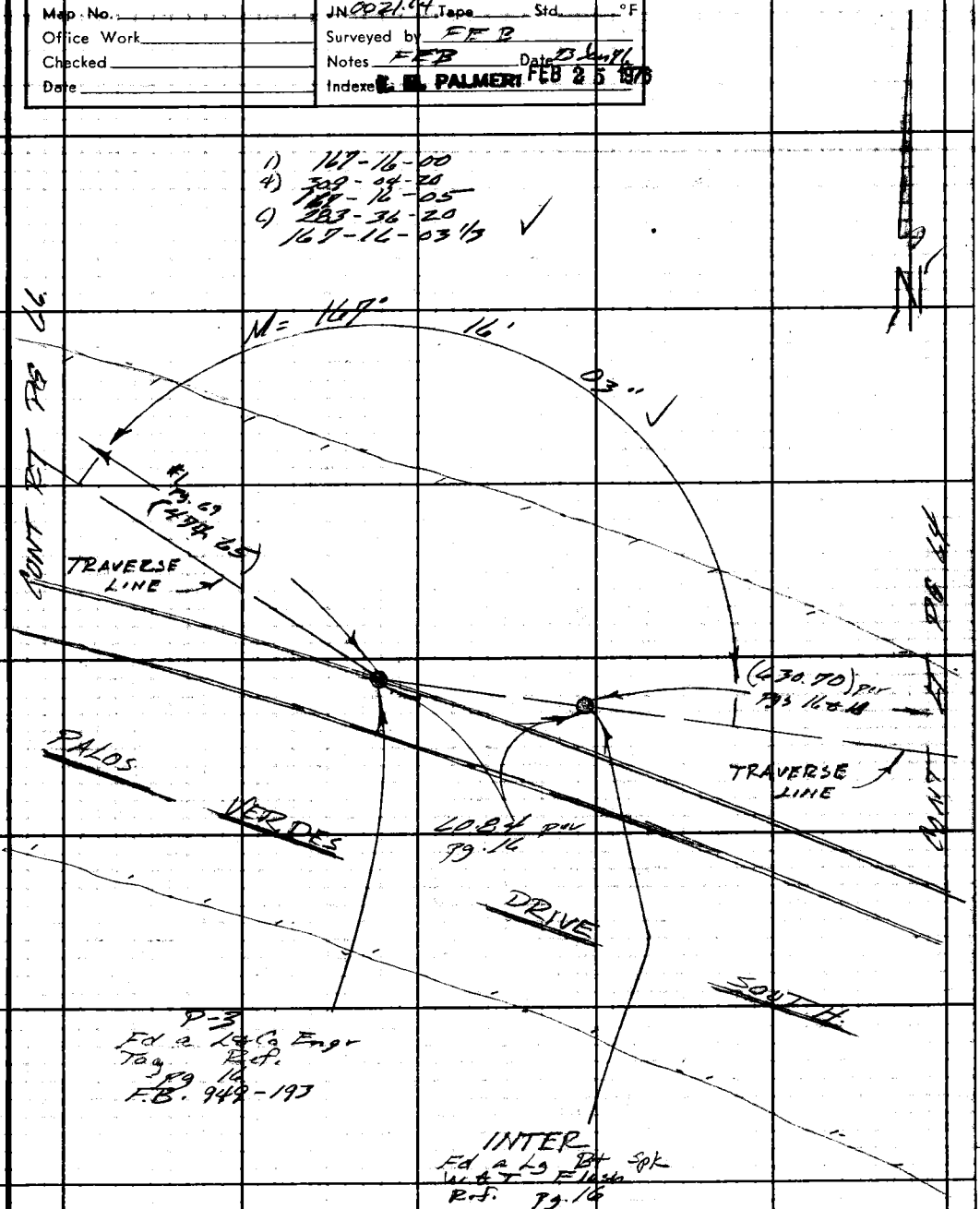
Map No.	JN 0021.64 Tape Std. °F	
Office Work	Surveyed by FEB	
Checked	Notes FEB Date 13 Jan 76	
Date	Indexed E. E. PALMERI FEB 25 1976	



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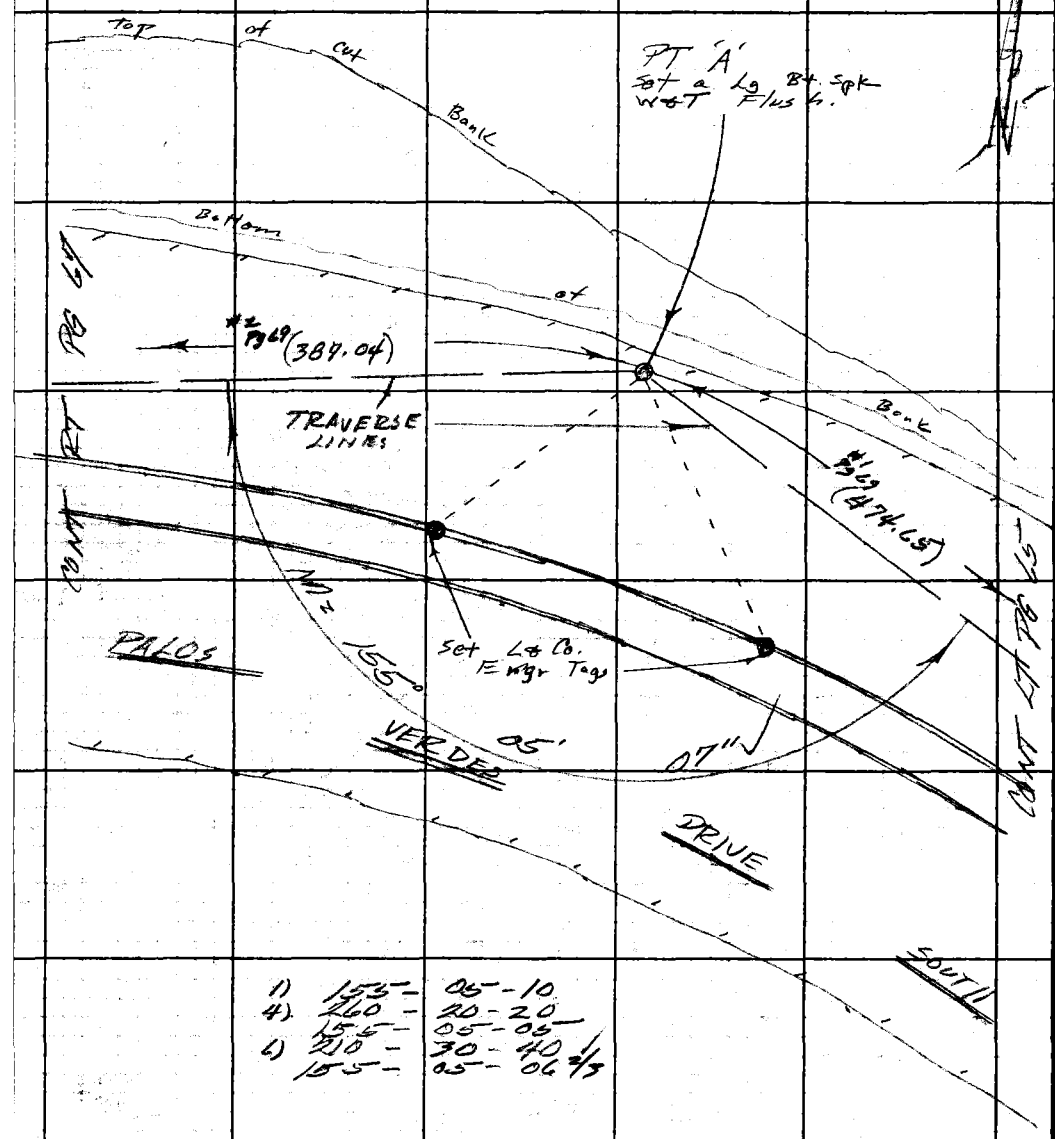
F. B. 1485 PG. 16



1) 155 - 05 - 10
4) 160 - 20 - 20
5) 155 - 05 - 05
6) 210 - 30 - 40 1/
155 - 05 - 06 2/3

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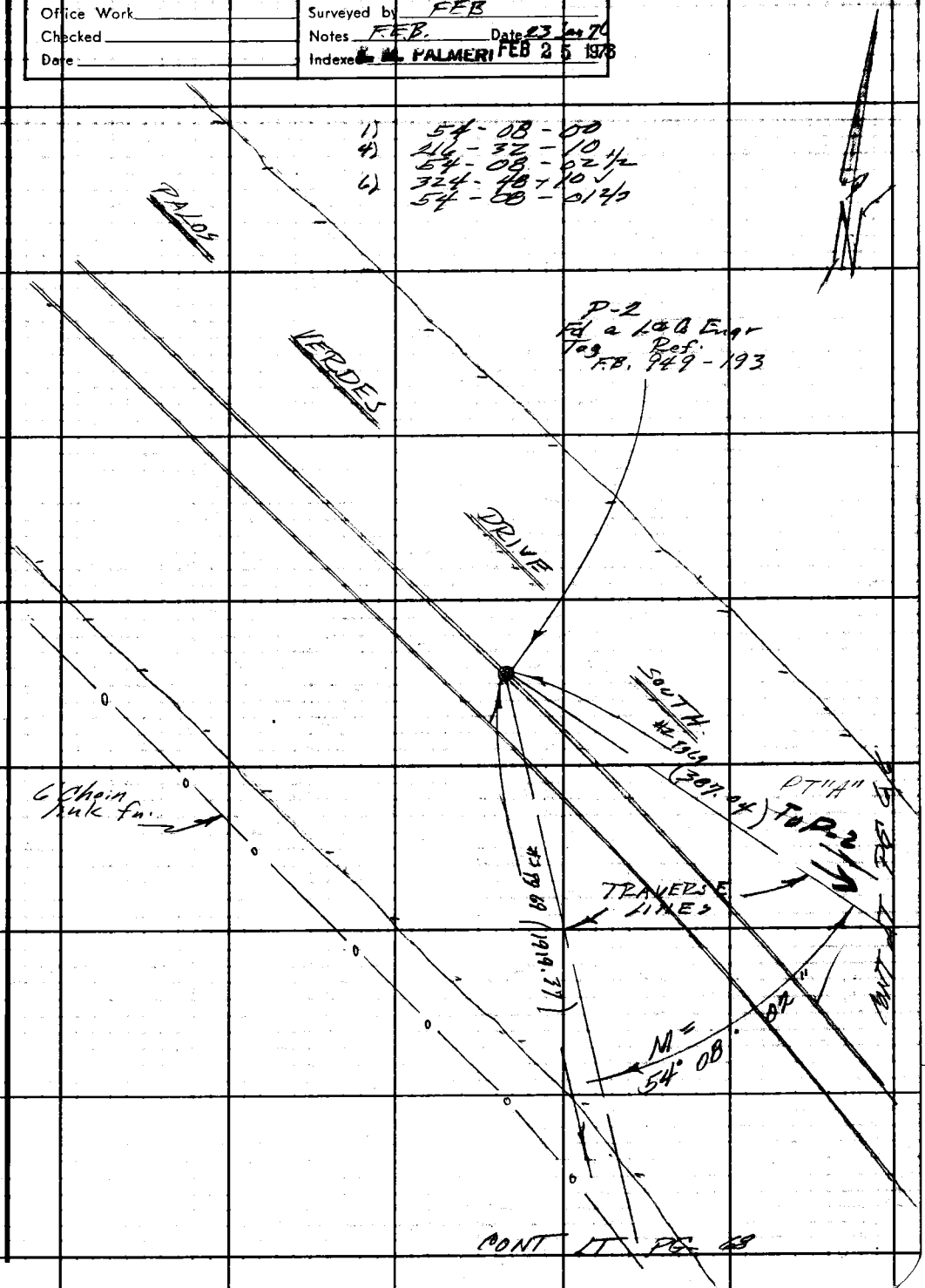
Notes Ck'd by	Survey of Portuguese Bend
Map No.	JN 0021.64 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes F.E.B. Date 23 Jan 76
Date	Indexed L. M. PALMERI FEB 25 1976

F. B. 2485 PG. 67



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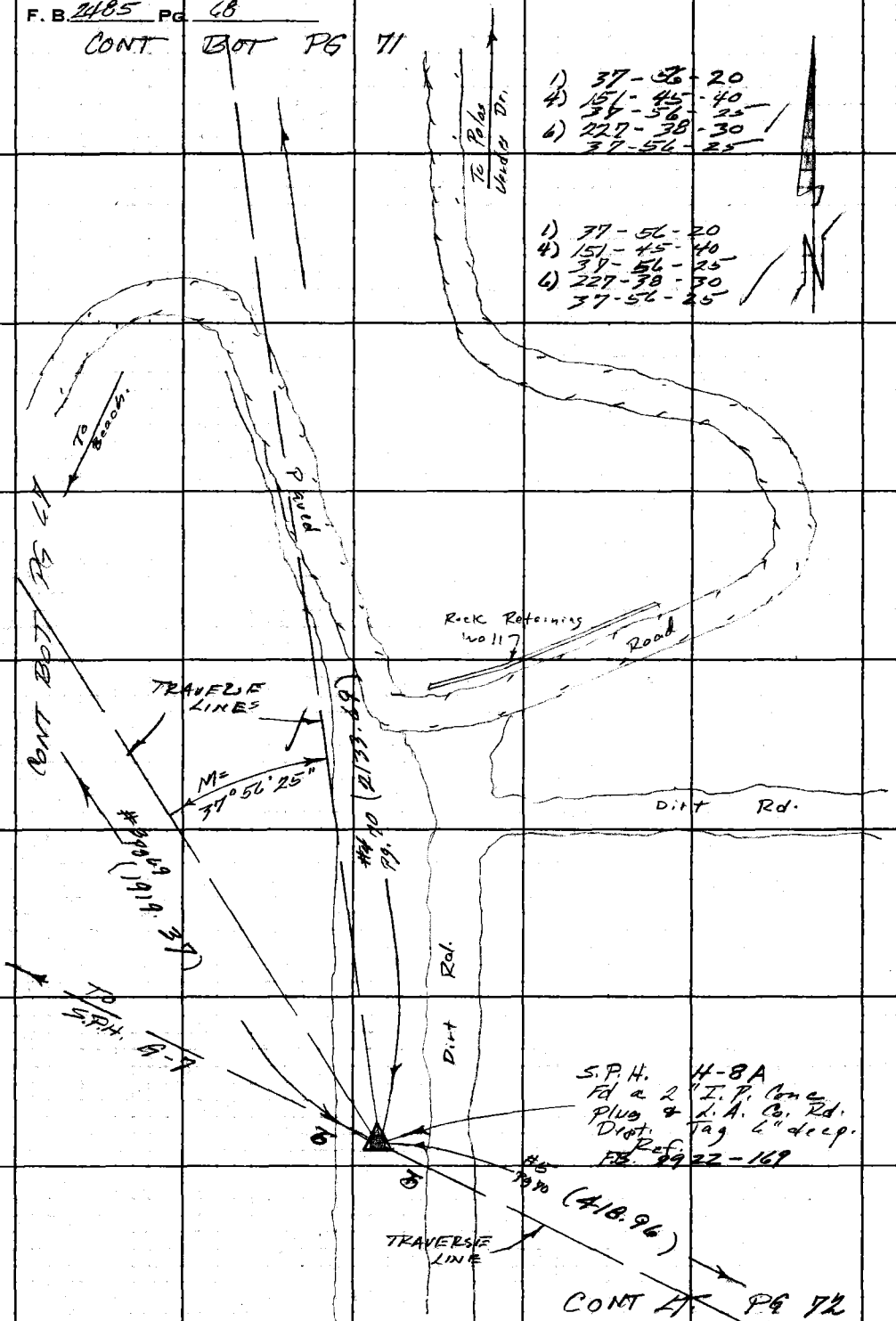
F. B. 2485 PG. 68

CONT. BOT PG 71

1) 37 - 56 - 20
4) 151 - 45 - 40
37 - 56 - 25
6) 227 - 38 - 30
37 - 56 - 25

1) 37 - 56 - 20
4) 151 - 45 - 40
37 - 56 - 25
6) 227 - 38 - 30
37 - 56 - 25



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Notes Ck'd by
Map No.
Office Work
Checked
Date

Survey of Portuguese Bend
JN 0021.64 Tape Std °F
Surveyed by FEB
Notes FEB Date 23 Jan 76
Indexed E. M. PALMERI FEB 25 1978

F. B. 2485 PG. 69

#1

PT A — P-3
T 66°
Bar 30.1 EV. +2

23 Jan 76

Inst HI @ A	5.16
Target HI @ P-3	4.74
Mean Ver ∠	-0° 29' 30"
Machine dist	474.670
Corrected Dist	474.652 = 474.65 ✓

#2

PT-A — P-2
T 66°
Bar 30.1 EV +2

23 Jan 76

Inst HI @ A	5.16
Target HI @ P-2	4.98
Mean Ver ∠	+0° 11' 10"
Machine Dist.	387.050
Corrected Dist.	387.041 = 387.04 ✓

#3

P-2 — S.P.H. H8A.
T 67°
Bar 30.1 EV +3

23 Jan 76

Inst HI @ H-8A	4.97
Target HI @ P-2	5.12
Mean Ver ∠	+0° 45' 10"
Machine dist	1919.540
Corrected Dist.	1919.374 = 1919.37 ✓

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403 LOS ANGELES COUNTY ENGINEERING BLDG.
76F309S CE#310 1-65

F. B. 2485 PG 70

#4 SPH H-8A — SPH H-7A ECC-5

T 70
Bar 30.1 EV +4

23 Jan 76 Inst HI @ H-8A 4.97
Target HI @ ECC-5 4.75
Mean Vert ∡ + 3° 55' 10"
Machine dist 2138.690
Corrected Dist 2133.687 = 2133.69

#5 SPH H-8A — SPH H8

T 72°
Bar 30.1 EV +5

Inst HI @ H-8 5.00
Target HI @ H-8A 5.05
Mean Vert ∡ + 3° 18' 05"
Machine Dist 419.658
Corrected Dist. 418.961 = 418.96

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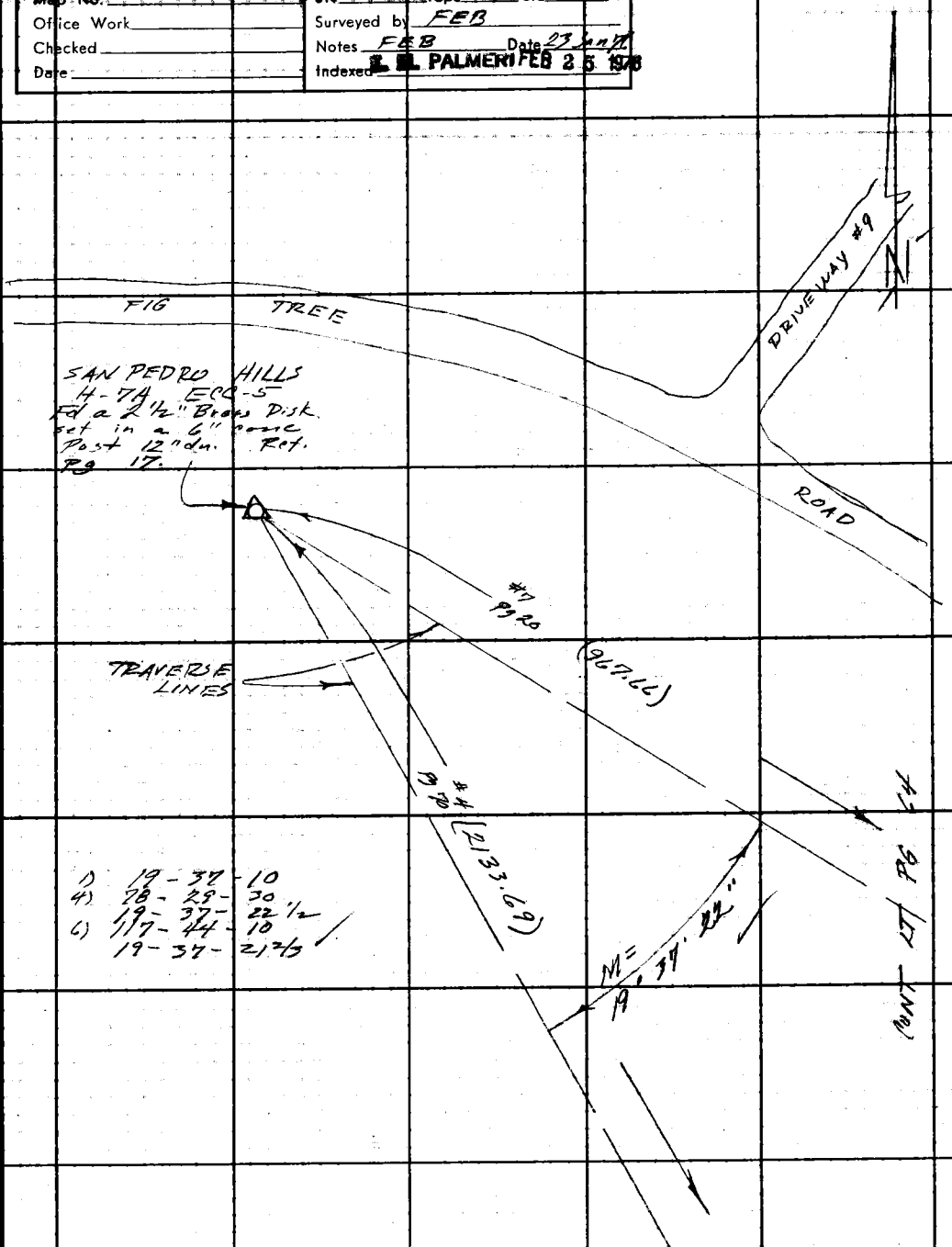
Notes Ck'd by
Map No.
Office Work
Checked
Date

Survey of Portuguese Bend
JN 0021.64 Tape Std °F
Surveyed by FEB
Notes FEB Date 23 Jan 74
Indexed L. L. PALMER FEB 25 1976

F. B. 2485 PG. 71



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76F309S CE#310 1-65

F. B. 2485 PG. 72

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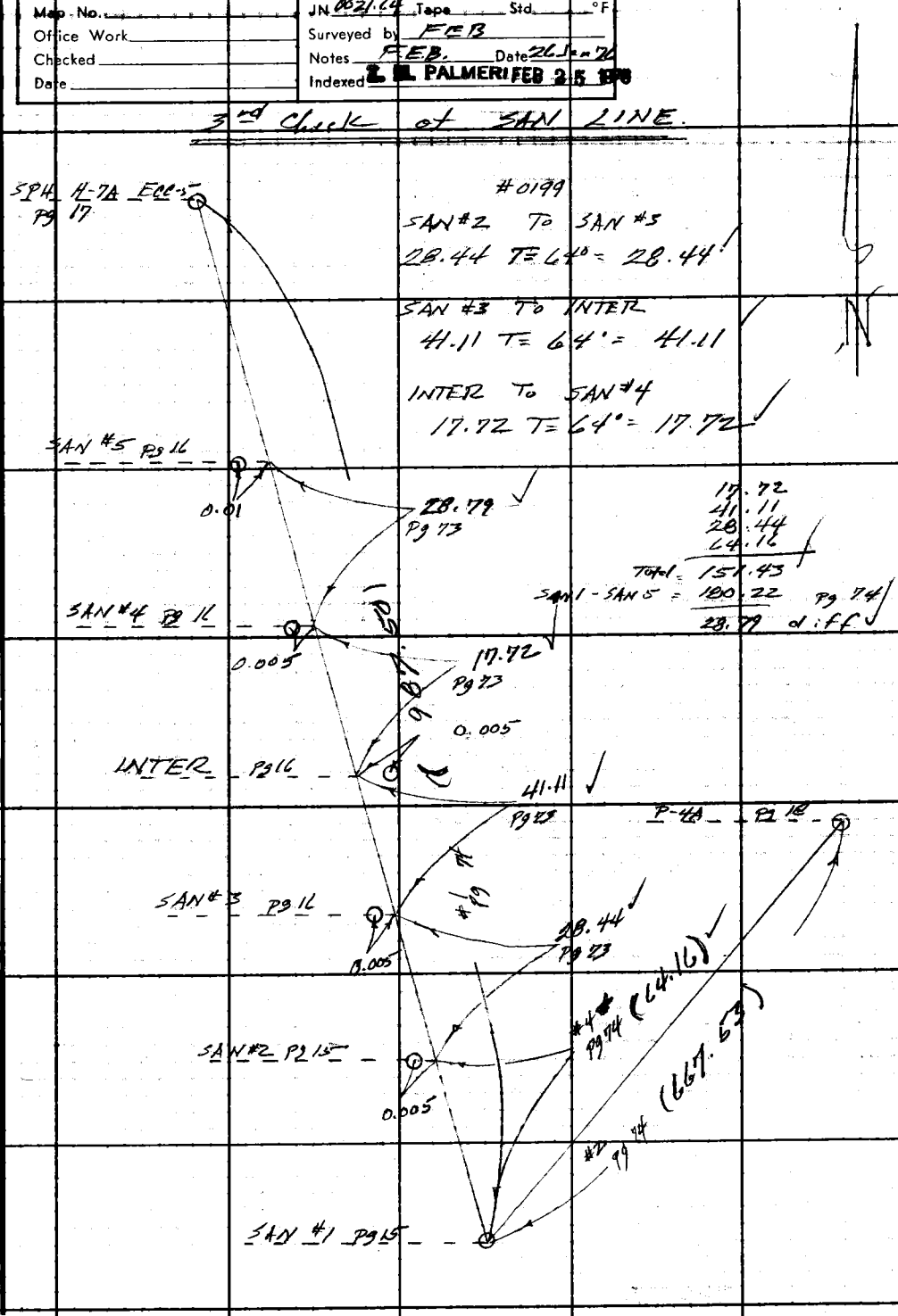
Notes Ck'd by
Map No.
Office Work
Checked
Date

Survey of Portuguese Bend
JN 0021.64 Tape Std. °F
Surveyed by FEB
Notes FEB. Date 26 Jan 76
Indexed L. M. PALMERI FEB 25 1976

F. B. 2485 PG. 77

3rd Check of SAN LINE.



Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

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403 LOS ANGELES COUNTY ENGINEERING BLDG.

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76F309S CE#310 1-65

F. B 2485 Pg 74

#1 SAN#1 - SPH H7A ECC5
T 58°
Bar 30.3 EV -4

26 Jan 76
Inst HI @ SAN #1 4.95
Target HI @ ECC-5 4.25
Mean Ver ∡ +6° 50' 35"
Machine Dist 994.590
Corrected Dist 987.504 = 987.50 ✓

#2 SAN #2 To P-4A
T 58°
Bar 30.3 EV. -4

26 Jan 76
Inst HI @ SAN#1 4.95
Target HI @ P-4A 4.94
Mean Ver ∡ +11° 47' 35"
Machine Dist 681.920
Corrected Dist 667.526 = 667.53 ✓

#3 SAN#1 - SAN #5
T 64°
Bar 30.3 EV -02

26 Jan 76
Inst HI @ SAN 1 4.95
Target HI @ SAN 5 3.99
Mean Ver ∡ +3° 49' 35"
Machine Dist 180.622
Corrected Dist. 180.219 = 180.22 ✓

#4 SAN #1 - SAN #2
T 64°
Bar 30.3 EV. -02

26 Jan 76
Inst HI @ SAN 1 4.95
Target HI @ SAN 2 5.44
Mean Ver ∡ -9° 09' 35"
Machine Dist 64.990
Corrected Dist 64.161 = 64.16 ✓

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403 LOS ANGELES COUNTY ENGINEERING BLDG.
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NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND

F. B. 2485 PG. 75

DATE ED BERMENDER SURVEY BY FEB

NOTES CHKD. NOTES BY DATE

DATE INDEXED E. M. PALMERI DATE FEB 25 1976

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
LN 0021.64						
PORTUGUEZE BEND						
LANDSLIDE						
Elev. on 'SAN' LINE						

Brooks
Smith
Dominguez
Krohn

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

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900 LOS ANGELES COUNTY ENGINEERING BLDG.

768420 S & E-353 9-55

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM34-18	168 560	✓				BM 34-18 Elev 168.560 (1970 adj.)
+	1 631					F.B. 1355-22
⊼	170 191					Palos Verdes Dr. S. & Naraissa Dr. 87.0'
−	7 457					S'Ely of Gate 3.2' W'ly of Wall a Co. Engr.
TP	162 734					Button Brass Cap. Mon.
+	2 314					
⊼	165 048					
−	7 012					
TP	158 036					
+	4 352					
⊼	162 388					
−	4 313					
P-3	158 075	✓				P-3
+	4 751					
⊼	162 826					
−	8 144					
SAN # 2	154 682	✓				SAN # 2
+	8 129					
⊼	162 811					
−	5 200					
INTER	157 611	✓				INTER
+	5 176					
⊼	162 787					
−	4 720					
SAN # 4	158 067	✓				SAN # 4
+	4 781					
⊼	162 848					
−	0 430					
T.P	162 418					

JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY R. SMITH DATE 1-28-76 NOTES CHKD. ED BERMENDER
INDEXED L. M. PALMERI DATE FEB 25 1976 DATE

F.B. 2485 PG. 76

76S420 S & E-353 9-55

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P 1	162 418					
+	6 871					
⊼	169 289					
−	3 477					
SAN #1	165 812 ✓					SAN #1
+	3 553					
⊼	169 365					
−	6 947					
T.P	162 418					
+	0 202					
⊼	162 620					
−	4 548					
T.P	158 072					
+	3 334					
⊼	161 406					
−	5 447					
SAN #3	155 959 ✓					SAN #3
+	5 470					
⊼	161 429					
−	3 065					
TP	158 364					
+	5 691					
⊼	164 055					
−	0 702					
TP	163 353					
+	9 914					
⊼	173 267					
−	0 828					
TP	172 439					

NOTES RED _____ JOB NO. 0021 64 SURVEY OF PORTUGUEZE BEND
DATE _____ SURVEY BY FEB
NOTES CHKD. ED BERMENDER NOTES BY R. Smith DATE 1-28-76
DATE _____ INDEXED T. M. PALMERI DATE FEB 25 1976

F. B. 2480 PG. 77

765420 S & E-353 9-55

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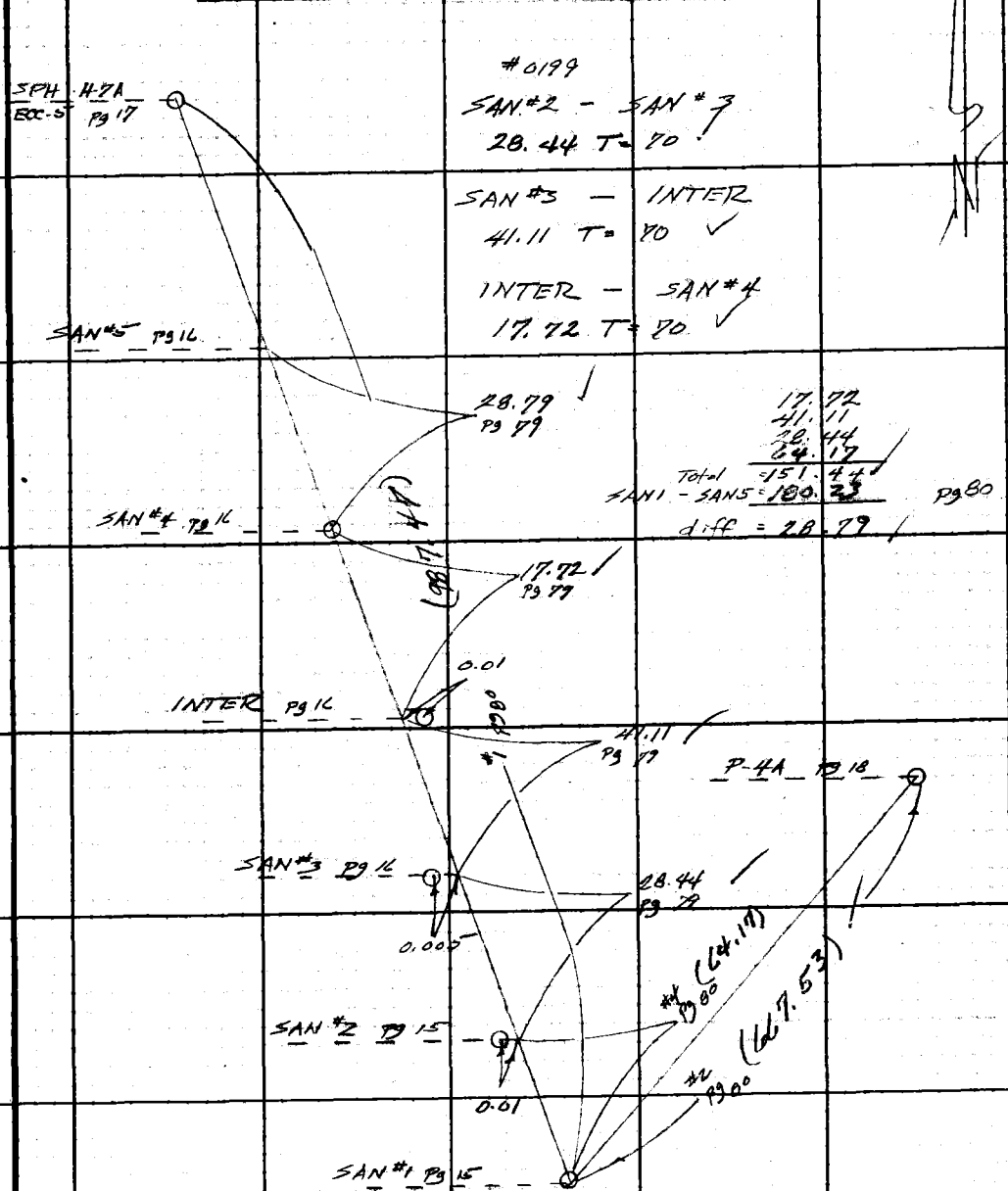
JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY R. SMITH DATE 1-28-76 NOTES BY ED BERMENDER
INDEXED L. M. PALMER DATE FEB 25 1976 DATE

F.B. 2485 PG. 78

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	172 439					
+	8 440					
⊼	180 879					
−	0 181					
T.P	180 698					
+	7 718					
⊼	188 416					
−	9 890					
SAN 5	178 526 ✓					SAN 5
+	9 625					
⊼	188 151					
−	7 451					
T.P	180 700					
+	0 688					
⊼	181 388					
−	8 945					
T.P	172 443					
+	0 701					
⊼	173 144					
−	9 790					
T.P	163 354					
+	0 657					
⊼	164 011					
−	5 643					
T.P	158 368					
+	5 046					
⊼	163 414					
−	5 338					
P-3	158 076 ✓					P-3 SEE PG 76

Notes Ck'd by	Survey of PORTUGUEZE BEND	F. B. 2485 PG. 79
Map No.	JN 0021.64 Tape Std. °F	
Office Work	Surveyed by FEB	
Checked	Notes FEB Date 29 Jan 76	
Date	Indexed T. M. PALMERI FEB 25 1976	

4th CHECK SAN LINE



17.72
41.11
28.44
64.17
Total = 151.44
SAN1 - SAN5 = 180.23 Pg 80
diff = 28.79

Note: Any Additions or Changes on this Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

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76F309S CE#310 1-65

F. B. 2485 PG. 80

#1 SAN #1 — S.P.H. H-7A ECC-5

T 76°
Bar 30.2 EV +6

29 Jan 76

Inst HI @ SAN 1
Target HI @ ECC-5 4.30
Mean Ver ∡ +6° 52' 00"
Machine Dist 994.600
Corrected Dist. 987.465 = 987.47 ✓

#2 SAN #1 — P-4A

T 76°
BAR 30.2 EV +6

29 Jan 76

Inst HI @ SAN #1
Target HI @ P-4A 4.80
Mean Ver ∡ + 11° 48' 00"
Machine Dist 681.944
Corrected Dist. 667.532 ✓ = 667.53

#3 SAN #1 — SAN #5

T 72°
Bar 30.2 EV +4

29 Jan 76

Inst HI @ SAN 1
Target HI @ SAN 5 4.40
Mean Ver ∡ +3° 56' 30"
Machine Dist 180.662
Corrected Dist 180.234 = 180.23 ✓

#4 SAN #1 — SAN #2

T 72°
BAR 30.2 EV. +4

29 Jan 76

Inst HI @ SAN 1
Target HI @ SAN 2 5.69
Mean Ver ∡ −8° 41' 40"
Machine Dist 64.920
Corrected Dist. 64.174 = 64.17 ✓

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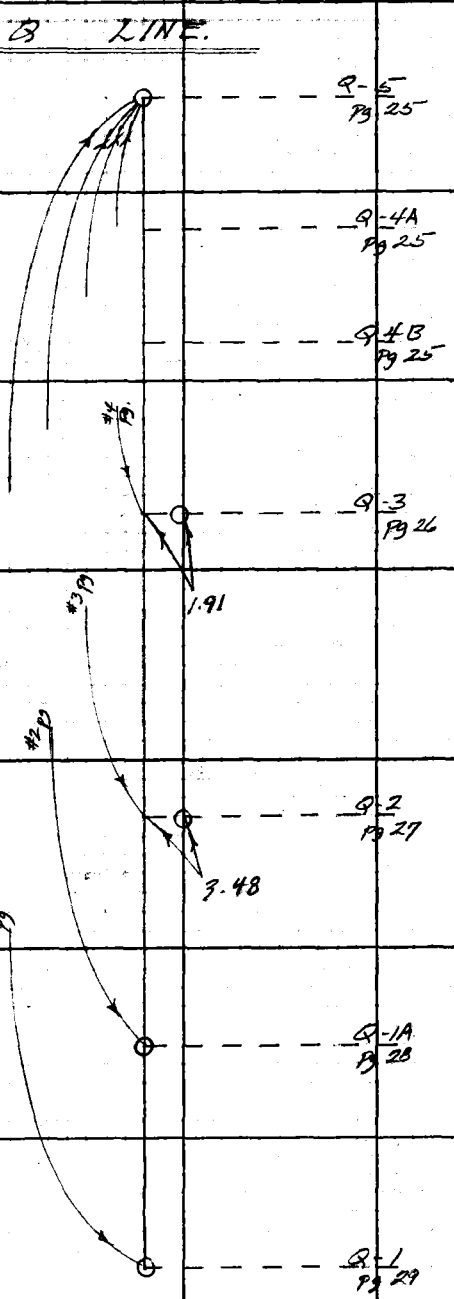
Notes Ck'd by
Map No.
Office Work
Checked
Date

Survey of PORTUGUEZE BEND
JN 0021.64 Tape Std °F
Surveyed by FEB
Notes FEB. Date 30 Jan 76
Indexed L. M. PALMER FEB 25 1976

F. B. 2485 Pg. 81



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76F309S CE#310 1-65

F. B. 2485 PG. 82

#1 Q-5 — Q-1

T

Bar EV.

Inst HI @ Q-5
Target HI @ Q-1

Mean Ver ∡

Machine Dist

Corrected Dist.

#2 Q-5 — Q-1A

T

Bar EV

Inst HI @ Q-5
Target HI @ Q-1A

Mean Ver ∡

Machine Dist

Corrected Dist.

#3 Q-5 — Q-2

T

Bar EV

Inst HI @ Q-5
Target HI @ Q-2

Mean Ver ∡

Machine Dist

Corrected Dist.

#4 Q-5 — Q-3

T

Bar EV

Inst HI @ Q-5
Target HI @ Q-2

Mean Ver ∡

Machine Dist

Corrected Dist.

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Notes Ck'd by
Map No.
Office Work
Checked
Date

Survey of PORTUGUEZE BEND
JN 202164 Tape Std °F
Surveyed by FEB
Notes FEB Date 30 Jan 76
Indexed J. M. PALMERI FEB 25 1976

F. B. 2485 PG. 83

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

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403 LOS ANGELES COUNTY ENGINEERING BLDG.

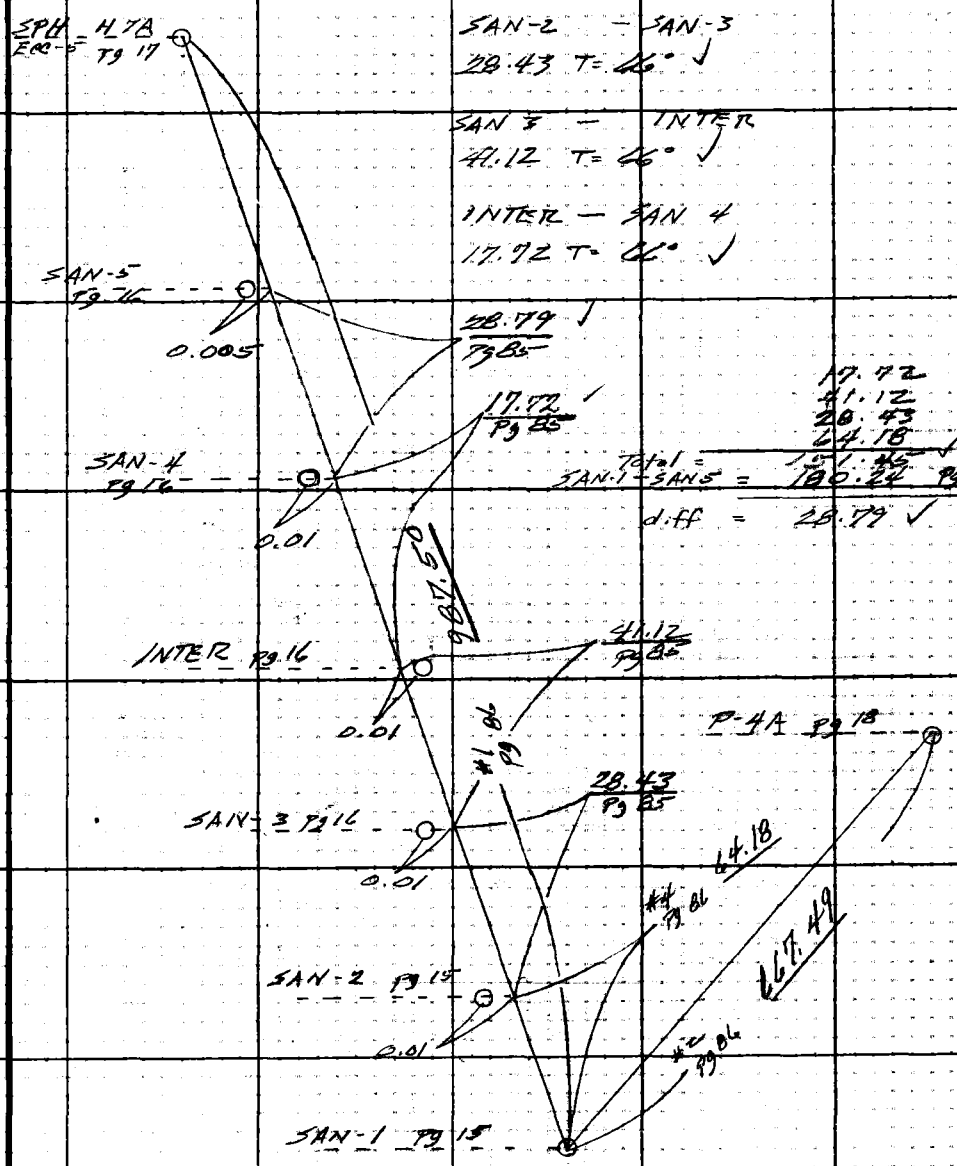
76F309S CE#310 1-65

Notes Ck'd by
Map No.
Office Work
Checked
Date

Survey of PORTUGUESE BEND
JN 9921.04 Tape Std °F
Surveyed by FEB
Notes FEB Date 20 Feb 78
Indexed PALMER FEB 25 1978

F. B. 1405 PG. 85

5TH CHECK SAN LINE



Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink, With Date and Name of Person Making Change.

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7BF309S CE#310 1-65

F. B. 2485 PG. 86

#1 SAN #1 - SPH H-7A ECC5

T 66°

Bar 30.2 EV +2

20 Feb 76 Inst HI @ SAN 1 5.00

Target HI @ ECC-5 3.80

Mean Ver ∡ +6° 49' 30"

Machine Dist 994.550

Corrected Dist 987.502 = 987.50 ✓

#2 SAN 1 - P-4A

T 66°

Bar 30.2 EV +2

20 Feb 76 Inst HI @ SAN-1 5.00

Target HI @ P-4A 4.46

Mean Ver ∡ +11° 44' 45"

Machine Dist 681.766

Corrected Dist 667.490 = 167.49 ✓

#3 SAN 1 - SAN 5

T 64°

Bar 30.2 EV 0

20 Feb 76 Inst HI @ SAN 1 5.00

Target HI @ SAN 5 3.95

Mean Ver ∡ +3° 42' 50"

Machine Dist 180.622

Corrected Dist 180.242 = 180.24 ✓

#4 SAN 1 - SAN 2

T 64°

Bar 30.2 EV 0

20 Feb 76 Inst HI @ SAN 1 5.00

Target HI @ SAN 2 4.80

Mean Ver ∡ -9° 47' 50"

Machine Dist 65.128

Corrected Dist 64.178 = 64.18 ✓

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NOTES RED _____ JOB NO. 0021.04 SURVEY OF PORTUGUEZE BEND

DATE _____ SURVEY BY FEB

NOTES CHKD. ED BERMENDER NOTES BY R D Smith DATE 20 Feb 76

DATE _____ INDEXED L. M. PALMERI DATE FEB 25 1976

F. B. 2485 PG. 87

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
IN 0021.04						
PORTUGUEZE BEND						
LANDSLIDE.						
Elev. on 'SAN' LINE						
				Brooks Smith Domingue Krohn.		

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769420 S & E-353 9-55

76S420 S & E-353 9-55

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NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM34-18	168 560					BM 34-18 Elev. 168.560 (1970 adj.)
+	1 529					F.B. 1355-22
⊼	170 089					Palos Verdes Dr. S. & Narcissa Dr. 87.0'
−	7 351					S'Ely of Gate 3.2' W'ly of wall a Co. Engr.
TP	162 738					Bottom Brass Cap. Mon.
+	2 362					
⊼	165 100					
−	7 058					
TP	158 042					
+	4 310					
⊼	162 352					
−	4 735					
INT	157 617 ✓					INT ~~Pos~~
+	5 263					
⊼	162 880					
−	4 806					
SAN # 4	158 074 ✓					SAN #4
+	4 750					
⊼	162 824					
−	6 857					
SAN # 3	155 967 ✓					SAN #3
+	6 918					
⊼	162 885					
−	8 198					
SAN # 2	154 687 ✓					SAN #2
+	8 257					
⊼	162 944					
−	0 515					
T.P.	162 429					

JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND NOTES RED.
SURVEY BY FEB
NOTES BY R. SMITH DATE 20 Feb 76 NOTES CHKD. ED BERMENDER
INDEXED L. M. PALMERI DATE FEB 25 1976 DATE

F. B. 2485 PG. 88

768420 S & E-353 9-55

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NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	162.429					
+	7029					
π	169458					
−	3.636					
SAW # 1	165.822 ✓					SAW # 1
+	3.709					
π	169.531					
−	7.102					
T.P.	162.429					
+	0.473					
π	162.902					
−	4.815					
P-3	158.087 ✓					P-3
+	5.374					
π	163.461					
−	5.083					
T.P.	158.378					
+	5.698					
π	164.076					
−	0.695					
T.P	163.381					
+	9.854					
π	173.235					
−	0.775					
T.P.	172.460					
+	8854					
π	181.314					
−	0.600					
	180.714					

NOTES RED ____ JOB NO. 0021.64 SURVEY OF POPTUGUEZE BEND
DATE ____ SURVEY BY FEB
ED REPMENDER NOTES BY R SMITH DATE 20 Feb 76
DATE ____ INDEXED T. M. PALMERI DATE FEB 25 1976

F. B. 2485 PG. 89

F. B. 2485 PG. 90

JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND NOTES RED.

SURVEY BY F.E.B. DATE

NOTES BY R SMITH DATE 20 FEB 76 NOTES CHKD. ED BERMENDER

INDEXED T. M. PALMERI DATE FEB 25 1976 DATE

768420 S & E-353-9-55

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LOS ANGELES COUNTY ENGINEER

700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	180.714					
+	7.644					
⊼	188.358					
-	9.818					
SAN #5	178.540 ✓					
+	9.750					
⊼	188.290					
-	7.579					
T.P.	180.711					
+	0.579					
⊼	181.290					
-	8.832					
T.P.	172.458					
+	0.904					
⊼	173.362					
-	9.981					
T.P.	163.381					
+	0.678					
⊼	164.059					
-	5.679					
	158.380					
+	4.958					
⊼	163.338					
-	5.249					
P-3	158.089 ✓					

SAN #5

P-3

763420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAN 1						
2	64.15	64.17				
3	92.60	92.61				
INTER	133.73	133.72				
4	151.44	151.43				
5	180.24	180.22				
ECC-5	987.49	987.62				

NOTES RED. _____ JOB NO. _____ SURVEY OF _____
DATE _____ SURVEY BY _____
NOTES CHKD. _____ NOTES BY _____ DATE _____
DATE _____ INDEXED E. M. PALMERI DATE FEB 25 1970

F.B. 2485 PG. 91

Notes Ck'd by R. HUARIO	Survey of
Map No.	JN Tape Std °F
Office Work	Surveyed by
Checked	Notes Date
Date	Indexed L. L. PALMERI FEB 2 5 1976

F. B 2485 PG. 93

SP.H. H-8 — SP.H. G-7

T 74°
Bar 30.2 EV. +5

Inst HI @ H-8 5.25
Target HI @ G-7 5.00

Mean Ver ∡ +4° 51' 45"
Machine dist 3551.970

Corrected dist 3540.737 = 3540.74

SP.H. G-7

W- FIX

3540.74

2963.42

SP.H. H-8 — W FIX

T 66°
Bar 30.2 EV +2

Inst HI @ H-8 5.25
Target HI @ W. FIX 5.40

Mean Ver ∡ +5° 23' 55"
Machine dist 2976.624 907.260 MTR

Corrected Dist. 2963.42 = 2963.43

SP.H. H-8

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76F309S CE#310 1-65

Notes Ck'd by R. HILARIO
Map No.
Office Work
Checked
Date

Survey of PORTUGEZE BEND
JN 0021.64 Tape Std °F
Surveyed by FEB
Notes FEB Date 11 Mar 76
Indexed L. M. PALMER MAR 22 1976

F. B. 2485 PG. 95

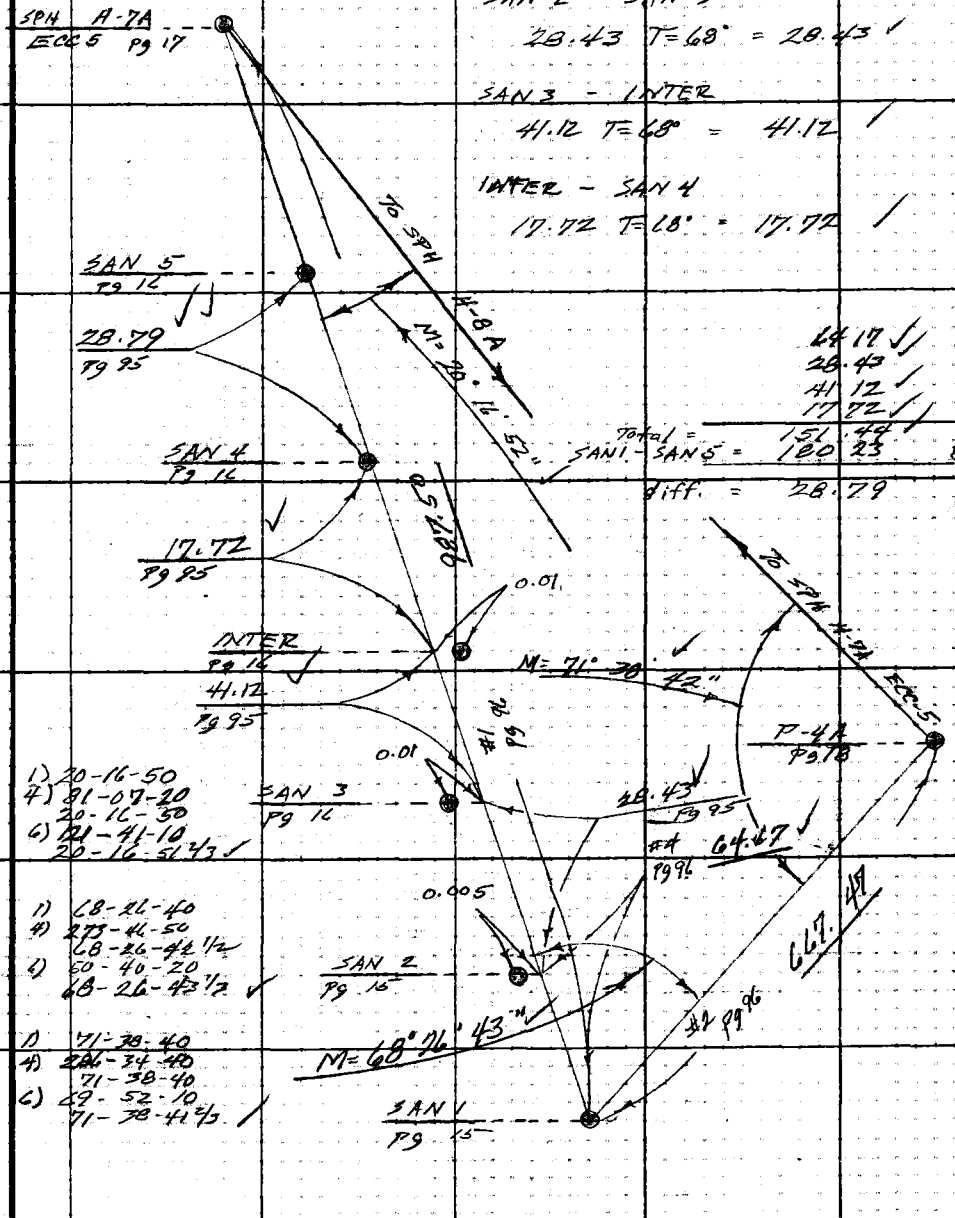
CTB Check SAN LINE

#0199

SAN-2 - SAN-3
28.43 T=68° = 28.43 ✓

SAN 3 - INTER
41.12 T=68° = 41.12 ✓

INTER - SAN 4
17.72 T=68° = 17.72 ✓



Total = 151.49
SAN1 - SAN5 = 180.23 Pg 96
Diff. = 28.79

1) 20-16-50
4) 81-07-20
20-16-50
6) 121-41-10
20-16-51 2/3 ✓

1) 68-26-40
4) 273-44-50
68-26-42 1/2
6) 50-40-20
68-26-42 1/2 ✓

1) 71-38-40
4) 286-34-40
71-38-40
6) 69-52-10
71-38-41 2/3 ✓

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76F3095 CE#310 1-65

F. B. 2485 PG 96

#1 SAN #1 — SPH H-7A ECC 5

T 64°

	Bar 30.1	EV	+2	
11 Mar 76	Inst HI @ SAN 1		5.00	
	Target HI @ ECC5		4.50	
	Mean Ver. ∡		+6° 51' 00"	
	Machine Dist.		994.598	
	Corrected Dist.		987.498 ✓ =	987.50 ✓

#2 SAN #1 — P-4A

T 64°

	Bar 30.1	EV	+2	
11 Mar 76	Inst HI @ SAN 1		5.00	
	Target HI @ P-4A		4.70	
	Mean Ver ∡		+11° 45' 40"	
	Machine dist		681.780	
	Corrected Dist.		667.466 =	667.47 ✓

#3 SAN #1 — SAN #5

T 68°

	Bar 30.1	EV	+3	
11 Mar 76	Inst HI @ SAN 1		5.00	
	Target HI @ SAN 5		3.65	
	Mean Ver ∡		+3° 39' 30"	
	Machine Dist		180.600	
	Corrected Dist		180.232 ✓ =	180.23 ✓

#4 SAN #1 — SAN #2

T 68°

	Bar 30.1	EV	+3	
11 Mar 76	Inst HI @ SAN 1		5.00	
	Target HI @ SAN 2		5.83	
	Mean Ver ∡		-9° 43' 25"	
	Machine dist		65.010	
	Corrected Dist.		64.169 =	64.17 ✓

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NOTES RED R. HILARIO JOB NO. 0021.64 SURVEY OF Portuguese Bend

DATE SURVEY BY FEB

NOTES CHKD. NOTES BY RD Smith DATE 11 Mar 76

DATE INDEXED T. M. PALMERI DATE MAR 24 1978

F.B. 2485 PG. 97

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
S. N. 0021.64						
PORTUGUEZE BEND						
LAND SLIDE						
Elev. on 'SAN' LINE						
				Brooks		
				Smith		
				Dominguez		
				Kvohn		

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765420 S & E-353 9-55

768420 S & E-353 9-55

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JOB NO. 2021.64 SURVEY OF PORTIGUEZE BEND
SURVEY BY FEB
NOTES BY R SMITH DATE 3-11-76
INDEXED L. M. PALMERI DATE MAR 24 1978
NOTES RED. DATE
NOTES CHKD. DATE
F.B. 2405 PG. 98

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM 34-18	168 560					BM 34-18 Elev. 168.560 (1970 adj.)
+	1 501					F.B. 1355-22
=	170 061					Palos Verdes Dr. S & Narcissa DR.
−	7 324					87.0' S'Ely of Gate 3.2' W'ly of wall
TP	162 737					a Co Engr Button Brass Cap.
+	2 208					
=	164 945					
−	6 901					
TP	158 044					
+	4 371					
=	162 415					
−	4 330					
P-3	158 085					P-3
+	4 820					
=	162 905					
−	0 475					
T.P.	162 430					
+	6 979					
=	169 409					
−	3 589					
SAW #1	165 820					SAW #1
+	3 644					
=	169 464					
−	7 034					
T.P.	162 430					
+	0 450					
=	162 880					
−	8 193					
SAW #2	154 687					SAW #2

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAN #2	154.687					SAN #2
+	8.053					
π	162740					
-	6.774					
SAN #3	155.966	✓				SAN #3
+	6.781					
π	162747					
-	5130					
INT	157.617	✓				INT
+	5.118					
π	162735					
-	4.660					
SAN #4	158075	✓				SAN #4
+	4.703					
π	162.778					
-	4695					
P-3	158.083	✓				
+	5.350					
π	163433					
-	5.058					
T.P	158.375	✓				
+	5.745					
π	164.120					
-	0748					
T-P	163.372	✓				
+	9.948					
π	173320					
-	0.864					
T.P	172.456	✓				

NOTES RED R. HILARIO JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE SURVEY BY FEB
NOTES CHKD. NOTES BY R Smith DATE 3-11-76
DATE INDEXED T. M. PALMERI DATE MAR 24 1976

F.B. 2485 PG. 99

F. B. 2485 PG. 100

JOB NO. 0021.64 SURVEY OF Portugueze Bend NOTES RED.
SURVEY BY FEB DATE
NOTES BY R SMITH DATE 3-11-76 NOTES CHKD.
INDEXED L. M. PALMERI DATE MAR 24 1976 DATE

768420 S & E-353 9-55

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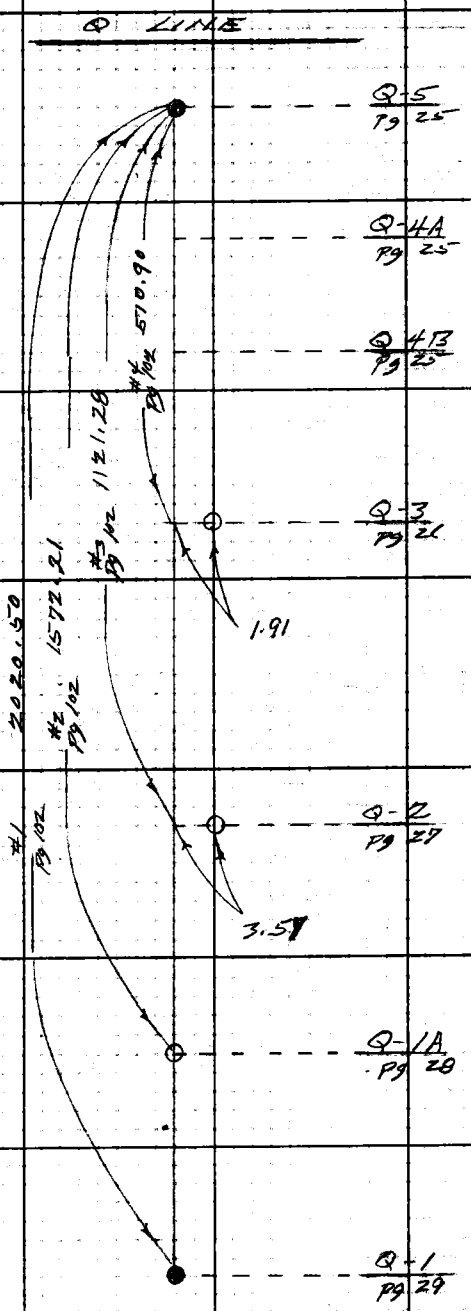
B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	172.456					
+	8.838					
-	181.294					
	0.585					
T.P.	180.709					
+	7.715					
-	188.424					
	9.887					
SAM #5	178.537					
+	9.800					
-	188.337					
	7.625					
T.P.	180.712					
+	0.631					
-	181.343					
	8.884					
T.P.	172.459					
+	0.885					
-	173.344					
	9.968					
T.P.	163.376					
+	0.652					
-	164.028					
	5.651					
T.P.	158.377					
+	4.995					
-	163.372					
	5.286					
P-3	158.086					

SAM 5

P-7

Notes Ck'd by R. HILARIO	Survey of Portuguese Bend	F. B. 2485 PG. 101
Map No.	JN 0021.64 Tape Std. °F	
Office Work	Surveyed by FEB	
Checked	Notes FEB Date 18 Mar 76	
Date	Index PALMERI MAR 24 1976	



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76F3095 CE#310 1-65

F. B. 2485 PG. 102

#1 Q-5 —— Q 1

T 70°

Bar 30.0 EV +5

16 Mar 76

Inst HI @ Q5 5.00
Target HI @ Q1 4.50

Mean Ver. ∠ -2° 21' 30"

Machine dist 2022.330

Corrected dist. 2020.49 = 2020.50

2020.50
1572.21
448.29

#2 Q5 —— Q 1A

T 70°

Bar 30.0 EV +5

16 Mar 76

Inst HI @ Q5 5.00
Target HI @ Q1A 4.58

Mean Ver ∠ -5° 52' 15"

Machine Dist 1580.504

Corrected Dist 1572.214 = 1572.21

1572.21
1121.28
450.93

#3 Q5 —— Q 2

T 70°

Bar 30.0 EV +5

16 Mar 76

Inst HI @ Q-5 5.00
Target HI @ Q2 4.70

Mean Ver ∠ -8° 14' 35"

Machine dist 1122.988

Corrected Dist. 1121.282 = 1121.28

1121.28
510.90
610.38

#4 Q5 —— Q-3

T 70°

Bar 30.0 EV +5

16 Mar 76

Inst HI @ Q5 5.00
Target HI @ Q3 4.70

Mean Ver ∠ -16° 14' 10"

Machine dist 532.118

Corrected dist. 510.895 = 510.90

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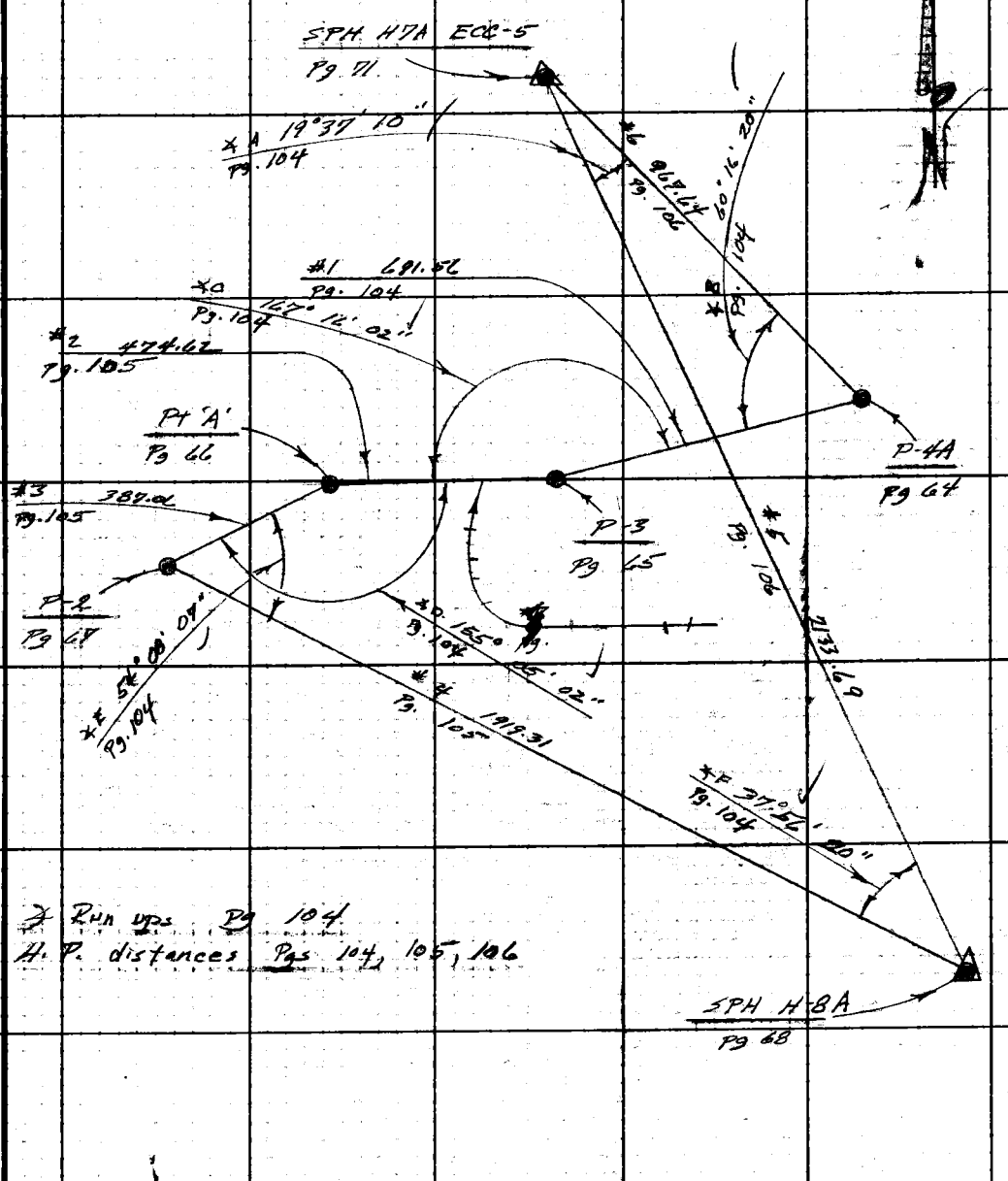
Notes Ck'd by R. HILARIO	Survey of PORTUGUEZE BEND
Map No.	JN 0021.64 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 15 Mar 76
Date	Indexed L. M. PALMERI MAR 24 1976

F. B. 2485 PG. 103

P LINE TRAVERSE



* Run ups Pg 104
H. P. distances Pgs 104, 105, 106

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TGF309S CE#310 1-65

F. B. 2485 PG. 104

∡ s. on P-LINE TRAVERSE.

∡ A
1) 19-37-00
4) 78-28-40
6) 117-43-00
19-37-10 ✓

∡ B
1) 60-16-20
4) 241-05-20
6) 60-16-20
1-38-00 ✓
60-16-20

∡ C
1) 167-16-00
4) 309-04-10
167-16-02 1/2
6) 283-36-10
167-16-01 2/3 ✓

∡ D
1) 155-05-00
4) 210-20-10
155-05-02 1/2
6) 210-30-10
155-05-01 2/3 ✓

∡ E
1) 54-08-00
4) 216-32-20
54-08-05
6) 324-48-40
54-08-02 2/3 ✓

∡ F
1) 37-56-10
4) 151-45-20
37-56-20
6) 227-38-00
37-56-20 ✓

DISTANCES ON P-LINE TRAVERSE

#1 P4A To P-3

T 66'
Bar. 30.1' EV. +2'
Inst HI. @ P-3 5.20'
Target HI @ P-4A 4.80"
Mean Ver ∡ +11° 57' 10"
Machine Dist. 700.884'
Corrected Dist. 691.557 ✓

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Notes Ck'd by
Map No.
Office Work
Checked
Date

Survey of Portuguese Bend
JN 0071.64 Tape Std °F
Surveyed by FEB
Notes FEB Date 15 Mar 76
Indexed L. M. PALMERI MAR 24 1976

F. B. 2485 PG. 105

DISTANCES ON P-LINE TRAVERSE.

#2 P-3 TO PT A.
T - 70°F
Bar 30.1 EV +4

Inst HI @ PT A 4.95'
Target HI @ P-3 4.90'
Mean Ver ∡ - 0°28'35"
Machine Dist. 474.634
Corrected Dist. 474.617

#3 PT A TO P-2
T 72°F
Bar 30.1 EV +6

Inst HI @ PT A 4.95
Target HI @ P-2 4.85
Mean Ver ∡ + 0-12-05
Machine Dist. 387.060
Corrected Dist 387.057

#4 P-2 TO S.P.H. H-8A
T 66°F
Bar 30.1 EV. +2

Inst HI. @ H-8A 5.20'
Target HI @ P-2 4.97'
Mean Ver ∡ + 0-44-55
Machine Dist. 1919.476
Corrected Dist. 1919.312

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F. B. 2485 PG. 106

#5	SPH H-8A To SPH H-7A ECC-5		
	T 70° Bar 29.9 EV. +5		
15 Mar 76	Inst HI @ ECC 5	5.15	
	Target HI @ H-8A	4.50	
	Mean Vir ∡	-3° 56' 35"	
	Machine Dist.	2138.748	
	Corrected Dist.	2133.685	= 2133.69
#6	S.P.H H-7A ECC-5 To P-4A		
	T 70° Bar 29.9 EV. +5		
15 Mar 76	Inst HI @ ECC-5	5.05	
	Target HI @ P-4A	4.70	
	Mean Vir ∡	+1° 09' 45"	
	Machine Dist.	967.840	
	Corrected Dist.	967.640	= 967.64

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NOTES RED _____ JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND

F. B. 2485 PG. 107

DATE _____ SURVEY BY FEB

R. HILARIO 3-30-76

NOTES CHKD. _____ NOTES BY FEB DATE 17 Mar. 76

DATE _____ INDEXED L. M. PALMERI DATE MAR 24 1976

11

DESCRIPTION

S. N. 0021.64

PORTUGUEZE BEND LANDSLIDE.

Q LINE ELEVATIONS.

Level run from TPM #31 Elev. (167.182) as computed below.

	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
FB 4318-28		FB 4318-58				
TBM 31	167.160	167.178		1.373 1.384		
BM 34-18	168.557	168.512		2 | 2.757		
diff =	1.373	1.384		1.378 mean.		

Elev. Held for BM 34-18 for checking of 'SAN' LINE

= 168.560
1.378 mean diff.
167.182 computed elev. for TBM #31.

Brooks
Smith
Dominguez
Krohn.

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766420 S & E-353 9-55

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TBM #31	167 182					TBM #31 Elev. 167.182 Calc on pg 107
+	5 290		5 404			P.V. Drive South at entrance to
⊼	172 472	- 4 182	- 4 184			Wayfairers Chapel. S. Curb. Medium
−	9 472		9 588			strip E side. 1' E. of E and C.R.
TP #1	163 000					L&T in cb.
+	1 472		1 151			
⊼	164 472	- 7 014	- 7 013			
−	8 486		8 164			
TP #2	155 986					
+	0 508		0 768			
⊼	156 494	9 136	- 9 135			
−	9 644		9 903			
TP #3	146 850					
+	7 039		7 175			
⊼	153 889	- 1 541	- 1 541			
−	8 580		8 716			
Q-1	145 309					Q-1 see pg. 29
+	9 844		9 655			Rod held on high side of Mon. the
⊼	155 153	+ 8 712	+ 8 711			edge near the letter Q
−	1 132		0 944			
TP #4	154 021					
+	6 103	-	- 6 343			
⊼	160 124	- 2 683	- 2 681			
−	8 786		9 024			
TP #5	151 338					
+	0 525		0 410			
⊼	151 863	- 8 639	- 8 642			
−	9 164		9 052			
TP #6	142 699					

JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY FEB DATE 17 March 76 NOTES CHKD. R. HILARIO
INDEXED L. M. PALMERI DATE MAR 24 1976 DATE 3-30-76

F. B. 2485 PG. 108

768420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP #6	142 699		~~11~~			
+	1 246		1163			
⊼	143 945	-8 140	-8 140			
−	9 386		9303			
TP #7	134 559					
+	0737		0648			
⊼	135 296	-8282	-8 285			
−	9019		8933			
TP #8	126 277					
+	0453		0603			
⊼	126 730	-8742	-8 744			
−	9195		9347			
TP #9	117 535					
+	1057		1016			
⊼	118 592	-7926	-7 829			
−	8983		8945			
TP #10	109 609					
+	0959		0922			
⊼	110 568	-8 240	-8 240			
−	9199		9162			
TP #11	101 369					
+	0666		0624			
⊼	102 035	-8522	-8 521			
−	9188		9145			
TP #12	92 847					
+	0562		0534			
⊼	93 409	-8204	-8 203			
−	8766		8737			
TP #13	84 643					

NOTES RED ____ JOB NO. 00214 SURVEY OF PORTUGUEZE BEND
DATE ____ SURVEY BY FEB
NOTES CHKD HILARIO NOTES BY FEB DATE 17 March 76
DATE 3-30-76 INDEXED L. M. PALMERI DATE MAR 24 1976

F.B. 2485 PG. 109

76S420 S & E-353 9-55

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JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND NOTES RED.
SURVEY BY FEB. DATE
NOTES BY FEB DATE 17 March 76 NOTES CHKD. SIMULARIO
INDEXED L. M. PALMERI DATE MAR 24 1976 DATE 3-30-76

F. B. 2485 PG. 110

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP # 13	84 643					
+	0 466		0 446			
⊼	85 109	- 8 130	- 8 129			
−	8 596		8 575			
TP # 15	76 513					
+	0 347		0 330			
⊼	76 860	- 6 586	- 6 584			
−	6 933		6 914			
Q 1A	69 927					Q 1A see pg. 28
+	0 443		0 431			
⊼	70 370	- 8 553	- 8 555			
−	8 996		8 986			
TP # 16	61 374					
+	0 296		0 367			
⊼	61 670	- 9 166	- 9 165			
−	9 462		9 532			
TP # 17	52 208					
+	0 363		0 355			
⊼	52 571	- 8 505	- 8 505			
−	8 868		8 860			
TP # 18	43 703					
+	8 827		8 805			
⊼	5 42 530	+ 2 540	+ 2 540			
−	6 287		6 265			
TP # 19	46 243					
+	9 313		9 274			
⊼	55 556	+ 8 566	+ 8 566			
−	0 747		0 708			
TP # 20	54 809					

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP # 20	54809					
+	9895		9955			
⊼	64704	+ 9518	+ 9518			
−	0377		0437			
TP # 21	64327					
+	6942		6883			
⊼	71269	+ 4934	+ 4931			
−	2008		1952			
Q-2	69261					Q-2 see pg 27
+	5897		5864			
⊼	75158	+ 3072	+ 3069			
−	2825		2795			
TP # 22	72333					
+	4020		3970			
⊼	76353	− 5795	− 5795			
−	9815		9765			
TP # 23	66538					
+	4597		4633			
⊼	71135	− 0136	− 0137			
−	4733		4770			
TP # 24	66402					
+	4353		4323			
⊼	70755	+ 2949	+ 2950			
−	1404		1373			
TP # 25	69351					
+	8347		8384			
⊼	77698	+ 6551	+ 6550			
−	1796		1834			
TP # 26	75902					

NOTES RED ____ JOB NO 0021.64 SURVEY OF PORTUGUEZE BEND
DATE ____ SURVEY BY FEB
NOTES CHKD. [illegible] NOTES BY FEB DATE 17 March 76
DATE 7-30-76 INDEXED [illegible] PALMERI DATE MAR 24 [illegible]

F.B. 2485 PG. 111

76S420 S & E-353 9-55

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP # 26	75 902					
+	8 537		8 495			
⊼	84 439	+ 6 794	+ 6 793			
−	1 743		1 702			
Q - 3	82 696					Q-3 see pg 26
+	1 670		1 689			
⊼	84 366	+ 3 121	− 3 121			
−	4 791		4 810			
TP # 27	79 575					
+	9 808		9 825			
⊼	89 383	+ 9 453	+ 9 450			
−	0 355		0 375			
TP # 28	89 028					
+	9 040		9 053			
⊼	98 068	+ 8 250	+ 8 251			
−	0 790		0 802			
TP # 29	97 278					
+	9 002		9 013			
⊼	106 280	+ 8 061	+ 8 060			
−	0 941		0 953			
TP # 30	105 339					
+	9 177		9 162			
⊼	114 516	+ 8 858	+ 8 858			
−	0 319		0 304			
TP # 31	114 197					
+	8 932		8 950			
⊼	123 129	+ 7 912	+ 7 912			
−	1 020		1 038			
TP # 32	122 109					

JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND NOTES RED.
SURVEY BY FEB. DATE
NOTES BY FEB DATE 17 March 76 NOTES CHKD. HILARIO
INDEXED T. M. PALMERI DATE MAR 24 1976 DATE 2-30-76

F. B. 2485 PG. 112

765420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP # 32	122 109					
+	9 505		9471			
π	131 614	+9105	+9105			
−	0 400		0366			
TP # 33	131 214					
+	9 062		9088			
π	140 276	+7710	+7712			
−	1 352		1376			
TP # 34	138 924					
+	5 355		5328	5.332		
π	144 279	−0715	−0703	−0.716		
−	6 070		6031	6.048		
TP # 35	138 209					
+	3 945		3915			
π	142 154	−0718	−0718			
−	4 663		4633			
SPH HBA	137 491					SPH HBA see pg 68
+	1 878		1840			
π	139 369	−5213	−5214			
−	7 091		7054			
TP # 36	132 278					
+	1 044		1080			
π	133 322	−8126	−8128			
−	9 170		9208			
TP 37	124 152					
+	0 950		0917			
π	125 102	−8674	−8675			
−	9 624		9592			
TP # 38	115 478					

NOTES RED _____ JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE _____ SURVEY BY FEB
NOTES CHKD R. HILARIO NOTES BY FEB DATE 18 March 76
DATE 3-26-76 INDEXED E. M. PALMERI DATE [illegible]

F. B. 2485 PG. 113

768420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP #38	115 478					
+	2 812		2 858			
⊼	118 290	-1 585	-1 584			
-	4 397		4 442			
TP # 39	113 893					
+	7 470		7 417			
⊼	121 363	+0 305	+0 306			
-	7 165		7 111			
SPH H-8	114 198					SPH H-8 see pgs 6 & 72
+	8 148		8 125			
⊼	122 346	+7 536	+7 534			
-	0 612		0 591			
TP # 40	121 734					
+	8 906		8 930			
⊼	130 640	+7 462	+7 462			
-	1 444		1 468			
TP # 41	129 196					
+	7 822		7 857			
⊼	137 018	+7 100	+7 100			
-	0 722		0 757			
TP # 42	136 296					
+	9 202		9 230			
⊼	145 498	+6 720	+6 721			
-	2 482		2 509			
TP # 43	143 016					
+	8 997		9 041			
⊼	152 013	+8 575	+8 574			
-	0 422		0 467			
TP # 44	151 591					

JOB NO. 0021.64 SURVEY OF Portuguese Bend. NOTES RED.
SURVEY BY FEB DATE
NOTES BY FEB DATE 18 March 76 NOTES CHKD. R. HILARIO
INDEXED L. H. PALMERI DATE MAR 24 1976 DATE 7-30-76

F. B. 2486 PG. 114

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP # 44	151 591					
+	9 230		9 236			
⊼	160 8 21	+8 725	+8 724			
−	0 505		0 512			
TP # 45	160 3 16					
+	8 835		8 685			
⊼	169 1 51	+8 260	+8 260			
−	0 575		0 425			
TP # 46	168 5 76					
+	9 025		8 865			
⊼	177 6 01	+6 905	+6 905			
−	2 120		1 960			
TP # 47	175 4 81					
+	9 211		9 170			
⊼	184 6 92	+8 247	+8 249			
−	0 964		0 921			
TP # 48	183 7 28					
+	9 220		9 234			
⊼	192 9 48	+8 283	+8 284			
−	0 937		0 950			
TP # 49	192 0 11					
+	9 471		9 450			
⊼	201 4 82	+8 989	+8 989			
−	0 482		0 461			
Q 4 B	201 0 00					Q4B see pg 25
+	9 195		9 178			
⊼	210 1 95	+7 912	+7 911			
−	1 283		1 267			
TP # 50	208 9 12					

NOTES RED ____ JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND
DATE ____ SURVEY BY FEB
NOTES CHKD R. HILARIO NOTES BY FEB DATE 18 March 96
DATE 3-30-76 INDEXED T. M. PALMERI DATE MAR 9 4 1976

F. B. 2485 PG. 115

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JOB NO. 0021.64 SURVEY OF PORTUGUEZE BEND NOTES RED.
SURVEY BY FEB DATE R. HILARIO
NOTES BY FEB DATE 18 March 76 NOTES CHKD.
INDEXED L. M. PALMERI DATE MAR 24 1976 DATE 7-30-76

F.B. 2485 PG. 116

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP # 50	208 912					
+	8 690		8 677			
π	217 602	+7 039	+7 039			
−	1 651		1 638			
Q 4A	215 951					Q 4A see pg 25
+	8 825		8 795			
π	224 776	+7 861	+7 861			
−	0 964		0 934			
TP # 51	223 812					
+	7 942		7 910			
π	231 754	+7 279	+7 278			
−	0 663		0 632			
Q-5	231 091					Q-5 see pg 25
+	0 815		0 796			
π	231 906	−8 614	−8 612			
−	9 429		9 408			
TP # 52	222 477					
+	0 294		0 317			
π	222 771	−8 454	−8 453			
−	8 748		8 770			
TP # 53	214 023					
+	0 320		0 287			
π	214 343	−8 386	−8 387			
−	8 706		8 674			
TP # 54	205 637					
+	0 468		0 483			
π	206 105	−8 576	−8 575			
−	9 044		9 058			
TP # 55	197 061					

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP #55	197 061					
+	1 458		1 441			
π	198 519	-7 503	-7 502			
−	8 961		8 943			
TP #56	189 558					
+	1 078		1 095			
π	190 636	-7 680	-7 680			
−	8 758		8 775			
TP #57	181 878					
+	1 805		1 777			
π	183 683	-7 558	-7 558			
−	9 363		9 335			
TP # 58	174 320					
+	2 600		2 578			
π	176 920	-7 109	-7 110			
−	9 709		9 688			
TP # 59	167 211					
+	4 234		4 259			
π	171 445	+1 344	+1 344			
−	2 890		2 915			
BM 34-18	168 555					

BM 34-18 Elev. 168.560 (1970 adj.) FB 1755 Pg 22
Palos Verdes Dr. S and Narcissa Dr.
27.0' S Ely of Gate 3.2' S'wly of wall
a Co. Engr. Button Brass Cap.

NOTES RED _____ JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND
DATE _____ SURVEY BY FEB
NOTES CHKD _____ NOTES BY FEB DATE 18 March 76
DATE 3-10-76 INDEXED T. E. PALMER DATE MAR 24 1976

F.B. 2485 Pg. 117

Notes Ck'd by	Survey of PORTUGUESE BEND
Map No.	JN 021.64 Tape Std °F
Office Work	Surveyed by FEB
Checked ED BERMENDER	Notes FEB Date 12 Apr 70
Date	Indexed J. M. PALMERI JUN 18 1976

F. B. 2485 PG. 119

7th Check SAN LINE

#0199

SAN 2 — SAN 3

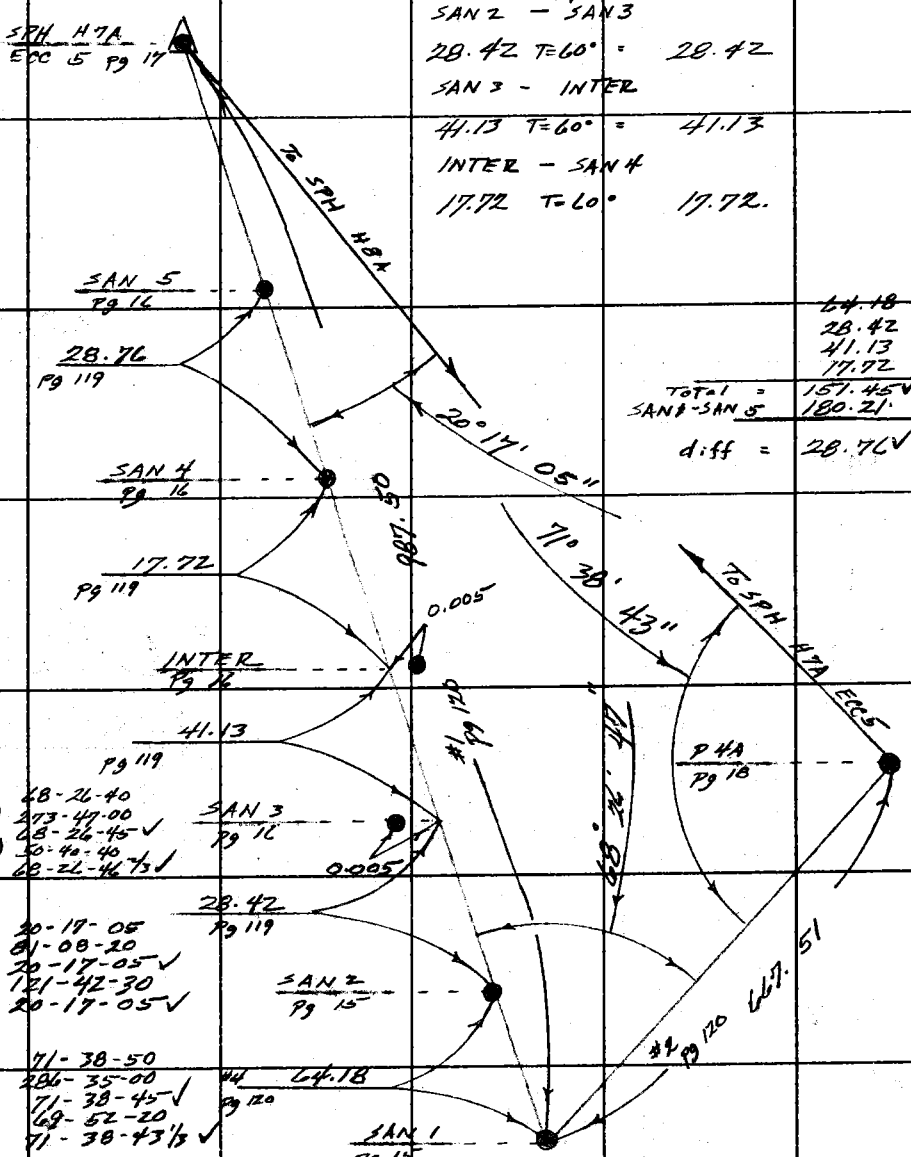
28.42 T=60° = 28.42

SAN 3 - INTER

41.13 T=60° = 41.13

INTER — SAN 4

17.72 T=60° 17.72.



64.18
28.42
41.13
17.72
Total = 151.45 ✓
SAN 4 - SAN 5 180.21 Pg 120
diff = 28.76 ✓

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76F3095 CE#310 3-68

F. B. 2485 PG. 120

#1
SAN 1 — SPH H7A ECC5
T 60°
Bar 30.1 EV -2

12 April 76
Inst HI @ SAN 1 4.95
Target HI @ ECC5 4.50
Mean Ver ∡ +6° 51' 05"
Machine Dist 994.600
Corrected Dist 987.497 ✓ = 987.50 ✓

#2
SAN 1 — P-4A
T 60°
Bar 30.1 EV -2

12 April 76
Inst HI @ SAN 1 4.95
Target HI @ P4A 4.63
Mean Ver ∡ + 11° 44' 55"
Machine Dist 681.790
Corrected Dist 667.506 ✓ = 667.51 ✓

#3
SAN 1 — SAN 5
T 60°
Bar 31.1 EV -2

12 April 76
Inst HI @ SAN 1 4.95
Target HI @ SAN 5 4.30
Mean Ver ∡ +3° 50' 35"
Machine Dist 180.618
Corrected 180.211 ✓ = 180.21 ✓

#4
SAN 1 — SAN 2
T 60°
Bar 31.1 EV -2

12 April 76
Inst HI @ SAN 1 4.95
Target HI @ SAN 2 4.92
Mean Ver ∡ -9° 40' 45"
Machine Dist 65.102
Corrected Dist 64.175 ✓ = 64.18 ✓

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NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND

F. B. 2485 PG. 121

DATE SURVEY BY FRB

ED BERMENDER NOTES BY RD Smith DATE 12 April 86

DATE INDEXED L. M. PALMERI DATE JUN 18 1986

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
JN 0021.64						
PORTUGUESE BEND						
LAND SLIDE						
Elev. on 'SAN' LINE.						
					Brooks Smith Domingues Krohn	

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769420 S & E-353 9-55

765420 S & E-353-9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM34-18	168 560	✓			168.560	BM 34-18 Elev. 168.560 (1970 adj.) FB 1355-22 Palos Verdes Dr. S. & Narcissa Dr. 87.0' S'Ely of Gate 3.2' W'ly of Wall a Co Engr Button Brass Cap.
+	1 574					
⊼	170 134					
−	7 394					
T.P.	162 740					
+	2 267					
⊼	165 007					
−	6 962					
T.P.	158 045					
+	4 469					
⊼	162 514					
−	4 426					
P-3	158 088				158.088	P-3 pg 65
+	4 881					
⊼	162 969					
−	0 531					
T.P.	162 438					
+	6 939					
⊼	169 377					
−	3 551					
SAN #1	165 826	✓			165.825	SAN #1 pg 15
+	3 627					
⊼	169 453					
−	7 015					
T.P.	162 438					
+	0 474					
⊼	162 912					
−	8 229					
SAN #2	154 683	✓			154.681	SAN #2 pg 15

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY RD Smith DATE 12 April 76 NOTES RED. DATE
INDEXED L. B. PALMERI DATE JUN 18 1976 ED. BERMENDES

F.B. 2485 PG. 122

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION	
SAN #2	154 683	✓			154.681	SAN #2	
+	8 119						
π	162 802						
-	6 831						
SAN #3	155 971	✓			155.968	SAN #3	Pg 16
+	6 731						
π	162 702						
-	5 078						
INT.	157 624				157.621	INT.	Pg 16
+	5 130						
π	162 754						
-	4 673						
SAN #4	158 081	✓			158.077	SAN #4	Pg 16
+	4 711						
π	162 792						
-	4 700						
P-3	158 092	✓			158.088	P-3	Pg 65
+	5 265						
π	163 357						
-	4 974						
T.P	158 383						
+	5 808						
π	164 191						
-	0 810						
T.P	163 381						
+	9 844						
π	173 225						
-	0 842						
T.P	172 383						

NOTES RED _____ JOB NO. 0021/64 SURVEY OF PORTUGUESE BEND
DATE _____ SURVEY BY FEB
ED REMENDER NOTES BY RDSmith DATE 12 April 1976
DATE _____ INDEXED T. M. PALMERI DATE JUN 18 1976

F. B 2485 PG. 123

76S420 S & E-353 9-55

158 383

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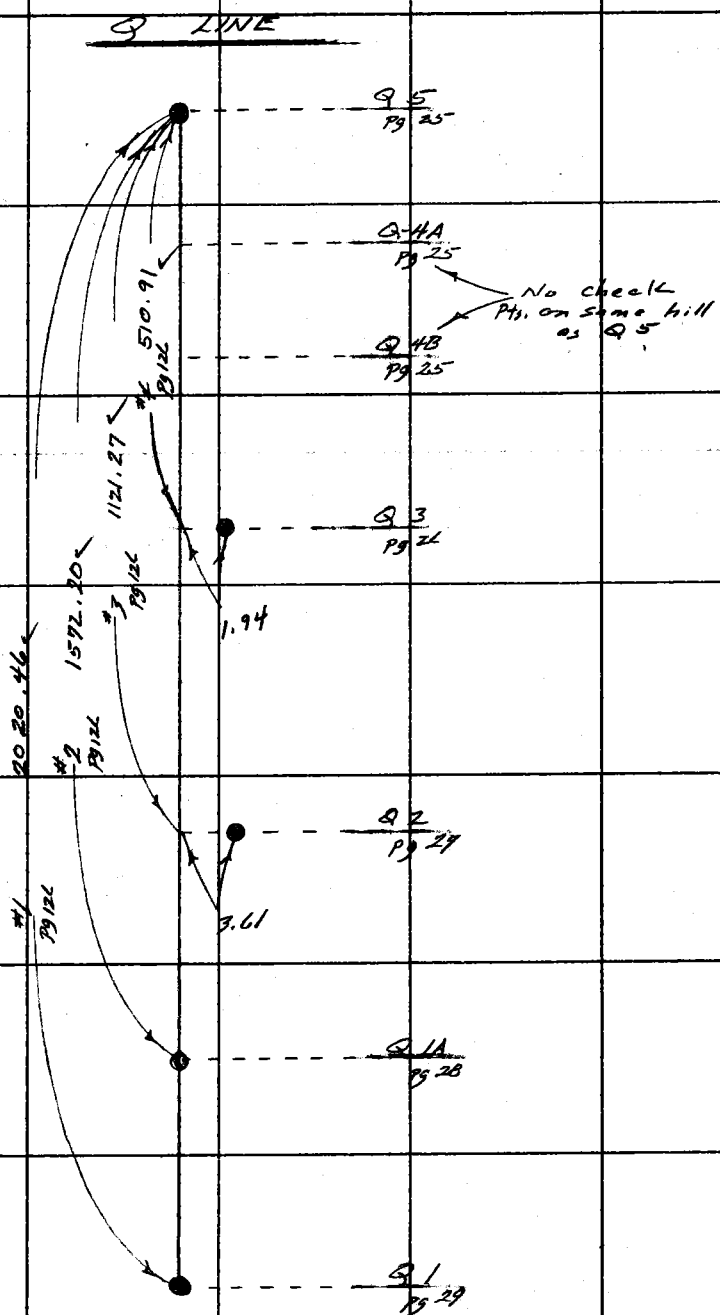
B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	172 383					
+	[illegible]					
⊼	181 138					
-	0 448					
T.P.	180 715					
+	6 928					
⊼	187 643					
-	9 098					
SAN #5	178 545 ✓				178.540	SAN #5 Pg 16
+	9 108					
⊼	187 653					
-	6 933					
T.P.	180 720					
+	0 540					
⊼	181 260					
-	8 871					
T.P.	172 389					
+	0 850					
⊼	173 239					
-	9 851					
T.P.	163 388					
+	0 596					
⊼	163 984					
-	5 594					
T.P.	158 390					
+	5 018					
⊼	163 408					
-	5 310					
P-3	158 098 ✓				158.088	P-3 Pg 65

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY RD Smith DATE 12 April 76 NOTES CHKD. ED BERMENDER
INDEXED L. M. PALMERI DATE JUN 18 1976 DATE

F.B. 2485 PG. 124

Notes Ck'd by	Survey of PORTUGUESE BEND
Map No.	JN 0021.64 Tape Std °F
Office Work	Surveyed by F.E.B.
Checked ED BERMENDER	Notes F.E.B. Date 13 Apr 76
Date	Indexed L. M. PALMERI JUN 18 1976

F. B. 2485 PG. 125



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76F309S CE#310 3-68

F. B. 2485 PG. 126

#1 Q5 — Q1
T 52°
Bar 29.8 EV 0

13 April 76 Inst HI @ Q5 4.90
Target HI @ Q1 5.10
Mean Ver ∡ - 2° 25' 50"
Machine Dist 2022.280
Corrected Dist. 2020.460 ✓ = 2020.46 ✓

2020.46
1572.20
448.26

#2 Q5 — Q1A
T 56°
Bar 29.8 EV 0

13 April 76 Inst HI @ Q5 4.90
Target HI @ Q1A 4.18
Mean Ver ∡ -5° 53' 15"
Machine Dist 1580.534
Corrected Dist. 1572.197 ✓ = 1572.20 ✓

1572.20
1121.27
450.93

#3 Q5 — Q2
T 56°
Bar 29.9 EV -2

13 April 76 Inst HI @ Q5 4.90
Target HI @ Q2 4.90
Mean Ver ∡ -8° 13' 10"
Machine Dist 1132.906
Corrected Dist. 1121.268 ✓ = 1121.27 ✓

1121.27
510.91
610.36

#4 Q5 — Q3
T 56°
Bar 29.9 EV. -2

13 April 76 Inst HI @ Q5 4.90
Target HI @ Q3 5.10
Mean Ver ∡ - 16° 12' 30"
Machine Dist. 532.058
Corrected Dist. 510.910 ✓ = 510.91 ✓

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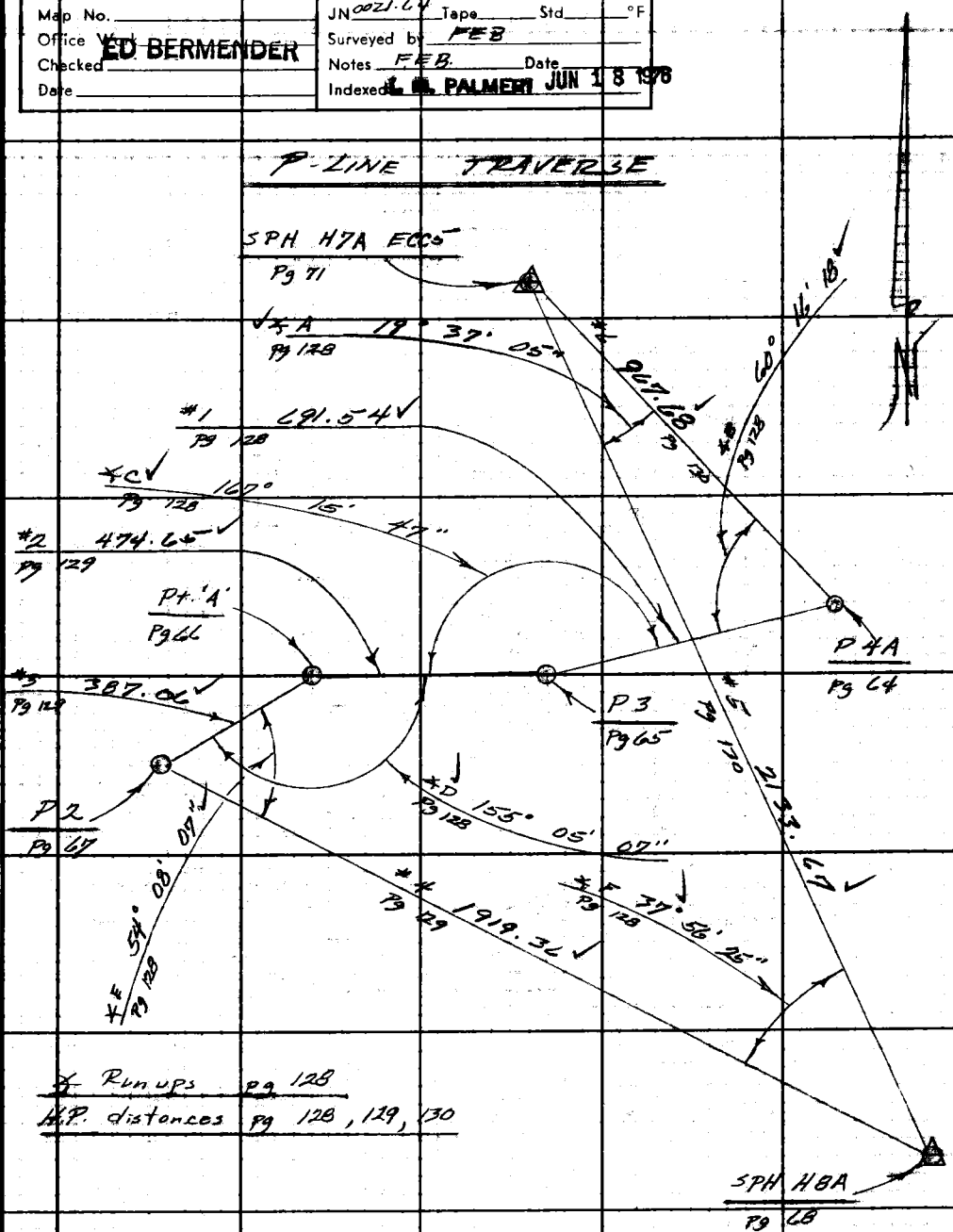
Notes Ck'd by	Survey of PORTUGUESE BEND
Map No.	JN 0021.64 Tape Std °F
Office Work ED BERMENDER	Surveyed by FEB
Checked	Notes FEB. Date
Date	Indexed L. M. PALMERI JUN 18 1976

F. B. 2485 PG. 127



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76F309S CE#310 1-65

F. B. 2485 PG. 128

∡s on P-LINE TRAVERSE

∡ A
1) 19-36-50
4) 98-28-00
19-37-00 ✓
6) 117-42-30
19-37-05 ✓

∡ B
1) 60-16-20
4) 241-05-10
60-16-17 1/2 ✓
6) 361-37-50
60-16-18 1/3 ✓

∡ C
1) 167-15-50
4) 309-03-20
167-15-50 ✓
6) 283-34-40
167-15-46 2/3 ✓

∡ D
1) 155-05-10
4) 260-20-30
155-05-07 1/2 ✓
6) 210-30-40
155-05-06 2/3 ✓

∡ E
1) 54-08-00
4) 216-32-20
54-08-05 ✓
6) 324-48-40
54-08-06 2/3 ✓

∡ F
1) 37-56-20
4) 151-[illegible]-40
37-56-25 ✓
6) 227-38-30
37-56-25 ✓

DISTANCES on P-LINE TRAVERSE

#1 P4A — P-3

T 66°
Bar 29.9 EV +4

14 Apr 76

Inst HI @ P-3	5.40	
Target HI @ P4A	5.10	
Mean Ver ∡ +	N° 57' 10"	
Machine Dist	706.870	
Corrected Dist.	691.544 ✓	= 691.54 ✓

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ED BERMENDER
Notes Chk'd by
Map No.
Office Work
Checked
Date

Survey of PORTUGUESE BEND
JN 0021.64 Tape Std °F
Surveyed by FEB
Notes FEB Date 14 Apr 76
Indexed J. M. PALMERI JUN 18 1976

F. B. 2485 PG. 129

DISTANCES on P-LINE TRAVERSE

#2	P3 — Pt 'A'		
	T 66°		
	Bar 29.9 EV	+4	
14 Apr 76	Inst HI @ Pt 'A'	5.40	
	Target HI @ P3	4.45	
	Mean Ver ∡	-0° 33' 40"	
	Machine Dist	474.668	
	Corrected Dist.	474.645 ✓	= 474.65 ✓
#3	Pt 'A' — P2		
	T 66°		
	Bar 29.9 EV	+4	
14 Apr 76	Inst HI @ Pt A	5.40	
	Target HI @ P2	5.10	
	Mean Ver ∡	+0° 10' 15"	
	Machine Dist	387.060	
	Corrected Dist.	387.058 ✓	= 387.06 ✓
#4	P2 — SPH H-8A		
	T 66°		
	Bar 29.9 EV	+4	
14 Apr 76	Inst. H.I @ H8A	5.20	
	Target HI @ P2	5.10	
	Mean Ver ∡	+0° 45' 00"	
	Machine Dist	1919.520	
	Corrected Dist.	1919.355 ✓	= 1919.36 ✓

Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.
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403 LOS ANGELES COUNTY ENGINEERING BLDG.
76F309S CE#310 1-65

F. B. 2485 PG. 130

#5 SPH H8A — SPH H·7A ECC5

T Bar 66° 29.9 EV +4

14 Apr 76

Inst HI @ H8A 5.20
Target HI @ ECC5 4.82

Mean Ver ∡ +3° 55' 15"

Machine Dist 2138.680

Corrected Dist. 2133.674✓ = 2133.67✓

#6 SPH H7A ECC5 — P4A

T Bar 58° 30.0 EV -2

12 Apr 76

Inst HI Q ECC5 5.20
Target HI Q P4A 5.00

Mean Ver ∡ +1° 11' 00"

Machine Dist. 967.890

Corrected Dist. 967.683✓ = 967.68✓

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768420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TBM #31	167 182		167.191		~~167.182~~ 167.191	TBM #31 Elev. 167.182 calc per pg 107 P.V. Drive S. at entrance to Wayfarers Chapel S. curb Medium Strip. E. Side 1'E of Bend C.R. a L&T in cb.
+	5 140					
⊼	172 322					
−	9 321					
T.P.	163 001					
+	1 031					
⊼	164 032					
−	8 057					see precise level F.B. 4318-126 line "C" Feb. '76
T.P.	155 975					ED BERMENDER
+	0 557					
⊼	156 532					
−	9 682					
T.P.	146 850					
+	6 026					
⊼	152 876					
−	7 572					
9-1	145 304 ✓		145.313 ✓		~~145.313~~ 145.314	9-1 see pg 29
+	7 778					
⊼	153 082					
−	6 233					
T.P.	146 849					
+	9 133					
⊼	155 982					
−	1 959					
T.P.	154 023					
+	5 750					
⊼	159 773					
−	8 432					
T.P.	151 341					

Q LINE ELEVATIONS

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND
DATE SURVEY BY FEB
NOTES BY RD Smith DATE 15 Apr 76
DATE INDEXED L. M. PALMER DATE JUN 18 1976

ED BERMENDER

F.B. 2485 PG. 131

76S420 S & E-353 9-55

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NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

400.689
399.700
0.989

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	151.341					
+	0.728					
π	152.069					
−	9.368					
T.P.	142.701					
+	0.512					
π	143.213					
−	8.651					
T.P.	134.562					
+	0.495					
π	135.057					
−	8.780					
T.P.	126.277					
+	0.596					
π	126.873					
−	9.338					
T.P.	117.535					
+	0.747					
π	118.282					
−	8.671					
T.P.	109.611					
+	0.684					
π	110.295					
−	8.930					
T.P.	101.365					
+	0.573					
π	101.938					
−	9.090					
T.P.	92.848					

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY RD Smith DATE 15 Apr 76 NOTES CHKD. ED BERMENDER
INDEXED L. M. PALMERI DATE JUN 18 1976 DATE

F.B. 2485 PG. 132

765420 S & E-353 9-55

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NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
T.P.	92.848										
+	0.514										
π	93.362										
-	8.718										
T.P.	84.[illegible]										
+	0.[illegible]										
π	85.247										
-	8.[illegible]										
T.P.	76.[illegible]										
+	0.485										
π	77.000										
-	7.[illegible]										
Q-1A	69.927 ✓		69.936 ✓		~~69.93[illegible]~~ 69.940 →	Q-1A	see pg 28				
+	4.875										
π	74.802										
-	5.555										
Q-2	69.247 ✓		69.256 ✓		~~69.25[illegible]~~ 69.260 →	Q-2	see pg 27				
+	6.044										
π	75.291										
-	2.970										
T.P.	72.321										
+	3.867										
π	76.188										
-	9.657										
T.P.	66.531										
+	4.776										
π	71.307										
-	4.900										
T.P.	66.407										

NOTES RED ____ JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND
DATE ____ SURVEY BY FETJ
NOTES BY RD Smith DATE 15 Apr 76
DATE ____ INDEXED L. M. PALMER DATE JUN 1 8 1976

ED BERMENDER

F.B. 2480 PG. 133

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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Do not extend notes this side of this line

JOB NO. 0021.64 SURVEY OF PORTAGUESE BEND NOTES RED. DATE
SURVEY BY FEB NOTES CHKD. DATE
NOTES BY RD Smith DATE 15 Apr 76 ED BERMENDER
INDEXED L. M. PALMERS DATE JUN 18 1976

F. B. 2485 PG. 134

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	66.407					
+	5.288					
π	71.695					
-	2.853					
T.P	69.342					
+	8.075					
π	77.417					
-	1.526					
T.P	75.891					
+	9.019					
π	84.910					
-	2.226					
Q-3	82.684 ✓		82.693 ✓		~~82.693~~ 82.699	Q-3 see pg 26
+	2.154					
π	84.838					
-	5.277					
T.P	79.561					
+	9.938					
π	89.499					
-	0.484					
T.P	89.015					
+	9.203					
π	98.218					
-	0.951					
T.P	97.267					
+	9.191					
π	106.458					
-	1.133					
T.P	105.325					

765420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	105.325					
+	9.503					
⊼	114.828					
−	0.639					
T.P.	114.189					
+	9.079					
⊼	123.268					
−	1.174					
T.P.	122.094					
+	9.910					
⊼	132.004					
−	0.793					
T.P	131.211					
+	9.454					
⊼	140.665					
−	1.744					
T.P.	138.921					
+	5.568					
⊼	144.489					
−	6.459					
T.P	138.030					
+	4.360					
⊼	142.390					
−	4.904					
SPH H.8A	137.486 ✓		137.495 ✓		~~137.499~~ 137.503 →	SPH H8A see pg 68
+	0.884					
⊼	138.370					
−	6.103					
	132.267					

NOTES RED _____ JOB NO. 2021.64 SURVEY OF PORTUGUESE BEND
DATE _____ SURVEY BY FEB
RD DEPARTMENT NOTES BY RD Smith DATE 15 Apr 76
DATE _____ INDEXED L. M. PALMERI DATE JUN 18 1976

F.B. 2485 PG. 135

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
T.P	132.267										
+	1.496										
⊼	133.763										
−	9.616										
T.P	124.147										
+	1.386										
⊼	125.533										
−	9.637										
T.P	115.896										
+	4.059										
⊼	119.955										
−	5.760										
SPH H-8	114.195 ✓		114.204 ✓		~~114.210~~ 114.213	SP.H.	H-8	see	89	72	
+	8.795										
⊼	122.990										
−	0.973										
T.P	122.017										
+	8.910										
⊼	130.927										
−	1.732										
T.P	129.195										
+	8.092										
⊼	137.287										
−	0.998										
T.P	136.289										
+	9.838										
⊼	146.127										
−	3.199										
TP	142.928										

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY RD Smith DATE 15 Apr 76 ED BERMENDER
INDEXED I. M. PALMER DATE JUN 18 1976 DATE

F. B. 4485 PG. 136

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
T.P.	142.928										
+	9.422										
⊼	152.350										
−	0.764										
T.P.	151.586										
+	9.481										
⊼	161.067										
−	0.757										
T.P.	160.310										
+	9.645										
⊼	169.955										
−	1.388										
T.P.	168.567										
+	9.583										
⊼	178.150										
−	2.671										
T.P.	175.479										
+	9.291										
⊼	184.770										
−	1.042										
T.P.	183.728										
+	9.329										
⊼	193.057										
−	1.043										
T.P.	192.014										
+	9.430										
⊼	201.444										
−	0.443										
Q-4B	201.001 ✓		201.010 ✓		~~201.020~~	201.021	Q-4B		see pg	25	

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND F.B. 2985 PG. 137
DATE SURVEY BY FEB
NOTES BY RD Smith DATE 15 Apr 76
INDEXED E. B. PALMER DATE JUN 18 1976
ED BERMENDER

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
Q.4B	201.001 ✓		201.010		~~201.020~~ 201.021 → Q.4B	see pg 25
+	9.100					
⊼	210.101					
-	1.187					
T.P.	208.914					
+	8.637					
⊼	217.551					
-	1.596					
Q4A	215.955 ✓		215.964 ✓		~~215.975~~ 215.976 → Q4A	see pg 25
+	8.743					
⊼	224.698					
-	1.012					
T.P.	223.686					
+	7.638					
⊼	231.324					
-	0.233					
Q-5	231.091 ✓		231.100 ✓		~~231.111~~ 231.112 → Q5.	see pg 25
+	0.805					
⊼	231.896					
-	9.425					
	222.471					
+	0.236					
⊼	222.707					
-	8.693					
	214.014					
+	0.241					
⊼	214.255					
-	8.630					
T.P.	205.625					

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY [illegible] DATE
NOTES BY [illegible] DATE 15 Apr 76 NOTES CHKD. ED BERMENDER
INDEXED I. M. PALMERI DATE JUN 18 1976 DATE

F.B. 2485 PG. 138

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	205.625					
+	0.688					
⊼	206.313					
−	9.261					
T.P	197.052					
+	1.377					
⊼	198.429					
−	8.880					
T.P	189.549					
+	0.995					
⊼	190.544					
−	8.680					
TP	181.864					
+	1.981					
⊼	183.845					
−	9.539					
TP	174.306					
+	2.959					
⊼	177.265					
−	9.722					
TP	167.543					
+	3.722					
⊼	171.265					
−	2.728					
BM 34-18	168.537		168.546		168.560	BM 34-18 Elev 168.560 (1970 adj) FB 1355 Pg 22 Palos Verdes Dr. S & Narcissa Dr. 87.0' S'Ely of Gate 3.2' S'Wly of wall a Co Engr Button Brass Cap

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND
DATE SURVEY BY FEB
NOTES CHKD. RD BERMENDER NOTES BY RD Smith DATE 15 Apr 76
DATE INDEXED L. M. PALMERI DATE JUN 18 1976

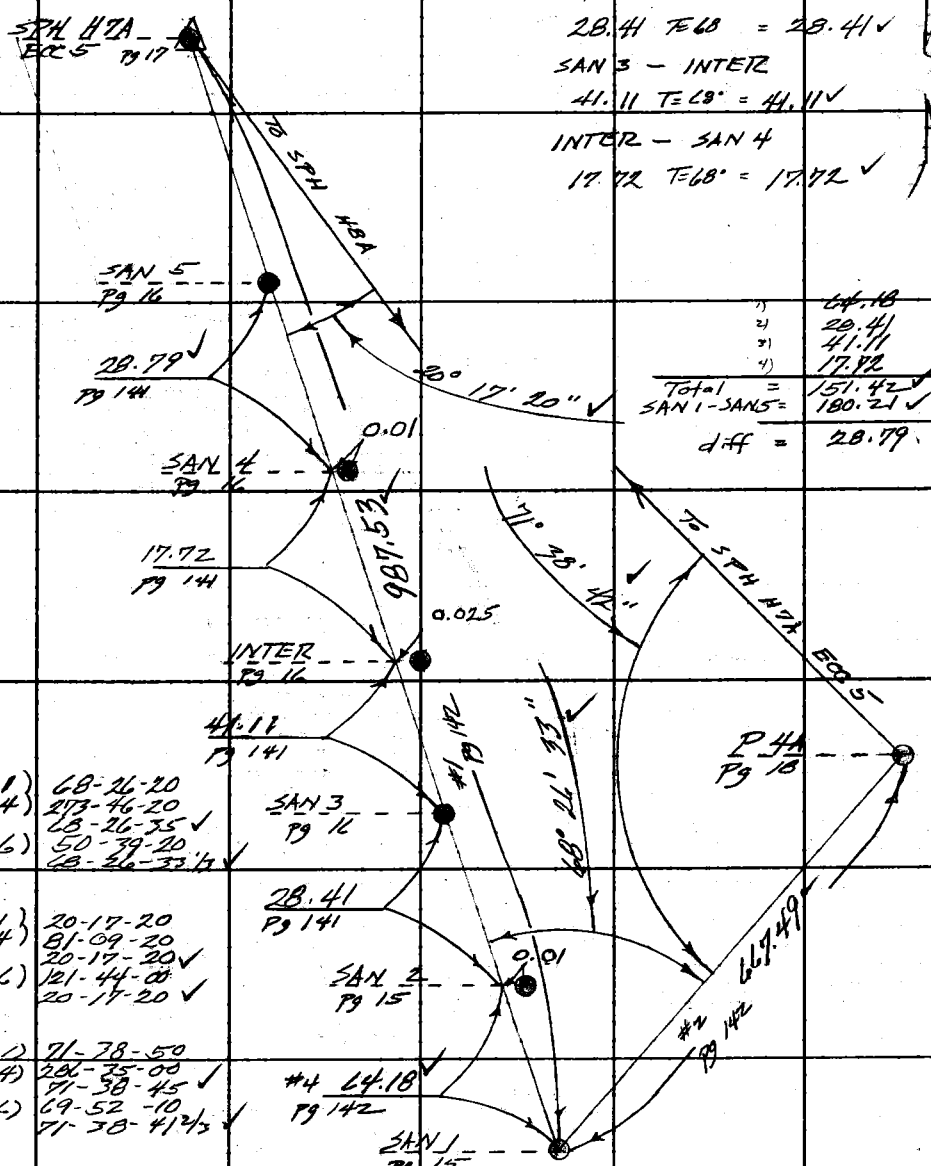
F. B. 2485 PG. 139

Notes Ck'd by	Survey of PORTUGUEZE BEND
Map No.	JN 0021.64 Tape HP 3800 Std °F
Office Work	Surveyed by FEB
Checked ED BERMENDER	Notes FEB Date 7/14/76
Date	Indexed L. E. PALMER JUN 18 1976

F. B. 2485 PG. 141

SAN. LINE

Tape # 0266
SAN 2 – SAN 3
28.41 TE68 = 28.41 ✓
SAN 3 – INTER
41.11 TE68° = 41.11 ✓
INTER – SAN 4
17.72 TE68° = 17.72 ✓



1) 68-26-20
4) 273-46-20
68-26-35 ✓
6) 50-39-20
68-26-33 1/3 ✓

1) 20-17-20
4) 81-09-20
20-17-20 ✓
6) 121-44-00
20-17-20 ✓

1) 71-38-50
4) 281-35-00
71-38-45 ✓
6) 69-52-10
71-38-41 2/3 ✓

1) 64.18
2) 28.41
3) 41.11
4) 17.72
Total = 151.42 ✓
SAN 1 - SAN 5 = 180.21 ✓ Pg 142
diff = 28.79

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76F3093 CE # 319 1-65

F. B. 2485 PG. 142

#1 SAN 1 — SPH H7A ECC 5

T 70°
Bar 30.0 EV +5

7 June 76

Inst HI @ SAN 1 4.95
Target HI @ ECC5 4.50
Mean Ver ∡ + 6° 51' 10
Machine Dist 994.638
Corrected Dist 987.532 = 987.53

#2 SAN 1 — P4A

T 70°
Bar 30.0 EV +5

7 June 76

Inst HI @ SAN 1 4.95
Target HI @ P4A 4.77
Mean Ver ∡ + 11° 46' 15"
Machine Dist. 681.830
Corrected Dist. 667.492 = 667.49

Note: Lietz glass used at P4A measures approx. 0.05 longer than H.P. glass.

#3 SAN 1 — SAN 5

T 70°
Bar 30.0 EV +5

7 June 76

Inst HI @ SAN 1 4.95
Target HI @ SAN5 3.90
Mean Ver ∡ +3° 45' 55"
Machine Dist 180.600
Corrected Dist. 180.210 = 180.21

#4 SAN 1 — SAN 2

T 70°
Bar 30.0 EV +5

7 June 76

Inst HI @ SAN 1 4.95
Target HI @ SAN 2 5.63
Mean Ver ∡ -9° 01' 10"
Machine Dist 64.986
Corrected Dist. 64.182 = 64.18

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NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND F. B. 1485 PG. 143

DATE SURVEY BY FE B

ED BERMENDER NOTES CHKD. NOTES BY R SMITH DATE 5-7-76

DATE INDEXED L. B. PALMER DATE JUN 1 8 1976

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
LN 0021.64						
PORTUGUESE BEND						
LANDSLIDE						
Elev. on 'SAN' LINE						
					Brooks Smith Domingue Krohn	

Do not extend notes this side of this line

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

765420 S & E-357 2-55

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM34-18	168 560				168.560	BM 34-18 Elev. 168.560 (1970 adj.) FB 1355-22 Palos Verdes Dr. S. & Narcissa Dr. 87.0' S'Ely of Gate 3.2' W'ly of wall a Co Engr Button Brass Cap.
+	1 417					
⊼	169 977					
−	7 234					
T.P.	162 743					
+	2 181					
⊼	164 924					
−	6 879					
T.P.	158 045					
+	4 430					
⊼	162 475					
−	4 384					
P-3	158 091 ✓				158.091	P 3 Pg 65
+	4 871					
⊼	162 962					
−	0 534					
T.P.	162 428					
+	6 876					
⊼	169 304					
−	3 488					
SAN # 1	165 816 ✓				165.819	SAN 1 Pg 15
+	3 557					
⊼	169 373					
−	6 947					
T.P.	162 426					
+	0 395					
⊼	162 821					
−	8 150					
SAN # 2	154 671 ✓				154.678	SAN 2 Pg 15

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED. 71 77 14
SURVEY BY FEB DATE
NOTES BY R. SMITH DATE 6-7-76 ED BERMENDER
INDEXED J. M. PALMERI DATE JUN 18 1976 DATE

F. B. 2485 PG. 144

P-3 158.077 ✓

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
~~SAN 2~~ T.P.	154 671				154.678	SAN 2		Pg	15		
+	8 059										
π	162 730										
−	6 769										
SAN #3	155 961 ✓				155.970	SAN 3		Pg	16		
+	6 679										
π	162 640										
−	5 025										
INT	157 615 ✓				157.625	INT.		Pg	16		
+	5 033										
π	162 648										
−	4 577										
SAN #4	158 071 ✓				158.083	SAN 4		Pg	16		
+	4 562										
π	162 633										
−	4 554										
P-3	158 079 ✓				158.091	P-3		Pg	65		
+	5 272										
π	163 351										
−	4 978										
T.P.	158 373										
+	5 765										
π	164 138										
−	0 768										
T.P.	163 370 ✓										
+	9 905										
π	173 275										
−	0 900										
T.P.	172 375										

NOTES RED. _____ JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE _____ SURVEY BY FEB
ED BERMENDER NOTES BY R SMITH DATE 6-7-76
DATE _____ INDEXED B. M. PALMER DATE JUN 18 1976

F. B. 2485 PG. 145

76S420 S & E-353 9-55

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LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

JOB NO. 0021.64 SURVEY OF Portuguese Bend
SURVEY BY FEB
NOTES BY R SMITH DATE
INDEXED T. M. PALMER DATE JUN 18 1976
NOTES RED. DATE
NOTES CHKD. ED BERMENDER DATE

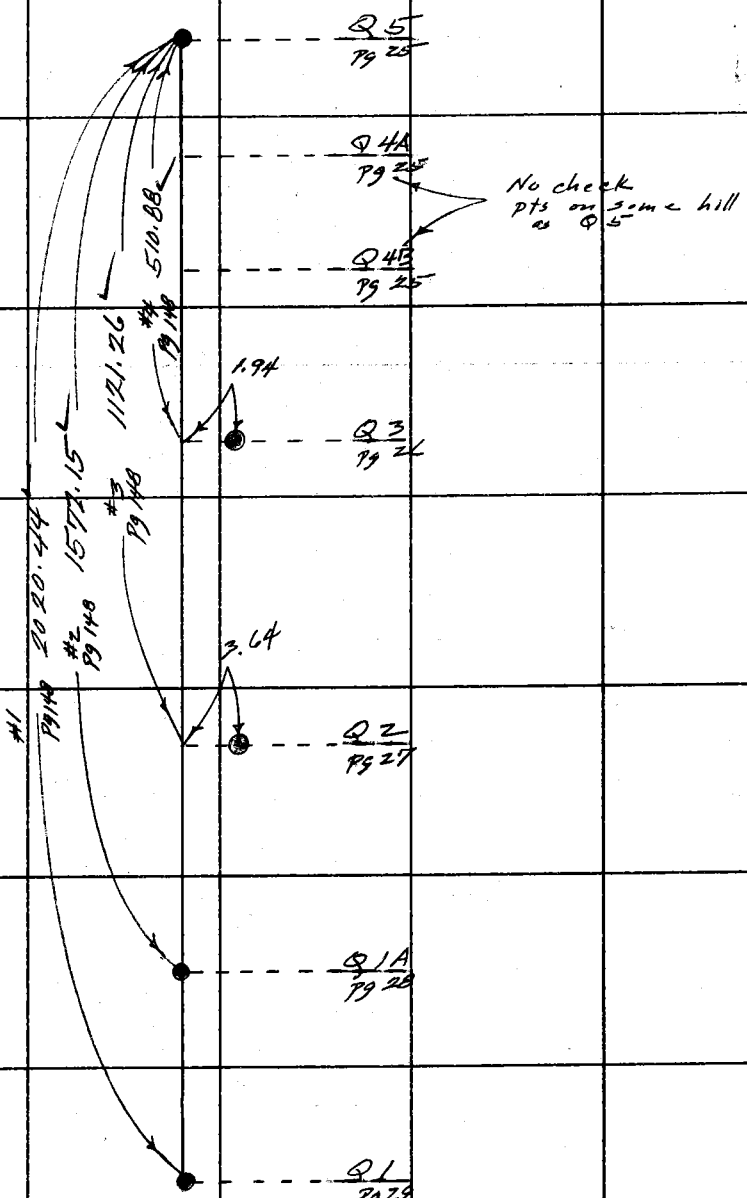
F. B. 2485 PG. 146

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	172 375	✓				
+	8 882					
π	181 257					
−	0 550					
T.P.	180 707	✓				
+	7 150					
π	187 857					
−	9 325					
SAN #5	178 532	✓			178.539	SAN 5 Pg 16
+	9 843					
π	188 375					
−	7 670					
T.P.	180 705	✓				
+	0 525					
π	181 230					
−	8 858					
T.P.	172 372	✓				
+	0 776					
π	173 148					
−	9 780					
T-P	163 368	✓				
+	0 742					
π	164 110					
−	5 740					
T.P.	158 370	✓				
+	4 989					
π	163 359					
−	5 282					
P-3	158 077	✓			158.091	P3 Pg 65

Notes Ck'd by	Survey of Portuguese Bend
Map No.	JN 0021.04 Tape HP3800 Std. °F
Office Work	Surveyed by FEB
Checked ~~ED BERMENDER~~	Notes FEB Date 8 June 96
Date	Indexed L. M. PALMER JUN 18 1996

F. B. 2485 PG. 147

Q LINE ALINEMENT & DISTANCE



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403 LOS ANGELES COUNTY ENGINEERING BLDG.

76F3095 CE#310 3-68

F. B. 2485 Pg. 148

#1 Q5 – Q1

T 60°

Bar 29.9 EV 0

8 June 76

Inst HI @ Q5 5.10

Target HI @ Q1 5.10

Mean Var ∡ -2° 25' 40"

Machine Dist. 2022.258

Corrected Dist. 2020.442 ✓ = 2020.44 ✓

2020.44
1572.15
448.29

#2 Q5 – Q1A

T 60°

Bar 29.9 EV 0

8 June 76

Inst. HI @ Q5 5.10

Target HI @ Q1A 4.70

Mean Var ∡ -5° 53' 15"

Machine Dist 1580.484

Corrected Dist. 1572.147 ✓ = 1572.15 ✓

Note: Liety glass Used at Q1A measures aprox. 0.05 longer than H.P. glass.

1572.15
1121.26
450.89

#3 Q5 – Q2

T 68°

Bar 29.9 EV +4

8 June 76

Inst HI @ Q5 5.10

Target HI @ Q2 4.60

Mean Var ∡ -8° 14' 35"

Machine Dist 1132.966

Corrected Dist. 1121.261 ✓ = 1121.26 ✓

1121.26
510.88
610.38

#4 Q5 – Q3

T 68°

Bar 29.9 EV +4

8 June 76

Inst HI @ Q5 5.10

Target HI @ Q3 5.10

Mean Var ∡ -16° 13' 05"

Machine Dist. 532.056

Corrected Dist. 510.883 ✓ = 510.88 ✓

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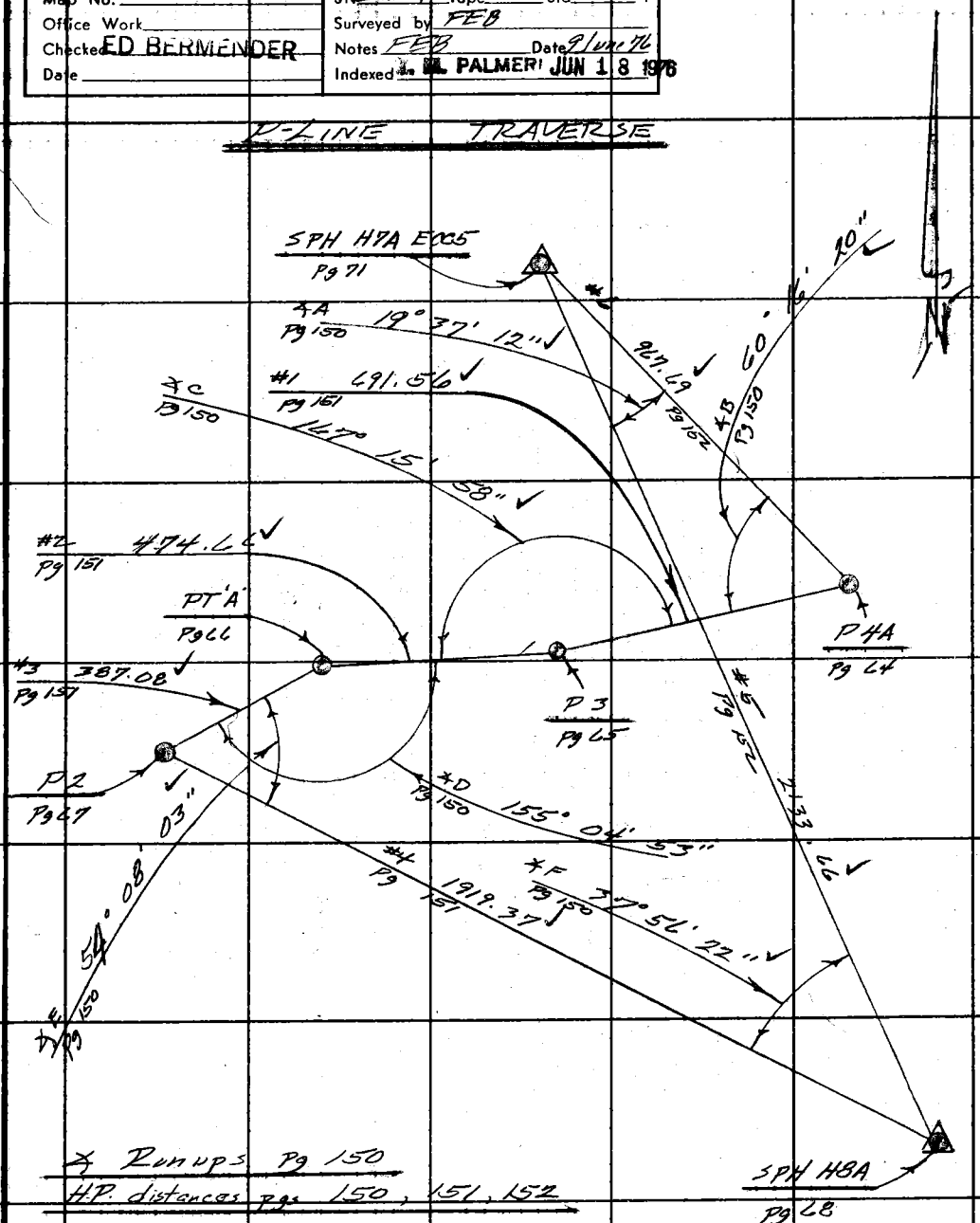
Notes Ck'd by	Survey of Portuguese Bend
Map No.	JN 0021.64 Tape HP3800 Std °F
Office Work	Surveyed by FEB
Checked ED BERMENDER	Notes FEB Date 9 June 76
Date	Indexed L. PALMER JUN 18 1976

F. B. 2485 PG. 149

R-LINE TRAVERSE



∡ Runups Pg 150

H.P. distances pgs 150, 151, 152

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76F309S CE#310 3-68

F. B 2485 PG 150

∡s on P-LINE TRAVERSE

∡A
1) 19-37-10
4) 78-28-40
19-37-10 ✓
6) 117-43-10 ✓
19-37-11 2/3

∡B
1) 60°-16-20
4) 241-05-20
60-16-20 ✓
6) 311-38-00
60-16-20 ✓

∡C
1) 167°-15-50
4) 309-04-00
167-16-00 ✓
6) 283-35-50
167-15-58 1/3 ✓

∡D
1) 155-05-00
4) 260-19-40
155-04-55 ✓
6) 210-29-20
155-04-53 1/3 ✓

∡E
1) 54-07-50
4) 216-32-10
54-08-02 1/2 ✓
6) 324-48-20
54-08-03 ✓

∡F
1) 37-56-10
4) 151-45-30
37-56-22 1/2 ✓
6) 127-38-10
37-56-21 2/3 ✓

DISTANCES ON P-LINE TRAVERSE

#1 P4A — P3
T 64°
Bar 30.1 EV ✓ +1

9 June 76

Inst HI @	P-3	5.50
Target HI @	P-4A	5.10
Mean Var ∡		+11° 55' 55"
Machine Dist		706.830 ✓
Corrected Dist.		691.558 = 691.56 ✓

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Notes Ck'd by	Survey of Portuguese Bend
Map No.	JN 0021.64 Tape HP 3800 Std °F
Office Work	Surveyed by ~~FEB~~
Checked ED BERMENDER	Notes FEB Date 9 June 76
Date	Indexed M. PALMER JUN 1 8 1976

F. B. 2485 PG. 151

DISTANCES on P-LINE TRAVERSE

#2 P3 — PT 'A'
T 62°
Bar 30.1 EV 0

9 June 76
Inst HI @ PTA 5.30
Target HI @ P.3 5.15
Mean Var ∡ -0° 27' 15"
Machine Dist. 474.676
Corrected Dist. 474.661 ✓ = 474.66 ✓

#3 PT 'A' — P2
T 62°
Bar 30.1 EV 0

9 June 76
Inst HI @ PTA 5.30
Target HI @ P2 5.32
Mean Var ∡ +0° 12' 50"
Machine Dist. 387.080
Corrected Dist. 387.07~~8~~7 = 387.08 ✓

#4 P2 — SPH H-8A
T 62°
Bar 30.1 EV 0

9 June 76
Inst HI @ H8A 5.20
Target HI @ P2 5.20
Mean Var ∡ +0° 45' 00"
Machine Dist 1919.538
Corrected Dist. 1919.373 ✓ = 1919.37 ✓

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76F3095 CE#310 3-68

F. B. 2485 PG. 152

#5 SPH H-8A — SPH H-7A ECC5

T Bar 62° 29.9 EV +2

9 June 76

Inst HI @ ECC5	5.20	
Target HI @ H8A	5.10	
Mean Ver ∠	-3° 56' 30"	
Machine Dist	2138.716	
Corrected Dist.	2133.656 ✓	= 2133.66 ✓

#6 SPH H7A ECC5 — P4A

T Bar 62° 29.9 EV +2

9 June 76

Inst HI @ ECC5	5.20	
Target HI @ P4A	5.13	
Mean Ver ∠	+1° 10' 20"	
Machine Dist	967.888	
Corrected Dist.	967.685 ✓	= 967.69 ✓

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765420 S & E-3 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TBM #31	167 182			167.191	167.191	TBM #31 Elev. 167.182 cole per pg 107
+	5 047					PV Drive South of entrance to
=	172 229					Wayfarers Chapel. S. curb Medium
−	9 227					strip E side. 1' E. of E end C.R.
T.P.	163 002					a L&T in cb.
+	0 895					
=	163 897					See precise level F.R. 0318-126
−	7 932					line "C" Feb. '76.
T.P	155 965					
+	0 515					
=	156 480					
−	9 632					
T.P	146 848					
+	5 797					
=	152 645					
−	7 340					
8-1	145 305 ✓			145.314	145.315 ~~[illegible]~~	8-1 see pg 29
+	9 775					
=	155 080					
−	0 950					
T.P.	154 130					
+	5 659					
=	159 789					
−	8 450					
T.P.	151 339					
+	0 186					
=	151 525					
−	8 828					
T.P	142 697					

NOTES RED. _____ JOB NO. 1.64 SURVEY OF Parkway Circle 3rd
DATE _____ SURVEY BY FEB
~~DATE~~ NOTES BY R. SMITH DATE 5-9-76
~~DATE~~ ~~NOTES BY~~ L. M. PALMER DATE ~~JUL 1 8 '76~~

8 LINE ELEVATIONS

F. B. 2485 PG. 153

91 195.301

76S420 S & E-353 9-55

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JOB NO. 1021.64 SURVEY OF Portuguese Bend
SURVEY BY FEB
NOTES BY [illegible] DATE [illegible]
INDEXED [illegible] PALMERT DATE JUN 18 1970
NOTES RED. DATE
NOTES CHKD. ED BERMENDEH DATE

F.B. 2485 PG/54

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	142 697					
+	1 208					
⊼	143 905					
−	9 [illegible]					
T.P	13[illegible]					
+	[illegible]					
⊼	1[illegible]					
−	[illegible]					
T.P	12[illegible]					
+	[illegible]					
⊼	12[illegible]					
−	[illegible]					
T.P	[illegible]					
+	[illegible]					
⊼	[illegible]					
−	[illegible]					
T.P	[illegible]					
+	[illegible]					
⊼	[illegible]					
−	[illegible]					
T.P	[illegible]	←	101.355			
+	1[illegible]					
⊼	102[illegible]					
−	9[illegible]					
T.P	92[illegible]					
+	0[illegible]					
⊼	92286	←	93.286			
−	8655					
T.P	84631					

76S420 S & E-353 9-55

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
T.P	84 631										
+	0 633										
⊼	85 264										
−	8 754										
T.P	75 510										
+	0 195										
⊼	76 705										
−	6 779										
Q1A	69 926 ✓		69.935 ✓		69.940	Q1A.		see pg 28			
+	4 605										
⊼	74 531										
−	5 295										
Q-2	69 236 ✓		69.245 ✓		69.250	Q 2		see pg 27			
+	5 961										
⊼	75 197										
−	2 [illegible]8										
T.P.	72 30[illegible]										
+	3 832										
⊼	76 141										
−	9 619										
T.P.	66 522										
+	5 007										
⊼	71 529										
−	5 123										
T.P.	66 406										
+	5 307										
⊼	71 713										
−	2 375										
T.P.	69 338										

NOTES RED. JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE SURVEY BY FEB
ND BERMENDER NOTES BY R SMITH DATE 6-9-76
DATE INDEXED L. M. PALMERI DATE JUN 18 1976

F.B. 24 85 PG. 155
Q1A 69.929
Q2 69.249

76S420 S & E-353 9-55

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
T.P.	[illegible]										
+	[illegible]00										
⊼	[illegible]638										
−	2757										
T.P.	75881										
+	8367										
⊼	84248										
−	1575				82.689						
Q-3	82673 ✓		82.682 ✓		~~[illegible]~~	Q 3		see	pg 26		
+	2330										
⊼	85003										
−	5458										
T.P.	79545										
+	9612										
⊼	89157										
−	0281										
T.P.	88876										
+	9175										
⊼	98051										
−	0793										
T.P.	97258										
+	8975										
⊼	106233										
−	0928										
T.P.	105305										
+	9303										
⊼	114608										
−	0431										
	113177										

NOTES RED. DATE
NOTES CHKD. DATE
ED BERMENDER

JOB NO. 0021.64 SURVEY OF Portuguese Bend
SURVEY BY FEB DATE 10 June 76
NOTES BY RD Smith DATE JUN 18 1976
INDEXED L. M. PALMER

F. B. 2485 PG. 156

Q 3 82.648

768420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	114 177					
+	8 988					
⊼	12[illegible] 165					
−	1 [illegible]					
T.P	12[illegible] 068					
+	9 822					
⊼	131 890					
−	0 685					
T.P.	131 205					
+	9 254					
⊼	140 459					
−	1 544					
T.P.	138 915					
+	5 490					
⊼	144 405					
−	6 411					
T.P	137 994					
+	4 311					
⊼	142 305					
−	4 823					
SPH H8A	137 482 ✓		137.491 ✓		137.501 ~~[illegible]~~	SPH H-8A see pg 68
+	0 803					
⊼	138 285					
−	6 027					
T.P.	132 258					
+	0 313					
⊼	132 571					
−	9 460					
T.P.	123 111					

NOTES RED. JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE SURVEY BY FEB
NOTES BY RD Smith DATE 10 June 76
DATE INDEXED T. M. PALMER DATE JUN 18 1976

F. B. 4485 PG. 157

HBA 137.486

769420 S & E-353 9-55

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JOB NO. 021.C4 SURVEY OF Portuguese Bend
SURVEY BY FEB
NOTES BY
INDEXED R. M. PALMER
DATE JUN 18 1970
DATE
DATE
DATE
NOTES RED.
DATE
NOTES BERMENDER
DATE

F. B. 2485 PG. 158

HB 114.195

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
T.P.	123 111										
+	0 226										
⊼	123 337										
−	9 650										
T.P.	113 687										
+	6 030										
⊼	119 717										
−	5 528										
SPH H-8	114 189 ✓		114.198		114.209 ~~114.198~~	SPH	H-8		see	pg	72
+	8 343										
⊼	122 532										
−	0 811										
T.P.	121 721										
+	9 190										
⊼	130 911										
−	1 729										
T.P.	129 182										
+	7 977										
⊼	137 159										
−	0 880										
T.P.	136 279										
+	9 883										
⊼	146 162										
−	3 262										
T.P.	142 900										
+	9 354										
⊼	152 254										
−	0 673										
	151 581										

76S420 S & E-353 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	151 581					
+	9 463					
π	161 044					
−	0 740					
T.P	160 304					
+	9 799					
π	170 103					
−	1 549					
T.P	168 554					
+	9 281					
π	177 835					
−	2 360					
T.P.	175 475					
+	9 234					
π	184 709					
−	0 988					
T.P	183 721					
+	9 324					
π	193 045					
−	1 035					
T.P	192 010					
+	9 560					
π	201 570					
−	0 574					
Q 4 B	200 996 ✓		201.005		201.019 ~~201.023~~ Q 4 B	see pg 25
+	8 959					
π	209 955					
−	1 042					
TP.	208 913					

NOTES RED _____ JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE _____ SURVEY BY FEB
~~CO-DECIMENDER~~ NOTES BY RD Smith DATE 10 June 76
DATE _____ INDEXED [redacted] PALMERI DATE JUN 18 1976

Q4B 201.001

F. B. 2485 PG. 159

765420 S & E-353 9-55

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JOB NO. 0021.64 SURVEY OF Portuguese Bend NOTES RED.
SURVEY BY FEB NOTES CHKD. ED BERMENDER
NOTES BY FEB DATE 14 June 76 DATE
INDEXED W. PALMER DATE JUN 18 1976

F.B. 2485 PG. 160
Q4A 215.953
Q5 231.091

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP.	208 913					
+	8 773					
π	217 686					
−	1 733				215.976	
Q 4 A	215 953 ✓		215.962 ✓		~~215.96~~	Q 4A see Pg 25
+	9 234					
π	225 187					
−	1 504					
TP	223 683					
+	8 464					
π	232 147					
−	1 060				231.111	
Q 5	231 087 ✓		231.096 ✓		~~231.10~~	Q 5 see Pg 25
+	1 148					
π	232 235					
−	9 755					
TP	222 480					
+	0 453					
π	222 933					
−	8 909					
TP.	214 024					
+	0 517					
π	214 541					
−	8 909					
TP	205 632					
+	0 915					
π	206 547					
−	9 498					
TP	197 049					

76S420 S & E-353 9-55

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	197 049					
+	1 810					
⊼	198 859					
−	9 301					
T.P.	189 558					
+	1 244					
⊼	190 802					
−	8 952					
T.P.	181 850					
+	2 195					
⊼	184 045					
−	9 737					
T.P.	174 308					
+	3 122					
⊼	177 430					
−	8 879					
T.P.	168 551					
+	2 190					
⊼	170 741					
−	2 207					
BM 34-18	168 534 ✓		168.543 ✓		168.560	BM 34-18 Elev. 168.560 (1970 adj.) F.B. 1355 pg 22 Palos Verdes Dr. S. & Narcissa Dr. 87.0' S Ely of Gate 3.2' SW'ly of wall a Co Engr. Button Brass Cap.

NOTES RED. JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE 15 BERMENDER SURVEY BY FEB
NOTES CHKD. NOTES BY FEB DATE 14 June 76
DATE INDEXED L. M. PALMERI DATE JUN 18 1976

F.B. 2486 PG. 161

BM 34-18 168.560

Notes Ck'd by	Survey of PORTUGUESE BEND
Map No.	JN 0021.64 Tape Std °F
Office Work	Surveyed by FEB.
Checked R. C. BOWERS	Notes FEB Date 31 Aug 76
Date 9/16/76	Indexed L. M. PALMER SEP 8 1976

F. B. 2485 PG. 163

SAN LINE

Tape #

SAN 2 – SAN 3

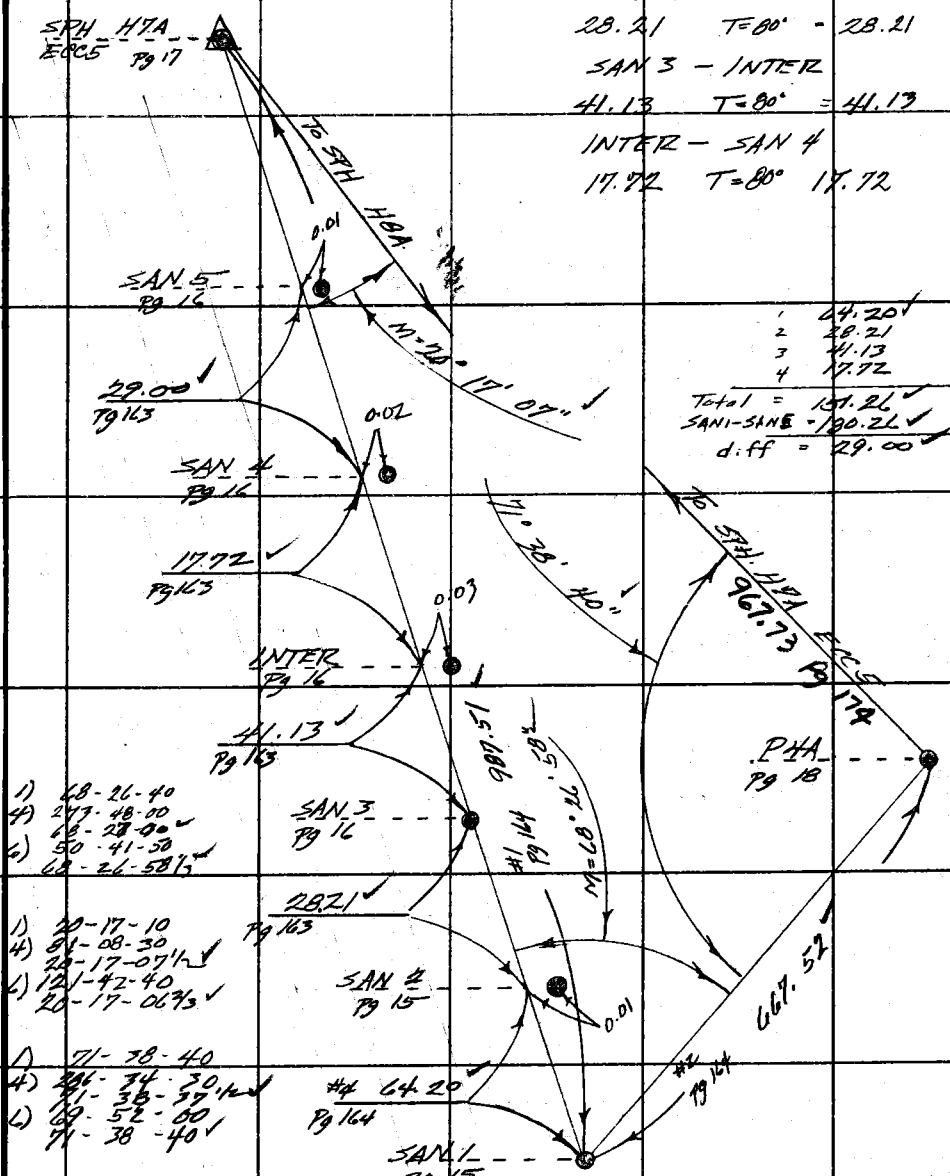
28.21 T=80° = 28.21

SAN 3 – INTER

41.13 T=80° = 41.13

INTER – SAN 4

17.72 T=80° 17.72



1 64.20
2 28.21
3 41.13
4 17.72

Total = 151.26
SAN1-SAN5 = 180.26 Pg 164
diff = 29.00

1) 68-26-40
4) 273-48-00
68-27-00
6) 50-41-50
68-26-58 1/3

1) 20-17-10
4) 81-08-30
20-17-07 1/2
6) 121-42-40
20-17-06 2/3

1) 71-38-40
4) 286-34-30
71-38-37 1/2
6) 69-52-00
71-38-40

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76F309S CE#310 3-68

F. B. 2485 PG. 164

#1 SAN 1 — SPH HTA ECC5

T 76°
Bar 30.6 EV +3

31 Aug 76

Inst HI @ SAN 1 5.05
Target HI @ ECC5 5.10
Mean Ver ∡ +6° 52' 10"
Machine Dist 994.652
Corrected Dist. 987.511 ✓ 987.51 ✓

#2 SAN 1 — PHA

T 76°
Bar 30.6 EV +3

31 Aug 76

Inst HI @ SAN 1 5.05
Target HI @ PHA 4.98
Mean Ver ∡ +11° 47' 35"
Machine Dist 681.910
Corrected Dist. 667.516 ✓ 667.52 ✓

#3 SAN 1 — SAN 5

T 76°
Bar 30.6 EV +3

31 Aug 76

Inst HI @ SAN 1 5.05
Target HI @ SAN 5 4.46
Mean Ver ∡ +3° 56' 55"
Machine Dist 180.686
Corrected Dist. 180.260 ✓ 180.26 ✓

#4 SAN 1 — SAN 2

T 76°
Bar 30.6 EV +3

31 Aug 76

Inst HI @ SAN 1 5.05
Target HI @ SAN 2 6.46
Mean Ver ∡ -9° 07' 10"
Machine Dist 65.018
Corrected Dist. 64.196 ✓ 64.20 ✓

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NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND F. B. 2483 PG. 125
DATE SURVEY BY F.E.B.
NOTES CHK. D. C. BOWER NOTES BY FEB DATE 25 Aug 76
DATE 9/16/76 INDEXED E. M. PALMER DATE SEP 8 1976

S.N 0021.64

PORTUGUESE BEND

LAND SLIDE.

Elev. on 'SAN' LINE.

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.

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765420 S & E-35-55

76S420 S & E-353 9-55

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JOB NO. 2021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY F.E. BROOKS DATE
NOTES BY R. SMITH DATE 8-26-76 NOTES RING. BOWERS
INDEXED R. M. PALMERI DATE SEP 8 1976 DATE 9/16/76

F. B. 2485 PG. 166

P-3 158.077

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM 34-18	168.560					BM 34-18 Elev. 168.560 (1970 adj.)
+	1.533					F.B. 1355-22
⊼	170.093					Palos Verdes Dr. S. & Narcissa Dr. 87.0' S'Ely
−	7350					of Gate 3.2' W'ly at wall a C. Engr
T.P.	162.743					Button Brass Cap.
+	2.334					
⊼	165.077					
−	7.039					
T.P.	158.038					
+	4569					
⊼	162.607					
−	4518					
P-3	158.089					
+	4.861					
⊼	162.950					
−	0.517					
T.P.	162.433					
+	6815					
⊼	169.248					
−	3.422					
SAN # 1	165.826					
+	3411					
⊼	169.237					
−	6.804					
T.P.	162.433					
+	0.410					
⊼	162.843					
−	8.167					
SAN # 2	154.676					

157.53

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND

DATE SURVEY BY FEB

NOTES R.C. BOWERS NOTES BY R SMITH DATE 8-26-76

DATE 9/16/76 INDEXED Z. M. PALMER DATE SEP 8 1976

F. B. 2485 PG. 167

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAN #2	154.676					
+	8.103					
π	162.779					
-	6.811					
SAN #3	155.968					
+	6.737					
π	162.705					
-	5.079					
14J	157.626					
+	5.187					
π	162.813					
-	4.733					
SAN #4	158.080					
+	4.655					
π	162.735					
-	4.648					
P-3	158.087					
+	5.360					
π	163.447					
-	5.064					
T.P.	158.383					
+	5.766					
π	164.149					
-	0.770					
T.P.	163.379					
+	9.350					
π	172.729					
-	0.232					
T.P.	172.497					

F. B. 2485 PG. 168

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY FFB DATE
NOTES BY R SMITH DATE 8-26-76 NOTES CHKD. R. C. BOWERS
INDEXED [illegible] PALMER DATE SEP 8 1976 DATE 9/16/76

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Do not extend notes this side of this line

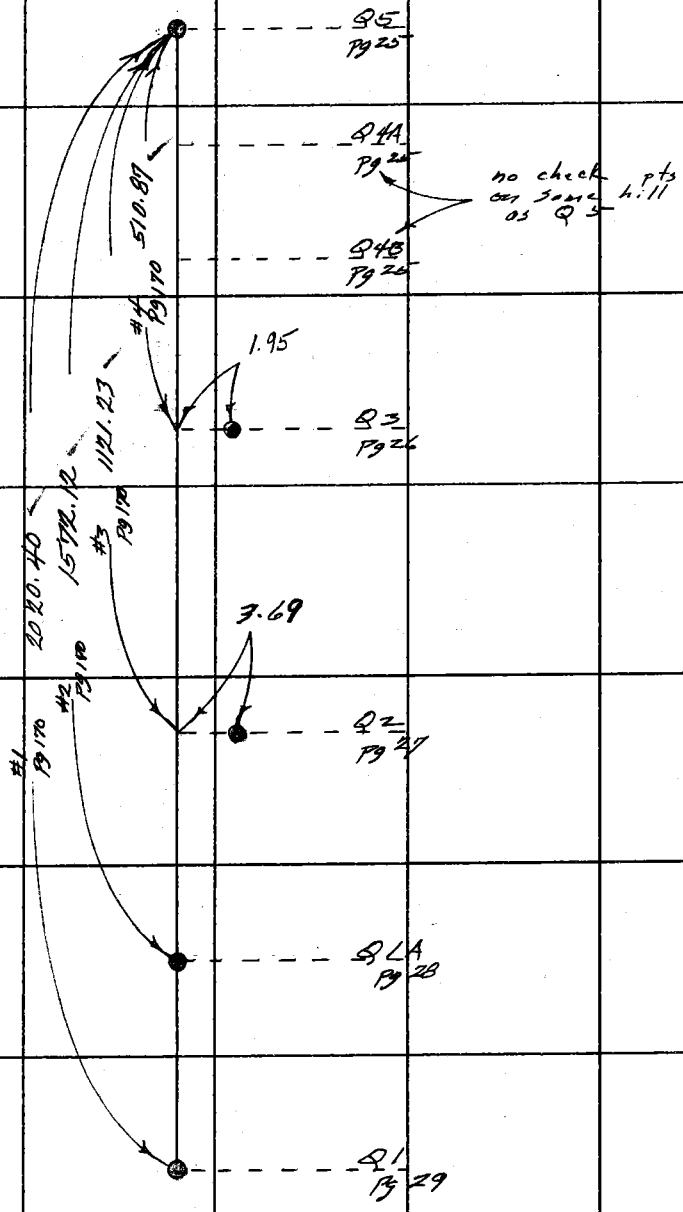
B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	172.497					
+	9.830					
+	182.327					
-	1.611					
T.P	180.716					
+	7.540					
+	188.256					
-	9.717					
Sam #5	178.539					
+	9.473					
+	188.012					
-	7.295					
T.P	180.717					
+	1.620					
+	182.337					
-	9.841					
T.P	172.496					
+	0.244					
+	172.740					
-	9.362					
T.P	163.378					
+	0.729					
+	164.107					
-	5.724					
T.P	158.383					
+	5.030					
+	163.413					
-	5.326					
P.3	158.087					

El = 158.089 Pg. 166

Notes Ck'd by	Survey of PORTUGUESE BEND
Map No.	JN C021.64 Tape HP 38.00 Std. °F
Office Work	Surveyed by FEB.
Checked R. C. BOWERS	Notes FEB Date 30 Aug 76
Date 9/16/76	Indexed E. L. PALMER SEP 8 1976

F. B. 2485 PG. 169

Q LINE ALINEMENT & DISTANCE



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76F309S CE#310 3-68

F. B 2485 PG. 170

#1 Q5 — Q1

T 21° C

Bar 775 mm EV 0

30 Aug 76

Inst HI @ Q5 4.50
Target HI @ Q1 5.10

Mean Ver ∡ -2° 25' 55"

Machine Dist 2022.220

Corrected Dist. 2020.398 ✓ 2020.40 ✓

#2 Q5 — Q1A

T 21° C

Bar 775 mm EV 0

30 Aug 76

Inst HI @ Q5 4.50
Target HI @ Q1A 4.40

Mean Ver ∡ -5° 52' 45"

Machine Dist 1580.430

Corrected Dist 1572.117 ✓ 1572.12 ✓

#3 Q5 — Q2

T 21°

Bar 775 mm EV 0

30 Aug 76

Inst HI @ Q5 4.50
Target HI @ Q2 4.80

Mean Ver ∡ -8° 14' 20"

Machine Dist 1132.924

Corrected Dist. 1121.231 ✓ 1121.23 ✓

#4 Q5 — Q3

T 21° C

Bar 775 mm EV 0

30 Aug 76

Inst. H.I. Q5 4.50
Target HI @ Q3 4.80

Mean Ver ∡ -16° 14' 00"

Machine Dist. 532.082

Corrected Dist. 510.868 ✓ 510.87 ✓

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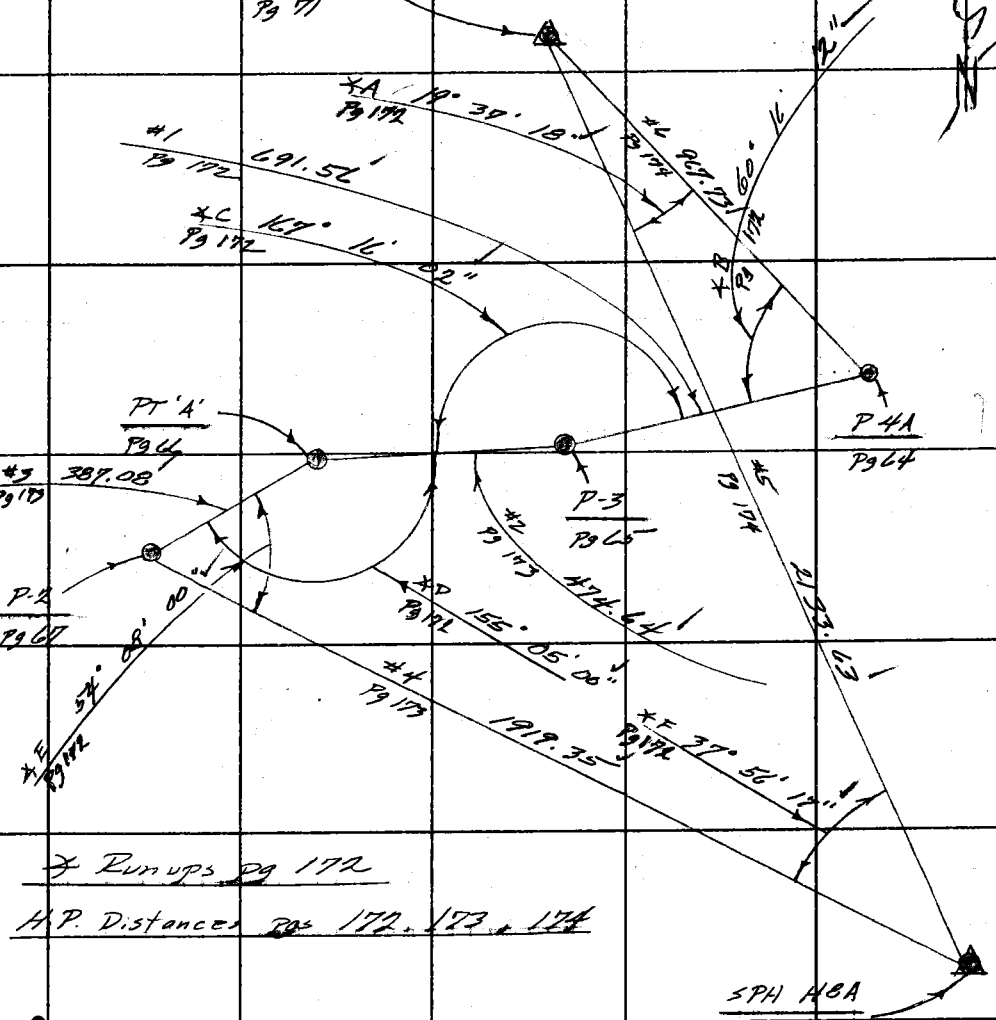
Notes Ck'd by	Survey of PORTUGUESE BEND
Map No.	JN 0021.64 Tape HT 3800 Std °F
Office Work	Surveyed by FEB
Checked R. C. BOWERS	Notes FEB Date 26 Aug 76
Date 9/16/76	Indexed T. M. PALMERI SEP 8 1976

F. B. 2485 PG. 171

P LINE TRAVERSE



* Runups Pg 172

H.P. Distances Pgs 172, 173, 174

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76F309S CE#310 3-68

F. B. 2485 PG. 172

∡s on P LINE TRAVERSE

∡A	1	19	37	18
	4	78	29	10
		19	37	19 1/2
	6)	117	43	50
		19	37	18 1/3
∡B	1)	60	16	20
	4)	241	04	50
		60	16	12 1/2
	6)	361	37	10
		60	16	11 2/3
∡C	1)	167	16	10
	4)	308	04	10
		167	16	02 1/2
	6)	283	36	10
		167	16	01 2/3
∡D	1)	155	05	00
	4)	260	20	00
		155	05	00
	6)	210	30	00
		155	05	00
∡E	1)	54	08	00
	4)	216	32	00
		54	08	00
	6)	324	48	00
		54	08	00
∡F	1)	37°	56	20
	4)	151	15	19 1/2
		37	56	19
	6)	217	37	19
		37	56	16 2/3

DISTANCES ON P-LINE TRAVERSE

#1 P 4A – P 3

	T 92°			
	Bar 30.6	FV.	+10	
30 Aug 76	Inst HI @ P-3		5.30	
	Target HI @ P4A		5.00	
	Mean Ver ∡		+11° 57' 00"	
	Machine Dist		706.878	
	Corrected Dist.		691.559	691.56

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Notes Ck'd by	Survey of PORTUGUESE BEND
Map No.	JN 0021.64 Tape HP3800 Std °F
Office Work	Surveyed by FEB
Checked R. C. BOWERS	Notes FEB Date 26 Aug 76
Date 9/16/76	Indexed L. M. PALMER SEP 8 1976

F. B. 2485 PG. 173

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DISTANCES ON P LINE TRAVERSE

	#2	P3 — PT 'A'		
		T Bar 80° 30.6 EV	+3	
	30 Aug 76	Inst HI @ PT 'A'	5.00	
		Target HI @ P3	4.80	
		Mean Vir ∡	-0° 28' 20"	
		Machine Dist	474.654	
		Corrected Dist.	474.637	474.64
	#3	PT 'A' — P2		
		T Bar 84° 30.6 EV	+7	
	30 Aug 76	Inst HI @ PT 'A'	5.00	
		Target HI @ P2	4.97	
		Mean Vir ∡	+0° 12' 50"	
		Machine Dist	387.082	
		Corrected Dist.	387.079	387.08
	#4	P2 — SPH HBA		
		T Bar 80° 30.6 EV	+3	
	30 Aug 76	Inst HI @ HBA	5.00	
		Target HI @ P2	4.97	
		Mean Vir ∡	+0° 45' 10"	
		Machine Dist	1919.518	
		Corrected Dist.	1919.352	1919.35

76F3095 CE#310 3-68

F. B. 2485 PG. 174

#5	SPH H8A — SPH H7A ECC5			
	T Bar 80° 30.5 EV	+5		
30 Aug 76	Inst HI @ ECC5	4.40		
	Target HI @ H8A	4.70		
	Mean Vert ∡	-3° 56' 40"		
	Machine Dist	2138.694		
	Corrected Dist.	2133.627	2133.63	
#6	SPH H7A ECC5 — P4A			
	T Bar 92° 30.5 EV	+11		
30 Aug 76	Inst HI @ ECC5	4.40		
	Target HI @ P4A	5.00		
	Mean Vert ∡	+1° 11' 55"		
	Machine Dist	967.940		
	Corrected Dist.	967.728	967.73	

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TBM #31	167 182	✓			TBM #31	Elev. 167.182 calc per pg 107 PV Drive S. at entrance to Wayfairers Chappl. S. Curb Medium Strip E. side 1' E. of E end CR a Lot in ab.
+	5 410					
π	172 592					
−	9 591					
T.P	163 001	✓				
+	0 868					
π	163 869					
−	8 235					
T.P	155 634	✓				
+	0 418					
π	156 052					
−	9 213					
T.P.	146 839	✓				
+	6 019					
π	152 858					
−	7 553					
Q-1	145 305	✓				
+	7 541					
π	152 846					
−	6 007					
T.P	146 839	✓				
+	9 349					
π	156 188					
−	1 406					
T.P.	154 782	✓				
+	5 046					
π	159 828					
−	8 456					
T.P.	151 372	✓				

Q LINE ELEVATIONS

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND F.B. 2485 PG. 175
DATE SURVEY BY FEB
NOTES BH C. BOWERS NOTES BY R SMITH DATE 8-26-76 Q1 145.302
DATE 9/16/76 INDEXED L. M. PALMER DATE SEP 8 1976

F.B. 2485 PG. 176

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.

SURVEY BY FEB DATE

NOTES BY RD Smith DATE 26 Aug 76 NOTES CHKD. R. C. BOWERS

INDEXED [redacted] PALMERI DATE SEP 8 1976 DATE 9/16/76

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	151 372					
+	0825					
-	152 197					
T.P.	9 200					
+	142 997					
-	1 185					
T.P.	144 182					
+	9 120					
-	135 062					
T.P.	1 498					
+	136 560					
-	8 569					
T.P.	128 051					
+	1 073					
-	129 124					
T.P.	8 400					
+	120 724					
-	0 391					
T.P.	121 115					
+	9 239					
-	111 876					
T.P.	0 796					
+	112 672					
-	9 135					
T.P.	103 537					
+	0 250					
-	103 787					
T.P.	8 455					
	95 332					

768420 S & E-3[illegible] 9-55

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	95 332	✓				
+	0 259					
⊼	95 591					
−	8 845					
T.P	86 746	✓				
+	0 657					
⊼	87 403					
−	9 427					
T.P	77 976	✓				
+	0 574					
⊼	78 550					
−	8 638					
Q-1A	69 912	✓				
+	4 775					
⊼	74 687					
−	5 465					
Q-2	69 222	✓				
+	5 928					
⊼	75 150					
−	2 775					
T.P	72 375	✓				
+	3 577					
⊼	75 952					
−	9 445					
T.P	66 507	✓				
+	4 919					
⊼	71 426					
−	5 118					
T.P	66 308	✓				

NOTES RED. _____ JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND
DATE _____ SURVEY BY FEB
NOTER CUKBOWERS NOTES BY RD Smith DATE 26 Aug 76
DATE 9/16/76 INDEXED L. M. PALMERI DATE SEP 8 1976

F.B. 2485 PG. 177
Q1A 69.926
Q2 69.276

F. B. 2485 PG. 178

Q3 82.673

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND

SURVEY BY F.E.B.

NOTES BY R.D. Smith DATE 26 Aug 76

INDEXED L. L. PALMERI DATE SEP 8 1976

NOTES RED. _____

DATE _____

NOTES CHK'D. R. C. BOWERS

DATE 9/16/76

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	66 308	/				
+	5 610					
*	71 718					
-	2 592					
T.P.	69 326	/				
+	7 723					
*	77 049					
-	0 875					
T.P	76 174	/				
+	7 823					
*	83 997					
-	1 331					
B.M. 3	82 666	/				
+	1 520					
*	84 186					
-	4 660					
T.P.	79 526	-				
+	9 944					
*	89 470					
-	0 496					
T.P.	88 974	/				
+	9 061					
*	98 035					
-	0 784					
T.P	97 251	/				
+	9 114					
*	106 365					
-	1 081					
	105 284	/				

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	105 284	✓				
+	9 528					
⊼	114 812					
−	0 642					
T.P.	114 170	✓				
+	9 120					
⊼	123 290					
−	1 241					
T.P.	122 049	✓				
+	9 912					
⊼	131 961					
−	0 755					
T.P.	131 206	✓				
+	9 392					
⊼	140 598					
−	1 685					
T.P.	138 913	✓				
+	5 545					
⊼	144 458					
−	6 465					
T.P.	137 993	✓				
+	4 355					
⊼	142 348					
−	4 865					
H-8A	137 483	✓				
+	0 844					
⊼	138 327					
−	6 068					
T.P.	132 259	✓				

NOTES RED _____ JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND
DATE _____ SURVEY BY FEB
NOTES B.C. BOWERS NOTES BY RD Smith DATE 21 Aug 76
DATE 9/16/76 INDEXED [illegible] PALMER DATE SEP 8 1976

F. B. 2485 PG. 179

H8A 13% 482

F. B. 2485 PG. 180

HB 114.189

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.

SURVEY BY FEB DATE

NOTES BY RD Smith DATE 26 Aug 76 NOTES CHKD. R. C. BOWERS

INDEXED L. M. PALMERI DATE SEP 8 1976 DATE 9/16/76

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	132 259					
+	0 697					
-	132 956					
	8 852					
T.P	124 104					
+	0 794					
-	124 898					
	9 022					
T.P	115 876					
+	2 977					
-	118 853					
	4 979					
T.P	113 874					
+	8 991					
-	122 865					
	8 677					
H-8	114 188					
+	9 075					
-	123 263					
	1 263					
T.P	122 000					
+	9 381					
-	131 381					
	2 198					
	129 183					
+	8 142					
-	137 325					
	1 052					
	136 273					

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND F. B. 2485 PG. 181

DATE SURVEY BY FEB

NOTES CHKD R. C. BOWERS NOTES BY RD Smith DATE 26 Aug 76 Q4B 200.996

DATE 9/16/76 INDEXED L. M. PALMERI DATE SEP 8 1976

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	136 273	✓				
+	9 415					
⊼	145 688					
-	2 686					
T.P	143 002	✓				
+	9 286					
⊼	152 288					
-	0 698					
T.P	151 590	✓				
+	9 095					
⊼	160 685					
-	0 375					
T.P	160 310	✓				
+	9 923					
⊼	170 233					
-	1 678					
T.P	168 555	✓				
+	9 025					
⊼	177 580					
-	2 096					
T.P	175 484	✓				
+	9 232					
⊼	184 716					
-	0 988					
T.P	183 728	✓				
+	9 318					
⊼	193 046					
-	1 032					
T.P	192 014	✓				

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970
953
17

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	192 014	✓				
+	9 516					
⊼	201 530					
-	0 620					
Q4-B	201 010	✓				
+	9 106					
⊼	210 116					
-	1 187					
T.P.	208 929	✓				
+	9 444					
⊼	218 373					
-	2 403					
Q-4-A	215 970	✓				
+	9 161					
⊼	225 131					
-	1 434					
T.P	223 697	✓				
+	8 401					
⊼	232 098					
-	0 993					
Q-5	231 105	✓				
+	1 053					
⊼	232 158					
-	9 662					
T.P	222 496	✓				
+	0 460					
⊼	222 956					
-	8 918					
T.P	214 038	✓				

F.B. 2485 PG. 182

Q4A 215.953
Q5 231.087

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY RD Smith DATE 26 Aug 76 NOTES RCK BOWERS
INDEXED L. M. PALMER DATE SEP 8 1976 DATE 9/16/76

765420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

NOTES RED _____ JOB NO 0021.64 SURVEY OF PORTOGUESE BEND
DATE _____ SURVEY BY FTE 3
NOTES CHKD R.G. BOWERS NOTES BY RD Smith DATE 26 Aug 76
DATE 9/16/76 INDEXED L. M. PALMER DATE SEP 8 1976

F. B. 2485 PG. 183

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T	214 038	✓				
+	0 584					
π	214 622					
-	8 988					
T.P	205 634	✓				
+	1 072					
π	206 706					
-	9 676					
T.P	197 030	✓				
+	1 659					
π	198 689					
-	9 130					
T.P	189 559	✓				
+	1 203					
π	190 762					
-	8 931					
T.P	181 831	✓				
+	2 143					
π	183 974					
-	9 668					
T.P	174 306	✓				
+	3 131					
π	177 437					
-	8 850					
T.P.	168 587	✓				
+	2 782					
π	171 369					
-	2 836					
BM 34-18	168 533	✓	(0.027)			BM 34-18 ELEV. = 168.560 ✓ SEE PAGE # 166

BM 34-18 168.534 168.560

NOTES RED _____ JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND

DATE _____ SURVEY BY FEB

NOTES CHKD. _____ NOTES BY _____ DATE _____

DATE _____ INDEXED T. M. PALMER DATE JAN 20 1977

F. B. 2485 PG. 185

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
						J.N. 0021.64
						PORTUGUESE BEND
						LAND SLIDE.
						Elev on 'SAN' LINE.

Do not extend notes this side of this line

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

769420 S & E-353 9-55

76S420 S & E-353 9-55

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LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY F.F.B. DATE
NOTES BY DATE NOTES CHKD. E. J. TULLIER
INDEXED L. M. PALMERI DATE JAN 20 1977 DATE

F. B. 2485 PG. 186

P-3 158.089

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM 34-18	168 560					BM 34-18 Elev. 168.560 (1970 adj.)
+	1 474					FB 1355-22
π	170 034 ✓					Palos Verdes Dr. S. & Narcissa Dr. 89.0' S'Ely
−	7 290					of Gate 3.2 W'ly of wall a Co. Engr.
T.P	162 744 ✓					Button Brass Cap.
+	2 252					
π	164 996 ✓					
−	6 950					
T.P.	158 046 ✓					
+	4 489					
π	162 535 ✓					
−	4 440					
P-3	158 095 ✓					P-3
+	4 811					
π	162 906 ✓					
−	0 470					
T.P.	162 436 ✓					
+	6 891					
π	169 327 ✓					
−	3 498					P-1
SAN #1	165 829 ✓					
+	3 439					
π	169 268 ✓					
−	6 831					
T.P	162 437 ✓					
+	0 496					
π	162 933 ✓					
−	8 258					
SAN #2	154 675 ✓					

768420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAW #2	154.675					
+	8.092					
=	162.767					
-	6.795					
SAW #3	155.972					
+	6.642					
=	162.614					
-	4.985					
14T	157.629					
+	5.060					
=	162.689					
-	4.603					
SAW #4	158.086					
+	4.667					
=	162.753					
-	4.661					
P-3	158.092					
+	5.385					
=	163.477					
-	5.087					
T.P.	158.390					
+	5.768					
=	164.158					
-	0.772					
T.P.	163.386					
+	9.408					
=	172.794					
-	0.994					
T.P.	171.800					

NOTES RED _____ JOB NO. 2021.64 SURVEY OF PORTUGUESE BEND
DATE _____ SURVEY BY FEB
NOTES Edward TULLIER NOTES BY _____ DATE _____
DATE _____ INDEXED L.M. PALMER DATE JAN 20 1977

F.B. 1465 Pg. 187

F. B. 2485 PG. 188

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.

SURVEY BY F.E.B. DATE

NOTES BY DATE NOTES CHKD. F. J. TU

INDEXED L. M. PALMERI DATE JAN 20 1977 DATE

765420 S & E-353-9-55

PLEASE RETURN TO

LOS ANGELES COUNTY ENGINEER

700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	171.800					
+	9.911					
-	181.711					
T.P	0.990					
+	186.721					
-	7.101					
SAM #5	187.822					
+	9.285					
-	178.537					
T.P	9.250					
+	187.787					
-	7.066					
T.P	180.721					
+	0.560					
-	181.281					
T.P	8.777					
+	172.504					
-	0.260					
T.P	172.764					
+	9.379					
-	163.385					
T.P	0.739					
+	164.124					
-	5.735					
T.P	158.389					
+	5.043					
-	163.432					
P-3	5.340					
	158.092					

SAM #5

76S420 S & E-35-[illegible]55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TBM # 31	167 182				167.210	TBM #31 Elev. 167.182 calc per pg 107
+	5 209					P.V. Drive S. at entrance to Wayfarers
π	172 391					Chappl S. Curb Medium strip E. side
−	9 389					1' E of End C.R. a LOT in ch.
T.P.	163 002				163.030	
+	0 838					TBM # 31 ADOPTED ELEV: 167.210
π	163 840					SEE LEVEL OB ADJ. 12-20-76
−	8 794					
T.P.	155 046				155.074	
+	0 722					
π	155 768					
−	8 940					
T.P.	146 828				146.856	
+	5 667					
π	152 495					
−	7 193					
Q-1	145 302				145.330	Q-1 ELEV = 145.330
+	7 138					
π	152 440					
−	5 612					
T.P.	146 828				146.856	
+	9 256					
π	156 084					
−	1 035					
T.P.	155 049				155.077	
+	5 378					
π	160 427					
−	9 035					
T.P.	151 392				151.420	

Q LINE ELEVATIONS

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND
DATE SURVEY BY FEB
NOTES CHKD. TULLIER NOTES BY RD Smith DATE 1 Nov 76
DATE INDEXED S. M. PALMERI DATE JAN 20 1977

F.B. 2485 PG. 189
Q1 145.305

768420 S & E-353-9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	151 392				151.420	
+	0 748					
⊼	152 140					
-	9 473					
T.P	142 667				142.695	
+	0 849					
⊼	143 516					
-	9 471					
T.P	134 045				134.073	
+	1 454					
⊼	135 499					
-	8 325					
T.P	127 174				127.202	
+	0 571					
⊼	127 745					
-	8 950					
T.P	118 795				118.823	
+	0 198					
⊼	118 993					
-	8 984					
T.P	110 009				110.037	
+	0 832					
⊼	110 841					
-	9 213					
T.P	101 628				101.656	
+	0 761					
⊼	102 389					
-	8 842					
T.P	93 547				93.575	

JOB NO. 0021.64 SURVEY OF PORTUGUESE Bend NOTES RED.
SURVEY BY FEB DATE
NOTES BY RD Smith DATE 1 Nov 76 NOTES CHKD. E. J. TULL
INDEXED L. M. PALMERI DATE JAN 20 1977 DATE

F. B. 2485 PG. 190

765420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	93 547				93.575	
+	0 348					
⊼	93 895					
−	8 988					
	84 907				84.935	
+	0 794					
⊼	85 701					
−	8 754					
T.P	76 947				76.975	
+	0 403					
⊼	77 350					
−	7 433					
Q-1A	69 917				69.945	Q-1A ELEV= 69.945
+	4 900					
⊼	74 817					
−	5 587					
Q-2	69 230				69.258	Q-2 ELEV= 69.258
+	5 886					
⊼	75 116 ✓					
−	2 725					
T.P	72 391 ✓				72.419 ✓	
+	2 377					
⊼	74 768 ✓					
−	8 719					
T.P	66 049 ✓				66.077 ✓	
+	5 501					
⊼	71 550 ✓					
−	5 220					
T.P	66 330 ✓				66.358 ✓	

NOTES RED _____ JOB NO 2021.64 SURVEY OF PORTUGUESE BEND
DATE _____ SURVEY BY FEB
NOTES CHKD. TULLIER NOTES BY RD Smith DATE 1 Nov 76
DATE _____ INDEXED L. M. PALMERI DATE JAN 20 1977

F.B. 2485 PG. 191
Q1A 69.912
Q2 69.222

768420 S & E-353-9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION					
T.P	66 330				66.358						
+	5 678										
⊼	72 008 ✓										
−	2 672										
T.P.	69 336 ✓				69.364 ✓						
+	7 823										
⊼	77 159 ✓										
−	1 000										
	76 159 ✓				76.187 ✓						
+	7 935										
⊼	84 094 ✓										
−	1 421				82.701				82.701		
Q-3	82 673 ✓				~~87.201~~	Q-3		ELEV=	~~87.201~~		
+	1 443										
⊼	84 116 ✓										
−	7 958										
T.P	76 158 ✓				76.186 ✓						
+	7 967										
⊼	84 125 ✓										
−	4 592										
T.P.	79 533 ✓				79.561						
+	9 922										
⊼	89 455 ✓										
−	0 480										
T.P.	88 975				89.003						
+	9 111										
⊼	98 086										
−	0 828										
T.P	97 258				97.286						

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY RD Smith DATE 1 Nov 76 NOTES CHKD. J. TULLY
INDEXED L. M. PALMERI DATE JAN 20 1977 DATE

F. B. 2485 PG. 192
Q3 82.666

765420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	97 258				97.286	
+	9 116					
=	106 374					
-	1 084					
T.P	105 290				105.318	
+	9 422					
=	114 712					
-	0 535					
T.P	114 177				114.205	
+	9 013					
=	123 190					
-	1 151					
T.P	122 039				122.067	
+	9 923					
=	131 962					
-	0 750					
T.P	131 212				131.240	
+	9 328					
=	140 540					
-	1 618					
T.P.	138 922				138.950	
+	5 531					
=	144 453					
-	5 320					
T.P	139 133				139.161	
+	2 800					
=	141 933					
-	4 449					
H-8A	137 484				137.512	H-8A ELEV = 137.512

NOTES RED _____ JOB NO 021.14 SURVEY OF PORTUGUESE BEND
DATE _____ SURVEY BY FEB
NOTES CHKD TULLIER NOTES BY BD Smith DATE 1 Nov 76
DATE _____ INDEXED L. M. PALMER DATE JAN 20 1977

F. B. 2468 Pg. 193

H8A 137.483

768420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

JOB NO. 0021.04 SURVEY OF PORTUGUESE BEND
SURVEY BY FEB
NOTES BY RDSmith DATE 1 Nov 76
INDEXED L. M. PALMER DATE JAN 20 1977
NOTES RED. DATE
NOTES CHKD. E. J. TULLER DATE

F. B. 2485 PG. 194

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	137 484				137.512	
+	0 750					
=	138 234					
−	8 819					
T.P	129 415				129.443	
+	0 915					
=	130 330					
−	9 482					
T.P	120 848				120.876	
+	2 189					
=	123 037					
−	8 848					
H-8	114 189				114.217	H-8 ELEV = 114.217
+	8 757					
=	122 946					
−	0 230					
T.P	122 716				122.744	
+	9 993					
=	132 709					
−	1 740					
T.P	130 969				130.997	
+	7 369					
=	138 338					
−	2 072					
T.P	136 266				136.294	
+	8 650					
=	144 916					
−	1 529					
T.P.	143 387				143.415	

H8 114.189

76S420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	143 387				143.415	
+	9 252					
⊼	152 639					
-	1 054					
T.P	151 585				151.613	
+	9 161					
⊼	160 746					
-	0 442					
T.P	160 304				160.332	
+	9 944					
⊼	170 248					
-	1 700					
T.P	168 548				168.576	
+	9 117					
⊼	177 665					
-	2 183					
T.P	175 482				175.510	
+	9 647					
⊼	185 129					
-	1 403					
T.P	183 726				183.754	
+	9 367					
⊼	193 093					
-	1 070					
T.P	192 023				192.051	
+	9 368					
⊼	201 391					
-	0 377					
Q-4B	201 014				201.042	Q-4B ELEV = 201.042

NOTES RED ____ JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND
DATE ____ SURVEY BY FEB
NOTES CHKD. F. J. TULLIER NOTES BY R. J. Smith DATE 1 NOV 76
DATE ____ INDEXED ~~S. M. PALMER~~ DATE ~~JAN 20 1977~~

F. B. 2485 PG. 195

Q4B 201.010

768420 S & E-353-9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
Q-4B	201 014				201.042	
+	9 543					
⊼	210 557					
−	1 611					
T.P	208 946				208.974	
+	9 503					
⊼	218 449					
−	2 473					
Q-4A	215 976				216.004	Q-4A ELEV = 216.004
+	9 065					
⊼	225 041					
−	1 335					
T.P	223 706				223.734	
+	8 619					
⊼	232 325					
−	1 213					
Q-5	231 112				231.140	Q-5 ELEV = 231.140
+	0 811					
⊼	231 923					
−	9 213					
T.P	222 710				222.738	
+	0 793					
⊼	223 503					
−	9 454					
T.P	214 049				214.077	
+	0 444					
⊼	214 493					
−	8 842					
T.P	205 651				205.679	

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY R.D. Smith DATE 1 NOV 76 NOTES CHKD. E.J. TULLIER
INDEXED I.M. PALMERI DATE JAN 20 1977 DATE

F.B. 2485 PG. 196
Q4A 215.970 ✓
Q5 231.115

76S420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	205 651				205.679	
+	0 530					
⊼	206 181					
−	9 128					
T.P	197 053				197.081	
+	1 612					
⊼	198 665					
−	9 092					
T.P.	189 573				189.601	
+	1 281					
⊼	190 854					
−	9 011					
T.P.	181 843				181.871	
+	2 140					
⊼	183 983					
−	9 667					
T.P.	174 316				174.344	
+	3 119					
⊼	177 435					
−	8 839					
T.P.	168 596				168.624	
+	2 607					
⊼	171 203					
−	2 663					
BM 34-18	168 540				168.568	BM 34-18 ELEV=168.560
+						
⊼						
−						

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND
DATE SURVEY BY FEB
NOTES CHKD. TULLIER NOTES BY R D Smith DATE FEB
DATE INDEXED T. M. PALMER DATE JAN 20 1977

F. B. 2485 PG. 197
BM 34-18 168.534. 168.560.

768420 S & E-3 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM 34-18	168 560					BM 34-18 Elev 168.560
+	1 390	✓				
π	169 950					
−	7 204					
T.P.	162 746	✓				
+	2 147					
π	164 893	✓				
−	6 843					
T.P.	158 050					
+	4 222					
π	162 272					
−	4 175					
P-3	158 097	✓				P-3 = 158.097
+	4 681					
π	162 778					
−	0 342					
T.P.	162 436	✓				
+	6 715					
π	169 151					
−	3 315					
SAN #1	165 836	✓				SAN #1 = 165.~~151~~ .836
+	3 374					
π	169 210					
−	6 770					
T.P.	162 440					
+	0 351					
π	162 791					
−	8 122					
SAN #2	154 669					SAN #2 = 154.669

January Re Run

NOTES RED _____ JOB NO 0021.64 SURVEY OF PORTUGESE BEND
DATE _____ SURVEY BY FEB
NOTES CHKD. R. HILARIO NOTES BY RD Smith DATE 3 Jan 77
DATE _____ INDEXED L. M. PALMERI DATE JAN 20 1977

SAN
LINE

F.B. 2405 PG. 199

76S420 - & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAN #2	154 669	✓				SAN #2 - 154 669
+	8 137					
⊼	162 806					
−	6 838					
SAN #3	155 968	✓				SAN #3 - 155 968
+	6 567					
⊼	162 535					
−	4 907					
INT	157 628					INT - 157.628
+	4 987					
⊼	162 615					
−	4 528					
SAN #4	158 087					SAN #4 - 158.087
+	4 570					
⊼	162 657					
−	4 564					
P-3	158 093					P 3 - 158 093
+	5 118					
⊼	163 211					
−	4 591					
T.P.	158 620					
+	5 600					
⊼	164 220					
−	0 267					
T.P.	163 953	✓				
+	9 075					
⊼	173 028					
−	0 518					
T.P.	172 510	✓				

JOB NO. 0021.64 SURVEY OF PORTUGESE BEND NOTES RED.
SURVEY BY FEB DATE
NOTES BY RD Smith DATE 3 Jan 77 NOTES CHKD. HILARIO
INDEXED L. M. PALMERI DATE JAN 20 19[illegible] DATE

F. B. 2485 PG. 200

765420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	172.510	✓				
+	9.678					
π	182.188					
−	1.467					
T.P	180.721	✓				
+	7.037					
π	187.758					
−	9.217					
SAN #5	178.541					SAN #5 = 178.541
+	9.390					
π	187.931					
−	7.209					
T.P	180.722	✓				
+	1.503					
π	182.225					
−	9.724					
T.P	172.501	✓				
+	0.722					
π	173.223					
−	9.275					
T.P	163.948	✓				
+	0.182					
π	164.130					
−	5.513					
T.P	158.617	✓				
+	4.632					
π	163.249					
−	5.157					
P-3	158.092	✓				

NOTES RED 178537 JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE SURVEY BY FEB
NOTES CHKD R. HILARIO NOTES BY RD Smith DATE 3 Jan 77
DATE INDEXED L. M. PALMER DATE JAN 20 1977

F. B. [illegible] PG. 201

768420 S & E-353 9-55

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NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TBM 31	167 182				167.210	TBM 31 Elev. 167.182
+	5 804					
π	172 986					TBM 31 EL. 167.210 SEE F.B. 2485-189
−	9 408					
T.P.	163 578					
+	0 228					
π	163 806					
−	8 112					
T.P	155 694					
+	0 410					
π	156 104					
−	9 288					
T.P	146 816 ✓					
+	5 315					
π	152 131					
−	6 828					
S-1	145 303				145.331	S-1 = 145,331
+	7 010					
π	152 313					
−	5 503					
T.P	146 810 ✓					
+	9 635					
π	156 445					
−	1 322					
T.P	155 123					
+	4 482					
π	159 605					
−	8 805					
T.P	150 800					

NOTES RED ____ JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE ____ SURVEY BY FEB
NOTES CHKD. HILADIO NOTES BY ____ DATE ____
DATE ____ INDEXED L. M. PALMERI DATE JAN 20 1977

F.B. 2480 PG. 203

Q LINE

F. B. 2485 PG. 204

JOB NO. 0021.64 SURVEY OF PORTUGESE BEND NOTES RED.

SURVEY BY FEB DATE

NOTES BY R SMITH DATE 1-4-77 NOTES CHKD. R. HILARIO

INDEXED L. M. PALMER DATE JAN 20 1977 DATE

76S420 S & E-353 9-55

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NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	150 800					
+	0 605					
-	151 405					
T.P.	9 418					
+	141 987					
-	0 587					
T.P.	142 574					
+	9 316					
-	133 258					
T.P.	0 603					
+	133 861					
-	9 605					
T.P.	124 256					
+	0 665					
-	124 921					
T.P.	9 136					
+	115 785					
-	0 743					
T.P.	116 528					
+	9 445					
-	107 083					
T.P.	0 959					
+	108 042					
-	9 635					
T.P.	98 407					
+	0 458					
-	98 865					
T.P.	8 733					
	90 132					

765420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	90 132					
+	0 553					
⊼	90 685					
−	8 842					
T.P	81 843					
+	0 337					
⊼	82 180					
−	9 323					
T.P.	72 857					
+	0 483					
⊼	73 340					
−	3 436					
Q-1A	69 904				69.932	Q-1A = 69.932
+	4 665					
⊼	74 569					
−	5 363					
Q-2	69 206				69.234	Q-2 = 69.234
+	5 744					
⊼	74 950					
−	2 403					
T.P.	72 547					
+	3 375					
⊼	75 922					
−	9 567					
T.P.	66 355					
+	4 807					
⊼	71 162					
−	4 889					
T.P	66 273					

NOTES RED _____ JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE _____ SURVEY BY F.E.B.
NOTES CHKD R. HILARIO NOTES BY R. SMITH DATE 7-6-77
DATE _____ INDEXED B. M. PALMERI DATE JAN 20 1977

F. B. 2485 PG. 805

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	66 273					
+	5 383					
⊼	71 656					
−	2 343					
T.P	69 313					
+	8 017					
⊼	77 330					
−	1 334					
T.P	75 996					
+	7 818					
⊼	83 814					
−	1 167					
8-3	82 647				82.675	8-3 = 82.675
+	0 648					
⊼	83 295					
−	3 793					
T.P	79 502					
+	9 726					
⊼	89 228					
−	0 283					
T.P	88 945					
+	8 927					
⊼	97 872					
−	0 636					
T.P	97 236					
+	8 915					
⊼	106 151					
−	0 884					
T.P	105 267					

JOB NO. 0021.64 SURVEY OF PORTUGESE BEND NOTES RED.
SURVEY BY F.E.B. DATE
NOTES BY R. SMITH DATE 1-4-77 NOTES CHKD. R. HILARIO
INDEXED L. M. PALMERI DATE JAN 20 1977 DATE

F.B. 2485 PG. 206

765420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	105 267					
+	9 275					
π	114 542					
−	0 391					
T.P	114 151					
+	8 884					
π	123 035					
−	1 028					
T.P	122 007					
+	9 584					
π	131 591					
−	0 390					
T.P	131 201					
+	9 413					
π	140 614					
−	1 705					
T.P	138 909					
+	5 363					
π	144 272					
−	4 953					
T.P	139 319					
+	2 293					
π	141 612					
−	4 141					
H-8A	137 471				137.499	H-8A = 137.499
+	0 917					
π	138 388					
−	9 513					
T.P	128 875					

NOTES RED ____ JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE ____ SURVEY BY F.F.B.
NOTES CHKD. R. HILARIO NOTES BY R. Smith DATE 1-4-77
DATE ____ INDEXED R. M. PALMER DATE JAN 20 1977

F.B. 2485 PG. 307

F. B. 2485 PG. 208

JOB NO. 0021.L4 SURVEY OF PORTUGESE BEND NOTES RED. _____

SURVEY BY FEB DATE _____

NOTES BY R. SMITH DATE 1-4-77 NOTES CHKD. R. HILARIO

INDEXED L. M. PALMER DATE JAN 20 1977 DATE _____

768420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P.	128 875					
+	0 710					
K	129 585					
−	7 600					
T.P.	121 985					
+	0 402					
K	122 387					
−	8 212					
H-8	114 175				114.203	H-8 - 114.203
+	8 461					
K	122 636					
−	0 650					
T.P.	121 986					
+	9 637					
K	131 623					
−	2 444					
T.P.	129 179					
+	8 171					
K	137 350					
−	1 098					
T.P.	136 252					
+	9 079					
K	145 331					
−	2 346					
T.P.	142 985					
+	9 278					
K	152 263					
−	0 697					
T.P.	151 566					

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	151.566					
+	9.337					
⊼	160.903					
−	0.618					
T.P	160.285					
+	9.733					
⊼	170.018					
−	1.490					
T.P	168.528					
+	9.246					
⊼	177.774					
−	2.307					
T.P	175.467					
+	9.242					
⊼	184.709					
−	1.003					
T.P	183.706					
+	9.617					
⊼	193.323					
−	1.316					
T.P	192.007					
+	9.573					
⊼	201.580					
−	0.584					
QAB	200.996				201.024	QAB = 201.024
+	8.763					
⊼	209.759					
−	0.828					
T.P	208.931					

NOTES RED ____ JOB NO. 0021/64 SURVEY OF BRIDGES & BN
DATE ____ SURVEY BY FEB
NOTES CHKD. R. HILARIO NOTES BY D. SMITH DATE 1-4-77
DATE ____ INDEXED L. M. PALMER DATE JAN 20 1977

F. B2485 PG. 209

768420 S & E-353-9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	208.931					
+	9.118					
⊼	218.049					
−	2.088					
Q-4-A	215.961				215.989	Q-4-A-215.989
+	9.103					
⊼	225.064					
−	1.370					
T.P	223.694					
+	8.517					
⊼	232.211					
−	1.113					
Q-5	231.098				231.126	Q-5-231.126
+	0.685					
⊼	231.783					
−	8.620					
T.P	223.163					
+	0.406					
⊼	223.569					
−	9.535					
T.P	214.034					
+	0.247					
⊼	214.281					
−	8.647					
T.P	205.634					
+	0.515					
⊼	206.149					
−	9.118					
T.P	197.031					

JOB NO. 0021.64 SURVEY OF PORTUGUESE BEND NOTES RED.
SURVEY BY F.E.B. DATE
NOTES BY R. SMITH DATE 1-4-77 NOTES CHKD. R. HILARIO
INDEXED L. L. PALMER DATE JAN 20 1977 DATE

F.B. 2485 PG. 210

765420 S & E-353 9-55

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NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
T.P	197.031					
+	1.174					
⊼	198.205					
−	8.654					
T.P	189.551					
+	0.808					
⊼	190.359					
−	8.539					
T.P.	181.820					
+	1.877					
⊼	183.697					
−	9.406					
T.P.	174.291					
+	0.831					
⊼	175.122					
−	7.942					
T.P.	167.180					
+	3.978					
⊼	171.158					
−	2.647					
BM #34-18	168.511				168.539	BM 34-18 - 168.560

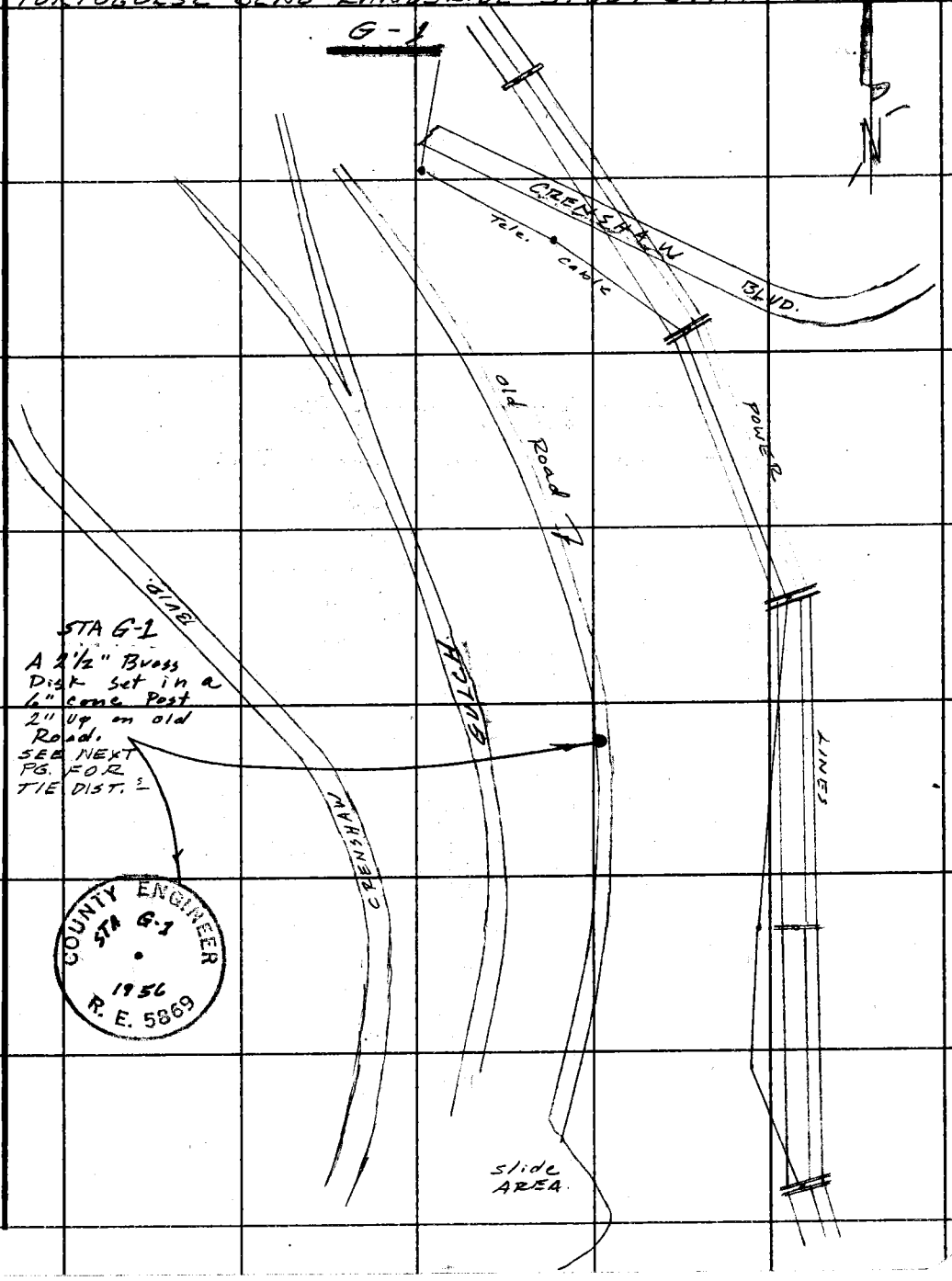
NOTES RED ____ JOB NO. 0021.64 SURVEY OF Portuguese Bend
DATE ____ SURVEY BY E.F.B.
NOTES CHKD. R. HILARIO NOTES BY R. SMITH DATE 1-4-77
DATE ____ INDEXED I. M. PALMERI DATE JAN 20 1977

F. B2485 PG. 211

Notes Ck'd by R. HILARIO	Survey of PORTUGESE BEND LANDSLIDE
Map No.	JN 0021.64 Tape Std °F
Office Work	Surveyed by FEB
Checked	Notes FEB Date 4 JAN 77
Date	Indexed L. M. PALMERIAN 20 1977

F. B. 2485 PG. 213

PORTUGUESE BEND LANDSLIDE STUDY STATION



Note: Any Additions or Changes on This Sheet Must be Made or Circled in Red Ink With Date and Name of Person Making Change.

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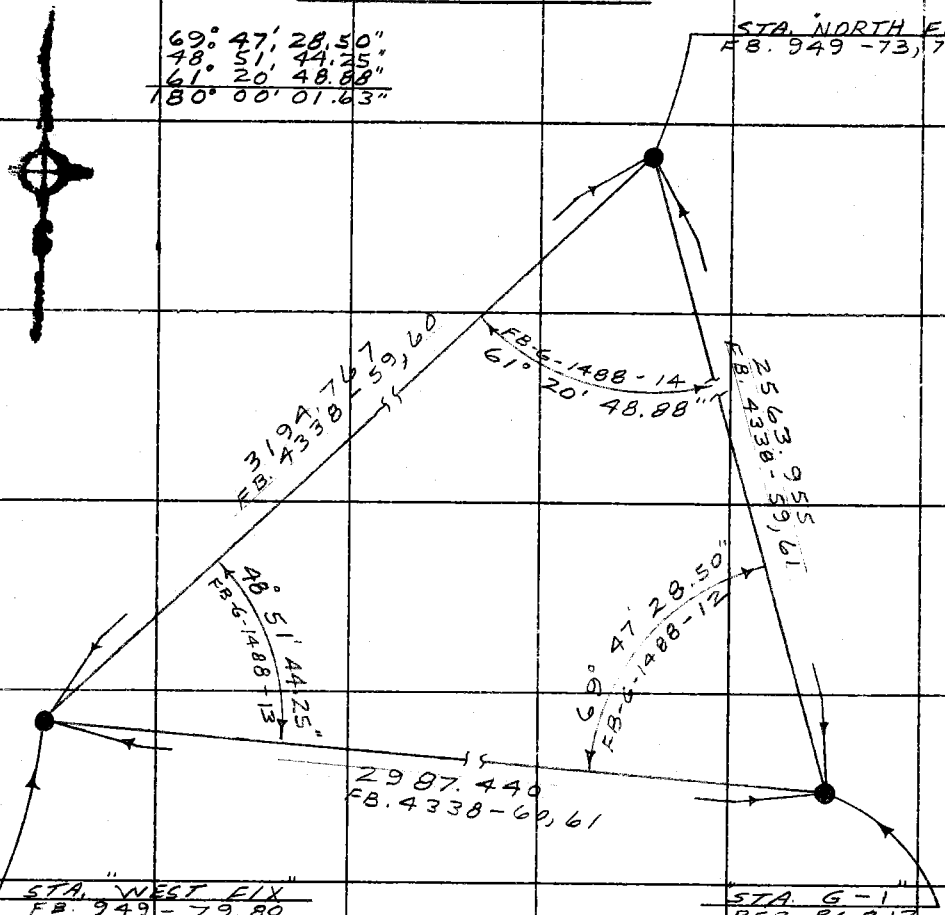
403 LOS ANGELES COUNTY ENGINEERING BLDG.

76F3095 CE#310 3-68

F. B. 2485 Pg. 214

PORTOGUESE BEND LANDSLIDE
TIES TO STA. G-1

69° 47' 28.50"
48° 51' 44.25"
61° 20' 48.88"
180° 00' 01.63"



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DEPARTMENT OF COUNTY ENGINEER
403 LOS ANGELES COUNTY ENGINEERING BLDG.

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NOTES RED _____ JOB NO 0021.C4 SURVEY OF PORTUGESE BEND F. B. 2485 PG. 215

DATE _____ SURVEY BY FE Brooks

NOTES CHKD. _____ NOTES BY FEB DATE 1 MARCH 1977 SAN LINE

DATE _____ INDEXED G. D. BAILEY DATE MAR 31 1977

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
SN 0021.C4						
PORTUGESE BEND						
Elevations on SAN LINE						
at						
ABALONE COVE						
SAN LINE page 216 To Page 218						
Q LINE page 219 To Page						
					Brooks	
					Bankson	
					Krohn.	

Do not extend notes this side of this line

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

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765420 S & E-353 9-55

765420 S & E-353-9-55

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NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
SURVEY BY FE Brooks
NOTES BY FEB DATE 1 MARCH 1977
INDEXED G.D. BAILEY DATE MAR 31 1977
NOTES RED. DATE
NOTES CHKD. DATE

F.B. 2485 PG. 216

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM 34-18	168 560					BM 34-18 169.500 Bottom Brass Cap at P.V. Drive S. and Novessa Drive.
+	1 472					
⊼	170 032					
−	7 284					
TP	162 745					
+	2 092					
⊼	164 837					
−	6 787					
TP	158 050					
+	4 097					
⊼	162 147					
−	4 050					
P-3	158 097					P-3 L&T in N. curb of Island.
+	4 538					
⊼	162 635					
−	0 178					
TP	162 457					
+	6 258					
⊼	168 715					
−	2 885					
SAN 1	165 830					SAN 1 Co. Engr Mon. Pg 15
+	2 982					
⊼	168 812					
−	6 355					
TP	162 457					
+	0 270					
⊼	162 727					
−	8 058					
SAN 2	154 669					SAN 2 L&T Co Engr Tag in Pumping plant. Pg 15

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAN 2	154 669					SAN 2
+	8 065					
π	162 734					
−	6 767					
SAN 3	155 967					SAN 3 Lg Bt Spk w&T
+	6 517					Pg 16
π	162 484					
−	4 853					
INT	157 631					INT Lg Bt spk w&T
+	4 905					Pg 16
π	162 536					
−	4 447					
SAN 4	158 089					SAN 4 Lg Bt spk w&T
+	4 386					Pg 16
π	162 475					
−	4 377					
P-3	158 098					P-3
+	5 800					
π	163 898					
−	0 652					
TP	163 246					
+	9 445					
π	172 691					
−	0 187					
TP	172 504					
+	9 508					
π	182 012					
−	1 287					
TP.	180 725					

NOTES RED ____ JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE ____ SURVEY BY FE Brooks
NOTES CHKD. ____ NOTES BY FEB DATE 1 MARCH 1977
DATE ____ INDEXED G. D. BAILEY DATE MAR 31 1977

F.B. 2485 PG. 217

765420 S & E-353 9-55

PLEASE RETURN TO
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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

JOB NO. 0021.04 SURVEY OF PORTUGESE BEND
SURVEY BY FEB BROOKS
NOTES BY FEB DATE MARCH 1977
INDEXED G. D. BAILEY DATE MAR 3 1977
NOTES RED. DATE
NOTES CHKD. DATE

B.M.	1ST RUN		DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP	180	725	✓				
+	7	698					
π	188	423	✓				
−	9	857					
SAN 5	178	566	✓				SAN 5 Co Engr tag in 2" I.P. Pg 16
+	9	710					
π	188	276	✓				
−	7	549					
TP	180	727	✓				
+	0	875					
π	181	602	✓				
−	9	097					
TP	172	505	✓				
+	0	428					
π	172	933	✓				
−	9	685	✓				
TP	163	248					
+	0	713					
π	163	961	✓				
−	5	863					
P-3	158	098	✓				P-3 LAT in N. curb of Island

F.B. 2485 Pg. 218

765420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TBM 31	167 182				162.210	SEE PAGE 203
+	5 543					
π	172 725					
-	5 750					
TP	167 975					
+	5 094					
π	172 069					
-	9 071					
TP	162 998					
+	0 402					
π	163 400					
-	7 688					
TP	155 712					
+	0 951					
π	156 663					
-	8 875					
TP.	147 788					
+	4 448					
π	152 136					
-	6 837					
Q-1	145 299				145.327	Q-1 A. Co. Engr Mon.
+	7 027					Pg 29
π	152 326					
-	4 642					
TP	147 684					
+	8 862					
π	156 546					
-	1 390					
TP	155 156					

NOTES RED _____ JOB NO 0021.64 SURVEY OF PORTUGESE BEND
DATE _____ SURVEY BY FE BROOKS DATE 1 MARCH 1977
NOTES CHKD _____ NOTES BY FEB
DATE _____ INDEXED G.D. BAILEY DATE MAR 31 1977

F.B. 2445 Pg. 219

Q Line

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
SURVEY BY FE BROOKS
NOTES BY FE B DATE MARCH 1977
INDEXED G.D. BAILEY DATE MAR 31 1977

NOTES RED. DATE
NOTES CHKD. DATE

F. B. 2485 PG. 220

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP	155 156					
+	4 545					
T	159 701					
-	8 873					
TP	150 828					
+	0 513					
T	151 341					
-	9 343					
TP	141 998					
+	0 465					
T	142 463					
-	9 210					
TP	133 253					
+	0 508					
T	133 761					
-	9 524					
TP	124 237					
+	0 823					
T	125 060					
-	9 263					
TP	115 797					
+	0 607					
T	116 404					
-	9 304					
TP	107 100					
+	0 265					
T	107 365					
-	8 937					
TP	98 428					

765420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP	98 428					
+	0 327					
⊼	98 755					
-	8 596					
TP	90 159					
+	0 312					
⊼	90 471					
-	8 605					
TP	81 866					
+	0 257					
⊼	82 123					
-	5 144					
TP	76 979					
+	0 943					
⊼	77 922					
-	7 987					
Q-1A	69 935				69.963	Q-1A Co. Engr tag in a 2" I.P.
+	4 195					Pg 28
⊼	74 130					
-	4 920					
Q-2	69 210				69.238	Q-2 Co. Engr Mon
+	5 797					Pg 27
⊼	75 007					
-	2 990					
TP	72 017					
+	3 840					
⊼	75 857					
-	9 087					
TP	66 770					

NOTES RED _____ JOB NO 0021.04 SURVEY OF PORTOLESE BEND
DATE _____ SURVEY BY FE BROOKS
NOTES CHKD _____ NOTES BY FEB DATE 1 MARCH 1977
DATE _____ INDEXED Q.D. BAILEY DATE MAR 31 1977

F.B. 2485 Pg. 121

765420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

JOB NO. 002164 SURVEY OF PORTUGESE BEND
SURVEY BY FEB BROOKS
NOTES BY FEB DATE March 1969
INDEXED G. D. BAILEY DATE MAR 3 1 1970
NOTES RED. DATE
NOTES CHKD. DATE

F. B. 2485 PG. 222

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP	66 770					
+	4 215					
⊼	70 985					
−	4 682					
TP	66 303					
+	5 559					
⊼	71 862					
−	2 533					
TP	69 329					
+	9 150					
⊼	78 487					
−	0 319					
TP	78 168					
+	7 287					
⊼	85 455					
−	2 793					
Q-3	82 662				82.690	Q-3 Co. Engr. Mon Pg 26
+	1 607					
⊼	84 269					
−	4 755					
TP	79 514					
+	9 847					
⊼	89 361					
−	0 403					
TP	88 958					
+	9 075					
⊼	98 033					
−	0 784					
TP	97 249					

769420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN		DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP	97	249					
+	9	095					
π	106	344					
−	1	065					
TP	105	279					
+	9	367					
π	114	646					
−	0	492					
TP	114	154					
+	9	225					
π	123	379					
−	1	380					
TP	121	999					
+	9	322					
π	131	321					
−	0	253					
T.P.	131	068					
+	9	693					
π	140	761					
−	1	827					
TP	138	934					
+	5	433					
π	144	367					
−	5	023					
T.P.	139	344					
+	3	030					
π	142	374					
−	4	884					
SPH HBA	137	490				137.518	SPH HBA Rd. Dept tag in 2" I.P. PG 68

NOTES RED. _____ JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE _____ SURVEY BY FE BROOKS
NOTES CHKD. _____ NOTES BY FEB DATE 1 MARCH 1977
DATE _____ INDEXED G. D. BAILEY DATE MAR 31 1977

F. B. 2485 Pg. 223

768420 S & E-353 9-55

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LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SPH HBA	137 490				137.518	SPH HBA
+	1 542					
⊼	139 032					
−	9 208					
T.P.	129 824					
+	0 851					
⊼	130 675					
−	8 793					
TP	121 882					
+	1 963					
⊼	123 845					
−	9 642					
SPH HB	114 203				114.231	SPH HB Co. Surveyor Mon.
+	9 670					Pgs 6, 72
⊼	123 873					
−	2 143					
TP	121 730					
+	9 682					
⊼	131 412					
−	2 208					
TP	129 204					
+	7 946					
⊼	137 150					
−	0 870					
TP	136 280					
+	9 108					
⊼	145 388					
−	2 369					
TP	143 019					

JOB NO. 0021.64 SURVEY OF PORTUGESE BEND NOTES RED.
SURVEY BY FEB Brooks DATE
NOTES BY FEB DATE 2 March 1977 NOTES CHKD.
INDEXED G.D. BAILEY DATE MAR 31 1977 DATE

F.B. 2485 PG. 224

76S420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP.	143.019					
+	9 284					
π	152 303					
−	0 712					
TP	157 591					
+	9 171					
π	160 762					
−	0 452					
TP	160 310					
+	9 783					
π	170 093					
−	1 543					
TP	168 550					
+	9 027					
π	177 577					
−	2 083					
TP	175 494					
+	9 158					
π	184 652					
−	0 922					
TP	183 730					
+	9 361					
π	193 091					
−	1 048					
TP	192 043					
+	9 308					
π	201 351					
−	0 320					
Q4B	201 031				201.059	Q4B Lg Bt. Spk. W. & T. Pg 25

7733
1490
8243
7341
.902

9091
1750
7341

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE SURVEY BY FE BROOKS
NOTES CHKD. NOTES BY FEB DATE 2 MARCH 1977
DATE INDEXED G.D. BAILEY DATE MAR 31 1977

F.B. 2485 PG. 225

765420 S & E-353 9-55

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Do not extend notes this side of this line

JOB NO. 021.64 SURVEY OF PORTUGESE BEND
SURVEY BY FEB BROOKS
NOTES BY FEB DATE 2 MARCH 1977
INDEXED G. D. BAILEY DATE MAR 31 1977
NOTES RED. DATE
NOTES CHKD. DATE

F. B. 2485 PG. 226

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
Q4B	201 031				201.059	Q4B Lg Bt. Spk. w. T.
+	9 148					
π	210 179					
-	1 222					
TP	208 957					
+	9 530					
π	218 487					
-	2 487					
Q4A	216 000				216.028	Q4A Co. Engr Tag in 2" I.P. Pg 25
+	8 892					
π	224 892					
-	1 162					
TP	223 730					
+	8 393					
π	232 123					
-	0 980					
Q5	231 143				231.171	Q-5 Co Engr Mon. Pg 25
+	1 711					
π	232 854					
-	9 482					
TP	223 372					
+	0 335					
π	223 707					
-	9 629					
TP	214 078					
+	0 410					
π	214 488					
-	8 808					
TP	205 680					

76S420 S & E-353 9-55

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP	205 680					
+	0 918					
π	206 598					
−	9 530					
TP	197 068					
+	1 587					
π	198 655					
−	9 063					
TP	189 592					
+	1 168					
π	190 760					
−	8 894					
TP	181 866					
+	2 013					
π	183 879					
−	9 551					
TP	174 328					
+	3 018					
π	177 346					
−	8 160					
TP	169 186					
+	1 619					
π	170 805					
−	2 252					
BM 34-18	168 553				168.581 60	BM 34-18 Co. Engr 168.560

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE SURVEY BY FE Brooks
NOTES CHKD. NOTES BY FEB DATE 2 MARCH 1977
DATE INDEXED G. D. BAILEY DATE MAR 3 1 1977

F. B. 2485 PG. 227

NOTES RED. JOB NO. 0021.04 SURVEY OF PORTUGESE BEND F. B. 2485 PG. 227
DATE SURVEY BY FEB Rooks
NOTES CHKD. NOTES BY FEB DATE 12 MAY 1977
DATE INDEXED G. D. BAILEY DATE JUN 22 1977

DESCRIPTION	ADJ. ELEV.	3RD RUN	2ND RUN	DIFF.	1ST RUN	B.M.
0021.04						
PORTUGESE BEND						
LAND SLIDE						
ABALONE COVE						
SAN LINE pg 228 To pg 230						
℄ Line pg 231 To pg. 239						
					Brooks Goble Siemann Crowder.	

Do not extend notes this side of this line

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

PLEASE RETURN TO
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700 LOS ANGELES COUNTY ENGINEERING BLDG.

765420 S & E-353 9-55

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
BM34-18	168.5~~88~~ 53					BM 34-18
+	1.638		1.692			PALOS VERDES DR S and NARCISSA DR
π	170.198	-5.874	-5.813			A 2½" Bottom Brass Disk set in a
−	7.452		7.505			12" sq conc post.
TP 1	162.7~~44~~ 39					EL= 168.553 ADJ 1976
+	2.338		2.410			
π	165.084	-4.692	-4.693			
−	7.030		7.103			
TP 2	158.0~~44~~ 47					
+	4.495		4.538			
π	162.549	+0.047	+0.048			
−	4.448		4.490			
P-3	158.~~X~~ 094				158.096	P-3
+	4.753		4.797			PALOS VERDES DR S.
π	162.854	+4.363	+4.362			A L&Tag in curb of Island.
−	0.390		0.435			
TP 3	162.4~~44~~ 57					
+	7.033		6.980			
π	169.497	+3.370	+3.370			
−	3.663		3.610			
SAN 1	165.8~~44~~ 27				165.829	SAN 1
+	3.585		3.573			A 2½" Brass Disk set in a 6" conc
π	169.419	-3.375	-3.377			post. Pg 15
−	6.960		6.950			
TP 4	162.45~~4~~ 2					
+	0.352		0.402			
π	162.811	-7.793	-7.793			
−	8.145		8.195			
SAN 2	154.6~~88~~ 59				154.661	SAN 2
						A L&Tag Pg 15

JOB NO. 2021.64 SURVEY OF PORTUGESE BEND NOTES RED.
SURVEY BY FEBROOKS DATE
NOTES BY FEB DATE 12 MAY 1977 NOTES CHKD.
INDEXED G.D. BAILEY DATE JUN 22 1977 DATE

F.B. 2485 PG. 228

SAN LINE

76S420 S & E-353 9-55

PLEASE RETURN TO
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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
SAN 2	154.6~~66~~59				154.661	SAN 2
+	8.195		8.137			
⊼	162.861	+1.300	+1.302			
−	6.895		6.835			
SAN 3	155.9~~66~~59				155.963	SAN 3
+	6.703		6.757	6.875		A Lg Bt Spk W&T pg 16
⊼	162.669	+1.661	+1.665	+1.663		
−	5.042		5.092	5.212		
INT	157.62~~7~~0				157.624	INT
+	5.253		5.292			A Lg Bt Spk W&T pg 16
⊼	162.880	+0.463	+0.464			
−	4.798		4.828			
SAN 4	158.0~~11~~83				158.091	SAN 4
+	4.863		4.908			A Lg Bt Spk W&T pg 16
⊼	162.953	+0.001	+0.003			
−	4.862		4.905			
TP 5	158.0~~11~~84					
+	5.912		5.970	5.985		
⊼	164.003	+5.160	+5.165	+5.163		
−	0.752		0.805	0.822		
TP 6	163.2~~51~~44					
+	9.782		9.752			
⊼	173.033	+9.249	+9.250			
−	0.533		0.502			
TP 7	172.~~5~~493					
+	9.682		9.642			
⊼	182.182	+8.217	+8.220			
−	1.465		1.422			
TP 8	180.71~~7~~0					

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE SURVEY BY FE BROOKS
NOTES CHKD. NOTES BY FEB DATE 12 MAY 1977
DATE INDEXED G.D. BAILEY DATE JUN 2 2 1977

F.B. 2485 Pg. 229

SAN LINE

765420 S & E-353 9-55

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Do not extend notes this side of this line

JOB NO. 002-164 SURVEY OF PORTUGESE BEND
SURVEY BY FEB BROOKS
NOTES BY FEB DATE 12 MAY 1977
INDEXED G.D. BAILEY DATE JUN 22 [redacted]
NOTES RED. DATE
NOTES CHKD. DATE

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP 8	180.71					
+	7.480		7.475			
π	188.197	-2.170	-2.170			
-	9.650		9.595			
SAN 5	178.54				178.554	SAN 5
+	9.555		9.527			A 2" I.P. Conc Plug & Tag PG 1C
π	188.102	+2.170	+2.169			
-	7.385		7.358			
TP 9	180.71					
+	1.062		1.020			
π	181.779	-8.220	-8.220			
-	9.282		9.240			
TP 10	172.49					
+	0.508		0.470			
π	173.005	-9.252	-9.252			
-	9.760		9.722			
TP 11	163.25					
+	0.717		0.748			
π	163.962	-5.163	-5.162			
-	5.880		5.910			
P-3	158.08 75				158.095	P-3
						PALOS VERDES DR S.
						A 2" Tag in curb of island.

F.B. 1485 PG. 130
SAN LINE

768420 S & E-353 9-55

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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TBM 31	167.182				167.215 Ad, '77	
+	6.090		6.120			
Π	173.272	-2.302	-2.300			
−	8.392		8.420			
TP 1	164.880					
+	0.232		0.322			
Π	165.112	-6.346	-6.348			
−	6.578		6.670			
TP 2	158.534					
+	1.132		1.075			
Π	159.666	-8.073	-8.075			
−	9.205		9.150			
TP 3	150.461					
+	2.317		2.293			
Π	152.778	-5.175	-5.172			
−	7.492		7.465			
BM Q-1	145.286				145.319	Q-1
+	9.482		9.610	9.570		A 2½" Brass Disk set in a 6" conc post. pg 29
Π	154.768	+9.017	+9.013	9.017		
−	0.465		0.597	0.553		
TP 4	154.303					
+	5.403		5.385			
Π	159.706	-3.485	-3.482			
−	8.888		8.867			
TP 5	150.818					
+	0.932		0.978			
Π	151.750	-8.831	-8.832			
−	9.763		9.810			
TP 6	141.987					

NOTES RED _____ JOB NO 00214 SURVEY OF PORTUGUESE BEND
DATE _____ SURVEY BY FEB Books
NOTES CHKD. _____ NOTES BY _____ DATE 12 MAY 77
DATE _____ INDEXED G. D. BAILEY DATE JUN 22 1977

Q LINE

F.B. 2485 PG. 231

765420 S & E-353 9-55

PLEASE RETURN TO
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700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
SURVEY BY F.E.B.
NOTES BY F.E.B. DATE 12 MAY 1977
INDEXED G. D. BAILEY DATE JUN 22 [redacted]
NOTES RED. DATE
NOTES CHKD. DATE

F. B. 2485 PG. 232

Q LINE

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP 6	141.987					
+	1.072		0.985			
Π	143.059	-8.728	-8.728			
-	9.800		9.713			
TP 7	133.259					
+	0.650		0.597			
Π	133.909	-9.022	-9.021			
-	9.672		9.618			
TP 8	124.237					
+	1.032		0.912			
Π	125.269	-8.453	-8.453			
-	9.485		9.365			
TP 9	115.784					
+	0.938		0.888			
Π	116.722	-8.692	-8.692			
-	9.630		9.580			
TP 10	107.092					
+	1.082		0.982			
Π	108.174	-8.680	-8.681			
-	9.762		9.663			
TP 11	98.412					
+	1.590		1.523			
Π	100.002	-8.270	-8.272			
-	9.860		9.795			
TP 12	90.142					
+	0.623		0.530			
Π	90.765	-8.299	-8.297			
-	8.922		8.827			
TP 13	81.843					

765420 S & E-353 9-55

PLEASE RETURN TO
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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP 13	81.843					
+	0.952		0.883			
=	82.795	-4.883	-4.884			
−	5.835		5.767			
TP 14	76.960					
+	0.678		0.632			
=	77.638	-7.044	-7.043			
−	7.722		7.675			
Q 1A	69.916				69.950	Q 1A
+	4.330		4.268			A 2" I.P. Conc Plug & Tag
=	74.246	-0.740	0.739			pg 28
−	5.070		5.007			
Q 2	69.176				69.210	Q 2
+	4.650		4.677			A 2½" Brass Disk set in a 6" conc
=	73.826	+2.822	+2.822			post. pg 29
−	1.828		1.855			
TP 15	71.998					
+	3.445		3.410			
=	75.443	-5.745	-5.742			
−	9.180		9.152			
TP 16	66.263					
+	5.127		5.090			
=	71.390	-0.096	-0.098			
−	5.223		5.188			
TP 17	66.167					
+	9.933		9.822			
=	76.100	+9.171	+9.172			
−	0.762		0.650			
TP 18	75.338					

NOTES RED _____ JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE _____ SURVEY BY FE BROOKS
NOTES CHKD. _____ NOTES BY FEB DATE 12 MAY 1977
DATE _____ INDEXED G. D. BAILEY DATE JUN 22 1977

Q LINE

F.B. 2485 PG. 233

768420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

JOB NO. 00216 SURVEY OF PORTUGESE BEND
SURVEY BY F.E. BROOKS
NOTES BY F.E.B. DATE 12 MAY 1977
INDEXED G. D. BAILEY DATE JUN 22 1977
NOTES RED. DATE
NOTES CHKD. DATE

F. B. 2483 PG. 234

Q LINE

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP 18	75.338					
+	8.538		8.503			
⊼	83.876	+7.288	+7.288			
−	1.250		1.215			
Q-3	82.626				82.656	Q-3
+	7.918		8.058			A 2½" Brass Disk set in a 6" conc
⊼	90.544	+7.578	+7.576			post. pg 26
−	0.340		0.482			
TP 19	90.204					
+	8.962		9.005			
⊼	99.166	+8.290	+8.292			
−	0.672		0.713			
TP 20	98.494					
+	9.458		9.590			
⊼	107.952	+8.986	+8.988			
−	0.472		0.602			
TP 21	107.480					
+	7.892		7.960			
⊼	115.372	+6.634	+6.635			
−	1.258		1.325			
TP 22	114.114					
+	9.678		9.572			
⊼	123.792	+7.833	+7.832			
−	1.845		1.740			
TP 23	121.947					
+	9.892		9.835			
⊼	131.839	+9.247	+9.247			
−	0.645		0.588			
TP 24	131.194					

76S420 S & E-353 9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

Do not extend notes this side of this line

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP 24	131.194					
+	9.632		9.515			
⊼	140.826	+7.709	+7.707			
−	1.923		1.808			
TP 25	138.903					
+	5.553		5.610			
⊼	144.456	−2.330	−2.332			
−	7.883		7.942			
TP 26	136.573					
+	5.768		5.723			
⊼	142.341	+0.903	+0.903			
−	4.865		4.820			
SPH HBA	137.476				137.506	SPH HBA
+	1.022		1.043			A 2" I.P. Conc Plug & Rd Dept Tag
⊼	138.498	−8.850	−8.847			6" dn. pg 68
−	9.872		9.890			
TP 27	128.626					
+	0.395		0.367			
⊼	129.021	−7.633	−7.635			
−	8.028		8.002			
TP 28	120.993					
+	0.900		0.865			
⊼	121.893	−6.803	−6.800			
−	7.703		7.665			
SPH HB	114.190				114.220	SPH HB
+	9.903		9.880			A 4" Brass Disk set in a 12" sq
⊼	124.093	+9.560	+9.558			Conc post. pgs 6 + 72
−	0.343		0.322			
TP 29	123.750					

NOTES RED. JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE SURVEY BY FE BROOKS
NOTES CHKD. NOTES BY FE B DATE 12 MAY 1977
DATE INDEXED G. D. BAILEY DATE JUN 22 1977

F. B. 2485 PG. 235

Q LINE

F. B. 2485 Pg. 236

Q LINE

JOB NO. 0021.64 SURVEY OF PORTUGESE BEND NOTES RED.
SURVEY BY FEBROOKS DATE
NOTES BY FEB DATE 12 MAY 1977 NOTES CHKD.
INDEXED G. D. BAILEY DATE JUN 22 1977 DATE

765420 S & E-353 9-85

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

Do not extend notes this side of this line

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP. 29	123.756					
+	9.550		9.523			
T	133.300	+7.577	+7.575			
-	1.973		1.948			
TP 30	131.327					
+	9.817		9.775			
T	141.144	+8.489	+8.487			
-	1.328		1.288			
TP 31	139.816					
+	8.608		8.678			
T	148.424	+6.438	+6.435			
-	2.170		2.243			
TP 32	146.254					
+	9.408		9.470			
T	155.662	+8.913	+8.912			
-	0.495		0.558			
TP 33	155.167					
+	9.877		9.908			
T	165.044	+9.467	+9.468			
-	0.410		0.440			
TP 35	164.634					
+	9.849		9.825	9.763		
T	174.481	+8.152	+8.148	+8.151		
-	1.295		1.677	1.612		
TP 36	172.786					
+	9.910		9.880			
T	182.696	+8.940	+8.942			
-	0.970		0.938			
TP 37	181.726					

768420 S & E-353 9-55

PLEASE RETURN TO
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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP 37	181.726					
+	9.918		9.883			
π	191.644	+9.086	+9.085			
−	0.832		0.798			
TP 38	190.812					
+	9.990		9.898			
π	200.802	+7.512	+7.511			
−	2.478		2.387			
TP 39	198.324					
+	6.710		6.797			
π	205.034	+2.703	+2.702			
−	4.007		4.095			
Q 4B	201.027				201.051	Q 4B
+	9.940		9.857			A Lg Bt spk w&T pg 25
π	210.967	+9.375	+9.375			
−	0.565		0.482			
TP. 40	210.402					
+	8.085		8.048			
π	218.487	+5.593	+5.596			
−	2.492		2.452			
Q 4A	215.995				216.021	Q 4A
+	9.190		9.155			A 2" I.P. Conc plug & Tag pg 25
π	225.185	+8.485	+8.483			
−	0.705		0.672			
TP 41	224.480					
+	8.217		8.193			
π	232.697	+6.655	+6.655			
−	1.562		1.538			
Q-5	231.135				231.159	Q-5
						A 2½" Brass Disk set in a 6" conc Post pg 25

NOTES RED ____ JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE ____ SURVEY BY ____
NOTES CHKD. ____ NOTES BY ____ DATE ____
DATE ____ INDEXED G.D. BAILEY DATE JUN 22 1977

F.B. 2485 PG. 237

Q LINE

F. B. 2485 PG. 238

Q LINE

JOB NO. 0021.64 SURVEY OF PORTUGESE BEND NOTES RED.
SURVEY BY FE BROOKS DATE
NOTES BY FEB DATE 12 MAY 77 NOTES CHKD.
INDEXED G. D. BAILEY DATE JUN 22 1977 DATE

765420 S & E-333-9-55

PLEASE RETURN TO
LOS ANGELES COUNTY ENGINEER
700 LOS ANGELES COUNTY ENGINEERING BLDG.

Do not extend notes this side of this line

NOTE: ANY ADDITIONS OR CHANGES ON THIS SHEET MUST BE MADE OR CIRCLED IN RED INK, WITH DATE AND NAME OF PERSON MAKING CHANGE.

B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
Q-5	231.135					
+	0.817		0.910			
π	231.952	-8.578	-8.577			
-	9.385		9.487			
TP 42	222.557					
+	0.592		0.572			
π	223.149	-8.485	-8.485			
-	9.077		9.057			
TP 43	214.072					
+	0.337		0.285			
π	214.409	-8.398	-8.397			
-	8.735		8.692			
TP 44	205.674					
+	0.752		0.740			
π	206.426	-8.620	-8.622			
-	9.372		9.362			
TP 45	197.054					
+	1.405		1.523			
π	198.459	-7.477	-7.485			
-	8.882		8.998			
TP 46	189.577					
+	1.187		1.234			
π	190.764	-7.741	-7.741			
-	8.928		8.975			
TP 47	181.836					
+	1.983		2.010	2.095		
π	183.819	-7.529	-7.533	-7.530		
-	9.512		9.543	9.625		
TP 48	174.307					

765420 S & E-353 9-55

PLEASE RETURN TO
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700 LOS ANGELES COUNTY ENGINEERING BLDG.

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B.M.	1ST RUN	DIFF.	2ND RUN	3RD RUN	ADJ. ELEV.	DESCRIPTION
TP 48	174.307					
+	2.695		2.713			
Σ	177.002	-7.110	-7.109			
-	9.805		9.822			
TP 49	167.197					
+	4.040		4.463			
Σ	171.237	+1.330	+1.330			
-	2.710		3.133			
BM 34-18	168.527				168.553	BM 34-18 Palos VERDES DR S and NARCISSA DR. A 2½" Button Brass Disk set in a 12" conc post EL = 168.553 ADJ '76

NOTES RED _____ JOB NO. 0021.64 SURVEY OF PORTUGESE BEND
DATE _____ SURVEY BY F E B Brooks
NOTES CHKD. _____ NOTES BY F E B DATE 16 MAY 1977
DATE _____ INDEXED Q. D. BAILEY DATE JUN 22 1977

F. B. 2485 PG. 239

Q LINE