

Log forms
X-sections
correlation chart
Water
original memo

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
T. A. TIDEMANSON - DIRECTOR

REPORT ON
LAND MOVEMENT STUDY
OF THE
ABALONE COVE AREA

BASED ON FIELD WORK AND CALCULATIONS OF THE
SURVEY DIVISION

NOTES

COORDINATES AND BEARINGS ARE BASED ON THE
CALIFORNIA COORDINATES SYSTEM - ZONE 7 N.A.D. 1927

ADDRESS COMMENTS AND SUGGESTIONS TO
EDMUND D. RIDDLE - SUPERVISING FIELD ENGINEER
SURVEY DIVISION

THIRD FLOOR
900 SOUTH FREMONT AVENUE
PASADENA, CALIFORNIA 91803-1331

P R E F A C E

THIS REPORT CONTAINS A RECORD OF CURRENT SURVEY OBSERVATIONS BEING MADE BY SURVEY DIVISION. THE HORIZONTAL AND VERTICAL MOVEMENTS OF EACH STATION ARE COMPUTED WHERE AVAILABLE DATA PERMITS. THE ANGLE OF DIP WITH REFERENCE TO THE HORIZONTAL PLANE IS ALSO COMPUTED WHEN BOTH HORIZONTAL AND VERTICAL OBSERVATIONS ARE AVAILABLE FOR CONCURRENT DATES. THE TOTAL VECTORS ARE COMPUTED USING THE FIRST AVAILABLE DATA AND MOST RECENT DATA IN THE CORRESPONDING PLANES.

THE FOLLOWING ARE BRIEF EXPLANATIONS OF THE COLUMN HEADINGS USED IN THE REPORT:

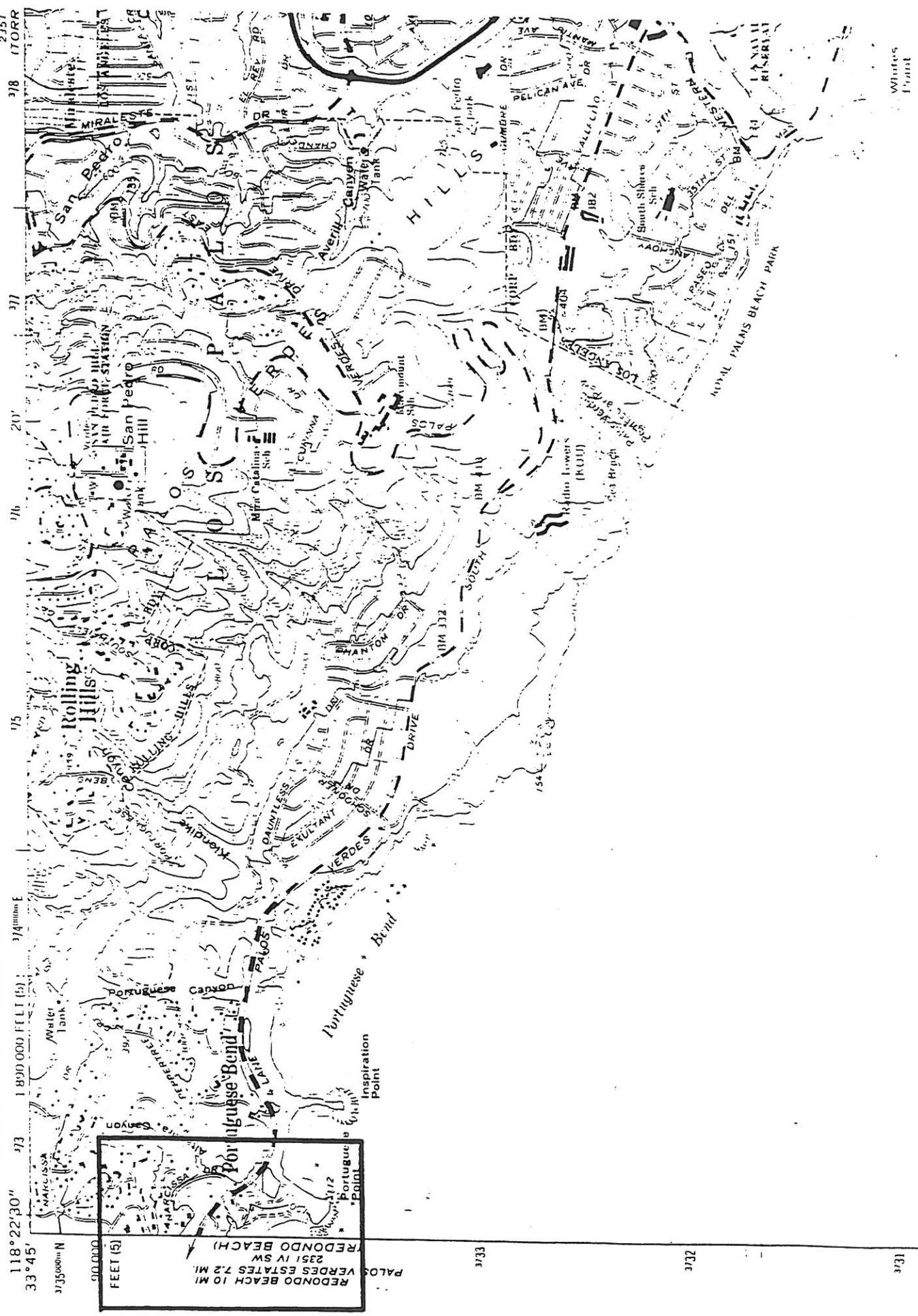
- DATE THE DAY, MONTH, AND YEAR WHEN THE OBSERVATION WAS MADE.
- COORDINATES THE NORTHING AND EASTING OF THE STATION REFERRED TO THE CALIFORNIA COORDINATES SYSTEM, ZONE 7. WHERE THERE ARE BLANKS IMMEDIATELY FOLLOWING THE DECIMAL POINT, THE COORDINATES ARE APPROXIMATE. - SEE NOTE.
- ELEVATIONS THE ELEVATION OF THE STATION REFERRED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929. WHERE THERE ARE BLANKS IMMEDIATELY FOLLOWING THE DECIMAL POINT THE ELEVATIONS ARE APPROXIMATE. SEE NOTE.
- HORIZONTAL MOVEMENT THE COMPUTED MOVEMENT VECTOR - DISTANCE AND BEARING BETWEEN SUCCESSIVE OBSERVATIONS, THE NUMBER OF DAYS BETWEEN SUCCESSIVE OBSERVATIONS AND THE MOVEMENT RATE IN FEET PER DAY.
- VERTICAL MOVEMENT THE COMPUTED ELEVATION DIFFERENCE BETWEEN SUCCESSIVE OBSERVATIONS AND THE CORRESPONDING PERIOD IN DAYS.
- DIP THE COMPUTED VERTICAL ANGLE OF THE MOVEMENT VECTOR WITH REFERENCE TO THE HORIZONTAL PLANE WHEN BOTH HORIZONTAL AND VERTICAL DATA HAVE BEEN OBSERVED ON CONCURRENT DAYS.
- TOTAL MOVEMENT VECTORS TOTAL MOVEMENT VECTORS ARE COMPUTED USING THE FIRST APPLICABLE OBSERVATION AND THE LAST APPLICABLE OBSERVATION IN EACH OF THE TWO PLANES.

- NOTE THE APPROXIMATE HORIZONTAL POSITIONS AND ELEVATIONS ARE LISTED TO FACILITATE ELECTRONIC DATA RETRIEVAL. THESE APPROXIMATE VALUES ARE SHOWN WITH BLANKS IMMEDIATELY FOLLOWING THE DECIMAL POINT. THEY ARE NOT, NOR ARE THEY TO BE, USED FOR COMPUTATION.

2351 IV SW
REYDONO BEACH

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

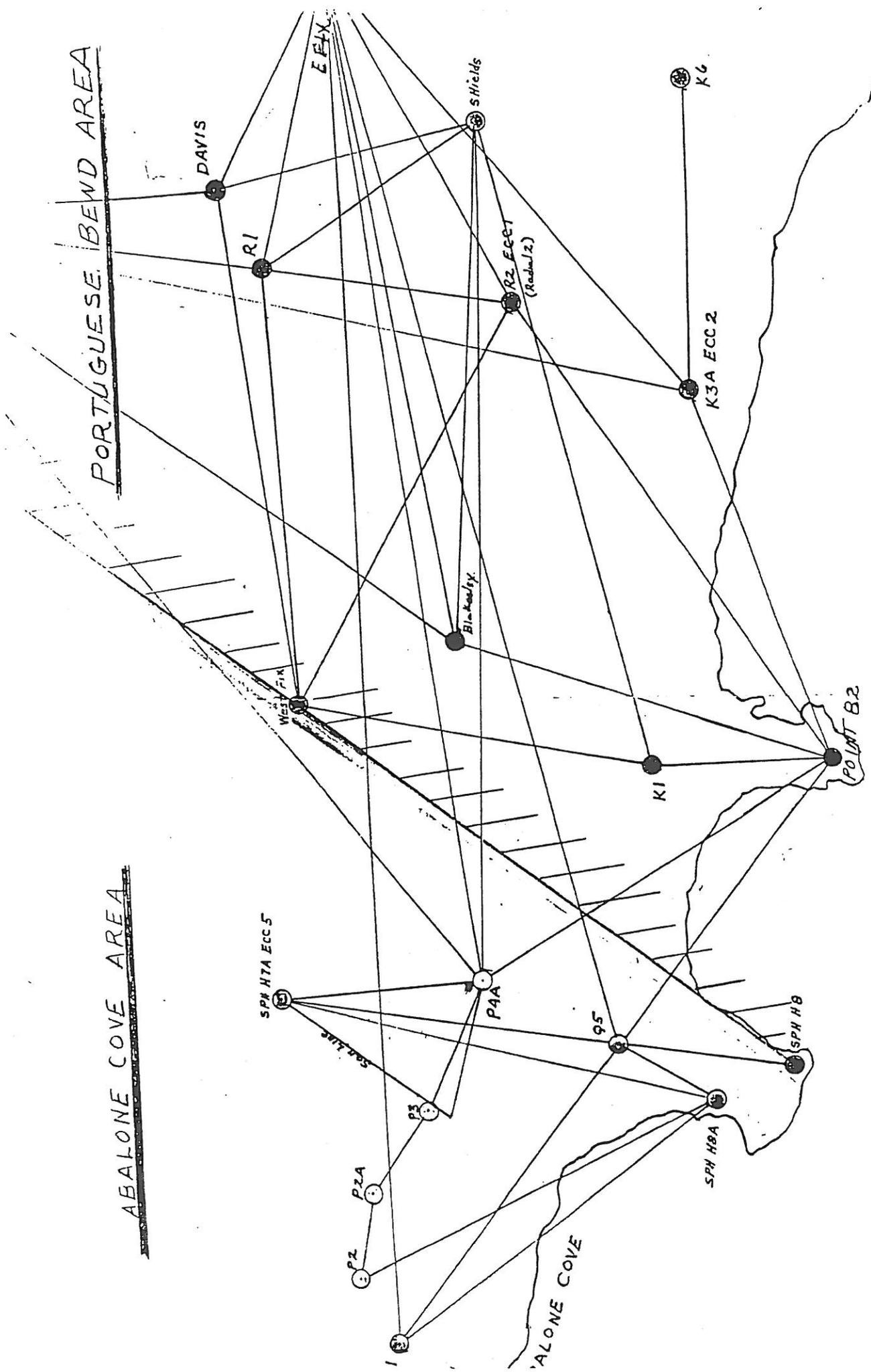


REYDONO BEACH 10 MI
VERDES ESTATES 7.2 MI
2351 IV SW
REDONDO BEACH

Whiters Point

PORTUGUESE BEND AREA

ABALONE COVE AREA



COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

SPH H 7A ECC 1
FB 4319-013

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL BEARING		MOVEMENT TIME	RATE	VERTICAL MVNT		DIP
	NORTH	EAST		DIST FT	DG MN	DAYS	FT/DA	ELEV DIFF	TIME DAYS	DG MN
2 OCT 78	4019266.85	4174840.45	287.86	N 90	2681	25		-2.95	2681	90
3 FEB 86	4019266.85	4174840.45	284.91	N 90	25				25	
28 FEB 86	4019266.85	4174840.45	284.91							
29 MAR 90			284.88					-.03	1490	

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 2 OCT 78 TO 28 FEB 86 2706 DAYS DIST = .000 FT BEARING = N 90 00
 VERTICAL MOVEMENT FROM 2 OCT 78 TO 29 MAR 90 4196 DAYS DIST = -2.98 FT
 RESULTANT FROM 2 OCT 78 TO 28 FEB 86 2706 DAYS DIP = 90 DEG 0 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

SPH H 7A ECC 2
FB 4337-148

PROGRAM EK11AP
09/27/93

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT	FROM 14 NOV 77 TO 30 AUG 93	5768 DAYS	DIST = 8.108 FT	BEARING = S 15 36 W
VERTICAL MOVEMENT	FROM 14 NOV 77 TO 30 AUG 93	5768 DAYS	DIST = -3.34 FT	
RESULTANT	FROM 14 NOV 77 TO 30 AUG 93	5768 DAYS	DIP = 22 DEG 23 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

SPH H 7A ECC 4
FB 4319-013

DATE	COORDINATES	ELEV.	HORIZONTAL	MOVEMENT	VERTICAL	DIP
DA MON YR	NORTH EAST		DIST FT	BEARING DG MN	ELEV DIFF	DG MN
2 OCT 78	4019256.32 4174840.53	287.94				
28 FEB 86	4019256.32 4174840.53	284.91			-3.03	90
29 MAR 90		284.88			-.03	90

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 2 OCT 78 TO 28 FEB 86 2706 DAYS DIST = .000 FT BEARING = N 90 00
 VERTICAL MOVEMENT FROM 2 OCT 78 TO 29 MAR 90 4196 DAYS DIST = -3.06 FT
 RESULTANT FROM 2 OCT 78 TO 28 FEB 86 2706 DAYS DIP = 90 DEG 0 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

SPH H 7A ECC 5
FB 2485-071

DATE	COORDINATES	ELEV.	HORIZONTAL	MOVEMENT	VERTICAL	DIP
DA MON YR	NORTH	EAST	DIST FT	BEARING DG MN	ELEV DIFF	DG MN
25 NOV 91	08	05	.060	S	-.05	39 48 DN
18 AUG 92	4019230.02	4174919.05	.101	S 11 19 E	-.03	16 23 DN
30 AUG 93	4019229.92	4174919.07				

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 28 JAN 72 TO 30 AUG 93 7885 DAYS DIST = 5.158 FT BEARING = S 20 32 W
 VERTICAL MOVEMENT FROM 14 NOV 77 TO 30 AUG 93 5768 DAYS DIST = -3.16 FT
 RESULTANT FROM 14 NOV 77 TO 30 AUG 93 5768 DAYS DIP = 25 DEG 7 MIN DN

$6.50 + 1.78 = 6.74$

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

SPH H 8
FB 4445-101

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
6 SEP 83	NORTH	EAST	114.22		N 90	199			199	
	4016759.48	4174623.86								
23 MAR 84	4016759.48	4174623.86	114.22		N 90	172				
11 SEP 84	4016759.48	4174623.86			N 90	122				
11 JAN 85	4016759.48	4174623.86			N 90	241			535	
9 SEP 85	4016759.48	4174623.86	114.22		N 90	142			142	
29 JAN 86	4016759.48	4174623.86			N 90	363			363	
27 JAN 87	4016759.48	4174623.86	114.22		N 90	162			162	
8 JUL 87	4016759.48	4174623.86			N 90	243			243	
7 MAR 88	4016759.48	4174623.86	114.22		N 90	476			476	
26 JUN 89	4016759.48	4174623.86			N 90	276			276	
29 MAR 90	4016759.48	4174623.86	114.22		N 90	606			606	
25 NOV 91	4016759.48	4174623.86			N 90	267			267	
18 AUG 92	4016759.48	4174623.86	114.22		N 90	377			377	
30 AUG 93	4016759.48	4174623.86	114.22		N 90					

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 6 SEP 83 TO 30 AUG 93 3646 DAYS DIST = .000 FT BEARING = N 90 00
 VERTICAL MOVEMENT FROM 6 SEP 83 TO 30 AUG 93 3646 DAYS DIST = .00 FT
 RESULTANT FROM 6 SEP 83 TO 30 AUG 93 3646 DAYS DIP = 0 DEG 0 MIN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN ACL1
FB 4205-231

DATE	COORDINATES	ELEV.	DIST	HORIZONTAL BEARING	MOVEMENT	RATE	VERTICAL	DIP
DA MON YR	NORTH EAST		FT	DG MN	TIME DAYS	FT/DA	ELEV DIFF	DG MN
26 JUN 89	4018037.72 4174052.97	65.79	.080	N 82 52 W	276	.000	.44	79 37 UP
29 MAR 90	4018037.73 4174052.89	66.23	.040	N 90 E	606	.000	-.24	80 32 DN
25 NOV 91	4018037.73 4174052.93	65.99	.116	S 59 2 W	267	.000	-.64	79 40 DN
18 AUG 92	4018037.67 4174052.83	65.35	.206	S 39 6 W	377	.000	.20	44 8 UP
30 AUG 93	4018037.51 4174052.70	65.55						

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 26 JUN 89 TO 30 AUG 93 1526 DAYS DIST = .342 FT BEARING = S 52 07 W
 VERTICAL MOVEMENT FROM 26 JUN 89 TO 30 AUG 93 1526 DAYS DIST = -.24 FT
 RESULTANT FROM 26 JUN 89 TO 30 AUG 93 1526 DAYS DIP = 35 DEG 3 MIN DN

*111
-65
82 ft below sea level*

11.1

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN ACL4A
FB 4205-

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL BEARING		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL		DIP
	NORTH	EAST		DIST FT	DG MN			ELEV DIFF	MVNT TIME DAYS	
18 AUG 92	4017897.99	4174899.07	179.62	.022	S 63 26 W	377	.000		377	
30 AUG 93	4017897.98	4174899.05	179.62							

0.02

0.02

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 18 AUG 92 TO 30 AUG 93 377 DAYS DIST = .022 FT BEARING = S 63 26 W
 VERTICAL MOVEMENT FROM 18 AUG 92 TO 30 AUG 93 377 DAYS DIST = .00 FT
 RESULTANT FROM 18 AUG 92 TO 30 AUG 93 377 DAYS DIP = 0 DEG 0 MIN



ACL-4A
⑥

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN MARINE A
FB 4205-192

DATE DA MON YR	COORDINATES NORTH EAST	ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
7 MAR 88	4018540.14 4164709.46			N 90	476				
26 JUN 89	4018540.14 4164709.46			N 90	276				
29 MAR 90	4018540.14 4164709.46			N 90	606				
25 NOV 91	4018540.14 4164709.46			N 90	267				
18 AUG 92	4018540.14 4164709.46			N 90	377				
30 AUG 93	4018540.14 4164709.46			N 90					

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 7 MAR 88 TO 30 AUG 93 2002 DAYS DIST = .000 FT BEARING = N 90 00

PROGRAM EK11AP
09/27/93

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN NARCISSA1
FB 4319-007

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT	FROM 14 NOV 78 TO 30 AUG 93	5403 DAYS	DIST =	4.233 FT	BEARING =	S 4 36 E
VERTICAL MOVEMENT	FROM 14 NOV 78 TO 30 AUG 93	5403 DAYS	DIST =	-1.99 FT		
RESULTANT	FROM 14 NOV 78 TO 30 AUG 93	5403 DAYS	DIP =	25 DEG	10 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
09/27/93

PORT BN P 2
FB 949-193

DATE DA MON YR	COORDINATES NORTH EAST	ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
18 JUN 57	4018877.99 4173636.87	163.51	.126	N 18 26 W	7455	.000	-.24	7455	62 12 DN
15 NOV 77	4018878.11 4173636.83	163.27	.974	S 10 2 W	345	.002			
26 OCT 78	4018877.15 4173636.66		.022	S 26 34 W	6	.003			
1 NOV 78	4018877.13 4173636.65		.250	S 53 8 W	13	.019	-.34	364	15 55 DN
14 NOV 78	4018876.98 4173636.45	162.93	2.585	S 22 59 W	167	.015	-.55	167	12 DN
30 APR 79	4018874.60 4173635.44	162.38	3.365	S 16 56 W	184	.018	-.58	184	9 47 DN
31 OCT 79	4018871.38 4173634.46	161.80	.672	S 11 8 W	43	.015	-.16	43	13 23 DN
13 DEC 79	4018870.72 4173634.33	161.64	1.836	S 21 24 W	68	.027	-.30	68	9 16 DN
19 FEB 80	4018869.01 4173633.66	161.34	2.397	S 27 19 W	65	.036	-.43	65	10 10 DN
24 APR 80	4018866.88 4173632.56	160.91	.417	S 21 2 W	21	.019	-.05	21	6 49 DN
15 MAY 80	4018866.49 4173632.41	160.86	.830	S 9 W	89	.009	-.15	89	10 14 DN
12 AUG 80	4018865.67 4173632.28	160.71	.430	S 17 35 W	65	.006	-.06	65	7 56 DN
16 OCT 80	4018865.26 4173632.15	160.65	.158	S 18 26 W	33	.004	-.03	33	10 44 DN
18 NOV 80	4018865.11 4173632.10	160.62	.308	S 35 45 W	79	.003	-.03	79	5 33 DN
5 FEB 81	4018864.86 4173631.92	160.59	.170	S 28 4 W	47	.003	-.03	47	10 DN
24 MAR 81	4018864.71 4173631.84	160.56	.353	S 8 8 W	134	.002	-.05	134	8 3 DN
5 AUG 81	4018864.36 4173631.79	160.51	.161	S 29 45 W	251	.000	-.06	251	20 25 DN
13 APR 82	4018864.22 4173631.71	160.45	.214	S 27 45 W	218	.000	-.03	218	7 57 DN
17 NOV 82	4018864.03 4173631.61	160.42	1.767	S 21 55 W	293	.006	-.26	293	8 22 DN
6 SEP 83	4018862.39 4173630.95	160.16	.531	S 19 48 W	199	.002	-.10	199	10 39 DN
23 MAR 84	4018861.89 4173630.77	160.06	.533	S 6 27 W	287	.001	-.08	287	8 32 DN
4 JAN 85	4018861.36 4173630.71	159.98	.092	N 49 24 E	248	.000	-.03	248	18 1 DN
9 SEP 85	4018861.42 4173630.78	159.95	.080	N 90 W	141	.000	-.01	141	7 8 DN
28 JAN 86	4018861.42 4173630.70	159.94	.080	S 29 45 E	364	.000	-.04	364	26 23 DN
27 JAN 87	4018861.35 4173630.74	159.90	.100	S 36 52 W	162	.000	-.04	162	21 48 DN
8 JUL 87	4018861.27 4173630.68	159.86							

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN P 2A
FB 4338-011

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST								
10 FEB 76	4018810.58	4174018.07		.082	N 75 58 W	646	.000			
17 NOV 77	4018810.60	4174017.99		1.428	S 23 31 W	343	.004			
26 OCT 78	4018809.29	4174017.42		.064	N 51 20 W	6	.010			
1 NOV 78	4018809.33	4174017.37	161.35	.333	S 48 39 W	13	.025	-.06	13	10 13 DN
14 NOV 78	4018809.11	4174017.12	161.29	2.983	S 29 45 W	167	.017	-.82	167	15 22 DN
30 APR 79	4018806.52	4174015.64	160.47	3.963	S 25 24 W	184	.021	-1.02	184	14 26 DN
31 OCT 79	4018802.94	4174013.94	159.45	1.615	S 7 28 W	43	.014	-.24	43	21 19 DN
13 DEC 79	4018802.33	4174013.86	159.21	2.263	S 27 55 W	69	.032	-.57	69	14 8 DN
20 FEB 80	4018800.33	4174012.80	158.64	2.773	S 33 14 W	64	.043	-.73	64	14 44 DN
24 APR 80	4018798.01	4174011.28	157.91	.456	S 26 W	21	.021	-.10	21	12 22 DN
15 MAY 80	4018797.60	4174011.08	157.81	.950	S 14 37 W	89	.010	-.29	89	16 58 DN
12 AUG 80	4018796.68	4174010.84	157.52	.452	S 30 32 W	65	.006	-.10	65	12 27 DN
16 OCT 80	4018796.29	4174010.61	157.42	.155	S 44 60 W	33	.004	-.04	33	14 25 DN
18 NOV 80	4018796.18	4174010.50	157.38	.272	S 28 26 W	79	.003	-.06	79	12 24 DN
5 FEB 81	4018795.94	4174010.37	157.32	.205	S 43 1 W	47	.004	-.05	47	13 41 DN
24 MAR 81	4018795.79	4174010.23	157.27	.352	S 6 31 W	134	.002	-.09	134	14 20 DN
5 AUG 81	4018795.44	4174010.19	157.18	.176	S 42 42 W	251	.000	-.08	251	24 20 DN
13 APR 82	4018795.31	4174010.07	157.10	.250	S 36 52 W	220	.001	-.05	220	11 19 DN
19 NOV 82	4018795.11	4174009.92	157.05	1.806	S 30 15 W	291	.006	-.45	291	13 59 DN
6 SEP 83	4018793.55	4174009.01	156.60	.506	S 29 36 W	199	.002	-.16	199	17 33 DN
23 MAR 84	4018793.11	4174008.76	156.44	.296	S 11 41 W	287	.001	-.14	287	25 18 DN
4 JAN 85	4018792.82	4174008.70	156.30	.290	S 1 58 E	248	.001	-.06	248	11 41 DN
9 SEP 85	4018792.53	4174008.71	156.24	.085	S 69 27 W	141	.000	-.02	141	13 10 DN
28 JAN 86	4018792.50	4174008.63	156.22	.111	S 10 18 W	364	.000	-.07	364	32 3 DN
27 JAN 87	4018792.39	4174008.61	156.15	.070	S 8 8 W	162	.000	-.05	162	35 16 DN
8 JUL 87	4018792.32	4174008.60	156.10							

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN P 2AA
FB 4205-267

DATE DA MON YR	COORDINATES NORTH EAST	ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
29 MAR 90	4018793.45 4174007.30	157.62	.044	S 63 26 E	606	.000	.02	606	24 6 UP
25 NOV 91	4018793.43 4174007.34	157.64	.064	S 38 40 W	267	.000	-.04	267	31 60 DN
18 AUG 92	4018793.38 4174007.30	157.60	.111	S 10 18 W	377	.000	-.06	377	28 13 DN
30 AUG 93	4018793.27 4174007.28	157.54	<i>1.37</i>						

0.2

1.18 = 2.16"

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 29 MAR 90 TO 30 AUG 93 1250 DAYS DIST = .181 FT BEARING = S 6 20 W
 VERTICAL MOVEMENT FROM 29 MAR 90 TO 30 AUG 93 1250 DAYS DIST = -.08 FT
 RESULTANT FROM 29 MAR 90 TO 30 AUG 93 1250 DAYS DIP = 23 DEG 50 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN P 3
FB 949-193

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST								
18 JUN 57	4018538.88	4174407.12	158.13	.305	S 31 36 W	7455	.000			
15 NOV 77	4018538.62	4174406.96		1.064	S 25 36 W	345	.003			
26 OCT 78	4018537.66	4174406.50		.064	N 51 20 W	6	.010			
1 NOV 78	4018537.70	4174406.45		.241	S 60 15 W	13	.018	-.17	364	7 39 DN
14 NOV 78	4018537.58	4174406.24	157.96							
30 APR 79	4018535.82	4174405.10	157.70	2.096	S 32 56 W	167	.012	-.26	167	7 4 DN
31 OCT 79	4018533.20	4174403.80	157.54	2.924	S 26 23 W	184	.015	-.16	184	3 8 DN
13 DEC 79	4018532.81	4174403.83	157.56	.391	S 4 24 E	43	.009	.02	43	2 56 UP
20 FEB 80	4018531.35	4174403.07	157.31	1.645	S 27 30 W	69	.023	-.25	69	8 38 DN
24 APR 80	4018529.70	4174401.96	157.05	1.988	S 33 56 W	64	.031	-.26	64	7 27 DN
15 MAY 80	4018529.51	4174401.79	157.04	.254	S 41 49 W	21	.012	-.01	21	2 15 DN
12 AUG 80	4018528.82	4174401.74	156.96	.691	S 4 8 W	89	.007	-.08	89	6 36 DN
16 OCT 80	4018528.61	4174401.49	156.93	.326	S 49 58 W	65	.005	-.03	65	5 15 DN
18 NOV 80	4018528.58	4174401.41	156.91	.085	S 69 27 W	33	.002	-.02	33	13 10 DN
5 FEB 81	4018528.41	4174401.37	156.91	.174	S 13 14 W	79	.002		79	
24 MAR 81	4018528.33	4174401.24	156.92	.152	S 58 24 W	47	.003	.01	47	3 45 UP
5 AUG 81	4018528.10	4174401.27	156.88	.231	S 7 26 E	134	.001	-.04	134	9 47 DN
13 APR 82	4018528.04	4174401.14	156.85	.143	S 65 13 W	251	.000	-.03	251	11 50 DN
19 NOV 82	4018527.87	4174401.03	156.83	.202	S 32 54 W	220	.000	-.02	220	5 38 DN
6 SEP 83	4018526.96	4174400.43	156.73	1.090	S 33 24 W	291	.003	-.10	291	5 14 DN
23 MAR 84	4018526.82	4174400.28	156.73	.205	S 46 58 W	199	.001		199	
4 JAN 85	4018526.58	4174400.23	156.67	.245	S 11 46 W	287	.000	-.06	287	13 45 DN
9 SEP 85	4018526.34	4174400.26	156.66	.241	S 7 8 E	248	.000	-.01	248	2 22 DN
28 JAN 86	4018526.36	4174400.20	156.64	.063	N 71 34 W	141	.000	-.02	141	17 33 DN
27 JAN 87	4018526.27	4174400.15	156.60	.102	S 29 3 W	364	.000	-.04	364	21 14 DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN P 3A
FB 4205-163

DATE DA MON YR	COORDINATES NORTH EAST	ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
8 JUL 87	4018526.24 4174400.12	156.43	.058	S 59 2 W	243	.000	-.06	243	45 49 DN
7 MAR 88	4018526.21 4174400.07	156.37	.130	S 57 32 W	476	.000	.09	476	34 37 UP
26 JUN 89	4018526.14 4174399.96	156.46							

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 8 JUL 87 TO 26 JUN 89 719 DAYS DIST = .188 FT BEARING = S 57 60 W
 VERTICAL MOVEMENT FROM 8 JUL 87 TO 26 JUN 89 719 DAYS DIST = .03 FT
 RESULTANT FROM 8 JUL 87 TO 26 JUN 89 719 DAYS DIP = 9 DEG 2 MIN UP

0.2205
0.0000
0.0000

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN P 4A
FB 2485-018

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL BEARING		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST		DIST FT	DG MN					
21 AUG 75	4018277.10	4175047.06	305.26	.134	S 26 34 E	810	.000			
8 NOV 77	4018276.98	4175047.12		.723	S 11 9 W	371	.001			
14 NOV 78	4018276.27	4175046.98		.567	S 40 43 W	167	.003			
30 APR 79	4018275.84	4175046.61		.910	S 8 50 W	184	.004			
31 OCT 79	4018274.94	4175046.47		.130	S 67 23 E	43	.003			
13 DEC 79	4018274.89	4175046.59		.370	S 1 33 E	69	.005			
20 FEB 80	4018274.52	4175046.60		.396	S 49 5 W	64	.006			
24 APR 80	4018274.26	4175046.30		.050	N 53 8 W	21	.002			
15 MAY 80	4018274.29	4175046.26		.396	S 10 10 E	89	.004			
12 AUG 80	4018273.90	4175046.33	304.96	.390	N 90 W	9	.043	-.30	1017	5 12 DN
21 AUG 80	4018273.90	4175045.94		.294	S 80 13 E	56	.005			
16 OCT 80	4018273.85	4175046.23		.036	S 33 41 W	33	.001			
18 NOV 80	4018273.82	4175046.21		.092	S 49 24 W	79	.001			
5 FEB 81	4018273.76	4175046.14		.220	S 87 24 W	6	.036	-.02	174	7 32 DN
11 FEB 81	4018273.75	4175045.92	304.94	.194	S 78 7 E	41	.004			
24 MAR 81	4018273.71	4175046.11		.156	S 63 26 W	10	.015	-.04	51	18 19 DN
3 APR 81	4018273.64	4175045.97	304.90	.186	S 74 29 W	124	.001	.04	124	12 5 UP
5 AUG 81	4018273.59	4175045.79	304.94	.272	S 72 54 E	251	.001	-.07	251	14 26 DN
13 APR 82	4018273.51	4175046.05	304.87	.203	S 11 19 W	217	.000	.01	217	2 48 UP
16 NOV 82	4018273.31	4175046.01	304.88	.453	S 48 35 W	294	.001	-.02	294	2 32 DN
6 SEP 83	4018273.01	4175045.67	304.86		N 90	199			199	
23 MAR 84	4018273.01	4175045.67	304.86	.290	S 1 58 E	287	.001	-.07	287	13 34 DN
4 JAN 85	4018272.72	4175045.68	304.79	.240	S 4 46 E	248	.000			
9 SEP 85	4018272.48	4175045.70		.070	N 44 60 W	142	.000	-.06	390	17 19 DN
29 JAN 86	4018272.53	4175045.65	304.73							
27 JAN 87	4018272.36	4175045.59	304.73	.180	S 19 26 W	363	.000		363	

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN PI 1A
FB 2849-089

DATE	COORDINATES	ELEV.	DIST	HORIZONTAL BEARING	MOVEMENT	RATE	VERTICAL	MVNT	DIP
DA MON YR	NORTH EAST		FT	DG MN	TIME DAYS	FT/DA	ELEV DIFF	TIME DAYS	DG MN
18 JUL 62	4019600.00 4174300.00	333.70		N 90	5920		-.17	5920	90 DN
2 OCT 78	4019600.00 4174300.00	333.53		N 90	28		-.07	28	90 DN
30 OCT 78	4019600.00 4174300.00	333.46		N 90	15		-.02	15	90 DN
14 NOV 78	4019600.00 4174300.00	333.44		N 90	167		-.36	167	90 DN
30 APR 79	4019600.00 4174300.00	333.08		N 90	184		-.70	184	90 DN
31 OCT 79	4019600.00 4174300.00	332.38		N 90	43		-.20	43	90 DN
13 DEC 79	4019600.00 4174300.00	332.18		N 90	71		-.33	71	90 DN
22 FEB 80	4019600.00 4174300.00	331.85		N 90	62		-.53	62	90 DN
24 APR 80	4019600.00 4174300.00	331.32		N 90	22			22	
16 MAY 80	4019600.00 4174300.00	331.32		N 90	101		-.19	101	90 DN
25 AUG 80	4019600.00 4174300.00	331.13		N 90	164		-.14	164	90 DN
5 FEB 81	4019600.00 4174300.00	330.99		N 90	47			47	
24 MAR 81	4019600.00 4174300.00	330.99		N 90	134		-.10	134	90 DN
5 AUG 81	4019600.00 4174300.00	330.89		N 90	251		-.05	251	90 DN
13 APR 82	4019600.00 4174300.00	330.84		N 90	218		-.03	218	90 DN
17 NOV 82	4019600.00 4174300.00	330.81		N 90	293		-.22	293	90 DN
6 SEP 83	4019600.00 4174300.00	330.59		N 90	883		-.26	883	90 DN
5 FEB 86	4019600.00 4174300.00	330.33		N 90	761		-.07	761	90 DN
7 MAR 88	4019600.00 4174300.00	330.26		N 90	476		-.01	476	90 DN
26 JUN 89	4019600.00 4174300.00	330.25		N 90			.08	276	
29 MAR 90		330.33					-.02	606	
25 NOV 91		330.31					-.04	267	
18 AUG 92		330.27					-.05	377	
30 AUG 93		330.22							

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN PI 3A
FB 2849-089

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST								
27 NOV 63	4020100.00	4174200.00	372.96	N 90	5101			.10	5101	90 UP
14 NOV 77	4020100.00	4174200.00	373.06	N 90	322			-.04	322	90 DN
2 OCT 78	4020100.00	4174200.00	373.02	N 90	28			-.02	28	90 DN
30 OCT 78	4020100.00	4174200.00	373.00	N 90	15			-.01	15	90 DN
14 NOV 78	4020100.00	4174200.00	372.99	N 90	167			.05	167	90 UP
30 APR 79	4020100.00	4174200.00	373.04	N 90	184			-.01	184	90 DN
31 OCT 79	4020100.00	4174200.00	373.03	N 90	43			-.06	43	90 DN
13 DEC 79	4020100.00	4174200.00	372.97	N 90	71			.12	71	90 UP
22 FEB 80	4020100.00	4174200.00	373.09	N 90	62			-.13	62	90 DN
24 APR 80	4020100.00	4174200.00	372.96	N 90	22			.06	22	90 UP
16 MAY 80	4020100.00	4174200.00	373.02	N 90	101			.09	101	90 UP
25 AUG 80	4020100.00	4174200.00	373.11	N 90	164			-.11	164	90 DN
5 FEB 81	4020100.00	4174200.00	373.00	N 90	47			.04	47	90 UP
24 MAR 81	4020100.00	4174200.00	373.04	N 90	134			-.05	134	90 DN
5 AUG 81	4020100.00	4174200.00	372.99	N 90	252			-.02	252	90 DN
14 APR 82	4020100.00	4174200.00	372.97	N 90	217			.01	217	90 UP
17 NOV 82	4020100.00	4174200.00	372.98	N 90	293				293	
6 SEP 83	4020100.00	4174200.00	372.98	N 90	883			-.02	883	90 DN
5 FEB 86	4020100.00	4174200.00	372.96	N 90	761			-.05	761	90 DN
7 MAR 88	4020100.00	4174200.00	372.91	N 90	476			.03	476	90 UP
26 JUN 89	4020100.00	4174200.00	372.94							
29 MAR 90			373.04					.10	276	
25 NOV 91			373.03					-.01	606	
30 AUG 93			372.97					-.06	644	

373.04
373.00 ± .04 DIST 493.00 = 799' 1/2

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN PB 1
FB 4319-187

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST								
21 AUG 80	4018459.36	4175146.26	306.57	.200	S 2 52 W	174	.001	-.04	174	11 18 DN
11 FEB 81	4018459.16	4175146.25	306.53		N 90	51		.01	51	90 UP
3 APR 81	4018459.16	4175146.25	306.54	.147	S 28 18 W	124	.001		124	
5 AUG 81	4018459.03	4175146.18	306.54	.133	S 12 59 W	246	.000	-.11	246	39 30 DN
8 APR 82	4018458.90	4175146.15	306.43	.040	S	222	.000	.02	222	26 34 UP
16 NOV 82	4018458.86	4175146.15	306.45	.510	S	294	.001		294	
6 SEP 83	4018458.35	4175146.15	306.45	.360	S 1 35 E	500	.000	-.03	500	4 46 DN
18 JAN 85	4018457.99	4175146.16	306.42	.056	N 44 60 E	382	.000	-.05	382	41 29 DN
4 FEB 86	4018458.03	4175146.20	306.37	.472	S 53 37 W	519	.000	-.03	519	3 38 DN
8 JUL 87	4018457.75	4175145.82	306.34	.277	S 59 45 E	719	.000	.06	719	12 11 UP
26 JUN 89	4018457.61	4175146.06	306.40	.090	S 6 20 W	276	.000	-.11	276	50 32 DN
29 MAR 90	4018457.52	4175146.05	306.29	.111	N 63 26 E	606	.000	.14	606	51 23 UP
25 NOV 91	4018457.57	4175146.15	306.43	.092	S 12 32 W	267	.000		267	
18 AUG 92	4018457.48	4175146.13	306.43	.094	S 18 26 E	377	.000	-.07	377	36 25 DN
30 AUG 93	4018457.39	4175146.16	306.36							

0.87 = 1.1 inches 1.0 1/4"

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 21 AUG 80 TO 30 AUG 93 4757 DAYS DIST = 1.972 FT BEARING = S 2 54 W

VERTICAL MOVEMENT FROM 21 AUG 80 TO 30 AUG 93 4757 DAYS DIST = -.21 FT

RESULTANT FROM 21 AUG 80 TO 30 AUG 93 4757 DAYS DIP = 6 DEG 4 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN PB 3
FB 4319-187

DATE	COORDINATES	ELEV.	HORIZONTAL BEARING	MOVEMENT	RATE	VERTICAL	DIP
DA MON YR	NORTH EAST		DIST FT	BEARING DG MN	TIME DAYS	ELEV DIFF	DG MN
21 AUG 80	4017760.96 4175035.53	191.52	.212	S 81 52 W	174	.02	5 23 UP
11 FEB 81	4017760.93 4175035.32	191.54	.130	S	51	.02	8 45 UP
3 APR 81	4017760.80 4175035.32	191.56	.261	S 83 25 W	124	.01	2 11 UP
5 AUG 81	4017760.77 4175035.06	191.57	.189	S 71 34 W	246	.02	6 1 UP
8 APR 82	4017760.71 4175034.88	191.59	.078	N 50 12 W	225	-.01	7 18 DN
19 NOV 82	4017760.76 4175034.82	191.58	.467	S 48 28 W	291	.06	7 19 UP
6 SEP 83	4017760.45 4175034.47	191.64	.302	S 55 47 W	500	.05	9 23 UP
18 JAN 85	4017760.28 4175034.22	191.69	.203	S 78 41 W	382	.02	5 36 UP
4 FEB 86	4017760.24 4175034.02	191.71	.362	S 62 1 W	519	-.03	4 44 DN
8 JUL 87	4017760.07 4175033.70	191.68					

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 21 AUG 80 TO 8 JUL 87 2512 DAYS DIST = 2.034 FT BEARING = S 64 O4 W
 VERTICAL MOVEMENT FROM 21 AUG 80 TO 8 JUL 87 2512 DAYS DIST = .16 FT
 RESULTANT FROM 21 AUG 80 TO 8 JUL 87 2512 DAYS DIP = 4 DEG 30 MIN UP

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN Q 1
FB 949-195

DATE	COORDINATES		ELEV.	DIST	HORIZONTAL BEARING	MOVEMENT	RATE	VERTICAL	MVNT	DIP
DA	MON	YR	NORTH	FT	DG MN	TIME	FT/DA	ELEV	TIME	DG MN
			EAST			DAYS		DIFF	DAYS	
18	JUN	57	4018708.43	4173035.75	.460	S	6785	.000		
15	JAN	76	4018707.97	4173035.75		N 90	4			
19	JAN	76	4018707.97	4173035.75		N 90	29	-.01	29	90 DN
17	FEB	76	4018707.97	4173035.75		N 90	29		29	
17	MAR	76	4018707.97	4173035.75		N 90	29		29	90 DN
15	APR	76	4018707.97	4173035.75		N 90	55	.01	55	90 UP
9	JUN	76	4018707.97	4173035.75		N 90	78		78	
26	AUG	76	4018707.97	4173035.75	.050	N 36 52 W	60	.02	60	21 48 UP
25	OCT	76	4018708.01	4173035.72		N 90	77		77	
10	JAN	77	4018708.01	4173035.72	.089	N 63 26 W	122	-.01	122	6 23 DN
12	MAY	77	4018708.05	4173035.64		N 90	75		75	
26	JUL	77	4018708.05	4173035.64	.094	S 18 26 W	112	-.01	112	6 1 DN
15	NOV	77	4018707.96	4173035.61	.142	N 50 43 E	72	.05	72	19 23 UP
26	JAN	78	4018708.05	4173035.72	.098	S 44 60 E	273	.000		
26	OCT	78	4018707.98	4173035.79	.053	N 68 12 W	6	.008		
1	NOV	78	4018708.00	4173035.74	.100	N 36 52 W	13	.007	292	68 58 DN
14	NOV	78	4018708.08	4173035.68	.022	N 26 34 W	22	.001		
6	DEC	78	4018708.10	4173035.67	.060	S 9 28 W	145	.000	167	12 36 DN
30	APR	79	4018708.04	4173035.66	.215	N 68 12 E	184	.04	184	10 31 UP
31	OCT	79	4018708.12	4173035.86	.022	N 63 26 E	43	-.04	43	60 48 DN
13	DEC	79	4018708.13	4173035.88	.108	N 56 19 E	70	.14	70	52 19 UP
21	FEB	80	4018708.19	4173035.97	.319	S 69 52 W	63	-.13	63	22 8 DN
24	APR	80	4018708.08	4173035.67	.041	N 75 58 E	21	.01	21	13 38 UP
15	MAY	80	4018708.09	4173035.71	.276	N 49 24 E	89	-.01	89	2 4 DN
12	AUG	80	4018708.27	4173035.92	.080	S	65	.001	65	
16	OCT	80	4018708.19	4173035.92						

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN Q 1A
FB 2485-028

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
15 JAN 76	4018468.74	4173414.82	69.94		N 90	2			2	90 DN
17 JAN 76	4018468.74	4173414.82	69.93		N 90	2		-.01		
19 JAN 76	4018468.74	4173414.82	69.93	.020	N 90 E	58	.000		58	
17 MAR 76	4018468.74	4173414.84	69.93	.044	S 63 26 W	27	.001		27	
13 APR 76	4018468.72	4173414.80	69.93	.060	N 90 E	57	.001	.01	57	9 28 UP
9 JUN 76	4018468.72	4173414.86	69.94	.022	N 63 26 W	78	.000	-.03	78	53 18 DN
26 AUG 76	4018468.73	4173414.84	69.91	.010	N	67	.000	.04	67	75 58 UP
1 NOV 76	4018468.74	4173414.84	69.95	.044	S 26 34 E	70	.000	-.02	70	24 6 DN
10 JAN 77	4018468.70	4173414.86	69.93	.110	N 90 W	122	.000	.02	122	10 18 UP
12 MAY 77	4018468.70	4173414.75	69.95	.060	S 9 28 W	75	.000		75	
26 JUL 77	4018468.64	4173414.74	69.95	.014	S 44 60 W	112	.000	-.04	112	70 32 DN
15 NOV 77	4018468.63	4173414.73	69.91	.104	N 73 18 E	72	.001	.11	72	46 30 UP
26 JAN 78	4018468.66	4173414.83	70.02	.342	S 37 52 W	273	.001			
26 OCT 78	4018468.39	4173414.62		.076	S 23 12 W	6	.012			
1 NOV 78	4018468.32	4173414.59		.028	N 44 60 W	13	.002			
14 NOV 78	4018468.34	4173414.57		.064	S 51 20 W	22	.002			
6 DEC 78	4018468.30	4173414.52		.466	S 35 24 W	145	.003			
30 APR 79	4018467.92	4173414.25		1.944	S 30 15 W	184	.010			
31 OCT 79	4018466.24	4173413.27		.632	S 31 26 W	43	.014			
13 DEC 79	4018465.70	4173412.94		1.382	S 31 23 W	69	.020			
20 FEB 80	4018464.52	4173412.22		1.605	S 43 44 W	64	.025			
24 APR 80	4018463.36	4173411.11		.244	S 34 60 W	21	.011			
15 MAY 80	4018463.16	4173410.97		.439	S 41 18 W	89	.004			
12 AUG 80	4018462.83	4173410.68		.685	S 33 41 W	177	.003	-.97	1106	7 3 DN
5 FEB 81	4018462.26	4173410.30	69.05	.206	S 39 6 W	47	.004	-.33	47	58 DN
24 MAR 81	4018462.10	4173410.17	68.72							

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN Q 3
FB 949-199

DATE	COORDINATES	ELEV.	DIST	HORIZONTAL BEARING	MOVEMENT	RATE	VERTICAL	DIP
DA MON YR	NORTH EAST		FT	DG MN	TIME DAYS	FT/DA	ELEV DIFF	DG MN
18 JUN 57	4017902.97 4174312.72	82.71	2.696	S 32 16 W	6787	.000		
17 JAN 76	4017900.69 4174311.28	82.72		N 90	3		.01	90 UP
20 JAN 76	4017900.69 4174311.28	82.72	.050	N 36 52 E	57	.000	-.02	21 48 DN
17 MAR 76	4017900.73 4174311.31	82.70	.082	S 75 58 W	27	.003	.16	62 44 UP
13 APR 76	4017900.71 4174311.23	82.86	.070	N 90 E	57	.001	-.17	67 37 DN
9 JUN 76	4017900.71 4174311.30	82.69	.050	S 78 41 W	78	.000	-.02	21 25 DN
26 AUG 76	4017900.70 4174311.25	82.67	.067	N 63 26 E	67	.001	.03	24 6 UP
1 NOV 76	4017900.73 4174311.31	82.70	.214	S 52 36 W	70	.003	-.03	7 59 DN
10 JAN 77	4017900.60 4174311.14	82.67	.120	N 90 W	122	.000	-.01	4 46 DN
12 MAY 77	4017900.60 4174311.02	82.66	.080	S 29 45 W	75	.001		75
26 JUL 77	4017900.53 4174310.98	82.66	.072	S 74 3 W	112	.000	-.08	47 42 DN
15 NOV 77	4017900.51 4174310.91	82.58	.120	S 41 38 W	72	.001	.05	22 33 UP
26 JAN 78	4017900.42 4174310.83	82.63	1.647	S 56 53 W	273	.006		
26 OCT 78	4017899.52 4174309.45		.290	S 46 24 W	6	.048		
1 NOV 78	4017899.32 4174309.24		.121	S 80 32 W	13	.009		
14 NOV 78	4017899.30 4174309.12		.194	S 55 29 W	22	.008		
6 DEC 78	4017899.19 4174308.96		2.593	S 48 45 W	145	.017		
30 APR 79	4017897.48 4174307.01		4.285	S 44 15 W	227	.018		
13 DEC 79	4017894.41 4174304.02		1.874	S 43 29 W	69	.027		
20 FEB 80	4017893.05 4174302.73		2.658	S 44 60 W	64	.041		
24 APR 80	4017891.17 4174300.85		.794	S 68 36 W	21	.037		
15 MAY 80	4017890.88 4174300.11		.571	S 4 1 W	89	.006		
12 AUG 80	4017890.31 4174300.07		.664	S 46 13 W	177	.003	-3.16	11 34 DN
5 FEB 81	4017889.85 4174299.59	79.47	.178	S 63 26 W	47	.003	-.11	31 35 DN
24 MAR 81	4017889.77 4174299.43	79.36	.300	S 29 59 W	134	.002	-.01	1 54 DN
5 AUG 81	4017889.51 4174299.28	79.35						

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
09/27/93

PORT BN Q 4
FB 949-199

DATE DA MDN YR	COORDINATES		ELEV. FT	HORIZONTAL BEARING		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL		DIP DG MN
	NORTH	EAST		DIST FT	DG MN			ELEV DIFF	MVNT TIME DAYS	
18 JUN 57	4017656.85	4174702.92								
21 JAN 63	4017657.21	4174700.74	2.209	N 80 37 W	2043	.001	2.209 FT			

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 18 JUN 57 TO 21 JAN 63 2043 DAYS DIST = 2.209 FT BEARING = N 80 37 W

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN Q 4B
FB 2485-008

DATE	COORDINATES	ELEV.	HORIZONTAL	MOVEMENT	RATE	VERTICAL	DIP
DA MON YR	NORTH EAST		DIST FT	BEARING DG MN	FT/DA	ELEV DIFF	DG MN
15 JAN 76	4017677.83 4174668.10			N 90	5		
20 JAN 76	4017677.83 4174668.10	201.00		N 90	28		
17 FEB 76	4017677.83 4174668.10	201.00	.178	S 63 26 W	328	.02	6 23 UP
10 JAN 77	4017677.75 4174667.94	201.02	.130	N 90 W	122	.03	12 59 UP
12 MAY 77	4017677.75 4174667.81	201.05		N 90	75	.02	90 UP
26 JUL 77	4017677.75 4174667.81	201.07	.193	N 68 45 W	113	.02	5 55 UP
16 NOV 77	4017677.82 4174667.63	201.09	.053	N 68 12 W	72	-.01	10 31 DN
27 JAN 78	4017677.84 4174667.58	201.08					

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 15 JAN 76 TO 27 JAN 78 743 DAYS DIST = .520 FT BEARING = N 88 54 W
 VERTICAL MOVEMENT FROM 20 JAN 76 TO 27 JAN 78 738 DAYS DIST = .08 FT
 RESULTANT FROM 20 JAN 76 TO 27 JAN 78 738 DAYS DIP = 8 DEG 45 MIN UP

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN Q 5
FB 2485-025

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST								
18 NOV 80	77	42	231.92	.086	N 35 32 W	79	.001	.04	79	24 56 UP
5 FEB 81	4017629.84	4174739.37	231.96	.160	N 86 25 W	47	.003	.04	47	14 1 UP
24 MAR 81	4017629.85	4174739.21	232.00	.180	S 56 19 W	134	.001	.01	134	3 10 UP
5 AUG 81	4017629.75	4174739.06	232.01	.010	N		.010			
5 AUG 81	4017629.76	4174739.06	232.01	.205	N 60 57 W	251	.000	.05	251	13 39 UP
13 APR 82	4017629.86	4174738.88	232.06	.164	S 75 58 W	220	.000		220	
19 NOV 82	4017629.82	4174738.72	232.06	.622	S 85 23 W	291	.002	.14	291	12 41 UP
6 SEP 83	4017629.77	4174738.10	232.20	.219	N 65 46 W	199	.001	.08	199	20 2 UP
23 MAR 84	4017629.86	4174737.90	232.28	.231	S 82 34 W	287	.000	.23	287	44 45 UP
4 JAN 85	4017629.83	4174737.67	232.51	.085	S 69 27 W	248	.000	.04	248	25 5 UP
9 SEP 85	4017629.80	4174737.59	232.55	.120	N 85 14 W	142	.000	-.20	142	58 57 DN
29 JAN 86	4017629.81	4174737.47	232.35	.196	S 75 15 W	363	.000	.01	363	2 55 UP
27 JAN 87	4017629.76	4174737.28	232.36	.030	N	162	.000		162	
8 JUL 87	4017629.79	4174737.28	232.36	.044	N 63 26 W	243	.000	.02	243	24 6 UP
7 MAR 88	4017629.81	4174737.24	232.38	.110	N 84 48 W	476	.000	.05	476	24 21 UP
26 JUN 89	4017629.82	4174737.13	232.43	.031	N 71 34 W	276	.000		276	
29 MAR 90	4017629.83	4174737.10	232.43	.036	S 56 19 W	606	.000	.03	606	39 46 UP
25 NOV 91	4017629.81	4174737.07	232.46	.114	S 74 45 W	267	.000		267	
18 AUG 92	4017629.78	4174736.96	232.46	.092	N 77 28 W	377	.000	.03	377	18 1 UP
30 AUG 93	4017629.80	4174736.87	232.49							

*3.57 x 10²² 362
440 x 10²² 411*

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT FROM 15 JAN 76 TO 30 AUG 93 6437 DAYS DIST = 7.500 FT BEARING = N 89 14 W
 VERTICAL MOVEMENT FROM 20 JAN 76 TO 30 AUG 93 6432 DAYS DIST = 1.40 FT
 RESULTANT FROM 20 JAN 76 TO 30 AUG 93 6432 DAYS DIP = 10 DEG 34 MIN UP

PROGRAM EK11AP
09/27/93

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN TBM 31
FB 2849-090

***** TOTAL MOVEMENT VECTOR *****

HORIZONTAL MOVEMENT	FROM 26 OCT 78 TO 27 JAN 87	3015 DAYS	DIST =	.292 FT	BEARING = N 38 O3 E
VERTICAL MOVEMENT	FROM 26 OCT 78 TO 27 JAN 87	3015 DAYS	DIST =	-.02 FT	
RESULTANT	FROM 26 OCT 78 TO 27 JAN 87	3015 DAYS	DIP =	3 DEG 55 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN TBM 31B
FB 4205-228

DATE	COORDINATES	ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	VERTICAL MVNT TIME DAYS	DIP DG MN
26 JUN 89	NORTH 4018886.05 EAST 4173325.18	166.58							

***** TOTAL MOVEMENT VECTOR *****

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN WF
FB 2849-136

DATE	COORDINATES	ELEV.	HORIZONTAL BEARING	MOVEMENT	RATE	VERTICAL	DIP
DA MON YR	NORTH EAST		DIST FT	BEARING DG MN	TIME DAYS	ELEV DIFF	DG MN
26 OCT 78	4019015.21 4173519.15	213.35	.058	N 59 2 W	6	.009	
1 NOV 78	4019015.24 4173519.10		.085	N 69 27 W	13	.006	3 60 UP
14 NOV 78	4019015.27 4173519.02	213.36	.022	N 26 34 W	167	.000	84 27 DN
30 APR 79	4019015.29 4173519.01	213.13	.271	N 83 40 E	184	.001	41 27 UP
31 OCT 79	4019015.32 4173519.28	213.37	.060	N 80 32 E	43	.001	39 25 DN
13 DEC 79	4019015.33 4173519.34	213.32	.260	N 87 48 W	133	.001	
24 APR 80	4019015.34 4173519.08	213.32	.070	N 90 E	21	.003	15 57 UP
15 MAY 80	4019015.34 4173519.15	213.34	.244	N 55 E	89	.002	4 41 UP
12 AUG 80	4019015.48 4173519.35	213.36	.223	S 26 34 W	177	.001	2 34 DN
5 FEB 81	4019015.28 4173519.25	213.35	.085	N 20 33 W	47	.001	6 40 UP
24 MAR 81	4019015.36 4173519.22	213.36	.090	S 6 20 E	134	.000	6 18 DN
5 AUG 81	4019015.27 4173519.23	213.35	.136	N 17 6 E	251	.000	8 22 DN
13 APR 82	4019015.40 4173519.27	213.33	.063	S 18 26 W	220	.000	8 59 UP
19 NOV 82	4019015.34 4173519.25	213.34	.278	S 37 42 W	291	.000	
6 SEP 83	4019015.12 4173519.08	213.34	.050	N	199	.000	
23 MAR 84	4019015.17 4173519.08	213.34	.308	N 65 6 E	535	.000	1 51 DN
9 SEP 85	4019015.30 4173519.36	213.33	.072	N 56 19 W	141	.000	
28 JAN 86	4019015.34 4173519.30	213.33	.070	N 44 60 E	364	.000	8 3 DN
27 JAN 87	4019015.39 4173519.35	213.32	.094	S 18 26 W	405	.000	27 47 DN
7 MAR 88	4019015.30 4173519.32	213.27	.089	S 26 34 W	476	.000	33 51 UP
26 JUN 89	4019015.22 4173519.28	213.33	.104	N 73 18 W	276	.000	5 28 DN
29 MAR 90	4019015.25 4173519.18	213.32	.123	N 75 58 E	606	.000	
25 NOV 91	4019015.28 4173519.30	213.32	.092	N 12 32 E	267	.000	6 11 UP
18 AUG 92	4019015.37 4173519.32	213.33	.063	N 71 34 E	377	.000	17 33 DN
30 AUG 93	4019015.39 4173519.38	213.31					

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN WF 1
FB 2849-090

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
26 OCT 78	4019125.70	4173528.12	210.45	.070	N 81 52 W	6	.011			
1 NOV 78	4019125.71	4173528.05		.086	N 54 28 W	13	.006	.02	19	7 29 UP
14 NOV 78	4019125.76	4173527.98	210.47	.022	N 63 26 W	167	.000	-.03	167	53 18 DN
30 APR 79	4019125.77	4173527.96	210.44	.320	N 90 E	184	.001	.04	184	7 8 UP
31 OCT 79	4019125.77	4173528.28	210.48	.028	N 44 60 W	43	.000	-.05	43	60 30 DN
13 DEC 79	4019125.79	4173528.26	210.43	.230	N 85 2 W	133	.001	.01	133	2 29 UP
24 APR 80	4019125.81	4173528.03	210.44	.092	N 77 28 E	21	.004	.02	21	12 14 UP
15 MAY 80	4019125.83	4173528.12	210.46	.272	N 53 58 E	89	.003		89	
12 AUG 80	4019125.99	4173528.34	210.46	.268	S 26 34 W	177	.001		177	
5 FEB 81	4019125.75	4173528.22	210.46	.089	N 26 34 W	47	.001	.01	47	6 23 UP
24 MAR 81	4019125.83	4173528.18	210.47	.056	S 44 60 E	134	.000	-.01	134	10 2 DN
5 AUG 81	4019125.79	4173528.22	210.46	.050	N 11 19 W	251	.000	-.03	251	30 28 DN
13 APR 82	4019125.84	4173528.21	210.43	.053	S 21 48 W	220	.000	.01	220	10 31 UP
19 NOV 82	4019125.79	4173528.19	210.44	.278	S 37 42 W	291	.000	.01	291	2 3 UP
6 SEP 83	4019125.57	4173528.02	210.45	.090	N	199	.000	-.01	199	6 20 DN
23 MAR 84	4019125.66	4173528.02	210.44	.326	N 66 34 E	535	.000	.01	535	1 45 UP
9 SEP 85	4019125.79	4173528.32	210.45	.053	N 68 12 W	141	.000		141	
28 JAN 86	4019125.81	4173528.27	210.45	.100	N 36 52 E	364	.000	-.01	364	5 43 DN
27 JAN 87	4019125.89	4173528.33	210.44	.111	S 26 34 W	405	.000	-.06	405	28 13 DN
7 MAR 88	4019125.79	4173528.28	210.38	.094	S 32 W	476	.000	.07	476	36 35 UP
26 JUN 89	4019125.71	4173528.23	210.45	.050	N 36 52 W	276	.000	-.01	276	11 19 DN
29 MAR 90	4019125.75	4173528.20	210.44	.063	N 71 34 E	606	.000		606	
25 NOV 91	4019125.77	4173528.26	210.44	.100	N 5 43 E	267	.000		267	
18 AUG 92	4019125.87	4173528.27	210.44	.050	S 36 52 E	377	.000		377	
30 AUG 93	4019125.83	4173528.30	210.44							

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN WF 2
FB 2899-194

DATE DA MON YR	COORDINATES NDRTH EAST	ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
19 FEB 74	4019001.22 4173469.67	207.45	.133	N 12 59 W	1364	.000	.04	1364	16 41 UP
14 NOV 77	4019001.35 4173469.64	207.49	.194	S 55 29 E	346	.000	-.04	346	11 38 DN
26 OCT 78	4019001.24 4173469.80	207.45	.050	N 53 8 W	6	.008			
1 NOV 78	4019001.27 4173469.76		.089	N 63 26 W	13	.006	.01	19	4 7 UP
14 NOV 78	4019001.31 4173469.68	207.46	.022	N 63 26 W	167	.000	-.03	167	53 18 DN
30 APR 79	4019001.32 4173469.66	207.43	.284	N 79 53 E	184	.001	.03	184	6 1 UP
31 OCT 79	4019001.37 4173469.94	207.46	.028	S 44 60 E	43	.000	-.05	43	60 30 DN
13 DEC 79	4019001.35 4173469.96	207.41	.240	N 87 37 W	133	.001	.01	133	2 23 UP
24 APR 80	4019001.36 4173469.72	207.42	.094	N 71 34 E	21	.004	.03	21	17 33 UP
15 MAY 80	4019001.39 4173469.81	207.45	.230	N 55 37 E	89	.002	.01	89	2 29 UP
12 AUG 80	4019001.52 4173470.00	207.46	.228	S 23 12 W	177	.001	-.01	177	2 30 DN
5 FEB 81	4019001.31 4173469.91	207.45	.098	N 23 58 W	47	.002	.02	47	11 29 UP
24 MAR 81	4019001.40 4173469.87	207.47	.090	S 6 20 E	134	.000	-.02	134	12 27 DN
5 AUG 81	4019001.31 4173469.88	207.45	.139	N 21 2 E	251	.000	-.02	251	8 10 DN
13 APR 82	4019001.44 4173469.93	207.43	.067	S 26 34 W	220	.000		220	
19 NOV 82	4019001.38 4173469.90	207.43	.266	S 34 17 W	291	.000	.02	291	4 18 UP
6 SEP 83	4019001.16 4173469.75	207.45	.036	N 33 41 W	199	.000	-.01	199	15 30 DN
23 MAR 84	4019001.19 4173469.73	207.44	.304	N 62 35 E	535	.000		535	
9 SEP 85	4019001.33 4173470.00	207.44	.064	N 38 40 W	141	.000		141	
28 JAN 86	4019001.38 4173469.96	207.44	.050	N 36 52 E	364	.000	-.01	364	11 19 DN
27 JAN 87	4019001.42 4173469.99	207.43	.094	S 18 26 W	405	.000	-.05	405	27 47 DN
7 MAR 88	4019001.33 4173469.96	207.38	.098	S 23 58 W	476	.000	.06	476	31 21 UP
26 JUN 89	4019001.24 4173469.92	207.44	.078	N 50 12 W	276	.000	-.01	276	7 18 DN
29 MAR 90	4019001.29 4173469.86	207.43	.072	S 74 3 E	606	.000	.01	606	7 49 UP
25 NOV 91	4019001.27 4173469.93	207.44	.131	N 8 45 E	267	.000		267	
18 AUG 92	4019001.40 4173469.95	207.44							

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN WF 3
FB 4319-038

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MOVNT TIME DAYS	DIP DG MN
	NORTH	EAST								
26 OCT 78	4018972.67	4173448.66	204.51	.050	N 53 8 W	6	.008			
1 NOV 78	4018972.70	4173448.62		.089	N 63 26 W	13	.006	.01	19	4 7 UP
14 NOV 78	4018972.74	4173448.54	204.52	.020	N 90 W	167	.000	-.03	167	56 19 DN
30 APR 79	4018972.74	4173448.52	204.49	.269	N 74 56 E	184	.001	.03	184	6 21 UP
31 OCT 79	4018972.81	4173448.78	204.52	.050	S 36 52 E	43	.001	-.06	43	50 12 DN
13 DEC 79	4018972.77	4173448.81	204.46	.230	N 90 W	133	.001	.04	133	9 52 UP
24 APR 80	4018972.77	4173448.58	204.50	.076	N 66 48 E	21	.003	.02	21	14 43 UP
15 MAY 80	4018972.80	4173448.65	204.52	.238	N 56 59 E	89	.002	.04	89	9 31 UP
12 AUG 80	4018972.93	4173448.85	204.56	.053	S 21 48 W	65	.000	-.03	65	29 7 DN
16 OCT 80	4018972.88	4173448.83	204.53	.136	S 36 1 W	33	.004	.01	33	4 12 UP
18 NOV 80	4018972.77	4173448.75	204.54	.044	S 26 34 W	79	.000	.01	79	12 36 UP
5 FEB 81	4018972.73	4173448.73	204.55	.082	N 14 2 W	47	.001	-.01	47	6 55 DN
24 MAR 81	4018972.81	4173448.71	204.54	.092	S 12 32 E	134	.000	-.03	134	18 1 DN
5 AUG 81	4018972.72	4173448.73	204.51	.130	N 22 37 E	251	.000	-.05	251	21 2 DN
13 APR 82	4018972.84	4173448.78	204.46	.076	S 23 12 W	220	.000		220	
19 NOV 82	4018972.77	4173448.75	204.46	.260	S 32 28 W	291	.000	.02	291	4 23 UP
6 SEP 83	4018972.55	4173448.61	204.48	.041	N 14 2 W	199	.000	.01	199	13 38 UP
23 MAR 84	4018972.59	4173448.60	204.49	.058	N 59 2 E	287	.000			
4 JAN 85	4018972.62	4173448.65		.219	N 65 46 E	248	.000			
9 SEP 85	4018972.71	4173448.85		.064	N 51 20 W	141	.000	-.01	676	2 14 DN
28 JAN 86	4018972.75	4173448.80	204.48	.067	N 63 26 E	364	.000	-.01	364	8 28 DN
27 JAN 87	4018972.78	4173448.86	204.47	.098	S 23 58 W	405	.000	-.03	405	16 56 DN
7 MAR 88	4018972.69	4173448.82	204.44	.107	S 21 48 W	476	.000	.07	476	33 1 UP
26 JUN 89	4018972.59	4173448.78	204.51	.078	N 50 12 W	276	.000		276	
29 MAR 90	4018972.64	4173448.72	204.51	.060	N 90 E	606	.000	-.02	606	18 26 DN
25 NOV 91	4018972.64	4173448.78	204.49							

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN WF 4
FB 4319-058

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST								
14 NOV 78	4019047.53	4173822.59	211.91	1.903	S 19 W	167	.011	-.89	167	25 3 DN
30 APR 79	4019045.73	4173821.97	211.02	2.871	S 7 W	184	.015	-.82	184	15 56 DN
31 OCT 79	4019042.88	4173821.62	210.20	2.148	S 9 22 W	110	.019	-1.04	110	25 50 DN
18 FEB 80	4019040.76	4173821.27	209.16	2.170	S 16 36 W	66	.032	-.97	66	24 5 DN
24 APR 80	4019038.68	4173820.65	208.19	.380	S 26 34 W	21	.018	-.14	21	20 13 DN
15 MAY 80	4019038.34	4173820.48	208.05	.827	S 14 42 E	89	.009	-.32	89	21 9 DN
12 AUG 80	4019037.54	4173820.69	207.73	.794	S 31 5 W	177	.004	-.17	177	12 5 DN
5 FEB 81	4019036.86	4173820.28	207.56	.121	S 9 28 W	47	.002	-.05	47	22 21 DN
24 MAR 81	4019036.74	4173820.26	207.51	.331	S 5 12 E	134	.002	-.12	134	19 54 DN
5 AUG 81	4019036.41	4173820.29	207.39	.302	S 55 47 W	251	.001	-.05	251	9 23 DN
13 APR 82	4019036.24	4173820.04	207.34	.120	S 24 27 E	220	.000	-.05	220	22 29 DN
19 NOV 82	4019036.13	4173820.09	207.29	1.555	S 17 58 W	291	.005	-.78	291	26 37 DN
6 SEP 83	4019034.65	4173819.61	206.51	.241	S 7 8 W	199	.001	-.18	199	36 39 DN
23 MAR 84	4019034.41	4173819.58	206.33	.640	S 2 41 W	677	.000	-.21	677	18 9 DN
29 JAN 86	4019033.77	4173819.55	206.12	.136	S 17 6 W	363	.000	-.11	363	38 58 DN
27 JAN 87	4019033.64	4173819.51	206.01	.060	S 80 32 E	162	.000	-.07	162	49 1 DN
8 JUL 87	4019033.63	4173819.57	205.94	.156	S 50 12 W	243	.000	-.02	243	7 18 DN
7 MAR 88	4019033.53	4173819.45	205.92	.233	S 46 44 W	476	.000	.05	476	12 5 UP
26 JUN 89	4019033.37	4173819.28	205.97	.072	N 74 3 E	276	.000	-.04	276	28 47 DN
29 MAR 90	4019033.39	4173819.35	205.93	.076	S 66 48 E	606	.000	-.02	606	14 43 DN
25 NOV 91	4019033.36	4173819.42	205.91	.044	S 63 26 E	267	.000	-.03	267	33 51 DN
18 AUG 92	4019033.34	4173819.46	205.88	.164	S 14 2 W	377	.000	-.07	377	22 60 DN
30 AUG 93	4019033.18	4173819.42	205.81							

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COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN WF 4A
FB 4319-058

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST								
14 NOV 78	4019055.40	4173817.48	211.64	1.531	S 19 51 W	167	.009	-.37	167	13 35 DN
30 APR 79	4019053.96	4173816.96	211.27	2.523	S 7 45 W	184	.013	-.41	184	9 14 DN
31 OCT 79	4019051.46	4173816.62	210.86	2.011	S 8 17 W	113	.017			
21 FEB 80	4019049.47	4173816.33		2.197	S 18 51 W	63	.034	-1.17	176	15 36 DN
24 APR 80	4019047.39	4173815.62	209.69	.360	S 33 41 W	21	.017	-.19	21	27 47 DN
15 MAY 80	4019047.09	4173815.42	209.50	.774	S 17 16 E	89	.008	-.39	89	26 43 DN
12 AUG 80	4019046.35	4173815.65	209.11	.968	S 38 17 W	177	.005	-.06	177	3 33 DN
5 FEB 81	4019045.59	4173815.05	209.05	.140	N 85 55 E	47	.002	.22	47	57 28 UP
24 MAR 81	4019045.60	4173815.19	209.27	.342	S 6 42 E	134	.002	-.36	134	46 26 DN
5 AUG 81	4019045.26	4173815.23	208.91	.294	S 54 41 W	251	.001	-.07	251	13 23 DN
13 APR 82	4019045.09	4173814.99	208.84	.120	S 24 27 E	220	.000	-.05	220	22 29 DN
19 NOV 82	4019044.98	4173815.04	208.79	1.568	S 19 21 W	291	.005	-.59	291	20 37 DN
6 SEP 83	4019043.50	4173814.52	208.20	.240	S 4 46 W	199	.001	-.20	199	39 42 DN
23 MAR 84	4019043.26	4173814.50	208.00	.650	S 2 38 W	678	.000	-.22	678	18 41 DN
30 JAN 86	4019042.61	4173814.47	207.78	.170	S	362	.000	-.08	362	25 12 DN
27 JAN 87	4019042.44	4173814.47	207.70	.102	S 29 3 W	405	.000	-.07	405	34 13 DN
7 MAR 88	4019042.35	4173814.42	207.63					.01	752	
29 MAR 90			207.64					-.01	606	
25 NOV 91			207.63					-.02	267	
18 AUG 92			207.61					-.08	377	
30 AUG 93			207.53							

