

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

REPORT ON
LAND MOVEMENT STUDY
OF THE
PORTUGUESE BEND 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
THEODORE A. BICKSLER - SUPERVISING FIELD ENGINEER
SURVEY DIVISION

THIRD FLOOR

900 SOUTH FREMONT AVENUE
ALHAMBRA, 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.

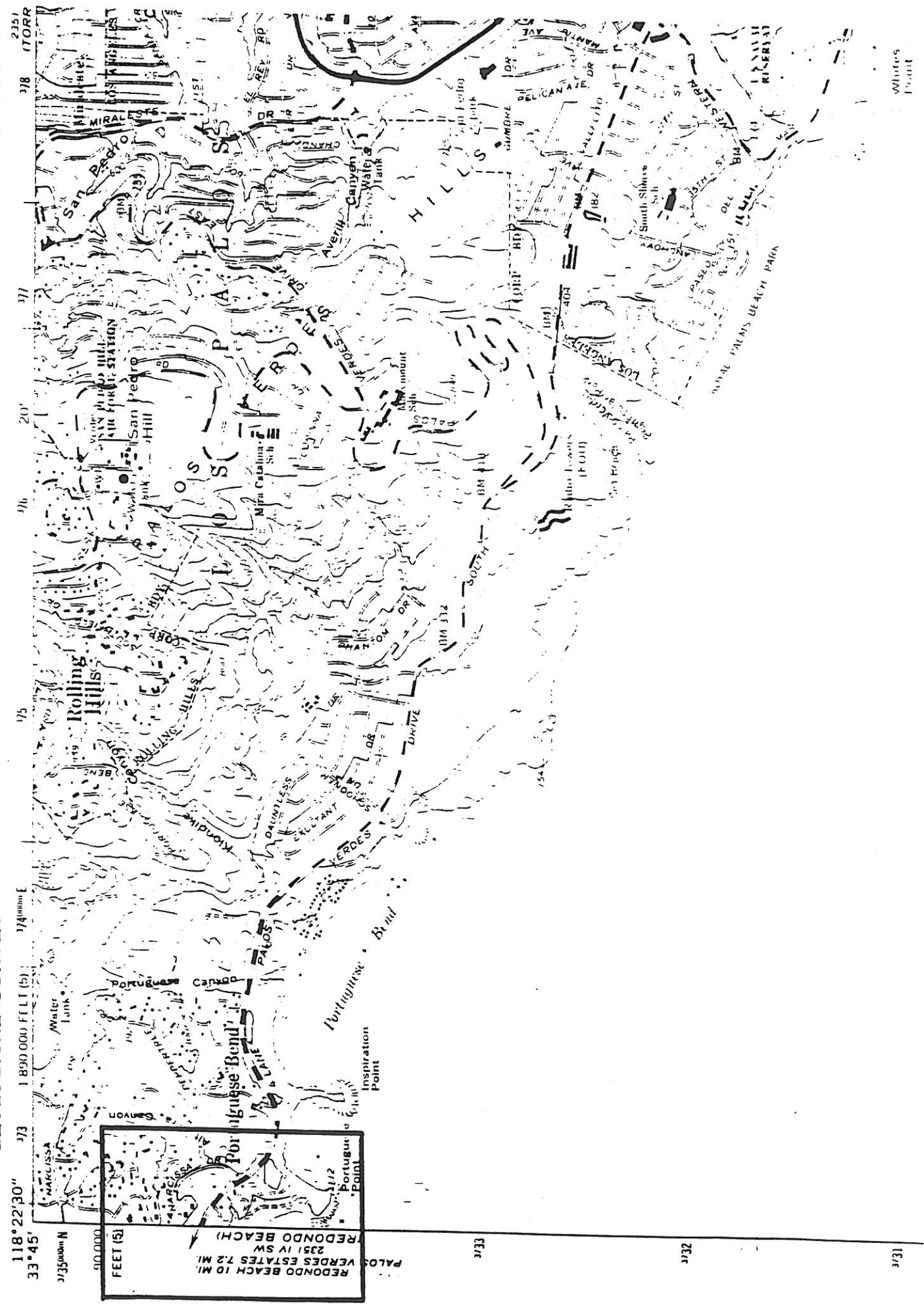
THE FOLLOWING ARE BRIEF EXPLANATIONS OF THE COLUMN HEADINGS USED IN THE REPORT:

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.

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UNDO BEACH)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

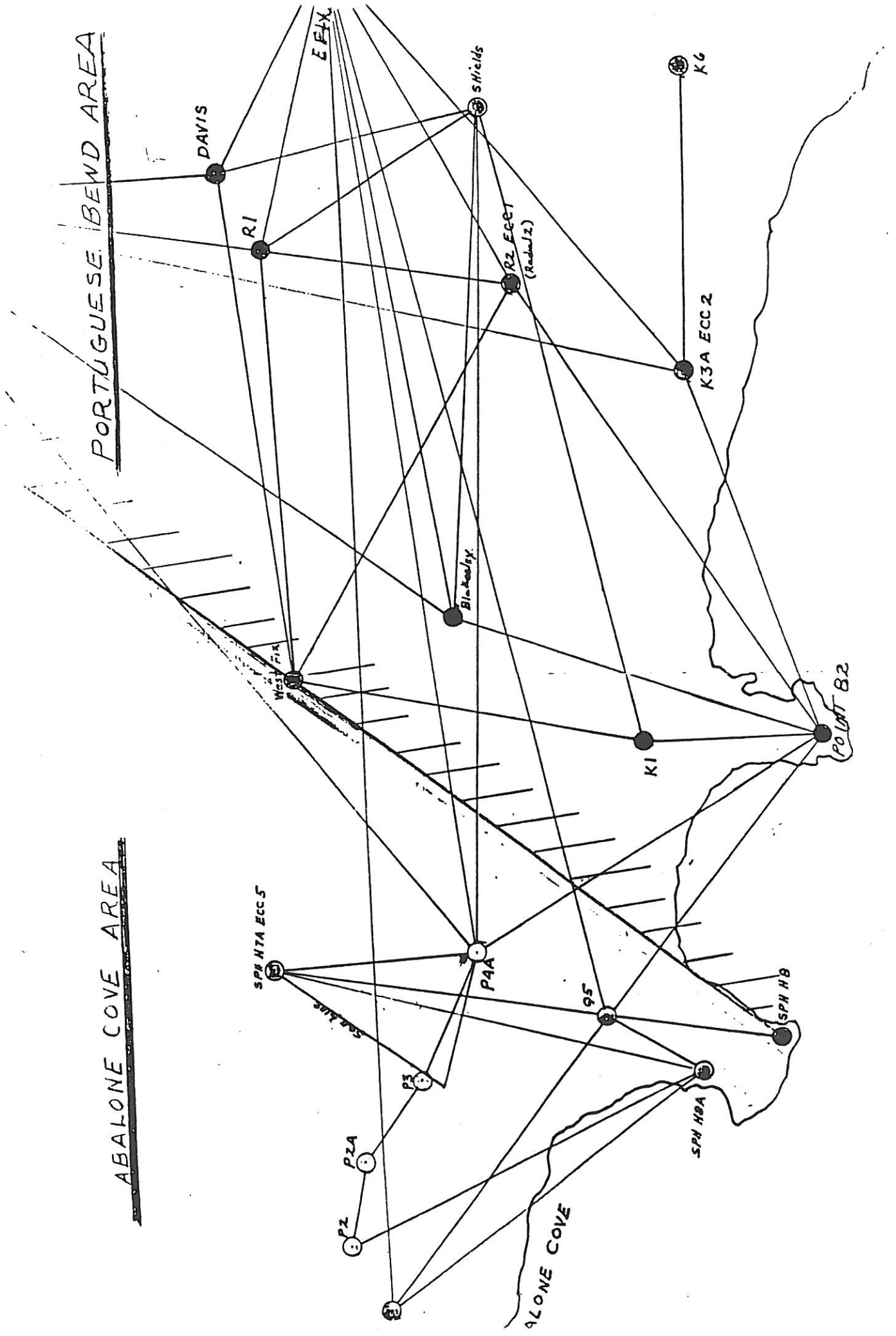
STATE OF C
DEPARTMENT OF W



White's Point

PORTUGUESE BEND AREA

ABALONE COVE AREA



COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

SPH H 8
FB 4445-101

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL DIST FT	BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MOVNT TIME DAYS	DIP DG MN
6 SEP 83	4016759.48	4174623.86	114.22		N 90	199			199	
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	383			677	
29 JAN 86	4016759.48	4174623.86	114.22		N 90	131				
9 JUN 86	4016759.48	4174623.86			N 90	114				
1 OCT 86	4016759.48	4174623.86			N 90	116				
25 JAN 87	4016759.48	4174623.86			N 90	71				
6 APR 87	4016759.48	4174623.86			N 90	93				
8 JUL 87	4016759.48	4174623.86			N 90	119				
4 NOV 87	4016759.48	4174623.86			N 90	124				
7 MAR 88	4016759.48	4174623.86			N 90	106				
21 JUN 88	4016759.48	4174623.86			N 90	107				
6 OCT 88	4016759.48	4174623.86			N 90	111				
25 JAN 89	4016759.48	4174623.86			N 90	152			1244	
26 JUN 89	4016759.48	4174623.86	114.22		N 90	276			276	
29 MAR 90	4016759.48	4174623.86	114.22		N 90	606			606	
25 NOV 91	4016759.48	4174623.86	114.22		N 90					

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

HORIZONTAL MOVEMENT FROM 6 SEP 83 TO 25 NOV 91 3002 DAYS DIST = .000 FT BEARING = N 90 00
 VERTICAL MOVEMENT FROM 6 SEP 83 TO 25 NOV 91 3002 DAYS DIST = .00 FT
 RESULTANT FROM 6 SEP 83 TO 25 NOV 91 3002 DAYS DIP = 0 DEG 0 MIN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

SPH H BA
HB 4445-101

DATE DA MON YR	COORDINATES NORTH	EAST	ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MOVNT TIME DAYS	DIP DG MN
6 SEP 83	4017150.31	4174472.86	137.51	.050	N	371	.000			
11 SEP 84	4017150.36	4174472.86								
11 JAN 85	4017150.31	4174472.86	137.51	.050	S	122	.000		493	
29 JAN 86	4017150.36	4174472.84	137.51	.053	N 21 48 W	383	.000		383	
9 JUN 86	4017150.36	4174472.84			N 90	131				
25 JAN 87	4017150.36	4174472.84	137.51		N 90	230			361	
7 MAR 88	4017150.36	4174472.84	137.51		N 90	407			407	
26 JUN 89	4017150.36	4174472.84	137.51		N 90	476			476	
29 MAR 90	4017150.36	4174472.84	137.51		N 90	276			276	
25 NOV 91	4017150.36	4174472.84	137.32		N 90	606		-.19	606	90

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

HORIZONTAL MOVEMENT	FROM	6 SEP 83 TO 25 NOV 91	3002 DAYS	DIST =	.053 FT	BEARING =	N 21 48 W
VERTICAL MOVEMENT	FROM	6 SEP 83 TO 25 NOV 91	3002 DAYS	DIST =	-.19 FT		
RESULTANT	FROM	6 SEP 83 TO 25 NOV 91	3002 DAYS	DIP =	74 DEG 11 MIN	DN	

PROGRAM EK11AP
12/26/91

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN BLAKESLEY
FB 949-018

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL BEARING		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP	
	NORTH	EAST		DIST FT	DG MN					DG MN	
16 OCT 56	4018436.32	4176660.68	305.70	119.534	S 5 13 W	7056	.016	-20.31	7056	9 39	DN
10 FEB 76	4018317.28	4176649.82	285.39	3.572	S 6 25 W	254	.014	-.89	254	13 59	DN
21 OCT 76	4018313.73	4176649.42	284.50	38.157	S 7 23 W	1435	.026				
25 SEP 80	4018275.89	4176644.51		15.086	S 8 16 W	595	.025				
13 MAY 82	4018260.96	4176642.34		3.460	S 8 48 E	172	.020				
1 NOV 82	4018257.54	4176642.87		35.530	S 5 6 W	989	.035				
17 JUL 85	4018222.15	4176639.71		4.426	S 4 55 W	182	.024				
15 JAN 86	4018217.74	4176639.33		6.258	S 5 30 W	145	.043	-31.10	3518	16 50	DN
9 JUN 86	4018211.51	4176638.73	253.40	2.905	S 8 54 W	114	.025	-1.20	114	22 26	DN
1 OCT 86	4018208.64	4176638.28	252.20	2.287	S 10 20 W	116	.019	-.70	116	17 1	DN
25 JAN 87	4018206.39	4176637.87	251.50	1.423	S 10 31 W	71	.020	-.60	71	22 51	DN
6 APR 87	4018204.99	4176637.61	250.90	1.348	S 13 43 W	93	.014	-.60	93	23 59	DN
8 JUL 87	4018203.68	4176637.29	250.30	1.369	S 9 40 W	119	.011	-.60	119	23 39	DN
4 NOV 87	4018202.33	4176637.06	249.70	1.366	S 11 23 W	124	.011	-.80	124	30 20	DN
7 MAR 88	4018200.99	4176636.79	248.90	.432	S 6 38 W	106	.004	-.30	106	34 43	DN
21 JUN 88	4018200.56	4176636.74	248.60	.370	S 1 33 W	107	.003, 0.415 @ .27		107	36 6	DN
6 OCT 88	4018200.19	4176636.73	248.33	.380	S 13 40 W	111	.003, 0.410 @ .17		111	24 3	DN
25 JAN 89	4018199.82	4176636.64	248.16	.557	S 9 17 W	152	.003, 0.413 @ 1.56		152	45 8	UP
26 JUN 89	4018199.27	4176636.55	248.72	.916	S 13 53 W	276	.003, 0.413 @ 2.33		276	19 48	DN
29 MAR 90	4018198.38	4176636.33	248.39	1.838	S 13 12 W	606	.003, 0.416 @ 9.08		606	30 26	DN
25 NOV 91	4018196.59	4176635.91	247.31								

1.0363 m/d
1.107 ft/y

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN BLAKESLEY
FB 949-018

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

HORIZONTAL MOVEMENT	FROM 16 OCT 56 TO 25 NOV 91	2823 DAYS	DIST = 241.006 FT	BEARING = S 5 54 W
VERTICAL MOVEMENT	FROM 16 OCT 56 TO 25 NOV 91	2823 DAYS	DIST = -58.39 FT	
RESULTANT	FROM 16 OCT 56 TO 25 NOV 91	2823 DAYS	DIP = 13 DEG 37 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN C 1
FB 4205-037

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
17 JUL 85	4020090.12	4178271.35		3.652	S 12 10 E	182	.020			
15 JAN 86	4020086.55	4178272.12		5.148	S 10 38 E	145	.035			
9 JUN 86	4020081.49	4178273.07	332.70	2.280	S 13 11 E	114	.020	-.80	114	19 20 DN
1 OCT 86	4020079.27	4178273.59	331.90							

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

HORIZONTAL MOVEMENT FROM 17 JUL 85 TO 1 OCT 86 441 DAYS DIST = 11.078 FT BEARING = S 11 40 E
 VERTICAL MOVEMENT FROM 9 JUN 86 TO 1 OCT 86 114 DAYS DIST = -.80 FT
 RESULTANT FROM 9 JUN 86 TO 1 OCT 86 114 DAYS DIP = 19 DEG 20 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN D 2
FB 4205-037

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
17 JUL 85	4019787.71 4178486.36		4.854	S 78 7 W	182	.026			
15 JAN 86	4019786.71 4178481.61		8.692	S 33 50 E	145	.059			
9 JUN 86	4019779.49 4178486.45	306.40	2.240	S 1 17 E	114	.019	-.80	114	19 39 DN
1 OCT 86	4019777.25 4178486.50	305.60	1.102	S 4 9 E	116	.009	-.20	116	10 17 DN
25 JAN 87	4019776.15 4178486.58	305.40	.191	S 6 W	71	.002		71	
6 APR 87	4019775.96 4178486.56	305.40	.270	S 4 14 E	93	.002	-.10	93	20 16 DN
8 JUL 87	4019775.69 4178486.58	305.30	.322	S 7 8 E	119	.002	-.10	119	17 13 DN
4 NOV 87	4019775.37 4178486.62	305.20	.500	S 1 9 E	124	.004	.40	124	38 39 UP
7 MAR 88	4019774.87 4178486.63	305.60	.180	S 3 11 W	106	.001	-.60	106	73 17 DN
21 JUN 88	4019774.69 4178486.62	305.00	.206	S 22 50 E	107	.001	-.09	107	23 35 DN
6 OCT 88	4019774.50 4178486.70	304.91	.210	S 2 44 E	111	.001	.05	111	13 23 UP
25 JAN 89	4019774.29 4178486.71	304.96	.228	S 37 52 W	152	.001	.26	152	48 45 UP
26 JUN 89	4019774.11 4178486.57	305.22	.407	S 65 19 E	276	.001	-.13	276	17 42 DN
29 MAR 90	4019773.94 4178486.94	305.09	.941	S 12 16 W	606	.001	-.22	606	13 9 DN
25 NOV 91	4019773.02 4178486.74	304.87							

1.27 103 = 1,2703543

0.147 in/di
448 ft/yr

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

HORIZONTAL MOVEMENT	FROM 17 JUL 85 TO 25 NOV 91	2322 DAYS	DIST = 14.694 FT	BEARING = S 1 29 E
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 25 NOV 91	1995 DAYS	DIST = -1.53 FT	
RESULTANT	FROM 9 JUN 86 TO 25 NOV 91	1995 DAYS	DIP = 13 DEG 17 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN DAVIS
FB 2899-011

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 FEB 61	4019718.91 4178771.03	393.41	129.225	S 1 9 E	5480	.023	-29.82	5480	12 59 DN
10 FEB 76	4019589.71 4178773.62	363.59	5.491	S 1 21 E	248	.022			
15 OCT 76	4019584.22 4178773.75	362.63	65.168	S 2 12 E	1441	.045	-.96	248	9 55 DN
25 SEP 80	4019519.10 4178776.26		27.488	S 2 6 E	600	.045			
18 MAY 82	4019491.63 4178777.27		6.133	S 1 58 E	170	.036			
4 NOV 82	4019485.50 4178777.48		33.620	S 3 57 E	491	.068			
9 MAR 84	4019451.96 4178779.80		3.858	S 3 52 E	68	.056			
16 MAY 84	4019448.11 4178780.06		5.773	S 1 59 E	118	.048			
11 SEP 84	4019442.34 4178780.26		6.403	S 3 40 E	127	.050			
16 JAN 85	4019435.95 4178780.67		7.701	S 3 8 E	182	.042			
17 JUL 85	4019428.26 4178781.09		5.823	S 5 7 E	182	.031			
15 JAN 86	4019422.46 4178781.61		7.237	S 4 2 E	145	.049	-52.43	3524	17 13 DN
9 JUN 86	4019415.24 4178782.12	310.20	3.504	S 5 14 E	114	.030	-1.10	114	17 25 DN
1 OCT 86	4019411.75 4178782.44	309.10	2.008	S 5 9 E	116	.017	-.90	116	24 8 DN
25 JAN 87	4019409.75 4178782.62	308.20	.631	S 3 38 E	71	.008	-.60	71	43 33 UN
6 APR 87	4019409.12 4178782.66	307.60	.736	S 7 48 E	93	.007	-.30	93	22 9 DN
8 JUL 87	4019408.39 4178782.76	307.30	.833	S 5 30 E	119	.007	-.50	119	30 57 DN
4 NOV 87	4019407.56 4178782.84	306.80	.883	S 5 12 E	124	.007	-.80	124	42 9 DN
7 MAR 88	4019406.68 4178782.92	306.00	.284	S 10 7 E	106	.002	-.10	106	19 22 DN
21 JUN 88	4019406.40 4178782.97	305.90	.345	S 10 E	107	.003	-.18	107	27 32 DN
6 OCT 88	4019406.06 4178783.03	305.72	.260	S 4 24 W	111	.002	-.04	111	8 43 DN
25 JAN 89	4019405.80 4178783.01	305.68	.270	S 4 14 E	152	.001	.09	152	18 23 UP
26 JUN 89	4019405.53 4178783.03	305.77	.722	S 4 46 W	276	.002	.10	276	7 53 UP
29 MAR 90	4019404.81 4178782.97	305.87							

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN DAVIS
FB 2899-011

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

HORIZONTAL MOVEMENT	FROM 8 FEB 61 TO 29 MAR 90	0641 DAYS	DIST = 314.326 FT	BEARING = S 2 11 E
VERTICAL MOVEMENT	FROM 8 FEB 61 TO 29 MAR 90	0641 DAYS	DIST = -87.54 FT	
RESULTANT	FROM 8 FEB 61 TO 29 MAR 90	0641 DAYS	DIP = 15 DEG 33 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN E FIX
FB 4445-101

DATE		COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP	
DA	MON YR	NORTH	EAST			DG MN	DG MN					DG MN	DG MN
6	SEP 83	4019069.53	4179840.22	633.30		N 90	371						
11	SEP 84	4019069.53	4179840.22			N 90	127						
16	JAN 85	4019069.53	4179840.22			N 90	182						
17	JUL 85	4019069.53	4179840.22			N 90	180						
13	JAN 86	4019069.53	4179840.22			N 90	147				1007		
9	JUN 86	4019069.53	4179840.22	633.30		N 90	114				114		
1	OCT 86	4019069.53	4179840.22	633.30		N 90	116				116		
25	JAN 87	4019069.53	4179840.22	633.30		N 90	71				71		
6	APR 87	4019069.53	4179840.22	633.30		N 90	93				93		
8	JUL 87	4019069.53	4179840.22	633.30		N 90	119				119		
4	NOV 87	4019069.53	4179840.22	633.30		N 90	124				124		
7	MAR 88	4019069.53	4179840.22	633.30		N 90	106				106		
21	JUN 88	4019069.53	4179840.22	633.30		N 90	107				107		
6	OCT 88	4019069.53	4179840.22	633.30		N 90	111				111		
25	JAN 89	4019069.53	4179840.22	633.30		N 90	152				152		
26	JUN 89	4019069.53	4179840.22	633.30		N 90	276				276		
29	MAR 90	4019069.53	4179840.22	633.30		N 90	606				606		
25	NOV 91	4019069.53	4179840.22	633.30		N 90							

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

HORIZONTAL MOVEMENT	FROM	6 SEP 83 TO 25 NOV 91	3002 DAYS	DIST =	.000 FT	BEARING =	N 90 00
VERTICAL MOVEMENT	FROM	6 SEP 83 TO 25 NOV 91	3002 DAYS	DIST =	.00 FT		
RESULTANT	FROM	6 SEP 83 TO 25 NOV 91	3002 DAYS	DIP =	0 DEG	0 MIN	

PROGRAM EK11AP
12/26/91

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN HD 1
FB 4205-278

DATE	COORDINATES	ELEV.	DIST	HORIZONTAL BEARING	MOVEMENT TIME	RATE	VERTICAL ELEV DIFF	MVNI TIME	DIP
DA MON YR	NORTH EAST		FT	DG MN	DAYS	FT/DA		DAYS	DG MN
29 MAR 90	4018758.35 4178339.59	181.15							

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

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN HD 2
FB 4205-278

DATE	COORDINATES	ELEV.	DIST	HORIZONTAL BEARING	MOVEMENT TIME	RATE	VERTICAL ELEV DIFF	MOVNT TIME	DIP
DA MON YR	NORTH	EAST	FT	DG MN	DAYS	FT/DA		DAYS	DG MN
29 MAR 90	4018587.72	4178154.10							
			174.37						

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

PORT BN J 1

FB 4205-019

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL		DIP
	NORTH	EAST		DIST FT	BEARING DG MN			ELEV DIFF	MVNT TIME DAYS	
9 MAR 84	4017803.06	4178562.97		4.024	S 21 16 W	68	.059			
16 MAY 84	4017799.31	4178561.51		6.281	S 19 32 W	118	.053			
11 SEP 84	4017793.39	4178559.41		9.802	S 11 39 W	127	.077			
16 JAN 85	4017783.79	4178557.43								

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

HORIZONTAL MOVEMENT FROM 9 MAR 84 TO 16 JAN 85

313 DAYS

DIST = 20.050 FT

BEARING = S 16 02 W

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 1A
FB 4205-037

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
17 JUL 85	4017827.18	4178715.90		8.153	S 16 41 W	182	.044			
15 JAN 86	4017819.37	4178713.56		10.357	S 16 19 W	145	.071			
9 JUN 86	4017809.43	4178710.65	202.60	5.500	S 17 1 W	114	.048	.30	114	3 7 UP
1 OCT 86	4017804.17	4178709.04	202.90							

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

HORIZONTAL MOVEMENT	FROM 17 JUL 85 TO 1 OCT 86	441 DAYS	DIST = 24.010 FT	BEARING = S 16 36 W
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 1 OCT 86	114 DAYS	DIST = .30 FT	
RESULTANT	FROM 9 JUN 86 TO 1 OCT 86	114 DAYS	DIP = 3 DEG 7 MIN	UP

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J 18
FB 4205-116

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
25 JAN 87	4017815.82	4178747.93	202.20	2.321	S 17 2 W	71	.032		71	
6 APR 87	4017813.60	4178747.25	202.20	2.621	S 17 32 W	93	.028	.10	93	2 11 UP
8 JUL 87	4017811.10	4178746.46	202.30	2.328	S 16 43 W	119	.019		119	
4 NOV 87	4017808.87	4178745.79	202.30	1.742	S 18 45 W	124	.014	-.30	124	9 46 DN
7 MAR 88	4017807.22	4178745.23	202.00	.322	S 29 45 W	106	.003	.10	106	17 13 UP
21 JUN 88	4017806.94	4178745.07	202.10	.303	S 17 14 W	107	.002	-.02	107	3 46 DN
6 OCT 88	4017806.65	4178744.98	202.08	.362	S 24 27 W	111	.003	-.05	111	7 51 DN
25 JAN 89	4017806.32	4178744.83	202.03	.471	S 21 7 W	152	.003	.11	152	13 8 UP
26 JUN 89	4017805.88	4178744.66	202.14	1.015	S 25 3 W	276	.003	.11	276	6 11 UP
29 MAR 90	4017804.96	4178744.23	202.25	2.836	S 23 2 W	606	.004	-.45	606	9 1 DN
25 NOV 91	4017802.35	4178743.12	201.80							

*.05616 in/dl
1.708 ft/yr*

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

HORIZONTAL MOVEMENT	FROM 25 JAN 87 TO 25 NOV 91	1765 DAYS	DIST = 14.303 FT	BEARING = S 19 39 W
VERTICAL MOVEMENT	FROM 25 JAN 87 TO 25 NOV 91	1765 DAYS	DIST = -.40 FT	
RESULTANT	FROM 25 JAN 87 TO 25 NOV 91	1765 DAYS	DIP =	

1 DEG 36 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 2
FB 4205-019

DATE DA MON VR	COORDINATES NORTH EAST	ELEV.	HORIZONTAL DIST FT	BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
9 MAR 84	4017474.43 4177960.58		7.693	S 9 26 W	68	.113			
16 MAY 84	4017466.84 4177959.32		12.126	S 7 35 W	118	.102			
11 SEP 84	4017454.82 4177957.72		14.838	S 8 22 W	127	.116			
16 JAN 85	4017440.14 4177955.56		18.631	S 9 3 W	182	.102			
17 JUL 85	4017421.74 4177952.63		16.022	S 9 33 W	182	.088			
15 JAN 86	4017405.94 4177949.97		20.045	S 9 9 W	145	.138			
9 JUN 86	4017386.15 4177946.78	136.50	9.742	S 9 27 W	114	.085	-.60	114	3 31 DN
1 OCT 86	4017376.54 4177945.18	135.90	8.901	S 7 45 W	116	.076	-.90	116	5 46 DN
25 JAN 87	4017367.72 4177943.98	135.00	6.393	S 8 5 W	71	.090	-.90	71	8 1 DN
6 APR 87	4017361.39 4177943.08	134.10	6.112	S 8 51 W	93	.065	-.90	93	8 22 DN
8 JUL 87	4017355.35 4177942.14	133.20	5.892	S 8 59 W	119	.049	-.90	119	8 41 DN
4 NOV 87	4017349.53 4177941.22	132.30	8.535	S 9 51 W	124	.068	-1.80	124	11 54 DN
7 MAR 88	4017341.12 4177939.76	130.50	4.158	S 8 43 W	106	.039	.10	106	1 22 UP
21 JUN 88	4017337.01 4177939.13	130.60	2.787	S 8 3 W	107	.026	-1.75	107	32 7 DN
6 OCT 88	4017334.25 4177938.74	128.85	2.613	S 9 14 W	111	.023	.30	111	6 33 UP
25 JAN 89	4017331.67 4177938.32	129.15	4.422	S 8 51 W	152	.029	-1.61	152	20 DN
26 JUN 89	4017327.30 4177937.64	127.54	8.763	S 6 53 W	276	.031	-2.38	276	15 11 DN
29 MAR 90	4017318.60 4177936.59	125.16	23.347	S 11 7 W	606	.038	-5.29	606	12 46 DN
25 NOV 91	4017295.69 4177932.09	119.87							

0.4623 in/dy
14.062 ft/yr

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 25 NOV 91	2817 DAYS	DIST = 180.996 FT	BEARING = S 9 03 W
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 25 NOV 91	1995 DAYS	DIST = -16.63 FT	
RESULTANT	FROM 9 JUN 86 TO 25 NOV 91	1995 DAYS	DIP = 10 DEG 17 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J 3
FB 4205-019

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	TIME DAYS	DIP DG MN
	NORTH	EAST		DIST FT	BEARING DG MN					
9 MAR 84	4017799.22	4177165.07		5.336	S 9 43 W	68	.078			
16 MAY 84	4017793.96	4177164.17		8.725	S 10 6 W	118	.073			
11 SEP 84	4017785.37	4177162.64		10.974	S 8 16 W	127	.086			
16 JAN 85	4017774.51	4177161.06		14.403	S 6 32 W	182	.079			
17 JUL 85	4017760.20	4177159.42		15.983	S 7 7 W	182	.087			
15 JAN 86	4017744.34	4177157.44								

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

HORIZONTAL MOVEMENT FROM 9 MAR 84 TO 15 JAN 86 677 DAYS DIST = 55.407 FT BEARING = S 7 55 W

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 3A
FB 4205-090

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
9 JUN 86	4017793.81	4177206.09	189.00	7.163	S 5 31 W	114	.062	-1.50	114	11 50 DN
1 OCT 86	4017786.68	4177205.40	187.50	6.365	S 5 8 W	116	.054	-2.00	116	17 26 DN
25 JAN 87	4017780.34	4177204.83	185.50	4.626	S 6 5 W	71	.065	-1.50	71	17 58 DN
6 APR 87	4017775.74	4177204.34	184.00	4.523	S 5 50 W	93	.048	-2.00	93	23 51 DN
8 JUL 87	4017771.24	4177203.88	182.00	4.270	S 5 39 W	119	.035	-1.80	119	22 51 DN
4 NOV 87	4017766.99	4177203.46	180.20	5.343	S 5 22 W	124	.043	-2.40	124	24 11 DN
7 MAR 88	4017761.67	4177202.96	177.80	1.561	S 2 34 W	106	.014	-.70	106	24 9 DN
21 JUN 88	4017760.11	4177202.89	177.10	1.301	S 2 38 W	107	.012	-.62	107	25 28 DN
6 OCT 88	4017758.81	4177202.83	176.48	1.100	S 2 5 W	111	.009	-.34	111	17 10 DN
25 JAN 89	4017757.71	4177202.79	176.14	1.810	S 1 54 W	152	.011	-.15	152	4 44 DN
26 JUN 89	4017755.90	4177202.73	175.99	4.277	S 9 25 W	276	.015	-2.81	276	33 18 DN
29 MAR 90	4017751.68	4177202.03	173.18							

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

HORIZONTAL MOVEMENT	FROM 9 JUN 86 TO 29 MAR 90	1389 DAYS	DIST = 42.325 FT	BEARING = S 5 30 W
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 29 MAR 90	1389 DAYS	DIST = -15.82 FT	
RESULTANT	FROM 9 JUN 86 TO 29 MAR 90	1389 DAYS	DIP = 20 DEG 29 MIN	DN

PROGRAM EK11AP
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COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 3B
FB 4205-300

DATE	COORDINATES	ELEV.	DIST	HORIZONTAL BEARING	MOVEMENT	RATE	VERTICAL	MOVNT	DIP
DA MON YR	NORTH EAST		FT	DG MN	TIME DAYS	FT/DA	ELEV DIFF	TIME DAYS	DG MN
25 NOV 91	401770.03 417210.28	169.26							

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

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 4
FB 4205-019

DATE DA MON VR	COORDINATES NORTH	EAST	ELEV.	HORIZONTAL DIST FT	BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
9 MAR 84	4017504.52	4175507.21		.269	S 31 19 W	68	.003	0.04747" <i>day</i>		
16 MAY 84	4017504.29	4175507.07		.536	S 14 2 W	118	.004	0.05349"		
11 SEP 84	4017503.77	4175506.94		.443	S 14 21 W	127	.003	0.04186"		
16 JAN 85	4017503.34	4175506.83		.604	S 16 20 W	182	.003	0.03982"		
17 JUL 85	4017502.76	4175506.66		.607	S 20 13 W	182	.003	0.0402"		
15 JAN 86	4017502.19	4175506.45		.856	S 14 12 W	145	.005	0.0708"		
9 JUN 86	4017501.36	4175506.24	174.20	.221	S 18 26 W	114	.001	0.02326"	114	61 2 DN
1 OCT 86	4017501.15	4175506.17	173.80	.143	S 24 46 W	116	.001	0.01479"	116	54 24 UP
25 JAN 87	4017501.02	4175506.11	174.00	.253	S 9 5 W	71	.003	0.04276"	71	21 33 DN
6 APR 87	4017500.77	4175506.07	173.90	.086	S 35 32 W	93	.000	0.01160"	93	49 18 DN
8 JUL 87	4017500.70	4175506.02	173.80	.281	S 6 7 W	119	.002	0.02834"	119	46 49 DN
4 NOV 87	4017500.42	4175505.99	173.50					0.02830"		

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 4 NOV 87	1335 DAYS	DIST = 4.277 FT	BEARING = S 16 34 W
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 4 NOV 87	513 DAYS	DIST = -.70 FT	
RESULTANT	FROM 9 JUN 86 TO 4 NOV 87	513 DAYS	DIP = 35 DEG 44 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J 4A
FB 4205-199

DATE DA MON VR	COORDINATES NORTH	EAST	ELEV.	HORIZONTAL DIST FT	BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVMT TIME DAYS	DIP DG MN
7 MAR 88	4017499.92	4175505.95	170.50	.536	S 8 35 W	106	.005	-.10	106	10 34 DN
21 JUN 88	4017499.39	4175505.87	170.40	.130	S 22 37 W	107	.001	-.01458 in/ft = 0.4435 ft/yr	107	14 13 DN
6 OCT 88	4017499.27	4175505.82	169.94	.144	S 33 41 W	111	.001	-.01557 in/ft = 0.4735 ft/yr	111	15 30 UP
25 JAN 89	4017499.15	4175505.74	169.98	.220	S 5 12 W	152	.001	-.01737 in/ft = 0.5283 ft/yr	152	17 26 UP
26 JUN 89	4017498.93	4175505.72	170.83	.492	S 12 54 W	276	.001	-.02139 in/ft = 0.6507 ft/yr	276	34 37 DN
29 MAR 90	4017498.45	4175505.61	170.49	1.421	S 15 30 W	606	.002	-.0281	606	31 10 DN
25 NOV 91	4017497.08	4175505.23	169.63							

0.028 in/dy
0.8559 ft/yr

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

HORIZONTAL MOVEMENT	FROM	7 MAR 88	TO	25 NOV 91	1358 DAYS	DIST =	2.929 FT	BEARING =	S 14 13 W
VERTICAL MOVEMENT	FROM	7 MAR 88	TO	25 NOV 91	1358 DAYS	DIST =	-.87 FT		
RESULTANT	FROM	7 MAR 88	TO	25 NOV 91	1358 DAYS	DIP =	16 DEG 32 MIN		DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 5
FB 4205-019

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT	KATE	VERTICAL	MOVNT	DIP
	NORTH	EAST		DIST FT	BEARING DG MN	TIME DAYS	FT/DA	ELEV DIFF	TIME DAYS	DG MN
9 MAR 84	4017790.26	4176150.53		.158	S 34 42 W	68	.002			
16 MAY 84	4017790.13	4176150.44		.281	S 16 30 W	118	.002			
11 SEP 84	4017789.86	4176150.36		.171	S 6 42 E	127	.001			
16 JAN 85	4017789.69	4176150.38		.395	S 16 8 W	182	.002			
17 JUL 85	4017789.31	4176150.27		.092	S 49 24 W	182	.000			
15 JAN 86	4017789.25	4176150.20		.320	S 14 28 W	145	.002			
9 JUN 86	4017788.94	4176150.12	218.80	.100	S	114	.000	-.40	114	75 58 DN
1 OCT 86	4017788.84	4176150.12	218.40	.050	S 36 52 W	116	.000	.40	116	82 52 UP
25 JAN 87	4017788.80	4176150.09	218.80	.101	S 11 19 W	71	.001	-.10	71	44 26 DN
6 APR 87	4017788.70	4176150.07	218.70							

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 6 APR 87	1123 DAYS	DIST = 1.626 FT	BEARING = S 16 26 W
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 6 APR 87	301 DAYS	DIST = -.10 FT	
RESULTANT	FROM 9 JUN 86 TO 6 APR 87	301 DAYS	DIP = 22 DEG 11 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 5A
FB 4205-151

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	4017788.85	4176149.92	218.40	.050	S 11 19 E	119	.000	-.40	119	82 44 DN
4 NOV 87	4017788.80	4176149.93	218.00	.090	S 6 20 E	124	.000	-.10	124	47 50 DN
7 MAR 88	4017788.71	4176149.94	217.90	.060	S 9 28 W	106	.000	-.20	106	73 5 DN
21 JUN 88	4017788.65	4176149.93	217.70	.031	S 18 26 W	107	.000	-.14	107	77 16 DN
6 OCT 88	4017788.62	4176149.92	217.56							

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

HORIZONTAL MOVEMENT	FROM	8 JUL 87 TO	6 OCT 88	456 DAYS	DIST =	.230 FT	BEARING =	S 0 00
VERTICAL MOVEMENT	FROM	8 JUL 87 TO	6 OCT 88	456 DAYS	DIST =	-.84 FT		
RESULTANT	FROM	8 JUL 87 TO	6 OCT 88	456 DAYS	DIP =	74 DEG 41 MIN	DN	

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 5B
FB 4205-221

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL		DIP
	NORTH	EAST		DIST FT	BEARING DG MN			ELEV DIFF	MVNT TIME DAYS	
25 JAN 89	4017788.62	4176150.29	218.11	.070	S 81 52 W	152	.000	.73	152	84 28 UP
26 JUN 89	4017788.61	4176150.22	218.84							

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

HORIZONTAL MOVEMENT	FROM 25 JAN 89 TO 26 JUN 89	152 DAYS	DIST =	.070 FT	BEARING =	S 81 52 W
VERTICAL MOVEMENT	FROM 25 JAN 89 TO 26 JUN 89	152 DAYS	DIST =	.73 FT		
RESULTANT	FROM 25 JAN 89 TO 26 JUN 89	152 DAYS	DIP =	84 DEG 28 MIN	UP	

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COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 5C
FB 4205-275

PROGRAM EK11AP
12/26/91

DATE		COORDINATES		ELEV.	HORIZONTAL		MOVEMENT		VERTICAL		MVNT		DIP	
DA	MON	YR	NORTH	EAST	DIST	BEARING	TIME	RATE	ELEV	DIFF	TIME	DG	MN	DN
29	MAR	90	4017789.02	4176150.25	.150	N 86 11 W	606	.000	- .11		606	36	12	DN
25	NOV	91	4017789.03	4176150.10										

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

HORIZONTAL MOVEMENT	FROM 29 MAR 90 TO 25 NOV 91	606 DAYS	DIST = .150 FT	BEARING = N 86 11 W
VERTICAL MOVEMENT	FROM 29 MAR 90 TO 25 NOV 91	606 DAYS	DIST = -.11 FT	
RESULTANT	FROM 29 MAR 90 TO 25 NOV 91	606 DAYS	DIP = 36 DEG 12 MIN	DN

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COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J 6
FB 4205-019

DATE		COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNI TIME DAYS	DIP DG MN
DA	MON YR	NORTH	EAST		DIST FT	BEARING DG MN					
9	MAR 84	4018162.26	4177889.10		5.144	S 10 59 W	68	.075			
16	MAY 84	4018157.21	4177888.12		8.473	S 8 58 W	118	.071			
11	SEP 84	4018148.84	4177886.80		10.419	S 9 3 W	127	.082			
16	JAN 85	4018138.55	4177885.16		13.618	S 9 33 W	182	.074			
17	JUL 85	4018125.12	4177882.90		11.557	S 9 28 W	182	.063			
15	JAN 86	4018113.72	4177881.00		14.856	S 8 36 W	145	.102			
9	JUN 86	4018099.03	4177878.78	197.70	7.834	S 8 53 W	114	.068	-.80	114	5 50 DN
1	OCT 86	4018091.29	4177877.57	196.90	5.795	S 8 38 W	116	.049	-.80	116	7 51 DN
25	JAN 87	4018085.56	4177876.70	196.10	3.268	S 8 48 W	71	.046	-.50	71	8 42 DN
6	APR 87	4018082.33	4177876.20	195.60	3.363	S 9 14 W	93	.036	-.50	93	8 27 DN
8	JUL 87	4018079.01	4177875.66	195.10	3.136	S 8 48 W	119	.026	-.40	119	7 16 DN
4	NOV 87	4018075.91	4177875.18	194.70							

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

HORIZONTAL MOVEMENT FROM 9 MAR 84 TO 4 NOV 87 1335 DAYS DIST = 87.464 FT BEARING = S 9 09 W
 VERTICAL MOVEMENT FROM 9 JUN 86 TO 4 NOV 87 513 DAYS DIST = -3.00 FT
 RESULTANT FROM 9 JUN 86 TO 4 NOV 87 513 DAYS DIP = 7 DEG 18 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J 6A
FB 4205-200

DATE	COORDINATES	ELEV.	HORIZONTAL	MOVEMENT	RATE	VERTICAL	DIP
DA MON YR	NORTH	EAST	DIST FT	BEARING DG MN	TIME DAYS	ELEV DIFF	DG MN
7 MAR 88	4017992.29	4177870.51	.859	S 8 42 W	106	-.10	6 38 DN
21 JUN 88	4017991.44	4177870.38	.775	S 6 40 W	107	-.18	13 4 DN
6 OCT 88	4017990.67	4177870.29	.682	S 10 59 W	111	-.11	9 9 DN
25 JAN 89	4017990.00	4177870.16	1.023	S 12 24 W	152	.11	6 8 UP
26 JUN 89	4017989.00	4177869.94	1.921	S 6 16 W	276	-.41	12 2 DN
29 MAR 90	4017987.09	4177869.73	4.870	S 10 25 W	606	-1.15	13 17 DN
25 NOV 91	4017982.30	4177868.85					

10964 in/dy
2.93 y/ty

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

HORIZONTAL MOVEMENT	FROM 7 MAR 88 TO 25 NOV 91	1358 DAYS	DIST = 10.126 FT	BEARING = S 9 26 W
VERTICAL MOVEMENT	FROM 7 MAR 88 TO 25 NOV 91	1358 DAYS	DIST = -1.84 FT	
RESULTANT	FROM 7 MAR 88 TO 25 NOV 91	1358 DAYS	DIP = 10 DEG 18 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 7
FB 4205-019

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DTP	
	NORTH	EAST		DIST FT	BEARING DG MN					DG MN	
9 MAR 84	4018049.60	4176880.38		2.463	S 10 45 W	68	.036				
16 MAY 84	4018047.18	4176879.92		4.077	S 10 27 W	118	.034				
11 SEP 84	4018043.17	4176879.18		4.489	S 9 21 W	127	.035				
16 JAN 85	4018038.74	4176878.45		5.825	S 10 23 W	182	.032				
17 JUL 85	4018033.01	4176877.40		4.632	S 11 27 W	182	.025				
15 JAN 86	4018028.47	4176876.48		6.756	S 2 33 W	145	.046				
9 JUN 86	4018021.72	4176876.18	200.30	3.792	S 25 37 W	114	.033		114		
1 OCT 86	4018018.30	4176874.54	200.30	2.634	S 10 30 W	116	.022	-.40	116	8 38	DN
25 JAN 87	4018015.71	4176874.06	199.90	1.590	S 11 14 W	71	.022	-.10	71	3 36	DN
6 APR 87	4018014.15	4176873.75	199.80	1.649	S 10 50 W	93	.017		93		
8 JUL 87	4018012.53	4176873.44	199.80	1.530	S 9 24 W	119	.012	-.30	119	11 5	DN
4 NOV 87	4018011.02	4176873.19	199.50								

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

HORIZONTAL MOVEMENT FROM 9 MAR 84 TO 4 NOV 87 1335 DAYS DIST = 39.244 FT BEARING = S 10 33 W
VERTICAL MOVEMENT FROM 9 JUN 86 TO 4 NOV 87 513 DAYS DIST = -.80 FT
RESULTANT FROM 9 JUN 86 TO 4 NOV 87 513 DAYS DIP = 4 DEG 7 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J 7A
FB 4205-200

DATE DA MON VR	COORDINATES NORTH	EAST	ELEV.	HORIZONTAL DIST FT	BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
7 MAR 88	4018009.41	4176873.01	198.70	.480	S 12 W	106	.004		106	
21 JUN 88	4018008.94	4176872.91	198.70	.451	S 5 4 W	107	.004	-.22	107	25 58 DN
6 OCT 88	4018008.49	4176872.87	198.48	.424	S 8 8 W	111	.003 .04584	-.04	111	5 23 DN
25 JAN 89	4018008.07	4176872.81	198.44	.562	S 12 18 W	152	.003 .04437	.59	152	46 21 UP
26 JUN 89	4018007.52	4176872.69	199.03	1.016	S 15 24 W	276	.003 .04417	.21	276	11 40 DN
29 MAR 90	4018006.54	4176872.42	198.82	2.210	S 10 57 W	606	.003 .04376	-.42	606	10 45 DN
25 NOV 91	4018004.37	4176872.00	198.40				.0438 in/d			

1.33 yd/yr

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

HORIZONTAL MOVEMENT	FROM 7 MAR 88 TO 25 NOV 91	1358 DAYS	DIST = 5.140 FT	BEARING = S 11 20 W
VERTICAL MOVEMENT	FROM 7 MAR 88 TO 25 NOV 91	1358 DAYS	DIST = -.30 FT	
RESULTANT	FROM 7 MAR 88 TO 25 NOV 91	1358 DAYS	DIP = 3 DEG 20 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J 8
FB 4205-019

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
9 MAR 84	4018347.86	4178514.58		3.932	S 16 32 W		68	.057			
16 MAY 84	4018344.09	4178513.46		6.524	S 14 23 W		118	.055			
11 SEP 84	4018337.77	4178511.84		8.501	S 13 24 W		127	.066			
16 JAN 85	4018329.50	4178509.87		10.853	S 13 48 W		182	.059			
17 JUL 85	4018318.96	4178507.28		8.923	S 13 40 W		182	.049			
15 JAN 86	4018310.29	4178505.17		11.302	S 13 43 W		145	.077			
9 JUN 86	4018299.31	4178502.49	145.20	5.842	S 14 22 W		114	.051	-.40	114	3 55 DN
1 OCT 86	4018293.65	4178501.04	144.80								

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 1 OCT 86	936 DAYS	DIST = 55.875 FT	BEARING = S 14 01 W
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 1 OCT 86	114 DAYS	DIST = -.40 FT	
RESULTANT	FROM 9 JUN 86 TO 1 OCT 86	114 DAYS	DIP =	3 DEG 55 MIN DN

COUNTY OF LOS ANGELES
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PROGRAM EK11AP
12/26/91

PORT BN J 8A
FB 4205-117

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	VERTICAL ELEV DIFF	DIP DG MN
25 JAN 87	4018293.48	4178500.69	172.00	2.382	S 15 5 W	71	.033	-.20	71	4 48 DN
6 APR 87	4018291.18	4178500.07	171.80	2.576	S 15 46 W	93	.027	-.20	93	4 26 DN
8 JUL 87	4018288.70	4178499.37	171.60	2.342	S 14 20 W	119	.019	-.40	119	9 41 DN
4 NOV 87	4018286.43	4178498.79	171.20	1.758	S 13 29 W	124	.014	-.40	124	12 49 DN
7 MAR 88	4018284.72	4178498.38	170.80	.210	S 31 26 W	106	.001	-.10	106	25 22 DN
21 JUN 88	4018284.54	4178498.27	170.70	.384	S 8 58 W	107	.003	.02	107	2 58 UP
6 OCT 88	4018284.16	4178498.21	170.72	.303	S 17 14 W	111	.002	-.09	111	16 31 DN
25 JAN 89	4018283.87	4178498.12	170.63	.496	S 25 1 W	152	.003	.08	152	9 9 UP
26 JUN 89	4018283.42	4178497.91	170.71	1.025	S 23 34 W	276	.003	.12	276	6 40 UP
29 MAR 90	4018282.48	4178497.50	170.83	2.802	S 21 21 W	606	.004	-.51	606	10 19 DN
25 NOV 91	4018279.87	4178496.48	170.32							

0.5549 in/day
1.6877 ft/day

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

HORIZONTAL MOVEMENT	FROM 25 JAN 87 TO 25 NOV 91	1765 DAYS	DIST =	14.246 FT	BEARING = S 17 11 W
VERTICAL MOVEMENT	FROM 25 JAN 87 TO 25 NOV 91	1765 DAYS	DIST =	-1.68 FT	
RESULTANT	FROM 25 JAN 87 TO 25 NOV 91	1765 DAYS	DIP =	6 DEG 43 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J 9
FB 4205-019

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT	RATE	VERTICAL	MVNT	DIP
	NORTH	EAST		DIST FT	BEARING DG MN	TIME DAYS	FT/DA	ELEV DIFF	TIME DAYS	DG MN
9 MAR 84	4019206.45	4178048.89		5.476	S 6 36 E	68	.080			
16 MAY 84	4019201.01	4178049.52		8.843	S 4 13 E	118	.074			
11 SEP 84	4019192.19	4178050.17		10.863	S 6 11 E	127	.085			
16 JAN 85	4019181.39	4178051.34		13.804	S 4 36 E	182	.075			
17 JUL 85	4019167.63	4178052.45		11.493	S 4 59 E	182	.063			
15 JAN 86	4019156.18	4178053.45		14.686	S 4 3 E	145	.101			
9 JUN 86	4019141.53	4178054.49	315.60	7.758	S 3 59 E	114	.068	-1.30	114	9 31 DN
1 OCT 86	4019133.79	4178055.03	314.30	5.159	S 3 26 E	116	.044	-.90	116	9 54 DN
25 JAN 87	4019128.64	4178055.34	313.40	2.604	S 3 31 E	71	.036	-.40	71	8 44 DN
6 APR 87	4019126.04	4178055.50	313.00	2.711	S 2 7 E	93	.029	-.40	93	8 23 DN
8 JUL 87	4019123.33	4178055.60	312.60	2.602	S 2 38 E	119	.021	-.50	119	10 52 DN
4 NOV 87	4019120.73	4178055.72	312.10							

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

HORIZONTAL MOVEMENT FROM 9 MAR 84 TO 4 NOV 87 1335 DAYS DIST = 85.991 FT BEARING = S 4 33 E
 VERTICAL MOVEMENT FROM 9 JUN 86 TO 4 NOV 87 513 DAYS DIST = -3.50 FT
 RESULTANT FROM 9 JUN 86 TO 4 NOV 87 513 DAYS DIP = 9 DEG 32 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J 9A
FB 4205-200

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
7 MAR 88	4019120.73	4178055.71	278.20	.674	S 6 49 E	106	.006	.10	106	8 26 UP
21 JUN 88	4019120.06	4178055.79	278.30	.595	S 7 43 E	107	.005	-.15	107	14 8 DN
6 OCT 88	4019119.47	4178055.87	278.15	.596	S 8 40 E	111	.005	-.07	111	6 41 DN
25 JAN 89	4019118.88	4178055.96	278.08	.732	S 4 42 E	152	.004	.23	152	17 26 UP
26 JUN 89	4019118.15	4178056.02	278.31	1.430	S 1 36 W	276	.005	10.06	276	81 54 UP
29 MAR 90	4019116.72	4178055.98	278.37	3.676	S 5 28 E	606	.006	-10.83	606	71 15 DN
25 NOV 91	4019113.06	4178056.33	277.54							

*1.0728 in/dy
2.214 ft/yr*

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

HORIZONTAL MOVEMENT	FROM 7 MAR 88 TO 25 NOV 91	1358 DAYS	DIST = 7.695 FT	BEARING = S 4 37 E
VERTICAL MOVEMENT	FROM 7 MAR 88 TO 25 NOV 91	1358 DAYS	DIST = -.66 FT	
RESULTANT	FROM 7 MAR 88 TO 25 NOV 91	1358 DAYS	DIP = 4 DEG 54 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J10
FB 4205-019

DATE DA MON YR	COORDINATES NORTH EAST	ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MTNT TIME DAYS	DIP DG MN
9 MAR 84	4019846.45 4177516.68		1.930	S 8 20 E	68	.028			
16 MAY 84	4019844.54 4177516.96		3.079	S 4 28 E	118	.026			
11 SEP 84	4019841.47 4177517.20		3.103	S 7 2 E	127	.024			
16 JAN 85	4019838.39 4177517.58		3.672	S 4 41 E	182	.020			
17 JUL 85	4019834.73 4177517.88	382.30	2.163	S 6 22 E	182	.011	-.30	182	7 53 DN
15 JAN 86	4019832.58 4177518.12	382.00	2.965	S 5 48 E	145	.020	-.50	145	9 34 DN
9 JUN 86	4019829.63 4177518.42	381.50	1.446	S 5 33 E	114	.012	.10	114	3 57 UP
1 OCT 86	4019828.19 4177518.56	381.60	.913	S 5 1 E	116	.007	-.40	116	23 39 DN
25 JAN 87	4019827.28 4177518.64	381.20	.194	S 11 53 W	71	.002		71	
6 APR 87	4019827.09 4177518.60	381.20	.183	S 29 21 E	93	.001	.10	93	28 35 UP
8 JUL 87	4019826.93 4177518.69	381.30	.294	S 9 47 E	119	.002	-.30	119	45 33 DN
4 NOV 87	4019826.64 4177518.74	381.00	.160	S 3 35 E	124	.001	-.30	124	61 53 DN
7 MAR 88	4019826.48 4177518.75	380.70	.165	S 25 1 E	106	.001	-.10	106	31 8 DN
21 JUN 88	4019826.33 4177518.82	380.60	.191	S 6 E	107	.001	-.10	107	27 38 DN
6 OCT 88	4019826.14 4177518.84	380.50	.156	S 26 34 E	111	.001	.14	111	41 49 UP
25 JAN 89	4019826.00 4177518.91	380.64	.240	S 4 46 E	152	.001	.50	152	64 17 UP
26 JUN 89	4019825.76 4177518.93	381.14	.268	S 63 26 W	276	.000	.17	276	32 21 UP
29 MAR 90	4019825.64 4177518.69	381.31	.502	S 31 9 E	606	.000	-.35	606	34 51 DN
25 NOV 91	4019825.21 4177518.95	380.96							

0.00994 in/day
0.3024 ft/yr

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 25 NOV 91	2817 DAYS	DIST = 21.360 FT	BEARING = S 6 06 E
VERTICAL MOVEMENT	FROM 17 JUL 85 TO 25 NOV 91	2322 DAYS	DIST = -1.34 FT	
RESULTANT	FROM 17 JUL 85 TO 25 NOV 91	2322 DAYS	DIP = 7 DEG 57 MIN	DN

PROGRAM EK11AP
12/26/91

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J11
FB 4205-019

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									
9 MAR 84	4020408.59	4177093.76		.020	S		68	.000			
16 MAY 84	4020408.57	4177093.76		.090	S 6 20 W		118	.000			
11 SEP 84	4020408.48	4177093.75		.114	S 74 45 E		127	.000			
16 JAN 85	4020408.45	4177093.86		.142	S 50 43 W		364	.000			
15 JAN 86	4020408.36	4177093.75		.063	S 18 26 E		145	.000			
9 JUN 86	4020408.30	4177093.77	416.10	.070	S		114	.000		114	
1 OCT 86	4020408.23	4177093.77	416.10	.063	S 18 26 W		116	.000	.10	116	57 41 UP
25 JAN 87	4020408.17	4177093.75	416.20	.089	N 63 26 W		71	.001		71	
6 APR 87	4020408.21	4177093.67	416.20	.072	S 74 3 E		93	.000		93	
8 JUL 87	4020408.19	4177093.74	416.20	.044	S 63 26 E		119	.000	-.30	119	81 31 DN
4 NOV 87	4020408.17	4177093.78	415.90	.028	N 44 60 E		124	.000	-.50	124	86 46 DN
7 MAR 88	4020408.19	4177093.80	415.40	.036	S 33 41 W		106	.000	-.10	106	70 11 DN
21 JUN 88	4020408.16	4177093.78	415.30								

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 21 JUN 88	1565 DAYS	DIST = .430 FT	BEARING = S 2 40 E
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 21 JUN 88	743 DAYS	DIST = -.80 FT	
RESULTANT	FROM 9 JUN 86 TO 21 JUN 88	743 DAYS	DIP = 80 DEG	3 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J12
FB 4205-019

DATE DA MON YR	COORDINATES NORTH EAST	ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	VERTICAL ELEV DIFF	BEARING DG MN
9 MAR 84	4019728.98 4177803.36		2.620	S 1 19 E	68	.038			
16 MAY 84	4019726.36 4177803.42		4.070	S 1 16 W	118	.034			
11 SEP 84	4019722.29 4177803.33		4.210	S 24 E	127	.033			
16 JAN 85	4019718.08 4177803.36		4.974	S 2 18 W	182	.027			
17 JUL 85	4019713.11 4177803.16		3.030	S 45 W	182	.016			
15 JAN 86	4019710.08 4177803.12		4.400	S 15 E	145	.030			
9 JUN 86	4019705.68 4177803.14	378.20	2.090	S 16 W	114	.018	-.40	114	10 50 DN
1 OCT 86	4019703.59 4177803.13	377.80	1.140	S	116	.009	-.30	116	14 44 DN
25 JAN 87	4019702.45 4177803.13	377.50	.271	S 6 20 W	71	.003		71	
6 APR 87	4019702.18 4177803.10	377.50	.320	S 1 47 E	93	.003	-.10	93	17 21 DN
8 JUL 87	4019701.86 4177803.11	377.40	.276	S 12 32 E	119	.002	-.10	119	19 52 DN
4 NOV 87	4019701.59 4177803.17	377.30	.420	S 1 22 W	124	.003	-.60	124	54 60 DN
7 MAR 88	4019701.17 4177803.16	376.70	.152	S 11 19 E	106	.001		106	
21 JUN 88	4019701.02 4177803.19	376.70	.390	S 13 19 E	107	.003	-.05	107	7 18 DN
6 OCT 88	4019700.64 4177803.28	376.65	.114	S 74 45 W	111	.001	-.07	111	31 33 DN
25 JAN 89	4019700.61 4177803.17	376.58	.223	S 10 18 E	152	.001	.45	152	63 35 UP
26 JUN 89	4019700.39 4177803.21	377.03	.496	S 9 16 W	276	.001	.11	276	12 29 UP
29 MAR 90	4019699.90 4177803.13	377.14	.391	S 4 24 W	606	.000	-.46	606	49 37 DN
25 NOV 91	4019699.51 4177803.10	376.68							

.00774 in/day
2355 ft/yr

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 25 NOV 91	2817 DAYS	DIST = 29.471 FT	BEARING = S 0 30 W
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 25 NOV 91	1995 DAYS	DIST = -1.52 FT	
RESULTANT	FROM 9 JUN 86 TO 25 NOV 91	1995 DAYS	DIP = 13 DEG 50 MIN	DN

156
11 50
11 21
11 30
11 31

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J13
FB 4205-019

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST		DIST FT	BEARING DG MN					
9 MAR 84	4018829.08	4178785.14		7.230	S 43 W	68	.106			
16 MAY 84	4018821.85	4178785.05		11.409	S 3 22 W	118	.096			
11 SEP 84	4018810.46	4178784.38		13.819	S 2 7 W	127	.108			
16 JAN 85	4018796.65	4178783.87		17.364	S 3 4 W	182	.095			
17 JUL 85	4018779.31	4178782.94		14.406	S 2 45 W	182	.079			
15 JAN 86	4018764.92	4178782.25		18.125	S 3 34 W	145	.125			
9 JUN 86	4018746.83	4178781.12	220.00							
1 OCT 86	4018737.50	4178780.61	217.30	9.343	S 3 8 W	114	.081	-2.70	114	16 7 DN

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 1 OCT 86	936 DAYS	DIST = 91.691 FT	BEARING = S 2 50 W
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 1 OCT 86	114 DAYS	DIST = -2.70 FT	
RESULTANT	FROM 9 JUN 86 TO 1 OCT 86	114 DAYS	DIP = 16 DEG	7 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J13A
FB 4205-117

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF		MVNT TIME DAYS	DIP DG MN
	NORTH	EAST			DG MN							
25 JAN 87	4018737.38	4178780.41	189.90	2.457	S 18 30 W		71	.034		-.60	71	13 43 DN
6 APR 87	4018735.05	4178779.63	189.30	2.670	S 16 32 W		93	.028		-.60	93	12 40 DN
8 JUL 87	4018732.49	4178778.87	188.70	2.517	S 14 15 W		119	.021		-.70	119	15 32 DN
4 NOV 87	4018730.05	4178778.25	188.00	1.660	S 17 53 W		124	.013		-.50	124	16 45 DN
7 MAR 88	4018728.47	4178777.74	187.50	.219	S 43 9 W		106	.002			106	
21 JUN 88	4018728.31	4178777.59	187.50	.371	S 27 15 W		107	.003		-.05	107	7 40 DN
6 OCT 88	4018727.98	4178777.42	187.45	.339	S 42 37 W		111	.003		-.07	111	11 38 DN
25 JAN 89	4018727.73	4178777.19	187.38	.456	S 37 52 W		152	.003		-.04	152	5 1 DN
26 JUN 89	4018727.37	4178776.91	187.34	1.080	S 36 20 W		276	.003		-.06	276	3 11 DN
29 MAR 90	4018726.50	4178776.27	187.28	2.771	S 32 2 W		606	.004		-1.06	606	20 56 DN
25 NOV 91	4018724.15	4178774.80	186.22									

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

HORIZONTAL MOVEMENT FROM 25 JAN 87 TO 25 NOV 91 1765 DAYS DIST = 14.370 FT BEARING = S 22 59 W
VERTICAL MOVEMENT FROM 25 JAN 87 TO 25 NOV 91 1765 DAYS DIST = -3.68 FT
RESULTANT FROM 25 JAN 87 TO 25 NOV 91 1765 DAYS DIP = 14 DEG 22 MIN DN

PORT BN J14
FB 4205-019

DATE DA MON YR	COORDINATES NORTH	EAST	ELEV.	DIST FT	BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
9 MAR 84	4020217.55	4178377.84		3.631	S 20 8 W	68	.053			
16 MAY 84	4020214.14	4178376.59		5.733	S 20 31 W	118	.048			
11 SEP 84	4020208.77	4178374.58		6.816	S 20 37 W	127	.053			
16 JAN 85	4020202.39	4178372.18		9.459	S 22 57 W	182	.051			
17 JUL 85	4020193.68	4178368.49		5.975	S 23 15 W	182	.032			
15 JAN 86	4020188.19	4178366.13		7.577	S 24 14 W	145	.052			
9 JUN 86	4020181.28	4178363.02	355.80	3.114	S 13 22 W	114	.027	-1.30	114	22 39 DN
1 OCT 86	4020178.25	4178362.30	354.50							

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 1 OCT 86	936 DAYS	DIST = 42.260 FT	BEARING = S 21 34 W
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 1 OCT 86	114 DAYS	DIST = -1.30 FT	
RESULTANT	FROM 9 JUN 86 TO 1 OCT 86	114 DAYS	DIP = 22 DEG 39 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J15
FB 4205-019

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								
9 MAR 84	4020656.39	4178260.27		.070	N 90 E	68	.001			
16 MAY 84	4020656.39	4178260.34		.010	S	118	.000			
11 SEP 84	4020656.38	4178260.34		.114	S 74 45 E	127	.000			
16 JAN 85	4020656.35	4178260.45		.022	S 26 34 W	364	.000			
15 JAN 86	4020656.33	4178260.44		.082	S 14 2 W	145	.000			
9 JUN 86	4020656.25	4178260.42	486.20	.028	S 44 60 E	114	.000	-.10	114	74 13 DN
1 OCT 86	4020656.23	4178260.44	486.10	.070	S	116	.000	.10	116	55 UP
25 JAN 87	4020656.16	4178260.44	486.20	.106	S 48 49 W	71	.001		71	
6 APR 87	4020656.09	4178260.36	486.20	.134	N 41 59 E	93	.001	-.10	93	36 37 UP
8 JUL 87	4020656.19	4178260.45	486.30	.070	S 8 W	119	.000	-.30	119	76 44 DN
4 NOV 87	4020656.12	4178260.44	486.00	.044	S 26 34 W	124	.000	-.20	124	77 24 DN
7 MAR 88	4020656.08	4178260.42	485.80	.036	N 56 19 E	106	.000		106	
21 JUN 88	4020656.10	4178260.45	485.80							

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 21 JUN 88	1565 DAYS	DIST =	.341 FT	BEARING = S 31 49 E
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 21 JUN 88	743 DAYS	DIST =	-.40 FT	
RESULTANT	FROM 9 JUN 86 TO 21 JUN 88	743 DAYS	DIP =	69 DEG	4 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J16
FB 4205-117

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
25 JAN 87	4020237.26 4177825.21	367.70	.241	S 7 8 E	71	.003	.20	71	39 35 UP
6 APR 87	4020237.02 4177825.24	367.90	.261	S 46 33 E	93	.002	-.10	93	20 54 DN
8 JUL 87	4020236.84 4177825.43	367.80	.349	S 23 38 E	119	.002	-.30	119	40 40 DN
4 NOV 87	4020236.52 4177825.57	367.50	.421	S 31 26 E	124	.003	-.30	124	35 25 DN
7 MAR 88	4020236.16 4177825.79	367.20	.117	S 19 59 E	106	.001	-.20	106	59 40 DN
21 JUN 88	4020236.05 4177825.83	367.00	.252	S 33 41 E	107	.002	-.13	107	27 15 DN
6 OCT 88	4020235.84 4177825.97	366.87	.193	S 21 15 E	111	.001		111	
25 JAN 89	4020235.66 4177826.04	366.87	.198	S 49 5 E	152	.001	.61	152	71 59 UP
26 JUN 89	4020235.53 4177826.19	367.48	.614	S 16 4 E	276	.002	.09	276	8 20 UP
29 MAR 90	4020234.94 4177826.36	367.57							

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

HORIZONTAL MOVEMENT	FROM 25 JAN 87 TO 29 MAR 90	1159 DAYS	DIST =	2.589 FT	BEARING = S 26 22 E
VERTICAL MOVEMENT	FROM 25 JAN 87 TO 29 MAR 90	1159 DAYS	DIST =	-.13 FT	
RESULTANT	FROM 25 JAN 87 TO 29 MAR 90	1159 DAYS	DIP =	2 DEG 52 MIN	DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN J17
FB 4205-174

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST		DIST FT	BEARING DG MN					
4 NOV 87	4021319.57	4177716.55	602.90	.145	S 15 57 W	124	.001	-.40	124	69 60 DN
7 MAR 88	4021319.43	4177716.51	602.50	.098	N 23 58 E	106	.000	.40	106	76 10 UP
21 JUN 88	4021319.52	4177716.55	602.90	.044	S 26 34 E	370	.000	.06	370	53 18 UP
26 JUN 89	4021319.48	4177716.57	602.96							

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

HORIZONTAL MOVEMENT	FROM	4 NOV 87 TO 26 JUN 89	600 DAYS	DIST =	.092 FT	BEARING =	S 12 32 E
VERTICAL MOVEMENT	FROM	4 NOV 87 TO 26 JUN 89	600 DAYS	DIST =	.06 FT		
RESULTANT	FROM	4 NOV 87 TO 26 JUN 89	600 DAYS	DIP =	33 DEG	3 MIN	UP

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J18
FB 4205-216

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
6 OCT 88	4019212.20	4177434.55	315.14	.380	S 3 1 E	111	.003	.03	111	4 30 UP
25 JAN 89	4019211.82	4177434.57	315.17	.480	S	152	.003	.29	152	31 8 UP
26 JUN 89	4019211.34	4177434.57	315.46	1.035	S 6 5 W	276	.003	.07	276	3 52 UP
29 MAR 90	4019210.31	4177434.46	315.53							

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

HORIZONTAL MOVEMENT	FROM	6 OCT 88 TO 29 MAR 90	539 DAYS	DIST =	1.892 FT	BEARING =	S 2 44 W
VERTICAL MOVEMENT	FROM	6 OCT 88 TO 29 MAR 90	539 DAYS	DIST =	.39 FT		
RESULTANT	FROM	6 OCT 88 TO 29 MAR 90	539 DAYS	DIP =	11 DEG 39 MIN	UP	

PROGRAM EK11AP
12/26/91

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J19
FB 4205-216

DATE DA MON VR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF		MVNT TIME DAYS	DIP	
	NORTH	EAST										DG MN	
6 OCT 88	4017162.86	4176602.55	92.99	.431	S 3 59 W	111	.003		.08		111	10 31	UP
25 JAN 89	4017162.43	4176602.52	93.07	.898	S 20 51 W	152	.005		.74		152	39 28	UP
26 JUN 89	4017161.59	4176602.20	93.81	1.515	S 20 28 W	276	.005		-.74		276	26 1	DN
29 MAR 90	4017160.17	4176601.67	93.07	4.181	S 19 34 W	606	.006		.26		606	3 33	UP
25 NOV 91	4017156.23	4176600.27	93.33										

*0.828 in/day
2.518 ft/yr*

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

HORIZONTAL MOVEMENT	FROM 6 OCT 88 TO 25 NOV 91	1145 DAYS	DIST = 7.011 FT	BEARING = S 18 58 W
VERTICAL MOVEMENT	FROM 6 OCT 88 TO 25 NOV 91	1145 DAYS	DIST = .34 FT	
RESULTANT	FROM 6 OCT 88 TO 25 NOV 91	1145 DAYS	DIP = 2 DEG 46 MIN	UP

PROGRAM EK11AP
12/26/91

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN J21
FB 4205-300

DATE	COORDINATES
DA MON YR	NORTH EAST
25 NOV 91	4019360.67 4178772.00

ELEV.
283.01

DIST
FT

HORIZONTAL BEARING
DG MN

MOVEMENT TIME
DAYS

RATE
FT/DA

VERTICAL
ELEV
DIFF

MOVNT
TIME
DAYS

DIP
DG MN

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

1991/11/25

4019360.67 4178772.00

4019360.67 4178772.00

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

DATE		COORDINATES	
DA	MON YR	NORTH	EAST
25	NOV 91	4018654.44	4177787.08

ELEV.
243.11

DIST FT	HORIZONTAL		MOVEMENT TIME DAYS
	BEARING	DG MN	

RATE
FT/DA

VERTICAL	MVNT
ELEV	TIME
DIFF	DAYS

DIP
DG MN

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

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN K 1
FB 949-060

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST		DIST FT	BEARING DG MN	TIME DAYS				
6 MAY 57	4017544.22	4176075.44	213.69	73.307	S 26 42 W	6854	.010	-5.19	6854	4 3 DN
10 FEB 76	4017478.73	4176042.50	208.50	1.621	S 29 34 W	252	.006	-.24	252	8 25 DN
19 OCT 76	4017477.32	4176041.70	208.26	15.815	S 28 43 W	1437	.011			
25 SEP 80	4017463.45	4176034.10		.872	N 63 26 W	596	.001			
14 MAY 82	4017463.84	4176033.32		2.965	S 11 5 W	171	.017			
1 NOV 82	4017460.93	4176032.75		3.661	S 29 5 W	989	.003			
17 JUL 85	4017457.73	4176030.97		.282	S 44 60 W	182	.001			
15 JAN 86	4017457.53	4176030.77		.418	S 33 19 W	145	.002	-2.26	3520	5 36 DN
9 JUN 86	4017457.18	4176030.54	206.00	.134	S 26 34 W	114	.001	-.40	114	71 28 DN
1 OCT 86	4017457.06	4176030.48	205.60	.171	S 6 42 W	116	.001	-.20	116	49 26 DN
25 JAN 87	4017456.89	4176030.46	205.40	.098	S 44 60 W	71	.001	-.20	71	63 40 DN
6 APR 87	4017456.82	4176030.39	205.20	.056	N 44 60 W	93	.000	.10	93	60 30 UP
8 JUL 87	4017456.86	4176030.35	205.30	.101	S 11 19 W	119	.000	-.40	119	75 42 DN
4 NOV 87	4017456.76	4176030.33	204.90							

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

HORIZONTAL MOVEMENT	FROM 6 MAY 57 TO 4 NOV 87	1139 DAYS	DIST = 98.408 FT	BEARING = S 27 17 W
VERTICAL MOVEMENT	FROM 6 MAY 57 TO 4 NOV 87	1139 DAYS	DIST = -8.79 FT	
RESULTANT	FROM 6 MAY 57 TO 4 NOV 87	1139 DAYS	DIP = 5 DEG	6 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN K 5
FB 949-059

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING DG MN	MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	VERTICAL ELEV DIFF	DIP DG MN
26 JUN 64	4017412.40	4178835.22	135.99	.280	S 2 3 E	2772	.000		2772	
28 JAN 72	4017412.12	4178835.23	135.99	2.181	S 12 26 W	4486	.000		4486	
10 MAY 84	4017409.99	4178834.76	135.99	.110	S	124	.000			
11 SEP 84	4017409.88	4178834.76		.041	N 75 58 W	127	.000			
16 JAN 85	4017409.89	4178834.72		.170	S 3 22 E	376	.000			
27 JAN 86	4017409.72	4178834.73		.189	S 18 26 W	363	.000	-.24	990	27 36 DN
25 JAN 87	4017409.54	4178834.67	135.75	.192	S 38 40 W	407	.000	-.25	407	52 28 DN
7 MAR 88	4017409.39	4178834.55	135.50	.126	S 71 34 W	1358	.000	.18	1358	54 54 UP
25 NOV 91	4017409.35	4178834.43	135.68							

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

HORIZONTAL MOVEMENT FROM 26 JUN 64 TO 25 NOV 91 0013 DAYS DIST = 3.150 FT BEARING = S 14 31 W
 VERTICAL MOVEMENT FROM 26 JUN 64 TO 25 NOV 91 0013 DAYS DIST = -.31 FT
 RESULTANT FROM 26 JUN 64 TO 25 NOV 91 0013 DAYS DIP = 5 DEG 37 MIN DN

PROGRAM EK11AP
12/26/91

DATE		COORDINATES		ELEV.	HORIZONTAL		MOVEMENT		VERTICAL		DIP	
DA	MON	NORTH	EAST		DIST FT	BEARING DG MN	TIME DAYS	RATE FT/DA	DIFF ELEV	TIME DAYS		
17	OCT	56	4017389.05	4179321.16		0.44	N 26 34 W	1359	.000	70.71	71.3 = 0.014 N	
7	JUL	60	4017389.09	4179321.14		1.458	N 51 24 W	5696	.000	44.45	44.45	DG MN
10	FEB	76	4017390.00	4179320.00	236.42	1.885	S 12 34 E	1689	.001	93.5	93.5	45
25	SEP	80	4017388.16	4179320.41		1.126	S 71 34 W	599	.000	74.57	74.57	
17	MAY	82	4017388.12	4179320.29		1.188	N 57 60 E	175	.001	13.25	13.25	
8	NOV	82	4017388.22	4179320.45		1.334	S 51 4 W	549	.000	6.92	6.92	
10	MAY	84	4017388.01	4179320.19		1.036	S 33 41 W	124	.000	11.06	11.06	
11	SEP	84	4017387.98	4179320.17		1.040	N	127	.000	44.75	44.75	
16	JAN	85	4017388.02	4179320.17		1.050	S 11 19 E	365	.000	33.43	33.43	
16	JAN	86	4017387.97	4179320.18		1.078	S 39 48 W	374	.000	13.75	13.75	
25	JAN	87	4017387.91	4179320.13	236.32	1.050	S 53 8 W	407	.000	8.38	8.38	
7	MAR	88	4017387.88	4179320.09	236.30	1.072	N 74 3 W	1358	.000	6.12	6.12	

1.633

44,750

15.8^{pt} 1460 to 1980 = 1.198 = 1.20' (units⁴ 1980) — partially exceeds 12 miles/yr
 1980 to 1984 = 0.26' (1323 days) = 0.851 in/yr
 1984 to 1991 = 0.181 = $\frac{0.18}{1.64}$ (2755 days) = 0.286 in/yr.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN N FIX
FB 4445-101

DATE DA MON YR	COORDINATES		ELEV.	DIST FT	HORIZONTAL BEARING		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL		DIP
	NORTH	EAST			DG MN	DG MN			ELEV DIFF	MVNT TIME DAYS	
6 SEP 83	4021386.50	4178643.71			N 90		185				
9 MAR 84	4021386.50	4178643.71			N 90		68				
16 MAY 84	4021386.50	4178643.71			N 90		118				
11 SEP 84	4021386.50	4178643.71			N 90		127				
16 JAN 85	4021386.50	4178643.71			N 90		182				
17 JUL 85	4021386.50	4178643.71			N 90		180				
13 JAN 86	4021386.50	4178643.71			N 90		147				
9 JUN 86	4021386.50	4178643.71			N 90		114				
1 OCT 86	4021386.50	4178643.71			N 90		116				
25 JAN 87	4021386.50	4178643.71			N 90		71				
6 APR 87	4021386.50	4178643.71			N 90		93				
8 JUL 87	4021386.50	4178643.71			N 90		119				
4 NOV 87	4021386.50	4178643.71			N 90		124				
7 MAR 88	4021386.50	4178643.71			N 90		106				
21 JUN 88	4021386.50	4178643.71			N 90		107				
6 OCT 88	4021386.50	4178643.71			N 90		111				
25 JAN 89	4021386.50	4178643.71			N 90		152				
26 JUN 89	4021386.50	4178643.71			N 90		276				
29 MAR 90	4021386.50	4178643.71			N 90		606				
25 NOV 91	4021386.50	4178643.71			N 90						

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

HORIZONTAL MOVEMENT FROM 6 SEP 83 TO 25 NOV 91 3002 DAYS DIST = .000 FT BEARING = N 90 00

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
9 MAR 84	4016614.34	4176084.68			N 90	68				
16 MAY 84	4016614.34	4176084.68			N 90	118				
11 SEP 84	4016614.34	4176084.68			N 90	122				
11 JAN 85	4016614.34	4176084.68			N 90	187				
17 JUL 85	4016614.34	4176084.68			N 90	182				
15 JAN 86	4016614.34	4176084.68			N 90	145				
9 JUN 86	4016614.34	4176084.68	125.50		N 90	114		.20	114	90 UP
1 OCT 86	4016614.34	4176084.68	125.70		N 90	116		-.20	116	90 DN
25 JAN 87	4016614.34	4176084.68	125.50		N 90	71		-.10	71	90 DN
6 APR 87	4016614.34	4176084.68	125.40		N 90	93		.20	93	90 UP
8 JUL 87	4016614.34	4176084.68	125.60		N 90	119		-.30	119	90 DN
4 NOV 87	4016614.34	4176084.68	125.30		N 90	124		.10	124	90 UP
7 MAR 88	4016614.34	4176084.68	125.40		N 90	106			106	
21 JUN 88	4016614.34	4176084.68	125.40		N 90	107		-.29	107	90 DN
6 OCT 88	4016614.34	4176084.68	125.11		N 90	111		.09	111	90 UP
25 JAN 89	4016614.34	4176084.68	125.20		N 90	152		.89	152	90 UP
26 JUN 89	4016614.34	4176084.68	126.09		N 90	276		-.46	276	90 DN
29 MAR 90	4016614.34	4176084.68	125.63		N 90	606		1.77	606	90 UP
25 NOV 91	4016614.34	4176084.68	127.40		N 90					

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

HORIZONTAL MOVEMENT	FROM 9 MAR 84 TO 25 NOV 91	2817 DAYS	DIST = .000 FT	BEARING = N 90 00
VERTICAL MOVEMENT	FROM 9 JUN 86 TO 25 NOV 91	1995 DAYS	DIST = 1.90 FT	
RESULTANT	FROM 9 JUN 86 TO 25 NOV 91	1995 DAYS	DIP = 90 DEG	0 MIN UP

PROGRAM EK11AP
12/26/91

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN ROPE
FB 4319-199

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP	
	NORTH	EAST		DIST FT	BEARING DG MN					DG MN	
28 AUG 80	4017651.74	4179838.85	313.62	.120	S	61	.001	.02	61	9 28	UP
28 OCT 80	4017651.62	4179838.85	313.64	.044	S 63 26 W	100	.000	-.02	100	24 6	DN
5 FEB 81	4017651.60	4179838.81	313.62	.070	S 44 60 W	47	.001		47		
24 MAR 81	4017651.55	4179838.76	313.62	.085	N 20 33 E	126	.000	.04	126	25 5	UP
28 JUL 81	4017651.63	4179838.79	313.66	.050	N 11 19 E	251	.000	-.02	251	21 25	DN
5 APR 82	4017651.68	4179838.80	313.64	.090	S 83 40 W	214	.000	-.02	214	12 27	DN
5 NOV 82	4017651.67	4179838.71	313.62	.044	S 26 34 E	305	.000	.01	305	12 36	UP
6 SEP 83	4017651.63	4179838.73	313.63	.070	N 90 W	253	.000				
16 MAY 84	4017651.63	4179838.66	313.	.028	S 44 60 W	118	.000				
11 SEP 84	4017651.61	4179838.64		.040	N 90 W	122	.000				
11 JAN 85	4017651.61	4179838.60	313.	.064	N 38 40 E	370	.000	-.07	863	36 25	DN
16 JAN 86	4017651.66	4179838.64	313.56	.085	S 20 33 W	374	.000	-.02	374	13 10	DN
25 JAN 87	4017651.58	4179838.61	313.54	.053	S 68 12 W	407	.000	.06	407	48 6	UP
7 MAR 88	4017651.56	4179838.56	313.60	.092	N 40 36 W	1358	.000	-.02	1358	12 14	DN
25 NOV 91	4017651.63	4179838.50	313.58								

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

HORIZONTAL MOVEMENT FROM 28 AUG 80 TO 25 NOV 91 4106 DAYS DIST = .366 FT BEARING = S 72 33 W
VERTICAL MOVEMENT FROM 28 AUG 80 TO 25 NOV 91 4106 DAYS DIST = -.04 FT
RESULTANT FROM 28 AUG 80 TO 25 NOV 91 4106 DAYS DIP = 6 DEG 13 MIN DN

34570
.075 .14W
.045 .05W
.005 .16W
.115 .35W

PROGRAM EK11AP
12/26/91

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN SHIELDS
FB 949-022

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 MAR 57	4018305.10	4179108.34	310.30							
12 MAR 69	4018304.87	4179108.14	310.38	.304	S 41 W	4374	.000	.08	4374	14 42 UP
3 NOV 77	4018304.51	4179107.95	310.35	.407	S 27 49 W	3158	.000	-.03	3158	4 13 DN
25 SEP 80	4018303.70	4179107.66		.860	S 19 42 W	1057	.000			
18 MAY 82	4018303.38	4179107.59		.327	S 12 20 W	600	.000			
5 NOV 82	4018303.46	4179107.54		.094	N 32 W	171	.000			
9 MAR 84	4018303.31	4179107.44		.180	S 33 41 W	490	.000			
16 MAY 84	4018303.28	4179107.43		.031	S 18 26 W	68	.000			
11 SEP 84	4018303.20	4179107.42	310.30	.080	S 7 8 W	118	.000	-.05	2504	2 1 DN
11 JAN 85	4018303.19	4179107.45		.031	S 71 34 E	122	.000			
17 JUL 85	4018303.15	4179107.46	310.30	.041	S 14 2 E	187	.000		309	
15 JAN 86	4018303.15	4179107.41	310.30	.050	N 90 W	182	.000		182	
9 JUN 86	4018303.09	4179107.40	310.30	.060	S 9 28 W	145	.000		145	
1 OCT 86	4018303.05	4179107.36	310.38	.056	S 44 60 W	114	.000	.08	114	54 44 UP
25 JAN 87	4018303.05	4179107.35	310.38	.010	N 90 W	116	.000		116	
6 APR 87	4018303.02	4179107.33	310.33	.036	S 33 41 W	71	.000	-.05	71	54 12 DN
8 JUL 87	4018303.00	4179107.32	310.32	.022	S 26 34 W	93	.000	-.01	93	24 6 DN
4 NOV 87	4018302.95	4179107.30	310.32	.053	S 21 48 W	119	.000		119	
7 MAR 88	4018302.94	4179107.30	310.30	.010	S	124	.000	-.02	124	63 26 DN
21 JUN 88	4018302.97	4179107.31	310.30	.031	N 18 26 E	106	.000		106	
6 OCT 88	4018302.90	4179107.31	310.28	.070	S	107	.000	-.02	107	15 57 DN
25 JAN 89	4018302.94	4179107.30	310.27	.041	N 14 2 W	111	.000	-.01	111	13 38 DN
26 JUN 89	4018302.98	4179107.32	310.27	.044	N 26 34 E	152	.000		152	
29 MAR 90	4018302.96	4179107.24	310.30	.082	S 75 58 W	276	.000	.03	276	19 59 UP
25 NOV 91	4018302.99	4179107.23	310.34	.031	N 18 26 W	606	.000	.04	606	51 40 UP

1.405, 1.680

1148 days

1.381, 0.40

2.95 ± 0.51

7.27 ± 0.5 E

Sept 92
302.10
Days
4.115

Accepted
50.33.106
111 W

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT BN SHIELDS
FB 949-022

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

HORIZONTAL MOVEMENT	FROM 21 MAR 57 TO 25 NOV 91	2667 DAYS	DIST =	2.384 FT	BEARING = S 27 45 W
VERTICAL MOVEMENT	FROM 21 MAR 57 TO 25 NOV 91	2667 DAYS	DIST =	.04 FT	
RESULTANT	FROM 21 MAR 57 TO 25 NOV 91	2667 DAYS	DIP =	0 DEG 57 MIN	UP

5.4

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN W FIX
FB 949-079

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							
2 OCT 56	4019180.07	4176333.83		.237	S 22 15 W	7070	.000			
10 FEB 76	4019179.85	4176333.74	393.89	.104	N 16 42 W	456	.000		456	
11 MAY 77	4019179.95	4176333.71	393.89	.596	S 13 34 W	1371	.000			
10 FEB 81	4019179.37	4176333.57		.198	S 49 5 W	420	.000			
6 APR 82	4019179.24	4176333.42		.022	N 26 34 E	41	.000			
17 MAY 82	4019179.26	4176333.43		.036	N 56 19 W	171	.000			
4 NOV 82	4019179.28	4176333.40			N 90	16				
20 NOV 82	4019179.28	4176333.40		.133	S 12 59 E	290	.000			
6 SEP 83	4019179.15	4176333.43		.072	S 56 19 W	185	.000			
9 MAR 84	4019179.11	4176333.37		.022	S 63 26 E	68	.000			
16 MAY 84	4019179.10	4176333.39		.094	S 32 W	118	.000			
11 SEP 84	4019179.02	4176333.34		.092	N 49 24 E	129	.000			
18 JAN 85	4019179.08	4176333.41		.116	S 30 58 W	180	.000			
17 JUL 85	4019178.98	4176333.35		.050	N 11 19 E	180	.000			
13 JAN 86	4019179.03	4176333.36		.101	S 11 19 E	147	.000	.31	3316	16 7 UP
9 JUN 86	4019178.93	4176333.38	394.20	.070	N 81 52 W	114	.000	-.20	114	70 32 DN
1 OCT 86	4019178.94	4176333.31	394.00	.117	S 19 59 E	116	.001		116	
25 JAN 87	4019178.83	4176333.35	394.00	.042	N 44 60 W	71	.000		71	
6 APR 87	4019178.86	4176333.32	394.00	.036	N 33 41 W	93	.000	.23	93	81 6 UP
8 JUL 87	4019178.89	4176333.30	394.23	.063	S 18 26 W	119	.000	-.44	119	81 49 DN
4 NOV 87	4019178.83	4176333.28	393.79	.085	S 20 33 E	124	.000	-.09	124	46 29 DN
7 MAR 88	4019178.75	4176333.31	393.70	.089	N 26 34 E	106	.000	.10	106	48 11 UP
21 JUN 88	4019178.83	4176333.35	393.80	.100	S	107	.000	-.08	107	38 40 DN
6 OCT 88	4019178.73	4176333.35	393.72	.102	N 29 3 W	111	.000	-.04	111	21 14 DN
25 JAN 89	4019178.82	4176333.30	393.68	.041	N 75 58 E	152	.000	.01	152	13 38 UP
26 JUN 89	4019178.83	4176333.34	393.69							

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT BN W FIX
FB 949-079

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP DG MN
	NORTH	EAST		DIST FT	BEARING DG MN					
26 JUN 89	83	34	393.69	.050	S 53 8 W	276	.000	.33	276	81 23 UP
29 MAR 90	4019178.80	4176333.30	394.02	.031	N 18 26 W	606	.000	.11	606	73 58 UP
25 NOV 91	4019178.83	4176333.29	394.13							

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

HORIZONTAL MOVEMENT FROM 2 OCT 56 TO 25 NOV 91 2837 DAYS DIST = 1.352 FT BEARING = S 23 32 W
VERTICAL MOVEMENT FROM 10 FEB 76 TO 25 NOV 91 5767 DAYS DIST = .24 FT
RESULTANT FROM 10 FEB 76 TO 25 NOV 91 5767 DAYS DIP = 12 DEG 9 MIN UP

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PROGRAM EK11AP
12/26/91

PORT RADIAL R 1
FB 949-009

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								
17 OCT 56	4019437.09	4178422.18	365.18	230.049	S 6 40 W	7055	.032	-24.15	7055	5 59 DN
10 FEB 76	4019208.60	4178395.44	341.03	7.121	S 4 26 W	251	.028	-1.16	251	9 15 DN
18 OCT 76	4019201.50	4178394.89	339.87							
25 SEP 80	4019093.03	4178391.05		108.537	S 2 2 W	1438	.075			
19 MAY 82	4019040.46	4178391.56		52.572	S 33 E	601	.087			
4 NOV 82	4019028.35	4178391.81		12.112	S 1 11 E	169	.071			
9 MAR 84	4018966.89	4178393.57		61.485	S 1 38 E	491	.125			
16 MAY 84	4018960.22	4178393.89		6.677	S 2 45 E	68	.098			
11 SEP 84	4018949.38	4178393.98		10.840	S 29 E	118	.091			
16 JAN 85	4018936.23	4178394.43		13.157	S 1 58 E	127	.103			
17 JUL 85	4018919.47	4178394.81		16.764	S 1 18 E	182	.092			
15 JAN 86	4018905.46	4178395.17		14.014	S 1 28 E	182	.077			
9 JUN 86	4018887.61	4178395.29	287.10	17.850	S 23 E	145	.123	-52.77	3521	9 33 DN
1 OCT 86	4018878.34	4178395.42	285.10	9.270	S 48 E	114	.081	-2.00	114	12 10 DN

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

HORIZONTAL MOVEMENT FROM 17 OCT 56 TO 1 OCT 86 0941 DAYS DIST = 559.390 FT BEARING = S 2 44 W
 VERTICAL MOVEMENT FROM 17 OCT 56 TO 1 OCT 86 0941 DAYS DIST = -80.08 FT
 RESULTANT FROM 17 OCT 56 TO 1 OCT 86 0941 DAYS DIP = 8 DEG 9 MIN DN

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

PORT RADIAL R 1A
FB 4205-117

DATE DA MON YR	COORDINATES		ELEV.	HORIZONTAL		MOVEMENT TIME DAYS	RATE FT/DA	VERTICAL ELEV DIFF	MVNT TIME DAYS	DIP	
	NORTH	EAST		DIST FT	BEARING DG MN					DG MN	
25 JAN 87	4018878.29	4178395.34	255.80	2.722	S 2 19 W	71	.038	-.60	71	12 26	DN
6 APR 87	4018875.57	4178395.23	255.20	2.997	S 4 1 W	93	.032	-.60	93	11 19	DN
8 JUL 87	4018872.58	4178395.02	254.60	2.801	S 1 50 W	119	.023	-.60	119	12 5	DN
4 NOV 87	4018869.78	4178394.93	254.00								

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

HORIZONTAL MOVEMENT FROM 25 JAN 87 TO 4 NOV 87 283 DAYS DIST = 8.519 FT BEARING = S 2 45 W
VERTICAL MOVEMENT FROM 25 JAN 87 TO 4 NOV 87 283 DAYS DIST = -1.80 FT
RESULTANT FROM 25 JAN 87 TO 4 NOV 87 283 DAYS DIP = 11 DEG 56 MIN DN