APPENDIX 2.3A

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2.3A-1 Region of Southern California Employed for Tornado and Waterspout Listings for San Onofre Site

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APPENDIX 2.3A

STUDY OF CALIFORNIA TORNADOES

Tables 2.3A-1 and 2.3A-2 present listings of tornado and waterspout occurrences respectively, for California. Tables 2.3A-3 and 2.3A-4 present listings of tornado and waterspout occurrences respectively, for the San Onofre region. Figure 2.3A-1 identifies the region of Southern California employed for tornado and waterspout listings for the San Onofre region. The source of data for tornado and waterspout listings is provided in references 1, 2, and 3.

The wind speed classification of California tornadoes obtained by Smith[1] for the period 1951-1971 was updated through October 1975 with the use of the National Oceanic and Atmospheric Administration (NOAA) Storm Data Reports.[2] Table 2.3A-5 presents a summary of the wind speed distribution of such California tornadoes. All the tornadoes that were reported in the Southern California Coastal Basin for the period 1959 – October 1975 are summarized in table 2.3A-6. In figure 2.3A-2, the values given in tables 2.3A-5 and 2.3A-6 are plotted on log-probability paper. The approximate straight line distribution indicates that the wind speed follows a log-normal distribution. Also shown in figure 2.3A-2 is the wind speed distribution employed by Markee, 1974[4], for the contiguous United States.

The risk probability for a tornado with maximum wind speed exceeding a specific value is the product of the intensity probability (P_i) and the strike probability (P_s). The risk probability for the design basis tornado based on a P_i determined from the Southern California curve of figure 2.3A-2 (260 mi/h corresponds to a P_i of 0.01%) and a P_s from Markee, 1974, for Southern California (8×10^{-5}) is approximately 10^{-8}. The risk probability for the design basis tornado, based on a P_i determined from the California curve of figure 2.3A-2 (260 mi/h is off the graph, however, it can be roughly extrapolated to correspond to a P_i of 0.001%) and a P_s from Markee, 1974, for Southern California (8×10^{-5}), is approximately 10^{-9}.

Table 2.3A-1
CALIFORNIA TORNADO LISTING, 1950-1975 [a] (Sheet 1 of 3)

Date			Location		Path	
Year	Month	Day	City	County	Length (mi)	Width (yd)
1951	Jan	11	Sunnyvale	Santa Clara	3-4	1,000
1951	Jan	11	San Jose	Santa Clara	2-3	100
1952	Nov	15	Newport Beach	Orange	1/3	35
1952	Dec	20	Los Angeles	Los Angeles	?	?
1952	Dec	20	Los Angeles	Los Angeles	?	?
1953	Apr	27	Stanislaus	Stanislaus	?	?
1954	June	25	Victorville	San Bernardino	?	?
1956	Apr	13	Chula Vista	San Diego	1/2	70
1956	May	9	Los Angeles	Los Angeles	1/4	10
1957	May	19	Fresno	Fresno	?	?
1957	June	15	Fresno	Fresno	?	?
1958	Jan	10	Crescent City	Del Norte	3/4	60
1958	Jan	10	Bodega Bay	Marin	15	25-100
1958	Feb	28	Madera	Madera	1/2	80
1958	Mar	12	Madera	Madera	Short	Narrow
1958	Mar	29	McKinleyville	Humboldt	1	200
1958	Apr	1	Fresno	Fresno	?	?
1958	Apr	1	Turlock	Stanislaus	2	20
1958	Apr	1	San Francisco Airport	San Mateo	1/4	65

a. 1950-1958 events are only storms which caused $50 or more damage.
1959-1975 events include storms which caused less than $50 damage.

Table 2.3A-1
CALIFORNIA TORNADO LISTING, 1959-1975[a] (Sheet 2 of 3)

Date			Location		Path	
Year	Month	Day	City	County	Length (mi)	Width (yd)
1958	Apr	1	Laguna Beach	Orange	1/2	30
1958	May	20	Fresno	Fresno	?	?
1958	May	22	Tulelake	Siskiyou	3	50
1959	Feb	17	Fort Ross	Sonoma	1/2	50
1959	May	3	San Diego	San Diego	6	20
1960	May	13	Klamath	Del Norte	?	?
1961	Oct	8	San Diego	San Diego	?	?
1962	Feb	19	Santa Ana	Orange	?	?
1962	Feb	19	Northridge	Los Angeles	?	?
1962	Mar	22	Fresno	Fresno	?	?
1962	May	14	Gardena	Los Angeles	?	?
1964	Jan	21	Fresno	Fresno	1	5
1964	May	20	Reedley	Fresno	?	?
1964	Nov	11	Alpaugh	Tulare	1	50
1964	Nov	9	El Segundo	Los Angeles	1	60
1964	Nov	10	Windsor	Sonoma	1	30
1965	Apr	1	Corralitos	Tulare	1/8	100
1965	Apr	8	Costa Mesa	Orange	1/8	30
1965	July	5	Ogilby	Imperial	?	?
1965	Nov	25	Pomona	Los Angeles	1	75
1966	Nov	7	Lennox	Los Angeles	8.5	80

Table 2.3A-1
CALIFORNIA TORNADO LISTING, 1950-1975[a] (Sheet 3 of 3)

Date			Location		Path	
Year	Month	Day	City	County	Length (mi)	Width (yd)
1966	Nov	7	Costa Mesa	Orange	1/4	?
1966	Nov	7	Willowbrook	Los Angeles	?	?
1966	Nov	7	Newport Beach	Orange	1/2	?
1967	Apr	18	Santa Monica	Los Angeles	?	?
1967	Apr	21	Madera	Madera	250(yd)	50
1967	May	31	Stockton	San Joaquin	1/4	100
1970	Apr	27	Stockton	San Joaquin	1.5	50
1970	June	28	Gridley	Butte	3	200
1971	Feb	23	Chula Vista	San Diego	?	?
1971	Apr	24	Stockton	San Joaquin	1/4	50
1973	Aug	16	Blythe	Riverside	?	?
1974	July	23	Hemet	Riverside	1	?
1974	Oct	29	Encinitas	San Diego	?	?
1974	Oct	22	Joshua Tree	San Bernardino	?	?
1975	Mar	13	Fowler	Fresno	1/3	?
1975	Apr	5	Los Banos	Merced	1/3	40
1975	Apr	5	Fresno	Fresno	1/3	200

Table 2.3A-2
CALIFORNIA WATERSPOUT LISTING, 1959-1975

Date			Location	Comments
1971	Feb	23	Imperial Beach	
1971	Oct	16	Point Mugu	
1971	Dec	25	Point Sur	Three
1972	Oct	14	Vandenberg	
1972	Oct	18	6 mi SW of San Clemente Island	
1973	Feb	13	32.7°N, 117.2°W	
1973	Feb	15	32.7°N, 117.2°W	
1973	Nov	13	6 mi N of Crescent City, 4 mi offshore	
1974	Mar	7	San Clemente Island	
1974	Oct	26	27 mi NNW of San Diego	

Table 2.3A-3
SAN ONOFRE REGION TORNADO LISTING, 1950-1975[a]

Date			Location		Path	
Year	Month	Day	City	County	Length (mi)	Width (yd)
1952	Nov	15	Newport Beach	Orange	1/3	35
1952	Dec	20	Los Angeles	Los Angeles	?	?
1952	Dec	20	Los Angeles	Los Angeles	?	?
1956	Apr	13	Chula Vista	San Diego	1/2	70
1956	May	9	Los Angeles	Los Angeles	1/4	10
1961	Oct	8	San Diego	San Diego	?	?
1962	Feb	19	Santa Ana	Orange	?	?
1962	Feb	19	Northridge	Los Angeles	?	?
1962	May	14	Gardena	Los Angeles	?	?
1964	Nov	9	El Segundo	Los Angeles	1	60
1965	Apr	8	Costa Mesa	Orange	1/8	30
1965	Nov	25	Pomona	Los Angeles	1	75
1966	Nov	7	Lennox	Los Angeles	8.5	80
1966	Nov	7	Costa Mesa	Orange	1/4	?
1966	Nov	7	Willowbrook	Los Angeles	?	?
1966	Nov	7	Newport Beach	Orange	1/2	?
1967	Apr	18	Santa Monica	Los Angeles	?	?
1971	Feb	23	Chula Vista	San Diego	?	?
1974	July	23	Hemet	Riverside	1	?
1974	Oct	29	Encinitas	San Diego	?	?

a. 1950-1958 events are only storms which caused $50 or more damage
1959-1975 events include storms which caused less than $50 damage

Table 2.3A-4
SAN ONOFRE REGION WATERSPOUT LISTING, 1959-1975 (Sheet 1 of 2)

Date			Location	Comments
1961	Oct	8	San Diego County Coast	Several
1962	May	27	Pacific Beach, San Diego County	
1964	Nov	9	10 mi S of San Diego, San Diego County	
1964	Nov	16	44 mi W of San Diego, San Diego County	
1964	Dec	18	13 mi S of Long Beach, Los Angeles County	
1965	Mar	10	Seal Beach, Orange County	
1965	Mar	11	30 mi W of Oxnard, Ventura County	
1965	Apr	1	15 mi N of San Diego, San Diego County	
1965	Apr	1	10 mi W of Malibu, Los Angeles County	
1965	Apr	2	20 mi N of San Clemente Island, Los Angeles County	
1965	Apr	8	W of Miramar, San Diego County	
1965	Apr	13	3 mi NE of San Clemente Island, Los Angeles, County	
1965	Dec	10	San Diego, San Diego County	
1965	Dec	14	Los Angeles to San Diego Area, Los Angeles, Orange and San Diego Counties	Numerous
1966	Feb	7	3 mi NW of Oceanside, San Diego County	
1967	Mar	31	30 mi SW of Long Beach, Los Angeles County	
1967	Apr	2	20 mi ENE of Santa Catalina Island, Los Angeles County	
1967	Apr	18	Santa Monica Bay, Los Angeles County	

Table 2.3A-4
SAN ONOFRE REGION WATERSPOUT LISTING, 1959-1975 (Sheet 2 of 2)

Date			Location	Comments
1967	Nov	21	NW of San Nicholas Island, Ventura County	
1968	Nov	13	W of San Diego, San Diego County	Several
1969	Feb	5	W of San Diego, San Diego County	
1969	Mar	3	12 mi SW of Coronado, San Diego County	
1970	Dec	19	20 mi S. of Los Angeles, Los Angeles County	
1970	Dec	21	10 mi W of Los Angeles, Los Angeles County	
1971	Feb	23	Imperial Beach, San Diego County	
1971	Oct	16	Point Mugu, Ventura County	
1972	Oct	18	6 mi SW of San Clemente, Orange County	
1973	Feb	13	32.7°N, 117.2°W, San Diego County	
1973	Feb	15	32.7°N, 117.2°W, San Diego County	
1974	Mar	7	Near San Clemente Island, Los Angeles County	
1974	Oct	26	Near Carlsbad, 27 mi NNW of San Diego, San Diego County	

Table 2.3A-5
WINDSPEED DISTRIBUTION OF CALIFORNIA TORNADOES

Windspeed Classification (mi/h)	No. of Tornadoes	Percent of Total	Cumulative Percentage
F5 (>260)	0	0	0
F4 (207-260)	0	0	0
F3 (158 to 206)	1	1.8	1.8
F2 (113 to 157)	11	19.3	21.1
F1 (73 to 112)	36	63.2	84.3
F0 (40 to 72)	9	15.7	100.0

Table 2.3A-6
WINDSPEED DISTRIBUTION OF SOUTHERN CALIFORNIA TORNADOES

Windspeed Classification (mi/h)	No. of Tornadoes	Percent of Total	Cumulative Percentage
F3 (158 to 206)	0	0	0
F2 (113 to 157)	3	20	20
F1 (73 to 112)	8	53	73
F0 (40 to 72)	4	27	100

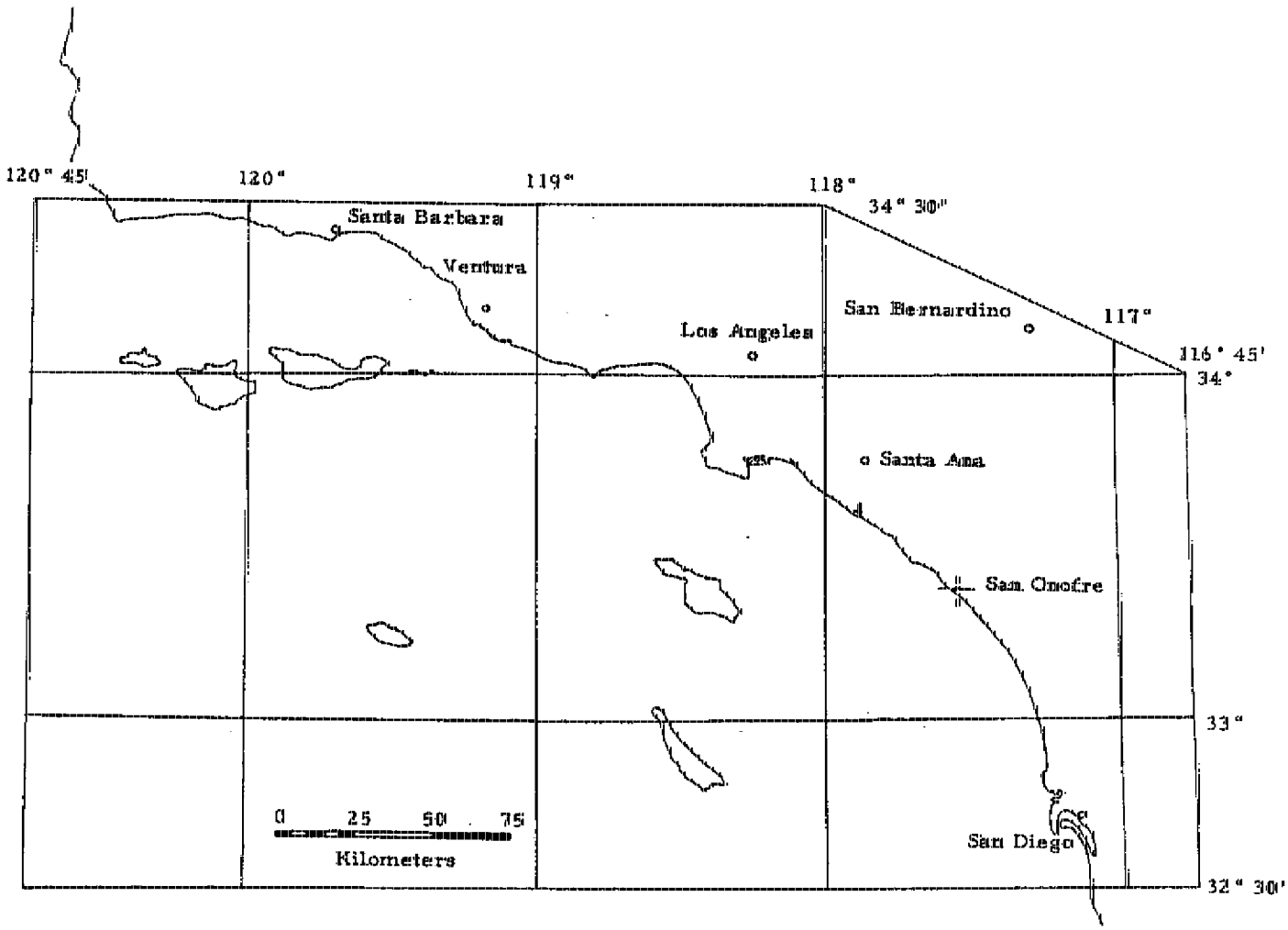
REFERENCES

1. Smith, T. B. and Mirabella, V. A.: Characteristics of California Tornadoes, Report MRI 72 FR-995, Meteorology Research, Inc., Altadena, California, 25 pp, 1972.

2. 1959 through October 1975, NOAA Storm Data.

3. 1950 through 1958 Climatological Data, National Summary, NOAA.

4. Markee, E. H., Jr., Beckerley, J. G., and Sanders, K. E. Technical Basis for Interim Regional Tornado Criteria. WASH-1300, U.S. Atomic Energy Commission, Office of Regulation, Washington, D.C., 1974.



Updated

SAN ONOFRE
NUCLEAR GENERATING STATION
Units 2 & 3

REGION OF SOUTHERN CALIFORNIA
EMPLOYED FOR TORNADO AND WATERSPOUT
LISTINGS FOR SAN ONOFRE SITE

Figure 2.3A-1

10079-110-737
22586

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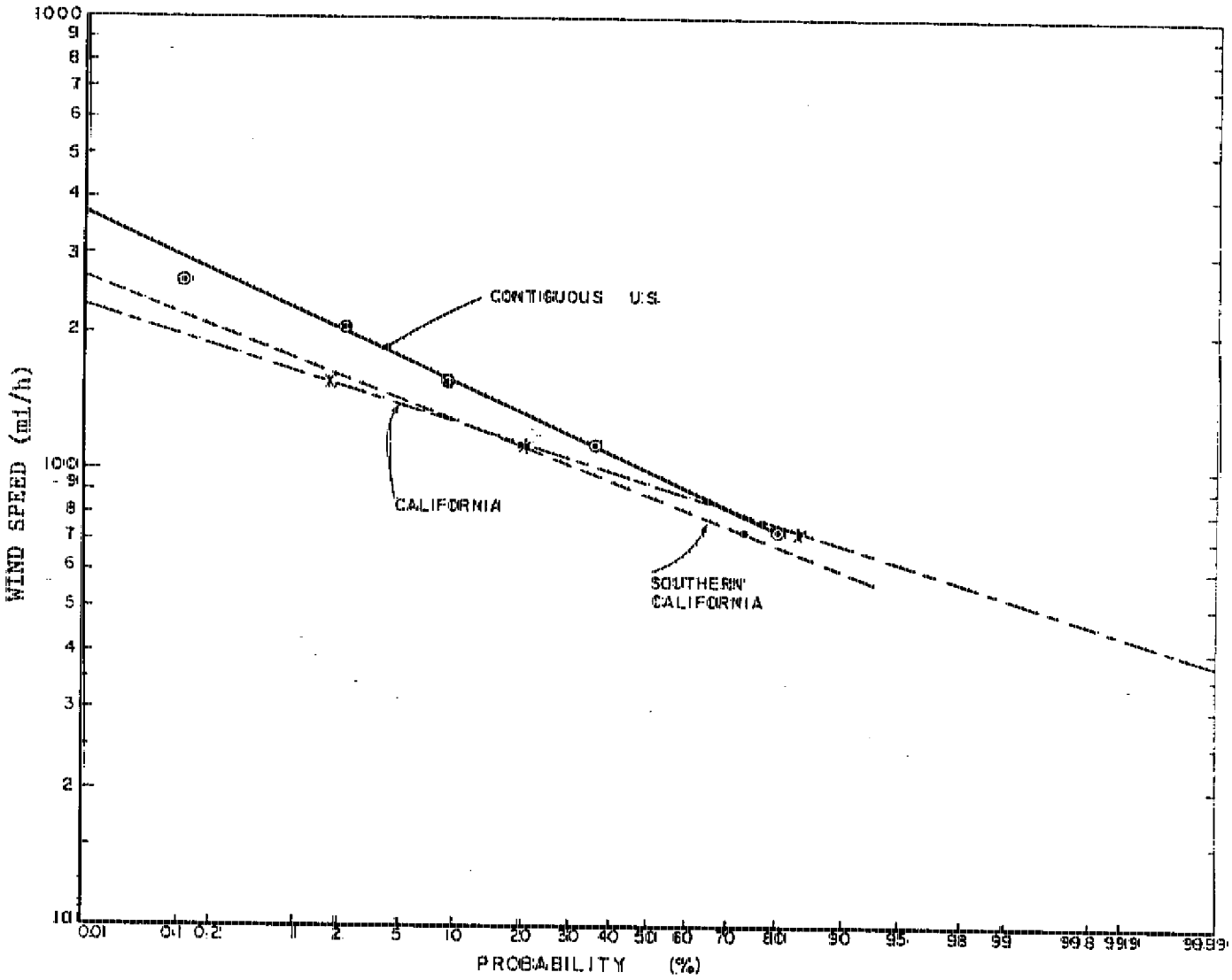

Updated

SAN ONOFRE
NUCLEAR GENERATING STATION
Units 2 & 3

PERCENT PROBABILITY
OF EXCEEDING ORDINATE VALUE
OF THE WIND SPEED

Figure 2.3A-2

10079-110-238
22SE6

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APPENDIX 2.3B

ANNUAL JOINT FREQUENCY WIND SPEED-WIND DIRECTION SUMMARIES FOR PASQUILL STABILITY CATEGORIES AT THE 10-METER LEVEL AND THE 36.6- AND 40-METER LEVELS COMBINED FOR THE PLANT SITE (PERIOD OF RECORD 1/25/73 - 1/24/76)

(TABLES 2.3B-1 THROUGH 2.3B-14)

Table 2.3B-1

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m
SUMMARY WIND ROSE
STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	3
0.51 TO 1.00	0	2	1	2	1	1	0	1	2	5	4	9	4	6	3	1	42
1.01 TO 1.50	4	6	1	1	0	0	2	8	16	27	35	29	15	19	10	6	179
1.51 TO 2.00	3	6	2	2	1	1	4	8	36	62	65	101	67	40	13	5	416
2.01 TO 3.00	4	8	9	0	3	7	12	44	109	176	213	345	338	297	64	12	1641
3.01 TO 4.00	0	6	2	0	0	0	25	54	109	199	207	309	511	559	87	4	2072
4.01 TO 5.00	0	5	1	0	0	1	11	46	83	104	83	95	260	390	96	3	1178
5.01 TO 6.00	2	1	0	1	0	1	2	20	40	40	19	12	53	154	70	2	417
6.01 TO 7.00	1	2	0	0	0	0	4	11	15	10	0	2	15	59	31	3	153
7.01 TO 8.00	0	1	1	1	0	0	1	2	9	1	2	1	1	17	17	0	54
8.01 TO 9.00	0	2	0	0	0	0	0	1	1	1	5	2	2	13	4	0	31
9.01 TO 10.00	0	0	0	0	0	0	2	0	0	0	1	0	1	7	1	0	12
MORE THAN 10	0	1	3	0	0	0	1	1	0	1	0	0	0	8	0	0	15
TOTALS	14	40	21	7	6	12	64	196	420	626	634	905	1267	1569	396	36	6213
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	.00	0.00	.00	.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01
0.51 TO 1.00	0.00	.01	.00	.01	.00	.00	0.00	.00	.01	.02	.02	.04	.02	.03	.01	.00	.18
1.01 TO 1.50	.02	.03	.00	.00	0.00	0.00	.01	.03	.07	.12	.15	.12	.06	.08	.04	.03	.77
1.51 TO 2.00	.01	.03	.01	.01	.00	.00	.02	.03	.16	.27	.28	.43	.29	.17	.06	.02	1.79
2.01 TO 3.00	.02	.03	.04	0.00	.01	.03	.05	.19	.47	.76	.92	1.49	1.46	1.28	.28	.05	7.07
3.01 TO 4.00	0.00	.03	.01	0.00	0.00	0.00	.11	.23	.47	.86	.89	1.33	2.20	2.41	.37	.02	8.92
4.01 TO 5.00	0.00	.02	.00	0.00	0.00	.00	.05	.20	.36	.45	.36	.41	1.12	1.68	.41	.01	5.07
5.01 TO 6.00	.01	.00	0.00	.00	0.00	.00	.01	.09	.17	.17	.08	.05	.23	.66	.30	.01	1.80
6.01 TO 7.00	.00	.01	0.00	0.00	0.00	0.00	.02	.05	.06	.04	0.00	.01	.06	.25	.13	.01	.66
7.01 TO 8.00	0.00	.00	.00	.00	0.00	0.00	.00	.01	.04	.00	.01	.00	.00	.07	.07	0.00	.23
8.01 TO 9.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	.00	.00	.00	.02	.01	.01	.06	.02	0.00	.13
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	.010	0.00	0.00	0.00	.00	0.00	.00	.03	.00	0.00	.05
MORE THAN 10	0.00	.00	.01	0.00	0.00	0.00	.00	.00	0.00	.00	0.00	0.00	0.00	.03	0.00	0.00	.06
TOTALS	.06	.17	.09	.03	.03	.05	0.28	.84	1.81	2.70	2.73	3.90	5.46	6.76	1.71	.16	26.75
AVE WIND SPEED	2.8	3.4	3.9	2.8	1.7	2.6	3.8	3.8	3.6	3.3	3.1	3.0	3.4	3.9	4.3	2.9	3.5

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Table 2.3B-2

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m
SUMMARY WIND ROSE
STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	3
0.51 TO 1.00	0	3	1	1	0	0	0	1	4	4	0	2	2	1	1	2	22
1.01 TO 1.50	3	0	2	1	1	0	0	2	4	5	9	6	8	8	3	6	58
1.51 TO 2.00	2	3	5	1	0	0	4	16	10	7	13	15	6	13	7	8	110
2.01 TO 3.00	3	5	4	1	2	3	4	18	18	17	29	25	36	30	18	9	222
3.01 TO 4.00	0	6	3	0	0	2	9	21	15	16	14	11	24	23	8	5	157
4.01 TO 5.00	0	0	0	0	0	1	3	14	15	6	7	2	10	7	9	3	77
5.01 TO 6.00	1	1	2	0	0	0	2	2	7	2	0	1	4	7	6	0	35
6.01 TO 7.00	1	1	1	0	0	0	1	4	5	4	1	1	1	1	2	0	23
7.01 TO 8.00	0	0	0	0	1	0	0	2	1	0	0	0	1	2	1	0	8
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	3
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	10	20	18	4	4	6	24	80	79	61	74	64	92	94	56	33	719
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.00	0.00	0.00	0.00	0.00	.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.00	0.00	.01
0.51 TO 1.00	0.00	.01	.00	.00	0.00	0.00	0.00	.00	.02	.02	0.00	.01	.01	.00	.00	.01	.09
1.01 TO 1.50	.01	0.00	.01	.00	.00	0.00	0.00	.01	.02	.02	.04	.03	.03	.03	.01	.03	.25
1.51 TO 2.00	.01	.01	.02	.00	0.00	0.00	.02	.07	.04	.03	.06	.06	.03	.06	.03	.03	.47
2.01 TO 3.00	.01	.02	.02	.00	.01	.01	.02	.08	.08	.07	.12	.11	.16	.13	.08	.04	.96
3.01 TO 4.00	0.00	.03	.01	0.00	0.00	.01	.04	.09	.06	.07	.06	.05	.10	.10	.03	.02	.68
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	.00	.01	.06	.06	.03	.03	.01	.04	.03	.04	.01	.33
5.01 TO 6.00	.00	.00	.01	0.00	0.00	0.00	.01	.01	.03	.01	0.00	.00	.02	.03	.03	0.00	.15
6.01 TO 7.00	.00	.00	.00	0.00	0.00	0.00	.00	.02	.02	.02	.00	.00	.00	.00	.01	0.00	.10
7.01 TO 8.00	0.00	0.00	0.00	0.00	.00	0.00	0.00	.01	.00	0.00	0.00	0.00	.00	.01	.00	0.00	.03
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.00	0.00	0.00	0.00	0.00	.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.00	0.00	0.00	.01	0.00	0.00	.01
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.04	.09	.08	.02	.02	.03	.10	.34	.34	.26	.32	.28	.40	.40	.24	.14	3.10
AVE WIND SPEED	2.7	2.7	2.7	1.4	3.6	3.2	3.3	3.3	3.3	3.0	2.7	2.6	3.0	3.1	3.3	2.3	3.0

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Table 2.3B-3

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m
SUMMARY WIND ROSE
STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0.51 TO 1.00	3	1	1	0	0	0	1	3	1	3	3	3	3	2	0	1	25
1.01 TO 1.50	7	7	0	2	1	1	2	6	6	17	8	5	10	10	9	11	102
1.51 TO 2.00	4	6	4	2	2	0	6	5	9	19	16	16	21	18	12	7	147
2.01 TO 3.00	9	9	11	0	3	5	7	30	19	27	25	26	30	42	29	15	287
3.01 TO 4.00	1	6	3	0	1	4	20	36	17	13	15	12	13	26	14	5	186
4.01 TO 5.00	0	1	1	0	1	1	6	13	19	11	5	2	5	7	8	3	83
5.01 TO 6.00	0	0	1	1	0	1	2	5	9	5	2	1	2	6	4	2	41
6.01 TO 7.00	1	1	1	1	0	2	1	2	3	3	2	1	1	2	3	2	26
7.01 TO 8.00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
8.01 TO 9.00	0	1	2	0	0	0	0	0	1	0	0	0	1	2	0	0	7
9.01 TO 10.00	0	0	0	0	0	0	3	0	0	0	0	0	1	0	1	0	5
MORE THAN 10	0	0	1	0	0	0	0	2	0	0	0	0	0	2	1	0	6
TOTALS	25	32	25	6	8	14	48	103	86	99	76	66	87	117	81	46	920
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.00	0.00	0.00	0.00	0.00	0.00	0.00	.00
0.51 TO 1.00	.01	.00	.00	0.00	0.00	0.00	.00	.01	.00	.01	.01	.01	.01	.01	0.00	.00	.11
1.01 TO 1.50	.03	.03	0.00	.01	.00	.00	.01	.03	.03	.07	.03	.02	.04	.04	.04	.05	.44
1.51 TO 2.00	.02	.03	.02	.01	.01	0.00	.03	.02	.04	.08	.07	.07	.09	.08	.05	.03	.63
2.01 TO 3.00	.04	.04	.05	0.00	.01	.02	.03	.13	.08	.12	.11	.11	.13	.18	.12	.06	1.24
3.01 TO 4.00	.00	.03	.01	0.00	.00	.02	.09	.16	.07	.06	.06	.05	.06	.11	.06	.02	.80
4.01 TO 5.00	0.00	.00	.00	0.00	.00	.00	.03	.06	.08	.05	.02	.01	.02	.03	.03	.01	.36
5.01 TO 6.00	0.00	0.00	.00	.00	0.00	.00	.01	.02	.04	.02	.01	.00	.01	.03	.02	.01	.18
6.01 TO 7.00	.00	.00	.00	.00	0.00	.01	.00	.01	.01	.01	.01	.00	.00	.01	.01	.01	.11
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	.00	.01
8.01 TO 9.00	0.00	.00	.01	0.00	0.00	0.00	0.00	0.00	.00	0.00	0.00	0.00	.00	.01	0.00	0.00	.03
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	.00	0.00	.00	0.00	.02
MORE THAN 10	0.00	0.00	0.00	.00	0.00	0.00	0.00.01	.01	0.00	0.00	0.00	0.00	0.00.01	.01	.00	0.00	.03
TOTALS	.11	.14	.11	.03	.03	.06	.21	.44	.37	.43	.33	.28	.37	.50	.35	.20	3.96
AVE WIND SPEED	2.0	2.6	3.7	3.0	2.6	3.6	3.6	3.4	3.6	2.7	2.6	2.4	2.6	3.0	3.1	2.6	3.0

Amended: April 2009 TL: E048000

Table 2.3B-4

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m
SUMMARY WIND ROSE
STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	0	1	0	0	0	2	1	3	5	3	3	1	3	1	2	1	26
0.51 TO 1.00	21	17	13	5	9	5	3	9	23	22	18	27	20	16	14	23	245
1.01 TO 1.50	61	34	32	22	8	12	24	42	41	50	50	57	48	42	45	35	603
1.51 TO 2.00	57	57	44	20	17	12	39	73	54	64	44	50	61	55	46	44	737
2.01 TO 3.00	67	97	61	18	26	56	124	184	127	92	82	66	104	114	100	60	1378
3.01 TO 4.00	9	40	27	3	6	37	116	158	104	83	48	44	45	68	83	42	913
4.01 TO 5.00	9	14	7	2	2	6	70	112	75	29	24	14	31	30	55	15	495
5.01 TO 6.00	1	2	6	2	2	7	34	44	41	21	13	12	9	16	21	10	241
6.01 TO 7.00	1	5	4	6	1	1	25	21	24	10	3	12	8	10	17	6	154
7.01 TO 8.00	1	1	3	5	0	1	19	13	11	5	5	6	1	7	12	3	93
8.01 To 9.00	0	0	5	0	0	3	8	4	9	4	5	3	6	6	7	1	61
9.01 TO 10.00	0	1	0	1	2	3	7	1	5	3	4	1	6	5	3	1	43
MORE THAN 10	0	0	0	0	0	1	3	0	0	4	2	4	13	18	8	1	54
TOTALS	227	269	202	84	73	146	473	664	519	390	301	297	355	388	413	242	5046
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.01
0.26 TO 0.50	0.00	.00	0.00	0.00	0.00	.01	.00	.01	.02	.01	.01	.00	.01	.00	.01	.00	.11
0.51 TO 1.00	.09	.07	.06	.02	.04	.02	.01	.04	.10	.09	.08	.12	.09	.07	.06	.10	1.06
1.01 TO 1.50	.26	.15	.14	.09	.03	.05	.10	.18	.18	.22	.22	.25	.21	.18	.19	.15	2.60
1.51 TO 2.00	.25	.25	.19	.09	.07	.05	.17	.31	.23	.28	.19	.22	.26	.24	.20	.19	3.17
2.01 TO 3.00	.29	.42	.26	.08	.11	.24	.53	.79	.55	.40	.35	.28	.45	.49	.43	.26	5.93
3.01 TO 4.00	.04	.17	.12	.01	.03	.16	.50	.68	.45	.36	.21	.19	.19	.29	.36	.18	3.93
4.01 TO 5.00	.04	.06	.03	.01	.01	.03	.30	.48	.32	.12	.10	.06	.13	.13	.24	.06	2.13
5.01 TO 6.00	.00	.01	.03	.01	.01	.03	.15	.19	.18	.09	.06	.05	.04	.07	.09	.04	1.04
6.01 TO 7.00	.00	.02	.02	.03	.00	.00	.11	.09	.10	.04	.01	.05	.03	.04	.07	.03	.66
7.01 TO 8.00	.00	.00	.01	.02	0.00	.00	.08	.06	.05	.02	.02	.03	.00	.03	.05	.01	.40
8.01 TO 9.00	0.00	0.00	.02	0.00	0.00	.01	.03	.02	.04	.02	.02	.01	.03	.03	.03	.00	.26
9.01 TO 10.00	0.00	.00	0.00	.00	.01	.01	.03	.00	.02	.01	.02	.00	.03	.02	.01	.00	.19
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	.00	.01	0.00	0.00	.02	.01	.02	.06	.08	.03	.00	.23
TOTALS	.98	1.16	.87	.36	.31	.63	2.04	2.86	2.23	1.68	1.30	1.28	1.53	1.67	1.78	1.04	21.73
AVE WIND SPEED	1.9	2.4	2.6	2.7	2.4	3.1	3.8	3.3	3.4	3.0	2.9	2.8	3.1	3.4	3.5	2.7	3.1

Amended: April 2009 TL: E048000

Table 2.3B-5

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m
SUMMARY WIND ROSE
STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	6
0.26 TO 0.50	4	1	4	4	2	0	1	1	0	0	2	2	1	1	1	3	27
0.51 TO 1.00	30	37	21	20	11	16	4	6	25	23	17	20	19	18	10	19	296
1.01 TO 1.50	42	85	44	26	22	23	40	41	48	37	36	32	35	36	29	27	603
1.51 TO 2.00	48	112	75	20	28	35	38	61	38	28	19	21	31	36	27	30	647
2.01 TO 3.00	70	167	120	19	27	45	101	116	67	44	22	24	41	57	69	39	1028
3.01 TO 4.00	38	90	71	2	7	29	83	75	50	18	10	8	13	28	63	51	636
4.01 To 5.00	15	37	32	4	4	16	31	40	28	11	7	6	11	16	33	31	322
5.01 TO 6.00	2	20	7	6	4	3	13	31	18	14	7	4	7	10	16	17	179
6.01 TO 7.00	2	6	11	4	3	5	7	19	19	2	4	10	7	8	6	6	119
7.01 TO 8.00	2	4	5	8	6	1	10	8	7	2	6	5	4	3	13	4	88
8.01 TO 9.00	0	2	3	3	6	3	7	6	7	0	1	1	7	12	16	2	76
9.01 TO 10.00	0	1	3	2	1	2	1	7	3	1	1	0	3	9	6	3	43
MORE THAN 10	0	1	0	1	0	0	2	15	14	4	0	1	5	0	10	1	54
TOTALS	253	563	396	119	121	178	338	426	324	184	132	134	184	234	299	233	4124
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.03
0.26 TO 0.50	.02	.00	.02	.02	.01	0.00	.00	.00	0.00	0.00	.01	.01	.00	.00	.00	.01	.12
0.51 TO 1.00	.13	.16	.09	.09	.05	.07	.02	.03	.11	.10	.07	.09	.08	.08	.04	.08	1.27
1.01 TO 1.50	.18	.37	.19	.11	.09	.10	.17	.18	.21	.16	.16	.14	.15	.16	.12	.12	2.60
1.51 TO 2.00	.21	.48	.32	.09	.12	.15	.16	.26	.16	.12	.08	.09	.13	.16	.12	.13	2.79
2.01 TO 3.00	.30	.72	.52	.08	.12	.19	.43	.50	.29	.19	.09	.10	.18	.25	.30	.17	4.43
3.01 TO 4.00	.16	.39	.31	.01	.03	.12	.36	.32	.22	.08	.04	.03	.06	.12	.27	.22	2.74
4.01 TO 5.00	.06	.16	.14	.02	.02	.07	.13	.17	.12	.05	.03	.03	.05	.07	.14	.13	1.39
5.01 TO 6.00	.01	.09	.03	.03	.02	.01	.06	.13	.08	.06	.03	.02	.03	.04	.07	.07	.77
6.01 TO 7.00	.01	.03	.05	.02	.01	.02	.03	.08	.08	.01	.02	.04	.03	.03	.03	.03	.51
7.01 TO 8.00	.01	.02	.02	.03	.03	.00	.04	.03	.03	.01	.03	.02	.02	.01	.06	.02	.38
8.01 TO 9.00	0.00	.01	.01	.01	.03	.01	.03	.03	.03	0.00	.00	.00	.03	.05	.07	.01	.33
9.01 TO 10.00	0.00	.00	.01	.00	.00	.01	.00	.03	.01	.00	.00	0.00	.01	.04	.03	.01	.19
MORE THAN 10	0.00	.00	0.00	.00	0.00	0.00	.01	.06	.06	.02	0.00	.00	.02	0.00	.04	.00	.23
TOTALS	1.09	2.42	1.71	.51	.52	.77	1.46	1.83	1.40	.79	.57	.58	.79	1.01	1.29	1.00	17.76
AVE WIND SPEED	2.2	2.5	2.8	2.8	2.8	2.7	3.2	3.6	3.6	2.7	2.6	2.6	3.1	3.2	3.9	3.1	3.0

Amended: April 2009 TL: E048000

Table 2.3B-6

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m
SUMMARY WIND ROSE
STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	0	2	2	2	1	0	1	1	0	1	0	0	0	1	0	1	12
0.51 TO 1.00	10	22	24	14	16	13	10	11	8	7	8	8	4	2	5	9	171
1.01 TO 1.50	23	46	54	28	21	11	12	17	10	12	8	7	8	9	8	5	279
1.51 TO 2.00	31	51	97	25	6	11	19	18	10	4	2	1	10	18	12	5	320
2.01 TO 3.00	21	162	183	19	9	18	26	13	9	6	1	3	5	23	15	17	530
3.01 TO 4.00	18	119	96	8	5	9	11	9	7	1	4	0	3	8	15	13	326
4.01 TO 5.00	6	74	47	6	4	4	6	12	3	1	0	0	0	2	7	10	182
5.01 TO 6.00	3	23	22	3	0	1	1	4	2	0	0	0	0	1	0	6	66
6.01 TO 7.00	4	2	14	4	1	1	1	3	1	0	0	0	0	0	0	0	31
7.01 TO 8.00	0	5	7	3	1	0	0	0	1	0	1	0	0	0	0	2	20
8.01 TO 9.00	0	1	2	1	0	0	1	0	0	0	0	0	0	0	0	0	5
9.01 TO 10.00	0	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	4
MORE THAN 10	0	0	1	0	0	0	1	1	1	1	0	0	0	0	0	0	5
TOTALS	116	507	549	114	64	68	90	91	52	33	24	19	30	64	62	68	1954
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.01
0.26 TO 0.50	0.00	.01	.01	.01	.00	0.00	.00	.00	0.00	.00	0.00	0.00	0.00	.00	0.00	.0	.05
0.51 TO 1.00	.04	.09	.10	.06	.07	.06	.04	.05	.03	.03	.03	.03	.02	.01	.02	.04	.74
1.01 TO 1.50	.10	.20	.23	.12	.09	.05	.05	.07	.04	.05	.03	.03	.03	.04	.03	.02	1.20
1.51 TO 2.00	.13	.22	.42	.11	.03	.05	.08	.08	.04	.02	.01	.00	.04	.08	.05	.02	1.38
2.01 TO 3.00	.09	.70	.79	.08	.04	.08	.11	.06	.04	.03	.00	.01	.02	.10	.06	.07	2.28
3.01 TO 4.00	.08	.51	.41	.03	.02	.04	.05	.04	.03	.00	.02	0.00	.01	.03	.06	.06	1.40
4.01 TO 5.00	.03	.32	.20	.03	.02	.02	.03	.05	.01	.00	0.00	0.00	0.00	.01	.03	.04	.78
5.01 TO 6.00	.01	.10	.09	.01	0.00	.00	.00	.02	.01	0.00	0.00	0.00	0.00	.00	0.00	.03	.28
6.01 TO 7.00	.02	.01	.06	.02	.00	.00	.00	.01	.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13
7.01 TO 8.00	0.00	.02	.03	.01	.00	0.00	0.00	0.00	.00	0.00	.00	0.00	0.00	0.00	0.00	.01	.09
8.01 TO 9.00	0.00	.00	.01	.00	0.00	0.00	.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.02
9.01 TO 10.00	0.00	0.00	0.00	.00	0.00	0.00	.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.02
MORE THAN 10	0.00	0.00	.00	0.00	0.00	0.00	.00	.00	.00	.00	0.00	0.00	0.00	0.00	0.00	0.00	.02
TOTALS	.50	2.18	2.36	.49	.28	.29	.39	.39	.22	.14	.10	.08	.13	.28	.27	.29	8.41
AVE WIND SPEED	2.3	2.9	2.8	2.4	1.9	2.2	2.5	2.7	2.7	2.1	1.8	1.3	1.8	2.2	2.5	3.0	2.6

Amended: April 2009 TL: E048000

Table 2.3B-7

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m
SUMMARY WIND ROSE
STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	1	1	1	1	2	0	1	1	0	0	0	0	1	1	2	1	13
0.51 TO 1.00	12	18	20	18	25	12	12	11	7	14	4	6	8	10	8	6	191
1.01 TO 1.50	26	42	81	60	21	35	32	17	12	6	7	12	13	8	9	12	393
1.51 TO 2.00	21	72	115	46	24	23	23	15	13	9	8	1	4	5	8	18	405
2.01 TO 3.00	36	215	329	61	18	14	27	15	5	2	1	3	5	26	21	13	791
3.01 TO 4.00	30	277	419	42	5	6	9	6	1	1	0	1	1	8	21	8	835
4.01 TO 5.00	18	257	423	35	1	3	1	1	0	0	0	0	2	2	12	6	761
5.01 TO 6.00	5	154	305	32	1	2	1	0	0	0	0	0	0	1	3	2	506
6.01 TO 7.00	4	78	156	15	0	0	0	1	0	1	0	0	1	1	0	2	259
7.01 TO 8.00	0	25	43	6	0	0	0	0	2	0	0	0	0	0	0	0	76
8.01 TO 9.00	0	3	7	1	1	0	0	0	0	0	0	0	0	1	0	0	13
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	153	1142	1899	317	98	95	106	67	40	33	20	23	35	63	84	68	4246
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.01
0.26 TO 0.50	.00	.00	.00	.00	.01	0.00	.00	.00	0.00	0.00	0.00	0.00	.00	.00	.01	.00	.06
0.51 TO 1.00	.05	.08	.09	.08	.11	.05	.05	.05	.03	.06	.02	.03	.03	.04	.03	.03	.82
1.01 TO 1.50	.11	.18	.35	.26	.09	.15	.14	.07	.05	.03	.03	.05	.06	.03	.04	.05	1.69
1.51 TO 2.00	.09	.31	.50	.20	.10	.10	.10	.06	.06	.04	.03	.00	.02	.02	.03	.08	1.74
2.01 TO 3.00	.16	.93	1.42	.26	.08	.06	.12	.06	.02	.01	.00	.01	.02	.11	.09	.06	3.41
3.01 TO 4.00	.13	1.19	1.80	.18	.02	.03	.04	.03	.00	.00	0.00	.00	.00	.03	.09	.03	3.60
4.01 TO 5.00	.08	1.11	1.82	.15	.00	.01	.00	.00	0.00	0.00	0.00	0.00	.01	.01	.05	.03	3.28
5.01 TO 6.00	.02	.66	1.31	.14	.00	.01	.00	0.00	0.00	0.00	0.00	0.00	0.00	.00	.01	.01	2.18
6.01 TO 7.00	.02	.34	.67	.06	0.00	0.00	0.00	.00	0.00	.00	0.00	0.00	.00	.00	0.00	.01	1.12
7.01 TO 8.00	0.00	.11	.19	.03	0.00	0.00	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.33
8.01 TO 9.00	0.00	.01	.03	.00	.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.00	0.00	0.00	.06
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.66	4.92	8.18	1.37	.42	.41	.46	.29	.17	.14	.09	.10	.15	.27	.36	.29	18.28
AVE WIND SPEED	2.6	3.9	4.0	3.0	1.7	1.8	1.8	1.9	1.8	1.5	1.4	1.4	1.7	2.3	2.7	2.3	3.5

Amended: April 2009 TL: E048000

Table 2.3B-8

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76
SUMMARY WIND ROSE
STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	5
0.26 TO 0.50	1	0	0	0	0	0	0	0	0	0	2	2	0	2	0	2	9
0.51 TO 1.00	2	1	1	1	0	0	3	4	8	15	16	12	4	9	2	2	80
1.01 TO 1.50	3	3	0	1	1	1	4	5	36	17	36	45	26	13	5	3	199
1.51 TO 2.00	5	10	3	1	2	1	6	16	31	64	62	86	52	35	11	2	387
2.01 TO 3.00	5	2	2	1	2	12	14	48	120	171	242	301	286	144	35	2	1387
3.01 TO 4.00	5	5	2	1	0	9	23	69	122	164	198	297	428	280	44	2	1649
4.01 TO 5.00	2	2	0	0	0	0	21	57	85	68	85	122	310	249	41	0	1042
5.01 TO 6.00	2	0	0	0	0	0	8	56	32	26	14	32	122	175	24	0	491
6.01 TO 7.00	1	0	0	0	0	0	3	12	14	5	4	8	50	100	20	0	217
7.01 TO 8.00	2	1	1	0	0	3	3	6	6	2	0	3	17	34	8	0	86
8.01 TO 9.00	1	0	1	0	0	0	1	0	3	3	1	0	9	24	2	0	45
9.01 TO 10.00	1	3	0	0	0	0	0	0	0	1	2	2	4	11	4	0	28
MORE THAN 10	0	2	1	0	0	1	0	0	0	0	0	0	1	13	1	0	19
TOTALS	30	29	11	5	5	27	86	273	457	536	662	910	1309	1089	197	13	5644
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.03
0.26 TO 0.50	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	.01	0.00	.01	0.00	.01	.05
0.51 TO 1.00	.01	.01	.01	.01	0.00	0.00	.02	.02	.04	.08	.08	.06	.02	.05	.01	.01	.42
1.01 TO 1.50	.02	.02	0.00	.01	.01	.01	.02	.03	.19	.09	.19	.23	.13	.07	.03	.02	1.03
1.51 TO 2.00	.03	.05	.02	.01	.01	01	.03	.08	.16	.33	.32	.45	.27	.18	.06	.01	2.01
2.01 TO 3.00	.03	.01	.01	.01	.01	.06	.07	.25	.62	.89	1.26	1.56	1.48	.75	.18	.01	7.20
3.01 TO 4.00	.03	.03	.01	.01	0.00	.05	.12	.36	.63	.85	1.03	1.54	2.22	1.45	.23	.01	8.56
4.01 TO 5.00	.01	.01	0.00	0.00	0.00	0.00	.11	.30	.44	.35	.44	.63	1.61	1.29	.21	0.00	5.41
5.01 TO 6.00	.01	0.00	0.00	0.00	0.00	0.00	.04	.29	.17	.13	.07	.17	.63	.91	.12	0.00	2.55
6.01 TO 7.00	.01	0.00	0.00	0.00	0.00	0.00	.02	.06	.07	.03	.02	.04	.26	.52	.10	0.00	1.13
7.01 TO 8.00	.01	.01	.01	0.00	0.00	.02	.02	.03	.03	.01	0.00	.02	.09	.18	.04	0.00	.45
8.01 TO 9.00	.01	0.00	.01	0.00	0.00	0.00	.01	0.00	.02	.02	.01	0.00	.05	.12	.01	0.00	.23
9.01 TO 10.00	.01	.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	.01	.01	.02	.06	.02	0.00	.15
MORE THAN 10	0.00	.01	.01	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	.01	.07	.01	0.00	.10
TOTALS	.16	.15	.06	.03	.03	.14	.45	1.42	2.37	2.78	3.43	4.72	6.79	5.65	1.02	.07	29.28
AVE WIND SPEED	3.4	3.8	4.0	1.9	1.9	3.6	3.8	4.0	3.4	3.1	3.0	3.1	3.8	4.5	4.3	1.7	3.6

Amended: April 2009 TL: E048000

Table 2.3B-9

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76
SUMMARY WIND ROSE
STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0.51 TO 1.00	0	0	0	1	0	1	0	1	4	1	5	4	4	3	0	1	25
1.01 TO 1.50	1	3	4	0	0	1	2	7	6	6	9	2	7	5	3	2	58
1.51 TO 2.00	2	2	2	0	0	2	1	9	5	13	11	12	9	10	8	7	93
2.01 TO 3.00	1	6	4	0	1	4	7	21	19	14	23	21	26	28	10	3	188
3.01 TO 4.00	1	3	0	0	1	3	17	13	14	9	6	19	14	12	5	2	119
4.01 TO 5.00	2	2	0	0	0	2	12	14	11	4	2	3	5	3	6	1	67
5.01 TO 6.00	1	0	0	0	0	0	0	6	4	1	1	2	5	4	5	0	29
6.01 TO 7.00	0	0	2	1	1	1	3	4	2	2	1	1	1	5	4	1	29
7.01 TO 8.00	0	0	2	0	0	1	0	2	0	0	0	1	0	3	1	0	10
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	3
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3
MORE THAN 10	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
TOTALS	9	16	14	2	3	15	42	77	65	51	59	66	73	76	42	17	628
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.01
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	.01
0.51 TO 1.00	0.00	0.00	0.00	.01	0.00	.01	0.00	.01	.02	.01	.03	.02	.02	.02	0.00	.01	.13
1.01 TO 1.50	.01	.02	.02	0.00	0.00	.01	.01	.04	.03	.03	.05	.01	.04	.03	.02	.01	.30
1.51 TO 2.00	.01	.01	.01	0.00	0.00	.01	.01	.05	.03	.07	.06	.06	.05	.05	.04	.04	.48
2.01 TO 3.00	.01	.03	.02	0.00	.01	.02	.04	.11	.10	.07	.12	.11	.13	.15	.05	.02	.98
3.01 TO 4.00	.01	.02	0.00	0.00	.01	.02	.09	.07	.07	.05	.03	.10	.07	.06	.03	.01	.62
4.01 TO 5.00	.01	.01	0.00	0.00	0.00	.01	.06	.07	.06	.02	.01	.02	.03	.02	.03	.01	.35
5.01 TO 6.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	.03	.02	.01	.01	.01	.03	.02	.03	0.00	.15
6.01 TO 7.00	0.00	0.00	.01	.01	.01	.01	.02	.02	.01	.01	.01	.01	.01	.03	.02	.01	.15
7.01 TO 8.00	0.00	0.00	.01	0.00	0.00	.01	0.00	.01	0.00	0.00	0.00	.01	0.00	.02	.01	0.00	.05
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	.01	.01	0.00	0.00	.02
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	.01	0.00	0.00	.02
MORE THAN 10	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	.01
TOTALS	.05	.08	.07	.01	.02	.08	.22	.40	.34	.26	.31	.34	.38	.39	.22	.09	3.26
AVE WIND SPEED	3.8	2.5	3.2	3.5	3.9	3.3	3.7	3.4	3.1	2.6	2.5	2.9	2.9	3.4	3.6	2.3	3.1

Amended: April 2009 TL: E048000

Table 2.3B-10

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76
SUMMARY WIND ROSE
STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	4
0.51 TO 1.00	3	0	0	0	2	2	1	4	3	5	4	1	6	4	2	0	37
1.01 TO 1.50	5	1	0	0	0	2	2	2	12	8	9	8	13	9	6	10	87
1.51 TO 2.00	3	5	2	2	1	0	3	14	13	14	11	14	21	13	8	5	129
2.01 TO 3.00	5	6	6	0	3	7	15	24	24	20	18	15	19	34	18	9	223
3.01 TO 4.00	2	7	3	0	2	7	22	17	12	16	10	12	18	24	15	4	171
4.01 TO 5.00	0	2	0	0	2	3	11	16	9	8	4	1	3	14	6	1	80
5.01 TO 6.00	1	1	1	0	0	0	4	15	13	2	2	1	1	9	2	0	52
6.01 TO 7.00	0	2	0	0	0	5	1	3	4	1	0	0	3	2	4	0	25
7.01 TO 8.00	1	0	1	0	0	0	0	0	0	1	1	0	1	0	3	0	8
8.01 TO 9.00	0	0	2	0	0	2	0	0	1	0	0	0	0	0	3	0	8
9.01 TO 10.00	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0	4
MORE THAN 10	0	1	1	0	0	0	3	1	0	0	1	0	1	4	0	0	12
TOTALS	20	26	16	2	10	28	62	96	91	75	61	54	88	114	68	29	840
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	.01	.01	0.00	0.00	0.00	.02
0.51 TO 1.90	.02	0.00	0.00	0.00	.01	.01	.01	.02	.02	.03	.02	.01	.03	.02	.01	0.00	.19
1.01 TO 1.50	.03	.01	0.00	0.00	0.00	.01	.01	.01	.06	.04	.05	.04	.07	.05	.03	.05	.45
1.51 TO 2.00	.02	.03	.01	.01	.01	0.00	.02	.07	.07	.07	.06	.07	.11	.07	.04	.03	.67
2.01 TO 3.00	.03	.03	.03	0.00	.02	.04	.08	.12	.12	.10	.09	.08	.10	.18	.09	.05	1.16
3.01 TO 4.00	.01	.04	.02	0.00	.01	.04	.11	.09	.06	.08	.05	.06	.09	.12	.08	.02	.89
4.01 TO 5.00	0.00	.01	0.00	0.00	.01	.02	.06	.08	.05	.04	.02	.01	.02	.07	.03	.01	.42
5.01 TO 6.00	.01	.01	.01	0.00	0.00	0.00	.02	.08	.07	.01	.01	.01	.01	.05	.01	0.00	.27
6.01 TO 7.00	0.00	.01	0.00	0.00	0.00	.03	.01	.02	.02	.01	0.00	0.00	.02	.01	.02	0.00	.13
7.01 TO 8.00	.01	0.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	.01	.01	0.00	.01	0.00	.02	0.00	.04
8.01 TO 9.00	0.00	0.00	.01	0.00	0.00	.01	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	.02	0.00	.04
9.01 TO 10.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	0.00	.01	.01	0.00	.02
MORE THAN 10	0.00	.01	.01	0.00	0.00	0.00	.02	.01	0.00	0.00	.01	0.00	.01	.02	0.00	0.00	.06
TOTALS	.10	.13	.08	.01	.05	.15	.32	.50	.47	.39	.32	.28	.46	.59	.35	.15	4.36
AVE WIND SPEED	2.2	3.7	4.4	1.9	2.6	3.9	3.8	3.5	3.2	2.7	2.6	2.4	2.5	3.4	3.5	2.1	3.1

Amended: April 2009 TL: E048000

Table 2.3B-11

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76
SUMMARY WIND ROSE
STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	19
0.26 TO 0.50	2	2	0	1	0	2	0	1	1	5	3	5	5	4	1	3	35
0.51 TO 1.00	21	10	4	6	8	2	12	15	17	24	23	32	22	30	19	21	266
1.01 TO 1.50	38	29	19	11	6	14	34	40	38	31	39	44	39	29	37	30	478
1.51 TO 2.00	41	46	15	10	9	24	40	46	51	46	37	44	54	50	49	41	603
2.01 TO 3.00	74	66	40	10	31	80	141	116	92	70	67	64	69	87	84	53	1144
3.01 TO 4.00	17	33	21	3	15	64	130	124	82	57	34	36	50	57	59	35	817
4.01 TO 5.00	8	13	9	1	7	24	88	71	48	23	21	15	23	39	44	10	444
5.01 TO 6.00	2	3	1	7	4	9	53	49	23	14	13	10	9	12	21	3	233
6.01 TO 7.00	2	2	4	5	0	3	20	23	5	7	8	8	7	13	12	3	122
7.01 TO 8.00	2	4	5	2	1	2	12	12	7	5	4	5	6	9	8	1	85
8.01 TO 9.00	0	2	4	2	1	2	5	7	8	5	4	2	9	8	4	1	64
9.01 TO 10.00	0	2	1	0	1	2	8	4	1	3	2	7	15	8	5	0	59
MORE THAN 10	0	1	1	0	2	1	7	0	0	3	1	2	7	17	4	0	46
TOTALS	207	213	124	58	85	229	550	508	373	293	256	274	315	363	347	201	4415
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.10
0.26 TO 0.50	.01	.01	0.00	.01	0.00	.01	0.00	.01	.01	.03	.02	.03	.03	.02	.01	.02	.18
0.51 TO 1.00	.11	.05	.02	.03	.04	.01	.06	.08	.09	.12	.12	.17	.11	.16	.10	.11	1.38
1.01 TO 1.50	.20	.15	.10	.06	.03	.07	.18	.21	.20	.16	.20	.23	.20	.15	.19	.16	2.48
1.51 TO 2.00	.21	.24	.08	.05	.05	.12	.21	.24	.26	.24	.19	.23	.28	.26	.25	.21	3.13
2.01 TO 3.00	.38	.34	.21	.05	.16	.42	.73	.60	.48	.36	.35	.33	.36	.45	.44	.27	5.94
3.01 TO 4.00	.09	.17	.11	.02	.08	.33	.67	.64	.43	.30	.18	.19	.26	.30	.31	.18	4.24
4.01 TO 5.00	.04	.07	.05	.01	.04	.12	.46	.37	.25	.12	.11	.08	.12	.20	.23	.05	2.30
5.01 TO 6.00	.01	.02	.01	.04	.02	.05	.27	.25	.12	.07	.07	.05	.05	.06	.11	.02	1.21
6.01 TO 7.00	.01	.01	.02	.03	0.00	.02	.10	.12	.03	.04	.04	.04	.04	.07	.06	.02	.63
7.01 TO 8.00	.01	.02	.03	.01	.01	.01	.06	.06	.04	.03	.02	.03	.03	.05	.04	.01	.44
8.01 TO 9.00	0.00	.01	.02	.01	.01	.01	.03	.04	.04	.03	.02	.01	.05	.04	.02	.01	.33
9.01 TO 10.00	0.00	.01	.01	0.00	.01	.01	.04	.02	.01	.02	.01	.04	.08	.04	.03	0.00	.31
MORE THAN 10	0.00	.01	.01	0.00	.01	.01	.04	0.00	0.00	.02	.01	.01	.04	.09	.02	0.00	.24
TOTALS	1.07	1.11	.64	.30	.44	1.19	2.85	2.64	1.94	1.52	1.33	1.42	1.63	1.88	1.80	1.04	22.91
AVE WIND SPEED	2.2	2.7	3.1	3.0	3.0	3.2	3.7	3.5	3.1	3.0	2.8	2.8	3.3	3.6	3.3	2.3	3.1

Amended: April 2009 TL: E048000

Table 2.3B-12

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76
SUMMARY WIND ROSE
STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	35
0.26 TO 0.50	6	2	3	4	4	2	4	0	3	5	2	2	5	3	3	3	51
0.51 TO 1.00	21	20	19	14	19	15	20	16	15	18	11	13	15	14	22	22	274
1.01 TO 1.50	47	36	29	16	7	22	33	25	34	18	18	11	23	28	17	30	394
1.51 TO 2.00	41	43	24	19	20	36	47	35	21	15	10	13	16	21	26	30	417
2.01 TO 3.00	82	69	43	12	17	46	100	56	39	22	17	16	23	43	51	60	696
3.01 TO 4.00	23	47	20	2	8	27	77	48	12	9	7	8	11	25	43	40	407
4.01 TO 5.00	20	28	13	6	6	8	47	16	15	10	3	7	4	17	27	13	240
5.01 TO 6.00	6	9	7	7	3	6	21	9	5	3	6	5	7	8	17	10	129
6.01 TO 7.00	3	3	4	4	0	2	14	8	6	4	6	6	6	7	8	8	89
7.01 TO 8.00	3	5	5	2	3	1	9	3	6	2	3	7	7	7	4	2	69
8.01 TO 9.00	1	6	5	5	3	0	6	6	5	0	1	2	6	22	2	0	70
9.01 TO 10.00	0	6	4	3	11	1	11	6	2	1	0	2	4	17	0	0	68
MORE THAN 10	0	3	4	2	0	0	7	6	11	1	0	2	9	11	4	0	60
TOTALS	253	277	180	96	101	166	396	234	174	108	84	94	136	223	224	218	2999
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.18
0.26 TO 0.50	.03	.01	.02	.02	.02	.01	.02	0.00	.02	.03	.01	.01	.03	.02	.02	.02	.26
0.51 TO 1.00	.11	.10	.10	.07	.10	.08	.10	.08	.08	.09	.06	.07	.08	.07	.11	.11	1.42
1.01 TO 1.50	.24	.19	.15	.08	.04	.11	.17	.13	.18	.09	.09	.06	.12	.15	.09	.16	2.04
1.51 TO 2.00	.21	.22	.12	.10	.10	.19	.24	.18	.11	.08	.05	.07	.08	.11	.13	.16	2.16
2.01 TO 3.00	.43	.36	.22	.06	.09	.24	.52	.29	.20	.11	.09	.08	.12	.22	.26	.31	3.61
3.01 TO 4.00	.12	.24	.10	.01	.04	.14	.40	.25	.06	.05	.04	.04	.06	.13	.22	.21	2.11
4.01 TO 5.00	.10	.15	.07	.03	.03	.04	.24	.08	.08	.05	.02	.04	.02	.09	.14	.07	1.25
5.01 TO 6.00	.03	.05	.04	.04	.02	.03	.11	.05	.03	.02	.03	.03	.04	.04	.09	.05	.67
6.01 TO 7.00	.02	.02	.02	.02	0.00	.01	.07	.04	.03	.02	.03	.03	.03	.04	.04	.04	.46
7.01 TO 8.00	.02	.03	.03	.01	.02	.01	.05	.02	.03	.01	.02	.04	.04	.04	.02	.01	.36
8.01 TO 9.00	.01	.03	.03	.03	.02	0.00	.03	.03	.03	0.00	.01	.01	.03	.11	.01	0.00	.36
9.01 TO 10.00	0.00	.03	.02	.02	.06	.01	.06	.03	.01	.01	0.00	.01	.02	.09	0.00	0.00	.35
MORE THAN 10	0.00	.02	.02	.01	0.00	0.00	.04	.03	.06	.01	0.00	.01	.05	.06	.02	0.00	.31
TOTALS	1.31	1.44	.93	.50	.52	.86	2.05	1.21	.90	.56	.44	.49	.71	1.16	1.16	1.13	15.56
AVE WIND SPEED	2.4	3.0	3.1	3.1	3.2	2.5	3.5	3.3	3.4	2.5	2.7	3.4	3.7	4.3	3.2	2.6	3.1

Amended: April 2009 TL: E048000

Table 2.3B-13

DATA FROM 1/25/73 To 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76
SUMMARY WIND ROSE
STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	37
0.26 TO 0.50	2	5	4	4	3	4	7	6	2	2	3	0	5	2	1	4	54
0.51 TO 1.00	15	14	13	25	25	22	28	8	4	6	3	2	6	5	6	15	197
1.01 TO 1.50	35	28	17	16	39	28	35	26	14	10	7	9	12	10	12	14	312
1.51 TO 2.00	35	41	21	12	19	17	35	11	2	4	4	7	3	6	9	22	248
2.01 TO 3.00	46	71	24	6	12	22	29	12	5	3	2	5	6	8	13	27	291
3.01 TO 4.00	41	61	24	4	9	11	13	3	1	1	0	2	1	11	5	21	208
4.01 TO 5.00	22	32	9	2	2	1	6	3	0	1	0	0	1	5	1	6	91
5.01 TO 6.00	13	19	7	5	0	1	3	0	1	0	0	0	0	0	4	4	57
6.01 TO 7.00	1	9	9	2	0	1	1	0	0	0	0	0	0	0	1	1	25
7.01 TO 8.00	0	2	8	1	0	0	0	0	0	0	1	0	0	0	1	0	13
8.01 TO 9.00	0	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	8
9.01 TO 10.00	0	1	2	1	0	1	1	0	0	0	0	0	0	0	0	0	6
MORE THAN 10	0	0	3	1	0	0	1	1	2	0	0	0	0	0	0	0	8
TOTALS	210	287	144	80	109	108	159	70	31	27	20	25	34	47	53	114	1555
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.19
0.26 TO 0.50	.01	.03	.02	.02	.02	.02	.04	.03	.01	.01	.02	0.00	.03	.01	.01	.02	.28
0.51 TO 1.00	.08	.07	.07	.13	.13	.11	.15	.04	.02	.03	.02	.01	.03	.03	.03	.08	1.02
1.01 TO 1.50	.18	.15	.09	.08	.20	.15	.18	.13	.07	.05	.04	.05	.06	.05	.06	.07	1.62
1.51 TO 2.00	.18	.21	.11	.06	.10	.09	.18	.06	.01	.02	.02	.04	.02	.03	.05	.11	1.29
2.01 TO 3.00	.24	.37	.12	.03	.06	.11	.15	.06	.03	.02	.01	.03	.03	.04	.07	.14	1.51
3.01 TO 4.00	.21	.32	.12	.02	.05	.06	.07	.02	.01	.01	0.00	.01	.01	.06	.03	.11	1.08
4.01 TO 5.00	.11	.17	.05	.01	.01	.01	.03	.02	0.00	.01	0.00	0.00	.01	.03	.01	.03	.47
5.01 TO 6.00	.07	.10	.04	.03	0.00	.01	.02	0.00	.01	0.00	0.00	0.00	0.00	0.00	.02	.02	.30
6.01 To 7.00	.01	.05	.05	.01	0.00	.01	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	.01	.13
7.01 TO 8.00	0.00	.01	.04	.01	0.00	0.00	0.00	0.00	0.00	0.00	.01	0.00	0.00	0.00	.01	0.00	.07
8.01 TO 9.00	0.00	.02	.02	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
9.01 TO 10.00	0.00	.01	.01	.01	0.00	.01	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.03
MORE THAN 10	0.00	0.00	.02	.01	0.00	0.00	.01	.01	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
TOTALS	1.09	1.49	.75	.42	.57	.56	.82	.36	.16	.14	.10	.13	.18	.24	.27	.59	8.07
AVE WIND SPEED	2.6	3.0	3.4	2.2	1.6	1.8	2.0	1.1	2.2	1.5	1.5	1.7	1.4	2.3	2.4	2.3	2.3

Amended: April 2009 TL: E048000

Table 2.3B-14

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76
SUMMARY WIND ROSE
STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	52
0.26 TO 0.50	6	3	14	7	8	10	7	7	3	2	3	0	2	1	1	5	79
0.51 TO 1.00	18	36	64	50	43	47	31	20	11	9	4	4	8	9	9	16	379
1.01 TO 1.50	33	62	70	57	63	52	56	25	11	9	6	8	10	5	8	16	491
1.51 TO 2.00	66	83	79	47	49	52	39	17	9	5	1	5	9	6	7	16	490
2.01 TO 3.00	88	189	119	36	44	58	34	14	1	2	3	0	13	16	13	20	650
3.01 TO 4.00	69	185	101	14	10	6	19	1	0	0	0	1	1	7	11	23	448
4.01 TO 5.00	45	145	67	4	0	2	7	0	0	0	0	0	1	3	4	7	285
5.01 TO 6.00	20	113	36	2	0	2	0	0	0	0	0	0	0	1	1	1	176
6.01 TO 7.00	5	61	24	2	1	0	0	1	0	0	0	0	0	1	2	2	99
7.01 TO 8.00	2	22	10	1	0	0	0	1	0	0	0	0	0	0	0	0	36
8.01 TO 9.00	0	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	7
9.01 TO 10.00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	352	902	589	221	218	229	193	86	35	27	17	18	44	49	56	106	3194
FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)																	
SPEED (MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.27
0.26 TO 0.50	.03	.02	.07	.04	.04	.05	.04	.04	.02	.01	.02	0.00	.01	.01	.01	.03	.41
0.51 TO 1.00	.09	.19	.33	.26	.22	.24	.16	.10	.06	.05	.02	.02	.04	.05	.05	.08	1.97
1.01 TO 1.50	.17	.32	.36	.30	.33	.27	.29	.13	.06	.05	.03	.04	.05	.03	.04	.08	2.55
1.51 TO 2.00	.34	.43	.41	.24	.25	.27	.20	.09	.05	.03	.01	.03	.05	.03	.04	.08	2.54
2.01 TO 3.00	.46	.98	.62	.19	.23	.30	.18	.07	.01	.01	.02	0.00	.07	.08	.07	.10	3.37
3.01 TO 4.00	.36	.96	.52	.07	.05	.03	.10	.01	0.00	0.00	0.00	.01	.01	.04	.06	.12	2.32
4.01 TO 5.00	.23	.75	.35	.02	0.00	.01	.04	0.00	0.00	0.00	0.00	0.00	.01	.02	.02	.04	1.48
5.01 TO 6.00	.10	.59	.19	.01	0.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01	.01	.01	.91
6.01 TO 7.00	.03	.32	.12	.01	.01	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	.01	.01	.01	.51
7.01 TO 8.00	.01	.11	.05	.01	0.00	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19
8.01 TO 9.00	0.00	.02	.02	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
9.01 TO 10.00	0.00	0.00	.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.01
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.83	4.68	3.06	1.15	1.13	1.19	1.00	.45	.18	.14	.09	.09	.23	.25	.29	.55	16.57
AVE WIND SPEED	2.8	3.6	2.9	1.8	1.6	1.6	1.8	1.5	1.2	1.2	1.2	1.4	1.7	2.3	2.5	2.2	2.6

Amended: April 2009 TL: E048000

APPENDIX 2.3C

ANNUAL JOINT FREQUENCY WIND SPEED-WIND DIRECTION SUMMARIES BY PASQUILL STABILITY CATEGORY FOR SAN DIEGO, CALIFORNIA (PERIOD OF RECORD 1955-1964) FROM THE STAR PROGRAM (TABLES 2.3C-1 THROUGH 2.3C-8)

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Table 2.3C-1

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.020921	0.024934	0.006485	0.000480	0.000011	0.000000	0.052831
NNE	0.027874	0.032526	0.004532	0.000308	0.000034	0.000000	0.065275
NE	0.037027	0.032732	0.004909	0.000445	0.000057	0.000000	0.075170
ENE	0.025455	0.021235	0.004293	0.000388	0.000034	0.000000	0.051405
E	0.016355	0.011554	0.001576	0.000148	0.000011	0.000000	0.029644
ESE	0.008448	0.009293	0.002032	0.000091	0.000000	0.000000	0.019865
SE	0.007734	0.008300	0.002843	0.000206	0.000000	0.000000	0.019082
SSE	0.005215	0.007763	0.005023	0.001347	0.000217	0.000046	0.019612
S	0.009784	0.018895	0.017262	0.005058	0.000754	0.000194	0.051946
SSW	0.012808	0.029889	0.032526	0.009544	0.000719	0.000137	0.085624
SW	0.013808	0.026989	0.026943	0.004521	0.000171	0.000011	0.072444
WSW	0.014181	0.029569	0.039308	0.009179	0.000183	0.000000	0.092419
W	0.011490	0.024580	0.025185	0.005217	0.000263	0.000000	0.066726
WNW	0.014048	0.038714	0.054686	0.014043	0.000422	0.000000	0.121913
NW	0.013499	0.031213	0.047516	0.015013	0.000331	0.000046	0.107619
NNW	0.012952	0.027640	0.023587	0.004167	0.000069	0.000011	0.068426
TOTAL	0.251589	0.375826	0.298706	0.070156	0.003277	0.000445	

TOTAL RELATIVE FREQUENCY OF OBSERVATIONS = 1.000001

TOTAL RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE = 0.069436

Table 2.3C-2

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000002	0.000023	0.000000	0.000000	0.000000	0.000000	0.000025
NNE	0.000003	0.000034	0.000000	0.000000	0.000000	0.000000	0.000037
NE	0.000012	0.000000	0.000000	0.000000	0.000000	0.000000	0.000012
ENE	0.000001	0.000011	0.000000	0.000000	0.000000	0.000000	0.000012
E	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ESE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
SE	0.000001	0.000011	0.000000	0.000000	0.000000	0.000000	0.000012
SSE	0.000012	0.000000	0.000000	0.000000	0.000000	0.000000	0.000012
S	0.000025	0.000148	0.000000	0.000000	0.000000	0.000000	0.000173
SSW	0.000040	0.000183	0.000000	0.000000	0.000000	0.000000	0.000223
SW	0.000016	0.000183	0.000000	0.000000	0.000000	0.000000	0.000198
WSW	0.000027	0.000320	0.000000	0.000000	0.000000	0.000000	0.000347
W	0.000021	0.000251	0.000000	0.000000	0.000000	0.000000	0.000272
WNW	0.000079	0.000639	0.000000	0.000000	0.000000	0.000000	0.000718
NW	0.000065	0.000331	0.000000	0.000000	0.000000	0.000000	0.000396
NNW	0.000026	0.000160	0.000000	0.000000	0.000000	0.000000	0.000186
TOTAL	0.000331	0.002295	0.000000	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF A STABILITY = 0.002626

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH A STABILITY = 0.000206

Table 2.3C-3

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CAL 55-64

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000789	0.000571	0.000457	0.000000	0.000000	0.000000	0.001817
NNE	0.000645	0.000274	0.000034	0.000000	0.000000	0.000000	0.000953
NE	0.000650	0.000183	0.000000	0.000000	0.000000	0.000000	0.000833
ENE	0.000553	0.000023	0.000023	0.000000	0.000000	0.000000	0.000599
E	0.000359	0.000057	0.000000	0.000000	0.000000	0.000000	0.000417
ESE	0.000320	0.000023	0.000011	0.000000	0.000000	0.000000	0.000354
SE	0.000494	0.000057	0.000023	0.000000	0.000000	0.000000	0.000574
SSE	0.000476	0.000137	0.000057	0.000000	0.000000	0.000000	0.000670
S	0.001238	0.001347	0.000948	0.000000	0.000000	0.000000	0.003533
SSW	0.002474	0.004179	0.003528	0.000000	0.000000	0.000000	0.010180
SW	0.003113	0.004373	0.004715	0.000000	0.000000	0.000000	0.012200
WSW	0.002603	0.004943	0.007307	0.000000	0.000000	0.000000	0.014853
W	0.001777	0.003528	0.004601	0.000000	0.000000	0.000000	0.009906
WNW	0.001630	0.006428	0.008585	0.000000	0.000000	0.000000	0.016843
NW	0.001311	0.004019	0.005708	0.000000	0.000000	0.000000	0.011038
NNW	0.001017	0.002181	0.002683	0.000000	0.000000	0.000000	0.005880
TOTAL	0.019648	0.032321	0.038680	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF B STABILITY = 0.090649

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH B STABILITY = 0.003539

Table 2.3C-4

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000574	0.001142	0.001073	0.000069	0.000000	0.000000	0.002858
NNE	0.000887	0.001267	0.000537	0.000034	0.000000	0.000000	0.002725
NE	0.000958	0.000685	0.000320	0.000000	0.000000	0.000000	0.001963
ENE	0.000701	0.000480	0.000206	0.000000	0.000000	0.000000	0.001386
E	0.000598	0.000400	0.000137	0.000023	0.000000	0.000000	0.001158
ESE	0.000385	0.000491	0.000091	0.000000	0.000000	0.000000	0.000968
SE	0.000445	0.000662	0.000320	0.000000	0.000000	0.000000	0.001427
SSE	0.000401	0.000731	0.000388	0.000011	0.000000	0.000000	0.001531
S	0.000578	0.001564	0.002055	0.000126	0.000011	0.000000	0.004334
SSW	0.000938	0.003471	0.007820	0.001952	0.000080	0.000011	0.014173
SW	0.000960	0.004590	0.008962	0.001313	0.000000	0.000000	0.015825
WSW	0.001120	0.004612	0.015173	0.003254	0.000011	0.000000	0.024171
W	0.000605	0.003631	0.009476	0.001415	0.000023	0.000000	0.015150
WNW	0.000755	0.005902	0.023256	0.004692	0.000034	0.000000	0.034640
NW	0.000774	0.004715	0.020082	0.004772	0.000034	0.000000	0.030378
NNW	0.000515	0.002455	0.007546	0.001085	0.000000	0.000000	0.011601
TOTAL	0.011097	0.036796	0.097441	0.018746	0.000194	0.000011	

RELATIVE FREQUENCY OF OCCURRENCE OF C STABILITY = 0.164286

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH C STABILITY = 0.002968

Table 2.3C-5

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CAL 55-64

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000577	0.002649	0.000833	0.000263	0.000000	0.000000	0.004322
NNE	0.000635	0.003208	0.000788	0.000148	0.000034	0.000000	0.004813
NE	0.000720	0.002809	0.000559	0.000285	0.000057	0.000000	0.004430
ENE	0.000690	0.001907	0.000411	0.000274	0.000023	0.000000	0.003305
E	0.000502	0.001222	0.000206	0.000091	0.000011	0.000000	0.002032
ESE	0.000294	0.001313	0.000338	0.000046	0.000000	0.000000	0.002041
SE	0.000280	0.001210	0.000594	0.000091	0.000000	0.000000	0.002176
SSE	0.000372	0.001713	0.001450	0.000468	0.000103	0.000034	0.004139
S	0.000594	0.004064	0.005035	0.002786	0.000480	0.000160	0.013118
SSW	0.001076	0.006622	0.009636	0.005880	0.000411	0.000103	0.023726
SW	0.000967	0.005868	0.006713	0.002386	0.000137	0.000011	0.016083
WSW	0.001125	0.006176	0.009533	0.004487	0.000137	0.000000	0.021458
W	0.000730	0.003905	0.005252	0.002911	0.000183	0.000000	0.012980
WNW	0.000638	0.005138	0.009590	0.007135	0.000320	0.000000	0.022821
NW	0.000769	0.003539	0.008152	0.008505	0.000240	0.000011	0.021217
NNW	0.000477	0.002911	0.003368	0.002512	0.000046	0.000011	0.009325
TOTAL	0.010446	0.054252	0.062506	0.038269	0.002181	0.000331	

RELATIVE FREQUENCY OF OCCURRENCE OF D STABILITY = 0.167985

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH D STABILITY = 0.001267

Table 2.3C-6

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.004228	0.007421	0.001952	0.000148	0.000011	0.000000	0.013761
NNE	0.004856	0.011108	0.001678	0.000126	0.000000	0.000000	0.017768
NE	0.006661	0.010503	0.001690	0.000160	0.000000	0.000000	0.019014
ENE	0.003617	0.004784	0.001233	0.000114	0.000011	0.000000	0.009759
E	0.002883	0.003117	0.000776	0.000034	0.000000	0.000000	0.006811
ESE	0.001879	0.002946	0.001222	0.000046	0.000000	0.000000	0.006092
SE	0.001850	0.003060	0.001724	0.000114	0.000000	0.000000	0.006747
SSE	0.001239	0.002980	0.002888	0.000868	0.000114	0.000011	0.008100
S	0.002562	0.007135	0.008346	0.002146	0.000263	0.000034	0.020486
SSW	0.003005	0.010184	0.010092	0.001713	0.000228	0.000023	0.025244
SW	0.003254	0.007741	0.005514	0.000822	0.000034	0.000000	0.017365
WSW	0.003431	0.007672	0.005469	0.001439	0.000034	0.000000	0.018045
W	0.002635	0.005765	0.004281	0.000891	0.000057	0.000000	0.013629
WNW	0.002943	0.006839	0.006565	0.002215	0.000069	0.000000	0.018630
NW	0.002830	0.005389	0.005000	0.001735	0.000057	0.000034	0.015125
NNW	0.002512	0.006519	0.004019	0.000571	0.000023	0.000000	0.013643
TOTAL	0.050382	0.103161	0.062529	0.013141	0.000902	0.000103	

RELATIVE FREQUENCY OF OCCURRENCE OF E STABILITY = 0.230218

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH E STABILITY = 0.008928

Table 2.3C-7

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23188 SAN DIEGO CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000000	0.003071	0.002169	0.000000	0.000000	0.000000	0.005240
NNE	0.000000	0.004304	0.001496	0.000000	0.000000	0.000000	0.005800
NE	0.000000	0.004555	0.002340	0.000000	0.000000	0.000000	0.006896
ENE	0.000000	0.003151	0.002420	0.000000	0.000000	0.000000	0.005571
E	0.000000	0.002032	0.000457	0.000000	0.000000	0.000000	0.002489
ESE	0.000000	0.002055	0.000320	0.000000	0.000000	0.000000	0.002375
SE	0.000000	0.001770	0.000183	0.000000	0.000000	0.000000	0.001952
SSE	0.000000	0.001050	0.000240	0.000000	0.000000	0.000000	0.001290
S	0.000000	0.002112	0.000879	0.000000	0.000000	0.000000	0.002991
SSW	0.000000	0.002226	0.001450	0.000000	0.000000	0.000000	0.003676
SW	0.000000	0.001872	0.001039	0.000000	0.000000	0.000000	0.002911
WSW	0.000000	0.002512	0.001827	0.000000	0.000000	0.000000	0.004338
W	0.000000	0.002877	0.001576	0.000000	0.000000	0.000000	0.004453
WNW	0.000000	0.004395	0.006690	0.000000	0.000000	0.000000	0.011086
NW	0.000000	0.003516	0.008494	0.000000	0.000000	0.000000	0.012010
NNW	0.000000	0.003060	0.005971	0.000000	0.000000	0.000000	0.009031
TOTAL	0.000000	0.044559	0.037550	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF F STABILITY = 0.082109

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH F STABILITY = 0.000000

Table 2.3C-8

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CAL 55-64

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.015799	0.010058	0.000000	0.000000	0.000000	0.000000	0.025857
NNE	0.022308	0.012330	0.000000	0.000000	0.000000	0.000000	0.034638
NE	0.030436	0.013997	0.000000	0.000000	0.000000	0.000000	0.044433
ENE	0.021959	0.010880	0.000000	0.000000	0.000000	0.000000	0.032839
E	0.012935	0.004727	0.000000	0.000000	0.000000	0.000000	0.017662
ESE	0.005515	0.002466	0.000000	0.000000	0.000000	0.000000	0.008081
SE	0.004524	0.001530	0.000000	0.000000	0.000000	0.000000	0.006054
SSE	0.002388	0.001153	0.000000	0.000000	0.000000	0.000000	0.003541
S	0.003873	0.002523	0.000000	0.000000	0.000000	0.000000	0.006396
SSW	0.003642	0.003025	0.000000	0.000000	0.000000	0.000000	0.006668
SW	0.003876	0.002363	0.000000	0.000000	0.000000	0.000000	0.006239
WSW	0.004234	0.003334	0.000000	0.000000	0.000000	0.000000	0.007567
W	0.004842	0.004624	0.000000	0.000000	0.000000	0.000000	0.009466
WNW	0.006946	0.009373	0.000000	0.000000	0.000000	0.000000	0.016320
NW	0.007558	0.009704	0.000000	0.000000	0.000000	0.000000	0.017262
NNW	0.008749	0.010355	0.000000	0.000000	0.000000	0.000000	0.019104
TOTAL	0.159685	0.102442	0.000000	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF G STABILITY = 0.262127

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH G STABILITY = 0.052528

APPENDIX 2.3D

ANNUAL JOINT FREQUENCY WIND SPEED-WIND DIRECTION SUMMARIES BY PASQUILL STABILITY CATEGORY FOR LOS ANGELES, CALIFORNIA (PERIOD OF RECORD 1955-1964) FROM THE STAR PROGRAM (TABLES 2.3D-1 THROUGH 2.3D-8)

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Table 2.3D-1

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23174 LOS ANGELES CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.008651	0.010743	0.005423	0.002991	0.000822	0.000400	0.029030
NNE	0.007695	0.011245	0.005195	0.000651	0.000023	0.000057	0.024866
NE	0.012368	0.022696	0.008174	0.000605	0.000046	0.000080	0.043969
ENE	0.017785	0.031670	0.008905	0.001073	0.000160	0.000011	0.059604
E	0.025205	0.044662	0.013220	0.001872	0.000160	0.000011	0.085130
ESE	0.017958	0.029683	0.010914	0.001929	0.000080	0.000000	0.060564
SE	0.012888	0.020059	0.007763	0.001644	0.000091	0.000034	0.042480
SSE	0.009509	0.012387	0.004555	0.001005	0.000240	0.000023	0.027718
S	0.010118	0.013551	0.004441	0.000662	0.000126	0.000046	0.028944
SSW	0.007340	0.009636	0.004738	0.001712	0.000251	0.000080	0.023757
SW	0.010563	0.016611	0.019351	0.008083	0.000228	0.000011	0.054848
WSW	0.018060	0.042652	0.099301	0.052882	0.001872	0.000274	0.215041
W	0.020982	0.048623	0.080578	0.056683	0.005708	0.001530	0.214105
WNW	0.010238	0.018050	0.010948	0.003847	0.000594	0.000137	0.043814
NW	0.008028	0.009978	0.003505	0.001507	0.000377	0.000068	0.023463
NNW	0.006774	0.007740	0.003151	0.003174	0.001404	0.000422	0.022666
TOTAL	0.204162	0.349986	0.290163	0.140321	0.012181	0.003185	

TOTAL RELATIVE FREQUENCY OF OBSERVATIONS = 1.000001

TOTAL RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE = 0.093878

Table 2.3D-2

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23174 LOS ANGELES CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000029	0.000000	0.000000	0.000000	0.000000	0.000000	0.000029
NNE	0.000029	0.000000	0.000000	0.000000	0.000000	0.000000	0.000029
NE	0.000058	0.000000	0.000000	0.000000	0.000000	0.000000	0.000058
ENE	0.000065	0.000023	0.000000	0.000000	0.000000	0.000000	0.000088
E	0.000065	0.000023	0.000000	0.000000	0.000000	0.000000	0.000088
ESE	0.000141	0.000034	0.000000	0.000000	0.000000	0.000000	0.000175
SE	0.000147	0.000057	0.000000	0.000000	0.000000	0.000000	0.000204
SSE	0.000153	0.000080	0.000000	0.000000	0.000000	0.000000	0.000233
S	0.000259	0.000091	0.000000	0.000000	0.000000	0.000000	0.000350
SSW	0.000082	0.000034	0.000000	0.000000	0.000000	0.000000	0.000117
SW	0.000247	0.000103	0.000000	0.000000	0.000000	0.000000	0.000350
WSW	0.000580	0.000354	0.000000	0.000000	0.000000	0.000000	0.000934
W	0.000313	0.000183	0.000000	0.000000	0.000000	0.000000	0.000496
WNW	0.000071	0.000046	0.000000	0.000000	0.000000	0.000000	0.000117
NW	0.000082	0.000034	0.000000	0.000000	0.000000	0.000000	0.000117
NNW	0.000029	0.000000	0.000000	0.000000	0.000000	0.000000	0.000029
TOTAL	0.002352	0.001062	0.000000	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF A STABILITY = 0.003414

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH A STABILITY = 0.002078

Table 2.3D-3

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23174 LOS ANGELES CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000821	0.000274	0.000046	0.000000	0.000000	0.000000	0.001140
NNE	0.000657	0.000331	0.000034	0.000000	0.000000	0.000000	0.001022
NE	0.000900	0.000662	0.000114	0.000000	0.000000	0.000000	0.001676
ENE	0.001134	0.000628	0.000205	0.000000	0.000000	0.000000	0.001968
E	0.001589	0.001027	0.000194	0.000000	0.000000	0.000000	0.002811
ESE	0.001708	0.001416	0.000205	0.000000	0.000000	0.000000	0.003330
SE	0.001676	0.001461	0.000457	0.000000	0.000000	0.000000	0.003594
SSE	0.001561	0.001256	0.000365	0.000000	0.000000	0.000000	0.003182
S	0.001607	0.001290	0.000263	0.000000	0.000000	0.000000	0.003160
SSW	0.001225	0.001085	0.000285	0.000000	0.000000	0.000000	0.002595
SW	0.001524	0.001747	0.002557	0.000000	0.000000	0.000000	0.005828
WSW	0.001898	0.004738	0.013414	0.000000	0.000000	0.000000	0.020050
W	0.001263	0.003197	0.005959	0.000000	0.000000	0.000000	0.010419
WNW	0.000924	0.001039	0.000685	0.000000	0.000000	0.000000	0.002648
NW	0.000489	0.000365	0.000114	0.000000	0.000000	0.000000	0.000969
NNW	0.000397	0.000217	0.000068	0.000000	0.000000	0.000000	0.000683
TOTAL	0.019374	0.020732	0.024968	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF B STABILITY = 0.065074

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH B STABILITY = 0.005811

Table 2.3D-4

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000349	0.001050	0.000491	0.000057	0.000000	0.000000	0.001947
NNE	0.000369	0.001119	0.000822	0.000000	0.000000	0.000000	0.002310
NE	0.000728	0.002146	0.001461	0.000023	0.000000	0.000000	0.004358
ENE	0.000922	0.003402	0.001655	0.000000	0.000000	0.000000	0.005979
E	0.001209	0.003916	0.001484	0.000000	0.000000	0.000000	0.006609
ESE	0.001019	0.003140	0.001427	0.000046	0.000000	0.000000	0.005631
SE	0.000762	0.001998	0.001119	0.000068	0.000000	0.000000	0.003947
SSE	0.000404	0.001199	0.000674	0.000068	0.000000	0.000000	0.002344
S	0.000467	0.001199	0.000582	0.000034	0.000011	0.000000	0.002294
SSW	0.000404	0.000868	0.001096	0.000205	0.000000	0.000000	0.002573
SW	0.000373	0.001484	0.005674	0.002603	0.000000	0.000000	0.010134
WSW	0.000699	0.003117	0.033804	0.015378	0.000160	0.000023	0.053180
W	0.000666	0.003162	0.021395	0.011234	0.000434	0.000080	0.036970
WNW	0.000323	0.001050	0.001884	0.000365	0.000023	0.000000	0.003645
NW	0.000321	0.000582	0.000411	0.000034	0.000000	0.000000	0.001348
NNW	0.000260	0.000559	0.000137	0.000023	0.000000	0.000011	0.001011
TOTAL	0.009293	0.029991	0.074116	0.030140	0.000628	0.000114	

RELATIVE FREQUENCY OF OCCURRENCE OF C STABILITY = 0.144283

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH C STABILITY = 0.004019

Table 2.3D-5

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000438	0.001005	0.000388	0.000674	0.000434	0.000137	0.003075
NNE	0.000371	0.001096	0.000639	0.000285	0.000011	0.000023	0.002426
NE	0.000690	0.002580	0.001199	0.000354	0.000023	0.000063	0.004914
ENE	0.001175	0.004247	0.001804	0.000537	0.000068	0.000011	0.007842
E	0.001652	0.006667	0.002957	0.000879	0.000057	0.000011	0.012224
ESE	0.001394	0.005172	0.003208	0.000811	0.000046	0.000000	0.010630
SE	0.001357	0.004612	0.002626	0.000925	0.000034	0.000023	0.009577
SSE	0.001071	0.002523	0.001633	0.000559	0.000183	0.000000	0.005968
S	0.001046	0.002112	0.001233	0.000388	0.000034	0.000023	0.004837
SSW	0.000692	0.001758	0.001244	0.001039	0.000160	0.000057	0.004950
SW	0.000926	0.002569	0.004418	0.004510	0.000137	0.000011	0.012570
WSW	0.001255	0.005982	0.021235	0.030825	0.001301	0.000183	0.060781
W	0.001359	0.006313	0.017445	0.033862	0.003471	0.001073	0.063522
WNW	0.000578	0.002021	0.002432	0.001792	0.000331	0.000034	0.007188
NW	0.000366	0.001039	0.000365	0.000514	0.000171	0.000023	0.002478
NNW	0.000403	0.000890	0.000365	0.000948	0.000582	0.000148	0.003337
TOTAL	0.014773	0.050587	0.063191	0.078900	0.007044	0.001827	

RELATIVE FREQUENCY OF OCCURRENCE OF D STABILITY = 0.216321

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH D STABILITY = 0.005354

Table 2.3D-6

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.001816	0.001747	0.001119	0.002260	0.000388	0.000263	0.007592
NNE	0.001146	0.000925	0.001062	0.000365	0.000011	0.000034	0.003544
NE	0.001693	0.003071	0.001838	0.000228	0.000023	0.000011	0.006864
ENE	0.002963	0.005446	0.002923	0.000537	0.000091	0.000000	0.011960
E	0.004889	0.009430	0.006039	0.000993	0.000103	0.000000	0.021454
ESE	0.003920	0.006781	0.004784	0.001073	0.000034	0.000000	0.016592
SE	0.002748	0.004749	0.002934	0.000651	0.000057	0.000011	0.011151
SSE	0.002155	0.002706	0.001427	0.000377	0.000057	0.000023	0.006744
S	0.002045	0.002512	0.001279	0.000240	0.000080	0.000023	0.006178
SSW	0.001654	0.001964	0.001176	0.000468	0.000091	0.000023	0.005376
SW	0.002201	0.002397	0.002694	0.000970	0.000091	0.000000	0.008354
WSW	0.004217	0.008266	0.013974	0.006679	0.000411	0.000068	0.033614
W	0.006502	0.012718	0.018198	0.011588	0.001804	0.000377	0.051187
WNW	0.003399	0.005811	0.003197	0.001690	0.000240	0.000103	0.014439
NW	0.002524	0.002820	0.000948	0.000959	0.000205	0.000046	0.007501
NNW	0.001636	0.002009	0.000525	0.002203	0.000822	0.000263	0.007458
TOTAL	0.045506	0.073351	0.064115	0.031281	0.004510	0.001244	

RELATIVE FREQUENCY OF OCCURRENCE OF E STABILITY = 0.220009

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH E STABILITY = 0.020584

Table 2.3D-7

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000000	0.001644	0.003379	0.000000	0.000000	0.000000	0.005023
NNE	0.000000	0.001849	0.002637	0.000000	0.000000	0.000000	0.004487
NE	0.000000	0.003322	0.003562	0.000000	0.000000	0.000000	0.006884
ENE	0.000000	0.003950	0.002318	0.000000	0.000000	0.000000	0.006268
E	0.000000	0.005240	0.002546	0.000000	0.000000	0.000000	0.007786
ESE	0.000000	0.003585	0.001290	0.000000	0.000000	0.000000	0.004875
SE	0.000000	0.001895	0.000628	0.000000	0.000000	0.000000	0.002523
SSE	0.000000	0.001313	0.000457	0.000000	0.000000	0.000000	0.001770
S	0.000000	0.001450	0.001085	0.000000	0.000000	0.000000	0.002534
SSW	0.000000	0.000913	0.000936	0.000000	0.000000	0.000000	0.001849
SW	0.000000	0.002066	0.004007	0.000000	0.000000	0.000000	0.006074
WSW	0.000000	0.005697	0.016874	0.000000	0.000000	0.000000	0.022571
W	0.000000	0.008026	0.017582	0.000000	0.000000	0.000000	0.025607
WNW	0.000000	0.002877	0.002751	0.000000	0.000000	0.000000	0.005628
NW	0.000000	0.001655	0.001667	0.000000	0.000000	0.000000	0.003322
NNW	0.000000	0.001142	0.002055	0.000000	0.000000	0.000000	0.003197
TOTAL	0.000000	0.046625	0.063773	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF F STABILITY = 0.110398

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH F STABILITY = 0.000000

Table 2.3D-8

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23174 LOS ANGELES CAL 55-64

	SPEED(KTS)						
DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.005396	0.005023	0.000000	0.000000	0.000000	0.000000	0.010419
NNE	0.005327	0.005925	0.000000	0.000000	0.000000	0.000000	0.011253
NE	0.008540	0.010914	0.000000	0.000000	0.000000	0.000000	0.019454
ENE	0.011806	0.013974	0.000000	0.000000	0.000000	0.000000	0.025780
E	0.016114	0.018358	0.000000	0.000000	0.000000	0.000000	0.034472
ESE	0.009526	0.009556	0.000000	0.000000	0.000000	0.000000	0.019082
SE	0.005863	0.005286	0.000000	0.000000	0.000000	0.000000	0.011148
SSE	0.004012	0.003311	0.000000	0.000000	0.000000	0.000000	0.007323
S	0.004792	0.004898	0.000000	0.000000	0.000000	0.000000	0.009690
SSW	0.003223	0.003014	0.000000	0.000000	0.000000	0.000000	0.006237
SW	0.005350	0.006245	0.000000	0.000000	0.000000	0.000000	0.011595
WSW	0.009361	0.014499	0.000000	0.000000	0.000000	0.000000	0.023860
W	0.010279	0.015024	0.000000	0.000000	0.000000	0.000000	0.025303
WNW	0.004781	0.005206	0.000000	0.000000	0.000000	0.000000	0.009987
NW	0.004347	0.003482	0.000000	0.000000	0.000000	0.000000	0.007829
NNW	0.004147	0.002923	0.000000	0.000000	0.000000	0.000000	0.007070
TOTAL	0.112864	0.127637	0.000000	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF G STABILITY = 0.240501

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH G STABILITY = 0.056033

APPENDIX 2.3E

ANNUAL JOINT FREQUENCY WIND SPEED-WIND DIRECTION SUMMARIES BY PASQUILL STABILITY CATEGORY FOR SAN DIEGO AND LOS ANGELES, CALIFORNIA (PERIOD OF RECORD 1973-1974) FROM THE STAR PROGRAM (TABLES 2.3E-1 THROUGH 2.3E-16)

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Table 2.3E-1

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23188 SAN DIEGO CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.028506	0.052740	0.009418	0.000856	0.000000	0.000000	0.091520
NNE	0.010443	0.018151	0.001712	0.000514	0.000000	0.000000	0.030820
NE	0.006581	0.009589	0.001027	0.000514	0.000171	0.000000	0.017883
ENE	0.005496	0.006336	0.001541	0.000171	0.000000	0.000000	0.013544
E	0.007697	0.010445	0.001884	0.000171	0.000000	0.000000	0.020197
ESE	0.010801	0.016610	0.006849	0.000514	0.000000	0.000000	0.034774
SE	0.006218	0.007192	0.004966	0.002055	0.000000	0.000000	0.020430
SSE	0.005190	0.008219	0.007877	0.001884	0.000514	0.000000	0.023683
S	0.015101	0.043664	0.035788	0.007705	0.001027	0.000171	0.103457
SSW	0.006588	0.020034	0.028596	0.002568	0.000171	0.000000	0.057957
SW	0.007740	0.022432	0.026712	0.001712	0.000171	0.000000	0.058767
WSW	0.004989	0.017295	0.018836	0.004110	0.000000	0.000171	0.045400
W	0.010735	0.030479	0.037158	0.014726	0.000856	0.000342	0.094297
WNW	0.018573	0.049658	0.090582	0.045377	0.001712	0.000000	0.205902
NW	0.016325	0.036130	0.043493	0.014897	0.000000	0.000000	0.110845
NNW	0.020009	0.034418	0.014041	0.002055	0.000000	0.000000	0.070523
TOTAL	0.180993	0.383390	0.330479	0.099829	0.004623	0.000685	

TOTAL RELATIVE FREQUENCY OF OBSERVATIONS = 1.000001

TOTAL RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE = 0.074315

Table 2.3E-2

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23188 SAN DIEGO CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
NNE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
NE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ENE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
E	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ESE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
SE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
SSE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
S	0.000114	0.000171	0.000000	0.000000	0.000000	0.000000	0.000285
SSW	0.000114	0.000171	0.000000	0.000000	0.000000	0.000000	0.000285
SW	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
WSW	0.000114	0.000171	0.000000	0.000000	0.000000	0.000000	0.000285
W	0.000114	0.000171	0.000000	0.000000	0.000000	0.000000	0.000285
WNW	0.000228	0.000342	0.000000	0.000000	0.000000	0.000000	0.000571
NW	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
NNW	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
TOTAL	0.000685	0.001027	0.000000	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF A STABILITY = 0.001712

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH A STABILITY = 0.000685

Table 2.3E-3

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23188 SAN DIEGO CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000034	0.000171	0.000000	0.000000	0.000000	0.000000	0.000205
NNE	0.000410	0.000000	0.000000	0.000000	0.000000	0.000000	0.000410
NE	0.000205	0.000000	0.000000	0.000000	0.000000	0.000000	0.000205
ENE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
E	0.000239	0.000171	0.000000	0.000000	0.000000	0.000000	0.000410
ESE	0.000410	0.000000	0.000000	0.000000	0.000000	0.000000	0.000410
SE	0.000034	0.000171	0.000000	0.000000	0.000000	0.000000	0.000205
SSE	0.000478	0.000342	0.000171	0.000000	0.000000	0.000000	0.000992
S	0.002323	0.002397	0.002568	0.000000	0.000000	0.000000	0.007289
SSW	0.000818	0.002055	0.006164	0.000000	0.000000	0.000000	0.009038
SW	0.001264	0.001199	0.003938	0.000000	0.000000	0.000000	0.006401
WSW	0.000956	0.001712	0.004281	0.000000	0.000000	0.000000	0.006949
W	0.001777	0.001712	0.005822	0.000000	0.000000	0.000000	0.009311
WNW	0.001536	0.002568	0.007534	0.000000	0.000000	0.000000	0.011639
NW	0.000681	0.002397	0.004281	0.000000	0.000000	0.000000	0.007359
NNW	0.000820	0.001027	0.000514	0.000000	0.000000	0.000000	0.002361
TOTAL	0.011936	0.015925	0.035274	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF B STABILITY = 0.063185

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH B STABILITY = 0.004623

Table 2.3E-4

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CA

8 085 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000835	0.001541	0.000685	0.000000	0.000000	0.000000	0.003061
NNE	0.000217	0.000514	0.000000	0.000000	0.000000	0.000000	0.000731
NE	0.000023	0.000342	0.000342	0.000000	0.000000	0.000000	0.000708
ENE	0.000012	0.000171	0.000171	0.000000	0.000000	0.000000	0.000354
E	0.000023	0.000342	0.000000	0.000000	0.000000	0.000000	0.000366
ESE	0.000252	0.001027	0.000000	0.000000	0.000000	0.000000	0.001279
SE	0.000377	0.000171	0.000342	0.000000	0.000000	0.000000	0.000891
SSE	0.000194	0.000171	0.001370	0.000000	0.000000	0.000000	0.001735
S	0.000756	0.003082	0.005479	0.001199	0.000000	0.000000	0.010516
SSW	0.000162	0.002397	0.006164	0.000685	0.000000	0.000000	0.009408
SW	0.000196	0.002911	0.009075	0.000514	0.000000	0.000000	0.012696
WSW	0.000092	0.001370	0.004795	0.000685	0.000000	0.000000	0.006942
W	0.000596	0.003425	0.012158	0.003425	0.000000	0.000000	0.019603
WNW	0.000460	0.004110	0.024144	0.012671	0.000171	0.000000	0.041556
NW	0.000414	0.003425	0.010959	0.003596	0.000000	0.000000	0.018393
NNW	0.000356	0.002568	0.002226	0.000171	0.000000	0.000000	0.005322
TOTAL	0.004966	0.027568	0.077911	0.022945	0.000171	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF C STABILITY = 0.133562

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH C STABILITY = 0.002055

Table 2.3E-5

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23188 SAN DIEGO CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.001503	0.005993	0.001199	0.000514	0.000000	0.000000	0.009209
NNE	0.000480	0.002911	0.000000	0.000171	0.000000	0.000000	0.003562
NE	0.000756	0.001712	0.000000	0.000514	0.000171	0.000000	0.003184
ENE	0.000186	0.000171	0.000171	0.000171	0.000000	0.000000	0.000699
E	0.000593	0.001370	0.000171	0.000000	0.000000	0.000000	0.002135
ESE	0.000601	0.001541	0.001199	0.000171	0.000000	0.000000	0.003512
SE	0.000222	0.001027	0.001199	0.000685	0.000000	0.000000	0.003133
SSE	0.000238	0.001884	0.001712	0.000514	0.000171	0.000000	0.004539
S	0.001000	0.010959	0.014041	0.008938	0.001027	0.000171	0.031137
SSW	0.000917	0.004795	0.009932	0.001541	0.000171	0.000000	0.017355
SW	0.000895	0.004281	0.008390	0.000856	0.000000	0.000000	0.014423
WSW	0.000338	0.003767	0.006507	0.002055	0.000000	0.000171	0.012838
W	0.000753	0.005137	0.009075	0.009247	0.000685	0.000342	0.025239
WNW	0.000898	0.008562	0.025000	0.027055	0.000856	0.000000	0.062371
NW	0.000847	0.007363	0.011966	0.008904	0.000000	0.000000	0.029101
NNW	0.000852	0.003253	0.003082	0.000685	0.000000	0.000000	0.007872
TOTAL	0.011130	0.064726	0.093664	0.057021	0.003082	0.000685	

RELATIVE FREQUENCY OF OCCURRENCE OF D STABILITY = 0.230308

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH D STABILITY = 0.003082

(NEUTRAL / DAY)

Table 2.3E-6

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.003853	0.016610	0.003938	0.000342	0.000000	0.000000	0.024743
NNE	0.001498	0.005993	0.000171	0.000342	0.000000	0.000000	0.008004
NE	0.001074	0.002397	0.000171	0.000000	0.000000	0.000000	0.003643
ENE	0.001793	0.002226	0.000685	0.000000	0.000000	0.000000	0.004704
E	0.001154	0.003596	0.001027	0.000171	0.000000	0.000000	0.005949
ESE	0.002605	0.003425	0.004281	0.000342	0.000000	0.000000	0.010652
SE	0.000663	0.001712	0.003082	0.001370	0.000000	0.000000	0.006827
SSE	0.001108	0.002911	0.004281	0.001370	0.000342	0.000000	0.010013
S	0.003443	0.018664	0.012500	0.002568	0.000000	0.000000	0.037175
SSW	0.001384	0.007021	0.005651	0.000342	0.000000	0.000000	0.014397
SW	0.002069	0.009075	0.004110	0.000342	0.000171	0.000000	0.015768
WSW	0.000995	0.006678	0.002740	0.001370	0.000000	0.000000	0.011783
W	0.001819	0.010788	0.007877	0.002055	0.000171	0.000000	0.022709
WNW	0.003670	0.013370	0.021918	0.003651	0.000685	0.000000	0.045793
NW	0.002446	0.009247	0.008904	0.002397	0.000000	0.000000	0.022994
NNW	0.003474	0.008219	0.004452	0.001199	0.000000	0.000000	0.017344
TOTAL	0.033048	0.122431	0.085788	0.013863	0.001370	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF E STABILITY = 0.262500

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH E STABILITY = 0.009760

(NEUTRAL / NIGHT)

Table 2.3E-7

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000000	0.008904	0.003596	0.000000	0.000000	0.000000	0.012500
NNE	0.000000	0.001541	0.001541	0.000000	0.000000	0.000000	0.003082
NE	0.000000	0.001370	0.000514	0.000000	0.000000	0.000000	0.001884
ENE	0.000000	0.001027	0.000514	0.000000	0.000000	0.000000	0.001541
E	0.000000	0.001712	0.000685	0.000000	0.000000	0.000000	0.002397
ESE	0.000000	0.004795	0.001370	0.000000	0.000000	0.000000	0.006164
SE	0.000000	0.001712	0.000342	0.000000	0.000000	0.000000	0.002055
SSE	0.000000	0.001884	0.000342	0.000000	0.000000	0.000000	0.002226
S	0.000000	0.003767	0.001199	0.000000	0.000000	0.000000	0.004966
SSW	0.000000	0.002226	0.000685	0.000000	0.000000	0.000000	0.002911
SW	0.000000	0.002397	0.001199	0.000000	0.000000	0.000000	0.003596
WSW	0.000000	0.002055	0.000514	0.000000	0.000000	0.000000	0.002568
W	0.000000	0.004281	0.002226	0.000000	0.000000	0.000000	0.006507
WNW	0.000000	0.007192	0.011986	0.000000	0.000000	0.000000	0.019178
NW	0.000000	0.004452	0.007363	0.000000	0.000000	0.000000	0.011815
NNW	0.000000	0.005308	0.003767	0.000000	0.000000	0.000000	0.009075
TOTAL	0.000000	0.054623	0.037842	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF F STABILITY = 0.092466

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH F STABILITY = 0.000000

Table 2.3E-8

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23188 SAN DIEGO CA

8 DBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.024327	0.019521	0.000000	0.000000	0.000000	0.000000	0.043847
NNE	0.008794	0.007192	0.000000	0.000000	0.000000	0.000000	0.015986
NE	0.004911	0.003767	0.000000	0.000000	0.000000	0.000000	0.008678
ENE	0.003883	0.002740	0.000000	0.000000	0.000000	0.000000	0.006623
E	0.006110	0.003253	0.000000	0.000000	0.000000	0.000000	0.009363
ESE	0.007195	0.005822	0.000000	0.000000	0.000000	0.000000	0.013017
SE	0.005367	0.002397	0.000000	0.000000	0.000000	0.000000	0.007765
SSE	0.002855	0.001027	0.000000	0.000000	0.000000	0.000000	0.003882
S	0.005197	0.004623	0.000000	0.000000	0.000000	0.000000	0.009820
SSW	0.002056	0.001370	0.000000	0.000000	0.000000	0.000000	0.003426
SW	0.001999	0.002568	0.000000	0.000000	0.000000	0.000000	0.004567
WSW	0.001656	0.001541	0.000000	0.000000	0.000000	0.000000	0.003197
W	0.004626	0.004966	0.000000	0.000000	0.000000	0.000000	0.009592
WNW	0.011650	0.013014	0.000000	0.000000	0.000000	0.000000	0.024664
NW	0.012220	0.009247	0.000000	0.000000	0.000000	0.000000	0.021467
NNW	0.016332	0.014041	0.000000	0.000000	0.000000	0.000000	0.030373
TOTAL	0.119178	0.097089	0.000000	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF G STABILITY = 0.216267

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH G STABILITY = 0.054110

Table 2.3E-9

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.009011	0.012158	0.004966	0.002740	0.000514	0.000000	0.029388
NNE	0.009220	0.008390	0.002397	0.000685	0.000000	0.000000	0.020693
NE	0.008999	0.016438	0.004966	0.000514	0.000171	0.000000	0.031088
ENE	0.015525	0.024144	0.004281	0.000685	0.000171	0.000000	0.044805
E	0.034459	0.058219	0.010788	0.002911	0.000342	0.000000	0.106719
ESE	0.020590	0.021747	0.005308	0.000171	0.000000	0.000000	0.047816
SE	0.010086	0.016952	0.005137	0.000514	0.000342	0.000000	0.033032
SSE	0.012760	0.012500	0.003082	0.000342	0.000000	0.000000	0.028684
S	0.012588	0.012671	0.002568	0.000342	0.000000	0.000171	0.028342
SSW	0.007539	0.006336	0.003425	0.000514	0.000171	0.000000	0.017985
SW	0.015287	0.022603	0.021062	0.005308	0.000000	0.000000	0.064259
WSW	0.019933	0.078082	0.127226	0.044521	0.001541	0.000342	0.271645
W	0.018881	0.051027	0.090240	0.041438	0.006507	0.001370	0.209464
WNW	0.005445	0.007363	0.004795	0.001199	0.000171	0.000000	0.018972
NW	0.007139	0.009760	0.003938	0.002568	0.000000	0.000171	0.023577
NNW	0.007435	0.008219	0.003253	0.003936	0.000685	0.000000	0.023531
TOTAL	0.214897	0.366609	0.297431	0.108390	0.010616	0.002055	

TOTAL RELATIVE FREQUENCY OF OBSERVATIONS = 1.000001

TOTAL RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE = 0.021747

Table 2.3E-10

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
NNE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
NE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ENE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
E	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ESE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
SE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
SSE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
S	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
SSW	0.000171	0.000000	0.000000	0.000000	0.000000	0.000000	0.000171
SW	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
WSW	0.000000	0.000171	0.000000	0.000000	0.000000	0.000000	0.000171
W	0.000171	0.000171	0.000000	0.000000	0.000000	0.000000	0.000342
WNW	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
NW	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
NNW	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
TOTAL	0.000342	0.000342	0.000000	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF A STABILITY = 0.000685

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH A STABILITY = 0.000000

Amended: April 2009 TL: E048000

Table 2.3E-11

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.001213	0.000342	0.000000	0.000000	0.000000	0.000000	0.001555
NNE	0.001389	0.000685	0.000171	0.000000	0.000000	0.000000	0.002245
NE	0.001387	0.000514	0.000171	0.000000	0.000000	0.000000	0.002072
ENE	0.001560	0.000514	0.000000	0.000000	0.000000	0.000000	0.002074
E	0.001747	0.002055	0.000342	0.000000	0.000000	0.000000	0.004144
ESE	0.002605	0.001370	0.000171	0.000000	0.000000	0.000000	0.004146
SE	0.001565	0.001027	0.000171	0.000000	0.000000	0.000000	0.002763
SSE	0.002251	0.000514	0.000000	0.000000	0.000000	0.000000	0.002765
S	0.002233	0.000685	0.000000	0.000000	0.000000	0.000000	0.002933
SSW	0.000699	0.000856	0.000342	0.000000	0.000000	0.000000	0.001898
SW	0.001043	0.000685	0.002568	0.000000	0.000000	0.000000	0.004297
WSW	0.000913	0.005308	0.014384	0.000000	0.000000	0.000000	0.020604
W	0.000707	0.001712	0.007705	0.000000	0.000000	0.000000	0.010125
WNW	0.000520	0.000171	0.000000	0.000000	0.000000	0.000000	0.000691
NW	0.000518	0.000000	0.000000	0.000000	0.000000	0.000000	0.000518
NNW	0.000522	0.000342	0.000514	0.000000	0.000000	0.000000	0.001378
TOTAL	0.020590	0.016781	0.026541	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF B STABILITY = 0.064212

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH B STABILITY = 0.000342

Table 2.3E-12

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION #23174 LOS ANGELES CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000171	0.001370	0.000514	0.000000	0.000000	0.000000	0.002055
NNE	0.000342	0.000514	0.000685	0.000000	0.000000	0.000000	0.001541
NE	0.000685	0.001712	0.001199	0.000000	0.000000	0.000000	0.003596
ENE	0.000514	0.003425	0.001370	0.000000	0.000000	0.000000	0.005308
E	0.000342	0.004623	0.001199	0.000000	0.000000	0.000000	0.006164
ESE	0.000514	0.004452	0.000685	0.000000	0.000000	0.000000	0.005651
SE	0.000171	0.001712	0.000171	0.000000	0.000000	0.000000	0.002055
SSE	0.000171	0.001370	0.000171	0.000000	0.000000	0.000000	0.001712
S	0.000171	0.001370	0.000514	0.000000	0.000000	0.000000	0.002055
SSW	0.000342	0.000514	0.000514	0.000000	0.000000	0.000000	0.001370
SW	0.000514	0.001541	0.007363	0.001027	0.000000	0.000000	0.010445
WSW	0.000171	0.004281	0.036130	0.015411	0.000000	0.000000	0.055993
W	0.000856	0.002055	0.022260	0.010274	0.000514	0.000000	0.035959
WNW	0.000171	0.000342	0.000514	0.000171	0.000000	0.000000	0.001199
NW	0.000342	0.000685	0.000000	0.000000	0.000000	0.000000	0.001027
NNW	0.000171	0.000171	0.000000	0.000171	0.000000	0.000000	0.000514
TOTAL	0.005651	0.030137	0.073288	0.027055	0.000514	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF C STABILITY = 0.136644

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH C STABILITY = 0.000000

Table 2.3E-13

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000521	0.001199	0.000856	0.001541	0.000171	0.000000	0.004288
NNE	0.001209	0.001199	0.000171	0.000000	0.000000	0.000000	0.002578
NE	0.000525	0.002226	0.001370	0.000342	0.000171	0.000000	0.004635
ENE	0.001042	0.002568	0.000514	0.000000	0.000171	0.000000	0.004296
E	0.002267	0.007705	0.002055	0.001027	0.000171	0.000000	0.013226
ESE	0.000712	0.005822	0.002397	0.000171	0.000000	0.000000	0.009102
SE	0.001055	0.005479	0.002568	0.000171	0.000342	0.000000	0.009616
SSE	0.001391	0.003596	0.000685	0.000171	0.000000	0.000000	0.005843
S	0.001730	0.002568	0.000856	0.000171	0.000000	0.000000	0.005326
SSW	0.001210	0.001541	0.000856	0.000171	0.000000	0.000000	0.003779
SW	0.002429	0.005137	0.005822	0.003596	0.000000	0.000000	0.016983
WSW	0.000573	0.013699	0.037671	0.023288	0.001027	0.000342	0.076600
W	0.000891	0.007534	0.022774	0.021747	0.004452	0.001027	0.058425
WNW	0.000352	0.002055	0.000514	0.000171	0.000171	0.000000	0.003263
NW	0.000179	0.001712	0.000342	0.001027	0.000000	0.000000	0.003261
NNW	0.000695	0.001712	0.000171	0.001027	0.000000	0.000000	0.003606
TOTAL	0.016781	0.065753	0.079623	0.054023	0.003678	0.001370	

RELATIVE FREQUENCY OF OCCURRENCE OF D STABILITY = 0.224029

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH D STABILITY = 0.000342

(NEUTRAL / DAY)

Table 2.3E-14

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CA

8 DBS 1973 74

DIRECTION	SPEED(KTS) 0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.001117	0.002055	0.000856	0.001199	0.000342	0.000000	0.005569
NNE	0.000725	0.000685	0.000514	0.000685	0.000000	0.000000	0.002608
NE	0.000573	0.001541	0.000685	0.000171	0.000000	0.000000	0.002970
ENE	0.002365	0.002568	0.001712	0.000685	0.000000	0.000000	0.007331
E	0.006554	0.013356	0.005822	0.001884	0.000171	0.000000	0.027787
ESE	0.004186	0.004623	0.002055	0.000000	0.000000	0.000000	0.010864
SE	0.002415	0.004281	0.002055	0.000342	0.000000	0.000000	0.009093
SSE	0.002737	0.003253	0.001884	0.000171	0.000000	0.000000	0.008045
S	0.002722	0.002740	0.001027	0.000171	0.000000	0.000171	0.006832
SSW	0.001087	0.001027	0.001370	0.000342	0.000171	0.000000	0.003998
SW	0.004690	0.003767	0.002397	0.000685	0.000000	0.000000	0.011539
WSW	0.006861	0.023973	0.022432	0.003822	0.000514	0.000000	0.059601
W	0.008313	0.019349	0.020890	0.009418	0.001541	0.000342	0.059854
WNW	0.001474	0.002226	0.002226	0.000856	0.000000	0.000000	0.006782
NW	0.002204	0.003082	0.001199	0.001541	0.000000	0.000171	0.008197
NNW	0.001635	0.001712	0.000342	0.002740	0.000685	0.000000	0.007115
TOTAL	0.049537	0.090240	0.067466	0.026712	0.003425	0.000685	

RELATIVE FREQUENCY OF OCCURRENCE OF E STABILITY = 0.238135

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH E STABILITY = 0.003938

(NEUTRAL / NIGHT)

Table 2.3E-15

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.000000	0.001199	0.002740	0.000000	0.000000	0.000000	0.003938
NNE	0.000000	0.002397	0.000856	0.000000	0.000000	0.000000	0.003253
NE	0.000000	0.002568	0.001541	0.000000	0.000000	0.000000	0.004110
ENE	0.000000	0.004966	0.000685	0.000000	0.000000	0.000000	0.005651
E	0.000000	0.008733	0.001370	0.000000	0.000000	0.000000	0.010103
ESE	0.000000	0.001199	0.000000	0.000000	0.000000	0.000000	0.001199
SE	0.000000	0.001027	0.000171	0.000000	0.000000	0.000000	0.001199
SSE	0.000000	0.000856	0.000342	0.000000	0.000000	0.000000	0.001199
S	0.000000	0.001370	0.000171	0.000000	0.000000	0.000000	0.001541
SSW	0.000000	0.000856	0.000342	0.000000	0.000000	0.000000	0.001199
SW	0.000000	0.003082	0.002911	0.000000	0.000000	0.000000	0.005993
WSW	0.000000	0.010103	0.016610	0.000000	0.000000	0.000000	0.026712
W	0.000000	0.007021	0.016610	0.000000	0.000000	0.000000	0.023630
WNW	0.000000	0.000856	0.001541	0.000000	0.000000	0.000000	0.002397
NW	0.000000	0.001199	0.002397	0.000000	0.000000	0.000000	0.003596
NNW	0.000000	0.001370	0.002226	0.000000	0.000000	0.000000	0.003596
TOTAL	0.000000	0.043801	0.050514	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF F STABILITY = 0.099315

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH F STABILITY = 0.000000

Table 2.3E-16

ANNUAL RELATIVE FREQUENCY DISTRIBUTION STATION =23174 LOS ANGELES CA

8 OBS 1973 74

SPEED(KTS)

DIRECTION	0 - 3	4 - 6	7 - 10	11 - 16	17 - 21	GREATER THAN 21	TOTAL
N	0.006192	0.003993	0.000000	0.000000	0.000000	0.000000	0.012185
NNE	0.005582	0.002911	0.000000	0.000000	0.000000	0.000000	0.008493
NE	0.005970	0.007877	0.000000	0.000000	0.000000	0.000000	0.013847
ENE	0.010206	0.010103	0.000000	0.000000	0.000000	0.000000	0.020308
E	0.024039	0.021747	0.000000	0.000000	0.000000	0.000000	0.045786
ESE	0.012520	0.004281	0.000000	0.000000	0.000000	0.000000	0.016801
SE	0.004699	0.003425	0.000000	0.000000	0.000000	0.000000	0.008123
SSE	0.006135	0.002911	0.000000	0.000000	0.000000	0.000000	0.009046
S	0.005662	0.003938	0.000000	0.000000	0.000000	0.000000	0.009600
SSW	0.003998	0.001541	0.000000	0.000000	0.000000	0.000000	0.005539
SW	0.006564	0.008390	0.000000	0.000000	0.000000	0.000000	0.014954
WSW	0.011022	0.020548	0.000000	0.000000	0.000000	0.000000	0.031570
W	0.007677	0.013185	0.000000	0.000000	0.000000	0.000000	0.020862
WNW	0.002903	0.001712	0.000000	0.000000	0.000000	0.000000	0.004616
NW	0.003933	0.003082	0.000000	0.000000	0.000000	0.000000	0.007016
NNW	0.004474	0.002911	0.000000	0.000000	0.000000	0.000000	0.007385
TOTAL	0.121575	0.114555	0.000000	0.000000	0.000000	0.000000	

RELATIVE FREQUENCY OF OCCURRENCE OF G STABILITY = 0.236130

RELATIVE FREQUENCY OF CALMS DISTRIBUTED ABOVE WITH G STABILITY = 0.017123

APPENDIX 2.3F

MONTHLY JOINT FREQUENCY WIND SPEED-WIND DIRECTION SUMMARIES BY PASQUILL STABILITY CATEGORY AT THE 10-METER WIND LEVEL FOR THE PLANT SITE

(PERIOD OF RECORD 1/25/73-1/24/76)

(TABLES 2.3F-1 THROUGH 2.3F-84)

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Table 2.3F-1

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
1.01 TO 1.50	0	0	0	0	0	0	0	1	1	4	3	4	3	5	1	0	22
1.51 TO 2.00	0	0	0	0	0	0	0	0	4	7	5	8	4	0	0	1	29
2.01 TO 3.00	0	0	0	0	0	0	0	2	12	11	6	6	16	12	3	0	68
3.01 TO 4.00	0	0	0	0	0	0	0	5	5	1	3	6	8	17	7	0	52
4.01 TO 5.00	0	0	1	0	0	0	0	7	6	2	2	3	4	8	0	0	33
5.01 TO 6.00	0	0	0	1	0	0	0	2	0	1	2	1	0	3	1	0	11
6.01 TO 7.00	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	4
7.01 TO 8.00	0	0	0	0	0	0	1	1	0	0	0	1	0	1	0	0	4
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	3
MORE THAN 10	0	0	0	0	0	0	1	1	0	0	0	0	0	4	0	0	6
TOTALS	1	0	1	1	0	0	3	20	29	29	21	30	35	52	12	1	235

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	0.00	0.00	.12
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.23	.17	.23	.17	.29	.06	0.00	1.28
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23	.41	.29	.47	.23	0.00	0.00	.06	1.69
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.12	.70	.64	.35	.35	.93	.70	.17	0.00	3.96
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.29	.29	.06	.17	.35	.47	.99	.41	0.00	3.03
4.01 TO 5.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.41	.35	.12	.12	.17	.23	.47	0.00	0.00	1.92
5.01 TO 6.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.12	0.00	.06	.12	.06	0.00	.17	.06	0.00	.64
6.01 TO 7.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	.23
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	.23
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.12	0.00	0.00	.17
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	.23	0.00	0.00	.35
TOTALS	.06	0.00	.06	.06	0.00	0.00	.17	1.16	1.69	1.69	1.22	1.75	2.04	3.03	.70	.06	13.68
AVE WIND SPEED	6.8	0.0	4.5	5.7	0.0	0.0	8.8	4.7	3.1	2.7	2.8	2.6	2.7	4.2	3.2	1.8	3.4

Table 2.3F-2

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51 TO 2.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2
2.01 TO 3.00	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3
3.01 TO 4.00	0	1	0	0	0	0	0	3	1	0	0	0	2	1	1	1	10
4.01 TO 5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
6.01 TO 7.00	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	3
7.01 TO 8.00	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	1	0	1	0	0	6	2	1	1	0	4	3	2	1	23

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.12
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06	.06	0.00	0.00	.17
3.01 TO 4.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.17	.06	0.00	0.00	0.00	.12	.06	.06	.06	.58
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	.12
6.01 TO 7.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.17
7.01 TO 8.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.12
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.06	.06	0.00	.06	0.00	0.00	.35	.12	.06	.06	0.00	.23	.17	.12	.06	1.34
AVE WIND SPEED	0.0	3.9	6.1	0.0	7.8	0.0	0.0	4.2	2.0	2.8	6.7	0.0	3.8	3.9	2.8	3.3	4.0

Amended: April 2009 TL: E048000

Table 2.3F-3

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2.01 TO 3.00	0	0	0	0	0	0	0	2	0	1	0	0	2	3	0	0	8
3.01 TO 4.00	0	0	0	0	0	0	1	2	2	0	0	2	1	2	2	0	12
4.01 TO 5.00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5.01 TO 6.00	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	4
6.01 TO 7.00	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTALS	0	0	0	2	1	1	2	7	4	2	1	2	4	5	2	0	33

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	.12
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.06
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.12	0.00	.06	0.00	0.00	.12	.17	0.00	0.00	.47
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.12	.12	0.00	0.00	.12	.06	.12	.12	0.00	.70
4.01 TO 5.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
5.01 TO 6.00	0.00	0.00	0.00	.06	0.00	0.00	.06	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23
6.01 TO 7.00	0.00	0.00	0.00	.06	0.00	.06	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.17
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
TOTALS	0.00	0.00	0.00	.12	.06	.06	.12	.41	.23	.12	.06	.12	.23	.29	.12	0.00	1.92
AVE WIND SPEED	0.0	0.0	0.0	5.7	4.8	6.1	4.4	5.1	4.9	2.0	1.4	3.3	2.6	2.7	3.3	0.0	3.9

Table 2.3F-4

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0	4	8
1.01 TO 1.50	3	1	0	0	1	2	0	3	1	0	0	2	4	1	2	3	23
1.51 TO 2.00	0	0	0	0	0	1	0	6	1	1	2	2	2	1	3	0	19
2.01 TO 3.00	5	1	0	0	0	2	4	7	2	3	1	1	5	10	7	2	50
3.01 TO 4.00	1	0	0	0	0	2	9	14	1	2	1	5	2	6	9	1	53
4.01 TO 5.00	3	0	0	0	0	1	9	12	1	2	1	0	0	4	3	1	37
5.01 TO 6.00	0	1	1	1	0	2	9	9	3	1	2	1	1	2	1	0	34
6.01 TO 7.00	0	0	1	2	0	0	5	4	6	2	1	4	3	0	0	0	28
7.01 TO 8.00	0	0	0	2	0	0	8	5	3	1	0	2	0	1	2	0	24
8.01 TO 9.00	0	0	0	0	0	1	4	0	0	0	1	0	2	0	0	0	8
9.01 TO 10.00	0	0	0	1	1	0	3	0	0	0	0	0	3	0	0	0	8
MORE THAN 10	0	0	0	0	0	1	2	0	0	0	1	1	0	6	1	0	12
TOTALS	13	4	2	6	2	12	54	60	18	12	10	18	22	33	28	11	305

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
0.51 TO 1.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.12	0.00	.23	.47
1.01 TO 1.50	.17	.06	0.00	0.00	.06	.12	0.00	.17	.06	0.00	0.00	.12	.23	.06	.12	.17	1.34
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.35	.06	.06	.12	.12	.12	.06	.17	0.00	1.11
2.01 TO 3.00	.29	.06	0.00	0.00	0.00	.12	.23	.41	.12	.17	.06	.06	.29	.58	.41	.12	2.91
3.01 TO 4.00	.06	0.00	0.00	0.00	0.00	.12	.52	.81	.06	.12	.06	.29	.12	.35	.52	.06	3.08
4.01 TO 5.00	.17	0.00	0.00	0.00	0.00	.06	.52	.70	.06	.12	.06	0.00	0.00	.23	.17	.06	2.15
5.01 TO 6.00	0.00	.06	.06	.06	0.00	.12	.52	.52	.17	.06	.12	.06	.06	.12	.06	0.00	1.98
6.01 TO 7.00	0.00	0.00	.06	.12	0.00	0.00	.29	.23	.35	.12	.06	.23	.17	0.00	0.00	0.00	1.63
7.01 TO 8.00	0.00	0.00	0.00	.12	0.00	0.00	.47	.29	.17	.06	0.00	.12	0.00	.06	.12	0.00	1.40
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	.06	.23	0.00	0.00	0.00	.06	0.00	.12	0.00	0.00	0.00	.47
9.01 TO 10.00	0.00	0.00	0.00	.06	.06	0.00	.17	0.00	0.00	0.00	0.00	0.00	.17	0.00	0.00	0.00	.47
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	.06	.12	0.00	0.00	0.00	.06	.06	0.00	.35	.06	0.00	.70
TOTALS	.76	.23	.12	.35	.12	.70	3.14	3.49	1.05	.70	.58	1.05	1.28	1.92	1.63	.64	17.75
AVE WIND SPEED	2.7	2.5	5.9	7.4	5.1	4.2	5.6	4.2	5.2	4.3	5.0	4.5	4.4	4.6	3.7	1.9	4.5

Amended: April 2009 TL: E048000

Table 2.3F-5

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	1	0	1	2	0	0	1	1	0	0	1	3	1	0	11
1.01 TO 1.50	2	10	1	3	0	2	0	6	2	1	1	1	1	3	3	4	40
1.51 TO 2.00	2	7	6	0	4	1	5	1	1	0	1	0	2	5	2	1	38
2.01 TO 3.00	4	5	10	1	1	5	11	8	1	2	0	0	1	2	4	5	60
3.01 TO 4.00	2	6	0	1	0	2	8	3	0	0	0	0	0	1	5	11	39
4.01 TO 5.00	2	1	1	0	0	3	1	4	0	0	0	0	0	4	1	2	19
5.01 TO 6.00	0	0	0	0	1	3	1	0	0	1	0	0	0	4	2	0	12
6.01 TO 7.00	0	0	2	2	1	2	3	1	0	0	0	0	0	1	0	0	12
7.01 TO 8.00	0	0	2	2	0	0	3	0	0	1	0	0	0	1	0	1	10
8.01 TO 9.00	0	0	1	2	0	0	2	0	0	0	0	1	0	1	2	0	9
9.01 TO 10.00	0	0	1	2	0	0	0	1	0	0	0	0	0	1	2	1	8
MORE THAN 10	0	0	0	0	0	0	1	3	3	2	0	0	0	0	2	0	11
TOTALS	12	29	25	13	8	20	35	27	8	8	2	2	5	26	24	25	269

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	.06	0.00	.06	.12	0.00	0.00	.06	.06	0.00	0.00	.06	.17	.06	0.00	.64
1.01 TO 1.50	.12	.58	.06	.17	0.00	.12	0.00	.35	.12	.06	.06	.06	.06	.17	.17	.23	2.33
1.51 TO 2.00	.12	.41	.35	0.00	.23	.06	.29	.06	.06	0.00	.06	0.00	.12	.29	.12	.06	2.21
2.01 TO 3.00	.23	.29	.58	.06	.06	.29	.64	.47	.06	.12	0.00	0.00	.06	.12	.23	.29	3.49
3.01 TO 4.00	.12	.35	0.00	.06	0.00	.12	.47	.17	0.00	0.00	0.00	0.00	0.00	.06	.29	.64	2.27
4.01 TO 5.00	.12	.06	.06	0.00	0.00	.17	.06	.23	0.00	0.00	0.00	0.00	0.00	.23	.06	.12	1.11
5.01 TO 6.00	0.00	0.00	0.00	0.00	.06	.17	.06	0.00	0.00	.06	0.00	0.00	0.00	.23	.12	0.00	.70
6.01 TO 7.00	0.00	0.00	.12	.12	.06	.12	.17	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.70
7.01 TO 8.00	0.00	0.00	.12	.12	0.00	0.00	.17	0.00	0.00	.06	0.00	0.00	0.00	.06	0.00	.06	.58
8.01 TO 9.00	0.00	0.00	.06	.12	0.00	0.00	.12	0.00	0.00	0.00	0.00	.06	0.00	.06	.12	0.00	.52
9.01 TO 10.00	0.00	0.00	.06	.12	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06	.12	.06	.47
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	.06	.17	.17	.12	0.00	0.00	0.00	0.00	.12	0.00	.64
TOTALS	.70	1.69	1.46	.76	.47	1.16	2.04	1.57	.47	.47	.12	.12	.29	1.51	1.40	1.46	15.66
AVE WIND SPEED	2.5	2.2	3.5	5.6	2.8	3.4	4.2	4.1	5.9	5.5	1.3	4.9	1.5	3.7	4.5	3.3	3.7

Table 2.3F-6

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	2	3	2	3	1	2	2	4	1	1	2	2	1	2	1	29
1.01 TO 1.50	2	2	8	6	3	4	3	5	4	4	1	2	3	0	2	0	49
1.51 TO 2.00	5	0	11	4	1	1	6	4	4	1	0	0	3	5	1	1	47
2.01 TO 3.00	2	7	12	3	2	2	7	4	1	0	0	1	1	5	5	3	55
3.01 TO 4.00	2	4	5	2	1	2	2	2	0	0	0	0	2	0	3	1	26
4.01 TO 5.00	0	3	4	1	0	0	1	1	0	0	0	0	0	0	0	1	11
5.01 TO 6.00	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	4
6.01 TO 7.00	0	0	8	3	0	0	0	0	0	0	0	0	0	0	0	0	11
7.01 TO 8.00	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	6
8.01 TO 9.00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
9.01 TO 10.00	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
MORE THAN 10	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTALS	11	21	56	26	10	10	22	18	14	6	2	5	11	11	13	8	244

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	.12	.17	.12	.17	.06	.12	.12	.23	.06	.06	.12	.12	.06	.12	.06	1.69
1.01 TO 1.50	.12	.12	.47	.35	.17	.23	.17	.29	.23	.23	.06	.12	.17	0.00	.12	0.00	2.85
1.51 TO 2.00	.29	0.00	.64	.23	.06	.06	.35	.23	.23	.06	0.00	0.00	.17	.29	.06	.06	2.74
2.01 TO 3.00	.12	.41	.70	.17	.12	.12	.41	.23	.06	0.00	0.00	.06	.06	.29	.29	.17	3.20
3.01 TO 4.00	.12	.23	.29	.12	.06	.12	.12	.12	0.00	0.00	0.00	0.00	.12	0.00	.17	.06	1.51
4.01 TO 5.00	0.00	.17	.23	.06	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.64
5.01 TO 6.00	0.00	.12	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.23
6.01 TO 7.00	0.00	0.00	.47	.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.64
7.01 TO 8.00	0.00	.06	.17	.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.35
8.01 TO 9.00	0.00	0.00	.12	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.17
9.01 TO 10.00	0.00	0.00	0.00	.06	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.12
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
TOTALS	.64	1.22	3.26	1.51	.58	.58	1.28	1.05	.81	.35	.12	.29	.64	.64	.76	.47	14.20
AVE WIND SPEED	2.1	3.2	3.3	3.5	1.5	1.9	2.5	2.0	2.5	1.3	.9	1.3	1.8	1.9	2.3	2.9	2.6

Amended: April 2009 TL: E048000

Table 2.3F-7

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	1	0	1	0	0	0	0	0	0	0	0	0	2	0	5
0.51 TO 1.00	4	1	5	2	4	6	2	6	1	4	2	2	5	3	3	2	52
1.01 TO 1.50	8	7	10	8	2	4	7	8	5	3	2	4	1	3	1	3	76
1.51 TO 2.00	5	10	11	6	4	5	10	5	5	4	2	0	0	0	3	4	74
2.01 TO 3.00	7	20	24	12	2	6	8	4	0	1	1	0	4	5	3	4	101
3.01 TO 4.00	8	17	56	2	0	2	4	2	0	1	0	0	1	0	3	0	96
4.01 TO 5.00	1	14	54	3	0	0	0	0	0	0	0	0	0	2	2	2	78
5.01 TO 6.00	2	18	41	4	0	1	0	0	0	0	0	0	0	0	0	0	66
6.01 TO 7.00	2	11	23	4	0	0	0	0	0	0	0	0	0	0	0	0	40
7.01 TO 8.00	0	2	13	1	0	0	0	0	1	0	0	0	0	0	0	0	17
8.01 TO 9.00	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	37	101	242	42	13	24	31	25	12	13	7	6	11	13	17	15	609

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.06	.06	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.12	0.00	.29
0.51 TO 1.00	.23	.06	.29	.12	.23	.35	.12	.35	.06	.23	.12	.12	.29	.17	.17	.12	3.03
1.01 TO 1.50	.47	.41	.58	.47	.12	.23	.41	.47	.29	.17	.12	.23	.06	.17	.06	.17	4.42
1.51 TO 2.00	.29	.58	.64	.35	.23	.29	.58	.29	.29	.23	.12	0.00	0.00	0.00	.17	.23	4.31
2.01 TO 3.00	.41	1.16	1.40	.70	.12	.35	.47	.23	0.00	.06	.06	0.00	.23	.29	.17	.23	5.88
3.01 TO 4.00	.47	.99	3.26	.12	0.00	.12	.23	.12	0.00	.06	0.00	0.00	.06	0.00	.17	0.00	5.59
4.01 TO 5.00	.06	.81	3.14	.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.12	.12	.12	4.54
5.01 TO 6.00	.12	1.05	2.39	.23	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.84
6.01 TO 7.00	.12	.64	1.34	.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33
7.01 TO 8.00	0.00	.12	.76	.06	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.99
8.01 TO 9.00	0.00	0.00	.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	2.15	5.88	14.09	2.44	.76	1.40	1.80	1.46	.70	.76	.41	.35	.64	.76	.99	.87	35.45
AVE WIND SPEED	2.6	3.8	4.3	3.1	1.3	1.9	1.9	1.6	2.0	1.5	1.4	1.1	1.6	2.1	2.1	1.9	3.3

Table 2.3F-8

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	3	3	2	2	2	1	0	13
1.51 TO 2.00	0	0	1	0	0	0	0	0	4	3	4	8	7	8	2	0	37
2.01 TO 3.00	1	0	0	0	0	0	0	0	3	7	6	8	27	23	8	0	83
3.01 TO 4.00	0	0	0	0	0	0	0	0	1	3	5	2	4	22	8	0	45
4.01 TO 5.00	0	0	0	0	0	0	1	1	0	0	0	2	3	1	10	0	18
5.01 TO 6.00	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	4
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	0	1	0	0	0	1	1	9	17	18	22	45	56	31	0	202

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23	.23	.15	.15	.15	.08	0.00	.99
1.51 TO 2.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	.30	.23	.30	.61	.53	.61	.15	0.00	2.82
2.01 TO 3.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23	.53	.46	.61	2.06	1.75	.61	0.00	6.32
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.23	.38	.15	.30	1.68	.61	0.00	3.43
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	0.00	.15	.23	.08	.76	0.00	1.37
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	.15	0.00	0.00	0.00	.30
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.08	0.00	.08	0.00	0.00	0.00	.08	.08	.69	1.29	1.37	1.68	3.43	4.27	2.36	0.00	15.38
AVE WIND SPEED	3.0	0.0	1.9	0.0	0.0	0.0	4.5	4.7	2.6	2.5	2.4	2.4	2.7	2.7	3.6	0.0	2.8

Amended: April 2009 TL: E048000

Table 2.3F-9

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	2	1	1	2	0	0	6
1.51 TO 2.00	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	3
2.01 TO 3.00	0	0	0	0	0	0	0	0	0	0	2	0	2	1	2	0	7
3.01 TO 4.00	0	0	0	0	0	0	0	0	0	2	0	0	1	2	0	0	5
4.01 TO 5.00	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	3
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	1	1	3	4	2	6	6	2	0	25

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.08	.08	.15	0.00	0.00	.46
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08	0.00	.08	0.00	0.00	.23
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	.15	.08	.15	0.00	.53
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	.08	.15	0.00	0.00	.38
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	.08	0.00	0.00	0.00	.23
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	.23	.30	.15	.46	.46	.15	0.00	1.90
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	4.5	3.9	1.7	1.6	3.3	2.3	2.5	0.0	2.7

Table 2.3F-10

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	1	1	0	2	0	0	0	5
1.51 TO 2.00	0	0	0	0	0	0	0	0	1	0	0	2	1	0	0	0	4
2.01 TO 3.00	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	0	6
3.01 TO 4.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	3
4.01 TO 5.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	1	3	4	2	2	5	1	4	0	22

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	.08	0.00	.15	0.00	0.00	0.00	.38
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.15	.08	0.00	0.00	0.00	.30
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	.08	0.00	0.00	.08	.08	.08	0.00	.46
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	.15	0.00	.23
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.08
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08	0.00	.15
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.23	.30	.15	.15	.58	.08	.30	0.00	1.68
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	1.8	2.9	3.2	1.7	1.5	3.0	3.7	0.0	2.5

Table 2.3F-11

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	1	0	1	1	0	0	0	0	1	2	2	0	1	1	0	0	10
1.01 TO 1.50	3	0	1	0	0	0	0	0	0	1	2	3	2	1	2	2	17
1.51 TO 2.00	0	1	3	1	1	1	0	1	0	3	1	2	3	4	3	4	28
2.01 TO 3.00	1	0	2	0	0	0	1	4	2	4	5	3	5	7	5	6	45
3.01 TO 4.00	0	1	1	0	0	0	4	3	2	4	1	2	4	10	9	1	42
4.01 TO 5.00	1	0	0	0	0	0	5	4	2	2	1	2	2	7	2	0	28
5.01 TO 6.00	0	0	1	0	0	0	6	4	3	0	1	0	0	0	1	2	18
6.01 TO 7.00	0	0	0	0	0	0	2	3	2	0	0	0	0	0	0	0	7
7.01 TO 8.00	0	0	0	1	0	0	0	0	2	0	0	0	0	0	1	0	4
8.01 TO 9.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	6	2	9	3	1	1	18	19	17	16	13	12	17	30	23	15	203

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.08
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.08	0.00	.08	.08	0.00	0.00	0.00	0.00	.08	.15	.15	0.00	.08	.08	0.00	0.00	.76
1.01 TO 1.50	.23	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.08	.15	.23	.15	.08	.15	.15	1.29
1.51 TO 2.00	0.00	.08	.23	.08	.08	.08	0.00	.08	0.00	.23	.08	.15	.23	.30	.23	.30	2.13
2.01 TO 3.00	.08	0.00	.15	0.00	0.00	0.00	.08	.30	.15	.30	.38	.23	.38	.53	.38	.46	3.43
3.01 TO 4.00	0.00	.08	.08	0.00	0.00	0.00	.50	.23	.15	.30	.08	.15	.30	.76	.69	.08	3.20
4.01 TO 5.00	.08	0.00	0.00	0.00	0.00	0.00	.38	.30	.15	.15	.08	.15	.15	.53	.15	0.00	2.13
5.01 TO 6.00	0.00	0.00	.08	0.00	0.00	0.00	.46	.30	.23	0.00	.08	0.00	0.00	0.00	.08	.15	1.37
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.23	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.53
7.01 TO 8.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	.08	0.00	.30
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.46	.15	.69	.23	.08	.08	1.37	1.45	1.29	1.22	.99	.91	1.29	2.28	1.75	1.14	15.46
AVE WIND SPEED	1.9	2.6	2.4	3.5	1.5	1.7	4.8	4.3	5.5	2.6	2.5	2.6	2.6	3.1	3.2	2.7	3.3

Table 2.3F-12

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	1	0	0	1	1	0	1	0	0	0	0	0	0	0	0	1	5
0.51 TO 1.00	3	6	1	4	2	0	0	1	2	1	0	0	1	0	1	1	23
1.01 TO 1.50	2	3	3	0	2	1	0	3	1	0	0	1	2	1	3	0	22
1.51 TO 2.00	4	7	4	0	0	2	2	6	2	1	2	1	0	3	1	3	38
2.01 TO 3.00	2	7	12	0	1	1	7	1	4	3	2	1	4	4	7	5	61
3.01 TO 4.00	4	3	2	1	2	0	4	6	1	0	5	1	0	2	2	2	35
4.01 TO 5.00	2	1	2	2	1	1	5	7	1	2	2	1	4	0	1	3	35
5.01 TO 6.00	1	1	2	0	3	0	1	6	0	4	0	1	0	1	0	1	21
6.01 TO 7.00	0	1	1	0	0	3	1	4	2	0	0	4	3	0	0	0	19
7.01 TO 8.00	0	0	1	0	2	0	1	3	0	0	0	3	3	1	0	0	14
8.01 TO 9.00	0	1	0	1	0	0	1	5	6	0	0	0	2	2	0	0	18
9.01 TO 10.00	0	1	0	0	1	2	1	0	3	1	1	0	1	1	0	0	12
MORE THAN 10	0	0	0	1	0	0	0	4	7	2	0	1	2	0	0	0	17
TOTALS	19	31	28	10	15	10	24	46	29	14	12	14	22	15	15	16	320

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	.08	0.00	0.00	.08	.08	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.38
0.51 TO 1.00	.23	.46	.08	.30	.15	0.00	0.00	.08	.15	.08	0.00	0.00	.08	0.00	.08	.08	1.75
1.01 TO 1.50	.15	.23	.23	0.00	.15	.08	0.00	.23	.08	0.00	0.00	.08	.15	.08	.23	0.00	1.68
1.51 TO 2.00	.30	.53	.30	0.00	0.00	.15	.15	.46	.15	.08	.15	.08	0.00	.23	.08	.23	2.89
2.01 TO 3.00	.15	.53	.91	0.00	.08	.08	.53	.08	.30	.23	.15	.08	.30	.30	.53	.38	4.65
3.01 TO 4.00	.30	.23	.15	.08	.15	0.00	.30	.46	.08	0.00	.38	.08	0.00	.15	.15	.15	2.67
4.01 TO 5.00	.15	.08	.15	.15	.08	.08	.38	.53	.08	.15	.15	.08	.30	0.00	.08	.23	2.67
5.01 TO 6.00	.08	.08	.15	0.00	.23	0.00	.08	.46	0.00	.30	0.00	.08	0.00	.08	0.00	.08	1.60
6.01 TO 7.00	0.00	.08	.08	0.00	0.00	.23	.08	.30	.15	0.00	0.00	.30	.23	0.00	0.00	0.00	1.45
7.01 TO 8.00	0.00	0.00	.08	0.00	.15	0.00	.08	.23	0.00	0.00	0.00	.23	.23	.08	0.00	0.00	1.07
8.01 TO 9.00	0.00	.08	0.00	.08	0.00	0.00	.08	.38	.46	0.00	0.00	0.00	.15	.15	0.00	0.00	1.37
9.01 TO 10.00	0.00	.08	0.00	0.00	.08	.15	.08	0.00	.23	.08	.08	0.00	.08	.08	0.00	0.00	.91
MORE THAN 10	0.00	0.00	0.00	.08	0.00	0.00	0.00	.30	.53	.15	0.00	.08	.15	0.00	0.00	0.00	1.29
TOTALS	1.45	2.36	2.13	.76	1.14	.76	1.83	3.50	2.21	1.07	.91	1.07	1.68	1.14	1.14	1.22	24.37
AVE WIND SPEED	2.3	2.6	2.9	3.7	3.9	5.0	4.0	5.2	7.4	5.1	3.8	5.5	5.6	4.2	2.4	2.7	4.3

Amended: April 2009 TL: E048000

Table 2.3F-13

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	3	3	5	0	1	3	0	2	0	0	0	0	0	0	0	0	17
1.01 TO 1.50	1	1	10	2	0	2	1	0	0	1	0	1	1	1	1	0	22
1.51 TO 2.00	0	2	7	0	0	0	1	1	2	0	0	0	1	0	2	0	16
2.01 TO 3.00	1	11	18	3	1	5	2	1	1	2	0	0	0	2	0	1	48
3.01 TO 4.00	0	5	7	3	0	2	0	1	1	1	0	0	0	0	0	0	20
4.01 TO 5.00	0	2	5	2	2	0	0	0	0	0	0	0	0	0	0	0	11
5.01 TO 6.00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6.01 TO 7.00	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3
7.01 TO 8.00	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	1	4
8.01 TO 9.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
TOTALS	5	24	55	11	6	13	5	6	4	5	1	1	2	3	3	2	146

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.23	.23	.38	0.00	.08	.23	0.00	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29
1.01 TO 1.50	.08	.08	.76	.15	0.00	.15	.08	0.00	0.00	.08	0.00	.08	.08	.08	.08	0.00	1.68
1.51 TO 2.00	0.00	.15	.53	0.00	0.00	0.00	.08	.08	.15	0.00	0.00	0.00	.08	0.00	.15	0.00	1.22
2.01 TO 3.00	.08	.84	1.37	.23	.08	.38	.15	.08	.08	.15	0.00	0.00	0.00	.15	0.00	.08	3.66
3.01 TO 4.00	0.00	.38	.53	.23	0.00	.15	0.00	.08	.08	.08	0.00	0.00	0.00	0.00	0.00	0.00	1.52
4.01 TO 5.00	0.00	.15	.38	.15	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.84
5.01 TO 6.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
6.01 TO 7.00	0.00	0.00	0.00	.08	.08	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23
7.01 TO 8.00	0.00	0.00	.08	0.00	.08	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	.08	.30
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.08
TOTALS	.38	1.83	4.19	.84	.46	.99	.38	.46	.30	.38	.08	.08	.15	.23	.23	.15	11.12
AVE WIND SPEED	1.3	2.4	2.5	3.2	4.3	2.4	3.4	3.1	2.4	6.0	7.8	1.2	1.5	2.0	1.6	4.9	2.8

Table 2.3F-14

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	3	1	1	0	0	0	1	0	0	0	0	0	0	0	6
1.01 TO 1.50	0	4	7	3	0	0	0	0	0	0	0	0	0	0	1	0	15
1.51 TO 2.00	1	4	16	6	2	0	0	0	0	0	0	0	0	0	0	0	29
2.01 TO 3.00	1	9	42	16	0	1	1	1	0	0	0	0	0	2	0	1	74
3.01 TO 4.00	1	18	54	20	0	0	0	0	0	0	0	0	0	0	0	0	93
4.01 TO 5.00	1	11	50	19	1	1	0	0	0	0	0	0	0	0	0	0	83
5.01 TO 6.00	0	4	31	18	1	0	1	0	0	0	0	0	0	0	0	0	55
6.01 TO 7.00	0	0	22	10	0	0	0	0	0	0	0	0	0	0	0	0	32
7.01 TO 8.00	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	6
8.01 TO 9.00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	4	51	227	98	5	2	2	1	1	0	0	0	0	2	1	1	395

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	.23	.08	.08	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.46
1.01 TO 1.50	0.00	.30	.53	.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	1.14
1.51 TO 2.00	.08	.30	1.22	.46	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.21
2.01 TO 3.00	.08	.69	3.20	1.22	0.00	.08	.08	.08	0.00	0.00	0.00	0.00	0.00	.15	0.00	.08	5.64
3.01 TO 4.00	.08	1.37	4.11	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.08
4.01 TO 5.00	.08	.84	3.81	1.45	.08	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.32
5.01 TO 6.00	0.00	.30	2.36	1.37	.08	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.19
6.01 TO 7.00	0.00	0.00	1.68	.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.44
7.01 TO 8.00	0.00	0.00	.15	.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.46
8.01 TO 9.00	0.00	.08	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.30	3.88	17.29	7.46	.38	.15	.15	.08	.08	0.00	0.00	0.00	0.00	.15	.08	.08	30.08
AVE WIND SPEED	3.0	3.5	3.9	4.2	2.9	3.1	3.8	2.5	.6	0.0	0.0	0.0	0.0	2.6	1.3	2.6	3.9

Amended: April 2009 TL: E048000

Table 2.3F-15

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	1	0	3	1	1	0	0	7
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	6	3	5	1	1	0	0	16
2.01 TO 3.00	0	0	0	0	0	0	1	4	5	5	11	8	18	17	0	0	69
3.01 TO 4.00	0	0	0	0	0	0	1	5	17	6	11	14	22	15	5	0	94
4.01 TO 5.00	0	1	0	0	0	0	0	1	10	9	7	6	7	12	4	1	58
5.01 TO 6.00	0	0	0	0	0	0	0	2	3	5	1	0	3	5	14	0	33
6.01 TO 7.00	0	2	0	0	0	0	0	0	3	1	0	1	1	11	5	0	24
7.01 TO 8.00	0	1	1	0	0	0	0	0	0	0	1	0	0	4	1	0	8
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	6
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
TOTALS	0	4	1	0	0	0	2	10	39	33	34	37	53	72	32	1	318

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	.19	.06	.06	0.00	0.00	.44
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.38	.19	.31	.06	.06	0.00	0.00	1.01
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.25	.31	.31	.69	.50	1.13	1.07	0.00	0.00	4.34
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.19	1.07	.38	.69	.88	1.38	.94	.31	0.00	5.91
4.01 TO 5.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06	.63	.57	.44	.38	.44	.75	.25	.06	3.65
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.19	.31	.06	0.00	.19	.31	.88	0.00	2.07
6.01 TO 7.00	0.00	.13	0.00	0.00	0.00	0.00	0.00	0.00	.19	.06	0.00	.06	.06	.69	.31	0.00	1.51
7.01 TO 8.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.25	.06	0.00	.50
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19	.19	0.00	.38
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	0.00	0.00	.13
TOTALS	0.00	.25	.06	0.00	0.00	0.00	.13	.63	2.45	2.07	2.14	2.33	3.33	4.53	2.01	.06	19.99
AVE WIND SPEED	0.0	6.1	7.8	0.0	0.0	0.0	3.1	3.7	3.9	3.6	3.3	3.1	3.4	4.7	5.5	4.5	4.0

Table 2.3F-16

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
2.01 TO 3.00	2	0	0	0	0	0	0	1	1	1	1	2	2	0	1	0	11
3.01 TO 4.00	0	0	0	0	0	0	0	3	0	2	1	0	1	0	1	0	8
4.01 TO 5.00	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2
5.01 TO 6.00	1	1	0	0	0	0	0	1	0	0	0	0	0	3	1	0	7
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	3	1	0	0	0	0	0	6	3	4	2	3	5	6	5	0	38

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.06	0.00	0.00	0.00	.13
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06
2.01 TO 3.00	.13	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.06	.06	.13	.13	0.00	.06	0.00	.69
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19	0.00	.13	.06	0.00	.06	0.00	.06	0.00	.50
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.13
5.01 TO 6.00	.06	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.19	.06	0.00	.44
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	.06	0.00	.19
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	.13
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.19	.06	0.00	0.00	0.00	0.00	0.00	.38	.19	.25	.13	.19	.31	.38	.31	0.00	2.39
AVE WIND SPEED	3.5	5.6	0.0	0.0	0.0	0.0	0.0	3.8	1.5	4.0	2.9	4.1	3.4	5.5	4.9	0.0	4.0

Amended: April 2009 TL: E048000

Table 2.3F-17

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C.

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51 TO 2.00	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3
2.01 TO 3.00	0	0	0	0	0	0	0	2	0	1	0	2	1	0	1	0	7
3.01 TO 4.00	0	0	0	0	0	0	1	1	1	0	0	1	1	4	1	0	10
4.01 TO 5.00	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	5
5.01 TO 6.00	0	0	1	0	0	0	0	0	0	1	0	1	0	2	0	0	5
6.01 TO 7.00	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	4
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	2	2	0	0	0	2	4	3	3	1	5	6	8	2	0	38

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.51 TO 2.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	0.00	.19
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	0.00	.06	0.00	.13	.06	0.00	.06	0.00	.44
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.06	0.00	0.00	.06	.06	.25	.06	0.00	.63
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.13	.06	0.00	0.00	0.00	0.00	0.00	0.00	.31
5.01 TO 6.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	.13	0.00	0.00	.31
6.01 TO 7.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.06	0.00	0.00	.25
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.13
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.06
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.13	.13	0.00	0.00	0.00	.13	.25	.19	.19	.06	.31	.38	.50	.13	0.00	2.39
AVE WIND SPEED	0.0	4.4	6.9	0.0	0.0	0.0	4.2	3.1	4.0	4.3	2.0	4.0	5.4	4.0	3.1	0.0	4.2

Table 2.3F-18

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
0.51 TO 1.00	1	1	0	0	2	0	0	2	1	0	1	0	1	0	0	2	11
1.01 TO 1.50	2	1	0	0	0	0	1	7	1	0	2	0	1	1	1	3	20
1.51 TO 2.00	3	0	2	0	0	0	2	2	3	2	1	1	2	2	0	2	22
2.01 TO 3.00	1	4	3	0	0	2	8	13	4	2	2	2	3	5	3	3	55
3.01 TO 4.00	2	4	1	0	0	1	10	12	3	6	2	2	2	8	2	9	64
4.01 TO 5.00	2	2	0	1	0	0	14	6	2	2	3	0	7	4	2	1	46
5.01 TO 6.00	0	0	0	0	0	0	3	4	4	2	4	5	0	1	3	0	26
6.01 TO 7.00	0	0	0	0	0	0	2	3	1	2	2	2	2	1	3	2	20
7.01 TO 8.00	1	0	1	1	0	0	3	4	2	3	4	1	0	0	6	3	29
8.01 TO 9.00	0	0	2	0	0	0	0	3	3	1	2	1	1	4	0	0	17
9.01 TO 10.00	0	0	0	0	0	0	0	1	3	2	3	0	2	2	1	0	14
MORE THAN 10	0	0	0	0	0	0	0	0	0	2	1	0	2	3	1	1	10
TOTALS	12	12	9	2	2	3	43	57	28	25	27	14	23	31	22	26	336

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	.13
0.51 TO 1.00	.06	.06	0.00	0.00	.13	0.00	0.00	.13	.06	0.00	.06	0.00	.06	0.00	0.00	.13	.69
1.01 TO 1.50	.13	.06	0.00	0.00	0.00	0.00	.06	.44	.06	0.00	.13	0.00	.06	.06	.06	.19	1.26
1.51 TO 2.00	.19	0.00	.13	0.00	0.00	0.00	.13	.13	.19	.13	.06	.06	.13	.13	0.00	.13	1.38
2.01 TO 3.00	.06	.25	.19	0.00	0.00	.13	.50	.82	.25	.13	.13	.13	.19	.31	.19	.19	3.46
3.01 TO 4.00	.13	.25	.06	0.00	0.00	.06	.63	.75	.19	.38	.13	.13	.13	.50	.13	.57	4.02
4.01 TO 5.00	.13	.13	0.00	.06	0.00	0.00	.88	.38	.13	.13	.19	0.00	.44	.25	.13	.06	2.89
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.19	.25	.25	.13	.25	.31	0.00	.06	.19	0.00	1.63
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.19	.06	.13	.13	.13	.13	.06	.19	.13	1.26
7.01 TO 8.00	.06	0.00	.06	.06	0.00	0.00	.19	.25	.13	.19	.25	.06	0.00	0.00	.38	.19	1.82
8.01 TO 9.00	0.00	0.00	.13	0.00	0.00	0.00	0.00	.19	.19	.06	.13	.06	.06	.25	0.00	0.00	1.07
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.19	.13	.19	0.00	.13	.13	.06	0.00	.88
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.06	0.00	.13	.19	.06	.06	.63
TOTALS	.75	.75	.57	.13	.13	.19	2.70	3.58	1.76	1.57	1.70	.88	1.45	1.95	1.38	1.63	21.12
AVE WIND SPEED	2.8	2.8	4.4	6.0	.8	2.7	4.0	3.9	4.8	5.4	5.5	5.0	4.8	5.1	5.7	3.8	4.5

Table 2.3F-19

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0.51 TO 1.00	1	2	0	0	2	0	0	1	1	0	0	0	0	0	0	0	7
1.01 TO 1.50	3	4	2	2	1	0	2	2	2	0	1	0	1	2	1	1	24
1.51 TO 2.00	3	5	5	1	2	6	3	4	0	0	1	0	2	2	1	2	37
2.01 TO 3.00	7	12	11	0	1	2	8	11	2	3	0	2	4	6	9	1	79
3.01 TO 4.00	4	3	7	0	2	11	9	5	6	2	1	0	7	7	8	5	77
4.01 TO 5.00	4	1	2	0	0	6	8	7	4	3	1	3	3	2	6	3	53
5.01 TO 6.00	0	2	0	1	0	0	5	4	1	2	5	1	6	1	1	2	31
6.01 TO 7.00	1	1	5	0	0	0	1	4	4	0	3	5	3	0	2	2	31
7.01 TO 8.00	0	1	1	1	0	0	4	4	1	0	3	2	1	1	8	2	29
8.01 TO 9.00	0	0	2	0	0	0	4	1	1	0	0	0	1	4	12	1	26
9.01 TO 10.00	0	0	0	0	0	0	0	5	0	0	0	0	0	3	2	1	11
MORE THAN 10	0	0	0	0	0	0	1	6	4	0	0	0	0	0	1	0	12
TOTALS	25	31	35	5	8	25	45	54	26	10	15	13	28	28	51	20	419

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13
0.51 TO 1.00	.06	.13	0.00	0.00	.13	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.44
1.01 TO 1.50	.19	.25	.13	.13	.06	0.00	.13	.13	.13	0.00	.06	0.00	.06	.13	.06	.06	1.51
1.51 TO 2.00	.19	.31	.31	.06	.13	.38	.19	.25	0.00	0.00	.06	0.00	.13	.13	.06	.13	2.33
2.01 TO 3.00	.44	.75	.69	0.00	.06	.13	.50	.69	.13	.19	0.00	.13	.25	.38	.57	.06	4.97
3.01 TO 4.00	.25	.19	.44	0.00	.13	.69	.57	.31	.38	.13	.06	0.00	.44	.44	.50	.31	4.84
4.01 TO 5.00	.25	.06	.13	0.00	0.00	.38	.50	.44	.25	.19	.06	.19	.19	.13	.38	.19	3.33
5.01 TO 6.00	0.00	.13	0.00	.06	0.00	0.00	.31	.25	.06	.13	.31	.06	.38	.06	.06	.13	1.95
6.01 TO 7.00	.06	.06	.31	0.00	0.00	0.00	.06	.25	.25	0.00	.19	.31	.19	0.00	.13	.13	1.95
7.01 TO 8.00	0.00	.06	.06	.06	0.00	0.00	.25	.25	.06	0.00	.19	.13	.06	.06	.50	.13	1.82
8.01 TO 9.00	0.00	0.00	.13	0.00	0.00	0.00	.25	.06	.06	0.00	0.00	0.00	.06	.25	.75	.06	1.63
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.31	0.00	0.00	0.00	0.00	0.00	.19	.13	.06	.69
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	.06	.38	.25	0.00	0.00	0.00	0.00	0.00	.06	0.00	.75
TOTALS	1.57	1.95	2.20	.31	.50	1.57	2.83	3.39	1.63	.63	.94	.82	1.76	1.76	3.21	1.26	26.34
AVE WIND SPEED	2.6	2.7	3.7	3.4	2.0	3.2	4.5	5.4	5.6	4.0	5.4	5.5	4.3	4.6	5.7	4.7	4.4

Table 2.3F-20

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	2	5	2	2	1	1	0	2	0	1	0	0	0	0	0	0	16
1.01 TO 1.50	3	7	6	1	1	0	0	1	0	0	0	1	0	0	0	0	20
1.51 TO 2.00	2	8	8	5	0	1	1	2	0	1	0	0	0	0	0	1	29
2.01 TO 3.00	3	15	18	4	3	2	2	0	1	2	0	0	0	0	1	0	51
3.01 TO 4.00	2	4	12	0	1	2	0	0	0	0	0	0	0	0	0	0	21
4.01 TO 5.00	0	8	9	1	1	1	0	0	0	0	0	0	0	0	0	1	21
5.01 TO 6.00	0	1	3	0	0	1	0	0	0	0	0	0	0	0	0	0	5
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
TOTALS	12	49	58	13	7	8	4	7	1	4	0	1	0	0	1	2	167

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.13	.31	.13	.13	.06	.06	0.00	.13	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	1.01
1.01 TO 1.50	.19	.44	.38	.06	.06	0.00	0.00	.06	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	1.26
1.51 TO 2.00	.13	.50	.50	.31	0.00	.06	.06	.13	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06	1.82
2.01 TO 3.00	.19	.94	1.13	.25	.19	.13	.13	0.00	.06	.13	0.00	0.00	0.00	0.00	.06	0.00	3.21
3.01 TO 4.00	.13	.25	.75	0.00	.06	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32
4.01 TO 5.00	0.00	.50	.57	.06	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	1.32
5.01 TO 6.00	0.00	.06	.19	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.31
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13
TOTALS	.75	3.08	3.65	.82	.44	.50	.25	.44	.06	.25	0.00	.06	0.00	0.00	.06	.13	10.50
AVE WIND SPEED	2.0	2.5	2.9	2.0	2.5	3.0	4.2	3.7	2.1	1.8	0.0	1.1	0.0	0.0	2.5	2.9	2.7

Table 2.3F-21

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	2	6	1	0	0	0	0	0	0	0	0	0	0	0	0	9
1.51 TO 2.00	0	5	7	3	1	0	0	0	0	0	0	0	1	0	0	0	17
2.01 TO 3.00	1	22	22	7	2	0	0	1	0	0	0	0	0	1	0	0	56
3.01 TO 4.00	1	22	34	8	0	1	0	0	0	0	0	0	0	0	0	0	66
4.01 TO 5.00	0	20	41	8	0	0	0	0	0	0	0	0	0	0	0	0	69
5.01 TO 6.00	0	10	26	5	0	0	0	0	0	0	0	0	0	0	0	0	41
6.01 TO 7.00	0	4	9	0	0	0	0	0	0	0	0	0	0	0	0	0	13
7.01 TO 8.00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	2	87	147	32	3	1	0	1	0	0	0	0	1	1	0	0	275

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	.13	.38	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.57
1.51 TO 2.00	0.00	.31	.44	.19	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	1.07
2.01 TO 3.00	.06	1.38	1.38	.44	.13	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	3.52
3.01 TO 4.00	.06	1.38	2.14	.50	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15
4.01 TO 5.00	0.00	1.26	2.58	.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.34
5.01 TO 6.00	0.00	.63	1.63	.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.58
6.01 TO 7.00	0.00	.25	.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.82
7.01 TO 8.00	0.00	.13	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.25
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.13	5.47	9.24	2.01	.19	.06	0.00	.06	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	17.28
AVE WIND SPEED	2.9	3.8	4.0	3.6	2.1	3.0	0.0	2.4	0.0	0.0	0.0	0.0	1.7	2.2	0.0	0.0	3.8

Table 2.3F-22

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	1	0	2	5	0	1	2	0	0	11
1.51 TO 2.00	0	0	0	0	0	0	0	2	4	8	7	5	6	2	0	0	34
2.01 TO 3.00	0	0	1	0	0	0	0	5	14	27	14	35	36	12	1	0	145
3.01 TO 4.00	0	0	2	0	0	0	2	9	18	21	30	41	48	46	2	1	220
4.01 TO 5.00	0	0	0	0	0	0	2	9	6	11	12	8	29	31	12	2	122
5.01 TO 6.00	0	0	0	0	0	0	0	2	9	7	0	2	4	24	7	0	55
6.01 TO 7.00	0	0	0	0	0	0	1	1	1	1	0	0	1	15	4	0	24
7.01 TO 8.00	0	0	0	1	0	0	0	0	2	0	0	0	0	5	7	0	15
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4
MORE THAN 10	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4
TOTALS	0	1	6	1	0	0	5	29	54	77	68	91	125	145	34	3	639

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.10	.24	0.00	.05	.10	0.00	0.00	.52
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.19	.38	.33	.24	.29	.10	0.00	0.00	1.62
2.01 TO 3.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.24	.67	1.29	.67	1.67	1.72	.57	.05	0.00	6.91
3.01 TO 4.00	0.00	0.00	.10	0.00	0.00	0.00	.10	.43	.86	1.00	1.43	1.95	2.29	2.19	.10	.05	10.49
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.43	.29	.52	.57	.38	1.38	1.48	.57	.10	5.82
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.43	.33	0.00	.10	.19	1.14	.33	0.00	2.62
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.05	.05	0.00	0.00	.05	.71	.19	0.00	1.14
7.01 TO 8.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	0.00	.24	.53	0.00	.71
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.24	0.00	0.00	.24
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.05	0.00	.19
MORE THAN 10	0.00	.05	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19
TOTALS	0.00	.05	.29	.05	0.00	0.00	.24	1.38	2.57	3.67	3.24	4.34	5.96	6.91	1.62	.14	30.46
AVE WIND SPEED	0.0	10.3	7.4	7.2	0.0	0.0	4.3	3.7	3.7	3.3	3.1	3.2	3.4	4.7	5.6	4.4	3.8

Amended: April 2009 TL: E048000

Table 2.3F-23

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	4
1.51 TO 2.00	0	0	0	0	0	0	1	2	0	0	1	0	0	0	0	0	4
2.01 TO 3.00	0	0	0	0	0	0	0	1	1	3	3	4	3	3	1	0	19
3.01 TO 4.00	0	0	1	0	0	0	0	4	0	1	6	2	1	2	0	0	17
4.01 TO 5.00	0	0	0	0	0	0	0	1	3	0	1	0	0	1	1	0	7
5.01 TO 6.00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	4
6.01 TO 7.00	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	4
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	0	0	0	1	10	9	5	11	6	6	7	4	0	60

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	0.00	0.00	.05	0.00	0.00	0.00	.19
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.19
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.14	.14	.19	.14	.14	.05	0.00	.91
3.01 TO 4.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.19	0.00	.05	.29	.10	.05	.10	0.00	0.00	.81
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.14	0.00	.05	0.00	0.00	.05	.05	0.00	.33
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	.10	0.00	.19
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	0.00	0.00	0.00	.05	0.00	0.00	0.00	.19
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	.05	0.00	0.00	0.00	.05	.48	.43	.24	.52	.29	.29	.33	.19	0.00	2.86
AVE WIND SPEED	0.0	0.0	3.1	0.0	0.0	0.0	1.7	3.8	4.1	2.3	3.2	2.9	3.1	3.8	4.6	0.0	3.4

Amended: April 2009 TL: E048000

Table 2.3F-24

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	5
2.01 TO 3.00	0	0	0	0	0	0	0	2	0	2	2	1	1	1	1	0	10
3.01 TO 4.00	0	0	0	0	0	0	2	5	0	1	0	1	2	3	0	0	14
4.01 TO 5.00	0	0	1	0	0	0	0	0	4	0	1	0	0	1	0	0	7
5.01 TO 6.00	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	4
6.01 TO 7.00	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
MORE THAN 10	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
TOTALS	0	0	2	0	0	0	5	7	8	6	5	3	3	8	3	0	48

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.10	.05	0.00	0.00	0.00	0.00	.24
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	.10	.10	.05	.05	.05	.05	0.00	.48
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.24	0.00	.05	0.00	.05	.10	.14	0.00	0.00	.67
4.01 TO 5.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.19	0.00	.05	0.00	0.00	.05	0.00	0.00	.33
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	.05	.05	0.00	.19
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	0.00	.14
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05
MORE THAN 10	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.10
TOTALS	0.00	0.00	.10	0.00	0.00	0.00	.14	.33	.38	.29	.24	.14	.14	.38	.14	0.00	2.29
AVE WIND SPEED	0.0	0.0	8.9	0.0	0.0	0.0	4.5	3.2	5.7	2.9	2.7	2.6	3.3	4.9	5.7	0.0	4.2

Table 2.3F-25

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0.51 TO 1.00	2	0	0	0	1	0	1	0	1	0	1	2	0	2	2	2	14
1.01 TO 1.50	7	2	1	0	0	1	3	2	4	4	6	3	9	3	3	4	52
1.51 TO 2.00	5	2	1	0	0	1	6	3	4	5	6	4	9	3	6	4	59
2.01 TO 3.00	2	8	3	1	0	8	12	9	12	13	8	9	12	12	12	7	128
3.01 TO 4.00	0	1	2	0	0	3	14	14	10	5	8	5	3	9	6	6	86
4.01 TO 5.00	2	0	1	0	0	1	7	15	8	3	7	3	1	2	7	2	59
5.01 TO 6.00	0	0	0	0	1	1	3	3	2	2	1	3	3	7	3	3	32
6.01 TO 7.00	0	0	0	2	0	1	2	2	4	1	0	2	0	4	6	2	26
7.01 TO 8.00	0	0	0	0	0	1	0	0	0	0	0	2	0	6	0	0	9
8.01 TO 9.00	0	0	2	0	0	0	0	1	2	0	0	1	1	1	3	0	11
9.01 TO 10.00	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	1	5
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	1	2	1	3	0	7
TOTALS	18	13	10	3	2	20	48	49	47	34	37	35	40	51	51	31	489

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	.10	0.00	0.00	0.00	.05	0.00	.05	0.00	.05	0.00	.05	.10	0.00	.10	.10	.10	.67
1.01 TO 1.50	.33	.10	.05	0.00	0.00	.05	.14	.10	.19	.19	.29	.14	.43	.14	.14	.19	2.48
1.51 TO 2.00	.24	.10	.05	0.00	0.00	.05	.29	.14	.19	.24	.29	.19	.43	.14	.29	.19	2.81
2.01 TO 3.00	.10	.38	.14	.05	0.00	.38	.57	.43	.57	.62	.38	.43	.57	.57	.57	.33	6.10
3.01 TO 4.00	0.00	.05	.10	0.00	0.00	.14	.67	.67	.48	.24	.38	.24	.14	.43	.29	.29	4.10
4.01 TO 5.00	.10	0.00	.05	0.00	0.00	.05	.33	.71	.38	.14	.33	.14	.05	.10	.33	.10	2.81
5.01 TO 6.00	0.00	0.00	0.00	0.00	.05	.05	.14	.14	.10	.10	.05	.14	.14	.33	.14	.14	1.53
6.01 TO 7.00	0.00	0.00	0.00	.10	0.00	.05	.10	.10	.19	.05	0.00	.10	0.00	.19	.29	.10	1.24
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.10	0.00	.29	0.00	0.00	.43
8.01 TO 9.00	0.00	0.00	.10	0.00	0.00	0.00	0.00	.05	.10	0.00	0.00	.05	.05	.05	.14	0.00	.52
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	.24
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	.05	.14	0.00	.33
TOTALS	.86	.62	.48	.14	.10	.95	2.29	2.34	2.24	1.62	1.76	1.67	1.91	2.43	2.43	1.48	23.31
AVE WIND SPEED	1.8	2.3	3.9	5.2	3.1	4.3	3.2	3.6	3.5	2.8	2.8	3.7	3.0	4.3	4.2	3.2	3.4

Table 2.3F-26

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	3
0.51 TO 1.00	3	1	0	1	0	0	1	0	0	1	1	3	2	0	1	2	16
1.01 TO 1.50	5	9	1	3	2	1	7	3	1	4	3	0	5	2	2	1	49
1.51 TO 2.00	5	6	3	1	3	6	5	2	1	3	1	1	0	0	0	3	40
2.01 TO 3.00	4	23	11	3	1	6	7	6	1	0	1	1	1	1	1	3	70
3.01 TO 4.00	4	14	6	0	0	1	8	7	1	0	0	0	0	1	5	3	50
4.01 TO 5.00	0	2	1	0	1	2	2	0	0	0	1	0	0	2	3	1	15
5.01 TO 6.00	1	1	2	0	0	0	2	0	0	0	0	1	0	4	4	4	19
6.01 TO 7.00	0	0	0	0	1	0	0	0	0	0	0	0	1	3	2	1	8
7.01 TO 8.00	0	1	0	0	2	0	1	0	0	0	0	0	0	0	2	0	6
8.01 TO 9.00	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	7
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
TOTALS	22	57	24	8	15	19	33	18	4	8	8	6	9	13	23	19	287

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	.14
0.51 TO 1.00	.14	.05	0.00	.05	0.00	0.00	.05	0.00	0.00	.05	.05	.14	.10	0.00	.05	.10	.76
1.01 TO 1.50	.24	.43	.05	.14	.10	.05	.33	.14	.05	.19	.14	0.00	.24	.10	.10	.05	2.34
1.51 TO 2.00	.24	.29	.14	.05	.14	.29	.24	.10	.05	.14	.05	.05	0.00	0.00	0.00	.14	1.91
2.01 TO 3.00	.19	1.10	.52	.14	.05	.29	.33	.29	.05	0.00	.05	.05	.05	.05	.05	.14	3.34
3.01 TO 4.00	.19	.67	.29	0.00	0.00	.05	.38	.33	.05	0.00	0.00	0.00	0.00	.05	.24	.14	2.38
4.01 TO 5.00	0.00	.10	.05	0.00	.05	.10	.10	0.00	0.00	0.00	.05	0.00	0.00	.10	.14	.05	.71
5.01 TO 6.00	.05	.05	.10	0.00	0.00	0.00	.10	0.00	0.00	0.00	0.00	.05	0.00	.19	.19	.19	.91
6.01 TO 7.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.14	.10	.05	.38
7.01 TO 8.00	0.00	.05	0.00	0.00	.10	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	.29
8.01 TO 9.00	0.00	0.00	0.00	0.00	.19	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.33
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	.10
TOTALS	1.05	2.72	1.14	.38	.71	.91	1.57	.86	.19	.38	.38	.29	.43	.62	1.10	.91	13.68
AVE WIND SPEED	2.2	2.7	2.8	1.7	4.6	3.4	2.8	2.5	2.2	1.4	1.8	2.1	41.8	4.6	4.9	3.0	2.9

Amended: April 2009 TL: E048000

Table 2.3F-27

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	3	0	0	0	1	1	0	0	0	0	0	0	2	0	7
1.01 TO 1.50	0	4	8	3	2	0	1	0	0	2	0	0	1	0	1	1	23
1.51 TO 2.00	4	5	12	2	0	0	0	3	0	0	0	0	1	3	0	0	30
2.01 TO 3.00	1	23	21	0	0	3	1	0	0	0	0	0	0	2	0	1	52
3.01 TO 4.00	3	22	14	0	1	1	1	1	1	0	0	0	0	2	2	1	49
4.01 TO 5.00	1	8	5	0	0	0	1	0	0	0	0	0	0	0	1	2	18
5.01 TO 6.00	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	9	66	65	5	3	4	5	5	1	2	0	0	2	7	6	5	185

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	.14	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	.33
1.01 TO 1.50	0.00	.19	.38	.14	.10	0.00	.05	0.00	0.00	.10	0.00	0.00	.05	0.00	.05	.05	1.10
1.51 TO 2.00	.19	.24	.57	.10	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	.05	.14	0.00	0.00	1.43
2.01 TO 3.00	.05	1.10	1.00	0.00	0.00	.14	.05	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	.05	2.48
3.01 TO 4.00	.14	1.05	.67	0.00	.05	.05	.05	.05	.05	0.00	0.00	0.00	0.00	.10	.10	.05	2.34
4.01 TO 5.00	.05	.38	.24	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	.86
5.01 TO 6.00	0.00	.19	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.29
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.43	3.15	3.10	.24	.14	.19	.24	.24	.05	.10	0.00	0.00	.10	.33	.29	.24	8.82
AVE WIND SPEED	2.8	3.1	2.6	1.4	2.1	2.5	2.4	1.9	3.7	1.3	0.0	0.0	1.5	2.3	2.4	3.3	2.7

Table 2.3F-28

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
0.51 TO 1.00	2	3	0	0	1	2	1	0	1	3	1	1	0	0	0	0	15
1.01 TO 1.50	2	4	13	8	1	4	0	1	0	1	0	2	1	0	0	2	39
1.51 TO 2.00	4	8	13	5	0	4	0	0	0	0	1	0	2	0	0	0	37
2.01 TO 3.00	2	34	40	1	2	2	1	0	0	0	0	1	0	1	0	1	85
3.01 TO 4.00	3	37	39	0	0	1	0	0	0	0	0	0	0	0	0	0	80
4.01 TO 5.00	1	37	31	0	0	0	0	0	0	0	0	0	0	0	1	0	70
5.01 TO 6.00	2	15	22	0	0	0	0	0	0	0	0	0	0	0	0	0	39
6.01 TO 7.00	1	8	7	0	0	0	0	0	0	0	0	0	0	0	0	0	16
7.01 TO 8.00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8.01 TO 9.00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	17	150	168	14	4	13	2	1	1	4	2	4	4	1	1	3	390

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05
0.51 TO 1.00	.10	.14	0.00	0.00	.05	.10	.05	0.00	.05	.14	.05	.05	0.00	0.00	0.00	0.00	.71
1.01 TO 1.50	.10	.19	.62	.38	.05	.19	0.00	.05	0.00	.05	0.00	.10	.05	0.00	0.00	.10	1.86
1.51 TO 2.00	.19	.38	.62	.24	0.00	.19	0.00	0.00	0.00	0.00	.05	0.00	.10	0.00	0.00	0.00	1.76
2.01 TO 3.00	.10	1.62	1.91	.05	.10	.10	.05	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.05	4.05
3.01 TO 4.00	.14	1.76	1.86	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.81
4.01 TO 5.00	.05	1.76	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	3.34
5.01 TO 6.00	.10	.71	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86
6.01 TO 7.00	.05	.38	.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.76
7.01 TO 8.00	0.00	.14	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.24
8.01 TO 9.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.81	7.15	8.01	.67	.19	.62	.10	.05	.05	.19	.10	.19	.19	.05	.05	.14	18.59
AVE WIND SPEED	2.8	3.8	3.6	1.5	1.6	1.7	1.6	1.1	.7	.9	1.1	1.4	1.4	2.6	4.6	1.7	3.4

Table 2.3F-29

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	2	2	4	2	0	0	0	0	10
1.51 TO 2.00	0	0	0	0	0	0	1	0	1	8	3	9	3	2	2	0	29
2.01 TO 3.00	0	0	0	0	0	2	1	13	10	18	21	50	28	22	7	1	173
3.01 TO 4.00	0	0	0	0	0	0	3	12	11	36	40	46	60	37	4	1	250
4.01 TO 5.00	0	1	0	0	0	0	1	8	15	10	14	19	44	30	4	0	146
5.01 TO 6.00	0	0	0	0	0	1	0	0	11	3	2	5	5	5	5	0	37
6.01 TO 7.00	0	0	0	0	0	0	2	2	7	4	0	0	6	7	1	0	29
7.01 TO 8.00	0	0	0	0	0	0	0	0	2	0	1	0	0	6	1	0	10
8.01 TO 9.00	0	0	0	0	0	0	0	0	1	0	5	1	1	4	0	0	12
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	0	0	0	4	8	35	60	81	91	132	147	114	24	2	699

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.10	.20	.10	0.00	0.00	0.00	0.00	.49
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	.39	.15	.44	.15	.10	.10	0.00	1.43
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	.10	.05	.64	.49	.89	1.03	2.46	1.38	1.08	.34	.05	8.53
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.59	.54	1.77	1.97	2.27	2.96	1.82	.20	.05	12.32
4.01 TO 5.00	0.00	.05	0.00	0.00	0.00	0.00	.05	.39	.74	.49	.69	.94	2.17	1.48	.20	0.00	7.20
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.54	.15	.10	.25	.25	.25	.25	0.00	1.82
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.10	.34	.20	0.00	0.00	.30	.34	.05	0.00	1.43
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	.05	0.00	0.00	.30	.05	0.00	.49
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.25	.05	.05	.20	0.00	0.00	.59
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	0.00	0.00	.10
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.05	0.00	0.00	0.00	.20	.39	1.72	2.96	3.99	4.48	6.51	7.24	5.62	1.18	.10	34.45
AVE WIND SPEED	0.0	4.7	0.0	0.0	0.0	2.9	4.0	3.5	4.4	3.3	3.7	3.2	3.8	4.3	4.0	2.6	3.7

Table 2.3F-30

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
1.01 TO 1.50	0	0	1	0	0	0	0	0	0	2	1	1	1	0	0	1	7
1.51 TO 2.00	0	1	3	1	0	0	2	0	2	1	1	5	0	1	0	1	18
2.01 TO 3.00	0	2	1	1	0	1	0	4	3	2	7	6	3	4	1	3	38
3.01 TO 4.00	0	1	0	0	0	0	3	2	4	1	3	1	1	2	1	1	20
4.01 TO 5.00	0	0	0	0	0	1	1	3	4	0	0	0	2	1	0	0	12
5.01 TO 6.00	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1	0	4
6.01 TO 7.00	0	0	0	0	0	0	1	1	0	1	0	0	0	1	0	0	4
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	4	5	2	0	2	7	10	14	8	12	15	7	11	3	6	106

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
1.01 TO 1.50	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	.05	.05	0.00	0.00	.05	.34
1.51 TO 2.00	0.00	.05	.15	.05	0.00	0.00	.10	0.00	.10	.05	.05	.25	0.00	.05	0.00	.05	.89
2.01 TO 3.00	0.00	.10	.05	.05	0.00	.05	0.00	.20	.15	.10	.34	.30	.15	.20	.05	.15	1.87
3.01 TO 4.00	0.00	.05	0.00	0.00	0.00	0.00	.15	.10	.20	.05	.15	.05	.05	.10	.05	.05	.99
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.15	.20	0.00	0.00	0.00	.10	.05	0.00	0.00	.59
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.05	0.00	0.00	.05	0.00	.20
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.05	0.00	0.00	0.00	.05	0.00	0.00	.20
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.20	.25	.10	0.00	.10	.34	.49	.69	.39	.59	.74	.34	.54	.15	.30	5.22
AVE WIND SPEED	0.0	2.5	1.9	1.9	0.0	3.6	3.5	3.6	3.3	3.3	2.4	2.8	3.0	3.5	3.9	2.4	3.0

Amended: April 2009 TL: E048000

Table 2.3F-31

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	3
1.01 TO 1.50	0	2	0	0	1	0	1	2	0	0	0	0	2	0	1	2	11
1.51 TO 2.00	0	0	2	0	0	0	1	2	2	3	3	0	3	1	1	0	18
2.01 TO 3.00	1	0	1	0	2	2	4	4	5	3	4	3	3	1	3	2	38
3.01 TO 4.00	0	1	0	0	1	1	2	6	0	1	7	0	1	0	2	0	22
4.01 TO 5.00	0	0	0	0	0	0	2	1	0	4	0	0	1	1	2	0	11
5.01 TO 6.00	0	0	0	0	0	1	1	2	1	0	0	0	0	1	0	0	6
6.01 TO 7.00	0	0	0	0	0	1	0	0	1	1	1	0	0	0	1	0	5
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	3	3	0	4	5	12	18	9	12	15	4	10	4	10	4	114

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.15
1.01 TO 1.50	0.00	.10	0.00	0.00	.05	0.00	.05	.10	0.00	0.00	0.00	0.00	.10	0.00	.05	.10	.54
1.51 TO 2.00	0.00	0.00	.10	0.00	0.00	0.00	.05	.10	.10	.15	.15	0.00	.15	.05	.05	0.00	.89
2.01 TO 3.00	.05	0.00	.05	0.00	.10	.10	.20	.20	.25	.15	.20	.15	.15	.05	.15	.10	1.87
3.01 TO 4.00	0.00	.05	0.00	0.00	.05	.05	.10	.30	0.00	.05	.34	0.00	.05	0.00	.10	0.00	1.08
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	0.00	.20	0.00	0.00	.05	.05	.10	0.00	.54
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.10	.05	0.00	0.00	0.00	0.00	.05	0.00	0.00	.30
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	.05	.05	0.00	0.00	0.00	.05	0.00	.25
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.05	.15	.15	0.00	.20	.25	.59	.89	.44	.59	.74	.20	.49	.20	.49	.20	5.62
AVE WIND SPEED	2.3	1.9	2.0	0.0	2.4	4.1	3.0	2.9	3.1	3.5	3.0	2.1	2.3	3.7	3.4	2.0	2.9

Table 2.3F-32

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	4
0.51 TO 1.00	1	3	2	0	2	1	0	0	4	3	1	5	3	1	4	0	30
1.01 TO 1.50	4	2	5	3	2	3	1	4	4	10	10	9	9	6	4	2	78
1.51 TO 2.00	7	7	6	5	5	0	8	12	10	11	9	3	11	5	1	5	105
2.01 TO 3.00	8	13	6	3	4	8	16	27	18	13	15	15	15	9	6	5	181
3.01 TO 4.00	0	2	0	0	2	15	23	18	28	9	8	11	9	1	8	2	136
4.01 TO 5.00	0	2	1	0	0	1	9	19	10	0	2	4	5	2	11	2	68
5.01 TO 6.00	0	0	0	0	0	1	4	4	8	3	1	1	1	1	3	1	28
6.01 TO 7.00	0	0	0	0	0	0	3	2	3	2	0	2	1	3	1	0	17
7.01 TO 8.00	0	0	0	0	0	0	0	1	2	1	0	1	0	0	1	0	6
8.01 TO 9.00	0	0	0	0	0	1	0	0	0	1	1	1	1	1	0	0	6
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	20	29	20	11	15	31	64	87	87	53	48	54	55	29	41	17	661

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.10	0.00	.20
0.51 TO 1.00	.05	.15	.10	0.00	.10	.05	0.00	0.00	.20	.15	.05	.25	.15	.05	.20	0.00	1.48
1.01 TO 1.50	.20	.10	.25	.15	.10	.15	.05	.20	.20	.49	.49	.44	.44	.30	.20	.10	3.84
1.51 TO 2.00	.34	.34	.30	.25	.25	0.00	.39	.59	.49	.54	.44	.15	.54	.25	.05	.25	5.17
2.01 TO 3.00	.39	.64	.30	.15	.20	.39	.79	1.33	.89	.64	.74	.74	.74	.44	.30	.25	8.92
3.01 TO 4.00	0.00	.10	0.00	0.00	.10	.74	1.13	.89	1.38	.44	.39	.54	.44	.05	.39	.10	6.70
4.01 TO 5.00	0.00	.10	.05	0.00	0.00	.05	.44	.94	.49	0.00	.10	.20	.25	.10	.54	.10	3.35
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	.05	.20	.20	.39	.15	.05	.05	.05	.05	.15	.05	1.38
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.10	.15	.10	0.00	.10	.05	.15	.05	0.00	.84
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	.05	0.00	.05	0.00	0.00	.05	0.00	.30
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05	.05	.05	.05	.05	0.00	0.00	.30
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	.10
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.99	1.45	.99	.54	.74	1.53	3.15	4.29	4.29	2.61	2.37	2.66	2.71	1.45	2.02	.84	32.58
AVE WIND SPEED	1.9	2.2	1.9	1.8	1.9	3.1	3.4	3.3	3.3	2.7	2.7	2.9	2.6	2.9	3.3	2.6	2.9

Amended: April 2009 TL: E048000

Table 2.3F-33

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	2	3	1	0	1	1	0	1	2	3	2	2	3	1	1	3	26
1.01 TO 1.50	0	6	3	0	2	2	2	1	5	3	5	5	3	4	0	0	41
1.51 TO 2.00	2	8	3	1	2	3	1	3	3	4	1	0	1	0	0	1	33
2.01 TO 3.00	3	15	8	4	3	7	8	9	7	1	1	5	2	2	2	0	77
3.01 TO 4.00	0	9	4	0	1	2	3	5	3	1	2	2	1	1	2	0	36
4.01 TO 5.00	0	1	0	0	1	2	0	0	1	0	0	1	1	0	1	1	9
5.01 TO 6.00	0	0	0	0	0	0	0	3	1	0	1	0	0	0	0	0	5
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	1	5
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0	7
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	7	42	19	6	10	17	14	22	23	12	12	15	16	17	8	6	247

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	.10	.15	.05	0.00	.05	.05	0.00	.05	.10	.15	.10	.10	.15	.05	.05	.15	1.28
1.01 TO 1.50	0.00	.30	.15	0.00	.10	.10	.10	.05	.25	.15	.25	.25	.15	.20	0.00	0.00	2.02
1.51 TO 2.00	.10	.39	.15	.05	.10	.15	.05	.15	.15	.20	.05	0.00	.05	0.00	0.00	.05	1.63
2.01 TO 3.00	.15	.74	.39	.20	.15	.34	.39	.44	.34	.05	.05	.25	.10	.10	.10	0.00	3.79
3.01 TO 4.00	0.00	.44	.20	0.00	.05	.10	.15	.25	.15	.05	.10	.10	.05	.05	.10	0.00	1.77
4.01 TO 5.00	0.00	.05	0.00	0.00	.05	.10	0.00	0.00	.05	0.00	0.00	.05	.05	0.00	.05	.05	.44
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	.25
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.05	.05	.25
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	.10
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.20	0.00	0.00	.34
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.10	0.00	0.00	.20
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.34	2.07	.94	.30	.49	.84	.69	1.08	1.13	.59	.59	.74	.79	.84	.39	.30	12.17
AVE WIND SPEED	1.8	2.3	2.4	2.0	2.1	2.5	2.4	2.7	2.5	1.6	1.9	2.1	3.9	5.0	4.0	2.5	2.6

Table 2.3F-34

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
0.51 TO 1.00	0	0	2	0	0	1	1	1	1	0	0	0	0	0	0	0	6
1.01 TO 1.50	1	4	2	1	0	0	0	1	0	0	0	0	0	0	1	0	10
1.51 TO 2.00	3	6	4	0	0	1	0	0	0	0	0	0	0	0	0	0	14
2.01 TO 3.00	1	13	5	1	0	0	0	0	0	0	0	0	0	1	0	0	21
3.01 TO 4.00	0	5	2	0	0	1	0	0	0	0	1	0	0	0	2	1	12
4.01 TO 5.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	5	30	15	2	1	3	1	3	1	0	1	0	0	1	3	1	67

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10
0.51 TO 1.00	0.00	0.00	.10	0.00	0.00	.05	.05	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.30
1.01 TO 1.50	.05	.20	.10	.05	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.49
1.51 TO 2.00	.15	.30	.20	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.69
2.01 TO 3.00	.05	.64	.25	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	1.03
3.01 TO 4.00	0.00	.25	.10	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.10	.05	.59
4.01 TO 5.00	0.00	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.25	1.48	.74	.10	.05	.15	.05	.15	.05	0.00	.05	0.00	0.00	.05	.15	.05	3.30
AVE WIND SPEED	1.8	2.4	2.0	1.7	.4	2.0	.9	.8	.8	0.0	3.8	0.0	0.0	2.8	2.7	3.6	2.2

Amended: April 2009 TL: E048000

Table 2.3F-35

DATA FROM 1/25/73 TO 1/24/764AY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	3
1.01 TO 1.50	1	2	3	0	0	1	0	0	0	0	0	0	0	0	1	0	8
1.51 TO 2.00	1	3	4	0	0	1	0	0	0	0	0	0	0	0	0	0	9
2.01 TO 3.00	0	8	17	0	0	1	0	1	0	0	0	0	0	0	0	0	27
3.01 TO 4.00	2	21	6	0	0	0	0	0	0	0	0	0	0	0	0	0	29
4.01 TO 5.00	1	19	18	0	0	0	0	0	0	0	0	0	1	0	3	0	42
5.01 TO 6.00	0	11	5	0	0	0	0	0	0	0	0	0	0	0	0	0	16
6.01 TO 7.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	5	64	55	1	0	3	1	1	0	0	0	0	1	0	4	0	135

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	.05	.05	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
1.01 TO 1.50	.05	.10	.15	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.39
1.51 TO 2.00	.05	.15	.20	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.44
2.01 TO 3.00	0.00	.39	.84	0.00	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33
3.01 TO 4.00	.10	1.03	.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43
4.01 TO 5.00	.05	.94	.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.15	0.00	2.07
5.01 TO 6.00	0.00	.54	.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.79
6.01 TO 7.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.25	3.15	2.71	.05	0.00	.15	.05	.05	0.00	0.00	0.00	0.00	.05	0.00	.20	0.00	6.65
AVE WIND SPEED	2.8	3.9	3.4	.9	0.0	1.9	.9	2.2	0.0	0.0	0.0	0.0	4.7	0.0	3.5	0.0	3.5

Amended: April 2009 TL: E048000

Table 2.3F-36

DATA FROM 1/25/75 TO 1/24/76JUNE LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	3
1.51 TO 2.00	0	0	0	0	0	0	1	0	1	4	7	7	8	0	0	1	29
2.01 TO 3.00	0	2	1	0	0	0	1	2	10	15	35	31	29	35	7	4	170
3.01 TO 4.00	0	1	0	0	0	0	3	4	14	29	32	41	46	64	9	0	243
4.01 TO 5.00	0	0	0	0	0	0	0	2	14	15	11	17	43	59	16	0	177
5.01 TO 6.00	0	0	0	0	0	0	1	3	1	5	4	0	13	18	9	0	54
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	6	1	5	2	14
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTALS	0	3	1	0	0	0	6	11	41	69	87	96	146	179	49	7	695

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	.06	0.00	.17
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	.22	.39	.39	.44	0.00	0.00	.06	1.60
2.01 TO 3.00	0.00	.11	.06	0.00	0.00	0.00	.06	.11	.55	.83	1.82	1.71	1.60	1.93	.39	.22	9.38
3.01 TO 4.00	0.00	.06	0.00	0.00	0.00	0.00	.17	.22	.77	1.60	1.77	2.26	2.54	3.53	.50	0.00	13.40
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	.77	.83	.61	.94	2.37	3.25	.88	0.00	9.76
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.17	.06	.28	.22	0.00	.72	.99	.50	0.00	2.98
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.33	.06	.28	.11	.77
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.06	0.00	.17
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06
TOTALS	0.00	.17	.06	0.00	0.00	0.00	.33	.61	2.26	3.81	4.80	5.30	8.05	9.87	2.70	.39	38.33
AVE WIND SPEED	0.0	3.1	2.3	0.0	0.0	0.0	3.1	4.1	3.6	3.6	3.2	3.2	3.8	3.9	4.6	3.4	3.7

Table 2.3F-37

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	3
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3
2.01 TO 3.00	0	0	0	0	0	1	2	0	1	1	2	2	4	2	3	0	18
3.01 TO 4.00	0	0	0	0	0	1	2	0	2	0	2	1	1	0	1	0	10
4.01 TO 5.00	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	4
5.01 TO 6.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	2	5	2	4	2	5	7	6	4	5	0	42

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	.06	0.00	0.00	0.00	0.00	.17
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	.11
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.11	0.00	0.00	0.00	0.00	.17
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	.06	.11	0.00	.06	.06	.11	.11	.22	.11	.17	0.00	.99
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	.06	.11	0.00	.11	0.00	.11	.06	.06	0.00	.06	0.00	.55
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.06	.06	.06	0.00	.22
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	0.00	0.00	0.00	.11	.28	.11	.22	.11	.28	.39	.33	.22	.28	0.00	2.32
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	3.2	3.6	5.5	2.6	2.0	2.8	2.0	3.0	2.6	3.3	0.0	2.9

Table 2.3F-38

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1.01 TO 1.50	1	0	0	0	0	0	0	0	0	2	0	0	0	2	3	1	9
1.51 TO 2.00	2	1	0	0	0	0	0	0	4	2	1	3	5	4	3	3	28
2.01 TO 3.00	3	3	1	0	1	1	1	3	4	7	7	2	5	12	7	8	65
3.01 TO 4.00	1	2	2	0	0	1	6	11	2	4	2	2	3	4	3	2	45
4.01 TO 5.00	0	0	0	0	0	0	1	5	6	1	0	0	0	0	1	1	13
5.01 TO 6.00	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	2	6
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	7	6	3	0	1	2	8	17	18	18	11	7	14	22	17	19	170

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06
1.01 TO 1.50	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	0.00	.11	.17	.06	.50
1.51 TO 2.00	.11	.06	0.00	0.00	0.00	0.00	0.00	0.00	.22	.11	.06	.17	.28	.22	.17	.17	1.54
2.01 TO 3.00	.17	.17	.06	0.00	.06	.06	.06	.17	.22	.39	.39	.11	.28	.66	.39	.44	3.59
3.01 TO 4.00	.06	.11	.11	0.00	0.00	.06	.33	.61	.11	.22	.11	.11	.17	.22	.17	.11	2.48
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.17	.33	.06	0.00	0.00	0.00	0.00	.06	.06	.72
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	.06	0.00	0.00	.06	0.00	0.00	.11	.33
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.11	.17
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.39	.33	.17	0.00	.06	.11	.44	.94	.99	.99	.61	.39	.77	1.21	.94	1.05	9.38
AVE WIND SPEED	2.2	2.9	3.5	0.0	2.8	3.1	3.5	3.4	3.4	2.5	2.9	2.4	2.5	2.5	2.4	3.2	2.9

Table 2.3F-39

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	0	0	0	1	0	3	2	0	0	0	1	0	0	0	8
0.51 TO 1.00	1	2	3	0	0	0	0	1	9	6	1	4	3	2	0	2	34
1.01 TO 1.50	4	5	5	6	2	1	4	5	5	7	7	8	4	5	6	3	77
1.51 TO 2.00	7	11	4	1	2	3	4	9	6	8	3	7	4	6	3	2	80
2.01 TO 3.00	11	13	4	3	10	10	21	22	19	14	10	5	7	4	8	3	164
3.01 TO 4.00	2	8	1	0	1	6	15	23	16	15	7	2	4	2	5	2	109
4.01 TO 5.00	0	1	0	0	0	0	3	8	14	8	3	2	3	0	0	2	44
5.01 TO 6.00	0	0	0	0	0	0	0	1	3	4	0	0	0	0	1	2	11
6.01 TO 7.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
7.01 TO 8.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	25	41	17	10	15	21	47	73	76	62	31	28	26	19	23	17	531

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.06	0.00	0.00	0.00	.06	0.00	.17	.11	0.00	0.00	0.00	.06	0.00	0.00	0.00	.44
0.51 TO 1.00	.06	.11	.17	0.00	0.00	0.00	0.00	.06	.50	.33	.06	.22	.17	.11	0.00	.11	1.88
1.01 TO 1.50	.22	.28	.28	.33	.11	.06	.22	.28	.28	.39	.39	.44	.22	.28	.33	.17	4.25
1.51 TO 2.00	.39	.61	.22	.06	.11	.17	.22	.50	.33	.44	.17	.39	.22	.33	.17	.11	4.41
2.01 TO 3.00	.61	.72	.22	.17	.55	.55	1.16	1.21	1.05	.77	.55	.28	.39	.22	.44	.17	9.05
3.01 TO 4.00	.11	.44	.06	0.00	.06	.33	.83	1.27	.88	.83	.39	.11	.22	.11	.28	.11	6.01
4.01 TO 5.00	0.00	.06	0.00	0.00	0.00	0.00	.17	.44	.77	.44	.17	.11	.17	0.00	0.00	.11	2.43
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.17	.22	0.00	0.00	0.00	0.00	.06	.11	.61
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.38	2.26	.94	.55	.83	1.16	2.59	4.03	4.19	3.42	1.71	1.54	1.43	1.05	1.27	.94	29.29
AVE WIND SPEED	2.0	2.2	1.7	1.6	2.3	2.5	2.8	2.8	2.9	2.8	2.5	1.9	2.3	1.8	2.4	3.0	2.5

Amended: April 2009 TL: E048000

Table 2.3F-40

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	1	3	3	1	1	2	0	0	2	2	3	0	0	0	0	0	18
1.01 TO 1.50	2	7	3	3	2	6	4	3	6	1	5	6	4	3	3	0	58
1.51 TO 2.00	3	4	1	2	2	3	5	9	0	4	1	3	3	1	1	3	45
2.01 TO 3.00	4	7	8	0	1	5	10	8	8	5	3	3	0	1	2	2	67
3.01 TO 4.00	1	3	0	0	0	1	4	4	7	0	1	2	0	1	1	2	27
4.01 TO 5.00	0	4	1	0	0	0	1	0	2	0	0	0	0	1	0	1	10
5.01 TO 6.00	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	11	29	17	6	6	17	24	24	26	12	13	14	7	7	7	8	228

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.06	.17	.17	.06	.06	.11	0.00	0.00	.11	.11	.17	0.00	0.00	0.00	0.00	0.00	.99
1.01 TO 1.50	.11	.39	.17	.17	.11	.33	.22	.17	.33	.06	.28	.33	.22	.17	.17	0.00	3.20
1.51 TO 2.00	.17	.22	.06	.11	.11	.17	.28	.50	0.00	.22	.06	.17	.17	.06	.06	.17	2.48
2.01 TO 3.00	.22	.39	.44	0.00	.06	.28	.55	.44	.44	.28	.17	.17	0.00	.06	.11	.11	3.70
3.01 TO 4.00	.06	.17	0.00	0.00	0.00	.06	.22	.22	.39	0.00	.06	.11	0.00	.06	.06	.11	1.49
4.01 TO 5.00	0.00	.22	.06	0.00	0.00	0.00	.06	0.00	.11	0.00	0.00	0.00	0.00	.06	0.00	.06	.55
5.01 TO 6.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.17
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.61	1.60	.94	.33	.33	.94	1.32	1.32	1.43	.66	.72	.77	.39	.39	.39	.44	12.58
AVE WIND SPEED	2.0	2.4	2.2	1.2	1.5	1.8	2.3	2.2	2.6	1.9	1.6	1.9	1.4	2.2	2.0	2.7	2.1

Amended: April 2009 TL: E048000

Table 2.3F-41

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	1	4
1.01 TO 1.50	1	1	0	3	0	0	0	0	1	0	0	0	0	1	0	1	8
1.51 TO 2.00	0	1	3	2	1	0	0	0	1	0	0	0	0	0	0	0	8
2.01 TO 3.00	0	6	9	0	0	0	0	1	0	0	0	1	0	0	0	0	17
3.01 TO 4.00	0	10	3	0	0	0	0	0	0	0	0	0	0	0	0	1	14
4.01 TO 5.00	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	28	15	5	3	1	0	1	2	0	0	1	0	1	0	3	61

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
0.51 TO 1.00	0.00	0.00	0.00	0.00	.11	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.22
1.01 TO 1.50	.06	.06	0.00	.17	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.06	0.00	.06	.44
1.51 TO 2.00	0.00	.06	.17	.11	.06	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.44
2.01 TO 3.00	0.00	.33	.50	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.94
3.01 TO 4.00	0.00	.55	.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.77
4.01 TO 5.00	0.00	.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.50
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.06	1.54	.83	.28	.17	.06	0.00	.06	.11	0.00	0.00	.06	0.00	.06	0.00	.17	3.36
AVE WIND SPEED	1.2	3.5	2.4	1.5	1.1	.6	0.0	2.2	1.6	0.0	0.0	2.1	0.0	1.3	0.0	1.9	2.5

Table 2.3F-42

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1.01 TO 1.50	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1.51 TO 2.00	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	4
2.01 TO 3.00	1	9	5	0	0	0	0	0	1	0	0	0	0	0	0	0	16
3.01 TO 4.00	1	20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	24
4.01 TO 5.00	0	16	7	0	0	0	0	0	0	0	0	0	0	0	0	0	23
5.01 TO 6.00	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	10
6.01 TO 7.00	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	6
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	3	52	29	0	0	0	0	1	1	0	0	0	0	0	0	0	86

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
1.01 TO 1.50	.06	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11
1.51 TO 2.00	0.00	.11	.06	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.22
2.01 TO 3.00	.06	.50	.28	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.88
3.01 TO 4.00	.06	1.10	.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32
4.01 TO 5.00	0.00	.88	.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
5.01 TO 6.00	0.00	.11	.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.55
6.01 TO 7.00	0.00	.11	.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.33
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.17	2.87	1.60	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.74
AVE WIND SPEED	2.6	3.7	4.3	0.0	0.0	0.0	0.0	1.6	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8

Table 2.3F-43

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	1	0	5	3	3	2	1	0	0	15
1.51 TO 2.00	0	0	0	0	0	0	0	1	3	2	6	11	6	7	1	0	37
2.01 TO 3.00	0	1	0	0	0	0	0	1	4	22	44	67	56	39	9	0	243
3.01 TO 4.00	0	0	0	0	0	0	1	0	7	45	46	59	88	79	16	0	341
4.01 TO 5.00	0	0	0	0	0	0	0	0	13	27	12	14	29	40	14	0	149
5.01 TO 6.00	0	0	0	0	0	0	0	1	8	8	3	0	2	12	8	1	43
6.01 TO 7.00	0	0	0	0	0	0	0	2	1	0	0	0	0	0	2	1	6
7.01 TO 8.00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	0	0	0	0	1	8	38	109	114	154	183	178	50	2	838

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	.22	.13	.13	.09	.04	0.00	0.00	.67
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.13	.09	.27	.49	.27	.31	.04	0.00	1.66
2.01 TO 3.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	.04	.18	.99	1.97	3.01	2.51	1.75	.40	0.00	10.91
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	.31	2.02	2.06	2.65	3.95	3.55	.72	0.00	15.31
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.58	1.21	.54	.63	1.30	1.80	.63	0.00	6.69
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.36	.36	.13	0.00	.09	.54	.36	.04	1.93
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.04	0.00	0.00	0.00	0.00	0.00	.09	.04	.27
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.04	0.00	0.00	0.00	0.00	.04	.36	1.71	4.89	5.12	6.91	8.21	7.99	2.24	.09	37.61
AVE WIND SPEED	0.0	2.0	0.0	0.0	0.0	0.0	3.3	5.0	4.2	3.6	3.1	3.0	3.2	3.6	3.9	6.3	3.4

Amended: April 2009 TL: E048000

Table 2.3F-44

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	2	1	0	1	1	0	5
1.51 TO 2.00	0	0	0	0	0	0	0	2	0	2	4	2	4	7	5	2	28
2.01 TO 3.00	0	1	0	0	0	0	0	1	4	4	7	3	4	2	6	0	32
3.01 TO 4.00	0	1	1	0	0	0	0	2	2	4	0	1	3	0	2	2	18
4.01 TO 5.00	0	0	0	0	0	0	0	4	5	2	2	1	1	0	1	2	18
5.01 TO 6.00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	2	1	0	0	0	0	9	15	12	15	8	12	10	16	6	106

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	.04
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.04	0.00	.04	.04	0.00	.22
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	0.00	.09	.18	.09	.18	.31	.22	.09	1.26
2.01 TO 3.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	.04	.18	.18	.31	.13	.18	.09	.27	0.00	1.44
3.01 TO 4.00	0.00	.04	.04	0.00	0.00	0.00	0.00	.09	.09	.18	0.00	.04	.13	0.00	.09	.09	.81
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.18	.22	.09	.09	.04	.04	0.00	.04	.09	.81
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.09	.04	0.00	0.00	0.00	0.00	.40	.67	.54	.67	.36	.54	.45	.72	.27	4.76
AVE WIND SPEED	0.0	3.0	3.0	0.0	0.0	0.0	0.0	3.4	4.2	3.1	2.4	2.6	2.6	1.8	2.3	3.4	2.9

Amended: April 2009 TL: E048000

Table 2.3F-45

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	1	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	4
1.01 TO 1.50	1	0	0	0	0	0	0	0	3	4	4	0	3	6	2	4	27
1.51 TO 2.00	1	3	0	0	0	0	1	1	2	4	3	5	6	5	1	2	34
2.01 TO 3.00	3	2	3	0	0	0	0	4	5	7	8	8	4	6	1	2	53
3.01 TO 4.00	0	1	0	0	0	0	4	4	5	4	2	1	1	0	0	2	24
4.01 TO 5.00	0	0	0	0	0	0	1	2	5	1	0	0	1	0	1	0	11
5.01 TO 6.00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3
6.01 TO 7.00	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	4
7.01 TO 8.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	6	7	3	0	0	0	6	13	23	23	17	14	15	18	6	10	161

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.04	.04	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	.04	0.00	0.00	.18
1.01 TO 1.50	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.18	.18	0.00	.13	.27	.09	.18	1.21
1.51 TO 2.00	.04	.13	0.00	0.00	0.00	0.00	.04	.04	.09	.18	.13	.22	.27	.22	.04	.09	1.53
2.01 TO 3.00	.13	.09	.13	0.00	0.00	0.00	0.00	.18	.22	.31	.36	.36	.18	.27	.04	.09	2.38
3.01 TO 4.00	0.00	.04	0.00	0.00	0.00	0.00	.18	.18	.22	.18	.09	.04	.04	0.00	0.00	.09	1.08
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.09	.22	.04	0.00	0.00	.04	0.00	.04	0.00	.49
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.09	0.00	0.00	0.00	0.00	0.00	0.00	.13
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	.04	0.00	0.00	0.00	0.00	.04	0.00	.18
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.27	.31	.13	0.00	0.00	0.00	.27	.58	1.03	1.03	.76	.63	.67	.81	.27	.45	7.23
AVE WIND SPEED	1.8	2.1	2.4	0.0	0.0	0.0	3.5	3.7	3.2	2.9	2.2	2.2	2.2	1.7	2.8	2.0	2.5

Amended: April 2009 TL: E048000

Table 2.3F-46

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	1	1	2	0	1	0	0	0	5
0.51 TO 1.00	5	4	1	2	0	1	1	2	2	4	2	7	6	5	1	2	45
1.01 TO 1.50	7	4	3	1	1	1	8	4	9	12	9	16	6	8	6	4	99
1.51 TO 2.00	9	7	11	1	5	3	9	13	12	14	8	15	5	11	9	5	137
2.01 TO 3.00	6	6	6	3	1	8	22	38	22	14	18	6	11	4	12	8	185
3.01 TO 4.00	0	3	1	0	0	1	5	20	18	11	4	3	2	6	5	2	81
4.01 TO 5.00	0	2	0	0	0	0	1	9	10	3	0	0	0	0	1	0	26
5.01 TO 6.00	0	0	0	0	0	0	0	9	5	0	0	0	0	0	1	1	16
6.01 TO 7.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	27	26	22	7	7	14	46	96	80	59	43	47	31	34	35	22	596

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	.09	0.00	.04	0.00	0.00	0.00	.22
0.51 TO 1.00	.22	.18	.04	.09	0.00	.04	.04	.09	.09	.18	.09	.31	.27	.22	.04	.09	2.02
1.01 TO 1.50	.31	.18	.13	.04	.04	.04	.36	.18	.40	.54	.40	.72	.27	.36	.27	.18	4.44
1.51 TO 2.00	.40	.31	.49	.04	.22	.13	.40	.58	.54	.63	.36	.67	.22	.49	.40	.22	6.15
2.01 TO 3.00	.27	.27	.27	.13	.04	.36	.99	1.71	.99	.63	.81	.27	.49	.18	.54	.36	8.30
3.01 TO 4.00	0.00	.13	.04	0.00	0.00	.04	.22	.90	.81	.49	.18	.13	.09	.27	.22	.09	3.64
4.01 TO 5.00	0.00	.09	0.00	0.00	0.00	0.00	.04	.40	.45	.13	0.00	0.00	0.00	0.00	.04	0.00	1.17
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.40	.22	0.00	0.00	0.00	0.00	0.00	.04	.04	.72
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.21	1.17	.99	.31	.31	.63	2.06	4.31	3.59	2.65	1.93	2.11	1.39	1.53	1.57	.99	26.75
AVE WIND SPEED	1.6	2.1	1.9	1.7	1.7	2.2	2.3	3.0	2.9	2.2	2.0	1.6	1.7	1.8	2.3	2.1	2.3

Amended: April 2009 TL: E048000

Table 2.3F-47

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	1	0	1	1	0	0	0	0	0	0	1	2	1	1	1	0	9
0.51 TO 1.00	7	8	7	7	2	2	0	1	2	9	4	6	6	7	1	1	70
1.01 TO 1.50	5	7	7	7	3	3	7	7	8	8	4	4	7	4	2	5	88
1.51 TO 2.00	7	18	17	5	4	3	4	11	5	7	2	4	2	4	4	3	100
2.01 TO 3.00	2	9	7	0	5	6	8	14	13	3	1	0	2	4	2	2	78
3.01 TO 4.00	0	4	2	0	0	0	2	13	9	1	0	0	0	0	1	0	32
4.01 TO 5.00	0	2	0	0	0	0	0	2	5	0	0	0	0	0	0	0	9
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	4
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	22	48	41	20	14	14	21	48	45	29	12	16	18	20	12	11	392

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.04
0.26 TO 0.50	.04	0.00	.04	.04	0.00	0.00	0.00	0.00	0.00	0.00	.04	.09	.04	.04	.04	0.00	.40
0.51 TO 1.00	.31	.36	.31	.31	.09	.09	0.00	.04	.09	.40	.18	.27	.27	.31	.04	.04	3.14
1.01 TO 1.50	.22	.31	.31	.31	.13	.13	.31	.31	.36	.36	.18	.18	.31	.18	.09	.22	3.95
1.51 TO 2.00	.31	.81	.76	.22	.18	.13	.18	.49	.22	.31	.09	.18	.09	.18	.18	.13	4.49
2.01 TO 3.00	.09	.40	.31	0.00	.22	.27	.36	.63	.58	.13	.04	0.00	.09	.18	.09	.09	3.50
3.01 TO 4.00	0.00	.18	.09	0.00	0.00	0.00	.09	.58	.40	.04	0.00	0.00	0.00	0.00	.04	0.00	1.44
4.01 TO 5.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	.09	.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.40
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	.04
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.04	0.00	0.00	0.00	0.00	0.00	0.00	.18
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.99	2.15	1.84	.90	.63	.63	.94	2.15	2.02	1.30	.54	.72	.81	.90	.54	.49	17.59
AVE WIND SPEED	1.3	1.9	1.7	1.1	1.7	1.8	2.0	2.4	2.9	1.6	1.2	1.1	1.2	1.3	2.0	1.4	1.8

Amended: April 2009 TL: E048000

Table 2.3F-48

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
0.51 TO 1.00	0	2	2	4	0	0	0	1	0	0	1	0	0	0	0	0	10
1.01 TO 1.50	1	5	4	1	0	0	0	0	1	0	0	0	0	0	0	0	12
1.51 TO 2.00	2	7	5	1	0	0	0	0	0	0	0	0	0	0	0	0	15
2.01 TO 3.00	1	8	19	1	0	0	0	0	0	0	0	0	0	0	0	0	29
3.01 TO 4.00	0	3	4	0	0	0	0	1	0	0	0	0	0	0	0	0	8
4.01 TO 5.00	1	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	5
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	5	26	36	7	0	0	0	3	1	1	1	0	0	0	0	1	83

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.09
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	.04	.09
0.51 TO 1.00	0.00	.09	.09	.18	0.00	0.00	0.00	.04	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	.45
1.01 TO 1.50	.04	.22	.18	.04	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.54
1.51 TO 2.00	.09	.31	.22	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.67
2.01 TO 3.00	.04	.36	.85	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30
3.01 TO 4.00	0.00	.13	.18	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.36
4.01 TO 5.00	.04	.04	.09	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.22
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.22	1.17	1.62	.31	0.00	0.00	0.00	.13	.04	.04	.04	0.00	0.00	0.00	0.00	.04	3.73
AVE WIND SPEED	2.3	2.0	2.4	1.1	0.0	0.0	0.0	2.7	1.2	.3	.8	0.0	0.0	0.0	0.0	.4	2.0

Amended: April 2009 TL: E048000

Table 2.3F-49

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1.01 TO 1.50	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4
1.51 TO 2.00	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	6
2.01 TO 3.00	0	7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	11
3.01 TO 4.00	0	8	11	0	0	0	0	0	0	0	0	0	0	0	0	0	19
4.01 TO 5.00	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5.01 TO 6.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	22	29	1	0	0	0	0	0	0	0	0	0	0	0	0	52

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
0.51 TO 1.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
1.01 TO 1.50	0.00	.09	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.18
1.51 TO 2.00	0.00	.09	.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.27
2.01 TO 3.00	0.00	.31	.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.49
3.01 TO 4.00	0.00	.36	.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.85
4.01 TO 5.00	0.00	.04	.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.40
5.01 TO 6.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.99	1.30	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33
AVE WIND SPEED	0.0	2.8	3.2	.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0

Amended: April 2009 TL: E048000

Table 2.3F-50

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
0.51 TO 1.00	0	1	1	2	0	0	0	0	0	1	3	5	3	4	1	1	22
1.01 TO 1.50	2	3	0	1	0	0	0	2	6	0	7	5	2	5	6	2	41
1.51 TO 2.00	2	5	1	2	1	1	1	3	4	5	4	18	12	12	4	3	78
2.01 TO 3.00	2	4	6	0	1	1	8	7	11	17	24	47	47	33	15	3	226
3.01 TO 4.00	0	3	0	0	0	0	5	4	6	20	15	33	85	94	18	1	284
4.01 TO 5.00	0	0	0	0	0	0	4	1	6	15	13	9	52	87	16	0	203
5.01 TO 6.00	0	0	0	0	0	0	1	4	6	5	3	0	9	30	6	1	65
6.01 TO 7.00	0	0	0	0	0	0	0	3	0	2	0	0	0	5	3	0	13
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	6	16	9	5	3	2	19	24	39	65	69	117	210	270	72	11	937

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	.04	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
0.51 TO 1.00	0.00	.04	.04	.09	0.00	0.00	0.00	0.00	0.00	.04	.13	.22	.13	.18	.04	.04	.99
1.01 TO 1.50	.09	.13	0.00	.04	0.00	0.00	0.00	.09	.27	0.00	.31	.22	.09	.22	.27	.09	1.84
1.51 TO 2.00	.09	.22	.04	.09	.04	.04	.04	.13	.18	.22	.18	.81	.54	.54	.18	.13	3.50
2.01 TO 3.00	.09	.18	.27	0.00	.04	.04	.36	.31	.49	.76	1.08	2.11	2.11	1.48	.67	.13	10.13
3.01 TO 4.00	0.00	.13	0.00	0.00	0.00	0.00	.22	.18	.27	.90	.67	1.48	3.81	4.22	.81	.04	12.74
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.18	.04	.27	.67	.58	.40	2.33	3.90	.72	0.00	9.10
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.18	.27	.22	.13	0.00	.40	1.35	.27	.04	2.91
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	0.00	.09	0.00	0.00	0.00	.22	.13	0.00	.58
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	0.00	.13
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.27	.72	.40	.22	.13	.09	.85	1.08	1.75	2.91	3.09	5.25	9.42	12.11	3.23	.49	42.02
AVE WIND SPEED	1.9	2.0	2.0	1.4	1.4	2.2	3.3	3.5	3.2	3.5	3.0	2.7	3.4	3.8	3.7	2.2	3.3

Table 2.3F-51

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

SUMMARY WIND RUSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	4
1.01 TO 1.50	1	0	0	0	1	0	0	1	0	0	1	1	1	1	2	1	10
1.51 TO 2.00	0	1	1	0	0	0	0	3	2	2	1	2	0	1	1	2	16
2.01 TO 3.00	0	2	1	0	1	1	1	2	2	1	3	2	2	4	2	2	26
3.01 TO 4.00	0	1	0	0	0	0	3	1	1	1	0	1	3	3	1	0	15
4.01 TO 5.00	0	0	0	0	0	0	1	0	0	1	2	0	1	0	0	0	5
5.01 TO 6.00	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	3
6.01 TO 7.00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	4	2	1	2	1	7	8	8	7	7	6	7	9	8	5	83

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
0.51 TO 1.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	.04	.04	.04	0.00	0.00	0.00	0.00	0.00	0.00	.18
1.01 TO 1.50	.04	0.00	0.00	0.00	.04	0.00	0.00	.04	0.00	0.00	.04	.04	.04	.04	.09	.04	.45
1.51 TO 2.00	0.00	.04	.04	0.00	0.00	0.00	0.00	.13	.09	.09	.04	.09	0.00	.04	.04	.09	.72
2.01 TO 3.00	0.00	.09	.04	0.00	.04	.04	.04	.09	.09	.04	.13	.09	.09	.18	.09	.09	1.17
3.01 TO 4.00	0.00	.04	0.00	0.00	0.00	0.00	.13	.04	.04	.04	0.00	.04	.13	.13	.04	0.00	.67
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	.04	.09	0.00	.04	0.00	0.00	0.00	.22
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	.04	0.00	0.00	0.00	0.00	0.00	.04	0.00	.13
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	0.00	0.00	0.00	0.00	.04	0.00	.13
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.04	.18	.09	.04	.09	.04	.31	.36	.36	.31	.31	.27	.31	.40	.36	.22	3.72
AVE WIND SPEED	1.2	2.6	2.2	.7	1.8	2.3	3.2	2.0	3.0	3.0	2.9	2.1	3.0	2.5	3.2	1.9	2.6

Amended: April 2009 TL: E048000

Table 2.3F-52

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	1	0	0	0	0	0	0	2	0	1	2	1	0	0	0	0	7
1.01 TO 1.50	3	5	0	0	0	0	1	2	0	1	1	1	1	1	0	1	15
1.51 TO 2.00	1	1	0	1	1	0	2	0	0	3	4	2	1	5	3	2	26
2.01 TO 3.00	0	2	1	0	0	2	0	2	1	2	0	5	4	6	4	1	30
3.01 TO 4.00	0	2	0	0	0	1	1	2	1	1	2	1	1	3	1	1	17
4.01 TO 5.00	0	0	0	0	0	0	0	0	1	1	2	1	0	1	0	0	6
5.01 TO 6.00	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	5	8	1	1	1	3	4	9	3	9	11	11	8	16	8	5	104

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.04
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.09	0.00	.04	.09	.04	0.00	0.00	0.00	0.00	.31
1.01 TO 1.50	.13	.13	0.00	0.00	0.00	0.00	.04	.09	0.00	.04	.04	.04	.04	.04	0.00	.04	.67
1.51 TO 2.00	.04	.04	0.00	.04	.04	0.00	.09	0.00	0.00	.13	.18	.09	.04	.22	.13	.09	1.17
2.01 TO 3.00	0.00	.09	.04	0.00	0.00	.09	0.00	.09	.04	.09	0.00	.22	.18	.27	.18	.04	1.35
3.01 TO 4.00	0.00	.09	0.00	0.00	0.00	.04	.04	.09	.04	.04	.09	.04	.04	.13	.04	.04	.76
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	.09	.04	0.00	.04	0.00	0.00	.27
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	.09
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.22	.36	.04	.04	.04	.13	.18	.40	.13	.40	.49	.49	.36	.72	.36	.22	4.66
AVE WIND SPEED	1.3	2.3	2.5	2.0	1.6	2.8	2.0	2.4	5.2	2.2	2.3	2.3	2.9	2.4	2.2	2.2	2.3

Amended: April 2009 TL: E048000

Table 2.3F-53

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	1	4
0.51 TO 1.00	5	2	1	1	1	1	0	0	2	2	5	2	2	0	2	4	30
1.01 TO 1.50	11	8	10	5	1	0	1	5	3	2	5	1	3	5	8	2	70
1.51 TO 2.00	8	11	9	6	0	0	3	6	3	5	7	5	7	8	5	5	88
2.01 TO 3.00	7	22	10	4	3	5	5	16	12	13	9	11	9	21	14	5	166
3.01 TO 4.00	1	7	9	1	0	1	5	17	7	13	9	3	6	10	7	3	99
4.01 TO 5.00	0	4	1	0	0	0	4	11	10	4	3	1	3	2	5	1	49
5.01 TO 6.00	0	0	1	0	0	0	0	1	6	2	1	1	1	0	2	0	15
6.01 TO 7.00	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	4
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	32	54	41	17	5	7	18	58	47	42	39	24	32	47	44	21	529

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.04
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	.04	.04	0.00	.04	.18
0.51 TO 1.00	.22	.09	.04	.04	.04	.04	0.00	0.00	.09	.09	.22	.09	.09	0.00	.09	.18	1.35
1.01 TO 1.50	.49	.36	.45	.22	.04	0.00	.04	.22	.13	.09	.22	.04	.13	.22	.36	.09	3.14
1.51 TO 2.00	.36	.49	.40	.27	0.00	0.00	.13	.27	.13	.22	.31	.22	.31	.36	.22	.22	3.95
2.01 TO 3.00	.31	.99	.45	.18	.13	.22	.22	.72	.54	.58	.40	.49	.40	.94	.63	.22	7.44
3.01 TO 4.00	.04	.31	.40	.04	0.00	.04	.22	.76	.31	.58	.40	.13	.27	.45	.31	.13	4.44
4.01 TO 5.00	0.00	.18	.04	0.00	0.00	0.00	.18	.49	.45	.18	.13	.04	.13	.09	.22	.04	2.20
5.01 TO 6.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	.04	.27	.09	.04	.04	.04	0.00	.09	0.00	.67
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.18
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	.04
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.04
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.43	2.42	1.84	.76	.22	.31	.81	2.60	2.11	1.88	1.75	1.08	1.43	2.11	1.97	.94	23.72
AVE WIND SPEED	1.6	2.3	2.2	1.8	1.9	2.4	3.1	3.2	3.5	3.1	2.5	2.4	2.5	2.5	2.7	1.9	2.6

Amended: April 2009 TL: E048000

Table 2.3F-54

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
0.51 TO 1.00	2	4	1	2	1	5	0	1	5	1	2	5	2	2	1	6	40
1.01 TO 1.50	7	22	8	3	2	0	2	3	9	6	1	2	5	5	7	5	87
1.51 TO 2.00	5	15	9	2	0	0	0	6	9	3	0	4	6	4	6	4	71
2.01 TO 3.00	10	18	15	1	2	1	7	16	13	9	3	0	4	2	6	4	111
3.01 TO 4.00	3	10	15	0	0	1	5	6	14	8	0	0	1	0	6	0	69
4.01 TO 5.00	2	2	2	0	0	0	4	3	4	2	0	0	0	0	0	2	21
5.01 TO 6.00	0	0	1	0	0	0	0	1	4	1	0	0	0	0	0	1	8
6.01 TO 7.00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTALS	29	69	52	9	5	7	18	38	62	30	6	11	18	13	26	22	417

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.09
0.26 TO 0.50	0.00	0.00	.04	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
0.51 TO 1.00	.09	.18	.04	.09	.04	.22	0.00	.04	.22	.04	.09	.22	.09	.09	.04	.27	1.79
1.01 TO 1.50	.31	.99	.36	.13	.09	0.00	.09	.13	.40	.27	.04	.09	.22	.22	.31	.22	3.90
1.51 TO 2.00	.22	.58	.40	.09	0.00	0.00	0.00	.27	.40	.13	0.00	.18	.27	.18	.27	.18	3.18
2.01 TO 3.00	.45	.81	.67	.04	.09	.04	.31	.72	.58	.40	.13	0.00	.18	.09	.27	.18	4.98
3.01 TO 4.00	.13	.45	.67	0.00	0.00	.04	.22	.27	.63	.36	0.00	0.00	.04	0.00	.27	0.00	3.09
4.01 TO 5.00	.09	.09	.09	0.00	0.00	0.00	.18	.13	.18	.09	0.00	0.00	0.00	0.00	0.00	.09	.94
5.01 TO 6.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	.04	.18	.04	0.00	0.00	0.00	0.00	0.00	.04	.36
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
TOTALS	1.30	3.09	2.33	.40	.22	.31	.81	1.70	2.78	1.35	.27	.49	.81	.58	1.17	.99	18.70
AVE WIND SPEED	2.0	2.0	2.5	1.3	1.5	1.3	3.1	3.0	2.9	2.5	1.6	1.2	1.7	1.5	2.1	1.9	2.3

Amended: April 2009 TL: E048000

Table 2.3F-55

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0.51 TO 1.00	0	1	0	1	0	0	0	1	1	0	0	0	1	0	0	0	5
1.01 TO 1.50	3	3	5	0	2	0	1	0	0	1	0	0	0	0	0	0	15
1.51 TO 2.00	2	6	3	0	0	1	1	1	0	0	1	0	0	0	0	0	15
2.01 TO 3.00	0	14	16	0	0	0	0	0	0	0	0	0	0	0	0	0	30
3.01 TO 4.00	3	9	5	0	0	0	0	0	0	0	0	0	0	0	0	0	17
4.01 TO 5.00	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	8	38	35	1	2	1	2	2	1	1	1	0	1	0	0	0	93

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
0.51 TO 1.00	0.00	.04	0.00	.04	0.00	0.00	0.00	.04	.04	0.00	0.00	0.00	.04	0.00	0.00	0.00	.22
1.01 TO 1.50	.13	.13	.22	0.00	.09	0.00	.04	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.67
1.51 TO 2.00	.09	.27	.13	0.00	0.00	.04	.04	.04	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	.67
2.01 TO 3.00	0.00	.63	.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35
3.01 TO 4.00	.13	.40	.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.76
4.01 TO 5.00	0.00	.22	.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.40
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.36	1.70	1.57	.04	.09	.04	.09	.09	.04	.04	.04	0.00	.04	0.00	0.00	0.00	4.17
AVE WIND SPEED	2.1	2.8	2.4	.8	1.3	1.7	1.5	1.3	.6	1.2	1.5	0.0	.7	0.0	0.0	0.0	2.4

Amended: April 2009 TL: E048000

Table 2.3F-56

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1.51 TO 2.00	0	5	3	0	1	0	0	0	0	1	0	0	0	0	0	0	10
2.01 TO 3.00	0	5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	15
3.01 TO 4.00	1	14	5	0	0	0	0	1	0	0	0	0	0	0	0	0	21
4.01 TO 5.00	1	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	13
5.01 TO 6.00	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4
6.01 TO 7.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	2	34	28	0	1	0	0	1	0	1	0	0	0	0	0	0	67

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
1.01 TO 1.50	0.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
1.51 TO 2.00	0.00	.22	.13	0.00	.04	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.45
2.01 TO 3.00	0.00	.22	.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.67
3.01 TO 4.00	.04	.63	.22	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.94
4.01 TO 5.00	.04	.36	.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.58
5.01 TO 6.00	0.00	.04	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.18
6.01 TO 7.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.09	1.52	1.25	0.00	.04	0.00	0.00	.04	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	3.00
AVE WIND SPEED	4.0	3.4	3.3	0.0	1.8	0.0	0.0	3.9	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3

Amended: April 2009 TL: E048000

Table 2.3F-57

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	1	0	0	1	1	0	1	2	2	0	3	1	2	2	0	16
1.01 TO 1.50	2	3	1	0	0	0	2	2	2	4	6	6	2	2	1	4	37
1.51 TO 2.00	1	1	0	0	0	0	1	2	9	6	9	7	8	5	4	0	53
2.01 TO 3.00	1	1	1	0	2	3	1	5	16	22	23	45	32	43	8	1	204
3.01 TO 4.00	0	1	0	0	0	0	9	5	7	23	13	40	76	62	6	1	243
4.01 TO 5.00	0	3	0	0	0	0	0	8	7	14	4	6	25	47	6	0	120
5.01 TO 6.00	0	0	0	0	0	0	0	3	1	3	2	4	9	28	7	0	57
6.01 TO 7.00	0	0	0	0	0	0	0	1	0	1	0	0	1	10	4	0	17
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	4	10	2	0	3	4	13	27	45	75	57	111	154	199	39	6	749

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	.05	0.00	0.00	.05	.05	0.00	.05	.10	.10	0.00	.15	.05	.10	.10	0.00	.78
1.01 TO 1.50	.10	.15	.05	0.00	0.00	0.00	.10	.10	.10	.19	.29	.29	.10	.10	.05	.19	1.80
1.51 TO 2.00	.05	.05	0.00	0.00	0.00	0.00	.05	.10	.44	.29	.44	.34	.39	.24	.19	0.00	2.57
2.01 TO 3.00	.05	.05	.05	0.00	.10	.15	.05	.24	.78	1.07	1.12	2.18	1.55	2.09	.39	.05	9.90
3.01 TO 4.00	0.00	.05	0.00	0.00	0.00	0.00	.44	.24	.34	1.12	.63	1.94	3.69	3.01	.29	.05	11.79
4.01 TO 5.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	.39	.34	.68	.19	.29	1.21	2.28	.29	0.00	5.82
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.05	.15	.10	.19	.44	1.36	.34	0.00	2.77
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	.05	.49	.19	0.00	.82
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	.10
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.19	.49	.10	0.00	.15	.19	.63	1.31	2.18	3.64	2.77	5.39	7.47	9.66	1.89	.29	36.34
AVE WIND SPEED	1.7	2.6	1.6	0.0	1.9	2.0	2.8	3.5	2.9	3.1	2.8	2.8	3.4	3.9	3.8	1.8	3.3

Amended: April 2009 TL: E048000

Table 2.3F-58

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
0.51 TO 1.00	0	3	1	0	0	0	0	0	0	0	0	1	2	0	0	2	9
1.01 TO 1.50	2	0	1	1	0	0	0	0	1	1	2	0	1	2	0	4	15
1.51 TO 2.00	2	1	1	0	0	0	1	6	4	1	4	1	0	1	0	2	24
2.01 TO 3.00	1	0	2	0	1	0	1	8	3	2	2	1	0	5	1	4	31
3.01 TO 4.00	0	2	0	0	0	1	1	4	2	2	1	4	2	4	0	1	24
4.01 TO 5.00	0	0	0	0	0	0	0	3	1	1	1	0	2	0	2	1	11
5.01 TO 6.00	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	3
6.01 TO 7.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	5	7	5	1	1	1	3	21	13	7	10	7	8	12	5	14	120

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.10
0.51 TO 1.00	0.00	.15	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	0.00	0.00	.10	.44
1.01 TO 1.50	.10	0.00	.05	.05	0.00	0.00	0.00	0.00	.05	.05	.10	0.00	.05	.10	0.00	.19	.73
1.51 TO 2.00	.10	.05	.05	0.00	0.00	0.00	.05	.29	.19	.05	.19	.05	0.00	.05	0.00	.10	1.16
2.01 TO 3.00	.05	0.00	.10	0.00	.05	0.00	.05	.39	.15	.10	.10	.05	0.00	.24	.05	.19	1.50
3.01 TO 4.00	0.00	.10	0.00	0.00	0.00	.05	.05	.19	.10	.10	.05	.19	.10	.19	0.00	.05	1.16
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.05	.05	.05	0.00	.10	0.00	.10	.05	.53
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05	0.00	.05	0.00	.15
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.24	.34	.24	.05	.05	.05	.15	1.02	.63	.34	.49	.34	.39	.58	.24	.68	5.82
AVE WIND SPEED	1.7	1.7	1.7	1.0	3.0	3.0	2.6	2.8	2.9	2.7	2.2	2.8	2.9	2.5	3.6	2.0	2.5

Amended: April 2009 TL: E048000

Table 2.3F-59

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0.51 TO 1.00	1	0	1	0	0	0	0	0	0	1	1	0	1	0	0	1	6
1.01 TO 1.50	2	1	0	2	0	1	0	2	2	4	0	3	0	1	3	2	23
1.51 TO 2.00	0	0	2	1	1	0	2	2	0	3	1	2	1	3	3	0	21
2.01 TO 3.00	2	1	4	0	0	0	0	9	0	0	1	3	4	3	4	1	32
3.01 TO 4.00	0	0	1	0	0	0	1	2	3	1	1	1	1	2	1	0	14
4.01 TO 5.00	0	1	0	0	0	1	1	2	1	0	0	1	2	2	1	0	12
5.01 TO 6.00	0	0	0	0	0	0	0	0	3	0	1	0	0	0	1	0	5
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	5	3	8	3	1	2	4	17	9	10	5	10	9	11	13	4	114

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.05	0.00	0.00	.05	.29
1.01 TO 1.50	.10	.05	0.00	.10	0.00	.05	0.00	.10	.10	.19	0.00	.15	0.00	.05	.15	.10	1.12
1.51 TO 2.00	0.00	0.00	.10	.05	.05	0.00	.10	.10	0.00	.15	.05	.10	.05	.15	.15	0.00	1.02
2.01 TO 3.00	.10	.05	.19	0.00	0.00	0.00	0.00	.44	0.00	0.00	.05	.15	.19	.15	.19	.05	1.55
3.01 TO 4.00	0.00	0.00	.05	0.00	0.00	0.00	.05	.10	.15	.05	.05	.05	.05	.10	.05	0.00	.68
4.01 TO 5.00	0.00	.05	0.00	0.00	0.00	.05	.05	.10	.05	0.00	0.00	.05	.10	.10	.05	0.00	.58
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	.05	0.00	0.00	0.00	.05	0.00	.24
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.24	.15	.39	.15	.05	.10	.19	.82	.44	.49	.24	.49	.44	.53	.63	.19	5.53
AVE WIND SPEED	1.8	2.6	2.1	1.5	1.7	2.8	2.8	2.7	3.9	1.5	2.8	2.2	2.8	2.8	2.5	1.5	2.5

Table 2.3F-60

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	1	3	4	0	2	1	1	2	2	2	2	5	0	2	3	6	36
1.01 TO 1.50	6	6	2	4	1	2	3	7	2	6	3	6	3	2	3	4	60
1.51 TO 2.00	9	7	1	2	3	2	1	8	7	3	1	4	5	4	1	5	63
2.01 TO 3.00	7	12	7	1	2	4	8	29	13	5	2	2	10	9	5	2	118
3.01 TO 4.00	0	5	4	0	0	1	9	15	10	2	1	3	4	4	8	1	67
4.01 TO 5.00	0	1	1	0	0	0	1	9	5	4	0	0	4	2	3	2	32
5.01 TO 6.00	0	0	1	0	0	0	1	3	3	0	0	0	0	2	2	0	12
6.01 TO 7.00	0	0	0	1	0	0	0	0	1	0	0	0	0	0	3	0	5
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	23	34	20	8	8	10	24	73	43	22	9	20	26	25	29	20	395

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.05	.15	.19	0.00	.10	.05	.05	.10	.10	.10	.10	.24	0.00	.10	.15	.29	1.75
1.01 TO 1.50	.29	.29	.10	.19	.05	.10	.15	.34	.10	.29	.15	.29	.15	.10	.15	.19	2.91
1.51 TO 2.00	.44	.34	.05	.10	.15	.10	.05	.39	.34	.15	.05	.19	.24	.19	.05	.24	3.06
2.01 TO 3.00	.34	.58	.34	.05	.10	.19	.39	1.41	.63	.24	.10	.10	.49	.44	.24	.10	5.73
3.01 TO 4.00	0.00	.24	.19	0.00	0.00	.05	.44	.73	.49	.10	.05	.15	.19	.19	.39	.05	3.25
4.01 TO 5.00	0.00	.05	.05	0.00	0.00	0.00	.05	.44	.24	.19	0.00	0.00	.19	.10	.15	.10	1.55
5.01 TO 6.00	0.00	0.00	.05	0.00	0.00	0.00	.05	.15	.15	0.00	0.00	0.00	0.00	.10	.10	0.00	.58
6.01 TO 7.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.15	0.00	.24
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.12	1.65	.97	.39	.39	.49	1.16	3.54	2.09	1.07	.44	.97	1.26	1.21	1.41	.97	19.17
AVE WIND SPEED	1.7	2.2	2.6	2.2	1.5	2.0	2.7	2.8	3.0	2.4	1.8	1.7	2.6	2.7	3.4	1.8	2.5

Table 2.3F-61

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	3
0.51 TO 1.00	3	5	2	1	1	0	0	1	6	0	2	1	3	2	2	2	31
1.01 TO 1.50	4	9	9	1	0	3	5	5	2	3	3	3	1	3	2	4	57
1.51 TO 2.00	6	19	2	2	4	1	4	5	5	2	3	3	2	5	4	2	69
2.01 TO 3.00	7	19	11	2	1	3	8	10	6	8	2	4	7	8	11	2	109
3.01 TO 4.00	2	13	4	0	0	2	6	11	4	1	0	1	1	4	11	1	61
4.01 TO 5.00	1	7	3	0	0	0	2	4	4	1	0	0	2	1	3	5	33
5.01 TO 6.00	0	1	1	2	0	0	0	3	5	0	0	0	0	0	0	3	15
6.01 TO 7.00	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	23	73	33	8	6	9	26	41	33	15	10	12	16	23	33	20	381

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.15
0.51 TO 1.00	.15	.24	.10	.05	.05	0.00	0.00	.05	.29	0.00	.10	.05	.15	.10	.10	.10	1.50
1.01 TO 1.50	.19	.44	.44	.05	0.00	.15	.24	.24	.10	.15	.15	.15	.05	.15	.10	.19	2.77
1.51 TO 2.00	.29	.92	.10	.10	.19	.05	.19	.24	.24	.10	.15	.15	.10	.24	.19	.10	3.35
2.01 TO 3.00	.34	.92	.53	.10	.05	.15	.39	.49	.29	.39	.10	.19	.34	.39	.53	.10	5.29
3.01 TO 4.00	.10	.63	.19	0.00	0.00	.10	.29	.53	.19	.05	0.00	.05	.05	.19	.53	.05	2.96
4.01 TO 5.00	.05	.34	.15	0.00	0.00	0.00	.10	.19	.19	.05	0.00	0.00	.10	.05	.15	.24	1.60
5.01 TO 6.00	0.00	.05	.05	.10	0.00	0.00	0.00	.15	.24	0.00	0.00	0.00	0.00	0.00	0.00	.15	.73
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.12	3.54	1.60	.39	.29	.44	1.26	1.99	1.60	.73	.49	.58	.78	1.12	1.60	.97	18.49
AVE WIND SPEED	1.9	2.4	2.4	2.7	1.6	2.2	2.7	2.9	2.9	2.3	1.6	1.8	2.2	2.2	2.7	2.9	2.5

Table 2.3F-62

DATA FROM 1/25/73 10 1/24/76SEPTEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	0	3	3	1	1	2	1	0	0	0	1	1	0	0	0	0	13
1.01 TO 1.50	3	4	2	2	0	2	1	0	1	0	1	0	1	1	0	0	18
1.51 TO 2.00	1	3	9	1	1	1	2	0	0	0	0	0	2	0	0	0	20
2.01 TO 3.00	3	17	12	1	0	1	1	0	0	0	0	0	2	5	1	0	43
3.01 TO 4.00	0	15	12	0	0	0	1	0	0	0	0	0	0	0	1	1	30
4.01 TO 5.00	1	8	2	0	0	0	0	0	0	0	0	0	0	1	0	0	12
5.01 TO 6.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	8	52	40	5	2	6	6	0	1	0	2	1	5	7	2	1	138

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	0.00	.15	.15	.05	.05	.10	.05	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	.63
1.01 TO 1.50	.15	.19	.10	.10	0.00	.10	.05	0.00	.05	0.00	.05	0.00	.05	.05	0.00	0.00	.87
1.51 TO 2.00	.05	.15	.44	.05	.05	.05	.10	0.00	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	.97
2.01 TO 3.00	.15	.82	.58	.05	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	.10	.24	.05	0.00	2.09
3.01 TO 4.00	0.00	.73	.58	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	1.46
4.01 TO 5.00	.05	.39	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.58
5.01 TO 6.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.39	2.52	1.94	.24	.10	.29	.29	0.00	.05	0.00	.10	.05	.24	.34	.10	.05	6.70
AVE WIND SPEED	2.0	2.9	2.6	1.4	1.3	1.4	1.8	0.0	1.5	0.0	1.0	.9	1.9	2.6	2.8	3.5	2.4

Table 2.3F-63

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	2	0	2	3	4	2	0	1	0	1	0	0	0	0	1	1	17
1.01 TO 1.50	0	0	2	1	0	5	2	0	1	1	0	2	0	0	1	1	16
1.51 TO 2.00	1	4	4	1	3	1	2	2	0	1	0	0	0	1	1	0	21
2.01 TO 3.00	1	12	5	0	2	1	1	0	1	0	0	0	0	3	1	1	28
3.01 TO 4.00	3	9	12	1	0	0	0	0	0	0	0	1	0	3	3	2	34
4.01 TO 5.00	3	7	11	0	0	1	1	0	0	0	0	0	1	0	0	1	25
5.01 TO 6.00	0	3	7	0	0	1	0	0	0	0	0	0	0	0	0	0	11
6.01 TO 7.00	0	3	4	1	0	0	0	0	0	0	0	0	0	0	0	0	8
7.01 TO 8.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	10	39	47	7	10	11	7	3	2	3	0	3	1	7	7	6	164

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	.10	0.00	.10	.15	.19	.10	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	.05	.05	.82
1.01 TO 1.50	0.00	0.00	.10	.05	0.00	.24	.10	0.00	.05	.05	0.00	.10	0.00	0.00	.05	.05	.78
1.51 TO 2.00	.05	.19	.19	.05	.15	.05	.10	.10	0.00	.05	0.00	0.00	0.00	.05	.05	0.00	1.02
2.01 TO 3.00	.05	.58	.24	0.00	.10	.05	.05	0.00	.05	0.00	0.00	0.00	0.00	.15	.05	.05	1.36
3.01 TO 4.00	.15	.44	.58	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.15	.15	.10	1.65
4.01 TO 5.00	.15	.34	.53	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	1.21
5.01 TO 6.00	0.00	.15	.34	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.53
6.01 TO 7.00	0.00	.15	.19	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.39
7.01 TO 8.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
8.01 TO 9.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.49	1.89	2.28	.34	.49	.53	.34	.15	.10	.15	0.00	.15	.05	.34	.34	.29	7.96
AVE WIND SPEED	2.9	3.7	3.8	2.1	2.1	2.1	1.8	1.4	1.6	1.2	0.0	2.0	4.4	2.6	2.6	2.5	3.0

Table 2.3F-64

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	3
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	2	4	5	2	0	0	0	13
2.01 TO 3.00	0	0	0	0	0	0	0	0	4	7	10	13	14	13	6	1	68
3.01 TO 4.00	0	0	0	0	0	0	1	2	5	7	5	20	44	57	12	0	153
4.01 TO 5.00	0	0	0	0	0	1	2	1	5	1	5	5	15	40	7	0	82
5.01 TO 6.00	0	0	0	0	0	0	0	2	0	0	1	0	5	18	10	0	36
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTALS	0	0	0	0	0	1	3	5	17	19	25	43	80	132	35	1	361

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	.05	0.00	0.00	0.00	0.00	0.00	0.00	.16
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	.21	.26	.11	0.00	0.00	0.00	.69
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.21	.37	.53	.69	.74	.69	.32	.05	3.59
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.11	.26	.37	.26	1.05	2.32	3.01	.63	0.00	8.07
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	.05	.11	.05	.26	.05	.26	.26	.79	2.11	.37	0.00	4.32
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	.05	0.00	.26	.95	.53	0.00	1.90
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.16	0.00	0.00	.16
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
TOTALS	0.00	0.00	0.00	0.00	0.00	.05	.16	.26	.90	1.00	1.32	2.27	4.22	6.96	1.85	.05	19.04
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	4.3	4.0	4.6	3.6	2.6	3.0	3.1	3.6	4.1	4.1	2.5	3.7

Amended: April 2009 TL: E048000

Table 2.3F-65

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	3
1.51 TO 2.00	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	4
2.01 TO 3.00	0	0	0	0	0	0	0	0	0	2	0	3	8	5	1	0	19
3.01 TO 4.00	0	0	0	0	0	0	0	1	2	1	0	1	3	2	1	0	11
4.01 TO 5.00	0	0	0	0	0	0	1	0	0	1	1	0	2	2	4	0	11
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	1	2	3	5	3	5	17	10	6	0	52

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.11	0.00	0.00	0.00	.16
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	.05	.05	0.00	0.00	0.00	.21
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	.16	.42	.26	.05	0.00	1.00
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.11	.05	0.00	.05	.16	.11	.05	0.00	.58
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	.05	0.00	.11	.11	.21	0.00	.58
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	.11
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	0.00	0.00	0.00	0.00	.05	.11	.16	.26	.16	.26	.90	.53	.32	0.00	2.74
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	0.0	4.4	2.4	2.9	2.7	5.2	2.5	2.9	3.4	4.2	0.0	3.2

Table 2.3F-66

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
1.01 TO 1.50	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	3
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3
2.01 TO 3.00	0	1	0	0	0	0	1	0	1	0	2	0	4	2	5	1	17
3.01 TO 4.00	0	0	0	0	0	0	1	1	0	0	1	1	1	0	1	0	6
4.01 TO 5.00	0	0	0	0	0	0	0	1	0	2	2	0	1	1	3	2	12
5.01 TO 6.00	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
TOTALS	0	2	0	0	0	0	2	3	1	3	5	3	9	7	10	3	48

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05
1.01 TO 1.50	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	.16
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.11	0.00	0.00	0.00	.16
2.01 TO 3.00	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.11	0.00	.21	.11	.26	.05	.90
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	.05	.05	.05	0.00	.05	0.00	.32
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.11	.11	0.00	.05	.05	.16	.11	.63
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.11
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	.11
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.11
TOTALS	0.00	.11	0.00	0.00	0.00	0.00	.11	.16	.05	.16	.26	.16	.47	.37	.53	.16	2.53
AVE WIND SPEED	0.0	2.0	0.0	0.0	0.0	0.0	2.7	4.5	2.1	3.4	3.3	2.0	2.4	6.1	4.0	3.8	3.6

Table 2.3F-67

DATA FROM 1/25/73 TO 1/24/76OCTOBER . LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0.51 TO 1.00	1	1	0	1	0	0	0	2	0	0	1	0	1	1	1	1	10
1.01 TO 1.50	11	3	3	2	0	0	1	2	5	6	5	4	1	6	3	6	58
1.51 TO 2.00	6	8	5	2	1	0	3	6	5	8	2	3	4	3	9	7	73
2.01 TO 3.00	16	15	14	0	1	4	11	10	10	7	6	2	11	16	12	9	144
3.01 TO 4.00	2	5	3	0	0	1	9	3	3	10	3	1	4	3	11	6	64
4.01 TO 5.00	0	1	1	0	0	0	4	6	1	0	0	0	3	1	7	2	26
5.01 TO 6.00	0	0	0	0	0	0	1	1	0	2	0	0	2	2	1	0	9
6.01 TO 7.00	0	1	0	0	0	0	0	0	1	2	0	1	0	1	0	0	6
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	3
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	1	0	0	0	2	1	0	4
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3	0	9
TOTALS	36	34	27	5	2	5	29	30	26	36	19	11	27	41	49	31	408

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	.05	.05	0.00	.05	0.00	0.00	0.00	.11	0.00	0.00	.05	0.00	.05	.05	.05	.05	.53
1.01 TO 1.50	.58	.16	.16	.11	0.00	0.00	.05	.11	.26	.32	.26	.21	.05	.32	.16	.32	3.06
1.51 TO 2.00	.32	.42	.32	.11	.05	0.00	.16	.32	.26	.42	.11	.16	.21	.16	.47	.37	3.85
2.01 TO 3.00	.84	.79	.74	0.00	.05	.21	.58	.53	.53	.37	.32	.11	.58	.84	.63	.47	7.59
3.01 TO 4.00	.11	.26	.16	0.00	0.00	.05	.47	.16	.16	.53	.16	.05	.21	.16	.58	.32	3.38
4.01 TO 5.00	0.00	.05	.05	0.00	0.00	0.00	.21	.32	.05	0.00	0.00	0.00	.16	.05	.37	.11	1.37
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.11	0.00	0.00	.11	.11	.05	0.00	.47
6.01 TO 7.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	.11	0.00	.05	0.00	.05	0.00	0.00	.32
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	0.00	.05	0.00	.16
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.11	.05	0.00	.21
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.32	.16	0.00	.47
TOTALS	1.90	1.79	1.42	.26	.11	.26	1.53	1.58	1.37	1.90	1.00	.58	1.42	2.16	2.58	1.64	21.52
AVE WIND SPEED	1.9	2.4	2.4	1.3	2.0	2.7	3.1	2.8	2.7	2.9	2.3	2.3	3.1	4.2	3.6	2.4	2.8

Amended: April 2009 TL: E048000

Table 2.3F-68

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	2	3	2	1	0	2	2	0	2	3	3	0	1	1	2	1	25
1.01 TO 1.50	4	2	2	2	3	3	5	3	5	7	10	6	2	5	1	3	63
1.51 TO 2.00	6	16	12	3	4	3	2	3	7	3	2	1	4	4	1	6	77
2.01 TO 3.00	14	29	14	3	5	3	9	18	7	5	0	3	3	2	8	5	128
3.01 TO 4.00	8	15	15	0	1	1	4	3	2	1	1	2	1	1	15	11	81
4.01 TO 5.00	1	5	9	0	0	1	3	3	3	1	1	0	1	4	9	3	44
5.01 TO 6.00	0	8	0	0	0	0	0	1	0	0	0	0	1	0	3	3	16
6.01 TO 7.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTALS	35	79	55	9	13	13	25	31	27	20	17	12	13	17	40	32	438

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	.11	.16	.11	.05	0.00	.11	.11	0.00	.11	.16	.16	0.00	.05	.05	.11	.05	1.32
1.01 TO 1.50	.21	.11	.11	.11	.16	.16	.26	.16	.26	.37	.53	.32	.11	.26	.05	.16	3.32
1.51 TO 2.00	.32	.84	.63	.16	.21	.16	.11	.16	.37	.16	.11	.05	.21	.21	.05	.32	4.06
2.01 TO 3.00	.74	1.53	.74	.16	.26	.16	.47	.95	.37	.26	0.00	.16	.16	.11	.42	.26	6.75
3.01 TO 4.00	.42	.79	.79	0.00	.05	.05	.21	.16	.11	.05	.05	.11	.05	.05	.79	.58	4.27
4.01 TO 5.00	.05	.26	.47	0.00	0.00	.05	.16	.16	.16	.05	.05	0.00	.05	.21	.47	.16	2.32
5.01 TO 6.00	0.00	.42	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	.16	.16	.84
6.01 TO 7.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05
TOTALS	1.85	4.17	2.90	.47	.69	.69	1.32	1.64	1.42	1.05	.90	.63	.69	.90	2.11	1.69	23.10
AVE WIND SPEED	2.4	2.9	2.8	1.9	2.0	2.0	2.5	2.7	2.4	1.8	1.6	2.0	2.4	2.3	3.6	3.0	2.6

Amended: April 2009 TL: E048000

Table 2.3F-69

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	1	2	3	2	2	2	0	0	0	2	0	0	1	0	0	1	16
1.01 TO 1.50	3	4	1	3	4	1	0	3	1	0	1	1	1	0	0	2	25
1.51 TO 2.00	4	2	8	3	0	3	4	1	0	0	0	0	1	4	3	1	34
2.01 TO 3.00	3	16	30	1	0	0	2	1	0	1	0	0	0	5	2	5	66
3.01 TO 4.00	1	15	13	1	1	0	0	1	1	0	0	0	0	3	1	1	38
4.01 TO 5.00	1	7	3	0	0	1	1	1	0	0	0	0	0	0	2	1	17
5.01 TO 6.00	0	5	5	0	0	0	0	1	0	0	0	0	0	1	0	1	13
6.01 TO 7.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	13	51	63	10	7	7	8	8	2	3	1	1	3	13	8	12	210

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.05	.11	.16	.11	.11	.11	0.00	0.00	0.00	.11	0.00	0.00	.05	0.00	0.00	.05	.84
1.01 TO 1.50	.16	.21	.05	.16	.21	.05	0.00	.16	.05	0.00	.05	.05	.05	0.00	0.00	.11	1.32
1.51 TO 2.00	.21	.11	.42	.16	0.00	.16	.21	.05	0.00	0.00	0.00	0.00	.05	.21	.16	.05	1.79
2.01 TO 3.00	.16	.84	1.58	.05	0.00	0.00	.11	.05	0.00	.05	0.00	0.00	0.00	.26	.11	.26	3.48
3.01 TO 4.00	.05	.79	.69	.05	.05	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	.16	.05	.05	2.00
4.01 TO 5.00	.05	.37	.16	0.00	0.00	.05	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	.11	.05	.90
5.01 TO 6.00	0.00	.26	.26	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	.69
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.69	2.69	3.32	.53	.37	.37	.42	.42	.11	.16	.05	.05	.16	.69	.42	.63	11.08
AVE WIND SPEED	2.1	3.1	2.8	1.6	1.5	1.8	2.8	2.7	2.5	1.2	1.3	1.4	1.3	2.8	2.9	2.6	2.6

Table 2.3F-70

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	1	2	1	0	0	0	0	0	2	0	0	1	0	0	0	7
1.01 TO 1.50	2	3	4	4	2	4	3	3	2	0	2	2	4	1	1	1	38
1.51 TO 2.00	4	3	5	4	2	4	1	3	2	0	4	1	1	0	1	2	37
2.01 TO 3.00	3	18	27	4	2	1	2	3	0	1	0	1	0	4	0	0	66
3.01 TO 4.00	3	21	40	0	0	0	1	1	0	0	0	0	0	3	5	1	75
4.01 TO 5.00	2	28	47	1	0	0	0	0	0	0	0	0	0	0	4	1	83
5.01 TO 6.00	0	17	24	2	0	0	0	0	0	0	0	0	0	1	3	1	48
6.01 TO 7.00	0	13	8	0	0	0	0	0	0	0	0	0	0	0	0	0	21
7.01 TO 8.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8.01 TO 9.00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	14	107	158	16	6	9	7	10	4	3	6	4	6	9	14	6	379

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	.05	.11	.05	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	.05	0.00	0.00	0.00	.37
1.01 TO 1.50	.11	.16	.21	.21	.11	.21	.16	.16	.11	0.00	.11	.11	.21	.05	.05	.05	2.00
1.51 TO 2.00	.21	.16	.26	.21	.11	.21	.05	.16	.11	0.00	.21	.05	.05	0.00	.05	.11	1.95
2.01 TO 3.00	.16	.95	1.42	.21	.11	.05	.11	.16	0.00	.05	0.00	.05	0.00	.21	0.00	0.00	3.48
3.01 TO 4.00	.16	1.11	2.11	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	.16	.26	.05	5.96
4.01 TO 5.00	.11	1.48	2.48	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.21	.05	4.38
5.01 TO 6.00	0.00	.90	1.27	.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.16	.05	2.53
6.01 TO 7.00	0.00	.69	.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11
7.01 TO 8.00	0.00	.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11
8.01 TO 9.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.74	5.64	8.33	.84	.32	.47	.37	.53	.21	.16	.32	.21	.32	.47	.74	.32	19.99
AVE WIND SPEED	2.6	4.2	4.0	2.4	1.8	1.5	2.1	2.0	1.4	1.4	1.5	1.6	1.3	3.0	3.9	3.1	3.5

Table 2.3F-71

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	2	1	2	0	0	0	0	6
1.51 TO 2.00	0	0	0	0	0	0	0	0	4	3	5	10	6	1	0	0	29
2.01 TO 3.00	0	0	0	0	0	0	0	3	14	13	7	21	22	26	0	1	107
3.01 TO 4.00	0	0	0	0	0	0	0	4	11	3	4	6	18	36	0	0	82
4.01 TO 5.00	0	0	0	0	0	0	0	5	1	0	2	2	8	28	4	0	50
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	10	2	0	12
6.01 TO 7.00	0	0	0	0	0	0	0	1	0	0	0	1	0	6	4	0	12
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
TOTALS	0	0	0	0	0	0	0	13	31	23	20	42	56	108	12	1	306

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	.05	.10	0.00	0.00	0.00	0.00	.29
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19	.14	.24	.48	.29	.05	0.00	0.00	1.39
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.67	.62	.34	1.01	1.06	1.25	0.00	.05	5.14
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19	.53	.14	.19	.29	.86	1.73	0.00	0.00	3.94
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.24	.05	0.00	.10	.10	.38	1.34	.19	0.00	2.40
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.48	.10	0.00	.58
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05	0.00	.29	.19	0.00	.58
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.10	0.00	.14
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	.10
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05
TOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.62	1.49	1.10	.96	2.02	2.69	5.18	.58	.05	14.69
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	2.7	3.0	2.5	2.6	3.2	3.9	5.7	2.3	3.4

Table 2.3F-72

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	3
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	4
2.01 TO 3.00	0	0	0	0	0	0	0	1	2	0	1	0	4	2	0	0	10
3.01 TO 4.00	0	0	0	0	0	0	0	1	1	2	1	0	4	5	0	0	14
4.01 TO 5.00	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	3
5.01 TO 6.00	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	3
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	3	5	6	3	3	9	9	0	0	38

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.05	0.00	0.00	.14
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.05	.05	0.00	0.00	0.00	.19
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	0.00	.05	0.00	.19	.10	0.00	0.00	.48
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.10	.05	0.00	.19	.24	0.00	0.00	.67
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	.05	0.00	0.00	0.00	0.00	.14
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	.05	0.00	0.00	.14
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.24	.29	.14	.14	.43	.43	0.00	0.00	1.82
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	3.7	2.6	2.4	3.0	3.3	0.0	0.0	3.2

Table 2.3F-73

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	4
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	3
2.01 TO 3.00	0	0	1	0	0	0	1	0	1	1	1	1	0	4	1	0	11
3.01 TO 4.00	0	0	0	0	0	1	0	2	1	0	0	2	0	5	1	0	12
4.01 TO 5.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	0	0	1	1	3	2	5	2	4	1	10	3	0	33

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	0.00	.05	0.00	0.00	0.00	.19
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	0.00	.05	0.00	.14
2.01 TO 3.00	0.00	0.00	.05	0.00	0.00	0.00	.05	0.00	.05	.05	.05	.05	0.00	.19	.05	0.00	.53
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.10	.05	0.00	0.00	.10	0.00	.24	.05	0.00	.58
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	.05	0.00	0.00	.05	.05	.14	.10	.24	.10	.19	.05	.48	.14	0.00	1.58
AVE WIND SPEED	0.0	0.0	2.7	0.0	0.0	3.3	2.9	3.8	2.9	1.8	1.9	2.7	1.5	3.2	2.4	0.0	2.8

Table 2.3F-74

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	2	0	1	0	0	0	0	0	1	0	1	2	2	0	0	0	9
1.01 TO 1.50	3	2	2	1	0	0	1	3	5	1	0	4	3	2	2	2	31
1.51 TO 2.00	1	3	0	1	0	1	2	6	1	3	3	0	4	5	6	2	38
2.01 TO 3.00	3	3	3	1	4	4	4	5	6	2	1	7	11	9	10	7	80
3.01 TO 4.00	1	3	2	1	2	2	4	4	3	4	4	7	3	7	10	4	61
4.01 TO 5.00	0	0	0	1	1	2	3	5	5	1	4	2	1	3	10	2	40
5.01 TO 6.00	0	0	1	0	0	0	3	3	1	4	3	0	0	1	3	0	19
6.01 TO 7.00	0	0	0	0	0	0	6	2	1	1	0	1	0	0	2	0	13
7.01 TO 8.00	0	0	0	0	0	0	3	1	2	0	0	0	0	0	0	0	6
8.01 TO 9.00	0	0	0	0	0	0	1	0	1	0	0	0	1	0	3	0	6
9.01 TO 10.00	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	2	9	2	0	0	13
TOTALS	10	12	9	5	7	9	27	29	26	16	16	25	35	29	47	17	319

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.10	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	.10	.10	0.00	0.00	0.00	.43
1.01 TO 1.50	.14	.10	.10	.05	0.00	0.00	.05	.14	.24	.05	0.00	.19	.14	.10	.10	.10	1.49
1.51 TO 2.00	.05	.14	0.00	.05	0.00	.05	.10	.29	.05	.14	.14	0.00	.19	.24	.29	.10	1.82
2.01 TO 3.00	.14	.14	.14	.05	.19	.19	.19	.24	.29	.10	.05	.34	.53	.43	.48	.34	3.84
3.01 TO 4.00	.05	.14	.10	.05	.10	.10	.19	.19	.14	.19	.19	.34	.14	.34	.48	.19	2.93
4.01 TO 5.00	0.00	0.00	0.00	.05	.05	.10	.14	.24	.24	.05	.19	.10	.05	.14	.48	.10	1.92
5.01 TO 6.00	0.00	0.00	.05	0.00	0.00	0.00	.14	.14	.05	.19	.14	0.00	0.00	.05	.14	0.00	.91
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.29	.10	.05	.05	0.00	.05	0.00	0.00	.10	0.00	.62
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.05	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.29
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	0.00	.05	0.00	.14	0.00	.29
9.01 TO 10.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.14
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.43	.10	0.00	0.00	.62
TOTALS	.48	.58	.43	.24	.34	.43	1.30	1.39	1.25	.77	.77	1.20	1.68	1.39	2.26	.82	15.31
AVE WIND SPEED	1.8	3.0	2.6	2.4	2.9	3.1	4.7	3.5	3.6	3.6	3.5	3.3	4.9	3.5	3.9	2.7	3.6

Table 2.3F-75

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	5	1	2	2	0	1	0	0	1	2	0	3	0	1	0	2	20
1.01 TO 1.50	5	5	3	1	2	0	3	0	5	2	3	3	4	1	5	2	44
1.51 TO 2.00	3	2	8	1	3	1	5	4	2	1	1	2	0	4	3	1	39
2.01 TO 3.00	8	13	11	3	5	2	6	8	1	0	4	1	1	11	8	7	87
3.01 TO 4.00	6	4	9	0	1	6	19	10	5	3	0	0	2	2	3	11	79
4.01 TO 5.00	1	10	4	1	1	1	5	9	3	1	1	1	0	0	6	6	50
5.01 TO 6.00	0	5	0	0	0	0	2	13	4	5	1	1	0	0	5	2	36
6.01 TO 7.00	0	2	0	0	0	0	1	9	5	1	1	1	0	1	1	1	23
7.01 TO 8.00	1	0	0	0	0	0	0	1	2	1	3	0	0	0	0	1	9
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	1	5
9.01 TO 10.00	0	0	1	0	0	0	0	0	0	0	0	0	0	2	1	1	5
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4	1	8
TOTALS	29	43	38	8	10	11	39	54	26	16	15	12	11	22	36	36	407

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	.24	.05	.10	.10	0.00	.05	0.00	0.00	.05	.10	0.00	.14	0.00	.05	0.00	.10	.96
1.01 TO 1.50	.24	.24	.14	.05	.10	0.00	.14	0.00	.24	.10	.14	.14	.19	.05	.24	.10	2.11
1.51 TO 2.00	.14	.10	.38	.05	.14	.05	.14	.19	.10	.05	.05	.10	0.00	.19	.14	.05	1.87
2.01 TO 3.00	.38	.62	.53	.14	.14	.10	.29	.38	.05	0.00	.19	.05	.05	.53	.38	.34	4.18
3.01 TO 4.00	.29	.19	.43	0.00	.05	.29	.91	.48	.14	.14	0.00	0.00	.10	.10	.14	.53	3.79
4.01 TO 5.00	.05	.48	.19	.05	.05	.05	.24	.43	.14	.05	.05	.05	0.00	0.00	.29	.29	2.40
5.01 TO 6.00	0.00	.24	0.00	0.00	0.00	0.00	.10	.62	.19	.24	.05	.05	0.00	0.00	.14	.10	1.73
6.01 TO 7.00	0.00	.10	0.00	0.00	0.00	0.00	.05	.43	.24	.05	.05	.05	0.00	.05	.05	.05	1.10
7.01 TO 8.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	.05	.14	0.00	0.00	0.00	0.00	.05	.43
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.10	.05	.24
9.01 TO 10.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	.05	.24
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	.19	.05	.38
TOTALS	1.39	2.06	1.82	.38	.48	.53	1.87	2.59	1.25	.77	.72	.58	.53	1.06	1.73	1.73	19.54
AVE WIND SPEED	2.3	3.3	2.8	1.9	2.3	3.0	3.4	4.5	4.2	3.9	4.1	2.4	5.3	3.1	4.5	4.0	3.6

Table 2.3F-76

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	2	0	0	1	0	0	0	0	0	0	1	0	0	4
0.51 TO 1.00	2	2	1	1	1	1	4	1	0	2	2	2	0	1	1	2	23
1.01 TO 1.50	4	6	1	3	4	1	1	4	2	4	1	1	1	3	3	0	39
1.51 TO 2.00	3	6	9	7	0	2	3	1	1	1	0	1	0	1	1	0	36
2.01 TO 3.00	3	8	10	1	2	3	4	3	2	0	0	0	0	0	1	1	38
3.01 TO 4.00	3	19	11	1	1	0	3	0	2	0	1	0	1	0	3	3	48
4.01 TO 5.00	2	15	6	0	0	0	1	2	1	0	0	0	0	0	2	1	30
5.01 TO 6.00	2	7	3	0	0	0	0	0	0	0	0	0	0	0	0	2	14
6.01 TO 7.00	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6
7.01 TO 8.00	4	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	4
8.01 TO 9.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTALS	23	66	44	16	8	7	17	11	8	7	4	4	2	6	11	10	244

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	.10	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.19
0.51 TO 1.00	.10	.10	.05	.05	.05	.05	.19	.05	0.00	.10	.10	.10	0.00	.05	.05	.10	1.10
1.01 TO 1.50	.19	.29	.05	.14	.19	.05	.05	.19	.10	.19	.05	.05	.05	.14	.14	0.00	1.87
1.51 TO 2.00	.14	.29	.43	.34	0.00	.10	.14	.05	.05	.05	0.00	.05	0.00	.05	.05	0.00	1.73
2.01 TO 3.00	.14	.38	.48	.05	.10	.14	.19	.14	.10	0.00	0.00	0.00	0.00	0.00	.05	.05	1.82
3.01 TO 4.00	.14	.91	.53	.05	.05	0.00	.14	0.00	.10	0.00	.05	0.00	.05	0.00	.14	.14	2.30
4.01 TO 5.00	.10	.72	.29	0.00	0.00	0.00	.05	.10	.05	0.00	0.00	0.00	0.00	0.00	.10	.05	1.44
5.01 TO 6.00	.10	.34	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.67
6.01 TO 7.00	.19	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.29
7.01 TO 8.00	0.00	.05	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.19
8.01 TO 9.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
TOTALS	1.10	3.17	2.11	.77	.38	.34	.82	.53	.38	.34	.19	.19	.10	.29	.53	.48	11.71
AVE WIND SPEED	3.2	3.5	3.0	1.9	1.7	1.8	2.0	2.2	2.5	1.2	1.3	1.2	2.2	1.1	2.6	3.7	2.8

Table 2.3F-77

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
0.51 TO 1.00	1	4	4	5	7	2	6	3	1	1	1	1	0	4	2	1	43
1.01 TO 1.50	6	12	9	13	7	7	11	2	1	0	3	1	2	3	4	4	85
1.51 TO 2.00	3	14	14	5	5	0	4	3	2	1	1	0	0	0	1	4	57
2.01 TO 3.00	9	30	50	14	2	1	5	1	2	0	0	0	0	0	3	3	120
3.01 TO 4.00	4	38	73	4	4	1	1	0	0	0	0	0	0	0	2	2	129
4.01 TO 5.00	4	44	66	3	0	0	0	1	0	0	0	0	0	0	0	0	118
5.01 TO 6.00	1	40	60	2	0	0	0	0	0	0	0	0	0	0	0	0	103
6.01 TO 7.00	0	21	34	0	0	0	0	0	0	0	0	0	1	1	0	2	59
7.01 TO 8.00	0	7	11	1	0	0	0	0	0	0	0	0	0	0	0	0	19
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	28	210	321	47	26	11	27	10	6	2	5	2	3	10	12	16	736

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.10
0.51 TO 1.00	.05	.19	.19	.24	.34	.10	.29	.14	.05	.05	.05	.05	0.00	.19	.10	.05	2.06
1.01 TO 1.50	.29	.58	.43	.62	.34	.34	.53	.10	.05	0.00	.14	.05	.10	.14	.19	.19	4.08
1.51 TO 2.00	.14	.67	.67	.24	.24	0.00	.19	.14	.10	.05	.05	0.00	0.00	0.00	.05	.19	2.74
2.01 TO 3.00	.43	1.44	2.40	.67	.10	.05	.24	.05	.10	0.00	0.00	0.00	0.00	0.00	.14	.14	5.76
3.01 TO 4.00	.19	1.82	3.50	.19	.19	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.10	6.19
4.01 TO 5.00	.19	2.11	3.17	.14	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.66
5.01 TO 6.00	.05	1.92	2.88	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.94
6.01 TO 7.00	0.00	1.01	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.10	2.83
7.01 TO 8.00	0.00	.34	.53	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.91
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.34	10.08	15.41	2.26	1.25	.53	1.30	.48	.29	.10	.24	.10	.14	.48	.58	.77	35.33
AVE WIND SPEED	2.7	4.0	4.2	2.3	1.7	1.5	1.5	1.7	1.7	1.2	1.3	1.1	2.9	2.2	1.9	2.5	3.5

Amended: April 2009 TL: E048000

Table 2.3F-78

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	1	0	2	3	2	2	1	0	0	11
1.51 TO 2.00	0	0	0	0	0	0	0	0	2	8	8	8	4	2	0	0	32
2.01 TO 3.00	0	0	0	0	0	1	0	2	6	12	14	14	13	22	0	1	85
3.01 TO 4.00	0	1	0	0	0	0	0	6	7	5	3	1	12	30	0	0	65
4.01 TO 5.00	0	0	0	0	0	0	1	3	0	0	1	4	1	7	3	0	20
5.01 TO 6.00	2	1	0	0	0	0	0	1	0	2	1	0	1	1	1	0	10
6.01 TO 7.00	0	0	0	0	0	0	1	0	2	0	0	0	0	1	2	0	6
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3
9.01 TO 10.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	2	4	0	0	0	1	3	13	18	29	30	30	33	64	6	1	234

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.09	.14	.09	.09	.05	0.00	0.00	.51
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.37	.37	.37	.19	.09	0.00	0.00	1.48
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.09	.28	.56	.65	.65	.60	1.02	0.00	.05	3.93
3.01 TO 4.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.28	.32	.23	.14	.05	.56	1.39	0.00	0.00	3.01
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.14	0.00	0.00	.05	.19	.05	.32	.14	0.00	.93
5.01 TO 6.00	.09	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	.09	.05	0.00	.05	.05	.05	0.00	.46
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.09	0.00	0.00	0.00	0.00	.05	.09	0.00	.28
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
8.01 TO 9.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.14
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.09	.19	0.00	0.00	0.00	.05	.14	.60	.83	1.34	1.39	1.39	1.53	2.96	.28	.05	10.82
AVE WIND SPEED	5.7	6.4	0.0	0.0	0.0	2.6	6.6	3.6	3.6	2.6	2.5	2.6	2.8	3.3	5.3	2.8	3.1

Table 2.3F-79

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1.51 TO 2.00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	3
2.01 TO 3.00	0	0	0	0	0	0	0	0	1	0	1	2	3	1	0	0	8
3.01 TO 4.00	0	0	1	0	0	0	0	0	0	0	0	0	2	2	0	0	5
4.01 TO 5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5.01 TO 6.00	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3
6.01 TO 7.00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7.01 TO 8.00	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	1	3	0	0	0	0	2	2	1	1	2	5	7	0	1	26

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	.05	.14
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	.09	.14	.05	0.00	0.00	.37
3.01 TO 4.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.09	0.00	0.00	.23
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
5.01 TO 6.00	0.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.14
6.01 TO 7.00	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.09
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.05	.05	.14	0.00	0.00	0.00	0.00	.09	.09	.05	.05	.09	.23	.32	0.00	.05	1.20
AVE WIND SPEED	6.7	6.1	5.0	0.0	0.0	0.0	0.0	4.1	1.9	1.0	2.4	2.5	2.9	3.9	0.0	2.0	3.6

Table 2.3F-80

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	3
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2.01 TO 3.00	0	0	0	0	0	0	0	1	1	2	0	1	1	3	1	0	10
3.01 TO 4.00	0	0	0	0	0	0	1	0	2	0	0	0	1	3	0	0	7
4.01 TO 5.00	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	3
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
6.01 TO 7.00	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	4
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
MORE THAN 10	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTALS	1	1	2	0	0	0	4	4	3	4	1	1	3	7	3	1	35

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	0.00	0.00	.05	.14
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.09	0.00	.05	.05	.14	.05	0.00	.46
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.09	0.00	0.00	0.00	.05	.14	0.00	0.00	.32
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.14
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05
6.01 TO 7.00	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	.19
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
TOTALS	.05	.05	.09	0.00	0.00	0.00	.19	.19	.14	.19	.05	.05	.14	.32	.14	.05	1.62
AVE WIND SPEED	6.6	8.2	7.4	0.0	0.0	0.0	7.9	5.8	5.2	5.1	1.9	2.0	2.3	2.9	4.8	1.1	4.4

Table 2.3F-81

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	1	1	0	0	0	3	1	0	1	0	1	0	8
1.01 TO 1.50	0	0	0	0	0	2	1	0	2	1	1	1	3	2	5	0	18
1.51 TO 2.00	2	0	1	1	0	0	1	1	2	1	1	4	5	3	0	3	25
2.01 TO 3.00	0	0	3	2	1	1	12	4	7	2	5	3	5	8	6	3	62
3.01 TO 4.00	0	1	3	1	1	4	9	15	3	2	0	0	2	2	3	5	51
4.01 TO 5.00	1	1	2	0	1	1	10	8	7	0	0	0	2	3	4	0	40
5.01 TO 6.00	1	1	1	1	1	3	4	2	3	1	0	1	1	0	0	1	21
6.01 TO 7.00	1	4	3	1	1	0	5	3	0	0	0	0	2	1	2	2	25
7.01 TO 8.00	0	1	2	1	0	0	5	0	0	0	1	0	0	0	0	0	10
8.01 TO 9.00	0	0	1	0	0	1	3	0	0	1	0	0	0	0	0	0	6
9.01 TO 10.00	0	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0	5
MORE THAN 10	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	3
TOTALS	5	8	16	7	7	13	55	33	24	13	9	9	21	19	21	14	274

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	.14	.05	0.00	.05	0.00	.05	0.00	.37
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	.09	.05	0.00	.09	.05	.05	.05	.14	.09	.23	0.00	.83
1.51 TO 2.00	.09	0.00	.05	.05	0.00	0.00	.05	.05	.09	.05	.05	.19	.23	.14	0.00	.14	1.16
2.01 TO 3.00	0.00	0.00	.14	.09	.05	.05	.56	.19	.32	.09	.23	.14	.23	.37	.28	.14	2.87
3.01 TO 4.00	0.00	.05	.14	.05	.05	.19	.42	.69	.14	.09	0.00	0.00	.09	.09	.14	.23	2.36
4.01 TO 5.00	.05	.05	.09	0.00	.05	.05	.46	.37	.32	0.00	0.00	0.00	.09	.14	.19	0.00	1.85
5.01 TO 6.00	.05	.05	.05	.05	.05	.14	.19	.09	.14	.05	0.00	.05	.05	0.00	0.00	.05	.97
6.01 TO 7.00	.05	.19	.14	.05	.05	0.00	.23	.14	0.00	0.00	0.00	0.00	.09	.05	.09	.09	1.16
7.01 TO 8.00	0.00	.05	.09	.05	0.00	0.00	.23	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.46
8.01 TO 9.00	0.00	0.00	.05	0.00	0.00	.05	.14	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.28
9.01 TO 10.00	0.00	0.00	0.00	0.00	.05	0.00	.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	.14
TOTALS	.23	.37	.74	.32	.32	.60	2.54	1.53	1.11	.60	.42	.42	.97	.88	.97	.65	12.67
AVE WIND SPEED	4.0	6.0	4.8	4.3	4.8	3.8	4.9	3.9	3.5	4.0	2.6	2.3	2.8	2.9	3.0	3.6	3.9

Table 2.3F-82

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	1	1	1	1	0	1	1	0	1	0	0	0	0	1	0	1	9
1.01 TO 1.50	3	1	2	1	3	2	3	5	2	2	0	1	0	3	0	2	30
1.51 TO 2.00	2	7	5	2	0	6	4	7	3	0	4	2	9	4	4	1	60
2.01 TO 3.00	5	10	2	2	3	4	12	7	4	5	5	4	12	14	9	3	101
3.01 TO 4.00	4	6	7	0	0	2	11	2	0	1	0	0	0	8	4	5	50
4.01 TO 5.00	2	1	7	1	0	0	0	1	1	1	1	0	0	2	3	4	24
5.01 TO 6.00	0	1	0	3	0	0	2	0	2	1	0	0	0	0	2	1	12
6.01 TO 7.00	1	1	3	2	1	0	0	0	1	0	0	0	0	0	0	1	10
7.01 TO 8.00	1	2	1	5	2	1	1	0	1	0	0	0	0	0	2	0	16
8.01 TO 9.00	0	1	0	0	2	0	0	0	0	0	0	0	0	1	0	0	4
9.01 TO 10.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
TOTALS	19	32	29	17	11	16	34	23	15	10	10	7	21	33	24	18	319

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.05	.05	.05	.05	0.00	.05	.05	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	.05	.42
1.01 TO 1.50	.14	.05	.09	.05	.14	.09	.14	.23	.09	.09	0.00	.05	0.00	.14	0.00	.09	1.39
1.51 TO 2.00	.09	.32	.23	.09	0.00	.28	.19	.32	.14	0.00	.19	.09	.42	.19	.19	.05	2.78
2.01 TO 3.00	.23	.46	.09	.09	.14	.19	.56	.32	.19	.23	.23	.19	.56	.65	.42	.14	4.67
3.01 TO 4.00	.19	.28	.32	0.00	0.00	.09	.51	.09	0.00	.05	0.00	0.00	0.00	.37	.19	.23	2.31
4.01 TO 5.00	.09	.05	.32	.05	0.00	0.00	0.00	.05	.05	.05	.05	0.00	0.00	.09	.14	.19	1.11
5.01 TO 6.00	0.00	.05	0.00	.14	0.00	0.00	.09	0.00	.09	.05	0.00	0.00	0.00	0.00	.09	.05	.56
6.01 TO 7.00	.05	.05	.14	.09	.05	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	.46
7.01 TO 8.00	.05	.09	.05	.23	.09	.05	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	.09	0.00	.74
8.01 TO 9.00	0.00	.05	0.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.19
9.01 TO 10.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
MORE THAN 10	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
TOTALS	.88	1.48	1.34	.79	.51	.74	1.57	1.06	.69	.46	.46	.32	.97	1.53	1.11	.83	14.75
AVE WIND SPEED	3.1	3.5	3.8	4.8	4.6	2.5	2.9	2.6	3.3	2.8	2.3	2.0	2.2	2.7	3.5	3.4	3.1

Amended: April 2009 TL: E048000

Table 2.3F-83

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL =.10 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	2	2	0	1	5	1	1	0	2	1	3	3	0	0	0	4	25
1.01 TO 1.50	1	5	7	3	5	1	4	3	0	0	4	1	0	3	0	1	38
1.51 TO 2.00	5	5	18	0	3	1	1	5	2	1	1	0	2	5	5	2	56
2.01 TO 3.00	3	24	13	4	1	2	7	3	4	1	1	1	2	3	5	6	80
3.01 TO 4.00	4	8	8	1	0	1	4	5	2	0	2	0	0	3	3	4	43
4.01 TO 5.00	0	6	7	2	1	2	2	7	2	1	0	0	0	1	2	4	37
5.01 TO 6.00	1	3	7	2	0	0	1	5	2	0	0	0	0	0	0	2	21
6.01 TO 7.00	0	1	5	0	0	0	0	5	1	0	0	0	0	0	0	0	10
7.01 TO 8.00	0	2	2	0	0	0	0	0	1	0	0	0	0	0	0	0	5
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	16	56	67	13	15	8	20	27	16	4	11	5	4	15	15	23	316

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.09	.09	0.00	.05	.23	.05	.05	0.00	.09	.05	.14	.14	0.00	0.00	0.00	.19	1.16
1.01 TO 1.50	.05	.23	.32	.14	.23	.05	.19	.14	0.00	0.00	.19	.05	0.00	.14	0.00	.05	1.76
1.51 TO 2.00	.23	.23	.83	0.00	.14	.05	.05	.23	.09	.05	.05	0.00	.09	.23	.23	.09	2.59
2.01 TO 3.00	.14	1.11	.60	.19	.05	.09	.32	.14	.19	.05	.05	.05	.09	.14	.23	.28	3.70
3.01 TO 4.00	.19	.37	.37	.05	0.00	.05	.19	.14	.09	0.00	.09	0.00	0.00	.14	.14	.19	1.99
4.01 TO 5.00	0.00	.28	.32	.09	.05	.09	.09	.32	.09	.05	0.00	0.00	0.00	.05	.09	.19	1.71
5.01 TO 6.00	.05	.14	.32	.09	0.00	0.00	.05	.14	.09	0.00	0.00	0.00	0.00	0.00	0.00	.09	.97
6.01 TO 7.00	0.00	.05	.23	0.00	0.00	0.00	0.00	.14	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.46
7.01 TO 8.00	0.00	.09	.09	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.74	2.59	3.10	.60	.69	.37	.93	1.25	.74	.19	.51	.23	.19	.69	.69	1.06	14.62
AVE WIND SPEED	2.3	3.1	3.3	2.8	1.5	2.6	2.7	3.6	3.5	2.4	1.6	1.2	2.2	2.3	2.7	2.9	2.9

Amended: April 2009 TL: E048000

Table 2.3F-84

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	3
0.51 TO 1.00	3	6	3	5	8	0	2	1	3	3	0	2	2	3	2	2	45
1.01 TO 1.50	6	6	22	22	9	10	9	3	3	1	0	1	5	1	0	1	99
1.51 TO 2.00	2	12	33	16	6	8	6	1	4	2	0	0	0	4	2	8	104
2.01 TO 3.00	11	41	83	7	6	1	9	4	1	0	0	1	1	10	14	3	192
3.01 TO 4.00	3	52	86	7	1	1	3	2	1	0	0	0	0	2	8	3	169
4.01 TO 5.00	4	52	86	1	0	1	0	0	0	0	0	0	0	0	2	2	148
5.01 TO 6.00	0	32	78	1	0	0	0	0	0	0	0	0	0	0	0	1	112
6.01 TO 7.00	1	16	43	0	0	0	0	1	0	1	0	0	0	0	0	0	62
7.01 TO 8.00	0	8	13	0	0	0	0	0	1	0	0	0	0	0	0	0	22
8.01 TO 9.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	31	225	448	59	30	21	29	13	13	7	0	4	8	20	28	21	958

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.14
0.51 TO 1.00	.14	.28	.14	.23	.37	0.00	.09	.05	.14	.14	0.00	.09	.09	.14	.09	.09	2.08
1.01 TO 1.50	.28	.28	1.02	1.02	.42	.46	.42	.14	.14	.05	0.00	.05	.23	.05	0.00	.05	4.58
1.51 TO 2.00	.09	.56	1.53	.74	.28	.37	.28	.05	.19	.09	0.00	0.00	0.00	.19	.09	.37	4.81
2.01 TO 3.00	.51	1.90	3.84	.32	.28	.05	.42	.19	.05	0.00	0.00	.05	.05	.46	.65	.14	8.88
3.01 TO 4.00	.14	2.41	3.98	.32	.05	.05	.14	.09	.05	0.00	0.00	0.00	0.00	.09	.37	.14	7.82
4.01 TO 5.00	.19	2.41	3.98	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.09	6.85
5.01 TO 6.00	0.00	1.48	3.61	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	5.18
6.01 TO 7.00	.05	.74	1.99	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	2.87
7.01 TO 8.00	0.00	.37	.60	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
8.01 TO 9.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.43	10.41	20.72	2.73	1.39	.97	1.34	.60	.60	.32	0.00	.19	.37	.93	1.30	.97	44.31
AVE WIND SPEED	2.4	3.9	4.0	1.9	1.5	1.7	1.8	2.3	2.0	2.0	0.0	1.2	1.2	2.1	2.7	2.3	3.4

APPENDIX 2.3G

MONTHLY JOINT FREQUENCY WIND SPEED-WIND DIRECTION SUMMARIES BY PASQUILL STABILITY CATEGORY AT THE UPPER WIND LEVELS (36.6 m AND 40 m) FOR THE PLANT SITE

(PERIOD OF RECORD 1/25/73-1/24/76)

(TABLES 2.3G-1 THROUGH 2.3G-84)

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Table 2.3G-1

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	1	2	0	0	2	0	0	6
1.01 TO 1.50	0	0	0	0	0	0	0	0	2	1	3	4	3	0	0	0	13
1.51 TO 2.00	0	0	0	0	0	0	0	2	1	3	4	3	4	4	1	0	22
2.01 TO 3.00	0	0	0	0	0	0	0	1	9	14	3	8	17	7	0	0	59
3.01 TO 4.00	0	0	0	0	0	0	1	5	7	4	3	10	12	13	6	0	61
4.01 TO 5.00	0	0	0	0	0	0	0	5	4	0	1	2	1	8	3	0	24
5.01 TO 6.00	0	0	0	0	0	0	1	5	0	1	0	0	1	2	0	0	10
6.01 TO 7.00	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	4
7.01 TO 8.00	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
8.01 TO 9.00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	0	0	0	4	19	24	28	16	27	38	36	10	0	205

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.14
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.14	0.00	0.00	.14	0.00	0.00	.41
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	.20	.27	.20	0.00	0.00	0.00	.88
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	.20	.27	.20	.27	.27	.07	0.00	1.50
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.61	.95	.20	.54	1.16	.48	0.00	0.00	4.01
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.34	.48	.27	.20	.68	.82	.88	.41	0.00	4.15
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.34	.27	0.00	.07	.14	.07	.54	.20	0.00	1.63
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.34	0.00	.07	0.00	0.00	.07	.14	0.00	0.00	.68
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.20	0.00	0.00	0.00	0.00	0.00	0.00	.27
7.01 TO 8.00	0.00	0.00	.07	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.14
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	.07	0.00	0.00	0.00	.27	1.29	1.63	1.90	1.09	1.84	2.58	2.45	.68	0.00	13.94
AVE WIND SPEED	0.0	0.0	7.2	0.0	0.0	0.0	6.5	4.3	2.9	3.2	2.2	2.7	2.8	3.3	3.6	0.0	3.1

Table 2.3G-2

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY 8

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2.01 TO 3.00	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	4
3.01 TO 4.00	0	0	0	0	0	0	1	0	0	0	0	0	1	1	3	0	6
4.01 TO 5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	1	1	0	0	0	0	0	0	1	0	0	2	0	0	5
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	1	0	0	1	1	3	0	1	0	2	3	4	0	17

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14	0.00	0.00	0.00	.07	0.00	0.00	0.00	.27
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07	.07	.20	0.00	.41
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.14	0.00	0.00	.34
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	.07	.07	0.00	0.00	.07	.07	.20	0.00	.07	0.00	.14	.20	.27	0.00	1.16
AVE WIND SPEED	0.0	0.0	6.3	6.4	0.0	0.0	3.4	2.3	2.1	0.0	6.4	0.0	3.0	5.4	5.0	0.0	3.8

Table 2.3G-3

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1.51 TO 2.00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
2.01 TO 3.00	0	0	0	0	0	0	1	0	0	0	1	1	4	1	1	0	9
3.01 TO 4.00	0	0	1	0	0	0	0	2	0	0	0	0	1	1	1	0	6
4.01 TO 5.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5.01 TO 6.00	0	0	1	0	0	0	0	1	1	1	0	0	0	1	0	0	5
6.01 TO 7.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	3	0	0	0	1	5	3	3	2	1	5	3	2	0	28

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07	.07	.27	.07	.07	0.00	.61
3.01 TO 4.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	.07	.07	.07	0.00	.41
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
5.01 TO 6.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	.07	.07	.07	0.00	0.00	0.00	.07	0.00	0.00	.34
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07
8.01 TO 9.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	.20	0.00	0.00	0.00	.07	.34	.20	.20	.14	.07	.34	.20	.14	0.00	1.90
AVE WIND SPEED	0.0	0.0	6.1	0.0	0.0	0.0	2.9	4.3	3.7	4.7	2.0	2.4	2.7	3.7	2.6	0.0	3.7

Table 2.3G-4

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m 1/25/73 to 10/20/75. 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	2	0	0	0	0	1	0	0	0	0	1	1	0	1	3	9
1.01 TO 1.50	0	0	0	0	0	0	1	2	3	1	0	2	3	3	1	0	16
1.51 TO 2.00	3	0	0	0	0	0	0	1	1	0	1	3	1	4	1	1	16
2.01 TO 3.00	2	0	0	0	0	5	4	6	6	2	1	1	3	11	6	5	52
3.01 TO 4.00	0	0	0	0	0	0	7	10	2	2	2	5	4	4	7	5	48
4.01 TO 5.00	0	1	0	0	1	0	13	3	4	0	1	0	0	4	2	0	29
5.01 TO 6.00	1	0	0	1	0	1	3	3	2	2	0	0	0	1	0	0	14
6.01 TO 7.00	0	0	1	2	0	0	1	0	0	1	2	1	2	1	0	0	11
7.01 TO 8.00	0	0	1	0	1	0	0	0	2	1	0	1	2	1	0	0	9
8.01 TO 9.00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
TOTALS	6	3	2	4	3	6	30	25	20	9	7	14	16	31	19	14	210

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.07
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	.14	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	.07	.07	0.00	.07	.20	.61
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14	.20	.07	0.00	.14	.20	.20	.07	0.00	1.09
1.51 TO 2.00	.20	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	.07	.20	.07	.27	.07	.07	1.09
2.01 TO 3.00	.14	0.00	0.00	0.00	0.00	.34	.27	.41	.41	.14	.07	.07	.20	.75	.41	.34	3.54
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.48	.68	.14	.14	.14	.34	.27	.27	.48	.34	3.26
4.01 TO 5.00	0.00	.07	0.00	0.00	.07	0.00	.88	.20	.27	0.00	.07	0.00	0.00	.27	.14	0.00	1.97
5.01 TO 6.00	.07	0.00	0.00	.07	0.00	.07	.20	.20	.14	.14	0.00	0.00	0.00	.07	0.00	0.00	.95
6.01 TO 7.00	0.00	0.00	.07	.14	0.00	0.00	.07	0.00	0.00	.07	.14	.07	.14	.07	0.00	0.00	.75
7.01 TO 8.00	0.00	0.00	.07	0.00	.07	0.00	0.00	0.00	.14	.07	0.00	.07	.14	.07	0.00	0.00	.61
8.01 TO 9.00	0.00	0.00	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	.14
TOTALS	.41	.20	.14	.27	.20	.41	2.04	1.70	1.36	.61	.48	.95	1.09	2.11	1.29	.95	14.28
AVE WIND SPEED	2.6	2.2	7.1	6.9	6.7	2.9	3.9	3.3	3.5	4.1	4.1	3.0	3.4	3.8	3.2	2.4	3.5

Table 2.3G-5

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	7
0.26 TO 0.50	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
0.51 TO 1.00	2	0	1	0	1	0	1	1	1	1	0	0	0	0	0	1	9
1.01 TO 1.50	1	3	2	2	0	3	4	2	2	0	1	0	1	1	3	2	27
1.51 TO 2.00	4	1	1	1	0	1	5	1	3	0	2	1	0	4	1	2	27
2.01 TO 3.00	7	3	4	0	1	4	10	5	2	1	0	0	1	6	9	6	59
3.01 TO 4.00	1	4	0	0	0	1	7	4	0	0	0	1	1	3	6	9	37
4.01 TO 5.00	0	1	0	1	0	1	3	3	0	0	0	0	0	3	2	1	15
5.01 TO 6.00	1	0	1	2	0	0	0	0	0	0	0	0	0	1	0	1	6
6.01 TO 7.00	0	0	0	2	0	0	0	0	1	0	0	0	0	1	1	0	5
7.01 TO 8.00	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	0	5
8.01 TO 9.00	0	0	1	2	0	0	0	0	0	0	0	0	0	2	0	0	5
9.01 TO 10.00	0	0	2	1	0	0	0	0	0	0	0	0	0	2	0	0	5
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
TOTALS	16	12	13	13	2	10	30	16	9	2	3	2	4	25	24	23	211

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.48
0.26 TO 0.50	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14
0.51 TO 1.00	.14	0.00	.07	0.00	.07	0.00	.07	.07	.07	.07	0.00	0.00	0.00	0.00	0.00	.07	.61
1.01 TO 1.50	.07	.20	.14	.14	0.00	.20	.27	.14	.14	0.00	.07	0.00	.07	.07	.20	.14	1.84
1.51 TO 2.00	.27	.07	.07	.07	0.00	.07	.34	.07	.20	0.00	.14	.07	0.00	.27	.07	.14	1.84
2.01 TO 3.00	.48	.20	.27	0.00	.07	.27	.68	.34	.14	.07	0.00	0.00	.07	.41	.61	.41	4.01
3.01 TO 4.00	.07	.27	0.00	0.00	0.00	.07	.48	.27	0.00	0.00	0.00	.07	.07	.20	.41	.61	2.52
4.01 TO 5.00	0.00	.07	0.00	.07	0.00	.07	.20	.20	0.00	0.00	0.00	0.00	0.00	.20	.14	.07	1.02
5.01 TO 6.00	.07	0.00	.07	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07	.41
6.01 TO 7.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	.07	.07	0.00	.34
7.01 TO 8.00	0.00	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.07	0.00	.34
8.01 TO 9.00	0.00	0.00	.07	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	.34
9.01 TO 10.00	0.00	0.00	.14	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	.34
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	.14
TOTALS	1.09	.82	.88	.88	.14	.68	2.04	1.09	.61	.14	.20	.14	.27	1.70	1.63	1.56	14.34
AVE WIND SPEED	2.2	2.7	4.3	5.1	1.5	2.4	2.6	2.8	2.2	1.8	1.5	2.7	3.6	4.6	3.4	2.8	3.1

Table 2.3G-6

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	9
0.26 TO 0.50	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	3
0.51 TO 1.00	0	0	0	2	1	3	2	1	0	0	1	0	1	1	1	0	13
1.01 TO 1.50	4	3	1	3	2	5	4	10	4	3	3	2	0	2	4	3	53
1.51 TO 2.00	3	7	3	0	1	3	8	2	1	0	0	1	2	2	2	1	36
2.01 TO 3.00	5	13	4	0	3	2	7	2	1	1	0	2	2	2	1	5	50
3.01 TO 4.00	3	8	1	2	2	1	2	1	0	1	0	2	0	6	0	1	30
4.01 TO 5.00	1	5	2	1	0	0	2	0	0	0	0	0	0	1	1	1	14
5.01 TO 6.00	0	3	1	2	0	0	0	0	0	0	0	0	0	0	1	0	7
6.01 TO 7.00	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	6
7.01 TO 8.00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8.01 TO 9.00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
9.01 TO 10.00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
MORE THAN 10	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
TOTALS	16	43	21	15	9	14	25	16	6	5	4	7	5	15	10	11	231

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.61
0.26 TO 0.50	0.00	.07	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.20
0.51 TO 1.00	0.00	0.00	0.00	.14	.07	.20	.14	.07	0.00	0.00	.07	0.00	.07	.07	.07	0.00	.88
1.01 TO 1.50	.27	.20	.07	.20	.14	.34	.27	.68	.27	.20	.20	.14	0.00	.14	.27	.20	3.60
1.51 TO 2.00	.20	.48	.20	0.00	.07	.20	.54	.14	.07	0.00	0.00	.07	.14	.14	.14	.07	2.45
2.01 TO 3.00	.34	.88	.27	0.00	.20	.14	.48	.14	.07	.07	0.00	.14	.14	.14	.07	.34	3.40
3.01 TO 4.00	.20	.54	.07	.14	.14	.07	.14	.07	0.00	.07	0.00	.14	0.00	.41	0.00	.07	2.04
4.01 TO 5.00	.07	.34	.14	.07	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.07	.95
5.01 TO 6.00	0.00	.20	.07	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.48
6.01 TO 7.00	0.00	.14	.14	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.41
7.01 TO 8.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
8.01 TO 9.00	0.00	.07	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
9.01 TO 10.00	0.00	0.00	.14	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.20
MORE THAN 10	0.00	0.00	.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.20
TOTALS	1.09	2.92	1.43	1.02	.61	.95	1.70	1.09	.41	.34	.27	.48	.34	1.02	.68	.75	15.70
AVE WIND SPEED	2.3	3.2	5.4	3.9	2.0	1.5	2.1	1.5	1.5	1.8	1.1	2.3	1.7	2.4	2.2	2.4	2.6

Amended: April 2009 TL: E048000

Table 2.3G-7

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	11
0.26 TO 0.50	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	4
0.51 TO 1.00	0	4	14	6	4	4	6	6	2	4	1	0	2	0	1	1	55
1.01 TO 1.50	6	7	5	7	4	13	16	6	6	4	3	3	2	1	5	2	90
1.51 TO 2.00	5	17	18	5	9	7	7	3	2	1	1	1	3	0	3	1	83
2.01 TO 3.00	6	31	19	3	8	12	9	4	0	1	1	0	3	8	4	1	110
3.01 TO 4.00	6	34	10	0	0	1	3	0	0	0	0	0	1	1	1	7	64
4.01 TO 5.00	5	43	16	1	0	0	1	0	0	0	0	0	0	1	0	0	67
5.01 TO 6.00	3	34	12	1	0	0	0	0	0	0	0	0	0	0	0	0	50
6.01 TO 7.00	0	17	9	0	1	0	0	0	0	0	0	0	0	0	0	0	27
7.01 TO 8.00	0	4	0	1	0	0	0	1	0	0	0	0	0	0	0	0	6
8.01 TO 9.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	31	192	104	25	26	37	43	21	11	10	6	4	11	11	14	12	569

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.75
0.26 TO 0.50	0.00	0.00	0.00	.07	0.00	0.00	.07	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.27
0.51 TO 1.00	0.00	.27	.95	.41	.27	.27	.41	.41	.14	.27	.07	0.00	.14	0.00	.07	.07	3.74
1.01 TO 1.50	.41	.48	.34	.48	.27	.88	1.09	.41	.41	.27	.20	.20	.14	.07	.34	.14	6.12
1.51 TO 2.00	.34	1.16	1.22	.34	.61	.48	.48	.20	.14	.07	.07	.07	.20	0.00	.20	.07	5.64
2.01 TO 3.00	.41	2.11	1.29	.20	.54	.82	.61	.27	0.00	.07	.07	0.00	.20	.54	.27	.07	7.48
3.01 TO 4.00	.41	2.31	.68	0.00	0.00	.07	.20	0.00	0.00	0.00	0.00	0.00	.07	.07	.07	.48	4.35
4.01 TO 5.00	.34	2.92	1.09	.07	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	4.55
5.01 TO 6.00	.20	2.31	.82	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40
6.01 TO 7.00	0.00	1.16	.61	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84
7.01 TO 8.00	0.00	.27	0.00	.07	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.41
8.01 TO 9.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
9.01 TO 10.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	2.11	13.05	7.07	1.70	1.77	2.52	2.92	1.43	.75	.68	.41	.27	.75	.75	.95	.82	38.68
AVE WIND SPEED	3.0	4.0	3.2	1.9	2.0	1.8	1.7	1.6	1.2	1.3	1.5	1.3	1.9	2.6	1.9	2.6	2.8

Amended: April 2009 TL: E048000

Table 2.3G-8

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	3	3	1	1	2	0	0	10
1.01 TO 1.50	0	0	0	0	0	0	0	0	5	1	2	9	4	1	3	0	25
1.51 TO 2.00	0	1	0	0	0	0	0	2	2	5	2	4	6	14	3	0	39
2.01 TO 3.00	0	0	0	0	0	0	0	0	2	7	6	5	14	21	9	0	64
3.01 TO 4.00	1	0	0	0	0	0	0	0	2	3	3	1	5	16	7	0	38
4.01 TO 5.00	0	0	0	0	0	0	1	0	0	0	0	2	1	13	1	0	18
5.01 TO 6.00	0	0	0	0	0	0	0	1	1	1	0	0	2	1	0	0	6
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	1	0	0	0	0	1	3	12	20	17	23	33	70	23	0	204

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	0.00	0.00	.15
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23	.23	.08	.08	.15	0.00	0.00	.76
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.38	.08	.15	.68	.30	.08	.23	0.00	1.90
1.51 TO 2.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	.15	.15	.38	.15	.30	.46	1.07	.23	0.00	2.97
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.53	.46	.38	1.07	1.60	.68	0.00	4.87
3.01 TO 4.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.23	.23	.08	.38	1.22	.53	0.00	2.89
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	.15	.08	.99	.08	0.00	1.37
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	.08	0.00	0.00	.15	.08	0.00	0.00	.46
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.08
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.08
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.08	.08	0.00	0.00	0.00	0.00	.08	.23	.91	1.52	1.29	1.75	2.51	5.33	1.75	0.00	15.53
AVE WIND SPEED	3.2	1.8	0.0	0.0	0.0	0.0	4.9	3.2	2.2	2.2	2.0	1.9	2.5	3.1	2.7	0.0	2.6

Amended: April 2009 TL: E048000

Table 2.3G-9

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	3	1	1	1	0	0	6
1.01 TO 1.50	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	3
2.01 TO 3.00	0	0	0	0	0	0	0	0	1	0	1	1	0	2	2	0	7
3.01 TO 4.00	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	5
4.01 TO 5.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	2	3	1	4	5	4	4	2	0	25

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23	.08	.08	.08	0.00	0.00	.46
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.15
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	0.00	.08	0.00	0.00	.23
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	.08	0.00	.15	.15	0.00	.53
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	.15	.08	0.00	0.00	0.00	.38
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.23	.08	.30	.38	.30	.30	.15	0.00	1.90
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	3.4	1.5	1.3	2.4	2.6	2.0	2.7	0.0	2.3

Table 2.3G-10

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	2	1	1	0	1	0	0	5
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	3
1.51 TO 2.00	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	4
2.01 TO 3.00	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	3
3.01 TO 4.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3
4.01 TO 5.00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	1	5	3	1	4	2	4	2	0	22

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	.08
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.08	.08	0.00	.08	0.00	0.00	.38
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.08	.08	0.00	0.00	0.00	.23
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	.08	.08	0.00	0.00	0.00	.30
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	.15	0.00	0.00	.23
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	.15	0.00	.23
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	0.00	0.00	0.00	0.00	.15
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.08
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.38	.23	.08	.30	.15	.30	.15	0.00	1.67
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.5	2.1	.5	1.1	1.3	2.8	3.1	0.0	2.1

Amended: April 2009 TL: E048000

Table 2.3G-11

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

SUMMARY WIND RJSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	6
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1	4
0.51 TO 1.00	0	0	1	0	0	0	0	0	0	2	2	2	2	1	2	2	14
1.01 TO 1.50	0	1	2	0	0	0	0	1	2	1	3	1	3	2	3	4	23
1.51 TO 2.00	1	0	1	0	0	0	2	1	1	3	1	3	7	4	3	0	27
2.01 TO 3.00	1	1	2	0	0	0	1	2	2	1	1	4	4	5	7	0	31
3.01 TO 4.00	0	1	0	0	0	0	2	4	5	1	4	3	9	5	5	2	41
4.01 TO 5.00	1	0	0	0	0	0	6	2	1	2	0	1	3	3	3	0	22
5.01 TO 6.00	0	0	0	0	0	0	5	4	1	0	0	0	0	1	1	0	12
6.01 TO 7.00	0	0	1	0	0	0	5	6	0	0	0	0	0	0	0	0	12
7.01 TO 8.00	0	0	1	0	0	0	2	3	0	0	0	0	0	0	0	0	6
8.01 TO 9.00	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	3
9.01 TO 10.00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	3	3	8	0	0	0	23	27	12	11	12	14	29	22	24	9	203

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.46
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	.08	0.00	0.00	.08	.30
0.51 TO 1.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.15	.15	.15	.15	.08	.15	.15	1.07
1.01 TO 1.50	0.00	.08	.15	0.00	0.00	0.00	0.00	.08	.15	.08	.23	.08	.23	.15	.23	.30	1.75
1.51 TO 2.00	.08	0.00	.08	0.00	0.00	0.00	.15	.08	.08	.23	.08	.23	.53	.30	.23	0.00	2.05
2.01 TO 3.00	.08	.08	.15	0.00	0.00	0.00	.08	.15	.15	.08	.08	.30	.30	.38	.53	0.00	2.36
3.01 TO 4.00	0.00	.08	0.00	0.00	0.00	0.00	.15	.30	.38	.08	.30	.23	.68	.38	.38	.15	3.12
4.01 TO 5.00	.08	0.00	0.00	0.00	0.00	0.00	.46	.15	.08	.15	0.00	.08	.23	.23	.23	0.00	1.67
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.38	.30	.08	0.00	0.00	0.00	0.00	.08	.08	0.00	.91
6.01 TO 7.00	0.00	0.00	.08	0.00	0.00	0.00	.38	.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.91
7.01 TO 8.00	0.00	0.00	.08	0.00	0.00	0.00	.15	.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.46
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.23
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.23	.23	.61	0.00	0.00	0.00	1.75	2.05	.91	.84	.91	1.07	2.21	1.67	1.83	.68	15.45
AVE WIND SPEED	3.0	2.7	3.0	0.0	0.0	0.0	5.0	5.7	3.1	2.3	2.0	2.4	2.5	3.1	2.7	1.5	3.2

Table 2.3G-12

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	16
0.26 TO 0.50	0	1	2	2	1	0	2	0	0	1	0	1	2	1	0	1	14
0.51 TO 1.00	5	2	4	1	1	1	3	1	1	0	1	1	0	0	3	1	25
1.01 TO 1.50	3	4	2	0	0	2	1	3	2	1	0	1	4	2	0	1	26
1.51 TO 2.00	2	1	4	0	0	2	3	5	0	1	0	0	1	3	3	4	29
2.01 TO 3.00	2	3	2	0	0	1	6	0	1	2	3	2	3	4	3	4	36
3.01 TO 4.00	2	1	3	1	0	0	7	3	1	3	2	2	2	1	4	5	37
4.01 TO 5.00	1	1	2	1	0	0	5	1	7	1	1	2	0	1	4	0	27
5.01 TO 6.00	0	2	1	2	1	1	10	2	0	0	2	1	1	1	0	0	24
6.01 TO 7.00	0	1	1	1	0	0	3	2	0	0	2	3	0	0	0	0	13
7.01 TO 8.00	0	0	1	0	0	1	4	1	1	0	2	3	1	0	0	0	14
8.01 TO 9.00	0	2	2	1	2	0	3	4	3	0	1	2	0	1	0	0	21
9.01 TO 10.00	0	1	1	0	2	0	5	4	1	1	0	1	0	0	0	0	16
MORE THAN 10	0	1	1	1	0	0	4	3	5	1	0	2	3	0	0	0	21
TOTALS	15	20	26	10	7	8	56	29	22	11	14	21	17	14	17	16	319

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1.22
0.26 TO 0.50	0.00	.08	.15	.15	.08	0.00	.15	0.00	0.00	.08	0.00	.08	.15	.08	0.00	.08	1.07
0.51 TO 1.00	.38	.15	.30	.08	.08	.08	.23	.08	.08	0.00	.08	.08	0.00	0.00	.23	.08	1.90
1.01 TO 1.50	.23	.30	.15	0.00	0.00	.15	.08	.23	.15	.08	0.00	.08	.30	.15	0.00	.08	1.98
1.51 TO 2.00	.15	.08	.30	0.00	0.00	.15	.23	.38	0.00	.08	0.00	0.00	.08	.23	.23	.30	2.21
2.01 TO 3.00	.15	.23	.15	0.00	0.00	.08	.46	0.00	.08	.15	.23	.15	.23	.30	.23	.30	2.74
3.01 TO 4.00	.15	.08	.23	.08	0.00	0.00	.53	.23	.08	.23	.15	.15	.15	.08	.30	.38	2.82
4.01 TO 5.00	.08	.08	.15	.08	0.00	0.00	.38	.08	.53	.08	.08	.15	0.00	.08	.30	0.00	2.05
5.01 TO 6.00	0.00	.15	.08	.15	.08	.08	.76	.15	0.00	0.00	.15	.08	.08	.08	0.00	0.00	1.83
6.01 TO 7.00	0.00	.08	.08	.08	0.00	0.00	.23	.15	0.00	0.00	.15	.23	0.00	0.00	0.00	0.00	.99
7.01 TO 8.00	0.00	0.00	.08	0.00	0.00	.08	.30	.08	.08	0.00	.15	.23	.08	0.00	0.00	0.00	1.07
8.01 TO 9.00	0.00	.15	.15	.08	.15	0.00	.23	.30	.23	0.00	.08	.15	0.00	.08	0.00	0.00	1.60
9.01 TO 10.00	0.00	.08	.08	0.00	.15	0.00	.38	.30	.08	.08	0.00	.08	0.00	0.00	0.00	0.00	1.22
MORE THAN 10	0.00	.08	.08	.08	0.00	0.00	.30	.23	.38	.08	0.00	.15	.23	0.00	0.00	0.00	1.60
TOTALS	1.14	1.52	1.98	.76	.53	.61	4.26	2.21	1.67	.84	1.07	1.60	1.29	1.07	1.29	1.22	24.28
AVE WIND SPEED	1.8	3.8	3.6	4.6	6.2	2.7	5.2	5.7	6.3	3.9	4.8	5.6	3.9	2.8	2.8	2.3	4.1

Table 2.3G-13

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	16
0.26 TO 0.50	1	2	2	1	0	1	2	1	0	1	0	0	0	0	1	0	12
0.51 TO 1.00	2	1	3	3	3	1	2	4	0	0	0	0	0	0	1	2	22
1.01 TO 1.50	3	4	0	1	2	2	2	0	2	0	0	0	2	1	0	0	19
1.51 TO 2.00	2	5	0	1	0	0	1	0	0	0	1	2	0	0	1	1	14
2.01 TO 3.00	5	1	2	0	0	2	4	1	0	0	0	1	0	0	1	1	18
3.01 TO 4.00	3	6	7	0	1	5	3	0	1	0	0	0	0	0	0	1	27
4.01 TO 5.00	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	4
5.01 TO 6.00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
6.01 TO 7.00	0	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	4
7.01 TO 8.00	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	3
8.01 TO 9.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	3
TOTALS	16	20	19	10	6	13	15	8	4	1	2	3	2	1	5	5	146

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1.22
0.26 TO 0.50	.08	.15	.15	.08	0.00	.08	.15	.08	0.00	.08	0.00	0.00	0.00	0.00	.08	0.00	.91
0.51 TO 1.00	.15	.08	.23	.23	.23	.08	.15	.30	0.00	0.00	0.00	0.00	0.00	0.00	.08	.15	1.67
1.01 TO 1.50	.23	.30	0.00	.08	.15	.15	.15	0.00	.15	0.00	0.00	0.00	.15	.08	0.00	0.00	1.45
1.51 TO 2.00	.15	.38	0.00	.08	0.00	0.00	.08	0.00	0.00	0.00	.08	.15	0.00	0.00	.08	.08	1.07
2.01 TO 3.00	.38	.08	.15	0.00	0.00	.15	.30	.08	0.00	0.00	0.00	.08	0.00	0.00	.08	.08	1.37
3.01 TO 4.00	.23	.46	.53	0.00	.08	.38	.23	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.08	2.05
4.01 TO 5.00	0.00	.08	.08	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.30
5.01 TO 6.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
6.01 TO 7.00	0.00	0.00	.23	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.30
7.01 TO 8.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08	0.00	.23
8.01 TO 9.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
MORE THAN 10	0.00	0.00	0.00	.08	0.00	0.00	.08	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23
TOTALS	1.22	1.52	1.45	.76	.46	.99	1.14	.61	.30	.08	.15	.23	.15	.08	.38	.38	11.11
AVE WIND SPEED	2.0	2.1	3.4	3.4	1.4	3.2	2.5	1.9	4.4	.4	4.6	2.0	1.1	1.2	2.7	1.9	2.3

Table 2.3G-14

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	26
0.26 TO 0.50	0	1	6	2	6	4	2	2	1	1	0	0	0	1	0	1	27
0.51 TO 1.00	8	10	15	12	6	8	10	2	1	1	0	0	0	1	0	1	75
1.01 TO 1.50	0	10	10	6	5	7	5	2	1	0	1	0	0	0	0	1	48
1.51 TO 2.00	4	15	11	3	7	7	1	0	0	0	0	0	0	0	0	0	48
2.01 TO 3.00	4	34	20	3	1	1	1	0	0	0	0	0	1	2	3	2	72
3.01 TO 4.00	4	20	23	1	1	2	2	0	0	0	0	0	0	0	0	1	54
4.01 TO 5.00	2	11	11	0	0	1	0	0	0	0	0	0	0	0	0	1	26
5.01 TO 6.00	0	3	4	0	0	1	0	0	0	0	0	0	0	0	0	0	8
6.01 TO 7.00	0	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	5
7.01 TO 8.00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8.01 TO 9.00	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	22	105	107	30	26	31	21	6	3	2	1	0	1	4	3	7	395

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1.98
0.26 TO 0.50	0.00	.08	.46	.15	.46	.30	.15	.15	.08	.08	0.00	0.00	0.00	.08	0.00	.08	2.05
0.51 TO 1.00	.61	.76	1.14	.91	.46	.61	.76	.15	.08	.08	0.00	0.00	0.00	.08	0.00	.08	5.71
1.01 TO 1.50	0.00	.76	.76	.46	.38	.53	.38	.15	.08	0.00	.08	0.00	0.00	0.00	0.00	.08	3.65
1.51 TO 2.00	.30	1.14	.84	.23	.53	.53	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.65
2.01 TO 3.00	.30	2.59	1.52	.23	.08	.08	.08	0.00	0.00	0.00	0.00	0.00	.08	.15	.23	.15	5.48
3.01 TO 4.00	.30	1.52	1.75	.08	.08	.15	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	4.11
4.01 TO 5.00	.15	.84	.84	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	1.98
5.01 TO 6.00	0.00	.23	.30	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.61
6.01 TO 7.00	0.00	.08	.15	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.38
7.01 TO 8.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
8.01 TO 9.00	0.00	0.00	.23	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.30
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.67	7.99	8.14	2.28	1.98	2.36	1.60	.46	.23	.15	.08	0.00	.08	.30	.23	.53	30.06
AVE WIND SPEED	2.1	2.6	2.8	1.9	1.3	1.6	1.2	.8	.8	.6	1.1	0.0	2.5	1.6	2.6	2.1	2.1

Table 2.3G-15

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	0	2	2	1	1	0	0	7
1.01 TO 1.50	0	0	0	0	0	0	0	0	4	2	5	3	0	0	0	0	14
1.51 TO 2.00	0	0	0	0	0	0	0	1	1	6	2	5	4	2	1	0	22
2.01 TO 3.00	0	0	0	0	0	0	0	6	4	8	12	9	18	8	2	0	67
3.01 TO 4.00	0	0	0	0	0	0	1	8	15	7	11	18	16	9	0	0	85
4.01 TO 5.00	0	0	0	0	0	0	0	9	6	3	4	5	9	11	2	0	49
5.01 TO 6.00	2	0	0	0	0	0	0	3	6	1	0	2	5	9	0	0	28
6.01 TO 7.00	0	0	0	0	0	0	0	1	1	0	0	1	6	8	2	0	19
7.01 TO 8.00	1	0	0	0	0	0	0	0	1	0	0	1	5	2	0	0	10
8.01 TO 9.00	1	0	0	0	0	0	0	0	0	0	0	0	3	6	0	0	10
9.01 TO 10.00	1	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	9
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
TOTALS	5	0	0	0	0	0	1	28	39	27	36	47	71	61	7	0	322

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.13	.13	.06	.06	0.00	0.00	.44
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.25	.13	.31	.19	0.00	0.00	0.00	0.00	.88
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.38	.13	.31	.25	.13	.06	0.00	1.38
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.38	.25	.50	.75	.57	1.13	.50	.13	0.00	4.21
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.50	.94	.44	.69	1.13	1.01	.57	0.00	0.00	5.34
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.57	.38	.19	.25	.31	.57	.69	.13	0.00	3.08
5.01 TO 6.00	.13	0.00	0.00	0.00	0.00	0.00	0.00	.19	.38	.06	0.00	.13	.31	.57	0.00	0.00	1.76
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	.06	.38	.50	.13	0.00	1.19
7.01 TO 8.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06	.31	.13	0.00	0.00	.63
8.01 TO 9.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19	.38	0.00	0.00	.63
9.01 TO 10.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.19	.25	0.00	0.00	.57
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	.13
TOTALS	.31	0.00	0.00	0.00	0.00	0.00	.06	1.76	2.45	1.70	2.26	2.95	4.46	3.83	.44	0.00	20.23
AVE WIND SPEED	7.4	0.0	0.0	0.0	0.0	0.0	3.6	3.9	3.7	2.8	2.7	3.4	4.4	5.3	4.1	0.0	4.0

Amended: April 2009 TL: E048000

Table 2.3G-16

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	1	0	0	1	0	1	2	0	0	5
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.01 TO 3.00	0	0	0	0	0	0	0	0	2	2	2	2	0	1	0	0	9
3.01 TO 4.00	1	0	0	0	0	0	1	1	0	1	0	0	0	1	0	0	5
4.01 TO 5.00	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	3
5.01 TO 6.00	1	0	0	0	0	0	0	1	0	0	0	0	3	1	0	0	6
6.01 TO 7.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	3	0	0	0	0	0	2	3	3	3	3	3	6	9	0	1	37

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.06
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06	0.00	.06	.13	0.00	0.00	.31
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.13	.13	.13	0.00	.06	0.00	0.00	.57
3.01 TO 4.00	.06	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	.06	0.00	0.00	0.00	.06	0.00	0.00	.31
4.01 TO 5.00	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.19
5.01 TO 6.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.19	.06	0.00	0.00	.38
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06	.13
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.13	0.00	0.00	.19
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.06
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.19	0.00	0.00	0.00	0.00	0.00	.13	.19	.19	.19	.19	.19	.38	.57	0.00	.06	2.32
AVE WIND SPEED	4.5	0.0	0.0	0.0	0.0	0.0	4.3	3.4	4.0	2.7	2.2	4.0	5.2	4.5	0.0	6.3	4.0

Amended: April 2009 TL: E048000

Table 2.3G-17

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51 TO 2.00	0	1	0	0	0	0	0	1	0	1	2	0	0	0	0	0	5
2.01 TO 3.00	0	0	0	0	0	0	0	0	1	0	2	0	2	2	0	0	7
3.01 TO 4.00	0	0	0	0	0	0	0	1	2	0	0	0	3	0	0	0	6
4.01 TO 5.00	0	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0	5
5.01 TO 6.00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
6.01 TO 7.00	0	2	0	0	0	0	0	0	0	0	0	0	3	1	0	0	6
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8.01 TO 9.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
TOTALS	0	3	1	0	0	1	0	5	3	2	7	1	10	5	0	0	38

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	.13
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.51 TO 2.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	.13	0.00	0.00	0.00	0.00	0.00	.31
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.13	0.00	.13	.13	0.00	0.00	.44
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.13	0.00	0.00	0.00	.19	0.00	0.00	0.00	.38
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	.06	.06	0.00	0.00	.06	0.00	0.00	.31
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13
6.01 TO 7.00	0.00	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19	.06	0.00	0.00	.38
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06
8.01 TO 9.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.06
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	0.00	.13
TOTALS	0.00	.19	.06	0.00	0.00	.06	0.00	.31	.19	.13	.44	.06	.63	.31	0.00	0.00	2.39
AVE WIND SPEED	0.0	4.8	8.2	0.0	0.0	4.2	0.0	3.9	3.4	3.0	4.2	9.6	4.5	3.2	0.0	0.0	4.3

Table 2.3G-18

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
0.51 TO 1.00	0	1	0	0	0	1	4	1	2	2	1	1	2	2	0	0	17
1.01 TO 1.50	0	1	0	0	0	0	1	4	1	0	4	1	0	1	2	2	17
1.51 TO 2.00	4	2	0	0	0	1	2	2	4	3	0	1	4	2	2	3	30
2.01 TO 3.00	1	3	2	0	0	2	9	5	5	3	3	2	3	1	7	1	47
3.01 TO 4.00	2	1	2	0	2	2	4	3	5	4	0	2	2	7	1	3	40
4.01 TO 5.00	2	2	1	0	1	4	10	3	6	4	2	2	4	4	3	1	49
5.01 TO 6.00	0	0	0	0	0	3	5	5	3	4	3	1	1	2	0	0	27
6.01 TO 7.00	0	0	0	0	0	0	4	3	3	4	4	3	1	2	3	0	27
7.01 TO 8.00	1	0	0	1	0	0	5	3	2	3	0	1	1	2	2	0	21
8.01 TO 9.00	0	1	1	0	0	0	4	4	6	3	3	1	2	2	0	0	27
9.01 TO 10.00	0	1	0	0	0	0	2	2	1	3	1	1	7	7	0	0	25
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4
TOTALS	10	12	6	1	3	13	50	35	38	34	21	16	29	35	20	10	336

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.19
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.06	0.00	0.00	.13
0.51 TO 1.00	0.00	.06	0.00	0.00	0.00	.06	.25	.06	.13	.13	.06	.06	.13	.13	0.00	0.00	1.07
1.01 TO 1.50	0.00	.06	0.00	0.00	0.00	0.00	.06	.25	.06	0.00	.25	.06	0.00	.06	.13	.13	1.07
1.51 TO 2.00	.25	.13	0.00	0.00	0.00	.06	.13	.13	.25	.19	0.00	.06	.25	.13	.13	.19	1.88
2.01 TO 3.00	.06	.19	.13	0.00	0.00	.13	.57	.31	.31	.19	.19	.13	.19	.06	.44	.06	2.95
3.01 TO 4.00	.13	.06	.13	0.00	.13	.13	.25	.19	.31	.25	0.00	.13	.13	.44	.06	.19	2.51
4.01 TO 5.00	.13	.13	.06	0.00	.06	.25	.63	.19	.38	.25	.13	.13	.25	.25	.19	.06	3.08
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	.19	.31	.31	.19	.25	.19	.06	.06	.13	0.00	0.00	1.70
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.25	.19	.19	.25	.25	.19	.06	.13	.19	0.00	1.70
7.01 TO 8.00	.06	0.00	0.00	.06	0.00	0.00	.31	.19	.13	.19	0.00	.06	.06	.13	.13	0.00	1.32
8.01 TO 9.00	0.00	.06	.06	0.00	0.00	0.00	.25	.25	.38	.19	.19	.06	.13	.13	0.00	0.00	1.70
9.01 TO 10.00	0.00	.06	0.00	0.00	0.00	0.00	.13	.13	.06	.19	.06	.06	.44	.44	0.00	0.00	1.57
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.13	0.00	0.00	.25
TOTALS	.63	.75	.38	.06	.19	.82	3.14	2.20	2.39	2.14	1.32	1.01	1.82	2.20	1.26	.63	21.11
AVE WIND SPEED	3.4	3.6	4.1	7.5	3.5	3.8	4.6	4.8	4.7	5.0	4.7	4.7	5.7	5.6	3.7	2.6	4.6

Table 2.3G-19

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	3	0	0	0	0	0	1	0	2	1	0	0	0	0	1	0	8
0.51 TO 1.00	1	0	1	3	1	2	0	2	0	2	0	3	1	0	0	2	18
1.01 TO 1.50	2	4	1	0	2	1	3	0	0	1	1	0	2	1	2	2	22
1.51 TO 2.00	3	3	1	2	0	2	2	1	1	1	0	3	0	1	1	4	25
2.01 TO 3.00	10	5	3	0	0	7	11	3	2	1	3	3	3	5	6	5	67
3.01 TO 4.00	0	4	0	0	0	7	12	6	4	2	2	2	7	10	9	3	68
4.01 TO 5.00	2	1	1	0	5	1	13	1	3	4	1	5	2	3	6	1	49
5.01 TO 6.00	0	0	0	0	1	1	6	2	3	2	3	4	4	2	3	1	32
6.01 TO 7.00	1	1	0	0	0	2	11	3	1	4	4	2	1	3	1	2	36
7.01 TO 8.00	3	2	0	0	0	0	5	1	3	2	1	3	2	2	0	0	24
8.01 TO 9.00	0	1	1	0	0	0	2	0	2	0	0	0	4	15	1	0	26
9.01 TO 10.00	0	4	1	0	0	0	6	2	1	0	0	1	2	8	0	0	25
MORE THAN 10	0	0	1	0	0	0	2	3	6	0	0	0	4	4	1	0	21
TOTALS	25	25	10	5	9	23	74	24	28	20	15	26	32	54	31	20	422

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.06
0.26 TO 0.50	.19	0.00	0.00	0.00	0.00	0.00	.06	0.00	.13	.06	0.00	0.00	0.00	0.00	.06	0.00	.50
0.51 TO 1.00	.06	0.00	.06	.19	.06	.13	0.00	.13	0.00	.13	0.00	.19	.06	0.00	0.00	.13	1.13
1.01 TO 1.50	.13	.25	.06	0.00	.13	.06	.19	0.00	0.00	.06	.06	0.00	.13	.06	.13	.13	1.38
1.51 TO 2.00	.19	.19	.06	.13	0.00	.13	.13	.06	.06	.06	0.00	.19	0.00	.06	.06	.25	1.57
2.01 TO 3.00	.63	.31	.19	0.00	0.00	.44	.69	.19	.13	.06	.19	.19	.19	.31	.38	.31	4.21
3.01 TO 4.00	0.00	.25	0.00	0.00	0.00	.44	.75	.38	.25	.13	.13	.13	.44	.63	.57	.19	4.27
4.01 TO 5.00	.13	.06	.06	0.00	.31	.06	.82	.06	.19	.25	.06	.31	.13	.19	.38	.06	3.08
5.01 TO 6.00	0.00	0.00	0.00	0.00	.06	.06	.38	.13	.19	.13	.19	.25	.25	.13	.19	.06	2.01
6.01 TO 7.00	.06	.06	0.00	0.00	0.00	.13	.69	.19	.06	.25	.25	.13	.06	.19	.06	.13	2.26
7.01 TO 8.00	.19	.13	0.00	0.00	0.00	0.00	.31	.06	.19	.13	.06	.19	.13	.13	0.00	0.00	1.51
8.01 TO 9.00	0.00	.06	.06	0.00	0.00	0.00	.13	0.00	.13	0.00	0.00	0.00	.25	.94	.06	0.00	1.63
9.01 TO 10.00	0.00	.25	.06	0.00	0.00	0.00	.38	.13	.06	0.00	0.00	.06	.13	.50	0.00	0.00	1.57
MORE THAN 10	0.00	0.00	.06	0.00	0.00	0.00	.13	.19	.38	0.00	0.00	0.00	.25	.25	.06	0.00	1.32
TOTALS	1.57	1.57	.63	.31	.57	1.44	4.65	1.51	1.76	1.26	.94	1.63	2.01	3.39	1.95	1.26	26.51
AVE WIND SPEED	2.8	4.3	4.3	1.1	3.4	3.1	5.0	5.3	6.2	4.1	4.8	4.3	5.7	6.6	3.9	2.7	4.7

Table 2.3G-20

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	5
0.26 TO 0.50	1	0	1	2	0	0	3	1	1	0	1	0	2	0	0	1	13
0.51 TO 1.00	1	0	3	4	3	5	5	0	1	2	0	0	1	0	0	2	27
1.01 TO 1.50	3	1	3	2	5	1	3	1	1	0	0	0	1	0	0	2	23
1.51 TO 2.00	1	3	1	2	1	2	7	1	1	0	1	1	0	1	1	3	26
2.01 TO 3.00	6	6	4	1	1	2	3	1	0	1	1	0	0	0	1	1	28
3.01 TO 4.00	6	4	2	0	4	1	0	0	0	0	0	0	0	1	1	3	22
4.01 TO 5.00	4	4	0	0	1	1	1	0	0	0	0	0	0	0	0	0	11
5.01 TO 6.00	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
6.01 TO 7.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
TOTALS	22	23	15	11	15	13	23	5	5	3	3	1	4	2	3	13	166

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.31
0.26 TO 0.50	.06	0.00	.06	.13	0.00	0.00	.19	.06	.06	0.00	.06	0.00	.13	0.00	0.00	.06	.82
0.51 TO 1.00	.06	0.00	.19	.25	.19	.31	.31	0.00	.06	.13	0.00	0.00	.06	0.00	0.00	.13	1.70
1.01 TO 1.50	.19	.06	.19	.13	.31	.06	.19	.06	.06	0.00	0.00	0.00	.06	0.00	0.00	.13	1.44
1.51 TO 2.00	.06	.19	.06	.13	.06	.13	.44	.06	.06	0.00	.06	.06	0.00	.06	.06	.19	1.63
2.01 TO 3.00	.38	.38	.25	.06	.06	.13	.19	.06	0.00	.06	.06	0.00	0.00	0.00	.06	.06	1.76
3.01 TO 4.00	.38	.25	.13	0.00	.25	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.19	1.38
4.01 TO 5.00	.25	.25	0.00	0.00	.06	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.69
5.01 TO 6.00	0.00	.13	.06	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.25
6.01 TO 7.00	0.00	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.19
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13
TOTALS	1.38	1.44	.94	.69	.94	.82	1.44	.31	.31	.19	.19	.06	.25	.13	.19	.82	10.43
AVE WIND SPEED	2.7	3.7	1.9	1.1	2.1	2.1	1.8	3.4	3.2	1.2	1.4	1.6	.7	2.6	2.7	2.2	2.2

Table 2.3G-21

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	4
0.26 TO 0.50	1	2	4	1	0	2	0	0	0	0	0	0	0	0	0	0	10
0.51 TO 1.00	1	3	14	8	6	7	2	1	0	1	0	1	2	2	2	6	56
1.01 TO 1.50	2	10	13	8	6	5	3	0	0	0	0	0	0	0	0	1	48
1.51 TO 2.00	7	7	9	3	1	4	2	0	1	0	0	0	0	0	0	1	35
2.01 TO 3.00	4	22	10	2	7	5	2	0	0	0	0	0	0	0	0	2	54
3.01 TO 4.00	8	12	7	0	2	2	1	0	0	0	0	1	0	0	0	0	33
4.01 TO 5.00	6	7	5	0	0	0	0	0	0	0	0	0	0	0	0	1	19
5.01 TO 6.00	1	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	12
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	30	73	63	22	22	25	10	1	1	1	0	2	2	2	2	11	271

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.25
0.26 TO 0.50	.06	.13	.25	.06	0.00	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.63
0.51 TO 1.00	.06	.19	.88	.50	.38	.44	.13	.06	0.00	.06	0.00	.06	.13	.13	.13	.38	3.52
1.01 TO 1.50	.13	.63	.82	.50	.38	.31	.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	3.02
1.51 TO 2.00	.44	.44	.57	.19	.06	.25	.13	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06	2.20
2.01 TO 3.00	.25	1.38	.63	.13	.44	.31	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	3.39
3.01 TO 4.00	.50	.75	.44	0.00	.13	.13	.06	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	2.07
4.01 TO 5.00	.38	.44	.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	1.19
5.01 TO 6.00	.06	.63	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.75
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.88	4.59	3.96	1.38	1.38	1.57	.63	.06	.06	.06	0.00	.13	.13	.13	.13	.69	17.02
AVE WIND SPEED	2.8	2.9	1.9	1.2	1.7	1.6	1.6	.8	1.6	.7	0.0	1.9	.7	.6	.8	1.4	2.1

Table 2.3G-22

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	1	0	2	1	1	0	0	0	0	5
1.01 TO 1.50	0	0	0	0	1	0	1	0	2	5	0	6	1	2	0	0	18
1.51 TO 2.00	0	0	0	0	0	0	1	1	6	7	7	7	4	2	0	0	35
2.01 TO 3.00	1	0	0	0	0	0	1	11	9	21	28	34	40	13	0	0	158
3.01 TO 4.00	0	1	0	0	0	2	3	11	12	24	25	30	41	30	2	0	181
4.01 TO 5.00	0	0	0	0	0	0	0	13	11	8	14	8	23	31	4	0	112
5.01 TO 6.00	0	0	0	0	0	0	3	10	2	2	2	3	4	20	7	0	53
6.01 TO 7.00	0	0	0	0	0	0	1	4	1	0	1	1	6	16	3	0	33
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	4	8	2	0	14
8.01 TO 9.00	0	0	1	0	0	0	0	0	0	0	0	0	3	6	2	0	12
9.01 TO 10.00	0	1	0	0	0	0	0	0	0	0	0	0	1	3	3	0	8
MORE THAN 10	0	2	1	0	0	0	0	0	0	0	0	0	0	7	0	0	10
TOTALS	1	4	2	0	1	2	10	51	43	69	78	90	127	138	23	0	639

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.10	.05	.05	0.00	0.00	0.00	0.00	.24
1.01 TO 1.50	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.10	.24	0.00	.29	.05	.10	0.00	0.00	.86
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.29	.33	.33	.33	.19	.10	0.00	0.00	1.67
2.01 TO 3.00	.05	0.00	0.00	0.00	0.00	0.00	.05	.52	.43	1.00	1.33	1.62	1.90	.62	0.00	0.00	7.52
3.01 TO 4.00	0.00	.05	0.00	0.00	0.00	.10	.14	.52	.57	1.14	1.19	1.43	1.95	1.43	.10	0.00	8.61
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.62	.52	.38	.67	.38	1.09	1.47	.19	0.00	5.33
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.48	.10	.10	.10	.14	.19	.95	.33	0.00	2.52
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.19	.05	0.00	.05	.05	.29	.76	.14	0.00	1.57
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19	.38	.10	0.00	.67
8.01 TO 9.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.29	.10	0.00	.57
9.01 TO 10.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.14	.14	0.00	.38
MORE THAN 10	0.00	.10	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.33	0.00	0.00	.48
TOTALS	.05	.19	.10	0.00	.05	.10	.48	2.43	2.05	3.28	3.71	4.28	6.04	6.57	1.09	0.00	30.40
AVE WIND SPEED	2.6	8.5	9.5	0.0	1.0	3.7	3.9	4.1	3.4	2.9	3.2	3.0	3.8	5.2	6.1	0.0	3.9

Amended: April 2009 TL: E048000

Table 2.3G-23

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1.01 TO 1.50	0	1	0	0	0	0	0	1	1	1	0	0	1	0	0	0	5
1.51 TO 2.00	0	0	0	0	0	0	0	2	1	1	1	2	1	0	0	0	8
2.01 TO 3.00	0	0	0	0	0	0	0	1	1	1	4	3	3	2	0	0	15
3.01 TO 4.00	0	0	0	0	0	0	1	2	0	1	1	5	2	0	0	0	12
4.01 TO 5.00	0	0	0	0	0	0	2	3	1	0	0	0	1	1	2	0	10
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
6.01 TO 7.00	0	0	0	0	1	1	0	2	0	1	0	0	0	0	1	0	6
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	0	0	1	1	3	11	5	5	6	10	8	4	5	0	60

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
1.01 TO 1.50	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	.05	.05	0.00	0.00	.05	0.00	0.00	0.00	.24
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	.05	.05	.10	.05	0.00	0.00	0.00	.38
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.05	.19	.14	.14	.10	0.00	0.00	.71
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	0.00	.05	.05	.24	.10	0.00	0.00	0.00	.57
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.14	.05	0.00	0.00	0.00	.05	.05	.10	0.00	.48
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	.10
6.01 TO 7.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.10	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	.29
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.05	0.00	0.00	.05	.05	.14	.52	.24	.24	.29	.48	.38	.19	.24	0.00	2.85
AVE WIND SPEED	0.0	1.4	0.0	0.0	6.1	6.9	3.9	3.7	2.1	2.9	2.6	3.0	2.7	4.8	5.4	0.0	3.4

Amended: April 2009 TL: E048000

Table 2.3G-24

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
1.51 TO 2.00	0	0	0	0	0	0	0	1	1	0	1	2	0	0	0	0	5
2.01 TO 3.00	0	0	0	0	0	0	0	2	1	2	1	0	0	3	0	0	9
3.01 TO 4.00	0	0	0	0	0	0	3	1	0	1	1	3	0	1	1	0	11
4.01 TO 5.00	0	0	0	0	0	0	1	1	2	1	1	0	0	1	1	0	8
5.01 TO 6.00	0	1	0	0	0	0	0	1	1	0	1	0	0	1	0	0	5
6.01 TO 7.00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
MORE THAN 10	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
TOTALS	0	2	0	0	0	1	4	6	7	6	5	5	1	7	4	0	48

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	0.00	0.00	0.00	.10
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.05	.10	0.00	0.00	0.00	0.00	.24
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	.10	.05	0.00	0.00	.14	0.00	0.00	.43
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.05	0.00	.05	.05	.14	0.00	.05	.05	0.00	.52
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.10	.05	.05	0.00	0.00	.05	.05	0.00	.38
5.01 TO 6.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.05	0.00	0.00	.05	0.00	0.00	.24
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.10
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05
MORE THAN 10	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.10
TOTALS	0.00	.10	0.00	0.00	0.00	.05	.19	.29	.33	.29	.24	.24	.05	.33	.19	0.00	2.28
AVE WIND SPEED	0.0	8.0	0.0	0.0	0.0	6.4	3.7	3.4	4.8	2.5	3.4	2.7	7.6	4.7	6.1	0.0	4.2

Table 2.3G-25

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	4
0.51 TO 1.00	4	2	0	1	2	0	1	2	1	2	1	8	3	3	3	1	34
1.01 TO 1.50	3	2	1	0	0	0	2	4	4	6	4	7	4	3	5	2	47
1.51 TO 2.00	1	3	1	0	0	1	3	4	3	5	1	6	5	8	9	1	51
2.01 TO 3.00	3	6	2	0	4	8	12	9	8	9	10	14	7	10	8	3	113
3.01 TO 4.00	0	0	0	1	0	7	9	13	8	8	3	8	4	11	12	3	87
4.01 TO 5.00	1	1	0	1	2	5	7	7	3	2	5	5	1	3	5	1	49
5.01 TO 6.00	0	0	0	4	2	1	2	4	2	0	4	2	4	3	2	1	31
6.01 TO 7.00	0	0	0	2	0	2	2	1	1	0	1	2	3	4	4	2	24
7.01 TO 8.00	0	0	1	0	0	1	0	0	0	0	1	2	0	5	1	1	12
8.01 TO 9.00	0	0	0	0	0	1	0	0	2	0	0	1	6	3	2	0	15
9.01 TO 10.00	0	1	0	0	0	2	1	0	0	0	0	1	2	0	3	0	10
MORE THAN 10	0	0	1	0	1	1	0	0	0	0	0	1	2	4	2	0	12
TOTALS	13	15	6	9	11	29	39	45	32	32	30	58	42	57	56	15	490

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	.19
0.51 TO 1.00	.19	.10	0.00	.05	.10	0.00	.05	.10	.05	.10	.05	.38	.14	.14	.14	.05	1.62
1.01 TO 1.50	.14	.10	.05	0.00	0.00	0.00	.10	.19	.19	.29	.19	.33	.19	.14	.24	.10	2.24
1.51 TO 2.00	.05	.14	.05	0.00	0.00	.05	.14	.19	.14	.24	.05	.29	.24	.38	.43	.05	2.43
2.01 TO 3.00	.14	.29	.10	0.00	.19	.38	.57	.43	.38	.43	.48	.67	.33	.48	.38	.14	5.38
3.01 TO 4.00	0.00	0.00	0.00	.05	0.00	.33	.43	.62	.38	.38	.14	.38	.19	.52	.57	.14	4.14
4.01 TO 5.00	.05	.05	0.00	.05	.10	.24	.33	.33	.14	.10	.24	.24	.05	.14	.24	.05	2.33
5.01 TO 6.00	0.00	0.00	0.00	.19	.10	.05	.10	.19	.10	0.00	.19	.10	.19	.14	.10	.05	1.47
6.01 TO 7.00	0.00	0.00	0.00	.10	0.00	.10	.10	.05	.05	0.00	.05	.10	.14	.19	.19	.10	1.14
7.01 TO 8.00	0.00	0.00	.05	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	.10	0.00	.24	.05	.05	.57
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.10	0.00	0.00	.05	.29	.14	.10	0.00	.71
9.01 TO 10.00	0.00	.05	0.00	0.00	0.00	.10	.05	0.00	0.00	0.00	0.00	.05	.10	0.00	.14	0.00	.48
MORE THAN 10	0.00	0.00	.05	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	.05	.10	.19	.10	0.00	.57
TOTALS	.62	.71	.29	.43	.52	1.38	1.86	2.14	1.52	1.52	1.43	2.76	2.00	2.71	2.66	.71	23.31
AVE WIND SPEED	1.6	2.4	4.3	4.7	3.9	4.5	3.4	3.2	3.4	2.4	3.4	3.1	4.4	4.3	3.9	3.5	3.6

Table 2.3G-26

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	4
0.51 TO 1.00	3	2	5	1	4	2	1	2	2	1	1	4	1	2	2	4	37
1.01 TO 1.50	7	6	1	2	0	3	1	2	5	2	2	0	1	5	2	4	43
1.51 TO 2.00	5	4	2	2	3	5	1	3	2	0	0	1	0	0	2	1	31
2.01 TO 3.00	8	12	5	4	1	3	16	5	2	0	1	3	0	3	3	5	71
3.01 TO 4.00	5	4	0	0	1	2	7	1	0	0	0	0	0	1	2	2	25
4.01 TO 5.00	1	4	0	4	1	1	4	1	0	1	0	0	1	2	2	3	25
5.01 TO 6.00	0	1	0	2	1	2	0	1	0	0	0	0	1	0	3	1	12
6.01 TO 7.00	1	0	0	0	0	0	0	0	0	0	0	1	5	2	4	3	16
7.01 TO 8.00	0	1	0	0	2	0	0	0	0	0	0	0	1	3	1	1	9
8.01 TO 9.00	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
9.01 TO 10.00	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	6
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
TOTALS	30	34	13	15	20	19	31	15	11	4	4	9	11	22	21	25	287

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.14
0.26 TO 0.50	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	.19
0.51 TO 1.00	.14	.10	.24	.05	.19	.10	.05	.10	.10	.05	.05	.19	.05	.10	.10	.19	1.76
1.01 TO 1.50	.33	.29	.05	.10	0.00	.14	.05	.10	.24	.10	.10	0.00	.05	.24	.10	.19	2.05
1.51 TO 2.00	.24	.19	.10	.10	.14	.24	.05	.14	.10	0.00	0.00	.05	0.00	0.00	.10	.05	1.47
2.01 TO 3.00	.38	.57	.24	.19	.05	.14	.76	.24	.10	0.00	.05	.14	0.00	.14	.14	.24	3.38
3.01 TO 4.00	.24	.19	0.00	0.00	.05	.10	.33	.05	0.00	0.00	0.00	0.00	0.00	.05	.10	.10	1.19
4.01 TO 5.00	.05	.19	0.00	.19	.05	.05	.19	.05	0.00	.05	0.00	0.00	.05	.10	.10	.14	1.19
5.01 TO 6.00	0.00	.05	0.00	.10	.05	.10	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	.14	.05	.57
6.01 TO 7.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.24	.10	.19	.14	.76
7.01 TO 8.00	0.00	.05	0.00	0.00	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.14	.05	.05	.43
8.01 TO 9.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.10
9.01 TO 10.00	0.00	0.00	0.00	0.00	.24	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.29
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	.14
TOTALS	1.43	1.62	.62	.71	.95	.90	1.47	.71	.52	.19	.19	.43	.52	1.05	1.00	1.19	13.65
AVE WIND SPEED	2.2	2.7	1.6	3.0	4.8	2.8	2.7	2.3	1.5	2.1	1.4	2.1	4.8	4.7	3.8	3.0	3.0

Table 2.3G-27

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	2	1	1	2	0	0	1	0	1	0	0	1	9
0.51 TO 1.00	4	2	3	4	2	1	4	0	0	1	1	0	2	0	1	3	28
1.01 TO 1.50	4	5	2	2	6	6	6	2	1	2	0	2	2	1	0	1	42
1.51 TO 2.00	4	6	2	2	6	1	3	1	0	0	0	0	0	0	1	3	29
2.01 TO 3.00	3	13	2	0	0	2	2	1	1	0	0	0	1	3	3	1	32
3.01 TO 4.00	3	8	1	0	1	0	4	0	0	0	0	0	0	1	1	3	22
4.01 TO 5.00	4	5	1	0	0	0	1	0	0	0	0	0	0	0	0	1	12
5.01 TO 6.00	4	2	0	0	0	0	0	0	1	0	0	0	0	0	2	0	9
6.01 TO 7.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	27	41	11	8	17	11	21	6	3	3	2	2	6	5	9	13	186

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	0.00	0.00	.10	.05	.05	.10	0.00	0.00	.05	0.00	.05	0.00	0.00	.05	.43
0.51 TO 1.00	.19	.10	.14	.19	.10	.05	.19	0.00	0.00	.05	.05	0.00	.10	0.00	.05	.14	1.33
1.01 TO 1.50	.19	.24	.10	.10	.29	.29	.29	.10	.05	.10	0.00	.10	.10	.05	0.00	.05	2.00
1.51 TO 2.00	.19	.29	.10	.10	.29	.05	.14	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	.14	1.38
2.01 TO 3.00	.14	.62	.10	0.00	0.00	.10	.10	.05	.05	0.00	0.00	0.00	.05	.14	.14	.05	1.52
3.01 TO 4.00	.14	.38	.05	0.00	.05	0.00	.19	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.14	1.05
4.01 TO 5.00	.19	.24	.05	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.57
5.01 TO 6.00	.19	.10	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.10	0.00	.43
6.01 TO 7.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.10
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.28	1.95	.52	.38	.81	.52	1.00	.29	.14	.14	.10	.10	.29	.24	.43	.62	8.85
AVE WIND SPEED	2.9	2.7	1.9	1.1	1.4	1.4	1.9	1.1	2.7	1.1	.6	1.0	1.1	2.3	3.4	2.1	2.1

Table 2.3G-28

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	2	0	1	1	1	2	1	2	1	1	0	0	0	0	1	1	14
0.51 TO 1.00	4	8	9	6	12	7	7	4	1	2	0	0	1	2	2	2	67
1.01 TO 1.50	8	9	9	9	8	5	1	2	0	0	1	1	0	0	0	4	57
1.51 TO 2.00	7	11	9	10	9	6	3	2	2	3	0	0	1	0	0	2	65
2.01 TO 3.00	8	26	15	5	11	6	7	2	0	0	0	0	3	2	0	1	86
3.01 TO 4.00	12	13	11	1	1	0	6	0	0	0	0	0	0	0	0	2	46
4.01 TO 5.00	4	17	5	0	0	0	1	0	0	0	0	0	0	0	0	0	27
5.01 TO 6.00	5	6	5	0	0	0	0	0	0	0	0	0	0	0	1	1	18
6.01 TO 7.00	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	2	9
7.01 TO 8.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	53	93	66	32	42	26	26	12	4	6	1	1	5	4	4	15	392

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.10
0.26 TO 0.50	.10	0.00	.05	.05	.05	.10	.05	.10	.05	.05	0.00	0.00	0.00	0.00	.05	.05	.67
0.51 TO 1.00	.19	.38	.43	.29	.57	.33	.33	.19	.05	.10	0.00	0.00	.05	.10	.10	.10	3.19
1.01 TO 1.50	.38	.43	.43	.43	.38	.24	.05	.10	0.00	0.00	.05	.05	0.00	0.00	0.00	.19	2.71
1.51 TO 2.00	.33	.52	.43	.48	.43	.29	.14	.10	.10	.14	0.00	0.00	.05	0.00	0.00	.10	3.09
2.01 TO 3.00	.38	1.24	.71	.24	.52	.29	.33	.10	0.00	0.00	0.00	0.00	.14	.10	0.00	.05	4.09
3.01 TO 4.00	.57	.62	.52	.05	.05	0.00	.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	2.19
4.01 TO 5.00	.19	.81	.24	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28
5.01 TO 6.00	.24	.29	.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.86
6.01 TO 7.00	.10	.14	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.43
7.01 TO 8.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	2.52	4.42	3.14	1.52	2.00	1.24	1.24	.57	.19	.29	.05	.05	.24	.19	.19	.71	18.65
AVE WIND SPEED	2.9	2.9	2.7	1.5	1.5	1.5	2.1	1.3	1.2	1.1	1.2	1.2	1.9	1.8	1.9	2.5	2.3

Table 2.3G-29

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
1.01 TO 1.50	0	0	0	0	0	0	0	1	3	2	2	3	2	0	0	0	13
1.51 TO 2.00	0	1	0	0	1	0	0	3	1	8	4	9	2	0	0	0	29
2.01 TO 3.00	0	0	0	0	0	2	6	7	19	21	34	49	20	10	3	1	172
3.01 TO 4.00	0	0	0	0	0	1	5	12	16	31	41	49	36	20	3	0	214
4.01 TO 5.00	0	1	0	0	0	0	5	7	13	14	17	29	32	7	1	0	126
5.01 TO 6.00	0	0	0	0	0	0	0	14	8	5	3	11	17	12	2	0	72
6.01 TO 7.00	0	0	0	0	0	0	1	0	5	2	3	1	5	7	5	0	29
7.01 TO 8.00	0	0	0	0	0	2	2	1	4	1	0	0	1	6	0	0	17
8.01 TO 9.00	0	0	0	0	0	0	0	0	1	2	1	0	0	5	0	0	9
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	6
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTALS	1	2	0	0	1	5	19	46	71	87	107	152	115	71	14	1	692

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	.15
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.15	.10	.10	.15	.10	0.00	0.00	0.00	.65
1.51 TO 2.00	0.00	.05	0.00	0.00	.05	0.00	0.00	.15	.05	.40	.20	.45	.10	0.00	0.00	0.00	1.44
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	.10	.30	.35	.95	1.04	1.69	2.44	1.00	.50	.15	.05	8.56
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	.05	.25	.60	.80	1.54	2.04	2.44	1.79	1.00	.15	0.00	10.65
4.01 TO 5.00	0.00	.05	0.00	0.00	0.00	0.00	.25	.35	.65	.70	.85	1.44	1.59	.35	.05	0.00	6.27
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.70	.40	.25	.15	.55	.85	.60	.10	0.00	3.58
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.25	.10	.15	.05	.25	.35	.25	0.00	1.44
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	.10	.10	.05	.20	.05	0.00	0.00	.05	.30	0.00	0.00	.85
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	.05	0.00	0.00	.25	0.00	0.00	.45
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	0.00	.15	0.00	0.00	.30
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
TOTALS	.05	.10	0.00	0.00	.05	.25	.95	2.29	3.53	4.33	5.32	7.56	5.72	3.53	.70	.05	34.43
AVE WIND SPEED	.4	3.1	0.0	0.0	1.7	4.8	4.0	4.0	4.0	3.5	3.5	3.4	4.0	5.1	4.8	2.5	3.9

Table 2.3G-30

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY 8

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1.01 TO 1.50	1	0	2	0	0	0	0	1	1	1	4	0	1	2	0	0	13
1.51 TO 2.00	0	2	0	0	0	1	0	1	2	2	4	2	0	0	1	1	16
2.01 TO 3.00	0	2	2	0	0	0	1	3	1	4	2	4	2	5	2	1	29
3.01 TO 4.00	0	1	0	0	0	0	5	3	2	5	0	2	3	3	0	1	23
4.01 TO 5.00	0	0	0	0	0	0	5	2	4	1	0	1	1	0	0	0	14
5.01 TO 6.00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	3
7.01 TO 8.00	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	5	4	0	0	2	11	12	11	12	11	11	7	12	4	3	106

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05
1.01 TO 1.50	.05	0.00	.10	0.00	0.00	0.00	0.00	.05	.05	.05	.20	0.00	.05	.10	0.00	0.00	.65
1.51 TO 2.00	0.00	.10	0.00	0.00	0.00	.05	0.00	.05	.10	.10	.20	.10	0.00	0.00	.05	.05	.80
2.01 TO 3.00	0.00	.10	.10	0.00	0.00	0.00	.05	.15	.05	.20	.10	.20	.10	.25	.10	.05	1.44
3.01 TO 4.00	0.00	.05	0.00	0.00	0.00	0.00	.25	.15	.10	.15	0.00	.10	.15	.15	0.00	.05	1.14
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.25	.10	.20	.05	0.00	.05	.05	0.00	0.00	0.00	.70
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	.15
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.15
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	.10
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.05	.25	.20	0.00	0.00	.10	.55	.60	.55	.60	.55	.55	.35	.60	.20	.15	5.27
AVE WIND SPEED	1.2	2.3	1.8	0.0	0.0	4.9	3.9	3.5	3.4	3.0	1.6	3.5	2.9	3.4	3.6	2.4	3.1

Table 2.3G-31

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
0.51 TO 1.00	1	0	0	0	0	2	0	0	0	0	0	0	1	0	1	0	5
1.01 TO 1.50	0	1	0	0	0	0	1	0	2	0	1	0	1	1	0	1	8
1.51 TO 2.00	0	1	1	2	0	0	2	2	2	4	0	1	4	0	0	1	20
2.01 TO 3.00	0	1	1	0	1	3	5	4	5	2	1	1	2	1	1	1	29
3.01 TO 4.00	0	0	0	0	0	2	5	2	1	4	5	2	1	1	0	2	23
4.01 TO 5.00	0	0	0	0	1	1	0	2	0	3	0	1	0	3	0	0	11
5.01 TO 6.00	0	0	0	0	0	0	0	2	2	1	1	0	0	2	1	0	9
6.01 TO 7.00	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	4
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	3
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	3	2	2	2	13	13	13	12	14	6	5	10	8	4	5	113

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.05
0.51 TO 1.00	.05	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.25
1.01 TO 1.50	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	.10	0.00	.05	0.00	.05	.05	0.00	.05	.40
1.51 TO 2.00	0.00	.05	.05	.10	0.00	0.00	.10	.10	.10	.20	0.00	.05	.20	0.00	0.00	.05	1.00
2.01 TO 3.00	0.00	.05	.05	0.00	.05	.15	.25	.20	.25	.10	.05	.05	.10	.05	.05	.05	1.44
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	.10	.25	.10	.05	.20	.15	.10	.05	.05	0.00	.10	1.14
4.01 TO 5.00	0.00	0.00	0.00	0.00	.05	.05	0.00	.10	0.00	.15	0.00	.05	0.00	.15	0.00	0.00	.55
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.10	.05	.05	0.00	0.00	.10	.05	0.00	.45
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.20
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.15
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.05	.15	.10	.10	.10	.65	.65	.65	.60	.70	.30	.25	.50	.40	.20	.25	5.62
AVE WIND SPEED	.8	1.9	1.9	1.9	3.7	4.4	2.7	3.6	2.9	3.1	3.2	3.1	1.7	3.8	4.3	2.6	3.1

Table 2.3G-32

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	4
0.26 TO 0.50	0	1	0	0	0	1	0	0	1	0	1	2	0	0	1	0	7
0.51 TO 1.00	2	2	2	1	1	0	1	3	1	4	6	4	5	4	1	7	44
1.01 TO 1.50	2	0	3	3	3	6	9	5	7	6	7	5	7	2	3	3	71
1.51 TO 2.00	6	6	2	3	3	2	11	11	12	5	11	5	6	2	5	5	95
2.01 TO 3.00	10	5	2	0	9	13	29	15	15	16	10	19	9	3	7	4	166
3.01 TO 4.00	1	0	1	1	2	11	22	20	22	10	6	7	8	6	6	1	124
4.01 TO 5.00	0	0	1	0	1	5	14	17	9	4	3	3	6	3	5	1	72
5.01 TO 6.00	0	1	0	0	0	0	8	7	4	2	3	2	2	2	7	1	39
6.01 TO 7.00	0	0	0	0	0	1	3	4	1	1	1	1	0	0	1	0	13
7.01 TO 8.00	0	0	0	0	0	0	2	3	3	0	2	0	1	0	2	0	13
8.01 TO 9.00	0	0	0	0	0	0	0	1	0	2	1	0	0	1	1	0	6
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	21	15	11	8	19	39	99	86	75	50	51	48	44	23	39	22	654

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.20
0.26 TO 0.50	0.00	.05	0.00	0.00	0.00	.05	0.00	0.00	.05	0.00	.05	.10	0.00	0.00	.05	0.00	.35
0.51 TO 1.00	.10	.10	.10	.05	.05	0.00	.05	.15	.05	.20	.30	.20	.25	.20	.05	.35	2.19
1.01 TO 1.50	.10	0.00	.15	.15	.15	.30	.45	.25	.35	.30	.35	.25	.35	.10	.15	.15	3.53
1.51 TO 2.00	.30	.30	.10	.15	.15	.10	.55	.55	.60	.25	.55	.25	.30	.10	.25	.25	4.73
2.01 TO 3.00	.50	.25	.10	0.00	.45	.65	1.44	.75	.75	.80	.50	.95	.45	.15	.35	.20	8.26
3.01 TO 4.00	.05	0.00	.05	.05	.10	.55	1.09	1.00	1.09	.50	.30	.35	.40	.30	.30	.05	6.17
4.01 TO 5.00	0.00	0.00	.05	0.00	.05	.25	.70	.85	.45	.20	.15	.15	.30	.15	.25	.05	3.58
5.01 TO 6.00	0.00	.05	0.00	0.00	0.00	0.00	.40	.35	.20	.10	.15	.10	.10	.10	.35	.05	1.94
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	.05	.15	.20	.05	.05	.05	.05	0.00	0.00	.05	0.00	.65
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.15	.15	0.00	.10	0.00	.05	0.00	.10	0.00	.65
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.10	.05	0.00	0.00	.05	.05	0.00	.30
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.04	.75	.55	.40	.95	1.94	4.93	4.28	3.73	2.49	2.54	2.39	2.19	1.14	1.94	1.09	32.54
AVE WIND SPEED	2.0	2.0	1.9	1.6	2.2	2.9	3.3	3.6	3.2	3.0	2.7	2.5	2.7	3.1	3.7	1.9	2.9

Amended: April 2009 TL: E048000

Table 2.3G-33

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	4
0.51 TO 1.00	0	4	2	1	2	1	5	2	1	3	0	1	6	1	2	1	32
1.01 TO 1.50	3	0	3	1	0	4	0	4	4	3	7	2	2	0	1	3	37
1.51 TO 2.00	7	1	1	2	4	5	2	5	1	0	2	0	0	0	1	2	33
2.01 TO 3.00	12	4	2	3	1	6	6	6	9	4	4	2	0	0	0	3	62
3.01 TO 4.00	1	1	2	0	2	5	14	3	1	1	1	3	0	0	2	2	38
4.01 TO 5.00	1	1	0	0	0	0	2	1	0	1	1	0	0	1	1	0	9
5.01 TO 6.00	0	0	0	0	0	0	2	1	0	0	1	0	1	0	3	1	9
6.01 TO 7.00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	2	3	1	0	6
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	6
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
TOTALS	24	12	10	8	9	21	31	23	18	13	16	8	13	12	12	13	243

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	0.00	0.00	0.00	.20
0.51 TO 1.00	0.00	.20	.10	.05	.10	.05	.25	.10	.05	.15	0.00	.05	.30	.05	.10	.05	1.59
1.01 TO 1.50	.15	0.00	.15	.05	0.00	.20	0.00	.20	.20	.15	.35	.10	.10	0.00	.05	.15	1.84
1.51 TO 2.00	.35	.05	.05	.10	.20	.25	.10	.25	.05	0.00	.10	0.00	0.00	0.00	.05	.10	1.64
2.01 TO 3.00	.60	.20	.10	.15	.05	.30	.30	.30	.45	.20	.20	.10	0.00	0.00	0.00	.15	3.08
3.01 TO 4.00	.05	.05	.10	0.00	.10	.25	.70	.15	.05	.05	.05	.15	0.00	0.00	.10	.10	1.89
4.01 TO 5.00	.05	.05	0.00	0.00	0.00	0.00	.10	.05	0.00	.05	.05	0.00	0.00	.05	.05	0.00	.45
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.05	0.00	0.00	.05	0.00	.05	0.00	.15	.05	.45
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	.15
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.15	.05	0.00	.30
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.25	0.00	0.00	.30
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	0.00	.10
TOTALS	1.19	.60	.50	.40	.45	1.04	1.54	1.14	.90	.65	.80	.40	.65	.60	.60	.65	12.09
AVE WIND SPEED	2.1	1.9	1.8	1.6	2.0	2.2	2.9	2.5	2.6	1.9	2.1	2.3	3.0	8.2	4.0	2.7	2.7

Table 2.3G-34

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	1	0	0	0	2	1	0	1	5
0.51 TO 1.00	1	1	2	0	2	1	5	0	1	1	0	0	0	0	2	2	18
1.01 TO 1.50	3	0	0	0	0	3	1	0	1	0	0	0	0	0	0	2	10
1.51 TO 2.00	2	0	2	0	1	0	0	1	0	0	0	0	0	0	0	4	10
2.01 TO 3.00	1	3	0	0	1	2	2	0	0	0	0	0	0	0	1	2	12
3.01 TO 4.00	2	2	1	0	0	0	0	0	0	0	0	0	0	0	1	1	7
4.01 TO 5.00	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	4
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	10	6	5	0	4	6	8	1	3	2	0	0	2	3	4	12	67

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.10	.05	0.00	.05	.25
0.51 TO 1.00	.05	.05	.10	0.00	.10	.05	.25	0.00	.05	.05	0.00	0.00	0.00	0.00	.10	.10	.90
1.01 TO 1.50	.15	0.00	0.00	0.00	0.00	.15	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.10	.50
1.51 TO 2.00	.10	0.00	.10	0.00	.05	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.20	.50
2.01 TO 3.00	.05	.15	0.00	0.00	.05	.10	.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.10	.60
3.01 TO 4.00	.10	.10	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.35
4.01 TO 5.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	.10	0.00	0.00	.20
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.50	.30	.25	0.00	.20	.30	.40	.05	.15	.10	0.00	0.00	.10	.15	.20	.60	3.33
AVE WIND SPEED	2.1	2.4	1.7	0.0	1.5	1.5	1.3	1.8	.9	2.7	0.0	0.0	.4	3.0	1.7	1.6	1.7

Table 2.3G-35

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
0.51 TO 1.00	1	1	1	5	2	0	1	0	0	0	0	0	0	1	0	1	13
1.01 TO 1.50	3	2	3	2	4	0	4	1	0	0	0	1	1	0	0	0	21
1.51 TO 2.00	7	4	5	5	3	1	2	1	0	0	0	0	0	0	0	2	30
2.01 TO 3.00	10	9	3	5	0	2	0	1	0	0	0	0	0	0	0	0	30
3.01 TO 4.00	3	10	5	0	0	0	0	0	0	0	0	0	0	0	1	1	20
4.01 TO 5.00	6	3	5	0	0	0	0	0	0	0	0	0	0	1	0	1	17
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	30	29	24	18	10	3	7	3	0	0	0	1	1	2	1	5	135

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	.05	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15
0.51 TO 1.00	.05	.05	.05	.25	.10	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	.65
1.01 TO 1.50	.15	.10	.15	.10	.20	0.00	.20	.05	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	1.04
1.51 TO 2.00	.35	.20	.25	.25	.15	.05	.10	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	1.49
2.01 TO 3.00	.50	.45	.15	.25	0.00	.10	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49
3.01 TO 4.00	.15	.50	.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	1.00
4.01 TO 5.00	.30	.15	.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	.85
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.49	1.44	1.19	.90	.50	.15	.35	.15	0.00	0.00	0.00	.05	.05	.10	.05	.25	6.72
AVE WIND SPEED	2.7	2.8	2.6	1.5	1.2	2.0	1.4	1.6	0.0	0.0	0.0	1.2	1.3	2.6	3.9	2.4	2.3

Table 2.3G-36

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	5
1.51 TO 2.00	0	0	0	0	0	1	0	0	3	2	6	5	3	1	0	0	21
2.01 TO 3.00	2	0	0	0	0	0	2	1	15	16	33	30	18	10	2	0	129
3.01 TO 4.00	1	0	0	0	0	0	4	5	22	21	31	32	37	20	2	1	176
4.01 TO 5.00	0	1	0	0	0	0	2	5	8	8	11	15	45	18	2	0	115
5.01 TO 6.00	0	0	0	0	0	0	0	3	2	4	4	7	32	21	1	0	74
6.01 TO 7.00	0	0	0	0	0	0	0	0	1	0	0	4	12	18	2	0	37
7.01 TO 8.00	0	0	0	0	0	1	0	0	0	0	0	2	3	9	3	0	18
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
TOTALS	3	1	0	0	0	2	8	14	52	53	86	96	150	101	14	1	581

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14	.07	.07	0.00	0.00	0.00	0.00	.35
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.21	.14	.42	.35	.21	.07	0.00	0.00	1.48
2.01 TO 3.00	.14	0.00	0.00	0.00	0.00	0.00	.14	.07	1.06	1.13	2.33	2.12	1.27	.71	.14	0.00	9.10
3.01 TO 4.00	.07	0.00	0.00	0.00	0.00	0.00	.28	.35	1.55	1.48	2.19	2.26	2.61	1.41	.14	.07	12.42
4.01 TO 5.00	0.00	.07	0.00	0.00	0.00	0.00	.14	.35	.56	.56	.78	1.06	3.18	1.27	.14	0.00	8.12
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.21	.14	.28	.28	.49	2.26	1.48	.07	0.00	5.22
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.28	.85	1.27	.14	0.00	2.61
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.14	.21	.64	.21	0.00	1.27
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	.14
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	.14
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	.14
TOTALS	.21	.07	0.00	0.00	0.00	.14	.56	.99	3.67	3.74	6.07	6.77	10.59	7.13	.99	.07	41.00
AVE WIND SPEED	2.8	4.1	0.0	0.0	0.0	4.6	3.5	4.2	3.4	3.3	3.2	3.6	4.4	5.1	5.7	3.9	4.0

Amended: April 2009 TL: E048000

Table 2.3G-37

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2
1.01 TO 1.50	0	0	1	0	0	0	0	0	1	2	1	1	0	0	0	0	6
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
2.01 TO 3.00	0	0	0	0	0	0	1	1	0	2	1	2	1	2	0	0	10
3.01 TO 4.00	0	0	0	0	0	2	2	2	0	1	2	0	0	0	0	0	9
4.01 TO 5.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	0	0	2	7	3	1	5	4	5	1	3	0	0	32

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07	0.00	0.00	.14
1.01 TO 1.50	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07	.14	.07	.07	0.00	0.00	0.00	0.00	.42
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	.07
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	.14	.07	.14	.07	.14	0.00	0.00	.71
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	.14	.14	.14	0.00	.07	.14	0.00	0.00	0.00	0.00	0.00	.64
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	.07	0.00	0.00	.14	.49	.21	.07	.35	.28	.35	.07	.21	0.00	0.00	2.26
AVE WIND SPEED	0.0	0.0	1.2	0.0	0.0	3.8	4.4	3.1	1.5	2.2	2.7	1.6	2.3	2.0	0.0	0.0	2.8

Table 2.3G-38

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	2	2	3	2	1	1	1	13
1.51 TO 2.00	0	0	0	0	0	0	0	3	1	2	1	2	1	4	4	0	18
2.01 TO 3.00	1	1	0	0	0	0	3	2	4	5	2	2	5	6	6	5	42
3.01 TO 4.00	2	2	0	0	2	2	9	4	1	6	1	0	5	8	2	0	44
4.01 TO 5.00	0	1	0	0	0	1	3	3	3	1	0	0	1	2	1	0	16
5.01 TO 6.00	1	0	0	0	0	0	0	5	4	0	0	1	0	1	1	0	13
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	4	4	0	0	2	3	15	17	15	16	6	8	15	22	20	6	153

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07	0.00	0.00	0.00	.14
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14	.14	.21	.14	.07	.07	.07	.92
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.21	.07	.14	.07	.14	.07	.28	.28	0.00	1.27
2.01 TO 3.00	.07	.07	0.00	0.00	0.00	0.00	.21	.14	.28	.35	.14	.14	.35	.42	.42	.35	2.96
3.01 TO 4.00	.14	.14	0.00	0.00	.14	.14	.64	.28	.07	.42	.07	0.00	.35	.56	.14	0.00	3.11
4.01 TO 5.00	0.00	.07	0.00	0.00	0.00	.07	.21	.21	.21	.07	0.00	0.00	.07	.14	.07	0.00	1.13
5.01 TO 6.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.35	.28	0.00	0.00	.07	0.00	.07	.07	0.00	.92
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.21	0.00	.21
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.28	.28	0.00	0.00	.14	.21	1.06	1.20	1.06	1.13	.42	.56	1.06	1.55	1.41	.42	10.80
AVE WIND SPEED	3.5	3.6	0.0	0.0	3.1	4.0	3.6	3.8	3.5	2.7	2.2	2.2	2.6	3.0	3.7	2.1	3.2

Table 2.3G-39

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	1	0	0	0	0	0	0	0	2	0	0	2	0	0	2	7
0.51 TO 1.00	3	0	0	1	0	0	0	2	4	2	3	2	1	2	0	3	23
1.01 TO 1.50	4	4	4	2	2	2	5	5	7	2	4	3	6	3	3	5	61
1.51 TO 2.00	5	7	0	2	3	7	5	6	7	5	1	4	3	5	2	4	66
2.01 TO 3.00	16	11	4	1	7	16	17	17	13	8	6	5	4	2	3	1	131
3.01 TO 4.00	3	3	1	0	1	20	19	11	7	6	6	2	1	0	1	2	83
4.01 TO 5.00	0	0	0	0	0	2	9	8	6	3	1	2	0	1	1	1	34
5.01 TO 6.00	0	0	0	0	0	0	4	0	1	2	0	2	1	2	2	0	14
6.01 TO 7.00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	31	26	9	6	13	47	59	51	45	30	21	20	18	15	15	18	425

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.07
0.26 TO 0.50	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	.14	0.00	0.00	.14	.49
0.51 TO 1.00	.21	0.00	0.00	.07	0.00	0.00	0.00	.14	.28	.14	.21	.14	.07	.14	0.00	.21	1.62
1.01 TO 1.50	.28	.28	.28	.14	.14	.14	.35	.35	.49	.14	.28	.21	.42	.21	.21	.35	4.30
1.51 TO 2.00	.35	.49	0.00	.14	.21	.49	.35	.42	.49	.35	.07	.28	.21	.35	.14	.28	4.66
2.01 TO 3.00	1.13	.78	.28	.07	.49	1.13	1.20	1.20	.92	.56	.42	.35	.28	.14	.21	.07	9.24
3.01 TO 4.00	.21	.21	.07	0.00	.07	1.41	1.34	.78	.49	.42	.42	.14	.07	0.00	.07	.14	5.86
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	.14	.64	.56	.42	.21	.07	.14	0.00	.07	.07	.07	2.40
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.28	0.00	.07	.14	0.00	.14	.07	.14	.14	0.00	.99
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.21
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	2.19	1.83	.64	.42	.92	3.32	4.16	3.60	3.18	2.12	1.48	1.41	1.27	1.06	1.06	1.27	29.99
AVE WIND SPEED	2.1	2.2	2.1	1.7	2.2	2.9	3.1	3.0	2.4	2.6	2.4	2.6	1.8	2.2	3.8	1.6	2.6

Table 2.3G-40

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0.51 TO 1.00	3	0	1	0	0	1	1	1	0	0	1	0	0	0	2	1	11
1.01 TO 1.50	0	1	2	1	2	0	1	0	3	1	2	1	0	0	0	1	15
1.51 TO 2.00	2	0	0	1	4	1	4	2	1	1	1	0	1	1	1	0	20
2.01 TO 3.00	3	2	0	1	0	3	4	4	3	1	0	0	0	2	2	1	26
3.01 TO 4.00	1	2	0	0	0	1	1	6	0	0	0	0	0	1	1	1	14
4.01 TO 5.00	1	1	0	0	0	0	3	0	0	0	0	0	1	0	2	1	9
5.01 TO 6.00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	12	6	3	3	6	6	14	13	7	3	4	1	2	4	9	5	99

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.07
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07
0.51 TO 1.00	.21	0.00	.07	0.00	0.00	.07	.07	.07	0.00	0.00	.07	0.00	0.00	0.00	.14	.07	.78
1.01 TO 1.50	0.00	.07	.14	.07	.14	0.00	.07	0.00	.21	.07	.14	.07	0.00	0.00	0.00	.07	1.06
1.51 TO 2.00	.14	0.00	0.00	.07	.28	.07	.28	.14	.07	.07	.07	0.00	.07	.07	.07	0.00	1.41
2.01 TO 3.00	.21	.14	0.00	.07	0.00	.21	.28	.28	.21	.07	0.00	0.00	0.00	.14	.14	.07	1.83
3.01 TO 4.00	.07	.14	0.00	0.00	0.00	.07	.07	.42	0.00	0.00	0.00	0.00	0.00	.07	.07	.07	.99
4.01 TO 5.00	.07	.07	0.00	0.00	0.00	0.00	.21	0.00	0.00	0.00	0.00	0.00	.07	0.00	.14	.07	.64
5.01 TO 6.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.85	.42	.21	.21	.42	.42	.99	.92	.49	.21	.28	.07	.14	.28	.64	.35	6.99
AVE WIND SPEED	2.8	3.0	1.0	1.7	1.6	2.1	2.6	2.7	1.9	1.9	1.4	1.3	3.3	2.5	2.3	2.4	2.3

Table 2.3G-41

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	0	2	1	0	1	3	0	0	0	0	0	0	0	0	0	0	7
1.01 TO 1.50	1	2	0	2	2	2	1	0	0	0	0	0	1	0	0	0	11
1.51 TO 2.00	3	1	1	0	1	1	2	1	0	1	0	1	0	0	0	3	15
2.01 TO 3.00	3	3	0	0	1	0	1	0	0	0	1	0	0	0	0	0	9
3.01 TO 4.00	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	2	6
4.01 TO 5.00	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5.01 TO 6.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	11	13	2	2	6	6	5	1	0	1	1	1	1	0	0	5	55

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
0.51 TO 1.00	0.00	.14	.07	0.00	.07	.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.49
1.01 TO 1.50	.07	.14	0.00	.14	.14	.14	.07	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.78
1.51 TO 2.00	.21	.07	.07	0.00	.07	.07	.14	.07	0.00	.07	0.00	.07	0.00	0.00	0.00	.21	1.06
2.01 TO 3.00	.21	.21	0.00	0.00	.07	0.00	.07	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.64
3.01 TO 4.00	.07	.14	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.42
4.01 TO 5.00	.21	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.35
5.01 TO 6.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.78	.92	.14	.14	.42	.42	.35	.07	0.00	.07	.07	.07	.07	0.00	0.00	.35	3.88
AVE WIND SPEED	2.8	2.6	1.2	1.2	1.3	1.0	2.0	1.8	0.0	1.9	2.3	1.6	1.0	0.0	0.0	2.6	2.1

Table 2.3G-42

DATA FROM 1/25/73 TO 1/24/76JUVE LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	1	1	3	1	3	1	0	0	2	0	0	1	0	0	0	1	14
1.01 TO 1.50	3	2	1	1	1	1	2	0	0	0	0	0	0	0	1	0	12
1.51 TO 2.00	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
2.01 TO 3.00	5	3	0	0	1	0	0	0	0	0	0	0	0	0	1	1	11
3.01 TO 4.00	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12
4.01 TO 5.00	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8
5.01 TO 6.00	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
6.01 TO 7.00	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	25	20	4	2	5	2	2	1	2	0	0	1	0	0	2	5	72

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.07
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.07	.07	.21	.07	.21	.07	0.00	0.00	.14	0.00	0.00	.07	0.00	0.00	0.00	.07	.99
1.01 TO 1.50	.21	.14	.07	.07	.07	.07	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.85
1.51 TO 2.00	.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.49
2.01 TO 3.00	.35	.21	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.78
3.01 TO 4.00	.35	.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.85
4.01 TO 5.00	.21	.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.56
5.01 TO 6.00	.14	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.28
6.01 TO 7.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.21
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.76	1.41	.28	.14	.35	.14	.14	.07	.14	0.00	0.00	.07	0.00	0.00	.14	.35	5.08
AVE WIND SPEED	2.8	3.7	.9	1.0	1.2	.9	1.3	6.6	.9	0.0	0.0	.7	0.0	0.0	2.0	2.7	2.6

Table 2.3G-43

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	2	1	3	1	1	0	0	1	9
1.51 TO 2.00	0	1	0	0	0	0	0	0	4	7	10	13	7	2	0	0	44
2.01 TO 3.00	0	0	0	0	0	0	0	4	9	32	51	56	54	15	1	0	222
3.01 TO 4.00	0	0	0	0	0	0	1	4	15	42	42	69	78	43	3	0	297
4.01 TO 5.00	0	0	0	0	0	0	0	2	25	17	15	23	53	34	3	0	172
5.01 TO 6.00	0	0	0	0	0	0	0	8	6	8	0	2	11	21	3	0	59
6.01 TO 7.00	0	0	0	0	0	0	0	3	2	0	0	0	4	16	1	0	26
7.01 TO 8.00	0	0	0	0	0	0	0	4	0	0	0	0	0	2	1	0	7
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	1	0	0	0	0	1	25	63	108	121	164	208	134	12	1	838

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.04
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.04	.13	.04	.04	0.00	0.00	.04	.40
1.51 TO 2.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.18	.31	.45	.58	.31	.09	0.00	0.00	1.97
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.18	.40	1.44	2.29	2.51	2.42	.67	.04	0.00	9.96
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.18	.67	1.89	1.89	3.10	3.50	1.93	.13	0.00	13.33
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	1.12	.76	.67	1.03	2.38	1.53	.13	0.00	7.72
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.36	.27	.36	0.00	.09	.49	.94	.13	0.00	2.65
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.09	0.00	0.00	0.00	.18	.72	.04	0.00	1.17
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.18	0.00	0.00	0.00	0.00	0.00	.09	.04	0.00	.31
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	.04
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.04	0.00	0.00	0.00	0.00	.04	1.12	2.83	4.85	5.43	7.36	9.34	6.01	.54	.04	37.61
AVE WIND SPEED	0.0	1.8	0.0	0.0	0.0	0.0	3.9	5.0	3.8	3.3	3.0	3.1	3.6	4.4	4.8	1.5	3.6

Amended: April 2009 TL: E048000

Table 2.3G-44

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	4
1.51 TO 2.00	0	0	0	0	0	0	0	1	1	3	1	0	4	8	1	2	21
2.01 TO 3.00	1	0	0	0	0	0	1	7	2	4	7	1	7	5	4	0	39
3.01 TO 4.00	0	1	0	0	0	0	0	0	4	1	1	3	3	1	1	0	15
4.01 TO 5.00	0	1	0	0	0	0	0	3	4	1	1	1	1	1	1	0	14
5.01 TO 6.00	0	0	0	0	0	0	0	3	3	0	0	1	0	1	1	0	9
6.01 TO 7.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2
7.01 TO 8.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	2	0	0	0	0	1	17	14	10	12	6	15	16	10	2	106

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.09	0.00	0.00	0.00	.04	0.00	.18
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	.13	.04	0.00	.18	.36	.04	.09	.94
2.01 TO 3.00	.04	0.00	0.00	0.00	0.00	0.00	.04	.31	.09	.18	.31	.04	.31	.22	.18	0.00	1.75
3.01 TO 4.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.18	.04	.04	.13	.13	.04	.04	0.00	.67
4.01 TO 5.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	.13	.18	.04	.04	.04	.04	.04	.04	0.00	.63
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.13	0.00	0.00	.04	0.00	.04	.04	0.00	.40
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	.09
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.04	.09	0.00	0.00	0.00	0.00	.04	.76	.63	.45	.54	.27	.67	.72	.45	.09	4.76
AVE WIND SPEED	2.1	3.6	0.0	0.0	0.0	0.0	2.9	3.7	3.9	2.5	2.5	3.6	2.6	2.5	3.3	1.7	3.0

Table 2.3G-45

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	2	0	0	0	0	0	0	2	1	2	1	0	0	2	0	0	10
1.01 TO 1.50	1	0	0	0	0	0	0	0	4	1	2	0	6	3	3	2	22
1.51 TO 2.00	2	1	0	0	0	0	0	2	4	2	4	7	7	2	2	1	34
2.01 TO 3.00	3	2	0	0	0	1	2	7	4	8	6	5	3	5	2	0	48
3.01 TO 4.00	0	1	0	0	0	1	2	2	2	3	2	3	0	3	1	1	21
4.01 TO 5.00	0	1	0	0	0	0	4	2	1	0	0	0	2	1	1	0	12
5.01 TO 6.00	0	0	0	0	0	0	2	3	3	0	0	0	0	0	0	0	8
6.01 TO 7.00	0	0	0	0	0	0	1	1	3	0	0	0	0	0	0	0	5
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	8	5	0	0	0	2	11	19	22	16	15	15	18	16	10	4	161

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	.09	.04	.09	.04	0.00	0.00	.09	0.00	0.00	.45
1.01 TO 1.50	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.18	.04	.09	0.00	.27	.13	.13	.09	.99
1.51 TO 2.00	.09	.04	0.00	0.00	0.00	0.00	0.00	.09	.18	.09	.18	.31	.31	.09	.09	.04	1.53
2.01 TO 3.00	.13	.09	0.00	0.00	0.00	.04	.09	.31	.18	.36	.27	.22	.13	.22	.09	0.00	2.15
3.01 TO 4.00	0.00	.04	0.00	0.00	0.00	.04	.09	.09	.09	.13	.09	.13	0.00	.13	.04	.04	.94
4.01 TO 5.00	0.00	.04	0.00	0.00	0.00	0.00	.18	.09	.04	0.00	0.00	0.00	.09	.04	.04	0.00	.54
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.13	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.36
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.22
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	.04
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.36	.22	0.00	0.00	0.00	.09	.49	.85	.99	.72	.67	.67	.81	.72	.45	.18	7.23
AVE WIND SPEED	1.7	2.7	0.0	0.0	0.0	2.9	4.3	5.3	3.1	2.2	2.0	2.2	2.0	2.2	2.7	1.8	2.6

Table 2.3G-46

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	4
0.51 TO 1.00	2	0	0	2	2	0	1	3	3	5	5	6	4	2	5	2	42
1.01 TO 1.50	10	8	3	1	1	3	8	9	8	5	7	10	6	4	5	6	94
1.51 TO 2.00	4	5	0	3	1	5	6	9	10	14	7	11	5	7	6	11	104
2.01 TO 3.00	4	8	5	2	2	17	24	21	16	9	17	11	11	15	12	8	182
3.01 TO 4.00	1	2	1	0	1	5	26	26	16	5	4	1	4	6	5	0	103
4.01 TO 5.00	1	0	0	0	0	1	5	8	6	1	2	1	1	7	2	0	35
5.01 TO 6.00	0	0	0	0	0	0	4	15	4	0	0	0	0	0	0	0	23
6.01 TO 7.00	0	0	0	0	0	0	1	4	0	0	0	0	0	1	1	0	7
7.01 TO 8.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	23	23	9	8	7	31	75	96	63	39	42	41	32	43	37	27	596

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	.04	0.00	0.00	.18
0.51 TO 1.00	.09	0.00	0.00	.09	.09	0.00	.04	.13	.13	.22	.22	.27	.18	.09	.22	.09	1.89
1.01 TO 1.50	.45	.36	.13	.04	.04	.13	.36	.40	.36	.22	.31	.45	.27	.18	.22	.27	4.22
1.51 TO 2.00	.18	.22	0.00	.13	.04	.22	.27	.40	.45	.63	.31	.49	.22	.31	.27	.49	4.67
2.01 TO 3.00	.18	.36	.22	.09	.09	.76	1.08	.94	.72	.40	.76	.49	.49	.67	.54	.36	8.17
3.01 TO 4.00	.04	.09	.04	0.00	.04	.22	1.17	1.17	.72	.22	.18	.04	.18	.27	.22	0.00	4.62
4.01 TO 5.00	.04	0.00	0.00	0.00	0.00	.04	.22	.36	.27	.04	.09	.04	.04	.31	.09	0.00	1.57
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.18	.67	.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.18	0.00	0.00	0.00	0.00	0.00	.04	.04	0.00	.31
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	.09
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.03	1.03	.40	.36	.31	1.39	3.37	4.31	2.83	1.75	1.89	1.84	1.44	1.93	1.66	1.21	26.75
AVE WIND SPEED	1.6	2.0	2.3	1.5	1.7	2.4	2.9	3.4	2.7	2.0	2.1	1.8	2.0	2.7	2.5	1.8	2.5

Table 2.3G-47

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
0.51 TO 1.00	2	3	2	3	5	0	1	0	3	6	6	0	3	3	6	3	46
1.01 TO 1.50	5	5	9	3	0	5	4	6	10	3	3	5	7	5	5	8	83
1.51 TO 2.00	3	13	4	2	3	6	9	4	7	3	4	3	3	2	5	7	78
2.01 TO 3.00	7	12	6	4	4	6	15	16	8	3	3	3	3	6	2	10	108
3.01 TO 4.00	1	3	1	1	3	3	13	14	2	0	0	0	0	0	0	1	42
4.01 TO 5.00	2	1	0	0	0	1	8	6	1	0	0	0	0	0	0	0	19
5.01 TO 6.00	0	0	0	0	0	0	1	3	1	0	0	0	0	0	2	0	7
6.01 TO 7.00	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	5
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	20	37	22	13	15	21	51	51	35	16	16	11	16	17	20	29	392

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.09
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	.04	0.00	0.00	.09
0.51 TO 1.00	.09	.13	.09	.13	.22	0.00	.04	0.00	.13	.27	.27	0.00	.13	.13	.27	.13	2.06
1.01 TO 1.50	.22	.22	.40	.13	0.00	.22	.18	.27	.45	.13	.13	.22	.31	.22	.22	.36	3.73
1.51 TO 2.00	.13	.58	.18	.09	.13	.27	.40	.18	.31	.13	.18	.13	.13	.09	.22	.31	3.50
2.01 TO 3.00	.31	.54	.27	.18	.18	.27	.67	.72	.36	.13	.13	.13	.13	.27	.09	.45	4.85
3.01 TO 4.00	.04	.13	.04	.04	.13	.13	.58	.63	.09	0.00	0.00	0.00	0.00	0.00	0.00	.04	1.89
4.01 TO 5.00	.09	.04	0.00	0.00	0.00	.04	.36	.27	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.85
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.13	.04	0.00	0.00	0.00	0.00	0.00	.09	0.00	.31
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.22
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.90	1.66	.99	.58	.67	.94	2.29	2.29	1.57	.72	.72	.49	.72	.76	.90	1.30	17.59
AVE WIND SPEED	2.2	2.0	1.7	1.6	2.0	2.2	2.8	3.1	2.4	1.3	1.4	1.6	1.5	1.6	1.8	1.8	2.1

Table 2.3G-48

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
0.51 TO 1.00	1	3	0	5	4	2	3	0	0	1	1	0	0	1	1	1	23
1.01 TO 1.50	5	2	1	3	6	0	2	3	0	0	0	0	0	0	0	0	22
1.51 TO 2.00	5	2	2	0	0	0	1	0	0	0	0	0	0	0	1	1	12
2.01 TO 3.00	1	5	2	0	1	0	1	1	0	0	0	0	0	0	0	1	12
3.01 TO 4.00	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	2	7
4.01 TO 5.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5.01 TO 6.00	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	14	16	5	8	11	2	9	4	0	1	1	0	0	1	3	6	83

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.09
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04
0.51 TO 1.00	.04	.13	0.00	.22	.18	.09	.13	0.00	0.00	.04	.04	0.00	0.00	.04	.04	.04	1.03
1.01 TO 1.50	.22	.09	.04	.13	.27	0.00	.09	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.99
1.51 TO 2.00	.22	.09	.09	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	.54
2.01 TO 3.00	.04	.22	.09	0.00	.04	0.00	.04	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.54
3.01 TO 4.00	.04	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.09	.31
4.01 TO 5.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
5.01 TO 6.00	.04	0.00	0.00	0.00	0.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.63	.72	.22	.36	.49	.09	.40	.18	0.00	.04	.04	0.00	0.00	.04	.13	.27	3.73
AVE WIND SPEED	1.9	2.2	2.0	1.0	1.1	.9	2.2	1.5	0.0	.8	1.0	0.0	0.0	.5	1.9	2.0	1.7

Table 2.3G-49

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
0.51 TO 1.00	0	0	1	1	2	1	0	1	0	0	0	0	1	0	0	0	7
1.01 TO 1.50	0	0	0	1	3	1	1	2	0	0	0	0	0	0	0	0	8
1.51 TO 2.00	3	1	0	0	0	2	0	1	0	0	0	0	0	0	1	2	10
2.01 TO 3.00	7	3	2	0	0	0	0	0	0	0	0	0	0	0	0	3	15
3.01 TO 4.00	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
4.01 TO 5.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	14	9	3	2	5	4	1	4	0	0	1	0	1	0	1	6	52

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.04
0.26 TO 0.50	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	.09
0.51 TO 1.00	0.00	0.00	.04	.04	.09	.04	0.00	.04	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	.31
1.01 TO 1.50	0.00	0.00	0.00	.04	.13	.04	.04	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.36
1.51 TO 2.00	.13	.04	0.00	0.00	0.00	.09	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.04	.09	.45
2.01 TO 3.00	.31	.13	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.67
3.01 TO 4.00	.13	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.31
4.01 TO 5.00	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.63	.40	.13	.09	.22	.18	.04	.18	0.00	0.00	.04	0.00	.04	0.00	.04	.27	2.33
AVE WIND SPEED	2.3	3.3	1.9	1.2	1.2	1.3	1.5	1.2	0.0	0.0	.4	0.0	.8	0.0	2.0	2.5	2.0

Table 2.3G-50

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	4
0.51 TO 1.00	1	0	0	1	0	0	1	0	1	2	5	5	1	1	2	1	21
1.01 TO 1.50	2	3	0	1	0	0	1	1	8	1	6	3	5	5	2	2	40
1.51 TO 2.00	4	6	3	1	1	0	3	1	7	8	2	19	11	8	4	2	80
2.01 TO 3.00	0	1	2	1	1	4	4	4	13	13	29	41	39	13	10	1	176
3.01 TO 4.00	1	4	2	0	0	2	2	7	4	10	14	33	89	33	6	0	207
4.01 TO 5.00	0	0	0	0	0	0	5	2	8	8	13	20	77	46	7	0	186
5.01 TO 6.00	0	0	0	0	0	0	2	5	6	1	1	4	25	39	4	0	87
6.01 TO 7.00	0	0	0	0	0	0	1	2	2	0	0	0	4	14	0	0	23
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
TOTALS	8	14	7	4	2	6	19	22	49	43	71	126	251	165	35	7	830

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.06
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	.06	0.00	.06	.22
0.51 TO 1.00	.06	0.00	0.00	.06	0.00	0.00	.06	0.00	.06	.11	.28	.28	.06	.06	.11	.06	1.16
1.01 TO 1.50	.11	.17	0.00	.06	0.00	0.00	.06	.06	.44	.06	.33	.17	.28	.28	.11	.11	2.22
1.51 TO 2.00	.22	.33	.17	.06	.06	0.00	.17	.06	.39	.44	.11	1.05	.61	.44	.22	.11	4.43
2.01 TO 3.00	0.00	.06	.11	.06	.06	.22	.22	.22	.72	.72	1.61	2.27	2.16	.72	.55	.06	9.75
3.01 TO 4.00	.06	.22	.11	0.00	0.00	.11	.11	.39	.22	.55	.78	1.83	4.93	1.83	.33	0.00	11.47
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.28	.11	.44	.44	.72	1.11	4.27	2.55	.39	0.00	10.30
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	.28	.33	.06	.06	.22	1.39	2.16	.22	0.00	4.82
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.11	.11	0.00	0.00	0.00	.22	.78	0.00	0.00	1.27
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	.11
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	.11
TOTALS	.44	.78	.39	.22	.11	.33	1.05	1.22	2.71	2.38	3.93	6.98	13.91	9.14	1.94	.39	45.98
AVE WIND SPEED	1.7	2.3	2.3	1.5	2.0	2.8	3.4	4.0	3.1	2.9	2.8	2.9	3.8	4.4	3.1	1.3	3.5

Table 2.3G-51

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	1	0	1	0	0	2	0	1	1	1	0	0	0	7
1.01 TO 1.50	0	1	1	0	0	0	1	1	0	0	0	0	0	0	1	1	6
1.51 TO 2.00	0	0	1	0	0	0	1	2	1	1	1	1	1	1	4	0	14
2.01 TO 3.00	0	2	1	0	1	2	1	1	3	0	2	2	2	5	2	0	24
3.01 TO 4.00	0	1	0	0	0	1	3	0	0	0	2	3	1	1	0	0	12
4.01 TO 5.00	0	0	0	0	0	1	0	1	0	0	0	1	1	1	0	0	5
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	4
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	4	3	1	1	5	7	5	7	1	6	8	6	8	9	1	72

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	.11	0.00	.06	.06	.06	0.00	0.00	0.00	.39
1.01 TO 1.50	0.00	.06	.06	0.00	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.33
1.51 TO 2.00	0.00	0.00	.06	0.00	0.00	0.00	.06	.11	.06	.06	.06	.06	.06	.06	.22	0.00	.78
2.01 TO 3.00	0.00	.11	.06	0.00	.06	.11	.06	.06	.17	0.00	.11	.11	.11	.28	.11	0.00	1.33
3.01 TO 4.00	0.00	.06	0.00	0.00	0.00	.06	.17	0.00	0.00	0.00	.11	.17	.06	.06	0.00	0.00	.66
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	0.00	.06	.06	.06	0.00	0.00	.28
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	0.00	0.00	0.00	.11	0.00	.22
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	.22	.17	.06	.06	.28	.39	.28	.39	.06	.33	.44	.33	.44	.50	.06	3.99
AVE WIND SPEED	0.0	2.3	1.9	.7	2.6	2.7	3.3	2.4	2.5	1.5	2.6	2.8	2.7	2.8	2.9	1.3	2.6

Table 2.3G-52

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
0.51 TO 1.00	0	0	0	0	1	0	1	2	0	0	1	0	1	0	0	0	6
1.01 TO 1.50	3	0	0	0	0	1	1	1	1	0	0	0	2	1	0	3	13
1.51 TO 2.00	0	1	0	0	0	0	0	0	2	2	2	1	4	4	1	3	20
2.01 TO 3.00	0	2	2	0	1	2	1	2	4	1	2	2	1	7	2	0	29
3.01 TO 4.00	0	2	0	0	0	1	1	1	0	1	1	3	3	1	1	0	15
4.01 TO 5.00	0	0	0	0	0	0	1	0	1	0	1	0	0	3	1	0	7
5.01 TO 6.00	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	3	5	2	0	2	4	5	7	8	4	8	6	13	16	5	6	94

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	0.00	0.00	.11
0.51 TO 1.00	0.00	0.00	0.00	0.00	.06	0.00	.06	.11	0.00	0.00	.06	0.00	.06	0.00	0.00	0.00	.33
1.01 TO 1.50	.17	0.00	0.00	0.00	0.00	.06	.06	.06	.06	0.00	0.00	0.00	.11	.06	0.00	.17	.72
1.51 TO 2.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.11	.11	.11	.06	.22	.22	.06	.17	1.11
2.01 TO 3.00	0.00	.11	.11	0.00	.06	.11	.06	.11	.22	.06	.11	.11	.06	.39	.11	0.00	1.61
3.01 TO 4.00	0.00	.11	0.00	0.00	0.00	.06	.06	.06	0.00	.06	.06	.17	.17	.06	.06	0.00	.83
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	.06	0.00	0.00	.17	.06	0.00	.39
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.11
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.17	.28	.11	0.00	.11	.22	.28	.39	.44	.22	.44	.33	.72	.89	.28	.33	5.21
AVE WIND SPEED	1.1	2.7	2.3	0.0	1.4	2.5	2.5	2.4	2.4	2.7	2.1	2.7	2.1	2.7	2.9	1.4	2.3

Table 2.3G-53

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0.51 TO 1.00	6	3	1	1	1	1	1	2	2	4	4	1	1	8	2	3	41
1.01 TO 1.50	9	7	5	2	0	1	3	5	2	2	5	5	2	5	6	6	65
1.51 TO 2.00	10	13	2	0	1	3	1	3	1	2	3	2	8	3	6	7	65
2.01 TO 3.00	12	8	6	2	3	4	12	12	3	6	9	5	8	15	8	7	120
3.01 TO 4.00	2	15	2	0	0	2	10	10	9	6	3	4	9	7	5	4	88
4.01 TO 5.00	1	4	1	0	0	3	8	7	6	0	3	1	5	7	2	0	48
5.01 TO 6.00	0	0	0	0	0	0	3	5	2	3	0	1	0	0	1	0	15
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	40	50	17	5	5	14	38	44	25	23	28	19	33	46	31	27	445

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06
0.51 TO 1.00	.33	.17	.06	.06	.06	.06	.06	.11	.11	.22	.22	.06	.06	.44	.11	.17	2.27
1.01 TO 1.50	.50	.39	.28	.11	0.00	.06	.17	.28	.11	.11	.28	.28	.11	.28	.33	.33	3.60
1.51 TO 2.00	.55	.72	.11	0.00	.06	.17	.06	.17	.06	.11	.17	.11	.44	.17	.33	.39	3.60
2.01 TO 3.00	.66	.44	.33	.11	.17	.22	.66	.66	.17	.33	.50	.28	.44	.83	.44	.39	6.65
3.01 TO 4.00	.11	.83	.11	0.00	0.00	.11	.55	.55	.50	.33	.17	.22	.50	.39	.28	.22	4.88
4.01 TO 5.00	.06	.22	.06	0.00	0.00	.17	.44	.39	.33	0.00	.17	.06	.28	.39	.11	0.00	2.66
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.17	.28	.11	.17	0.00	.06	0.00	0.00	.06	0.00	.83
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	0.00	.11
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	2.22	2.77	.94	.28	.28	.78	2.11	2.44	1.39	1.27	1.55	1.05	1.83	2.55	1.72	1.50	24.65
AVE WIND SPEED	1.9	2.4	2.1	1.5	2.0	2.7	3.2	3.1	3.4	2.6	2.2	2.3	2.7	2.5	2.5	1.9	2.5

Table 2.3G-54

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	1	0	0	0	1	1	0	0	1	0	0	1	0	0	0	0	5
0.51 TO 1.00	2	3	0	3	3	3	3	2	2	4	0	2	3	2	2	5	39
1.01 TO 1.50	10	5	2	3	1	0	6	2	3	2	0	1	2	6	2	5	50
1.51 TO 2.00	5	7	3	3	2	2	5	7	2	5	1	0	4	6	4	5	61
2.01 TO 3.00	10	6	2	0	0	1	6	8	5	10	1	0	3	0	5	8	65
3.01 TO 4.00	1	6	0	0	1	1	2	5	4	2	1	0	0	1	5	1	30
4.01 TO 5.00	1	2	0	0	0	1	1	1	4	3	0	0	0	0	1	0	14
5.01 TO 6.00	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	30	30	7	9	8	9	23	25	21	27	3	4	12	15	20	24	267

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	.06	0.00	0.00	0.00	.06	.06	0.00	0.00	.06	0.00	0.00	.06	0.00	0.00	0.00	0.00	.28
0.51 TO 1.00	.11	.17	0.00	.17	.17	.17	.17	.11	.11	.22	0.00	.11	.17	.11	.11	.28	2.16
1.01 TO 1.50	.55	.28	.11	.17	.06	0.00	.33	.11	.17	.11	0.00	.06	.11	.33	.11	.28	2.77
1.51 TO 2.00	.28	.39	.17	.17	.11	.11	.28	.39	.11	.28	.06	0.00	.22	.33	.22	.28	3.38
2.01 TO 3.00	.55	.33	.11	0.00	0.00	.06	.33	.44	.28	.55	.06	0.00	.17	0.00	.28	.44	3.60
3.01 TO 4.00	.06	.33	0.00	0.00	.06	.06	.11	.28	.22	.11	.06	0.00	0.00	.06	.28	.06	1.66
4.01 TO 5.00	.06	.11	0.00	0.00	0.00	.06	.06	.06	.22	.17	0.00	0.00	0.00	0.00	.06	0.00	.78
5.01 TO 6.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.06	0.00	.17
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.66	1.66	.39	.50	.44	.50	1.27	1.39	1.16	1.50	.17	.22	.66	.83	1.11	1.33	14.79
AVE WIND SPEED	1.9	2.3	1.9	1.2	1.4	1.8	1.9	2.3	2.6	2.4	2.4	.9	1.5	1.5	2.5	1.8	2.0

Table 2.3G-55

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
0.51 TO 1.00	2	2	1	0	1	2	1	1	0	0	0	1	0	0	0	0	11
1.01 TO 1.50	2	2	1	0	1	2	1	3	0	0	0	0	1	0	1	0	14
1.51 TO 2.00	3	4	2	0	0	0	0	1	0	0	0	0	0	1	0	2	13
2.01 TO 3.00	3	2	2	0	0	1	1	0	0	0	0	0	0	0	0	3	12
3.01 TO 4.00	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8
4.01 TO 5.00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	14	16	6	0	2	5	3	6	0	0	0	1	1	1	1	6	62

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11
0.51 TO 1.00	.11	.11	.06	0.00	.06	.11	.06	.06	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	.61
1.01 TO 1.50	.11	.11	.06	0.00	.06	.11	.06	.17	0.00	0.00	0.00	0.00	.06	0.00	.06	0.00	.78
1.51 TO 2.00	.17	.22	.11	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	.06	0.00	.11	.72
2.01 TO 3.00	.17	.11	.11	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.17	.66
3.01 TO 4.00	.17	.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.44
4.01 TO 5.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.78	.89	.33	0.00	.11	.28	.17	.33	0.00	0.00	0.00	.06	.06	.06	.06	.33	3.43
AVE WIND SPEED	2.3	2.1	1.6	0.0	1.0	1.2	1.7	1.1	0.0	0.0	0.0	.5	1.4	1.5	1.1	2.2	1.8

Amended: April 2009 TL: E048000

Table 2.3G-56

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
0.51 TO 1.00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	3
1.01 TO 1.50	1	1	1	0	0	0	0	0	0	0	0	0	0	2	0	1	6
1.51 TO 2.00	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	6
2.01 TO 3.00	3	4	0	0	0	1	0	0	0	0	0	0	0	0	0	2	10
3.01 TO 4.00	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
4.01 TO 5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.01 TO 6.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	8	12	2	1	0	1	0	0	0	0	0	0	1	2	1	6	35

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.06
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	0.00	.06
0.51 TO 1.00	0.00	0.00	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.17
1.01 TO 1.50	.06	.06	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	.06	.33
1.51 TO 2.00	.11	.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.06	.33
2.01 TO 3.00	.17	.22	0.00	0.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	.55
3.01 TO 4.00	.11	.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	.39
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.01 TO 6.00	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.44	.66	.11	.06	0.00	.06	0.00	0.00	0.00	0.00	0.00	0.00	.06	.11	.06	.33	1.94
AVE WIND SPEED	2.4	2.7	1.1	.9	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	.5	1.4	1.9	2.0	2.1

Table 2.3G-57

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
0.51 TO 1.00	1	1	1	0	0	0	2	2	3	3	2	3	1	3	0	1	23
1.01 TO 1.50	1	0	0	0	0	1	2	2	7	0	7	6	5	4	0	0	35
1.51 TO 2.00	1	0	0	0	0	0	2	5	3	7	8	9	7	1	2	0	45
2.01 TO 3.00	1	0	0	0	1	6	0	6	17	15	19	30	33	20	6	0	154
3.01 TO 4.00	1	0	0	1	0	4	5	5	3	12	15	20	57	29	10	0	162
4.01 TO 5.00	2	0	0	0	0	0	4	6	7	5	6	7	26	24	8	0	95
5.01 TO 6.00	0	0	0	0	0	0	0	5	0	3	3	0	13	20	7	0	51
6.01 TO 7.00	0	0	0	0	0	0	0	1	1	0	0	0	8	9	1	0	20
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	7	1	1	1	1	11	15	32	41	45	60	75	150	115	35	2	593

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.08
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	.15
0.51 TO 1.00	.08	.08	.08	0.00	0.00	0.00	.15	.15	.23	.23	.15	.23	.08	.23	0.00	.08	1.77
1.01 TO 1.50	.08	0.00	0.00	0.00	0.00	.08	.15	.15	.54	0.00	.54	.46	.38	.31	0.00	0.00	2.69
1.51 TO 2.00	.08	0.00	0.00	0.00	0.00	0.00	.15	.38	.23	.54	.61	.69	.54	.08	.15	0.00	3.46
2.01 TO 3.00	.08	0.00	0.00	0.00	.08	.46	0.00	.46	1.31	1.15	1.46	2.31	2.54	1.54	.46	0.00	11.84
3.01 TO 4.00	.08	0.00	0.00	.08	0.00	.31	.38	.38	.23	.92	1.15	1.54	4.38	2.23	.77	0.00	12.45
4.01 TO 5.00	.15	0.00	0.00	0.00	0.00	0.00	.31	.46	.54	.38	.46	.54	2.00	1.84	.61	0.00	7.30
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.38	0.00	.23	.23	0.00	1.00	1.54	.54	0.00	3.92
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	0.00	.61	.69	.08	0.00	1.54
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.31	.08	0.00	.38
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.54	.08	.08	.08	.08	.85	1.15	2.46	3.15	3.46	4.61	5.76	11.53	8.84	2.69	.15	45.58
AVE WIND SPEED	2.6	.8	1.0	3.7	2.5	2.6	3.0	3.3	2.6	2.9	2.8	2.7	3.6	4.1	4.1	.5	3.3

Table 2.3G-58

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	1	4
1.01 TO 1.50	0	1	0	0	0	1	0	1	1	1	0	1	3	1	1	1	12
1.51 TO 2.00	2	0	1	0	0	1	0	3	0	4	1	0	1	0	1	4	18
2.01 TO 3.00	0	2	1	0	0	2	3	5	5	0	2	1	1	1	0	2	25
3.01 TO 4.00	0	0	0	0	1	0	3	5	2	0	0	1	0	2	1	1	16
4.01 TO 5.00	1	0	0	0	0	0	2	2	1	1	0	0	0	0	1	1	9
5.01 TO 6.00	0	0	0	0	0	0	0	1	0	0	1	0	1	0	2	0	5
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	3	3	2	0	1	4	8	17	10	7	4	4	6	4	6	10	89

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	.08	0.00	0.00	0.00	.08	.31
1.01 TO 1.50	0.00	.08	0.00	0.00	0.00	.08	0.00	.08	.08	.08	0.00	.08	.23	.08	.08	.08	.92
1.51 TO 2.00	.15	0.00	.08	0.00	0.00	.08	0.00	.23	0.00	.31	.08	0.00	.08	0.00	.08	.31	1.38
2.01 TO 3.00	0.00	.15	.08	0.00	0.00	.15	.23	.38	.38	0.00	.15	.08	.08	.08	0.00	.15	1.92
3.01 TO 4.00	0.00	0.00	0.00	0.00	.08	0.00	.23	.38	.15	0.00	0.00	.08	0.00	.15	.08	.08	1.23
4.01 TO 5.00	.08	0.00	0.00	0.00	0.00	0.00	.15	.15	.08	.08	0.00	0.00	0.00	0.00	.08	.08	.69
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.08	0.00	.08	0.00	.15	0.00	.38
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.23	.23	.15	0.00	.08	.31	.61	1.31	.77	.54	.31	.31	.46	.31	.46	.77	6.84
AVE WIND SPEED	2.5	2.0	2.1	0.0	3.0	2.0	3.2	3.0	2.6	1.8	2.9	2.1	2.1	2.6	3.8	2.2	2.6

Table 2.3G-59

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	1	0	2	0	1	0	4
1.01 TO 1.50	1	0	0	0	0	1	0	1	2	2	2	2	0	3	1	1	16
1.51 TO 2.00	1	1	1	0	1	0	1	2	1	2	0	0	3	2	1	0	16
2.01 TO 3.00	1	0	3	0	1	1	2	6	1	0	2	2	1	1	5	3	29
3.01 TO 4.00	0	1	1	0	0	1	1	3	3	0	0	1	0	1	1	0	13
4.01 TO 5.00	0	0	0	0	1	0	1	4	0	0	1	0	0	2	0	0	9
5.01 TO 6.00	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	3
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	3	2	5	0	3	3	5	16	9	4	6	5	6	11	10	4	92

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.15	0.00	.08	0.00	.31
1.01 TO 1.50	.08	0.00	0.00	0.00	0.00	.08	0.00	.08	.15	.15	.15	.15	0.00	.23	.08	.08	1.23
1.51 TO 2.00	.08	.08	.08	0.00	.08	0.00	.08	.15	.08	.15	0.00	0.00	.23	.15	.08	0.00	1.23
2.01 TO 3.00	.08	0.00	.23	0.00	.08	.08	.15	.46	.08	0.00	.15	.15	.08	.08	.38	.23	2.23
3.01 TO 4.00	0.00	.08	.08	0.00	0.00	.08	.08	.23	.23	0.00	0.00	.08	0.00	.08	.08	0.00	1.00
4.01 TO 5.00	0.00	0.00	0.00	0.00	.08	0.00	.08	.31	0.00	0.00	.08	0.00	0.00	.15	0.00	0.00	.69
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	.08	0.00	0.00	.23
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	.15
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.23	.15	.38	0.00	.23	.23	.38	1.23	.69	.31	.46	.38	.46	.85	.77	.31	7.07
AVE WIND SPEED	1.6	2.8	2.5	0.0	2.8	2.4	2.9	3.0	3.2	1.5	2.2	2.1	1.6	3.0	2.7	1.9	2.6

Table 2.3G-60

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	0	0	0	1	0	1	0	0	0	1	0	1	0	2	0	0	6
0.51 TO 1.00	4	0	0	0	2	0	2	1	3	2	0	4	2	5	3	0	28
1.01 TO 1.50	3	2	1	1	0	0	4	2	2	1	0	1	3	0	6	2	28
1.51 TO 2.00	1	6	3	1	0	2	5	5	3	2	4	1	4	1	2	3	43
2.01 TO 3.00	7	9	4	3	2	6	15	16	9	2	2	1	3	4	0	5	88
3.01 TO 4.00	2	4	1	0	0	4	5	10	2	3	0	1	0	1	1	1	35
4.01 TO 5.00	0	1	1	0	0	0	0	5	2	4	1	0	0	1	2	1	18
5.01 TO 6.00	0	1	0	0	0	0	0	2	1	0	0	0	0	0	0	0	4
6.01 TO 7.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	17	23	10	6	4	13	31	43	22	15	7	9	12	14	14	12	255

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.23
0.26 TO 0.50	0.00	0.00	0.00	.08	0.00	.08	0.00	0.00	0.00	.08	0.00	.08	0.00	.15	0.00	0.00	.46
0.51 TO 1.00	.31	0.00	0.00	0.00	.15	0.00	.15	.08	.23	.15	0.00	.31	.15	.38	.23	0.00	2.15
1.01 TO 1.50	.23	.15	.08	.08	0.00	0.00	.31	.15	.15	.08	0.00	.08	.23	0.00	.46	.15	2.15
1.51 TO 2.00	.08	.46	.23	.08	0.00	.15	.38	.38	.23	.15	.31	.08	.31	.08	.15	.23	3.31
2.01 TO 3.00	.54	.69	.31	.23	.15	.46	1.15	1.23	.69	.15	.15	.08	.23	.31	0.00	.38	6.76
3.01 TO 4.00	.15	.31	.08	0.00	0.00	.31	.38	.77	.15	.23	0.00	.08	0.00	.08	.08	.08	2.69
4.01 TO 5.00	0.00	.08	.08	0.00	0.00	0.00	0.00	.38	.15	.31	.08	0.00	0.00	.08	.15	.08	1.38
5.01 TO 6.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	.15	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.31
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.31	1.77	.77	.46	.31	1.00	2.38	3.31	1.69	1.15	.54	.69	.92	1.08	1.08	.92	19.60
AVE WIND SPEED	1.8	2.5	2.3	1.6	1.8	2.6	2.2	3.1	2.4	2.7	2.3	1.4	1.6	1.7	1.8	2.2	2.3

Table 2.3G-61

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	1	0	1	0	1	1	0	0	0	1	1	0	0	1	1	0	8
0.51 TO 1.00	2	4	1	1	0	2	3	2	1	0	1	0	1	2	3	1	24
1.01 TO 1.50	8	2	2	1	0	0	0	1	0	1	0	0	0	4	0	1	20
1.51 TO 2.00	0	2	0	0	2	5	4	1	0	0	0	0	0	1	2	1	18
2.01 TO 3.00	4	5	3	0	2	0	1	0	1	0	0	0	2	2	3	1	24
3.01 TO 4.00	1	7	0	0	1	0	0	1	0	0	0	0	0	2	2	2	16
4.01 TO 5.00	1	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	5
5.01 TO 6.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	17	22	7	2	6	8	8	7	2	2	2	0	3	14	13	6	120

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.08
0.26 TO 0.50	.08	0.00	.08	0.00	.08	.08	0.00	0.00	0.00	.08	.08	0.00	0.00	.08	.08	0.00	.61
0.51 TO 1.00	.15	.31	.08	.08	0.00	.15	.23	.15	.08	0.00	.08	0.00	.08	.15	.23	.08	1.84
1.01 TO 1.50	.61	.15	.15	.08	0.00	0.00	0.00	.08	0.00	.08	0.00	0.00	0.00	.31	0.00	.08	1.54
1.51 TO 2.00	0.00	.15	0.00	0.00	.15	.38	.31	.08	0.00	0.00	0.00	0.00	0.00	.08	.15	.08	1.38
2.01 TO 3.00	.31	.38	.23	0.00	.15	0.00	.08	0.00	.08	0.00	0.00	0.00	.15	.15	.23	.08	1.84
3.01 TO 4.00	.08	.54	0.00	0.00	.08	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	.15	.15	.15	1.23
4.01 TO 5.00	.08	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.08	0.00	.38
5.01 TO 6.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.15
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.31	1.69	.54	.15	.46	.61	.61	.54	.15	.15	.15	0.00	.23	1.08	1.00	.46	9.22
AVE WIND SPEED	1.7	2.7	1.6	.9	1.9	1.2	1.6	3.3	1.5	.9	.5	0.0	1.9	2.2	2.4	2.0	2.0

Table 2.3G-62

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	3
0.51 TO 1.00	2	0	0	2	1	1	3	2	0	0	0	0	0	0	0	1	12
1.01 TO 1.50	2	1	0	0	0	1	0	1	0	0	0	2	1	1	1	2	12
1.51 TO 2.00	1	2	1	0	3	2	2	0	0	0	0	1	0	1	0	2	15
2.01 TO 3.00	3	3	0	1	0	1	0	0	0	0	0	0	0	1	1	3	13
3.01 TO 4.00	3	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	7
4.01 TO 5.00	1	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	4
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	12	8	2	3	4	5	5	4	0	1	1	3	2	5	2	9	68

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.15
0.26 TO 0.50	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	0.00	0.00	0.00	.23
0.51 TO 1.00	.15	0.00	0.00	.15	.08	.08	.23	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.92
1.01 TO 1.50	.15	.08	0.00	0.00	0.00	.08	0.00	.08	0.00	0.00	0.00	.15	.08	.08	.08	.15	.92
1.51 TO 2.00	.08	.15	.08	0.00	.23	.15	.15	0.00	0.00	0.00	0.00	.08	0.00	.08	0.00	.15	1.15
2.01 TO 3.00	.23	.23	0.00	.08	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	.23	1.00
3.01 TO 4.00	.23	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	.54
4.01 TO 5.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	.31
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.92	.61	.15	.23	.31	.38	.38	.31	0.00	.08	.08	.23	.15	.38	.15	.69	5.23
AVE WIND SPEED	2.3	2.6	1.1	1.3	1.6	1.5	1.2	1.8	0.0	.3	.5	1.5	2.5	2.5	1.8	1.9	1.8

Amended: April 2009 TL: E048000

Table 2.3G-63

DATA FROM 1/25/75 TO 1/20/76SEPTEMBER LEVEL = 36.6 m

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	3
0.51 TO 1.00	0	1	0	1	2	4	4	0	0	0	0	0	0	1	0	1	14
1.01 TO 1.50	2	1	2	2	0	0	3	1	0	0	0	0	0	0	0	2	13
1.51 TO 2.00	2	1	0	0	0	2	3	0	0	1	0	0	0	0	1	0	10
2.01 TO 3.00	5	2	1	0	0	1	0	0	0	0	0	0	3	1	0	1	14
3.01 TO 4.00	1	5	2	0	0	0	0	0	0	0	0	0	0	2	0	2	12
4.01 TO 5.00	3	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10
5.01 TO 6.00	3	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	6
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	16	17	6	3	2	8	11	3	0	1	0	0	3	5	1	6	84

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.15
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	.08	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.23
0.51 TO 1.00	0.00	.08	0.00	.08	.15	.31	.31	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	1.08
1.01 TO 1.50	.15	.08	.15	.15	0.00	0.00	.23	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	1.00
1.51 TO 2.00	.15	.08	0.00	0.00	0.00	.15	.23	0.00	0.00	.08	0.00	0.00	0.00	0.00	.08	0.00	.77
2.01 TO 3.00	.38	.15	.08	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.23	.08	0.00	.08	1.08
3.01 TO 4.00	.08	.38	.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	.15	.92
4.01 TO 5.00	.23	.46	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.77
5.01 TO 6.00	.23	.08	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.46
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.23	1.31	.46	.23	.15	.61	.85	.23	0.00	.08	0.00	0.00	.23	.38	.08	.46	6.46
AVE WIND SPEED	3.3	3.5	2.8	1.1	.9	1.7	1.1	.7	0.0	1.6	0.0	0.0	2.6	3.2	1.6	2.0	2.4

Table 2.3G-64

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
1.51 TO 2.00	0	1	0	0	0	0	0	0	1	2	3	3	0	0	0	0	10
2.01 TO 3.00	0	1	0	0	0	0	0	0	5	9	10	8	6	3	0	0	42
3.01 TO 4.00	0	0	0	0	0	0	1	4	10	4	8	18	23	21	1	0	90
4.01 TO 5.00	0	0	0	0	0	0	2	5	2	3	3	7	28	20	6	0	76
5.01 TO 6.00	0	0	0	0	0	0	0	1	0	0	0	2	8	19	0	0	30
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	5	9	4	0	18
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTALS	0	2	0	0	0	0	3	11	20	19	24	38	74	73	11	0	276

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.08
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	.08	0.00	0.00	0.00	0.00	0.00	0.00	.25
1.51 TO 2.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.08	.17	.25	.25	0.00	0.00	0.00	0.00	.85
2.01 TO 3.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.42	.76	.85	.68	.51	.25	0.00	0.00	3.57
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.34	.85	.34	.68	1.53	1.95	1.78	.08	0.00	7.65
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.17	.42	.17	.25	.25	.59	2.38	1.70	.51	0.00	6.46
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.17	.68	1.61	0.00	0.00	2.55
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.42	.76	.34	0.00	1.53
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.25	0.00	0.00	0.00	.25
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.08
TOTALS	0.00	.17	0.00	0.00	0.00	0.00	.25	.93	1.70	1.61	2.04	3.23	6.29	6.20	.93	0.00	23.45
AVE WIND SPEED	0.0	2.1	0.0	0.0	0.0	0.0	4.2	3.9	3.0	2.9	3.1	3.4	4.4	4.8	5.1	0.0	4.0

Table 2.3G-65

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY 8

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	4
2.01 TO 3.00	0	0	0	0	0	0	0	1	1	0	1	4	5	1	0	0	13
3.01 TO 4.00	0	0	0	0	0	0	1	0	2	0	0	1	2	0	0	0	6
4.01 TO 5.00	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	4
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
TOTALS	0	0	0	0	0	1	2	1	3	2	4	9	9	3	1	0	35

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	.08
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	.08	.25	0.00	0.00	0.00	0.00	.34
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	.08	.34	.42	.08	0.00	0.00	1.10
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.17	0.00	0.00	.08	.17	0.00	0.00	0.00	.51
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08	.08	0.00	0.00	0.00	.08	0.00	.34
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	.08
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.17	0.00	0.00	.25
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	.08
TOTALS	0.00	0.00	0.00	0.00	0.00	.08	.17	.08	.25	.17	.34	.76	.76	.25	.08	0.00	2.97
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	4.2	2.3	2.9	3.0	2.5	4.9	2.6	3.0	5.1	4.1	0.0	3.3

Table 2.3G-66

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	3
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
2.01 TO 3.00	0	0	0	0	0	0	1	0	1	1	0	2	1	2	1	0	9
3.01 TO 4.00	0	1	0	0	0	0	1	0	0	0	1	0	2	0	4	0	9
4.01 TO 5.00	0	0	0	0	0	0	0	1	0	1	0	0	0	1	2	1	6
5.01 TO 6.00	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	3
6.01 TO 7.00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
TOTALS	0	1	0	0	1	1	4	1	1	2	2	3	5	8	7	2	38

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	.08	.25
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	0.00	0.00	0.00	.17
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	.08	0.00	.17	.08	.17	.08	0.00	.76
3.01 TO 4.00	0.00	.08	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.08	0.00	.17	0.00	.34	0.00	.76
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	0.00	0.00	0.00	.08	.17	.08	.51
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.17	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.25
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.08
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.25	0.00	0.00	.25
TOTALS	0.00	.08	0.00	0.00	.08	.08	.34	.08	.08	.17	.17	.25	.42	.68	.59	.17	3.23
AVE WIND SPEED	0.0	3.1	0.0	0.0	.8	6.0	4.2	4.0	2.0	3.4	2.5	2.0	2.5	7.6	3.5	3.1	4.1

Table 2.3G-67

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	4
1.01 TO 1.50	4	3	0	1	0	1	0	1	1	3	0	3	3	4	1	0	25
1.51 TO 2.00	5	2	5	1	0	2	2	3	6	3	2	4	5	2	8	3	53
2.01 TO 3.00	11	11	8	1	1	3	7	6	6	8	4	2	4	6	11	13	102
3.01 TO 4.00	4	4	6	0	3	3	9	3	2	10	4	1	5	3	8	8	73
4.01 TO 5.00	2	4	1	0	0	1	4	2	1	0	1	0	1	3	5	2	27
5.01 TO 6.00	0	1	0	0	1	2	4	0	0	0	1	0	0	0	3	0	12
6.01 TO 7.00	1	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	5
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	3
MORE THAN 10	0	0	0	0	0	0	0	0	0	1	0	0	1	9	2	0	13
TOTALS	27	25	20	3	5	12	26	16	16	26	13	11	21	32	39	26	318

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	0.00	0.00	.08	0.00	.08	0.00	.34
1.01 TO 1.50	.34	.25	0.00	.08	0.00	.08	0.00	.08	.08	.25	0.00	.25	.25	.34	.08	0.00	2.12
1.51 TO 2.00	.42	.17	.42	.08	0.00	.17	.17	.25	.51	.25	.17	.34	.42	.17	.68	.25	4.50
2.01 TO 3.00	.93	.93	.68	.08	.08	.25	.59	.51	.51	.68	.34	.17	.34	.51	.93	1.10	8.67
3.01 TO 4.00	.34	.34	.51	0.00	.25	.25	.76	.25	.17	.85	.34	.08	.42	.25	.68	.68	6.20
4.01 TO 5.00	.17	.34	.08	0.00	0.00	.08	.34	.17	.08	0.00	.08	0.00	.08	.25	.42	.17	2.29
5.01 TO 6.00	0.00	.08	0.00	0.00	.08	.17	.34	0.00	0.00	0.00	.08	0.00	0.00	0.00	.25	0.00	1.02
6.01 TO 7.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.25	0.00	0.00	.42
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.08
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	.08	0.00	0.00	.25
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.08	.76	.17	0.00	1.10
TOTALS	2.29	2.12	1.70	.25	.42	1.02	2.21	1.36	1.36	2.21	1.10	.93	1.78	2.72	3.31	2.21	27.02
AVE WIND SPEED	2.7	2.8	2.7	1.6	3.6	3.3	3.5	2.6	2.4	2.8	3.6	2.3	3.3	6.5	3.3	2.8	3.3

Table 2.3G-68

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0.51 TO 1.00	0	1	1	1	1	2	1	2	2	0	0	0	0	1	2	2	16
1.01 TO 1.50	5	2	3	1	0	1	5	3	2	1	1	0	0	1	0	1	26
1.51 TO 2.00	3	2	5	1	0	3	5	2	0	1	0	1	2	0	1	1	27
2.01 TO 3.00	8	11	7	0	2	7	3	2	2	0	0	0	4	1	3	4	54
3.01 TO 4.00	6	8	9	0	0	1	0	0	0	0	0	0	0	0	5	3	32
4.01 TO 5.00	6	6	4	0	0	2	0	1	0	0	0	0	0	0	0	1	20
5.01 TO 6.00	0	1	0	0	0	1	0	0	0	0	0	0	0	3	1	1	7
6.01 TO 7.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTALS	29	31	29	3	3	17	14	10	6	2	2	1	6	7	14	14	191

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.25
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	.08
0.51 TO 1.00	0.00	.08	.08	.08	.08	.17	.08	.17	.17	0.00	0.00	0.00	0.00	.08	.17	.17	1.36
1.01 TO 1.50	.42	.17	.25	.08	0.00	.08	.42	.25	.17	.08	.08	0.00	0.00	.08	0.00	.08	2.21
1.51 TO 2.00	.25	.17	.42	.08	0.00	.25	.42	.17	0.00	.08	0.00	.08	.17	0.00	.08	.08	2.29
2.01 TO 3.00	.68	.93	.59	0.00	.17	.59	.25	.17	.17	0.00	0.00	0.00	.34	.08	.25	.34	4.59
3.01 TO 4.00	.51	.68	.76	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.42	.25	2.72
4.01 TO 5.00	.51	.51	.34	0.00	0.00	.17	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	1.70
5.01 TO 6.00	0.00	.08	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.25	.08	.08	.59
6.01 TO 7.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.17
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	.17
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08
TOTALS	2.46	2.63	2.46	.25	.25	1.44	1.19	.85	.51	.17	.17	.08	.51	.59	1.19	1.19	16.23
AVE WIND SPEED	2.9	3.1	2.8	1.2	1.6	2.6	1.6	1.7	1.5	1.5	.9	1.8	2.2	3.9	3.9	3.0	2.7

Table 2.3G-69

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
0.51 TO 1.00	0	0	0	3	4	2	0	0	0	0	0	0	0	1	0	0	10
1.01 TO 1.50	2	2	3	2	5	3	2	0	2	0	0	0	1	1	1	0	24
1.51 TO 2.00	2	7	4	2	1	1	3	0	0	0	0	0	0	0	0	0	20
2.01 TO 3.00	5	6	4	2	1	3	1	0	1	0	0	1	0	0	2	3	29
3.01 TO 4.00	3	6	4	0	1	1	0	0	0	0	0	0	0	1	0	4	20
4.01 TO 5.00	1	3	1	0	0	0	0	0	0	0	0	0	0	1	0	1	7
5.01 TO 6.00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
6.01 TO 7.00	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	15	26	16	9	12	10	8	1	3	0	0	1	1	4	3	9	119

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.08
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.17
0.51 TO 1.00	0.00	0.00	0.00	.25	.34	.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	.85
1.01 TO 1.50	.17	.17	.25	.17	.42	.25	.17	0.00	.17	0.00	0.00	0.00	.08	.08	.08	0.00	2.04
1.51 TO 2.00	.17	.59	.34	.17	.08	.08	.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70
2.01 TO 3.00	.42	.51	.34	.17	.08	.25	.08	0.00	.08	0.00	0.00	.08	0.00	0.00	.17	.25	2.46
3.01 TO 4.00	.25	.51	.34	0.00	.08	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.34	1.70
4.01 TO 5.00	.08	.25	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	.59
5.01 TO 6.00	.17	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.34
6.01 TO 7.00	0.00	.08	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.17
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.27	2.21	1.36	.76	1.02	.85	.68	.08	.25	0.00	0.00	.08	.08	.34	.25	.76	10.11
AVE WIND SPEED	3.0	3.0	2.4	1.5	1.4	1.8	2.1	.4	1.7	0.0	0.0	2.1	1.4	2.7	2.3	3.5	2.4

Table 2.3G-70

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	2	0	2	1	0	2	1	0	0	0	1	0	0	0	0	0	9
0.51 TO 1.00	0	1	3	1	1	2	0	1	0	0	0	0	1	0	0	0	10
1.01 TO 1.50	2	4	10	8	7	4	3	1	2	0	0	0	1	0	0	2	44
1.51 TO 2.00	5	5	4	0	5	6	4	2	0	0	0	0	1	1	0	0	33
2.01 TO 3.00	12	5	12	0	2	4	2	1	1	0	2	0	0	1	3	0	45
3.01 TO 4.00	7	15	3	1	1	1	0	0	0	0	0	0	0	2	6	0	36
4.01 TO 5.00	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7
5.01 TO 6.00	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5
6.01 TO 7.00	1	4	1	0	0	0	0	0	0	0	0	0	0	0	1	0	7
7.01 TO 8.00	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	32	44	37	11	16	19	10	5	3	0	3	0	3	4	10	2	200

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.08
0.26 TO 0.50	.17	0.00	.17	.08	0.00	.17	.08	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	.76
0.51 TO 1.00	0.00	.08	.25	.08	.08	.17	0.00	.08	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	.85
1.01 TO 1.50	.17	.34	.85	.68	.59	.34	.25	.08	.17	0.00	0.00	0.00	.08	0.00	0.00	.17	3.74
1.51 TO 2.00	.42	.42	.34	0.00	.42	.51	.34	.17	0.00	0.00	0.00	0.00	.08	.08	0.00	0.00	2.80
2.01 TO 3.00	1.02	.42	1.02	0.00	.17	.34	.17	.08	.08	0.00	.17	0.00	0.00	.08	.25	0.00	3.82
3.01 TO 4.00	.59	1.27	.25	.08	.08	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.17	.51	0.00	3.06
4.01 TO 5.00	.08	.42	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.59
5.01 TO 6.00	.08	.25	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.42
6.01 TO 7.00	.08	.34	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.59
7.01 TO 8.00	.08	.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.25
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	2.72	3.74	3.14	.93	1.36	1.61	.85	.42	.25	0.00	.25	0.00	.25	.34	.85	.17	16.99
AVE WIND SPEED	2.9	3.6	2.2	1.3	1.6	1.6	1.7	1.5	1.8	0.0	1.9	0.0	1.3	2.9	3.6	1.4	2.5

Amended: April 2009 TL: E048000

Table 2.3G-71

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3
1.51 TO 2.00	0	0	0	0	0	0	0	0	2	3	6	2	2	0	0	0	15
2.01 TO 3.00	0	0	0	0	0	0	0	5	12	6	8	22	18	9	1	0	81
3.01 TO 4.00	1	0	0	0	0	0	0	3	11	3	4	10	28	23	1	0	84
4.01 TO 5.00	0	0	0	0	0	0	1	2	0	1	0	0	10	24	3	0	41
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	2	7	0	0	9
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	1	0	3	1	0	5
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	1	0	0	0	0	0	1	10	25	15	20	36	62	67	6	0	243

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	0.00	0.00	0.00	0.00	.22
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.22	.43	.14	0.00	0.00	0.00	0.00	1.08
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.36	.87	.43	.58	1.59	1.30	.65	.07	0.00	5.85
3.01 TO 4.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.22	.79	.22	.29	.72	2.02	1.66	.07	0.00	6.06
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14	0.00	.07	0.00	0.00	.72	1.73	.22	0.00	2.96
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.51	0.00	0.00	.65
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.22	.07	0.00	.36
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.07	.07	0.00	0.00	.22
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	.07	0.00	0.00	0.00	0.00	0.00	.07	.72	1.81	1.08	1.44	2.60	4.48	4.84	.43	0.00	17.55
AVE WIND SPEED	3.3	0.0	0.0	0.0	0.0	0.0	5.0	3.2	5.0	5.4	2.3	2.8	3.5	4.1	4.3	0.0	3.4

Table 2.3G-72

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	4
2.01 TO 3.00	0	0	0	0	0	0	0	1	0	1	0	1	2	2	0	0	7
3.01 TO 4.00	0	0	0	0	0	0	0	0	2	2	0	0	1	2	0	0	7
4.01 TO 5.00	0	0	0	0	0	0	0	2	1	0	0	0	0	0	1	0	4
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	0	3	3	5	3	1	4	5	1	0	25

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14	0.00	.07	0.00	0.00	0.00	.29
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07	0.00	.07	.14	.14	0.00	0.00	.51
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.14	0.00	0.00	.07	.14	0.00	0.00	.51
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	0.00	0.00	0.00	0.00	0.00	.07	0.00	.29
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07	0.00	0.00	.14
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.22	.22	.36	.22	.07	.29	.36	.07	0.00	1.81
AVE WIND SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	3.7	3.5	1.7	2.3	2.5	3.5	4.5	0.0	3.2

Table 2.3G-73

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
2.01 TO 3.00	0	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0	4
3.01 TO 4.00	0	0	1	0	0	0	0	1	0	1	1	0	1	4	1	0	10
4.01 TO 5.00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	0	0	0	1	3	2	3	3	0	1	7	1	0	22

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.07	0.00	0.00	0.00	0.00	0.00	.22
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07	0.00	0.00	.14
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.07	0.00	0.00	.14	0.00	0.00	.29
3.01 TO 4.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	.07	0.00	.07	.07	0.00	.07	.29	.07	0.00	.72
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	.07	0.00	0.00	0.00	.07	.22	.14	.22	.22	0.00	.07	.51	.07	0.00	1.59
AVE WIND SPEED	0.0	0.0	3.3	0.0	0.0	0.0	4.1	3.7	1.1	2.4	2.3	0.0	3.3	3.0	3.4	0.0	2.8

Table 2.3G-74

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3
1.01 TO 1.50	1	1	0	1	0	0	1	1	0	4	3	3	2	2	1	0	20
1.51 TO 2.00	1	1	1	0	1	0	1	1	1	2	4	2	5	7	4	3	34
2.01 TO 3.00	6	4	4	1	2	4	7	6	3	3	3	0	8	9	9	3	72
3.01 TO 4.00	1	2	4	0	2	7	7	6	2	1	2	2	2	3	5	6	52
4.01 TO 5.00	0	0	1	0	0	2	5	4	2	2	2	0	1	3	9	3	34
5.01 TO 6.00	0	0	0	0	0	0	6	0	1	1	2	0	0	1	3	1	15
6.01 TO 7.00	0	0	0	0	0	0	3	1	0	1	0	0	0	0	1	0	6
7.01 TO 8.00	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	10
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	4
TOTALS	9	9	10	2	5	13	30	20	9	14	17	16	26	25	34	16	255

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	.07	0.00	.22
1.01 TO 1.50	.07	.07	0.00	.07	0.00	0.00	.07	.07	0.00	.29	.22	.22	.14	.14	.07	0.00	1.44
1.51 TO 2.00	.07	.07	.07	0.00	.07	0.00	.07	.07	.07	.14	.29	.14	.36	.51	.29	.22	2.45
2.01 TO 3.00	.43	.29	.29	.07	.14	.29	.51	.43	.22	.22	.22	0.00	.58	.65	.65	.22	5.20
3.01 TO 4.00	.07	.14	.29	0.00	.14	.51	.51	.43	.14	.07	.14	.14	.14	.22	.36	.43	3.75
4.01 TO 5.00	0.00	0.00	.07	0.00	0.00	.14	.36	.29	.14	.14	.14	0.00	.07	.22	.65	.22	2.45
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.43	0.00	.07	.07	.14	0.00	0.00	.07	.22	.07	1.08
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.22	.07	0.00	.07	0.00	0.00	0.00	0.00	.07	0.00	.43
7.01 TO 8.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	.22
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07	0.00	.14
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.36	.36	0.00	0.00	0.00	.72
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.14	0.00	0.00	0.00	.29
TOTALS	.65	.65	.72	.14	.36	.94	2.17	1.44	.65	1.01	1.23	1.16	1.88	1.81	2.45	1.16	18.41
AVE WIND SPEED	2.4	3.1	3.1	2.1	2.8	3.3	3.9	3.4	3.4	2.8	3.2	5.1	4.5	2.6	3.6	3.2	3.5

Table 2.3G-75

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
0.51 TO 1.00	1	0	0	0	1	0	0	1	2	0	1	1	0	1	0	1	9
1.01 TO 1.50	2	4	0	1	0	2	3	1	3	2	0	0	1	2	1	2	24
1.51 TO 2.00	3	7	2	3	0	0	4	1	1	1	0	4	3	1	3	3	36
2.01 TO 3.00	6	4	3	0	5	4	5	1	2	0	1	1	3	4	7	6	52
3.01 TO 4.00	1	6	2	0	0	5	6	2	0	1	0	0	1	3	2	7	36
4.01 TO 5.00	2	5	0	0	0	0	3	1	0	0	0	0	0	1	5	3	20
5.01 TO 6.00	2	1	2	0	0	1	1	0	1	0	0	0	0	0	0	3	11
6.01 TO 7.00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	3
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3
TOTALS	17	27	10	4	6	12	22	7	9	4	2	7	14	14	20	25	200

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07
0.51 TO 1.00	.07	0.00	0.00	0.00	.07	0.00	0.00	.07	.14	0.00	.07	.07	0.00	.07	0.00	.07	.65
1.01 TO 1.50	.14	.29	0.00	.07	0.00	.14	.22	.07	.22	.14	0.00	0.00	.07	.14	.07	.14	1.73
1.51 TO 2.00	.22	.51	.14	.22	0.00	0.00	.29	.07	.07	.07	0.00	.29	.22	.07	.22	.22	2.60
2.01 TO 3.00	.43	.29	.22	0.00	.36	.29	.36	.07	.14	0.00	.07	.07	.22	.29	.51	.43	3.75
3.01 TO 4.00	.07	.43	.14	0.00	0.00	.36	.43	.14	0.00	.07	0.00	0.00	.07	.22	.14	.51	2.60
4.01 TO 5.00	.14	.36	0.00	0.00	0.00	0.00	.22	.07	0.00	0.00	0.00	0.00	0.00	.07	.36	.22	1.44
5.01 TO 6.00	.14	.07	.14	0.00	0.00	.07	.07	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.22	.79
6.01 TO 7.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	.22
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14	0.00	0.00	0.00	.22
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	0.00	.14
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	.07	0.00	.22
TOTALS	1.23	1.95	.72	.29	.43	.87	1.59	.51	.65	.29	.14	.51	1.01	1.01	1.44	1.81	14.44
AVE WIND SPEED	2.8	2.9	3.5	1.5	2.3	2.8	2.8	2.4	1.9	1.9	1.5	2.5	4.6	3.3	3.5	3.0	3.0

Amended: April 2009 TL: E048000

Table 2.3G-76

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	0	2	0	1	1	0	1	0	1	1	0	0	0	1	0	0	8
1.01 TO 1.50	3	5	4	0	4	0	4	1	0	4	2	1	2	3	1	3	37
1.51 TO 2.00	3	3	2	2	2	4	3	2	0	0	1	0	1	1	1	0	25
2.01 TO 3.00	4	11	2	1	0	5	5	5	1	1	0	0	3	1	2	4	45
3.01 TO 4.00	7	10	5	0	0	2	3	2	0	0	0	0	1	1	0	1	32
4.01 TO 5.00	4	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	12
5.01 TO 6.00	4	5	1	0	0	0	0	0	0	0	0	0	0	0	1	1	12
6.01 TO 7.00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7.01 TO 8.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	25	45	17	4	7	11	16	10	2	6	3	1	7	7	5	9	175

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
0.51 TO 1.00	0.00	.14	0.00	.07	.07	0.00	.07	0.00	.07	.07	0.00	0.00	0.00	.07	0.00	0.00	.58
1.01 TO 1.50	.22	.36	.29	0.00	.29	0.00	.29	.07	0.00	.29	.14	.07	.14	.22	.07	.22	2.67
1.51 TO 2.00	.22	.22	.14	.14	.14	.29	.22	.14	0.00	0.00	.07	0.00	.07	.07	.07	0.00	1.81
2.01 TO 3.00	.29	.79	.14	.07	0.00	.36	.36	.36	.07	.07	0.00	0.00	.22	.07	.14	.29	3.25
3.01 TO 4.00	.51	.72	.36	0.00	0.00	.14	.22	.14	0.00	0.00	0.00	0.00	.07	.07	0.00	.07	2.31
4.01 TO 5.00	.29	.51	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.87
5.01 TO 6.00	.29	.36	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.87
6.01 TO 7.00	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
7.01 TO 8.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.81	3.25	1.23	.29	.51	.79	1.16	.72	.14	.43	.22	.07	.51	.51	.36	.65	12.64
AVE WIND SPEED	3.2	3.1	3.3	1.6	1.3	2.3	2.1	2.3	1.9	1.3	1.4	1.4	2.0	1.9	2.7	2.4	2.6

Table 2.3G-77

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	3
0.51 TO 1.00	2	3	1	3	3	1	0	1	2	0	1	1	1	1	3	2	25
1.01 TO 1.50	1	7	4	5	9	3	6	7	1	3	1	3	1	2	0	1	54
1.51 TO 2.00	11	5	9	6	8	9	6	5	2	0	0	3	3	3	1	1	72
2.01 TO 3.00	11	23	17	9	7	8	8	1	0	1	0	0	1	0	2	1	89
3.01 TO 4.00	11	37	17	7	2	0	2	1	0	0	0	0	0	0	2	6	85
4.01 TO 5.00	9	32	8	2	0	0	1	0	0	0	0	0	1	1	3	1	58
5.01 TO 6.00	4	33	4	0	0	0	0	0	0	0	0	0	0	0	0	0	41
6.01 TO 7.00	1	23	1	0	0	0	0	0	0	0	0	0	0	1	1	0	27
7.01 TO 8.00	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	50	173	62	32	29	21	23	15	5	4	2	7	8	8	12	14	465

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.14	.22
0.51 TO 1.00	.14	.22	.07	.22	.22	.07	0.00	.07	.14	0.00	.07	.07	.07	.07	.22	.14	1.81
1.01 TO 1.50	.07	.51	.29	.36	.65	.22	.43	.51	.07	.22	.07	.22	.07	.14	0.00	.07	3.90
1.51 TO 2.00	.79	.36	.65	.43	.58	.65	.43	.36	.14	0.00	0.00	.22	.22	.22	.07	.07	5.20
2.01 TO 3.00	.79	1.66	1.23	.65	.51	.58	.58	.07	0.00	.07	0.00	0.00	.07	0.00	.14	.07	6.43
3.01 TO 4.00	.79	2.67	1.23	.51	.14	0.00	.14	.07	0.00	0.00	0.00	0.00	0.00	0.00	.14	.43	6.14
4.01 TO 5.00	.65	2.31	.58	.14	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07	.07	.22	.07	4.19
5.01 TO 6.00	.29	2.38	.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.96
6.01 TO 7.00	.07	1.66	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	1.95
7.01 TO 8.00	0.00	.72	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.79
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	3.61	12.49	4.48	2.31	2.09	1.52	1.66	1.08	.36	.29	.14	.51	.58	.58	.87	1.01	33.57
AVE WIND SPEED	3.1	4.3	3.1	2.3	1.7	1.9	2.2	1.6	1.3	1.5	1.1	1.4	1.8	2.5	3.1	2.3	3.1

Amended: April 2009 TL: E048000

Table 2.3G-78

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY A

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
1.01 TO 1.50	0	0	0	0	0	0	0	0	1	1	5	8	5	1	0	0	21
1.51 TO 2.00	0	0	0	0	0	0	0	1	0	6	8	7	2	1	0	0	25
2.01 TO 3.00	1	0	0	0	0	0	1	3	6	9	9	9	9	15	1	0	63
3.01 TO 4.00	0	0	0	0	0	0	0	5	5	3	1	7	6	23	3	1	54
4.01 TO 5.00	0	0	0	0	0	0	1	1	1	1	1	4	5	13	1	0	28
5.01 TO 6.00	0	0	0	0	0	0	2	1	1	0	1	1	2	4	0	0	12
6.01 TO 7.00	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3
7.01 TO 8.00	1	1	0	0	0	0	0	1	1	0	0	0	0	0	1	0	5
8.01 TO 9.00	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	4
9.01 TO 10.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
MORE THAN 10	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTALS	3	3	0	0	0	1	4	12	18	22	26	36	30	58	7	1	221

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	0.00	0.00	0.00	0.00	0.00	.20
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.34	.54	.34	.07	0.00	0.00	1.43
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.41	.54	.48	.14	.07	0.00	0.00	1.70
2.01 TO 3.00	.07	0.00	0.00	0.00	0.00	0.00	.07	.20	.41	.61	.61	.61	.61	1.02	.07	0.00	4.28
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.34	.34	.20	.07	.48	.41	1.56	.20	.07	3.67
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.07	.07	.07	.27	.34	.88	.07	0.00	1.90
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	.07	0.00	.07	.07	.14	.27	0.00	0.00	.81
6.01 TO 7.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07	0.00	.20
7.01 TO 8.00	.07	.07	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	.07	0.00	.34
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	.07	.07	0.00	0.00	.27
9.01 TO 10.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
TOTALS	.20	.20	0.00	0.00	0.00	.07	.27	.81	1.22	1.49	1.77	2.44	2.04	3.94	.48	.07	15.00
AVE WIND SPEED	5.4	8.7	0.0	0.0	0.0	10.9	4.7	3.9	4.0	2.3	2.2	2.6	3.1	3.6	4.6	3.6	5.3

Table 2.3G-79

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY B

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
1.01 TO 1.50	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
1.51 TO 2.00	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3
2.01 TO 3.00	0	0	0	0	0	0	0	0	1	0	1	0	2	2	0	0	6
3.01 TO 4.00	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	3
4.01 TO 5.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6.01 TO 7.00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
7.01 TO 8.00	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	3
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
MORE THAN 10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTALS	1	1	3	0	0	0	0	2	2	0	1	4	5	5	0	0	24

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	0.00	0.00	0.00	.20
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07	0.00	.14	.14	0.00	0.00	.41
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	.07	0.00	0.00	.20
4.01 TO 5.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.07
6.01 TO 7.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.14
7.01 TO 8.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.20
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07
MORE THAN 10	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
TOTALS	.07	.07	.20	0.00	0.00	0.00	0.00	.14	.14	0.00	.07	.27	.34	.34	0.00	0.00	1.63
AVE WIND SPEED	10.0	4.2	7.0	0.0	0.0	0.0	0.0	4.5	1.9	0.0	2.6	2.5	3.4	4.1	0.0	0.0	4.1

Table 2.3G-80

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY C

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01 TO 1.50	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	3
1.51 TO 2.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2.01 TO 3.00	0	0	0	0	0	0	0	0	2	1	0	0	0	2	0	0	5
3.01 TO 4.00	0	0	0	0	0	0	0	0	2	0	0	0	2	4	1	1	10
4.01 TO 5.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
5.01 TO 6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
6.01 TO 7.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
7.01 TO 8.00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
9.01 TO 10.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	1	0	0	0	3	1	0	0	0	0	0	0	0	0	5
TOTALS	1	1	2	0	0	0	3	3	4	2	0	1	2	7	3	2	31

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.01 TO 1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.07	.07	.20
1.51 TO 2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
2.01 TO 3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	0.00	0.00	0.00	.14	0.00	0.00	.34
3.01 TO 4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	.14	.27	.07	.07	.68
4.01 TO 5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
5.01 TO 6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.07
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07
7.01 TO 8.00	.07	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07
9.01 TO 10.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
MORE THAN 10	0.00	0.00	.07	0.00	0.00	0.00	.20	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.34
TOTALS	.07	.07	.14	0.00	0.00	0.00	.20	.20	.27	.14	0.00	.07	.14	.48	.20	.14	2.10
AVE WIND SPEED	7.3	9.5	9.6	0.0	0.0	0.0	12.1	6.6	3.0	4.4	0.0	1.4	3.6	3.4	4.4	2.3	5.3

Table 2.3G-81

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY D

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51 TO 1.00	0	0	0	0	0	0	1	0	1	0	1	1	0	3	0	0	7
1.01 TO 1.50	2	0	0	0	0	1	0	1	1	0	2	3	0	0	1	0	11
1.51 TO 2.00	0	1	0	0	0	1	2	0	2	2	2	2	1	5	1	0	19
2.01 TO 3.00	1	0	1	0	1	2	4	1	6	3	1	0	5	6	6	3	40
3.01 TO 4.00	1	1	3	1	4	3	10	8	2	1	0	0	2	4	3	0	43
4.01 TO 5.00	0	0	3	0	2	1	7	5	2	1	0	0	1	0	5	0	27
5.01 TO 6.00	1	0	1	2	1	2	9	4	2	0	0	2	1	0	2	0	27
6.01 TO 7.00	1	2	2	1	0	0	1	1	0	0	0	0	1	1	0	1	11
7.01 TO 8.00	1	3	2	1	0	1	3	0	0	1	1	0	2	0	1	0	16
8.01 TO 9.00	0	1	3	1	0	1	1	0	0	0	0	0	0	1	0	1	9
9.01 TO 10.00	0	0	1	0	1	0	5	0	0	0	0	0	0	0	0	0	7
MORE THAN 10	0	1	0	0	1	0	7	0	0	2	0	0	0	0	0	0	11
TOTALS	7	9	16	6	10	12	50	20	16	10	7	8	13	20	19	5	228

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.51 TO 1.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07	0.00	.07	.07	0.00	.20	0.00	0.00	.48
1.01 TO 1.50	.14	0.00	0.00	0.00	0.00	.07	0.00	.07	.07	0.00	.14	.20	0.00	0.00	.07	0.00	.75
1.51 TO 2.00	0.00	.07	0.00	0.00	0.00	.07	.14	0.00	.14	.14	.14	.14	.07	.34	.07	0.00	1.29
2.01 TO 3.00	.07	0.00	.07	0.00	.07	.14	.27	.07	.41	.20	.07	0.00	.34	.41	.41	.20	2.72
3.01 TO 4.00	.07	.07	.20	.07	.27	.20	.68	.54	.14	.07	0.00	0.00	.14	.27	.20	0.00	2.92
4.01 TO 5.00	0.00	0.00	.20	0.00	.14	.07	.48	.34	.14	.07	0.00	0.00	.07	0.00	.34	0.00	1.83
5.01 TO 6.00	.07	0.00	.07	.14	.07	.14	.61	.27	.14	0.00	0.00	.14	.07	0.00	.14	0.00	1.83
6.01 TO 7.00	.07	.14	.14	.07	0.00	0.00	.07	.07	0.00	0.00	0.00	0.00	.07	.07	0.00	.07	.75
7.01 TO 8.00	.07	.20	.14	.07	0.00	.07	.20	0.00	0.00	.07	.07	0.00	.14	0.00	.07	0.00	1.09
8.01 TO 9.00	0.00	.07	.20	.07	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.07	.61
9.01 TO 10.00	0.00	0.00	.07	0.00	.07	0.00	.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.48
MORE THAN 10	0.00	.07	0.00	0.00	.07	0.00	.48	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	.75
TOTALS	.48	.61	1.09	.41	.68	.81	3.39	1.36	1.09	.68	.48	.54	.88	1.36	1.29	.34	15.48
AVE WIND SPEED	3.8	6.8	5.8	6.1	4.9	4.3	5.9	4.0	3.0	4.9	2.4	2.3	4.0	2.7	3.8	4.4	4.5

Table 2.3G-82

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY E

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0.51 TO 1.00	0	1	1	0	0	1	1	0	0	1	0	1	0	2	0	0	8
1.01 TO 1.50	1	0	2	1	2	1	5	1	0	1	1	1	3	1	1	0	21
1.51 TO 2.00	4	2	1	2	2	4	3	3	3	2	0	0	2	2	2	0	32
2.01 TO 3.00	5	2	6	0	1	4	17	6	2	0	1	2	1	10	8	7	72
3.01 TO 4.00	3	1	3	0	0	1	8	3	0	0	1	0	0	3	5	4	32
4.01 TO 5.00	2	4	6	0	0	1	5	0	0	0	0	0	0	4	3	3	28
5.01 TO 6.00	1	2	3	1	0	0	1	0	0	0	0	0	0	1	3	2	14
6.01 TO 7.00	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	2	6
7.01 TO 8.00	0	2	3	1	1	0	0	0	1	0	0	0	0	0	1	0	9
8.01 TO 9.00	1	3	1	2	0	0	1	1	0	0	0	0	0	0	0	0	9
9.01 TO 10.00	0	1	0	2	4	0	0	0	0	0	0	0	0	1	0	0	8
MORE THAN 10	0	2	2	1	0	0	1	0	0	0	0	0	0	1	0	0	7
TOTALS	18	21	30	11	10	12	42	14	6	4	3	4	6	25	23	18	248

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.07
0.26 TO 0.50	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
0.51 TO 1.00	0.00	.07	.07	0.00	0.00	.07	.07	0.00	0.00	.07	0.00	.07	0.00	.14	0.00	0.00	.54
1.01 TO 1.50	.07	0.00	.14	.07	.14	.07	.34	.07	0.00	.07	.07	.07	.20	.07	.07	0.00	1.43
1.51 TO 2.00	.27	.14	.07	.14	.14	.27	.20	.20	.20	.14	0.00	0.00	.14	.14	.14	0.00	2.17
2.01 TO 3.00	.34	.14	.41	0.00	.07	.27	1.15	.41	.14	0.00	.07	.14	.07	.68	.54	.48	4.89
3.01 TO 4.00	.20	.07	.20	0.00	0.00	.07	.54	.20	0.00	0.00	.07	0.00	0.00	.20	.34	.27	2.17
4.01 TO 5.00	.14	.27	.41	0.00	0.00	.07	.34	0.00	0.00	0.00	0.00	0.00	0.00	.27	.20	.20	1.90
5.01 TO 6.00	.07	.14	.20	.07	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07	.20	.14	.95
6.01 TO 7.00	0.00	.07	.14	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.41
7.01 TO 8.00	0.00	.14	.20	.07	.07	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.07	0.00	.61
8.01 TO 9.00	.07	.20	.07	.14	0.00	0.00	.07	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.61
9.01 TO 10.00	0.00	.07	0.00	.14	.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.54
MORE THAN 10	0.00	.14	.14	.07	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	.48
TOTALS	1.22	1.43	2.04	.75	.68	.81	2.85	.95	.41	.27	.20	.27	.41	1.70	1.56	1.22	16.84
AVE WIND SPEED	3.0	5.7	4.7	6.4	5.4	2.3	3.1	2.9	3.1	1.4	2.3	1.5	1.6	3.4	3.4	3.8	3.7

Table 2.3G-83

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY F

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
0.51 TO 1.00	2	1	0	1	2	1	2	0	1	0	0	1	2	1	0	4	18
1.01 TO 1.50	3	1	2	1	6	3	9	5	3	1	2	2	1	1	4	1	45
1.51 TO 2.00	6	1	1	3	3	3	5	2	0	3	1	1	0	0	2	2	33
2.01 TO 3.00	7	5	2	1	4	2	2	1	1	0	0	1	0	1	1	3	31
3.01 TO 4.00	6	6	3	2	0	1	0	0	0	0	0	0	0	0	1	1	20
4.01 TO 5.00	2	3	3	1	1	0	2	0	0	0	0	0	0	0	0	3	15
5.01 TO 6.00	2	5	4	1	0	0	1	0	0	0	0	0	0	0	0	2	15
6.01 TO 7.00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	6
7.01 TO 8.00	0	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	7
8.01 TO 9.00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4
9.01 TO 10.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	28	30	25	10	16	12	21	8	5	4	3	5	3	3	8	16	197

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
0.51 TO 1.00	.14	.07	0.00	.07	.14	.07	.14	0.00	.07	0.00	0.00	.07	.14	.07	0.00	.27	1.22
1.01 TO 1.50	.20	.07	.14	.07	.41	.20	.61	.34	.20	.07	.14	.14	.07	.07	.27	.07	3.05
1.51 TO 2.00	.41	.07	.07	.20	.20	.20	.34	.14	0.00	.20	.07	.07	0.00	0.00	.14	.14	2.24
2.01 TO 3.00	.48	.34	.14	.07	.27	.14	.14	.07	.07	0.00	0.00	.07	0.00	.07	.07	.20	2.10
3.01 TO 4.00	.41	.41	.20	.14	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	1.36
4.01 TO 5.00	.14	.20	.20	.07	.07	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.20	1.02
5.01 TO 6.00	.14	.34	.27	.07	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	1.02
6.01 TO 7.00	0.00	.20	.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.41
7.01 TO 8.00	0.00	.14	.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.48
8.01 TO 9.00	0.00	.14	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.27
9.01 TO 10.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.90	2.04	1.70	.68	1.09	.81	1.43	.54	.34	.27	.20	.34	.20	.20	.54	1.09	13.37
AVE WIND SPEED	2.7	4.6	5.2	2.5	1.8	1.5	1.9	1.5	1.4	1.7	1.3	1.5	1.0	1.5	1.8	2.7	2.8

Table 2.3G-84

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

STABILITY CATEGORY G

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	3
0.51 TO 1.00	1	4	2	5	2	12	1	4	3	1	2	1	0	1	1	0	40
1.01 TO 1.50	5	9	12	8	16	13	12	3	1	2	0	0	5	0	2	2	90
1.51 TO 2.00	7	15	14	15	7	8	11	3	2	0	0	1	1	2	0	5	91
2.01 TO 3.00	13	27	20	9	7	18	5	5	0	0	0	0	2	2	0	6	114
3.01 TO 4.00	7	26	23	4	3	0	5	0	0	0	0	0	0	2	1	1	72
4.01 TO 5.00	6	15	14	1	0	1	4	0	0	0	0	0	0	0	1	2	44
5.01 TO 6.00	1	20	9	1	0	0	0	0	0	0	0	0	0	0	0	0	31
6.01 TO 7.00	1	11	9	0	0	0	0	0	0	0	0	0	0	0	0	0	21
7.01 TO 8.00	0	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	13
8.01 TO 9.00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9.01 TO 10.00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	41	135	111	43	35	52	39	15	6	3	3	2	8	7	5	17	524

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.14
0.26 TO 0.50	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	.07	.20
0.51 TO 1.00	.07	.27	.14	.34	.14	.81	.07	.27	.20	.07	.14	.07	0.00	.07	.07	0.00	2.72
1.01 TO 1.50	.34	.61	.81	.54	1.09	.88	.81	.20	.07	.14	0.00	0.00	.34	0.00	.14	.14	6.11
1.51 TO 2.00	.48	1.02	.95	1.02	.48	.54	.75	.20	.14	0.00	0.00	.07	.07	.14	0.00	.34	6.18
2.01 TO 3.00	.88	1.83	1.36	.61	.48	1.22	.34	.34	0.00	0.00	0.00	0.00	.14	.14	0.00	.41	7.74
3.01 TO 4.00	.48	1.77	1.56	.27	.20	0.00	.34	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	.07	4.89
4.01 TO 5.00	.41	1.02	.95	.07	0.00	.07	.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14	2.99
5.01 TO 6.00	.07	1.36	.61	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.10
6.01 TO 7.00	.07	.75	.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43
7.01 TO 8.00	0.00	.41	.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.88
8.01 TO 9.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14
9.01 TO 10.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	2.78	9.16	7.54	2.92	2.38	3.53	2.65	1.02	.41	.20	.20	.14	.54	.48	.34	1.15	35.57
AVE WIND SPEED	2.8	3.8	3.6	2.0	1.8	1.7	2.1	1.6	1.2	1.1	.7	1.2	1.6	2.3	2.2	2.3	2.8

APPENDIX 2.3H

ANNUAL AND MONTHLY JOINT FREQUENCY WIND SPEED-WIND DIRECTION SUMMARIES AT THE 10 METER AND 36.6/40 METER WIND LEVELS FOR THE SAN ONOFRE PLANT SITE

(TABLES 2.3H-1 THROUGH 2.3H-26)

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Table 2.3H-1

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	17
0.26 TO 0.50	5	7	8	8	6	3	5	6	5	5	5	5	5	4	7	6	90
0.51 TO 1.00	83	108	89	64	66	50	31	44	71	79	59	78	61	59	43	62	1047
1.01 TO 1.50	174	235	238	155	82	85	121	148	146	171	162	165	151	138	121	110	2402
1.51 TO 2.00	175	328	369	134	86	84	140	210	189	213	174	217	222	204	136	119	3000
2.01 TO 3.00	224	706	801	131	97	160	321	444	388	390	406	531	587	651	345	185	6367
3.01 TO 4.00	109	579	688	59	24	97	295	392	328	351	312	395	632	772	325	150	5508
4.01 TO 5.00	57	406	588	49	13	33	136	262	239	170	131	126	332	475	245	86	3348
5.01 TO 6.00	14	219	406	51	9	18	59	114	126	87	41	32	75	199	144	43	1637
6.01 TO 7.00	15	103	232	32	8	9	41	65	68	30	10	27	33	87	73	23	856
7.01 TO 8.00	5	38	73	25	8	2	31	28	34	8	16	15	8	31	45	11	376
8.01 TO 9.00	0	11	24	9	7	6	16	11	19	5	13	8	16	38	29	3	215
9.01 TO 10.00	0	3	6	7	3	5	15	11	9	5	8	2	12	23	12	4	125
MORE THAN 10	0	2	6	1	0	1	7	19	16	10	2	6	20	28	19	2	139
TOTALS	861	2745	3528	725	409	553	1218	1754	1638	1524	1339	1605	2154	2709	1544	804	25127

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.07
0.26 TO 0.50	.02	.03	.03	.03	.02	.01	.02	.02	.02	.02	.02	.02	.02	.02	.03	.02	.36
0.51 TO 1.00	.33	.43	.35	.25	.26	.20	.12	.18	.28	.31	.23	.31	.24	.23	.17	.25	4.17
1.01 TO 1.50	.69	.94	.95	.62	.33	.34	.48	.59	.58	.68	.64	.66	.60	.55	.48	.44	9.56
1.51 TO 2.00	.70	1.31	1.47	.53	.34	.33	.56	.84	.75	.85	.69	.86	.88	.81	.54	.47	11.94
2.01 TO 3.00	.89	2.81	3.19	.52	.39	.64	1.28	1.77	1.54	1.55	1.62	2.11	2.34	2.59	1.37	.74	25.34
3.01 TO 4.00	.43	2.30	2.74	.23	.10	.39	1.17	1.56	1.31	1.40	1.24	1.57	2.52	3.07	1.29	.60	21.92
4.01 TO 5.00	.23	1.62	2.34	.20	.05	.13	.54	1.04	.95	.68	.52	.50	1.32	1.89	.98	.34	13.32
5.01 TO 6.00	.06	.87	1.62	.20	.04	.07	.23	.45	.50	.35	.16	.13	.30	.79	.57	.17	6.51
6.01 TO 7.00	.06	.41	.92	.13	.03	.04	.16	.26	.27	.12	.04	.11	.13	.35	.29	.09	3.41
7.01 TO 8.00	.02	.15	.29	.10	.03	.01	.12	.11	.14	.03	.06	.05	.03	.12	.18	.04	1.50
8.01 TO 9.00	0.00	.04	.10	.04	.03	.02	.06	.04	.08	.02	.05	.03	.06	.15	.12	.01	.86
9.01 TO 10.00	0.00	.01	.02	.03	.01	.02	.06	.04	.04	.02	.03	.01	.05	.09	.05	.02	.50
MORE THAN 10	0.00	.01	.02	.00	0.00	.00	.03	.08	.06	.04	.01	.02	.08	.11	.08	.01	.55
TOTALS	3.43	10.92	14.04	2.89	1.63	2.20	4.85	6.98	6.52	6.07	5.33	6.39	8.57	10.78	6.14	3.20	100.00
AVE WIND SPEED	2.3	3.2	3.6	2.8	2.3	2.6	3.3	3.4	3.4	3.0	2.9	2.8	3.2	3.6	3.7	2.9	3.2

TOTAL POSSIBLE CASES - 26280

NUMBER CASES USED IN ABOVE TABLE - 25127

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 23222

Table 2.3H-2

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	1	0	1	0	1	0	0	0	0	0	0	0	2	0	6
0.51 TO 1.00	5	4	12	4	8	9	4	9	7	7	4	5	8	9	6	7	108
1.01 TO 1.50	15	22	19	18	7	12	10	23	14	14	8	14	14	13	11	11	225
1.51 TO 2.00	12	19	33	12	9	8	22	18	16	16	11	12	16	12	10	7	233
2.01 TO 3.00	18	38	59	16	5	15	30	31	20	23	8	10	31	47	27	15	393
3.01 TO 4.00	13	32	74	6	1	9	26	33	9	6	5	13	16	32	32	14	321
4.01 TO 5.00	6	18	67	4	1	4	12	29	8	4	3	3	4	21	8	6	198
5.01 TO 6.00	2	21	49	8	1	6	12	12	5	3	4	2	2	10	4	1	142
6.01 TO 7.00	3	12	39	12	1	3	10	8	7	3	2	4	3	1	0	0	108
7.01 TO 8.00	0	3	18	7	1	0	12	7	5	2	0	3	0	3	2	1	64
8.01 TO 9.00	0	0	7	3	0	1	6	0	0	1	1	1	2	1	2	0	25
9.01 TO 10.00	0	0	1	4	1	0	5	1	0	0	0	0	3	3	2	1	21
MORE THAN 10	0	0	0	0	0	1	4	5	4	2	1	1	0	10	3	0	31
TOTALS	74	170	379	94	36	68	154	176	95	81	47	68	99	162	109	63	1875

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.05	.05	0.00	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	.32
0.51 TO 1.00	.27	.21	.64	.21	.43	.48	.21	.48	.37	.37	.21	.27	.43	.48	.32	.37	5.76
1.01 TO 1.50	.80	1.17	1.01	.96	.37	.64	.53	1.23	.75	.75	.43	.75	.75	.69	.59	.59	12.00
1.51 TO 2.00	.64	1.01	1.75	.64	.48	.43	1.17	.96	.85	.85	.59	.64	.85	.64	.53	.37	12.43
2.01 TO 3.00	.96	2.03	3.15	.85	.27	.80	1.60	1.65	1.07	1.23	.43	.53	1.65	2.51	1.44	.80	20.96
3.01 TO 4.00	.69	1.71	3.95	.32	.05	.48	1.39	1.76	.48	.32	.27	.69	.85	1.71	1.71	.75	17.12
4.01 TO 5.00	.32	.96	3.57	.21	.05	.21	.64	1.55	.43	.21	.16	.16	.21	1.12	.43	.32	10.56
5.01 TO 6.00	.11	1.12	2.61	.43	.05	.32	.64	.64	.27	.16	.21	.11	.11	.53	.21	.05	7.57
6.01 TO 7.00	.16	.64	2.09	.64	.05	.16	.53	.43	.37	.16	.11	.21	.16	.05	0.00	0.00	5.76
7.01 TO 8.00	0.00	.16	.95	.37	.05	0.00	.64	.37	.27	.11	0.00	.16	0.00	.16	.11	.05	3.41
8.01 TO 9.00	0.00	0.00	.37	.16	0.00	.05	.32	0.00	0.00	.05	.05	.05	.11	.05	.11	0.00	1.33
9.01 TO 10.00	0.00	0.00	.05	.21	.05	0.00	.27	.05	0.00	0.00	0.00	0.00	.16	.16	.11	.05	1.12
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	.05	.21	.27	.21	.11	.05	.05	0.00	.53	.16	0.00	1.65
TOTALS	3.95	9.07	20.21	5.01	1.92	3.63	8.21	9.39	5.07	4.32	2.51	3.63	5.28	8.64	5.81	3.36	100.00
AVE WIND SPEED	2.6	3.3	4.0	3.9	2.2	2.8	4.1	3.6	3.6	2.9	2.9	2.9	2.8	3.7	3.3	2.6	3.5

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 1875

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1718

Table 2.3H-3

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	1	1	0	2	1	0	1	0	0	0	0	2	0	0	0	1	9
0.51 TO 1.00	10	13	12	8	8	3	0	3	5	4	4	1	4	2	2	1	80
1.01 TO 1.50	8	15	34	16	7	6	4	4	5	12	13	13	15	9	10	7	178
1.51 TO 2.00	5	22	44	16	9	3	5	15	15	14	8	19	18	23	11	9	236
2.01 TO 3.00	11	41	118	23	11	10	18	10	19	23	29	19	50	63	35	19	499
3.01 TO 4.00	11	42	93	27	2	4	14	14	9	17	15	9	10	50	38	10	365
4.01 TO 5.00	8	22	89	25	5	3	13	15	5	9	6	5	10	11	23	11	260
5.01 TO 6.00	1	11	59	23	6	1	9	13	8	7	2	2	3	1	14	4	164
6.01 TO 7.00	1	3	46	13	4	4	3	9	4	0	0	4	3	1	6	2	105
7.01 TO 8.00	1	1	14	7	3	0	1	3	2	0	1	3	3	1	2	1	43
8.01 TO 9.00	0	4	5	6	0	0	2	5	8	0	0	0	2	2	0	0	34
9.01 TO 10.00	0	2	3	3	1	2	1	1	4	1	1	0	1	1	0	0	21
MORE THAN 10	0	0	1	1	0	0	0	4	7	3	0	1	2	0	0	0	19
TOTALS	57	177	518	170	57	36	71	96	91	90	79	78	121	164	141	65	2013

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.10
0.26 TO 0.50	.05	.05	0.00	.10	.05	0.00	.05	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	.05	.45
0.51 TO 1.00	.50	.65	.60	.40	.40	.15	0.00	.15	.25	.20	.20	.05	.20	.10	.10	.05	3.97
1.01 TO 1.50	.40	.75	1.69	.79	.35	.30	.20	.20	.25	.60	.65	.65	.75	.45	.50	.35	8.84
1.51 TO 2.00	.25	1.09	2.19	.79	.45	.15	.25	.75	.75	.70	.40	.94	.89	1.14	.55	.45	11.72
2.01 TO 3.00	.55	2.04	5.86	1.14	.55	.50	.89	.50	.94	1.14	1.44	.94	2.48	3.13	1.74	.94	24.79
3.01 TO 4.00	.55	2.09	4.62	1.34	.10	.20	.70	.70	.45	.84	.75	.45	.50	2.48	1.89	.50	18.13
4.01 TO 5.00	.40	1.09	4.42	1.24	.25	.15	.65	.75	.25	.45	.30	.25	.50	.55	1.14	.55	12.92
5.01 TO 6.00	.05	.55	2.93	1.14	.30	.05	.45	.65	.40	.35	.10	.10	.15	.05	.70	.20	8.15
6.01 TO 7.00	.05	.15	2.29	.65	.20	.20	.15	.45	.20	0.00	0.00	.20	.15	.05	.30	.10	5.12
7.01 TO 8.00	.05	.05	.70	.35	.15	0.00	.05	.15	.10	0.00	.05	.15	.15	.05	.10	.05	2.14
8.01 TO 9.00	0.00	.20	.25	.30	0.00	0.00	.10	.25	.40	0.00	0.00	0.00	.10	.10	0.00	0.00	1.69
9.01 TO 10.00	0.00	.10	.15	.15	.05	.10	.05	.05	.20	.05	.05	0.00	.05	.05	0.00	0.00	1.04
MORE THAN 10	0.00	0.00	.05	.05	0.00	0.00	0.00	.20	.35	.15	0.00	.05	.10	0.00	0.00	0.00	.94
TOTALS	2.83	8.79	25.73	8.45	2.83	1.79	3.53	4.77	4.52	4.47	3.92	3.87	6.01	8.15	7.00	3.23	100.00
AVE WIND SPEED	2.6	3.1	3.8	3.9	3.1	3.3	3.8	4.4	4.7	3.2	2.7	2.8	3.0	2.9	3.5	3.1	3.5

TOTAL POSSIBLE CASES - 2016

NUMBER CASES USED IN ABOVE TABLE - 2013

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1313

Table 2.3H-4

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	2	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	5
0.51 TO 1.00	5	11	5	3	5	2	0	5	3	1	2	0	1	2	0	3	48
1.01 TO 1.50	11	18	21	5	3	0	7	14	9	6	4	11	5	4	4	4	126
1.51 TO 2.00	15	27	30	13	5	7	9	10	9	11	8	7	12	13	6	5	187
2.01 TO 3.00	21	67	70	17	6	9	28	42	23	19	18	26	34	46	22	14	462
3.01 TO 4.00	11	43	72	8	3	21	33	39	39	24	17	17	44	60	27	24	482
4.01 TO 5.00	7	34	79	10	1	7	27	26	27	19	13	12	24	27	23	12	348
5.01 TO 6.00	1	23	49	7	0	1	9	12	10	13	10	7	9	15	27	5	198
6.01 TO 7.00	1	10	23	0	0	0	3	8	9	4	5	11	7	16	19	5	121
7.01 TO 8.00	1	5	7	2	0	0	8	10	4	3	10	4	3	7	18	7	89
8.01 TO 9.00	0	0	5	0	0	0	4	4	5	1	4	2	3	15	17	1	61
9.01 TO 10.00	0	0	0	0	0	0	1	8	4	3	4	1	4	7	4	1	37
MORE THAN 10	0	0	0	0	0	0	2	7	5	2	1	1	4	5	2	1	30
TOTALS	75	238	361	65	23	47	131	185	148	107	96	99	150	217	170	82	2194

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	0.00	0.00	.05	0.00	.23
0.51 TO 1.00	.23	.50	.23	.14	.23	.09	0.00	.23	.14	.05	.09	0.00	.05	.09	0.00	.14	2.19
1.01 TO 1.50	.50	.82	.96	.23	.14	0.00	.32	.64	.41	.27	.18	.50	.23	.18	.18	.18	5.74
1.51 TO 2.00	.68	1.23	1.37	.59	.23	.32	.41	.46	.41	.50	.36	.32	.55	.59	.27	.23	8.52
2.01 TO 3.00	.96	3.05	3.19	.77	.27	.41	1.28	1.91	1.05	.87	.82	1.19	1.55	2.10	1.00	.64	21.06
3.01 TO 4.00	.50	1.96	3.28	.36	.14	.96	1.50	1.78	1.78	1.09	.77	.77	2.01	2.73	1.23	1.09	21.97
4.01 TO 5.00	.32	1.55	3.60	.46	.05	.32	1.23	1.19	1.23	.87	.59	.55	1.09	1.23	1.05	.55	15.86
5.01 TO 6.00	.05	1.05	2.23	.32	0.00	.05	.41	.55	.46	.59	.46	.32	.41	.68	1.23	.23	9.02
6.01 TO 7.00	.05	.46	1.05	0.00	0.00	0.00	.14	.36	.41	.18	.23	.50	.32	.73	.87	.23	5.52
7.01 TO 8.00	.05	.23	.32	.09	0.00	0.00	.36	.46	.18	.14	.46	.18	.14	.32	.82	.32	4.06
8.01 TO 9.00	0.00	0.00	.23	0.00	0.00	0.00	.18	.18	.23	.05	.18	.09	.14	.68	.77	.05	2.78
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.36	.18	.14	.18	.05	.18	.32	.18	.05	1.69
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	.09	.32	.23	.09	.05	.05	.18	.23	.09	.05	1.37
TOTALS	3.42	10.85	16.45	2.96	1.05	2.14	5.97	8.43	6.75	4.88	4.38	4.51	6.84	9.89	7.75	3.74	100.00
AVE WIND SPEED	2.5	3.2	3.8	3.1	2.0	3.1	4.0	4.2	4.2	4.0	4.4	3.9	4.0	4.4	5.1	4.0	3.9

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 2194

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1591

Amended: April 2009 TL: E048000

Table 2.3H-5

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	0	0	0	1	0	0	0	0	1	1	0	1	0	0	1	5
0.51 TO 1.00	7	4	3	1	2	2	4	2	2	4	3	6	2	2	5	4	53
1.01 TO 1.50	14	19	23	14	5	6	11	7	7	14	15	5	19	7	6	8	180
1.51 TO 2.00	18	21	29	8	3	11	12	12	10	18	18	12	18	8	6	7	211
2.01 TO 3.00	9	91	76	5	3	19	21	24	29	45	29	51	53	32	16	12	515
3.01 TO 4.00	10	74	65	0	1	6	27	42	32	28	44	49	54	63	16	12	523
4.01 TO 5.00	5	49	42	0	1	3	12	26	23	14	22	11	30	38	25	7	308
5.01 TO 6.00	3	23	36	0	1	1	5	6	13	10	1	6	7	36	17	7	172
6.01 TO 7.00	1	11	16	2	1	1	4	4	8	2	0	2	3	23	12	3	93
7.01 TO 8.00	0	4	4	1	2	1	1	0	3	0	0	2	0	12	9	0	39
8.01 TO 9.00	0	1	3	0	4	3	0	1	3	0	0	1	1	6	3	0	26
9.01 TO 10.00	0	0	0	0	0	3	0	0	0	0	0	0	0	4	3	1	11
MORE THAN 10	0	1	4	0	0	0	0	0	0	0	0	1	2	2	5	0	15
TOTALS	67	298	301	31	24	56	97	124	130	136	133	146	190	233	123	62	2153

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.09
0.26 TO 0.50	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	.05	0.00	.05	0.00	0.00	.05	.23
0.51 TO 1.00	.33	.19	.14	.05	.09	.09	.19	.09	.09	.19	.14	.28	.09	.09	.23	.19	2.46
1.01 TO 1.50	.65	.88	1.07	.65	.23	.28	.51	.33	.33	.65	.70	.23	.88	.33	.28	.37	8.36
1.51 TO 2.00	.84	.98	1.35	.37	.14	.51	.56	.56	.46	.84	.84	.56	.84	.37	.28	.33	9.80
2.01 TO 3.00	.42	4.23	3.53	.23	.14	.88	.98	1.11	1.35	2.09	1.35	2.37	2.46	1.49	.74	.56	23.92
3.01 TO 4.00	.46	3.44	3.02	0.00	.05	.28	1.25	1.95	1.49	1.30	2.04	2.28	2.51	2.93	.74	.56	24.29
4.01 TO 5.00	.23	2.28	1.95	0.00	.05	.14	.56	1.21	1.07	.65	1.02	.51	1.39	1.76	1.16	.33	14.31
5.01 TO 6.00	.14	1.07	1.67	0.00	.05	.05	.23	.28	.60	.46	.05	.28	.33	1.67	.79	.33	7.99
6.01 TO 7.00	.05	.51	.74	.09	.05	.05	.19	.19	.37	.09	0.00	.09	.14	1.07	.56	.14	4.32
7.01 TO 8.00	0.00	.19	.19	.05	.09	.05	.05	0.00	.14	0.00	0.00	.09	0.00	.56	.42	0.00	1.81
8.01 TO 9.00	0.00	.05	.14	0.00	.19	.14	0.00	.05	.14	0.00	0.00	.05	.05	.28	.14	0.00	1.21
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.19	.14	.05	.51
MORE THAN 10	0.00	.05	.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.09	.09	.23	0.00	.70
TOTALS	3.11	13.84	13.98	1.44	1.11	2.60	4.51	5.76	6.04	6.32	6.18	6.78	8.82	10.82	5.71	2.88	100.00
AVE WIND SPEED	2.3	3.4	3.6	2.1	3.7	3.2	3.1	3.4	3.7	2.9	2.9	3.2	3.2	4.5	4.7	3.2	3.5

TOTAL POSSIBLE CASES - 2160

NUMBER CASES USED IN ABOVE TABLE - 2153

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2098

Table 2.3H-6

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	0	0	1	1	2	0	1	0	0	0	1	0	0	2	0	8
0.51 TO 1.00	4	6	6	1	3	4	3	3	7	6	4	10	6	4	5	3	75
1.01 TO 1.50	6	16	14	4	5	6	5	16	12	20	21	20	20	11	7	5	188
1.51 TO 2.00	13	25	22	7	7	7	13	19	20	35	19	19	22	12	5	7	252
2.01 TO 3.00	13	53	39	10	9	25	33	61	51	45	58	91	58	47	21	11	625
3.01 TO 4.00	2	39	12	0	4	19	36	50	51	50	62	61	74	46	20	7	533
4.01 TO 5.00	2	25	19	0	1	4	13	34	33	15	16	25	58	39	21	3	308
5.01 TO 6.00	0	11	5	0	0	3	5	12	24	7	4	8	6	8	9	1	103
6.01 TO 7.00	0	0	1	0	0	1	6	6	11	8	1	2	7	16	4	1	64
7.01 TO 8.00	1	0	0	0	0	0	0	1	5	1	1	1	0	6	3	0	19
8.01 TO 9.00	0	0	0	0	0	1	0	0	1	1	6	3	5	9	0	0	26
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	2	1	2	4	0	0	9
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	41	175	118	23	30	72	114	203	215	188	194	242	258	202	97	38	2211

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	0.00	0.00	.05	.05	.09	0.00	.05	0.00	0.00	0.00	.05	0.00	0.00	.09	0.00	.36
0.51 TO 1.00	.18	.27	.27	.05	.14	.18	.14	.14	.32	.27	.18	.45	.27	.18	.23	.14	3.39
1.01 TO 1.50	.27	.72	.63	.18	.23	.27	.23	.72	.54	.90	.95	.90	.90	.50	.32	.23	8.50
1.51 TO 2.00	.59	1.13	1.00	.32	.32	.32	.59	.86	.90	1.58	.86	.86	1.00	.54	.23	.32	11.40
2.01 TO 3.00	.59	2.40	1.76	.45	.41	1.13	1.49	2.76	2.31	2.04	2.62	4.12	2.62	2.13	.95	.50	28.27
3.01 TO 4.00	.09	1.76	.54	0.00	.18	.86	1.63	2.26	2.31	2.26	2.80	2.76	3.35	2.08	.90	.32	24.11
4.01 TO 5.00	.09	1.13	.86	0.00	.05	.18	.59	1.54	1.49	.68	.72	1.13	2.62	1.76	.95	.14	13.93
5.01 TO 6.00	0.00	.50	.23	0.00	0.00	.14	.23	.54	1.09	.32	.18	.36	.27	.36	.41	.05	4.66
6.01 TO 7.00	0.00	0.00	.05	0.00	0.00	.05	.27	.27	.50	.36	.05	.09	.32	.72	.18	.05	2.89
7.01 TO 8.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	.23	.05	.05	.05	0.00	.27	.14	0.00	.86
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05	.05	.27	.14	.23	.41	0.00	0.00	1.18
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.05	.09	.18	0.00	0.00	.41
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	1.85	7.91	5.34	1.04	1.36	3.26	5.16	9.18	9.72	8.50	8.77	10.95	11.67	9.14	4.39	1.72	100.00
AVE WIND SPEED	2.1	2.9	2.7	1.8	2.0	2.8	3.2	3.2	3.5	2.9	3.1	2.9	3.4	4.0	3.5	2.6	3.1

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 2211

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2029

Amended: April 2009 TL: E048000

Table 2.3H-7

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	2	0	0	0	1	0	3	2	0	0	0	1	0	0	0	9
0.51 TO 1.00	2	6	6	1	3	3	0	1	12	10	4	5	3	2	0	3	61
1.01 TO 1.50	9	14	11	13	4	7	8	8	13	12	12	16	8	12	13	6	166
1.51 TO 2.00	13	19	10	5	5	6	10	19	12	18	13	22	22	11	8	9	202
2.01 TO 3.00	20	43	29	3	12	17	35	37	43	42	56	49	47	54	27	17	531
3.01 TO 4.00	5	44	9	0	1	9	30	42	41	48	48	50	58	71	19	7	482
4.01 TO 5.00	0	30	8	0	0	0	5	14	36	24	14	19	48	61	18	4	281
5.01 TO 6.00	0	3	9	0	0	0	2	4	7	10	4	0	14	18	10	4	85
6.01 TO 7.00	0	2	4	0	0	0	0	1	2	0	1	0	6	1	5	4	26
7.01 TO 8.00	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	4
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTALS	49	163	86	22	25	43	90	130	168	164	152	161	208	232	102	55	1850

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.11	0.00	0.00	0.00	.05	0.00	.16	.11	0.00	0.00	0.00	.05	0.00	0.00	0.00	.49
0.51 TO 1.00	.11	.32	.32	.05	.16	.16	0.00	.05	.65	.54	.22	.27	.16	.11	0.00	.16	3.30
1.01 TO 1.50	.49	.76	.59	.70	.22	.38	.43	.43	.70	.65	.65	.86	.43	.65	.70	.32	8.97
1.51 TO 2.00	.70	1.03	.54	.27	.27	.32	.54	1.03	.65	.97	.70	1.19	1.19	.59	.43	.49	10.92
2.01 TO 3.00	1.08	2.32	1.57	.16	.65	.92	1.89	2.00	2.32	2.27	3.03	2.65	2.54	2.92	1.46	.92	28.70
3.01 TO 4.00	.27	2.38	.49	0.00	.05	.49	1.62	2.27	2.22	2.59	2.59	2.70	3.14	3.84	1.03	.38	26.05
4.01 TO 5.00	0.00	1.62	.43	0.00	0.00	0.00	.27	.76	1.95	1.30	.76	1.03	2.59	3.30	.97	.22	15.19
5.01 TO 6.00	0.00	.16	.49	0.00	0.00	0.00	.11	.22	.38	.54	.22	0.00	.76	.97	.54	.22	4.59
6.01 TO 7.00	0.00	.11	.22	0.00	0.00	0.00	0.00	.05	.11	0.00	.05	0.00	.32	.05	.27	.22	1.41
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	.05	.05	.05	0.00	.22
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	.11
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	.05
TOTALS	2.65	8.81	4.65	1.19	1.35	2.32	4.86	7.03	9.08	8.86	8.22	8.70	11.24	12.54	5.51	2.97	100.00
AVE WIND SPEED	2.0	2.9	2.9	1.4	2.0	2.2	2.8	2.9	3.1	3.0	2.9	2.8	3.4	3.5	3.4	3.0	3.0

TOTAL POSSIBLE CASES - 2160

NUMBER CASES USED IN ABOVE TABLE - 1850

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1813

Table 2.3H-8

DATA FROM 1/25/75 TO 1/24/76JULY LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	1	0	1	2	0	0	0	0	1	2	3	2	2	1	1	1	17
0.51 TO 1.00	13	16	10	13	2	3	1	4	5	13	7	13	12	13	3	3	131
1.01 TO 1.50	14	18	16	9	4	4	15	12	21	29	22	24	18	20	11	13	250
1.51 TO 2.00	19	37	37	7	9	6	14	28	22	29	23	37	23	34	20	12	357
2.01 TO 3.00	12	34	39	4	6	14	30	58	48	50	78	84	77	55	30	12	631
3.01 TO 4.00	0	20	19	0	0	1	12	40	41	65	52	64	94	85	24	6	523
4.01 TO 5.00	1	6	10	0	0	0	2	18	38	33	14	15	31	40	17	2	227
5.01 TO 6.00	0	1	0	0	0	0	0	10	16	10	3	0	2	12	11	2	67
6.01 TO 7.00	0	0	0	0	0	0	0	3	7	2	0	0	0	0	3	1	16
7.01 TO 8.00	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	6
8.01 TO 9.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	60	132	132	35	21	28	74	177	202	233	202	239	259	260	120	52	2229

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.13
0.26 TO 0.50	.04	0.00	.04	.09	0.00	0.00	0.00	0.00	.04	.09	.13	.09	.09	.04	.04	.04	.76
0.51 TO 1.00	.58	.72	.45	.58	.09	.13	.04	.18	.22	.58	.31	.58	.54	.58	.13	.13	5.88
1.01 TO 1.50	.63	.81	.72	.40	.18	.18	.67	.54	.94	1.30	.99	1.08	.81	.90	.49	.58	11.22
1.51 TO 2.00	.85	1.66	1.66	.31	.40	.27	.63	1.26	.99	1.30	1.03	1.66	1.03	1.53	.90	.54	16.02
2.01 TO 3.00	.54	1.53	1.75	.18	.27	.63	1.35	2.60	2.15	2.24	3.50	3.77	3.45	2.47	1.35	.54	28.31
3.01 TO 4.00	0.00	.90	.85	0.00	0.00	.04	.54	1.79	1.84	2.92	2.33	2.87	4.22	3.81	1.08	.27	23.46
4.01 TO 5.00	.04	.27	.45	0.00	0.00	0.00	.09	.81	1.70	1.48	.63	.67	1.39	1.79	.76	.09	10.18
5.01 TO 6.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	.45	.72	.45	.13	0.00	.09	.54	.49	.09	3.01
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.31	.09	0.00	0.00	0.00	0.00	.13	.04	.72
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.13	.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.27
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	2.69	5.92	5.92	1.57	.94	1.26	3.32	7.94	9.06	10.45	9.06	10.72	11.62	11.66	5.38	2.33	100.00
AVE WIND SPEED	1.6	2.1	2.2	1.2	1.7	2.0	2.3	3.0	3.3	2.9	2.6	2.5	2.8	3.0	3.0	2.2	2.7

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 2229

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2228

Amended: April 2009 TL: E048000

Table 2.3H-9

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	4
0.26 TO 0.50	0	0	4	1	1	0	1	0	1	0	0	0	1	1	0	1	11
0.51 TO 1.00	8	9	3	7	2	6	0	5	9	6	12	13	8	6	4	11	109
1.01 TO 1.50	27	39	25	9	6	0	5	13	18	10	15	10	12	17	23	11	240
1.51 TO 2.00	18	42	26	11	3	2	7	19	18	19	17	31	26	30	19	16	304
2.01 TO 3.00	19	67	59	5	7	10	21	43	39	42	39	65	66	66	41	15	604
3.01 TO 4.00	8	46	34	1	0	3	19	51	29	43	26	38	96	110	53	5	522
4.01 TO 5.00	3	19	11	0	0	0	13	15	21	23	20	12	56	90	21	3	307
5.01 TO 6.00	0	1	5	0	0	0	2	7	17	8	4	1	11	30	9	2	97
6.01 TO 7.00	0	0	1	0	0	0	0	5	6	3	0	0	0	5	4	0	24
7.01 TO 8.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	5
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
MORE THAN 10	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTALS	83	223	168	34	19	21	68	140	160	155	133	170	276	355	158	64	2231

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.18
0.26 TO 0.50	0.00	0.00	.18	.04	.04	0.00	.04	0.00	.04	0.00	0.00	0.00	.04	.04	0.00	.04	.49
0.51 TO 1.00	.36	.40	.13	.31	.09	.27	0.00	.22	.40	.27	.54	.58	.36	.27	.18	.49	4.89
1.01 TO 1.50	1.21	1.75	1.12	.40	.27	0.00	.22	.58	.81	.45	.67	.45	.54	.76	1.03	.49	10.76
1.51 TO 2.00	.81	1.88	1.17	.49	.13	.09	.31	.85	.81	.85	.76	1.39	1.17	1.34	.85	.72	13.63
2.01 TO 3.00	.85	3.00	2.64	.22	.31	.45	.94	1.93	1.75	1.88	1.75	2.91	2.96	2.96	1.84	.67	27.07
3.01 TO 4.00	.36	2.06	1.52	.04	0.00	.13	.85	1.39	1.30	1.93	1.17	1.70	4.30	4.93	1.48	.22	23.40
4.01 TO 5.00	.13	.85	.49	0.00	0.00	0.00	.58	.67	.94	1.03	.90	.54	2.51	4.03	.94	.13	13.76
5.01 TO 6.00	0.00	.04	.22	0.00	0.00	0.00	.09	.31	.76	.36	.18	.04	.49	1.34	.40	.09	4.35
6.01 TO 7.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	.22	.27	.13	0.00	0.00	0.00	.22	.18	0.00	1.08
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	.18	0.00	.22
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	.04
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04
TOTALS	3.72	10.00	7.53	1.52	.85	.94	3.05	6.28	7.17	6.95	5.96	7.62	12.37	15.91	7.08	2.87	100.00
AVE WIND SPEED	1.9	2.4	2.5	1.5	1.6	2.0	3.0	3.1	3.1	3.1	2.7	2.5	3.2	3.4	3.0	2.0	2.8

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 2231

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2230

Table 2.3H-10

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL =10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	0	2	1	0	0	0	1	1	0	1	0	0	0	0	1	1	8
0.51 TO 1.00	8	15	13	6	9	6	3	5	10	6	6	11	7	6	8	12	131
1.01 TO 1.50	22	24	18	11	2	13	14	18	11	19	15	20	8	13	11	20	239
1.51 TO 2.00	20	37	19	7	12	5	13	26	26	16	18	18	19	19	14	9	278
2.01 TO 3.00	22	62	42	4	8	13	20	63	41	37	30	55	55	79	34	13	578
3.01 TO 4.00	6	47	33	1	0	4	27	39	28	29	16	52	86	80	30	7	485
4.01 TO 5.00	5	27	19	0	0	2	5	26	18	20	5	8	36	53	15	9	248
5.01 TO 6.00	0	5	9	2	0	1	1	9	13	5	3	4	10	30	11	3	104
6.01 TO 7.00	0	3	4	2	0	0	1	2	3	1	0	0	1	10	7	0	34
7.01 TO 8.00	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	0	4
8.01 TO 9.00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	83	223	158	33	32	44	85	189	151	132	93	168	222	290	133	74	2112

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.09
0.26 TO 0.50	0.00	.09	.05	0.00	0.00	0.00	.05	.05	0.00	.05	0.00	0.00	0.00	0.00	.05	.05	.38
0.51 TO 1.00	.38	.71	.62	.28	.43	.28	.14	.24	.47	.28	.28	.52	.33	.28	.38	.57	6.20
1.01 TO 1.50	1.04	1.14	.85	.52	.09	.62	.66	.85	.52	.90	.71	.95	.38	.62	.52	.95	11.32
1.51 TO 2.00	.95	1.75	.90	.33	.57	.24	.62	1.23	1.23	.76	.85	.85	.90	.90	.66	.43	13.16
2.01 TO 3.00	1.04	2.94	1.99	.19	.38	.62	.95	2.98	1.94	1.75	1.42	2.60	2.60	3.74	1.61	.62	27.37
3.01 TO 4.00	.28	2.23	1.56	.05	0.00	.19	1.28	1.85	1.33	1.37	.76	2.46	4.07	3.79	1.42	.33	22.96
4.01 TO 5.00	.24	1.28	.90	0.00	0.00	.09	.24	1.23	.85	.95	.24	.38	1.70	2.51	.71	.43	11.74
5.01 TO 6.00	0.00	.24	.43	.09	0.00	.05	.05	.43	.62	.14	.14	.19	.47	1.42	.52	.14	4.92
6.01 TO 7.00	0.00	.14	.19	.09	0.00	0.00	.05	.09	.14	.05	0.00	0.00	.05	.47	.33	0.00	1.61
7.01 TO 8.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.09	0.00	.19
8.01 TO 9.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	3.93	10.56	7.48	1.56	1.52	2.08	4.02	8.95	7.15	6.25	4.40	7.95	10.51	13.73	6.30	3.50	100.00
AVE WIND SPEED	1.9	2.7	2.9	2.0	1.8	2.0	2.5	2.9	2.9	2.7	2.4	2.6	3.2	3.5	3.2	2.2	2.8

TOTAL POSSIBLE CASES - 2160

NUMBER CASES USED IN ABOVE TABLE - 2112

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2061

Amended: April 2009 TL: E048000

Table 2.3H-11

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
0.51 TO 1.00	5	8	7	5	2	5	2	2	2	9	4	0	5	5	3	3	65
1.01 TO 1.50	20	13	10	11	9	8	9	11	15	16	20	14	10	12	6	12	196
1.51 TO 2.00	21	30	31	13	7	10	10	14	15	13	13	12	15	11	14	16	245
2.01 TO 3.00	36	81	86	8	8	9	25	32	22	24	20	24	41	47	34	22	519
3.01 TO 4.00	18	59	71	1	2	3	16	12	13	19	11	26	55	70	46	20	442
4.01 TO 5.00	6	46	60	1	0	3	12	12	9	5	9	6	23	49	36	9	286
5.01 TO 6.00	0	30	29	2	0	2	1	6	0	2	1	0	9	24	17	5	128
6.01 TO 7.00	0	15	8	0	0	0	1	0	1	2	0	1	0	4	0	0	32
7.01 TO 8.00	0	2	0	0	0	0	0	0	2	0	0	0	1	0	0	0	5
8.01 TO 9.00	0	1	1	0	0	0	0	0	1	0	1	0	0	2	1	0	7
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	1	1	0	0	2	1	0	5
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	8	5	0	13
TOTALS	106	285	304	41	28	40	76	89	80	91	81	83	159	232	163	87	1945

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	.10
0.51 TO 1.00	.26	.41	.36	.26	.10	.26	.10	.10	.10	.46	.21	0.00	.26	.15	.15	.15	3.34
1.01 TO 1.50	1.03	.67	.51	.57	.46	.41	.46	.57	.77	.82	1.03	.72	.51	.62	.31	.62	10.08
1.51 TO 2.00	1.08	1.54	1.59	.67	.36	.51	.51	.72	.77	.67	.67	.62	.77	.57	.72	.82	12.60
2.01 TO 3.00	1.85	4.16	4.42	.41	.41	.46	1.29	1.65	1.13	1.23	1.03	1.23	2.11	2.42	1.75	1.13	26.68
3.01 TO 4.00	.93	3.03	3.65	.05	.10	.15	.82	.62	.67	.98	.57	1.34	2.83	3.60	2.37	1.03	22.72
4.01 TO 5.00	.31	2.37	3.08	.05	0.00	.15	.62	.62	.46	.26	.46	.31	1.18	2.52	1.85	.46	14.70
5.01 TO 6.00	0.00	1.54	1.49	.10	0.00	.10	.05	.31	0.00	.10	.05	0.00	.46	1.23	.87	.26	6.58
6.01 TO 7.00	0.00	.77	.41	0.00	0.00	0.00	.05	0.00	.05	.10	0.00	.05	0.00	.21	0.00	0.00	1.65
7.01 TO 8.00	0.00	.10	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	0.00	0.00	.05	0.00	0.00	0.00	.26
8.01 TO 9.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	0.00	.10	.05	0.00	.36
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.05	0.00	0.00	.10	.05	0.00	.26
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.41	.26	0.00	.67
TOTALS	5.45	14.65	15.63	2.11	1.44	2.06	3.91	4.58	4.11	4.68	4.16	4.27	8.17	11.95	8.38	4.47	100.00
AVE WIND SPEED	2.3	3.4	3.4	1.9	1.8	2.2	2.8	2.8	2.7	2.5	2.5	2.7	3.1	3.9	3.7	2.8	3.1

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 1945

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1896

Table 2.3H-12

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1
0.26 TO 0.50	0	1	0	2	1	0	1	0	0	0	0	0	0	2	0	0	7
0.51 TO 1.00	10	7	8	8	8	4	10	4	3	5	5	9	2	6	3	5	97
1.01 TO 1.50	18	25	15	18	13	8	16	9	14	12	9	12	11	10	14	8	212
1.51 TO 2.00	10	25	31	14	8	4	12	15	11	12	11	14	11	11	12	7	208
2.01 TO 3.00	23	54	75	19	11	10	20	22	28	17	15	30	38	54	23	19	458
3.01 TO 4.00	14	65	95	6	8	10	27	21	21	12	10	15	28	55	21	20	428
4.01 TO 5.00	7	70	76	5	2	3	9	24	11	2	7	6	9	31	23	9	294
5.01 TO 6.00	3	52	64	2	0	0	5	16	6	10	4	1	0	13	8	4	188
6.01 TO 7.00	4	24	35	0	0	0	7	12	6	3	1	3	1	8	7	4	115
7.01 TO 8.00	1	9	12	2	0	0	3	2	4	2	3	0	0	0	2	2	42
8.01 TO 9.00	0	1	0	0	0	0	1	0	1	0	1	0	3	2	5	1	15
9.01 TO 10.00	0	1	1	0	0	0	0	0	0	0	0	0	2	2	2	1	9
MORE THAN 10	0	0	1	0	0	0	0	0	0	1	0	2	12	2	4	1	23
TOTALS	90	334	413	76	51	39	111	125	105	76	66	92	117	196	124	81	2097

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.05
0.26 TO 0.50	0.00	.05	0.00	.10	.05	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.10	0.00	0.00	.33
0.51 TO 1.00	.48	.33	.38	.38	.38	.19	.48	.19	.14	.24	.24	.43	.10	.29	.14	.24	4.63
1.01 TO 1.50	.86	1.19	.72	.86	.62	.38	.76	.43	.67	.57	.43	.57	.52	.48	.67	.38	10.11
1.51 TO 2.00	.48	1.19	1.48	.67	.38	.19	.57	.72	.52	.57	.52	.67	.52	.52	.57	.33	9.92
2.01 TO 3.00	1.10	2.58	3.58	.91	.52	.48	.95	1.05	1.34	.81	.72	1.43	1.81	2.58	1.10	.91	21.84
3.01 TO 4.00	.67	3.10	4.53	.29	.38	.48	1.29	1.00	1.00	.57	.48	.72	1.34	2.62	1.00	.95	20.41
4.01 TO 5.00	.33	3.34	3.62	.24	.10	.14	.43	1.14	.52	.10	.33	.29	.43	1.48	1.10	.43	14.02
5.01 TO 6.00	.14	2.48	3.05	.10	0.00	0.00	.24	.76	.29	.48	.19	.05	0.00	.62	.38	.19	8.97
6.01 TO 7.00	.19	1.14	1.67	0.00	0.00	0.00	.33	.57	.29	.14	.05	.14	.05	.38	.33	.19	5.48
7.01 TO 8.00	.05	.43	.57	.10	0.00	0.00	.14	.10	.19	.10	.14	0.00	0.00	0.00	.10	.10	2.00
8.01 TO 9.00	0.00	.05	0.00	0.00	0.00	0.00	.05	0.00	.05	0.00	.05	0.00	.14	.10	.24	.05	.72
9.01 TO 10.00	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.10	.10	.10	.05	.43
MORE THAN 10	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	.10	.57	.10	.19	.05	1.10
TOTALS	4.29	15.93	19.69	3.62	2.43	1.86	5.29	5.96	5.01	3.62	3.15	4.39	5.58	9.35	5.91	3.86	100.00
AVE WIND SPEED	2.6	3.8	3.9	2.2	2.0	2.4	3.0	3.7	3.3	3.1	2.9	2.7	3.9	3.5	3.9	3.4	3.4

TOTAL POSSIBLE CASES - 2160

NUMBER CASES USED IN ABOVE TABLE - 2097

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2083

Table 2.3H-13

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	3
0.51 TO 1.00	6	9	4	7	14	3	4	1	6	8	4	5	3	4	4	7	89
1.01 TO 1.50	10	12	32	27	17	15	17	13	7	7	8	6	11	10	5	5	202
1.51 TO 2.00	11	24	57	21	9	15	13	15	15	12	15	14	20	20	11	15	287
2.01 TO 3.00	20	75	109	17	11	9	40	21	25	23	26	27	37	61	35	16	552
3.01 TO 4.00	11	68	111	9	2	8	28	29	15	10	6	1	17	50	19	18	402
4.01 TO 5.00	7	60	108	4	2	4	13	23	10	2	2	4	3	15	15	11	283
5.01 TO 6.00	4	38	92	7	1	3	8	7	7	4	1	1	2	2	7	5	189
6.01 TO 7.00	5	23	55	3	2	0	6	7	4	2	0	0	2	2	6	3	120
7.01 TO 8.00	1	13	18	6	2	1	6	1	4	0	1	0	0	1	2	0	56
8.01 TO 9.00	0	4	3	0	2	1	3	0	0	1	0	1	0	1	0	0	16
9.01 TO 10.00	0	0	1	0	1	0	8	0	0	0	0	0	0	0	0	0	10
MORE THAN 10	0	1	0	0	0	0	1	2	0	2	0	0	0	0	0	0	6
TOTALS	76	327	590	101	63	59	147	120	93	71	63	59	95	166	104	81	2217

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.09
0.26 TO 0.50	.05	0.00	0.00	0.00	0.00	0.00	0.00	.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.05	.14
0.51 TO 1.00	.27	.41	.18	.32	.63	.14	.18	.05	.27	.36	.18	.23	.14	.18	.18	.32	4.01
1.01 TO 1.50	.45	.54	1.44	1.22	.77	.68	.77	.59	.32	.32	.36	.27	.50	.45	.23	.23	9.11
1.51 TO 2.00	.50	1.08	2.57	.95	.41	.68	.59	.68	.68	.54	.68	.63	.90	.90	.50	.68	12.95
2.01 TO 3.00	.90	3.38	4.92	.77	.50	.41	1.80	.95	1.13	1.04	1.17	1.22	1.67	2.75	1.58	.72	24.90
3.01 TO 4.00	.50	3.07	5.01	.41	.09	.36	1.26	1.31	.68	.45	.27	.05	.77	2.26	.86	.81	18.13
4.01 TO 5.00	.32	2.71	4.87	.18	.09	.18	.59	1.04	.45	.09	.09	.18	.14	.68	.68	.50	12.76
5.01 TO 6.00	.18	1.71	4.15	.32	.05	.14	.36	.32	.32	.18	.05	.05	.09	.09	.32	.23	8.53
6.01 TO 7.00	.23	1.04	2.48	.14	.09	0.00	.27	.32	.18	.09	0.00	0.00	.09	.09	.27	.14	5.41
7.01 TO 8.00	.05	.59	.81	.27	.09	.05	.27	.05	.18	0.00	.05	0.00	0.00	.05	.09	0.00	2.53
8.01 TO 9.00	0.00	.18	.14	0.00	.09	.05	.14	0.00	0.00	.05	0.00	.05	0.00	.05	0.00	0.00	.72
9.01 TO 10.00	0.00	0.00	.05	0.00	.05	0.00	.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.45
MORE THAN 10	0.00	.05	0.00	0.00	0.00	0.00	.05	.09	0.00	.09	0.00	0.00	0.00	0.00	0.00	0.00	.27
TOTALS	3.43	14.75	26.61	4.56	2.84	2.66	6.63	5.41	4.19	3.20	2.84	2.66	4.29	7.49	4.69	3.65	100.00
AVE WIND SPEED	2.9	3.8	4.0	2.7	2.4	2.5	3.6	3.5	3.2	2.8	2.2	2.3	2.5	2.9	3.5	3.0	3.3

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 2217

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2162

Table 2.3H-14

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	152
0.26 TO 0.50	18	12	21	17	16	18	18	14	9	16	14	10	19	12	7	18	239
0.51 TO 1.00	99	89	108	105	107	100	108	73	69	88	71	71	72	80	65	81	1386
1.01 TO 1.50	178	172	146	116	130	132	178	142	164	109	136	130	138	105	190	113	2189
1.51 TO 2.00	210	248	163	98	114	148	191	164	154	176	148	191	175	154	127	132	2589
2.01 TO 3.00	331	433	264	78	123	244	386	329	335	323	397	446	472	395	248	189	4993
3.01 TO 4.00	179	363	200	31	49	146	332	297	262	272	268	392	547	447	214	141	4140
4.01 TO 5.00	108	256	121	19	18	44	214	194	185	129	119	156	357	368	156	46	2482
5.01 TO 6.00	50	162	61	22	7	21	103	144	89	51	38	54	148	220	95	25	1290
6.01 TO 7.00	12	82	52	17	4	15	47	56	31	19	20	23	71	134	62	15	660
7.01 TO 8.00	10	37	41	7	4	8	29	24	20	11	10	16	32	64	36	4	353
8.01 TO 9.00	3	16	21	12	5	4	13	14	17	8	7	6	26	59	15	2	228
9.01 TO 10.00	1	13	12	7	12	4	22	11	4	5	7	14	28	42	10	0	192
MORE THAN 10	1	7	18	11	2	2	20	8	14	4	4	5	20	46	10	0	172
TOTALS	1200	1890	1228	540	591	882	1661	1470	1353	1211	1239	1514	2105	2118	1145	766	21065

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.72
0.26 TO 0.50	.09	.06	.10	.08	.08	.09	.09	.07	.04	.08	.07	.05	.09	.06	.03	.09	1.13
0.51 TO 1.00	.47	.42	.51	.50	.51	.47	.51	.35	.33	.42	.34	.34	.34	.38	.31	.38	6.58
1.01 TO 1.50	.85	.82	.69	.55	.62	.63	.85	.67	.78	.52	.65	.62	.66	.50	.47	.54	10.39
1.51 TO 2.00	1.00	1.18	.77	.47	.54	.68	.91	.78	.73	.84	.70	.91	.83	.73	.60	.63	12.29
2.01 TO 3.00	1.57	2.06	1.25	.37	.58	1.16	1.83	1.56	1.59	1.53	1.88	2.12	2.24	1.88	1.18	.90	23.70
3.01 TO 4.00	.85	1.72	.95	.15	.23	.69	1.58	1.41	1.24	1.29	1.27	1.86	2.60	2.12	1.02	.67	19.65
4.01 TO 5.00	.51	1.22	.57	.09	.09	.21	1.02	.92	.88	.61	.56	.74	1.69	1.71	.74	.22	11.78
5.01 TO 6.00	.24	.77	.29	.10	.03	.10	.49	.68	.42	.24	.18	.26	.70	1.04	.45	.12	6.12
6.01 TO 7.00	.06	.39	.25	.08	.02	.07	.22	.27	.15	.09	.09	.11	.34	.64	.29	.07	3.13
7.01 TO 8.00	.05	.18	.19	.03	.02	.04	.14	.11	.09	.05	.05	.08	.15	.30	.17	.02	1.68
8.01 TO 9.00	.01	.08	.10	.06	.02	.02	.06	.07	.08	.04	.03	.03	.12	.28	.07	.01	1.08
9.01 TO 10.00	.00	.06	.06	.03	.06	.02	.10	.05	.02	.02	.03	.07	.13	.20	.05	0.00	.91
MORE THAN 10	.00	.03	.09	.05	.01	.01	.09	.04	.07	.02	.02	.02	.09	.22	.05	0.00	.82
TOTALS	5.70	8.97	5.83	2.56	2.81	4.19	7.89	6.98	6.42	5.75	5.88	7.19	9.99	10.05	5.44	3.64	100.00
AVE WIND SPEED	2.5	3.3	3.2	2.5	2.1	2.5	3.2	3.3	3.2	2.9	2.8	3.0	3.5	4.1	3.5	2.4	3.1

TOTAL POSSIBLE CASES - 26280

NUMBER CASES USED IN ABOVE TABLE - 21065

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 19275

Table 2.3H-15

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	30
0.26 TO 0.50	0	1	0	3	0	0	1	1	1	0	0	0	0	1	0	1	9
0.51 TO 1.00	4	9	15	9	9	11	11	8	5	9	4	1	4	3	3	5	110
1.01 TO 1.50	12	15	9	14	8	22	26	21	18	11	11	12	11	7	15	7	219
1.51 TO 2.00	17	29	24	7	13	13	24	10	10	5	10	12	13	15	10	5	217
2.01 TO 3.00	22	49	31	4	14	24	34	22	24	22	6	14	36	41	26	17	386
3.01 TO 4.00	11	46	13	3	2	4	22	23	10	11	5	18	20	31	28	22	269
4.01 TO 5.00	6	53	22	3	1	1	21	13	10	0	2	2	1	18	14	2	169
5.01 TO 6.00	5	38	15	6	0	1	10	10	5	4	0	0	1	5	2	1	103
6.01 TO 7.00	0	19	13	7	1	0	1	2	1	4	3	1	2	4	1	0	59
7.01 TO 8.00	0	4	5	2	1	0	3	1	2	2	0	1	3	2	1	0	27
8.01 TO 9.00	0	2	2	4	1	0	1	0	0	1	0	0	0	2	0	0	13
9.01 TO 10.00	0	0	5	2	0	0	0	0	0	0	0	0	0	2	1	0	10
MORE THAN 10	0	0	3	0	0	0	0	0	0	0	0	0	0	3	1	0	7
TOTALS	77	265	157	64	50	76	154	111	86	69	41	61	91	134	102	60	1628

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	1.84
0.26 TO 0.50	0.00	.06	0.00	.18	0.00	0.00	.06	.06	.06	0.00	0.00	0.00	0.00	.06	0.00	.06	.55
0.51 TO 1.00	.25	.55	.92	.55	.55	.68	.68	.49	.31	.55	.25	.06	.25	.18	.18	.31	6.76
1.01 TO 1.50	.74	.92	.55	.86	.49	1.35	1.60	1.29	1.11	.68	.68	.74	.68	.43	.92	.43	13.45
1.51 TO 2.00	1.04	1.78	1.47	.43	.80	.80	1.47	.61	.61	.31	.61	.74	.80	.92	.61	.31	13.33
2.01 TO 3.00	1.35	3.01	1.90	.25	.86	1.47	2.09	1.35	1.47	1.35	.37	.86	2.21	2.52	1.60	1.04	23.71
3.01 TO 4.00	.68	2.83	.80	.18	.12	.25	1.35	1.41	.61	.68	.31	1.11	1.23	1.90	1.72	1.35	16.52
4.01 TO 5.00	.37	3.26	1.35	.18	.06	.06	1.29	.80	.61	0.00	.12	.12	.06	1.11	.86	.12	10.38
5.01 TO 6.00	.31	2.33	.92	.37	0.00	.06	.61	.61	.31	.25	0.00	0.00	.06	.31	.12	.06	6.33
6.01 TO 7.00	0.00	1.17	.80	.43	.06	0.00	.06	.12	.06	.25	.18	.06	.12	.25	.06	0.00	3.62
7.01 TO 8.00	0.00	.25	.31	.12	.06	0.00	.18	.06	.12	.12	0.00	.06	.18	.12	.06	0.00	1.66
8.01 TO 9.00	0.00	.12	.12	.25	.06	0.00	.06	0.00	0.00	.06	0.00	0.00	0.00	.12	0.00	0.00	.80
9.01 TO 10.00	0.00	0.00	.31	.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.12	.06	0.00	.61
MORE THAN 10	0.00	0.00	.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.18	.06	0.00	.43
TOTALS	4.73	16.28	9.64	3.93	3.07	4.67	9.46	6.82	5.28	4.24	2.52	3.75	5.59	8.23	6.27	3.69	100.00
AVE WIND SPEED	2.5	3.7	3.7	3.4	2.2	1.8	2.8	2.9	2.7	2.8	2.5	2.6	2.7	3.5	3.0	2.6	3.0

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 1628

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1471

Table 2.3H-16

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	66
0.26 TO 0.50	1	4	10	6	8	5	6	3	1	5	2	5	3	2	1	3	63
0.51 TO 1.00	22	15	24	19	13	16	21	10	7	14	12	8	9	8	9	10	217
1.01 TO 1.50	9	23	18	16	14	17	12	12	18	6	15	14	16	10	12	8	220
1.51 TO 2.00	15	28	23	7	10	15	11	16	11	15	7	12	16	24	14	12	236
2.01 TO 3.00	20	51	45	9	9	8	26	18	18	16	22	22	29	50	36	13	392
3.01 TO 4.00	19	40	53	7	5	12	21	12	18	8	12	11	21	36	29	17	321
4.01 TO 5.00	5	21	27	6	1	3	23	9	11	10	2	6	6	28	23	7	188
5.01 TO 6.00	2	11	13	5	1	3	18	7	6	2	3	2	4	6	12	6	101
6.01 TO 7.00	0	2	15	5	2	1	12	9	0	0	2	3	0	3	4	0	58
7.01 TO 8.00	0	1	9	2	0	1	8	4	1	0	3	3	1	6	7	1	46
8.01 TO 9.00	1	3	9	5	3	0	3	6	3	0	1	2	0	5	0	0	41
9.01 TO 10.00	0	1	4	3	2	1	5	6	1	1	0	1	0	0	0	0	25
MORE THAN 10	0	1	9	10	0	0	5	3	6	1	0	2	3	0	0	0	40
TOTALS	94	201	258	100.	68	82.	171	115	101	78	81	89	108	178	147	77	2014

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3.28
0.26 TO 0.50	.05	.20	.50	.30	.40	.25	.30	.15	.05	.25	.10	.15	.15	.10	.05	.15	3.13
0.51 TO 1.00	1.09	.74	1.19	.94	.65	.79	1.04	.50	.35	.70	.60	.40	.45	.40	.45	.50	10.77
1.01 TO 1.50	.45	1.14	.89	.79	.70	.84	.60	.60	.89	.30	.74	.70	.79	.50	.60	.40	10.92
1.51 TO 2.00	.74	1.39	1.14	.35	.50	.74	.55	.79	.55	.74	.35	.60	.79	1.19	.70	.60	11.72
2.01 TO 3.00	.99	2.53	2.23	.45	.45	.40	1.29	.89	.89	.79	1.09	1.09	1.44	2.48	1.79	.65	19.46
3.01 TO 4.00	.94	1.99	2.63	.35	.25	.60	1.04	.60	.89	.40	.60	.55	1.04	1.79	1.44	.84	15.94
4.01 TO 5.00	.25	1.04	1.34	.30	.05	.15	1.14	.45	.55	.50	.10	.30	.30	1.39	1.14	.35	9.33
5.01 TO 6.00	.10	.55	.65	.25	.05	.15	.89	.35	.30	.10	.15	.10	.20	.30	.60	.30	5.01
6.01 TO 7.00	0.00	.10	.74	.25	.10	.05	.60	.45	0.00	0.00	.10	.15	0.00	.15	.20	0.00	2.88
7.01 TO 8.00	0.00	.05	.40	.10	0.00	.05	.40	.20	.05	0.00	.15	.15	.05	.30	.35	.05	2.28
8.01 TO 9.00	.05	.15	.45	.25	.15	0.00	.15	.30	.15	0.00	.05	.10	0.00	.25	0.00	0.00	2.04
9.01 TO 10.00	0.00	.05	.20	.15	.10	.05	.25	.30	.05	.05	0.00	.05	0.00	0.00	0.00	0.00	1.24
MORE THAN 10	0.00	.05	.45	.50	0.00	0.00	.25	.15	.30	.05	0.00	.10	.15	0.00	0.00	0.00	1.99
TOTALS	4.67	9.98	12.81	4.97	3.38	4.07	8.49	5.71	5.01	3.87	4.02	4.42	5.36	8.84	7.30	3.82	100.00
AVE WIND SPEED	2.5	2.9	3.7	3.8	2.3	2.1	3.8	3.9	3.4	2.4	2.5	3.0	2.7	3.2	3.5	2.6	3.0

TOTAL POSSIBLE CASES - 2016

NUMBER CASES USED IN ABOVE TABLE - 2014

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1314

Table 2.3H-17

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

SUMMARY WIND RUSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	14
0.26 TO 0.50	6	2	5	3	0	2	4	1	3	2	1	0	2	1	2	2	36
0.51 TO 1.00	9	7	22	16	12	16	17	6	4	8	5	8	10	11	3	10	164
1.01 TO 1.50	17	19	19	12	15	9	12	10	8	6	14	4	8	6	6	10	175
1.51 TO 2.00	22	22	19	9	4	11	14	10	16	13	7	14	12	13	7	12	205
2.01 TO 3.00	39	43	22	9	8	21	46	23	23	17	26	25	37	28	23	17	407
3.01 TO 4.00	22	30	14	0	9	21	39	32	30	19	15	29	43	42	26	14	385
4.01 TO 5.00	20	28	11	1	7	8	29	22	23	16	9	18	22	34	17	5	270
5.01 TO 6.00	6	18	2	0	1	7	13	18	14	11	6	7	15	23	12	2	155
6.01 TO 7.00	1	5	0	0	0	5	16	9	6	8	9	6	13	16	13	4	111
7.01 TO 8.00	5	2	3	1	0	1	11	4	7	6	3	6	9	13	7	0	78
8.01 TO 9.00	1	3	3	0	0	0	7	5	8	3	4	2	11	25	5	1	78
9.01 TO 10.00	1	5	1	0	0	0	11	5	3	3	4	6	16	23	0	0	78
MORE THAN 10	0	0	1	0	0	0	4	4	8	0	2	1	10	8	2	0	40
TOTALS	149	184	122	51	56	101	223	149	153	112	105	126	208	243	123	77	2196

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.64
0.26 TO 0.50	.27	.09	.23	.14	0.00	.09	.18	.05	.14	.09	.05	0.00	.09	.05	.09	.09	1.64
0.51 TO 1.00	.41	.32	1.00	.73	.55	.73	.77	.27	.18	.36	.23	.36	.46	.50	.14	.46	7.47
1.01 TO 1.50	.77	.87	.87	.55	.68	.41	.55	.46	.36	.27	.64	.18	.36	.27	.27	.46	7.97
1.51 TO 2.00	1.00	1.00	.87	.41	.18	.50	.64	.46	.73	.59	.32	.64	.55	.59	.32	.55	9.34
2.01 TO 3.00	1.78	1.96	1.00	.41	.36	.96	2.09	1.05	1.05	.77	1.18	1.14	1.68	1.28	1.05	.77	18.53
3.01 TO 4.00	1.00	1.37	.64	0.00	.41	.96	1.78	1.46	1.37	.87	.68	1.32	1.96	1.91	1.18	.64	17.53
4.01 TO 5.00	.91	1.28	.50	.05	.32	.36	1.32	1.00	1.05	.73	.41	.82	1.00	1.55	.77	.23	12.30
5.01 TO 6.00	.27	.82	.09	0.00	.05	.32	.59	.82	.64	.50	.27	.32	.68	1.05	.55	.09	7.06
6.01 TO 7.00	.05	.23	0.00	0.00	0.00	.23	.73	.41	.27	.36	.41	.27	.59	.73	.59	.18	5.05
7.01 TO 8.00	.23	.09	.14	.05	0.00	.05	.50	.18	.32	.27	.14	.27	.41	.59	.32	0.00	3.55
8.01 TO 9.00	.05	.14	.14	0.00	0.00	0.00	.32	.23	.36	.14	.18	.09	.50	1.14	.23	.05	3.55
9.01 TO 10.00	.05	.23	.05	0.00	0.00	0.00	.50	.23	.14	.14	.18	.27	.73	1.05	0.00	0.00	3.55
MORE THAN 10	0.00	0.00	.05	0.00	0.00	0.00	.18	.18	.36	0.00	.09	.05	.46	.36	.09	0.00	1.82
TOTALS	6.79	8.38	5.55	2.52	2.55	4.60	10.15	6.79	6.97	5.10	4.78	5.74	9.47	11.07	5.60	3.51	100.00
AVE WIND SPEED	2.8	3.4	2.5	1.5	2.2	2.8	4.0	4.2	4.3	3.8	3.8	3.9	4.6	5.2	4.2	2.6	3.8

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 2196

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1592

Table 2.3H-18

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	7
0.26 TO 0.50	3	0	1	1	4	3	3	5	1	1	1	1	3	0	1	3	31
0.51 TO 1.00	17	14	18	13	20	10	13	9	5	8	5	13	7	7	8	10	177
1.01 TO 1.50	23	23	13	13	15	15	12	11	13	18	7	16	9	11	7	11	217
1.51 TO 2.00	18	25	14	14	18	13	11	14	15	16	10	18	12	10	12	7	227
2.01 TO 3.00	24	60	24	9	16	19	39	32	23	33	44	54	54	37	15	10	493
3.01 TO 4.00	21	26	16	2	3	11	34	29	20	34	30	47	47	44	18	10	392
4.01 TO 5.00	11	31	8	5	3	6	16	26	17	12	20	13	27	38	14	5	252
5.01 TO 6.00	10	14	6	6	3	3	5	16	6	2	7	5	9	24	17	3	136
6.01 TO 7.00	4	6	3	3	1	4	3	7	3	1	2	4	14	22	13	7	97
7.01 TO 8.00	1	3	3	0	2	1	0	0	0	0	1	2	6	16	5	2	42
8.01 TO 9.00	0	0	1	0	1	1	0	0	3	0	0	1	9	10	4	0	30
9.01 TO 10.00	0	2	0	0	5	3	1	0	0	0	0	1	3	4	7	0	26
MORE THAN 10	0	3	2	0	1	1	0	0	0	0	0	1	2	15	2	0	27
TOTALS	132	207	109	66	92	90	137	149	106	125	127	176	202	238	123	68	2154

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.32
0.26 TO 0.50	.14	0.00	.05	.05	.19	.14	.14	.23	.05	.05	.05	.05	.14	0.00	.05	.14	1.44
0.51 TO 1.00	.79	.65	.84	.60	.93	.46	.60	.42	.23	.37	.23	.60	.32	.32	.37	.46	8.22
1.01 TO 1.50	1.07	1.07	.60	.60	.70	.70	.56	.51	.60	.84	.32	.74	.42	.51	.32	.51	10.07
1.51 TO 2.00	.84	1.16	.65	.65	.84	.60	.51	.65	.70	.74	.46	.84	.56	.46	.56	.32	10.54
2.01 TO 3.00	1.11	2.79	1.11	.42	.74	.88	1.81	1.49	1.07	1.53	2.04	2.51	2.51	1.72	.70	.46	22.89
3.01 TO 4.00	.97	1.21	.74	.09	.14	.51	1.58	1.35	.93	1.58	1.39	2.18	2.18	2.04	.84	.46	18.20
4.01 TO 5.00	.51	1.44	.37	.23	.14	.28	.74	1.21	.79	.56	.93	.60	1.25	1.76	.65	.23	11.70
5.01 TO 6.00	.46	.65	.23	.28	.14	.14	.23	.74	.28	.09	.32	.23	.42	1.11	.79	.14	6.31
6.01 TO 7.00	.19	.28	.14	.14	.05	.19	.14	.32	.14	.05	.09	.19	.65	1.02	.60	.32	4.50
7.01 TO 8.00	.05	.14	.14	0.00	.09	.05	0.00	0.00	0.00	0.00	.05	.09	.28	.74	.23	.09	1.95
8.01 TO 9.00	0.00	0.00	.05	0.00	.05	.05	0.00	0.00	.14	0.00	0.00	.05	.42	.46	.19	0.00	1.39
9.01 TO 10.00	0.00	.09	0.00	0.00	.23	.14	.05	0.00	0.00	0.00	0.00	.05	.14	.19	.32	0.00	1.21
MORE THAN 10	0.00	.14	.09	0.00	.05	.05	0.00	0.00	0.00	0.00	0.00	.05	.09	.70	.09	0.00	1.25
TOTALS	6.13	9.61	5.05	3.06	4.27	4.18	6.56	6.92	4.92	5.80	5.90	8.17	9.38	11.05	5.71	3.16	100.00
AVE WIND SPEED	2.6	3.1	2.9	2.3	2.6	2.9	2.8	3.2	3.1	2.6	3.1	2.9	3.8	4.8	4.3	2.8	3.3

TOTAL POSSIBLE CASES - 2160

NUMBER CASES USED IN ABOVE TABLE - 2154

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2102

Amended: April 2009 TL: E048000

Table 2.3H-19

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	6
0.26 TO 0.50	1	2	1	2	1	1	0	0	2	1	1	2	4	1	1	1	21
0.51 TO 1.00	6	8	7	8	7	4	12	6	4	10	7	5	12	6	7	11	120
1.01 TO 1.50	13	3	11	6	9	14	17	14	22	14	21	11	15	5	4	9	188
1.51 TO 2.00	22	16	11	12	17	11	25	28	22	25	26	19	14	4	7	15	274
2.01 TO 3.00	33	24	10	8	14	33	54	45	57	55	59	77	38	21	14	12	554
3.01 TO 4.00	7	14	10	2	4	23	53	40	48	53	56	63	51	31	15	9	479
4.01 TO 5.00	8	7	7	0	2	7	30	32	31	27	21	34	40	20	7	2	275
5.01 TO 6.00	0	1	0	0	0	0	13	28	18	8	9	15	22	16	13	2	145
6.01 TO 7.00	0	1	0	0	0	4	4	9	7	4	4	3	7	8	7	0	58
7.01 TO 8.00	0	0	0	0	0	3	4	4	8	1	2	0	2	7	3	1	35
8.01 TO 9.00	0	0	0	0	0	2	0	1	1	4	2	1	2	10	3	0	26
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	2	1	1	8	0	0	12
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
TOTALS	90	76	57	38	54	102	212	207	220	202	210	231	208	140	81	62	2196

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.27
0.26 TO 0.50	.05	.09	.05	.09	.05	.05	0.00	0.00	.09	.05	.05	.09	.18	.05	.05	.05	.96
0.51 TO 1.00	.27	.36	.32	.36	.32	.18	.55	.27	.18	.46	.32	.23	.55	.27	.32	.50	5.46
1.01 TO 1.50	.59	.14	.50	.27	.41	.64	.77	.64	1.00	.64	.96	.50	.68	.23	.18	.41	8.56
1.51 TO 2.00	1.00	.73	.50	.55	.77	.50	1.14	1.28	1.00	1.14	1.18	.87	.64	.18	.32	.68	12.48
2.01 TO 3.00	1.50	1.09	.46	.36	.64	1.50	2.46	2.05	2.60	2.50	2.69	3.51	1.73	.96	.64	.55	25.23
3.01 TO 4.00	.32	.64	.46	.09	.18	1.05	2.41	1.82	2.19	2.41	2.55	2.87	2.32	1.41	.68	.41	21.81
4.01 TO 5.00	.36	.32	.32	0.00	.09	.32	1.37	1.46	1.41	1.23	.96	1.55	1.82	.91	.32	.09	12.52
5.01 TO 6.00	0.00	.05	0.00	0.00	0.00	0.00	.59	1.28	.82	.36	.41	.68	1.00	.73	.59	.09	6.60
6.01 TO 7.00	0.00	.05	0.00	0.00	0.00	.18	.18	.41	.32	.18	.18	.14	.32	.36	.32	0.00	2.64
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	.14	.18	.18	.36	.05	.09	0.00	.09	.32	.14	.05	1.59
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	.09	0.00	.05	.05	.18	.09	.05	.09	.46	.14	0.00	1.18
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.05	.05	.36	0.00	0.00	.55
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	.14
TOTALS	4.10	3.46	2.60	1.73	2.46	4.64	9.65	9.43	10.02	9.20	9.56	10.52	9.47	6.38	3.69	2.82	100.00
AVE WIND SPEED	2.2	2.5	2.2	1.6	1.9	2.9	3.1	3.5	3.3	3.1	3.0	3.2	3.4	4.6	3.8	2.2	3.1

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 2196

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2010

Table 2.3H-20

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N.	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	0	1	0	0	1	0	0	0	0	2	0	0	2	0	1	2	9
0.51 TO 1.00	7	3	5	2	4	5	1	3	7	2	4	4	2	3	2	5	59
1.01 TO 1.50	8	9	8	6	7	5	9	5	14	9	10	9	9	4	6	9	127
1.51 TO 2.00	17	8	1	4	8	10	12	12	12	12	9	13	8	11	8	9	154
2.01 TO 3.00	30	20	4	2	10	19	28	25	35	34	45	41	28	23	14	9	367
3.01 TO 4.00	13	15	1	0	3	25	36	28	30	36	43	37	43	29	6	7	352
4.01 TO 5.00	7	9	0	0	0	3	19	16	18	13	14	18	47	21	6	3	194
5.01 TO 6.00	5	3	0	0	0	0	4	8	7	6	4	11	33	24	4	0	109
6.01 TO 7.00	0	2	0	0	0	0	2	3	1	0	0	4	12	18	6	0	48
7.01 TO 8.00	0	0	0	0	0	1	0	0	0	0	0	2	3	9	5	0	20
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
TOTALS	87	70	19	14	33	68	111	100	124	114	129	139	187	146	62	44	1450

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.21
0.26 TO 0.50	0.00	.07	0.00	0.00	.07	0.00	0.00	0.00	0.00	.14	0.00	0.00	.14	0.00	.07	.14	.62
0.51 TO 1.00	.48	.21	.34	.14	.28	.34	.07	.21	.48	.14	.28	.28	.14	.21	.14	.34	4.07
1.01 TO 1.50	.55	.62	.55	.41	.48	.34	.62	.34	.97	.62	.69	.62	.62	.28	.41	.62	8.76
1.51 TO 2.00	1.17	.55	.07	.28	.55	.69	.83	.83	.83	.83	.62	.90	.55	.76	.55	.62	10.62
2.01 TO 3.00	2.07	1.38	.28	.14	.69	1.31	1.93	1.72	2.41	2.34	3.10	2.83	1.93	1.59	.97	.62	25.31
3.01 TO 4.00	.90	1.03	.07	0.00	.21	1.72	2.48	1.93	2.07	2.48	2.97	2.55	2.97	2.00	.41	.48	24.28
4.01 TO 5.00	.48	.62	0.00	0.00	0.00	.21	1.31	1.10	1.24	.90	.97	1.24	3.24	1.45	.41	.21	13.38
5.01 TO 6.00	.34	.21	0.00	0.00	0.00	0.00	.28	.55	.48	.41	.28	.76	2.28	1.66	.28	0.00	7.52
6.01 TO 7.00	0.00	.14	0.00	0.00	0.00	0.00	.14	.21	.07	0.00	0.00	.28	.83	1.24	.41	0.00	3.31
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	0.00	.14	.21	.62	.34	0.00	1.38
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	.07	0.00	.21
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.14	0.00	.21
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	.14
TOTALS	6.00	4.83	1.31	.97	2.28	4.69	7.66	6.90	8.55	7.86	8.90	9.59	12.90	10.07	4.28	3.03	100.00
AVE WIND SPEED	2.6	2.9	1.5	1.5	1.8	2.7	3.1	3.3	2.9	2.9	3.0	3.3	3.9	4.3	3.9	2.1	3.2

TOTAL POSSIBLE CASES - 2160

NUMBER CASES USED IN ABOVE TABLE - 1450

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1417

Amended: April 2009 TL: E048000

Table 2.3H-21

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	5
0.26 TO 0.50	2	0	0	0	0	0	0	0	0	1	1	1	1	2	0	1	9
0.51 TO 1.00	7	6	3	11	13	3	5	7	7	15	13	6	8	8	12	6	130
1.01 TO 1.50	21	15	13	8	10	9	15	20	24	11	17	16	20	12	14	17	242
1.51 TO 2.00	17	23	6	5	4	13	16	17	26	29	26	34	26	21	16	24	305
2.01 TO 3.00	23	30	15	6	7	24	43	56	39	56	84	76	78	46	21	22	626
3.01 TO 4.00	6	13	2	1	4	9	42	46	59	51	49	76	85	53	11	5	492
4.01 TO 5.00	3	6	0	0	0	2	17	21	37	20	18	25	57	43	7	0	256
5.01 TO 6.00	1	0	0	0	0	0	9	32	17	8	0	3	11	22	6	0	109
6.01 TO 7.00	0	0	0	0	0	0	2	11	8	0	0	0	4	17	3	0	45
7.01 TO 8.00	0	0	0	0	0	0	0	6	0	0	0	0	0	3	3	0	12
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	80	93	39	31	38	60	149	216	197	191	208	237	290	228	93	75	2230

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.22
0.26 TO 0.50	.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	.04	.04	.04	.09	0.00	.04	.40
0.51 TO 1.00	.31	.27	.13	.49	.58	.13	.22	.31	.31	.67	.58	.27	.36	.36	.54	.27	5.83
1.01 TO 1.50	.94	.67	.58	.36	.45	.40	.67	.90	1.08	.49	.76	.72	.90	.54	.63	.76	10.85
1.51 TO 2.00	.76	1.03	.27	.22	.18	.58	.72	.76	1.17	1.30	1.17	1.52	1.17	.94	.72	1.08	13.59
2.01 TO 3.00	1.03	1.35	.67	.27	.31	1.08	1.93	2.51	1.75	2.51	3.77	3.41	3.50	2.06	.94	.99	28.07
3.01 TO 4.00	.27	.58	.09	.04	.18	.40	1.88	2.06	1.75	2.29	2.20	3.41	3.81	2.38	.49	.22	22.06
4.01 TO 5.00	.13	.27	0.00	0.00	0.00	.09	.76	.94	1.66	.90	.81	1.12	2.56	1.93	.31	0.00	11.48
5.01 TO 6.00	.04	0.00	0.00	0.00	0.00	0.00	.40	1.43	.76	.36	0.00	.13	.49	.99	.27	0.00	4.89
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.09	.49	.36	0.00	0.00	0.00	.18	.76	.13	0.00	2.02
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.27	0.00	0.00	0.00	0.00	0.00	.13	.13	0.00	.54
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.04	0.00	0.00	.04
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	3.59	4.17	1.75	1.39	1.70	2.69	6.68	9.69	8.85	8.57	9.33	10.63	13.00	10.22	4.17	3.36	100.00
AVE WIND SPEED	2.0	2.2	1.9	1.4	1.6	2.2	2.9	3.5	3.2	2.7	2.6	2.8	3.1	3.6	2.7	1.8	2.8

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 2230

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 2228

Table 2.3H-22

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	2
0.26 TO 0.50	1	1	0	0	1	1	0	1	1	0	3	2	2	1	0	1	15
0.51 TO 1.00	11	8	3	7	6	7	7	7	7	10	11	10	7	11	6	10	128
1.01 TO 1.50	27	19	10	6	2	4	13	13	14	5	11	9	12	19	12	18	194
1.51 TO 2.00	24	33	11	4	4	5	10	14	13	18	9	23	28	23	20	20	259
2.01 TO 3.00	28	25	15	3	6	15	25	27	26	30	43	50	53	40	27	21	436
3.01 TO 4.00	9	36	4	0	1	7	18	25	17	19	21	43	102	43	17	7	367
4.01 TO 5.00	3	7	1	0	0	5	15	11	19	11	17	22	83	57	11	0	262
5.01 TO 6.00	0	2	0	0	0	0	5	11	8	5	1	5	26	39	6	0	108
6.01 TO 7.00	0	0	0	0	0	0	2	2	3	0	0	0	4	15	3	0	29
7.01 TO 8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
TOTALS	103	131	44	20	20	44	95	109	110	98	116	164	317	253	102	77	1805

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.11
0.26 TO 0.50	.06	.06	0.00	0.00	.06	.06	0.00	.06	.06	0.00	.17	.11	.11	.06	0.00	.06	.83
0.51 TO 1.00	.61	.44	.17	.39	.33	.39	.39	.39	.39	.55	.61	.55	.39	.61	.33	.55	7.09
1.01 TO 1.50	1.50	1.05	.55	.33	.11	.22	.72	.72	.78	.28	.61	.50	.66	1.05	.66	1.00	10.75
1.51 TO 2.00	1.33	1.83	.61	.22	.22	.28	.55	.78	.72	1.00	.50	1.27	1.55	1.27	1.11	1.11	14.35
2.01 TO 3.00	1.55	1.39	.83	.17	.33	.83	1.39	1.50	1.55	1.66	2.38	2.77	2.94	2.22	1.50	1.16	24.16
3.01 TO 4.00	.50	1.99	.22	0.00	.06	.39	1.00	1.27	.94	1.05	1.16	2.38	5.65	2.38	.94	.39	20.33
4.01 TO 5.00	.17	.39	.06	0.00	0.00	.28	.83	.61	1.05	.61	.94	1.22	4.60	3.16	.61	0.00	14.52
5.01 TO 6.00	0.00	.11	0.00	0.00	0.00	0.00	.28	.61	.44	.28	.06	.28	1.44	2.16	.33	0.00	5.98
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	.11	.17	0.00	0.00	0.00	.22	.83	.17	0.00	1.61
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.06	0.00	0.00	.06
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	.11
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.11	0.00	0.00	.11
TOTALS	5.71	7.26	2.44	1.11	1.11	2.44	5.26	6.04	6.09	5.43	6.43	9.09	17.56	14.02	5.65	4.27	100.00
AVE WIND SPEED	1.9	2.4	2.0	1.3	1.5	2.3	2.9	2.9	3.0	2.7	2.6	2.8	3.5	3.7	2.7	1.8	2.9

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 1805

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1805

Table 2.3H-23

DATA FROM 1/25/73 TO 1/20/76SEPTEMBER LEVEL = 36.6 m

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	9
0.26 TO 0.50	1	0	2	1	1	2	1	2	0	5	2	1	0	4	1	1	22
0.51 TO 1.00	9	6	3	5	7	7	14	7	8	6	4	8	6	11	7	5	113
1.01 TO 1.50	17	8	5	5	0	5	11	9	12	5	9	12	12	13	10	10	143
1.51 TO 2.00	8	12	6	1	6	12	18	17	7	16	13	11	15	7	10	10	169
2.01 TO 3.00	22	21	12	4	6	17	23	33	34	17	25	34	45	30	15	15	353
3.01 TO 4.00	9	19	4	1	2	9	14	26	11	15	15	26	59	38	15	7	270
4.01 TO 5.00	8	8	2	0	1	0	8	18	10	10	8	7	27	30	12	2	151
5.01 TO 6.00	3	3	0	0	0	1	0	8	3	3	4	0	14	22	10	0	71
6.01 TO 7.00	0	0	0	0	0	0	0	2	1	0	0	0	8	10	2	0	23
7.01 TO 8.00	0	0	0	0	0	0	0	2	0	0	0	0	0	4	1	0	7
8.01 TO 9.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	77	77	34	17	23	53	89	125	86	75	80	99	186	169	83	50	1332

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.68
0.26 TO 0.50	.08	0.00	.15	.08	.08	.15	.08	.15	0.00	.23	.15	.08	0.00	.30	.08	.08	1.65
0.51 TO 1.00	.68	.45	.23	.38	.53	.53	1.05	.53	.60	.45	.30	.60	.45	.83	.53	.38	8.48
1.01 TO 1.50	1.28	.60	.38	.38	0.00	.38	.83	.68	.90	.38	.68	.90	.90	.98	.75	.75	10.74
1.51 TO 2.00	.60	.90	.45	.08	.45	.90	1.35	1.28	.53	1.20	.98	.83	1.13	.53	.75	.75	12.69
2.01 TO 3.00	1.65	1.58	.90	.30	.45	1.28	1.73	2.48	2.55	1.28	1.88	2.55	3.38	2.25	1.13	1.13	26.50
3.01 TO 4.00	.68	1.43	.30	.08	.15	.68	1.05	1.95	.83	1.13	1.13	1.95	4.43	2.85	1.13	.53	20.27
4.01 TO 5.00	.60	.60	.15	0.00	.08	0.00	.60	1.35	.75	.75	.60	.53	2.03	2.25	.90	.15	11.34
5.01 TO 6.00	.23	.23	0.00	0.00	0.00	.08	0.00	.60	.23	.23	.30	0.00	1.05	1.65	.75	0.00	5.33
6.01 TO 7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	.08	0.00	0.00	0.00	.60	.75	.15	0.00	1.73
7.01 TO 8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.15	0.00	0.00	0.00	0.00	0.00	.30	.08	0.00	.53
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	5.78	5.78	2.55	1.28	1.73	3.98	6.68	9.38	6.46	5.63	6.01	7.43	13.96	12.69	6.23	3.75	100.00
AVE WIND SPEED	2.3	2.7	2.1	1.4	1.8	2.1	2.2	3.0	2.6	2.6	2.6	2.5	3.3	3.5	3.1	2.0	2.7

TOTAL POSSIBLE CASES - 2160

NUMBER CASES USED IN ABOVE TABLE - 1332

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1301

Table 2.3H-24

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	7
0.26 TO 0.50	2	0	2	1	0	2	2	1	0	1	2	0	0	0	0	0	13
0.51 TO 1.00	1	2	4	5	7	6	1	4	4	1	0	0	3	2	3	2	45
1.01 TO 1.50	13	11	15	13	13	9	11	6	9	5	1	4	6	6	2	4	129
1.51 TO 2.00	15	17	18	4	7	12	15	7	9	6	7	11	9	3	9	4	153
2.01 TO 3.00	36	34	31	3	6	17	14	12	18	18	18	17	20	14	20	20	298
3.01 TO 4.00	24	35	22	1	5	6	12	7	15	14	13	21	32	27	24	15	273
4.01 TO 5.00	12	19	7	0	0	4	6	9	3	5	5	7	29	25	14	5	150
5.01 TO 6.00	3	6	1	0	1	3	6	1	0	0	1	3	8	23	4	2	62
6.01 TO 7.00	3	5	1	0	0	1	1	0	0	0	0	1	6	14	5	1	38
7.01 TO 8.00	1	2	0	0	0	0	0	0	0	0	0	0	3	2	1	0	9
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	4
MORE THAN 10	0	0	0	0	0	0	0	0	0	1	1	0	1	13	3	0	19
TOTALS	110	131	102	27	39	60	68	47	58	51	49	64	119	131	85	53	1201

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.58
0.26 TO 0.50	.17	0.00	.17	.08	0.00	.17	.17	.08	0.00	.08	.17	0.00	0.00	0.00	0.00	0.00	1.08
0.51 TO 1.00	.08	.17	.33	.42	.58	.50	.08	.33	.33	.08	0.00	0.00	.25	.17	.25	.17	3.75
1.01 TO 1.50	1.08	.92	1.33	1.08	1.08	.75	.92	.50	.75	.42	.08	.33	.50	.50	.17	.33	10.74
1.51 TO 2.00	1.25	1.42	1.50	.33	.58	1.00	1.25	.58	.75	.50	.58	.92	.75	.25	.75	.33	12.74
2.01 TO 3.00	3.00	2.83	2.58	.25	.50	1.42	1.17	1.00	1.50	1.50	1.50	1.42	1.67	1.17	1.67	1.67	24.81
3.01 TO 4.00	2.00	2.91	1.83	.08	.42	.50	1.00	.58	1.25	1.17	1.08	1.75	2.66	2.25	2.00	1.25	22.73
4.01 TO 5.00	1.00	1.58	.58	0.00	0.00	.33	.50	.75	.25	.42	.42	.58	2.41	2.08	1.17	.42	12.49
5.01 TO 6.00	.25	.50	.08	0.00	.08	.25	.50	.08	0.00	0.00	.08	.25	.67	1.92	.33	.17	5.16
6.01 TO 7.00	.25	.42	.08	0.00	0.00	.08	.08	0.00	0.00	0.00	0.00	.08	.50	1.17	.42	.08	3.16
7.01 TO 8.00	.08	.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.25	.17	.08	0.00	.75
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	0.00	.08	0.00	0.00	0.00	.08
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	.08	.17	0.00	0.00	.33
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.08	.08	0.00	.08	1.08	.25	0.00	1.58
TOTALS	9.16	10.91	8.49	2.25	3.25	5.00	5.66	3.91	4.83	4.25	4.08	5.33	9.91	10.91	7.08	4.41	100.00
AVE WIND SPEED	2.9	3.2	2.5	1.4	1.8	2.4	2.7	2.6	2.4	2.8	3.2	3.0	3.8	5.2	3.7	2.9	3.1

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 4201

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1177

Table 2.3H-25

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0
0.26 TO 0.50	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	2	5
0.51 TO 1.00	3	5	1	4	5	1	1	2	6	1	2	4	1	5	4	3	46
1.01 TO 1.50	7	17	8	7	13	5	14	10	5	14	10	8	6	9	3	6	142
1.51 TO 2.00	18	16	14	11	11	13	14	9	6	8	13	11	15	13	9	7	188
2.01 TO 3.00	27	42	25	11	14	21	25	20	18	12	13	24	35	27	21	14	350
3.01 TO 4.00	21	55	29	7	4	14	18	15	15	8	7	12	34	36	11	20	306
4.01 TO 5.00	15	44	10	2	0	2	11	10	3	3	2	0	12	29	21	7	171
5.01 TO 6.00	10	39	7	0	0	1	7	0	2	2	2	0	2	9	4	5	90
6.01 TO 7.00	1	25	3	0	0	0	3	1	0	1	0	1	0	5	4	0	44
7.01 TO 8.00	0	11	2	0	0	0	0	1	0	1	0	2	3	1	0	0	21
8.01 TO 9.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3
9.01 TO 10.00	0	0	0	0	0	0	0	0	0	1	0	5	6	1	0	0	13
MORE THAN 10	0	0	0	0	0	0	0	0	0	0	1	1	4	0	1	0	7
TOTALS	102	255	100	42	47	57	93	68	55	51	50	68	122	133	79	64	1386

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	0.00
0.26 TO 0.50	0.00	.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	0.00	.14	.36
0.51 TO 1.00	.22	.36	.07	.29	.36	.07	.07	.14	.43	.07	.14	.29	.07	.22	.29	.22	3.32
1.01 TO 1.50	.51	1.23	.58	.51	.94	.36	1.01	.72	.36	1.01	.72	.58	.43	.65	.22	.43	10.25
1.51 TO 2.00	1.30	1.15	1.01	.79	.79	.94	1.01	.65	.43	.58	.94	.79	1.08	.94	.65	.51	13.56
2.01 TO 3.00	1.95	3.03	1.88	.79	1.01	1.52	1.80	1.44	1.30	.87	.94	1.73	2.53	1.95	1.52	1.01	25.25
3.01 TO 4.00	1.52	3.97	2.09	.51	.29	1.01	1.30	1.08	1.08	.58	.51	.87	2.45	2.60	.79	1.44	22.08
4.01 TO 5.00	1.08	3.17	.72	.14	0.00	.14	.79	.72	.22	.22	.14	0.00	.87	2.09	1.52	.51	12.34
5.01 TO 6.00	.72	2.81	.51	0.00	0.00	.07	.51	0.00	.14	.14	.14	0.00	.14	.65	.29	.36	6.49
6.01 TO 7.00	.07	1.80	.22	0.00	0.00	0.00	.22	.07	0.00	.07	0.00	.07	0.00	.36	.29	0.00	3.17
7.01 TO 8.00	0.00	.79	.14	0.00	0.00	0.00	0.00	.07	0.00	.07	0.00	.14	.22	.07	0.00	0.00	1.52
8.01 TO 9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.14	0.00	.07	0.00	.22
9.01 TO 10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	0.00	.36	.43	.07	0.00	0.00	.94
MORE THAN 10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.07	.07	.29	0.00	.07	0.00	.51
TOTALS	7.36	18.40	7.22	3.03	3.39	4.11	6.71	4.91	3.97	3.68	3.61	4.91	8.80	9.60	5.70	4.62	100.00
AVE WIND SPEED	3.0	3.9	3.2	2.2	1.9	2.5	2.9	2.7	2.6	2.7	2.4	3.2	3.6	3.5	3.5	2.8	3.2

TOTAL POSSIBLE CASES - 2160

NUMBER CASES USED IN ABOVE TABLE - 1386

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1385

Table 2.3H-26

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

SUMMARY WIND ROSE

ALL STABILITY CATEGORIES -

DISTRIBUTION BY SPEED AND DIRECTION (NUMBER)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	3
0.26 TO 0.50	1	0	0	0	0	2	1	0	0	0	1	0	0	0	0	1	6
0.51 TO 1.00	3	6	3	6	4	14	5	4	5	4	4	4	3	7	1	4	77
1.01 TO 1.50	11	10	16	10	24	18	26	11	7	5	10	15	14	3	9	4	193
1.51 TO 2.00	17	19	16	20	12	16	21	10	7	13	11	13	7	10	5	7	204
2.01 TO 3.00	27	54	29	10	13	26	29	16	18	13	12	12	19	38	16	19	331
3.01 TO 4.00	17	34	32	7	7	5	23	16	9	4	2	9	10	37	14	8	234
4.01 TO 5.00	10	23	26	2	3	3	19	7	5	2	1	4	6	17	10	8	144
5.01 TO 6.00	5	27	17	5	1	2	13	5	3	0	1	3	3	7	5	4	101
6.01 TO 7.00	3	17	17	2	0	0	1	1	1	1	0	0	1	2	1	3	50
7.01 TO 8.00	3	14	20	2	1	1	3	2	2	1	1	0	2	0	3	0	55
8.01 TO 9.00	1	8	6	3	0	1	2	1	2	0	0	0	1	2	1	1	29
9.01 TO 10.00	0	5	2	2	5	0	5	0	0	0	0	0	1	1	0	0	21
MORE THAN 10	1	3	3	1	1	1	11	1	0	2	0	0	0	1	0	0	25
TOTALS	99	200	187	70	71	89	159	74	57	45	43	60	67	125	65	59	1473

FREQUENCY OF OCCURRENCE (IN PERCENT OF TOTAL OBS)

SPEED(MPS)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALMS																	.20
0.26 TO 0.50	.07	0.00	0.00	0.00	0.00	.14	.07	0.00	0.00	0.00	.07	0.00	0.00	0.00	0.00	.07	.41
0.51 TO 1.00	.20	.41	.20	.41	.27	.95	.34	.27	.34	.27	.27	.27	.20	.48	.07	.27	5.23
1.01 TO 1.50	.75	.68	1.09	.68	1.63	1.22	1.77	.75	.48	.34	.68	1.02	.95	.20	.61	.27	13.10
1.51 TO 2.00	1.15	1.29	1.09	1.36	.81	1.09	1.43	.68	.48	.88	.75	.88	.48	.68	.34	.48	13.85
2.01 TO 3.00	1.83	2.31	1.97	.68	.88	1.77	1.97	1.09	1.22	.88	.81	.81	1.29	2.58	1.09	1.29	22.47
3.01 TO 4.00	1.15	2.31	2.17	.48	.48	.34	1.56	1.09	.61	.27	.14	.61	.68	2.51	.95	.54	15.89
4.01 TO 5.00	.68	1.56	1.77	.14	.20	.20	1.29	.48	.20	.14	.07	.27	.41	1.15	.68	.54	9.78
5.01 TO 6.00	.34	1.83	1.15	.34	.07	.14	.88	.34	.20	0.00	.07	.20	.20	.48	.34	.27	6.86
6.01 TO 7.00	.20	1.15	1.15	.14	0.00	0.00	.07	.07	.07	.07	0.00	0.00	.07	.14	.07	.20	3.39
7.01 TO 8.00	.20	.95	1.36	.14	.07	.07	.20	.14	.14	.07	.07	0.00	.14	0.00	.20	0.00	3.73
8.01 TO 9.00	.07	.54	.41	.20	0.00	.07	.14	.07	.14	0.00	0.00	0.00	.07	.14	.07	.07	1.97
9.01 TO 10.00	0.00	.34	.14	.14	.34	0.00	.34	0.00	0.00	0.00	0.00	0.00	.07	.07	0.00	0.00	1.43
MORE THAN 10	.07	.20	.20	.07	.07	.07	.75	.07	0.00	.14	0.00	0.00	0.00	.07	0.00	0.00	1.70
TOTALS	6.72	13.58	12.70	4.75	4.82	6.04	10.79	5.02	3.87	3.05	2.92	4.07	4.55	8.49	4.41	4.01	100.00
AVE WIND SPEED	3.1	4.3	4.3	3.1	2.7	2.2	3.8	3.1	3.0	2.8	2.1	2.3	2.9	3.3	3.4	3.1	3.4

TOTAL POSSIBLE CASES - 2232

NUMBER CASES USED IN ABOVE TABLE - 1473

NUMBER CASES WITH STABILITY CATEGORY AVAILABLE - 1473

APPENDIX 2.3I

ANNUAL AND MONTHLY WIND DIRECTION PERSISTENCE (DURATION) SUMMARIES AT 10 METER AND 36.6/40 METER WIND LEVELS FOR THE SAN ONOFRE PLANT SITE

(TABLES 2.3I-1 THROUGH 2.3I-26)

Site File Copy

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Table 2.3I-1

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	625	1024	895	473	315	365	556	745	769	755	709	722	800	743	586	533	10615
2.	85	349	297	76	34	47	141	238	214	176	146	213	256	247	187	92	2798
3.	16	125	143	14	6	21	43	83	76	68	60	72	106	132	64	22	1051
4.	2	57	68	7	3	5	21	35	26	26	19	32	38	82	37	3	461
5.	1	25	58	3	0	3	10	15	7	11	6	13	29	38	20	2	241
6.	1	15	33	0	0	0	7	8	6	4	5	3	19	24	15	0	140
7.	0	7	26	1	0	0	5	2	3	4	0	3	9	19	4	0	83
8.	0	7	12	0	0	0	0	2	2	1	2	2	2	13	1	0	44
9.	0	4	12	0	0	0	1	0	1	0	1	0	3	8	0	0	30
10.	0	4	11	0	0	0	1	0	0	0	0	0	1	3	2	0	22
11.	0	4	9	0	0	0	1	0	0	0	0	0	0	5	0	0	19
12.	0	0	2	1	0	0	0	0	0	0	0	0	0	2	0	0	5
13.	0	1	6	0	0	0	0	0	0	0	0	0	1	0	0	0	8
14.	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
15.	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5
16.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	730	1622	1583	575	358	441	787	1128	1104	1045	948	1060	1264	1316	916	652	15529
PERCENTILE LEVELS																	
50.0	.6	.8	.9	.6	.6	.6	.7	.8	.7	.7	.7	.7	.8	.9	.8	.6	.7
80.0	.9	1.8	2.5	1.0	.9	1.0	1.5	1.7	1.5	1.5	1.3	1.6	1.8	2.5	1.8	1.0	1.6
90.0	1.4	2.7	4.4	1.6	1.2	1.7	2.3	2.4	2.1	2.1	2.0	2.3	2.8	3.8	2.8	1.6	2.5
99.0	2.8	7.5	12.2	3.9	2.9	3.7	6.2	5.1	5.2	4.9	4.8	4.8	6.4	8.6	5.9	2.9	6.8
99.9	5.3	10.8	15.2	11.4	3.9	4.9	14.2	7.4	7.9	7.0	8.1	7.5	9.7	11.3	9.5	4.7	12.6
MAX NO. HOURS	6.0	13.0	16.0	12.0	4.0	5.0	15.0	8.0	9.0	8.0	9.0	8.0	13.0	12.0	10.0	5.0	16.0

Amended: April 2009 TL: E048000

Table 2.3I-2

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	53	97	83	58	30	48	51	69	59	50	34	41	48	55	55	38	869
2.	9	18	28	12	3	5	19	21	7	11	5	11	21	18	10	8	204
3.	1	6	12	4	0	2	6	8	6	3	1	0	3	10	6	3	71
4.	0	3	4	0	0	1	5	7	1	0	1	0	0	5	4	0	31
5.	0	0	6	0	0	0	1	1	0	0	0	1	0	2	0	0	11
6.	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7.	0	1	7	0	0	0	1	0	0	0	0	0	0	0	0	0	9
8.	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
9.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
15.	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	63	125	151	74	33	56	84	107	73	64	39	53	72	91	75	49	1209
PERCENTILE LEVELS																	
50.0	.6	.6	.9	.6	.6	.6	.8	.8	.6	.6	.6	.6	.8	.8	.7	.6	.7
80.0	1.0	1.2	2.8	1.1	.9	.9	1.9	1.8	1.0	1.1	.9	1.1	1.5	2.0	1.5	1.2	1.5
90.0	1.4	1.9	6.0	1.7	1.0	1.5	2.9	2.8	2.0	1.7	1.4	1.6	1.8	2.9	2.4	1.8	2.2
99.0	2.4	3.9	13.7	2.8	1.9	3.4	14.2	4.9	3.3	2.8	3.6	4.5	2.8	11.1	3.8	2.8	6.9
99.9	2.9	6.9	14.8	3.0	2.0	3.9	14.9	7.9	3.9	3.0	4.0	4.9	3.0	11.9	4.0	3.0	14.4
MAX NO. HOURS	3.0	7.0	15.0	3.0	2.0	4.0	15.0	8.0	4.0	3.0	4.0	5.0	3.0	12.0	4.0	3.0	15.0

Amended: April 2009 TL: E048000

Table 2.3I-3

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	47	92	106	72	44	17	29	41	50	50	47	42	55	57	46	43	838
2.	5	30	41	19	3	5	7	14	12	12	14	11	14	22	17	6	232
3.	0	3	19	6	1	0	1	4	0	3	0	3	7	7	7	2	63
4.	0	0	7	5	1	1	0	1	0	0	1	0	2	5	3	1	27
5.	0	1	12	2	0	1	1	1	1	0	0	1	0	2	2	0	24
6.	0	1	7	0	0	0	1	1	2	0	0	0	0	2	3	0	17
7.	0	1	5	0	0	0	2	0	0	1	0	0	0	0	0	0	9
8.	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
9.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
10.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	52	128	208	105	49	24	41	62	65	66	62	57	79	95	78	52	1223
PERCENTILE LEVELS																	
50.0	.6	.7	1.0	.7	.6	.7	.7	.8	.7	.7	.7	.7	.7	.8	.8	.6	.7
80.0	.9	1.3	3.1	1.6	.9	1.4	1.5	1.6	1.2	1.2	1.2	1.3	1.6	1.9	2.0	1.0	1.6
90.0	1.0	1.8	5.3	2.6	1.0	1.9	2.9	2.2	1.7	1.8	1.6	1.8	2.3	2.9	3.1	1.6	2.5
99.0	1.9	5.7	11.0	5.0	3.5	4.8	6.8	5.4	5.7	6.3	3.4	4.4	8.2	5.5	5.7	3.5	7.2
99.9	2.0	6.9	13.8	11.9	4.0	5.0	7.0	5.9	6.0	6.9	3.9	4.9	8.9	6.0	6.0	3.9	11.9
MAX NO. HOURS	2.0	7.0	14.0	12.0	4.0	5.0	7.0	6.0	6.0	7.0	4.0	5.0	9.0	6.0	6.0	4.0	14.0

Amended: April 2009 TL: E048000

Table 2.3I-4

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	60	75	69	34	14	19	50	74	71	55	42	44	54	59	41	58	819
2.	5	27	26	6	1	5	16	34	21	11	13	12	24	24	21	9	255
3.	0	13	15	1	1	3	6	8	4	7	6	5	11	12	10	2	104
4.	0	9	12	1	1	1	2	2	1	1	1	4	1	3	6	0	45
5.	1	2	7	1	0	1	2	1	1	1	0	0	1	4	2	0	24
6.	0	1	2	0	0	0	1	1	1	0	1	0	1	3	1	0	12
7.	0	1	4	1	0	0	1	0	0	0	0	0	0	1	1	0	9
8.	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
9.	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	5
10.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2
11.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	66	129	142	44	17	29	78	120	100	75	63	65	92	108	83	69	1280
PERCENTILE LEVELS																	
50.0	.6	.9	1.1	.6	.6	.8	.8	.8	.7	.7	.8	.7	.9	.9	1.0	.6	.8
80.0	.9	2.1	3.3	1.2	1.0	1.8	1.8	1.6	1.4	1.5	1.6	1.7	1.8	2.3	2.4	1.0	1.8
90.0	1.0	3.1	4.8	1.9	2.3	2.7	2.7	2.0	1.9	2.2	2.3	2.5	2.4	3.7	3.5	1.5	2.8
99.0	4.5	6.7	12.3	6.6	3.8	4.7	6.2	4.8	6.0	4.3	5.4	3.8	5.1	7.9	9.2	2.7	6.9
99.9	4.9	10.9	12.9	7.0	4.0	5.0	6.9	5.9	7.9	4.9	5.9	4.0	5.9	8.9	9.9	3.0	12.4
MAX NO. HOURS	5.0	11.0	13.0	7.0	4.0	5.0	7.0	6.0	8.0	5.0	6.0	4.0	6.0	9.0	10.0	3.0	13.0

Table 2.3I-5

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	57	88	73	24	18	31	45	47	63	55	69	71	81	48	52	46	868
2.	4	36	26	2	0	6	12	25	14	19	10	18	21	24	15	8	240
3.	1	12	18	1	2	3	2	5	8	6	9	7	12	14	3	0	103
4.	0	5	4	0	0	1	3	3	0	5	3	5	4	4	2	0	39
5.	0	5	7	0	0	0	2	0	0	1	1	0	2	5	1	0	24
6.	0	2	3	0	0	0	0	0	0	0	0	0	1	0	2	0	8
7.	0	1	2	0	0	0	0	0	1	0	0	0	0	2	1	0	7
8.	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
9.	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	4
10.	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
11.	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	62	153	137	27	20	41	64	80	87	86	92	101	121	101	76	54	1302
PERCENTILE LEVELS																	
50.0	.5	.9	.9	.6	.6	.7	.7	.9	.7	.8	.7	.7	.7	1.1	.7	.6	.8
80.0	.9	2.0	2.6	.9	.9	1.3	1.5	1.7	1.5	1.7	1.5	1.5	1.8	2.6	1.6	.9	1.7
90.0	1.0	3.3	4.3	1.2	1.0	2.0	2.3	2.0	2.2	2.6	2.4	2.3	2.6	4.2	2.5	1.3	2.6
99.0	2.4	10.2	9.6	2.7	2.9	3.6	4.7	3.7	7.1	4.1	4.1	3.8	4.9	10.0	6.2	1.9	7.0
99.9	2.9	10.9	10.9	3.0	3.0	4.0	5.0	4.0	7.9	4.9	4.9	4.0	5.9	11.9	6.9	2.0	10.9
MAX NO. HOURS	3.0	11.0	11.0	3.0	3.0	4.0	5.0	4.0	8.0	5.0	5.0	4.0	6.0	12.0	7.0	2.0	12.0

Amended: April 2009 TL: E048000

Table 2.3I-6

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	26	46	38	19	26	31	46	90	74	101	93	99	73	61	30	29	882
2.	6	18	22	2	2	7	19	26	29	21	23	30	35	22	13	2	277
3.	1	8	6	0	0	6	5	7	13	9	11	9	10	12	2	0	99
4.	0	4	1	0	0	1	1	3	7	2	1	7	6	4	1	0	38
5.	0	4	1	0	0	1	1	3	2	2	2	4	7	1	1	1	30
6.	0	2	0	0	0	0	1	1	1	0	0	0	2	1	2	0	10
7.	0	0	0	0	0	0	0	1	0	0	0	0	1	1	2	0	5
8.	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0	5
9.	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	33	84	69	21	28	46	73	131	126	135	131	150	135	105	51	32	1350
PERCENTILE LEVELS																	
50.0	.6	.9	.9	.6	.5	.7	.8	.7	.9	.7	.7	.8	.9	.9	.9	.6	.8
80.0	1.1	2.4	1.8	.9	.9	1.8	1.7	1.6	1.9	1.3	1.5	1.7	2.0	2.1	1.8	.9	1.7
90.0	1.6	3.9	2.4	1.0	1.0	2.6	2.1	2.3	2.8	2.0	2.2	2.7	3.6	3.0	3.9	1.0	2.6
99.0	2.7	12.2	8.3	1.9	1.9	4.5	5.3	5.7	4.9	4.3	4.8	4.9	6.7	9.0	6.7	4.7	6.1
99.9	3.0	12.9	8.9	2.0	2.0	5.0	5.9	6.9	5.9	4.9	7.9	7.9	7.9	9.9	7.0	5.0	9.7
MAX NO. HOURS	3.0	13.0	9.0	2.0	2.0	5.0	6.0	7.0	6.0	5.0	8.0	8.0	8.0	10.0	7.0	5.0	13.0

Amended: April 2009 TL: E048000

Table 2.3I-7

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	37	45	45	22	19	22	54	58	70	74	64	59	67	57	44	33	770
2.	1	19	8	1	4	6	8	20	19	17	15	21	15	14	11	6	185
3.	2	5	6	0	0	3	4	7	12	10	12	12	9	18	3	2	105
4.	1	7	0	0	0	0	2	1	5	2	4	3	6	8	2	1	42
5.	0	3	1	0	0	0	0	0	1	2	0	0	4	2	4	0	17
6.	0	1	1	0	0	0	0	0	0	0	1	2	2	1	0	0	8
7.	0	0	0	0	0	0	0	1	0	0	0	0	2	1	0	0	4
8.	0	1	0	0	0	0	0	0	0	1	0	0	1	2	0	0	5
9.	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	41	82	61	23	23	31	68	87	107	106	96	97	107	105	64	42	1140
PERCENTILE LEVELS																	
50.0	.6	.9	.7	.5	.6	.7	.6	.8	.8	.7	.8	.8	.8	.9	.7	.6	.7
80.0	.9	2.3	1.5	.8	1.0	1.5	1.1	1.6	1.8	1.6	1.9	1.9	2.4	2.7	1.7	1.1	1.8
90.0	1.0	3.7	2.3	.9	1.4	2.0	1.9	2.0	2.6	2.4	2.6	2.6	3.9	3.7	2.9	1.8	2.7
99.0	3.6	8.2	5.4	1.8	1.9	2.9	3.7	6.1	4.0	5.0	5.0	5.5	7.9	10.5	4.8	3.6	6.4
99.9	4.0	8.9	5.9	2.0	2.0	3.0	4.0	6.9	4.9	7.9	5.9	6.0	8.9	10.9	5.0	4.0	10.4
MAX NO. HOURS	4.0	9.0	6.0	2.0	2.0	3.0	4.0	7.0	5.0	8.0	6.0	6.0	9.0	11.0	5.0	4.0	11.0

Amended: April 2009 TL: E048000

Table 2.3I-8

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL =.10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	38	60	47	28	17	24	38	76	91	87	91	82	77	73	35	31	895
2.	6	14	16	4	2	2	10	20	30	31	23	31	31	19	16	5	260
3.	2	8	4	0	0	0	2	8	7	8	8	13	12	10	5	2	89
4.	1	1	4	0	0	0	1	5	3	5	2	1	3	8	3	0	37
5.	0	1	2	0	0	0	0	1	1	3	2	5	6	5	2	1	29
6.	0	2	1	0	0	0	1	2	1	3	1	1	2	1	1	0	16
7.	0	0	0	0	0	0	0	0	1	1	0	3	1	3	0	0	9
8.	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	0	4
9.	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
10.	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	3
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	47	86	75	32	19	26	52	112	134	138	129	136	134	123	63	39	1345
PERCENTILE LEVELS																	
50.0	.6	.7	.8	.6	.6	.5	.7	.7	.7	.8	.7	.8	.9	.8	.9	.6	.8
80.0	1.0	1.6	1.8	.9	.9	.9	1.4	1.7	1.5	1.8	1.5	1.9	2.0	2.6	2.0	1.0	1.7
90.0	1.7	2.4	3.1	1.2	1.1	1.0	1.9	2.6	2.0	2.8	2.3	2.7	3.2	4.1	3.2	1.8	2.6
99.0	3.5	5.6	9.3	1.9	1.9	1.9	5.5	5.4	5.7	5.9	7.7	6.5	9.7	7.9	9.4	4.6	6.6
99.9	4.0	6.0	9.9	2.0	2.0	2.0	5.9	5.9	6.9	6.9	8.9	7.0	12.9	10.9	9.9	5.0	10.7
MAX NO. HOURS	4.0	6.0	10.0	2.0	2.0	2.0	6.0	6.0	7.0	7.0	9.0	7.0	13.0	11.0	10.0	5.0	13.0

Amended: April 2009 TL: E048000

Table 2.3I-9

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	66	75	67	32	20	19	32	49	63	77	73	74	92	81	60	45	925
2.	7	37	15	1	0	1	6	18	26	15	14	24	31	28	17	10	250
3.	1	14	6	0	0	0	5	11	10	4	3	9	11	11	11	0	96
4.	0	3	3	0	0	0	1	3	2	6	3	4	6	14	3	0	48
5.	0	0	3	0	0	0	1	2	0	1	1	1	5	5	1	0	20
6.	0	0	3	0	0	0	0	0	0	0	1	0	3	6	1	0	14
7.	0	0	0	0	0	0	0	0	1	1	0	0	2	2	0	0	6
8.	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4
9.	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	3
10.	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	74	131	98	33	20	20	45	83	102	104	95	112	151	153	94	55	1370
PERCENTILE LEVELS																	
50.0	.6	.9	.7	.5	.5	.5	.7	.8	.8	.7	.7	.8	.8	.9	.8	.6	.7
80.0	.9	1.8	1.8	.8	.8	.8	1.7	2.0	1.7	1.4	1.2	1.7	1.9	3.2	1.9	1.0	1.7
90.0	1.1	2.4	3.1	.9	.9	.9	2.5	2.7	2.3	2.4	1.9	2.3	3.3	4.7	2.7	1.5	2.6
99.0	2.3	9.3	8.0	1.7	1.0	1.8	4.6	4.6	4.0	5.0	5.1	4.0	6.7	9.5	7.1	1.9	6.6
99.9	2.9	9.9	8.9	2.0	1.0	2.0	5.0	5.0	6.9	6.9	5.9	4.9	8.8	10.8	7.9	2.0	9.9
MAX NO. HOURS	3.0	10.0	9.0	2.0	1.0	2.0	5.0	5.0	7.0	7.0	6.0	5.0	9.0	11.0	8.0	2.0	11.0

Amended: April 2009 TL: E048000

Table 2.3I-10

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	54	89	57	26	29	41	54	71	76	61	55	69	80	80	54	56	952
2.	13	31	18	2	2	2	9	23	17	15	10	25	19	23	20	6	235
3.	1	8	8	1	0	0	4	12	4	9	5	8	15	13	6	2	96
4.	0	6	5	0	0	0	1	4	3	2	1	6	5	9	3	0	45
5.	0	0	2	0	0	0	0	2	2	0	0	1	2	1	2	0	12
6.	0	1	0	0	0	0	0	1	0	0	0	0	6	2	0	0	10
7.	0	2	0	0	0	0	0	0	0	1	0	0	0	4	0	0	7
8.	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	3
9.	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0	4
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	68	138	91	29	31	43	68	114	103	88	71	109	127	137	85	64	1366
PERCENTILE LEVELS																	
50.0	.6	.8	.8	.6	.5	.5	.6	.8	.7	.7	.6	.8	.8	.9	.8	.6	.7
80.0	1.0	1.7	1.9	.9	.9	.8	1.0	1.9	1.4	1.6	1.2	1.7	2.2	2.5	1.7	.9	1.6
90.0	1.6	2.5	2.9	1.1	1.0	.9	1.8	2.7	2.0	2.4	1.9	2.5	3.1	3.8	2.4	1.3	2.4
99.0	2.3	6.8	10.1	2.7	1.8	1.8	3.3	5.9	5.0	6.1	3.3	4.0	5.8	8.9	4.6	2.7	6.3
99.9	2.9	7.9	10.9	3.0	2.0	2.0	3.9	7.9	8.9	6.9	3.9	4.9	6.0	10.9	5.0	3.0	10.3
MAX NO. HOURS	3.0	8.0	11.0	3.0	2.0	2.0	4.0	8.0	9.0	7.0	4.0	5.0	6.0	11.0	5.0	3.0	11.0

Table 2.3I-11

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	57	102	69	34	21	37	42	55	54	56	61	48	59	61	59	54	869
2.	14	29	28	4	2	0	10	13	14	10	8	10	19	20	26	12	219
3.	5	14	8	0	1	2	1	2	1	4	2	4	12	11	6	3	76
4.	0	6	7	0	0	0	0	0	0	2	0	1	1	8	3	0	28
5.	0	2	7	0	0	0	0	0	0	0	0	0	1	5	2	0	17
6.	1	2	2	0	0	0	1	1	0	0	0	0	1	2	2	0	12
7.	0	1	3	0	0	0	1	0	0	0	0	0	2	2	0	0	9
8.	0	2	1	0	0	0	0	0	0	0	0	0	0	2	0	0	5
9.	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10.	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4
11.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	77	162	130	38	24	39	55	71	69	72	71	63	95	111	98	69	1244
PERCENTILE LEVELS																	
50.0	.7	.8	.9	.6	.6	.5	.7	.6	.6	.6	.6	.7	.8	.9	.8	.6	.7
80.0	1.3	2.0	2.9	.9	.9	.8	1.2	1.1	1.1	1.2	.9	1.2	1.9	2.7	1.7	1.1	1.6
90.0	1.9	3.1	4.7	1.1	1.3	.9	1.8	1.7	1.6	1.9	1.4	1.9	2.6	4.0	2.5	1.7	2.4
99.0	5.2	8.8	10.7	1.9	2.8	2.8	6.5	5.3	2.3	3.6	2.6	3.4	6.5	7.4	5.5	2.8	7.3
99.9	5.9	9.8	12.9	2.0	3.0	3.0	6.9	5.9	2.9	4.0	3.0	3.9	7.0	7.9	6.0	3.0	10.8
MAX NO. HOURS	6.0	10.0	13.0	2.0	3.0	3.0	7.0	6.0	3.0	4.0	3.0	4.0	7.0	8.0	6.0	3.0	13.0

Amended: April 2009 TL: E048000

Table 2.3I-12

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	68	115	111	46	36	27	55	55	53	42	44	45	59	56	57	47	916
2.	11	43	30	15	6	3	10	13	12	6	5	16	13	13	9	14	219
3.	0	20	18	0	1	2	5	7	8	4	2	1	2	10	4	2	86
4.	0	9	10	0	0	0	1	2	1	1	0	1	2	8	4	0	39
5.	0	3	0	0	0	0	0	2	0	0	0	0	1	4	3	0	13
6.	0	2	6	0	0	0	1	1	0	1	1	0	1	3	1	0	17
7.	0	0	1	0	0	0	0	0	0	0	0	0	1	2	0	0	4
8.	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
9.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10.	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11.	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
16.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	79	193	185	61	43	32	73	80	74	54	52	64	79	96	78	63	1306
PERCENTILE LEVELS																	
50.0	.6	.8	.8	.7	.6	.6	.7	.7	.7	.6	.6	.7	.7	.9	.7	.7	.7
80.0	.9	1.9	2.4	1.2	1.0	.9	1.3	1.7	1.5	1.2	.9	1.4	1.3	2.8	1.6	1.2	1.6
90.0	1.3	2.8	3.8	1.6	1.5	1.6	2.1	2.6	2.2	2.2	1.6	1.8	1.9	3.9	3.1	1.7	2.5
99.0	1.9	5.5	14.6	2.0	2.6	2.8	10.3	5.2	3.3	5.5	5.5	7.4	6.2	6.5	5.2	2.7	6.7
99.9	2.0	9.8	15.8	2.0	3.0	3.0	10.9	5.9	3.9	5.9	5.9	7.9	6.9	7.0	5.9	3.0	14.8
MAX NO. HOURS	2.0	10.0	16.0	2.0	3.0	3.0	11.0	6.0	4.0	6.0	6.0	8.0	7.0	7.0	6.0	3.0	16.0

Table 2.3I-13

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	62	142	131	78	41	49	60	60	48	47	39	48	55	55	53	53	1021
2.	4	46	42	8	9	5	15	11	12	8	7	4	13	20	12	6	222
3.	2	14	24	1	0	0	2	4	3	1	2	1	2	4	1	4	65
4.	0	5	13	1	1	0	4	4	3	0	1	0	2	6	3	1	44
5.	0	4	10	0	0	0	2	2	0	1	0	0	0	2	0	0	21
6.	0	1	6	0	0	0	1	0	0	0	0	0	0	3	2	0	13
7.	0	1	3	0	0	0	0	0	0	0	0	0	0	1	0	0	5
8.	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
9.	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4
10.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
11.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
14.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	68	213	242	88	51	54	86	81	66	57	49	53	72	91	71	64	1406
PERCENTILE LEVELS																	
50.0	.5	.8	.9	.6	.6	.6	.7	.7	.7	.6	.6	.6	.7	.8	.7	.6	.7
80.0	.9	1.6	2.9	.9	1.0	.9	1.6	1.4	1.4	1.0	1.0	.9	1.2	1.9	1.3	1.0	1.5
90.0	1.0	2.3	4.8	1.2	1.5	1.0	3.1	2.5	2.0	1.5	1.7	1.0	1.8	3.5	1.9	1.8	2.3
99.0	2.7	5.0	13.3	3.1	3.5	1.9	9.1	4.6	3.8	4.4	3.5	2.5	3.6	6.1	5.6	3.4	7.3
99.9	3.0	6.8	15.8	3.9	3.9	2.0	9.9	5.0	4.0	4.9	4.0	2.9	4.0	6.9	6.0	3.9	13.8
MAX NO. HOURS	3.0	7.0	16.0	4.0	4.0	2.0	10.0	5.0	4.0	5.0	4.0	3.0	4.0	7.0	6.0	4.0	16.0

Table 2.3I-14

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	709	769	634	405	402	515	730	730	682	640	612	672	703	582	504	505	9794
2.	142	212	143	53	61	96	190	160	167	157	171	183	222	225	119	88	2389
3.	39	81	40	5	11	38	63	57	57	50	46	70	103	111	60	20	851
4.	8	34	21	1	5	9	30	27	20	16	17	29	52	53	27	4	353
5.	7	22	9	1	3	6	15	10	7	6	10	19	33	32	9	2	191
6.	5	12	3	1	1	0	7	9	6	2	5	6	17	20	5	0	99
7.	1	5	2	0	0	0	4	3	4	0	1	2	15	13	2	1	53
8.	0	2	1	0	0	0	2	1	0	0	0	0	2	9	0	0	17
9.	0	0	0	0	0	1	2	0	0	1	0	2	3	5	2	0	16
10.	0	1	2	0	0	0	1	1	0	0	0	0	0	2	2	0	9
11.	0	1	1	1	0	0	4	0	0	0	0	0	2	2	0	0	11
12.	0	1	0	0	0	0	2	1	0	0	0	0	1	0	0	0	5
13.	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
14.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	911	1144	856	467	483	665	1050	999	943	872	862	983	1153	1055	730	620	13793
PERCENTILE LEVELS																	
50.0	.6	.7	.7	.6	.6	.6	.7	.7	.7	.7	.7	.7	.8	.9	.7	.6	.7
80.0	1.1	1.7	1.4	.9	1.0	1.2	1.6	1.4	1.4	1.4	1.5	1.6	2.0	2.3	1.7	1.0	1.5
90.0	1.8	2.6	2.0	1.3	1.5	1.9	2.4	2.2	2.0	1.9	2.0	2.4	3.2	3.6	2.6	1.6	2.3
99.0	4.6	6.5	5.1	2.9	3.8	4.1	7.3	5.6	5.1	4.0	4.7	5.0	6.8	7.9	5.7	3.2	5.8
99.9	6.1	13.9	10.1	10.5	5.5	8.3	11.5	11.0	6.8	8.1	6.1	8.5	10.9	11.0	9.6	6.4	10.7
MAX NO. HOURS	7.0	16.0	11.0	11.0	6.0	9.0	12.0	12.0	7.0	9.0	7.0	9.0	12.0	23.0	10.0	7.0	23.0

Amended: April 2009 TL: E048000

Table 2.3I-15

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	71	80	71	48	36	60	84	69	56	42	38	42	44	52	49	44	886
2.	4	27	22	4	4	6	11	11	5	7	3	8	11	12	11	7	153
3.	0	10	3	1	1	2	1	4	5	2	0	1	5	8	5	1	49
4.	0	6	5	0	1	1	4	1	2	2	0	1	3	6	2	0	34
5.	0	3	1	0	0	0	2	0	0	0	0	0	0	2	0	0	8
6.	0	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	4
7.	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
8.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	75	132	103	54	42	69	105	86	68	53	41	52	63	80	68	52	1143
PERCENTILE LEVELS																	
50.0	.5	.8	.7	.6	.6	.6	.6	.6	.6	.6	.5	.6	.7	.8	.7	.6	.6
80.0	.8	1.9	1.5	.9	.9	.9	1.0	1.0	1.0	1.1	.9	1.0	1.6	2.0	1.5	.9	1.2
90.0	1.0	3.3	2.0	1.2	1.5	1.4	2.0	1.8	2.0	1.8	1.0	1.6	2.3	3.0	2.2	1.4	1.9
99.0	1.8	13.7	5.0	5.5	3.6	3.3	6.0	6.1	3.7	3.7	1.9	3.5	3.8	4.6	8.3	2.5	5.4
99.9	2.0	15.9	7.9	5.9	4.0	3.9	8.9	6.9	4.0	4.0	2.0	3.9	4.0	5.0	8.9	2.9	13.9
MAX NO. HOURS	2.0	16.0	8.0	6.0	4.0	4.0	9.0	7.0	4.0	4.0	2.0	4.0	4.0	5.0	9.0	3.0	16.0

Amended: April 2009 TL: E048000

Table 2.3I-16

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	74	97	102	78	55	56	66	70	60	51	50	57	59	61	57	60	1053
2.	12	20	38	11	9	6	19	11	15	12	9	12	16	25	13	7	235
3.	0	8	13	1	0	5	4	0	2	2	3	4	2	9	8	1	62
4.	0	1	4	0	0	0	3	3	1	0	0	0	3	5	7	1	28
5.	0	3	4	1	0	1	1	1	0	0	1	0	0	2	3	0	17
6.	0	2	1	0	0	0	3	0	0	0	0	0	0	2	0	0	8
7.	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	3
8.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
10.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	86	132	163	91	64	68	99	86	79	65	63	73	80	104	88	69	1410
PERCENTILE LEVELS																	
50.0	.6	.7	.8	.6	.6	.6	.8	.6	.7	.6	.6	.6	.7	.9	.8	.6	.7
80.0	.9	1.4	1.7	.9	.9	1.0	1.7	1.0	1.2	1.1	1.0	1.1	1.3	1.9	2.1	.9	1.3
90.0	1.3	2.2	2.5	1.4	1.3	1.9	3.0	1.7	1.7	1.6	1.7	1.7	1.8	2.8	3.2	1.3	1.9
99.0	1.9	5.8	5.4	4.1	1.9	4.3	11.0	7.1	6.2	2.7	4.4	2.8	3.7	5.5	4.7	3.3	5.1
99.9	2.0	9.9	6.8	4.9	2.0	4.9	11.9	7.9	6.9	3.0	4.9	3.0	4.0	5.9	5.0	3.9	9.6
MAX NO. HOURS	2.0	10.0	7.0	5.0	2.0	5.0	12.0	8.0	7.0	3.0	5.0	3.0	4.0	6.0	5.0	4.0	12.0

Table 2.3I-17

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	76	76	77	37	29	48	61	61	56	55	57	50	60	65	46	55	907
2.	23	23	16	6	3	10	22	21	22	19	14	15	35	33	13	5	280
3.	5	9	5	1	4	7	10	4	6	4	4	5	9	14	7	3	97
4.	2	1	0	0	1	2	5	4	6	1	1	3	4	3	2	1	36
5.	1	2	0	0	1	.	3	1	0	1	1	2	2	3	2	0	20
6.	0	1	0	0	0	0	2	1	1	0	0	0	2	2	1	0	10
7.	0	1	0	0	0	0	0	1	1	0	0	0	2	0	1	0	6
8.	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
9.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
10.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
11.	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
12.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	107	114	98	44	38	68	107	93	92	80	77	76	114	120	72	64	1364
PERCENTILE LEVELS																	
50.0	.7	.8	.6	.6	.7	.7	.9	.8	.8	.7	.7	.8	1.0	1.0	.8	.6	.8
80.0	1.4	1.7	1.1	1.0	1.5	1.6	2.3	1.6	1.8	1.5	1.3	1.7	1.9	2.0	1.9	.9	1.7
90.0	1.9	2.4	1.7	1.4	2.6	2.5	3.7	2.4	2.8	1.9	1.9	2.7	2.8	2.9	2.8	1.5	2.4
99.0	4.0	6.9	2.8	2.6	4.6	4.3	10.9	6.1	6.1	4.2	4.2	8.2	6.4	10.8	6.5	3.4	6.1
99.9	4.9	7.9	3.0	3.0	5.0	4.9	11.9	6.9	6.9	4.9	4.9	8.9	6.9	24.4	6.9	3.9	11.6
MAX NO. HOURS	5.0	8.0	3.0	3.0	5.0	5.0	12.0	7.0	7.0	5.0	5.0	9.0	7.0	23.0	7.0	4.0	23.0

Table 2.3I-18

DATA FROM 1/25/75 TO 1/24/76APRIL LEVEL = 36.6 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	75	86	65	37	53	54	64	62	79	77	60	76	64	49	62	38	999
2.	11	18	5	7	8	11	23	18	9	15	16	20	23	28	11	12	233
3.	5	15	2	0	2	3	3	7	3	4	9	10	11	11	5	2	92
4.	1	5	2	1	2	0	2	1	0	0	2	5	3	7	4	0	35
5.	1	3	1	0	2	1	2	2	0	2	0	1	4	3	2	0	24
6.	1	1	1	0	0	0	0	1	0	0	0	1	2	3	0	0	10
7.	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	4
8.	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
9.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
10.	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
11.	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	93	128	77	46	67	69	94	92	91	96	87	113	109	106	84	52	1404
PERCENTILE LEVELS																	
50.0	.6	.7	.6	.6	.6	.6	.7	.7	.6	.6	.7	.7	.9	1.1	.7	.7	.7
80.0	1.1	1.9	.9	1.0	1.1	1.1	1.5	1.6	.9	1.0	1.6	1.7	2.0	2.7	1.5	1.3	1.5
90.0	2.0	2.7	1.9	1.6	1.9	1.7	1.9	2.4	1.3	1.7	2.3	2.6	3.0	4.1	2.5	1.7	2.3
99.0	6.1	4.9	9.2	10.5	4.7	4.5	4.5	9.1	2.7	4.5	3.6	4.9	6.9	8.5	4.6	2.7	5.7
99.9	6.9	5.9	9.9	11.0	5.0	4.9	5.0	9.9	3.0	5.0	4.0	5.9	7.9	8.9	5.0	3.0	9.8
MAX NO. HOURS	7.0	6.0	10.0	11.0	5.0	5.0	5.0	10.0	3.0	5.0	4.0	6.0	8.0	9.0	5.0	3.0	11.0

Table 2.3I-19

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	38	35	32	26	37	55	80	97	91	76	84	76	76	46	25	33	907
2.	10	11	5	6	7	10	23	21	28	33	32	24	20	13	7	5	255
3.	3	4	1	0	1	6	11	11	8	11	11	11	12	6	6	4	106
4.	2	2	0	0	0	0	6	4	5	4	3	3	1	5	1	0	36
5.	3	0	1	0	0	0	3	2	2	1	1	6	4	1	1	0	25
6.	0	0	0	0	0	0	0	2	2	1	2	3	3	0	1	0	14
7.	0	0	1	0	0	0	2	0	1	0	0	2	2	1	0	1	10
8.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	56	52	40	32	45	72	125	137	137	126	133	125	118	74	42	43	1357
PERCENTILE LEVELS																	
50.0	.7	.7	.6	.6	.6	.7	.8	.7	.8	.8	.8	.8	.8	.8	.8	.7	.7
80.0	1.7	1.6	1.0	1.0	1.0	1.3	1.9	1.6	1.7	1.8	1.7	2.0	1.9	2.0	2.3	1.3	1.7
90.0	2.8	2.2	1.8	1.5	1.5	2.0	2.9	2.5	2.5	2.4	2.3	3.5	2.9	3.3	3.0	2.2	2.6
99.0	4.8	3.7	6.6	1.9	2.6	8.3	6.4	5.3	5.8	4.7	5.3	6.4	6.4	10.3	9.6	6.6	6.0
99.9	5.0	4.0	7.0	2.0	3.0	8.9	6.9	5.9	6.9	5.9	5.9	6.9	6.9	10.9	10.0	7.0	9.6
MAX NO. HOURS	5.0	4.0	7.0	2.0	3.0	9.0	7.0	6.0	7.0	6.0	6.0	7.0	7.0	11.0	10.0	7.0	11.0

Table 2.3I-20

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	40	26	17	12	20	33	40	49	60	51	47	53	52	44	27	33	604
2.	15	7	1	1	5	8	16	13	14	16	20	20	11	8	8	2	165
3.	6	3	0	0	1	2	5	8	7	4	5	5	10	6	2	0	64
4.	0	0	0	0	0	2	4	1	0	5	3	2	4	3	2	2	28
5.	0	2	0	0	0	1	2	0	2	0	2	4	4	4	0	0	21
6.	0	2	0	0	0	0	0	0	1	0	1	1	1	1	0	0	7
7.	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3
8.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
9.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
11.	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
12.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	61	40	18	13	26	46	67	71	84	76	78	85	86	70	40	37	898
PERCENTILE LEVELS																	
50.0	.8	.8	.5	.5	.7	.7	.8	.7	.7	.7	.8	.8	.8	.8	.7	.6	.7
80.0	1.6	1.9	.8	.9	1.2	1.5	1.9	1.6	1.5	1.6	1.8	1.8	2.6	2.7	1.6	.9	1.7
90.0	2.0	3.0	1.0	1.0	1.7	2.2	2.9	2.2	2.2	2.4	2.6	2.7	4.1	4.5	2.5	1.2	2.6
99.0	2.9	5.8	1.8	1.9	2.7	4.5	4.7	3.3	5.2	3.8	5.2	5.2	11.1	9.3	6.6	3.8	6.0
99.9	3.0	6.0	2.0	2.0	3.0	5.0	5.0	3.9	5.9	4.0	5.9	5.9	11.9	9.9	7.0	4.0	11.1
MAX NO. HOURS	3.0	6.0	2.0	2.0	3.0	5.0	5.0	4.0	6.0	4.0	6.0	6.0	12.0	10.0	7.0	4.0	12.0

Table 2.3I-21

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	48	44	32	24	24	35	78	83	92	101	88	99	87	63	51	47	996
2.	8	14	0	4	5	8	16	21	24	20	34	32	29	20	8	10	253
3.	3	4	1	0	0	3	12	13	10	9	4	10	15	13	6	1	104
4.	2	1	1	0	1	0	1	6	1	1	3	6	10	3	2	0	38
5.	0	1	0	0	0	0	0	2	2	2	3	1	4	4	0	1	20
6.	0	0	0	0	0	0	0	1	1	0	1	1	2	2	0	0	8
7.	0	0	0	0	0	0	0	0	1	0	1	0	3	1	0	0	6
8.	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
9.	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	4
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	61	64	34	28	30	46	107	127	131	134	134	150	151	110	67	59	1433
PERCENTILE LEVELS																	
50.0	.6	.7	.5	.6	.6	.7	.7	.8	.7	.7	.8	.8	.9	.9	.7	.6	.7
80.0	1.1	1.5	.9	.9	1.0	1.2	1.5	1.9	1.5	1.3	1.6	1.7	2.3	2.4	1.3	1.0	1.6
90.0	1.9	2.0	1.0	1.3	1.6	1.8	2.2	2.8	2.2	2.0	2.0	2.4	3.5	4.0	2.2	1.6	2.4
99.0	3.7	4.4	3.7	1.9	3.7	2.8	3.0	5.7	5.7	4.8	5.7	5.5	6.8	9.0	3.7	4.4	6.0
99.9	4.0	4.9	4.0	2.0	4.0	3.0	3.9	11.9	6.9	8.9	6.9	8.9	7.8	9.9	4.0	4.9	9.6
MAX NO. HOURS	4.0	5.0	4.0	2.0	4.0	3.0	4.0	12.0	7.0	9.0	7.0	9.0	8.0	10.0	4.0	5.0	12.0

Table 2.3I-22

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	56	59	29	18	18	25	49	58	55	52	58	74	84	70	45	48	798
2.	13	15	6	1	1	7	14	14	11	12	13	23	25	27	10	7	199
3.	2	6	1	0	0	0	3	4	7	4	3	6	14	11	7	5	73
4.	1	6	0	0	0	0	1	0	3	1	3	4	13	3	1	0	36
5.	1	0	0	0	0	1	1	1	0	0	1	2	8	5	0	0	20
6.	1	0	0	0	0	0	0	1	0	1	1	0	4	5	2	0	15
7.	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3
8.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
9.	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	74	86	36	19	19	33	68	78	76	70	79	109	151	125	65	60	1148
PERCENTILE LEVELS																	
50.0	.7	.7	.6	.5	.5	.7	.7	.7	.7	.7	.7	.7	.9	.9	.7	.6	.7
80.0	1.2	1.7	1.0	.8	.8	1.2	1.4	1.3	1.5	1.3	1.4	1.6	2.8	2.3	1.7	1.0	1.6
90.0	1.8	2.6	1.6	1.0	1.0	1.7	1.9	1.9	2.3	1.9	2.0	2.2	4.0	4.3	2.5	1.9	2.5
99.0	5.3	3.9	2.6	1.8	1.8	4.7	4.3	5.2	3.7	5.3	5.2	4.5	8.2	7.4	5.7	2.9	5.7
99.9	5.9	4.0	3.0	2.0	2.0	5.0	4.9	5.9	4.0	5.9	5.9	4.9	8.9	7.9	6.0	3.0	8.4
MAX NO. HOURS	6.0	4.0	3.0	2.0	2.0	5.0	5.0	6.0	4.0	6.0	6.0	5.0	9.0	8.0	6.0	3.0	9.0

Amended: April 2009 TL: E048000

Table 2.3I-23

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 36.6 m

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	37	30	27	15	17	27	55	58	46	45	36	38	48	31	31	35	576
2.	11	12	2	1	3	6	9	9	14	8	14	11	16	20	10	6	152
3.	4	0	1	0	0	2	4	2	3	5	3	7	12	9	2	1	55
4.	0	0	0	0	0	2	0	5	1	0	1	2	3	1	2	0	17
5.	0	2	0	0	0	0	1	0	0	0	1	2	3	5	0	0	14
6.	1	1	0	0	0	0	0	3	0	0	0	0	1	2	0	0	8
7.	0	1	0	0	0	0	0	1	0	0	0	0	4	2	0	0	8
8.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9.	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100;	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	53	46	30	16	20	37	69	78	64	58	55	60	88	72	47	42	835
PERCENTILE LEVELS																	
50.0	.7	.8	.6	.5	.6	.7	.6	.7	.7	.6	.8	.8	.9	1.3	.8	.6	.7
80.0	1.5	1.6	.9	.9	.9	1.4	1.0	1.5	1.4	1.2	1.6	1.9	2.5	2.7	1.7	1.0	1.6
90.0	2.0	2.0	1.0	1.0	1.3	2.2	1.8	3.2	1.8	1.9	2.0	2.7	4.1	4.8	2.7	1.5	2.4
99.0	5.5	6.5	2.7	1.8	1.9	3.8	4.3	6.2	3.4	2.9	4.5	4.7	8.1	8.3	9.5	2.6	6.6
99.9	5.9	7.0	3.0	2.0	2.0	4.0	4.9	6.9	3.9	3.0	4.9	5.0	8.9	8.9	10.0	3.0	9.2
MAX NO. HOURS	6.0	7.0	3.0	2.0	2.0	4.0	5.0	7.0	4.0	3.0	5.0	5.0	9.0	9.0	10.0	3.0	10.0

Table 2.3I-24

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	57	58	44	24	29	29	30	31	25	26	33	35	41	27	29	30	548
2.	14	19	12	2	5	5	12	7	12	7	3	7	9	13	12	8	147
3.	8	9	3	0	0	4	1	1	0	1	2	4	9	7	6	1	56
4.	0	2	5	0	0	1	0	0	1	2	1	1	3	6	1	0	23
5.	0	0	0	0	0	1	0	0	1	0	0	0	2	1	1	1	7
6.	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	4
7.	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4
8.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
9.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	80	88	65	26	34	40	44	39	39	36	39	47	66	58	50	40	791
PERCENTILE LEVELS																	
50.0	.7	.8	.7	.5	.6	.7	.7	.6	.8	.7	.6	.7	.8	1.2	.9	.7	.7
80.0	1.5	1.7	1.7	.9	.9	1.6	1.4	1.0	1.5	1.4	.9	1.4	2.3	2.9	1.9	1.3	1.6
90.0	2.1	2.2	2.8	1.0	1.3	2.5	1.8	1.6	1.8	1.9	1.7	2.1	3.1	3.9	2.7	1.8	2.3
99.0	5.2	3.6	5.4	1.9	1.9	4.6	10.6	2.6	4.6	3.8	3.6	3.5	6.3	7.4	5.5	4.6	5.5
99.9	5.9	4.0	5.9	2.0	2.0	5.0	11.0	3.0	5.0	4.0	4.0	4.0	6.9	7.9	6.0	5.0	10.2
MAX NO. HOURS	6.0	4.0	6.0	2.0	2.0	5.0	11.0	3.0	5.0	4.0	4.0	4.0	7.0	8.0	6.0	5.0	11.0

Amended: April 2009 TL: E048000

Table 2.3I-25

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	67	75	60	34	38	34	44	41	32	30	31	42	52	46	42	42	710
2.	10	25	11	4	3	10	11	10	4	6	8	5	15	12	9	11	154
3.	3	9	3	0	1	1	4	1	3	3	1	4	4	7	5	0	49
4.	0	8	1	0	0	0	1	1	0	0	0	1	3	6	1	0	22
5.	0	3	1	0	0	0	0	0	0	0	0	0	2	1	0	0	7
6.	1	2	0	0	0	0	0	0	1	0	0	0	1	1	0	0	6
7.	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
8.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	81	126	76	38	42	45	61	53	40	39	40	52	77	74	57	53	954
PERCENTILE LEVELS																	
50.0	.6	.8	.6	.6	.6	.7	.7	.6	.6	.7	.6	.6	.7	.8	.7	.6	.7
80.0	1.0	2.1	1.1	.9	.9	1.2	1.4	1.1	1.0	1.2	1.1	1.0	1.6	2.2	1.4	1.0	1.3
90.0	1.6	3.6	1.8	1.1	1.0	1.7	2.0	1.7	2.0	1.9	1.6	2.0	2.6	3.3	2.1	1.5	2.0
99.0	5.2	12.4	4.2	1.9	2.6	2.6	10.4	3.5	5.6	2.9	2.6	3.5	5.2	6.3	3.4	2.0	5.4
99.9	5.9	12.9	4.9	2.0	3.0	3.0	10.9	3.9	6.0	3.0	3.0	3.9	5.9	6.9	3.9	2.0	12.5
MAX NO. HOURS	6.0	13.0	5.0	2.0	3.0	3.0	11.0	4.0	6.0	3.0	3.0	4.0	6.0	7.0	4.0	2.0	13.0

Amended: April 2009 TL: E048000

Table 2.3I-26

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

WIND DIRECTION PERSISTENCE (NUMBER OF OCCURRENCES), STABILITY CATEGORY ALL

NO. HOURS, DIRECTION PERSISTED	DIRECTION																
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1.	72	104	80	52	46	59	79	51	30	35	34	30	36	50	40	40	818
2.	11	20	24	6	8	9	14	4	9	5	3	6	12	14	7	8	160
3.	0	4	7	2	1	3	5	2	3	0	1	3	0	10	1	1	43
4.	0	3	4	0	0	1	3	1	0	0	0	1	2	5	2	0	22
5.	1	4	1	0	0	0	0	1	0	0	0	1	0	1	0	0	9
6.	0	2	0	0	1	0	0	0	0	0	0	0	0	2	0	0	5
7.	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
8.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
9.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
12.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.- 25.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.- 30.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.- 35.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.- 40.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.- 45.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.- 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.-100.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	84	137	118	60	56	72	104	59	42	40	38	41	50	62	50	49	1062
PERCENTILE LEVELS																	
50.0	.6	.7	.7	.6	.6	.6	.7	.6	.7	.6	.6	.7	.7	1.1	.6	.6	.6
80.0	.9	1.3	1.6	.9	1.0	1.0	1.3	.9	1.4	.9	.9	1.5	1.3	2.6	1.0	1.0	1.2
90.0	1.3	2.0	2.3	1.3	1.6	1.6	2.1	1.5	1.9	1.2	1.1	2.3	1.8	3.4	1.7	1.5	1.9
99.0	4.2	5.3	6.8	2.7	5.4	3.3	8.0	4.4	2.9	1.9	2.6	4.6	3.8	5.7	3.8	2.5	4.9
99.9	4.9	5.9	9.9	3.0	5.9	3.9	10.9	4.9	3.0	2.0	3.0	5.0	4.0	6.0	4.0	3.0	9.9
MAX NO. HOURS	5.0	6.0	10.0	3.0	6.0	4.0	11.0	5.0	3.0	2.0	3.0	5.0	4.0	6.0	4.0	3.0	11.0

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APPENDIX 2.3J

DIURNAL WIND VARIATION TABLES

FOR THE 10 METER LEVEL

AT THE SAN ONOFRE PLANT SITE

(TABLES 2.3J-1 THROUGH 2.3J-26)

Site File Copy

Site File Copy

Table 2.3J-1

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	4.5/ 4.1	7.4/ 18.8	7.4/ 27.9	5.4/ 5.7	5.2/ 3.3	5.7/ 3.8	7.2/ 7.1	6.9/ 8.7	7.2/ 4.7	6.2/ 2.7	6.2/ 1.9	5.1/ 1.5	4.2/ 2.5	9.0/ 2.7	6.0/ 2.0	5.1/ 2.6	6.8/ 1049.
2	4.7/ 4.6	6.6/ 20.1	8.0/ 26.2	5.5/ 4.8	4.5/ 2.4	6.0/ 4.3	6.9/ 8.6	6.3/ 9.6	6.5/ 4.5	5.1/ 2.3	4.8/ 2.2	8.6/ 1.6	5.8/ 2.4	5.4/ 1.6	8.4/ 2.3	4.5/ 2.7	6.6/ 1052.
3	4.7/ 5.1	7.2/ 20.3	7.7/ 26.9	6.3/ 5.6	5.2/ 2.9	5.8/ 4.8	7.0/ 8.8	7.0/ 7.0	8.1/ 3.8	4.8/ 3.5	5.0/ 1.2	5.7/ 2.0	8.7/ 1.7	4.7/ 2.3	7.4/ 1.8	6.0/ 2.0	6.8/ 1052.
4	4.8/ 4.8	7.1/ 21.7	8.5/ 27.8	5.3/ 5.1	4.3/ 3.5	6.6/ 3.9	7.9/ 7.6	6.6/ 6.7	6.0/ 4.4	5.3/ 2.8	7.3/ 1.8	5.5/ 1.6	8.3/ 1.6	5.3/ 1.4	4.6/ 2.0	5.6/ 2.3	7.0/ 1052.
5	4.5/ 4.0	7.4/ 20.7	8.2/ 30.0	5.9/ 5.9	5.0/ 3.2	5.2/ 5.0	7.2/ 7.7	6.6/ 6.6	6.7/ 2.9	7.3/ 3.2	5.7/ 1.8	5.9/ 1.5	7.2/ 1.3	7.7/ 1.7	6.9/ 1.9	4.4/ 2.5	7.0/ 1051.
6	4.5/ 4.8	7.3/ 20.2	8.1/ 30.1	6.6/ 6.0	6.1/ 2.9	4.9/ 5.1	7.8/ 7.4	6.7/ 6.4	7.5/ 3.1	5.5/ 2.9	7.0/ 1.6	7.7/ 1.7	6.4/ 1.9	6.5/ 1.5	4.8/ 2.0	4.1/ 2.3	7.0/ 1052.
7	4.7/ 3.9	6.5/ 19.0	8.4/ 25.3	6.7/ 5.1	5.6/ 3.0	6.2/ 3.1	7.9/ 8.3	6.1/ 7.9	5.7/ 6.1	5.4/ 3.3	6.6/ 1.9	6.5/ 1.9	6.1/ 2.5	5.9/ 2.4	5.8/ 2.5	4.1/ 3.7	6.8/ 1051.
8	4.8/ 3.6	6.2/ 10.0	7.8/ 18.9	6.8/ 3.4	3.7/ 2.1	5.9/ 2.2	8.1/ 7.5	7.3/ 10.9	5.9/ 8.5	5.5/ 5.1	5.5/ 4.8	4.8/ 4.5	6.4/ 5.4	5.7/ 7.1	4.8/ 3.3	4.4/ 2.8	6.4/ 1046.
9	4.6/ 2.4	6.0/ 4.6	7.1/ 6.4	8.5/ 1.4	6.4/ .7	7.5/ .4	8.8/ 4.1	8.3/ 12.2	6.9/ 12.4	5.8/ 10.0	5.1/ 7.4	5.0/ 9.9	6.3/ 11.6	6.7/ 10.0	6.5/ 3.1	4.9/ 3.3	6.5/ 1047.
10	5.0/ 1.3	7.0/ .9	10.3/ 1.8	14.9/ .4	8.2/ .3	9.0/ .4	9.6/ 1.5	9.5/ 9.9	7.8/ 12.0	6.5/ 13.2	5.9/ 10.4	6.0/ 11.3	6.5/ 16.8	7.9/ 16.0	5.6/ 2.8	7.6/ 1.1	7.2/ 1040.
11	8.3/ .2	9.5/ .7	14.3/ .7	13.2/ .5	11.1/ .2	13.2/ .3	9.5/ 1.2	10.1/ 5.7	8.7/ 12.4	7.7/ 11.2	6.7/ 10.2	6.5/ 14.1	7.5/ 20.4	8.2/ 18.4	8.2/ 3.8	12.4/ .2	7.9/ 1035.
12	10.9/ .4	12.9/ .4	15.0/ .5	13.1/ .4	20.6/ .1	8.6/ .3	11.3/ .5	9.3/ 3.7	10.0/ 10.0	7.8/ 7.8	6.1/ 11.0	6.9/ 15.6	7.8/ 21.2	8.9/ 21.5	9.1/ 6.1	5.5/ .5	8.4/ 1032.

Table 2.3J-2

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS / NO. OF OCCUR
13	0.0/	16.9/	11.4/	14.4/	15.9/	5.6/	13.3/	11.5/	9.5/	8.2/	7.3/	7.7/	8.2/	9.0/	10.0/	8.0/	8.6/
	0.0	.5	.6	.1	.2	.2	.6	2.7	6.8	9.3	11.2	13.5	21.9	24.7	6.9	1.0	1036.
14	11.1/	13.0/	12.9/	16.1/	7.5/	0.0/	12.5/	11.9/	10.6/	7.9/	7.5/	7.2/	8.0/	9.0/	9.6/	8.5/	8.6/
	.7	.3	.4	.1	.2	0.0	.5	2.2	4.9	10.4	9.4	13.5	20.9	26.7	8.9	1.0	1035.
15	6.4/	14.6/	13.3/	10.3/	13.7/	8.8/	11.1/	8.8/	9.4/	8.5/	7.7/	6.9/	7.8/	8.9/	9.8/	8.1/	8.4/
	.4	.2	.7	.1	.1	.2	.5	2.0	4.4	7.9	10.1	13.2	20.1	27.1	11.0	2.0	1038.
16	7.8/	12.9/	11.5/	11.8/	6.2/	0.0/	13.5/	9.0/	9.1/	7.8/	6.8/	6.5/	7.3/	8.7/	9.2/	7.9/	8.1/
	.7	.7	.3	.2	.2	0.0	.4	2.6	5.0	6.5	8.4	12.3	16.0	27.1	15.6	4.0	1042.
17	5.9/	6.5/	11.3/	6.4/	6.7/	14.5/	9.4/	9.2/	7.4/	6.9/	6.2/	5.9/	6.7/	8.2/	9.1/	8.0/	7.6/
	4.3	1.4	1.0	.5	.1	.1	.8	4.4	5.2	7.8	7.2	9.0	12.8	21.7	15.4	8.4	1048.
18	5.7/	8.5/	8.1/	9.0/	4.3/	7.3/	7.6/	8.4/	7.9/	6.5/	5.6/	5.2/	5.8/	8.0/	8.8/	7.9/	7.3/
	5.0	7.2	3.8	.8	.7	.8	2.8	4.0	7.4	6.8	6.9	6.8	8.7	15.9	14.3	8.1	1053.
19	6.4/	7.7/	8.3/	6.4/	4.3/	6.0/	6.3/	7.6/	6.7/	6.0/	4.7/	4.9/	6.0/	6.6/	8.0/	8.0/	6.9/
	5.8	9.9	9.0	1.3	.9	2.0	3.4	8.5	6.0	7.1	5.4	4.7	5.3	11.0	13.9	5.8	1052.
20	4.9/	8.0/	8.5/	5.8/	4.5/	6.4/	6.7/	7.3/	6.9/	5.4/	5.0/	4.3/	4.9/	6.6/	7.2/	6.5/	6.8/
	5.1	12.3	13.3	2.3	1.6	2.0	6.4	8.7	7.9	5.6	3.5	4.4	2.8	6.4	10.5	7.1	1053.
21	5.2/	7.3/	7.7/	6.0/	5.4/	5.2/	6.7/	6.1/	6.8/	5.3/	5.2/	4.4/	6.1/	5.2/	7.1/	6.2/	6.5/
	6.2	14.9	16.3	3.7	2.0	3.1	7.6	10.3	6.7	4.3	3.2	2.6	2.9	3.9	6.8	5.4	1052.
22	5.1/	7.1/	7.6/	6.2/	4.5/	6.1/	6.1/	6.3/	6.7/	6.2/	6.1/	4.3/	6.0/	5.6/	7.3/	5.8/	6.5/
	6.5	16.4	20.3	3.8	2.6	3.3	7.9	9.4	6.6	4.9	2.2	2.8	1.7	3.2	4.7	3.6	1054.
23	4.7/	6.9/	8.0/	6.4/	4.6/	5.0/	6.4/	7.2/	7.0/	5.5/	4.4/	7.0/	5.6/	5.8/	7.0/	4.8/	6.7/
	4.2	20.5	22.7	4.6	3.2	3.3	7.9	8.3	5.7	4.1	2.2	2.5	2.2	3.3	3.4	2.1	1054.
24	4.4/	6.9/	7.7/	5.6/	4.6/	5.8/	6.8/	7.1/	7.3/	5.1/	5.6/	3.6/	7.2/	6.9/	.2/	4.7/	6.7/
	4.0	19.8	24.8	6.3	2.7	3.9	7.0	9.0	5.4	3.1	2.3	1.4	2.5	2.6	2.8	2.4	1051.
AVE. WS	5.1	7.2	8.0	6.3	5.1	5.9	7.4	7.5	7.6	6.7	6.4	6.3	7.2	8.1	8.2	6.4	
TOTAL OC.	862	2750	3530	726	410	553	1218	1755	1639	1524	1339	1605	2157	2709	1545	805	25127

Amended: April 2009 TL: E048000

Table 2.3J-3

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	6.5/ 2.6	6.8/ 10.3	9.4/ 38.5	3.0/ 5.1	3.7/ 3.8	6.9/ 3.8	9.1/ 9.0	7.2/ 9.0	0.0/ 0.0	8.1/ 2.6	0.0/ 0.0	0.0/ 0.0	2.4/ 2.6	11.2/ 3.8	5.5/ 6.4	3.9/ 2.6	7.6/ 78.
2	7.1/ 5.2	7.3/ 15.6	9.1/ 29.9	6.1/ 7.8	1.8/ 2.6	4.4/ 1.3	9.1/ 9.1	6.3/ 10.4	3.7/ 1.3	5.4/ 2.6	0.0/ 0.0	19.2/ 1.3	6.5/ 5.2	9.0/ 2.6	0.0/ 0.0	6.5/ 5.2	7.6/ 77.
3	5.1/ 7.7	8.9/ 11.5	8.3/ 26.9	8.7/ 10.3	0.0/ 0.0	6.7/ 6.4	7.4/ 19.2	7.8/ 6.4	0.0/ 0.0	10.0/ 1.3	0.0/ 0.0	13.1/ 2.6	14.0/ 3.8	1.3/ 1.3	0.0/ 0.0	4.7/ 2.6	8.0/ 78.
4	7.5/ 6.4	7.7/ 14.1	10.5/ 38.5	3.5/ 1.3	2.0/ 2.6	8.0/ 7.7	7.7/ 11.5	6.6/ 6.4	3.8/ 3.8	5.0/ 1.3	16.5/ 2.6	0.0/ 0.0	1.7/ 1.3	17.8/ 1.3	2.3/ 1.3	0.0/ 0.0	8.6/ 78.
5	8.7/ 5.1	7.1/ 12.8	9.6/ 32.1	9.2/ 9.0	0.0/ 0.0	5.8/ 6.4	8.0/ 14.1	5.9/ 6.4	5.0/ 1.3	4.6/ 3.8	2.5/ 2.6	0.0/ 0.0	0.0/ 0.0	14.9/ 3.8	3.3/ 1.3	1.9/ 1.3	8.1/ 78.
6	5.1/ 1.3	7.4/ 12.8	8.0/ 32.1	11.1/ 11.5	9.7/ 2.6	4.6/ 10.3	10.3/ 10.3	6.3/ 6.4	0.0/ 0.0	2.4/ 1.3	0.0/ 0.0	7.2/ 1.3	9.1/ 3.8	24.6/ 1.3	2.6/ 2.6	3.6/ 2.6	8.0/ 78.
7	5.4/ 1.3	5.4/ 7.7	8.8/ 37.2	6.3/ 11.5	6.4/ 3.8	8.6/ 5.1	12.5/ 6.4	5.6/ 12.8	2.2/ 3.8	7.5/ 2.6	0.0/ 0.0	0.0/ 0.0	2.2/ 2.6	18.6/ 2.6	0.0/ 0.0	2.8/ 2.6	7.6/ 78.
8	4.9/ 5.1	7.7/ 9.0	8.4/ 28.2	5.3/ 7.7	2.9/ 6.4	2.6/ 3.8	9.1/ 17.9	4.9/ 6.4	6.8/ 3.8	2.1/ 1.3	7.1/ 1.3	2.2/ 1.3	4.3/ 2.6	24.0/ 1.3	2.5/ 2.6	1.9/ 1.3	6.9/ 78.
9	2.4/ 3.8	4.0/ 10.3	7.1/ 15.4	10.9/ 2.6	3.0/ 2.6	11.5/ 1.3	8.8/ 10.3	7.7/ 16.7	6.1/ 5.1	3.7/ 5.1	2.4/ 1.3	8.3/ 3.8	5.4/ 2.6	5.8/ 10.3	3.5/ 2.6	2.4/ 6.4	6.1/ 78.
10	0.0/ 0.0	5.0/ 2.6	10.8/ 2.6	15.1/ 3.9	10.7/ 1.3	11.6/ 1.3	14.1/ 2.6	11.2/ 13.0	7.4/ 19.5	4.5/ 13.0	3.6/ 5.2	4.0/ 5.2	3.9/ 14.3	7.2/ 9.1	4.6/ 5.2	3.4/ 1.3	7.0/ 77.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	14.4/ 3.9	0.0/ 0.0	14.9/ 2.6	12.0/ 2.6	11.4/ 15.6	7.9/ 9.1	6.9/ 14.3	5.1/ 2.6	5.6/ 11.7	5.2/ 14.3	7.6/ 18.2	3.5/ 5.2	0.0/ 0.0	7.8/ 77.
12	9.7/ 1.3	0.0/ 0.0	13.7/ 1.3	17.5/ 2.6	20.6/ 1.3	3.2/ 1.3	18.2/ 2.6	10.0/ 12.8	14.8/ 10.3	5.8/ 6.4	6.9/ 5.1	7.0/ 7.7	5.6/ 20.5	8.7/ 15.4	6.8/ 10.3	4.1/ 1.3	8.8/ 78.

Amended: April 2009 TL: E048000

Table 2.3J-4

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
13	0.0/ 0.0	8.6/ 1.3	14.8/ 1.3	0.0/ 0.0	17.4/ 1.3	5.9/ 1.3	18.3/ 2.6	11.1/ 6.5	9.2/ 15.6	7.5/ 3.9	9.5/ 6.5	6.0/ 9.1	7.5/ 13.0	8.0/ 24.7	7.5/ 13.0	0.0/ 0.0	8.6/ 77.
14	12.8/ 2.6	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	14.1/ 5.1	8.9/ 9.0	13.0/ 5.1	7.5/ 7.7	5.9/ 7.7	5.8/ 11.5	6.1/ 6.4	7.8/ 32.1	7.4/ 11.5	4.1/ 1.3	8.0/ 78.
15	3.6/ 2.6	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.8/ 2.6	16.1/ 2.6	10.0/ 7.8	7.2/ 6.5	8.9/ 11.7	4.8/ 6.5	5.0/ 7.8	7.8/ 9.1	8.7/ 26.0	6.8/ 11.7	7.6/ 5.2	7.9/ 77.
16	4.4/ 2.6	12.2/ 1.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	15.9/ 2.6	8.0/ 10.3	7.2/ 6.4	10.0/ 5.1	4.4/ 6.4	4.9/ 6.4	7.5/ 5.1	7.0/ 23.1	7.2/ 20.5	7.5/ 10.3	7.3/ 78.
17	6.7/ 8.9	4.2/ 5.1	0.0/ 0.0	0.0/ 0.0	6.7/ 1.3	0.0/ 0.0	12.6/ 3.8	8.3/ 10.1	4.9/ 5.1	3.1/ 2.5	4.1/ 2.5	9.1/ 5.1	4.8/ 8.9	5.9/ 10.1	7.5/ 17.7	6.2/ 19.0	6.6/ 79.
18	5.1/ 8.9	9.4/ 20.3	7.1/ 10.1	11.1/ 3.8	3.5/ 1.3	6.9/ 2.5	7.0/ 5.1	9.4/ 6.3	10.6/ 5.1	3.8/ 2.5	15.0/ 1.3	0.0/ 0.0	3.9/ 2.5	6.7/ 8.9	6.1/ 13.9	6.0/ 7.6	7.5/ 79.
19	6.9/ 7.6	8.8/ 13.9	8.4/ 27.8	10.0/ 5.1	2.3/ 1.3	5.9/ 7.6	6.7/ 3.8	7.2/ 12.7	2.9/ 1.3	9.1/ 5.1	0.0/ 0.0	9.8/ 2.5	4.9/ 1.3	8.6/ 3.8	10.7/ 2.5	7.8/ 3.8	8.0/ 79.
20	2.4/ 1.3	9.1/ 20.3	9.4/ 26.6	8.2/ 3.8	3.5/ 2.5	6.2/ 6.3	7.1/ 12.7	5.5/ 7.6	9.1/ 6.3	0.0/ 0.0	8.8/ 2.5	9.8/ 2.5	0.0/ 0.0	10.7/ 3.8	12.0/ 2.5	4.9/ 1.3	8.3/ 79.
21	4.4/ 6.3	8.7/ 10.1	8.8/ 32.9	8.5/ 6.3	2.5/ 2.5	3.9/ 5.1	7.5/ 15.2	7.6/ 10.1	9.3/ 2.5	3.7/ 1.3	18.0/ 1.3	0.0/ 0.0	9.3/ 2.5	0.0/ 0.0	24.0/ 1.3	12.5/ 2.5	8.1/ 79.
22	4.2/ 3.8	7.3/ 6.3	8.4/ 36.7	8.8/ 7.6	4.1/ 6.3	4.8/ 5.1	8.2/ 10.1	6.8/ 3.8	6.1/ 5.1	10.6/ 2.5	8.5/ 2.5	2.3/ 3.8	13.5/ 1.3	1.7/ 1.3	20.6/ 2.5	6.9/ 1.3	7.6/ 79.
23	1.6/ 2.5	6.9/ 16.5	9.4/ 35.4	9.3/ 7.6	2.6/ 2.5	6.2/ 2.5	9.3/ 10.1	6.2/ 6.3	3.4/ 2.5	2.9/ 3.8	1.6/ 1.3	8.8/ 3.8	18.3/ 1.3	3.6/ 1.3	19.0/ 2.5	0.0/ 0.0	8.1/ 79.
24	4.7/ 7.6	5.6/ 15.2	9.9/ 30.4	6.2/ 8.9	0.0/ 0.0	4.0/ 2.5	7.6/ 7.6	8.5/ 12.7	3.4/ 2.5	2.8/ 2.5	1.2/ 1.3	0.0/ 0.0	7.2/ 2.5	7.1/ 2.5	11.7/ 2.5	4.3/ 1.3	7.4/ 79.
AVE. WS	5.7	7.5	9.0	8.6	4.9	6.3	9.2	8.1	8.0	6.4	6.5	6.6	6.2	8.2	7.3	5.8	
TOTAL OC.	74	170	379	94	36	68	154	176	95	81	47	68	99	162	109	63	1875

Table 2.3J-5

DATA FROM 1/25/75 TO 1/24/76FEBRUARY LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	WIND DIRECTION SECTOR N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	3.1/ 1.2	7.2/ 14.3	8.0/ 39.3	8.5/ 15.7	4.6/ 9.5	0.0/ 0.0	7.7/ 3.6	15.7/ 3.6	7.8/ 3.6	20.9/ 1.2	3.6/ 1.2	9.0/ 2.4	19.9/ 1.2	0.0/ 0.0	8.9/ 2.4	0.0/ 0.0	8.2/ 84.
2	0.0/ 0.0	5.5/ 9.5	7.7/ 52.4	10.8/ 9.5	8.2/ 2.4	4.5/ 3.6	7.0/ 6.0	14.0/ 3.6	6.5/ 2.4	6.6/ 1.2	0.0/ 0.0	13.7/ 1.2	6.6/ 2.4	3.4/ 1.2	15.2/ 1.2	8.4/ 3.6	7.9/ 84.
3	0.0/ 0.0	6.7/ 13.1	8.1/ 36.9	8.1/ 25.2	8.2/ 2.4	7.3/ 6.0	11.6/ 1.2	7.5/ 4.8	33.5/ 1.2	4.9/ 1.2	6.2/ 1.2	11.0/ 2.4	2.8/ 1.2	0.0/ 0.0	11.0/ 1.2	5.6/ 1.2	8.1/ 84.
4	7.5/ 3.6	7.9/ 9.5	9.4/ 45.2	8.8/ 11.9	6.7/ 7.1	8.6/ 4.8	10.2/ 6.0	0.0/ 0.0	15.9/ 3.6	0.0/ 0.0	7.9/ 4.8	0.0/ 0.0	4.9/ 1.2	0.0/ 0.0	0.0/ 0.0	2.0/ 2.4	8.9/ 84.
5	4.1/ 2.4	8.5/ 11.9	9.7/ 48.8	10.9/ 11.9	4.3/ 2.4	6.4/ 3.6	8.8/ 7.1	10.1/ 4.8	0.0/ 0.0	25.0/ 2.4	0.0/ 0.0	9.2/ 2.4	18.8/ 1.2	0.0/ 0.0	3.7/ 1.2	0.0/ 0.0	9.6/ 84.
6	0.0/ 0.0	6.9/ 9.5	9.6/ 48.8	10.6/ 16.7	5.8/ 6.0	4.2/ 2.4	8.6/ 7.1	15.8/ 2.4	6.6/ 1.2	0.0/ 0.0	13.6/ 2.4	15.6/ 1.2	5.7/ 1.2	1.9/ 1.2	0.0/ 0.0	0.0/ 0.0	9.2/ 84.
7	0.0/ 0.0	5.1/ 9.5	8.4/ 41.7	8.9/ 17.9	7.2/ 4.8	5.5/ 1.2	9.8/ 11.9	4.9/ 3.6	0.0/ 0.0	2.4/ 2.4	22.0/ 1.2	17.5/ 1.2	5.8/ 2.4	0.0/ 0.0	2.6/ 2.4	0.0/ 0.0	8.0/ 84.
8	4.2/ 1.2	5.8/ 4.8	7.1/ 59.5	8.5/ 7.1	0.0/ 0.0	0.0/ 0.0	11.0/ 7.1	10.6/ 7.1	3.3/ 3.6	23.2/ 1.2	0.0/ 0.0	0.0/ 0.0	14.9/ 2.4	4.5/ 1.2	8.5/ 2.4	3.4/ 2.4	7.8/ 84.
9	5.7/ 6.0	6.4/ 8.3	5.8/ 27.4	6.9/ 7.1	10.3/ 3.6	0.0/ 0.0	9.1/ 4.8	10.5/ 11.9	6.0/ 7.1	3.9/ 6.0	5.8/ 3.6	2.6/ 1.2	7.8/ 4.8	9.8/ 2.4	6.5/ 1.2	5.9/ 4.8	6.9/ 84.
10	3.4/ 3.6	5.9/ 2.4	7.5/ 9.5	0.0/ 0.0	7.0/ 2.4	0.0/ 0.0	10.8/ 4.8	10.2/ 11.9	5.7/ 7.1	5.3/ 17.9	3.6/ 10.7	3.2/ 3.6	4.6/ 11.9	6.9/ 7.1	3.2/ 4.8	7.4/ 2.4	6.1/ 84.
11	0.0/ 0.0	2.9/ 2.4	19.0/ 1.2	11.4/ 2.4	0.0/ 0.0	9.8/ 1.2	10.2/ 4.8	11.5/ 4.8	8.8/ 10.7	6.5/ 14.3	5.9/ 11.9	6.6/ 10.7	5.4/ 16.7	6.6/ 14.3	8.3/ 4.8	0.0/ 0.0	7.2/ 84.
12	0.0/ 0.0	5.6/ 1.2	21.6/ 1.2	11.2/ 1.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.5/ 4.8	10.1/ 11.9	6.0/ 9.5	6.0/ 9.5	5.7/ 8.3	6.5/ 22.6	6.8/ 17.9	8.5/ 9.5	5.8/ 2.4	7.4/ 84.

Amended: April 2009 TL: E048000

Table 2.3J-6

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
13	0.0/ 0.0	20.7/ 1.2	12.1/ 2.4	0.0/ 0.0	14.5/ 1.2	0.0/ 0.0	0.0/ 0.0	14.8/ 4.8	8.6/ 6.0	8.5/ 4.8	5.7/ 8.4	5.3/ 14.5	7.5/ 20.5	6.5/ 22.9	9.4/ 10.8	4.1/ 2.4	7.7/ 83.
14	0.0/ 0.0	18.9/ 1.2	6.0/ 1.2	0.0/ 0.0	11.6/ 1.2	0.0/ 0.0	0.0/ 0.0	14.1/ 3.6	10.3/ 4.8	7.3/ 7.2	5.0/ 6.0	6.1/ 14.5	7.0/ 18.1	6.3/ 22.9	8.9/ 18.1	12.2/ 1.2	7.6/ 83.
15	0.0/ 0.0	0.0/ 0.0	18.3/ 1.2	10.3/ 1.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	13.8/ 1.2	12.2/ 4.8	10.8/ 4.8	7.2/ 7.1	6.2/ 8.3	6.0/ 14.3	6.7/ 27.4	8.8/ 26.2	8.2/ 3.6	7.9/ 84.
16	16.4/ 1.2	0.0/ 0.0	20.1/ 1.2	0.0/ 0.0	2.5/ 1.2	0.0/ 0.0	0.0/ 0.0	8.6/ 3.6	13.3/ 2.4	8.8/ 7.1	6.2/ 8.3	5.6/ 2.4	5.5/ 6.0	6.7/ 29.8	7.4/ 33.3	12.3/ 3.6	7.6/ 84.
17	9.0/ 4.8	5.0/ 1.2	15.5/ 4.8	6.9/ 1.2	0.0/ 0.0	14.5/ 1.2	0.0/ 0.0	11.3/ 4.8	9.1/ 3.6	5.0/ 3.6	6.2/ 6.0	4.9/ 7.1	4.3/ 6.0	6.4/ 20.2	7.9/ 23.8	8.0/ 11.9	7.6/ 84.
18	4.8/ 9.5	7.5/ 6.0	12.0/ 3.6	8.7/ 1.2	5.3/ 1.2	12.2/ 2.4	7.7/ 1.2	8.6/ 2.4	13.4/ 6.0	3.2/ 3.6	3.5/ 6.0	4.2/ 2.4	5.9/ 3.6	6.3/ 13.1	6.5/ 16.7	6.7/ 21.4	6.9/ 84.
19	6.8/ 15.5	5.1/ 26.2	9.0/ 9.5	5.4/ 6.0	7.6/ 2.4	6.5/ 3.6	0.0/ 0.0	7.4/ 3.6	16.2/ 2.4	6.4/ 4.8	7.9/ 2.4	2.4/ 3.6	0.0/ 0.0	6.4/ 9.5	4.1/ 3.6	4.7/ 7.1	6.3/ 84.
20	1.7/ 3.6	7.3/ 21.4	7.9/ 35.7	3.8/ 2.4	8.3/ 6.0	8.5/ 2.4	3.4/ 3.6	5.2/ 3.6	10.5/ 7.1	5.2/ 2.4	6.0/ 2.4	0.0/ 0.0	7.4/ 4.8	3.4/ 1.2	6.8/ 1.2	6.2/ 2.4	7.2/ 84.
21	4.1/ 6.0	7.5/ 19.3	8.2/ 33.7	7.0/ 12.0	9.0/ 3.6	5.0/ 1.2	4.9/ 2.4	6.5/ 6.0	13.0/ 7.2	4.7/ 3.6	0.0/ 0.0	3.0/ 1.2	16.1/ 1.2	0.0/ 0.0	4.5/ 1.2	8.2/ 1.2	7.7/ 83.
22	6.7/ 8.3	7.5/ 14.3	8.2/ 39.3	9.7/ 9.5	7.7/ 4.8	7.5/ 4.8	6.8/ 2.4	4.7/ 7.1	21.4/ 3.6	6.1/ 2.4	6.2/ 1.2	0.0/ 0.0	15.1/ 1.2	0.0/ 0.0	0.0/ 0.0	10.7/ 1.2	8.3/ 84.
23	0.0/ 0.0	8.2/ 11.9	9.0/ 34.5	8.3/ 20.2	4.5/ 3.6	7.2/ 3.6	5.6/ 6.0	6.3/ 7.1	11.1/ 4.8	4.4/ 2.4	0.0/ 0.0	12.5/ 2.4	0.0/ 0.0	0.0/ 0.0	6.6/ 2.4	3.3/ 1.2	8.1/ 84.
24	.8/ 1.2	5.8/ 14.3	8.0/ 38.1	9.2/ 20.2	7.0/ 2.4	3.3/ 1.2	7.2/ 4.8	12.5/ 3.6	11.0/ 3.6	13.3/ 3.6	0.0/ 0.0	7.8/ 2.4	0.0/ 0.0	7.3/ 3.6	0.0/ 0.0	7.5/ 1.2	8.1/ 84.
AVE. WS	5.8	6.9	8.5	8.8	7.0	7.3	8.6	9.8	10.5	7.2	6.1	6.4	6.7	6.5	7.8	6.8	
TOTAL OC.	57	179	518	170	57	36	71	96	91	90	79	78	121	164	141	65	2013

Amended: April 2009 TL: E048000

Table 2.3J-7

DATA FROM 1/25/75 TO 1/24/76MARCH LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
1	4.9/ 4.3	7.0/ 21.7	8.9/ 28.3	5.6/ 3.3	1.6/ 1.1	7.2/ 7.6	9.0/ 7.6	6.8/ 9.8	12.9/ 3.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.9/ 5.4	15.4/ 4.3	9.8/ 2.2	8.3/ 1.1	8.1/ 92.
2	3.2/ 3.3	6.6/ 17.4	8.4/ 31.5	8.0/ 5.4	4.8/ 2.2	7.9/ 5.4	8.2/ 9.8	8.4/ 9.8	13.5/ 1.1	2.6/ 1.1	8.1/ 2.2	15.1/ 1.1	6.2/ 2.2	4.8/ 1.1	19.3/ 4.3	5.6/ 2.2	8.1/ 92.
3	3.2/ 2.2	7.7/ 18.5	8.0/ 34.8	5.4/ 4.3	10.4/ 1.1	6.7/ 4.3	8.3/ 10.9	11.6/ 5.4	15.0/ 4.3	0.0/ 0.0	11.2/ 1.1	0.0/ 0.0	0.0/ 0.0	7.8/ 3.3	12.3/ 4.3	10.3/ 5.4	8.6/ 92.
4	6.4/ 1.1	7.3/ 21.7	10.0/ 23.9	8.6/ 7.6	4.6/ 5.4	8.4/ 3.3	11.5/ 8.7	12.0/ 9.8	5.0/ 3.3	5.5/ 2.2	9.7/ 3.3	2.5/ 1.1	11.3/ 1.1	0.0/ 0.0	10.4/ 3.3	13.0/ 4.3	9.1/ 92.
5	4.2/ 4.4	8.1/ 18.7	9.0/ 29.7	5.1/ 7.7	5.5/ 3.3	4.0/ 2.2	10.6/ 12.1	11.6/ 5.5	16.1/ 2.2	6.8/ 3.3	14.7/ 1.1	6.7/ 1.1	10.5/ 2.2	0.0/ 0.0	16.8/ 4.4	5.1/ 2.2	8.9/ 91.
6	7.7/ 4.3	9.6/ 15.2	8.7/ 32.6	5.0/ 5.4	3.9/ 2.2	5.4/ 3.3	8.7/ 9.8	9.3/ 7.6	17.8/ 4.3	10.4/ 5.4	10.6/ 3.3	3.3/ 1.1	5.3/ 1.1	0.0/ 0.0	13.6/ 3.3	6.4/ 1.1	9.0/ 92.
7	8.5/ 2.2	6.6/ 12.0	8.7/ 37.0	9.2/ 3.3	6.3/ 2.2	5.8/ 1.1	8.2/ 19.6	7.5/ 4.3	11.9/ 5.4	5.7/ 3.3	17.8/ 2.2	15.0/ 1.1	9.3/ 1.1	4.7/ 1.1	16.0/ 3.3	6.9/ 1.1	8.8/ 92.
8	5.9/ 7.7	5.2/ 6.6	9.1/ 22.0	10.5/ 4.4	1.9/ 1.1	6.8/ 1.1	7.7/ 11.0	8.9/ 20.9	7.1/ 6.6	13.7/ 2.2	16.2/ 3.3	20.9/ 1.1	16.6/ 3.3	4.0/ 4.4	4.1/ 2.2	10.6/ 2.2	8.6/ 91.
9	5.5/ 4.4	7.3/ 4.4	7.2/ 11.0	3.8/ 1.1	0.0/ 0.0	0.0/ 0.0	10.5/ 7.7	9.7/ 13.2	8.1/ 19.8	8.6/ 7.7	5.0/ 2.2	8.4/ 3.3	9.9/ 8.8	9.6/ 7.7	12.3/ 3.3	6.2/ 5.5	8.5/ 91.
10	4.6/ 2.2	15.3/ 1.1	13.9/ 2.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	3.2/ 1.1	9.6/ 18.5	7.7/ 16.3	9.1/ 9.8	7.4/ 7.6	6.8/ 7.6	11.5/ 8.7	9.0/ 19.6	8.6/ 4.3	23.3/ 1.1	9.0/ 92.
11	0.0/ 0.0	13.8/ 1.1	17.5/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.9/ 1.1	10.8/ 11.0	8.4/ 14.3	8.8/ 9.9	8.0/ 12.1	7.9/ 17.6	7.3/ 12.1	9.7/ 12.1	12.5/ 6.6	16.5/ 1.1	9.1/ 91.
12	5.9/ 1.1	17.1/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.7/ 1.1	7.3/ 2.2	6.5/ 1.1	9.6/ 16.9	9.0/ 9.0	9.7/ 13.5	9.9/ 10.1	8.3/ 14.6	10.0/ 19.1	13.4/ 9.0	8.1/ 1.1	9.7/ 89.

Amended: April 2009 TL: E048000

Table 2.3J-8

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	13.8/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.0/ 2.2	15.2/ 4.4	8.8/ 8.8	10.6/ 13.2	7.3/ 8.8	10.4/ 13.2	9.2/ 14.3	9.3/ 22.0	14.1/ 9.9	11.5/ 2.2	10.2/ 91.
14	5.2/ 2.2	10.0/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	15.4/ 4.4	11.5/ 6.7	8.0/ 10.0	12.2/ 7.8	9.6/ 12.2	8.0/ 18.9	11.8/ 24.4	12.6/ 11.1	6.9/ 1.1	10.5/ 90.
15	11.4/ 1.1	0.0/ 0.0	7.4/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	13.5/ 1.1	9.7/ 2.2	11.7/ 6.7	8.2/ 6.7	12.4/ 8.9	7.1/ 10.0	8.6/ 22.2	11.0/ 28.9	12.0/ 10.0	10.1/ 1.1	10.1/ 90.
16	0.0/ 0.0	12.6/ 1.1	5.1/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	13.7/ 1.1	7.5/ 3.3	11.0/ 8.8	6.9/ 4.4	11.0/ 7.7	6.1/ 9.9	8.5/ 15.4	10.7/ 29.7	11.7/ 16.5	7.5/ 1.1	9.8/ 91.
17	7.4/ 2.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.6/ 7.7	4.6/ 6.6	8.4/ 7.7	7.5/ 7.7	9.9/ 3.3	8.3/ 8.8	8.8/ 24.2	11.2/ 25.3	10.1/ 6.6	9.2/ 91.
18	5.5/ 6.5	2.3/ 1.1	5.0/ 1.1	0.0/ 0.0	0.0/ 0.0	6.3/ 1.1	9.3/ 4.3	8.4/ 8.7	5.9/ 6.5	6.8/ 3.3	9.8/ 3.3	8.6/ 5.4	7.7/ 9.8	9.6/ 12.0	9.8/ 23.9	9.1/ 13.0	8.5/ 92.
19	5.5/ 8.7	7.3/ 9.8	5.8/ 10.9	0.0/ 0.0	0.0/ 0.0	9.8/ 1.1	9.3/ 3.3	7.5/ 14.1	8.8/ 1.1	8.4/ 5.4	9.1/ 2.2	9.8/ 2.2	9.2/ 5.4	8.8/ 8.7	8.9/ 17.4	8.0/ 9.8	7.8/ 92.
20	6.2/ 5.4	6.7/ 21.7	7.7/ 13.0	7.5/ 5.4	2.2/ 2.2	4.7/ 1.1	9.1/ 5.4	8.1/ 12.0	11.6/ 2.2	7.0/ 2.2	17.9/ 1.1	7.3/ 3.3	11.2/ 2.2	8.8/ 5.4	9.2/ 4.3	7.2/ 13.0	7.7/ 92.
21	8.2/ 2.2	6.3/ 20.7	8.1/ 26.1	7.3/ 6.5	0.0/ 0.0	7.3/ 4.3	9.1/ 5.4	8.0/ 5.4	13.1/ 3.3	8.5/ 4.3	8.8/ 3.3	0.0/ 0.0	11.1/ 2.2	10.4/ 3.3	6.6/ 4.3	9.1/ 8.7	8.1/ 92.
22	4.6/ 9.8	8.2/ 18.5	7.7/ 31.5	5.2/ 3.3	0.0/ 0.0	5.3/ 6.5	9.5/ 3.3	9.0/ 6.5	8.0/ 7.6	13.3/ 2.2	22.2/ 1.1	7.0/ 1.1	0.0/ 0.0	9.1/ 2.2	10.4/ 5.4	13.4/ 1.1	7.9/ 92.
23	5.1/ 3.3	6.0/ 22.8	8.2/ 27.2	8.1/ 5.4	3.7/ 2.2	6.5/ 3.3	7.1/ 6.5	11.2/ 6.5	8.9/ 3.3	14.7/ 3.3	3.9/ 2.2	11.3/ 3.3	9.8/ 1.1	9.4/ 2.2	12.2/ 5.4	7.4/ 2.2	8.1/ 92.
24	3.7/ 3.3	6.7/ 21.7	9.4/ 27.2	4.9/ 7.6	4.4/ 2.2	8.6/ 4.3	8.0/ 8.7	8.0/ 9.8	14.3/ 3.3	8.3/ 1.1	0.0/ 0.0	0.0/ 0.0	11.2/ 4.3	12.5/ 3.3	17.0/ 2.2	7.4/ 1.1	8.4/ 92.
AVE. WS	5.5	7.3	8.5	6.8	4.5	6.9	8.9	9.4	9.5	8.9	9.9	8.6	8.9	9.9	11.5	8.9	
TOTAL OC.	75	238	361	65	23	47	131	185	148	107	96	99	150	217	170	82	2194

Table 2.3J-9

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	3.9/ 4.5	7.5/ 24.7	6.6/ 34.8	3.5/ 2.2	19.4/ 1.1	3.7/ 5.6	6.0/ 5.6	7.0/ 4.5	1.9/ 1.1	7.9/ 4.5	10.6/ 1.1	20.0/ 1.1	2.8/ 2.2	14.4/ 2.2	5.3/ 2.2	3.9/ 2.2	6.8/ 89.
2	2.8/ 2.2	6.7/ 28.9	8.0/ 28.9	3.1/ 3.3	2.4/ 1.1	6.8/ 7.8	5.5/ 5.6	7.1/ 5.6	7.3/ 2.2	15.4/ 1.1	1.6/ 2.2	13.4/ 3.3	7.0/ 1.1	7.8/ 2.2	7.1/ 4.4	0.0/ 0.0	7.0/ 90.
3	5.3/ 5.6	8.2/ 32.2	8.4/ 25.6	3.5/ 2.2	10.7/ 2.2	5.9/ 4.4	6.7/ 7.8	7.2/ 3.3	1.6/ 1.1	7.5/ 2.2	6.4/ 1.1	5.9/ 3.3	14.9/ 2.2	7.2/ 3.3	11.8/ 1.1	7.1/ 2.2	7.7/ 90.
4	5.4/ 4.4	8.2/ 28.9	8.3/ 32.2	3.1/ 2.2	0.0/ 0.0	9.1/ 3.3	6.7/ 7.8	4.5/ 2.2	9.6/ 1.1	5.6/ 2.2	5.8/ 2.2	5.7/ 2.2	9.4/ 5.6	9.4/ 2.2	5.1/ 1.1	2.6/ 2.2	7.6/ 90.
5	5.8/ 2.2	7.1/ 25.6	8.2/ 35.6	4.6/ 2.2	11.1/ 2.2	6.0/ 6.7	6.0/ 3.3	6.7/ 4.4	5.9/ 1.1	6.9/ 1.1	4.5/ 3.3	8.8/ 1.1	3.2/ 2.2	10.4/ 4.4	5.0/ 3.3	1.1/ 1.1	7.2/ 90.
6	4.3/ 2.2	7.5/ 27.8	8.1/ 37.8	3.7/ 2.2	10.7/ 2.2	5.9/ 5.6	7.0/ 4.4	8.5/ 2.2	3.0/ 1.1	3.3/ 3.3	0.0/ 0.0	6.9/ 1.1	8.2/ 2.2	12.2/ 2.2	1.8/ 1.1	5.0/ 4.4	7.3/ 90.
7	3.0/ 8.9	6.6/ 28.9	8.6/ 30.0	6.4/ 1.1	16.7/ 1.1	5.8/ 2.2	7.9/ 7.8	8.1/ 2.2	7.4/ 4.4	6.2/ 1.1	0.0/ 0.0	4.2/ 2.2	0.0/ 0.0	11.8/ 1.1	8.3/ 3.3	4.8/ 5.6	7.1/ 90.
8	3.5/ 5.6	6.5/ 12.2	8.4/ 13.3	6.2/ 4.4	1.8/ 1.1	5.9/ 2.2	7.7/ 12.2	7.5/ 13.3	5.1/ 8.9	4.0/ 3.3	5.2/ 5.6	2.7/ 3.3	7.2/ 2.2	7.9/ 5.6	5.1/ 6.7	0.0/ 0.0	6.4/ 90.
9	3.0/ 1.1	3.9/ 1.1	14.5/ 3.3	0.0/ 0.0	0.0/ 0.0	11.9/ 1.1	9.5/ 4.4	7.7/ 21.1	7.0/ 16.7	4.3/ 10.0	4.8/ 13.3	5.2/ 5.6	5.1/ 7.8	7.9/ 7.8	7.5/ 4.4	7.7/ 2.2	6.8/ 90.
10	0.0/ 0.0	0.0/ 0.0	31.8/ 1.1	0.0/ 0.0	0.0/ 0.0	9.9/ 1.1	15.1/ 1.1	8.4/ 21.3	8.7/ 12.4	4.7/ 10.1	6.3/ 12.4	6.5/ 11.2	5.7/ 18.0	10.6/ 10.1	4.7/ 1.1	0.0/ 0.0	7.6/ 89.
11	10.0/ 1.1	0.0/ 0.0	22.6/ 1.1	0.0/ 0.0	12.1/ 1.1	0.0/ 0.0	14.5/ 1.1	8.4/ 6.7	9.0/ 18.0	7.8/ 12.4	6.5/ 10.1	7.0/ 11.2	7.9/ 16.9	9.1/ 18.0	11.4/ 2.2	0.0/ 0.0	8.5/ 89.
12	0.0/ 0.0	0.0/ 0.0	22.8/ 1.1	0.0/ 0.0	0.0/ 0.0	15.0/ 1.1	0.0/ 0.0	11.2/ 3.3	9.6/ 11.1	7.9/ 10.0	7.0/ 14.4	6.9/ 17.8	8.3/ 22.2	12.1/ 14.4	9.3/ 4.4	0.0/ 0.0	8.9/ 90.

Table 2.3J-10

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	23.1/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.3/ 1.1	0.0/ 0.0	8.2/ 2.2	10.7/ 4.4	8.2/ 18.9	7.5/ 11.1	7.9/ 16.7	7.9/ 22.2	11.2/ 15.6	13.7/ 5.6	11.1/ 1.1	9.1/ 90.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	16.1/ 1.1	3.4/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.3/ 6.7	7.7/ 13.3	8.3/ 17.8	7.2/ 14.4	7.5/ 14.4	10.6/ 24.4	14.9/ 5.6	10.5/ 1.1	9.0/ 90.
15	0.0/ 0.0	0.0/ 0.0	18.8/ 1.1	0.0/ 0.0	13.7/ 1.1	0.0/ 0.0	4.9/ 1.1	0.0/ 0.0	11.2/ 5.6	7.0/ 13.3	8.3/ 7.8	8.0/ 15.6	8.2/ 20.0	9.9/ 24.4	12.8/ 10.0	0.0/ 0.0	9.2/ 90.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	14.8/ 1.1	9.9/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.9/ 7.9	6.4/ 7.9	6.0/ 6.7	6.9/ 18.0	7.5/ 19.1	10.6/ 29.2	15.8/ 9.0	0.0/ 0.0	9.2/
17	2.3/ 1.1	0.0/ 0.0	8.4/ 2.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.5/ 2.2	8.2/ 6.7	6.8/ 8.9	6.9/ 8.9	5.8/ 6.7	7.1/ 17.8	10.1/ 25.6	12.1/ 16.7	12.5/ 3.3	8.9/ 90
18	6.6/ 2.2	17.2/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.8/ 2.2	7.9/ 2.2	8.3/ 7.8	6.6/ 5.6	6.0/ 10.0	7.2/ 4.4	4.8/ 15.6	10.5/ 28.9	11.2/ 13.3	8.9/ 6.7	8.5/ 90.
19	6.7/ 9.0	7.4/ 2.2	8.4/ 2.2	0.0/ 0.0	4.2/ 1.1	17.3/ 1.1	0.0/ 0.0	7.2/ 5.6	7.7/ 6.7	3.8/ 5.6	4.6/ 7.9	4.9/ 5.6	4.1/ 5.6	7.3/ 20.2	11.9/ 13.5	8.6/ 13.5	7.5/ 89.
20	6.4/ 5.6	8.5/ 14.4	9.4/ 6.7	0.0/ 0.0	.8/ 1.1	9.1/ 3.3	5.8/ 6.7	11.8/ 2.2	6.5/ 6.7	4.4/ 5.6	5.6/ 4.4	3.4/ 6.7	4.7/ 6.7	13.0/ 5.6	7.9/ 11.1	7.0/ 13.3	7.2/ 90.
21	7.4/ 7.9	9.0/ 22.5	6.8/ 10.1	2.9/ 2.2	3.1/ 3.4	13.1/ 2.2	6.2/ 11.2	6.3/ 12.4	3.4/ 2.2	4.2/ 2.2	6.7/ 3.4	9.2/ 3.4	3.4/ 1.1	7.7/ 4.5	12.1/ 5.6	6.6/ 5.6	7.4/ 89.
22	4.6/ 5.6	7.5/ 25.6	8.4/ 17.8	3.4/ 4.4	4.9/ 1.1	10.2/ 3.3	5.6/ 8.9	6.1/ 12.2	7.4/ 3.3	4.7/ 2.2	5.6/ 2.2	10.7/ 3.3	2.0/ 2.2	11.3/ 2.2	9.3/ 5.6	0.0/ 0.0	7.1/ 90.
23	5.4/ 3.3	8.0/ 26.7	6.3/ 25.6	2.9/ 4.4	10.3/ 3.3	4.2/ 4.4	7.2/ 10.0	6.0/ 3.3	11.3/ 5.6	0.0/ 0.0	0.0/ 0.0	11.6/ 4.4	2.6/ 1.1	6.7/ 3.3	6.2/ 2.2	3.9/ 2.2	7.1/ 90.
24	4.5/ 3.4	7.4/ 28.1	7.4/ 24.7	5.5/ 1.1	2.9/ 1.1	7.9/ 5.6	5.0/ 6.7	6.2/ 5.6	4.4/ 2.2	3.8/ 6.7	9.3/ 2.2	0.0/ 0.0	10.3/ 4.5	15.0/ 2.2	6.9/ 3.4	4.3/ 2.2	7.0/ 89.
AVE. WS	5.2	7.7	8.1	4.7	8.2	7.3	6.9	7.5	8.2	6.4	6.5	7.1	7.1	10.1	10.5	7.0	
TOTAL OC.	68	298	301	31	24	56	97	124	130	136	133	146	191	233	123	62	2153

Amended: April.2009 TL: E048000

Table 2.3J-11

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
1	4.4/ 4.3	7.0/ 17.4	5.1/ 10.9	4.2/ 4.3	7.0/ 2.2	8.1/ 3.3	7.6/ 14.1	7.3/ 14.1	7.3/ 5.4	5.9/ 7.6	11.9/ 3.3	10.4/ 1.1	3.3/ 3.3	11.5/ 2.2	5.0/ 2.2	5.9/ 4.3	6.7/ 92.
2	4.5/ 3.2	6.9/ 17.2	6.1/ 8.6	0.0/ 0.0	7.0/ 2.2	5.9/ 7.5	7.1/ 14.0	5.9/ 14.0	6.5/ 11.8	5.8/ 5.4	5.8/ 5.4	21.2/ 1.1	6.4/ 4.3	7.0/ 2.2	4.9/ 2.2	4.9/ 1.1	6.5/ 93.
3	4.1/ 2.2	6.0/ 23.7	7.0/ 9.7	4.8/ 1.1	3.5/ 2.2	6.5/ 11.8	6.4/ 11.8	6.9/ 7.5	7.3/ 9.7	6.0/ 7.5	2.9/ 3.2	5.9/ 3.2	12.9/ 3.2	0.0/ 0.0	7.6/ 1.1	4.5/ 2.2	6.4/ 93.
4	4.0/ 4.3	7.1/ 18.3	7.1/ 12.9	4.8/ 7.5	5.0/ 4.3	6.4/ 5.4	7.8/ 12.9	6.2/ 6.5	3.4/ 7.5	6.5/ 7.5	1.2/ 1.1	10.2/ 4.3	8.3/ 4.3	0.0/ 0.0	5.3/ 2.2	4.1/ 1.1	6.4/ 93.
5	4.6/ 2.2	6.8/ 16.1	6.1/ 18.3	4.0/ 2.2	2.8/ 2.2	5.8/ 11.8	5.7/ 8.6	4.7/ 12.9	6.6/ 5.4	6.2/ 6.5	8.1/ 4.3	11.8/ 2.2	7.6/ 1.1	11.0/ 2.2	.8/ 1.1	6.8/ 3.2	6.1/ 93.
6	3.6/ 3.2	7.1/ 18.3	6.2/ 21.5	3.6/ 1.1	4.3/ 5.4	6.1/ 6.5	6.9/ 10.8	5.5/ 7.5	8.0/ 2.2	2.5/ 4.3	5.6/ 3.2	11.5/ 6.5	5.3/ 2.2	9.9/ 2.2	2.5/ 3.2	4.8/ 2.2	6.3/ 93.
7	4.5/ 4.3	6.4/ 18.3	7.4/ 10.8	0.0/ 0.0	4.4/ 2.2	7.9/ 6.5	7.4/ 12.9	5.6/ 10.8	5.0/ 5.4	3.7/ 3.2	4.0/ 3.2	9.1/ 4.3	6.4/ 7.5	8.6/ 3.2	2.7/ 4.3	4.3/ 3.2	6.2/ 93.
8	3.9/ 1.1	5.2/ 9.9	5.1/ 5.5	3.6/ 1.1	4.2/ 2.2	2.6/ 1.1	8.8/ 7.7	6.0/ 17.6	7.0/ 7.7	4.3/ 8.8	9.7/ 3.3	3.6/ 8.8	6.8/ 6.6	5.9/ 11.0	5.6/ 3.3	3.4/ 4.4	5.7/ 91.
9	4.5/ 1.1	0.0/ 0.0	4.0/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.9/ 2.2	7.6/ 15.2	6.8/ 17.4	5.1/ 8.7	6.1/ 14.1	5.0/ 17.4	7.4/ 14.1	6.3/ 6.5	14.7/ 1.1	8.1/ 1.1	6.5/ 92.
10	0.0/ 0.0	0.0/ 0.0	1.1/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.6/ 4.3	9.9/ 18.5	6.3/ 17.4	7.7/ 12.0	7.4/ 8.7	6.5/ 25.0	9.7/ 12.0	0.0/ 0.0	2.2/ 1.1	7.7/ 92.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.2/ 2.2	11.0/ 18.7	7.4/ 9.9	7.4/ 14.3	6.9/ 20.9	8.6/ 22.0	8.2/ 11.0	8.1/ 1.1	0.0/ 0.0	8.3/ 91.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.7/ 1.1	10.2/ 11.0	9.7/ 11.0	7.7/ 13.2	7.0/ 28.6	8.5/ 17.6	9.1/ 17.6	0.0/ 0.0	0.0/ 0.0	8.4/ 91.

Table 2.3J-12

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.6/ 9.9	7.3/ 16.5	6.8/ 12.1	7.9/ 18.7	8.5/ 23.1	10.6/ 18.7	8.5/ 1.1	0.0/ 0.0	8.6/ 91.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.0/ 1.1	12.6/ 6.6	7.3/ 13.2	7.3/ 14.3	6.7/ 14.3	8.4/ 31.9	10.5/ 15.4	9.3/ 3.3	0.0/ 0.0	8.5/ 91.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.6/ 2.2	0.0/ 0.0	7.9/ 7.7	8.1/ 22.0	7.7/ 23.1	7.8/ 28.6	10.7/ 13.2	10.2/ 3.3	0.0/ 0.0	8.3/ 91.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	14.8/ 1.1	9.6/ 5.6	7.4/ 8.9	7.2/ 15.6	6.9/ 22.2	7.9/ 22.2	10.2/ 17.8	10.9/ 6.7	0.0/ 0.0	8.3/ 90.
17	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.4/ 5.6	8.7/ 6.7	7.2/ 10.0	7.1/ 11.1	6.0/ 17.8	6.9/ 18.9	9.8/ 25.6	11.4/ 4.4	0.0/ 0.0	8.0/ 90.
18	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.5/ 6.5	7.9/ 8.6	7.6/ 9.7	6.0/ 16.1	5.4/ 18.3	6.6/ 17.2	9.2/ 16.1	10.5/ 6.5	14.7/ 1.1	7.5/ 93.
19	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.0/ 2.2	8.7/ 10.8	6.7/ 9.7	4.9/ 8.6	6.0/ 15.1	5.1/ 11.8	6.3/ 9.7	6.3/ 14.0	8.4/ 18.3	0.0/ 0.0	6.7/ 93.
20	3.5/ 2.2	3.4/ 4.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.8/ 2.2	0.0/ 0.0	7.7/ 15.1	6.6/ 18.3	6.2/ 10.8	4.6/ 5.4	4.7/ 9.7	4.6/ 3.2	5.5/ 8.6	8.2/ 12.9	6.3/ 7.5	6.2/ 93.
21	9.9/ 3.2	4.8/ 7.5	9.4/ 1.1	1.0/ 1.1	7.5/ 1.1	3.8/ 4.3	8.0/ 5.4	6.3/ 15.1	6.7/ 14.0	5.6/ 7.5	4.6/ 6.5	4.9/ 6.5	7.1/ 6.5	4.2/ 6.5	6.1/ 10.8	3.5/ 3.2	6.1/ 93.
22	5.9/ 4.3	5.7/ 8.6	5.8/ 6.5	0.0/ 0.0	2.5/ 1.1	7.5/ 3.2	4.6/ 7.5	6.8/ 20.4	5.8/ 8.6	7.2/ 7.5	5.0/ 4.3	4.0/ 8.6	3.9/ 1.1	8.2/ 9.7	6.1/ 5.4	8.6/ 3.2	6.2/ 93.
23	4.3/ 4.3	6.8/ 15.1	5.0/ 6.5	0.0/ 0.0	3.8/ 4.3	5.9/ 6.5	5.4/ 5.4	7.6/ 16.1	6.0/ 12.9	7.6/ 4.3	10.2/ 3.2	4.2/ 5.4	4.7/ 6.5	8.0/ 4.3	7.6/ 4.3	9.1/ 1.1	6.3/ 93.
24	4.1/ 4.3	6.8/ 14.0	5.0/ 12.9	3.7/ 6.5	3.6/ 3.2	7.2/ 7.5	8.4/ 7.5	7.9/ 11.8	7.9/ 11.8	4.6/ 2.2	7.8/ 5.4	2.2/ 1.1	8.5/ 3.2	14.6/ 1.1	6.8/ 6.5	6.6/ 1.1	6.6/ 93.
AVE. WS	4.8	6.5	6.1	4.1	4.5	6.3	7.1	7.1	7.8	6.5	6.9	6.6	7.5	8.9	7.8	5.8	
TOTAL OC.	41	175	118	23	30	72	114	203	215	188	194	242	259	202	97	38	2211

Table 2.3J-13

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	WIND DIRECTION SECTOR N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	4.0/ 5.2	7.3/ 11.7	5.8/ 15.6	2.9/ 6.5	4.8/ 5.2	5.4/ 3.9	5.8/ 9.1	5.9/ 6.5	8.6/ 14.3	6.3/ 3.9	5.1/ 6.5	0.0/ 0.0	0.0/ 0.0	4.7/ 5.2	4.1/ 1.3	4.9/ 5.2	5.9/ 77.
2	4.3/ 7.8	7.9/ 18.2	7.4/ 11.7	3.2/ 1.3	4.4/ 5.2	3.2/ 1.3	5.0/ 13.0	7.4/ 9.1	7.1/ 9.1	5.9/ 5.2	4.6/ 2.6	4.7/ 3.9	7.3/ 1.3	3.4/ 2.6	3.7/ 3.9	3.1/ 3.9	6.0/ 77.
3	5.7/ 2.6	5.2/ 21.1	7.3/ 18.4	0.0/ 0.0	4.2/ 2.6	3.9/ 1.3	7.5/ 9.2	6.4/ 13.2	6.8/ 3.9	6.1/ 5.3	5.4/ 3.9	4.8/ 3.9	4.2/ 3.9	4.9/ 3.9	3.3/ 5.3	4.8/ 1.3	6.1/ 76.
4	4.5/ 6.6	7.7/ 21.1	7.3/ 10.5	3.8/ 2.6	2.4/ 2.6	5.8/ 6.6	5.4/ 10.5	5.6/ 7.9	5.0/ 6.6	5.5/ 5.3	5.8/ 2.6	4.3/ 5.3	5.2/ 1.3	2.9/ 5.3	3.0/ 1.3	5.0/ 3.9	5.7/ 76.
5	4.8/ 2.6	6.3/ 27.6	7.5/ 15.8	3.4/ 1.3	5.8/ 2.6	5.3/ 10.5	5.8/ 6.6	5.0/ 7.9	6.9/ 3.9	6.6/ 6.6	5.2/ 1.3	4.4/ 5.3	3.6/ 2.6	4.1/ 1.3	0.0/ 0.0	2.9/ 3.9	5.8/ 76.
6	4.6/ 5.3	7.2/ 26.3	7.6/ 6.6	3.3/ 3.9	5.2/ 1.3	4.7/ 9.2	6.1/ 6.6	5.1/ 9.2	5.2/ 7.9	6.2/ 5.3	6.1/ 3.9	6.6/ 3.9	1.7/ 1.3	6.1/ 1.3	4.1/ 2.6	3.9/ 5.3	5.8/ 76.
7	3.8/ 3.9	5.8/ 18.4	6.8/ 3.9	2.7/ 1.3	0.0/ 0.0	4.5/ 3.9	7.7/ 5.3	6.4/ 11.8	5.2/ 15.8	4.8/ 9.2	7.2/ 3.9	3.8/ 2.6	7.1/ 5.3	3.2/ 5.3	5.0/ 5.3	2.8/ 3.9	5.4/ 76.
8	4.2/ 3.9	3.5/ 5.3	5.5/ 2.6	3.8/ 1.3	6.3/ 1.3	0.0/ 0.0	7.6/ 2.6	5.9/ 10.5	5.4/ 15.8	4.8/ 9.2	5.0/ 13.2	4.4/ 9.2	6.0/ 9.2	6.0/ 9.2	4.1/ 5.3	4.7/ 1.3	5.2/ 76.
9	0.0/ 0.0	4.4/ 1.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.0/ 2.6	9.5/ 6.5	7.8/ 14.3	4.9/ 11.7	5.7/ 13.0	3.9/ 13.0	6.4/ 14.3	7.4/ 19.5	6.5/ 1.3	4.2/ 2.6	6.3/ 77.
10	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.2/ 1.3	8.6/ 3.9	6.7/ 14.3	7.2/ 16.9	6.6/ 7.8	6.3/ 14.3	7.4/ 16.9	8.4/ 24.7	0.0/ 0.0	0.0/ 0.0	7.3/ 77.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.8/ 4.0	8.7/ 9.3	7.4/ 13.3	7.5/ 14.7	7.2/ 13.3	9.0/ 28.0	9.0/ 16.0	13.9/ 1.3	0.0/ 0.0	8.3/ 75.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.3/ 1.3	0.0/ 0.0	9.3/ 6.6	8.3/ 9.2	8.5/ 15.8	7.2/ 23.7	9.4/ 25.0	9.7/ 17.1	10.0/ 1.3	0.0/ 0.0	8.6/ 76.

Amended: April 2009 TL: E048000

Table 2.3J-14

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.8/ 1.3	10.4/ 2.6	8.8/ 9.1	8.0/ 19.5	8.7/ 15.6	9.2/ 29.9	10.9/ 20.8	8.1/ 1.3	0.0/ 0.0	9.2/ 77.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.5/ 1.3	10.1/ 2.6	9.2/ 11.8	7.2/ 15.8	7.6/ 15.8	9.2/ 23.7	9.5/ 21.1	10.3/ 7.9	0.0/ 0.0	8.8/ 76.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.3/ 1.3	9.9/ 2.6	8.5/ 10.3	7.7/ 16.7	7.8/ 12.8	9.3/ 25.6	8.1/ 23.1	10.7/ 7.7	0.0/ 0.0	8.6/ 78.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.2/ 1.3	8.6/ 5.1	9.4/ 7.6	7.0/ 12.7	6.9/ 17.7	8.2/ 25.3	8.9/ 24.1	12.6/ 5.1	14.9/ 1.3	8.4/ 79.
17	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.4/ 2.5	0.0/ 0.0	9.1/ 6.3	8.2/ 12.7	6.3/ 12.7	6.2/ 12.7	6.7/ 16.5	8.9/ 30.4	12.9/ 6.3	0.0/ 0.0	8.0/ 79.
18	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.4/ 1.3	8.0/ 2.5	8.1/ 11.4	7.2/ 15.2	5.4/ 7.6	5.1/ 8.9	6.2/ 11.4	7.4/ 26.6	10.5/ 12.7	14.4/ 2.5	7.5/ 79.
19	4.6/ 1.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.8/ 2.6	8.2/ 10.3	5.9/ 12.8	5.3/ 11.5	4.6/ 5.1	4.8/ 9.0	4.1/ 7.7	6.9/ 15.4	8.9/ 16.7	10.7/ 7.7	6.8/ 78.
20	5.0/ 3.8	0.0/ 0.0	2.8/ 1.3	0.0/ 0.0	5.8/ 1.3	0.0/ 0.0	8.3/ 9.0	6.2/ 10.3	6.7/ 10.3	4.7/ 10.3	4.9/ 5.1	4.4/ 5.1	3.1/ 7.7	5.6/ 10.3	6.9/ 15.4	9.8/ 10.3	6.2/ 78.
21	3.6/ 5.1	4.5/ 10.3	4.3/ 2.6	5.3/ 1.3	0.0/ 0.0	5.3/ 6.4	0.0/ 0.0	5.8/ 15.4	5.1/ 11.5	6.6/ 6.4	3.6/ 3.8	3.4/ 7.7	4.1/ 3.8	6.3/ 2.6	5.4/ 15.4	7.3/ 7.7	5.2/ 78.
22	5.8/ 7.7	5.4/ 16.7	5.7/ 2.6	2.5/ 2.6	4.4/ 3.8	3.6/ 1.3	7.2/ 9.0	5.6/ 15.4	4.9/ 12.8	5.2/ 6.4	4.9/ 2.6	6.4/ 2.6	4.7/ 1.3	4.0/ 3.8	6.2/ 6.4	4.8/ 5.1	5.4/ 78.
23	4.8/ 3.8	7.3/ 16.7	4.0/ 11.5	3.1/ 1.3	4.4/ 3.8	4.1/ 3.8	5.1/ 14.1	7.9/ 7.7	5.8/ 9.0	4.9/ 6.4	2.6/ 2.6	5.9/ 1.3	3.8/ 3.8	4.7/ 6.4	4.4/ 5.1	6.0/ 2.6	5.4/ 78.
24	4.5/ 3.9	7.3/ 18.2	5.3/ 9.1	3.0/ 5.2	3.0/ 2.6	5.1/ 7.8	5.8/ 10.4	5.8/ 11.7	7.4/ 9.1	5.2/ 3.9	3.2/ 3.9	4.5/ 1.3	3.9/ 3.9	4.8/ 3.9	6.3/ 2.6	6.1/ 2.6	5.6/ 77.
AVE. WS	4.6	6.6	6.4	3.2	4.4	5.0	6.2	6.5	6.8	6.7	6.5	6.2	7.6	7.8	7.7	6.7	
TOTAL OC.	49	163	86	22	25	43	90	130	168	164	152	161	208	232	102	55	1850

Table 2.3J-15

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	3.7/ 2.2	6.4/ 11.8	4.6/ 17.2	2.9/ 4.3	3.7/ 1.1	5.0/ 5.4	4.7/ 6.5	6.4/ 16.1	4.6/ 4.3	5.7/ 2.2	2.3/ 2.2	2.9/ 6.5	2.9/ 8.6	2.9/ 2.2	1.9/ 1.1	3.3/ 8.6	4.6/ 93.
2	4.0/ 4.3	4.6/ 21.5	5.4/ 10.8	2.7/ 4.3	0.0/ 0.0	5.3/ 3.2	5.3/ 6.5	5.0/ 16.1	6.1/ 10.8	2.4/ 2.2	1.9/ 3.2	2.7/ 2.2	3.1/ 4.3	3.3/ 2.2	2.7/ 3.2	2.4/ 5.4	4.4/ 93.
3	3.5/ 8.6	5.2/ 16.1	5.2/ 18.3	2.2/ 3.2	3.2/ 6.5	2.7/ 2.2	4.9/ 11.8	6.9/ 8.6	6.3/ 8.6	4.0/ 5.4	0.0/ 0.0	1.7/ 2.2	1.3/ 2.2	3.0/ 5.4	3.5/ 1.1	0.0/ 0.0	4.6/ 93.
4	2.6/ 7.5	4.9/ 16.1	5.7/ 18.3	2.4/ 4.3	3.8/ 4.3	5.5/ 2.2	5.1/ 6.5	6.1/ 12.9	6.3/ 12.9	4.2/ 3.2	3.8/ 2.2	3.0/ 3.2	5.5/ 1.1	2.0/ 2.2	3.4/ 3.2	0.0/ 0.0	4.9/ 93.
5	4.3/ 5.4	5.5/ 14.0	5.1/ 25.8	3.0/ 2.2	4.2/ 2.2	3.6/ 4.3	5.1/ 9.7	5.9/ 11.8	5.8/ 9.7	6.0/ 4.3	3.5/ 3.2	.7/ 1.1	0.0/ 0.0	2.5/ 2.2	1.8/ 2.2	4.0/ 2.2	4.9/ 93.
6	3.1/ 12.9	5.1/ 15.1	5.7/ 18.3	3.2/ 7.5	0.0/ 0.0	4.6/ 2.2	6.0/ 7.5	6.9/ 12.9	6.2/ 6.5	3.9/ 4.3	4.0/ 2.2	3.0/ 3.2	3.9/ 3.2	2.1/ 3.2	0.0/ 0.0	2.9/ 1.1	4.9/ 93.
7	3.7/ 5.4	4.0/ 10.8	4.4/ 8.6	2.8/ 3.2	5.0/ 2.2	5.0/ 2.2	5.5/ 2.2	7.0/ 15.1	5.2/ 19.4	4.3/ 4.3	4.3/ 7.5	3.5/ 6.5	3.0/ 3.2	4.0/ 5.4	4.6/ 3.2	8.6/ 1.1	4.8/ 93.
8	3.2/ 1.1	2.0/ 1.1	2.0/ 2.2	0.0/ 0.0	0.0/ 0.0	3.5/ 2.2	0.0/ 0.0	6.4/ 8.7	7.9/ 19.6	5.4/ 10.9	4.2/ 13.0	4.8/ 14.1	5.0/ 8.7	5.2/ 10.9	5.2/ 4.3	4.9/ 3.3	5.5/ 92.
9	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.9/ 4.3	9.8/ 8.6	7.6/ 19.4	5.2/ 10.8	5.7/ 21.5	5.8/ 22.6	6.9/ 9.7	11.0/ 1.1	3.1/ 2.2	6.6/ 93.
10	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.1/ 4.3	9.8/ 6.5	7.5/ 18.5	7.2/ 12.0	6.1/ 21.7	7.3/ 19.6	6.9/ 16.3	10.7/ 1.1	0.0/ 0.0	7.4/ 92.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	18.3/ 1.1	10.6/ 9.7	8.5/ 15.1	6.5/ 12.9	6.9/ 20.4	7.4/ 21.5	8.1/ 16.1	9.2/ 3.2	0.0/ 0.0	7.9/ 93.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.5/ 1.1	11.6/ 6.5	8.9/ 9.7	7.5/ 17.2	7.4/ 22.6	7.9/ 22.6	8.7/ 17.2	10.7/ 3.2	0.0/ 0.0	8.3/ 93.

Table 2.3J-16

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	16.9/ 1.1	10.0/ 5.4	8.0/ 6.5	7.7/ 18.3	7.6/ 19.4	8.2/ 26.9	8.7/ 17.2	10.1/ 5.4	0.0/ 0.0	8.4/ 93.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	15.2/ 1.1	0.0/ 0.0	8.9/ 16.1	7.7/ 16.1	7.2/ 14.0	7.5/ 28.0	9.1/ 21.5	9.3/ 3.2	0.0/ 0.0	8.2/ 93.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	2.6/ 1.1	12.4/ 4.3	8.4/ 11.8	7.3/ 17.2	6.5/ 16.1	7.4/ 25.8	8.7/ 18.3	9.4/ 5.4	0.0/ 0.0	7.9/ 93.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.8/ 4.3	7.9/ 12.9	7.1/ 15.1	6.5/ 18.3	7.0/ 20.4	8.1/ 23.7	9.3/ 5.4	0.0/ 0.0	7.5/ 93.
17	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.3/ 1.1	8.4/ 8.6	7.7/ 15.1	6.2/ 11.8	5.8/ 17.2	6.1/ 17.2	8.0/ 23.7	8.8/ 4.3	15.6/ 1.1	7.1/ 93.
18	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.6/ 2.2	8.3/ 9.8	6.4/ 15.2	4.8/ 15.2	5.4/ 12.0	4.9/ 15.2	6.3/ 15.2	9.0/ 14.1	12.7/ 1.1	6.5/ 92.
19	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.1/ 5.4	5.9/ 5.4	6.2/ 19.4	4.2/ 11.8	4.3/ 8.6	4.0/ 6.5	5.3/ 21.5	6.6/ 18.3	10.1/ 3.2	5.7/ 93.
20	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.7/ 2.2	8.3/ 9.7	5.8/ 12.9	4.6/ 17.2	4.5/ 5.4	3.2/ 9.7	3.9/ 4.3	4.6/ 11.8	5.7/ 19.4	5.0/ 7.5	5.2/ 93.
21	4.8/ 5.4	0.0/ 0.0	5.7/ 1.1	0.0/ 0.0	0.0/ 0.0	5.4/ 1.1	4.8/ 4.3	6.3/ 12.9	6.1/ 10.8	3.9/ 12.9	4.0/ 7.5	3.7/ 4.3	3.4/ 6.5	3.6/ 11.8	5.3/ 15.1	6.2/ 6.5	4.9/ 93.
22	2.7/ 2.2	3.5/ 7.5	2.8/ 4.3	2.5/ 2.2	2.5/ 1.1	5.2/ 1.1	3.7/ 8.6	6.4/ 15.1	6.4/ 14.0	3.6/ 9.7	3.4/ 4.3	2.6/ 6.5	3.5/ 2.2	3.9/ 8.6	4.6/ 7.5	4.0/ 5.4	4.4/ 93.
23	3.3/ 5.4	3.4/ 12.9	4.6/ 8.6	1.9/ 1.1	3.8/ 3.2	4.5/ 1.1	6.1/ 4.3	6.3/ 15.1	5.9/ 9.7	3.0/ 11.8	3.0/ 3.2	4.4/ 3.2	2.7/ 4.3	3.5/ 9.7	5.1/ 2.2	3.5/ 4.3	4.3/ 93.
24	3.7/ 4.3	4.5/ 16.1	4.3/ 9.7	2.4/ 6.5	5.1/ 2.2	3.2/ 3.2	5.7/ 9.7	5.3/ 12.9	6.6/ 9.7	3.0/ 3.2	4.3/ 5.4	2.8/ 3.2	3.4/ 4.3	3.8/ 4.3	4.0/ 2.2	4.5/ 3.2	4.5/ 93.
AVE. WS	3.5	4.8	5.0	2.7	3.8	4.4	5.1	6.7	7.3	6.4	5.9	5.7	6.3	6.6	6.7	4.9	
TOTAL OC.	60	133	133	36	21	28	74	177	202	233	202	239	259	260	120	52	2229

Amended: April 2009 TL: E048000

Table 2.3J-17

DATA FROM 1/25/73 TO 1/24/76AUGJST LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	4.0/ 7.5	5.6/ 19.4	5.5/ 21.5	3.4/ 4.3	4.0/ 1.1	3.7/ 3.2	6.9/ 4.3	6.7/ 8.6	5.9/ 10.8	1.8/ 2.2	0.0/ 0.0	2.6/ 3.2	2.5/ 3.2	5.7/ 4.3	5.6/ 5.4	3.7/ 1.1	5.2/ 93.
2	3.1/ 7.5	5.1/ 25.8	5.6/ 19.4	3.2/ 3.2	2.5/ 1.1	0.0/ 0.0	7.1/ 5.4	4.9/ 14.0	5.0/ 7.5	3.7/ 2.2	0.0/ 0.0	3.0/ 2.2	2.4/ 3.2	4.7/ 4.3	6.9/ 3.2	1.5/ 1.1	4.9/ 93.
3	4.0/ 7.5	5.8/ 25.8	5.6/ 17.2	4.7/ 1.1	2.8/ 3.2	5.7/ 5.4	5.4/ 2.2	6.7/ 7.5	7.2/ 8.6	3.1/ 4.3	4.2/ 2.2	2.5/ 1.1	1.5/ 1.1	4.3/ 6.5	5.7/ 3.2	3.2/ 3.2	5.3/ 93.
4	4.6/ 10.8	5.9/ 17.2	5.2/ 23.7	2.7/ 7.5	3.1/ 2.2	3.6/ 1.1	8.5/ 3.2	5.1/ 10.8	6.9/ 3.2	5.3/ 3.2	4.1/ 1.1	4.3/ 1.1	3.8/ 2.2	6.3/ 1.1	3.8/ 6.5	2.7/ 5.4	4.9/ 93.
5	3.8/ 7.5	5.5/ 22.6	6.2/ 19.4	4.6/ 6.5	3.8/ 4.3	6.1/ 2.2	6.2/ 4.3	5.6/ 7.5	8.3/ 3.2	8.3/ 4.3	4.2/ 2.2	3.5/ 3.2	4.1/ 2.2	4.8/ 3.2	4.9/ 4.3	3.7/ 3.2	5.4/ 93.
6	5.3/ 6.5	6.1/ 25.8	6.5/ 23.7	2.6/ 3.2	0.0/ 0.0	6.0/ 2.2	6.5/ 7.5	6.0/ 7.5	6.8/ 6.5	7.6/ 2.2	1.9/ 1.1	0.0/ 0.0	4.8/ 5.4	2.4/ 2.2	4.0/ 4.3	2.9/ 2.2	5.6/ 93.
7	6.7/ 3.2	5.4/ 23.7	6.4/ 12.9	3.9/ 3.2	5.1/ 3.2	5.4/ 1.1	6.6/ 6.5	6.5/ 9.7	3.9/ 6.5	6.7/ 4.3	3.8/ 2.2	5.5/ 2.2	4.7/ 6.5	4.2/ 7.5	4.2/ 2.2	3.6/ 5.4	5.4/ 93.
8	4.7/ 1.1	6.4/ 8.6	6.7/ 2.2	2.0/ 1.1	0.0/ 0.0	0.0/ 0.0	7.7/ 5.4	7.8/ 9.7	5.0/ 10.8	5.8/ 7.5	4.3/ 9.7	4.6/ 6.5	4.3/ 9.7	5.3/ 19.4	4.4/ 5.4	5.5/ 3.2	5.5/ 93.
9	3.4/ 2.2	3.6/ 1.1	2.6/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.3/ 3.3	9.1/ 6.5	8.3/ 9.8	8.0/ 8.7	4.8/ 10.9	4.9/ 19.6	6.4/ 21.7	7.3/ 13.0	4.4/ 1.1	3.4/ 1.1	6.5/ 92.
10	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.6/ 1.1	12.3/ 4.3	8.3/ 8.6	8.4/ 9.7	6.7/ 15.1	5.8/ 14.0	7.2/ 25.8	8.9/ 20.4	10.7/ 1.1	0.0/ 0.0	7.8/ 93.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.9/ 1.1	9.1/ 3.2	9.4/ 10.8	8.0/ 7.5	9.1/ 10.8	6.4/ 9.7	8.0/ 37.6	9.1/ 19.4	0.0/ 0.0	0.0/ 0.0	8.4/ 93.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.2/ 2.2	10.1/ 6.5	8.6/ 8.6	8.7/ 18.3	7.2/ 8.6	8.1/ 24.7	9.6/ 31.2	0.0/ 0.0	0.0/ 0.0	8.8/ 93.

Amended: April 2009 TL: E048000

Table 2.3J-18

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.5/ 3.2	9.1/ 4.3	8.9/ 8.6	9.4/ 8.6	7.4/ 15.1	8.9/ 29.0	9.5/ 31.2	0.0/ 0.0	0.0/ 0.0	8.9/ 93.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.8/ 1.1	10.1/ 1.1	9.2/ 12.9	6.3/ 6.5	7.8/ 18.3	8.9/ 28.0	9.0/ 30.1	9.6/ 2.2	0.0/ 0.0	8.6/ 93.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.9/ 1.1	6.6/ 4.3	9.3/ 5.4	7.3/ 8.6	6.4/ 17.2	8.3/ 29.0	9.5/ 33.3	12.9/ 1.1	0.0/ 0.0	8.3/ 93.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	15.1/ 1.1	7.8/ 4.3	9.5/ 7.5	5.9/ 6.5	6.5/ 15.1	7.4/ 22.6	9.5/ 34.4	9.2/ 7.5	7.9/ 1.1	8.3/ 93.
17	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.7/ 3.2	8.8/ 3.2	6.8/ 12.9	4.5/ 5.4	5.9/ 15.1	5.9/ 14.0	8.0/ 36.6	10.0/ 9.7	0.0/ 0.0	7.3/ 93.
18	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.9/ 1.1	12.7/ 1.1	7.4/ 10.8	5.9/ 11.8	5.7/ 8.6	4.0/ 12.9	5.0/ 7.5	6.9/ 24.7	9.5/ 19.4	9.7/ 2.2	6.9/ 93.
19	0.0/ 0.0	0.0/ 0.0	1.1/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.4/ 2.2	6.7/ 9.7	6.6/ 6.5	5.8/ 14.0	3.2/ 8.6	4.5/ 2.2	6.0/ 4.3	5.3/ 20.4	8.3/ 26.9	4.4/ 4.3	6.2/ 93.
20	3.2/ 4.3	3.5/ 2.2	0.0/ 0.0	0.0/ 0.0	.7/ 1.1	1.4/ 1.1	5.5/ 3.2	6.7/ 10.8	8.2/ 6.5	4.6/ 9.7	2.7/ 4.3	4.0/ 3.2	5.4/ 2.2	4.4/ 14.0	6.3/ 29.0	6.5/ 8.6	5.5/ 93.
21	3.7/ 8.6	4.2/ 7.5	1.9/ 1.1	3.1/ 1.1	.4/ 1.1	3.0/ 3.2	6.1/ 3.2	6.3/ 8.6	5.4/ 12.9	4.1/ 5.4	3.8/ 3.2	3.0/ 5.4	2.9/ 5.4	3.7/ 7.5	5.2/ 14.0	4.6/ 11.8	4.4/ 93.
22	5.0/ 10.6	4.6/ 12.9	3.4/ 10.8	0.0/ 0.0	2.9/ 1.1	5.7/ 2.2	5.5/ 5.4	5.7/ 6.5	4.4/ 8.6	6.4/ 6.5	4.5/ 3.2	2.1/ 1.1	3.6/ 7.5	4.7/ 3.2	4.1/ 11.8	4.4/ 8.6	4.6/ 93.
23	4.2/ 7.5	5.2/ 26.9	4.3/ 6.5	2.7/ 1.1	2.9/ 1.1	1.2/ 1.1	6.3/ 10.8	4.3/ 2.2	8.7/ 8.6	5.7/ 3.2	2.6/ 5.4	2.2/ 2.2	3.8/ 4.3	4.4/ 8.6	5.2/ 6.5	2.8/ 4.3	5.0/ 93.
24	5.3/ 4.3	5.6/ 20.4	6.0/ 21.5	3.8/ 4.3	5.7/ 2.2	0.0/ 0.0	5.7/ 3.2	6.4/ 10.8	6.3/ 8.6	5.7/ 4.3	5.3/ 1.1	2.9/ 4.3	1.9/ 1.1	5.3/ 5.4	4.8/ 5.4	2.4/ 3.2	5.4/ 93.
AVE. WS	4.1	5.5	5.6	3.4	3.5	4.6	6.8	6.8	7.0	6.9	6.0	5.7	7.0	7.7	6.8	4.4	
TOTAL OC.	85	225	169	34	20	21	68	140	160	155	133	170	277	355	158	65	2231

Amended: April 2009 TL: E048000

Table 2.3J-19

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	3.3/ 9.2	6.2/ 26.4	5.5/ 17.2	3.0/ 2.3	9.2/ 3.4	4.8/ 2.3	7.0/ 4.6	5.2/ 11.5	7.0/ 8.0	3.1/ 4.6	4.2/ 2.3	2.9/ 2.3	1.9/ 1.1	3.8/ 2.3	6.4/ 1.1	5.8/ 1.1	5.4/ 87.
2	4.9/ 11.2	5.4/ 21.3	7.5/ 15.7	3.4/ 6.7	4.5/ 2.2	4.2/ 6.7	9.6/ 4.5	5.5/ 14.6	7.4/ 3.4	3.9/ 3.4	3.4/ 4.5	5.1/ 1.1	0.0/ 0.0	0.0/ 0.0	3.3/ 2.2	2.9/ 2.2	5.5/ 89.
3	3.3/ 5.6	6.7/ 20.2	6.2/ 23.6	2.7/ 4.5	0.0/ 0.0	4.4/ 4.5	5.5/ 11.2	5.1/ 11.2	7.0/ 4.5	4.0/ 2.2	0.0/ 0.0	3.7/ 3.4	1.5/ 1.1	4.6/ 1.1	3.9/ 3.4	5.1/ 3.4	5.4/ 89.
4	4.5/ 3.4	6.4/ 30.3	6.7/ 18.0	3.3/ 4.5	3.6/ 5.6	3.7/ 5.6	7.1/ 6.7	5.8/ 10.1	4.7/ 4.5	6.1/ 2.2	6.2/ 1.1	0.0/ 0.0	0.0/ 0.0	4.4/ 3.4	3.3/ 2.2	4.7/ 2.2	5.7/ 89.
5	3.8/ 6.7	5.9/ 27.0	7.4/ 18.0	3.0/ 2.2	2.7/ 4.5	4.3/ 4.5	4.4/ 7.9	7.1/ 11.2	3.7/ 2.2	3.1/ 2.2	12.3/ 1.1	4.0/ 2.2	0.0/ 0.0	2.3/ 1.1	7.1/ 3.4	2.4/ 5.6	5.5/ 89.
6	3.7/ 6.7	5.1/ 22.5	7.2/ 20.2	4.1/ 3.4	4.1/ 4.5	4.3/ 3.4	5.9/ 7.9	6.1/ 10.1	6.0/ 5.6	3.5/ 3.4	6.6/ 2.2	0.0/ 0.0	1.8/ 1.1	4.6/ 3.4	4.6/ 3.4	5.7/ 2.2	5.4/ 89.
7	4.5/ 6.7	5.7/ 19.1	7.9/ 12.4	4.2/ 3.4	3.8/ 3.4	2.7/ 1.1	6.5/ 7.9	5.0/ 11.2	5.6/ 6.7	3.5/ 4.5	1.8/ 2.2	6.4/ 2.2	0.0/ 0.0	2.6/ 1.1	3.8/ 4.5	3.5/ 13.5	5.1/ 89.
8	5.2/ 3.4	4.2/ 6.7	7.0/ 7.9	7.0/ 2.2	5.8/ 1.1	8.6/ 3.4	5.3/ 4.5	6.6/ 6.7	5.4/ 15.7	4.6/ 5.6	3.5/ 4.5	4.8/ 5.6	5.3/ 10.1	5.4/ 13.5	5.0/ 2.2	3.1/ 6.7	5.3/ 89.
9	0.0/ 0.0	5.7/ 1.1	0.0/ 0.0	12.9/ 1.1	0.0/ 0.0	4.6/ 1.1	0.0/ 0.0	7.2/ 10.1	6.0/ 15.7	5.2/ 12.4	5.5/ 5.6	5.4/ 12.4	5.2/ 15.7	5.9/ 16.9	4.4/ 2.2	3.6/ 5.6	5.7/ 89.
10	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	14.3/ 1.2	0.0/ 0.0	0.0/ 0.0	5.8/ 1.2	7.2/ 10.5	5.9/ 4.7	7.0/ 17.4	5.4/ 3.5	5.5/ 19.8	6.5/ 20.9	7.8/ 19.8	4.6/ 1.2	0.0/ 0.0	6.7/ 86.
11	0.0/ 0.0	0.0/ 0.0	11.1/ 1.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.3/ 2.3	8.9/ 7.0	7.3/ 11.5	6.6/ 12.8	6.3/ 14.0	7.6/ 24.4	8.5/ 24.4	6.3/ 2.3	0.0/ 0.0	7.6/ 86.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.4/ 3.5	8.3/ 8.2	8.4/ 7.1	9.9/ 4.7	6.3/ 20.0	8.7/ 25.9	9.0/ 29.4	8.4/ 1.2	0.0/ 0.0	8.3/ 85.

Amended: April 2009 TL: E048000

Table 2.3J-20

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.2/ 1.2	9.4/ 5.8	8.2/ 8.1	7.3/ 8.1	7.6/ 17.4	8.7/ 25.6	9.0/ 30.2	8.9/ 3.5	0.0/ 0.0	8.5/ 86.
14	0.0/ 0.0	10.2/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.2/ 5.7	8.7/ 8.0	5.8/ 4.6	7.6/ 17.2	7.7/ 26.4	9.8/ 33.3	8.4/ 3.4	0.0/ 0.0	8.6/ 87.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.4/ 7.0	9.5/ 5.8	6.3/ 8.1	6.7/ 14.0	8.3/ 29.1	9.1/ 31.4	10.9/ 4.7	0.0/ 0.0	8.4/ 86.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.7/ 2.3	11.3/ 4.6	5.9/ 3.4	6.4/ 8.0	6.1/ 19.5	7.7/ 18.4	9.1/ 34.5	10.6/ 8.0	10.0/ 1.1	8.2/ 87.
17	3.7/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.4/ 4.5	6.6/ 5.7	7.1/ 6.8	5.7/ 5.7	4.7/ 11.4	6.4/ 23.9	7.5/ 26.1	10.0/ 13.6	12.3/ 1.1	7.3/ 88.
18	5.4/ 1.1	7.4/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.9/ 1.1	0.0/ 0.0	7.6/ 6.7	6.2/ 6.7	6.4/ 7.9	4.4/ 6.7	4.6/ 7.9	6.2/ 7.9	6.2/ 29.2	9.3/ 15.7	8.0/ 7.9	6.7/ 89.
19	10.6/ 1.1	10.1/ 2.2	0.0/ 0.0	0.0/ 0.0	1.8/ 1.1	0.0/ 0.0	4.4/ 3.4	8.7/ 11.2	5.2/ 11.2	4.8/ 6.7	3.3/ 3.4	3.7/ 4.5	4.8/ 11.2	5.6/ 10.1	6.7/ 29.2	9.5/ 4.5	6.2/ 89.
20	4.9/ 10.1	10.5/ 3.4	2.7/ 2.2	0.0/ 0.0	4.1/ 1.1	4.3/ 3.4	5.2/ 3.4	7.0/ 13.5	5.5/ 10.1	4.0/ 4.5	3.5/ 6.7	3.1/ 5.6	3.8/ 1.1	4.9/ 10.1	6.0/ 15.7	4.4/ 9.0	5.2/ 89.
21	3.3/ 9.0	6.6/ 13.5	4.9/ 4.5	1.8/ 1.1	0.0/ 0.0	3.0/ 2.2	5.9/ 9.0	5.3/ 15.7	5.0/ 11.2	10.0/ 2.2	3.4/ 3.4	3.4/ 2.2	4.9/ 4.5	3.7/ 5.6	6.8/ 10.1	4.5/ 5.6	5.2/ 89.
22	4.0/ 7.9	5.9/ 14.6	3.6/ 4.0	0.0/ 0.0	3.5/ 4.5	5.6/ 3.4	5.1/ 9.0	5.6/ 14.6	6.2/ 9.0	4.6/ 6.7	5.1/ 1.1	3.7/ 5.6	5.5/ 1.1	3.8/ 2.2	6.1/ 5.6	5.4/ 5.6	5.1/ 89.
23	5.7/ 4.5	5.7/ 20.2	5.8/ 13.5	2.5/ 1.1	2.5/ 3.4	2.7/ 4.5	4.2/ 6.7	7.3/ 14.6	4.0/ 3.4	5.3/ 7.9	2.8/ 3.4	2.6/ 2.2	4.5/ 2.2	6.4/ 2.2	4.5/ 6.7	6.3/ 3.4	5.3/ 89.
24	4.8/ 5.7	6.0/ 20.5	5.5/ 14.8	7.6/ 3.4	2.0/ 1.1	6.3/ 2.3	4.6/ 8.0	4.9/ 15.9	4.9/ 5.7	4.9/ 5.7	3.2/ 2.3	2.2/ 2.3	2.7/ 3.4	3.1/ 1.1	4.1/ 5.7	2.2/ 2.3	5.0/ 88.
AVE. WS	4.3	6.0	6.4	4.5	4.0	4.5	5.7	6.4	6.6	6.1	5.4	5.7	7.0	7.7	7.0	4.9	
TOTAL OC.	83	223	158	33	32	44	85	189	152	132	93	168	222	290	134	74	2112

Table 2.3J-21

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
1	6.6/ 4.8	8.6/ 26.5	7.0/ 31.3	3.3/ 2.4	5.3/ 1.2	4.9/ 4.8	3.4/ 2.4	5.7/ 12.0	3.7/ 2.4	4.2/ 2.4	3.2/ 3.6	2.6/ 1.2	2.3/ 1.2	11.5/ 2.4	0.0/ 0.0	7.5/ 1.2	6.7/ 83.
2	3.9/ 6.0	8.5/ 20.5	7.1/ 35.7	3.3/ 3.6	4.2/ 1.2	5.1/ 7.2	4.9/ 6.0	4.9/ 6.0	3.4/ 1.2	3.3/ 3.6	4.9/ 2.4	0.0/ 0.0	1.2/ 1.2	3.1/ 1.2	13.6/ 2.4	4.2/ 3.6	6.3/ 83.
3	5.2/ 14.5	7.1/ 24.1	8.0/ 27.7	4.5/ 6.0	2.6/ 2.4	3.4/ 1.2	5.8/ 4.8	7.3/ 3.6	0.0/ 0.0	3.9/ 9.6	4.0/ 2.4	0.0/ 0.0	0.0/ 0.0	3.1/ 2.4	0.0/ 0.0	4.0/ 1.2	6.2/ 83.
4	6.3/ 3.6	7.1/ 35.7	7.3/ 34.9	3.3/ 3.6	0.0/ 0.0	3.8/ 1.2	6.7/ 4.8	5.5/ 4.8	4.0/ 3.6	4.6/ 3.6	0.0/ 0.0	3.6/ 1.2	0.0/ 0.0	3.6/ 1.2	2.0/ 2.4	5.0/ 1.2	6.5/ 83.
5	3.4/ 6.0	8.5/ 20.5	8.4/ 31.3	4.2/ 3.4	4.4/ 6.0	3.3/ 3.6	4.4/ 4.8	7.5/ 2.4	3.0/ 2.4	2.4/ 1.2	2.5/ 1.2	0.0/ 0.0	3.1/ 1.2	2.4/ 1.2	3.4/ 1.2	5.9/ 2.4	6.6/ 83.
6	3.8/ 6.0	6.6/ 20.5	7.4/ 37.3	3.2/ 3.6	5.6/ 3.6	4.2/ 8.4	8.6/ 1.2	7.2/ 7.2	6.5/ 2.4	3.7/ 2.4	2.6/ 1.2	2.9/ 1.2	0.0/ 0.0	0.0/ 0.0	2.6/ 1.2	4.0/ 3.6	6.7/ 83.
7	4.9/ 8.9	6.2/ 26.8	8.8/ 32.9	3.3/ 2.4	3.8/ 3.7	3.5/ 4.9	5.7/ 4.9	6.0/ 8.5	3.0/ 2.4	5.0/ 2.4	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	2.8/ 1.2	0.0/ 0.0	3.5/ 4.9	6.4/ 82.
8	4.8/ 3.7	4.9/ 14.6	7.7/ 24.4	2.7/ 2.4	2.5/ 2.4	10.0/ 4.9	5.3/ 3.7	6.8/ 11.0	3.4/ 6.1	3.5/ 8.5	1.9/ 1.2	2.5/ 1.2	3.2/ 7.3	4.4/ 2.4	4.5/ 4.9	3.0/ 1.2	5.5/ 82.
9	6.2/ 2.5	5.2/ 6.2	6.5/ 3.7	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.1/ 6.2	6.3/ 7.4	6.2/ 13.6	5.9/ 9.9	3.7/ 7.4	3.7/ 6.2	6.2/ 14.8	5.5/ 12.3	5.5/ 7.4	4.2/ 2.5	5.8/ 81.
10	4.3/ 2.5	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.1/ 2.5	9.5/ 6.2	6.9/ 7.4	5.4/ 7.4	5.9/ 14.8	5.6/ 13.6	7.0/ 14.8	7.3/ 22.2	5.5/ 6.2	5.4/ 2.5	6.6/ 81.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.3/ 2.5	9.2/ 3.8	8.1/ 6.3	9.7/ 7.6	5.0/ 11.4	6.0/ 15.2	6.9/ 25.3	8.5/ 19.0	7.3/ 8.9	0.0/ 0.0	7.3/ 79.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.1/ 2.6	8.1/ 10.4	4.5/ 3.9	11.2/ 5.2	6.4/ 14.3	7.9/ 23.4	8.6/ 27.3	8.5/ 13.0	0.0/ 0.0	8.0/ 77.

Table 2.3J-22

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.0/ 3.9	6.5/ 6.5	6.4/ 7.8	8.1/ 11.7	6.5/ 23.4	8.9/ 36.4	9.2/ 9.1	11.1/ 1.3	8.5/ 77.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	12.1/ 2.6	7.9/ 5.2	7.9/ 6.5	7.4/ 9.1	8.9/ 28.6	9.0/ 33.8	9.2/ 13.0	6.3/ 1.3	8.8/ 77.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.2/ 1.3	10.2/ 5.1	8.1/ 5.1	6.9/ 8.9	7.1/ 15.2	9.1/ 44.3	9.3/ 19.0	11.5/ 1.3	8.7/ 79.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.8/ 3.8	9.9/ 3.8	5.9/ 6.3	7.5/ 13.8	8.7/ 41.3	9.1/ 25.0	8.2/ 6.3	8.5/ 80.
17	5.7/ 2.5	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.7/ 3.7	6.1/ 4.9	6.8/ 4.9	7.5/ 3.7	6.5/ 16.0	8.2/ 23.5	8.3/ 28.4	8.8/ 12.3	7.7/ 81.
18	4.7/ 7.4	7.1/ 6.2	14.1/ 1.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	13.4/ 1.2	6.0/ 4.9	3.8/ 4.9	6.0/ 3.7	4.3/ 4.9	4.8/ 2.5	4.3/ 6.2	9.7/ 9.9	7.7/ 32.1	7.1/ 14.8	6.9/ 81.
19	6.0/ 14.8	5.9/ 18.5	14.1/ 1.2	0.0/ 0.0	0.0/ 0.0	2.3/ 1.2	8.0/ 4.9	4.5/ 3.7	4.9/ 8.6	2.7/ 2.5	2.9/ 4.9	2.8/ 2.5	4.9/ 7.4	13.0/ 4.9	7.1/ 11.1	6.9/ 13.6	6.2/ 81.
20	4.8/ 19.8	9.6/ 18.5	5.3/ 7.4	0.0/ 0.0	3.0/ 1.2	6.2/ 3.7	5.5/ 6.2	6.9/ 4.9	5.7/ 8.6	0.0/ 0.0	2.5/ 3.7	4.5/ 3.7	0.0/ 0.0	26.1/ 1.2	8.8/ 8.6	5.7/ 12.3	6.6/ 81.
21	6.1/ 13.4	8.5/ 24.4	5.8/ 17.1	8.0/ 2.4	4.8/ 6.1	5.0/ 1.2	7.4/ 9.8	4.7/ 8.5	5.5/ 1.2	2.6/ 2.4	4.4/ 2.4	0.0/ 0.0	0.0/ 0.0	25.1/ 1.2	20.6/ 1.2	5.5/ 8.5	6.8/ 82.
22	5.4/ 7.3	8.0/ 26.8	6.3/ 19.5	5.5/ 4.9	2.3/ 1.2	3.8/ 4.9	6.1/ 13.4	3.0/ 2.4	0.0/ 0.0	5.5/ 6.1	3.1/ 1.2	2.4/ 1.2	3.1/ 1.2	1.6/ 1.2	17.1/ 3.7	3.8/ 4.9	6.4/ 82.
23	4.9/ 6.1	7.3/ 25.6	8.0/ 35.4	4.9/ 3.7	3.1/ 2.4	4.3/ 1.2	6.1/ 6.1	5.4/ 4.9	2.3/ 1.2	4.9/ 4.9	3.0/ 2.4	0.0/ 0.0	0.0/ 0.0	25.2/ 1.2	3.4/ 3.7	2.7/ 1.2	6.7/ 82.
24	4.2/ 3.7	7.5/ 26.8	6.7/ 29.3	4.3/ 5.1	4.7/ 2.4	0.0/ 0.0	4.9/ 7.3	6.5/ 3.7	5.6/ 4.9	2.4/ 4.9	4.3/ 2.4	5.1/ 1.2	0.0/ 0.0	3.8/ 1.2	23.5/ 1.2	3.2/ 4.9	6.2/ 82.
AVE. WS	5.1	7.6	7.5	4.3	4.1	4.9	6.4	6.3	6.0	5.5	5.5	6.0	7.0	8.6	8.3	6.2	
TOTAL OC.	106	285	304	41	28	40	76	89	80	91	81	83	159	232	163	87	1945

Table 2.3J-23

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	WIND DIRECTION SECTOR N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	0.0/	9.1/	8.8/	6.5/	4.0/	5.8/	9.5/	10.2/	10.9/	0.0/	10.5/	0.0/	0.0/	8.9/	0.0/	12.1/	8.3/
	0.0	25.0	30.7	9.1	10.2	4.5	4.5	5.7	2.3	0.0	2.3	0.0	0.0	3.4	0.0	2.3	88.
2	6.9/	8.3/	9.1/	3.8/	3.9/	5.8/	6.8/	6.4/	9.7/	0.0/	7.4/	5.0/	25.3/	0.0/	0.0/	2.2/	7.7/
	3.4	22.7	30.7	5.7	4.5	3.4	11.4	9.1	2.3	0.0	3.4	1.1	1.1	0.0	0.0	1.1	88.
3	8.0/	10.2/	9.3/	4.7/	4.5/	2.8/	7.4/	7.3/	3.1/	1.4/	0.0/	2.3/	22.7/	0.0/	15.4/	1.6/	8.4/
	3.4	17.0	44.3	4.5	3.4	1.1	8.0	9.1	1.1	2.3	0.0	2.3	1.1	0.0	1.1	1.1	88.
4	3.9/	5.8/	10.0/	4.7/	4.5/	5.2/	8.2/	7.0/	15.6/	3.1/	3.0/	5.5/	25.0/	0.0/	0.0/	8.0/	7.7/
	4.5	20.5	38.6	9.1	3.4	3.4	6.8	4.5	1.1	1.1	1.1	1.1	1.1	0.0	0.0	3.4	88.
5	5.7/	10.5/	8.5/	4.1/	5.0/	7.6/	6.3/	13.4/	6.9/	13.2/	3.0/	0.0/	13.1/	2.7/	0.0/	7.6/	8.1/
	1.1	23.9	36.4	10.2	4.5	1.1	9.1	1.1	2.3	1.1	1.1	0.0	2.3	1.1	0.0	4.5	88.
6	6.7/	8.1/	8.8/	3.0/	5.1/	4.4/	9.0/	1.3/	0.0/	8.2/	0.0/	0.0/	24.0/	0.0/	2.4/	2.4/	7.6/
	8.0	25.0	36.4	5.7	2.3	5.7	8.0	2.3	0.0	2.3	0.0	0.0	1.1	0.0	2.3	1.1	88.
7	7.9/	9.2/	8.4/	6.0/	4.1/	5.7/	6.3/	5.1/	4.4/	10.7/	0.0/	0.0/	24.5/	0.0/	3.1/	3.1/	8.1/
	2.3	34.1	29.5	5.8	4.5	4.5	8.0	2.3	1.1	3.4	0.0	0.0	1.1	0.0	1.1	1.1	88.
8	3.8/	7.9/	7.5/	1.1/	2.2/	1.5/	6.5/	9.1/	3.5/	8.4/	3.7/	15.5/	13.2/	3.6/	0.0/	4.9/	6.8/
	5.7	21.8	27.6	1.1	3.4	1.1	11.5	8.0	2.3	2.3	2.3	1.1	2.3	4.6	0.0	4.6	87.
9	4.3/	7.4/	6.4/	5.1/	4.8/	2.0/	0.0/	9.1/	5.3/	5.6/	3.8/	3.5/	4.6/	6.8/	5.2/	4.7/	6.0/
	3.4	11.5	3.4	1.1	1.1	1.1	0.0	17.2	10.3	10.3	4.6	9.2	6.9	9.2	8.0	2.3	87.
10	5.0/	5.6/	12.7/	0.0/	0.0/	0.0/	6.5/	9.4/	7.3/	7.9/	5.1/	8.4/	6.3/	7.5/	5.3/	0.0/	7.0/
	4.7	2.3	1.2	0.0	0.0	0.0	1.2	8.1	16.3	9.3	12.8	9.3	17.4	11.6	5.8	0.0	86.
11	6.5/	4.3/	0.0/	0.0/	0.0/	0.0/	4.7/	10.4/	6.7/	7.7/	3.8/	5.3/	9.5/	8.2/	5.0/	0.0/	7.3/
	1.2	1.2	0.0	0.0	0.0	0.0	1.2	8.1	17.4	7.0	2.3	17.4	9.3	27.9	7.0	0.0	86.
12	0.0/	0.0/	0.0/	0.0/	0.0/	0.0/	0.0/	7.1/	9.3/	6.1/	6.5/	6.4/	7.2/	8.3/	10.4/	0.0/	7.9/
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	12.9	4.7	4.7	11.8	20.0	29.4	10.6	0.0	85.

Table 2.3J-24

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.5/ 4.6	9.1/ 9.2	5.9/ 8.0	7.7/ 11.5	5.4/ 5.7	6.6/ 18.4	9.2/ 29.9	10.5/ 11.5	5.2/ 1.1	8.2/ 87.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.3/ 3.4	8.1/ 9.2	6.4/ 9.2	7.2/ 4.6	7.5/ 11.5	7.5/ 14.9	8.9/ 31.0	10.3/ 12.6	10.0/ 3.4	8.4/ 87.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.7/ 1.1	7.9/ 3.4	5.7/ 6.9	8.6/ 5.7	7.5/ 5.7	7.7/ 13.8	6.0/ 8.0	8.2/ 33.3	10.4/ 19.5	11.0/ 2.3	8.2/ 87.
16	9.9/ 2.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.4/ 1.2	7.7/ 4.7	6.7/ 4.7	5.5/ 7.0	5.7/ 4.7	6.6/ 5.8	5.5/ 11.6	6.4/ 19.8	9.6/ 29.1	6.6/ 9.3	7.3/ 86.
17	5.5/ 9.2	6.4/ 4.6	5.4/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.5/ 2.3	8.0/ 6.9	6.1/ 2.3	5.0/ 5.7	8.0/ 2.3	3.9/ 5.7	11.7/ 3.4	5.3/ 11.5	7.9/ 16.1	7.8/ 28.7	7.1/ 87.
18	6.4/ 15.9	8.2/ 21.6	6.2/ 9.1	10.0/ 2.3	3.9/ 3.4	6.0/ 1.1	6.0/ 4.5	4.2/ 1.1	7.9/ 6.8	10.5/ 1.1	7.5/ ..1	4.3/ 5.7	7.2/ 5.7	10.2/ 3.4	6.5/ 4.5	7.4/ 12.5	7.1/ 88.
19	5.2/ 4.1	9.9/ 28.4	7.4/ 20.5	6.4/ 2.3	0.0/ 0.0	5.2/ 4.5	5.6/ 6.8	8.1/ 9.1	11.0/ 2.3	0.0/ 0.0	3.3/ 1.1	5.9/ 2.3	15.9/ 3.4	6.5/ 2.3	3.8/ 5.7	13.4/ 2.3	7.9/ 88.
20	5.2/ 5.7	8.1/ 23.9	6.9/ 31.8	4.6/ 6.8	3.5/ 2.3	0.0/ 0.0	7.7/ 11.4	7.8/ 5.7	11.9/ 1.1	9.4/ 2.3	10.1/ 1.1	0.0/ 0.0	2.6/ 1.1	11.8/ 2.3	13.9/ 4.5	0.0/ 0.0	8.2/ 88.
21	6.8/ 3.4	7.3/ 23.9	8.3/ 29.5	5.6/ 5.7	7.7/ 3.4	4.4/ 1.1	5.5/ 12.5	6.8/ 8.0	0.0/ 0.0	12.0/ 1.1	4.8/ 3.4	0.0/ 0.0	18.9/ 1.1	3.9/ 1.1	12.8/ 2.3	2.8/ 3.4	7.2/ 88.
22	5.6/ 6.8	8.1/ 21.6	9.1/ 30.7	5.5/ 5.7	6.4/ 3.4	5.1/ 2.3	5.2/ 6.8	6.6/ 4.5	5.2/ 3.4	6.4/ 3.4	17.7/ 1.1	0.0/ 0.0	25.1/ 1.1	2.0/ 3.4	2.6/ 1.1	10.5/ 4.5	7.7/ 88.
23	5.7/ 8.0	9.5/ 23.9	10.2/ 31.8	3.9/ 6.8	4.2/ 2.3	7.9/ 3.4	5.6/ 6.0	5.5/ 6.8	5.5/ 3.4	0.0/ 0.0	9.8/ 2.3	1.5/ 1.1	23.6/ 1.1	0.0/ 0.0	0.0/ 0.0	11.3/ 1.1	8.3/ 88.
24	5.2/ 4.5	8.5/ 27.3	8.2/ 36.4	3.2/ 3.4	4.3/ 5.7	5.5/ 5.7	10.9/ 2.3	12.0/ 4.5	3.6/ 2.3	0.0/ 0.0	8.7/ 2.3	1.9/ 1.1	24.7/ 1.1	2.8/ 1.1	0.0/ 0.0	9.2/ 2.3	7.8/ 88.
AVE. WS	5.8	8.5	8.8	4.9	4.5	5.3	6.8	8.2	7.3	6.9	6.6	6.0	8.6	7.8	8.7	7.5	
TOTAL OC.	90	334	413	76	51	39	111	126	105	76	66	92	117	196	124	81	2097

Table 2.3J-25

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	6.3/ 3.2	9.7/ 15.1	8.0/ 50.5	6.0/ 8.6	3.0/ 1.1	8.6/ 1.1	7.0/ 14.0	4.6/ 2.2	4.0/ 1.1	8.3/ 1.1	4.3/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.0/ 1.1	7.7/ 93.
2	15.9/ 1.1	7.1/ 20.4	9.5/ 43.0	5.5/ 7.5	4.1/ 4.3	10.2/ 3.2	7.6/ 11.8	7.3/ 2.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	1.8/ 1.1	3.2/ 2.2	0.0/ 0.0	0.0/ 0.0	5.6/ 3.2	8.0/ 93.
3	5.0/ 2.2	8.7/ 19.4	7.9/ 39.8	5.6/ 5.4	6.4/ 8.6	5.5/ 8.6	10.2/ 8.6	5.3/ 4.3	2.3/ 1.1	7.3/ 1.1	0.0/ 0.0	0.0/ 0.0	2.5/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.5/ 93.
4	4.3/ 2.2	8.6/ 28.0	9.2/ 37.6	5.4/ 9.7	3.3/ 4.3	7.5/ 3.2	10.7/ 6.5	5.8/ 4.3	3.4/ 1.1	1.7/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	3.9/ 1.1	0.0/ 0.0	1.5/ 1.1	7.9/ 93.
5	3.0/ 2.2	8.7/ 22.6	9.1/ 48.4	4.3/ 7.5	7.2/ 4.3	4.4/ 4.3	13.3/ 5.4	4.7/ 2.2	0.0/ 0.0	4.0/ 2.2	0.0/ 0.0	0.0/ 0.0	2.4/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.2/ 93.
6	9.9/ 1.1	9.1/ 23.7	8.6/ 45.2	6.9/ 8.6	8.7/ 4.3	4.8/ 4.3	9.9/ 7.5	1.1/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.6/ 1.1	0.0/ 0.0	1.7/ 1.1	0.0/ 0.0	2.0/ 2.2	8.2/ 93.
7	5.7/ 3.2	7.6/ 18.3	9.4/ 47.3	7.4/ 8.6	6.1/ 5.4	7.9/ 4.3	8.7/ 5.4	6.4/ 3.2	9.6/ 2.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.3/ 2.2	8.4/ 93.
8	6.7/ 4.3	6.8/ 19.4	9.1/ 34.4	8.1/ 8.6	5.1/ 6.5	5.4/ 6.5	10.0/ 6.5	6.6/ 9.7	1.8/ 1.1	0.0/ 0.0	0.0/ 0.0	1.6/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	3.8/ 2.2	7.5/ 93.
9	4.4/ 4.3	6.6/ 10.8	9.0/ 11.8	10.8/ 4.3	2.8/ 1.1	0.0/ 0.0	7.1/ 8.6	7.6/ 16.1	4.3/ 9.7	3.7/ 9.7	3.6/ 2.2	2.5/ 4.3	3.5/ 3.2	3.4/ 6.5	4.1/ 3.2	6.8/ 4.3	6.0/ 93.
10	8.2/ 2.2	7.4/ 2.2	10.2/ 4.4	0.0/ 0.0	0.0/ 0.0	7.2/ 2.2	10.6/ 2.2	9.6/ 12.1	7.2/ 13.2	4.7/ 11.0	3.8/ 9.9	3.8/ 6.6	4.6/ 7.7	5.3/ 18.7	4.3/ 3.3	7.3/ 4.4	6.3/ 91.
11	0.0/ 0.0	14.3/ 3.3	10.0/ 3.3	0.0/ 0.0	10.2/ 1.1	0.0/ 0.0	0.0/ 0.0	9.2/ 6.6	7.2/ 15.4	7.4/ 12.1	4.6/ 6.6	4.5/ 6.6	5.8/ 16.5	6.7/ 24.2	11.0/ 3.3	8.3/ 1.1	7.1/ 91.
12	15.9/ 2.2	14.5/ 2.2	8.6/ 2.2	6.1/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.6/ 6.6	9.3/ 7.7	5.4/ 4.4	7.8/ 8.8	5.8/ 13.2	6.1/ 16.5	7.3/ 22.0	7.2/ 12.1	3.7/ 1.1	7.4/ 91.

Table 2.3J-26

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 10 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	18.4/ 1.1	9.8/ 3.3	14.4/ 1.1	0.0/ 0.0	0.0/ 0.0	12.6/ 2.2	10.2/ 3.3	8.7/ 5.5	7.4/ 5.5	5.1/ 13.2	7.3/ 4.4	5.9/ 16.5	7.7/ 28.6	8.4/ 12.1	7.0/ 3.3	7.6/ 91.
14	14.0/ 3.3	0.0/ 0.0	15.2/ 3.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.1/ 1.1	15.1/ 2.2	9.2/ 7.8	5.4/ 8.9	6.6/ 4.4	5.8/ 8.9	6.3/ 10.0	6.4/ 31.1	7.8/ 16.7	7.4/ 2.2	7.4/ 90.
15	6.8/ 1.1	14.6/ 2.2	12.1/ 4.4	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.6/ 4.4	9.1/ 3.3	7.8/ 6.7	5.6/ 6.7	5.3/ 8.9	5.9/ 12.2	6.7/ 23.3	9.1/ 15.6	7.1/ 11.1	7.4/ 90.
16	4.7/ 2.2	13.1/ 5.4	9.4/ 1.1	8.9/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.7/ 4.3	5.3/ 5.4	5.6/ 2.2	4.3/ 5.4	7.7/ 4.3	5.1/ 10.9	6.1/ 18.5	7.0/ 23.9	7.2/ 15.2	6.9/ 92.
17	5.3/ 21.5	7.1/ 6.5	9.9/ 4.3	6.3/ 4.3	0.0/ 0.0	0.0/ 0.0	8.0/ 1.1	7.9/ 6.5	6.9/ 4.3	2.4/ 2.2	3.8/ 6.5	6.5/ 1.1	14.1/ 2.2	5.7/ 2.2	6.0/ 19.4	7.2/ 18.3	6.5/ 93.
18	6.3/ 9.7	8.7/ 30.1	8.6/ 20.4	4.9/ 2.2	4.8/ 2.2	1.9/ 1.1	6.9/ 11.8	7.6/ 3.2	6.0/ 4.3	6.2/ 2.2	5.9/ 1.1	0.0/ 0.0	2.1/ 1.1	13.3/ 2.2	8.1/ 1.1	7.9/ 7.5	7.7/ 93.
19	8.9/ 4.3	8.7/ 19.4	9.3/ 35.5	3.5/ 3.2	3.9/ 4.3	4.1/ 5.4	5.9/ 11.8	5.6/ 5.4	8.5/ 4.3	18.9/ 1.1	1.9/ 1.1	1.7/ 1.1	9.5/ 1.1	0.0/ 0.0	16.8/ 1.1	11.1/ 1.1	7.9/ 93.
20	11.5/ 1.1	8.2/ 19.4	9.2/ 36.6	5.3/ 8.6	2.8/ 1.1	12.4/ 1.1	6.4/ 14.0	7.7/ 8.6	3.8/ 4.3	24.2/ 1.1	0.0/ 0.0	3.5/ 2.2	2.7/ 1.1	3.8/ 1.1	0.0/ 0.0	0.0/ 0.0	7.8/ 93.
21	4.5/ 4.3	8.5/ 20.4	7.2/ 38.7	3.6/ 5.4	5.5/ 3.2	4.6/ 5.4	7.4/ 12.9	3.8/ 5.4	10.5/ 2.2	1.5/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	2.2/ 1.1	0.0/ 0.0	0.0/ 0.0	6.8/ 93.
22	5.2/ 3.2	8.6/ 23.7	8.2/ 36.6	4.9/ 6.5	2.6/ 3.2	7.7/ 2.2	7.5/ 10.8	9.0/ 3.2	6.5/ 3.2	9.7/ 3.2	1.6/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	1.6/ 1.1	2.4/ 2.2	7.5/ 93.
23	5.7/ 1.1	7.9/ 25.8	8.8/ 38.7	3.8/ 3.2	6.0/ 6.5	3.5/ 4.3	8.0/ 7.5	8.8/ 7.5	6.2/ 3.2	12.7/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	.9/ 1.1	7.8/ 93.
24	5.0/ 2.2	9.0/ 15.1	9.1/ 44.1	3.3/ 3.2	5.5/ 6.5	3.7/ 6.5	9.5/ 8.6	9.4/ 5.4	17.6/ 1.1	0.0/ 0.0	6.0/ 1.1	0.0/ 0.0	1.2/ 1.1	1.6/ 1.1	1.4/ 1.1	4.6/ 3.2	8.0/ 93.
AVE. WS	5.5	8.5	8.8	5.9	5.4	5.6	8.1	7.8	7.1	6.3	5.0	5.1	5.6	6.5	7.3	6.6	
TOTAL OC.	76	329	590	101	63	59	147	120	93	71	63	59	95	166	104	81	2217

Amended: April 2009 TL: E048000

APPENDIX 2.3K

DIURNAL WIND VARIATION TABLES
FOR THE 36.6/40 METER LEVELS
AT THE SAN ONOFRE PLANT SITE
(TABLES 2.3K-1 THROUGH 2.3K-26)

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Table 2.3K-1

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	WIND DIRECTION SECTOR N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	5.0/ 9.9	6.9/ 14.5	6.0/ 9.9	5.1/ 4.8	3.8/ 5.9	5.3/ 9.3	7.1/ 13.2	5.6/ 5.9	5.9/ 5.0	5.0/ 3.4	4.0/ 2.7	5.9/ 2.3	6.8/ 3.2	6.8/ 3.4	3.9/ 2.0	5.1/ 4.7	5.8/ 881.
2	5.6/ 10.4	6.8/ 13.6	6.4/ 10.1	4.5/ 5.8	5.2/ 5.3	4.9/ 8.7	7.0/ 14.4	5.4/ 8.1	5.5/ 4.4	4.8/ 2.5	6.5/ 2.4	6.0/ 1.9	6.1/ 2.6	7.6/ 2.6	5.6/ 3.6	3.9/ 3.4	5.9/ 881.
3	5.7/ 8.4	6.9/ 15.0	6.1/ 11.2	5.2/ 6.8	5.2/ 6.2	5.5/ 8.0	6.7/ 13.6	6.3/ 6.5	5.7/ 3.9	5.4/ 2.5	5.7/ 1.9	5.3/ 2.2	6.7/ 3.1	7.7/ 2.3	4.4/ 3.2	4.4/ 5.4	5.9/ 878.
4	5.4/ 9.4	7.5/ 18.2	6.4/ 12.5	4.9/ 5.4	4.7/ 6.5	5.5/ 8.3	6.9/ 11.1	6.4/ 6.6	6.0/ 4.0	5.1/ 3.0	6.6/ 2.1	4.6/ 1.7	8.8/ 2.2	6.2/ 1.9	4.9/ 3.1	4.1/ 4.1	6.1/ 877.
5	5.3/ 8.7	7.0/ 20.0	7.4/ 12.5	4.5/ 4.9	4.6/ 5.8	5.5/ 8.9	7.1/ 12.9	5.0/ 5.8	6.4/ 3.3	5.9/ 2.7	5.8/ 2.2	7.1/ 1.5	5.1/ 2.2	8.2/ 2.5	3.9/ 2.7	4.0/ 3.4	6.1/ 877.
6	5.0/ 9.7	7.3/ 21.7	6.5/ 12.1	5.8/ 5.2	4.6/ 6.0	5.2/ 8.1	7.4/ 11.6	5.8/ 6.2	6.8/ 3.0	5.5/ 2.5	8.2/ 1.5	6.7/ 1.3	6.5/ 3.0	6.0/ 1.8	4.6/ 2.6	3.7/ 3.8	6.2/ 877.
7	4.8/ 8.0	7.0/ 18.5	6.4/ 10.6	6.4/ 5.6	4.4/ 4.6	6.2/ 5.9	7.0/ 13.4	6.0/ 7.7	5.5/ 4.5	5.6/ 4.0	6.3/ 1.9	5.2/ 3.3	6.1/ 2.5	7.7/ 2.3	4.5/ 3.2	4.3/ 4.0	6.1/ 875.
8	4.4/ 5.5	6.6/ 12.6	6.8/ 7.8	5.3/ 2.5	4.6/ 2.6	5.4/ 3.8	8.1/ 12.8	6.6/ 10.0	5.8/ 7.2	5.3/ 5.0	5.6/ 5.0	5.0/ 6.2	6.7/ 6.4	5.7/ 6.4	3.8/ 2.7	3.9/ 3.3	6.1/ 873.
9	5.1/ 3.9	6.9/ 4.5	7.6/ 2.6	9.1/ 1.0	2.7/ .9	6.8/ 1.5	9.2/ 7.9	7.5/ 11.9	5.7/ 12.2	5.7/ 9.2	5.0/ 8.1	5.8/ 10.8	6.6/ 12.3	8.1/ 7.6	6.0/ 3.2	4.1/ 2.4	6.5/ 872.
10	5.6/ 1.6	9.3/ 1.2	11.6/ 1.6	9.9/ .5	9.7/ .5	6.7/ .3	10.3/ 5.6	9.2/ 11.5	7.1/ 12.8	5.9/ 9.4	5.9/ 11.4	6.6/ 13.6	7.3/ 19.1	8.3/ 10.0	7.4/ 2.4	5.6/ .5	7.4/ 866.
11	12.4/ .5	13.4/ .8	14.8/ .6	14.3/ .6	15.2/ .2	9.6/ .2	8.0/ 1.4	10.0/ 8.1	8.3/ 12.6	7.1/ 9.4	6.6/ 11.2	7.2/ 17.1	8.0/ 21.2	9.1/ 13.8	8.6/ 2.2	3.6/ .1	8.1/ 864.
12	12.8/ .7	9.8/ .2	15.0/ .9	15.2/ .2	13.2/ .2	11.4/ .2	8.3/ 1.4	10.4/ 5.7	8.6/ 9.0	7.6/ 9.8	7.6/ 11.3	7.4/ 16.6	8.5/ 23.0	9.9/ 17.3	9.1/ 3.1	7.5/ .2	8.6/ 866.

Amended: April 2009 TL: E048000

Table 2.3K-2

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	16.0/ .1	17.5/ .3	15.4/ .8	14.3/ .1	9.7/ .2	6.0/ .2	14.9/ .8	10.0/ 3.3	8.8/ 8.0	7.7/ 9.7	7.5/ 12.3	8.0/ 15.7	9.1/ 23.4	9.7/ 20.1	10.0/ 4.3	7.3/ .5	8.9/ 870.
14	11.8/ .5	0.0/ 0.0	17.2/ .7	7.5/ .2	9.0/ .1	4.1/ .1	12.7/ .3	11.2/ 2.8	9.5/ 6.8	7.3/ 10.1	7.9/ 10.7	7.3/ 16.5	9.2/ 22.0	10.1/ 22.9	8.7/ 5.3	6.8/ 1.0	8.9/ 869.
15	13.6/ .1	15.1/ .6	12.6/ .6	10.4/ .1	12.9/ .1	5.1/ .1	8.7/ .6	10.3/ 3.0	9.4/ 5.5	7.5/ 6.6	7.4/ 11.8	7.5/ 15.1	8.6/ 23.7	10.3/ 20.8	9.5/ 8.3	9.3/ 1.1	8.8/ 875.
16	9.6/ .7	11.5/ .5	17.3/ .5	6.2/ .2	10.4/ .1	0.0/ 0.0	7.2/ .6	9.4/ 3.9	8.7/ 5.4	7.4/ 7.6	6.5/ 11.4	6.9/ 12.5	8.7/ 18.9	9.9/ 22.9	9.5/ 12.3	7.1/ 2.5	8.5/ 877.
17	6.6/ 2.5	9.4/ .8	12.8/ .8	11.1/ .2	18.1/ .1	7.1/ .2	7.3/ 1.2	9.1/ 4.8	7.0/ 6.8	6.4/ 8.9	6.0/ 7.8	6.1/ 10.3	8.2/ 15.6	10.0/ 21.5	9.3/ 12.1	7.7/ 6.2	8.1/ 883.
18	6.5/ 6.3	9.9/ 3.6	10.4/ 1.6	6.6/ .6	9.4/ .3	6.5/ 1.0	7.2/ 3.8	8.2/ 5.6	7.0/ 7.1	5.8/ 7.7	5.7/ 8.1	5.5/ 5.3	7.3/ 12.0	9.6/ 17.7	8.5/ 12.3	8.0/ 6.9	7.7/ 886.
19	6.1/ 7.5	9.1/ 8.0	8.3/ 3.5	4.3/ .7	5.1/ 1.4	5.8/ 2.8	6.6/ 6.2	7.3/ 7.7	6.5/ 6.8	5.7/ 5.9	4.9/ 5.4	5.7/ 6.0	7.0/ 6.4	8.5/ 13.9	8.5/ 12.7	6.8/ 5.5	7.1/ 888.
20	6.9/ 6.9	8.0/ 9.8	8.2/ 6.0	7.1/ 1.1	4.7/ 2.3	5.1/ 4.4	7.1/ 9.7	6.8/ 10.1	6.1/ 5.9	6.6/ 3.9	4.0/ 3.7	4.5/ 4.2	5.8/ 4.8	7.2/ 10.4	8.4/ 10.5	5.8/ 6.3	6.8/ 887.
21	6.3/ 8.1	7.7/ 10.5	6.9/ 7.2	5.7/ 3.0	4.1/ 4.0	5.2/ 6.3	6.2/ 12.4	6.8/ 8.9	6.0/ 5.6	6.1/ 4.0	3.5/ 2.0	5.4/ 3.7	5.1/ 3.4	7.5/ 7.1	6.9/ 8.7	5.2/ 5.0	6.3/ 886.
22	5.7/ 8.9	7.6/ 11.7	7.1/ 7.8	4.9/ 3.7	4.3/ 3.8	5.7/ 8.0	6.1/ 13.5	6.9/ 7.9	6.5/ 5.8	4.9/ 4.4	5.6/ 2.3	5.8/ 2.3	4.7/ 3.3	7.5/ 5.0	6.7/ 5.0	5.2/ 6.7	6.2/ 886.
23	5.7/ 9.5	7.4/ 13.5	6.7/ 9.5	4.6/ 3.6	4.9/ 4.9	4.9/ 6.7	6.9/ 11.2	7.0/ 9.1	5.9/ 5.8	5.3/ 2.2	5.4/ 2.9	6.4/ 2.2	4.7/ 3.7	7.2/ 4.8	6.1/ 2.7	4.2/ 6.7	6.1/ 882.
24	4.9/ 9.4	6.7/ 15.1	6.0/ 9.9	5.3/ 4.8	4.3/ 5.9	5.4/ 8.5	6.4/ 12.7	6.8/ 7.7	6.1/ 4.6	5.2/ 2.9	4.8/ 2.2	5.1/ 2.2	7.3/ 3.6	8.2/ 3.7	5.7/ 2.8	4.9/ 4.1	5.9/ 883.
AVE. WS	5.7	7.4	7.0	5.5	4.8	5.4	7.1	7.4	7.0	6.4	6.3	6.7	7.9	9.1	7.7	5.4	
TOTAL OC.	1208	1893	1240	552	598	896	1674	1480	1365	1214	1246	1523	2110	2127	1155	773	21059

Table 2.3K-3

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	5.6/ 7.5	8.5/ 22.4	9.3/ 14.9	5.0/ 6.0	4.3/ 6.0	2.7/ 7.5	6.1/ 13.4	5.3/ 3.0	1.7/ 3.0	7.5/ 4.5	1.5/ 4.5	3.0/ 1.5	2.1/ 1.5	16.8/ 3.0	0.0/ 0.0	5.0/ 1.5	6.5/ 67.
2	7.7/ 9.0	7.5/ 22.4	8.3/ 14.9	7.2/ 6.0	3.7/ 6.0	2.2/ 6.0	6.6/ 14.9	2.9/ 7.5	1.9/ 6.0	8.3/ 1.5	0.0/ 0.0	2.3/ 1.5	2.0/ 1.5	21.8/ 1.5	0.0/ 0.0	9.1/ 1.5	6.4/ 67.
3	9.3/ 4.5	10.1/ 14.9	7.1/ 14.9	7.7/ 9.0	5.2/ 9.0	4.8/ 11.9	7.6/ 11.9	3.8/ 10.4	5.4/ 4.5	2.6/ 4.5	2.7/ 1.5	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.4/ 1.5	2.1/ 1.5	6.5/ 67.
4	6.3/ 4.5	8.4/ 28.4	9.2/ 13.4	8.7/ 4.5	4.0/ 7.5	5.0/ 4.5	4.9/ 19.4	2.3/ 3.0	5.5/ 3.0	3.7/ 3.0	9.3/ 1.5	0.0/ 0.0	0.0/ 0.0	4.5/ 1.5	0.0/ 0.0	4.6/ 6.0	6.6/ 67.
5	0.0/ 0.0	7.9/ 28.4	10.5/ 17.9	11.3/ 4.5	0.0/ 0.0	3.3/ 14.9	6.1/ 13.4	3.2/ 4.5	2.1/ 3.0	4.2/ 4.5	0.0/ 0.0	4.1/ 1.5	0.0/ 0.0	4.2/ 1.5	3.4/ 4.5	2.2/ 1.5	6.6/ 67.
6	5.3/ 7.5	8.8/ 28.4	7.9/ 14.9	6.9/ 9.0	5.3/ 7.5	3.2/ 11.9	7.5/ 9.0	6.3/ 3.0	.4/ 1.5	2.9/ 1.5	4.9/ 3.0	0.0/ 0.0	3.1/ 3.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.6/ 67.
7	0.0/ 0.0	7.6/ 26.9	9.2/ 13.4	7.6/ 11.9	2.6/ 6.0	4.2/ 6.0	4.7/ 20.9	4.2/ 4.5	1.9/ 4.5	11.6/ 1.5	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	2.0/ 1.5	3.5/ 1.5	3.5/ 1.5	6.2/ 67.
8	2.2/ 3.0	7.5/ 28.4	8.3/ 9.0	6.8/ 1.5	4.7/ 6.0	3.9/ 3.0	5.3/ 17.9	3.9/ 7.5	0.0/ 4.5	2.8/ 1.5	2.4/ 3.0	2.4/ 6.0	0.0/ 0.0	4.7/ 3.0	0.0/ 0.0	4.2/ 6.0	5.6/ 67.
9	3.4/ 7.5	5.1/ 11.9	8.0/ 6.0	3.1/ 3.0	1.9/ 1.5	4.4/ 7.5	7.9/ 6.0	5.2/ 17.9	5.5/ 7.5	2.2/ 1.5	8.5/ 1.5	4.0/ 6.0	3.3/ 4.5	5.7/ 4.5	3.4/ 7.5	2.4/ 6.0	4.8/ 67.
10	2.6/ 3.0	10.8/ 1.5	11.4/ 3.0	13.7/ 3.0	0.0/ 0.0	1.4/ 1.5	6.2/ 4.5	9.9/ 16.4	6.5/ 16.4	5.7/ 10.4	2.9/ 6.0	4.9/ 7.5	3.8/ 13.4	4.3/ 10.4	5.2/ 3.0	0.0/ 0.0	6.2/ 67.
11	0.0/ 0.0	0.0/ 0.0	16.3/ 3.0	14.7/ 1.5	17.1/ 1.5	0.0/ 0.0	2.8/ 1.5	9.1/ 11.9	8.2/ 14.9	7.9/ 9.0	2.7/ 3.0	5.6/ 16.4	5.5/ 19.4	6.0/ 10.4	5.3/ 7.5	0.0/ 0.0	7.1/ 67.
12	0.0/ 0.0	0.0/ 0.0	15.1/ 2.9	19.6/ 1.5	19.1/ 1.5	0.0/ 0.0	9.5/ 2.9	9.4/ 13.2	7.4/ 8.8	7.0/ 4.4	8.2/ 4.4	5.3/ 11.8	6.0/ 19.1	7.1/ 17.6	6.9/ 10.3	6.3/ 1.5	7.7/ 68.

Table 2.3K-4

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	13.1/ 1.5	14.3/ 1.5	0.0/ 0.0	5.0/ 1.5	19.3/ 1.5	7.4/ 3.0	7.0/ 14.9	7.0/ 7.5	14.2/ 1.5	6.7/ 13.4	7.8/ 17.9	6.8/ 25.4	8.4/ 9.0	4.3/ 1.5	7.6/ 67.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	2.4/ 1.5	9.0/ 1.5	0.0/ 0.0	9.6/ 2.9	7.0/ 4.4	7.3/ 7.4	7.5/ 13.2	5.3/ 5.9	6.2/ 8.8	6.2/ 13.2	7.7/ 29.4	7.5/ 8.8	5.8/ 2.9	7.1/ 68.
15	0.0/ 0.0	0.0/ 0.0	2.1/ 1.5	0.0/ 0.0	0.0/ 0.0	5.1/ 1.5	8.7/ 1.5	10.1/ 4.4	7.6/ 4.4	7.5/ 13.2	3.7/ 7.4	3.9/ 2.9	5.8/ 16.2	8.2/ 27.9	7.1/ 16.2	9.3/ 2.9	7.0/ 68.
16	4.4/ 4.4	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	2.2/ 1.5	7.3/ 8.8	6.5/ 4.4	8.7/ 7.4	4.4/ 5.9	4.4/ 4.4	5.5/ 5.9	7.4/ 25.0	7.3/ 23.5	6.5/ 8.8	6.7/ 68.
17	3.6/ 5.8	3.1/ 2.9	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.8/ 1.4	0.0/ 0.0	7.3/ 5.8	6.3/ 7.2	3.2/ 2.9	6.4/ 4.3	6.2/ 2.9	5.2/ 5.8	6.5/ 13.0	6.9/ 27.5	6.9/ 20.3	6.3/ 69.
18	5.4/ 17.4	10.2/ 17.4	10.8/ 1.4	12.5/ 2.9	5.5/ 1.4	4.5/ 2.9	7.3/ 8.7	4.6/ 2.9	6.2/ 1.4	3.6/ 2.9	15.1/ 1.4	4.0/ 4.3	9.5/ 2.9	5.1/ 4.3	4.0/ 15.9	6.8/ 11.6	6.7/ 69.
19	6.2/ 17.4	9.6/ 29.0	6.0/ 8.7	4.1/ 1.4	5.4/ 1.4	2.9/ 1.4	5.9/ 13.0	5.0/ 5.8	4.1/ 5.8	2.0/ 2.9	6.3/ 1.4	10.2/ 2.9	0.0/ 0.0	14.6/ 2.9	10.7/ 1.4	4.4/ 4.3	7.1/ 69.
20	5.6/ 7.2	8.1/ 26.1	6.5/ 20.3	14.6/ 1.4	3.4/ 2.9	3.8/ 7.2	6.7/ 13.0	3.3/ 5.8	4.6/ 1.4	0.0/ 0.0	2.4/ 1.4	0.0/ 0.0	10.3/ 2.9	17.5/ 4.3	4.0/ 4.3	3.3/ 1.4	6.9/ 69.
21	5.9/ 8.7	8.0/ 24.6	6.2/ 20.3	6.7/ 5.8	0.0/ 0.0	3.2/ 10.1	6.1/ 13.0	4.9/ 2.9	2.2/ 4.3	2.7/ 1.4	4.0/ 1.4	3.6/ 1.4	10.5/ 2.9	30.0/ 1.4	17.1/ 1.4	0.0/ 0.0	6.6/ 69.
22	5.6/ 1.4	6.1/ 24.6	8.1/ 17.4	0.0/ 0.0	3.1/ 7.2	5.2/ 10.1	5.4/ 17.4	3.7/ 2.9	3.2/ 2.9	5.4/ 1.4	4.4/ 1.4	0.0/ 0.0	8.2/ 2.9	5.0/ 1.4	13.6/ 4.3	5.4/ 4.3	6.7/ 69.
23	5.5/ 4.3	8.3/ 29.0	9.3/ 18.8	5.0/ 11.6	4.9/ 2.9	3.6/ 4.3	7.0/ 11.6	4.0/ 5.8	0.0/ 0.0	2.6/ 1.4	0.0/ 0.0	8.9/ 2.9	2.0/ 1.4	11.0/ 2.9	21.5/ 1.4	0.0/ 1.4	7.3/ 69.
24	3.5/ 2.9	8.1/ 23.2	7.2/ 13.0	4.8/ 8.7	2.9/ 5.8	4.5/ 5.8	5.1/ 10.1	6.4/ 13.0	0.0/ 0.0	0.0/ 1.4	3.1/ 4.3	0.0/ 0.0	4.1/ 2.9	12.5/ 4.3	3.6/ 1.4	8.5/ 2.9	6.2/ 69.
AVE. WS	5.5	8.2	8.3	7.5	4.7	3.8	6.2	6.2	5.8	6.1	4.8	5.4	5.9	7.8	6.7	5.7	
TOTAL OC.	79	265	157	55	51	82	156	114	89	70	44	65	93	134	103	61	1628

Amended: April 2009 TL: E048000

Table 2.3K-5

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	3.0/ 4.8	5.7/ 15.5	6.8/ 15.5	9.5/ 7.1	2.2/ 10.7	2.8/ 8.3	9.8/ 11.9	3.4/ 2.4	6.6/ 7.1	1.5/ 2.4	6.2/ 4.8	18.9/ 1.2	2.2/ 2.4	16.1/ 1.2	3.0/ 2.4	3.0/ 2.4	5.9/ 84.
2	3.1/ 1.2	5.6/ 16.7	7.6/ 16.7	3.0/ 8.3	5.9/ 6.0	1.9/ 11.9	10.1/ 11.9	4.7/ 7.1	3.5/ 4.8	3.8/ 1.2	8.8/ 2.4	4.9/ 2.4	6.7/ 1.2	15.8/ 1.2	5.2/ 6.0	2.2/ 1.2	5.8/ 84.
3	3.7/ 6.0	5.6/ 8.3	6.1/ 22.6	6.8/ 14.3	2.8/ 9.5	5.1/ 10.7	5.8/ 13.1	8.3/ 4.8	.6/ 2.4	6.5/ 1.2	12.6/ 1.2	5.1/ 1.2	0.0/ 0.0	15.0/ 1.2	3.7/ 2.4	4.1/ 1.2	5.6/ 84.
4	6.5/ 4.8	6.8/ 15.5	6.9/ 22.6	8.3/ 10.7	2.8/ 2.4	5.0/ 13.1	7.3/ 9.5	4.8/ 4.8	8.1/ 4.8	4.0/ 4.8	9.1/ 1.2	6.9/ 1.2	0.0/ 0.0	0.0/ 0.0	.5/ 1.2	4.7/ 3.6	6.4/ 84.
5	4.2/ 7.1	8.1/ 19.0	9.3/ 22.6	6.6/ 10.7	0.0/ 0.0	8.1/ 9.5	8.3/ 13.1	2.1/ 2.4	27.8/ 1.2	2.9/ 2.4	6.5/ 2.4	8.2/ 3.6	.6/ 1.2	3.6/ 1.2	4.2/ 2.4	6.0/ 1.2	7.6/ 84.
6	3.5/ 6.0	5.3/ 19.0	8.4/ 29.8	10.6/ 6.0	4.6/ 3.6	6.1/ 4.8	9.7/ 14.3	5.1/ 7.1	0.0/ 0.0	5.5/ 2.4	15.3/ 2.4	0.0/ 0.0	4.8/ 1.2	3.2/ 2.4	0.0/ 0.0	1.1/ 1.2	7.2/ 84.
7	3.4/ 7.1	5.0/ 16.7	6.6/ 19.0	14.5/ 7.1	2.3/ 3.6	4.8/ 4.8	7.3/ 23.8	3.1/ 6.0	3.2/ 1.2	11.4/ 2.4	9.0/ 3.6	8.7/ 1.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	1.6/ 3.6	6.4/ 84.
8	3.9/ 6.0	4.4/ 17.9	6.7/ 20.2	3.3/ 8.3	4.0/ 9.5	1.7/ 3.6	11.7/ 14.3	4.0/ 7.1	21.5/ 1.2	3.7/ 1.2	0.0/ 0.0	8.6/ 4.8	0.0/ 0.0	10.0/ 2.4	0.0/ 0.0	3.5/ 3.6	6.1/ 84.
9	4.8/ 8.3	5.2/ 11.9	7.1/ 13.1	8.6/ 6.0	.8/ 2.4	2.6/ 1.2	11.8/ 10.7	7.6/ 11.9	2.3/ 9.5	3.5/ 6.0	0.0/ 0.0	10.4/ 3.6	4.9/ 4.8	7.0/ 2.4	7.2/ 3.6	3.1/ 4.8	6.3/ 84.
10	4.8/ 3.6	5.6/ 6.0	8.6/ 6.0	6.1/ 2.4	8.5/ 2.4	0.0/ 0.0	14.4/ 7.1	9.1/ 11.9	4.6/ 17.9	2.3/ 7.1	2.9/ 4.8	2.4/ 7.1	4.5/ 13.1	6.2/ 6.0	3.5/ 3.6	4.0/ 1.2	5.9/ 84.
11	3.4/ 1.2	3.0/ 1.2	15.5/ 1.2	14.9/ 3.6	0.0/ 0.0	12.5/ 1.2	7.5/ 2.4	12.6/ 10.7	6.8/ 15.5	4.5/ 11.9	4.2/ 8.3	6.6/ 13.1	7.0/ 9.5	6.4/ 19.0	3.0/ 1.2	0.0/ 0.0	7.2/ 84.
12	0.0/ 0.0	2.4/ 1.2	14.8/ 2.4	10.9/ 1.2	0.0/ 0.0	0.0/ 0.0	7.2/ 2.4	15.3/ 7.1	6.8/ 10.7	6.2/ 9.5	4.2/ 11.9	6.9/ 11.9	6.4/ 17.9	7.7/ 16.7	5.6/ 7.1	0.0/ 0.0	7.3/ 84.

Table 2.3K-6

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
13	0.0/ 0.0	10.3/ 1.2	18.2/ 2.4	0.0/ 0.0	15.5/ 1.2	0.0/ 0.0	24.0/ 1.2	10.9/ 8.3	5.4/ 3.6	8.3/ 4.8	4.5/ 13.1	5.9/ 11.9	7.6/ 14.3	7.2/ 27.4	9.9/ 8.3	3.5/ 2.4	7.8/ 84.
14	0.0/ 0.0	0.0/ 0.0	15.1/ 2.4	12.9/ 1.2	0.0/ 0.0	0.0/ 0.0	19.1/ 1.2	16.5/ 3.6	7.7/ 6.0	4.9/ 7.1	5.2/ 8.3	4.9/ 11.9	6.9/ 14.3	7.7/ 29.8	8.2/ 14.3	0.0/ 0.0	7.6/ 84.
15	0.0/ 0.0	1.3/ 1.2	23.5/ 1.2	10.4/ 1.2	0.0/ 0.0	0.0/ 0.0	2.9/ 1.2	15.4/ 2.4	11.5/ 7.1	7.9/ 4.8	6.5/ 4.8	6.5/ 8.3	5.9/ 17.9	9.0/ 26.2	8.2/ 22.6	8.7/ 1.2	8.2/ 84.
16	19.7/ 1.2	0.0/ 0.0	23.4/ 1.2	.8/ 1.2	0.0/ 0.0	0.0/ 0.0	1.2/ 1.2	13.5/ 3.6	8.6/ 4.8	8.4/ 4.8	5.5/ 8.3	7.6/ 6.0	5.4/ 8.3	6.7/ 26.2	8.5/ 32.1	5.8/ 1.2	7.7/ 84.
17	7.2/ 1.2	12.9/ 1.2	13.6/ 6.0	0.0/ 0.0	18.1/ 1.2	0.0/ 0.0	8.5/ 4.8	11.2/ 3.6	6.9/ 3.6	6.7/ 3.6	4.4/ 6.0	3.8/ 6.0	8.2/ 6.0	6.8/ 23.8	8.4/ 20.2	8.3/ 13.1	7.9/ 84.
18	5.0/ 6.0	0.0/ 0.0	10.5/ 6.0	0.0/ 0.0	11.3/ 2.4	2.0/ 1.2	7.2/ 3.6	10.2/ 2.4	13.8/ 4.8	2.4/ 3.6	2.9/ 4.8	7.1/ 4.8	3.0/ 6.0	7.6/ 11.9	7.2/ 22.6	8.0/ 20.2	7.3/ 84.
19	5.7/ 18.1	6.0/ 8.4	8.4/ 9.6	2.9/ 1.2	5.1/ 3.6	7.4/ 2.4	6.2/ 6.0	4.4/ 2.4	17.1/ 2.4	4.5/ 2.4	7.0/ 2.4	2.8/ 1.2	8.1/ 4.8	3.1/ 7.2	5.6/ 13.3	4.5/ 14.5	5.9/ 83.
20	5.8/ 10.7	7.4/ 14.3	9.1/ 17.9	9.7/ 4.8	18.6/ 1.2	5.2/ 7.1	4.2/ 7.1	7.5/ 4.8	7.0/ 8.3	7.5/ 1.2	2.6/ 2.4	7.1/ 3.6	3.1/ 2.4	.7/ 3.6	6.2/ 3.6	5.3/ 7.1	6.7/ 84.
21	5.5/ 7.2	6.8/ 15.7	7.6/ 19.3	7.7/ 9.6	3.4/ 3.6	3.9/ 6.0	6.0/ 12.0	10.1/ 4.8	13.6/ 3.6	3.0/ 3.6	0.0/ 0.0	9.2/ 2.4	0.0/ 0.0	2.3/ 2.4	5.6/ 4.8	4.1/ 4.8	6.6/ 83.
22	4.9/ 10.7	8.3/ 13.1	6.7/ 20.2	6.0/ 10.7	8.5/ 6.0	3.7/ 8.3	5.9/ 9.5	10.9/ 6.0	10.5/ 2.4	3.6/ 2.4	6.8/ 1.2	15.0/ 1.2	.6/ 1.2	0.0/ 0.0	12.7/ 1.2	6.8/ 6.0	6.8/ 84.
23	4.0/ 3.6	9.2/ 17.9	6.6/ 19.0	7.2/ 7.1	5.3/ 8.3	3.9/ 4.8	6.6/ 13.1	8.2/ 11.9	2.5/ 3.6	4.7/ 1.2	8.8/ 2.4	9.4/ 1.2	2.0/ 1.2	3.1/ 1.2	5.3/ 3.6	0.0/ 0.0	6.8/ 84.
24	3.4/ 2.4	6.6/ 19.0	6.9/ 20.2	9.8/ 6.0	3.2/ 9.5	3.7/ 6.0	6.2/ 17.9	3.2/ 2.4	12.0/ 1.2	8.7/ 4.8	13.9/ 1.2	.5/ 1.2	5.0/ 2.4	12.7/ 1.2	5.8/ 2.4	1.6/ 2.4	6.2/ 84.
AVE. WS	4.9	6.4	7.9	7.8	4.9	4.5	8.2	8.6	7.2	5.3	5.6	6.5	5.9	7.2	7.3	5.6	
TOTAL OC.	98	202	266	198	73	88	179	117	107	81	82	93	109	180	150	81	2014

Amended: April 2009 TL: E048000

Table 2.3K-7

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
1	5.0/ 9.8	8.3/ 12.0	5.0/ 13.0	5.9/ 3.3	5.8/ 4.3	7.5/ 10.9	7.2/ 16.3	5.6/ 5.4	15.9/ 3.3	0.0/ 0.0	.8/ 1.1	5.7/ 4.3	15.1/ 6.5	5.2/ 5.4	6.4/ 3.3	4.4/ 1.1	7.2/ 92.
2	5.1/ 13.0	9.5/ 8.7	5.3/ 14.1	3.0/ 2.2	6.1/ 7.6	5.8/ 10.9	7.8/ 17.4	13.8/ 2.2	8.1/ 3.3	5.8/ 3.3	6.3/ 1.1	11.8/ 2.2	8.7/ 3.3	16.7/ 5.4	5.2/ 3.3	2.7/ 2.2	7.3/ 92.
3	5.0/ 9.8	7.4/ 18.5	3.3/ 8.7	2.7/ 4.3	6.1/ 6.5	6.1/ 7.6	11.0/ 15.2	11.5/ 4.3	10.2/ 3.3	10.9/ 1.1	0.0/ 0.0	6.6/ 1.1	7.9/ 4.3	15.6/ 6.5	4.2/ 5.4	5.6/ 3.3	7.6/ 92.
4	5.9/ 9.8	8.4/ 18.5	3.7/ 8.7	2.6/ 2.2	6.2/ 7.6	6.6/ 5.4	9.7/ 15.2	12.3/ 6.5	8.5/ 4.3	7.0/ 5.4	9.4/ 1.1	12.5/ 1.1	11.9/ 2.2	9.3/ 5.4	19.2/ 2.2	5.3/ 4.3	8.0/ 92.
5	5.4/ 13.0	8.7/ 17.4	3.8/ 6.5	2.7/ 3.3	3.7/ 7.6	5.6/ 8.7	11.6/ 16.3	4.4/ 3.3	10.8/ 4.3	3.3/ 3.3	11.4/ 3.3	8.0/ 1.1	12.1/ 2.2	18.8/ 4.3	4.8/ 1.1	5.4/ 4.3	7.8/ 92.
6	6.5/ 7.6	8.6/ 15.2	4.5/ 10.9	3.1/ 4.3	4.0/ 5.4	6.5/ 8.7	8.8/ 16.3	6.0/ 4.3	16.4/ 4.3	8.1/ 7.6	5.9/ 2.2	0.0/ 0.0	13.8/ 2.2	18.5/ 2.2	7.6/ 3.3	4.0/ 5.4	7.5/ 92.
7	6.2/ 8.7	7.4/ 18.5	4.3/ 9.8	3.2/ 7.6	4.5/ 3.3	6.8/ 8.7	8.8/ 19.6	11.2/ 2.2	9.5/ 5.4	9.4/ 5.4	15.5/ 1.1	5.1/ 1.1	9.0/ 1.1	16.1/ 3.3	4.1/ 3.3	9.3/ 1.1	7.4/ 92.
8	6.9/ 6.6	7.7/ 12.1	6.1/ 12.1	5.3/ 5.5	0.0/ 0.0	5.7/ 2.2	9.6/ 23.1	6.9/ 9.9	6.8/ 4.4	10.7/ 6.6	20.3/ 2.2	1.7/ 3.3	14.2/ 4.4	7.3/ 4.4	.9/ 1.1	2.7/ 2.2	7.9/ 91.
9	5.2/ 6.7	6.4/ 4.4	6.9/ 5.6	0.0/ 0.0	4.3/ 1.1	0.0/ 0.0	11.4/ 12.2	8.9/ 16.7	5.3/ 12.2	8.6/ 7.8	2.1/ 2.2	9.1/ 6.7	9.8/ 6.7	11.5/ 12.2	3.4/ 2.2	5.2/ 3.3	8.2/ 90.
10	6.7/ 1.1	10.7/ 2.2	18.3/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	12.3/ 5.6	8.6/ 17.8	7.8/ 20.0	7.0/ 4.4	5.9/ 8.9	12.3/ 6.7	9.8/ 14.4	8.0/ 16.7	23.7/ 1.1	0.0/ 0.0	9.0/ 90.
11	17.8/ 2.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.1/ 2.2	10.8/ 13.3	8.7/ 16.7	7.8/ 7.8	6.1/ 12.2	8.2/ 15.6	8.4/ 16.7	11.3/ 10.0	16.7/ 3.3	0.0/ 0.0	9.1/ 90.
12	10.6/ 3.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.1/ 2.2	9.4/ 6.6	9.2/ 14.3	8.8/ 12.1	8.7/ 7.7	9.9/ 18.7	8.5/ 14.3	12.0/ 15.4	14.5/ 4.4	8.7/ 1.1	9.9/ 91.

Table 2.3K-8

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	16.0/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	13.5/ 3.3	6.0/ 3.3	10.8/ 14.1	7.7/ 6.5	9.8/ 15.2	8.7/ 14.1	10.4/ 19.6	12.9/ 18.5	8.3/ 4.3	0.0/ 0.0	10.4/ 92.
14	11.5/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	13.1/ 5.5	12.5/ 7.7	8.4/ 9.9	10.6/ 9.9	9.0/ 13.2	11.3/ 26.4	12.3/ 19.8	8.9/ 3.3	4.9/ 3.3	10.7/ 91.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	17.1/ 1.1	10.2/ 4.4	11.3/ 6.6	7.6/ 7.7	10.4/ 8.8	9.6/ 16.5	9.4/ 30.8	13.6/ 16.5	13.1/ 5.5	10.4/ 2.2	10.5/ 91.
16	13.1/ 1.1	4.0/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	17.1/ 1.1	7.5/ 6.6	11.9/ 6.6	9.1/ 4.4	7.8/ 9.9	6.1/ 13.2	12.0/ 20.9	10.9/ 27.5	12.6/ 6.6	7.8/ 1.1	10.0/ 91.
17	7.8/ 2.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.7/ 3.3	10.8/ 7.7	5.0/ 5.5	7.1/ 9.9	6.7/ 8.8	7.1/ 2.2	10.0/ 18.7	10.9/ 31.9	12.2/ 8.8	7.5/ 1.1	9.4/ 91.
18	3.9/ 3.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.9/ 1.1	8.8/ 4.3	9.6/ 9.8	5.5/ 5.4	8.3/ 5.4	6.8/ 8.7	2.8/ 2.2	9.2/ 13.0	10.5/ 19.6	10.0/ 20.7	7.9/ 6.5	8.7/ 92.
19	6.1/ 14.1	6.5/ 3.3	0.0/ 0.0	2.9/ 1.1	2.6/ 1.1	4.9/ 4.3	5.7/ 8.7	11.3/ 8.7	8.0/ 4.3	8.3/ 4.3	9.1/ 2.2	10.0/ 4.3	8.7/ 5.4	12.1/ 10.9	8.6/ 21.7	4.7/ 5.4	8.1/ 92.
20	6.4/ 9.8	6.8/ 17.4	3.6/ 4.3	0.0/ 0.0	0.0/ 0.0	3.7/ 6.5	8.3/ 12.0	11.6/ 5.4	7.1/ 4.3	10.4/ 4.3	9.4/ 3.3	9.6/ 2.2	19.0/ 1.1	8.0/ 6.5	8.7/ 13.0	7.0/ 9.8	7.6/ 92.
21	6.3/ 9.8	7.2/ 12.0	6.8/ 9.8	3.7/ 5.4	2.9/ 5.4	6.7/ 4.3	6.6/ 14.1	10.0/ 4.3	13.4/ 3.3	14.8/ 3.3	2.5/ 2.2	11.0/ 2.2	7.3/ 2.2	12.3/ 6.5	7.0/ 8.7	6.8/ 6.5	7.4/ 92.
22	7.7/ 13.0	6.7/ 15.2	5.5/ 7.6	3.0/ 5.4	3.7/ 3.3	6.9/ 7.6	6.0/ 12.0	11.1/ 4.3	11.1/ 7.6	4.9/ 1.1	20.6/ 1.1	4.5/ 2.2	6.1/ 2.2	11.8/ 6.5	6.4/ 3.3	4.0/ 7.6	7.1/ 92.
23	5.9/ 9.8	6.5/ 9.8	7.2/ 10.9	1.9/ 4.3	3.4/ 4.3	5.9/ 14.1	8.4/ 9.8	5.3/ 5.4	15.1/ 5.4	13.8/ 1.1	8.9/ 3.3	14.7/ 2.2	9.7/ 3.3	12.2/ 6.5	6.7/ 3.3	5.2/ 6.5	7.4/ 92.
24	3.9/ 6.5	6.2/ 14.1	6.9/ 12.0	3.2/ 7.6	6.1/ 3.3	7.1/ 9.8	9.3/ 12.0	10.5/ 5.4	13.7/ 3.3	4.8/ 2.2	0.0/ 0.0	11.6/ 2.2	11.2/ 7.6	9.4/ 5.4	8.6/ 2.2	5.1/ 6.5	7.5/ 92.
AVE. WS	6.3	7.6	5.4	3.4	4.8	6.2	9.0	9.4	9.6	8.3	8.4	8.7	10.2	11.5	9.3	5.7	
TOTAL OC.	150	184	124	52	56	102	223	149	155	114	106	126	209	244	124	78	2196

Amended: April 2009 TL: E048000

Table 2.3K-9

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	5.2/ 16.7	5.9/ 12.2	7.5/ 4.4	3.5/ 8.9	5.2/ 8.9	4.8/ 10.0	6.5/ 11.1	1.9/ 4.4	1.6/ 2.2	5.6/ 4.4	10.7/ 2.2	22.0/ 1.1	9.9/ 3.3	5.8/ 4.4	2.9/ 2.2	4.5/ 3.3	5.6/ 90.
2	6.4/ 10.0	6.1/ 17.8	5.4/ 7.8	5.5/ 4.4	4.7/ 11.1	4.8/ 8.9	5.6/ 14.4	4.1/ 5.6	12.5/ 1.1	0.0/ 0.0	10.2/ 4.4	9.6/ 5.6	2.3/ 2.2	14.8/ 1.1	5.9/ 4.4	1.5/ 1.1	6.0/ 90.
3	6.3/ 10.0	6.9/ 22.2	5.1/ 8.9	3.9/ 7.8	5.7/ 8.9	5.8/ 5.6	5.3/ 13.3	0.0/ 0.0	5.5/ 1.1	9.1/ 1.1	7.4/ 2.2	7.8/ 6.7	8.8/ 6.7	2.2/ 1.1	13.9/ 1.1	6.6/ 3.3	6.3/ 90.
4	3.6/ 6.7	7.7/ 23.3	5.7/ 12.2	5.0/ 7.8	3.5/ 10.0	6.8/ 7.8	7.2/ 7.8	0.0/ 0.0	5.3/ 2.2	3.7/ 2.2	9.4/ 1.1	5.2/ 5.6	16.9/ 3.3	6.3/ 2.2	2.4/ 4.4	6.9/ 3.3	6.2/ 90.
5	7.8/ 5.6	4.9/ 18.9	5.6/ 18.9	7.9/ 2.2	5.6/ 8.9	5.2/ 7.8	5.0/ 14.4	4.5/ 5.6	4.2/ 1.1	6.9/ 1.1	4.7/ 1.1	5.6/ 1.1	7.3/ 4.4	10.8/ 4.4	2.8/ 2.2	3.2/ 2.2	5.6/ 90.
6	4.2/ 10.0	5.8/ 23.3	6.5/ 11.1	4.7/ 8.9	5.9/ 5.6	4.6/ 12.2	6.4/ 5.6	6.6/ 2.2	2.6/ 2.2	2.2/ 1.1	0.0/ 0.0	4.4/ 1.1	8.8/ 7.8	0.0/ 0.0	6.4/ 3.3	3.5/ 5.6	5.5/ 90.
7	3.7/ 6.7	7.3/ 20.0	4.5/ 13.3	4.4/ 10.0	3.6/ 12.2	9.1/ 3.3	5.0/ 5.6	5.5/ 4.4	5.4/ 5.6	2.9/ 4.4	0.0/ 0.0	3.7/ 4.4	8.4/ 2.2	10.7/ 2.2	12.2/ 2.2	2.3/ 3.3	5.4/ 90.
8	2.4/ 4.4	6.0/ 15.6	7.1/ 6.7	8.5/ 2.2	5.9/ 4.4	8.6/ 4.4	6.8/ 12.2	6.4/ 8.9	5.4/ 10.0	2.2/ 2.2	6.0/ 4.4	1.8/ 4.4	10.8/ 5.6	4.5/ 7.8	2.5/ 4.4	3.8/ 2.2	5.8/ 90.
9	3.5/ 3.4	15.0/ 2.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	12.5/ 3.4	8.6/ 10.1	7.0/ 20.2	5.2/ 12.4	3.8/ 12.4	4.4/ 7.9	4.5/ 7.9	7.0/ 5.6	8.9/ 7.9	6.1/ 4.5	5.5/ 2.2	6.5/ 89.
10	0.0/ 0.0	24.3/ 1.1	0.0/ 0.0	0.0/ 0.0	12.5/ 1.1	14.3/ 1.1	9.6/ 5.7	8.2/ 20.5	6.6/ 10.2	4.8/ 10.2	5.3/ 11.4	5.9/ 11.4	7.3/ 14.8	8.7/ 12.5	0.0/ 0.0	0.0/ 0.0	7.4/ 88.
11	10.6/ 1.1	23.0/ 1.1	0.0/ 0.0	0.0/ 0.0	13.3/ 1.1	0.0/ 0.0	10.8/ 2.2	8.4/ 11.2	9.4/ 11.2	7.0/ 10.1	7.4/ 12.4	6.4/ 13.5	7.3/ 13.5	9.8/ 21.3	8.7/ 1.1	0.0/ 0.0	8.4/ 89.
12	0.0/ 0.0	0.0/ 0.0	24.4/ 1.1	0.0/ 0.0	0.0/ 0.0	16.8/ 1.1	11.5/ 1.1	10.6/ 7.8	8.7/ 7.8	7.2/ 13.3	8.1/ 11.1	5.7/ 18.9	8.6/ 16.7	11.2/ 21.1	0.0/ 0.0	0.0/ 0.0	8.8/ 90.

Table 2.3K-10

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
13	0.0/ 0.0	21.9/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.9/ 1.1	0.0/ 0.0	10.6/ 6.7	8.8/ 11.1	7.4/ 6.7	7.2/ 16.7	7.1/ 15.6	8.8/ 17.8	11.2/ 21.1	16.5/ 2.2	0.0/ 0.0	9.1/ 90.
14	0.0/ 0.0	0.0/ 0.0	18.3/ 1.1	0.0/ 0.0	0.0/ 0.0	4.1/ 1.1	0.0/ 0.0	9.8/ 5.6	9.6/ 3.3	7.7/ 12.2	7.4/ 18.9	7.1/ 13.3	8.4/ 15.6	13.1/ 23.3	10.0/ 5.6	0.0/ 0.0	9.3/ 90.
15	0.0/ 0.0	21.7/ 1.1	0.0/ 0.0	0.0/ 0.0	12.9/ 1.1	0.0/ 0.0	4.9/ 1.1	10.4/ 4.4	7.0/ 4.4	7.4/ 12.2	7.8/ 10.0	8.1/ 14.4	8.9/ 25.6	11.9/ 18.9	14.8/ 6.7	0.0/ 0.0	9.6/ 90.
16	0.0/ 0.0	0.0/ 0.0	17.1/ 1.1	0.0/ 0.0	10.4/ 1.1	0.0/ 0.0	0.0/ 0.0	9.5/ 4.5	12.5/ 2.3	6.0/ 10.2	5.9/ 8.0	6.8/ 15.9	8.8/ 22.7	12.8/ 21.6	12.4/ 12.5	0.0/ 0.0	9.5/ 88.
17	0.0/ 0.0	11.8/ 1.1	0.0/ 0.0	6.4/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.0/ 2.2	11.1/ 4.4	5.6/ 13.3	7.2/ 6.7	6.6/ 12.2	8.9/ 17.8	11.7/ 28.9	11.9/ 12.2	0.0/ 0.0	9.3/ 90.
18	0.0/ 0.0	16.9/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	19.1/ 1.1	3.8/ 1.1	7.8/ 4.4	8.7/ 6.7	3.9/ 5.6	6.2/ 10.0	6.8/ 6.7	8.5/ 10.0	10.6/ 32.2	10.6/ 13.3	8.5/ 7.8	9.0/ 90.
19	4.3/ 3.3	6.8/ 2.2	8.9/ 1.1	0.0/ 0.0	7.1/ 2.2	21.6/ 1.1	2.2/ 1.1	7.1/ 6.7	5.4/ 4.4	5.8/ 4.4	4.1/ 6.7	4.6/ 11.1	8.7/ 7.8	9.1/ 15.6	9.6/ 17.8	10.0/ 14.4	7.8/ 90.
20	8.2/ 11.1	10.0/ 3.3	11.9/ 2.2	0.0/ 0.0	6.2/ 2.2	10.4/ 3.3	7.5/ 3.3	4.8/ 14.4	5.5/ 2.2	4.0/ 3.3	4.5/ 2.2	4.3/ 7.8	7.3/ 8.9	9.8/ 6.7	9.2/ 17.8	7.0/ 11.1	7.3/ 90.
21	8.3/ 14.4	8.5/ 13.3	7.2/ 4.4	5.9/ 2.2	7.2/ 6.7	5.0/ 4.4	5.3/ 10.0	5.8/ 11.1	6.0/ 2.2	3.7/ 3.3	0.0/ 0.0	8.7/ 4.4	5.2/ 1.1	10.1/ 4.4	8.7/ 13.3	5.8/ 4.4	7.2/ 90.
22	6.7/ 13.3	6.6/ 13.3	7.7/ 11.1	5.3/ 5.6	6.6/ 2.2	7.1/ 10.0	6.3/ 14.4	5.1/ 3.3	4.4/ 4.4	6.6/ 3.3	12.7/ 1.1	7.7/ 4.4	7.2/ 3.3	9.2/ 1.1	12.5/ 4.4	4.3/ 4.4	6.8/ 90.
23	5.5/ 16.7	5.9/ 12.2	4.8/ 10.0	5.7/ 6.7	6.1/ 10.0	1.9/ 3.3	6.0/ 13.3	9.1/ 6.7	4.6/ 1.1	0.0/ 0.0	12.9/ 1.1	11.0/ 4.4	7.7/ 4.4	6.4/ 3.3	7.8/ 1.1	4.9/ 5.6	6.2/ 90.
24	4.5/ 13.3	5.7/ 24.4	5.4/ 6.7	7.4/ 5.6	6.8/ 5.6	4.2/ 8.9	4.9/ 4.4	6.5/ 5.6	3.6/ 4.4	5.4/ 2.2	6.5/ 2.2	6.3/ 5.6	14.2/ 4.4	9.7/ 3.3	9.1/ 2.2	.8/ 1.1	6.0/ 90.
AVE. WS	5.6	7.0	6.4	5.1	5.6	6.5	6.3	7.2	6.9	5.8	6.9	6.5	8.6	10.6	9.5	6.3	
TOTAL OC.	132	208	110	56	93	90	137	149	106	125	127	177	202	239	125	68	2154

Amended: April 2009 TL: E048000

Table 2.3K-11

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	4.6/ 13.0	4.7/ 6.5	6.1/ 5.4	4.8/ 5.4	2.8/ 5.4	8.7/ 8.7	8.1/ 16.3	6.8/ 10.9	6.8/ 7.6	8.1/ 6.5	3.2/ 1.1	7.2/ 2.2	2.2/ 3.3	21.2/ 1.1	7.3/ 2.2	2.7/ 4.3	6.3/ 92.
2	4.3/ 7.5	5.5/ 5.4	4.8/ 6.5	3.1/ 2.2	6.0/ 4.3	6.1/ 12.9	7.7/ 16.1	6.7/ 12.9	6.3/ 9.7	6.3/ 6.5	10.5/ 2.2	0.0/ 0.0	7.9/ 5.4	1.5/ 2.2	5.2/ 3.2	4.3/ 3.2	6.2/ 93.
3	4.9/ 8.7	3.7/ 7.6	5.9/ 6.5	3.7/ 9.8	5.6/ 5.4	10.9/ 3.3	7.2/ 20.7	6.7/ 8.7	5.8/ 6.5	7.6/ 5.4	7.3/ 4.3	7.3/ 1.1	7.1/ 3.3	1.7/ 1.1	6.0/ 3.3	4.5/ 4.3	6.0/ 92.
4	5.2/ 9.7	4.5/ 7.5	5.4/ 10.8	3.3/ 3.2	5.4/ 8.6	6.7/ 8.6	7.1/ 17.2	5.2/ 9.7	5.1/ 4.3	8.5/ 3.2	10.9/ 4.3	0.0/ 0.0	8.4/ 3.2	0.0/ 0.0	5.5/ 5.4	3.3/ 4.3	6.0/ 93.
5	5.5/ 8.7	5.2/ 7.6	5.9/ 5.4	2.9/ 7.6	3.9/ 3.3	6.0/ 10.9	5.8/ 18.5	4.4/ 7.6	4.9/ 5.4	11.0/ 5.4	6.0/ 5.4	4.0/ 4.3	0.0/ 0.0	9.6/ 3.3	6.8/ 2.2	3.3/ 4.3	5.6/ 92.
6	4.9/ 7.6	5.3/ 12.0	4.6/ 8.7	4.3/ 4.3	3.7/ 6.5	7.0/ 10.9	5.4/ 14.1	6.4/ 6.5	6.4/ 3.3	3.0/ 4.3	8.9/ 4.3	8.9/ 5.4	2.4/ 1.1	8.2/ 3.3	4.5/ 1.1	4.1/ 6.5	5.6/ 92.
7	5.1/ 11.1	6.6/ 10.0	5.8/ 4.4	2.3/ 2.2	3.5/ 3.3	6.4/ 10.0	6.5/ 17.8	8.4/ 7.8	4.4/ 4.4	3.8/ 3.3	6.2/ 3.3	7.1/ 6.7	5.5/ 7.8	23.1/ 1.1	2.7/ 3.3	4.8/ 3.3	6.0/ 90.
8	3.6/ 7.6	5.0/ 5.4	2.4/ 1.1	0.0/ 0.0	3.6/ 1.1	5.5/ 4.3	8.8/ 13.0	7.1/ 17.4	5.0/ 8.7	6.7/ 2.2	6.7/ 6.5	5.5/ 6.5	6.1/ 6.5	6.2/ 8.7	4.3/ 6.5	2.8/ 4.3	5.9/ 92.
9	0.0/ 0.0	4.2/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	3.3/ 1.1	8.6/ 9.8	7.6/ 12.0	7.0/ 16.3	5.2/ 15.2	5.8/ 13.0	5.8/ 9.8	5.5/ 15.2	9.9/ 3.3	18.2/ 1.1	5.6/ 2.2	6.6/ 92.
10	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.4/ 5.5	11.6/ 9.9	8.1/ 16.5	6.5/ 14.3	7.2/ 14.3	6.6/ 17.6	8.7/ 16.5	10.3/ 3.3	6.9/ 2.2	0.0/ 0.0	7.8/ 91.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.2/ 7.9	10.1/ 18.0	6.6/ 12.4	7.2/ 18.0	8.0/ 24.7	7.7/ 11.2	11.3/ 7.9	0.0/ 0.0	0.0/ 0.0	8.4/ 89.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.0/ 1.1	8.8/ 1.1	9.0/ 3.3	9.4/ 15.4	8.6/ 17.6	7.0/ 18.7	7.7/ 19.8	9.0/ 13.2	12.5/ 9.9	0.0/ 0.0	0.0/ 0.0	8.7/ 91.

Table 2.3K-12

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	3.8/ 1.1	0.0/ 0.0	0.0/ 0.0	8.9/ 4.4	10.4/ 8.8	7.5/ 24.2	7.6/ 13.2	8.5/ 23.1	9.4/ 14.3	11.5/ 8.8	13.1/ 2.2	0.0/ 0.0	8.8/ 91.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.2/ 3.3	9.8/ 13.3	6.6/ 15.6	8.3/ 13.3	7.9/ 22.2	10.0/ 18.9	9.9/ 12.2	13.0/ 1.1	0.0/ 0.0	8.7/ 90.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.8/ 2.2	9.5/ 7.8	7.9/ 10.0	7.3/ 26.7	8.3/ 22.2	9.0/ 18.9	12.3/ 8.9	11.0/ 3.3	0.0/ 0.0	8.7/ 90.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.5/ 5.6	7.1/ 6.7	7.9/ 11.1	7.0/ 20.0	7.4/ 26.7	9.7/ 14.4	12.0/ 11.1	13.3/ 4.4	0.0/ 0.0	8.6/ 90.
17	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.7/ 6.7	7.4/ 9.0	7.5/ 16.9	6.6/ 15.7	6.4/ 18.0	8.9/ 19.1	13.3/ 10.1	13.7/ 4.5	0.0/ 0.0	8.4/ 89.
18	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.7/ 2.2	10.3/ 6.6	7.6/ 14.3	6.2/ 17.6	5.6/ 13.2	6.6/ 11.0	7.4/ 19.8	11.3/ 9.9	14.4/ 3.3	14.4/ 2.2	7.8/ 91.
19	6.1/ 1.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.0/ 2.2	7.7/ 4.3	7.3/ 16.3	6.7/ 8.7	6.3/ 8.7	4.6/ 13.0	5.8/ 10.9	5.9/ 12.0	8.6/ 15.2	12.4/ 6.5	9.8/ 1.1	7.0/ 92.
20	4.9/ 3.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.0/ 1.1	5.1/ 1.1	7.0/ 12.9	7.0/ 16.1	6.6/ 15.1	6.4/ 4.3	3.3/ 9.7	5.2/ 4.3	5.0/ 5.4	7.4/ 9.7	8.4/ 14.0	4.9/ 3.2	6.4/ 93.
21	4.2/ 3.2	9.1/ 3.2	4.3/ 1.1	0.0/ 0.0	1.7/ 2.2	5.4/ 5.4	6.4/ 18.3	8.3/ 11.8	5.2/ 12.9	6.3/ 5.4	2.8/ 1.1	4.1/ 8.6	5.5/ 6.5	9.1/ 7.5	8.6/ 6.5	5.7/ 6.5	6.3/ 93.
22	7.4/ 3.2	7.3/ 6.5	2.0/ 1.1	4.6/ 1.1	2.9/ 4.3	5.0/ 7.5	6.8/ 17.2	7.3/ 16.1	6.5/ 7.5	6.3/ 5.4	3.3/ 1.1	4.6/ 4.3	4.9/ 7.5	9.3/ 7.5	5.6/ 5.4	6.6/ 4.3	6.3/ 93.
23	6.6/ 4.3	5.9/ 6.5	1.7/ 4.3	3.6/ 4.3	6.5/ 2.2	6.1/ 8.6	6.6/ 10.8	8.1/ 15.1	6.4/ 12.9	6.6/ 2.2	7.0/ 5.4	3.7/ 3.2	6.8/ 3.2	11.3/ 4.3	5.0/ 3.2	4.2/ 9.7	6.2/ 93.
24	4.6/ 8.7	5.2/ 4.3	4.0/ 6.5	2.7/ 1.1	4.2/ 9.8	7.3/ 14.1	6.7/ 14.1	7.6/ 9.8	8.4/ 7.6	4.8/ 4.3	8.2/ 3.3	10.5/ 2.2	2.2/ 2.2	11.0/ 4.3	5.9/ 4.3	5.9/ 3.3	6.4/ 92.
AVE. WS	4.9	5.5	4.9	3.6	4.3	6.6	7.0	7.7	7.4	6.9	6.8	7.1	7.7	10.3	8.4	4.8	
TOTAL OC.	90	77	57	38	54	102	212	210	220	202	210	231	208	141	82	62	2196

Amended: April 2009 TL: E048000

Table 2.3K-13

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
1	4.7/ 4.9	4.3/ 9.8	2.4/ 6.6	2.5/ 1.6	4.6/ 3.3	5.0/ 9.8	5.9/ 14.8	8.9/ 9.8	6.3/ 9.8	9.0/ 1.6	2.9/ 4.9	0.0/ 0.0	5.0/ 3.3	5.0/ 6.6	2.4/ 1.6	5.5/ 11.5	5.3/ 61.
2	6.4/ 16.4	6.7/ 9.8	2.3/ 3.3	4.4/ 6.6	3.4/ 4.9	6.2/ 4.9	7.4/ 16.4	8.5/ 4.9	8.3/ 8.2	4.4/ 3.3	4.1/ 1.6	3.6/ 1.6	2.9/ 4.9	3.9/ 4.9	4.9/ 3.3	5.7/ 4.9	5.9/ 61.
3	5.2/ 14.8	7.3/ 16.4	5.3/ 1.6	2.3/ 1.6	5.5/ 3.3	4.5/ 4.9	7.1/ 9.8	7.1/ 4.9	6.1/ 14.8	0.0/ 0.0	6.8/ 6.6	5.0/ 6.6	5.8/ 3.3	4.8/ 4.9	4.3/ 3.3	2.2/ 3.3	5.8/ 61.
4	5.5/ 14.8	7.4/ 14.8	3.5/ 4.9	2.2/ 1.6	5.6/ 1.6	5.5/ 16.4	5.8/ 8.2	6.5/ 8.2	3.8/ 6.6	7.9/ 1.6	5.5/ 3.3	4.5/ 1.6	5.2/ 6.6	6.6/ 3.3	4.7/ 3.3	3.3/ 3.3	5.6/ 61.
5	6.7/ 13.1	6.2/ 21.3	0.0/ 0.0	2.6/ 3.3	4.5/ 8.2	7.2/ 13.1	6.0/ 11.5	8.0/ 3.3	3.4/ 3.3	5.8/ 6.6	0.0/ 0.0	0.0/ 0.0	4.2/ 4.9	3.4/ 4.9	6.0/ 1.6	4.5/ 4.9	5.7/ 61.
6	5.8/ 18.0	8.0/ 14.8	5.8/ 3.3	0.0/ 0.0	4.0/ 11.5	6.6/ 9.8	7.2/ 6.6	5.8/ 8.2	4.5/ 4.9	8.2/ 3.3	4.7/ 1.6	10.0/ 1.6	3.9/ 4.9	4.5/ 1.6	5.8/ 6.6	2.0/ 3.3	5.8/ 61.
7	5.6/ 14.8	6.9/ 6.6	0.0/ 0.0	3.6/ 1.6	5.7/ 1.6	13.7/ 3.3	8.4/ 11.5	6.9/ 16.4	3.4/ 3.3	5.0/ 8.2	4.9/ 4.9	5.8/ 9.8	5.4/ 1.6	5.7/ 8.2	3.6/ 4.9	2.9/ 3.3	6.1/ 61.
8	5.5/ 5.0	5.5/ 5.0	6.0/ 1.7	0.0/ 0.0	0.0/ 0.0	6.0/ 3.3	8.0/ 10.0	7.4/ 10.0	4.0/ 13.3	6.3/ 10.0	5.7/ 10.0	5.6/ 11.7	9.6/ 8.3	4.0/ 6.7	3.6/ 3.3	2.6/ 1.7	6.0/ 60.
9	5.9/ 1.6	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.5/ 1.6	7.3/ 3.3	9.7/ 8.2	7.6/ 16.4	6.0/ 14.8	4.9/ 11.5	5.4/ 14.8	7.1/ 18.0	12.6/ 6.6	4.3/ 1.6	4.9/ 1.6	7.0/ 61.
10	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.3/ 1.7	0.0/ 0.0	9.5/ 8.6	7.2/ 12.1	5.8/ 15.5	6.6/ 15.5	8.3/ 15.5	9.0/ 19.0	11.9/ 10.3	5.2/ 1.7	0.0/ 0.0	8.0/ 58.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.3/ 1.7	7.5/ 3.4	7.8/ 15.5	7.6/ 8.6	7.1/ 13.8	7.9/ 19.0	10.3/ 29.3	12.6/ 8.6	0.0/ 0.0	0.0/ 0.0	8.8/ 58.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	5.4/ 3.4	0.0/ 0.0	8.3/ 3.4	8.1/ 20.3	7.1/ 16.9	8.9/ 20.3	11.0/ 25.4	11.4/ 10.2	0.0/ 0.0	0.0/ 0.0	9.1/ 59.

Table 2.3K-14

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.3/ 1.7	0.0/ 0.0	7.7/ 6.8	8.2/ 11.9	8.1/ 16.9	10.1/ 27.1	11.2/ 22.0	10.7/ 13.6	0.0/ 0.0	0.0/ 0.0	9.6/ 59.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.6/ 1.7	10.0/ 5.1	8.1/ 6.8	8.5/ 25.4	8.4/ 20.3	11.9/ 22.0	11.8/ 18.6	0.0/ 0.0	0.0/ 0.0	9.9/ 59.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.8/ 1.7	0.0/ 0.0	10.5/ 6.7	6.8/ 8.3	7.7/ 21.7	7.9/ 15.0	10.4/ 28.3	11.2/ 15.0	17.5/ 3.3	0.0/ 0.0	9.5/ 60.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.6/ 1.6	10.7/ 1.6	7.4/ 6.6	7.9/ 6.6	7.0/ 19.7	8.5/ 16.4	9.0/ 27.9	12.2/ 18.0	17.2/ 1.6	0.0/ 0.0	9.1/ 61.
17	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.3/ 1.6	7.4/ 4.9	7.4/ 8.2	7.4/ 13.1	7.1/ 9.8	7.1/ 18.0	8.6/ 21.3	12.0/ 16.4	14.6/ 6.6	0.0/ 0.0	8.8/ 61.
18	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.4/ 3.3	7.9/ 8.2	7.0/ 14.8	5.3/ 9.8	6.3/ 8.2	4.8/ 8.2	8.5/ 19.7	11.2/ 23.0	16.1/ 4.9	0.0/ 0.0	8.4/ 61.
19	0.0/ 0.0	0.0/ 0.0	2.7/ 1.6	0.0/ 0.0	0.0/ 0.0	6.7/ 1.6	9.2/ 6.6	6.3/ 11.5	6.0/ 11.5	5.0/ 11.5	6.3/ 4.9	5.1/ 8.2	8.7/ 9.8	10.3/ 18.0	11.6/ 14.8	0.0/ 0.0	7.9/ 61.
20	3.1/ 1.6	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.9/ 1.6	4.5/ 1.6	8.9/ 18.0	5.8/ 11.5	4.8/ 1.6	4.5/ 8.2	4.1/ 6.6	3.1/ 3.3	6.5/ 9.8	7.7/ 16.4	10.6/ 16.4	4.3/ 3.3	7.1/ 61.
21	3.7/ 8.2	0.0/ 0.0	4.2/ 3.3	0.0/ 0.0	6.0/ 1.6	4.7/ 4.9	6.5/ 13.1	5.5/ 13.1	4.5/ 4.9	7.4/ 6.6	3.6/ 4.9	3.9/ 4.9	5.8/ 6.6	8.1/ 9.8	6.5/ 18.0	0.0/ 0.0	5.8/ 61.
22	5.9/ 4.9	3.4/ 1.6	0.0/ 0.0	2.3/ 1.6	2.6/ 3.3	6.2/ 9.8	6.6/ 16.4	5.6/ 4.9	7.1/ 9.8	3.7/ 6.6	6.8/ 3.3	2.9/ 3.3	5.1/ 1.6	6.5/ 11.5	3.9/ 4.9	5.6/ 16.4	5.6/ 61.
23	6.7/ 11.5	6.4/ 4.9	2.3/ 1.6	4.1/ 1.6	3.2/ 6.6	5.5/ 9.8	5.5/ 6.6	8.1/ 13.1	4.3/ 9.8	4.4/ 4.9	2.7/ 1.6	4.8/ 3.3	4.3/ 9.8	10.9/ 1.6	0.0/ 0.0	3.8/ 13.1	5.3/ 61.
24	6.1/ 13.1	4.7/ 9.8	2.2/ 3.3	4.0/ 3.3	3.2/ 6.6	5.3/ 14.8	5.4/ 14.8	7.9/ 8.2	4.0/ 8.2	6.4/ 3.3	2.2/ 1.6	2.2/ 1.6	5.4/ 3.3	8.1/ 3.3	4.3/ 1.6	5.4/ 3.3	5.2/ 61.
AVE. WS	5.7	6.5	3.4	3.4	4.1	6.0	7.0	7.3	6.5	6.5	6.6	7.3	8.8	9.7	8.5	4.5	
TOTAL OC.	87	70	19	14	33	68	111	100	124	115	129	139	187	146	63	45	1450

Table 2.3K-15

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	5.9/ 4.3	4.9/ 6.5	3.8/ 6.5	0.0/ 0.0	3.0/ 9.7	5.2/ 7.5	7.1/ 19.4	2.6/ 3.2	5.2/ 6.5	2.6/ 7.5	3.2/ 3.2	3.5/ 6.5	2.5/ 3.2	.7/ 2.2	2.2/ 2.2	4.7/ 11.8	4.5/ 93.
2	4.6/ 10.8	4.6/ 9.7	3.9/ 3.2	2.7/ 4.3	1.6/ 1.1	5.5/ 7.5	5.7/ 19.4	5.5/ 12.9	7.0/ 3.2	0.0/ 0.0	3.2/ 3.2	2.7/ 3.2	3.6/ 2.2	3.2/ 4.3	3.5/ 6.5	3.6/ 8.6	4.6/ 93.
3	4.9/ 9.7	5.2/ 8.6	5.7/ 3.2	3.3/ 4.3	3.7/ 2.2	4.5/ 12.9	4.6/ 14.0	7.5/ 10.8	6.9/ 3.2	3.9/ 5.4	1.9/ 2.2	1.9/ 1.1	3.9/ 2.2	3.5/ 3.2	3.4/ 6.5	3.9/ 10.8	4.7/ 93.
4	4.2/ 14.0	4.3/ 8.6	4.8/ 6.5	3.8/ 6.5	4.7/ 6.5	4.6/ 7.5	5.9/ 5.4	7.7/ 16.1	6.3/ 5.4	4.5/ 2.2	3.7/ 4.3	3.2/ 2.2	2.9/ 3.2	5.0/ 2.2	3.0/ 3.2	3.7/ 6.5	4.9/ 93.
5	4.2/ 9.7	5.2/ 15.1	5.0/ 4.3	2.4/ 6.5	2.7/ 7.5	5.0/ 6.5	5.9/ 15.1	6.6/ 10.8	6.1/ 7.5	4.5/ 1.1	3.4/ 3.2	0.0/ 0.0	1.1/ 1.1	2.5/ 3.2	4.1/ 4.3	4.4/ 4.3	4.8/ 93.
6	4.4/ 5.4	6.1/ 22.6	3.6/ 8.6	2.7/ 3.2	5.9/ 2.2	3.5/ 2.2	7.7/ 11.8	6.0/ 16.1	4.7/ 6.5	2.6/ 4.3	0.0/ 0.0	4.8/ 2.2	2.8/ 4.3	3.5/ 2.2	2.4/ 4.3	3.2/ 4.3	5.0/ 93.
7	3.4/ 5.4	5.1/ 10.8	4.6/ 4.3	3.8/ 3.2	6.2/ 2.2	6.7/ 1.1	7.3/ 10.8	6.5/ 19.4	5.4/ 9.7	4.1/ 6.5	2.7/ 3.2	3.5/ 6.5	4.1/ 5.4	5.2/ 2.2	4.5/ 3.2	4.7/ 6.5	5.2/ 93.
8	5.4/ 1.1	3.4/ 4.3	3.1/ 1.1	1.5/ 1.1	6.6/ 1.1	4.0/ 1.1	6.7/ 2.2	8.2/ 17.4	8.1/ 13.0	3.9/ 8.7	4.6/ 17.4	4.2/ 8.7	5.8/ 12.0	6.9/ 6.5	3.9/ 2.2	4.5/ 2.2	5.8/ 92.
9	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.8/ 2.2	9.3/ 9.7	8.6/ 11.8	6.7/ 11.8	5.9/ 17.2	6.2/ 20.4	6.3/ 19.4	8.1/ 5.4	3.7/ 2.2	0.0/ 0.0	6.9/ 93.
10	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.4/ 7.6	9.1/ 12.0	7.0/ 16.3	7.0/ 15.2	6.6/ 22.8	7.8/ 19.6	8.4/ 6.5	0.0/ 0.0	0.0/ 0.0	7.7/ 92.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	12.9/ 6.5	9.4/ 11.8	7.5/ 10.8	7.0/ 17.2	7.3/ 20.4	8.0/ 22.6	10.4/ 10.8	0.0/ 0.0	0.0/ 0.0	8.4/ 93.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	14.2/ 3.2	10.6/ 7.5	7.9/ 9.7	7.7/ 16.1	7.8/ 28.0	8.7/ 23.7	10.7/ 11.8	0.0/ 0.0	0.0/ 0.0	8.8/ 93.

Amended: April 2009 TL: E048000

Table 2.3K-16

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.1/ [illegible]	0.0/ 0.0	0.0/ 0.0	12.6/ 3.2	10.5/ 5.4	7.5/ 15.1	7.6/ 12.9	8.1/ 20.4	9.1/ 31.2	10.0/ 10.8	12.9/ 1.1	0.0/ 0.0	8.8/ 93.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	16.1/ 1.1	9.7/ 6.5	8.6/ 14.0	7.3/ 11.8	7.8/ 22.6	8.4/ 28.0	10.8/ 16.1	0.0/ 0.0	0.0/ 0.0	8.7/ 93.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	13.6/ 2.2	9.9/ 7.5	7.9/ 12.9	6.5/ 16.1	6.9/ 19.4	8.8/ 26.9	10.6/ 15.1	0.0/ 0.0	0.0/ 0.0	8.4/ 93.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.1/ 2.2	8.4/ 6.5	7.4/ 15.1	6.9/ 15.1	6.9/ 14.0	7.9/ 28.0	10.0/ 18.3	7.4/ 1.1	0.0/ 0.0	8.0/ 93.
17	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.9/ 5.4	8.3/ 12.9	6.9/ 9.7	5.8/ 12.9	6.1/ 16.1	6.8/ 22.6	10.4/ 19.4	12.4/ 1.1	0.0/ 0.0	7.6/ 93.
18	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.9/ 2.2	8.9/ 7.5	6.5/ 5.4	6.1/ 16.1	5.7/ 15.1	5.2/ 9.7	5.5/ 18.3	8.9/ 19.4	12.1/ 6.5	0.0/ 0.0	7.1/ 93.
19	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.4/ 2.2	6.4/ 5.4	6.5/ 11.8	5.5/ 14.0	4.6/ 12.9	4.8/ 6.5	4.8/ 8.6	7.1/ 26.9	8.7/ 11.8	0.0/ 0.0	6.3/ 93.
20	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.9/ 1.1	10.0/ 2.2	7.6/ 16.1	5.4/ 15.1	4.8/ 7.5	3.9/ 6.5	3.1/ 8.6	4.4/ 6.5	5.8/ 20.4	7.5/ 15.1	6.7/ 1.1	5.8/ 93.
21	8.0/ 2.2	3.8/ 1.1	0.0/ 0.0	0.0/ 0.0	2.1/ 1.1	4.6/ 3.2	7.2/ 8.6	6.6/ 15.1	5.1/ 11.8	4.0/ 5.4	3.7/ 3.2	3.5/ 7.5	4.2/ 5.4	5.4/ 18.3	6.5/ 14.0	4.2/ 3.2	5.5/ 93.
22	3.3/ 7.5	0.0/ 0.0	0.0/ 0.0	2.6/ 1.1	2.7/ 2.2	4.3/ 2.2	5.2/ 17.2	7.2/ 17.2	4.9/ 11.8	3.4/ 6.5	2.6/ 6.5	3.5/ 3.2	4.2/ 3.2	6.5/ 7.5	4.8/ 6.5	4.4/ 7.5	4.9/ 93.
23	3.5/ 10.8	4.4/ 3.2	2.5/ 1.1	3.8/ 2.2	2.8/ 2.2	5.7/ 5.4	7.6/ 12.9	6.7/ 11.8	3.5/ 10.8	3.2/ 4.3	2.6/ 3.2	3.9/ 3.2	3.2/ 8.6	5.0/ 7.5	3.5/ 4.3	3.7/ 8.6	4.6/ 93.
24	4.3/ 6.5	4.2/ 9.7	3.3/ 3.2	2.3/ 2.2	2.1/ 3.2	6.0/ 6.5	6.5/ 16.1	7.2/ 11.8	5.1/ 8.6	3.8/ 1.1	3.3/ 5.4	2.5/ 2.2	2.8/ 7.5	3.7/ 6.5	5.1/ 4.3	4.0/ 5.4	4.8/ 93.
AVE. WS	4.3	5.0	4.2	3.0	3.5	5.0	6.5	7.7	7.0	6.1	5.7	6.2	7.0	8.0	6.1	4.1	
TOTAL OC.	81	93	39	32	38	60	150	216	197	191	208	237	291	229	93	75	2230

Table 2.3K-17

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	3.6/ 17.1	4.9/ 14.5	3.7/ 7.9	2.7/ 1.3	0.0/ 0.0	5.3/ 10.5	4.4/ 9.2	7.7/ 9.2	4.3/ 1.3	4.3/ 2.6	2.2/ 2.6	2.8/ 2.6	3.2/ 6.6	4.0/ 7.9	6.2/ 2.6	4.9/ 3.9	4.5/ 76.
2	3.6/ 18.7	5.7/ 16.0	5.1/ 2.7	3.7/ 5.3	1.0/ 1.3	8.0/ 4.0	5.1/ 13.3	4.6/ 9.3	4.5/ 5.3	4.4/ 1.3	4.5/ 4.0	2.2/ 4.0	5.5/ 4.0	0.0/ 0.0	5.4/ 6.7	2.4/ 4.0	4.6/ 75.
3	5.8/ 4.0	5.4/ 14.7	5.4/ 6.7	5.1/ 1.3	4.4/ 2.7	4.4/ 6.7	5.4/ 10.7	5.8/ 9.3	5.8/ 5.3	3.6/ 2.7	4.6/ 1.3	0.0/ 0.0	4.2/ 8.0	4.4/ 2.7	4.6/ 6.7	4.4/ 17.3	5.0/ 75.
4	6.8/ 13.3	5.2/ 18.7	3.9/ 6.7	4.3/ 2.7	2.9/ 2.7	4.0/ 6.7	5.0/ 9.3	4.3/ 5.3	7.1/ 5.3	3.3/ 4.0	4.1/ 2.7	1.8/ 1.3	6.5/ 2.7	3.8/ 4.0	3.7/ 5.3	3.2/ 9.3	4.8/ 75.
5	5.0/ 11.8	5.6/ 22.4	5.4/ 10.5	2.2/ 2.6	4.3/ 3.9	6.7/ 5.3	6.6/ 3.9	4.3/ 7.9	7.3/ 3.9	4.9/ 3.9	4.8/ 2.6	5.9/ 2.6	4.0/ 6.6	2.9/ 1.3	4.9/ 2.6	3.0/ 7.9	5.0/ 76.
6	4.5/ 13.2	6.7/ 25.0	4.3/ 6.6	1.9/ 3.9	2.2/ 2.6	5.1/ 7.9	5.9/ 9.2	4.9/ 2.6	7.6/ 5.3	8.0/ 1.3	2.3/ 1.3	1.7/ 1.3	5.7/ 3.9	3.8/ 3.9	3.7/ 2.6	3.6/ 9.2	5.1/ 76.
7	2.9/ 9.2	5.2/ 28.9	5.3/ 2.6	0.0/ 0.0	4.9/ 3.9	0.0/ 0.0	6.5/ 9.2	5.3/ 7.9	6.8/ 6.6	3.5/ 3.9	3.4/ 1.3	5.4/ 3.9	4.6/ 6.6	3.7/ 5.3	4.2/ 6.6	4.3/ 3.9	4.9/ 76.
8	3.6/ 6.6	6.6/ 3.9	3.0/ 1.3	0.0/ 0.0	0.0/ 0.0	5.4/ 1.3	9.1/ 7.9	7.9/ 10.5	4.7/ 9.2	4.5/ 5.3	3.6/ 5.3	4.9/ 11.8	5.4/ 14.5	5.1/ 19.7	0.0/ 0.0	4.3/ 2.6	5.5/ 76.
9	0.0/ 0.0	0.0/ 0.0	2.4/ 1.3	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	12.5/ 4.0	7.6/ 8.0	6.8/ 4.0	7.1/ 10.7	4.1/ 12.0	6.0/ 29.3	6.6/ 26.7	9.0/ 4.0	0.0/ 0.0	0.0/ 0.0	6.5/ 75.
10	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.8/ 1.3	9.2/ 5.3	7.8/ 9.3	6.2/ 4.0	6.4/ 14.7	6.5/ 21.3	8.2/ 38.7	11.0/ 5.3	0.0/ 0.0	0.0/ 0.0	7.7/ 75.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.2/ 1.3	13.3/ 1.3	7.8/ 10.7	7.8/ 6.7	8.5/ 14.7	8.5/ 16.0	8.8/ 42.7	9.4/ 5.3	7.1/ 1.3	0.0/ 0.0	8.6/ 75.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	13.2/ 1.3	9.6/ 6.7	7.0/ 6.7	8.9/ 17.3	7.4/ 12.0	9.3/ 41.3	11.0/ 14.7	0.0/ 0.0	0.0/ 0.0	9.2/ 75.

Table 2.3K-18

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)
WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.8/ 2.7	11.0/ 1.3	9.9/ 9.3	7.8/ 12.0	7.9/ 16.0	9.8/ 41.3	11.0/ 14.7	8.8/ 2.7	0.0/ 0.0	9.5/ 75.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.4/ 1.4	10.4/ 6.8	8.1/ 5.4	7.9/ 8.1	8.4/ 16.2	9.0/ 40.5	11.1/ 18.9	9.0/ 2.7	0.0/ 0.0	9.3/ 74.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.6/ 2.7	9.8/ 2.7	6.4/ 6.7	6.7/ 8.0	8.1/ 18.7	8.8/ 42.7	11.3/ 17.3	9.0/ 1.3	0.0/ 0.0	8.8/ 75.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.8/ 2.7	10.7/ 4.0	7.0/ 6.7	5.5/ 6.7	6.6/ 17.3	8.2/ 32.0	11.3/ 29.3	6.9/ 1.3	0.0/ 0.0	8.7/ 75.
17	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.0/ 2.7	6.1/ 9.3	7.0/ 6.7	4.4/ 5.3	5.3/ 13.3	6.8/ 24.0	10.4/ 36.0	6.7/ 2.7	0.0/ 0.0	7.8/ 75.
18	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.6/ 1.3	11.9/ 2.7	4.8/ 12.0	5.3/ 8.0	4.9/ 12.0	3.9/ 5.3	5.7/ 13.3	9.8/ 36.0	7.0/ 9.3	0.0/ 0.0	7.2/ 75.
19	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.6/ 3.9	5.5/ 10.5	6.0/ 9.2	5.1/ 6.6	3.9/ 7.9	4.2/ 7.9	6.3/ 3.9	7.9/ 31.6	8.1/ 17.1	.8/ 1.3	6.5/ 76.
20	3.7/ 2.7	1.3/ 1.3	0.0/ 0.0	0.0/ 0.0	1.3/ 1.3	2.0/ 1.3	6.2/ 6.7	7.0/ 12.0	4.5/ 2.7	5.6/ 6.7	2.4/ 2.7	4.5/ 6.7	3.6/ 4.0	5.8/ 32.0	8.5/ 14.7	5.0/ 5.3	5.8/ 75.
21	2.7/ 4.0	2.9/ 4.0	2.1/ 1.3	2.7/ 2.7	0.0/ 0.0	7.3/ 2.7	6.1/ 9.3	5.2/ 9.3	5.2/ 6.7	4.8/ 5.3	2.9/ 5.3	2.7/ 4.0	3.8/ 6.7	4.9/ 14.7	5.5/ 16.0	4.7/ 8.0	4.7/ 75.
22	4.2/ 8.0	3.7/ 4.0	3.0/ 1.3	2.1/ 4.0	2.0/ 1.3	5.2/ 6.7	7.1/ 8.0	4.8/ 5.3	5.2/ 6.7	3.3/ 6.7	5.4/ 2.7	1.0/ 1.3	3.9/ 5.3	4.7/ 12.0	4.6/ 17.3	4.3/ 9.3	4.5/ 75.
23	4.5/ 10.8	3.9/ 9.5	3.5/ 2.7	3.2/ 1.4	1.3/ 1.4	3.5/ 2.7	8.5/ 5.4	4.7/ 10.8	3.5/ 6.8	5.1/ 4.1	1.3/ 4.1	4.2/ 1.4	3.0/ 4.1	4.8/ 13.5	5.2/ 6.8	4.3/ 14.9	4.4/ 74.
24	4.5/ 17.3	4.4/ 10.7	4.8/ 6.7	1.9/ 1.3	5.1/ 5.3	3.8/ 2.7	5.4/ 12.0	4.1/ 4.0	7.4/ 5.3	4.4/ 5.3	0.0/ 0.0	2.3/ 4.0	6.9/ 2.7	4.2/ 8.0	5.0/ 9.3	4.2/ 5.3	4.7/ 75.
AVE. WS	4.3	5.3	4.4	2.9	3.6	5.2	6.4	6.5	6.6	6.0	5.8	6.2	7.7	8.3	6.1	4.0	
TOTAL OC.	105	131	44	20	20	44	95	109	110	98	116	164	317	254	102	77	1804

Amended: April 2009 TL: E048000

Table 2.3K-19

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
1	5.2/ 14.5	6.2/ 12.7	3.8/ 7.3	5.6/ 1.8	5.6/ 3.6	5.0/ 5.5	4.6/ 16.4	6.0/ 7.3	4.7/ 7.3	3.6/ 3.6	3.8/ 3.6	0.0/ 0.0	0.0/ 0.0	1.7/ 5.5	1.0/ 5.5	4.5/ 5.5	4.6/ 55.
2	5.4/ 10.9	6.3/ 12.7	5.3/ 3.6	2.9/ 1.8	5.3/ 5.5	5.3/ 5.5	5.6/ 9.1	5.6/ 20.0	6.1/ 1.8	2.7/ 5.5	3.7/ 5.5	0.0/ 0.0	0.0/ 0.0	1.6/ 7.3	2.0/ 1.8	4.0/ 9.1	4.8/ 55.
3	5.7/ 11.1	5.4/ 14.8	4.7/ 7.4	4.8/ 7.4	0.0/ 0.0	4.2/ 14.8	4.1/ 13.0	4.9/ 11.1	2.0/ 1.9	1.5/ 1.9	.9/ 3.7	2.5/ 3.7	0.0/ 0.0	3.3/ 1.9	1.7/ 1.9	5.2/ 5.6	4.4/ 54.
4	5.7/ 11.5	6.5/ 17.3	6.0/ 9.6	1.9/ 3.8	3.6/ 7.7	4.1/ 11.5	3.4/ 7.7	5.7/ 15.4	4.6/ 3.8	.7/ 1.9	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	2.9/ 5.8	3.8/ 3.8	4.8/ 52.
5	3.4/ 13.5	5.9/ 19.2	5.3/ 9.6	3.5/ 3.8	1.6/ 3.8	4.9/ 3.8	4.3/ 11.5	5.9/ 15.4	3.4/ 3.8	0.0/ 0.0	1.0/ 1.9	0.0/ 0.0	1.2/ 1.9	0.0/ 0.0	2.9/ 7.7	3.7/ 3.8	4.4/ 52.
6	3.6/ 19.2	6.1/ 17.3	6.5/ 7.7	0.0/ 0.0	5.6/ 1.9	4.6/ 9.6	4.0/ 19.2	7.1/ 11.5	0.0/ 0.0	0.0/ 0.0	12.0/ 1.9	0.0/ 0.0	0.0/ 0.0	.6/ 1.9	2.6/ 5.8	4.7/ 3.8	5.0/ 52.
7	4.3/ 11.5	6.2/ 13.5	4.3/ 7.7	4.3/ 3.8	2.7/ 3.8	4.6/ 3.8	6.3/ 5.8	4.7/ 13.5	5.2/ 7.7	3.2/ 3.8	11.2/ 1.9	2.1/ 1.9	0.0/ 0.0	2.0/ 1.9	3.8/ 7.7	4.0/ 11.5	4.7/ 52.
8	0.0/ 0.0	3.5/ 3.8	5.5/ 1.9	2.0/ 1.9	0.0/ 0.0	5.2/ 3.8	7.6/ 3.8	4.8/ 3.8	4.4/ 15.4	4.4/ 19.2	0.0/ 0.0	4.0/ 7.7	4.2/ 15.4	5.5/ 9.6	4.8/ 9.6	5.6/ 3.8	4.6/ 52.
9	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.0/ 1.9	6.5/ 7.4	4.7/ 14.8	5.6/ 9.3	5.1/ 11.1	5.5/ 9.3	6.4/ 24.1	6.9/ 16.7	7.7/ 3.7	2.5/ 1.9	5.9/ 54.
10	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.9/ 3.7	7.1/ 7.4	7.3/ 7.4	5.8/ 11.1	6.8/ 14.8	6.6/ 29.6	9.7/ 14.8	7.9/ 11.1	0.0/ 0.0	7.2/ 54.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.7/ 5.5	7.7/ 9.1	5.8/ 10.9	6.5/ 18.2	8.4/ 36.4	9.7/ 12.7	9.8/ 7.3	0.0/ 0.0	7.9/ 55.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.0/ 3.8	5.2/ 3.8	6.1/ 5.7	9.1/ 7.5	6.3/ 13.2	9.2/ 37.7	10.2/ 20.8	11.6/ 7.5	0.0/ 0.0	8.9/ 53.

Table 2.3K-20

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 36.6 m

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.3/ 3.6	8.0/ 3.6	8.4/ 10.9	7.4/ 16.4	9.4/ 32.7	10.2/ 29.1	9.6/ 3.6	0.0/ 0.0	9.2/ 55.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.7/ 5.4	9.1/ 5.4	8.4/ 5.4	6.4/ 23.2	8.8/ 28.6	10.7/ 26.8	9.7/ 5.4	0.0/ 0.0	8.9/ 56.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.2/ 1.7	9.3/ 3.4	12.1/ 3.4	7.6/ 10.3	6.0/ 24.1	8.8/ 29.3	10.3/ 22.4	10.1/ 5.2	0.0/ 0.0	8.5/ 58.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.5/ 1.7	11.0/ 6.7	6.4/ 6.7	6.1/ 15.0	6.0/ 11.7	8.1/ 25.0	10.3/ 26.7	11.0/ 6.7	0.0/ 0.0	8.4/ 60.
17	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.5/ 6.7	7.9/ 5.0	6.2/ 8.3	5.1/ 10.0	4.2/ 10.0	6.8/ 21.7	8.5/ 28.3	9.5/ 10.0	0.0/ 0.0	7.3/ 60.
18	6.8/ 1.7	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.5/ 1.7	6.3/ 1.7	7.9/ 8.5	5.5/ 8.5	6.3/ 10.2	3.8/ 8.5	6.2/ 1.7	4.9/ 15.3	6.8/ 23.7	9.1/ 13.6	6.5/ 5.1	6.4/ 59.
19	11.5/ 5.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.3/ 6.8	5.5/ 1.7	10.2/ 11.9	5.2/ 15.3	5.8/ 5.1	3.6/ 1.7	4.5/ 8.5	5.3/ 8.5	4.3/ 15.3	7.2/ 16.9	6.3/ 3.4	6.3/ 59.
20	9.9/ 3.4	2.5/ 1.7	0.0/ 0.0	1.2/ 3.4	7.1/ 1.7	4.8/ 1.7	6.0/ 10.3	7.5/ 22.4	6.7/ 3.4	6.9/ 3.4	3.2/ 3.4	2.7/ 5.2	3.7/ 10.3	4.9/ 10.3	5.8/ 5.2	4.6/ 13.8	5.5/ 58.
21	4.2/ 5.3	9.3/ 5.3	2.8/ 1.8	0.0/ 0.0	1.7/ 1.8	5.0/ 7.0	5.9/ 14.0	7.5/ 15.8	3.4/ 8.8	7.4/ 5.3	4.1/ 5.3	2.0/ 1.8	4.8/ 3.5	4.0/ 10.5	2.8/ 8.8	3.8/ 5.3	5.1/ 57.
22	3.9/ 12.3	7.6/ 7.0	0.0/ 0.0	0.0/ 0.0	4.7/ 7.0	6.6/ 5.3	4.7/ 12.3	6.5/ 19.3	4.5/ 5.3	3.5/ 10.5	4.5/ 5.3	.8/ 1.8	2.5/ 5.3	3.2/ 3.5	0.0/ 0.0	4.3/ 5.3	4.9/ 57.
23	5.6/ 12.5	5.0/ 7.1	2.6/ 3.6	0.0/ 0.0	3.0/ 3.6	4.2/ 7.1	5.3/ 16.1	7.9/ 12.5	4.8/ 8.9	0.0/ 0.0	3.9/ 10.7	0.0/ 0.0	2.7/ 3.6	1.5/ 7.1	0.0/ 0.0	3.6/ 7.1	4.7/ 56.
24	5.7/ 8.9	6.1/ 10.7	1.8/ 3.6	1.7/ 3.6	4.4/ 1.8	4.5/ 8.9	4.9/ 19.6	4.7/ 14.3	4.9/ 8.9	3.8/ 7.1	0.0/ 0.0	2.3/ 3.6	2.7/ 3.6	2.2/ 3.6	0.0/ 0.0	3.4/ 1.8	4.4/ 56.
AVE. WS	5.1	6.1	4.8	3.2	4.1	4.7	5.0	6.7	5.8	5.7	5.7	5.7	7.4	7.9	6.9	4.4	
TOTAL OC.	77	77	34	17	23	53	90	126	87	76	82	99	186	170	84	50	1331

Table 2.3K-21

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
1	6.0/ 17.6	6.0/ 17.6	4.1/ 9.8	3.4/ 5.9	3.1/ 5.9	2.8/ 9.8	7.8/ 7.8	3.2/ 3.9	4.2/ 7.8	4.2/ 3.9	4.8/ 3.9	0.0/ 0.0	1.9/ 2.0	29.1/ 2.0	0.0/ 0.0	6.1/ 2.0	5.7/ 51.
2	7.1/ 17.6	3.4/ 3.9	5.0/ 19.6	2.9/ 7.8	5.5/ 3.9	6.0/ 11.8	4.2/ 9.8	1.3/ 3.9	2.9/ 7.8	3.8/ 3.9	7.6/ 2.0	0.0/ 0.0	4.2/ 2.0	0.0/ 0.0	18.9/ 3.9	6.6/ 2.0	5.7/ 51.
3	7.9/ 12.0	6.5/ 16.0	5.4/ 18.0	7.9/ 2.0	2.3/ 6.0	5.1/ 6.0	5.2/ 12.0	0.0/ 0.0	2.9/ 4.0	6.0/ 6.0	0.0/ 0.0	3.9/ 2.0	3.0/ 2.0	2.4/ 4.0	1.7/ 2.0	4.6/ 6.0	5.3/ 50.
4	4.7/ 12.0	7.3/ 26.0	4.4/ 18.0	1.5/ 4.0	5.3/ 8.0	4.1/ 6.0	4.1/ 14.0	0.0/ 0.0	3.7/ 4.0	5.8/ 4.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	3.9/ 2.0	0.0/ 0.0	5.1/ 50.
5	5.0/ 10.0	7.7/ 22.0	5.4/ 22.0	2.5/ 2.0	5.8/ 6.0	4.1/ 14.0	5.5/ 8.0	4.2/ 4.0	2.3/ 2.0	3.1/ 2.0	5.9/ 2.0	0.0/ 0.0	4.1/ 2.0	0.0/ 0.0	4.0/ 2.0	4.7/ 2.0	5.4/ 50.
6	8.3/ 12.0	6.7/ 20.0	5.8/ 26.0	3.2/ 5.0	3.8/ 8.0	3.2/ 8.0	6.3/ 6.0	2.9/ 4.0	10.3/ 2.0	0.0/ 0.0	0.0/ 0.0	3.1/ 2.0	0.0/ 0.0	0.0/ 0.0	7.5/ 4.0	0.0/ 0.0	5.7/ 50.
7	7.1/ 4.0	6.6/ 22.0	6.0/ 26.0	1.7/ 5.0	4.8/ 8.0	6.9/ 8.0	6.4/ 6.0	4.2/ 6.0	0.0/ 0.0	5.6/ 4.0	.8/ 2.0	0.0/ 0.0	0.0/ 0.0	3.2/ 2.0	5.5/ 4.0	6.5/ 2.0	5.6/ 50.
8	4.2/ 10.0	5.4/ 20.0	5.1/ 12.0	0.0/ 0.0	0.0/ 0.0	10.3/ 6.0	5.4/ 12.0	5.8/ 10.0	4.9/ 2.0	4.0/ 4.0	3.6/ 6.0	0.0/ 0.0	3.9/ 6.0	6.7/ 6.0	1.3/ 2.0	3.3/ 4.0	5.2/ 50.
9	6.7/ 8.2	5.4/ 4.1	0.0/ 0.0	0.0/ 0.0	1.7/ 2.0	7.4/ 4.1	8.0/ 6.2	9.0/ 2.0	4.9/ 20.4	4.3/ 6.1	7.4/ 6.1	4.1/ 6.1	7.7/ 14.3	7.6/ 10.2	5.2/ 4.1	5.7/ 4.1	6.2/ 49.
10	4.5/ 2.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.0/ 6.1	8.8/ 6.1	6.8/ 12.2	6.0/ 2.0	7.7/ 14.3	5.8/ 12.2	7.2/ 24.5	9.7/ 16.3	8.2/ 4.1	0.0/ 0.0	7.6/ 49.
11	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.7/ 6.5	8.6/ 8.7	7.0/ 6.5	11.4/ 6.5	6.6/ 4.3	7.7/ 21.7	7.8/ 28.3	11.9/ 13.0	5.3/ 4.3	0.0/ 0.0	8.6/ 46.
12	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.3/ 11.1	8.3/ 6.7	5.8/ 6.7	9.6/ 8.9	7.2/ 8.9	9.3/ 28.9	10.8/ 26.7	6.1/ 2.2	0.0/ 0.0	9.1/ 45.

Table 2.3K-22

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.1/ 2.2	6.9/ 4.3	7.1/ 13.0	7.4/ 8.7	8.2/ 17.4	10.0/ 23.9	11.4/ 26.1	12.1/ 4.3	0.0/ 0.0	9.3/ 46.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.4/ 2.1	7.7/ 8.3	6.4/ 4.2	8.9/ 10.4	8.3/ 8.3	9.6/ 35.4	11.3/ 25.0	6.9/ 6.3	0.0/ 0.0	9.3/ 48.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.5/ 2.1	5.5/ 6.3	9.2/ 8.3	9.8/ 2.1	7.0/ 20.8	10.4/ 16.7	11.7/ 33.3	9.9/ 8.3	14.0/ 2.1	9.7/ 48.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.8/ 4.0	6.5/ 4.0	7.8/ 14.0	6.3/ 6.0	10.3/ 24.0	10.6/ 28.0	11.7/ 16.0	11.1/ 4.0	9.8/ 50.
17	9.9/ 3.8	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.5/ 1.9	0.0/ 0.0	0.0/ 0.0	4.0/ 5.8	5.5/ 7.7	6.4/ 1.9	7.2/ 15.4	9.9/ 13.5	13.0/ 25.0	9.0/ 21.2	12.0/ 3.8	9.4/ 52.
18	6.6/ 9.6	11.0/ 1.9	0.0/ 0.0	2.9/ 1.9	0.0/ 0.0	5.5/ 1.9	4.0/ 1.9	4.0/ 5.8	2.9/ 1.9	6.6/ 3.8	6.2/ 3.8	4.5/ 3.8	10.8/ 9.6	10.3/ 19.2	6.8/ 26.9	8.0/ 7.7	7.5/ 52.
19	4.9/ 13.2	9.2/ 9.4	0.0/ 0.0	0.0/ 0.0	5.6/ 3.8	4.8/ 1.9	0.0/ 0.0	4.5/ 5.7	5.4/ 3.8	3.4/ 3.8	0.0/ 0.0	3.4/ 5.7	5.1/ 7.5	13.4/ 9.4	6.9/ 22.6	7.0/ 13.2	6.7/ 53.
20	7.9/ 21.2	9.2/ 13.5	3.0/ 1.9	0.0/ 0.0	3.7/ 5.8	8.6/ 3.8	4.5/ 5.8	5.7/ 1.9	5.8/ 3.8	8.8/ 1.9	3.2/ 1.9	4.2/ 1.9	1.2/ 1.9	14.2/ 9.6	6.9/ 9.6	6.7/ 15.4	7.5/ 52.
21	6.9/ 18.9	7.0/ 18.9	6.8/ 7.5	3.1/ 3.8	3.2/ 5.7	7.1/ 7.5	7.5/ 7.5	3.5/ 1.9	6.5/ 1.9	0.0/ 0.0	5.0/ 1.9	0.0/ 0.0	3.2/ 1.9	17.3/ 3.8	12.9/ 5.7	6.0/ 13.2	7.1/ 53.
22	5.6/ 17.3	7.7/ 17.3	6.9/ 11.5	2.4/ 1.9	3.1/ 3.8	4.9/ 7.7	5.8/ 9.6	5.7/ 3.8	0.0/ 0.0	5.1/ 1.9	5.1/ 3.8	0.0/ 0.0	3.5/ 1.9	18.0/ 3.8	9.9/ 7.7	5.5/ 7.7	6.7/ 52.
23	7.9/ 10.0	6.6/ 24.0	6.0/ 16.0	3.8/ 5.0	3.0/ 4.0	4.3/ 10.0	5.4/ 8.0	8.1/ 2.0	0.0/ 0.0	6.0/ 4.0	8.1/ 2.0	0.0/ 0.0	0.0/ 0.0	17.4/ 4.0	4.7/ 2.0	5.4/ 8.0	6.3/ 50.
24	5.6/ 15.7	5.8/ 17.6	6.3/ 15.7	2.2/ 5.9	3.7/ 5.9	3.6/ 9.8	6.2/ 5.9	3.9/ 9.6	6.3/ 2.0	6.4/ 2.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	30.5/ 2.0	6.0/ 2.0	4.4/ 5.9	5.6/ 51.
AVE. WS	6.5	7.1	5.5	3.0	4.0	5.3	6.1	5.7	5.4	6.3	7.1	6.7	8.6	11.6	8.2	6.6	
TOTAL OC.	110	151	103	28	39	60	68	48	58	51	49	64	119	132	85	53	1198

Table 2.3K-23

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	7.2/	8.4/	7.8/	4.6/	5.2/	6.4/	6.8/	2.6/	2.2/	0.0/	2.2/	3.5/	11.1/	3.9/	0.0/	8.2/	6.7/
	6.9	29.3	8.6	6.9	6.9	6.9	8.6	5.2	3.4	0.0	1.7	5.2	3.4	1.7	0.0	5.2	58.
2	6.2/	8.1/	6.5/	4.5/	3.8/	5.7/	7.6/	4.5/	0.0/	3.4/	0.0/	0.0/	22.6/	2.5/	0.0/	2.7/	6.3/
	10.3	22.4	12.1	15.5	1.7	6.9	12.1	6.9	0.0	3.4	0.0	0.0	1.7	3.4	0.0	3.4	58.
3	6.8/	8.4/	7.1/	5.3/	6.0/	4.7/	6.1/	4.1/	0.0/	0.0/	0.0/	2.2/	12.2/	0.0/	0.0/	4.5/	6.8/
	8.6	27.6	20.7	6.9	6.9	1.7	10.3	5.2	0.0	0.0	0.0	3.4	3.4	0.0	0.0	5.2	58.
4	5.5/	8.5/	7.9/	5.5/	3.0/	6.7/	9.0/	2.4/	5.2/	1.2/	0.0/	3.2/	22.7/	3.4/	5.7/	3.0/	6.8/
	8.6	25.9	22.4	3.4	6.9	6.9	5.2	3.4	3.4	1.7	0.0	3.4	1.7	3.4	1.7	1.7	58.
5	8.3/	7.9/	7.5/	5.0/	4.4/	4.1/	9.2/	4.1/	1.6/	0.0/	0.0/	21.7/	0.0/	2.9/	2.1/	5.5/	6.8/
	5.2	34.5	17.2	3.4	13.8	5.2	5.2	5.2	1.7	0.0	0.0	1.7	0.0	3.4	1.7	1.7	58.
6	5.3/	9.6/	5.5/	4.9/	3.1/	5.8/	8.0/	4.1/	2.6/	0.0/	0.0/	0.0/	8.7/	2.9/	0.0/	7.6/	6.6/
	13.8	31.0	1.7	8.6	13.8	6.9	8.6	5.2	1.7	0.0	0.0	0.0	5.2	1.7	0.0	1.7	58.
7	6.7/	8.7/	5.5/	5.2/	4.3/	5.2/	4.7/	5.4/	0.0/	12.5/	0.0/	4.1/	21.2/	0.0/	3.7/	2.5/	6.7/
	13.8	31.0	13.8	3.4	1.7	10.3	12.1	3.4	0.0	1.7	0.0	1.7	1.7	0.0	1.7	3.4	58.
8	6.9/	8.2/	5.6/	3.3/	4.4/	5.1/	6.3/	4.8/	2.6/	2.7/	2.3/	12.6/	3.8/	0.0/	4.5/	3.8/	6.2/
	5.3	26.3	10.5	3.5	1.8	7.0	14.0	7.0	1.8	3.5	1.8	5.3	1.8	0.0	5.3	5.3	57.
9	5.6/	8.1/	0.0/	0.0/	3.0/	0.0/	7.0/	7.4/	3.7/	8.5/	3.7/	3.4/	8.7/	4.7/	4.6/	0.0/	5.6/
	5.2	10.3	0.0	0.0	1.7	0.0	3.4	10.3	15.5	5.2	10.3	6.9	8.6	19.0	3.4	0.0	58.
10	5.6/	8.9/	11.1/	0.0/	0.0/	0.0/	0.0/	7.5/	7.6/	8.5/	4.2/	6.9/	5.7/	6.8/	6.1/	0.0/	6.7/
	5.2	1.7	1.7	0.0	0.0	0.0	0.0	13.8	6.9	8.6	10.3	20.7	19.0	6.9	5.2	0.0	58.
11	0.0/	4.8/	0.0/	0.0/	0.0/	6.8/	0.0/	8.0/	6.3/	8.2/	4.0/	5.1/	8.7/	7.6/	8.0/	3.6/	7.1/
	0.0	1.7	0.0	0.0	0.0	1.7	0.0	8.6	10.3	6.9	6.9	10.3	22.4	27.6	1.7	1.7	58.
12	7.3/	0.0/	0.0/	0.0/	0.0/	0.0/	0.0/	8.7/	7.1/	5.3/	7.0/	6.1/	7.4/	8.1/	11.1/	0.0/	7.8/
	1.8	0.0	0.0	0.0	0.0	0.0	0.0	10.5	7.0	1.8	3.5	8.8	33.3	28.1	5.3	0.0	57.

Table 2.3K-24

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
13	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.9/ 13.8	6.2/ 3.4	6.9/ 10.3	7.1/ 3.4	6.9/ 32.8	9.7/ 25.9	8.5/ 10.3	0.0/ 0.0	7.8/ 58.
14	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	8.5/ 5.3	5.6/ 12.3	6.3/ 3.5	6.9/ 21.1	9.1/ 14.0	9.6/ 31.6	10.0/ 10.5	9.1/ 1.8	8.3/ 57.
15	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.7/ 3.4	7.3/ 3.4	4.1/ 8.6	8.7/ 12.1	6.8/ 5.2	6.2/ 13.8	9.3/ 34.5	8.7/ 15.5	9.8/ 3.4	8.0/ 58.
16	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	7.9/ 1.8	5.0/ 1.8	6.3/ 3.6	6.4/ 7.1	5.9/ 8.9	6.0/ 3.6	5.4/ 10.7	8.4/ 21.4	8.4/ 26.8	7.1/ 14.3	7.3/ 56.
17	7.8/ 8.8	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.5/ 3.5	6.5/ 5.3	5.3/ 1.8	4.9/ 7.0	4.7/ 3.5	5.5/ 7.0	10.2/ 7.0	5.6/ 10.5	9.0/ 19.3	7.5/ 26.3	7.3/ 57.
18	7.9/ 25.9	9.4/ 13.8	11.6/ 1.7	2.3/ 1.7	0.0/ 0.0	0.0/ 0.0	5.9/ 8.6	3.2/ 1.7	7.3/ 5.2	0.0/ 0.0	5.8/ 5.2	2.2/ 1.7	9.8/ 12.1	3.2/ 1.7	6.1/ 6.9	7.5/ 13.8	7.6/ 58.
19	6.5/ 13.8	10.0/ 34.5	8.9/ 5.2	0.0/ 0.0	4.7/ 1.7	5.6/ 5.2	6.0/ 12.1	9.0/ 1.7	10.4/ 1.7	0.0/ 0.0	5.1/ 5.2	20.3/ 1.7	9.9/ 5.2	7.9/ 3.4	5.4/ 6.9	5.2/ 1.7	8.1/ 58.
20	7.8/ 3.4	8.1/ 32.8	9.7/ 10.3	5.2/ 3.4	3.8/ 6.9	4.9/ 12.1	7.5/ 12.1	9.5/ 1.7	5.6/ 1.7	10.9/ 1.7	0.0/ 0.0	0.0/ 0.0	9.8/ 3.4	5.8/ 1.7	10.6/ 5.2	4.0/ 3.4	7.4/ 58.
21	8.0/ 6.9	8.6/ 20.7	3.5/ 6.9	6.6/ 5.2	3.7/ 6.9	5.6/ 10.3	5.2/ 13.8	6.9/ 6.9	0.0/ 0.0	5.8/ 6.9	0.0/ 0.0	10.3/ 3.4	1.7/ 3.4	3.1/ 1.7	2.2/ 1.7	3.4/ 5.2	6.0/ 58.
22	5.9/ 10.3	9.0/ 34.5	6.9/ 10.3	0.0/ 0.0	0.0/ 0.0	5.0/ 8.6	6.3/ 10.3	4.1/ 5.2	7.5/ 1.7	4.7/ 5.2	0.0/ 0.0	23.7/ 1.7	3.0/ 3.4	3.1/ 1.7	2.2/ 3.4	8.0/ 3.4	7.0/ 58.
23	6.8/ 8.6	9.0/ 36.2	7.5/ 17.2	4.5/ 5.2	4.4/ 6.9	5.2/ 3.4	7.8/ 6.9	2.3/ 1.7	6.8/ 3.4	2.8/ 1.7	2.5/ 1.7	22.0/ 1.7	0.0/ 0.0	2.2/ 1.7	8.9/ 3.4	0.0/ 0.0	7.5/ 58.
24	6.5/ 13.8	10.1/ 25.9	5.3/ 12.1	4.7/ 5.2	5.9/ 3.4	6.8/ 5.2	5.7/ 12.1	10.8/ 3.4	1.6/ 1.7	4.5/ 1.7	2.6/ 1.7	0.0/ 0.0	12.0/ 3.4	0.0/ 0.0	3.5/ 1.7	5.5/ 8.6	7.1/ 58.
AVE. WS	6.8	8.8	7.1	4.8	4.2	5.5	6.6	6.1	5.9	6.0	5.5	7.1	8.0	7.7	7.8	6.3	
TOTAL OC.	102	255	100	42	47	57	93	68	55	51	50	68	122	133	79	64	1386

Table 2.3K-25

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

WIND DIRECTION SECTOR

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
1	4.7/ 1.6	8.4/ 25.8	6.8/ 21.0	4.4/ 9.7	2.5/ 3.2	5.2/ 16.1	11.5/ 8.1	4.2/ 6.5	4.6/ 1.6	3.1/ 1.6	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	2.2/ 1.6	9.6/ 3.2	6.7/ 62.
2	11.7/ 3.2	8.0/ 21.0	8.3/ 21.0	6.0/ 9.7	6.9/ 9.7	3.8/ 11.3	9.9/ 12.9	3.9/ 3.2	2.2/ 1.6	3.7/ 1.6	4.6/ 1.6	0.0/ 0.0	2.5/ 1.6	0.0/ 0.0	1.6/ 1.6	0.0/ 0.0	7.1/ 62.
3	5.4/ 3.2	7.4/ 14.5	8.1/ 21.0	6.5/ 11.3	7.2/ 12.9	6.3/ 9.7	8.4/ 14.5	4.4/ 8.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	3.4/ 1.6	0.0/ 0.0	3.0/ 1.6	2.0/ 1.6	6.9/ 62.
4	9.2/ 3.2	10.7/ 22.6	9.3/ 19.4	3.7/ 12.9	7.0/ 8.1	3.5/ 6.5	10.5/ 12.9	3.4/ 4.8	0.0/ 0.0	0.0/ 0.0	1.9/ 3.2	2.6/ 3.2	2.2/ 1.6	0.0/ 0.0	4.3/ 1.6	0.0/ 0.0	7.5/ 62.
5	5.5/ 6.5	8.9/ 24.2	10.6/ 21.0	3.3/ 6.5	8.4/ 8.1	5.1/ 8.1	8.7/ 17.7	0.0/ 0.0	0.0/ 0.0	5.2/ 1.6	2.0/ 1.6	0.0/ 0.0	3.3/ 1.6	0.0/ 0.0	2.3/ 1.6	4.6/ 1.6	7.8/ 62.
6	4.3/ 3.2	9.1/ 37.1	8.2/ 16.1	13.2/ 6.5	8.5/ 8.1	3.5/ 4.8	10.0/ 17.7	3.8/ 1.6	2.1/ 1.6	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	1.9/ 1.6	3.0/ 1.6	0.0/ 0.0	8.5/ 62.
7	2.8/ 4.8	10.3/ 22.6	9.9/ 19.4	9.5/ 9.7	10.2/ 4.8	4.9/ 14.5	9.7/ 11.3	0.0/ 0.0	2.7/ 1.6	3.2/ 1.6	7.8/ 1.6	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	2.5/ 1.6	7.3/ 6.5	8.3/ 62.
8	4.5/ 11.3	10.3/ 14.5	9.8/ 17.7	11.0/ 4.8	4.2/ 6.5	3.1/ 8.1	8.0/ 22.6	4.5/ 3.2	3.1/ 1.6	0.0/ 0.0	0.0/ 0.0	4.1/ 3.2	3.1/ 3.2	0.0/ 0.0	0.0/ 0.0	5.9/ 3.2	7.2/ 62.
9	6.4/ 8.3	9.5/ 10.0	13.4/ 3.3	16.2/ 3.3	4.6/ 3.3	0.0/ 0.0	7.5/ 21.7	5.8/ 11.7	4.9/ 8.3	2.9/ 5.0	2.0/ 3.3	2.5/ 5.0	2.6/ 1.7	5.4/ 5.0	8.4/ 6.7	3.8/ 3.3	6.7/ 60.
10	7.6/ 6.7	0.0/ 0.0	13.3/ 8.3	0.0/ 0.0	9.4/ 1.7	0.0/ 0.0	13.2/ 5.0	10.0/ 11.7	5.6/ 6.7	3.8/ 8.3	3.3/ 11.7	4.1/ 5.0	4.6/ 11.7	6.8/ 16.7	10.0/ 1.7	6.1/ 5.0	7.0/ 60.
11	0.0/ 0.0	15.7/ 6.7	13.0/ 3.3	12.1/ 1.7	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.2/ 10.0	7.1/ 8.3	6.0/ 10.0	3.9/ 5.0	5.9/ 16.7	5.1/ 15.0	8.3/ 21.7	10.3/ 1.7	0.0/ 0.0	7.7/ 60.
12	14.0/ 3.3	17.2/ 1.7	11.9/ 5.0	0.0/ 0.0	7.3/ 1.7	0.0/ 0.0	8.5/ 3.3	6.3/ 1.7	8.5/ 10.0	4.5/ 3.3	8.2/ 5.0	6.4/ 18.3	7.0/ 18.3	8.1/ 25.0	10.3/ 3.3	0.0/ 0.0	8.2/ 60.

Amended: April 2009 TL: E048000

Table 2.3K-26

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 36.6 m 1/25/73 to 10/20/75, 40 m 10/20/75 to 1/24/76

DIURNAL WIND STUDY (AVE. WS/% FREQ.)
(MPH)

HOUR	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	AVE. WS NO. OF OCCUR.
	WIND DIRECTION SECTOR																
13	0.0/ 0.0	20.4/ 1.7	14.5/ 6.7	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	12.3/ 1.7	17.7/ 1.7	9.6/ 6.7	6.8/ 5.0	5.1/ 11.7	7.2/ 6.7	7.8/ 20.0	7.6/ 31.7	10.8/ 5.0	18.1/ 1.7	8.7/ 60.
14	11.8/ 5.1	0.0/ 0.0	18.3/ 5.1	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	16.8/ 1.7	9.1/ 5.1	6.0/ 10.2	9.2/ 3.4	4.9/ 15.3	7.9/ 8.5	7.9/ 32.2	7.7/ 8.5	8.5/ 5.1	8.2/ 59.
15	13.6/ 1.7	19.2/ 5.0	12.5/ 5.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	10.1/ 5.0	6.9/ 3.3	6.0/ 3.3	6.6/ 8.3	5.6/ 11.7	8.2/ 10.0	7.3/ 26.7	7.8/ 16.7	5.6/ 3.3	8.2/ 60.
16	11.6/ 1.6	14.1/ 4.9	14.3/ 3.3	11.6/ 1.6	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	11.2/ 4.9	7.4/ 8.2	4.1/ 3.3	3.3/ 4.9	5.4/ 6.6	9.3/ 4.9	6.6/ 26.2	8.6/ 23.0	6.4/ 6.6	7.9/ 61.
17	6.2/ 12.9	11.5/ 4.8	10.7/ 3.2	15.9/ 1.6	0.0/ 0.0	0.0/ 0.0	9.0/ 1.6	10.2/ 4.8	5.4/ 6.5	3.4/ 4.8	4.5/ 3.2	2.3/ 1.6	11.4/ 4.8	4.4/ 9.7	7.3/ 21.0	7.4/ 19.4	7.2/ 62.
18	6.9/ 24.2	9.1/ 16.1	10.0/ 11.3	2.7/ 1.6	0.0/ 0.0	6.9/ 3.2	7.7/ 9.7	5.6/ 6.5	6.0/ 3.2	6.8/ 3.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	9.0/ 6.5	9.3/ 4.8	8.0/ 9.7	7.9/ 62.
19	6.1/ 8.1	9.7/ 22.6	9.8/ 16.1	5.3/ 4.8	3.8/ 3.2	4.9/ 9.7	6.7/ 17.7	5.3/ 3.2	10.2/ 1.6	10.0/ 3.2	0.0/ 0.0	0.0/ 0.0	9.3/ 1.6	21.3/ 1.6	0.0/ 0.0	8.5/ 6.5	8.0/ 62.
20	7.6/ 11.3	10.1/ 16.1	9.7/ 17.7	4.5/ 1.6	3.4/ 6.5	4.5/ 8.1	7.3/ 17.7	6.0/ 4.8	4.8/ 3.2	14.0/ 3.2	3.1/ 1.6	4.1/ 3.2	2.8/ 1.6	0.0/ 0.0	0.0/ 0.0	4.0/ 3.2	7.4/ 62.
21	6.5/ 12.9	8.5/ 12.9	10.6/ 12.9	2.3/ 1.6	4.2/ 14.5	5.4/ 14.5	6.6/ 14.5	5.7/ 8.1	7.9/ 3.2	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	4.0/ 1.6	4.7/ 3.2	6.6/ 62.
22	6.1/ 6.5	7.0/ 11.3	6.3/ 14.5	6.8/ 11.3	3.9/ 6.5	6.7/ 14.5	6.8/ 16.1	3.2/ 3.2	7.2/ 4.8	15.4/ 3.2	0.0/ 0.0	1.6/ 1.6	0.0/ 0.0	2.1/ 1.6	0.0/ 0.0	6.1/ 4.8	6.8/ 62.
23	6.8/ 12.9	9.0/ 12.9	9.4/ 12.9	2.7/ 4.8	7.8/ 6.5	3.5/ 6.5	8.0/ 19.4	5.4/ 8.1	9.9/ 3.2	11.0/ 1.6	0.0/ 0.0	0.0/ 0.0	2.6/ 3.2	2.9/ 1.6	2.7/ 1.6	3.1/ 4.8	6.9/ 62.
24	3.8/ 8.1	10.5/ 14.5	7.0/ 17.7	8.6/ 8.1	5.0/ 9.7	3.8/ 9.7	9.0/ 12.9	9.1/ 6.5	1.7/ 3.2	0.0/ 0.0	3.1/ 4.8	1.7/ 1.6	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0	6.8/ 3.2	6.8/ 62.
AVE. WS	6.6	9.7	9.6	7.0	6.1	4.9	8.4	7.0	6.6	6.2	4.6	5.2	6.5	7.4	7.6	6.8	
TOTAL OC.	69	200	187	70	71	93	160	74	57	45	43	60	67	125	65	59	1472

APPENDIX 2.3L

DIURNAL VARIATION AND PERSISTENCE OF PASQUILL STABILITY CATEGORIES AND LOW LEVEL INVERSIONS AT THE SAN ONOFRE PLANT SITE

(TABLES 2.3L-1 THROUGH 2.3L-26)

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Table 2.3L-1

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	21/ 2.1	10/ 1.0	31/ 3.2	216/22.0	221/22.5	142/14.5	340/34.7	493/50.3	981
2	20/ 2.0	13/ 1.3	25/ 2.5	223/22.7	232/23.6	136/13.8	333/33.9	488/49.7	982
3	17/ 1.7	15/ 1.5	34/ 3.5	201/20.5	247/25.2	137/14.0	330/33.6	477/48.6	981
4	20/ 2.0	14/ 1.4	18/ 1.8	223/22.7	252/25.7	127/12.9	328/33.4	466/47.5	982
5	15/ 1.5	8/ .8	35/ 3.6	206/21.0	242/24.6	123/12.5	353/35.9	485/49.4	982
6	19/ 1.9	13/ 1.3	23/ 2.3	223/22.8	249/25.4	114/11.6	339/34.6	461/47.0	980
7	41/ 4.2	29/ 3.0	53/ 5.4	240/24.5	227/23.1	97/ 9.9	294/30.0	390/39.8	981
8	128/13.1	51/ 5.2	55/ 5.6	262/26.8	222/22.7	87/ 8.9	173/17.7	317/32.4	978
9	286/29.4	56/ 5.7	64/ 6.6	288/29.6	176/18.1	56/ 5.7	48/ 4.9	172/17.7	974
10	502/51.9	46/ 4.8	62/ 6.4	205/21.2	96/ 9.9	31/ 3.2	26/ 2.7	99/10.2	968
11	632/65.2	41/ 4.2	40/ 4.1	144/14.8	64/ 6.6	29/ 3.0	20/ 2.1	77/ 7.9	970
12	714/73.8	40/ 4.1	20/ 2.1	110/11.4	48/ 5.0	19/ 2.0	17/ 1.8	57/ 5.9	968
13	759/78.0	28/ 2.9	17/ 1.7	92/ 9.5	46/ 4.7	10/ 1.0	21/ 2.2	59/ 6.1	973
14	753/77.8	25/ 2.6	23/ 2.4	86/ 8.9	41/ 4.2	23/ 2.4	17/ 1.8	64/ 6.6	968
15	722/74.4	26/ 2.7	29/ 3.0	94/ 9.7	63/ 6.5	22/ 2.3	15/ 1.5	68/ 7.0	971
16	609/62.6	52/ 5.3	34/ 3.5	143/14.7	81/ 8.3	31/ 3.2	23/ 2.4	82/ 8.4	973
17	462/47.0	45/ 4.6	47/ 4.8	218/22.2	146/14.9	31/ 3.2	34/ 3.5	144/14.6	983
18	287/29.2	47/ 4.8	56/ 5.7	277/28.2	159/16.2	69/ 7.0	87/ 8.9	209/21.3	982
19	110/11.2	70/ 7.1	57/ 5.8	322/32.7	199/20.2	75/ 7.6	151/15.3	278/28.3	984
20	55/ 5.6	33/ 3.4	65/ 6.6	334/34.0	207/21.1	88/ 9.0	201/20.4	341/34.7	983
21	38/ 3.9	23/ 2.3	39/ 4.0	298/30.4	229/23.3	121/12.3	233/23.8	395/40.3	981
22	33/ 3.4	20/ 2.0	39/ 4.0	242/24.7	246/25.1	122/12.4	279/28.4	436/44.4	981
23	29/ 2.9	10/ 1.0	36/ 3.7	226/22.9	237/24.0	158/16.0	290/29.4	474/48.1	986
24	22/ 2.2	11/ 1.1	25/ 2.5	217/22.1	235/23.9	141/14.4	331/33.7	509/51.8	982
ALL	6294/26.8	726/ 3.1	927/ 3.9	5090/21.7	4165/17.7	1989/ 8.5	4283/18.2	7041/30.0	23474

23474 CASES WITH STABILITY AVAILABLE OUT OF 26280 CASES POSSIBLE

Table 2.3L-2

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	0/ 0.0	0/ 0.0	0/ 0.0	12/16.7	5/ 6.9	14/19.4	41/56.9	46/63.9	72
2	0/ 0.0	0/ 0.0	0/ 0.0	7/ 9.9	12/16.9	14/19.7	38/53.5	44/62.0	71
3	0/ 0.0	0/ 0.0	0/ 0.0	8/11.1	9/12.5	18/25.0	37/51.4	43/59.7	72
4	0/ 0.0	0/ 0.0	0/ 0.0	9/12.5	12/16.7	13/18.1	38/52.8	46/63.9	72
5	1/ 1.4	0/ 0.0	0/ 0.0	5/ 6.9	8/11.1	16/22.2	42/58.3	44/61.1	72
6	0/ 0.0	0/ 0.0	0/ 0.0	7/ 9.7	7/ 9.7	12/16.7	46/63.9	45/62.5	72
7	0/ 0.0	0/ 0.0	0/ 0.0	8/11.1	9/12.5	9/12.5	46/63.9	46/63.9	72
8	0/ 0.0	0/ 0.0	0/ 0.0	11/15.3	13/18.1	15/20.8	33/45.8	46/63.9	72
9	1/ 1.4	1/ 1.4	1/ 1.4	26/36.1	19/26.4	13/18.1	11/15.3	36/50.0	72
10	20/28.2	2/ 2.8	7/ 9.9	16/22.5	13/18.3	9/12.7	4/ 5.6	20/28.2	71
11	33/46.5	0/ 0.0	4/ 5.6	20/28.2	4/ 5.6	4/ 5.6	6/ 8.5	11/15.5	71
12	36/50.7	4/ 5.6	4/ 5.6	15/21.1	5/ 7.0	3/ 4.2	4/ 5.6	10/14.1	71
13	41/58.6	6/ 8.6	0/ 0.0	10/14.3	6/ 8.6	3/ 4.3	4/ 5.7	11/15.7	70
14	40/56.3	1/ 1.4	6/ 8.5	13/18.3	2/ 2.8	5/ 7.0	4/ 5.6	10/14.1	71
15	36/50.7	3/ 4.2	4/ 5.6	15/21.1	6/ 8.5	3/ 4.2	4/ 5.6	9/12.7	71
16	26/36.6	5/ 7.0	1/ 1.4	19/26.8	12/16.9	2/ 2.8	6/ 8.5	9/12.7	71
17	2/ 2.8	1/ 1.4	4/ 5.6	33/45.8	24/33.3	4/ 5.6	4/ 5.6	22/30.6	72
18	0/ 0.0	0/ 0.0	2/ 2.8	19/26.4	20/27.8	13/18.1	18/25.0	39/54.2	72
19	0/ 0.0	0/ 0.0	0/ 0.0	8/11.1	25/34.7	6/ 8.3	33/45.8	47/65.3	72
20	0/ 0.0	0/ 0.0	0/ 0.0	9/12.5	15/20.8	13/18.1	35/48.6	47/65.3	72
21	0/ 0.0	0/ 0.0	0/ 0.0	11/15.3	10/13.9	16/22.2	35/48.6	46/63.9	72
22	0/ 0.0	0/ 0.0	0/ 0.0	6/ 8.3	14/19.4	15/20.8	37/51.4	44/61.1	72
23	0/ 0.0	0/ 0.0	0/ 0.0	9/12.5	10/13.9	15/20.8	38/52.8	42/58.3	72
24	0/ 0.0	0/ 0.0	0/ 0.0	9/12.5	9/12.5	9/12.5	45/62.5	41/56.9	72
ALL	236/13.7	23/ 1.3	33/ 1.9	305/17.7	269/15.6	244/14.2	609/35.4	804/46.8	1719

1719 CASES WITH STABILITY AVAILABLE OUT OF 2232 CASES POSSIBLE

Table 2.3L-3

DATA FROM 1/25/75 TO 1/24/76FEBRUARY LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	0/ 0.0	0/ 0.0	0/ 0.0	2/ 3.6	11/20.0	14/25.5	28/50.9	36/65.5	55
2	0/ 0.0	0/ 0.0	0/ 0.0	2/ 3.6	13/23.6	12/21.8	28/50.9	37/67.3	55
3	0/ 0.0	0/ 0.0	0/ 0.0	1/ 1.8	15/27.3	9/16.4	30/54.5	33/60.0	55
4	0/ 0.0	0/ 0.0	0/ 0.0	2/ 3.6	13/23.6	5/ 9.1	35/63.6	33/60.0	55
5	0/ 0.0	0/ 0.0	0/ 0.0	2/ 3.6	14/25.5	8/14.5	31/56.4	36/65.5	55
6	0/ 0.0	0/ 0.0	0/ 0.0	3/ 5.5	12/21.8	7/12.7	33/60.0	34/61.8	55
7	0/ 0.0	0/ 0.0	0/ 0.0	3/ 5.5	16/29.1	7/12.7	29/52.7	32/58.2	55
8	0/ 0.0	0/ 0.0	0/ 0.0	7/12.7	14/25.5	11/20.0	23/41.8	35/63.6	55
9	1/ 1.9	0/ 0.0	2/ 3.7	22/40.7	22/40.7	3/ 5.6	4/ 7.4	17/31.5	54
10	17/30.9	4/ 7.3	3/ 5.5	15/27.3	13/23.6	2/ 3.6	1/ 1.8	7/12.7	55
11	25/45.5	1/ 1.8	4/ 7.3	13/23.6	10/18.2	1/ 1.8	1/ 1.8	6/10.9	55
12	28/50.9	6/10.9	2/ 3.6	12/21.8	6/10.9	0/ 0.0	1/ 1.8	3/ 5.5	55
13	32/58.2	2/ 3.6	3/ 5.5	12/21.8	4/ 7.3	0/ 0.0	2/ 3.6	4/ 7.3	55
14	36/65.5	2/ 3.6	2/ 3.6	9/16.4	5/ 9.1	1/ 1.8	0/ 0.0	3/ 5.5	55
15	32/58.2	2/ 3.6	0/ 0.0	12/21.8	8/14.5	1/ 1.8	0/ 0.0	6/10.9	55
16	24/43.6	4/ 7.3	1/ 1.8	14/25.5	9/16.4	3/ 5.5	0/ 0.0	9/16.4	55
17	8/14.5	2/ 3.6	3/ 5.5	22/40.0	17/30.9	2/ 3.6	1/ 1.8	14/25.5	55
18	1/ 1.8	1/ 1.8	1/ 1.8	16/29.1	27/49.1	5/ 9.1	4/ 7.3	25/45.5	55
19	0/ 0.0	1/ 1.8	1/ 1.8	7/12.7	23/41.8	12/21.8	11/20.0	34/61.8	55
20	0/ 0.0	0/ 0.0	0/ 0.0	8/14.5	14/25.5	8/14.5	25/45.5	36/65.5	55
21	0/ 0.0	0/ 0.0	0/ 0.0	6/11.1	12/22.2	9/16.7	27/50.0	41/75.9	54
22	0/ 0.0	0/ 0.0	0/ 0.0	5/ 9.3	15/27.8	10/18.5	24/44.4	41/75.9	54
23	0/ 0.0	0/ 0.0	0/ 0.0	3/ 5.6	13/24.1	10/18.5	28/51.9	35/64.8	54
24	0/ 0.0	0/ 0.0	0/ 0.0	5/ 9.3	14/25.9	6/11.1	29/53.7	38/70.4	54
ALL	204/15.5	25/ 1.9	22/ 1.7	203/15.4	320/24.3	146/11.1	395/30.0	595/45.2	1315

1315 CASES WITH STABILITY AVAILABLE OUT OF 2016 CASES POSSIBLE

Table 2.3L-4

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	0/ 0.0	0/ 0.0	0/ 0.0	5/ 7.6	25/37.9	16/24.2	20/30.3	43/65.2	66
2	0/ 0.0	0/ 0.0	0/ 0.0	7/10.4	23/34.3	12/17.9	25/37.3	45/67.2	67
3	0/ 0.0	0/ 0.0	0/ 0.0	8/11.9	23/34.3	14/20.9	22/32.8	44/65.7	67
4	0/ 0.0	0/ 0.0	0/ 0.0	7/10.4	24/35.8	16/23.9	20/29.9	38/56.7	67
5	0/ 0.0	0/ 0.0	0/ 0.0	8/12.1	23/34.8	14/21.2	21/31.8	39/59.1	66
6	0/ 0.0	0/ 0.0	0/ 0.0	6/ 9.1	27/40.9	10/15.2	23/34.8	37/56.1	66
7	0/ 0.0	0/ 0.0	0/ 0.0	15/22.4	21/31.3	11/16.4	20/29.9	33/49.3	67
8	0/ 0.0	1/ 1.5	2/ 3.0	29/43.9	25/37.9	4/ 6.1	5/ 7.6	20/30.3	66
9	13/19.1	2/ 2.9	6/ 8.8	35/51.5	10/14.7	2/ 2.9	0/ 0.0	6/ 8.8	68
10	26/38.2	6/ 8.8	9/13.2	18/26.5	9/13.2	0/ 0.0	0/ 0.0	5/ 7.4	68
11	40/59.7	4/ 6.0	2/ 3.0	15/22.4	6/ 9.0	0/ 0.0	0/ 0.0	4/ 6.0	67
12	48/71.6	4/ 6.0	0/ 0.0	10/14.9	5/ 7.5	0/ 0.0	0/ 0.0	2/ 3.0	67
13	52/76.5	2/ 2.9	0/ 0.0	9/13.2	5/ 7.4	0/ 0.0	0/ 0.0	3/ 4.4	68
14	52/77.6	1/ 1.5	2/ 3.0	7/10.4	5/ 7.5	0/ 0.0	0/ 0.0	3/ 4.5	67
15	48/70.6	3/ 4.4	5/ 7.4	8/11.8	4/ 5.9	0/ 0.0	0/ 0.0	2/ 2.9	68
16	35/51.5	7/10.3	6/ 8.8	15/22.1	5/ 7.4	0/ 0.0	0/ 0.0	3/ 4.4	68
17	14/20.6	8/11.8	6/ 8.8	33/48.5	7/10.3	0/ 0.0	0/ 0.0	4/ 5.9	68
18	2/ 2.9	0/ 0.0	0/ 0.0	39/56.5	27/39.1	1/ 1.4	0/ 0.0	7/10.1	69
19	0/ 0.0	1/ 1.4	0/ 0.0	19/27.5	33/47.8	12/17.4	4/ 5.8	32/46.4	69
20	0/ 0.0	0/ 0.0	0/ 0.0	12/17.4	32/46.4	8/11.6	17/24.6	44/63.8	69
21	0/ 0.0	0/ 0.0	0/ 0.0	10/14.7	23/33.8	16/23.5	19/27.9	44/64.7	68
22	0/ 0.0	0/ 0.0	0/ 0.0	12/17.4	18/26.1	11/15.9	28/40.6	44/63.8	69
23	0/ 0.0	0/ 0.0	1/ 1.4	9/13.0	22/31.9	11/15.9	26/37.7	43/62.3	69
24	0/ 0.0	0/ 0.0	0/ 0.0	7/10.4	25/37.3	10/14.9	25/37.3	43/64.2	67
ALL	330/20.4	39/ 2.4	39/ 2.4	343/21.2	427/26.3	168/10.4	275/17.0	588/36.3	1621

1621 CASES WITH STABILITY AVAILABLE OUT OF 2232 CASES POSSIBLE

Table 2.3L-5

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	0/ 0.0	0/ 0.0	0/ 0.0	18/20.7	18/20.7	16/18.4	35/40.2	56/64.4	87
2	0/ 0.0	0/ 0.0	0/ 0.0	16/18.4	18/20.7	15/17.2	38/43.7	57/65.5	87
3	0/ 0.0	0/ 0.0	0/ 0.0	17/19.5	16/18.4	11/12.6	43/49.4	53/60.9	87
4	0/ 0.0	0/ 0.0	0/ 0.0	16/18.6	17/19.8	12/14.0	41/47.7	56/65.1	86
5	0/ 0.0	0/ 0.0	0/ 0.0	15/17.2	16/18.4	17/19.5	39/44.8	54/62.1	87
6	0/ 0.0	0/ 0.0	0/ 0.0	12/14.0	22/25.6	11/12.8	41/47.7	54/62.8	86
7	1/ 1.2	0/ 0.0	1/ 1.2	27/31.4	19/22.1	14/16.3	24/27.9	41/47.7	86
8	8/ 9.1	5/ 5.7	6/ 6.8	42/47.7	12/13.6	9/10.2	6/ 6.8	20/22.7	88
9	31/35.2	13/14.8	7/ 8.0	29/33.0	4/ 4.5	1/ 1.1	3/ 3.4	5/ 5.7	88
10	59/67.8	8/ 9.2	2/ 2.3	13/14.9	1/ 1.1	1/ 1.1	3/ 3.4	5/ 5.7	87
11	67/76.1	4/ 4.5	6/ 6.8	6/ 6.8	1/ 1.1	4/ 4.5	0/ 0.0	4/ 4.5	88
12	79/88.8	3/ 3.4	0/ 0.0	5/ 5.6	2/ 2.2	0/ 0.0	0/ 0.0	1/ 1.1	89
13	83/92.2	2/ 2.2	1/ 1.1	3/ 3.3	1/ 1.1	0/ 0.0	0/ 0.0	0/ 0.0	90
14	79/87.8	4/ 4.4	2/ 2.2	4/ 4.4	1/ 1.1	0/ 0.0	0/ 0.0	0/ 0.0	90
15	78/87.6	2/ 2.2	2/ 2.2	5/ 5.6	2/ 2.2	0/ 0.0	0/ 0.0	1/ 1.1	89
16	69/78.4	2/ 2.3	1/ 1.1	13/14.8	2/ 2.3	1/ 1.1	0/ 0.0	3/ 3.4	88
17	56/62.2	6/ 6.7	8/ 8.9	16/17.8	3/ 3.3	1/ 1.1	0/ 0.0	4/ 4.4	90
18	24/27.0	7/ 7.9	2/ 2.2	48/53.9	7/ 7.9	0/ 0.0	1/ 1.1	6/ 6.7	89
19	5/ 5.7	2/ 2.3	6/ 6.8	49/55.7	18/20.5	5/ 5.7	3/ 3.4	13/14.8	88
20	0/ 0.0	2/ 2.3	0/ 0.0	48/55.2	17/19.5	8/ 9.2	12/13.8	26/29.9	87
21	0/ 0.0	0/ 0.0	1/ 1.2	30/35.3	23/27.1	9/10.6	22/25.9	33/38.8	85
22	0/ 0.0	0/ 0.0	1/ 1.2	24/28.2	20/23.5	14/16.5	26/30.6	45/52.9	85
23	0/ 0.0	0/ 0.0	1/ 1.1	19/21.6	23/26.1	20/22.7	25/28.4	51/58.0	88
24	0/ 0.0	0/ 0.0	1/ 1.1	15/17.2	24/27.6	17/19.5	30/34.5	59/67.8	87
ALL	639/30.4	60/ 2.9	48/ 2.3	490/23.3	287/13.7	186/ 8.8	392/18.6	647/30.8	2102

2102 CASES WITH STABILITY AVAILABLE OUT OF 2160 CASES POSSIBLE

Amended: April 2009 TL: E048000

Table 2.3L-6

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	3/ 3.5	4/ 4.7	6/ 7.1	32/37.6	18/21.2	9/10.6	13/15.3	22/25.9	85
2	3/ 3.5	6/ 7.0	4/ 4.7	41/47.7	14/16.3	2/ 2.3	16/18.6	19/22.1	86
3	2/ 2.3	5/ 5.8	7/ 8.1	31/36.0	22/25.6	6/ 7.0	13/15.1	20/23.3	86
4	4/ 4.5	4/ 4.5	1/ 1.1	38/43.2	20/22.7	6/ 6.8	15/17.0	20/22.7	88
5	0/ 0.0	4/ 4.5	9/10.2	35/39.8	19/21.6	3/ 3.4	18/20.5	20/22.7	88
6	3/ 3.4	6/ 6.8	3/ 3.4	33/37.5	22/25.0	7/ 8.0	14/15.9	22/25.0	88
7	7/ 8.0	7/ 8.0	7/ 8.0	34/38.6	20/22.7	2/ 2.3	11/12.5	19/21.6	88
8	13/15.1	11/12.8	4/ 4.7	42/48.8	14/16.3	2/ 2.3	0/ 0.0	9/10.5	86
9	28/33.7	5/ 6.0	6/ 7.2	36/43.4	7/ 8.4	0/ 0.0	1/ 1.2	3/ 3.6	83
10	45/54.9	2/ 2.4	9/11.0	22/26.8	3/ 3.7	1/ 1.2	0/ 0.0	1/ 1.2	82
11	57/69.5	4/ 4.9	3/ 3.7	15/18.3	2/ 2.4	1/ 1.2	0/ 0.0	2/ 2.4	82
12	67/81.7	1/ 1.2	1/ 1.2	12/14.6	1/ 1.2	0/ 0.0	0/ 0.0	1/ 1.2	82
13	72/87.8	1/ 1.2	2/ 2.4	6/ 7.3	1/ 1.2	0/ 0.0	0/ 0.0	0/ 0.0	82
14	74/91.4	2/ 2.5	2/ 2.5	3/ 3.7	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	81
15	78/97.5	0/ 0.0	1/ 1.3	1/ 1.3	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	80
16	74/91.4	3/ 3.7	1/ 1.2	2/ 2.5	0/ 0.0	0/ 0.0	1/ 1.2	1/ 1.2	81
17	67/80.7	6/ 7.2	3/ 3.6	7/ 8.4	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	83
18	49/57.6	5/ 5.9	9/10.6	20/23.5	2/ 2.4	0/ 0.0	0/ 0.0	1/ 1.2	85
19	17/19.8	13/15.1	7/ 8.1	44/51.2	4/ 4.7	0/ 0.0	1/ 1.2	3/ 3.5	86
20	8/ 9.4	5/ 5.9	7/ 8.2	50/58.8	14/16.5	1/ 1.2	0/ 0.0	5/ 5.9	85
21	8/ 9.3	2/ 2.3	9/10.5	42/48.8	18/20.9	3/ 3.5	4/ 4.7	13/15.1	86
22	9/10.6	5/ 5.9	4/ 4.7	39/45.9	15/17.6	5/ 5.9	8/ 9.4	20/23.5	85
23	7/ 8.1	1/ 1.2	6/ 7.0	38/44.2	16/18.6	9/10.5	9/10.5	21/24.4	86
24	4/ 4.7	4/ 4.7	3/ 3.5	39/45.3	15/17.4	10/11.6	11/12.8	24/27.9	86
ALL	699/34.4	106/ 5.2	114/ 5.6	662/32.6	247/12.2	67/ 3.3	135/ 6.7	246/12.1	2030

2030 CASES WITH STABILITY AVAILABLE OUT OF 2232 CASES POSSIBLE

Table 2.3L-7

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	2/ 2.6	0/ 0.0	10/13.0	31/40.3	17/22.1	7/ 9.1	10/13.0	26/33.8	77
2	0/ 0.0	0/ 0.0	5/ 6.5	37/48.1	17/22.1	6/ 7.8	12/15.6	27/35.1	77
3	0/ 0.0	0/ 0.0	9/11.8	32/42.1	17/22.4	4/ 5.3	14/18.4	24/31.6	76
4	0/ 0.0	1/ 1.3	5/ 6.6	36/47.4	16/21.1	8/10.5	10/13.2	23/30.3	76
5	1/ 1.3	0/ 0.0	4/ 5.3	36/48.0	19/25.3	4/ 5.3	11/14.7	24/32.0	75
6	1/ 1.3	0/ 0.0	4/ 5.3	38/50.7	23/30.7	5/ 6.7	4/ 5.3	20/26.7	75
7	5/ 6.7	2/ 2.7	11/14.7	39/52.0	15/20.0	1/ 1.3	2/ 2.7	9/12.0	75
8	15/20.0	2/ 2.7	12/16.0	30/40.0	15/20.0	1/ 1.3	0/ 0.0	5/ 6.7	75
9	38/51.4	5/ 6.8	12/16.2	15/20.3	4/ 5.4	0/ 0.0	0/ 0.0	1/ 1.4	74
10	57/77.0	2/ 2.7	7/ 9.5	5/ 6.8	3/ 4.1	0/ 0.0	0/ 0.0	0/ 0.0	74
11	65/87.8	1/ 1.4	4/ 5.4	2/ 2.7	1/ 1.4	1/ 1.4	0/ 0.0	1/ 1.4	74
12	71/93.4	0/ 0.0	1/ 1.3	4/ 5.3	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	76
13	75/98.7	0/ 0.0	0/ 0.0	1/ 1.3	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	76
14	71/95.9	2/ 2.7	0/ 0.0	1/ 1.4	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	74
15	73/96.1	1/ 1.3	1/ 1.3	1/ 1.3	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	76
16	72/93.5	1/ 1.3	1/ 1.3	2/ 2.6	1/ 1.3	0/ 0.0	0/ 0.0	0/ 0.0	77
17	64/82.1	6/ 7.7	2/ 2.6	6/ 7.7	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	78
18	52/66.7	4/ 5.1	10/12.8	12/15.4	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	78
19	19/24.4	12/15.4	15/19.2	29/37.2	3/ 3.8	0/ 0.0	0/ 0.0	2/ 2.6	78
20	6/ 7.7	2/ 2.6	24/30.8	35/44.9	11/14.1	0/ 0.0	0/ 0.0	0/ 0.0	78
21	4/ 5.1	0/ 0.0	7/ 9.0	42/53.8	21/26.9	4/ 5.1	0/ 0.0	12/15.4	78
22	3/ 3.8	0/ 0.0	9/11.5	36/46.2	19/24.4	8/10.3	3/ 3.8	19/24.4	78
23	2/ 2.6	0/ 0.0	9/11.5	33/42.3	18/23.1	7/ 9.0	9/11.5	21/26.9	78
24	1/ 1.3	1/ 1.3	8/10.4	30/39.0	16/20.8	9/11.7	12/15.6	28/36.4	77
ALL	697/38.1	42/ 2.3	170/ 9.3	533/29.1	236/12.9	65/ 3.6	87/ 4.8	242/13.2	1830

1830 CASES WITH STABILITY AVAILABLE OUT OF 2160 CASES POSSIBLE

Amended: April 2009 TL: E048000

Table 2.3L-8

DATA FROM 1/25/73 TO 1/24/76JULY LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	0/ 0.0	0/ 0.0	4/ 4.3	40/43.0	29/31.2	13/14.0	7/ 7.5	26/28.0	93
2	0/ 0.0	0/ 0.0	5/ 5.4	40/43.0	31/33.3	8/ 8.6	9/ 9.7	29/31.2	93
3	1/ 1.1	0/ 0.0	5/ 5.4	32/34.4	40/43.0	8/ 8.6	7/ 7.5	31/33.3	93
4	0/ 0.0	1/ 1.1	2/ 2.2	39/41.9	35/37.6	9/ 9.7	7/ 7.5	25/26.9	93
5	0/ 0.0	0/ 0.0	7/ 7.5	35/37.6	30/32.3	10/10.8	11/11.8	33/35.5	93
6	0/ 0.0	0/ 0.0	7/ 7.5	41/44.1	32/34.4	7/ 7.5	6/ 6.5	23/24.7	93
7	5/ 5.4	7/ 7.5	20/21.5	27/29.0	30/32.3	4/ 4.3	0/ 0.0	15/16.1	93
8	34/37.0	11/12.0	10/10.9	9/ 9.8	27/29.3	1/ 1.1	0/ 0.0	5/ 5.4	92
9	55/59.1	4/ 4.3	4/ 4.3	19/20.4	11/11.8	0/ 0.0	0/ 0.0	1/ 1.1	93
10	66/71.7	3/ 3.3	3/ 3.3	17/18.5	3/ 3.3	0/ 0.0	0/ 0.0	0/ 0.0	92
11	73/78.5	5/ 5.4	2/ 2.2	10/10.8	3/ 3.2	0/ 0.0	0/ 0.0	0/ 0.0	93
12	83/89.2	4/ 4.3	2/ 2.2	4/ 4.3	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	93
13	88/94.6	0/ 0.0	2/ 2.2	2/ 2.2	1/ 1.1	0/ 0.0	0/ 0.0	1/ 1.1	93
14	91/97.8	1/ 1.1	0/ 0.0	1/ 1.1	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	93
15	90/96.8	2/ 2.2	1/ 1.1	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	93
16	84/90.3	4/ 4.3	2/ 2.2	1/ 1.1	2/ 2.2	0/ 0.0	0/ 0.0	0/ 0.0	93
17	83/89.2	4/ 4.3	2/ 2.2	3/ 3.2	1/ 1.1	0/ 0.0	0/ 0.0	0/ 0.0	93
18	60/65.2	11/12.0	8/ 8.7	13/14.1	0/ 0.0	0/ 0.0	0/ 0.0	0/ 0.0	92
19	20/21.7	23/25.0	14/15.2	34/37.0	1/ 1.1	0/ 0.0	0/ 0.0	0/ 0.0	92
20	4/ 4.3	10/10.8	18/19.4	58/62.4	3/ 3.2	0/ 0.0	0/ 0.0	0/ 0.0	93
21	1/ 1.1	6/ 6.5	14/15.1	56/60.2	14/15.1	2/ 2.2	0/ 0.0	4/ 4.3	93
22	0/ 0.0	6/ 6.5	12/12.9	41/44.1	33/35.5	1/ 1.1	0/ 0.0	13/14.0	93
23	0/ 0.0	3/ 3.2	11/11.8	39/41.9	31/33.3	9/ 9.7	0/ 0.0	23/24.7	93
24	0/ 0.0	1/ 1.1	6/ 6.5	35/37.6	35/37.6	11/11.8	5/ 5.4	30/32.3	93
ALL	838/37.6	106/ 4.8	161/ 7.2	596/26.8	392/17.6	83/ 3.7	52/ 2.3	259/11.6	2228

2228 CASES WITH STABILITY AVAILABLE OUT OF 2232 CASES POSSIBLE

Table 2.3L-9

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	10/10.8	3/ 3.2	4/ 4.3	24/25.8	30/32.3	11/11.8	11/11.8	33/35.5	93
2	10/10.8	1/ 1.1	5/ 5.4	28/30.1	31/33.3	12/12.9	6/ 6.5	30/32.3	93
3	6/ 6.5	4/ 4.3	7/ 7.5	29/31.2	30/32.3	8/ 8.6	9/ 9.7	31/33.3	93
4	8/ 8.6	5/ 5.4	4/ 4.3	32/34.4	31/33.3	10/10.8	3/ 3.2	28/30.1	93
5	8/ 8.6	2/ 2.2	7/ 7.5	28/30.1	34/36.6	8/ 8.6	6/ 6.5	29/31.2	93
6	9/ 9.7	3/ 3.2	2/ 2.2	34/36.6	31/33.3	6/ 6.5	8/ 8.6	27/29.0	93
7	12/12.9	3/ 3.2	7/ 7.5	39/41.9	25/26.9	2/ 2.2	5/ 5.4	16/17.2	93
8	29/31.2	6/ 6.5	11/11.8	26/28.0	19/20.4	2/ 2.2	0/ 0.0	10/10.8	93
9	46/49.5	7/ 7.5	5/ 5.4	23/24.7	12/12.9	0/ 0.0	0/ 0.0	1/ 1.1	93
10	58/62.4	4/ 4.3	2/ 2.2	26/28.0	3/ 3.2	0/ 0.0	0/ 0.0	1/ 1.1	93
11	73/78.5	3/ 3.2	4/ 4.3	12/12.9	1/ 1.1	0/ 0.0	0/ 0.0	1/ 1.1	93
12	83/89.2	1/ 1.1	3/ 3.2	5/ 5.4	1/ 1.1	0/ 0.0	0/ 0.0	0/ 0.0	93
13	86/92.5	1/ 1.1	0/ 0.0	4/ 4.3	2/ 2.2	0/ 0.0	0/ 0.0	1/ 1.1	93
14	85/92.4	2/ 2.2	0/ 0.0	4/ 4.3	0/ 0.0	0/ 0.0	1/ 1.1	1/ 1.1	92
15	88/94.6	1/ 1.1	1/ 1.1	2/ 2.2	0/ 0.0	1/ 1.1	0/ 0.0	1/ 1.1	93
16	88/94.6	3/ 3.2	1/ 1.1	0/ 0.0	1/ 1.1	0/ 0.0	0/ 0.0	0/ 0.0	93
17	84/90.3	0/ 0.0	4/ 4.3	3/ 3.2	2/ 2.2	0/ 0.0	0/ 0.0	1/ 1.1	93
18	61/65.6	10/10.8	8/ 8.6	13/14.0	1/ 1.1	0/ 0.0	0/ 0.0	0/ 0.0	93
19	28/30.1	8/ 8.6	8/ 8.6	45/48.4	4/ 4.3	0/ 0.0	0/ 0.0	1/ 1.1	93
20	21/22.6	3/ 3.2	7/ 7.5	48/51.6	14/15.1	0/ 0.0	0/ 0.0	3/ 3.2	93
21	14/15.1	5/ 5.4	4/ 4.3	38/40.9	30/32.3	1/ 1.1	1/ 1.1	13/14.0	93
22	9/ 9.7	5/ 5.4	5/ 5.4	24/25.8	40/43.0	7/ 7.5	3/ 3.2	27/29.0	93
23	11/11.8	2/ 2.2	2/ 2.2	19/20.4	40/43.0	15/16.1	4/ 4.3	43/46.2	93
24	10/10.8	1/ 1.1	3/ 3.2	23/24.7	36/38.7	10/10.8	10/10.8	37/39.8	93
ALL	937/42.0	83/ 3.7	104/ 4.7	529/23.7	418/18.7	93/ 4.2	67/ 3.0	335/15.0	2231

2231 CASES WITH STABILITY AVAILABLE OUT OF 2232 CASES POSSIBLE

Table 2.3L-10

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	6/ 6.7	3/ 3.4	7/ 7.9	20/22.5	25/28.1	10/11.2	18/20.2	38/42.7	89
2	7/ 7.9	6/ 6.7	6/ 6.7	17/19.1	24/27.0	15/16.9	14/15.7	37/41.6	89
3	7/ 8.0	6/ 6.9	5/ 5.7	19/21.8	26/29.9	10/11.5	14/16.1	34/39.1	87
4	8/ 9.2	3/ 3.4	3/ 3.4	22/25.3	29/33.3	10/11.5	12/13.8	32/36.8	87
5	5/ 5.7	2/ 2.3	7/ 8.0	18/20.5	33/37.5	11/12.5	12/13.6	39/44.3	88
6	6/ 6.8	4/ 4.5	5/ 5.7	28/31.8	23/26.1	10/11.4	12/13.6	31/35.2	88
7	11/12.5	9/10.2	7/ 8.0	25/28.4	22/25.0	4/ 4.5	10/11.4	19/21.6	88
8	24/27.6	10/11.5	7/ 8.0	15/17.2	22/25.3	3/ 3.4	6/ 6.9	17/19.5	87
9	39/44.8	7/ 8.0	3/ 3.4	15/17.2	19/21.8	0/ 0.0	4/ 4.6	10/11.5	87
10	55/63.2	3/ 3.4	4/ 4.6	11/12.6	10/11.5	1/ 1.1	3/ 3.4	6/ 6.9	87
11	62/72.1	3/ 3.5	2/ 2.3	13/15.1	3/ 3.5	2/ 2.3	1/ 1.2	4/ 4.7	86
12	72/83.7	0/ 0.0	1/ 1.2	7/ 8.1	4/ 4.7	1/ 1.2	1/ 1.2	4/ 4.7	86
13	72/82.8	5/ 5.7	2/ 2.3	4/ 4.6	3/ 3.4	0/ 0.0	1/ 1.1	3/ 3.4	87
14	76/88.4	4/ 4.7	0/ 0.0	4/ 4.7	0/ 0.0	2/ 2.3	0/ 0.0	2/ 2.3	86
15	73/83.9	0/ 0.0	2/ 2.3	6/ 6.9	4/ 4.6	2/ 2.3	0/ 0.0	4/ 4.6	87
16	70/79.5	3/ 3.4	5/ 5.7	6/ 6.8	3/ 3.4	1/ 1.1	0/ 0.0	3/ 3.4	88
17	62/70.5	2/ 2.3	6/ 6.8	11/12.5	4/ 4.5	1/ 1.1	2/ 2.3	6/ 6.8	88
18	36/41.9	9/10.5	10/11.6	19/22.1	4/ 4.7	3/ 3.5	5/ 5.8	9/10.5	86
19	21/24.4	10/11.6	6/ 7.0	27/31.4	15/17.4	1/ 1.2	6/ 7.0	8/ 9.3	86
20	16/18.6	11/12.8	7/ 8.1	25/29.1	20/23.3	3/ 3.5	4/ 4.7	11/12.8	86
21	11/12.6	10/11.5	4/ 4.6	28/32.2	22/25.3	6/ 6.9	6/ 6.9	19/21.8	87
22	12/13.8	4/ 4.6	8/ 9.2	19/21.8	23/26.4	12/13.8	9/10.3	27/31.0	87
23	9/10.2	4/ 4.5	5/ 5.7	22/25.0	22/25.0	16/18.2	10/11.4	37/42.0	88
24	7/ 8.0	4/ 4.5	4/ 4.5	20/22.7	24/27.3	15/17.0	14/15.9	40/45.5	88
ALL	767/36.6	122/ 5.8	116/ 5.5	401/19.2	384/18.3	139/ 6.6	164/ 7.8	440/21.0	2093

2093 CASES WITH STABILITY AVAILABLE OUT OF 2160 CASES POSSIBLE

Table 2.3L-11

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	0/ 0.0	0/ 0.0	0/ 0.0	18/20.9	18/20.9	16/18.6	34/39.5	56/65.1	86
2	0/ 0.0	0/ 0.0	0/ 0.0	14/16.3	27/31.4	14/16.3	31/36.0	50/58.1	86
3	0/ 0.0	0/ 0.0	0/ 0.0	14/16.3	23/26.7	23/26.7	26/30.2	50/58.1	86
4	0/ 0.0	0/ 0.0	1/ 1.2	14/16.3	29/33.7	6/ 7.0	36/41.9	55/64.0	86
5	0/ 0.0	0/ 0.0	1/ 1.2	15/17.4	20/23.3	13/15.1	37/43.0	54/62.8	86
6	0/ 0.0	0/ 0.0	2/ 2.3	12/14.0	24/27.9	15/17.4	33/38.4	57/66.3	86
7	0/ 0.0	0/ 0.0	0/ 0.0	17/19.8	24/27.9	15/17.4	30/34.9	53/61.6	86
8	4/ 4.7	5/ 5.8	1/ 1.2	29/33.7	24/27.9	8/ 9.3	15/17.4	36/41.9	86
9	20/23.5	6/ 7.1	10/11.8	17/20.0	22/25.9	4/ 4.7	6/ 7.1	21/24.7	85
10	36/42.9	5/ 6.0	4/ 4.8	21/25.0	11/13.1	4/ 4.8	3/ 3.6	14/16.7	84
11	47/55.3	9/10.6	3/ 3.5	11/12.9	9/10.6	4/ 4.7	2/ 2.4	11/12.9	85
12	55/67.1	4/ 4.9	3/ 3.7	11/13.4	4/ 4.9	3/ 3.7	2/ 2.4	6/ 7.3	82
13	60/72.3	2/ 2.4	3/ 3.6	10/12.0	2/ 2.4	1/ 1.2	5/ 6.0	7/ 8.4	83
14	59/69.4	2/ 2.4	0/ 0.0	8/ 9.4	8/ 9.4	6/ 7.1	2/ 2.4	15/17.6	85
15	57/68.7	5/ 6.0	3/ 3.6	7/ 8.4	8/ 9.6	2/ 2.4	1/ 1.2	6/ 7.2	83
16	45/54.2	8/ 9.6	4/ 4.8	10/12.0	12/14.5	2/ 2.4	2/ 2.4	11/13.3	83
17	20/23.3	10/11.6	9/10.5	27/31.4	14/16.3	5/ 5.8	1/ 1.2	11/12.8	86
18	0/ 0.0	0/ 0.0	6/ 7.0	49/57.0	21/24.4	4/ 4.7	6/ 7.0	18/20.9	86
19	0/ 0.0	0/ 0.0	0/ 0.0	34/39.1	38/43.7	6/ 6.9	9/10.3	25/28.7	87
20	0/ 0.0	0/ 0.0	2/ 2.3	23/26.4	32/36.8	14/16.1	16/18.4	45/51.7	87
21	0/ 0.0	0/ 0.0	0/ 0.0	19/21.8	25/28.7	21/24.1	22/25.3	52/59.8	87
22	0/ 0.0	0/ 0.0	0/ 0.0	18/20.7	24/27.6	13/14.9	32/36.8	47/54.0	87
23	0/ 0.0	0/ 0.0	0/ 0.0	18/20.7	20/23.0	20/23.0	29/33.3	58/66.7	87
24	0/ 0.0	0/ 0.0	0/ 0.0	17/19.5	20/23.0	18/20.7	32/36.8	59/67.8	87
ALL	403/19.6	56/ 2.7	52/ 2.5	433/21.1	459/22.4	237/11.5	412/20.1	817/39.8	2052

2052 CASES WITH STABILITY AVAILABLE OUT OF 2232 CASES POSSIBLE

Amended: April 2009 TL: E048000

Table 2.3L-12

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	0/ 0.0	0/ 0.0	0/ 0.0	8/ 9.1	16/18.2	4/ 4.5	60/68.2	57/64.8	88
2	0/ 0.0	0/ 0.0	0/ 0.0	8/ 9.1	14/15.9	15/17.0	51/58.0	59/67.0	88
3	0/ 0.0	0/ 0.0	0/ 0.0	6/ 6.8	17/19.3	11/12.5	54/61.4	57/64.8	88
4	0/ 0.0	0/ 0.0	0/ 0.0	6/ 6.8	16/18.2	16/18.2	50/56.8	58/65.9	88
5	0/ 0.0	0/ 0.0	0/ 0.0	5/ 5.7	16/18.2	10/11.4	57/64.8	60/68.2	88
6	0/ 0.0	0/ 0.0	0/ 0.0	5/ 5.7	15/17.2	13/14.9	54/62.1	54/62.1	87
7	0/ 0.0	1/ 1.1	0/ 0.0	3/ 3.4	15/17.2	16/18.4	52/59.8	58/66.7	87
8	1/ 1.1	0/ 0.0	2/ 2.3	11/12.6	24/27.6	16/18.4	33/37.9	58/66.7	87
9	10/11.6	5/ 5.8	4/ 4.7	27/31.4	28/32.6	7/ 8.1	5/ 5.8	25/29.1	86
10	34/39.5	6/ 7.0	6/ 7.0	23/26.7	12/14.0	3/ 3.5	2/ 2.3	13/15.1	86
11	48/55.2	4/ 4.6	2/ 2.3	17/19.5	8/ 9.2	5/ 5.7	3/ 3.4	12/13.8	87
12	52/61.2	5/ 5.9	2/ 2.4	13/15.3	7/ 8.2	4/ 4.7	2/ 2.4	10/11.8	85
13	56/65.1	3/ 3.5	1/ 1.2	17/19.8	7/ 8.1	1/ 1.2	1/ 1.2	8/ 9.3	86
14	53/62.4	1/ 1.2	3/ 3.5	17/20.0	6/ 7.1	4/ 4.7	1/ 1.2	9/10.6	85
15	42/48.8	4/ 4.7	6/ 7.0	17/19.8	12/14.0	4/ 4.7	1/ 1.2	9/10.5	86
16	11/12.8	9/10.5	6/ 7.0	32/37.2	22/25.6	4/ 4.7	2/ 2.3	12/14.0	86
17	1/ 1.1	0/ 0.0	0/ 0.0	33/37.9	42/48.3	4/ 4.6	7/ 8.0	40/46.0	87
18	1/ 1.1	0/ 0.0	0/ 0.0	19/21.8	30/34.5	20/23.0	17/19.5	51/58.6	87
19	0/ 0.0	0/ 0.0	0/ 0.0	16/18.2	20/22.7	18/20.5	34/38.6	52/59.1	88
20	0/ 0.0	0/ 0.0	0/ 0.0	8/ 9.1	22/25.0	15/17.0	43/48.9	69/78.4	88
21	0/ 0.0	0/ 0.0	0/ 0.0	7/ 8.0	17/19.3	16/18.2	48/54.5	58/65.9	88
22	0/ 0.0	0/ 0.0	0/ 0.0	7/ 8.0	16/18.2	12/13.6	53/60.2	58/65.9	88
23	0/ 0.0	0/ 0.0	1/ 1.1	8/ 9.1	14/15.9	12/13.6	53/60.2	51/58.0	88
24	0/ 0.0	0/ 0.0	0/ 0.0	8/ 9.1	11/12.5	15/17.0	54/61.4	57/64.8	88
ALL	309/14.8	38/ 1.8	33/ 1.6	321/15.4	407/19.5	245/11.7	737/35.3	995/47.6	2090

2090 CASES WITH STABILITY AVAILABLE OUT OF 2160 CASES POSSIBLE

Table 2.3L-13

DATA FROM 1/25/73 TO 1/24/76DECEMBER LEVEL = 6.1 - 36.5 m
DIURNAL STABILITY AND INVERSION FREQUENCIES (NO. AND PERCENT OF ROW TOTALS)

HR. OF DAY	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	0/ 0.0	0/ 0.0	0/ 0.0	6/ 6.7	9/10.0	12/13.3	63/70.0	54/60.0	90
2	0/ 0.0	0/ 0.0	0/ 0.0	6/ 6.7	8/ 8.9	11/12.2	65/72.2	54/60.0	90
3	1/ 1.1	0/ 0.0	1/ 1.1	4/ 4.4	9/ 9.9	15/16.5	61/67.0	57/62.6	91
4	0/ 0.0	0/ 0.0	2/ 2.2	2/ 2.2	10/11.0	16/17.6	61/67.0	52/57.1	91
5	0/ 0.0	0/ 0.0	0/ 0.0	4/ 4.4	10/11.0	9/ 9.9	68/74.7	53/58.2	91
6	0/ 0.0	0/ 0.0	0/ 0.0	4/ 4.4	11/12.1	11/12.1	65/71.4	57/62.6	91
7	0/ 0.0	0/ 0.0	0/ 0.0	3/ 3.3	11/12.1	12/13.2	65/71.4	49/53.8	91
8	0/ 0.0	0/ 0.0	0/ 0.0	11/12.1	13/14.3	15/16.5	52/57.1	56/61.5	91
9	4/ 4.4	1/ 1.1	4/ 4.4	24/26.4	18/19.8	26/28.6	14/15.4	46/50.5	91
10	29/32.6	1/ 1.1	6/ 6.7	18/20.2	15/16.9	10/11.2	10/11.2	27/30.3	89
11	42/47.2	3/ 3.4	4/ 4.5	10/11.2	16/18.0	7/ 7.9	7/ 7.9	21/23.6	89
12	40/44.9	8/ 9.0	1/ 1.1	12/13.5	13/14.6	8/ 9.0	7/ 7.9	20/22.5	89
13	42/46.7	4/ 4.4	3/ 3.3	14/15.6	14/15.6	5/ 5.6	8/ 8.9	21/23.3	90
14	37/41.6	3/ 3.4	6/ 6.7	15/16.9	14/15.7	5/ 5.6	9/10.1	21/23.6	89
15	27/30.0	3/ 3.3	3/ 3.3	20/22.2	19/21.1	9/10.0	9/10.0	30/33.3	90
16	11/12.2	3/ 3.3	5/ 5.6	29/32.2	12/13.3	18/20.0	12/13.3	31/34.4	90
17	1/ 1.1	0/ 0.0	0/ 0.0	24/26.7	32/35.6	14/15.6	19/21.1	42/46.7	90
18	1/ 1.1	0/ 0.0	0/ 0.0	10/11.1	20/22.2	23/25.6	36/40.0	53/58.9	90
19	0/ 0.0	0/ 0.0	0/ 0.0	10/11.1	15/16.7	15/16.7	50/55.6	61/67.8	90
20	0/ 0.0	0/ 0.0	0/ 0.0	10/11.1	13/14.4	18/20.0	49/54.4	55/61.1	90
21	0/ 0.0	0/ 0.0	0/ 0.0	9/10.0	14/15.6	18/20.0	49/54.4	60/66.7	90
22	0/ 0.0	0/ 0.0	0/ 0.0	11/12.2	9/10.0	14/15.6	56/62.2	51/56.7	90
23	0/ 0.0	0/ 0.0	0/ 0.0	9/10.0	8/ 8.9	14/15.6	59/65.6	49/54.4	90
24	0/ 0.0	0/ 0.0	0/ 0.0	9/10.0	6/ 6.7	11/12.2	64/71.1	53/58.9	90
ALL	235/10.9	26/ 1.2	35/ 1.6	274/12.7	319/14.7	316/14.6	958/44.3	1073/49.6	2163

2163 CASES WITH STABILITY AVAILABLE OUT OF 2232 CASES POSSIBLE

Table 2.3L-14

DATA FROM 1/25/73 TO 1/24/76
LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	245	541	598	989	949	916	388	573	4626
2	108	78	102	459	374	248	184	298	1553
3	82	7	29	210	165	78	109	181	680
4	79	2	5	95	85	32	76	148	374
5	67	0	1	61	60	14	45	129	248
6	86	0	1	49	41	8	30	79	215
7	98	0	1	34	27	7	26	54	193
8	82	0	0	31	23	1	25	46	162
9	87	0	0	15	11	1	22	55	136
10	59	0	0	15	10	2	23	36	109
11	56	0	0	13	11	1	29	36	110
12	32	0	0	9	6	0	16	23	63
13	12	0	0	10	8	0	20	25	50
14	11	0	0	7	7	0	21	10	46
15	2	0	0	8	1	0	18	17	29
16	1	0	0	4	2	0	7	11	14
17	1	0	0	5	1	0	4	6	11
18	0	0	0	2	1	0	2	4	5
19	1	0	0	1	2	0	3	2	7
20	3	0	0	0	0	0	0	2	3
21 - 25	6	0	0	0	0	0	1	5	7
26 - 30	0	0	0	0	0	0	0	3	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	1	0	0	0	0	0	0	0	1
41 - 45	2	0	0	0	0	0	0	0	2
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	1	0	1
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	1121	628	737	2017	1784	1308	1050	1743	8645
PERCENTILE LEVELS									
50.0	4.7	.6	.6	1.0	.9	.7	1.7	2.0	.9
80.0	8.6	.9	1.0	2.8	2.6	1.5	6.3	5.8	3.2
90.0	10.3	1.3	1.6	5.0	4.5	2.2	10.6	9.2	6.4
99.0	19.3	2.4	3.1	14.0	12.5	5.9	16.1	16.8	13.9
99.9	42.2	3.7	6.3	17.5	18.1	9.8	24.8	27.1	21.7
MAX. NO. HOURS	43	4	7	19	19	11	52	29	52

Table 2.3L-15

DATA FROM 1/25/73 TO 1/24/76JANUARY LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	19	17	26	76	115	124	55	74	432
2	14	3	2	36	40	20	19	42	134
3	4	0	1	10	11	7	15	22	48
4	6	0	0	4	5	4	12	17	31
5	1	0	0	2	1	3	8	14	15
6	14	0	0	4	1	2	7	7	28
7	8	0	0	1	0	0	3	4	12
8	1	0	0	2	0	2	3	6	8
9	0	0	0	1	0	0	1	4	2
10	0	0	0	0	1	0	4	4	5
11	0	0	0	0	0	0	5	4	5
12	0	0	0	0	0	0	2	2	2
13	0	0	0	1	0	0	3	3	4
14	0	0	0	0	0	0	6	1	6
15	0	0	0	1	0	0	3	1	4
16	0	0	0	0	0	0	0	3	0
17	0	0	0	1	0	0	0	0	1
18	0	0	0	0	0	0	0	1	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	0	2	0
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	67	20	29	139	174	162	146	211	737
PERCENTILE LEVELS									
50.0	2.1	.6	.6	.9	.8	.7	1.9	1.8	.9
80.0	5.7	.9	.9	2.0	1.6	1.3	6.3	5.0	2.5
90.0	6.3	1.3	1.1	3.8	2.1	2.3	10.9	9.0	5.1
99.0	7.3	1.9	2.7	14.6	5.3	7.2	14.5	17.9	13.6
99.9	7.9	2.0	3.0	16.9	9.8	7.9	15.0	24.5	16.3
MAX. NO. HOURS	8	2	3	17	10	8	15	25	17

Table 2.3L-16

DATA FROM 1/25/73 TO 1/24/76FEBRUARY LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	13	25	20	51	53	68	17	41	247
2	5	0	1	28	25	19	12	23	90
3	9	0	0	6	9	6	9	9	39
4	6	0	0	5	6	3	2	8	22
5	2	0	0	2	8	2	5	9	19
6	5	0	0	3	0	0	3	7	11
7	7	0	0	1	1	0	3	3	12
8	4	0	0	0	3	0	2	4	9
9	1	0	0	1	0	0	2	1	4
10	0	0	0	0	0	0	3	2	3
11	0	0	0	0	3	0	4	2	7
12	0	0	0	0	0	0	2	2	2
13	0	0	0	0	1	0	4	6	5
14	0	0	0	1	1	0	4	0	6
15	0	0	0	0	0	0	1	3	1
16	0	0	0	0	1	0	0	1	1
17	0	0	0	0	0	0	0	1	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	1	0	0	0	1
20	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	0	1	0
26 - 30	0	0	0	0	0	0	0	2	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	52	25	21	98	112	98	73	125	479
PERCENTILE LEVELS									
50.0	2.9	.5	.5	1.0	1.1	.7	2.8	1.9	1.0
80.0	6.2	.8	.8	2.0	3.4	1.5	10.1	7.0	3.3
90.0	7.0	.9	.9	3.6	5.0	2.2	12.4	12.3	6.3
99.0	8.5	1.0	1.8	13.0	15.9	4.5	14.3	26.9	13.7
99.9	8.9	1.0	2.0	13.9	18.9	5.0	14.9	29.7	18.5
MAX. NO. HOURS	9	1	2	14	19	5	15	29	19

Amended: April 2009 TL: E048000

Table 2.3L-17

DATA FROM 1/25/73 TO 1/24/76MARCH LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	10	35	35	85	71	69	22	48	327
2	5	2	2	37	34	12	12	20	104
3	7	0	0	12	11	10	10	19	50
4	7	0	0	3	11	4	8	12	33
5	10	0	0	6	12	2	5	6	35
6	9	0	0	4	3	0	2	10	18
7	8	0	0	3	2	0	2	3	15
8	7	0	0	2	5	0	1	3	15
9	5	0	0	0	5	1	2	2	13
10	0	0	0	1	1	1	2	4	5
11	0	0	0	2	1	0	3	4	6
12	0	0	0	0	0	0	2	6	2
13	0	0	0	1	1	0	1	0	3
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	2	0
16	0	0	0	0	0	0	0	1	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	0
20	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	0	1	0
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	68	37	37	156	157	99	72	142	626
PERCENTILE LEVELS									
50.0	4.5	.5	.5	.9	1.2	.7	2.2	2.2	1.0
80.0	6.8	.8	.8	2.2	3.9	1.9	5.3	5.9	3.6
90.0	7.7	1.0	1.0	4.6	5.8	2.8	9.4	10.2	5.8
99.0	8.9	1.8	1.8	10.7	10.4	9.0	12.3	18.6	10.8
99.9	9.0	2.0	2.0	12.8	12.8	9.9	12.9	24.3	12.8
MAX. NO. HOURS	9	2	2	13	13	10	13	21	13

Table 2.3L-18

DATA FROM 1/25/73 TO 1/24/76APRIL LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	21	50	38	102	105	93	39	36	448
2	8	5	5	41	28	19	14	22	120
3	4	0	0	23	15	7	13	18	62
4	8	0	0	9	5	1	9	10	32
5	12	0	0	9	6	1	6	12	34
6	5	0	0	3	0	3	4	7	15
7	13	0	0	1	2	1	3	7	20
8	11	0	0	4	1	0	7	7	23
9	23	0	0	2	1	0	1	11	27
10	6	0	0	1	0	0	6	6	13
11	2	0	0	1	0	0	0	3	3
12	0	0	0	0	0	0	3	4	3
13	0	0	0	0	0	0	0	2	0
14	0	0	0	1	0	0	1	0	2
15	0	0	0	2	0	0	0	0	2
16	0	0	0	1	0	0	0	0	1
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	0	0	0
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	113	55	43	200	163	125	106	145	805
PERCENTILE LEVELS									
50.0	5.7	.6	.6	1.0	.8	.7	2.0	2.8	.9
80.0	8.4	.9	.9	2.7	1.9	1.4	6.0	7.6	3.4
90.0	8.9	1.0	1.1	4.6	2.9	2.1	8.4	9.1	6.7
99.0	10.4	1.9	1.9	14.5	7.4	5.9	12.0	12.3	11.0
99.9	10.9	2.0	2.0	15.8	8.8	6.9	13.9	12.9	15.2
MAX. NO. HOURS	11	2	2	16	9	7	14	13	16

Table 2.3L-19

DATA FROM 1/25/73 TO 1/24/76MAY LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	31	74	70	72	70	28	15	30	360
2	11	13	13	31	23	12	3	14	106
3	8	2	6	29	8	5	2	8	60
4	4	0	0	10	3	0	5	7	22
5	6	0	0	6	3	0	2	5	17
6	7	0	0	2	3	0	3	3	15
7	7	0	0	8	3	0	2	2	20
8	10	0	0	5	2	0	1	1	18
9	11	0	0	1	0	0	2	1	14
10	6	0	0	2	0	0	2	4	10
11	8	0	0	3	0	0	0	2	11
12	7	0	0	2	1	0	0	0	10
13	2	0	0	1	1	0	0	0	4
14	2	0	0	1	0	0	0	0	3
15	0	0	0	2	0	0	0	0	2
16	0	0	0	3	0	0	0	0	3
17	0	0	0	1	0	0	0	0	1
18	0	0	0	2	0	0	0	0	2
19	0	0	0	1	0	0	0	0	1
20	1	0	0	0	0	0	0	0	1
21 - 25	0	0	0	0	0	0	0	0	0
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	121	89	89	182	117	45	37	77	680
PERCENTILE LEVELS									
50.0	5.1	.6	.6	1.6	.8	.8	2.5	1.6	.9
80.0	9.3	1.0	1.1	4.6	2.1	1.7	5.9	4.5	3.8
90.0	11.0	1.5	1.8	8.8	4.4	2.1	8.2	7.3	7.7
99.0	13.9	2.6	2.9	17.6	11.8	2.9	9.8	10.6	15.4
99.9	19.9	3.0	3.0	18.8	12.9	5.0	10.0	11.0	19.3
MAX. NO. HOURS	20	3	3	19	13	5	10	11	20

Amended: April 2009 TL: E048000

Table 2.3L-20

DATA FROM 1/25/73 TO 1/24/76JUNE LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	19	34	87	81	45	33	17	27	316
2	5	2	18	35	19	13	5	16	97
3	6	0	8	18	4	2	5	7	43
4	6	1	3	10	3	0	3	4	26
5	2	0	1	5	2	0	2	2	12
6	2	0	1	6	6	0	1	2	16
7	5	0	0	2	4	0	0	1	11
8	9	0	0	7	2	0	1	3	19
9	12	0	0	1	0	0	1	8	14
10	14	0	0	5	0	0	0	2	19
11	9	0	0	3	0	0	0	0	12
12	8	0	0	2	1	0	0	0	11
13	2	0	0	1	1	0	0	0	4
14	2	0	0	2	1	0	0	0	5
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	0	0	0
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	101	37	118	178	88	48	35	72	605
PERCENTILE LEVELS									
50.0	7.6	.5	.7	1.2	1.0	.7	1.1	1.6	1.0
80.0	10.1	.9	1.4	3.8	3.8	1.4	3.3	5.8	4.2
90.0	11.2	1.0	2.2	7.5	6.1	1.8	4.8	8.4	8.3
99.0	13.5	3.6	4.8	13.1	13.1	2.8	8.7	9.6	12.7
99.9	13.9	4.0	5.9	13.9	13.9	3.0	9.0	10.0	13.9
MAX. NO. HOURS	14	4	6	14	14	3	9	10	14

Amended: April 2009 TL: E048000

Table 2.3L-21

DATA FROM 1/25/75 TO 1/24/76JULY LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	11	71	74	88	55	41	17	37	357
2	5	16	26	44	22	11	7	12	131
3	4	1	9	29	17	4	5	12	67
4	5	0	2	19	10	2	3	5	41
5	4	0	0	10	6	0	0	3	20
6	5	0	0	12	4	0	0	6	21
7	7	0	0	7	5	0	0	3	19
8	12	0	0	4	2	0	0	0	18
9	9	0	0	1	1	0	0	3	11
10	12	0	0	1	3	0	0	3	16
11	22	0	0	1	3	0	0	0	26
12	10	0	0	2	1	0	0	0	13
13	1	0	0	0	1	0	0	1	2
14	1	0	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	0	0	0
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	108	88	111	218	130	58	30	85	745
PERCENTILE LEVELS									
50.0	8.1	.6	.8	1.5	1.5	.7	.9	1.5	1.1
80.0	10.6	1.0	1.6	3.7	4.0	1.5	2.0	4.7	4.0
90.0	11.1	1.5	2.0	5.5	6.6	2.1	3.0	6.5	7.7
99.0	12.9	2.1	3.4	10.8	11.7	3.7	3.9	12.2	11.7
99.9	15.9	2.9	3.9	11.9	12.9	4.0	4.0	12.9	13.3
MAX. NO. HOURS	14	3	4	12	13	4	4	13	14

Amended: April 2009 TL: E048000

Table 2.3L-22

DATA FROM 1/25/73 TO 1/24/76AUGUST LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	23	58	68	90	64	49	26	53	378
2	7	11	15	49	32	15	10	19	139
3	7	1	2	28	18	3	4	9	63
4	6	0	0	13	8	0	0	10	27
5	2	0	0	7	7	1	0	4	17
6	6	0	0	6	6	0	0	3	18
7	8	0	0	2	5	0	0	2	15
8	11	0	0	2	4	0	0	1	17
9	9	0	0	3	1	0	1	3	14
10	15	0	0	1	3	0	0	1	19
11	5	0	0	0	0	0	0	5	5
12	3	0	0	1	0	0	0	2	4
13	6	0	0	2	1	0	0	0	9
14	3	0	0	1	1	0	0	0	5
15	0	0	0	1	0	0	0	0	1
16	1	0	0	0	0	0	0	0	1
17	1	0	0	0	0	0	0	0	1
18	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	1
20	1	0	0	0	0	0	0	0	1
21 - 25	5	0	0	0	0	0	0	0	5
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	1	0	0	0	0	0	0	0	1
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	121	70	85	206	150	68	41	112	741
PERCENTILE LEVELS									
50.0	7.1	.6	.6	1.3	1.3	.7	.8	1.2	1.0
80.0	10.6	1.0	1.0	2.9	3.8	1.4	1.7	3.9	3.5
90.0	13.3	1.5	1.6	4.8	6.0	1.8	2.2	7.8	7.6
99.0	24.8	2.3	2.6	13.0	12.5	4.3	8.6	11.4	18.6
99.9	44.4	2.9	3.0	14.8	13.9	4.9	9.0	11.9	41.3
MAX. NO. HOURS	43	3	3	15	14	5	9	12	43

Amended: April 2009 TL: E048000

Table 2.3L-23

DATA FROM 1/25/73 TO 1/24/76SEPTEMBER LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	27	75	79	103	64	59	32	48	439
2	15	17	12	47	31	17	15	21	154
3	7	3	2	22	15	5	4	6	58
4	4	1	0	7	11	1	4	8	28
5	3	0	0	3	4	2	2	10	14
6	6	0	0	2	6	0	1	6	15
7	7	0	1	5	3	1	1	5	18
8	5	0	0	1	1	0	0	2	7
9	12	0	0	1	0	0	0	2	13
10	6	0	0	0	2	1	1	3	10
11	10	0	0	0	2	0	1	4	13
12	4	0	0	0	1	0	0	2	5
13	1	0	0	0	0	0	1	1	2
14	3	0	0	1	1	0	0	1	5
15	2	0	0	0	0	0	0	0	2
16	0	0	0	0	1	0	0	0	1
17	0	0	0	1	0	0	1	0	2
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	1	0	0	0	0	0	0	1	1
21 - 25	1	0	0	0	0	0	0	0	1
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	1	0	0	0	0	0	0	0	1
41 - 45	1	0	0	0	0	0	0	0	1
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	116	96	94	193	142	86	63	120	790
PERCENTILE LEVELS									
50.0	5.3	.6	.6	.9	1.2	.7	1.0	1.6	.9
80.0	10.1	1.1	1.0	2.2	3.3	1.6	2.9	5.5	2.7
90.0	11.6	1.7	1.5	3.2	5.5	2.3	4.9	9.0	6.2
99.0	39.2	3.0	6.1	13.1	13.6	9.1	16.4	13.8	14.6
99.9	44.4	3.9	6.9	16.8	15.9	9.9	16.9	19.9	41.1
MAX. NO. HOURS	43	4	7	17	16	10	17	20	43

Table 2.3L-24

DATA FROM 1/25/73 TO 1/24/76OCTOBER LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	23	52	41	87	99	100	44	38	446
2	14	2	4	38	41	39	29	27	167
3	8	0	1	10	27	7	11	20	64
4	8	0	0	10	8	5	11	20	42
5	6	0	0	6	4	1	2	17	19
6	12	0	0	1	6	1	2	8	22
7	11	0	0	1	2	1	2	10	17
8	9	0	0	1	1	0	5	9	16
9	5	0	0	2	2	0	4	9	13
10	0	0	0	2	0	0	1	2	3
11	0	0	0	2	1	0	5	1	8
12	0	0	0	1	1	0	1	1	3
13	0	0	0	1	0	0	1	4	2
14	0	0	0	0	1	0	0	2	1
15	0	0	0	2	1	0	1	1	4
16	0	0	0	0	0	0	1	0	1
17	0	0	0	2	1	0	0	3	3
18	0	0	0	0	0	0	0	1	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	1	0
21 - 25	0	0	0	0	0	0	0	0	0
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	96	54	46	166	195	154	120	174	831
PERCENTILE LEVELS									
50.0	3.4	.5	.6	1.0	1.0	.8	1.6	3.1	.9
80.0	6.5	.8	.9	2.8	2.6	1.6	4.5	6.9	2.8
90.0	7.5	.9	1.1	4.7	4.1	2.0	8.5	8.8	5.5
99.0	8.8	1.7	2.5	16.2	14.1	5.5	14.8	17.3	13.7
99.9	9.0	2.0	3.0	16.9	16.4	6.8	15.9	19.8	16.7
MAX. NO. HOURS	9	2	3	17	17	7	16	20	17

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Table 2.3L-25

DATA FROM 1/25/73 TO 1/24/76NOVEMBER LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	26	36	27	81	104	112	43	54	429
2	8	1	3	40	42	33	25	40	152
3	12	0	0	16	16	13	15	22	72
4	13	0	0	4	6	4	11	16	38
5	8	0	0	3	3	1	7	25	22
6	10	0	0	5	2	0	5	10	22
7	9	0	0	0	1	1	8	10	19
8	2	0	0	1	2	0	2	3	7
9	0	0	0	1	1	0	3	9	5
10	0	0	0	1	0	0	1	2	2
11	0	0	0	1	1	0	5	6	7
12	0	0	0	0	0	0	5	2	5
13	0	0	0	1	2	0	6	4	9
14	0	0	0	0	1	0	5	3	6
15	0	0	0	0	0	0	2	5	2
16	0	0	0	0	0	0	1	2	1
17	0	0	0	0	0	0	1	0	1
18	0	0	0	0	1	0	2	1	3
19	0	0	0	0	1	0	1	1	2
20	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	0	1	0
26 - 30	0	0	0	0	0	0	0	0	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	0	0	0
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	88	37	30	154	183	164	148	216	804
PERCENTILE LEVELS									
50.0	2.8	.5	.6	1.0	.9	.7	2.4	2.6	.9
80.0	5.3	.8	.9	2.1	2.0	1.6	8.8	6.6	2.9
90.0	6.2	.9	1.0	3.4	3.5	2.2	12.5	10.6	5.5
99.0	7.6	1.6	1.9	10.5	17.2	4.4	17.8	17.8	14.5
99.9	8.0	2.0	2.0	12.8	18.8	6.8	18.9	23.9	18.6
MAX. NO. HOURS	8	2	2	15	19	7	19	23	19

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Table 2.3L-26

DATA FROM 1/25/75 TO 1/24/76DECEMBER LEVEL = 6.1 - 36.5 m

STABILITY AND INVERSION PERSISTENCE (NUMBER OF OCCURRENCES)

NO. HOURS	STABILITY CATEGORIES								
	A	B	C	D	E	F	G	INVERSIONS	TOTALS
1	22	14	33	76	107	140	64	89	456
2	11	6	1	34	37	38	37	44	164
3	6	0	0	7	14	10	18	29	55
4	6	0	0	3	10	8	8	31	35
5	11	0	0	3	5	1	6	24	26
6	5	0	0	2	4	2	6	11	19
7	8	0	0	2	1	3	4	6	18
8	1	0	0	1	0	0	4	7	6
9	0	0	0	0	0	0	4	5	4
10	0	0	0	1	0	0	1	2	2
11	0	0	0	0	0	0	6	4	6
12	0	0	0	1	0	0	1	2	2
13	0	0	0	2	0	0	3	3	5
14	0	0	0	0	0	0	5	3	5
15	0	0	0	0	0	0	10	5	10
16	0	0	0	0	0	0	5	3	5
17	0	0	0	0	0	0	2	1	2
18	0	0	0	0	0	0	0	1	0
19	0	0	0	0	0	0	2	0	2
20	0	0	0	0	0	0	0	0	0
21 - 25	0	0	0	0	0	0	1	0	1
26 - 30	0	0	0	0	0	0	0	1	0
31 - 35	0	0	0	0	0	0	0	0	0
36 - 40	0	0	0	0	0	0	0	0	0
41 - 45	0	0	0	0	0	0	0	0	0
46 - 50	0	0	0	0	0	0	0	0	0
51 - 55	0	0	0	0	0	0	1	0	1
56 -100	0	0	0	0	0	0	0	0	0
TOTALS	70	20	34	132	178	202	188	271	824
PERCENTILE LEVELS									
50.0	2.3	.7	.5	.9	.8	.7	1.8	2.1	.9
80.0	5.0	1.3	.8	1.9	2.0	1.6	8.9	5.0	2.7
90.0	6.3	1.7	.9	3.6	3.2	2.4	14.2	8.6	5.3
99.0	7.3	2.0	1.7	12.3	5.8	6.3	20.6	16.3	15.6
99.9	7.9	2.0	2.0	12.9	6.8	6.9	54.1	28.6	50.9
MAX. NO. HOURS	8	2	2	13	7	7	52	29	52

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APPENDIX 2.4A

REPORT ON PUMPING TEST

SAN ONOFRE

NUCLEAR GENERATING STATION

UNITS 2 AND 3

Site File Copy

Site File Copy

R. Y. Bush
Consulting Engineer
527 East Commonwealth Avenue
Fullerton, California 92632
Telephone (714) 879-7812

June 7, 1974

Bechtel Power Corporation
P. O. Box 60860 Terminal Annex
Los Angeles
California 90060

Attention: Mr. J. D. Houchen, Project Engineer

Subject: San Onofre Nuclear Generating Station, Units 2 and 3, Bechtel Job 1304-785
Report on Pump Test

Gentlemen:

Transmitted herewith are twelve copies of my report presenting the results and data analysis of the pump test recently conducted at the site of the subject project. Results of this study indicate that the permeability at this site is approximately fifty per cent higher than indicated in my previous report of April 1973, requiring a corresponding increase in the pumping capacity of the dewatering plant.

Please feel free to contact me should there be any questions concerning this report, or if I can be of further service to you.

Sincerely,

R. Y. Bush

R. Y. Bush
Consulting Engineer
527 East Commonwealth Avenue
Fullerton, California 92632
Telephone (714) 879-7812

May 30, 1974

REPORT ON PUMPING TEST
SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 and 3

Introduction

This report presents the results of a pumping test conducted during the period April 24, 1974 through April 26, 1974 at the proposed site of Units 2 and 3 of the San Onofre Generating Station. The report includes discussions of methods used to evaluate permeability, and an estimate of the pumping rate anticipated during construction.

General Description of Test Program

This test was conducted under the direction of the writer, and in accordance with recommendations contained in his report of February, 1973 entitled, Procedure for Conducting Pumping Tests - San Onofre Generating Station, Units 2 and 3, San Onofre, California, and in accordance with the contract specifications, portions of Section 4.14 Dewatering System which pertain to the pumping test program. Installation of the pumping well and observation wells, pump, piping and all related equipment was made by Stang Hydronics, Inc., subcontractor to the site preparation contractor, Peter Kiewit Sons Co. All field work including the installation of the test well, observation wells, the pump, and other necessary equipment and materials, as well as the collection of data during the test was under the supervision of Mr. Angel Alvarez of the Southern California Edison Co. Mr. Alvarez' detailed description of the test program is contained in the Appendix.

Figure 1 illustrates the locations of the pumping well 3A and observation wells 1 through 7. Included is a tabulation of depth and the radial distances of observation wells from the pumped well.

An electric motor driven deepwell turbine pump was used with a new Sparling, propellor type meter for measuring the flow rate. The test was conducted from 1315 April 24, 1974 to 1800 April 26, 1974. The pumping rate throughout the

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R.Y. BUSH
CONSULTING ENGINEER

PROJECT San Onofre - Units 2 & 3 PROJECT NO. 239
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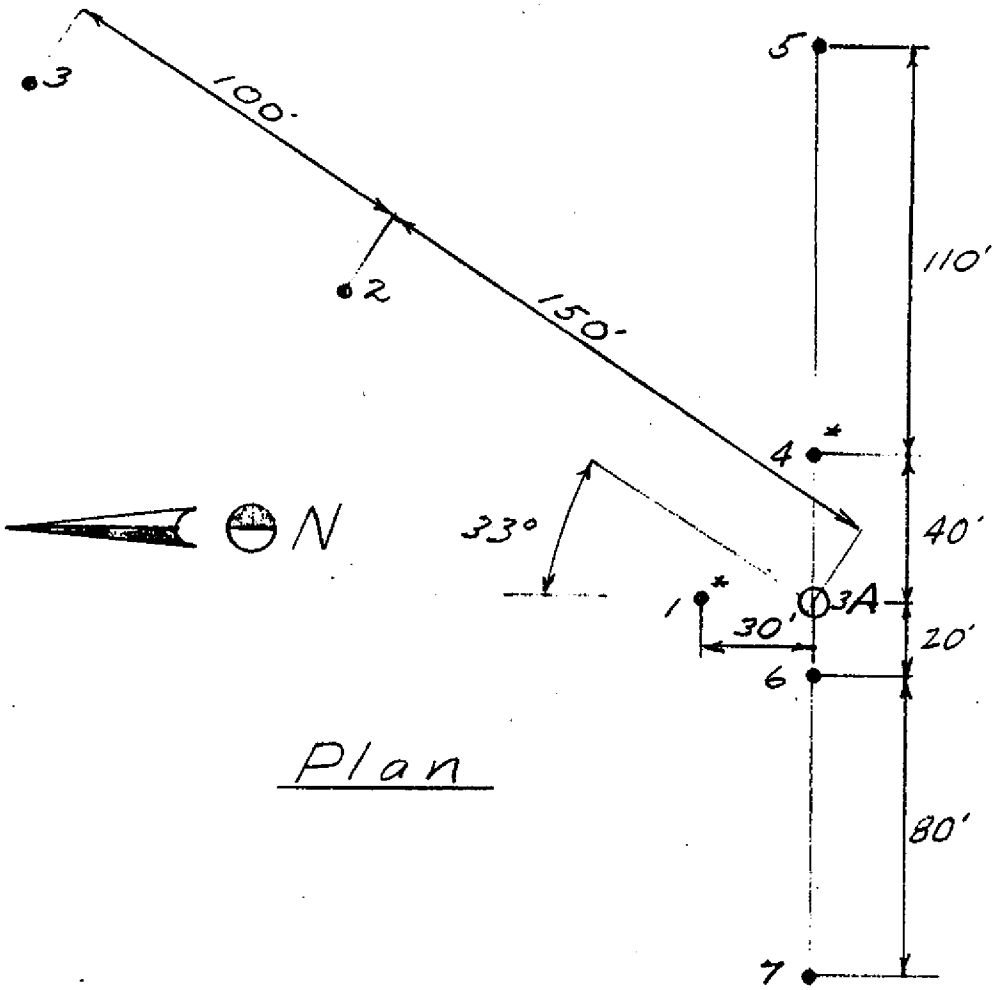

Plan

Observation Well Data				
Number	Type	Depth of Hole (ft)	Plant Coordinate South	Plant Coordinate West
1	A *	200'	16+86	5+10
2	B	250'	15+92	4+28
3	B	50'	15+08	3+74
4	A *	200'	17+18	4+70
5	B	100'	17+18	3+60
6	B	250'	17+18	5+30
7	B	100'	17+18	6+10

* A type - 2 level observation wells.

Figure 1 - Locations of Observation Wells

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test was carefully maintained at a constant rate of approximately 1690 GPM. During the pumping period observations of depth to water and time were made. At the end of the pumping period drawdown conditions in the observation wells were approaching a static condition. To fully reach this condition would have required a total time estimated to be at least a week. The small amount of additional drawdown anticipated during this period was believed to be insufficient to materially affect the test and permeability. This additional expense was therefore not considered justified.

Table A presents descriptive information regarding the water level before and at the end of the test period. Drawdown at the well was approximately 26' and in the observation wells it ranged from 2.5' to 12.2'.

Following pumping, readings of depths to water and time were made to determine the time rate of recovery of the groundwater.

Evaluation of Data

A. General

Observation wells were thoroughly flushed out by using a small airlift. As a result, it appeared that all of them registered with excellent sensitivity, and with no indication of being even partially clogged. Considering this, along with the close supervision provided during the installation of the wells and during pumping, it is apparent that the test results may be considered as generally excellent and a good basis for estimating permeability.

The permeable soil below the water table is a partially cemented sand (San Mateo formation) extending to a depth of approximately 900' at which point a siltstone is encountered.[1*] The San Mateo sand appears to be quite homogeneous to at least a depth of 300' the depth of Well 3A. A boring drilled to a total depth of about 940' by Dames and Moore (March 1970) indicates that the San Mateo sand is also quite homogeneous below the 300' depth. Grain size distribution curves for samples obtained during the drilling of Well 3A are contained in the Appendix. These curves reflect a slight loss in fine fraction due to the sampling method used.

*Superscripts refer to references listed in Appendix

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TABLE A

WATER LEVEL INFORMATION DURING PUMP TEST

Observation Well Number	Initial Depth to Water	Initial El. of Water	Final Depth to Water	Final El. of Water	Elevation Top of Obs. Well	Drawdown
3A	25.71'	+5.24'	51.49'	-20.54'	+30.95'	25.78'
1 Shallow	24.86'	+5.60'	32.82'	-2.34'	+30.46'	7.96'
1 Deep	27.43'	+3.03'	39.47'	-9.01'	"	12.04'
2	27.12'	+3.09'	31.55'	-1.34'	+30.21'	4.43'
3	24.43'	+5.80'	27.03'	+3.20'	+30.23'	2.60'
4 Shallow	24.33'	+5.62'	30.61'	-0.66'	+29.95'	6.28'
4 Deep	26.62'	+3.33'	33.37'	-3.42'	"	6.75'
5	24.17'	+5.76'	27.66'	+2.27'	+29.93'	3.49'
6	24.86'	+5.34'	37.23'	-7.03'	+30.20'	12.37'
7	25.20'	+5.47'	30.16'	+0.51'	+30.67'	4.96'

Arithmetic plots of tide elevation and water elevation in the pumped well and observation wells vs. time for the period of April 22 through April 30, 1974 are contained in the Appendix. This information was compiled by Mr. Alvarez.

Data was evaluated on the bases of several approaches. These include (1) equilibrium methods i. e. methods based on the assumption that a steady state drawdown condition had been reached and (2) non-equilibrium methods -- methods based on the mathematical relationship between the rate of water lowering to permeability prior to reaching a steady state.

Most of the observation wells were quite sensitive to the effects of tidal fluctuation. The ratios of the amplitudes of the observation wells to tidal fluctuation fell into a general range of 0. 1 to 0. 3 with the exception of observation wells 3 and 5 (the farthest from the shoreline) which were less responsive. Arithmetic and semi-logarithmic plots of drawndown vs. time which are presented later in this report illustrate this tidal effect. The time lag between the tide and the response in an observation well was generally about an hour.

In addition to correcting for tidal effects, evaluation of the data for this test required,in some cases, the application of a correction for partial penetration. This is necessary due to the fact that the well depth is 300' while the San Mateo Sandstone has a total thickness of about 900'. A discussion of the correction for partial penetration is contained in the following section.

B. Equilibrium Methods.

1. Well formula

The frequently used well formula, based on an assumed equilibrium condition, may be expressed as:

$$Q = \frac{.15 \pi kh \Delta}{\ln(R_1/R_2)} \quad (1)$$

wherein Q is the pumping rate expressed in GPM, k is permeability in ft/min, h equals aquifer thickness, Δ equals the difference in elevation (or drawdown or depth) at radial distances of R_1 and R_2.[2] The product kh (units sq. ft. per min)

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is referred to as transmissibility. Equation (1) is applicable only to a fully penetrating well in an artesian aquifer. It is also applicable to unconfined aquifers where the drawdown is small with respect to the aquifer thickness, which is our condition. The equation may be conveniently solved by plotting elevation (or drawdown or depth) to an arithmetic scale vs. radial distance to a log scale. The plot should be linear which permits convenient graphical "averaging" to allow for normal variations from the idealized straight line, a condition which is usually encountered. Corrections for partial penetration may be made on the basis of Kozeny's formula[3]:

$$(2) \qquad p\left[1 + 7\sqrt{\frac{r_w}{2ph}}\cos\frac{\pi p}{2}\right]$$

This formula is applied as a multiplier to equation (1). p is the well penetration expressed as a decimal, r_w is the radius of the well, and h is as previously defined. For p=0.33, h=900' r_w=1.5' the correction for partial penetration is 0.434. Physically, this would indicate that the yield of a partially penetrating well of this description would be 0.434 times that of a fully penetrating well in the same aquifer.

Figure 2 presents plots of water elevation at the end of the pumping period vs. log R for shallow and deep observation wells. (Deep observation wells are defined herein as having a depth in excess of 100'). It is apparent that the drawdown was greater in the deeper observation wells than that indicated in the shallow ones. Applying the partial penetration correction the permeability indicated is about 0.035 ft/min for the shallow observation wells and 0.028 ft/min for the deep observation wells.

Figures 3 and 4 present similar plots of drawdown vs. log R for t=3000 minutes and t=10,000 minutes, respectively, the latter plot based on extrapolated values of depth obtained from figures 8 through 15. Average permeability values based on Figures 3 and 4 are approximately 0.044 ft/min for shallow observation wells and 0.025 ft/min for the deep ones. In our opinion, the values indicated for the deep observation wells are more representative of the permeability of the main deeper portion of the San Mateo aquifer and should be used in preference to the values obtained from the shallower observation wells.

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KEUFFEL & ESSER CO.

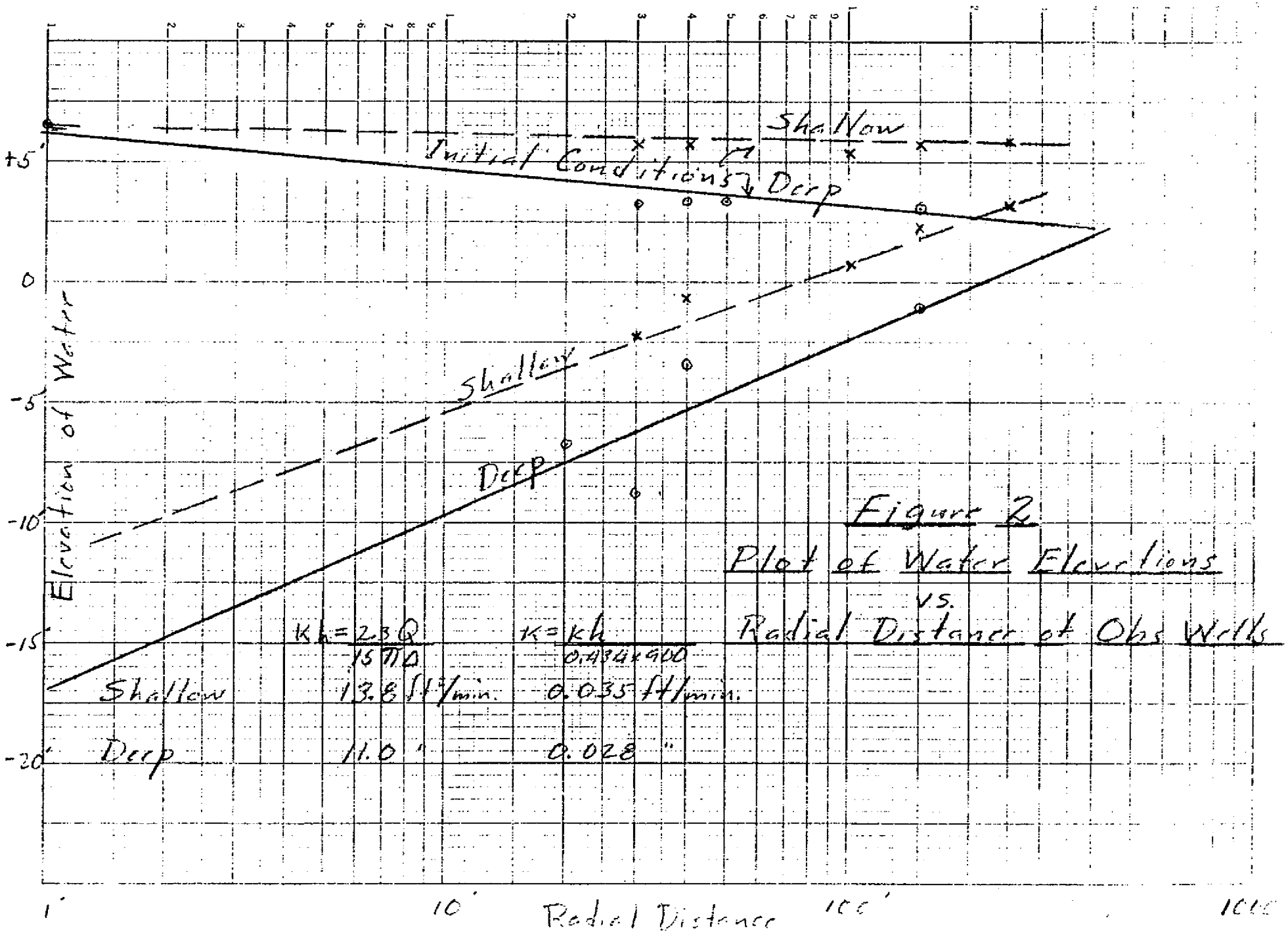

Figure 2

Plot of Water Elevations vs. Radial Distance of Obs Wells

	$Kh = \frac{2.3Q}{15\pi D}$	$K = \frac{Kh}{0.434 \times 900}$
Shallow	13.8 ft²/min.	0.035 ft/min.
Deep	11.0 "	0.028 "

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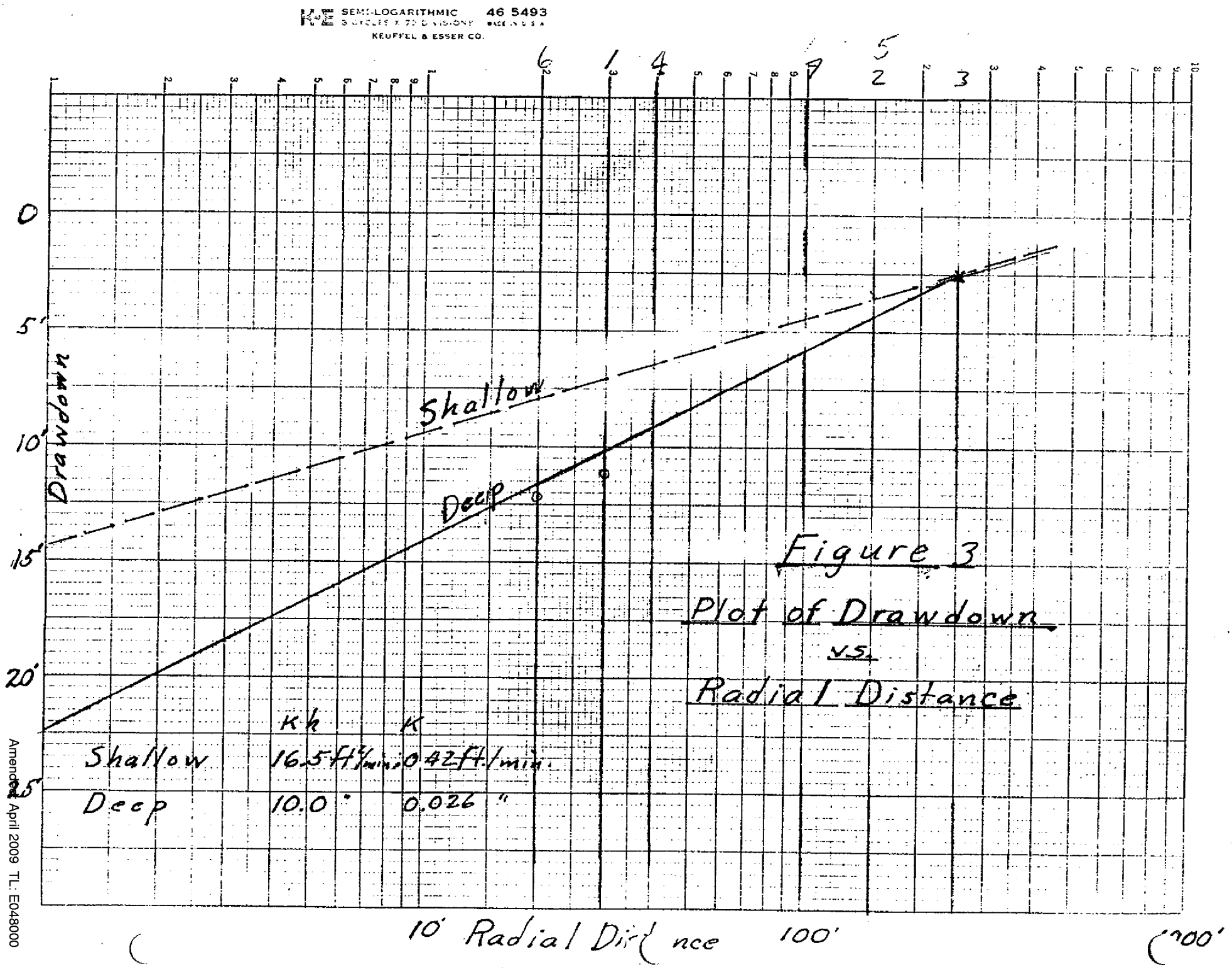

Figure 3
Plot of Drawdown
vs.
Radial Distance

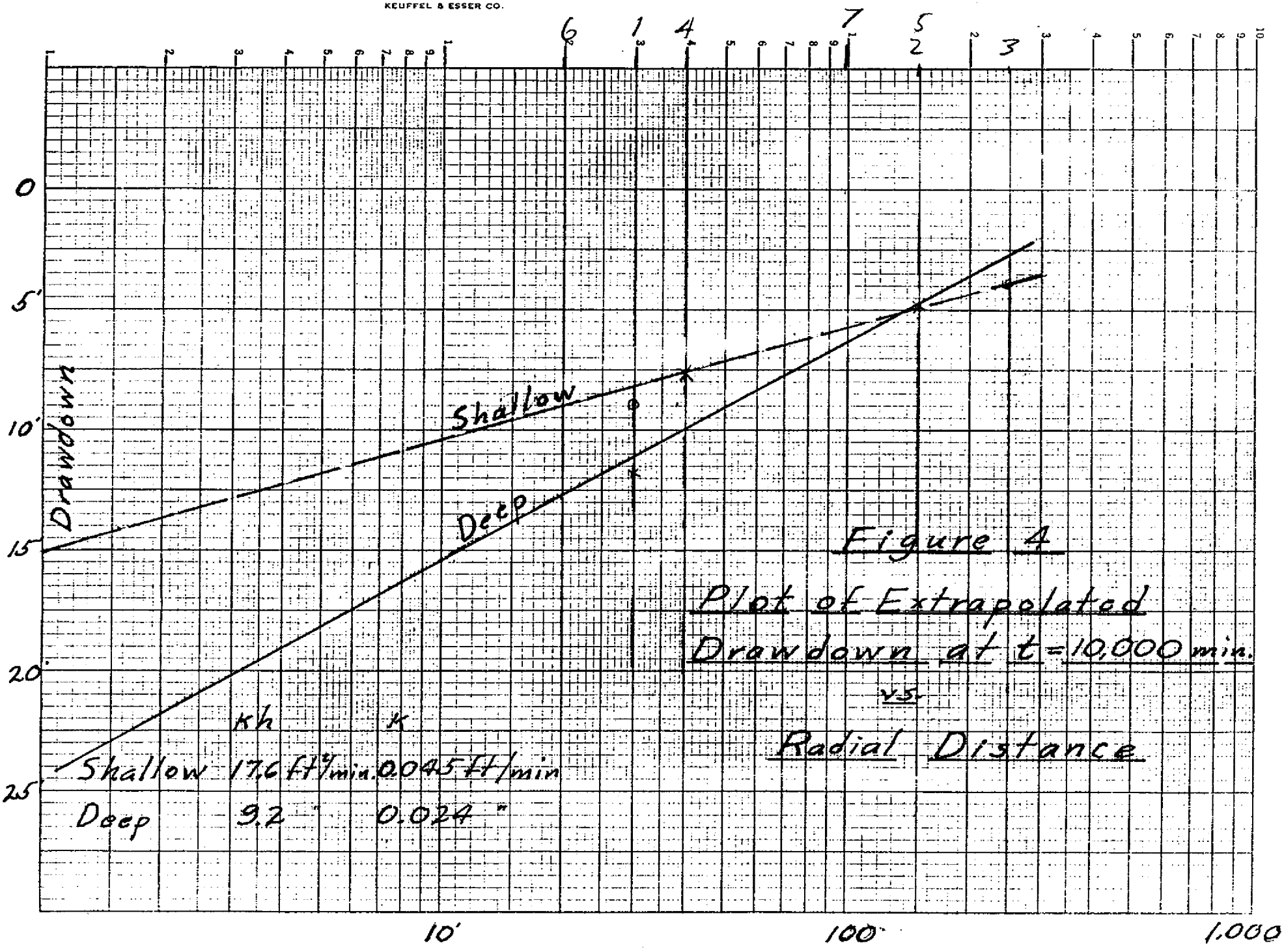

Figure 4
Plot of Extrapolated Drawdown at t = 10,000 min. vs. Radial Distance

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The actual drawdown at the pumped well was measured to be approximately 26'. The true drawdown in the sand immediately adjacent to the well would be somewhat less than this due to the friction losses which occur in the well. Allowing for this, and referring to Figures 2, 3 and 4, it appears that reasonable value for the true drawdown would be about 25'. Using this value and applying the relationship for a well adjacent to a line source, a calculation of permeability can be made based on equation (3).

$$Q = \frac{15\pi kh\Delta}{\ln(2P/r_w)} \tag{3}$$

P= distance from the well to the line source, and r_w= radius of well. A reasonable P for our case, due to the flat slope of the ocean floor in the surf zone, must be somewhat larger than the distance from the well to the surf line. Fortunately, a high degree of accuracy is not required in this item due to its appearance in equation (3) as a logarithmic factor. This is illustrated on the tabulation of Figure 5. It appears that on the basis of Equation 3 that the indicated permeability is approximately 0.026' ft/min.

B. Hemispherical Flow Formulas

Figure 6 illustrates a rough sketch of a reasonable configuration of flow surfaces and surfaces of equal potential (surfaces along which water elevation would be equal) for the case considered in this report. Obviously, because of the effects of partial penetration the paths of seepage are quite complicated in contrast to those assumed for the simple case of horizontal, radial flow to a fully penetrating well for which equations 1 and 3 are applicable. Because of the disparity between assumed and actual conditions the concept of Hemispherical Flow may be applied. In fact, observing the general configuration of the flow pattern in Figure 6-(c), it is apparent that such an approach represents a closer representation of the actual conditions existing in our pumping test. The basic relationship for Hemispherical Flow may be expressed as follows:[3]

$$Q = 15\pi r_w(\phi_r - \phi_w) = 15\pi r_w k\Delta \tag{4}$$

In this relationship, the potential difference $\phi_r - \phi_w$ may be considered as the effective drawdown. The difficulty in applying this relationship in the form of equation (4) is in the choice for r_w which, in this case, must be considered as

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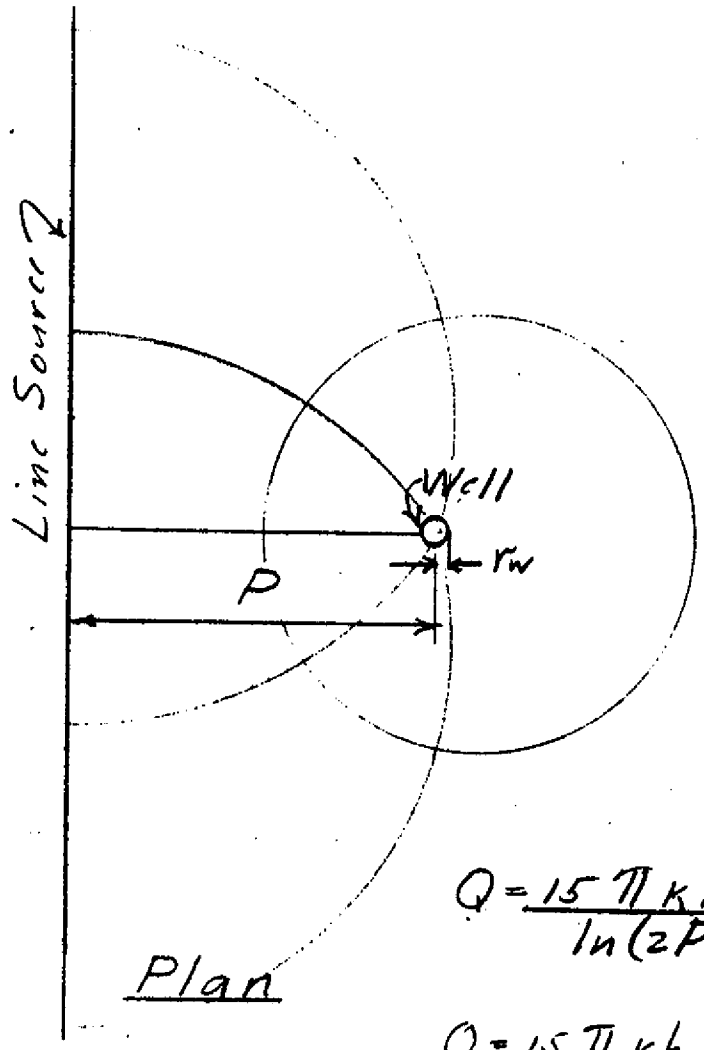

$$Q = \frac{15\pi k h \Delta}{\ln(2P/r_w)}$$ Full Pen.

$$Q = \frac{15\pi k h \Delta (0.434)}{\ln(2P/r_w)}$$ Part. Pen.

$\Delta \cong 25'$, $r_w \cong 1.5'$

$$kh = \frac{1690 \ln(2P/r_w)}{15\pi \times 25 \times 0.434}$$
$$= 3.305 \ln(2P/r_w)$$

P	kh	K
500'	21.5 $\frac{ft^2}{min}$	0.024 $\frac{ft}{min}$
600'	22.1	0.025
750'	22.8	0.025
1000'	23.8	0.026

Figure 5

Well Formula For Line Source

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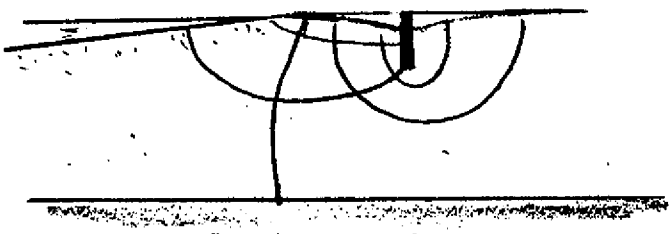
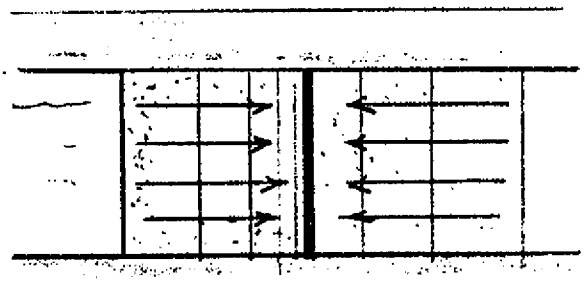
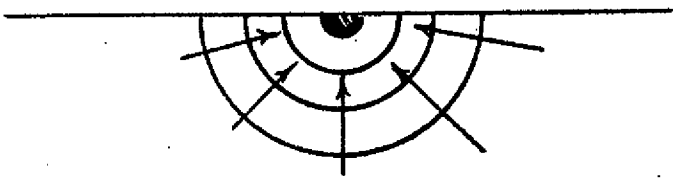


a. Actual Case



b. Artesian Radial Flow



c. Hemispherical Flow

All Cross Sections N.T.S.

Figure 6

Configurations of Flow and Equipotential Surfaces

the radius of a hemisphere equivalent to the well. It is interesting to note that basic hemispherical flow is characterized by a much more rapid variation of the potential (or drawdown) radially outward from the well than in the well formula based on radial flow. In the latter case the variation is inversely logarithmic whereas in the case of hemispherical flow the potential varies inversely with the arithmetic value of the radius. To apply the hemispherical flow concept to partially penetrating wells, Girinsky adjusted the volume of an ellipsoid having a major axis of length L_o so that its volume would be equal to the volume of the cylinder.[3] This relationship follows:

$$Q = \frac{15\pi k L_o \Delta}{\ln (1.6 L_o / r_w)} \tag{5}$$

In this equation Lo represents the length of penetration, and the other symbols are as previously defined. On the basis of the Girinsky approach the indicated permeability is approximately 0.03 ft/min.

C. Non-equilibrium Method

The basic non-equilibrium formula was derived on the basis of the analogy between the flow of groundwater and the flow of heat by conduction.[4, 5] Figure 7 presents the derivation of the differential equation expressing the relationship of drawdown, time, radial distance, and permeability.

$$\frac{kh}{n_e}\left(\frac{\partial^2 s}{\partial r^2} + \frac{1}{r}\frac{s}{r}\right) = \frac{\partial s}{\partial t} \tag{6}$$

s = drawdown, r = radial distance from the pumped well, h = thickness of artesian aquifer, t = time, n_e = effective porosity. This equation is based on the assumptions of soil homogeneity and isotropy. The flow to the well is considered to be radial and horizontal. Although the relationship is specifically derived for an artesian aquifer having a constant thickness, it may be applied to gravity flow conditions where the drawdown is relatively small with respect to the thickness of the aquifer. The derivation is based on the assumption of full penetration of the well. The solution to this differential equation expressing the drawdown at a given point is as follows:

$$s = \frac{0.0164\, Q}{kh} \int_u^{\infty} e^{-u} \frac{du}{u} \tag{7}$$

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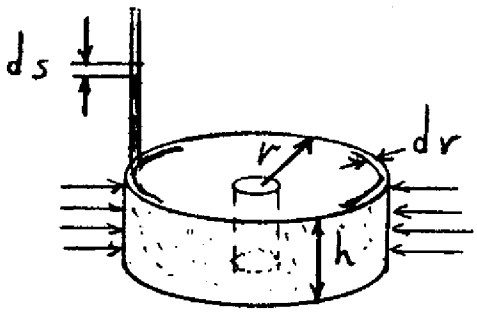

① $Q = k\,i\,A$ Darcy's Law

② $Q = k \dfrac{\partial s}{\partial r} h\,(2\pi r)$

③ $\dfrac{\partial Q}{\partial r}\,dr\,dt$ = difference in flow quantity in flowing from $r+dr$ to r. This must equal volume represented by drop ds. ∴

$$\frac{\partial Q}{\partial r}\,dr\,dt = n_e \frac{\partial s}{\partial t}\,dt\,dr\,(2\pi r) \quad \text{– From ② \& ③}$$

$$\frac{\partial}{\partial r}\left[kh\frac{\partial s}{\partial r}(2\pi r)\right] dr\,dt = n_e \frac{\partial s}{\partial t}\,dt\,dr\,(2\pi r)$$

Simplifying

$$kh\left(r\frac{\partial^2 s}{\partial r^2} + \frac{\partial s}{\partial r}\right) = n_e \frac{\partial s}{\partial t}\,r$$

or

$$\frac{kh}{n_e}\left(\frac{\partial^2 s}{\partial r^2} + \frac{1}{r}\frac{\partial s}{\partial r}\right) = \frac{\partial s}{\partial t}$$

Figure 7

Derivation of Basic Non-Equilibrium Differential Equation for Radial Flow

u in this expression is defined by the relationship $\frac{0.25r^2n_e}{kht}$ wherein all symbols are as previously defined. Tables of the value of the exponontial integral have been published.[2] Solution of this equation requires the application of a graphical method of superposition devised by Theis.

Jacob devised a simpler approximate method, more generally applied, which is applicable for small values of u. His approach makes it possible to express the change in drawdown from time t_1 to time t_2:

$$(8) \qquad s_2 - s_1 = \frac{0.0245\,Q}{kh} \log_{10}(t_2/t_1)$$

This expression can be conveniently solved for kh by the use of semi-logarithmic paper. Plots of drawdown to an arithmetic scale vs. time to a logarithmic scale will plot as a straight line for values of u and r sufficiently small. In our particular case, the requirement that u be of relatively small magnitude is generally satisfied with the exception of early stages of pumping, probably prior to 100 minutes.

A similar analysis can be applied to "recovery" data, that is the period following pumping. Theis obtained this solution by introducing an imaginary recharge well at the instant pumping is stopped. This recharge well would have the same flow rate as the actual discharge well. From this solution the relationship which follows can be obtained:

$$(9) \qquad s = \frac{0.0245\,Q}{kh} \log_{10}(t/t')$$

It should be noted that this expression is markedly similar to that expressing drawdown, with the exception that t' is introduced. t' is defined as the time since pumping has stopped. t is the time since pumping started and all other symbols are as previously defined. Again, a semi-logarithmic plot of drawdown vs. t/t' should result in a straight line for sufficiently small values of u, or for values of t' that are sufficiently large.

In the application of non-equilibrium methods it is essential that the rate of pumping be kept constant. This requirement was well satisfied throughout the duration of pumping. It is important to emphasize that the basic requirements

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of horizontal radial flow to a fully penetrating well is also a basic requirement of the method. This requirement was not satisfied. Figure 6 illustrates graphically the departure from the assumption of horizontal radial flow for the flow conditions occurring in our particular case.

It would be reasonable to apply a correction factor calculated on the basis of equation 2 to correct for partial penetration. This approach was used in the evaluation of data presented on Figures 8 through 15. These semi-logarithmic plots represent the drawdown period only. Calculated values of both transmissibility and permeability are presented on Table B. Included in these values are those calculated on the basis of recovery data. Semi-logarithmic plots of the latter are not included. The transmissibility-permeability values, calculated on the basis of recovery data, were made using arithmetic plots of residual drawdown vs. time during the recovery period, corrected for tidal effect, by using a programmable calculator. Arithmetic plots of the relationship of drawdown vs. time are contained in the Appendix.

The general range of permeability in Table B indicates values that are considerably higher than those calculated on the bases of the equilibrium methods previously discussed. Consideration of the marked difference in actual flow conditions and those assumed with regard to radial flow as illustrated on Figure 6, makes it apparent that the high permeability values are undoubtedly attributable to the disparity between assumed and actual conditions. With this in mind, a new partial differential equation was derived relating the time rate of water lowering to permeability and the other factors contained in equation (6), but based on the assumption that flow passes through hemispherical rather than cylindrical surfaces. The derivation of this differential equation is illustrated on Figure 16.

$$\frac{k}{n_e}\left(\frac{2\partial s}{\partial \rho} + \frac{\rho \partial^2 s}{\partial \rho^2}\right) = \frac{\partial s}{\partial t} \qquad (10)$$

ρ = radial distance to a hemispherical surface, and other items are as previously defined. Equation (10), based on the assumption of flow through hemispherical surfaces, obviously differs significantly from the basic differential equation, Equation (6), based on radial flow. A solution to Equation (10) is fortunately somewhat simpler than the one based on radial flow. This solution is:

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3 CYCLES X 70 DIVISIONS MADE IN U.S.A.
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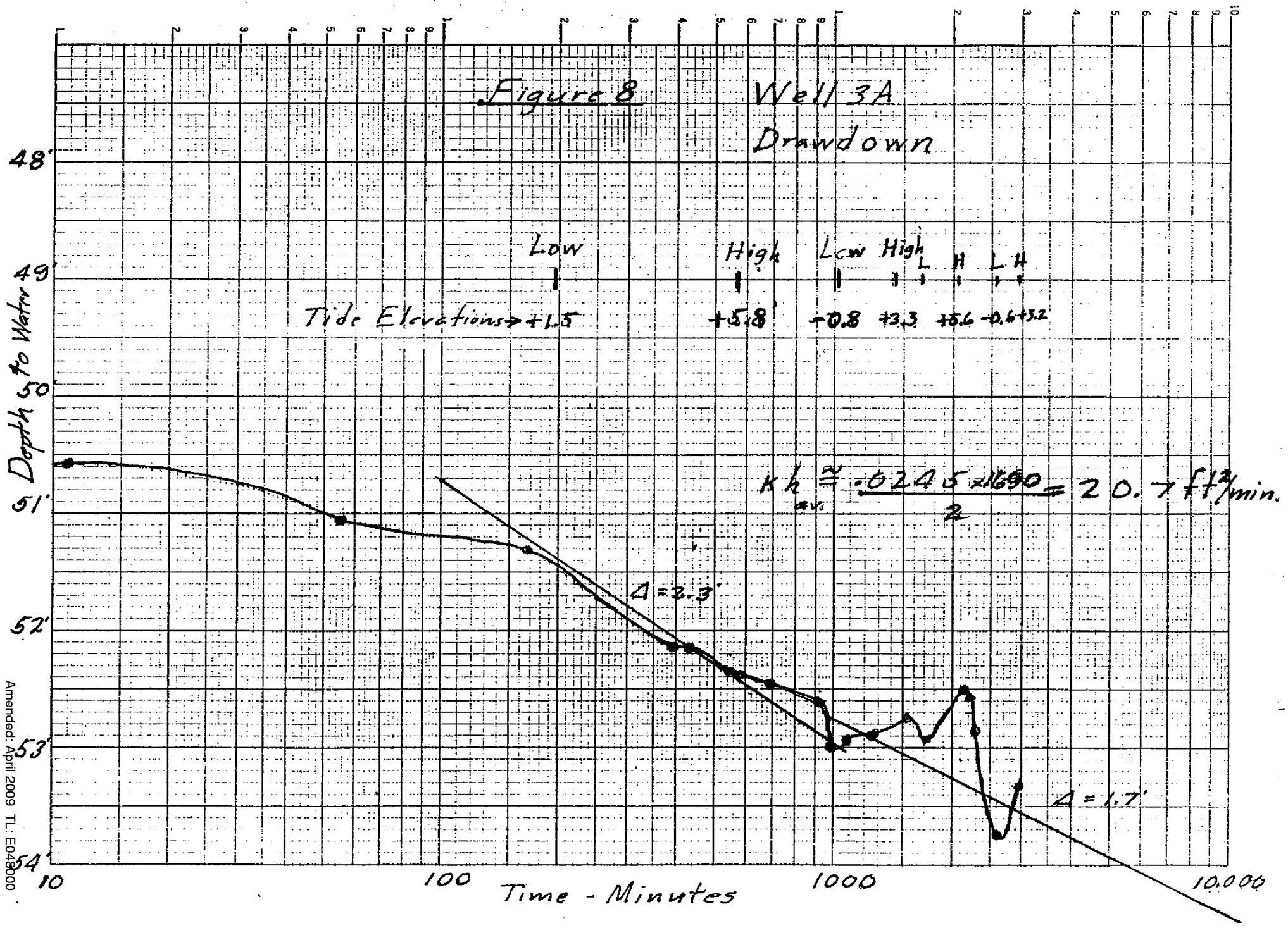

$$Kh_{av} \cong \frac{.0245 \times 1690}{2} = 20.7\ ft^2/min.$$

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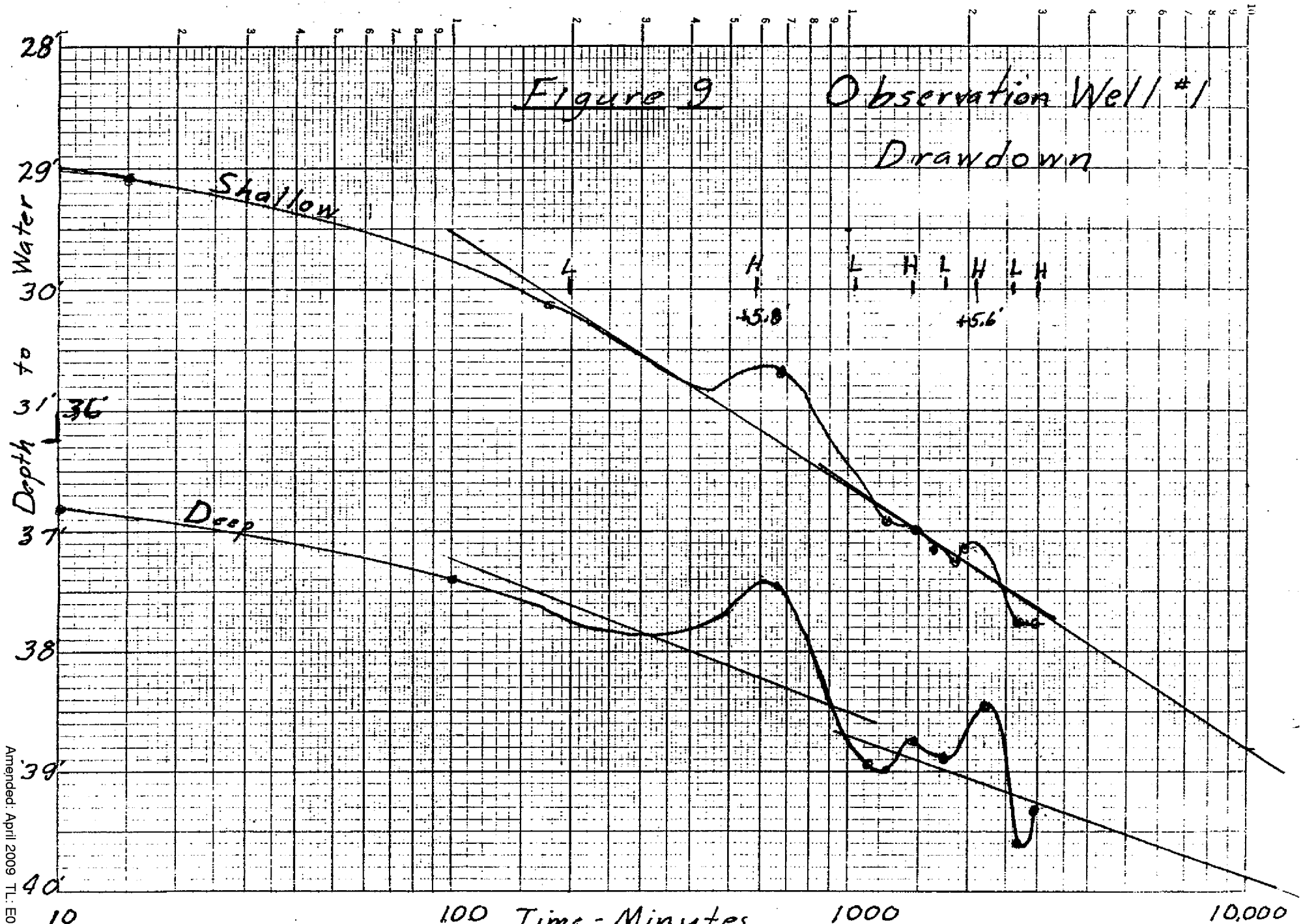

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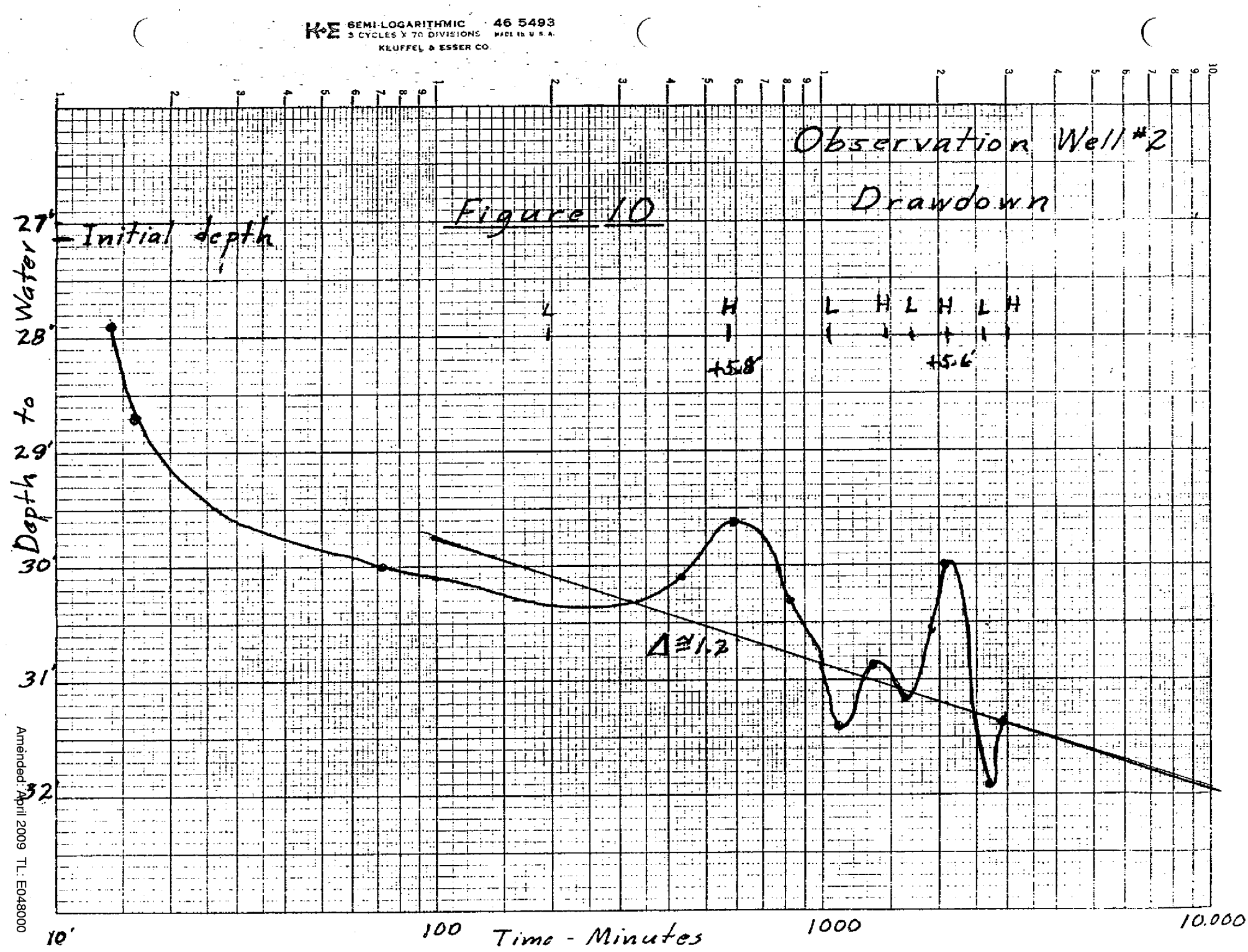

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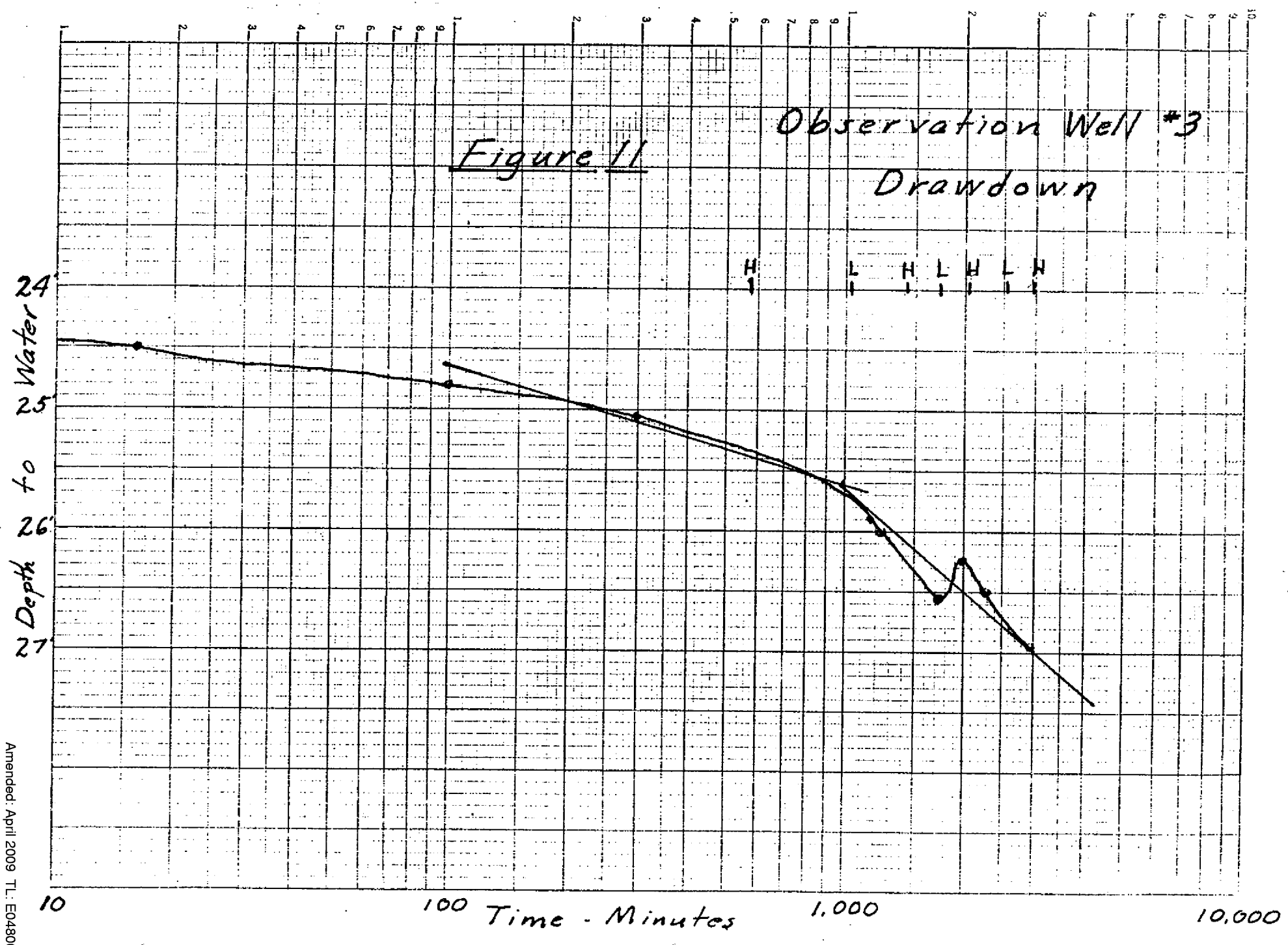

Figure 11

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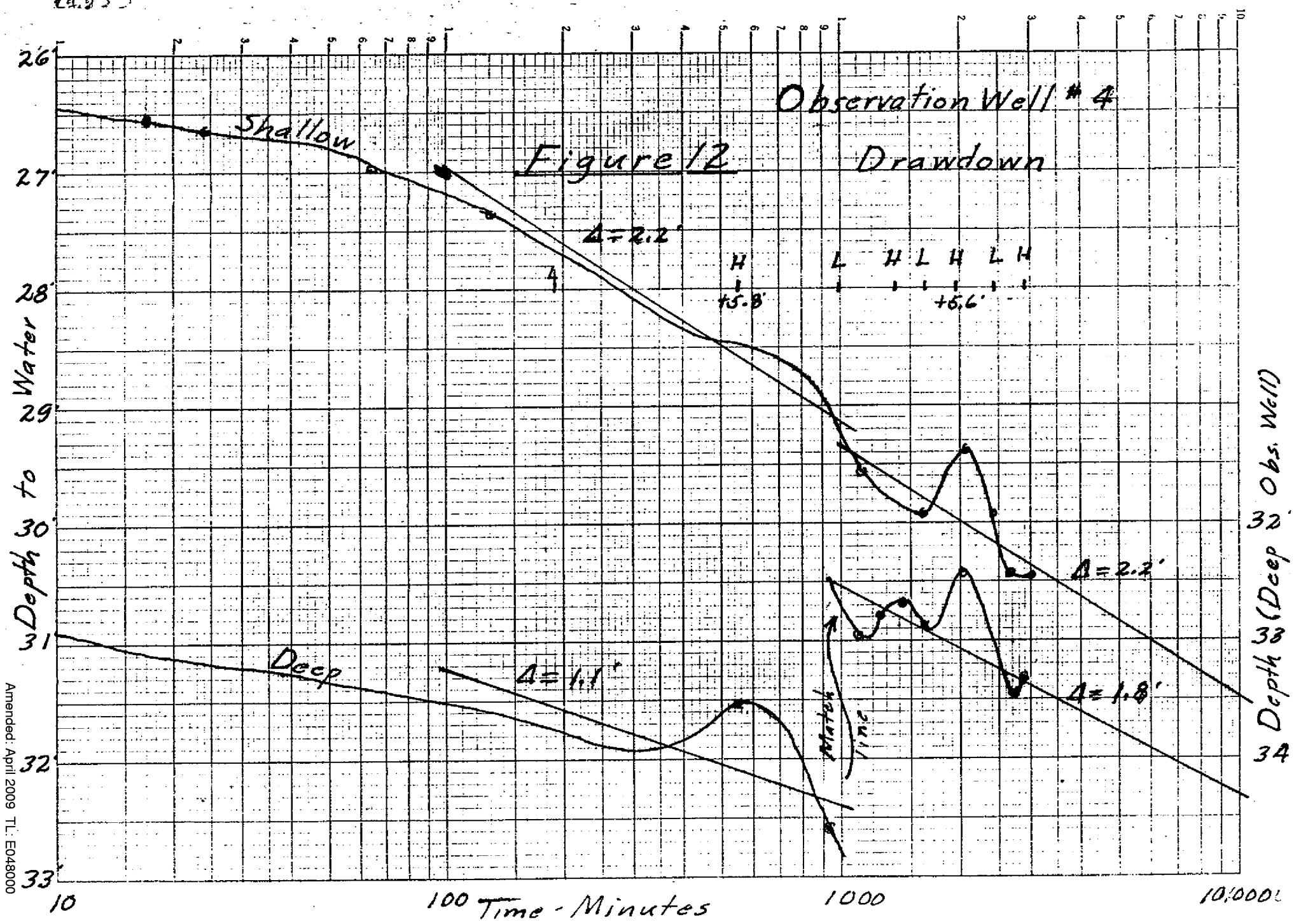

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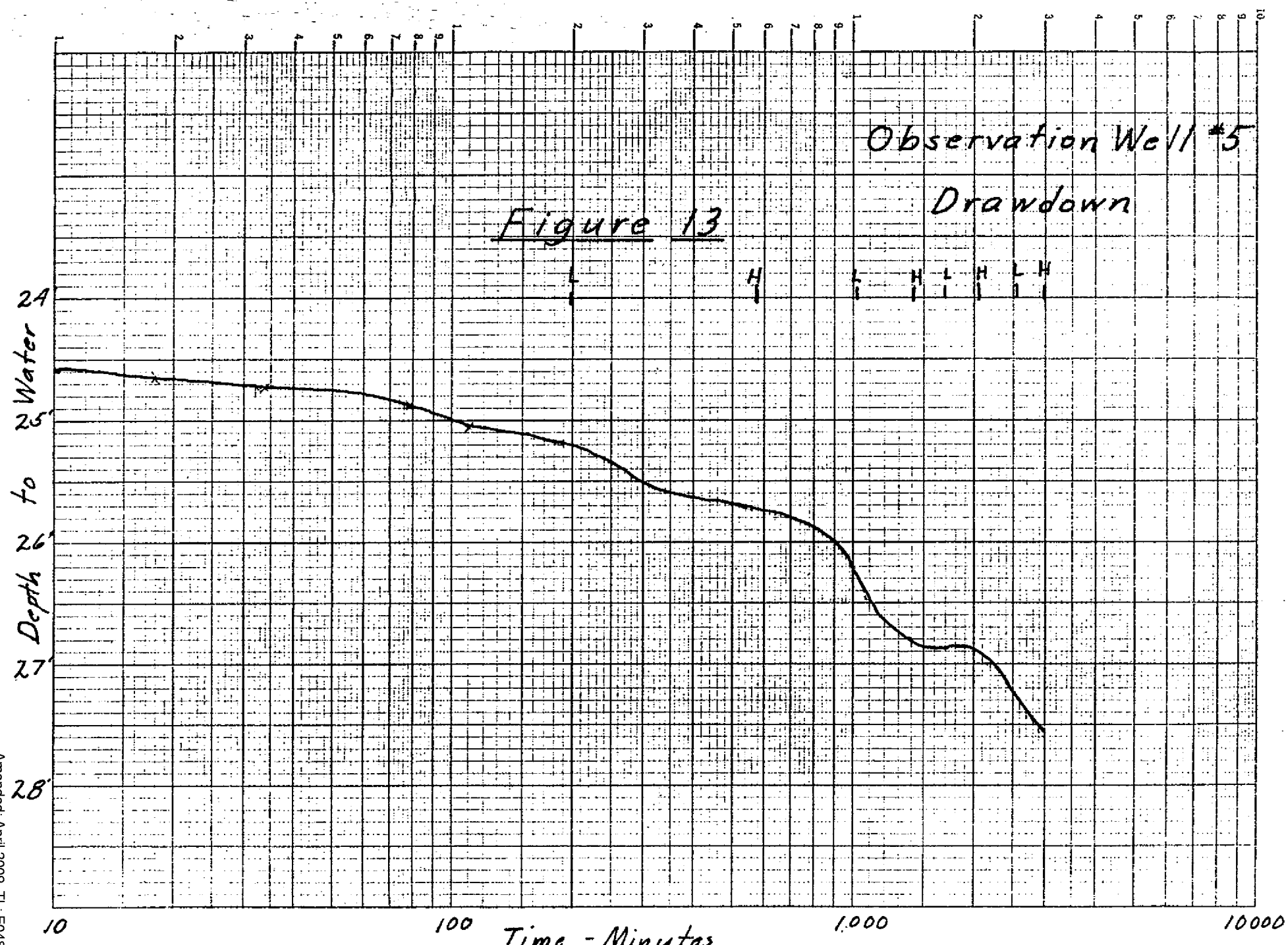

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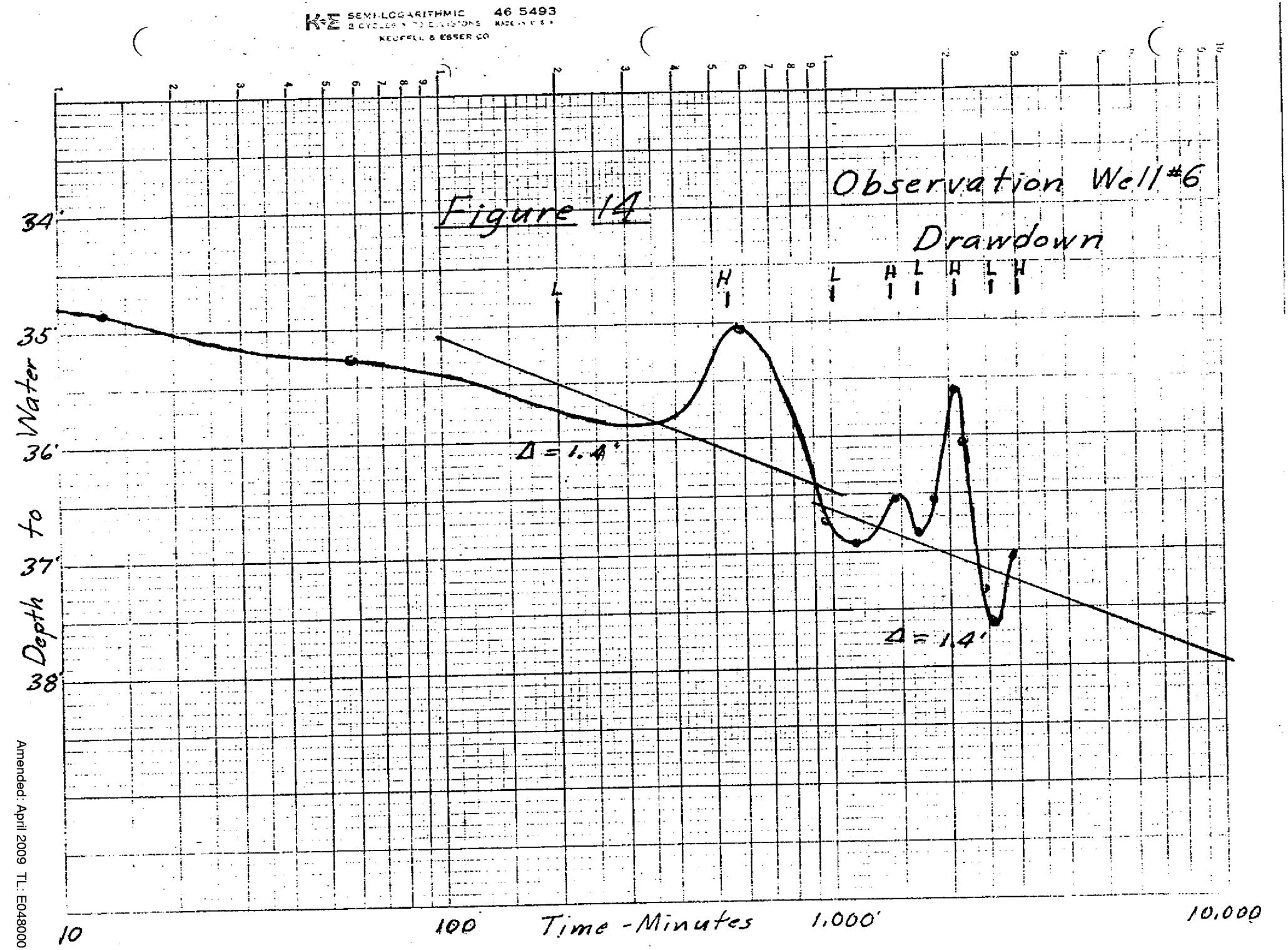
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Figure 14
Observation Well #6
Drawdown
L
H
L
H
L
H
L
H
Δ = 1.4'
Δ = 1.4'
34'
35'
36'
37'
38'
Depth to Water
10
100
Time - Minutes
1,000'
10,000

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3 CYCLES X 70 DIVISIONS MADE IN U.S.A.
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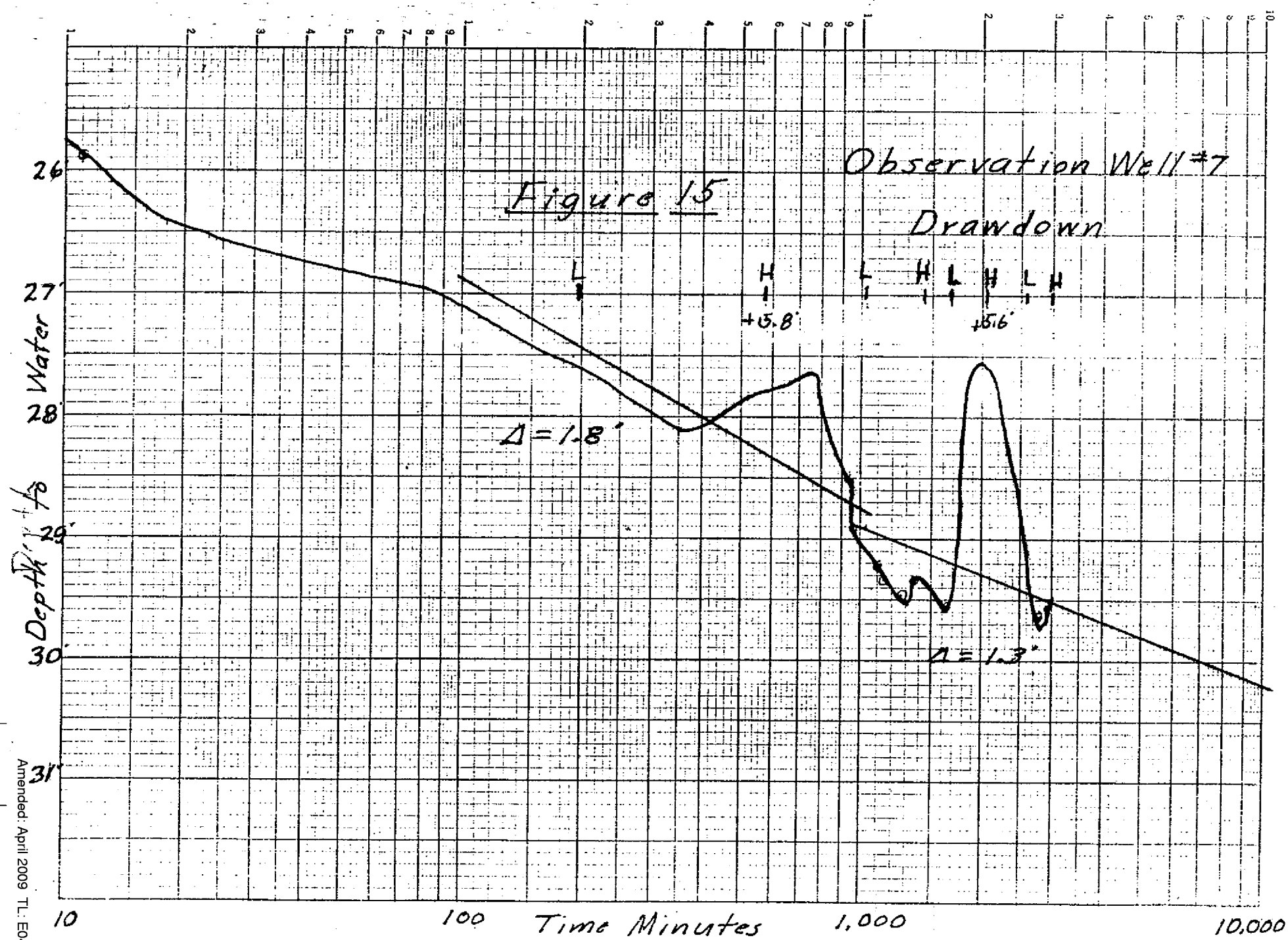

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Summary of Transmissibility and Permeability Values Based on Jacob Approximate Method

Observation Well	Drawdown		Recovery	
	Kh * ft²/min	K ft/min	Kh * ft²/min	K ft/min.
3A	20.7	0.053	19.0	0.049
1 Deep	33.1	0.085	23.2	0.059
1 Shallow	19.7	0.050	16.4	0.042
2	34.5	0.088	30.1	0.077
3 (2nd log cycle)	37.6	0.096	21.2	0.054
3 (3rd log cycle)	23.0	0.059	21.2	0.054
4 Deep (2nd log cycle)	37.6	0.096	28.0	0.072
4 Deep (3rd log cycle)	23.0	0.059	28.0	0.072
4 Shallow	18.8	0.048	14.0	0.036
5 (2nd log cycle)	23.0	0.059	19.5	0.050
5 (3rd log cycle)	17.3	0.044	19.5	0.050
6	29.6	0.076	20.2	0.052
7 (2nd log cycle)	23.0	0.059	16.2	0.041
7 (3rd log cycle)	31.9	0.082	16.2	0.041

Table B

* Kh values listed are uncorrected for partial penetration

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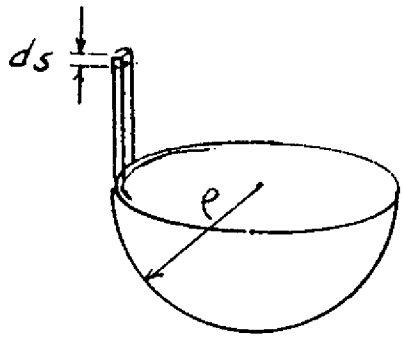

① $Q = kia$ (Darcy's Law)

② $Q = k\frac{\partial s}{\partial \rho}(2\pi\rho^2)$

③ $\frac{\partial Q}{\partial \rho} d\rho\, dt$ = difference in flow quantity in flowing from $\rho + d\rho$ to ρ. This must equal volume represented by drop ds ∴

$$\frac{\partial Q}{\partial \rho} d\rho\, dt = n_e \frac{\partial s}{\partial t} 2\pi\rho\, d\rho\, dt$$

$$2\pi k\left[2\rho\frac{\partial s}{\partial \rho} + \rho^2\frac{\partial^2 s}{\partial \rho^2}\right] d\rho\, dt = n_e \frac{\partial s}{\partial t} 2\pi\rho\, d\rho\, dt$$

$$\frac{k}{n_e}\left(\frac{2\partial s}{\partial \rho} + \rho\frac{\partial^2 s}{\partial \rho^2}\right) = \frac{\partial s}{\partial t}$$

Figure 16

Derivation of Basic Non-Equilibrium Differential Equation for Hemispherical Flow

(11) $$s = C_1 + \frac{C_2}{\rho} e^{-\rho n_e/kt}$$

The application of this solution to a practical problem such as ours may be performed by a relatively simple process of curve fitting.

Figure 17 illustrates a family of "type curves" applicable for the range of permiability to be expected in our particular case. Considering that only one of these curves is applicable to a particular observation well, it should be possible to select this curve to represent the variation of drawdown between two successive time points with only an adjustment required for the arithmetic scale factor. By determing this scale factor for several successive trial values of the value $P = \rho n_e/k$ we can readily find a near match of one of these curves to the actual data obtained. The value of P, containing ρ, requires that the points chosen must be located so that a reasonable choice of ρ may be made -- that is to say, points close to the pump well may present difficulty.

Figures 18 through 20 illustrate an application of the method of curve fitting to determine which of the type curves best matches the actual data. To avoid confusion in the presentation of the data, the actual field variation was represented with approximate corrections made for tidal fluctuation, so that smooth curves could be considered with reference to the type curves. Obviously, Figure 18, illustrating the method applied to observation well #1, presents a problem in making a reasonable selection of ρ because this observation well is quite close (30') to the pumped well. The indicated values are considered to be that of an equivalent hemisphere, rather than the true radial distance to the observation well. Observation wells #3 and #5, having radial distances of 150', indicate permiabilities of 0.015 ft/min and 0.017 ft/min respectively. Observation well #7, which represents an excellent match of the type curve with the corrected observed curve, indicates the permeability to be .025 ft/min.

The shape of the depth vs. log time curve for observation well #2 (Figure 9) was such that an application of the curve fitting method was not possible. In fact, the rapid drop of this observation well during the first hour of pumping is impossible to explain on the basis of any non-equilibrium approach. The behavior of observation wells #4 and #6, probably due to their close proximity to the pumped well, made the validity of an application of the new curve fitting method questionable.

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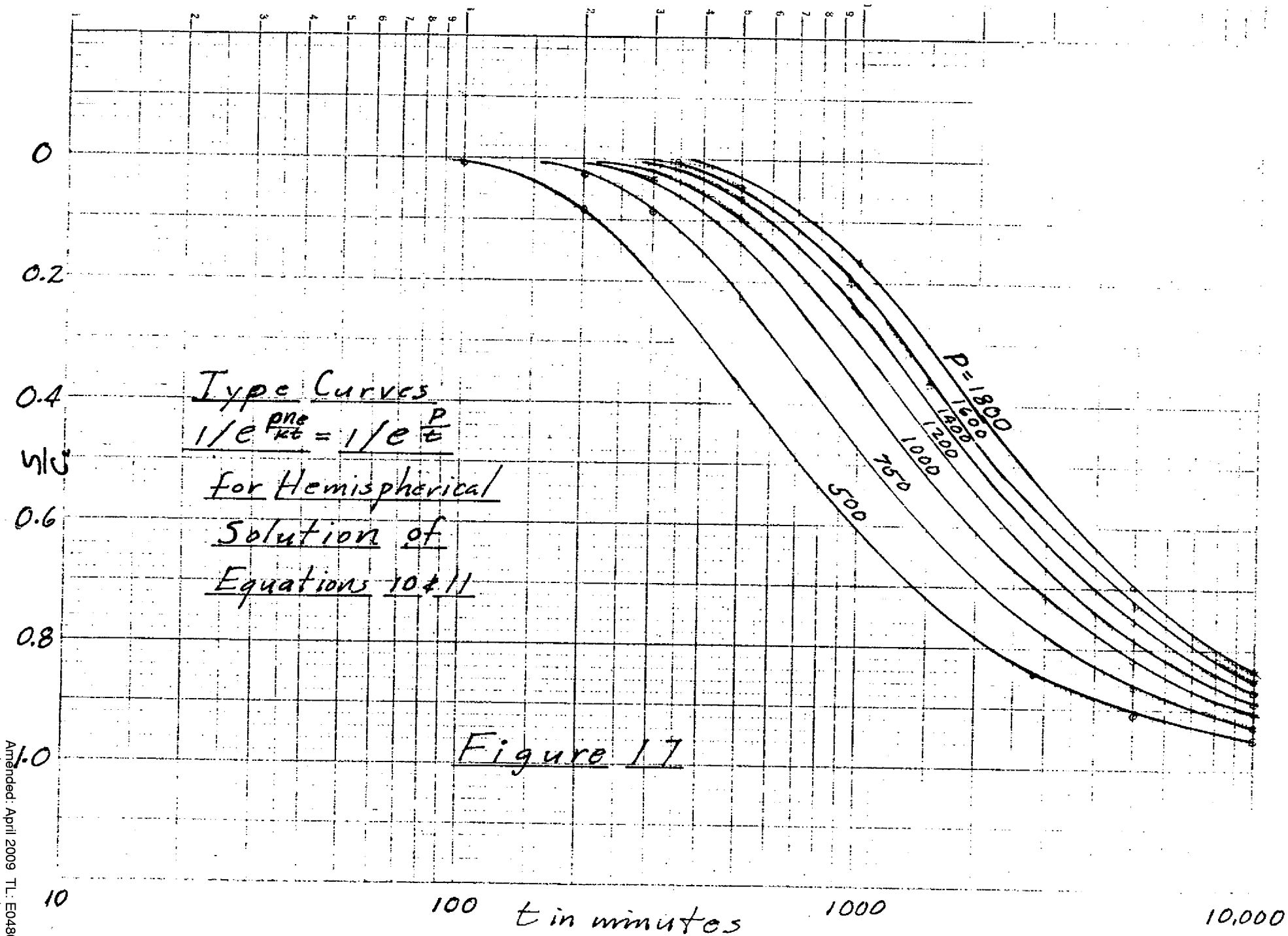

Figure 17

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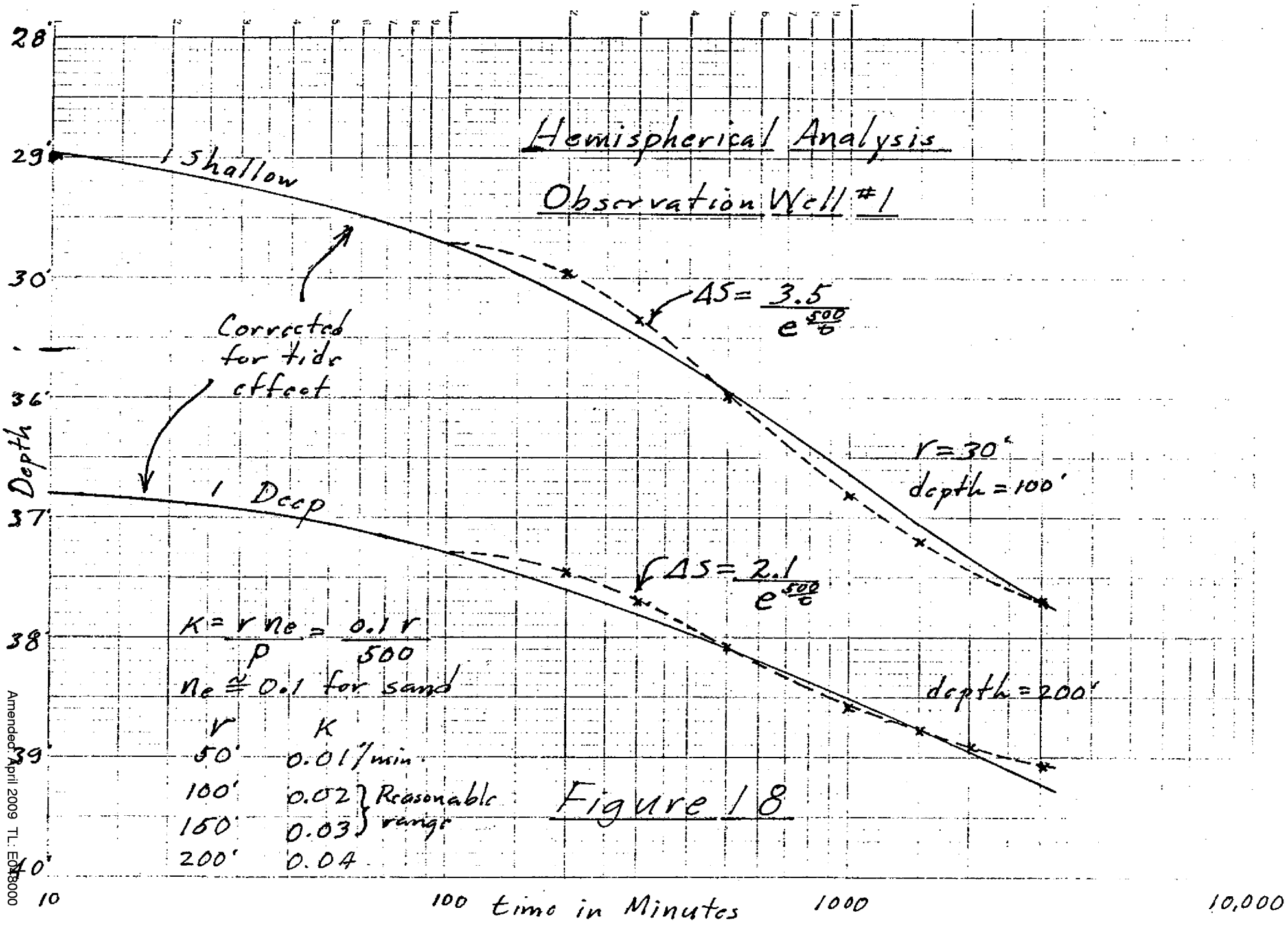

Figure 18

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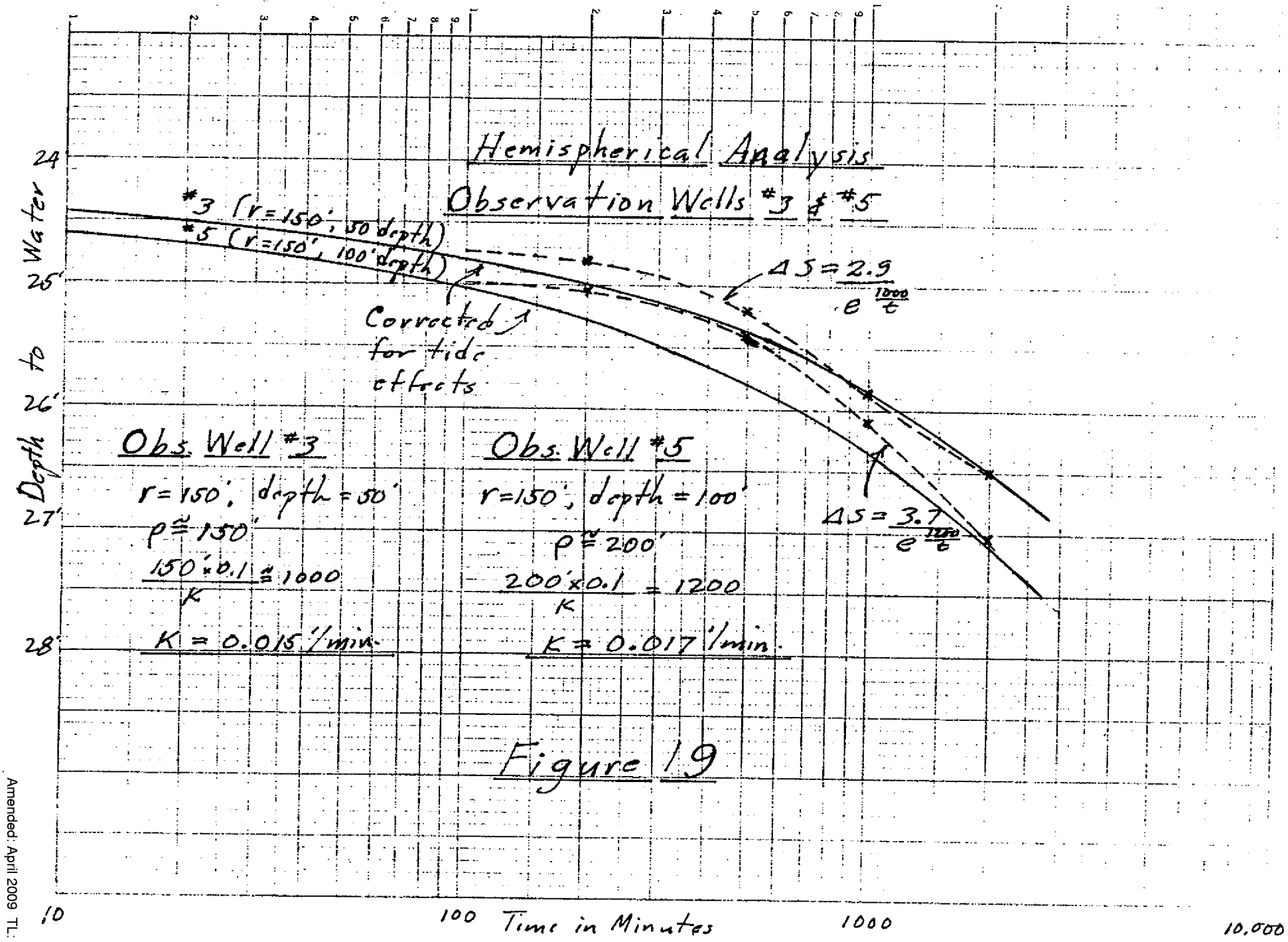
Hemispherical Analysis
Observation Wells #3 & #5
#3 (r=150', 50' depth)
#5 (r=150', 100' depth)
Corrected for tide effects
$\Delta S = \frac{2.9}{e^{\frac{1000}{t}}}$
$\Delta S = \frac{3.7}{e^{\frac{1000}{t}}}$
Obs. Well #3
r=150', depth=50'
ρ≅150'
$\frac{150' \times 0.1}{K} \cong 1000$
K = 0.015'/min.
Obs. Well #5
r=150', depth=100'
ρ≅200'
$\frac{200' \times 0.1}{K} = 1200$
K = 0.017'/min.
Depth to Water
24'
25'
26'
27'
28'
10
100
1000
10,000
Time in Minutes

Figure 19

SEMI-LOGARITHMIC 46 5493
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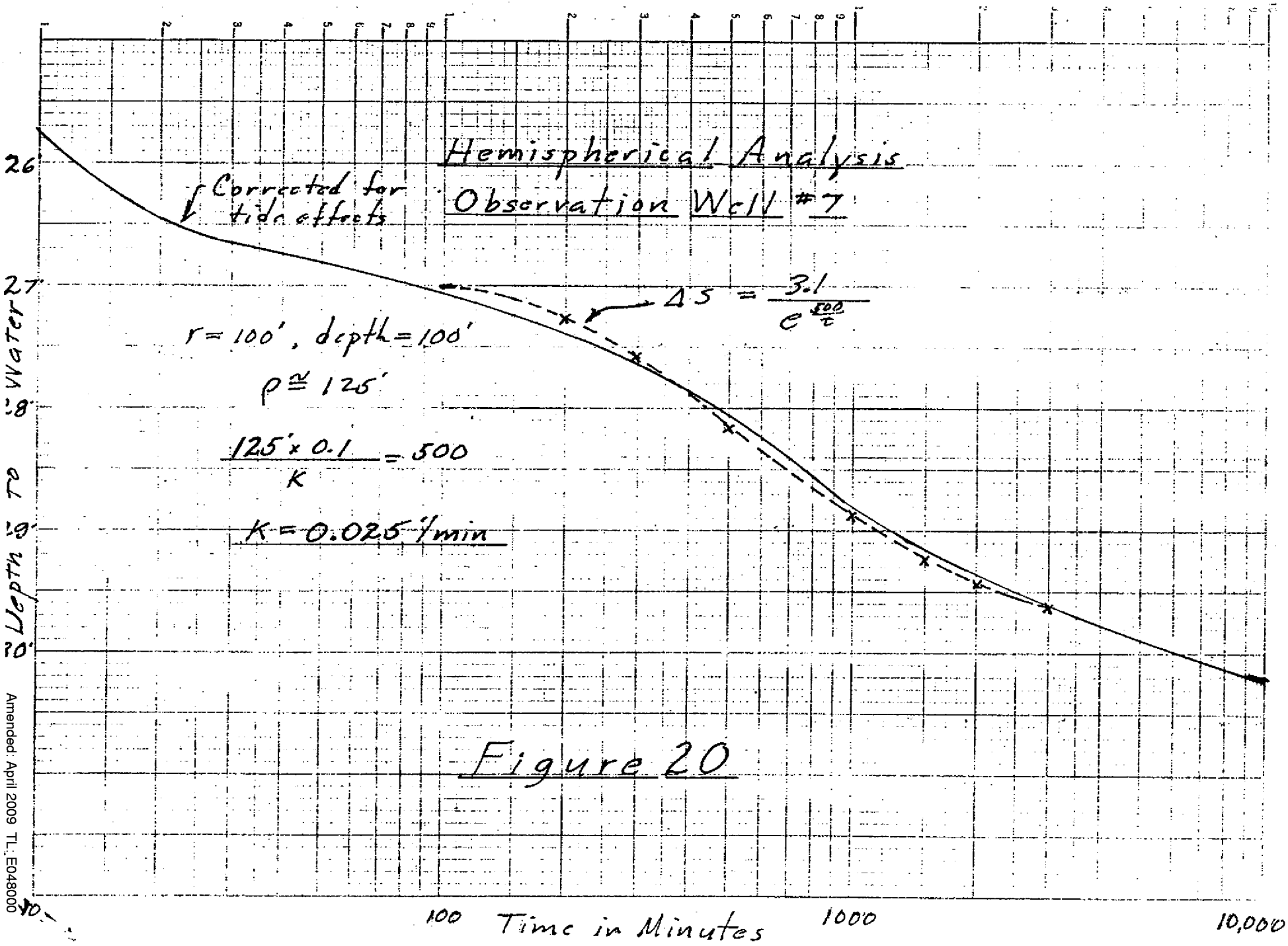

Figure 20

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The application of the new hemispherical, non-equilibrium approach indicates that results obtained from the solution based on radial horizontal flow are definitely too large. It is apparent by referring to Figure 6 that the general flow configuration for hemispherical flow more nearly represents the actual conditions that we have at this site than does the radial flow configuration, and therefore, the results based upon the hemispherical approach are more valid.

D. Summary of Permeability Results

On the basis of the results described above, a reasonable average value for the permeability is about 0.025 ft/min. This is based mainly on equilibrium methods and the new non-equilibrium method based on hemispherical flow rather than radial flow. Results obtained by the application of non-equilibrium methods predicted on radial horizontal flow were not considered valid due to the radical difference between actual conditions and those assumed in the derivation of this method.

Estimate of Pumping Rate

Based on a permeability of 0.025 ft/min the total pumping rate required to dewater the excavation Units 2 and 3 is estimated at 15,000 GPM. This represents the pumping rate for the deep wells alone, exclusive of the wellpoint system. This represents an increase of approximately 50 percent over the estimated pumping rates indicated in our report of April 1973 (Table 2). This study was based upon a permeability of approximately 0.016 ft/min which appeared reasonable, considering the limited data available at the time of the writing of this earlier report. The original design used for site preparation bidding purposes was based on a 30 percent increase to allow for possible individual pump failures. On this basis, the calculated pumping rate was 10,000 GPM with a provision for a total of 13,000 GPM. Correspondingly, revised estimate of 15,000 GPM should have a 30 percent increase in capacity, making the total recommended design pumping rate 19,500 GPM. This requirement could be met by using the 13 wells as presently designed, as shown on contract drawing 21006-0, each provided with a 1,500 GPM pump. Due to the higher permeability, the actual approximate individual well capacity may be increased from 1,000 to 1,500 GPM. This provides a total capacity of 19,500 GPM. If due to pump purchase commitments and/or slow deliveries, it is necessary to utilize the 1,000 GPM pumps previously

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specified, additional wells will be required to provide the required total capacity of 19,500 GPM.

Conclusions and Recommendations

1. Data obtained from this pump test is considered excellent due to the careful control and supervision provided during the installation of the wells as well as during the pumping period. The data obtained should provide a good basis for the evaluation of permeability.

2. Permeability values representative of the in situ material were obtained by an application of equilibrium methods which included the basic well formula with correction for partial penetration, and hemispherical-ellipsoidal flow relationships. The application of the non-equilibrium method based on horizontal radial flow yielded results that were too large. A new non-equilibrium method based on hemispherical flow yields permeability values considered to be much more accurate.

3. Permeability of the San Mateo Sandstone is estimated at 0.025 ft/min.

4. The pumping rate from the deepwell system, exclusive of the wellpoint operation, is estimated at 15,000 GPM. At least 30 percent additional capacity (or a total of 19,500 GPM) is recommended to allow for occasional pump failures.

R. Y. Bush

REGISTERED PROFESSIONAL ENGINEER
ROBERT Y. BUSH
10924
CIVIL
STATE OF CALIFORNIA

Amended: April 2009 TL: E048000

APPENDIX

REFERENCES

1. Dames and Moore Report: Seismic and Foundation Studies, Proposed Units 2 and 3 San Onofre Nuclear Generating Station, San Onofre, California. Account Number 0377-033-02, with covering letter dated April 15, 1970.

2. Harry R. Cedergren: Seepage, Drainage, and Flow Nets John Wiley and Sons, Inc., 1967.

3. Milton B. Harr: Groundwater and Seepage McGraw-Hill Book Co., 1962.

4. C. D. Theis: "The Relation Between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Groundwater Storage," Transactions American Geophysical Union, 1935, pp. 519-524.

5. C. E. Jacob: "On the Flow of Water in an Elastic Artesian Aquifer," Transactions American Geophysical Union, 1940, pp. 574-586.

GEN. INSPECTION STATUS

INSPECTION REPORT

Test Well #3A
Pump Test

S hern California Edison Company

PROJECT: SONGS 2&3

ITEM Dewatering System

REPORT NO. C-3 Field

SCE P.O. NO. S-2673001

DATE May 6, 1974

PRIME VENDOR Peter Kiewit Sons' - Stang Hydronics Inc

PAGE 1 OF 3

LOCATION San Onofre N.G.S. 2&3

REF. NO. Insp. Plan C-1 Point #18

1. CONTACTS: W. G. Henry, SCE Generation Construction
R. Y. Bush, Bechtel Consultant on Dewatering System
William Smith, Stang Hydronics, Inc.
Howard Hoody, Stang Hydronics, Inc.

2. ENGINEERING STATUS: Completed. Pump test data indicates that some revisions to the dewatering system will be necessary.

3. MATERIAL STATUS: Test Well #3A and all seven observation wells have been completed. Pump, motor and turbine assemblies have been installed on a temporary basis. Pump motor top head casting is cracked. Stang is to repair or replace motor casting.

4. RODUCTION SCHEDULE & COMPLETION DATE: Pump test was completed on 4/29/74.

5. APPLICABLE INSPECTION DATA: Site Preparation Specification #S023-213 Sec. 4.14 Dewatering System. Bechtel Drawings #21006-0 & #21010-0. "Procedure for Conducting Pumping Tests" by R. Y. Bush, dated 2/73.

6. MATERIAL-SHIPPED/RECEIVED: N/A

7. INSPECTION REPORT:

I. Inspected the drilling and soil sampling of observation holes #1, 2, 3, 4, 5 & 7. Observation Hole #6 was drilled and sampled without inspection, during the drilling of hole #6 & hole #4 the contractor used a kitchen strainer to collect wash samples. This procedure permitted the fine portion of soils samples to pass, thus providing a non-representative sample. During the drilling of observation holes #1, 2, 3, 5, & 7 A#30 & A#50 sieve were used to collect samples from the wash. The contractor logged the time and type of soil sample taken per the specification. Copies of the observation hole drilling logs are attached. Samples of drill cuttings were placed in 6 oz. jars. All jar samples have been identified and stored for future reference.

Installation of the slotted 2" diameter P.V.C. pipe was performed

(CONTINUE ON OTHER SIDE)

DISTRIBUTION: R. R. Hart
M. D. DuDeck/A. Del Grosso
R. De La Parra
R. Y. Bush
C. Hardding

INSPECTED BY: A. Alvarez

DATE: May 6, 1974

in accordance with the drawings & specifications. The second (short) length of slotted pipe in observation hole #1 was made 100 ft. long. The short length of pipe in observation hole #4 was made 80 ft. long. A third Bentonite Seal was installed in observation holes #1 & #4, three feet below the slotted section of the second or short length of pipe.

The contractor completed the installation of all observations holes on April 2, 1974. All piezometers (2" diameter slotted pipes) were cleaned by the airlifting method until the discharge water was clean. Samples of water from the 100 ft. deep or less piezometers were fresh water, samples of water from the deeper holes showed an increase in salinity with depth.

II. Drilling of test Well 3A

On March 27, 1974, Stang Hydronics began to drill Well 3A using a modified Calweld 200 bucket auger. The first 24' were drilled with a 36" diameter bucket and the remainder using the reverse rotary method. Detailed notes of the well drilling are contained in the Log of Boring attached. Initially the contractor used a two stage rock bit which turned out to be slow and ineffective; the most the bit could drill was 3 to 5 feet per hour. On April 4th & 5th, the contractor made substantial modification to his drilling stem and replaced the bit with a "Vane" type bit obtained from one of their competitors. This combination produced 10 to 15 feet of drilling per hour. The drilling of test Well 3A was completed on April 11, 1974. The installation of the casing & gravel pack was performed on April 12 & 13, 1974. Approximately 52 cubic yards of filter material were used. The drilling and casing installation for the test Well 3A was particularly troublesome because of the Contractors' inexperience with the reverse rotary drilling method, and because of numerous equipment problems ranging from impact wrenches to compressors.

Wash samples of the San Mateo Formation foundation material encountered were taken in accordance with the specification. Results of the Sieve Analysis and the graphical grain size distribution for each sample have been attached to the report. Eight ounce jar samples of the materials encountered have been identified & stored for future reference.

III. Development of test Well 3A

On April 16, 1974 the contractor began to develop the well by airlifting. Airlifting was continued on the 17th & 18th with some improvement in the water quality. Airlifting produced a flow of about 500 gpm and discharge of fines from the filter material, as airlifting continued the amount of fines being discharged decreased. Final development of the well was achieved on 4/22/74 by installing the test pump and running it for approximately 4½ hours at a discharge rate of 1700 gpm. The water

discharged was sampled and tested and found to conform to the specifications. Approximately three additional cubic yards of filter material were used to make up for the gravel pack settlement due to the well development.

IV. Pump Test - Well 3A

The pump test was started on April 24, 1974 at 13:15 and stopped on April 26, 1974 at 18:00. The pump used was a Gould's Vertical Pump with a 3 stage type 12D.H.L.O. turbine rated @ 1500 gpm. The Turbine Bowl was set at a 100 ft. depth. The attached Plate #1 shows that the rate of discharge was constant at 1687 gallons per minute. Plates 2 thru 9 show the draw down and rebound curves for each observation hole and for Well 3A. Samples of the water discharged were taken; test results are attached.

Copies of all field data have been made available to Mr. R. Y. Bush. Data sheets are available in the Generation Inspection Services File.

V. Summary of Observations

1. It appears that the pump test data will provide the necessary information required to estimate the rate of pumping required during construction dewatering. However it may be necessary to run the pump again to establish a complete drawdown equilibrium condition because the pump test was cut short of the 72 hour pumping time anticipated due to problems with the discharge at the beach. Frequent readings or monitoring would not be necessary. It is suggested that the pump be run for approximately a week if such a retest is found to be necessary.

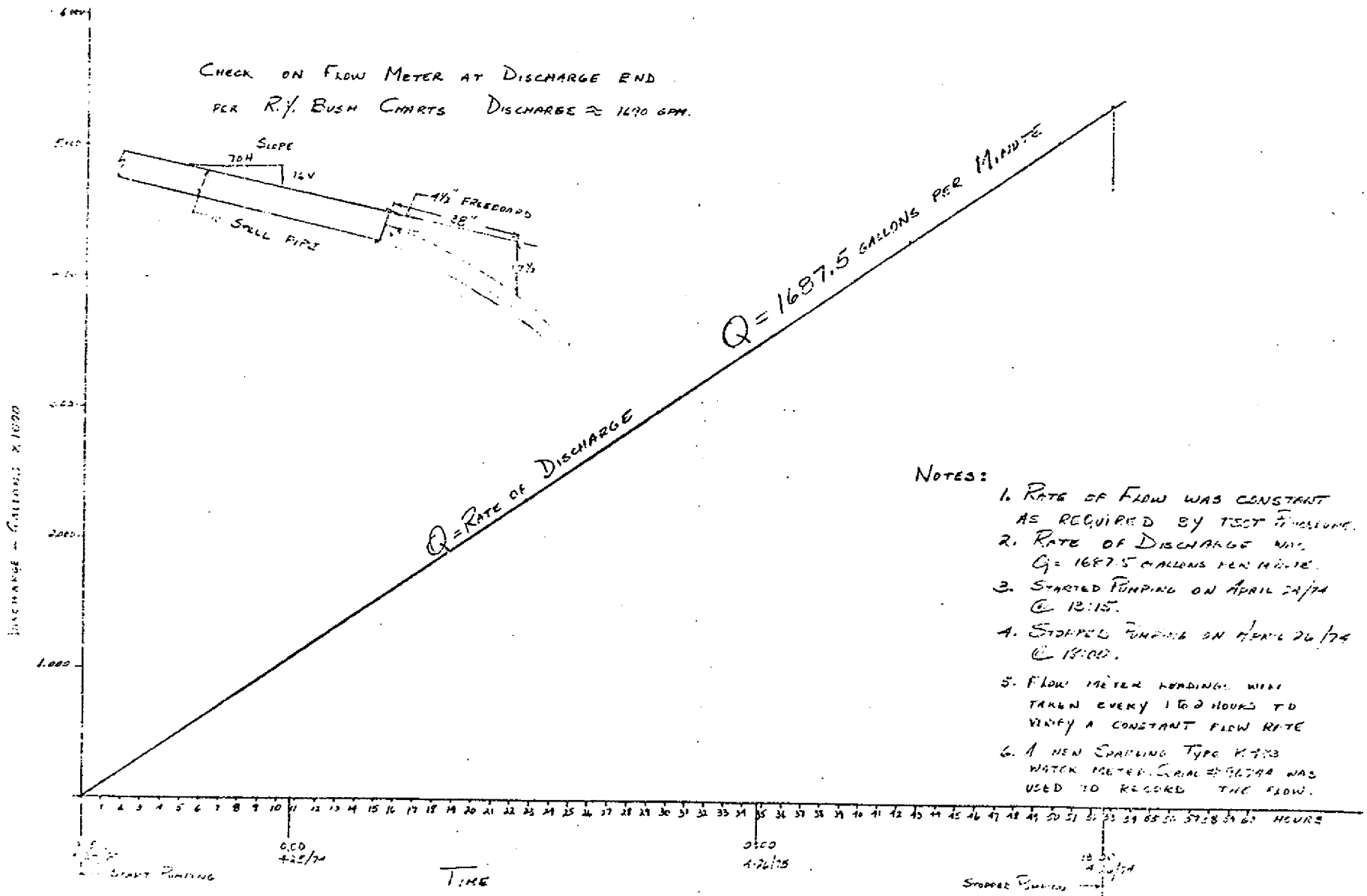
2. The effect of the tides is considerably more in the deeper piezometers. The tidal influence is more noticeable in those piezometers close to the ocean, as anticipated.

3. At a depth of 230' to 280' some very pervious strata were found at the Well 3A. A thin layer of a pervious sand was also found at a depth of 55'.

4. The quick drawdown and rebound shown on plates #2 to #9 in the observation holes indicates that the foundation materials are quite pervious, therefore, it is anticipated that additional dewatering equipment will be necessary during construction.

5. During the pump test it was noted that at the beach area a layer of large cobbles and nested boulders exist from a depth of 5 to a depth of 12 feet below the existing beach elevation. This condition will make the driving of sheet pile, the jetting of the well point system and the drilling of wells #1, 2, 11, & 12 extremely difficult. This problem may be overcome by dredging (excavating) and backfilling those areas to be penetrated by the wells or sheet piling.

San Onofre Nuclear Generating Station Units 2 & 3
Pump Test - Well 3A - Flow Meter Readings



Notes:

1. Rate of Flow was constant as required by test procedure.
2. Rate of Discharge was Q = 1687.5 gallons per minute.
3. Started Pumping on April 22/74 @ 12:15.
4. Stopped Pumping on April 26/74 @ 12:00.
5. Flow meter readings were taken every 1 to 2 hours to verify a constant flow rate.
6. A new Sparling Type K-4X3 water meter, Serial #56748 was used to record the flow.

Plate #1

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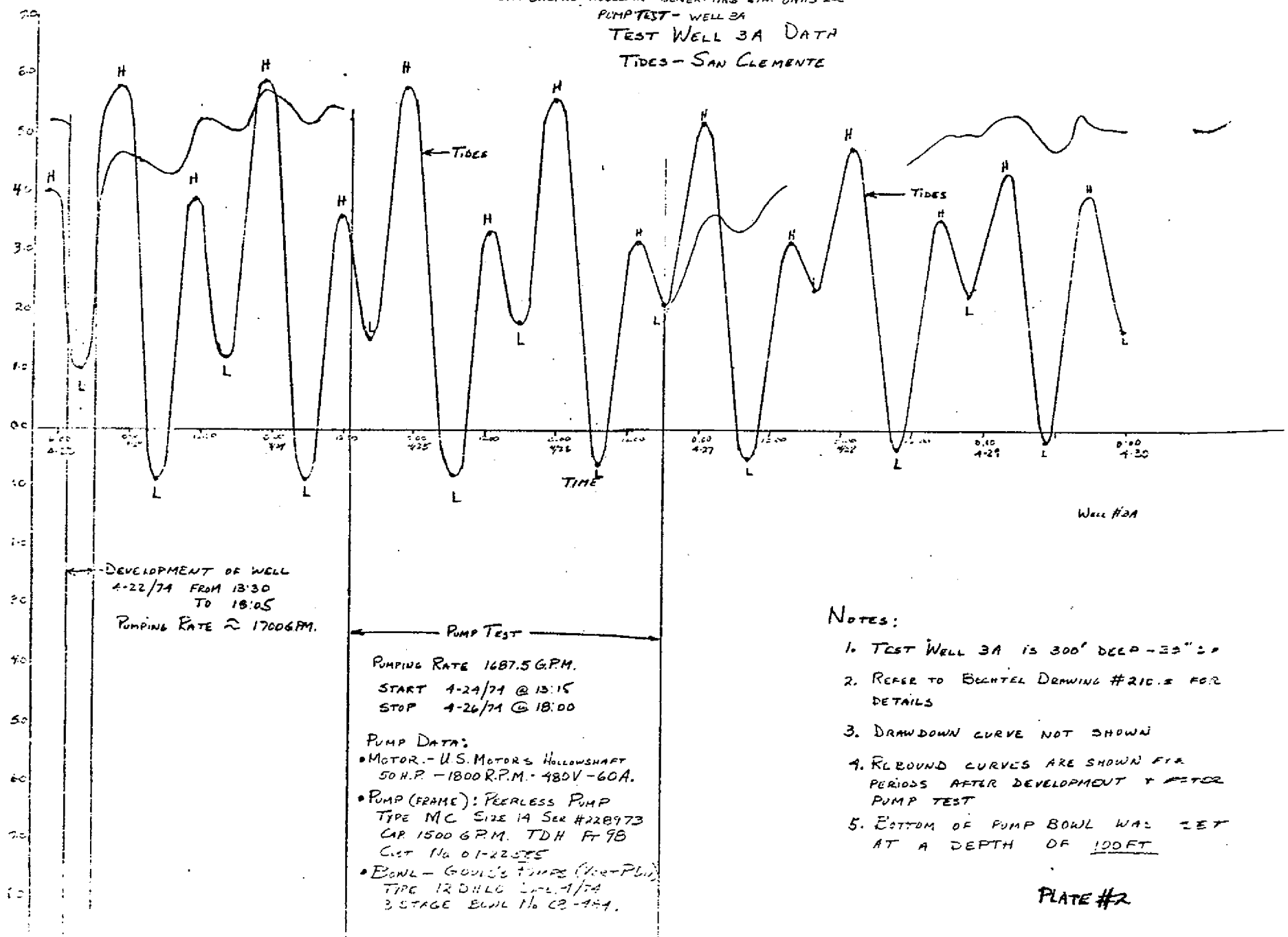
SAN ONOFRE NUCLEAR GENERATING STA. UNITS 2-3
PUMP TEST - WELL 3A

TEST WELL 3A DATA
TIDES - SAN CLEMENTE



NOTES:

1. TEST WELL 3A IS 300' DEEP - 33" ⌀
2. REFER TO BECHTEL DRAWING #210.2 FOR DETAILS
3. DRAWDOWN CURVE NOT SHOWN
4. REBOUND CURVES ARE SHOWN FOR PERIODS AFTER DEVELOPMENT & AFTER PUMP TEST
5. BOTTOM OF PUMP BOWL WAS SET AT A DEPTH OF 100 FT

PLATE #2

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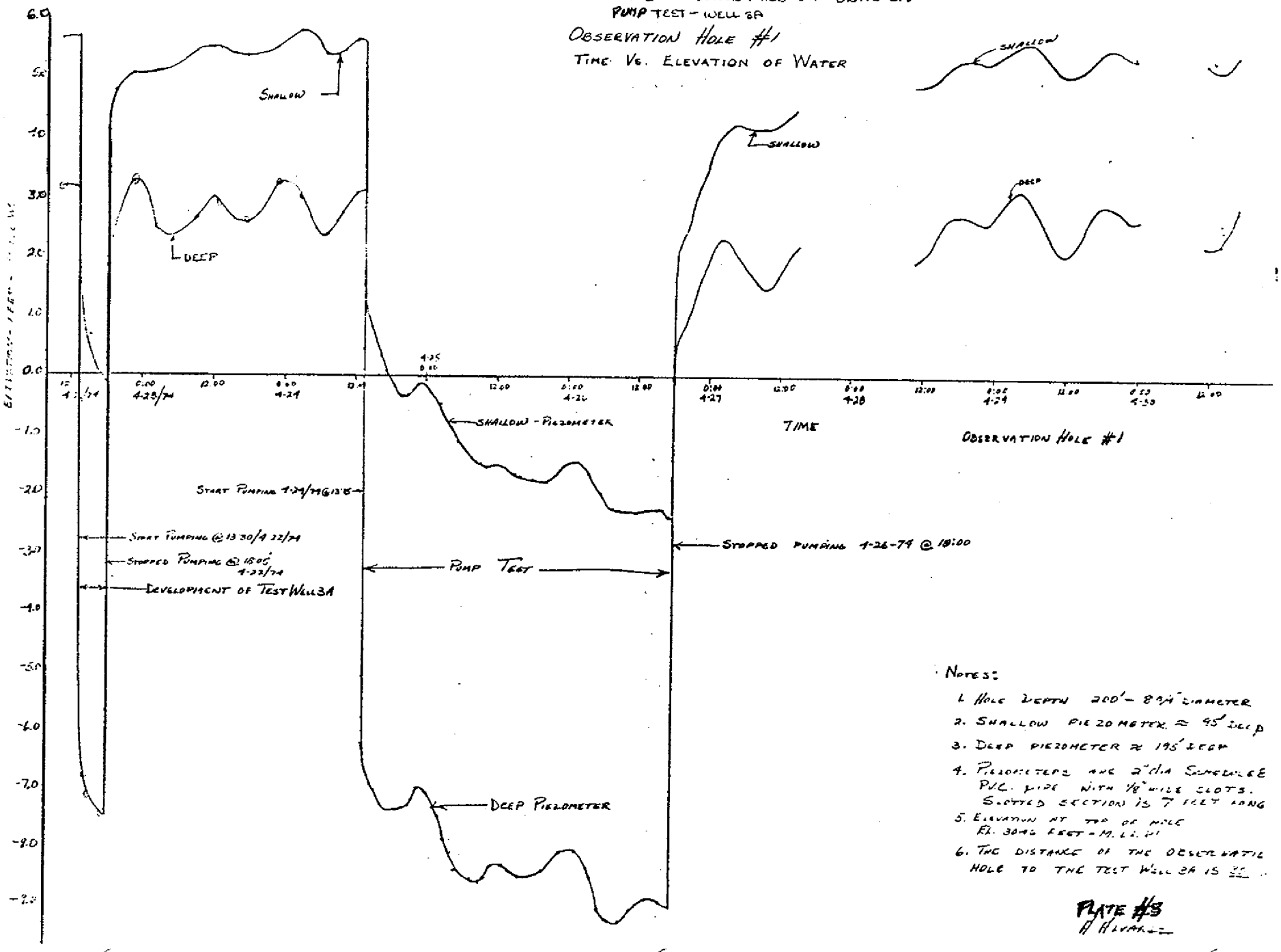
SAN ONOFRE NUCLEAR GENERATING STA. UNITS 2&3
PUMP TEST – WELL 3A

OBSERVATION HOLE #1
TIME VS. ELEVATION OF WATER



NOTES:

1. HOLE DEPTH 200' – 8 3/4" DIAMETER
2. SHALLOW PIEZOMETER ≈ 95' DEEP
3. DEEP PIEZOMETER ≈ 195' DEEP
4. PIEZOMETERS ARE 2" DIA SCHEDULE PVC PIPE WITH 1/8" WIDE SLOTS. SLOTTED SECTION IS 7 FEET LONG
5. ELEVATION AT TOP OF HOLE EL. 304.5 FEET – M.L.L.W.
6. THE DISTANCE OF THE OBSERVATION HOLE TO THE TEST WELL 3A IS 55'

PLATE #3
H. ALVAREZ

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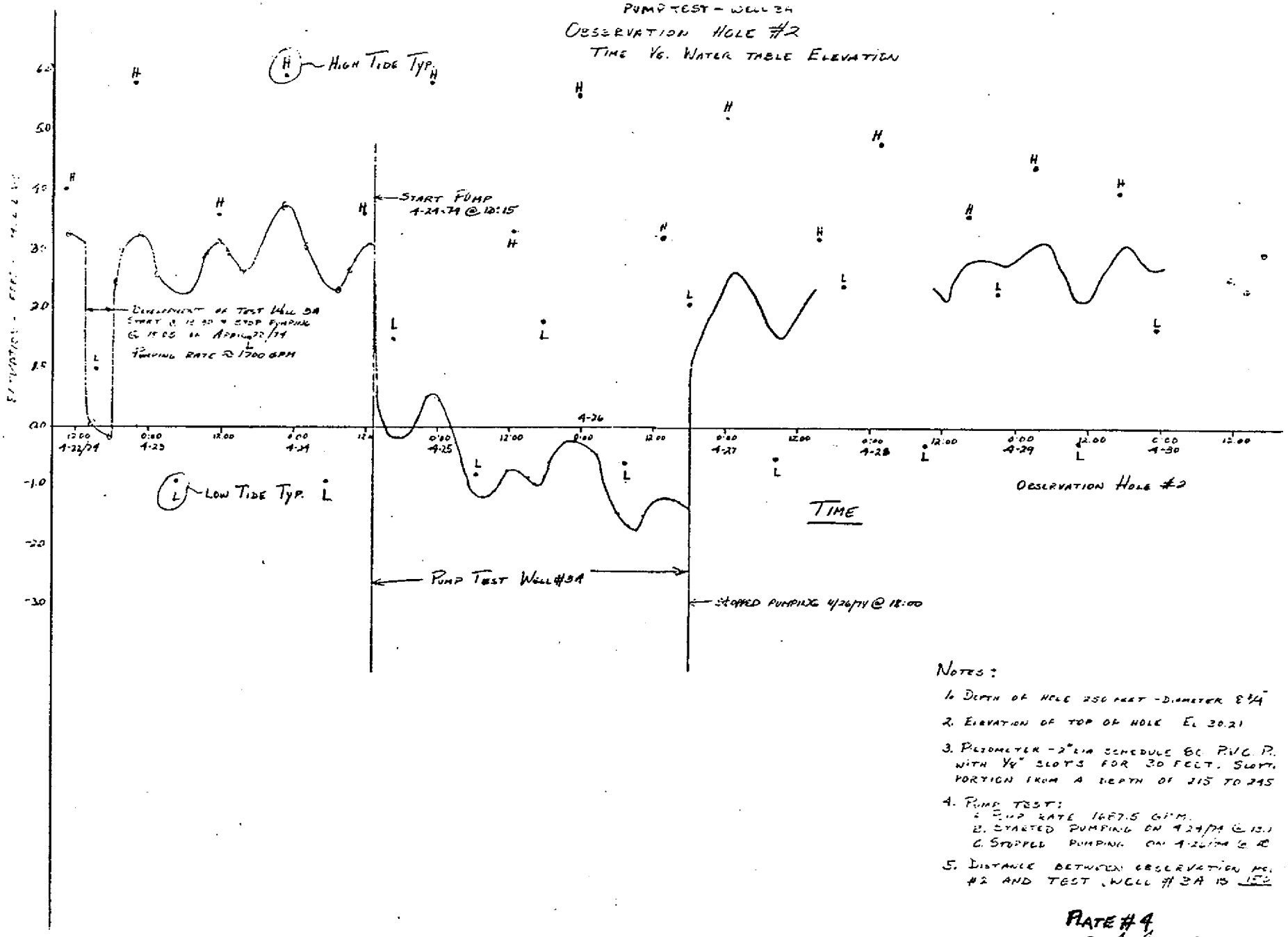
SAN GIORGIO NUCLEAR GENERATING STATION UNITS 1&2

PUMP TEST – WELL 3A

OBSERVATION HOLE #2

TIME VS. WATER TABLE ELEVATION



NOTES:

1. DEPTH OF HOLE 250 FEET - DIAMETER 8 3/4"
2. ELEVATION OF TOP OF HOLE EL 30.21
3. PIEZOMETER - 2" DIA SCHEDULE 80 P.V.C. P. WITH 1/8" SLOTS FOR 30 FEET. SLOTTED PORTION FROM A DEPTH OF 215 TO 245
4. PUMP TEST:
   a. PUMP RATE 1687.5 G.P.M.
   b. STARTED PUMPING ON 4-24/74 @ 12.1
   c. STOPPED PUMPING ON 4-26/74 @ 18
5. DISTANCE BETWEEN OBSERVATION HOLE #2 AND TEST WELL #3A IS 15'

PLATE #4

BY A. ALVANOS

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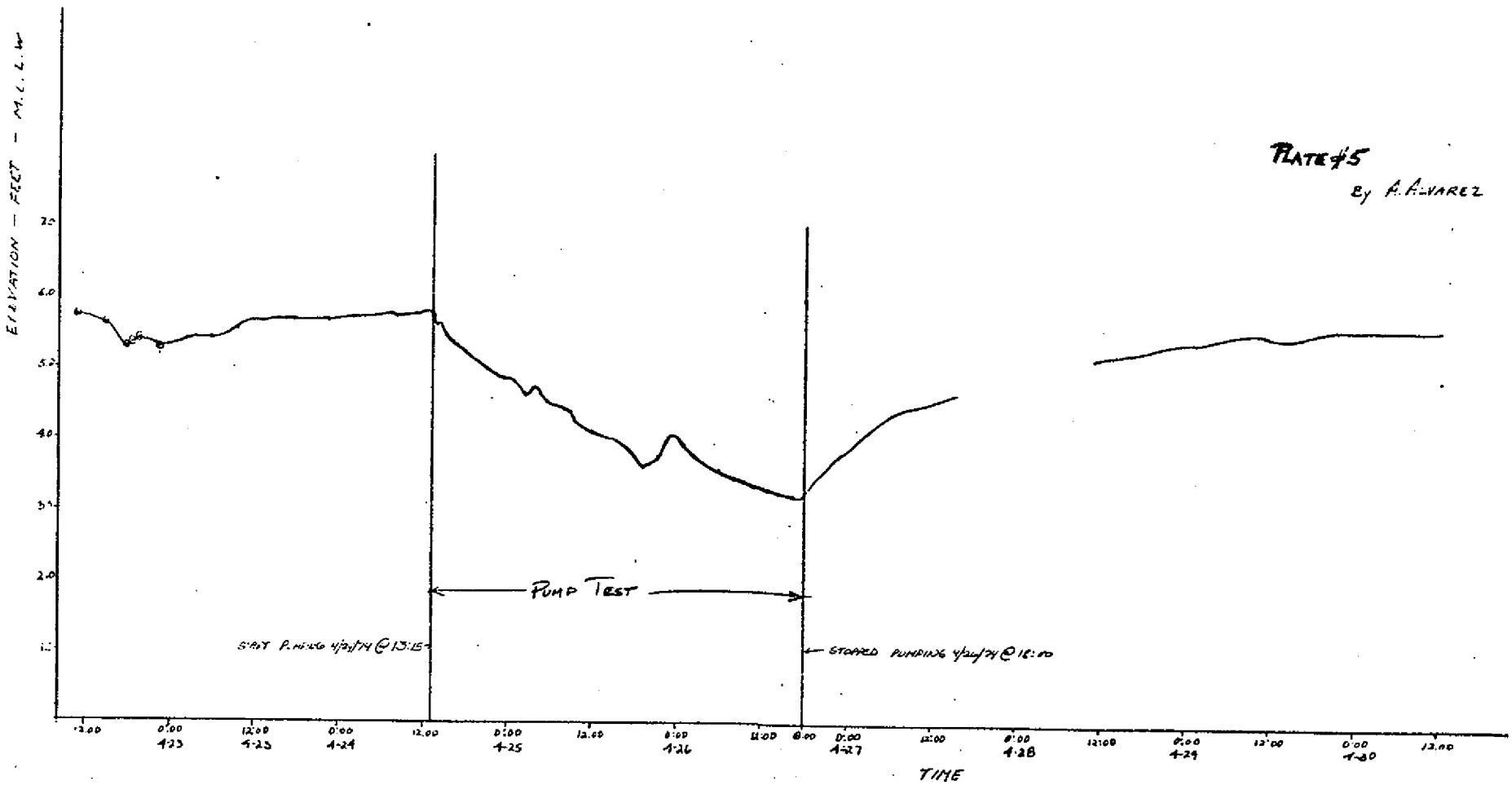
SAN ONOFRE NUCLEAR GENERATING STA UNITS 2+3
PUMP TEST — WELL 5A

OBSERVATION HOLE #3
TIME VS WATER TABLE ELEVATION



OBSERVATION HOLE #3
ELEVATION 30.28 @ TOP OF H.

REFERENCES:
1. SEE NOTES ON PLATE #3 FOR PUMP TEST DATA
2. HIGH + LOW TIDES ARE PLOTTED ON PLATE #3
3. NOTE TIME + EFFECT OF WELL DEVELOPMENT. PLATE #3

NOTES:
1. HOLE DEPTH ≈ [illegible], E 34" DIA
2. DISTANCE TO WELL 5A 250
3. PIEZOMETER IS A 2" DIA SCHEDULE 80 PVC PIPE WITH 1/8" SLOTS - 2" HIGH, SLOTTED SECTION IS 30' LONG.

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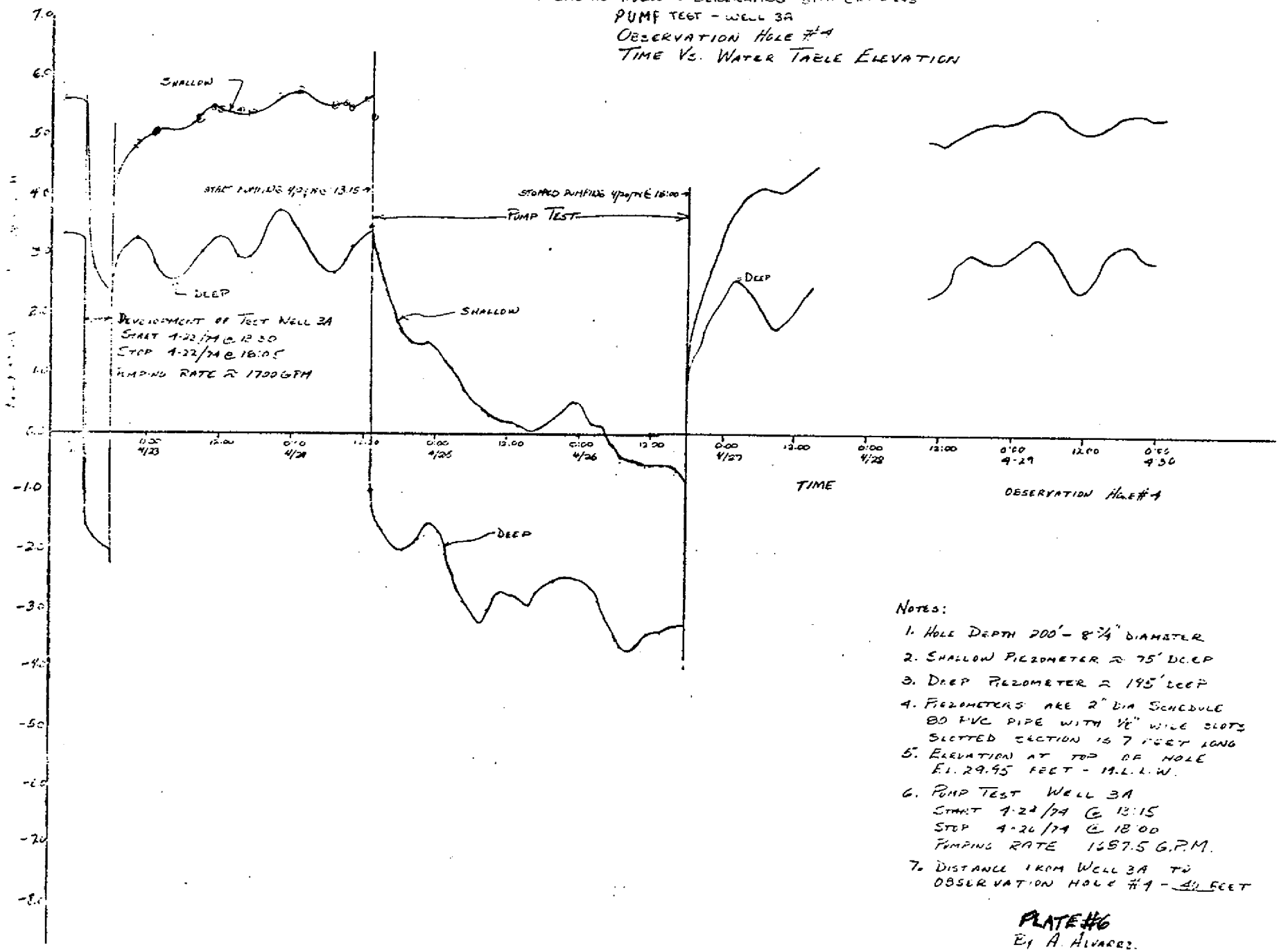
SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2&3
PUMP TEST - WELL 3A
OBSERVATION HOLE #4
TIME VS. WATER TABLE ELEVATION



NOTES:

1. HOLE DEPTH 200' - 8 3/4" DIAMETER
2. SHALLOW PIEZOMETER ≈ 75' DEEP
3. DEEP PIEZOMETER ≈ 195' DEEP
4. PIEZOMETERS ARE 2" DIA SCHEDULE 80 PVC PIPE WITH 1/16" WIDE SLOTS SLOTTED SECTION IS 7 FEET LONG
5. ELEVATION AT TOP OF HOLE EL. 29.95 FEET - M.L.L.W.
6. PUMP TEST WELL 3A
   START 4-22/74 @ 13:15
   STOP 4-26/74 @ 18:00
   PUMPING RATE 1657.5 G.P.M.
7. DISTANCE FROM WELL 3A TO OBSERVATION HOLE #4 - 41 FEET

PLATE #6
By A. ALVAREZ.

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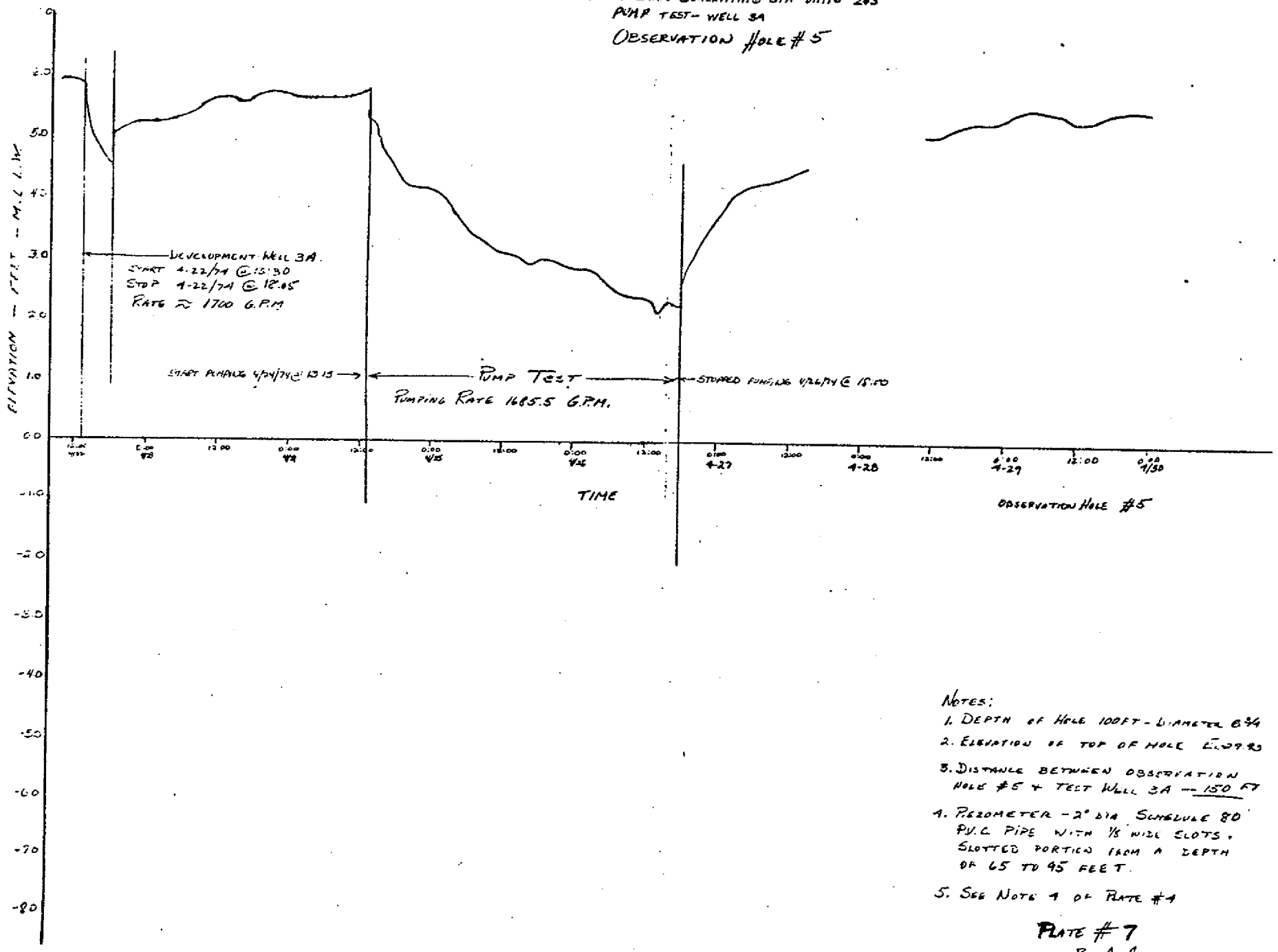
SAN ONOFRE NUCLEAR GENERATING STA UNITS 2+3
PUMP TEST - WELL 3A
OBSERVATION HOLE #5



NOTES:

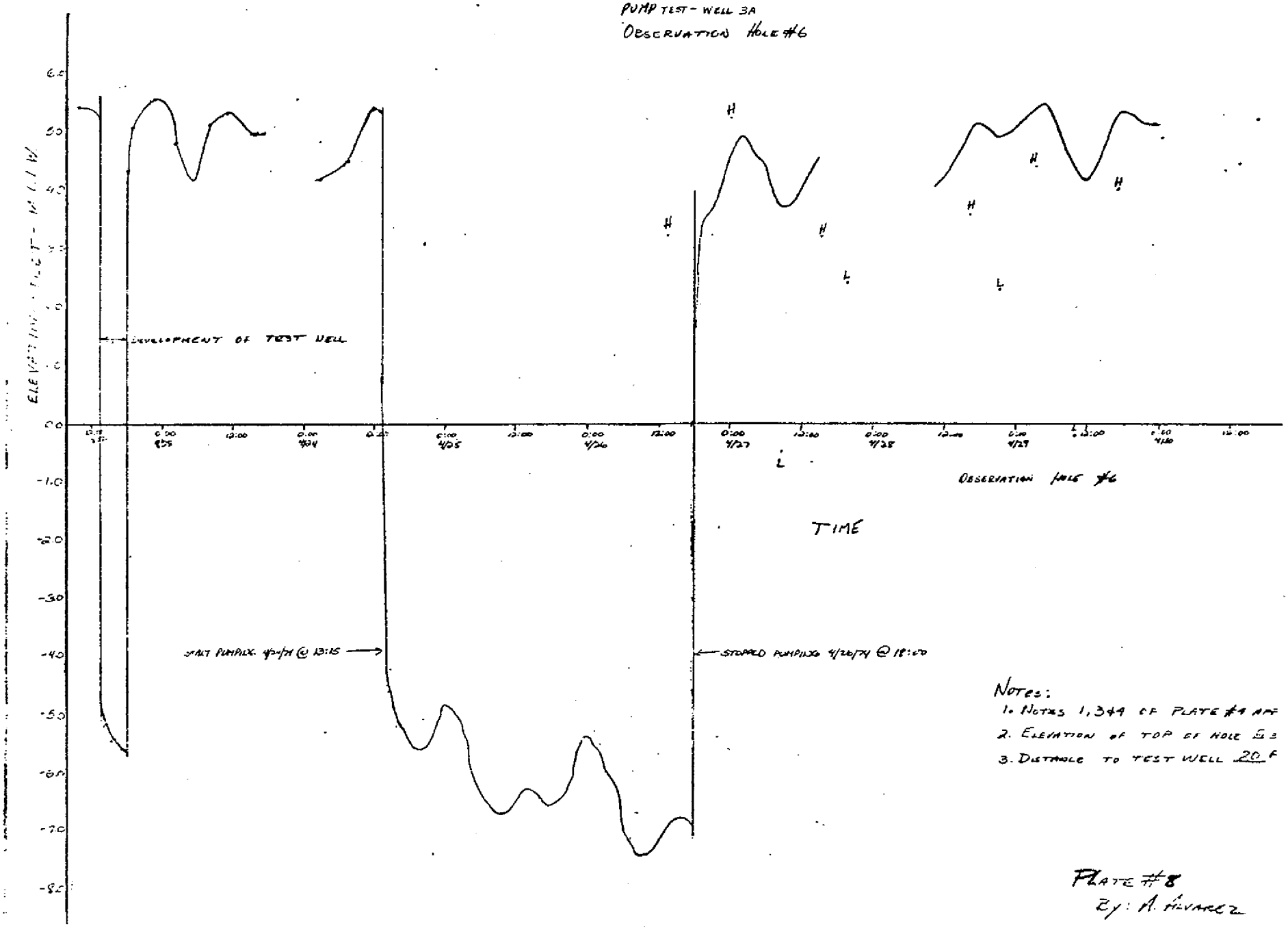
1. DEPTH OF HOLE 100 FT - DIAMETER 6 3/4
2. ELEVATION OF TOP OF HOLE EL 29.83
3. DISTANCE BETWEEN OBSERVATION HOLE #5 + TEST WELL 3A — 150 FT
4. PIEZOMETER - 2" DIA SCHEDULE 80 P.V.C PIPE WITH 1/8 WIDE SLOTS. SLOTTED PORTION FROM A DEPTH OF 65 TO 95 FEET.
5. SEE NOTE 4 OF PLATE #4

PLATE #7

R. A. ALVAREZ

Amended: April 2009 TL: E048000

SAN ONOFRE NUCLEAR GENERATING STA - UNITS 2+3
PUMP TEST - WELL 3A
OBSERVATION HOLE #6

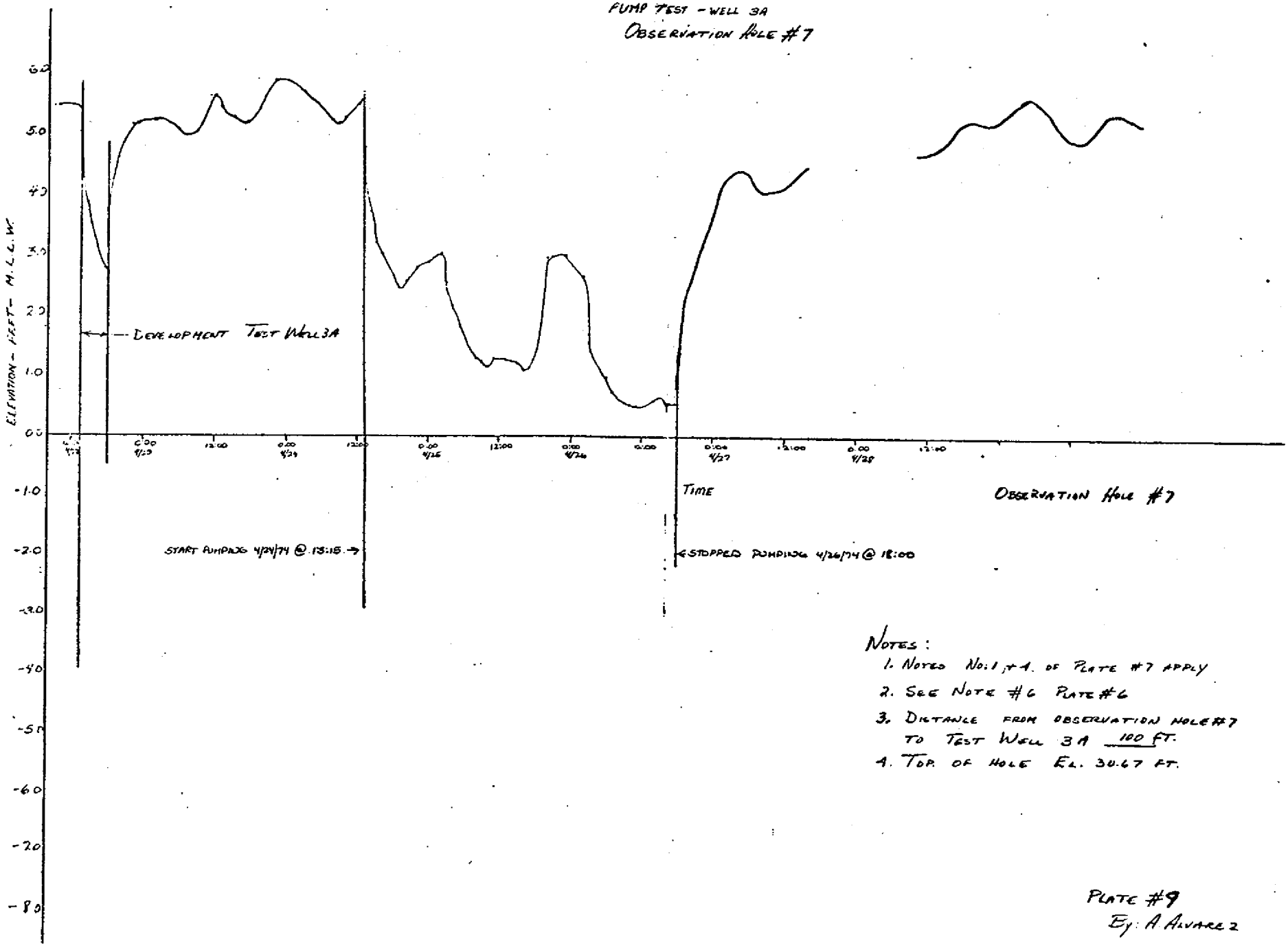


NOTES:
1. NOTES 1, 3 & 4 OF PLATE #4 APP
2. ELEVATION OF TOP OF HOLE 5.3
3. DISTANCE TO TEST WELL 20 F

PLATE #8
By: A. ALVAREZ

Amended: April 2009 TL: E048000

SAN ONOFRE NUCLEAR GENERATING STA. UNITS 2+3
PUMP TEST - WELL 3A
OBSERVATION HOLE #7



NOTES:
1. NOTES No: 1 + 4. OF PLATE #7 APPLY
2. SEE NOTE #6 PLATE #6
3. DISTANCE FROM OBSERVATION HOLE #7 TO TEST WELL 3A 100 FT.
4. TOP OF HOLE EL. 30.67 FT.

PLATE #9
By: A. ALVAREZ

Amended: April 2009 TL: E048000

APPENDIX 2.5A

SOIL LIQUEFACTION

Site File Copy

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2.5.A.3	Report Titled "Offshore Liquefaction Evaluation For Proposed Unis 2 and 3 San Onofre Nuclear Generating Station, San Onofre, California" Dated December 19, 1974, By Woodward-McNeill & Associates	

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APPENDIX 2.5.A

SOIL LIQUEFACTION

2.5.A.1 INTRODUCTION

This Appendix presents the results of liquefaction evaluation studies for the San Onofre Nuclear Generating Station, Units 2 and 3 site. Section 2.5.A.2 presents the analyses for the plant and switch yard slope area, and the Section 2.5.A.3 presents analyses for the offshore area in the vicinity of offshore cooling water conduits. Results of these analyses indicate that the San Mateo sand, which is the only soil existing below the water table at the site, is not susceptible to liquefaction during DBE loading condition.

In view of the recent (1975) advancements in the state-of-the-art for the evaluation of in-site dynamic strength of cohesionless soil, the analyses presented in Sections 2.5.A.2 and 2.5.A.3 have subsequently been updated. Results of this up-dating are included in FSAR Text, Paragraph 2.5.4.8 and do not alter the conclusions of the analyses presented in this Appendix.

Amended: April 2009 TL: E048000

Section 2.5.A.2

Report Titled

"Liquefaction Evaluation Report
Proposed Units 2 and 3
San Onofre Nuclear Generating Station
San Onofre, California"

January 22, 1974

Woodward-McNeill & Associates

Amended: April 2009 TL: E048000

LIQUEFACTION EVALUATION REPORT

PROPOSED UNITS 2 AND 3

SAN ONOFRE NECLEAR GENERATING STATION

SAN ONOFRE, CALIFORNIA

for

Southern California Edison Company
P. O. Box 800
Rosemead, California 91770

by

WOODWARD-McNEILL & ASSOCIATES
Consulting Engineers and Geologists

2.5A-5/2.5A-6

Amended: April 2009 TL: E048000

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

4000 West Chapman Avenue
Orange
California 92668
Phone (714) 634-4440

2140 West Olympic Boulevard
Los Angeles
California 90006
Phone (213) 581-7164

22 January 1974
Project No. B221I
Task-3

Southern California Edison Company
P. O. Box 800
Rosemead, California 91770

Attention: Mr. David H. Johns

SUBJECT : LIQUEFACTION EVALUATION REPORT
PROPOSED UNITS 2 AND 3
SAN ONOFRE NUCLEAR GENERATING STATION
SAN ONOFRE, CALIFORNIA

Gentlemen:

In accordance with the provisions of your Purchase Order U0903009, we have completed our analyses for the evaluation of liquefaction in the plant and switchyard slope area east of the sea wall at the site. The attached report transmits the results of the analysis for this area.

The analysis reported reflect the response of the site to design basis earthquake loading conditions in terms of the potential for liquefaction of soil below the water table. In brief, these analyses indicate that the soil below the water table beneath the plant and switchyard slope area have a minimum factor of safety of 1.3 or greater. We conclude that this represents an adequately stable condition for the site.

We hope the attached report provides the requested information. The Staff Engineers assigned to the project were Messrs. Andrew Worswick and John Hou. If you require clarification or further information please contact the undersigned.

Very truly yours,

WOODWARD-McNEILL & ASSOCIATES

By John A. Barneich
John A. Barneich

By Robert L. McNeill
Robert L. McNeill

By Hans M. Ewoldsen
Hans M. Ewoldsen

JAB/RLMc/HME/dvr
Attachment

2.5A-7/2.5A-8

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LIQUEFACTION EVALUATION, PROPOSED UNITS 2 AND 3

SAN ONOFRE NUCLEAR GENERATING STATION

SAN ONOFRE, CALIFORNIA

1.0 INTRODUCTION

1.1 General

As part of the geotechnical studies for the proposed expansion of the San Onofre Nuclear Generating Station (SONGS) for Units 2 and 3, this report presents the results of the liquefaction analysis for soil below the water table for the area of the plant and switchyard slopes at the site. The purpose of this study is to evaluate the potential of the soils below the groundwater table at the site to liquefy under the application of repetitive design basis earthquake induced stresses. Because only the San Mateo sand materials at the site occur below the water table, only the dynamic strength of that material is considered. The basic elements of the study are:

- Determine the dynamic strength characteristics of saturated San Mateo sand soils at the site in terms of stress to cause a given deformation as a function of the number of load applications (by laboratory tests).

- Determine the distribution and intensity of DBE induced stresses at the site as a function of the number of stress application (by dynamic finite-element analyses).

- Compare the induced stress to the available strength for the same number of stress applications to determine the factor of safety against liquefaction. (F. S. defined as the ratio $\frac{\text{available strength}}{\text{induced stress}}$)

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Considerable data generated in previous studies, as well as the laboratory investigation for this study, were utilized in the determination of soil properties and distributuion of soil over the site.

1.2 Organization of the Report

The field and laboratory investigation including reference to previous, parallel work pertinent to this study are described in Sections 2 and 3 of this report, respectively. Next , Section 4 describes the site and subsurface conditions and the proposed earthwork construction at the site. The soil properties used in analysis,with particular emphasis on the strength of the saturated San Mateo sand under repeated loading at the site,are discussed in Section 5. A discussion of the analytical methods utilized in the determination of the distribution and intensity of the DBE induced stresses at the site, as well as the results, are presented in Section 6. A comparison of the results presented in Sections 5 and 6 are then discussed with regard to liquefaction potential in Section 7. Finally, the conclusions and recommendations for the study are presented in Section 8.

The necessary backup data for the sections described above are assembled in the appendices, as follows:

APPENDIX A - Summary of Field Investigations

APPENDIX B - Laboratory Testing

APPENDIX C - Dynamic Strength of Saturated San Mateo Sand

APPENDIX D - DBE Induced Stress

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2.0 FIELD INVESTIGATION

Many soil borings and test pits have been advanced at the site by this firm, Southern California Edison Company and others. The depths of investigation have ranged from near-surface to as deep as 987 ft. For the present study, two areas of investigation are considered important: the laydown area for Unit 1 (adjacent to the proposed Units 2 and 3) presently at elevation +30 ft, facilitating shallow drilling access to the San Mateo sand beneath the water table; and the actual area planned for Units 2 and 3 where the elevation is presently above about elevation +85 ft and where drilling access to the San Mateo sand beneath the water table is more difficult. The location of borings in these areas and the details of the logs of borings and field testing are presented in Appendix A.

3.0 LABORATORY STUDIES

Two basic phases of laboratory testing were completed: (1) static testing, including classification tests to verify field classification and confirm areal uniformity, and the determination of moisture, density and static strength characteristics of the samples; and (2) dynamic testing, to evaluate cyclic strain-dependent stiffness and damping characteristics of the soil, as well as the dynamic strength of the soil as a function of the number of load applications (hereinafter called liquefaction tests). The basic data and a description of tests are assembled in

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Appendix B. Most of the testing other than the liquefaction tests were completed during other investigations by this firm or others. For this reason, greater emphasis is given to the description of the liquefaction tests in this report.

4.0 SITE AND SUBSURFACE CONDITIONS AND PROPOSED CONSTRUCTION

The proposed site for Units 2 and 3 is located adjacent to and south of the existing Unit 1, as indicated on the Site Plan, Fig. 1. For ease of reference, the setting and topography, subsurface soil conditions,and proposed earthwork construction are discussed in the subsections which follow.

4.1 Site Setting and Topography

The site of Units 2 and 3 is largely undeveloped, occupied by a small tourist center and a switchyard for Unit 1 along the edge of the bluff adjacent to Highway 101.

Near vertical bluffs along the beach rise from sea level to about elevation 80 ft; then the natural terrain rises gently toward the highway. Fills were constructed adjacent to the highway during grading of the Unit 1 site and the tourist center, and the switchyards are located on these fills.

4.2 Subsurface Soil Conditions

Boring log data, data from previous studies, and observation of the bluff and exposed slopes of Unit 1 indicate the surface materials consist of terrace deposits above elevation 40 to 50 ft. The upper portions of the terrace

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deposits are generally cohesive and typically characterized as clayey sands to silty clays, while the lower portions are quite variable, consisting primarily of gravelley sands with occasional zones containing clay, silt, and cobbles.. The terrace deposits are underlain at about elevation 45 ft by the San Mateo Formation sand at about elevation - 850 ft. This material is a dense, well graded sand with apparent cohesion due to efficiency in packing. Groundwater at the site occurs between elevation 0 and +5 ft as referenced to Mean Lower Low Water Level (MLLWL). No perched groundwater was encountered above the groundwater level indicated in any boring. The distribution of soils is indicated graphically on the cross section, Fig. 2.

As can be noted from Fig. 2 and the foregoing discussion only the San Mateo Formation sand lies below the water table. Because only those materials below the water table are subject to liquefaction, emphasis is given to the properties of the San Mateo Formation sand. Those properties are discussed in detail in Appendices B and C, and in Section 5.

4.3 Proposed Earthwork Construction

It is proposed that approximately 2,000,000 cy of material will be removed from the site during earthwork operations for the proposed construction of Units 2 and 3. It is our understanding that 2:1 slopes are planned east of the proposed new units. These slopes would have two benches, would extend from about elevation 30 ft to elevation 120 ft

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(maximum), and would be used for the support of the switchyard for the new units. These slopes are shown on Fig. 1, and the proposed post-construction site configuration is shown in section on Fig. 2.

5.0 STATIC AND DYNAMIC SOIL PROPERTIES

The distribution and types of material encountered at the site are described in Section 4 and Appendix A. The determination of soil properties of the various materials used in the various analyses are described in detail in Appendices B and C. In brief, the static strength parameters, identification test results, strain-dependent dynamic stiffness and damping parameters, and dynamic strength test results for the San Mateo Formation sand are presented in Appendix B. The strain-dependent dynamic stiffness and damping parameters for the terrace materials to be used in site response analyses in the vicinity of the switchyard slopes are presented in our report entitled, *Stability of Proposed Slopes for the Proposed Units 2 and 3, San Onofre, California,* dated 27 March 1973.

A detailed description of the refinement of the dynamic strength test data to obtain field strength curves is presented in Appendix C. The results of that refinement are summarized on the field strength (stress to cause 10% strain peak to peak) curve Fig. 3 for isotropic loading conditions (K_c = 1.0) and for a confining pressure of 4000 psf. The effect of confining pressure on strength is

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presented in Fig. 4, and the effect of anisotropy on strength is presented on Fig. 5. For ease in reference contours of equal values of anisotropy for the site are displayed in section on Fig. 6. The curves presented in Figs. 3 through 6 are used in the determination of the significant number of equivalent equal stress applications of DBE induced stress (Section 6 and Appendix D), as well as the strength input to evaluate the liquefaction potential of the San Mateo Formation sand (Section 7 and Appendix C).

6.0 DESIGN BASIS EARTHQUAKE (DBE) INDUCED STRESSES

The details of the determination of DBE induced stresses and the number of significant equivalent equal stress applications n_{eq} are presented in Appendix D. In brief, the maximum stresses were determined by dynamic finite-element analysis using variable strain-dependent damping and stiffness parameters with appropriately scaled horizontal and vertical DBE acceleration-time histories being input at the base simultaneously. Because of the large area and in order to result meaningful engineering reduction of data, the site was characterized by two sub-areas A and B, as indicated on the cross section Fig. 2. The corresponding finite element models A, B are shown on Fig. 7. Because of core limitation constrains of the computer, short (22 sec) acceleration time-histories were used for the larger finite-element model A. These are the same time-

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histories utilized for the slope stability analysis described in the aforementioned 27 March 1973 report. The area B model was small enough so that the entire 80 sec acceleration time-history (scaled by the same technique as was used for the 22 sec motion) could be input at the base. For this reason, the value of "n_{eq}" was determined for selected elements from the area B model at various elevations in the soil profile. These values of "n_{eq}" were then used at corresponding elevations in the Area A model.

The value of "n_{eq}" was determined by analyzing the stress time-histories of selected elements, weighting them in accordance with the field strength curves for $K_c = 1.0$, Figs. 3 and 4. In this way stress pulses below that which influence strength are neglected and those stress pulses above that stress level are appropriately weighted. The details of this procedure are described in Appendix D, and a summary of the values of "n_{eq}" for various percentages of maximum stress are tabulated for several elevations in Table 1. All of the percentages of maximum stress are considered in the analysis for all elements, and the most critical (lowest factor of safety) is used for the presentation of results. For convenience in analysis a cross section has been prepared, Fig. 8, which includes contours of normalized shear stress consistent with the format of strength data presented in Figs. 3 through 5 and Table 1, (100% maximum shear stress) and the use of the C_r factor described in Appendix C.

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7.0 LIQUEFACTION POTENTIAL

Basically the evaluation of liquefaction potential is completed by a comparison of the induced shear stress to the strength of the material. For ease in reference, a sample evaluation of one location in the soil profile is presented schematically in five steps on Fig. 9. First, (Step 1) K_{ci} is determined from Fig. 6 for a location designated as "i." Second, (Step 2) the value "n_{eqi}" corresponding to the element location and a given percentage of maximum stress is determined from Table 1. Third, (Step 3), for "n_{eqi}"(Step 2) and "K_{ci}" (Step 1) the value of normalized strength "S_i" can be determined from Fig. 5. Fourth, (Step 4), the value of normalized DBE-induced stress "T_i" is determined from Fig. 8. Finally, (Step 5), the factor of safety against liquefaction for location "i" $(F.S.)_i$ can be determined directly by dividing "S_i" (strength)by "T_i" (stress).

The procedure outlined above was utilized to evaluate liquefaction of the entire cross section of the site shown on Fig. 2. The results of this analysis are presented as contours of equal factor of safety on Fig. 10. As indicated on Fig. 10,the minimum factor of safety against liquefaction for the entire site is 1.3.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our analyses as discussed in the preceeding sections, we conclude that the factor of safety against liquefaction in the plant area is acceptable (minimum 1.3, Fig. 10) and consistent with safe response of the site to DBE-induced motions.

To maintain the safety margin described above, however, it will be necessary that all earthwork contemplated below the water table be completed without compromising the strength of materials caused by a low compaction effort on reworked materials. For this reason we recommend that all reworked materials placed below the water table be characteristic of San Mateo Formation sand and be placed near optimum moisture content at a minimum dry density of 120 pcf. That density is equivalent to 100% of the maximum dry density as determined by test method ASTM D-1557-70. Further, for purposes of quality assurance, strict engineering control and professional documentation of all compacted densities and gradation should be maintained as site earthwork progresses.

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TABLE 1

SUMMARY OF NUMBER OF EQUIVALENT
EQUAL CYCLES OF DBE INDUCED SHEAR STRESS

Percentage of Maximum Induced Shear Stress ($\% \times \tau_{max}$)	Elevation (Ft.) (X_i)	Number of Significant Equivalent Cycles (n_{eqi})
0.65	0	77.2
	-19	85.1
	-35	76.5
	-45	33.0
	-60	27.2
	-80	40.1
0.75	0	27.9
	-19	23.7
	-35	33.3
	-45	9.7
	-60	10.4
	-80	14.1
0.85	0	11.5
	-19	9.5
	-35	12.8
	-45	4.6
	-60	3.6
	-80	5.0
1.00	0	3.4
	-19	3.2
	-35	3.4
	-45	1.5
	-60	1.5
	-80	1.8

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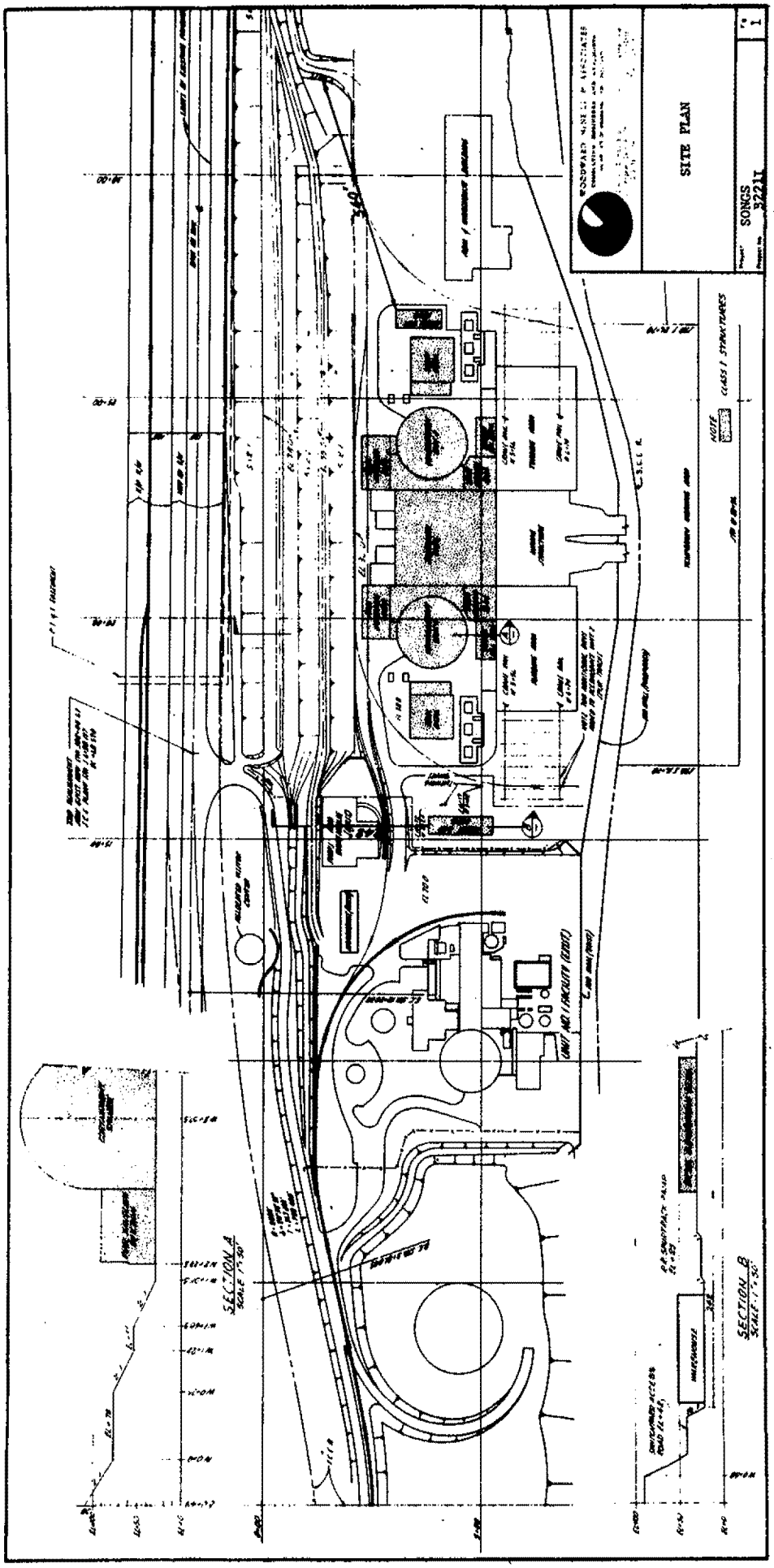
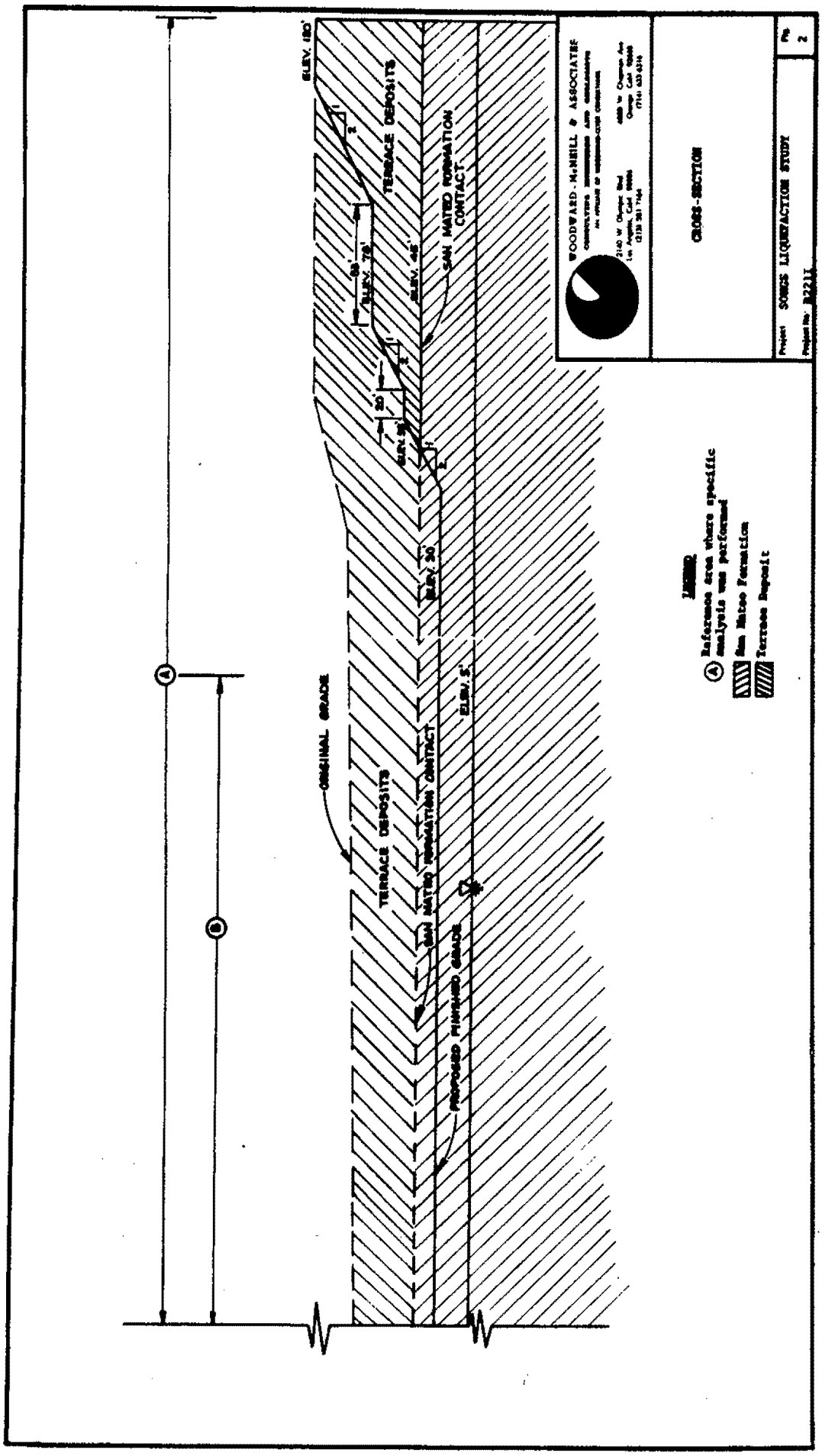
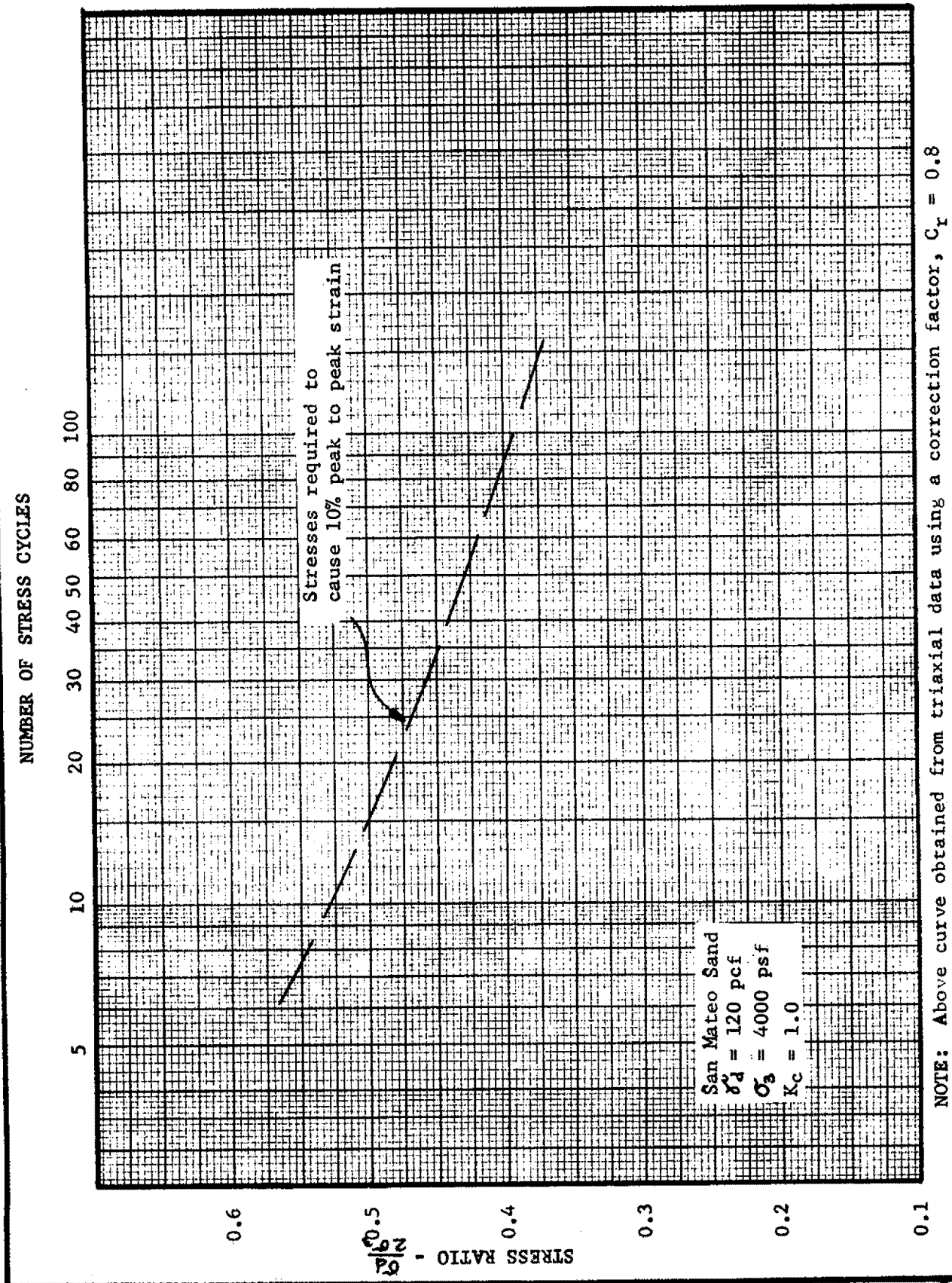

SITE PLAN
SONGS
3221T
SECTION A
SECTION B
CLASS I STRUCTURES


ELEV. 180'
TERRACE DEPOSITS
SAN MATEO FORMATION CONTACT
ELEV. 45'
ELEV. 30'
ELEV. 5'
ORIGINAL GRADE
PROPOSED FINISHED GRADE
A
B
LEGEND
A Reference area where specific analysis was performed
San Mateo Formation
Terrace Deposit
WOODWARD-McNEILL & ASSOCIATES
CROSS-SECTION
Project SONGS LIQUEFACTION STUDY
Project No. 8221L
Fig. 2



NOTE: Above curve obtained from triaxial data using a correction factor, C_r = 0.8

Project: SONGS LIQUEFACTION STUDY Job Number: B221I	IN-SITU DYNAMIC STRENGTH OF SAN MATEO SAND	Fig. 3

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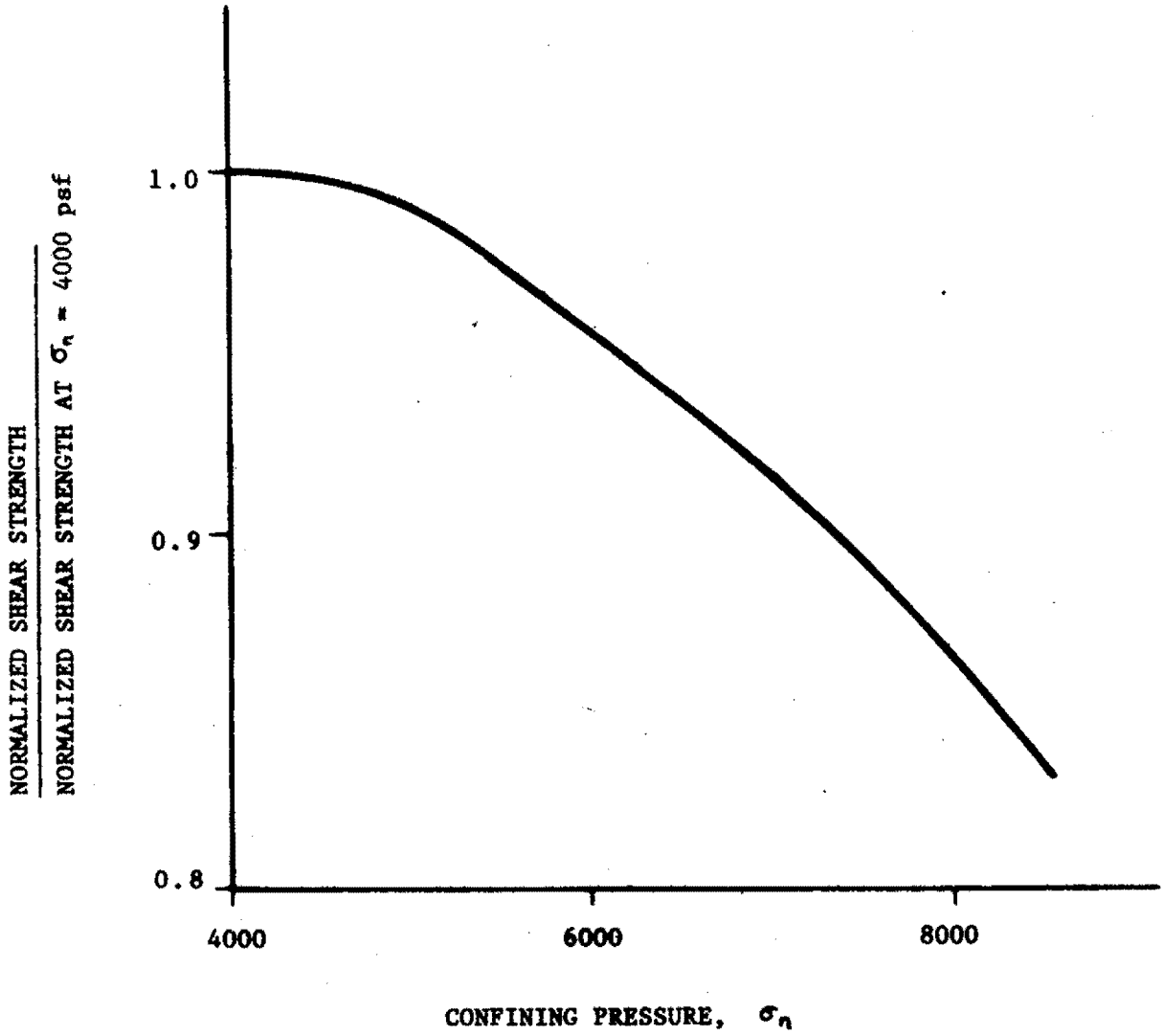
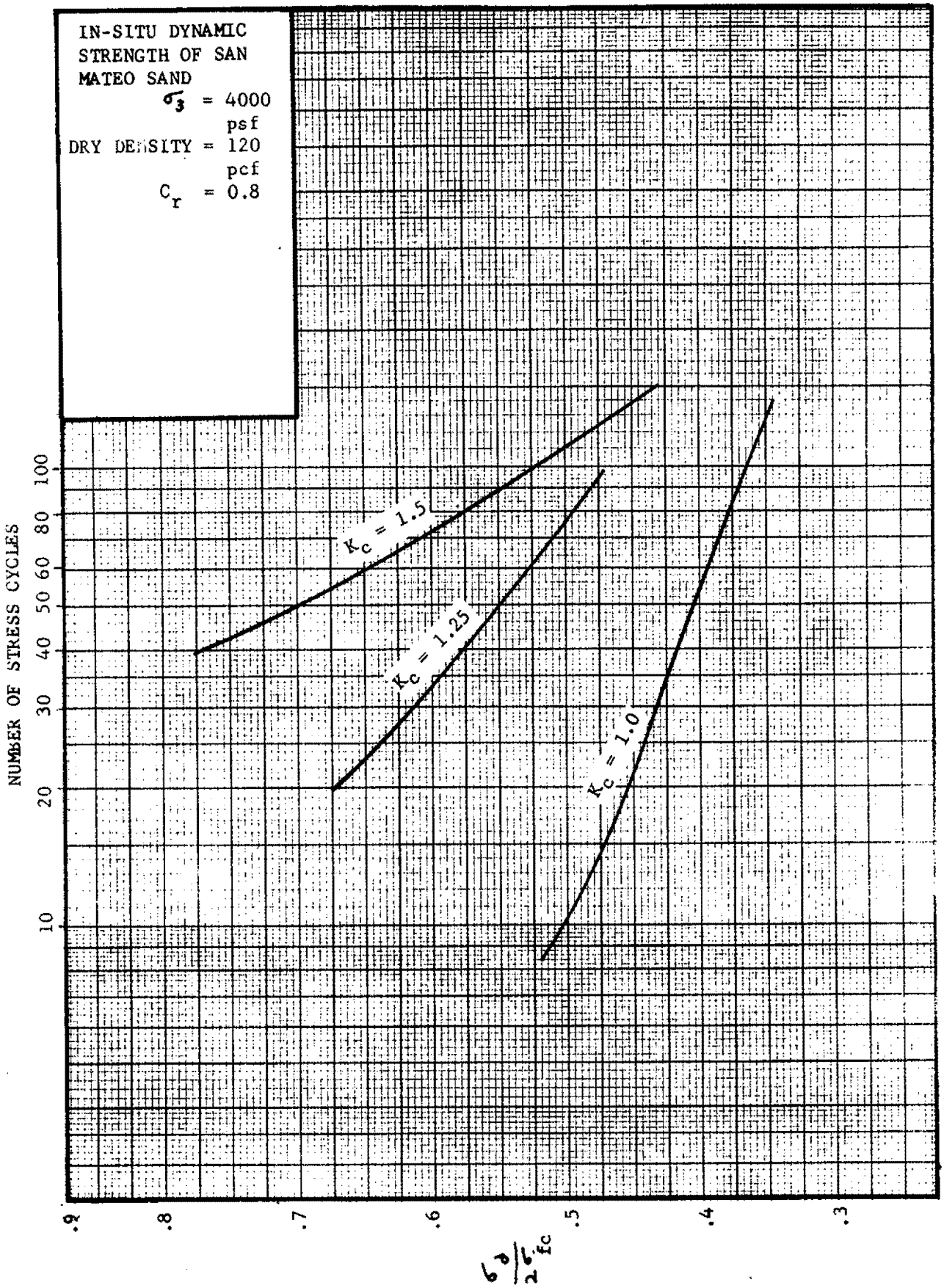


NOTE:

$$\text{NORMALIZED STRENGTH} = \frac{\text{SHEAR STRENGTH}}{\text{CONFINING PRESSURE}}$$

DETERMINED FROM FIGURE C-7

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	EFFECT OF CONFINEMENT ON STRENGTH	Fig. 4



Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	IN-SITU DYNAMIC STRENGTH OF ANISOTROPICALLY CONSOLIDATED SAN MATEO SAND	Fig. 5

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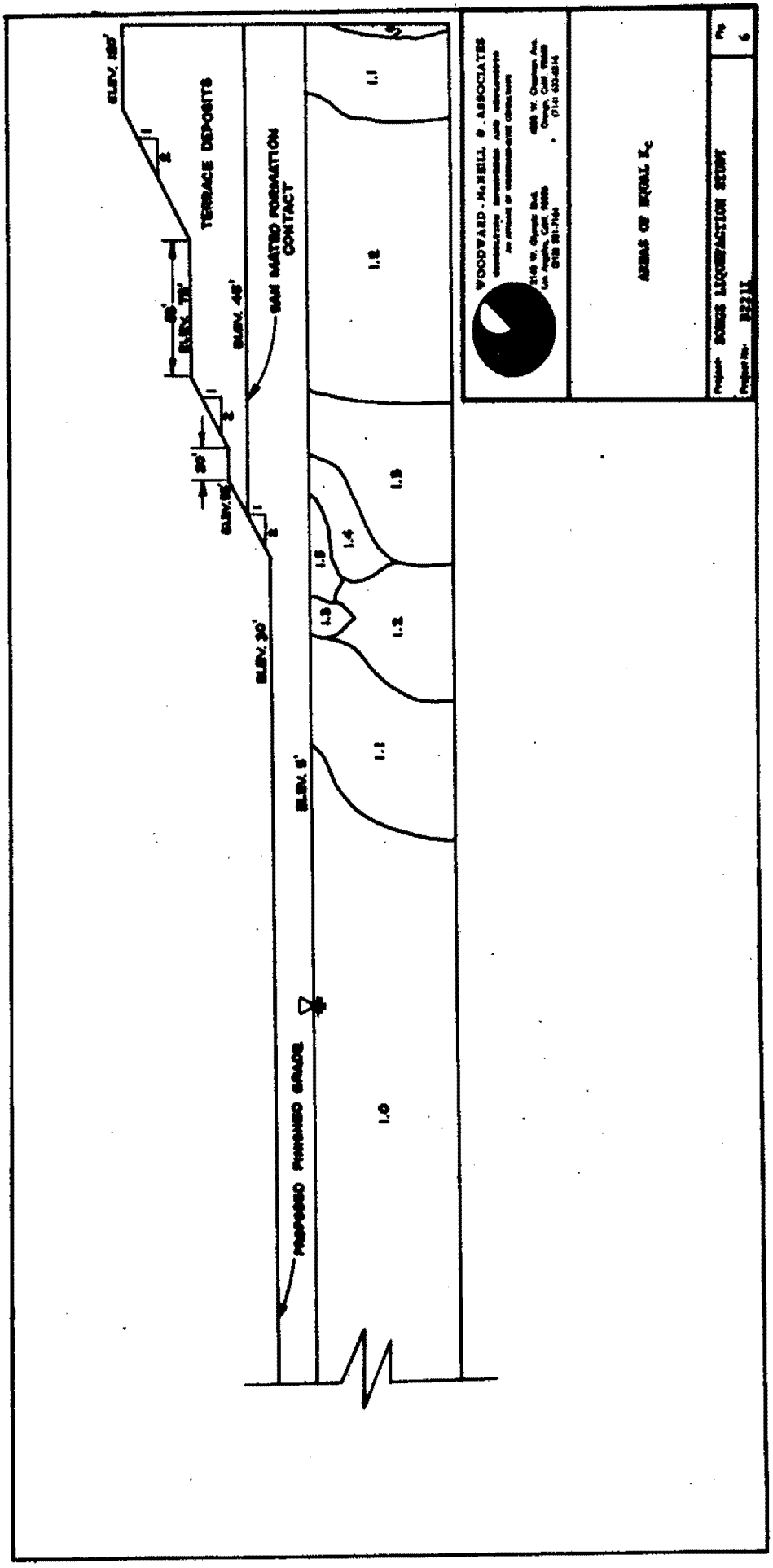
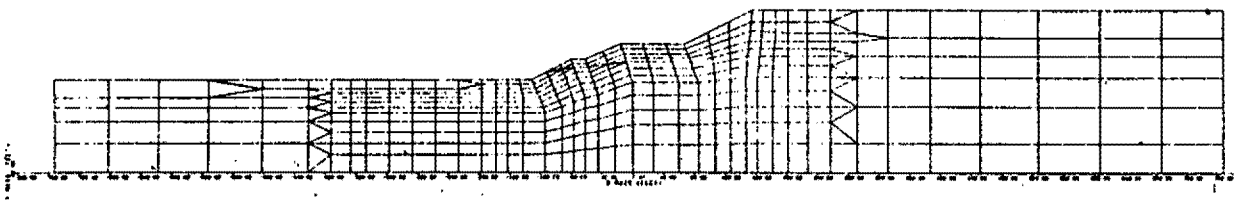

ELEV. 150'
TERRACE DEPOSITS
ELEV. 75'
ELEV. 45'
SAN MATEO FORMATION CONTACT
ELEV. 30'
ELEV. 5'
PROPOSED FINISHED GRADE
1.1
1.2
1.3
1.4
1.5
1.6
WOODWARD-McNEILL & ASSOCIATES
AREAS OF EQUAL K_c
Project: SONGS LIQUEFACTION STUDY
Project No.: 82211

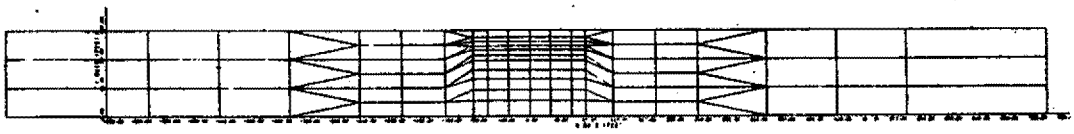
MODEL A

Number of Elements = 439
Number of Nodal Points = 465



MODEL B

#152
#158



Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	FINITE ELEMENT MODELS	Fig. 7

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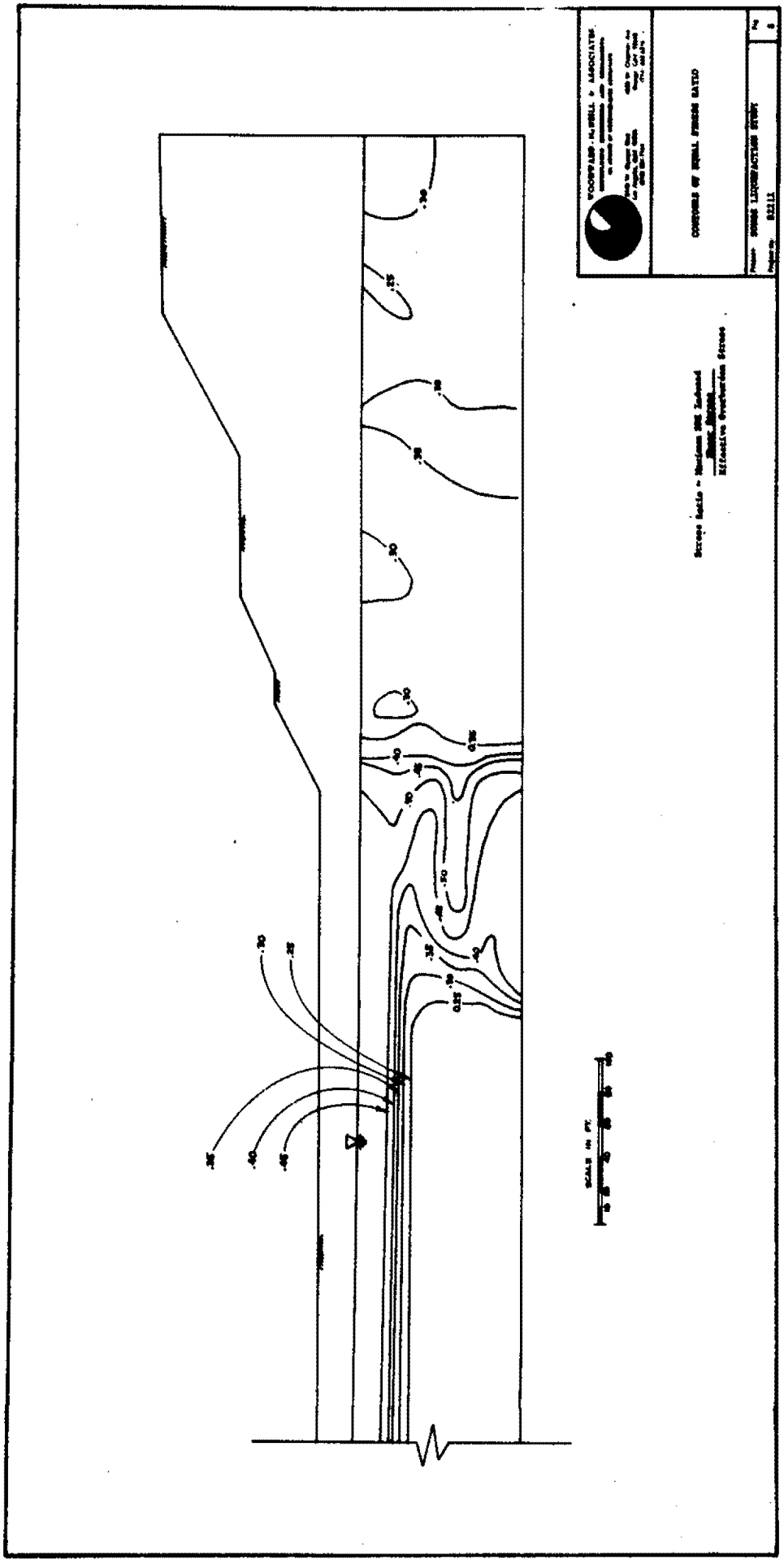
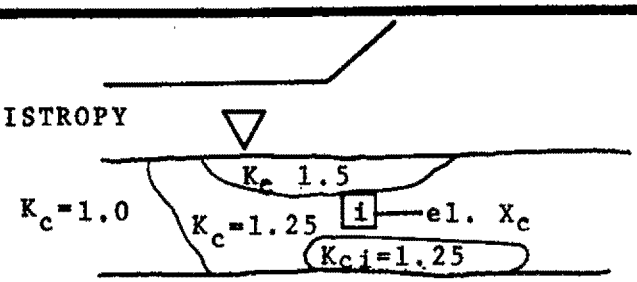

WOODWARD-MCNEILL & ASSOCIATES
CONTOURS OF SEDIMENT DEPOSITS GATES
SCALE IN FT.

Step-1 Determine for K_{ci} ANISTROPY location on Fig. 6

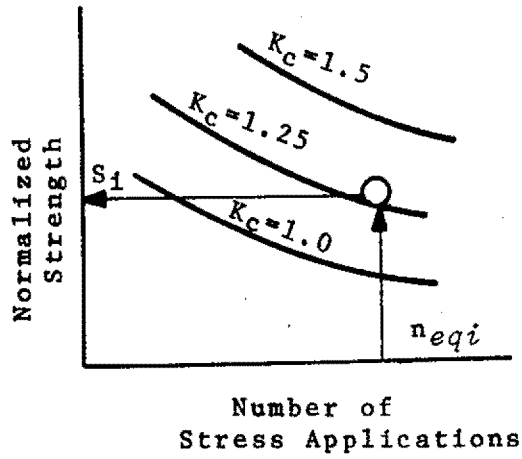


Step-2 Determine n_{eqi} from Table 1

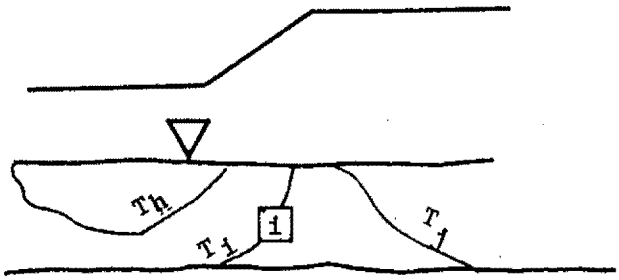
NUMBER OF STRESS APPLICATIONS (Table-1)

% of Max. Stress	elevation	n_{eq}
	X_i	n_{eqi}

Step-3 Knowing K_{ci} from Step-1 and n_{eqi} from Step-2, determine normalized strength S_i from Fig. 5



Step-4 Determine normalized DBE induced stress T_i from Fig. 8



Step-5 Determine the factor of safety against liquefaction by comparing the results of Step-3 and Step-4

$$(F.S.)_i = \frac{S_i}{T_i}$$

Project: SONGS LIQUEFACTION STUDY Job Number: B221I	SCHEMATIC EXPLAINATION OF LIQUEFACTION EVALUATION	Fig. 9

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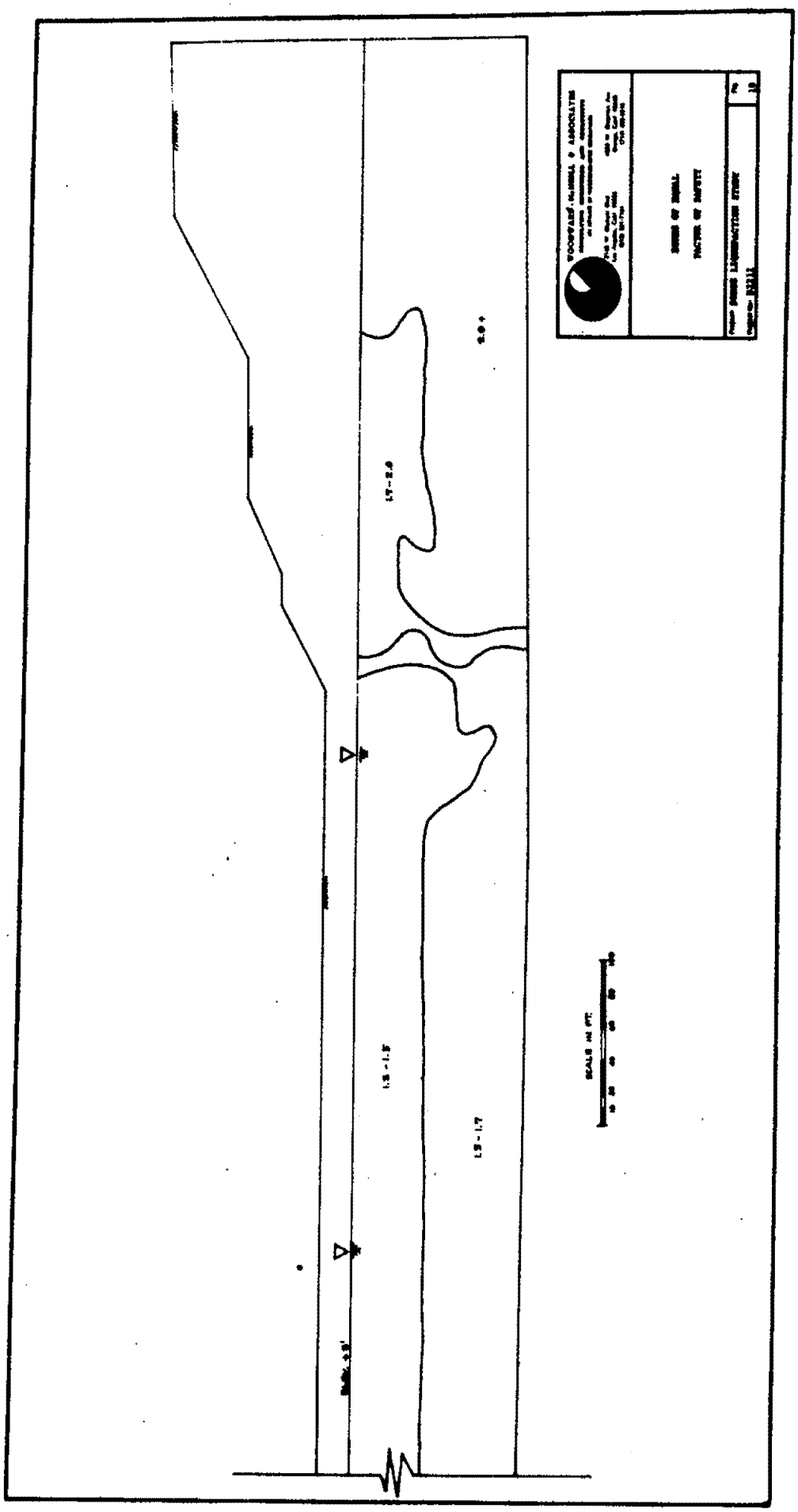
SCALE IN FT.
0
20
40
60
80
100
1.7 - 2.0
1.3 - 1.5
1.3 - 1.7
2.0 +
SECTION OF SWALE
FACING OF INFILTRATION STUDY
PROJ. PHASE I INFILTRATION STUDY
CHECKED
DRAWN
PG.
10

APPENDIX A

SUMMARY OF FIELD INVESTIGATIONS

A-1 General

A number of field investigations have been made at the site in order to determine subsurface conditions. These investigations have included making borings in the laydown area of Unit 1, and in the location of the proposed Units 2 and 3, as well as determining the field density of the San Mateo Sand material. These items are described in the paragraphs which follow.

A-2 Investigation of Units 2 and 3

Between 23 August and 14 September 1972, seven borings were made at the site of the proposed Units 2 and 3, at the locations shown on the Location Plan, Fig. A-1. Borings made in previous studies are also shown. The borings for the present study were 5 in. diameter, and were advanced with a Failing 1500 Rotary Drill Rig using drilling mud. The maximum depth of investigation was 300 ft below the existing ground surface, or to approximately elevation - 213 ft. The purpose of making these borings was twofold: 1) to determine properties of the terrace deposit soils; and 2) to obtain more samples of the San Mateo Formation sands for dynamic testing. The logs of the

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borings are presented in summary on Fig. A-2. The field logs of each boring are on file at our office and will be submitted if requested.

Samples were obtained with a Modified California Sampler and with a Pitcher Sampler. Samples were taken at 5 or 10-ft intervals, and Standard Penetration Blow counts were recorded for each Modified California Sample.

A discussion of the terrace deposit soils and San Mateo Sands in that area is given in detail in our report entitled *Stability of Proposed Slopes for the Proposed Units 2 and 3, San Onofre Generating Station, San Onofre, California,* dated 27 March, 1973.

A-3 Investigation of Laydown Area of Unit 1

In August 1971, seven borings were made at the site of the laydown area of Unit 1 at the locations shown on the Location Plan, Fig. A-1. The San Mateo Sand materials encountered were quite uniform. Details of this investigation are presented in our report entitled *Elastic and Damping Properties Laydown Area, San Onofre Nuclear Generating Station,* dated October 14, 1971.

Samples were acquired by four methods, as follows:

- Standard Penetration sampling using a modified California sampler as described on Fig. A-3.

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- Pitcher-Barrel sampling.
- Hand-Carved sampling in test pits.
- Disturbed sampling of cuttings.

The main data from the Standard Penetration sampling is the resistance to penetration of the sampler. These are presented as the number of blows of a 140-lb hammer falling 30 in. to drive the sampler a given distance, in Figs. A-4 and A-5.

At the same time the laydown area was being investigated water table measurements were made at 5 water well locations, as indicated on Fig. A-1. The results of these measurements are tabulated in Table A-1.

A-4 Investigation by Others

Borings have also been made at the site by Dames and Moore, and by Southern California Edison Company. The locations of these borings are presented on the Location Plan, Fig. A-1. The logs of Dames and Moore borings are presented in their report entitled *Seismic and Foundation Studies, Proposed Units 2 and 3, San Onofre Nuclear Generating Station, San Onofre, California,* dated April 15, 1970.

These borings, as well as those discussed in previous sections, have aided in the development of

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subsurface profiles. A generalized profile is presented on Fig. A-6.

A-6 Field Density measurements

During all of the field investigations discussed in this appendix, a variety of samples were obtained and moisture and density determinations were made. Because of the denseness of the material, as reflected by the penetration resistance of the sampler, stress release occurred due to sampling and laboratory extrusion of the samples, leading to densities lower than those in-situ. For this reason, several field density tests were performed by the sand cone method in the field. The results of these tests are presented in Table A-2. The locations at which these tests were made are shown on the Location Plan, Fig. A-1.

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TABLE A-1

SUMMARY OF WATER WELL MEASUREMENT

Date	Well No.	*Elevation (ft)
12-23-70	1	3.9
	2	3.5
	3	3.7
	4	2.2
	5	
3-17-70	1	4.1
	2	3.3
	3	3.7
	4	2.5
	5	
6-26-67	1	4.0
	2	3.3
	3	3.5
	4	1.7
	5	
5-67	1	3.9
	2	3.1
	3	3.3
	4	2.1
	5	
4-11-67	1	
	2	2.6
	3	3.0
	4	1.2
	5	0.8

* Water table elevation above mean lower low water

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TABLE A-2

Field Density Data

Test Pit	Test No.	Depth Below Existing Grade	In-Situ Dry Density pcf	In-Situ Water Content %
TP-1	1	5 ft	128.0	2.0
TP-2	1	ground surface	123.5	0.3
TP-2	2	ground surface	125.0	0.3
TP-2	3	9 ft	116.1	2.4
TP-2	4	10 ft	113.7	2.2

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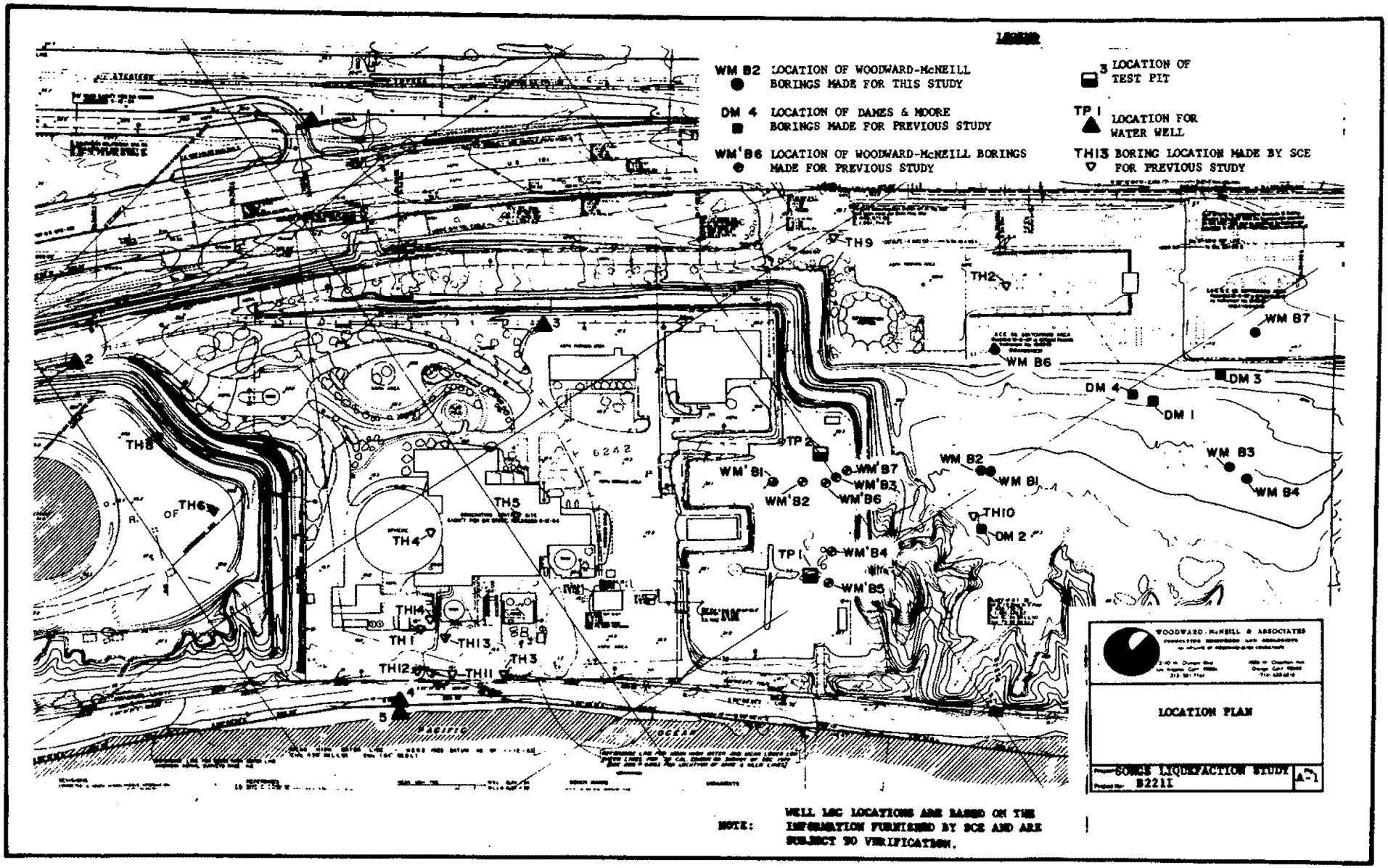
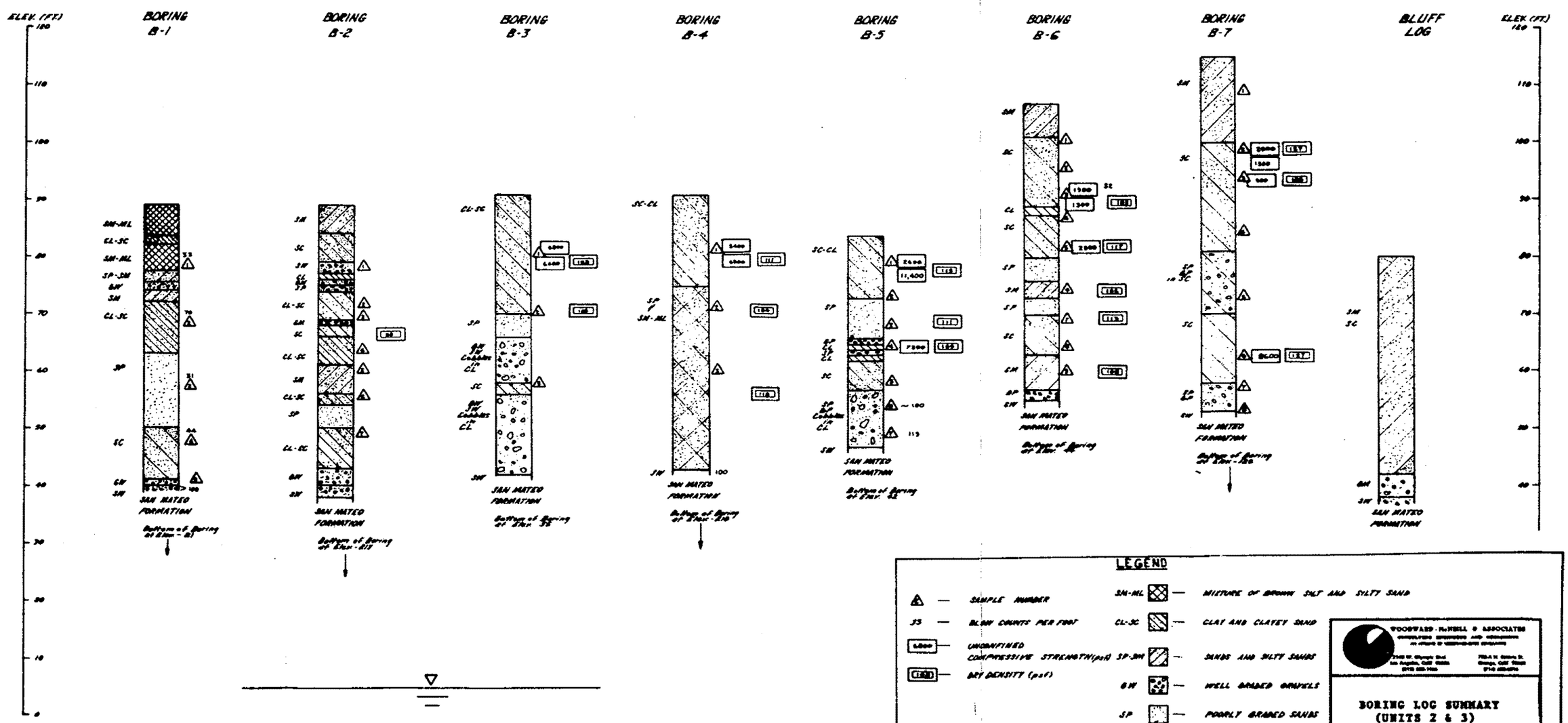
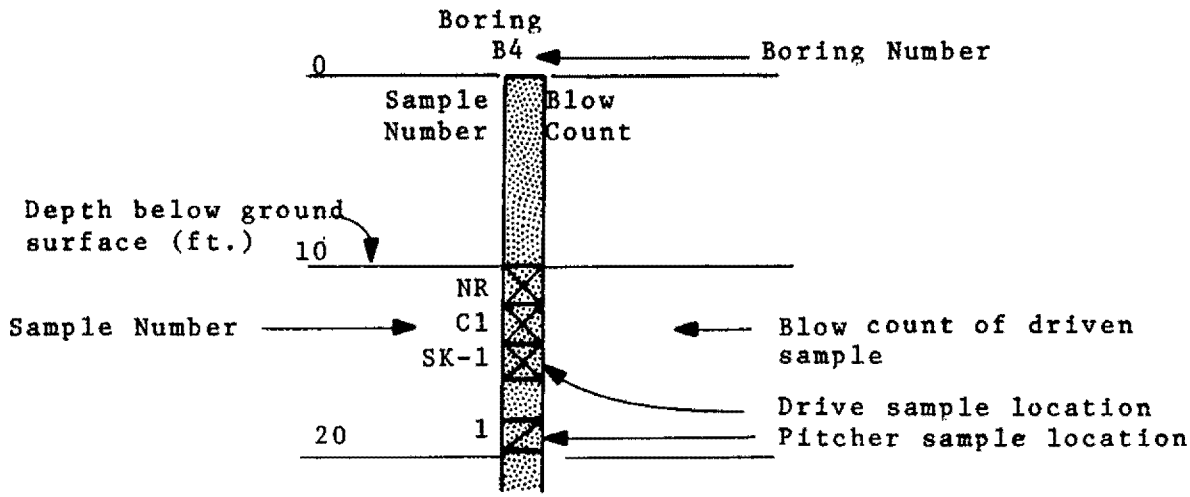


NOTE: WELL LOG LOCATIONS ARE BASED ON THE INFORMATION FURNISHED BY SCE AND ARE SUBJECT TO VERIFICATION.


ELEV. (FT.)
BORING B-1
BORING B-2
BORING B-3
BORING B-4
BORING B-5
BORING B-6
BORING B-7
BLUFF LOG
SAN MATEO FORMATION
Bottom of Boring at Elev. -81
Bottom of Boring at Elev. -117
Bottom of Boring at Elev. -55
Bottom of Boring at Elev. -210
Bottom of Boring at Elev. -82
Bottom of Boring at Elev. -126
LEGEND
SAMPLE NUMBER
BLOW COUNTS PER FOOT
UNCONFINED COMPRESSIVE STRENGTH (psf)
DRY DENSITY (psf)
SM-ML — MIXTURE OF BROWN SILT AND SILTY SAND
CL-SC — CLAY AND CLAYEY SAND
SP-SM — SANDS AND SILTY SANDS
GW — WELL GRADED GRAVELS
SP — POORLY GRADED SANDS
SW — WELL GRADED SANDS SAN MATEO FORMATION
GP — POORLY GRADED GRAVEL
WOODWARD-MCNEILL & ASSOCIATES
BORING LOG SUMMARY (UNITS 2 & 3)
SONGS LIQUEFACTION STUDY 82211
A-2



NOTES ON FIELD INVESTIGATION

1. Borings were drilled at the locations shown on the Site Plan, Fig. A-1, between 16 Aug. 1971 and 24 Aug. 1971.

2. A Mobile B55 drill rig, equipped for rotary drilling was used for all borings. Drilling mud was used in all holes, due to the nature of the subsurface materials. All holes except B7 were cased.

3. Holes were drilled under the supervision of a professional engineer or geologist from this office, who also logged the holes and visually classified the samples as they were removed from the borings.

4. Samples with recorded penetration resistance and numbered C1, C2 etc., were obtained with a Modified California drive sampler (2 in. inside diameter, 2½ in. outside diameter) having thin brass liners. The sampler was driven 18 in. into the soil at the bottom of the hole with a 140 lb. hammer falling 30 in. When the sampler was withdrawn from the test hole, the brass tubes containing the soil samples were removed, carefully sealed to preserve moisture content, and returned to the laboratory for testing. Samples labeled with SK-1,2 etc. were noted to be disturbed in the field and placed in a plastic bag. NR indicates no recovery.

5. Samples which are numbered 1, 2, 3, etc., were obtained with a Pitcher Barrel sampler, 3" O.D., equipped with thin brass liners. This sampler was rotated until a full depth of 18 in. had been cored, at which point the sampler was withdrawn from the test hole. The brass tube liner was carefully removed, sealed to preserve the moisture content, and returned to the laboratory for testing.

6. Classifications are based upon the Unified Soil Classification System and include color, moisture and consistency. Field descriptions have been modified to reflect results of laboratory analyses where necessary.

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	KEY TO BORING LOGS IN LAYDOWN AREA OF UNIT 1	**Fig.** A-3

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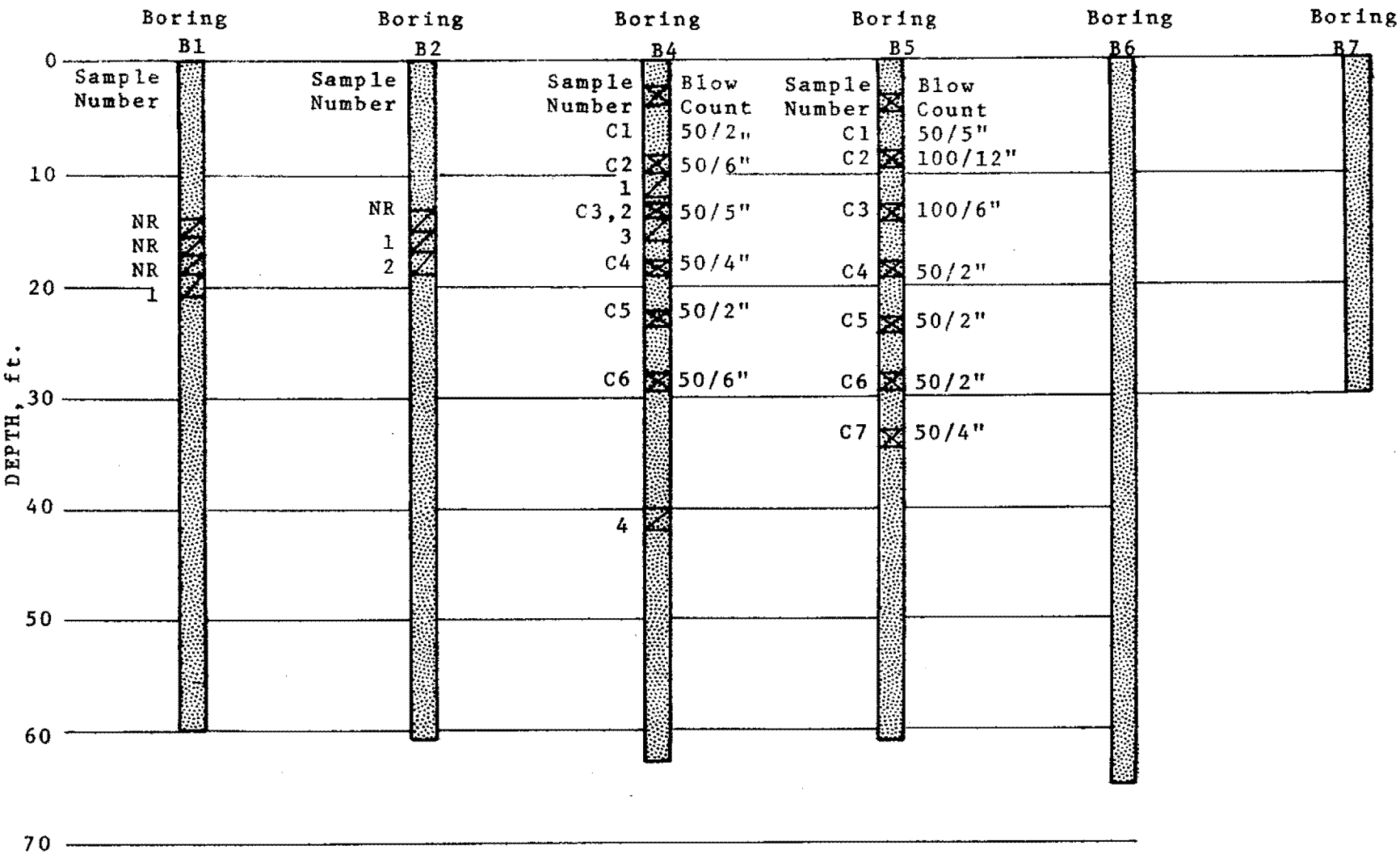
7. Boring locations were taped from existing facilities.

8. Ground water was found in all borings at a depth of approximately 26 feet.

Project: SONGS LIQUEFACTION STUDY Job Number: B221I	KEY TO BORING LOGS IN LAYDOWN AREA OF UNIT 1	Fig. A-3



Soil Classification: Very dense, yellow, fine to coarse-grained SAND (SW)

NOTE: Boring 4 was first drilled to a depth of 33 ft. but was abandoned due to excessive caving. It was relocated 5 ft. north and drilled to the depth indicated above. Samples labeled C1 through C6 were taken at first location and 1 through 4 at the second location

Project: SONGS LIQUEFACTION STUDY

Job Number: B221I

LOGS OF BORINGS, Borings 1,2,4,5,6,7
LAYDOWN AREA OF UNIT 1

Fig. A-4

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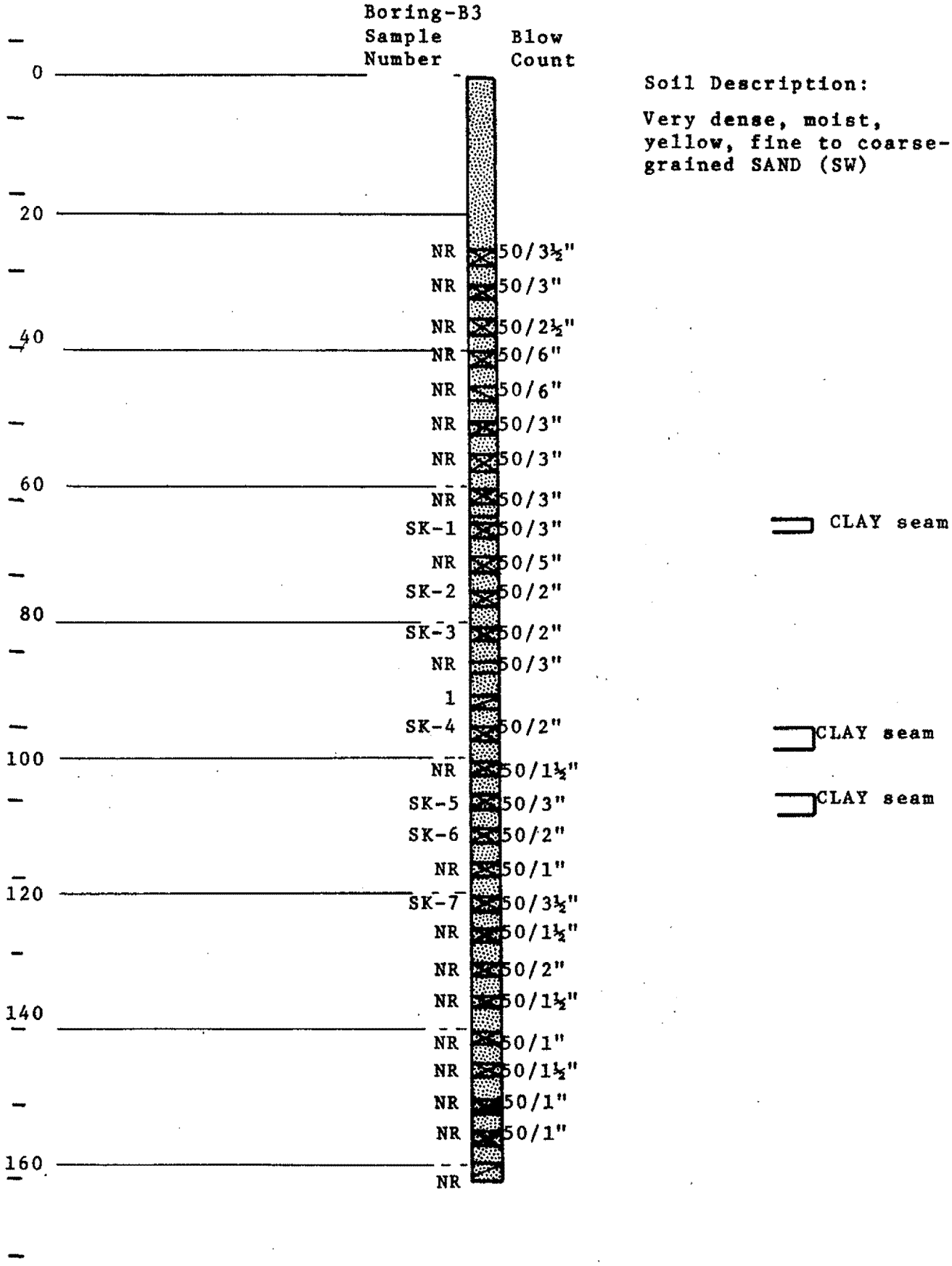
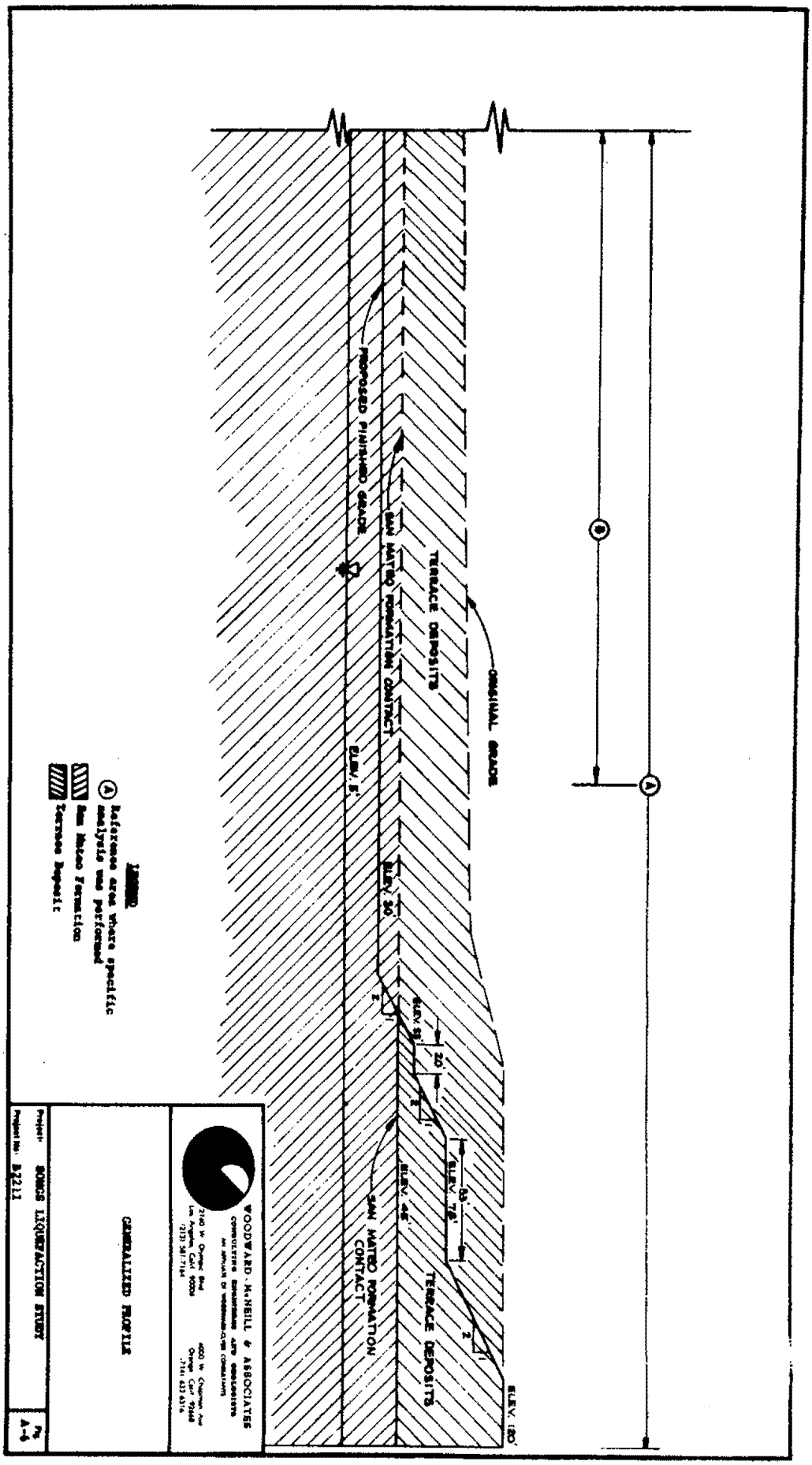


Project: SONGS LIQUEFACTION STUDY Job Number: B221I	LOG OF BORING 3 LAYDOWN AREA OF UNIT 1	Fig. A-5

WOODWARD - McNEILL & ASSOCIATES

Amended: April 2009 TL: E048000


ORIGINAL GRADE
TERRACE DEPOSITS
SAN MATEO FORMATION CONTACT
PROPOSED FINISHED GRADE
ELEV. 5'
ELEV. 30'
ELEV. 50'
20'
2
1
ELEV. 45'
ELEV. 75'
53'
SAN MATEO FORMATION CONTACT
TERRACE DEPOSITS
ELEV. 180'
LEGEND
Reference area where specific analysis was performed
San Mateo Formation
Terrace Deposit
WOODWARD-McNEILL & ASSOCIATES
CONSULTING ENGINEERING AND GEOLOGISTS
AN AFFILIATE OF WOODWARD-CLYDE CONSULTANTS
2140 W. Orangethorpe Blvd
Los Angeles, Calif. 90024
(213) 587-7144
4000 W. Chapman Ave
Orange, Calif. 92668
(714) 633-6316
GENERALIZED PROFILE
Project: SONGS LIQUEFACTION STUDY
Project No. 87211
Fig. A-4

APPENDIX B

Laboratory Testing

B-1 General

Both static and dynamic laboratory tests have been performed in order to determine pertinent properties of the site soils. Laboratory data from previous investigations provided additional information for the evaluation of the site soils. A discussion of the tests performed and the test results are presented in this Appendix.

B-2 Static Testing Program

Grain-size distribution tests, moisture and density determinations, and triaxial strength tests are among tests performed during the investigations referenced in Appendix A. Fig. B-1 presents a summary plot of the grain-size distribution curves for the samples of San Mateo sand which were tested. The results of in-place moisture and density determinations are presented in Table A-2. Figs. B-2 and B-3 present the results of undrained triaxial tests on San Mateo sand.

The maximum dry density was determined to be 120 pcf, Figure B-4, by ASTM Test Method D-1557-70.

Although several field density determinations yielded densities considerably in excess of this value,

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(up to 128 pcf) this density was chosen because large volumes of material will require recompaction in the field and this density represents an attainable maximum. As evidence of this, grain-size distribution tests were performed on the sample prior to, and after this test, and it was found that no measureable particle degradation occurred as a result of the compaction effort. For materials of this type, if degradation does not occur during laboratory compaction, densities of that magnitude are generally attainable in the field.

It has been noted by previous workers that the San Mateo sand is apparently cemented by a hydrophyllic clay. However it is our opinion, based on subsequent test results (see Elastic and Damping Properties report, appendix B, pg. 3), that the apparent cementation of the San Mateo sand is due primarily to extremely close packing of the well graded angular to sub-angular quartz grains.

B-3 Dynamic Testing Program

In order to evaluate the response of the soil to seismic loading conditions, dynamic stiffness, damping, and strength tests have been performed on recompacted and block samples of San Mateo sand. These tests are discussed in the paragraphs which follow.

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B-3.1 Stiffness and Damping Properties

The equipment for the cyclic triaxial tests used to determine stiffness and damping properties is sketched in Fig. B-5. Figure B-5(a) shows schematically the test set-up. The specimen, trimmed and prepared, is placed between the platens, encased in a membrane, subjected to confining pressure and to a predetermined increment of displacement. The load induced on the specimen is measured, Fig. B-5(b), by an electrical force link. For phasing purposes, the controlled displacement is measured by a potentiometer or a linear variable differential transformer (LVDT). The electrical signals are appropriately conditioned, and recorded on light-sensitive paper or tape.

Fig. B-6 shows the recorded data for the cyclic test on sample TP-2, Block Sample #1. The raw results are usually converted from load to stress by dividing by average specimen area, and from displacement to strain by dividing by specimen length. Those quantities are the ones shown on Fig. B-6.

Further details of this investigation are presented in our report entitled *Elastic and Damping Properties, Laydown Area, San Onofre Nuclear Generating*

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Station, dated October 1971. For ease in reference, Figs. E-4 and F-3 of that report are included here as Figs. B-7 and B-8. These data were used as input to the dynamic finite element analysis of the site. The dynamic finite element computer program takes into account the strain dependency of modulus and damping. The relationships between strain and moduli and damping presented on Figs. B-7 and B-8 are input to the computer program, and as strain values are calculated for successive iterations, modulus and damping vary according to the curves on these figures.

B-3.2 Dynamic Strength Tests

A total of 51 dynamic strength tests were performed on recompacted and block samples of San Mateo sand in order to evaluate liquefaction potential. The test equipment used is the same as that discussed in section B-3.1, except that the test specimens are subjected to a predetermined increment of load rather than displacement. A typical strength test result is shown on Fig. B-9. A summary plot of the number of induced stress cycles to cause liquefaction versus average applied stress ratio for all samples tested is presented on Fig. B-10. It should be noted that these samples

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did not liquefy in the classical sense, i.e. when the pore-water pressure increased to a value equal to the sample confinement, the samples did not fail catastrophically, due to the high density and the effects of dilatancy. For this reason a failure criterion of 10% peak to peak strain was assumed. It was found that this value provided a consistent indicator of the number of stress cycles induced before the magnitude of strain became excessive. It is noted that within a few cycles after this strain was reached, catastrophic failure of the sample did occur. This is illustrated by the relationship between strain and induced stress cycles shown on Fig. B-11.

Tests were run by cycling deviator stress at rates of 1, 2, 3, and 4 cycles per second. It was found that the rate of cycling had negligible effect on the strength of the material.

In order to evaluate the effects of isotropy and anisotropy, the tests were run at consolidation ratios $(\frac{\sigma_{1C}}{\sigma_{3C}})$ of 1.0, 1.25, and 1.5. These data are summarized on Fig. B-10.

Because of the stress relief involved in field sampling (discussed in Appendix A), only a limited number of dynamic tests were performed on tube samples. The remainder of the tests were made on recompacted samples. Samples were recompacted to dry densities of 105, 112, and 118 pcf. Because of the relatively small test specimen

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diameter (2.43 to 2.86 in.), samples could not be compacted to a density greater than 118 pcf. Field density tests indicate dry densities as high as 128 pcf exist in the field, however due to the limitations of laboratory compaction effort, it was not possible to duplicate these densities.

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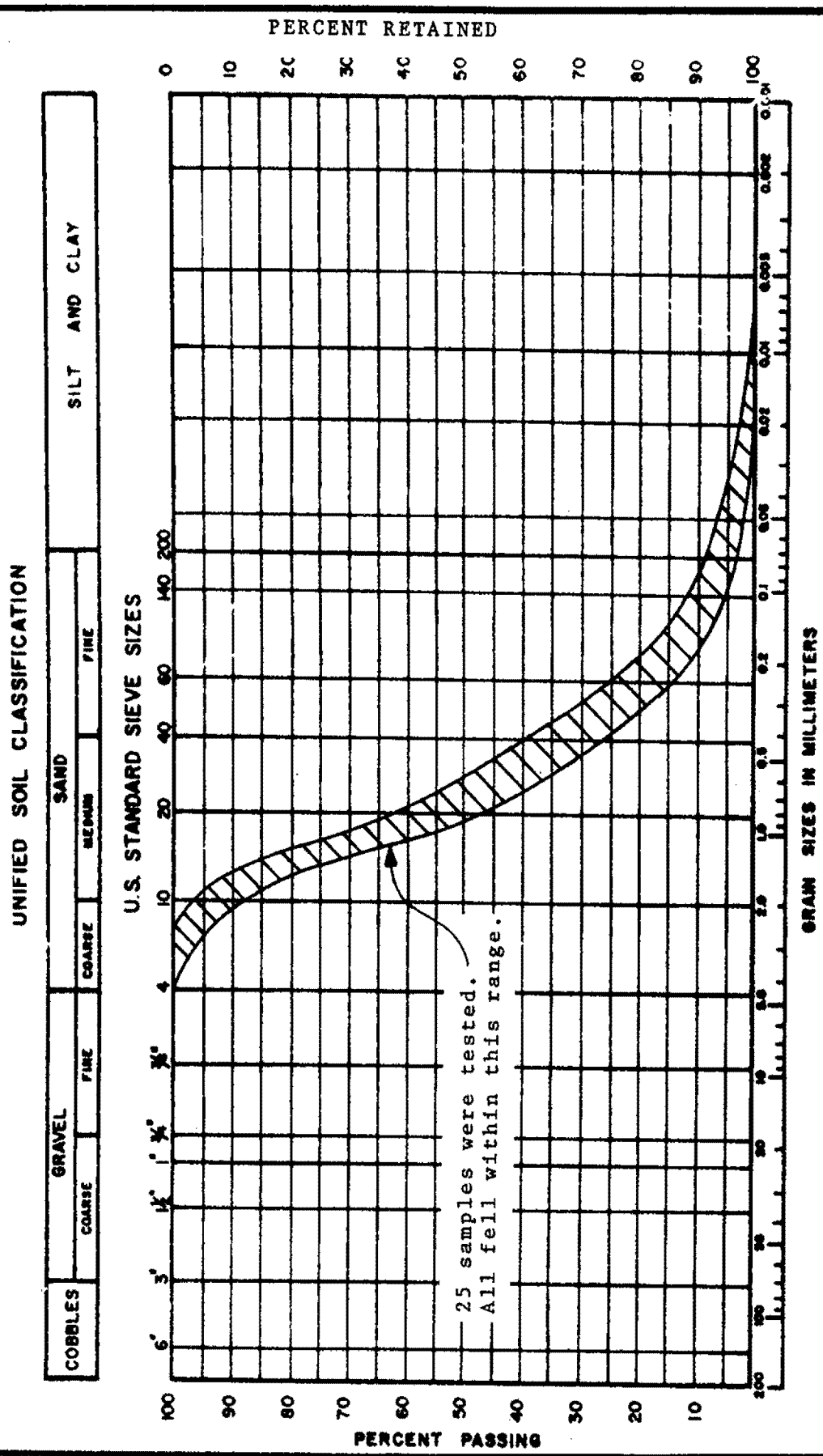

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	GRAIN SIZE DISTRIBUTION CURVES	Fig. B-1

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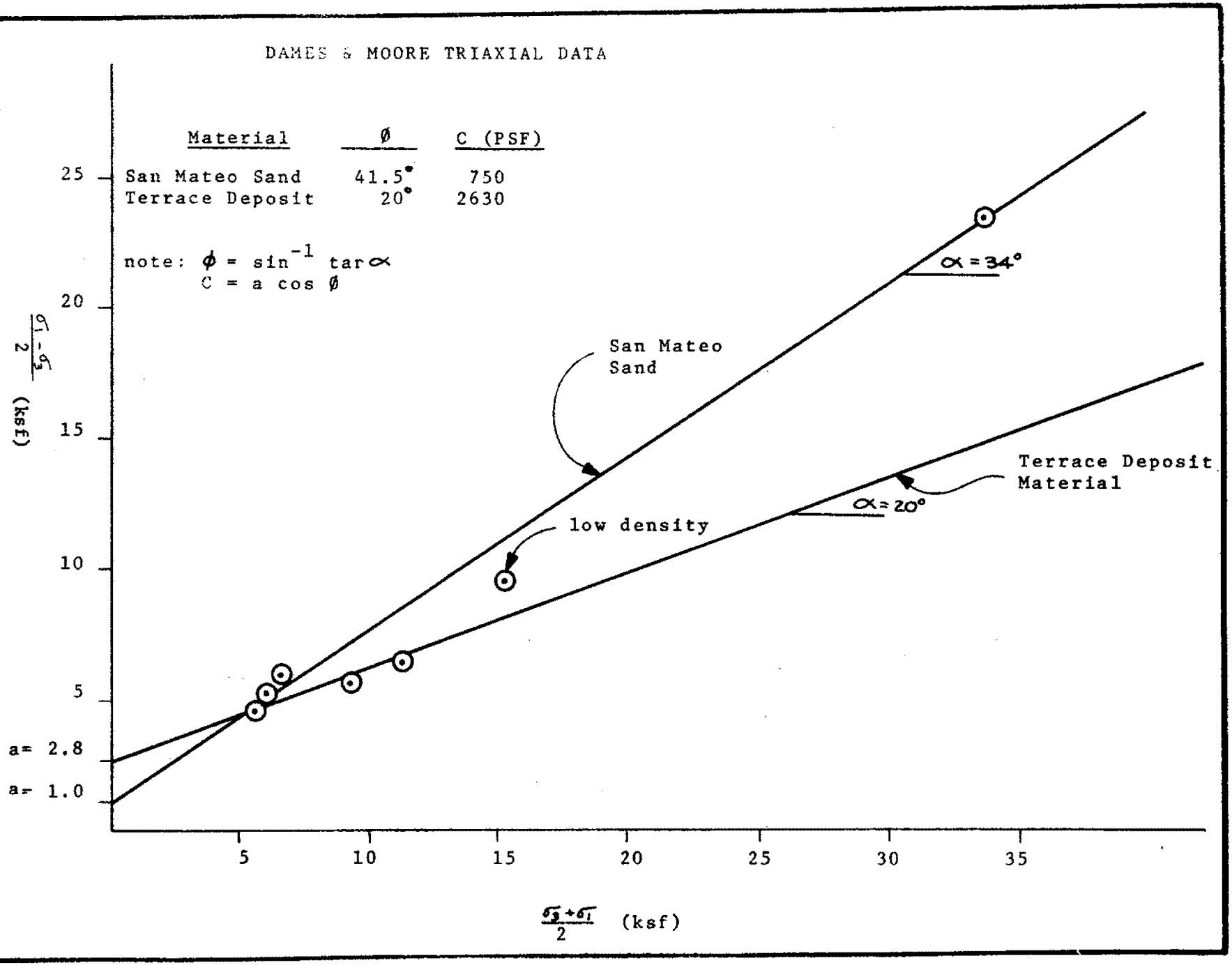

Project: SONGS LIQUEFACTION STUDY
Job Number: B221I

TRIAXIAL TEST DATA
(AFTER DAMES AND MOORE)

Fig. B-2

WOODWARD-McNEILL & ASSOCIATES

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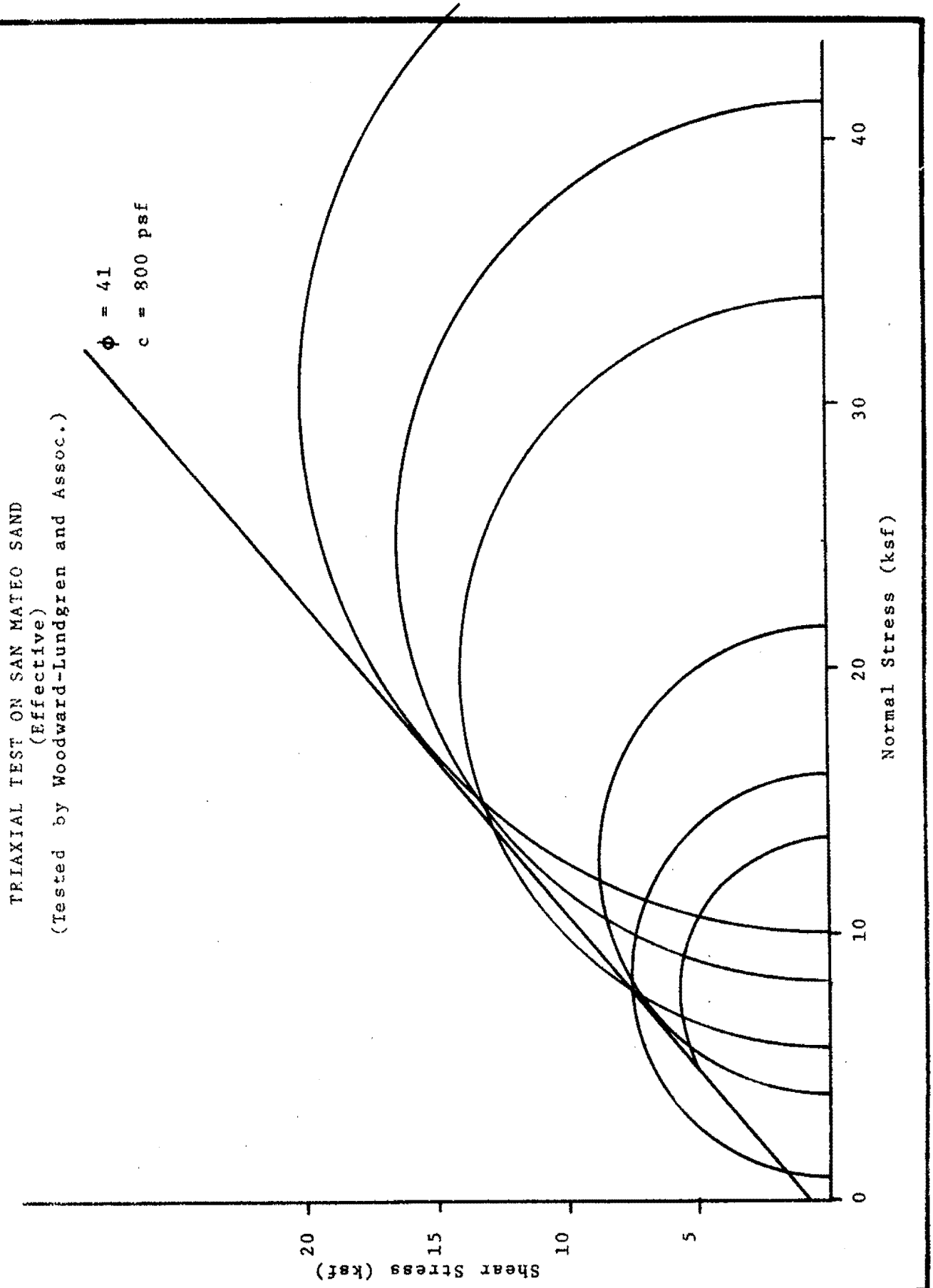

Project: SONGS SLOPE STABILITY **Job Number:** B2211	TRIAXIAL TEST DATA	**Fig.** B-3

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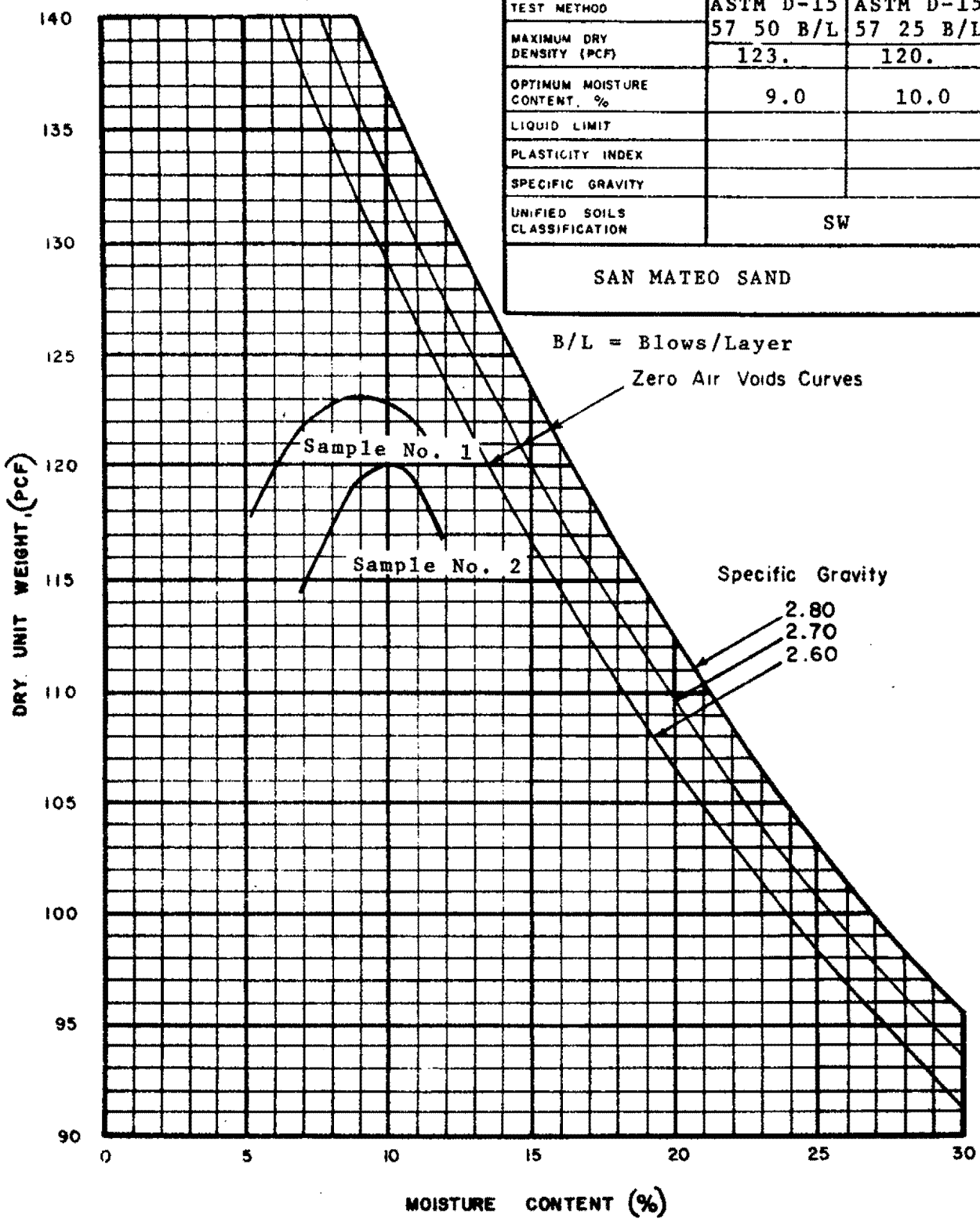
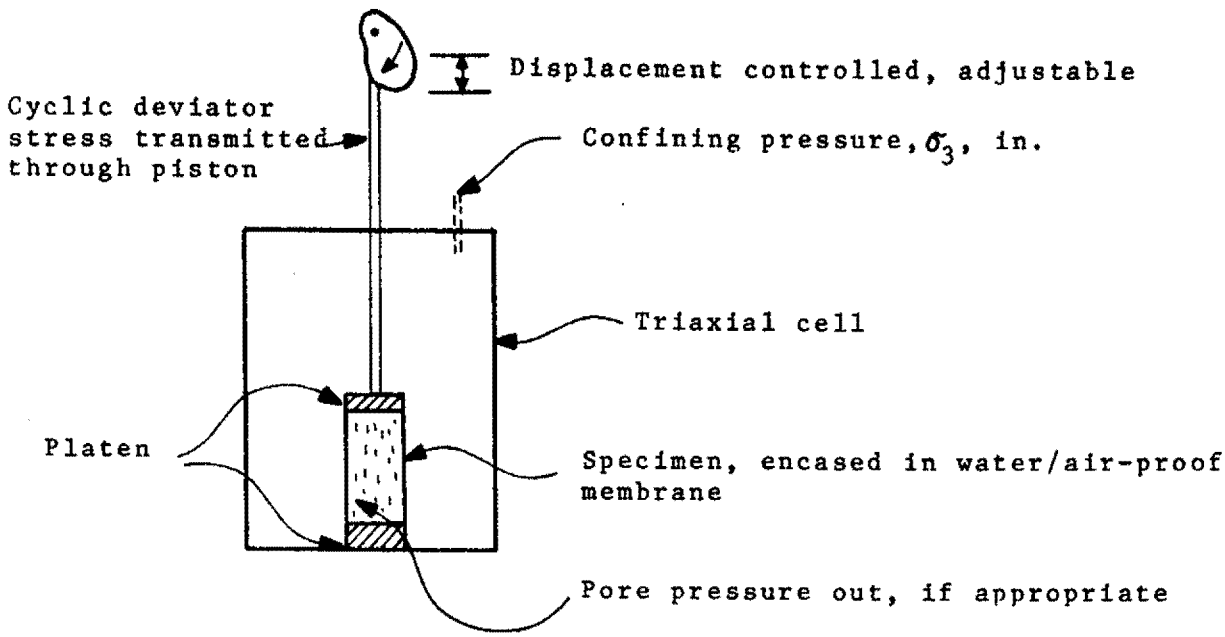
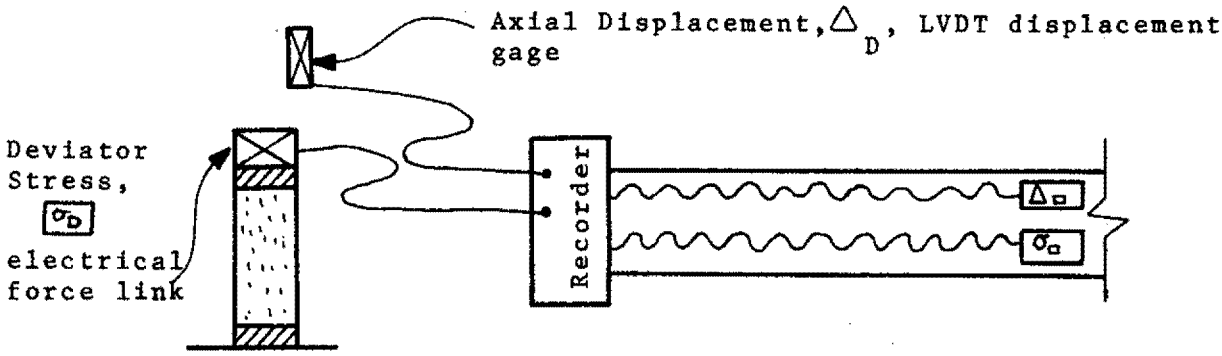
SUMMARY OF TEST RESULTS		
SAMPLE NO	1	2
TEST METHOD	ASTM D-15 57 50 B/L	ASTM D-15 57 25 B/L
MAXIMUM DRY DENSITY (PCF)	123.	120.
OPTIMUM MOISTURE CONTENT, %	9.0	10.0
LIQUID LIMIT		
PLASTICITY INDEX		
SPECIFIC GRAVITY		
UNIFIED SOILS CLASSIFICATION	SW	
SAN MATEO SAND		



Project: SONGS LIQUEFACTION STUDY Job Number: B221I	COMPACTION TEST	Fig. B-4



a. TYPICAL SETUP (Schematic showing essential elements)



b. MEASURED QUANTITIES

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	TYPICAL CYCLIC TRIAXIAL TEST	**Fig.** B-5

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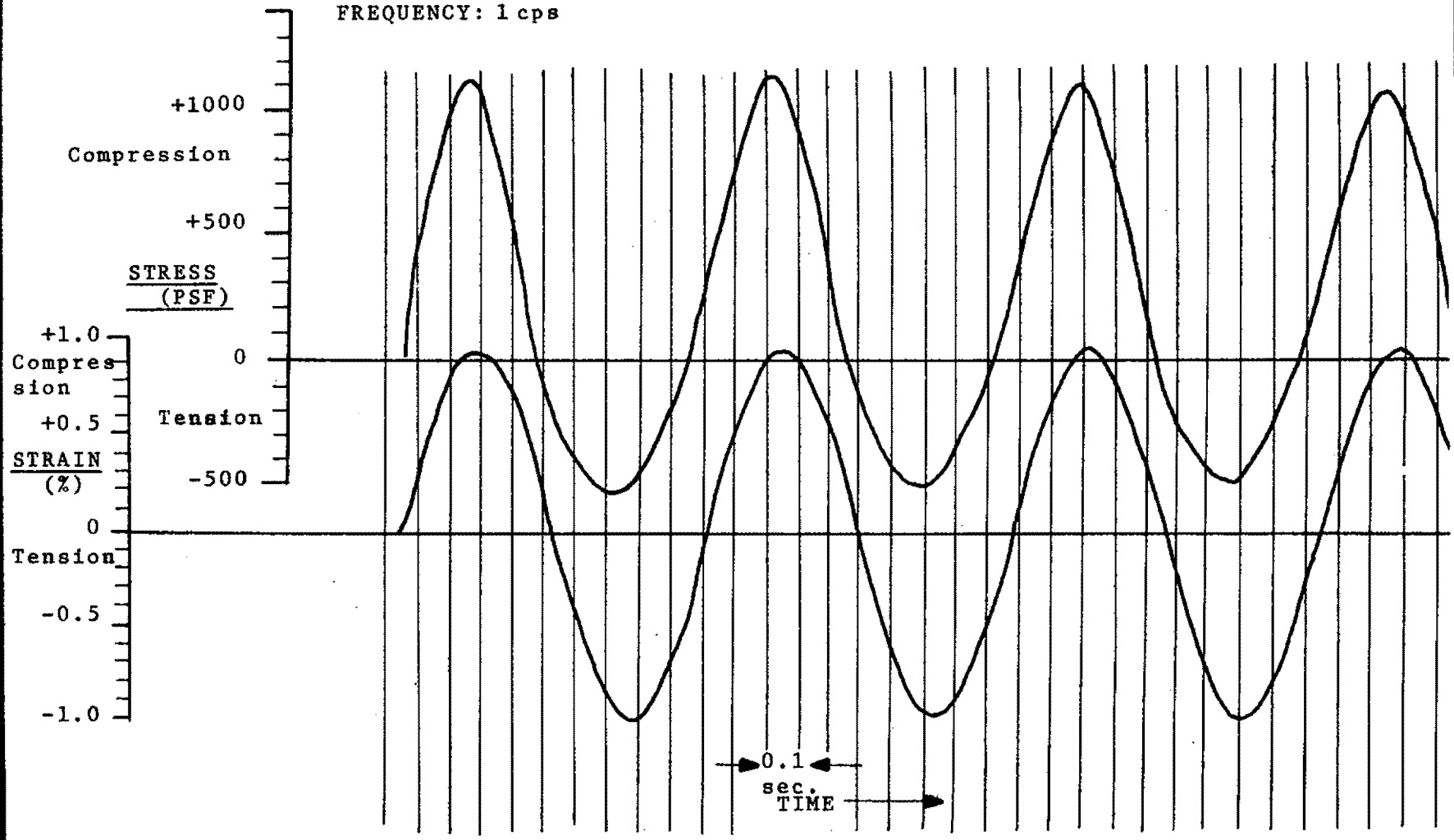
TP-2: BLOCK SAMPLE #1; TEST SPECIMEN: HEIGHT-6", DIA.-2.43"
FREQUENCY: 1 cps



NOTE: The original stress-strain plots are on photo-sensitive paper and could not be duplicated without over-exposing that record. This figure is a tracing of the first four cycles of the original, which is in our files.

Project: SONGS LIQUEFACTION STUDY
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TYPICAL TEST RESULT (CYCLIC)

Fig. B-6

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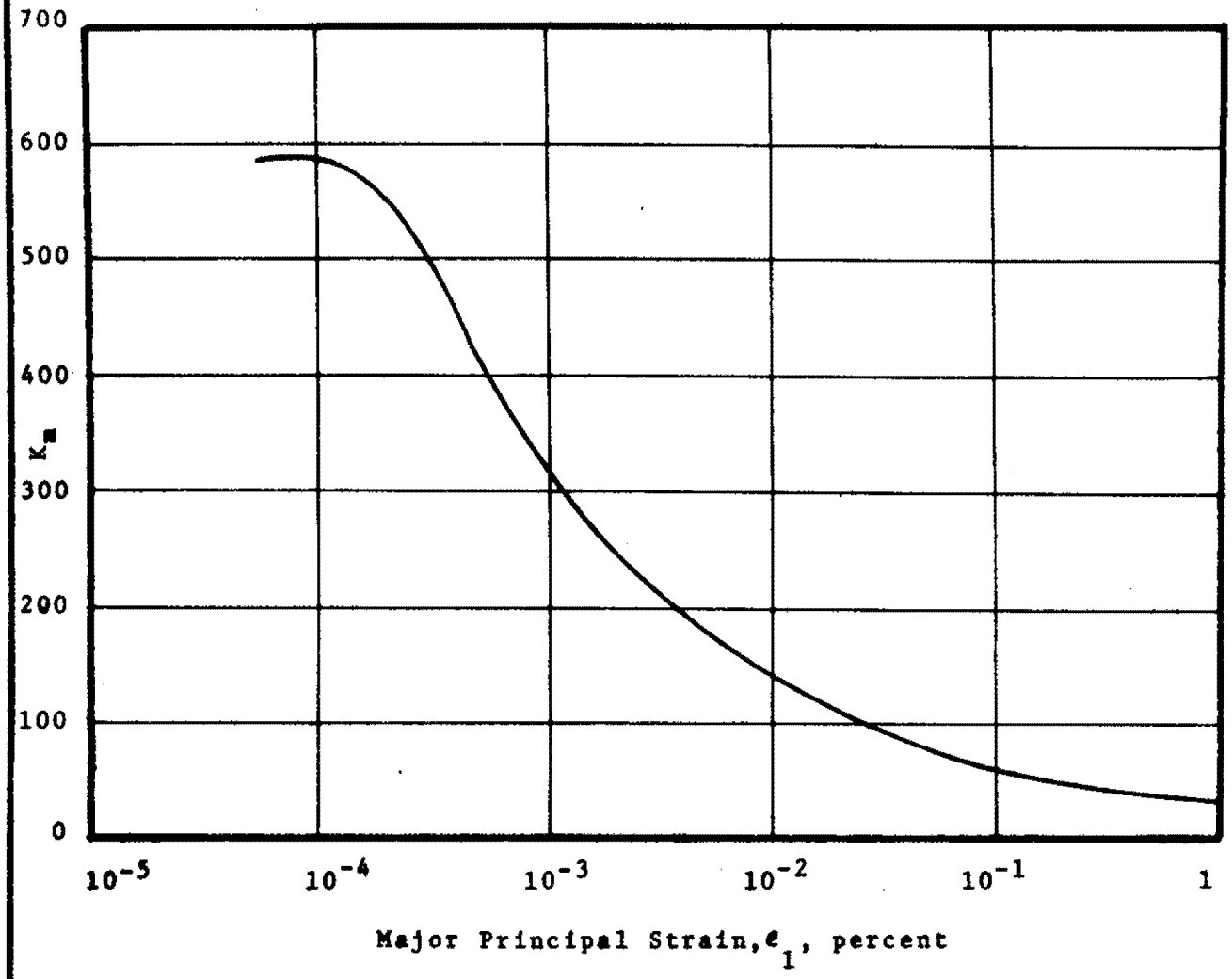
$$G = 100\, K_m \bar{\sigma}_m^{\,2/3}$$

$$\bar{\sigma}_m = 2/3\, \gamma H$$

γ = effective soil unit weight (pcf)

H = depth below surface (ft.)

G = shear modulus (psf)



Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	RECOMMENDED MODULUS VALUES	**Fig.** B-7

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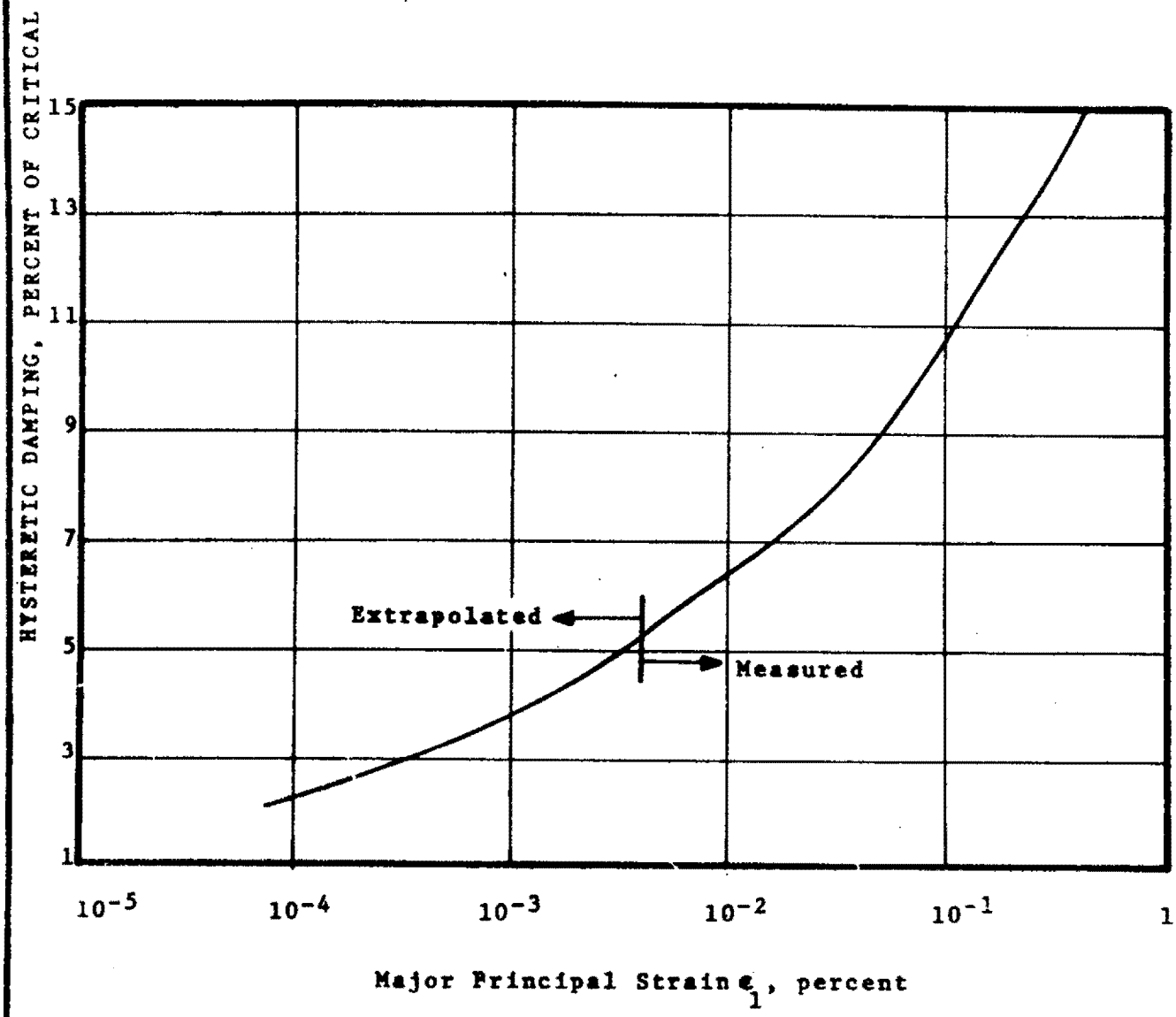

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	RECOMMENDED VALUES OF HYSTERETIC DAMPING	**Fig.** B-8

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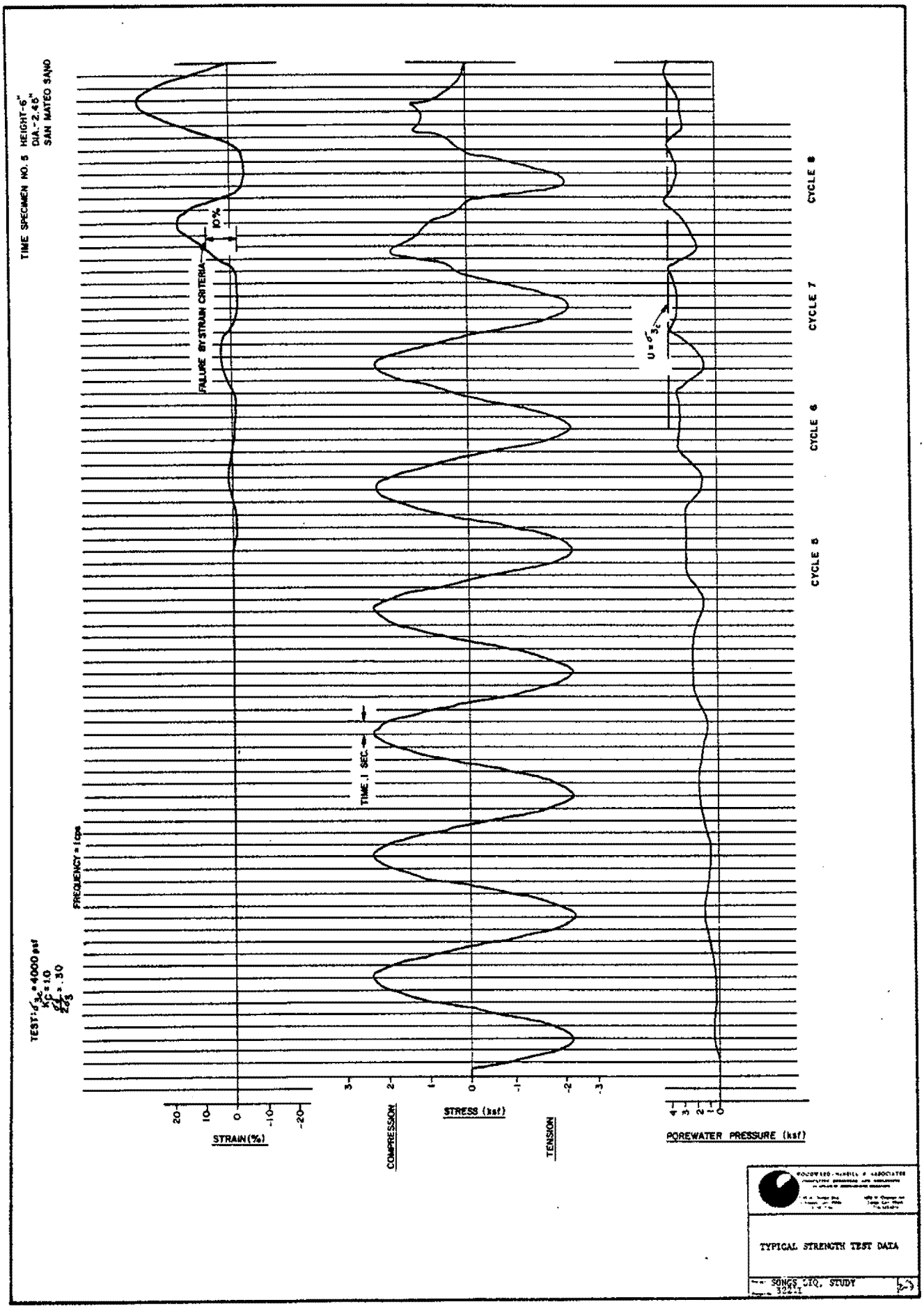
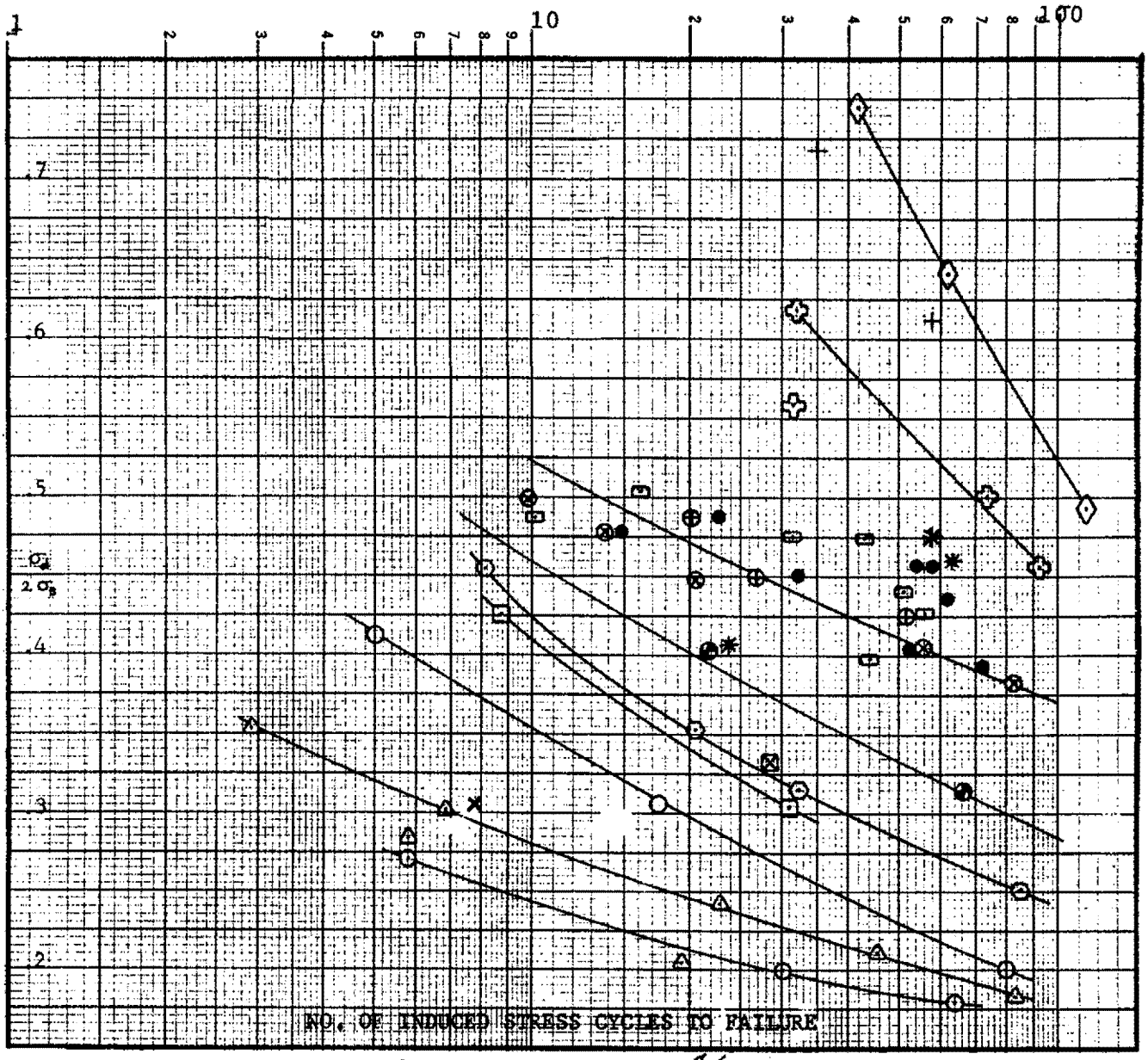

TIME SPECIMEN NO. 5 HEIGHT-6"
DIA.-2.45"
SAN MATEO SAND
TEST: σ3c = 4000 psf
Kc = 1.0
σd/2σ3 = .30
FREQUENCY = 1 cps
FAILURE BY STRAIN CRITERIA
10%
TIME .1 SEC.
U = σ3c
CYCLE 5
CYCLE 6
CYCLE 7
CYCLE 8
STRAIN (%)
20
10
0
-10
-20
COMPRESSION
TENSION
STRESS (ksf)
3
2
1
0
-1
-2
-3
POREWATER PRESSURE (ksf)
4
3
2
1
0
TYPICAL STRENGTH TEST DATA
SONGS SEIS. STUDY



Symbol	Preparation	γ_d PCF	σ_3 PSF	σ_d/σ_3	Frequency
⊙	Remolded	112	4000	1	1 cps
⊙	Remolded	105	7500	1	1 cps
△	Remolded	105	4000	1	1 cps
×	Block	109	4000	1	1 cps
⊡	Block	109	4000	1	1 cps
⊗	Remolded	118	4000	1	1 cps
⊕	Remolded	118	4000	1	1 cps
✳	Remolded	118	4000	1	4 cps
⊟	Remolded	118	4000	1	2 cps
●	Remolded	118	4000	1	3 cps
◇	Remolded	118	4000	1.5	1 cps
✚	Remolded	118	4000	1.25	1 cps
+	Remolded	118	4000	1.5	3 cps
○	Remolded	109	4000	1	1 cps
⊠	Remolded	113	4000	1	1 cps
◐	Remolded	115	4000	1	1 cps

Project: SONGS LIQUEFACTION STUDY INTERACTION
Job Number: B221I

LABORATORY TEST RESULTS

Fig. B-10

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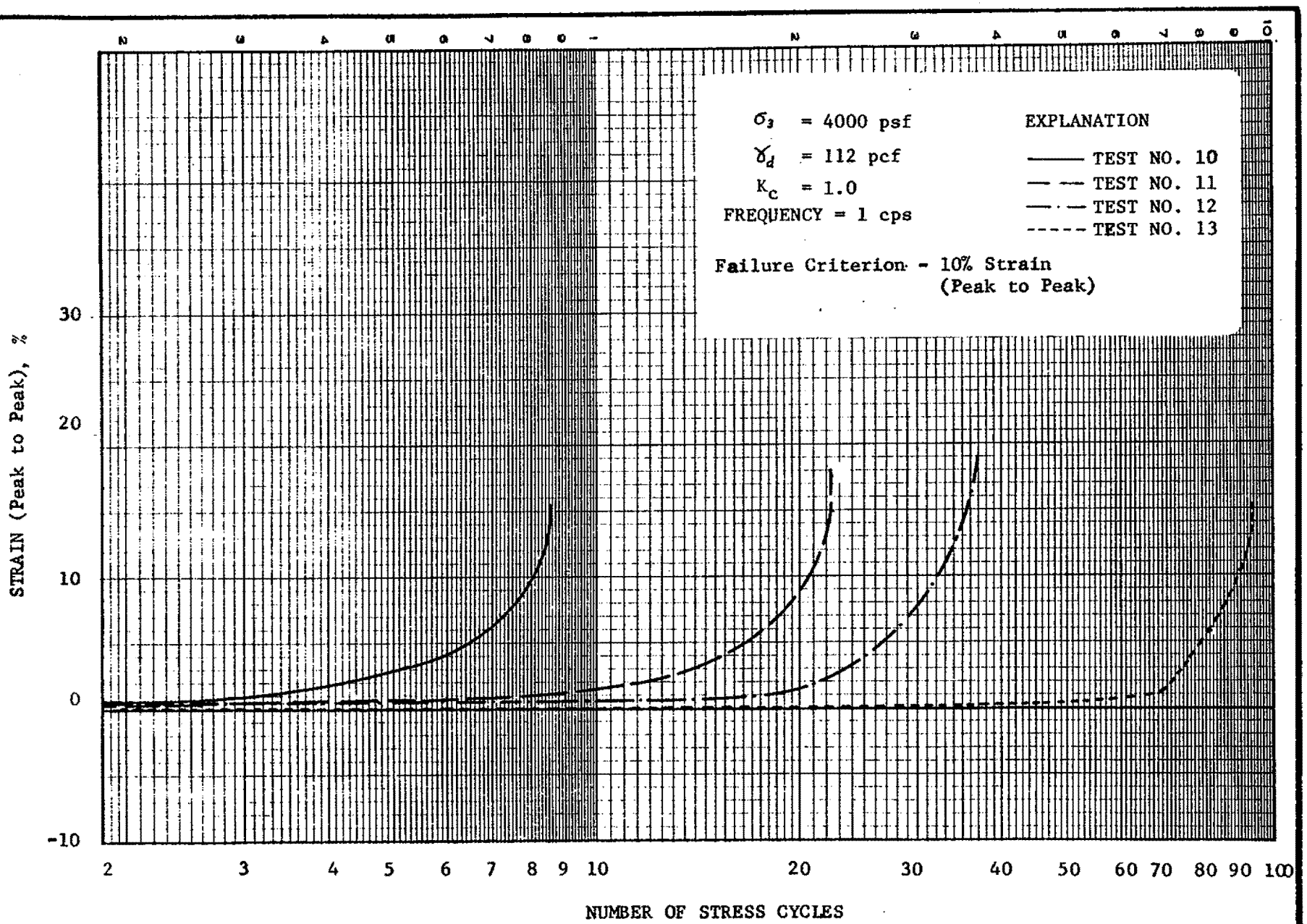

Project: SONGS LIQUEFACTION STUDY
Job Number: B221I

STRAIN VERSUS NUMBER OF STRESS CYCLES

Fig. B-11

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APPENDIX C

Dynamic Strength of Saturated San Mateo Sand

C-1 General

In order to properly evaluate the site stability during seismic loading it is necessary to analyze the laboratory test results such that the dynamic soil strengths reflect the actual field conditions as closely as possible. The curves presented in this appendix were developed for this purpose, in consultation with Dr. I. M. Idriss.

C-2 The Effects of Density and Recompaction on Dynamic Strength

The dynamic strength tests performed on recompacted samples of San Mateo sand indicate that there is a direct relationship between sample density and strength. Figs. C-1 and C-2 illustrate this relationship. Because it was not possible to recompact the 2.43 to 2.86 in. diameter samples to the densities existing in-situ, an extrapolation of the data on Fig. C-2 has been made to evaluate the strength at field conditions (120 pcf). In addition, because the lab tests were performed largely on recompacted samples, consideration was also given to the effect of recompaction on strength. For this purpose, tests were

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performed on carved block and recompacted samples which had the same dry density. It was found that the strength of the carved block sample was greater than the recompacted sample by an average of 16 percent, as shown on Fig. C-3.

The data on Figs. C-1, C-2, and C-3 have been used to calculate the laboratory strength curves for a field density of 120 pcf shown on Fig. C-4.

C-3 Dynamic Strength In-situ

Detailed considerations of the stresses which are induced in triaxial test specimens and the limitations of relating this laboratory test to field conditions have led investigators (ref.19) to the conclusion that a correction factor (C_r), which varies with relative density, should be applied to the laboratory test results to obtain an appropriate field strength. Standard Penetration blow-count resistance, results of field density measurements, and laboratory compaction test results indicate that the relative density of the San Mateo sand approaches 100%. No data has been published for values of C_r for a relative density of 100%, therefore the existing relationship has been conservatively extrapolated to obtain C_r equal to 0.8. Fig. C-5 presents the interpreted field strength curve based on a correction factor (C_r) equal to 0.8 applied to the data of Fig. C-4.

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C-4 Effect of Confinement on Dynamic Strength

Dynamic strength tests were made with confining pressures of 4000 and 7500 psf in order to evaluate the effects on strength of increasing depth below the ground surface.

As is indicated on figure C-6 the normalized stress to cause liquefaction $\frac{\sigma_d}{2\sigma_3}$ as a function of number of stress applications is higher for σ_3 = 4000 psf than for σ_3 = 7500 psf. This is further illustrated for 30 cycles of stress application on Figure C-7. An average reduction factor for any number of stress application is presented on Figure C-8.

C-5 Effects of Anisotropy on Dynamic Strength

Dynamic strength tests were made on samples consolidated at a principal stress ratio (σ_{1c}/σ_{3c}) of 1.0, 1.25, 1.50. The basic test results for these cases are presented in Appendix B. Those data, when adjusted to represent the strength of San Mateo sand in-situ, are given on Fig. C-9. These data are based on calculations of the appropriate in-situ dry density ($\geq$ 120 pcf) and the correction factor (C_r).

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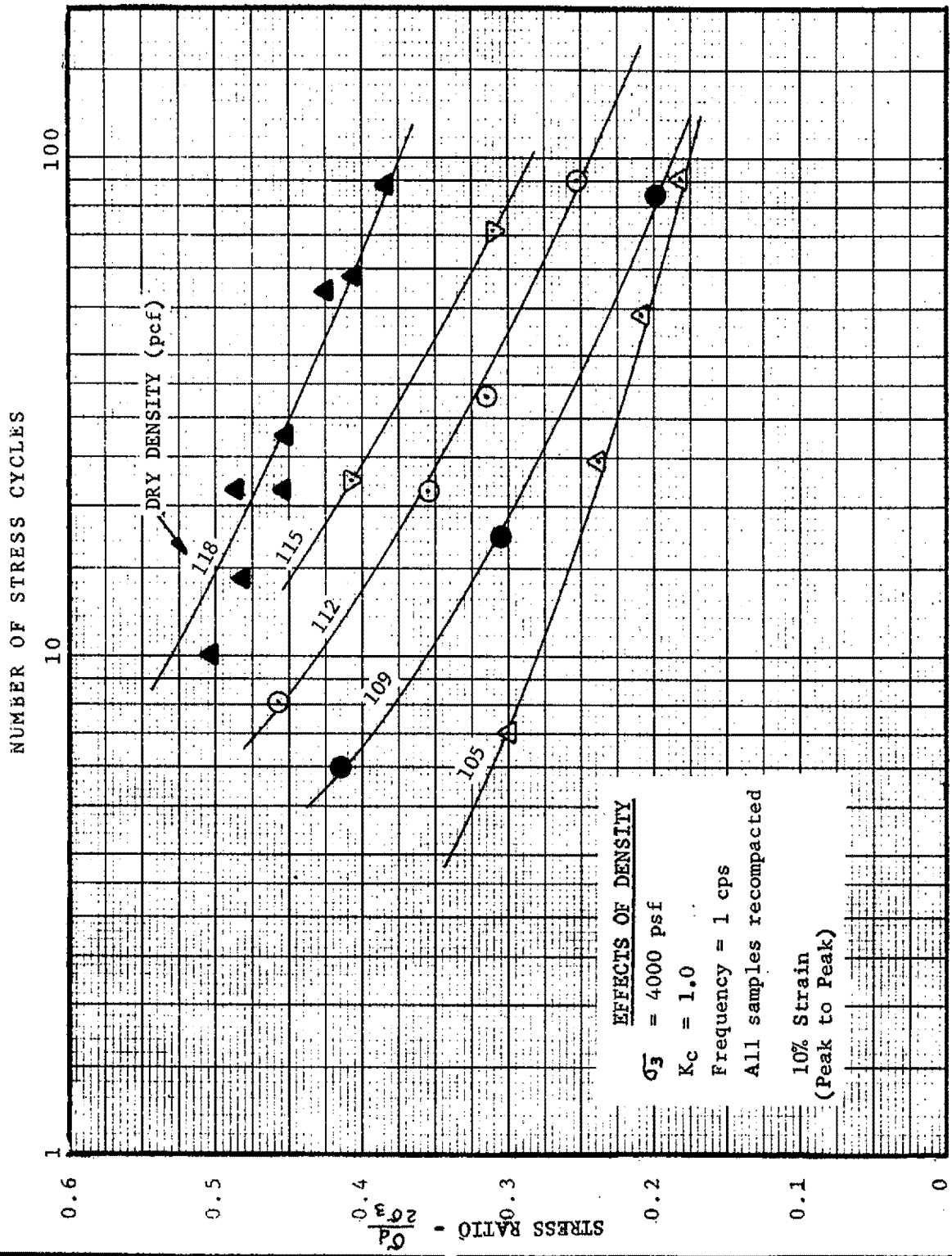

Project: SONGS LIQUEFACTION STUDY **Job Number:** 82211	DYNAMIC STRENGTH TEST RESULTS FOR RECOMPACTED SAN MATEO SAND	**Fig.** C-1

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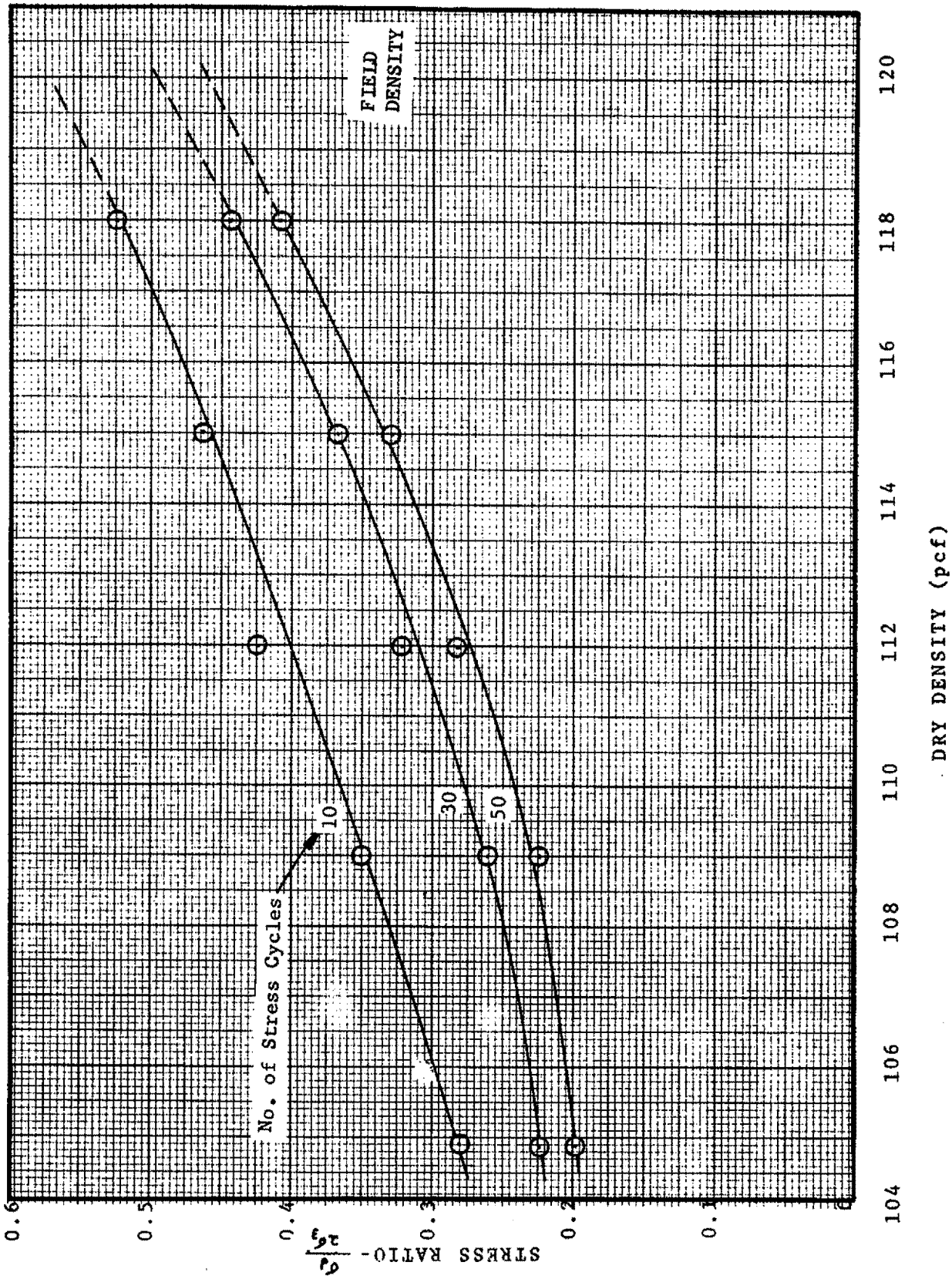

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	EFFECT OF DENSITY ON DYNAMIC STRENGTH OF SAN MATEO SAND	**Fig.** C-2

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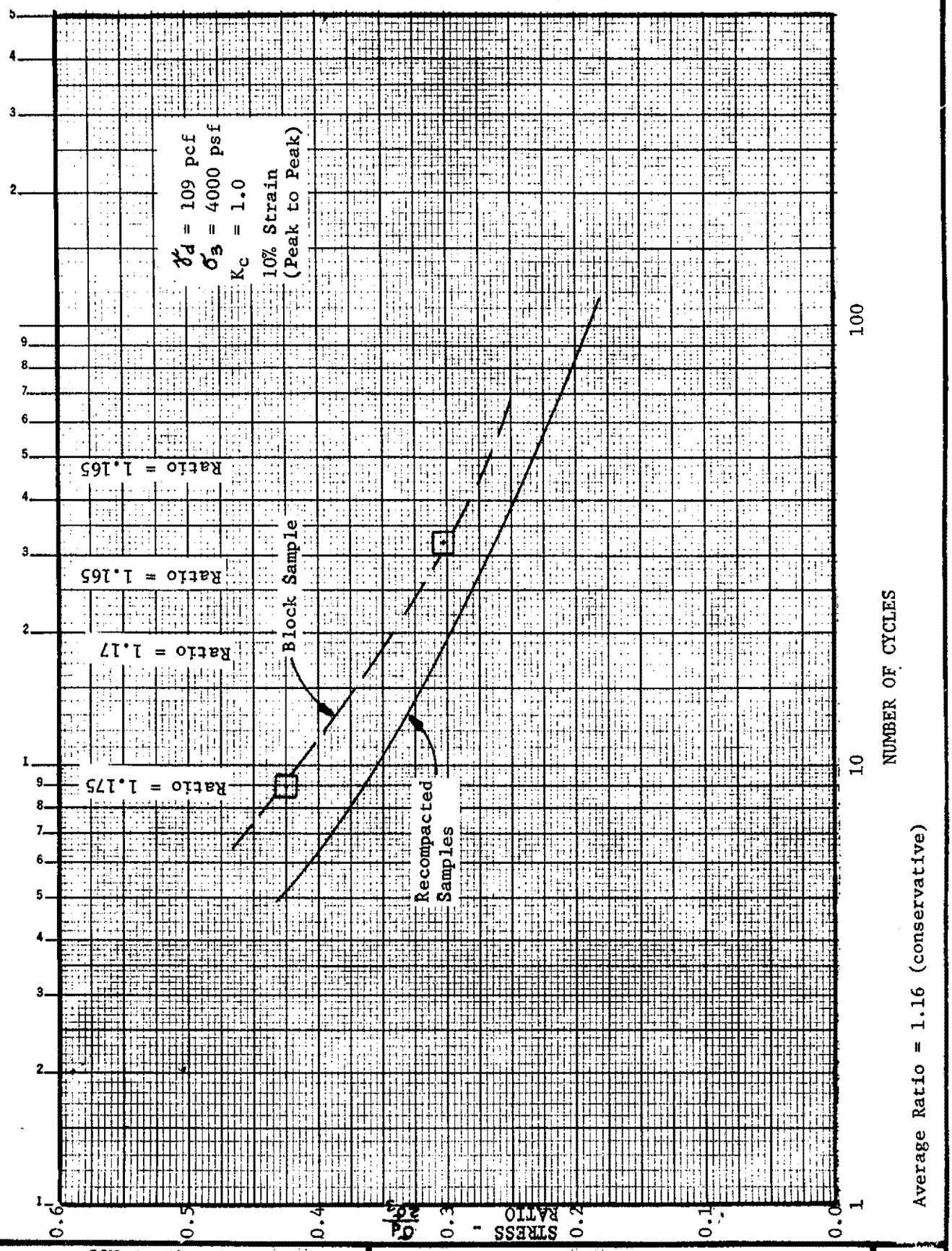

Project: SONGS LIQUEFACTION STUDY Job Number: B221I	EFFECT OF RECOMPACTION ON DYNAMIC STRENGTH OF SAN MATEO SAND	Fig. C-3

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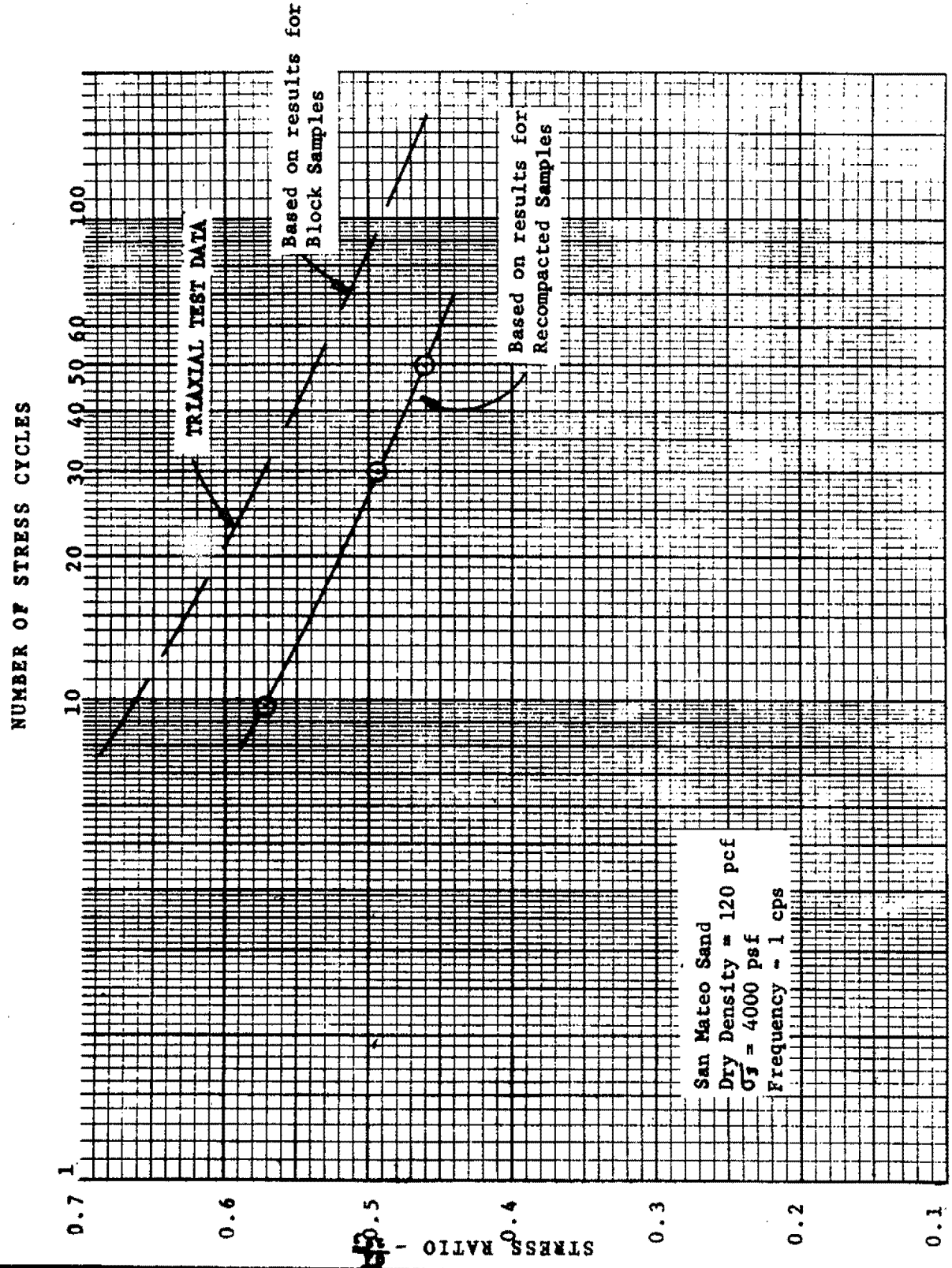

Project: SONGS LIQUEFACTION

Job Number: B221I

LABORATORY STRENGTH CURVE FOR SAN MATEO SAND

Fig. C-4

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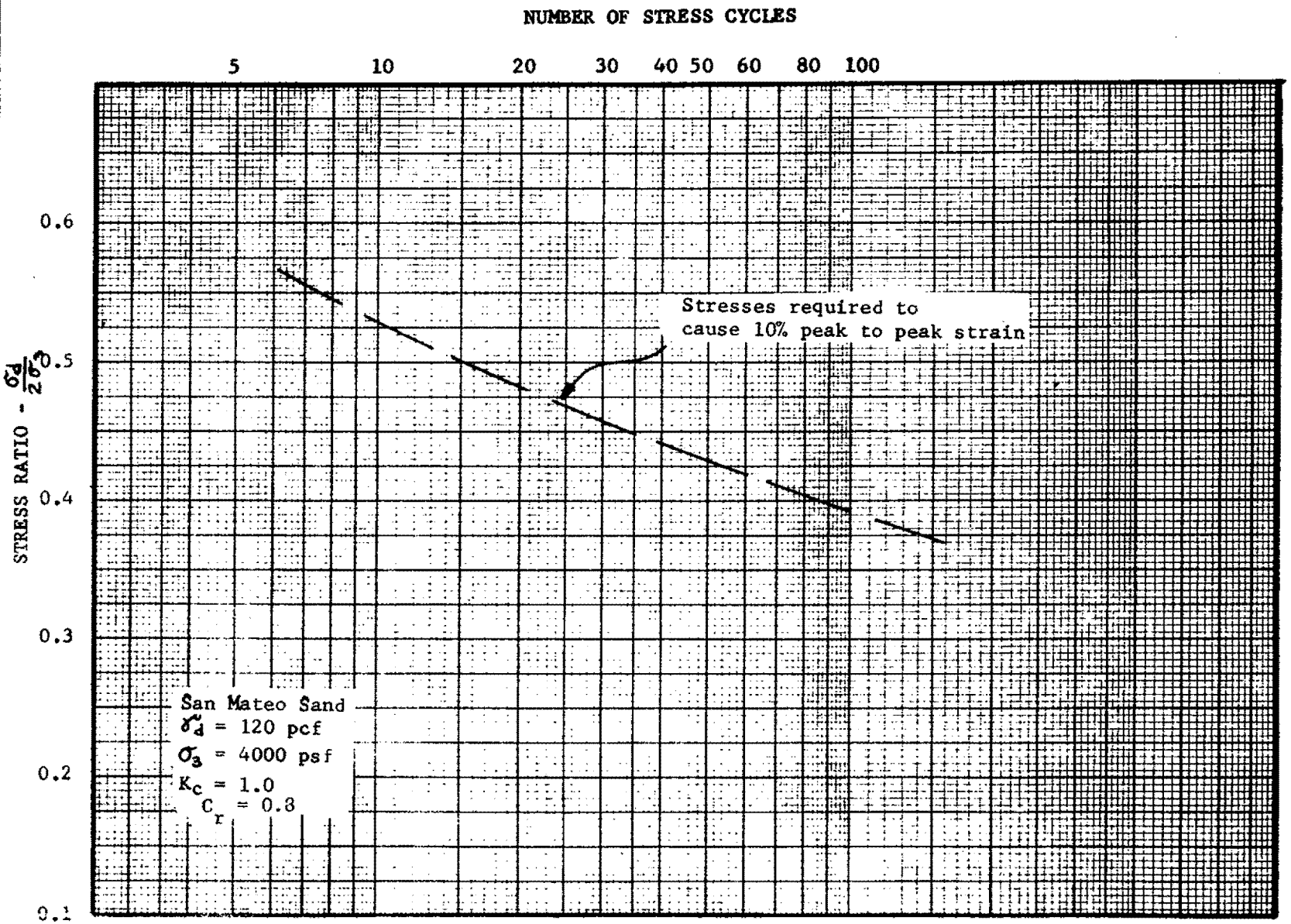

NOTE: Above curve obtained from triaxial data using a correction factor, C_r = 0.8

Project: SONGS LIQUEFACTION STUDY

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IN-SITU DYNAMIC STRENGTH OF SAN MATEO SAND

Fig. C-5

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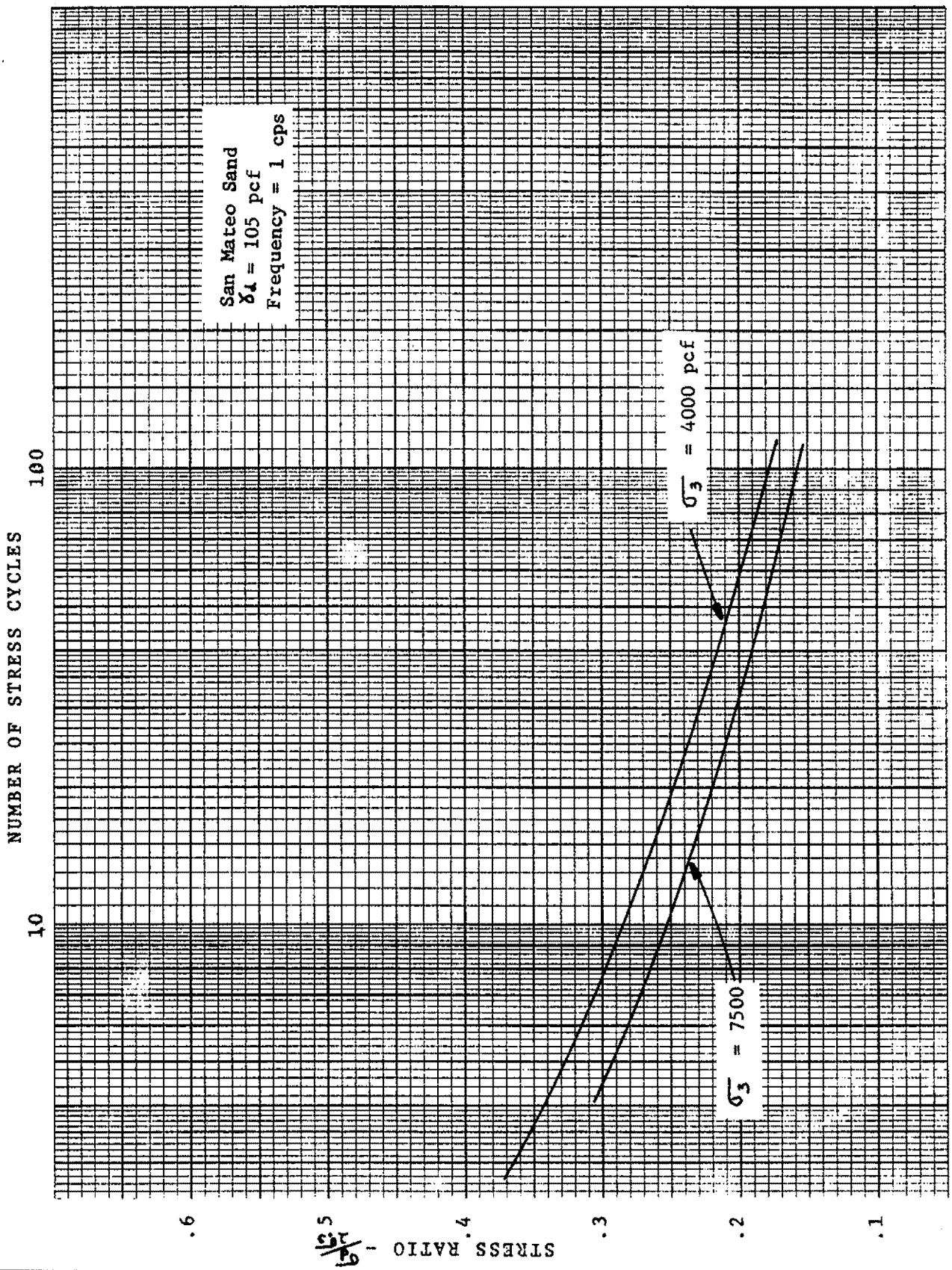
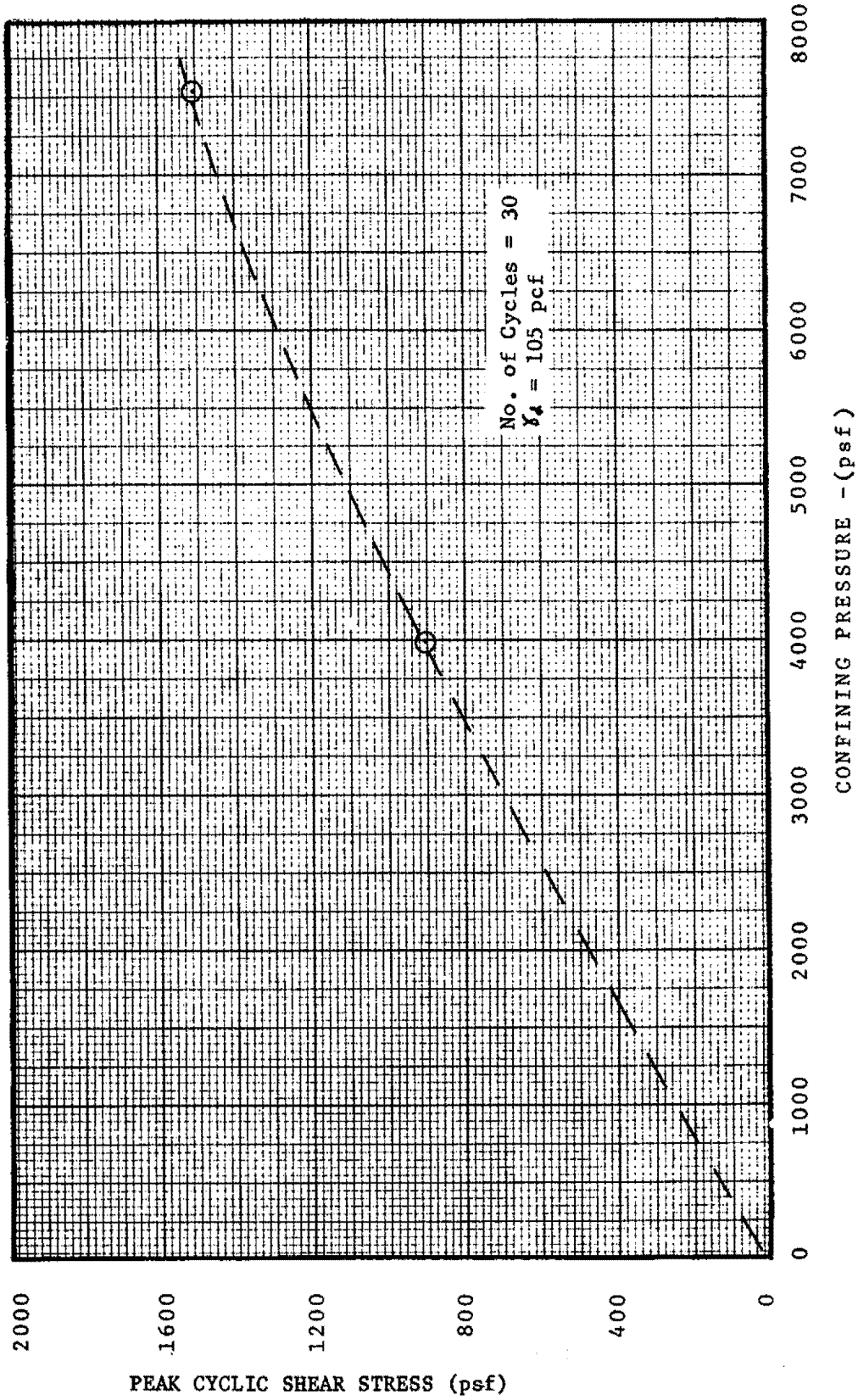
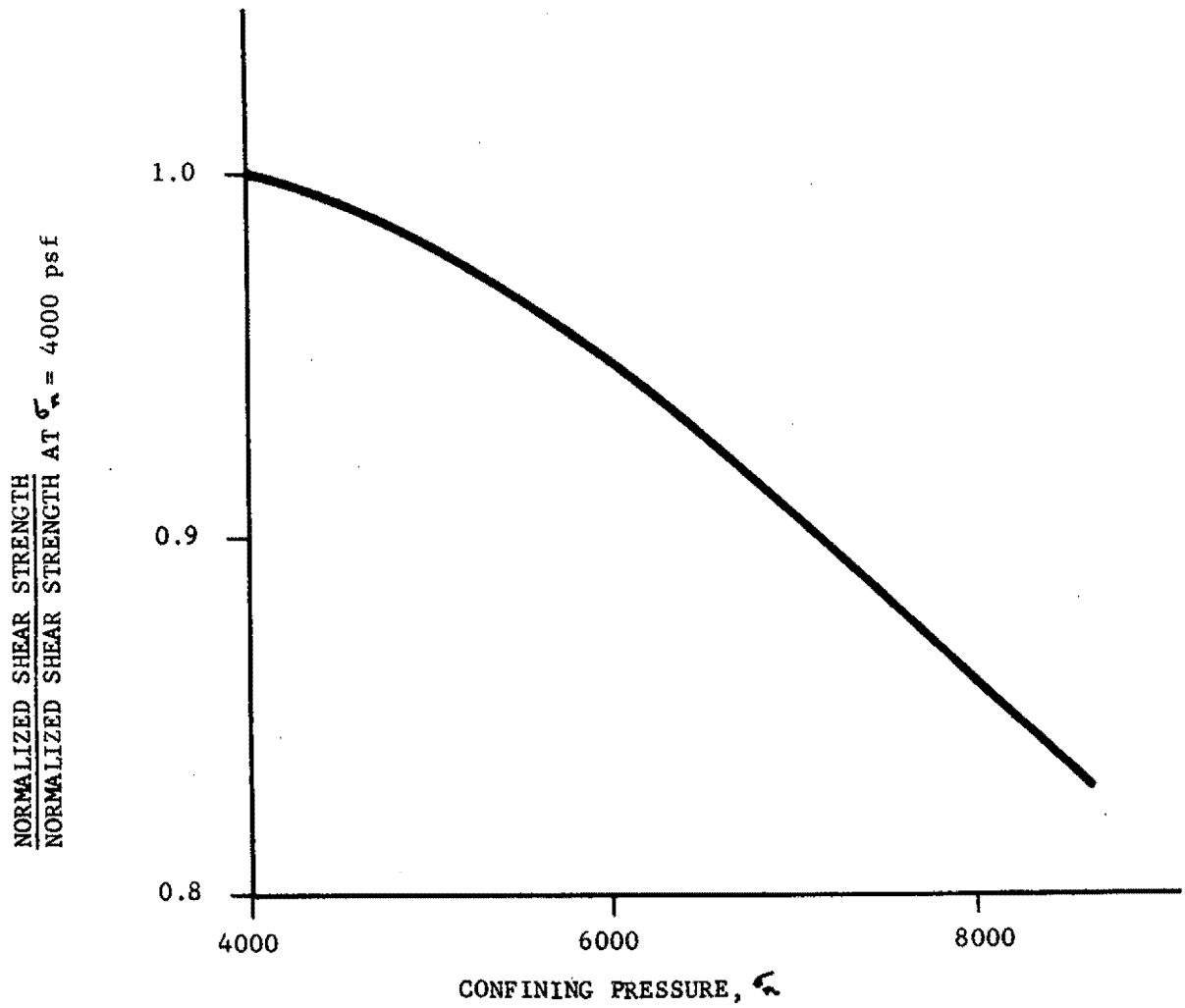


Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	EFFECT OF CONFINEMENT ON DYNAMIC STRENGTH OF SAN MATEO SAND	**Fig.** C-6



Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	CONFINEMENT V.S. CYCLIC SHEAR STRESS SAN MATEO SAND	**Fig.** C-7



NOTE:

$$\text{NORMALIZED STRENGTH} = \frac{\text{SHEAR STRENGTH}}{\text{CONFINING PRESSURE}}$$

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	AVERAGE REDUCTION FACTOR FOR EFFECT OF CONFINEMENT ON STRENGTH	**Fig.** C-8

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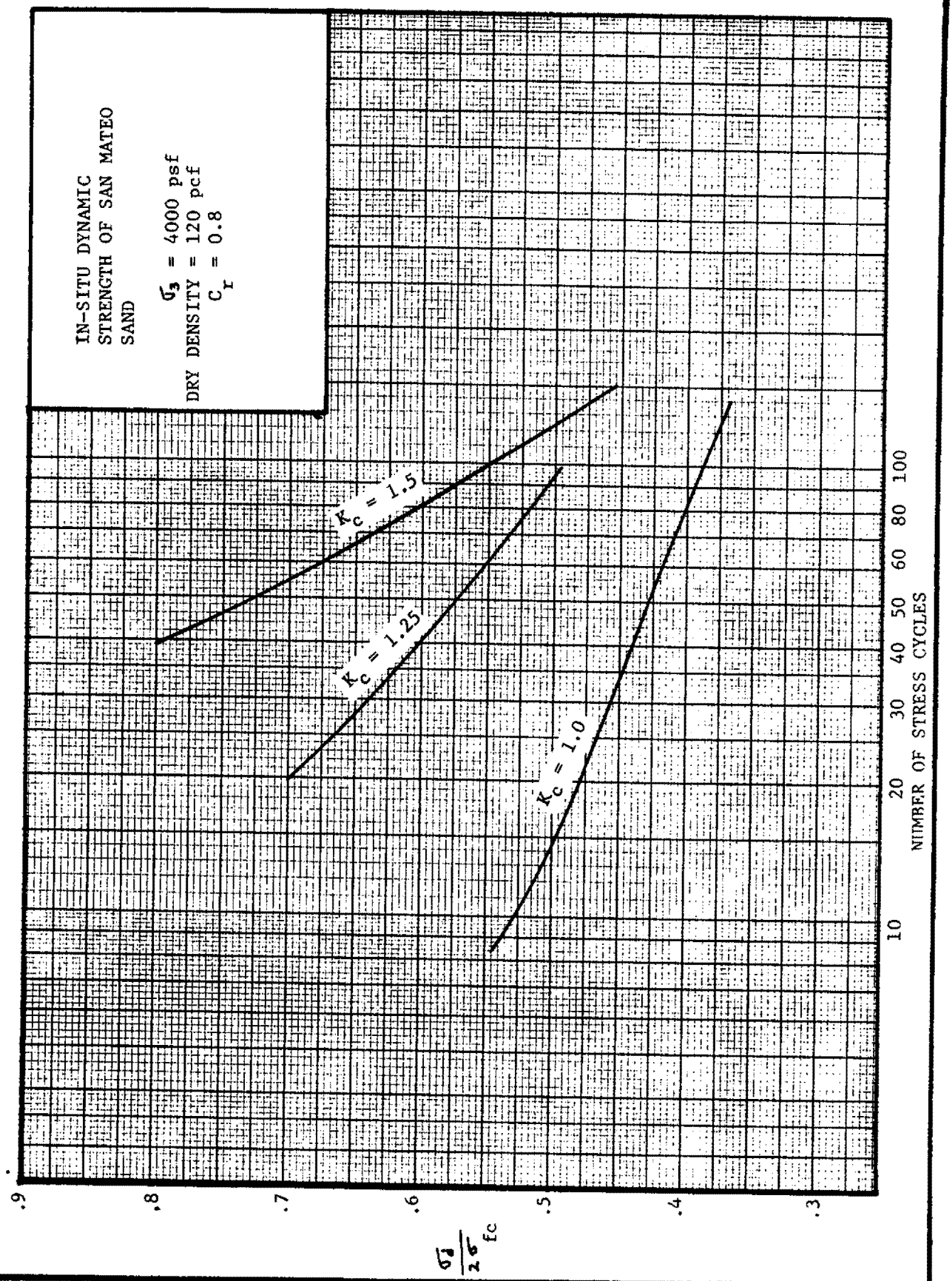

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	IN-SITU DYNAMIC STRENGTH OF ANISOTROPICALLY CONSOLIDATED SAN MATEO SAND	**Fig.** C-9

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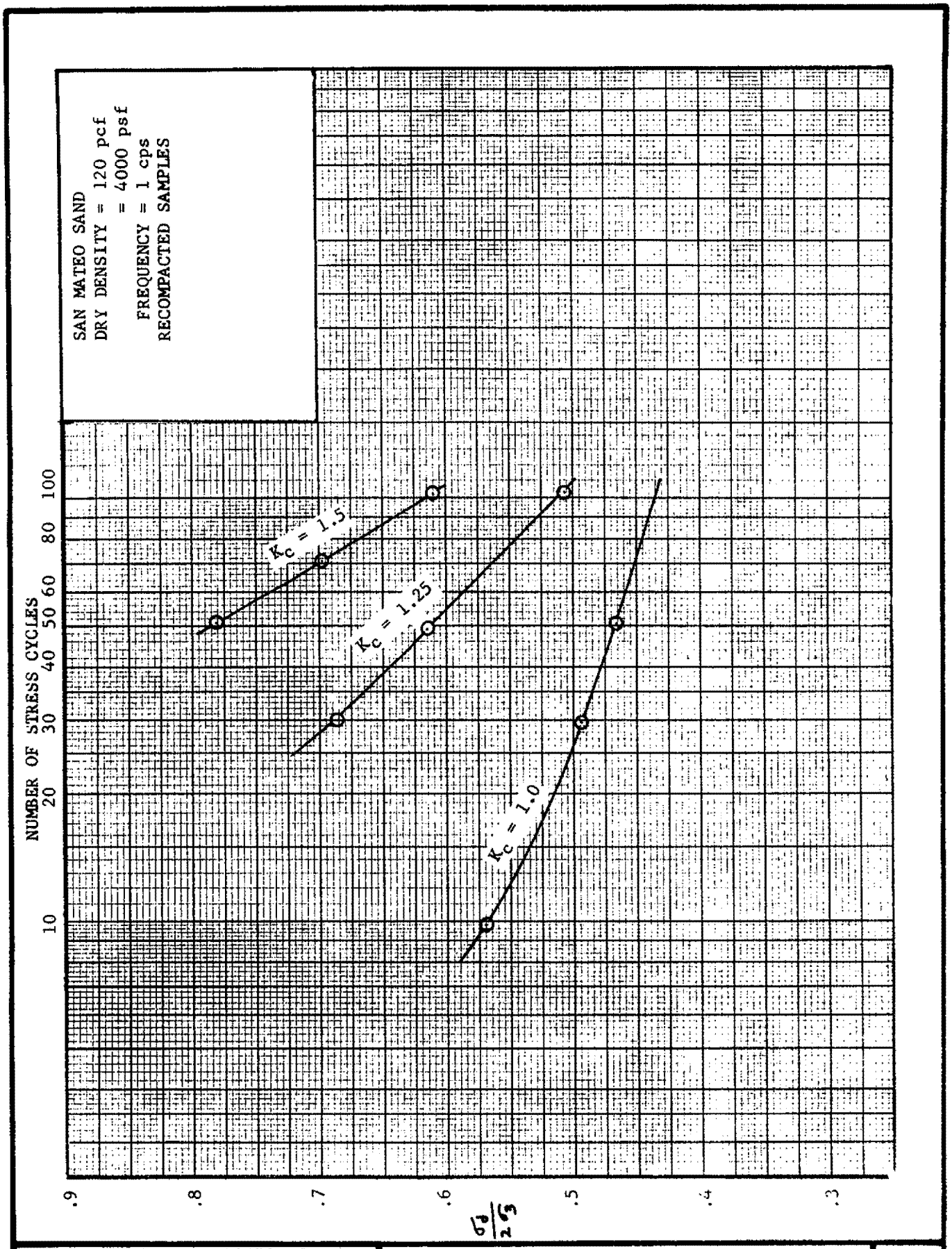

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	EFFECTS OF DENSITY AND ANISOTROPY DYNAMIC STRENGTH OF SAN MATEO SAND	**Fig.** C-10

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APPENDIX D

DBE Induced Stress

D-1 General

The determination of the characteristics of DBE induced stress for liquefaction evaluation involves three basic analyses: (1) the determination of the input earthquake signature; (2) the determination of maximum stresses in the finite element model; and (3) the determination of the number of significant equal cycles of DBE induced shear stress for selected locations in the finite element model. These items are discussed in the paragraphs which follow.

D-2 Determination of Earthquake Input Motion

State-of-the-art dynamic finite element techniques require that earthquake motions be input at the base of the finite element model. Since the DBE Time-History represents the time-history of motion at the base of the containment structure (elevation 0), the time-history of motion for the base of the model was chosen such that resulting ground accelerations at elevation 0 approximate those characteristic of the DBE. In order to do this, a 210-ft free field model of the site was analyzed using wave propagation techniques. The DBE Time-History was

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input at elevation 0 and output (acceleration time-history) was taken at elev. minus 90 ft. (approximately one radius below base of containment structure), the level of the base of the finite element model.

As described in the text of the report two finite element models were used for determining stresses across the site as presented in Figure D-1. Because of computer core limitations, model A was analyzed by the 22-second acceleration-time history obtained as described in Appendix D of the 27 March 1973 report entitled *Stability of Proposed Slopes for the Proposed Units 2 and 3, San Onofre Generating Station, San Onofre, California.* An 80-second acceleration-time history was utilized as an input for the smaller model B so as to evaluate the character of the earthquake signature in terms of stress-time histories at selected locations in the model. These data are important in the evaluation of the number of cycles of stress application as described in Section D-4 below. The determination of the 80-second acceleration-time history was made in the same manner as is described for the 22-second time history in the aforementioned 27 March 1973 report. As in the slope stability analyses, the vertical and horizontal motions

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were input simultaneously, in phase, at the base of the models.

D-3 Determination of Maximum Shear Stress

The procedures used in the dynamic finite element analysis are described in Appendix E of the aforementioned 27 March 1973 report. The output of the finite element analysis includes maximum shear stresses for each element. Because these different models and two different earthquakes were utilized induced shear stresses were somewhat different, controlled by the acceleration response of the ground surface. For the reason of ensuring compatibility of results between models and the DBE criterion, stresses calculated by the finite element analyses were normalized to be consistent to a free field 0.67g horizontal and 0.44g vertical earthquakes. These values of shear stress were then normalized on overburden stress (shear stress divided by overburden stress), and a resulting composite graph of contour of equal normalized DBE-induced shear stress is presented on Figure D-2.

D-4 Determination of the Number of Significant Equal Cycles of DBE-Induced Shear Stress (n_{eqi})

The technique used to make the determination of n_{eqi} is essentially that which is described by Lee and Chan

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(ref 10). Basically, it involves the weighting of each pulse of the stress-time history at a point according to the strength of the soil and a specified level of average uniform stress. To facilitate this determination we calculate a pulse-spectrum from the stress time history like that shown on Figure D-3. The calculation used to determine the number of significant uniform stress cycles equivalent to the number and distribution of pulses (Figure D-3) and to the soil strength curve (Figure 3 of the text) are summarized on Table D-1.

The maximum peak stress developed was τ_{max} = 1880 psf, but this one peak could hardly be considered typical of the whole time history. There are many other stress pulses of less intensity. Possibly a more realistic equivalent average stress might be $\tau_{av} = 0.65\tau_{max}$ = 1222 psf. This corresponds to a stress ratio τ_{av}/σ_{nc} = 0.31. Referring to the field strength curve on Fig. 3, the stress ratio of 0.31 corresponds to n_f = 550 cycles. These values are noted for convenience on Table D-1. The value of n_f corresponding to the assumed average stress ratio is given the special symbol n_{ref} , and is used in subsequent calculations described below.

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The next step toward converting the actual time history into an equivalent number of uniform cycles is to divide the stress range (0 to τ_{max}) into a convenient number of levels and note the mean stress within each level as shown on Fig. D-3 and on Table D-1. Then the number of cycles with peaks which fall within each of these levels is counted and recorded.

Referring again to the field strength curve on Fig. 3, the number of cycles corresponding to each stress level is also noted on Table D-1. Thus for example, 60 uniform cycles of stress Level (1) would cause failure, whereas 550 uniform cycles of stress Level τ_{av} would also be required to produce failure. As far as the soil is concerned, the effect would be the same (failure) in either case. Thus the 60 cycles of Level (1) are equivalent to the 550 cycles of τ_{av} in terms of the effect on the soil. In the actual time history there were 4.5 cycles of stress Level (1). Thus it follows that as far as the soil is concerned, these 4.5 cycles are equivalent to $n_{eq\,x} = 37.5$ uniform cycles of intensity τ_{av}. By a similar procedure, the equivalent cycles for the other stress levels are computed as shown on Table D-1 and then summed to obtain the

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total equivalent number of significant uniform cycles for the entire time history, $n_{eqx} = 79.5$

The same calculations described above were completed for several elevations in model B and for a range of values of K_c (Figure 5), and for uniform stresses of 100, 85, 75 and 65% of the maximum shear stress. The results of these analyses have been tabulated on Table-1 of the text.

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TABLE D-1

Notes	Data from Computed Time History of Shear Stress			Data from Soil Strength Curve Fig 3	Results
	Induced Cyclic Shear Stress		No. of Cycles With Peaks in this level	n_f	Number of equivalent cycles $n_{eq\,x}$
	τ_x	$\frac{\tau_x}{\sigma_n}$			
maximum shear stress τ_{max}	1880	0.47	———	———	———
65% max shear stress τ_{av}	1222	0.31	———	n_{ref} = 500	———
Stress Level x					
1	1642	0.42	4.5	60	$\frac{500}{60}(4.5) = 37.5$
2	1404	0.36	12.5	180	$\frac{500}{180}(12.5) = 34.5$
3	946	0.24	39.5	(1) 3300	$\frac{500}{3300}(39.5) = 5.0$
4	567	0.14	57.5	(1) 1.4×10^5	$\frac{500(57.5)}{1.4\times10^5} = 0.2$
5	216	0.06	76.5	(1) 9×10^7	$\frac{500(76.5)}{9 \times 10^7} \sim 0$

n_{eqi} = 77.2 cycles

(Note: Definition of symbols on next page)

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TABLE D-1

Definition of symbols:

τ_x = shear stress at level x

σ_n = normal stress = 3900 psf

n_f = number of cycles from field strength curve (Fig. 3)

n_{eqi} = number of significant uniform stress cycles

(1) Data Extrapolated assuming linear variation of strength vs number of cycles of load application on log-log plot.

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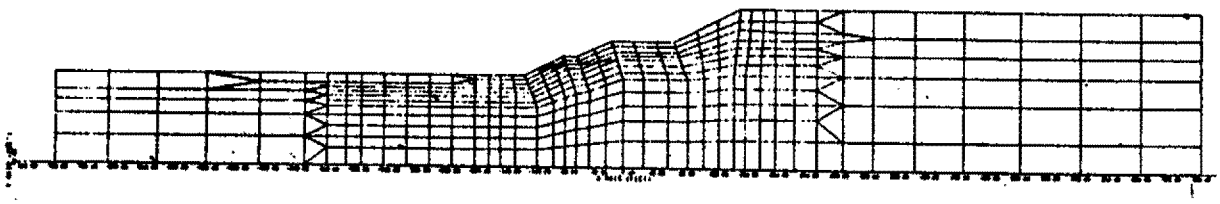
MODEL A

Number of Elements = 439
Number of Nodal Points = 465



MODEL B

#152
#158

Project: SONGS LIQUEFACTION STUDY **Job Number:** B221I	FINITE ELEMENT MODELS	**Fig.** D-1

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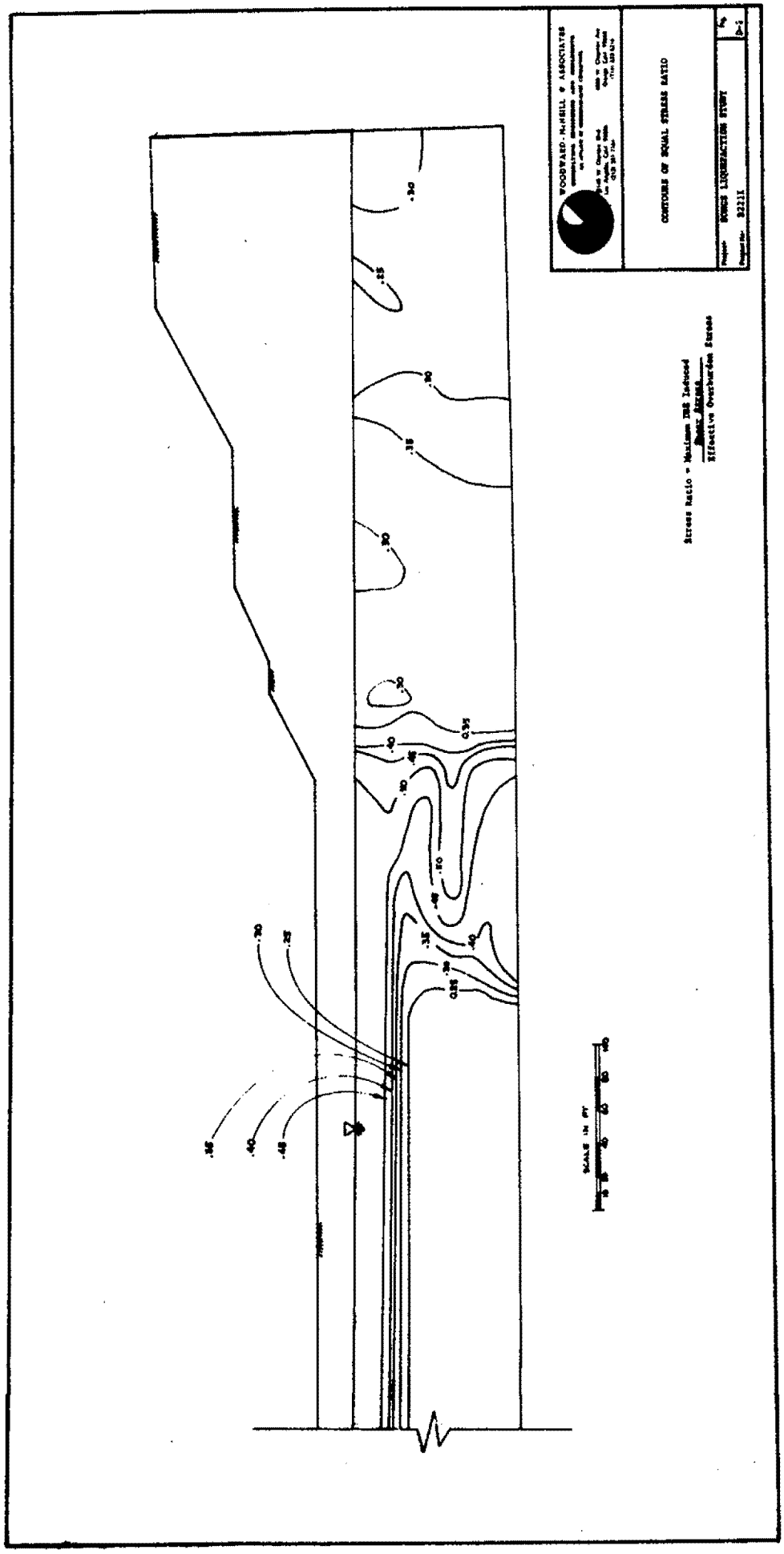
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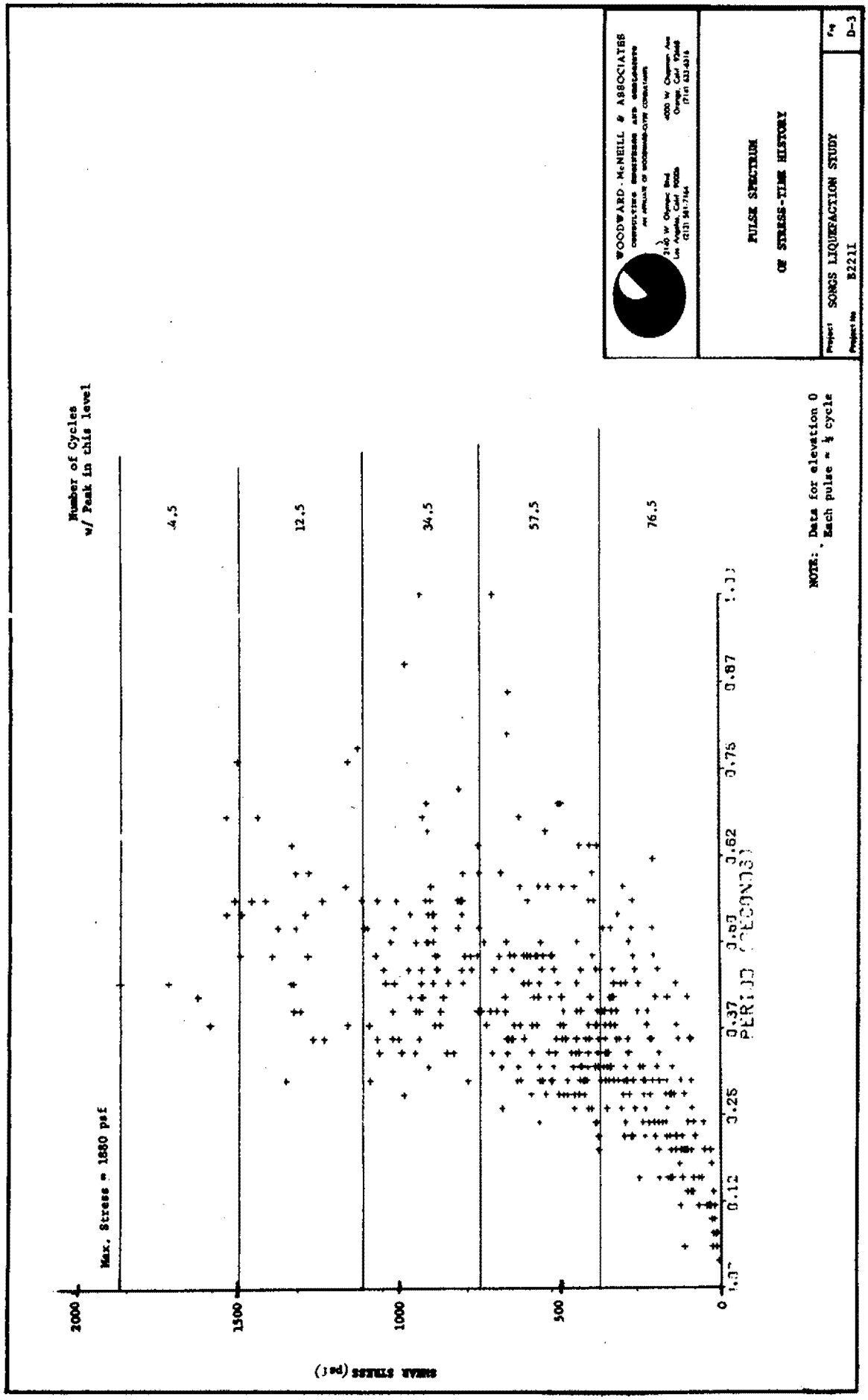
CONTOURS OF EQUAL STRESS RATIO
DOBBS LIQUEFACTION STUDY
Stress Ratio = Maximum ZBE Induced Shear Stress / Effective Overburden Stress
SCALE IN FT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PULSE SPECTRUM
OF STRESS-TIME HISTORY
Project SORGS LIQUEFACTION STUDY
Project No B221I
Fig D-3
Number of Cycles w/ Peak in this level
4.5
12.5
34.5
57.5
76.5
Max. Stress = 1880 psf
2000
1500
1000
500
0
0.37
0.62
0.75
0.87
PERIOD (SECONDS)
SHEAR STRESS (psf)
NOTE: Data for elevation 0
Each pulse = ½ cycle

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Section 2.5.A.3

Report Titled

"Offshore Liquefaction Evaluation
For Proposed Units 2 and 3
San Onofre Nuclear Generating Station
San Onofre, California"

December 19, 1974

Woodward-McNeill & Associates

Amended: April 2009 TL: E048000

OFFSHORE LIQUEFACTION EVALUATION
FOR PROPOSED UNITS 2 AND 3
SAN ONOFRE NUCLEAR GENERATING STATION
SAN ONOFRE, CALIFORNIA

for

Southern California Edison
P. O. Box 800
Rosemead, California 91770

by

WOODWARD-McNEILL & ASSOCIATES
Consulting Engineers and Geologists

Amended: April 2009 TL: E048000

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

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Los Angeles
19 December 1974
Project No. B469C5

Southern California Edison Company
P. O. Box 800
Rosemead, California 91770

Attention: Mr. David H. Johns

SUBJECT : OFFSHORE LIQUEFACTION EVALUATION
FOR PROPOSED UNITS 2 AND 3
SAN ONOFRE NUCLEAR GENERATING STATION

Gentlemen:

In accordance with the provisions of your Purchase Order No. U0804901, we have completed our analysis for the offshore liquefaction evaluation for the subject site. The attached report transmits the results of our studies.

In brief, the results indicate that the minimum analytical factor of safety against liquefaction is 1.2 for the native San Mateo Sand in the offshore area during the DBE. Further, the trenches in which the offshore conduits are installed, should be backfilled with gravel and rock fill with a minimum size of 1 in.

If you have any questions, or require further information, please contact us at your convenience.

Very truly yours,

WOODWARD-McNEILL & ASSOCIATES

By John A. Barneich
John A. Barneich

By Robert L. McNeill
Robert L. McNeill

By Jagdish Mathur
Jagdish N. Mathur

By Hans M. Ewoldsen
Hans M. Ewoldsen

JAB:RLMcN:JNM:HME:ls
Attachments

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OFFSHORE LIQUEFACTION EVALUATION
FOR PROPOSED UNITS 2 AND 3
SAN ONOFRE NUCLEAR GENERATING STATION
SAN ONOFRE, CALIFORNIA

1.0 INTRODUCTION

This report forms a part of the geotechnical investigation for the proposed expansion of the San Onofre Nuclear Generating Station. Specifically, the report presents results of the analysis made to evaluate the liquefaction potential of the offshore area. The investigation is necessitated by the circulating cooling water Intake and Outfall System, parts of which are located in the offshore region. To maintain a minimum required flow through the offshore conduits of the above system, it is essential that they are not subjected to large displacements due to liquefaction of the supporting soil during the Design Basis Earthquake (DBE). In this report, the liquefaction potential of San Mateo Sand, which is the principal soil type at the site, is examined for DBE loading condition. In accordance with the provisions of our proposal, the following elements constitute the scope of this report:

a) Confirmation of the extension of San Mateo Sand to the offshore area.

b) Determination of the dynamic strength characteristics of saturated San Mateo Sand in terms of stress to cause a predetermined deformation as a function of the number of load applications. A failure criterion of 10% peak to peak strain has been adopted.

c) Determination of the DBE induced stress at the site using dynamic finite element procedure, and comparing

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the induced stress to the available strength to obtain analytical factor of safety against liquefaction.

d) Development of recommendations for excavating and back-filling the trenches for offshore conduits.

Considerable data generated in previous studies were utilized in performing the analysis presented in this report.

1.1 Organization of the Report

The field and laboratory investigations including reference to previous, parallel work pertinent to this study are described in Sections 2 and 3 of this report, respectively. Section 4 presents the site and subsurface conditions and the proposed construction at the site. The soil properties used in the present study are presented in Section 5. The analysis for liquefaction evaluation and its results are presented in Section 6. Finally, the conclusions and recommendations are presented in Section 7.

The necessary back-up data for the sections described above are assembled in appendices as follows:

Appendix A - Summary of Field Investigations

Appendix B - Laboratory Testing

Appendix C - Dynamic Strength of Saturated San Mateo Sand

Appendix D - Overconsolidation of San Mateo Sand

Appendix E - Influence of Drainage of Dynamic Strength of San Mateo Sand

Appendix F - DBE Induced Stress

2.0 FIELD INVESTIGATION

The objectives of the field investigation were to investigate soil conditions on the beach and offshore areas and to

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obtain intact San Mateo Sand samples for further dynamic testing. For the beach area, three bore holes were drilled to a maximum depth of 61 ft. Pitcher samples were obtained from these borings. The location of these borings and the details of the logs of borings are presented in Appendix A. A number of field density tests were made on San Mateo Sand exposed during the excavation in progress for the switchyard slopes. Results of these tests, presented in Appendix C were also used in this work.

For the offshore area, exploration was done by Boomer survey and Vibro-core drilling. Details of these investigations and the results are also presented in Appendix A.

3.0 LABORATORY STUDIES

Considerable data on the static and dynamic properties of San Mateo Sand have been generated during previous laboratory investigations and have been reported. The additional laboratory testing conducted for the present study had the following objectives:

a) to provide additional data on the dynamic strength of San Mateo Sand,

b) to provide information on the existing stress condition of San Mateo in the beach and offshore area (this was done by K_o tests), and

c) to provide information about the influence of drainage on the dynamic strength of San Mateo Sand (this was was done by performing cyclic loading tests on saturated samples under controlled drainage conditions).

Details of these investigations and the data obtained are presented in Appendices B, D and E.

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4.0 SITE AND SUBSURFACE CONDITIONS AND PROPOSED CONSTRUCTION

4.1 Site Setting and Topography

The general layout of various components of Units 2 and 3 are shown in Fig. 1. At the time of our field investigation, near-vertical bluffs from an elevation of 80 ft to sea level existed at the site of the Intake structures. The subject area of this report covers the beach and area along the offshore conduits, which extend to about 8500 ft from the shore. The surface slopes gently seaward throughout the length of the conduits.

4.2 Subsurface Soil Conditions

Borings on the beach and data, obtained from vibro-core drilling in the offshore area, indicate that the San Mateo Sand lies at a shallow depth of about 3 to 5 ft below the surface in the offshore area. The overlying soil consists of gravel, cobbles and a trace of bottom sediment. In a location near Unit 1 on the beach, some siltstone was encountered above San Mateo Sand. Details of the field investigations are presented in Appendix A. Previous investigations have indicated that the San Mateo Sand may be as thick as about 900 ft.

4.3 Proposed Construction

As indicated above, the present study was conducted because certain components of the circulating cooling water system are to be located in the subject area. The intake and outflow conduits which originate from the Intake Structure extend to approximately 8500 ft offshore. These conduits are about 18-ft

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diameter concrete pipes, and would be installed in sections in a trench. The trench would be backfilled suitably.

5.0 STATIC AND DYNAMIC SOIL PROPERTIES

The distribution and types of materials encountered in the offshore area are described in Section 4.2 above. Because the near surface gravel and cobbles are considered pervious enough so as not to allow pore pressure build-up, these materials are not considered to be liquefiable. For this reason, the San Mateo is the only soil type considered in the present study. Static and dynamic strength properties of saturated San Mateo Sand have been presented in our report entitled *Liquefaction Evaluation for the proposed Units 2 and 3, San Onofre Nuclear Generating Station, San Onofre, California,* dated 22 Jan 74. Data presented in that report and additional data obtained during the present investigation were used to obtain the final dynamic strength used for the analysis presented in this report. Stiffness and damping properties for the San Mateo have been presented in detail in our report entitled *Elastic and Damping Properties, Laydown Area, San Onofre Nuclear Generating Station,* dated Oct 71. For ease of reference, Figs. E-4 and F-3 of that report are included here as Fig. 2 and Fig. 3, respectively. These data were used as input to the dynamic finite-element analysis, which takes into account the strain dependency of modulus and damping.

A detailed description of the procedure used to obtain the

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field dynamic strength curves for the San Mateo is presented in Appendix C. Briefly, the important factors considered in this procedure are the following:

a) Dry Density - Results of our previous investigations, presented in Appendix C, have shown a considerable influence of dry density of San Mateo Sand on its dynamic strength. Field dry density values, using Sand Cone tests were obtained at 125 locations in the native San Mateo Sand exposed during the onshore excavations in progress at the time of our field investigations. A summary of the results of these tests is presented in Fig. 4 in the form of a histogram. Based on these results, a dry density of 123 pcf was considered appropriate for in-situ San Mateo Sand.

b) Remolding - Dynamic tests on San Mateo Sand have indicated that undisturbed block samples have a dynamic strength about 16% higher, at a confining pressure of 4000 psf, than the remolded samples. Data for other confining pressures are presented in Appendix C.

c) Overconsolidation - For normally consolidated soils, the stress conditions in the field are such that there are no shear stresses on the horizontal plane. This condition is represented by a K_o value of about 0.5 and a value of $K_c = 1$ in cyclic loading triaxial tests.

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For this condition, earlier investigations (Seed et.al., 1969) have shown that the dynamic triaxial tests overestimate in-situ strength, and that a factor, C_r, (equal to 0.8, as discussed in Appendix C of our liquefaction report of 22 Jan 74) should be applied to obtain in-situ strength from triaxial test results. It was further shown (Seed and Peacock, 1971) that for higher values of K_o up to 1.0, the value of C_r increases to a maximum of 1.0. Geologic evidence and results of K_o tests in the laboratory, presented in Appendix D, have indicated that the San Mateo Sand in the offshore area is significantly overconsolidated ($K_o \approx 0.8$). Based on these facts, and the data presented by Seed and Peacock (1971) a C_r factor equal to 0.90 was considered appropriate to obtain in-situ strength values from dynamic triaxial test results. Thus, an areal anisotropic condition has been considered in this analysis.

d) Drainage - Field pump tests and grain size distribution of San Mateo Sand indicates a high permeability for the soil. For this condition, it is thought that some of the excess pore pressure developed during an earthquake may be dissipated. The influence on this drainage on the dynamic strength of San Mateo Sand was investigated. The results of these tests, presented in Appendix E, indicate that the dynamic

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strength of San Mateo could increase by about 10%. However, in the spirit of conservatism, this increase has not been considered in developing the field strength curves used for this study.

The in-situ dynamic strength curves, presented in Fig. 5 were obtained on the basis of the above considerations. A detailed discussion for obtaining strength is given in Appendix C. In our opinion, these strength curves represent conservative values in view of the fact that local anisotropy and influence of drainage have not been included.

6.0 LIQUEFACTION POTENTIAL

Basically the evaluation of liquefaction potential is accomplished by a comparison of the induced shear stress to the shear strength of the material. In making the comparison the following steps are involved:

1) Existing stress condition at the site is obtained to determine if anisotropic stress conditions exist (i.e., $K_c > 1.0$). However, it is conservative to assume an isotropic condition (i.e., $K_c = 1.0$), in areas close to the seawall. For regions away from the seawall, the value of K_c would be equal to 1. For this analysis $K_c = 1$ was assumed for the entire offshore area.

2) An appropriate number of stress applications is selected. Normally this is done by studying the stress-time histories at selected locations. However, in view of the fact that DBE motion is a synthesized motion obtained principally to satisfy some spectral characteristics, it was considered appropriate to obtain the number of stress applications on the basis of recorded earthquakes of magnitude similar to that of DBE. Based on a study by Lee and Chan (1971) and discussions with Professor Seed and Dr. Idriss, it was decided that 30 cycles of 65% of maximum stress would be appropriately conservative for this study.

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3) The maximum shear stress at various locations in the site were obtained by finite element procedure, as discussed in Appendix F. The finite element model used in this study is presented in Fig. 6.

4) As discussed in Step (2), 65% of maximum shear stresses were obtained. These were normalized with confining pressure appropriate for the locations of the elements.

5) For any given element, the available dynamic strength is obtained from Fig. 5 for appropriate confining pressure and 30 cycles of stress application.

6) The factor of safety is obtained by dividing the strength obtained in step (5) by the normalized stress obtained in Step (4).

The above procedure was used to evaluate the liquefaction potential for the entire cross-section of the offshore area represented by the finite-element model, shown in Fig. 6. The results of this analysis are presented as zones of different factors of safety on Fig. 7. As indicated on Fig. 7, the minimum factor of safety against liquefaction for the offshore area is on the order of 1.2.

7.0 CONCLUSIONS

Based on the results of the analysis presented in previous sections, it is our opinion that the San Mateo Sand at the site is not susceptible to liquefaction during DBE. Thus, we conclude that the offshore conduits resting on the native San Mateo Sand would not be subjected to large displacements due to liquefaction of San Mateo Sand; however, care must be taken in backfilling the trench in which the conduits are placed. It is our opinion that sand dumped into the trench as backfill will have a high potential for liquefaction during DBE, and is thus unsuitable. The backfill material should provide free

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drainage. In our opinion, a gravel backfill with minimum 1 in. size will meet this criterion. Furthermore, we feel that trenches with fairly steep side slopes (near vertical) can be excavated in San Mateo Sand under water (Fig. 8); however, steepness of such slopes is largely dependent on the care which is exercised in the excavation of the trench. The proposed trench backfill shown schematically in Fig. 8 necessarily assumes that very careful excavation procedures and close control of these operations are incorporated into the field operations.

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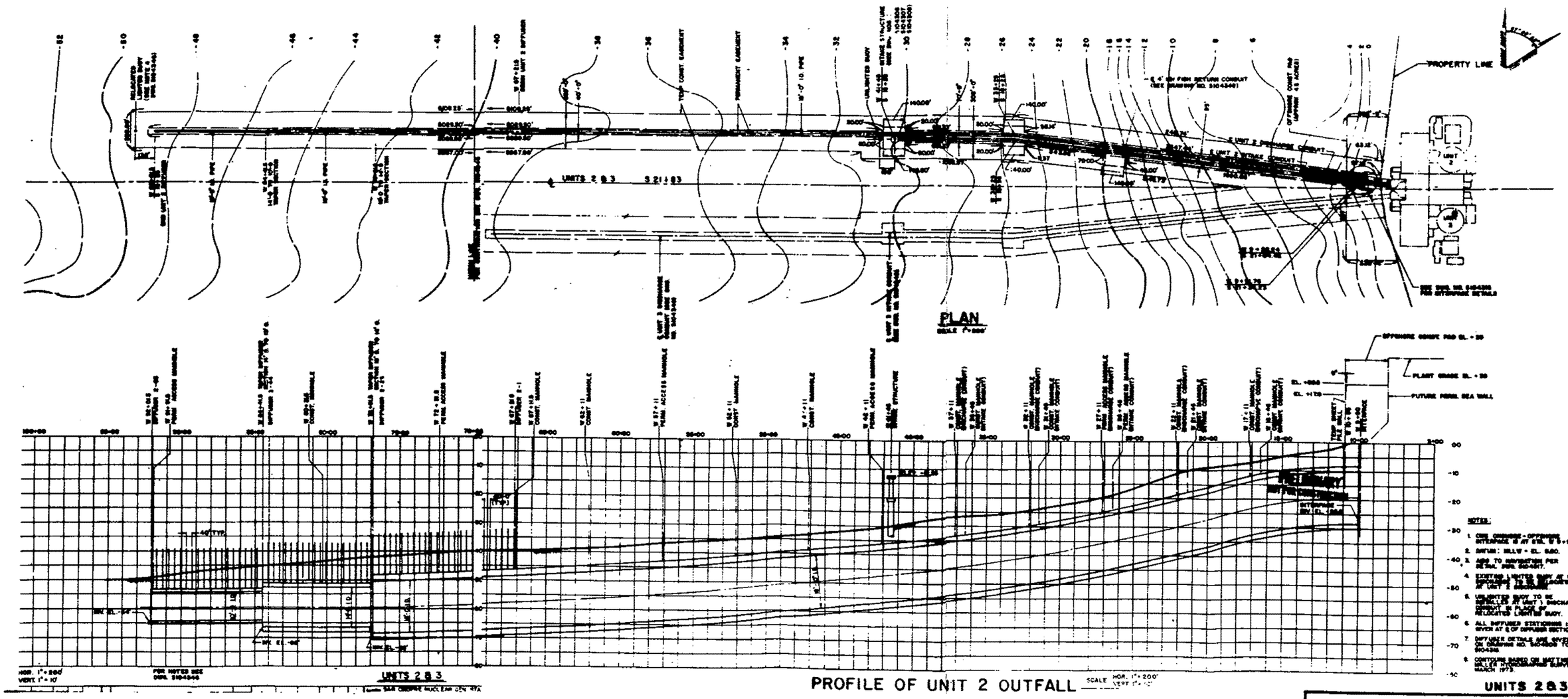

PROPERTY LINE
PLAN
UNITS 2 & 3
PROFILE OF UNIT 2 OUTFALL
UNITS 2 & 3
WOODWARD-McNEILL & ASSOCIATES
SITE PLAN AND PROFILE OF UNIT 2 OUTFALL
SONGS OFF-SHORE LIQUEFACTION EVALUATION
B449C
1

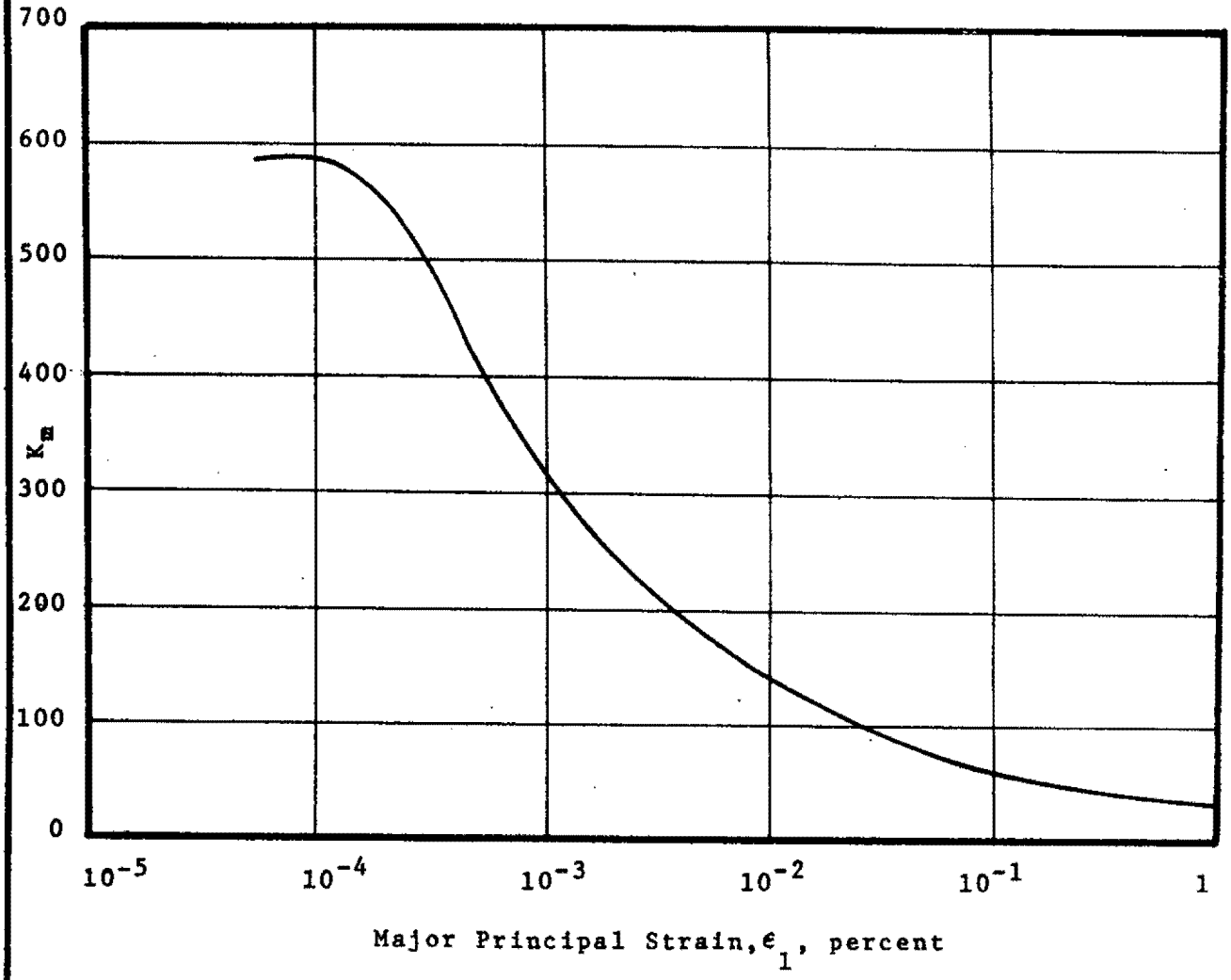
$$G = 100\, K_m \bar{\sigma}_m^{\,2/3}$$

$$\bar{\sigma}_m = 2/3\, \gamma H$$

γ = effective soil unit weight (pcf)

H = depth below surface (ft.)

G = shear modulus (psf)



Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION Job Number: B469C	RECOMMENDED MODULUS VALUES	Fig. 2

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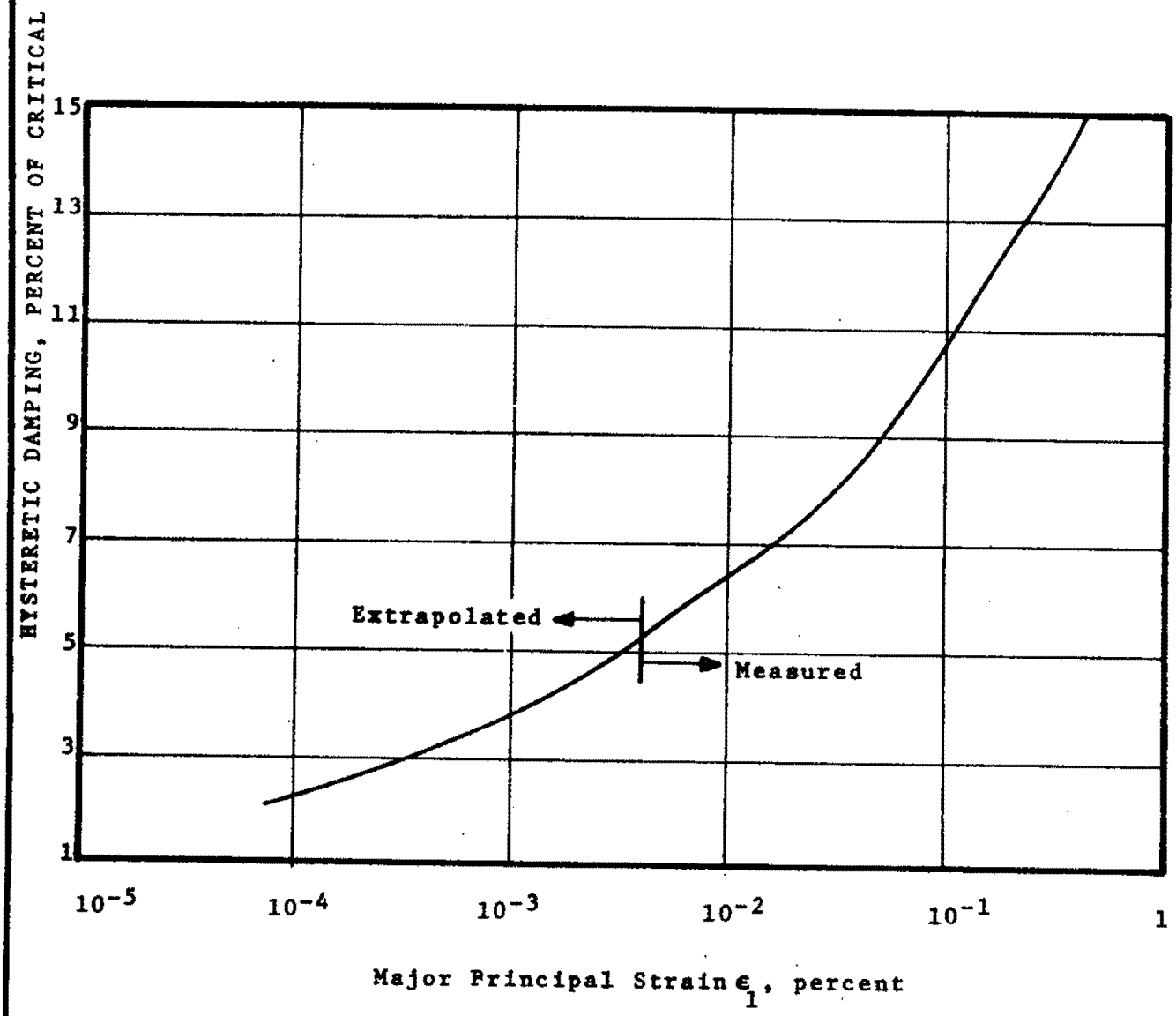

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION Job Number: B469C	RECOMMENDED VALUES OF HYSTERETIC DAMPING	Fig. 3

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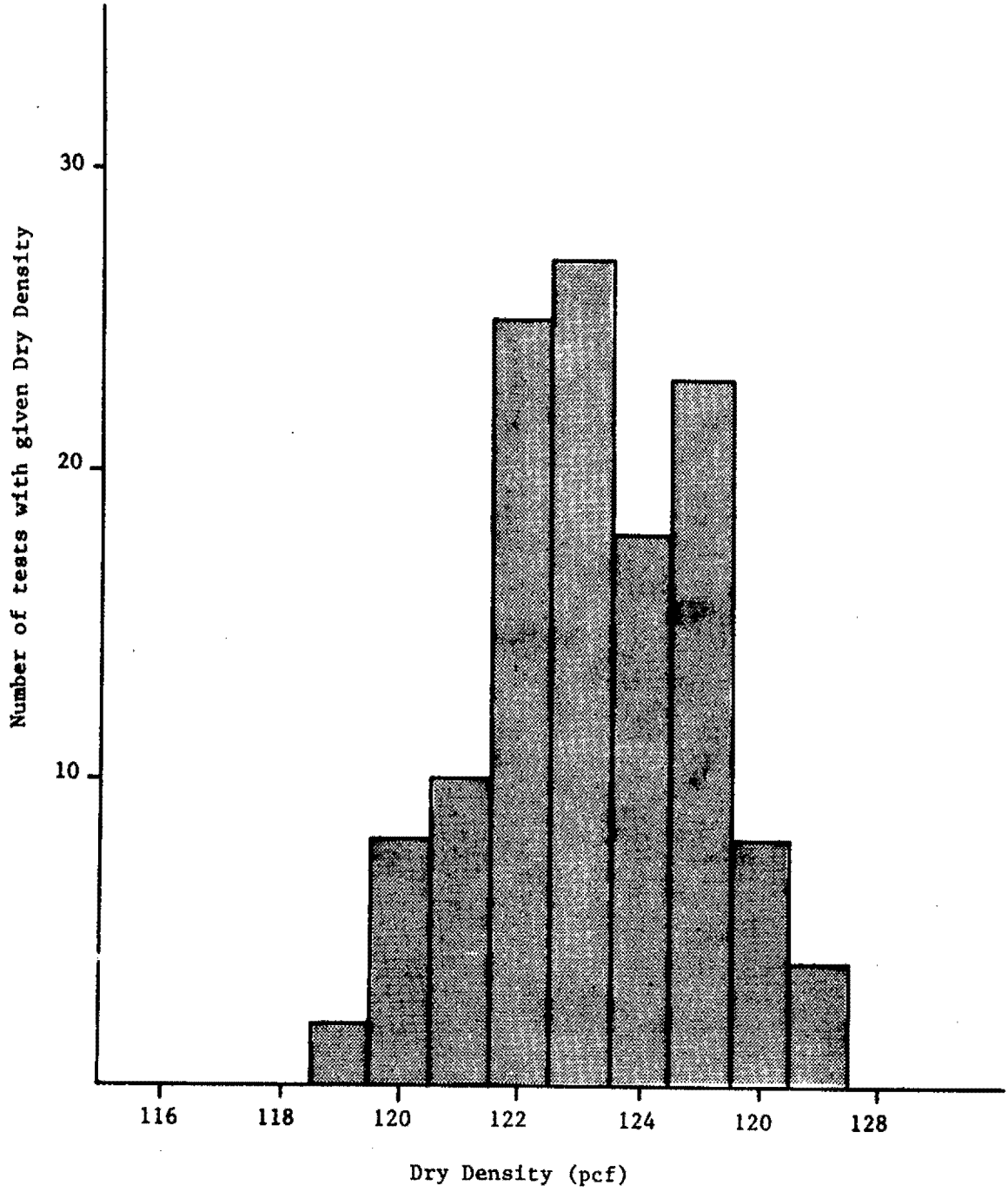

Results of Sand Cone Tests on In-situ San Mateo Sand

Project: SONGS OFFSHORE LIQUEFACTION EVALUATION **Job Number:** B469C	RESULTS OF SAND CONE TESTS ON IN-SITU SAND MATEO SAND	Fig. 4

WOODWARD-McNEILL & ASSOCIATES

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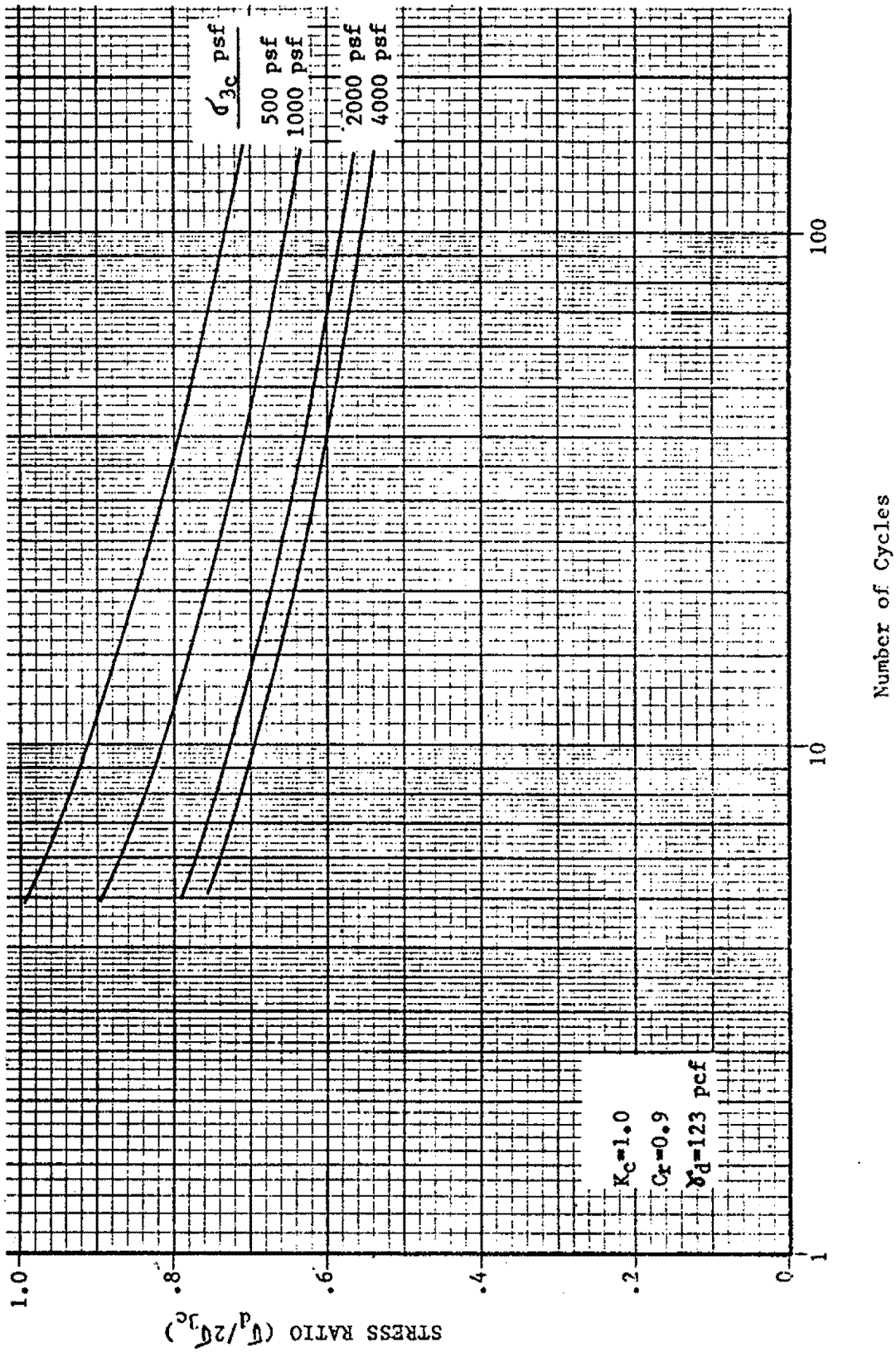

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number:** B469C	IN-SITU DYNAMIC STRENGTH OF SAN MATEO SAND	Fig. 5

WOODWARD-McNEILL & ASSOCIATES
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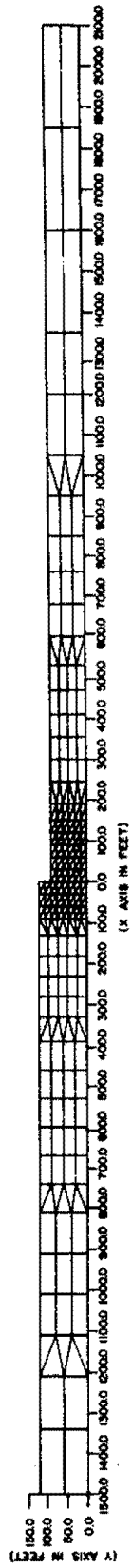

No. of Elements = 271
No. of Nodal Points = 231

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number**: B469C	FINITE ELEMENT MODEL	Fig. 6

WOODWARD-McNEILL & ASSOCIATES

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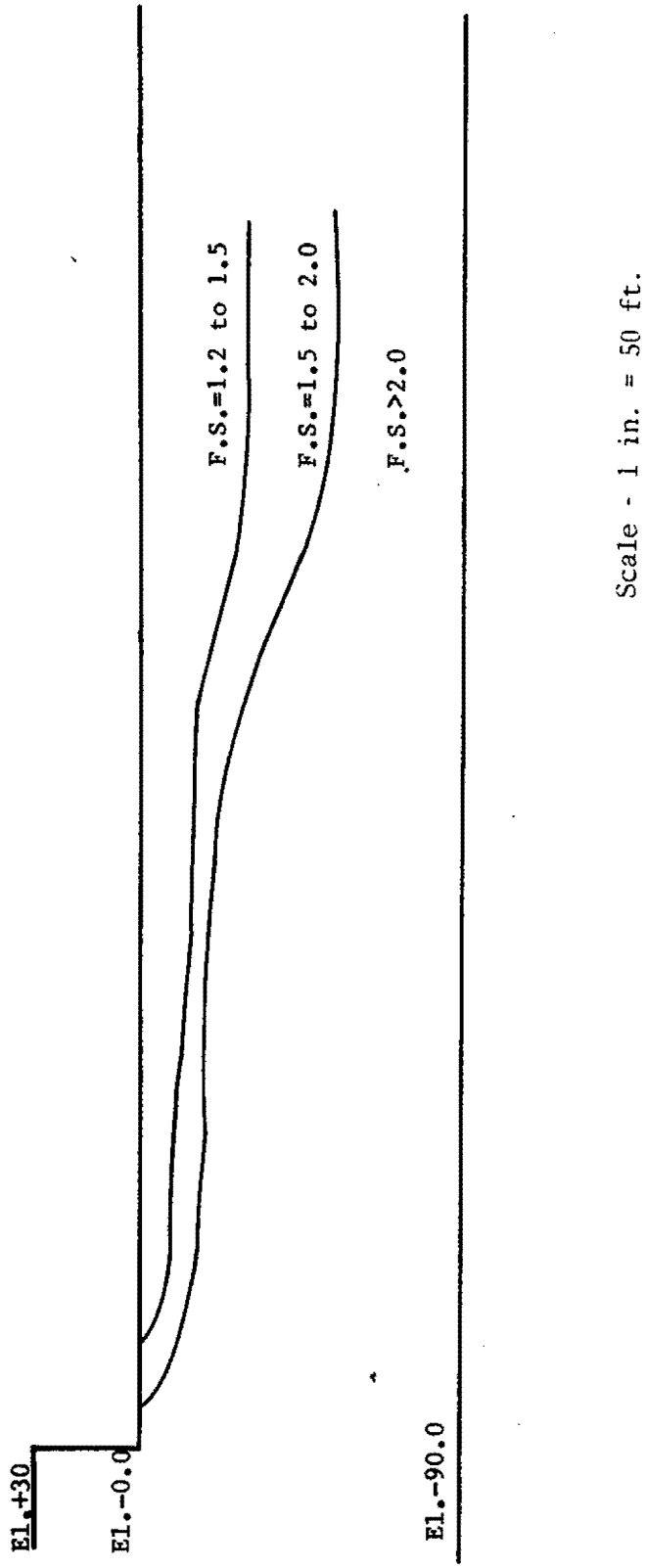

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number:** B469C	ZONES OF FACTOR-OF-SAFETY	Fig. 7

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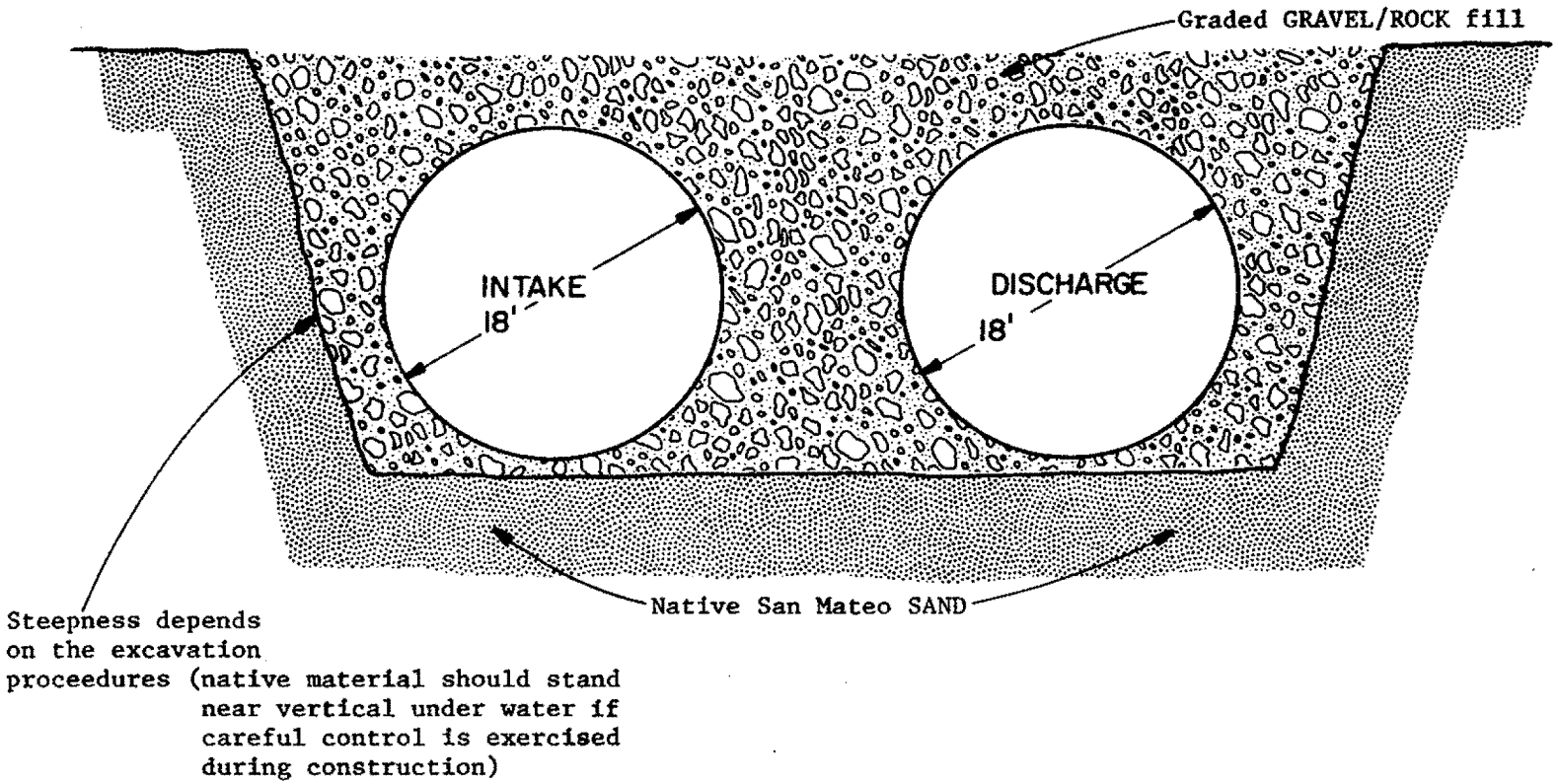
Project: SONGS OFF-SHORE
LIQUEFACTION EVALUATION
Job Number: B469C



PROPOSED TRENCH BACKFILL

Fig. 8

WOODWARD-McNEILL & ASSOCIATES

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APPENDIX A

FIELD INVESTIGATION

A-1 General

The exploration at the site was conducted in two phases; (a) onshore investigation and (b) offshore investigation. Because the earlier investigations at the SONGS site did not cover the beach area, particularly in the vicinity of the circulating water cooling systems, one of the objectives of the onshore drilling was to obtain data from this area. Another objective was to obtain intact Pitcher samples for further laboratory investigation. The purpose of the offshore exploration was to confirm the extent of the San Mateo Formation in the area of offshore conduits of the circulating cooling water systems. This investigation was done by boomer survey and by vibro-core drilling.

A-2 Onshore Investigation

Three boreholes were drilled at locations shown on Fig. A-1. The borings were 6 in. in diameter and were advanced with a Failing 1500 Rotary Drilling Rig using drilling mud. The maximum depth of investigation was 61 ft below the existing ground surface. The logs of the borings are presented in Figs. A-2 through A-4.

Samples were obtained with a Pitcher Sampler and were taken continuously.

A-3 Offshore Investigation

The offshore investigation was aimed at obtaining subsur-

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face information both in the general area and along the alignments of the offshore conduits. The areal information was obtained by a reflection profiling survey. Some details of this survey procedure are presented in Section A-3-1. The traverses made for this survey are shown in Fig. A-5 and the data obtained are presented in Fig. A-6. An interpretation of these data is presented in Fig. A-7.

Soil condition in the vicinity of the proposed offshore conduits was obtained by vibro-core drilling, which is discussed in Section A-3-2.

A-3-1 Physical Characteristics of the Offshore Reflection Profiling

The subbottom geophysical profiling performed was designed to measure the thickness of the seafloor sediments and to develop a subbottom configuration for the underlying San Mateo Formation. Oceanographic Services was contracted to perform the reflection survey.

The system utilized for the survey was the EPC system which utilizes an electromagnetic transducer, a linear array hydrophone, and a dry-write paper recorder. The power input was 170 joules with a frequency of four firings per second. A high low filter range of 700 to 3000 Hertz was used.

Power was supplied by an onboard generator with a step-up transformer which converted 110 Volts AC to about 3500 Volts DC. This energy charged a capacitor bank which discharged into

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the boomer gun at prescribed intervals (4 per second).

The sound wave generated by the electrical discharge travelled through the water both directly to the receiver and to the bottom from where it was reflected back to the receiver. A wave velocity of 4800 ft per second was assumed for the sea water. Utilizing the sea water velocity and arrival times the boomer receiver separation was determined. This distance was about 40 ft. The actual depth of water was calculated by dividing the travel time of the bottom reflection by two, mutiplying by the sea water velocity for apparent depth and solving the right triangle formula for the vertical depth under the boat. The depth to the second layer was calculated in the same manner assuming a seismic velocity of the sea bottom sediments of 6000 ft per second.

The vessel's location was determined by use of a mini-ranger VHF transceiver. Triangulation was accomplished with two fixed stations onshore. Vessel speed was approximately 11 mi per hour.

A-3-2 Vibro-Core Drilling

To locate the depth at which San Mateo Sand along the alignments for offshore conduits, boreholes were advanced at various locations by vibro-core drilling. Some of the important physical characteristics of the equipment are given below and in Figs. A-8 to A-10. Location of these holes are shown in Fig. A-5. The depth to San Mateo Sand was obtained by monitoring

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the depth to which the hole was advanced, the rate of drilling and the visual examination of the soil retained in the liner-tube. The drilling logs are summarized in Table A-1. The soil from these tubes was retained for classification tests. A summary of these tests is presented in Appendix B. The drilling program indicated a shallow depth to San Mateo which is overlain by up to 3 ft of gravel, cobbles and a trace of bottom sediment. In general, the core could not be advanced in the San Mateo Sand more than a few feet, indicating a very dense state of the sand.

Some of the important physical characteristics of the equipment used for vibro-core drilling are listed below:

Outer diameter of Core Barrel = 3.5 in.
Inner diameter of Core Barrel = 3.0 in.
Static wt. with 10 ft core barrel = 357 lbs
Static wt. with 20 ft core barrel = 417 lbs

Operating Condition:

The driving head has piston with 2.68 in. in diameter, and a stroke of 1 ft.

The impact moment = 14.5 lb/sec.
Frequency = 20 cps
Max. velocity of piston = 77.9 ft/sec.

A-4 Conclusions

Based on the above investigations of the offshore area within 2 mi of the shore, the San Mateo Formation is indicated to be at a depth of about 8 ft below the ocean bottom by the seismic survey and about 3 ft by the vibro-core drilling. Because of difficulties in interpretation of the seismic data

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and because the vibro-core represents a more direct measure of the depth we conclude that the vibro-core data reflects the best estimate of the thickness of material overlying the San Mateo Sand and that the seismic data reflect the deeper local variations in this thickness. It is therefore our interpretation that the San Mateo Sand lies at a depth of 3 to 5 ft below the ocean bottom areally and up to 8 ft locally. The material overlying the San Mateo Formation is predominantly gravel and cobbles with a trace of bottom sediments.

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TABLE A-1

SUMMARY OF VIBRO-CORE LOGS

Location (See Fig. A-5)	Reading on Depth gage (ft)	Penetration Time	Total Penetration (ft)	Remarks
3	0 - 2.5	fast	3.0	San Mateo Sand at 2.5 ft. (Tube 3-1)
	2.5	3 min		
	2.5 - 3.0	fast		
	3.0	7 min		
4	0 - 1.0	2 min	5.0	Due to cobbles, four trials had to be made. San Mateo Sand was recovered in the fourth trial. Then another successful run was made. (Tubes 4-1 and 4-2)
	1.0 - 2.0	15 sec		
	2.0 - 3.0	5 min		
	3.0 - 5.0	20 sec		
	5.0	10 min		
8	0 - 2.5*	10 sec	5.5	Two runs were made. San Mateo Sand at 3 ft. (Tubes 8-1 and 8-2)
	2.5 - 3.5	5 min		
	3.5 - 8.5	10 sec		
	8.5 - 11.5	10 sec		
	11.5 - 14.5	10 min		
14	0 - 1.25*	fast	4.0	Two trials were made due to cobbles. Core head bent. Liner folded back due to dense sand. San Mateo Sand at 4 ft. (Tube 14-1)
	1.25 - 6.0	10 sec		
	6.0	3 min		
	6.0 - 7.0	fast		
	7.0	3 min		
	7.0 - 7.5	5 sec		
	7.5	8 min		
	7.5 - 8.5	10 sec		
	8.5	4 min		

* An error in depth gage measurement for these runs was noted upon checking the amount of penetration on the core barrel. This was caused by the fouling of the gage line during penetration.

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TABLE A-1 (Cont'd)

Location (See Fig. A-5)	Reading on Depth gage (ft)	Penetration Time	Total Penetration (ft)	Remarks
15	0 - 2.5	fast	4.0	Made two runs. No recovery in the first run. 1 ft recovery in the second run. (Tubes 15-1 and 15-2) San Mateo Sand not encountered.
	2.5	15 min		
	2.5 - 3.0	1 min		
	3.0 - 3.3	fast		
	3.3	1 min		
	3.3 - 4.0	fast		
	4.0	5 min		
19	0 - 1.5	fast	7.0	Two trials were made due to cobbles. Recovery 2 ft. No recovery in first trial (Tube 19-1) San Mateo encountered at 2 ft.
	1.5 - 2.0	10 sec		
	2.0 - 3.5	fast		
	3.5 - 5.0	5 sec		
	5.0	2 min		
	5.0 - 5.25	fast		
	5.25	30 sec		
	5.25 - 7.0	fast		
	7.0	5 min		
24	0 - 2.0	fast	5.0	Recovery 3 ft. San Mateo Sand at 1.5 ft. (Tube 24-1)
	2.0	1 min		
	2.0 - 4.5	fast		
	4.5	1 min		
	4.5 - 5.0	fast		
	5.0	6 min		

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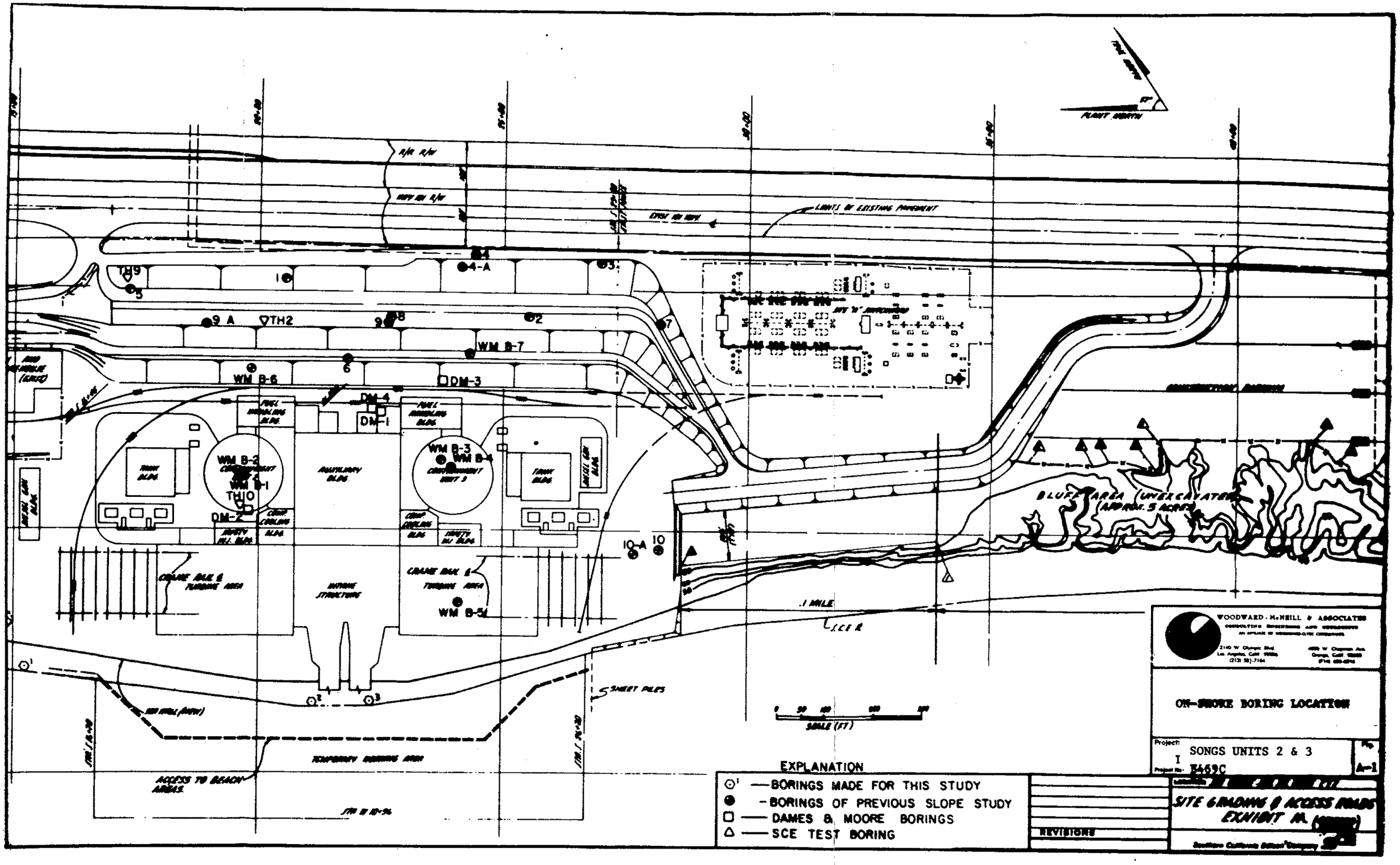

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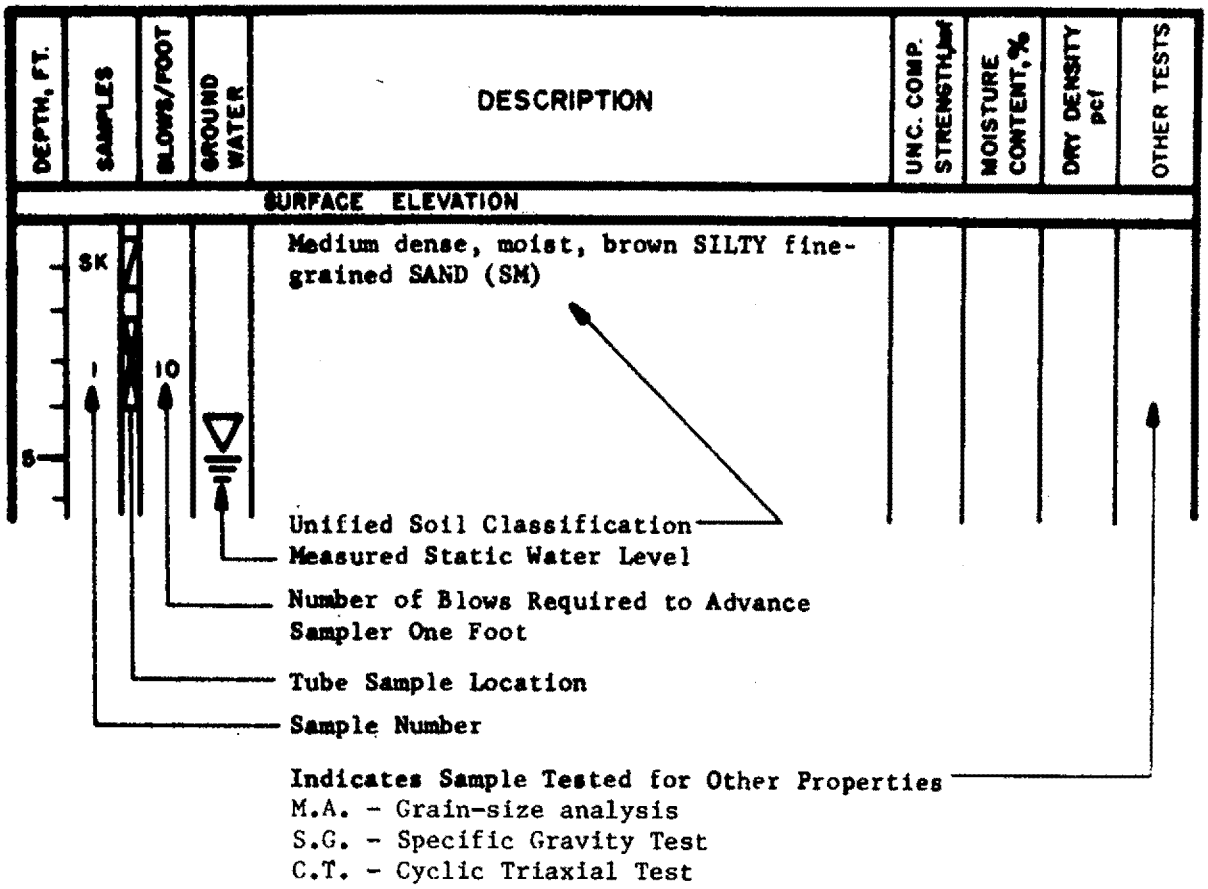

Notes on Field Investigation

1. Borings were advanced with a 6" diameter continuous flight auger or a 4 7/8" diameter rotary drilling rig using mud.

2. Samples with recorded blows/ft. (labeled M1, M2, etc.) were obtained with a Modified California drive sampler (2" inside diameter) lined with sample tubes. Samples labeled ST1, ST2, etc. were obtained with Shelby Tubes (2.78" inside diameter) hydraulically driven. Samples labeled P1, P2, etc., were obtained with a Pitcher Core Barrel Sampler.

3. Classifications are based upon the Unified California System, and include color, moisture, and consistency. Field descriptions have been modified to reflect results of laboratory analyses where deemed appropriate.

4. NR indicates no sample recovery.

Project: SONGS UNITS 2 & 3	KEY TO BORING LOGS	Fig. A-2(a)
Job Number: B469C		

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DATE OF BORING 16 Apr.74 WATER DEPTH _____ DATE MEASURED _____ SAMPLES Pitcher Barrel

TYPE OF DRILL RIG Failing 1500 Rotary HOLE DIAMETER 6" WEIGHT OF HAMMER _____ FALLING _____

SURFACE ELEVATION:

DEPTH, FT	SAMPLES	NOTES	GROUND WATER	DESCRIPTION	UNC. COMP. STRENGTH, ksf	MOISTURE CONTENT, %	DRY DENSITY pcf	OTHER TESTS
				Loose, wet, tan-gray fine to medium-grained SAND (SM)				
				Wet, gray SANDY GRAVEL and COBBLES with boulders up to 1.5 ft (GM)				
10	P1			Dense, wet, gray-green SILTY SAND (SM)				MA
	P2	NR						
	P3							
				Dense, wet, gray-green CLAYEY SILT (ML)				
20	P4							
	P5							
	P6							
				Dense, wet, yellow fine to medium-grained SAND (SW) SAN MATEO FORMATION				
	P7							
30	P8	NR						
	P9	NR						
40	P10	NR						
50	P11							
	P12							
	P13	NR						
60	P14							
				Bottom of boring at 61 ft.				
70				NOTE- N.R.- SAMPLE NOT RECOVERED				
80								
90								
00								

Project : SONGS, UNITS 2 & 3
Job Number : B469C1

LOG OF BORING 1

Fig. A-2

WOODWARD-McNEILL & ASSOCIATES

DATE OF BORING [illegible] Apr. [illegible] WATER DEPTH _____ DATE MEASURED _____ SAMPLES Pitcher Barrel

TYPE OF DRILL RIG Failing 1500 Rotary HOLE DIAMETER [illegible] WEIGHT OF HAMMER _____ FALLING _____

SURFACE ELEVATION:

DEPTH, FT	SAMPLES	BLOWS / FOOT	GROUND WATER	DESCRIPTION	UNC COMP STRENGTH, tsf	MOISTURE CONTENT, %	DRY DENSITY pcf	OTHER TESTS
				Loose, wet, tan-gray fine to medium-grained SAND (SM)				
				Wet, gray SANDY GRAVEL and COBBLES with boulders up to 1.5 ft (GM)				
	P1	NR						
10	P2			Dense, wet, yellow fine to medium-grained SAND (SM) SAN MATEO FORMATION				MA
	P3						113.[illegible]	MD
	P4							
	P5							
20	P6						115.0	MA
	P7						115.7	
	P8						115.[illegible]	
30	P9						116.[illegible]	MA
	P10						112.5	
	P11						116.6	MA
	P12							
40				Bottom of boring at 41 ft.				
50				NOTE- N.R.- SAMPLE NOT RECOVERED				
60								
70								
80								
90								
00								

Project: SONGS, UNITS 2 & 3
Job Number: B469C1

LOG OF BORING 2

Fig. [illegible]

WOODWARD-McNEILL & ASSOCIATES

DATE OF BORING [illegible] Apr.[illegible] WATER DEPTH _____ DATE MEASURED _____ SAMPLES Pitcher Barrel

TYPE OF DRILL RIG Failing 1500 Rotary HOLE DIAMETER [illegible]" WEIGHT OF HAMMER _____ FALLING [illegible]

DEPTH, FT.	SAMPLES	NOTES	GROUND WATER	DESCRIPTION	UNC. COMP. STRENGTH, ksf	MOISTURE CONTENT, %	DRY DENSITY pcf	OTHER TESTS
SURFACE ELEVATION:								
				Loose, wet, tan-gray fine to medium-grained SAND (SM)				
				Wet, gray SANDY GRAVEL and COBBLES with boulders up to 1.5 ft (GM)				
	P1							
10				Dense, wet, yellow fine to medium-grained SAND (SW) SAN MATEO FORMATION				
	P2						116.8	MA
	P3						114.7	MA
	P4						112.5	
20	P5							
	P6							
	P7						113.6	MA
								MA
30	P8	NR						
	P9	NR		GRAVEL				
	P10	NR						
	P11							
40				Bottom of boring at 40 ft.				
50				NOTE- N.R.- SAMPLE NOT RECOVERED				
60								
70								
80								
90								
00								

Project : SONGS, UNITS 2 & 3
Job Number : B469C1

LOG OF BORING 3

Fig. A-[illegible]

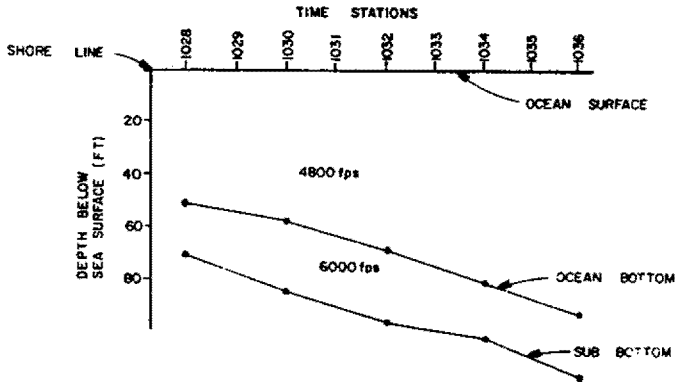
WOODWARD-McNEILL & ASSOCIATES

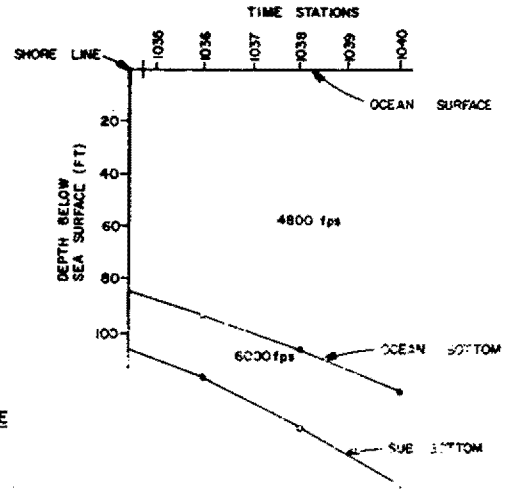
Amended: April 2009 TL: E048000

START TRAVERSE TWO
FINISH TRAVERSE ONE
START TRAVERSE ONE
FINISH TRAVERSE THREE
START TRAVERSE THREE
FINISH TRAVERSE TWO
LEGEND
CORE SAMPLE LOCATION
TRANSPONDER LOCATION
TRANSPONDER NO 1
EXISTING UNIT 1
TRANSPONDER NO 2
SCALE
0
500
1000
1500
2000 feet
TRANSPONDER NO.2
11,376 ft
TRANSPONDER NO.1
11,350 ft
SHORELINE
EXISTING UNIT 1
WOODWARD-CLYDE & ASSOCIATES
TRAVERSE FOR SONDER SURVEY AND
LOCATIONS FOR VIBRACORE SAMPLING

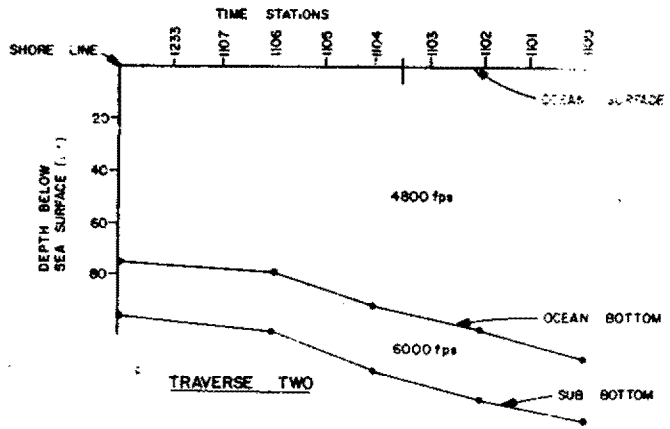
START TRAVERSE ONE
OCEAN SURFACE
DIRECT ARRIVAL
OCEAN BOTTOM REFLECTION
SUB BOTTOM REFLECTION
FINISH TRAVERSE ONE
MATCH LINE 1
10:28
10:30
10:32
10:34
10:36
10:38
10:40
10 ms
MATCH LINE 1
MATCH LINE 2
10:40
10:42
10:44
10:46
10:48
10:50
10:52
10:54
MATCH LINE 2
MATCH LINE 3
10:54
10:56
10:58
11:00
START TRAVERSE TWO
11:02
11:04
11:06
11:08
MATCH LINE 3
MATCH LINE 4
11:08
11:10
11:12
11:14
11:16
11:18
11:20
MATCH LINE 4
FINISH TRAVERSE TWO
11:20
11:22
11:24
11:26
11:28
LEGEND
SB—BOTTOM DEPTH BELOW SURFACE IN FEET
SB—SUB BOTTOM DEPTH BELOW SURFACE IN FEET
MB—QUESTIONABLE DATA
11:26—PACIFIC DAYLIGHT TIME
NOTE: SEE FIGURE FOR LOCATION OF TRAVERSE
GOODFRIEND-MAXWELL & ASSOCIATES
SAN GORGONIO SOUNDING
SURVEY TRAVERSE NO. 1 & 2
Project: SAN GORGONIO SOUNDING
Project No.: 8A8A03
Fig. No.: 2.5A(6)

OCEAN SURFACE
DIRECT ARRIVAL
OCEAN BOTTOM REFLECTION
SUB BOTTOM REFLECTION
MATCH LINE 1
START TRAVERSE THREE
11:50
11:52
11:54
11:56
11:58
MATCH LINE 2
12:00
12:02
12:04
12:06
12:08
12:10
12:12
12:14
MATCH LINE 3
12:16
12:18
12:20
12:22
12:24
12:26
12:28
FINISH TRAVERSE THREE
12:30
12:32
12:34
12:36
12:38
12:40
LEGEND
BOTTOM DEPTH BELOW SURFACE IN FEET
SUB BOTTOM DEPTH BELOW SURFACE IN FEET
PACIFIC DAYLIGHT TIME
NOTE: SEE FIGURE FOR LOCATION OF TRAVERSE





TRAVERSE ONE

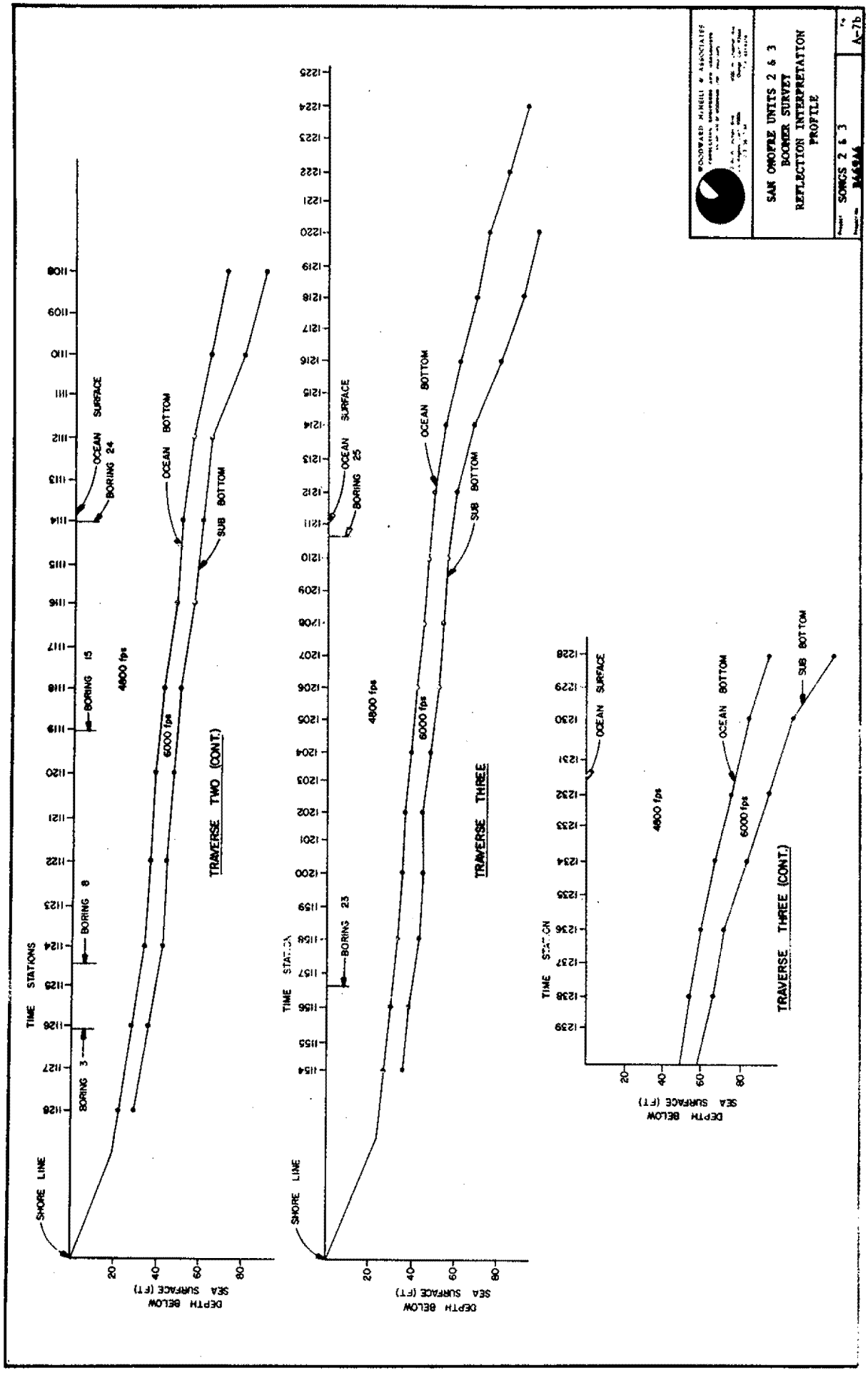


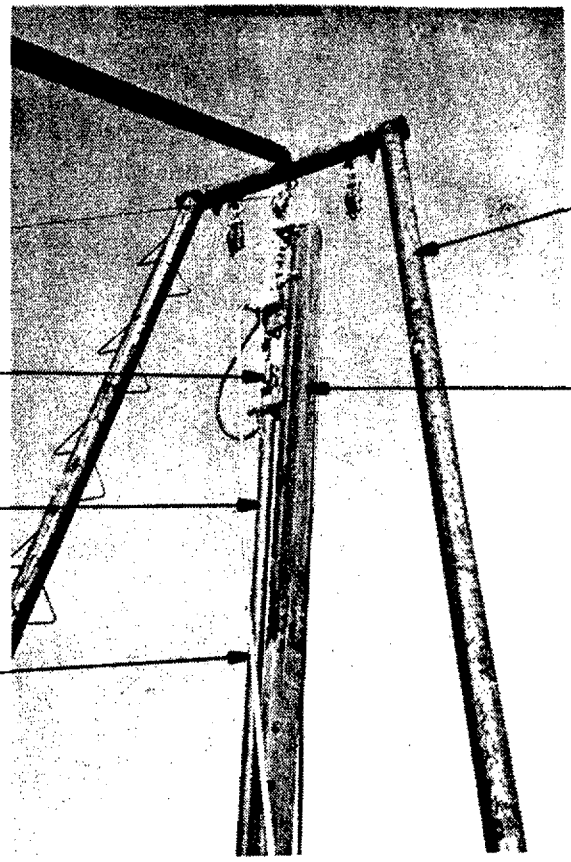
TRAVERSE TWO

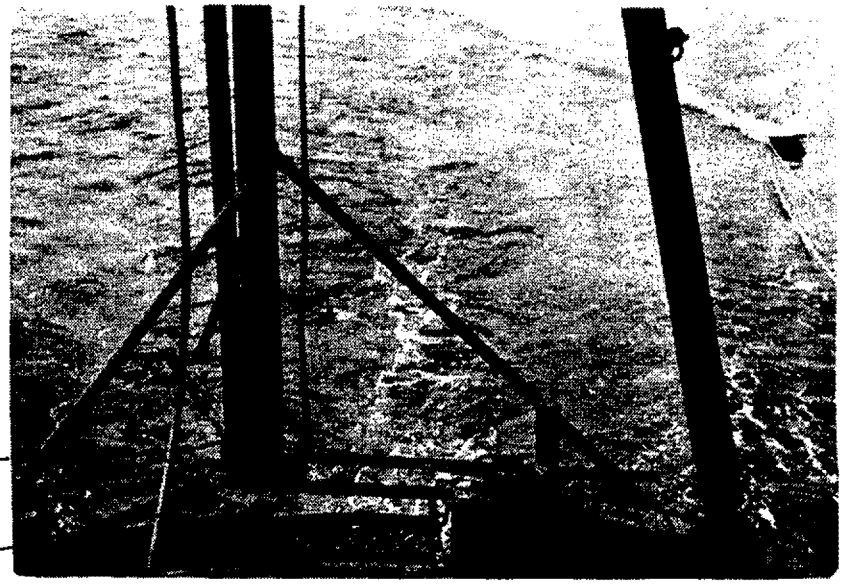
WOODWARD McNEILL & ASSOCIATES

SAN ONOFRE UNITS 2 & 3
BOOMER SURVEY
REFLECTION INTERPRETATION
PROFILE

SONGS 2 & 3
B469A4
A-7a


SAN ONOFRE UNITS 2 & 3
BOOMER SURVEY
REFLECTION INTERPRETATION
PROFILE
SONGS 2 & 3
A-7b
TRAVERSE TWO (CONT.)
TRAVERSE THREE
TRAVERSE THREE (CONT.)
TIME STATIONS
SHORE LINE
OCEAN SURFACE
OCEAN BOTTOM
SUB BOTTOM
BORING 3
BORING 8
BORING 15
BORING 24
BORING 23
BORING 25
4800 fps
6000 fps
DEPTH BELOW SEA SURFACE (FT)





Project: SONGS UNITS 2 AND 3 **Job Number:** B469C	DETAILS OF VIBRO-CORE DRILLING	Fig. A-8

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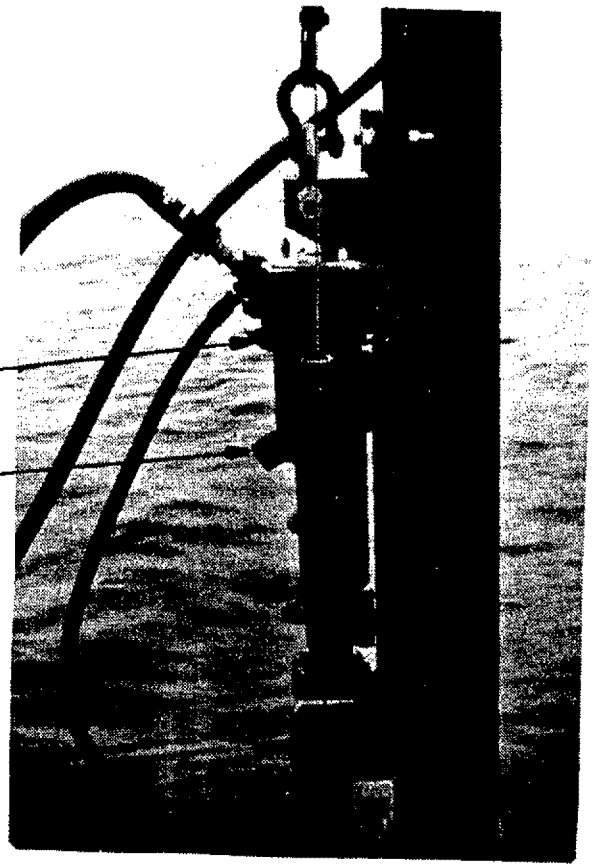

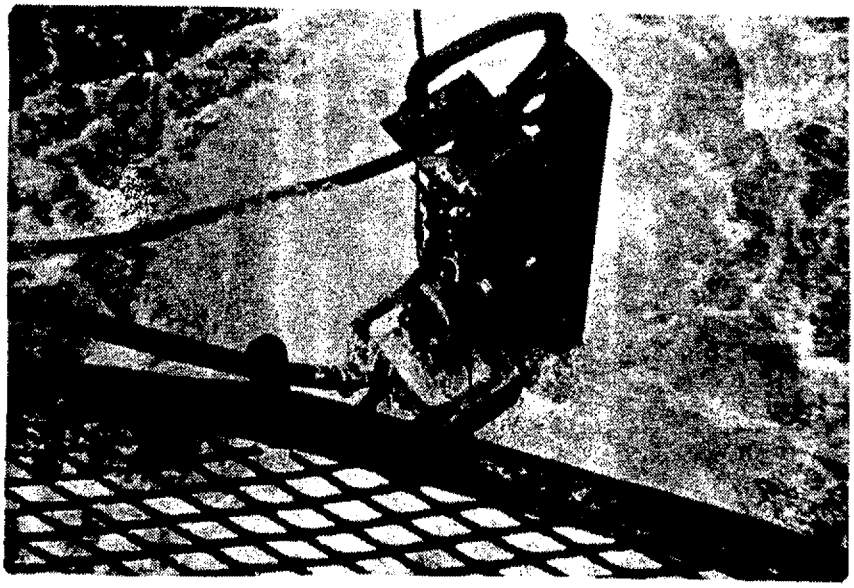

Project: SONGS UNITS 2 AND 3 Job Number: B469C	DETAILS OF VIBRO-CORE DRILLING	Fig. A-9

WOODWARD-McNEILL & ASSOCIATES

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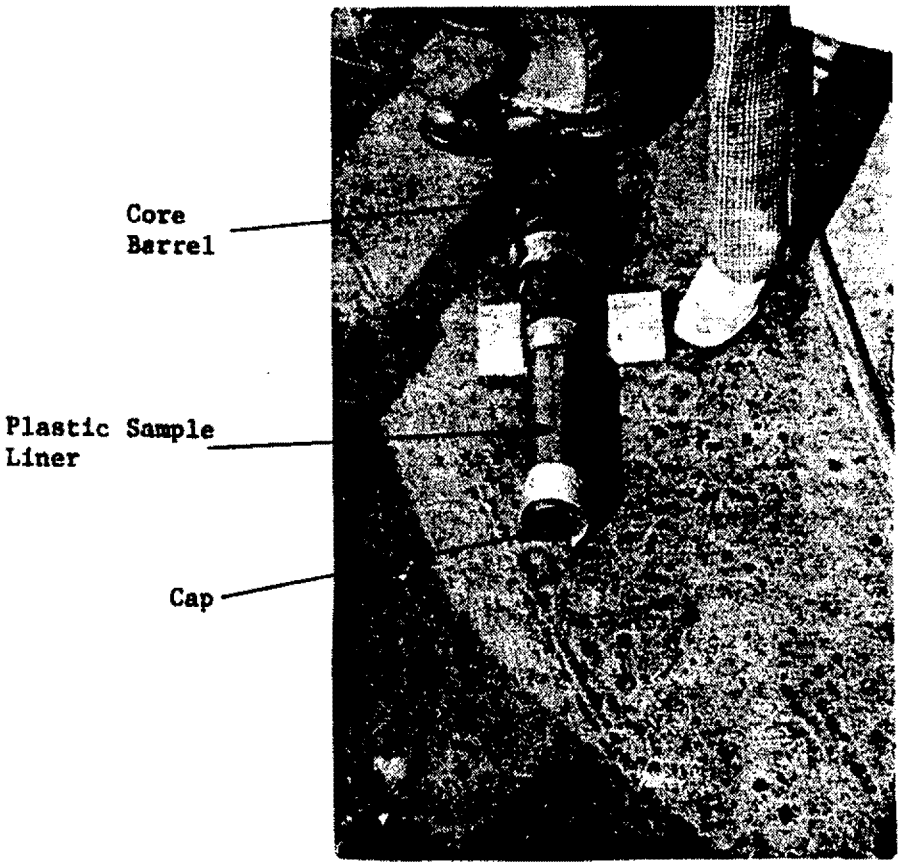

Project: SONGS UNITS 2 AND 3 **Job Number:** B469C	DETAILS OF VIBRO-CORE DRILLING	Fig. A-10

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APPENDIX B

LABORATORY TESTING

B-1 General

As discussed previously, the San Mateo Sand is the principal soil at the site. Both static and dynamic laboratory tests were done to determine pertinent soil properties. Considerable laboratory investigation has been conducted and reported in earlier reports for the site. Data from these investigations have been used in the present study. Additional laboratory testing has been done to investigate particular aspects of the dynamic strengths of San Mateo. Details of these particular aspects are given in Appendices D and E. These tests and others are briefly discussed in the following sections for the sake of completeness.

B-2 Static Testing Program

Grain size distribution determinations were made on most intact Pitcher tube samples. Grain size distribution determinations were also made on samples obtained by vibro-core drilling for correlation purposes. These distributions are summarized along with a range of distributions previously reported for the San Mateo Sand in Figs. B-1 and B-2. All tests results fall within the boundaries previously reported for the San Mateo Sand.

B-3 Dynamic Testing Program

B-3-1 Stiffness and Damping Properties

An extensive testing program has been conducted to determine

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dynamic stiffness and damping parameters for the San Mateo Sand. These tests and their results have been presented in our report entitled *Elastic and Damping Properties, Laydown Area, San Onofre Nuclear Generating Station* dated Oct 71. For ease of reference, Figs. B-7 and B-8 of that report are presented here as Figs. B-3 and B-4, respectively. Results presented in these figures were used in the present study.

B-3-2 Dynamic Strength Tests

A number of dynamic strength tests were done on reconstituted, intact Pitcher tube samples as well as block samples of San Mateo Sand to evaluate its liquefaction potential. Some details of the test equipment used are presented in Appendix E. A detailed description of this test procedure is presented in our report entitled *Liquefaction Evaluation for the Proposed Units 2 and 3, San Onofre Nuclear Generating Station* dated 22 Jan 74. A summary of the results of pertinent tests reported in that report and those conducted for this study is presented in Fig. B-5.

B-4 Other Tests

In addition to the above, a laboratory investigation was made to determine the existing stress condition of San Mateo Sand. This was done by K_0-tests. Details of these tests and their results are presented in Appendix D. Further, laboratory tests were done to determine the effect of drainage on the dynamic trength of San Mateo Sand. These tests and results are presented in Appendix E.

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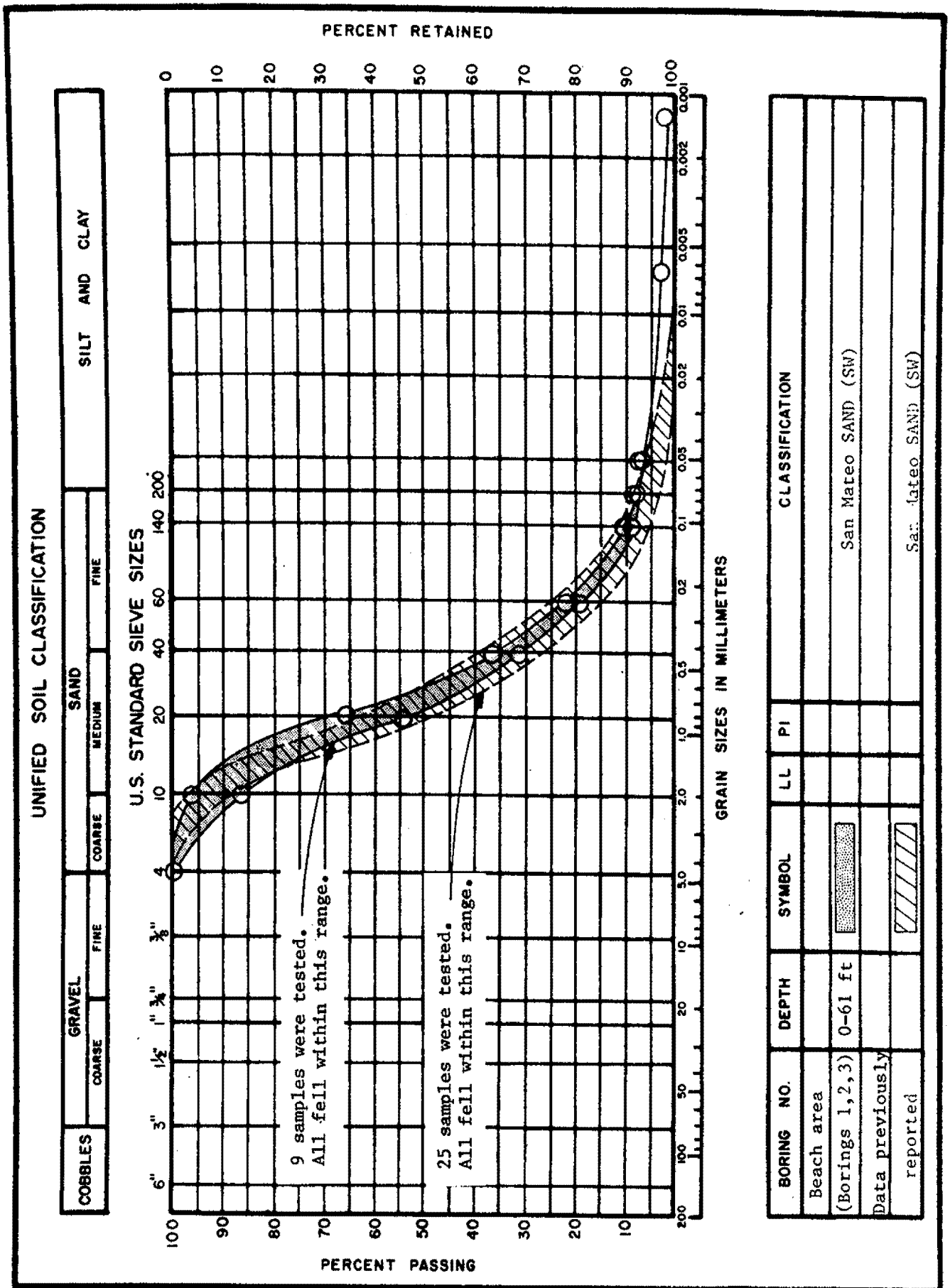

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION

Job Number: B469C

GRAIN SIZE DISTRIBUTION CURVES

Fig: B-1

WOODWARD-McNEILL & ASSOCIATES

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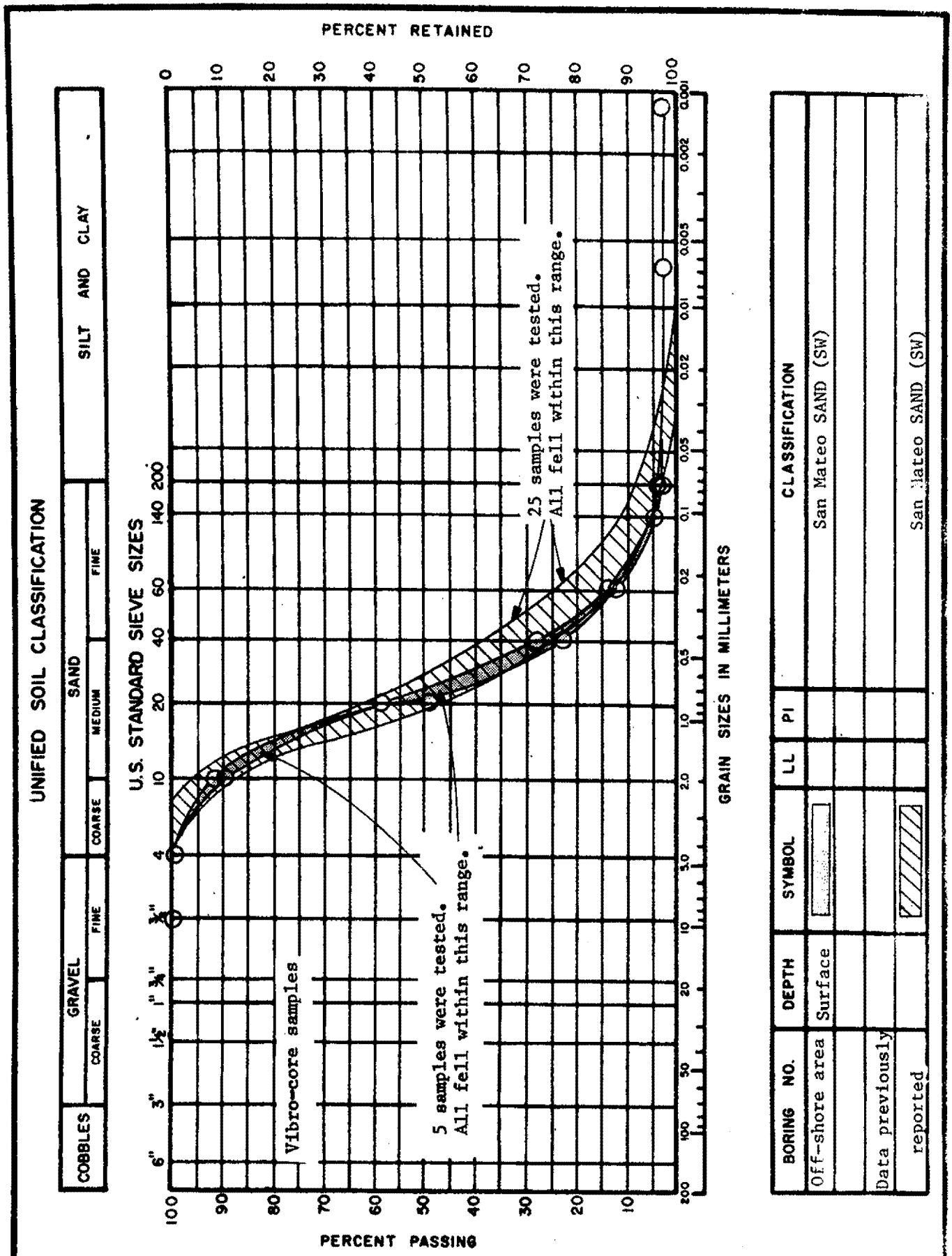

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION

Job Number: B469C

GRAIN SIZE DISTRIBUTION CURVES

Fig B-2

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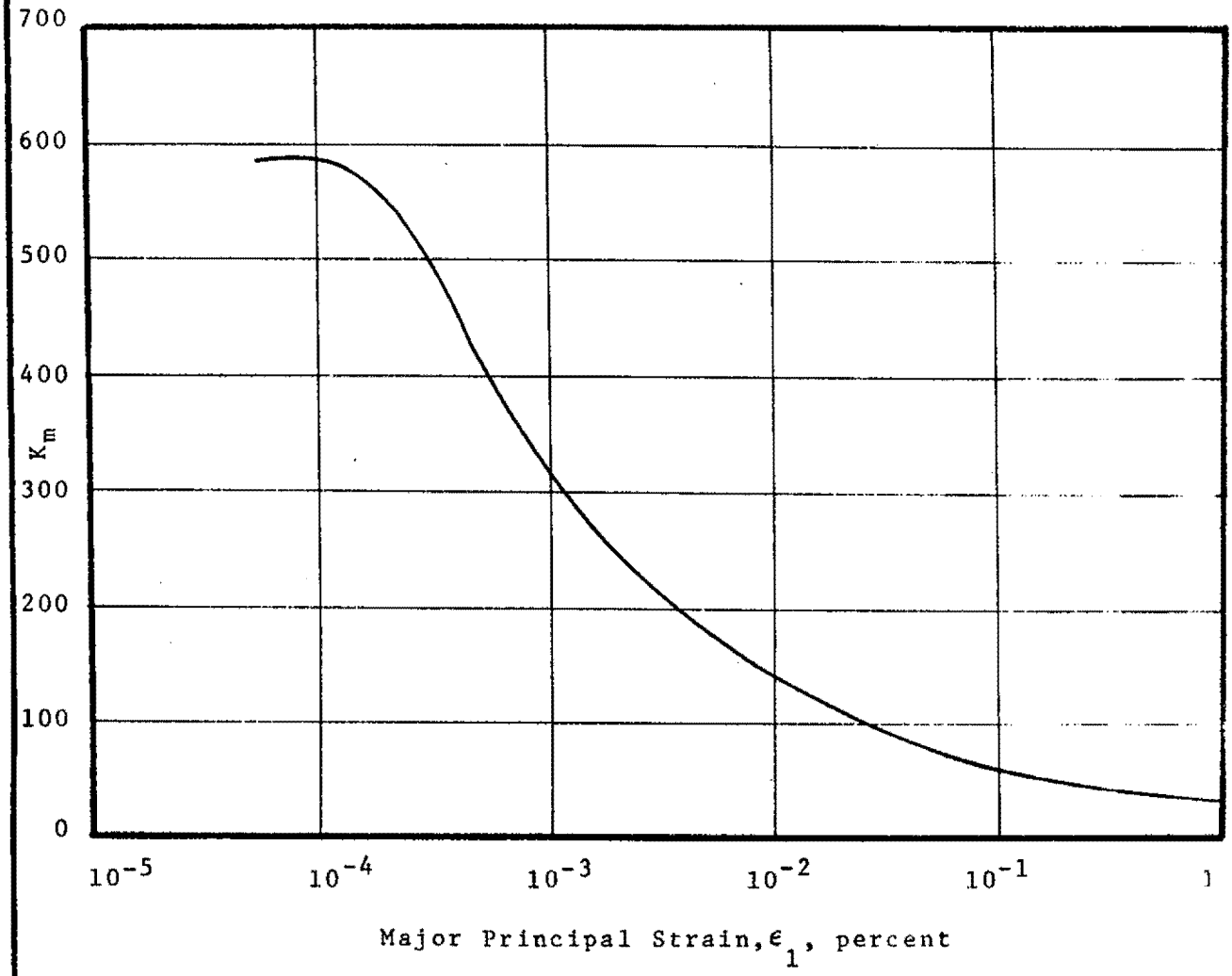
$$G = 100\ K_m \bar{\sigma}_m^{\ 2/3}$$

$$\bar{\sigma}_m = 2/3\ \gamma\ H$$

γ = effective soil unit weight (pcf)

H = depth below surface (ft.)

G = shear modulus (psf)



Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number:** B469C	RECOMMENDED MODULUS VALUES	Fig. B-3

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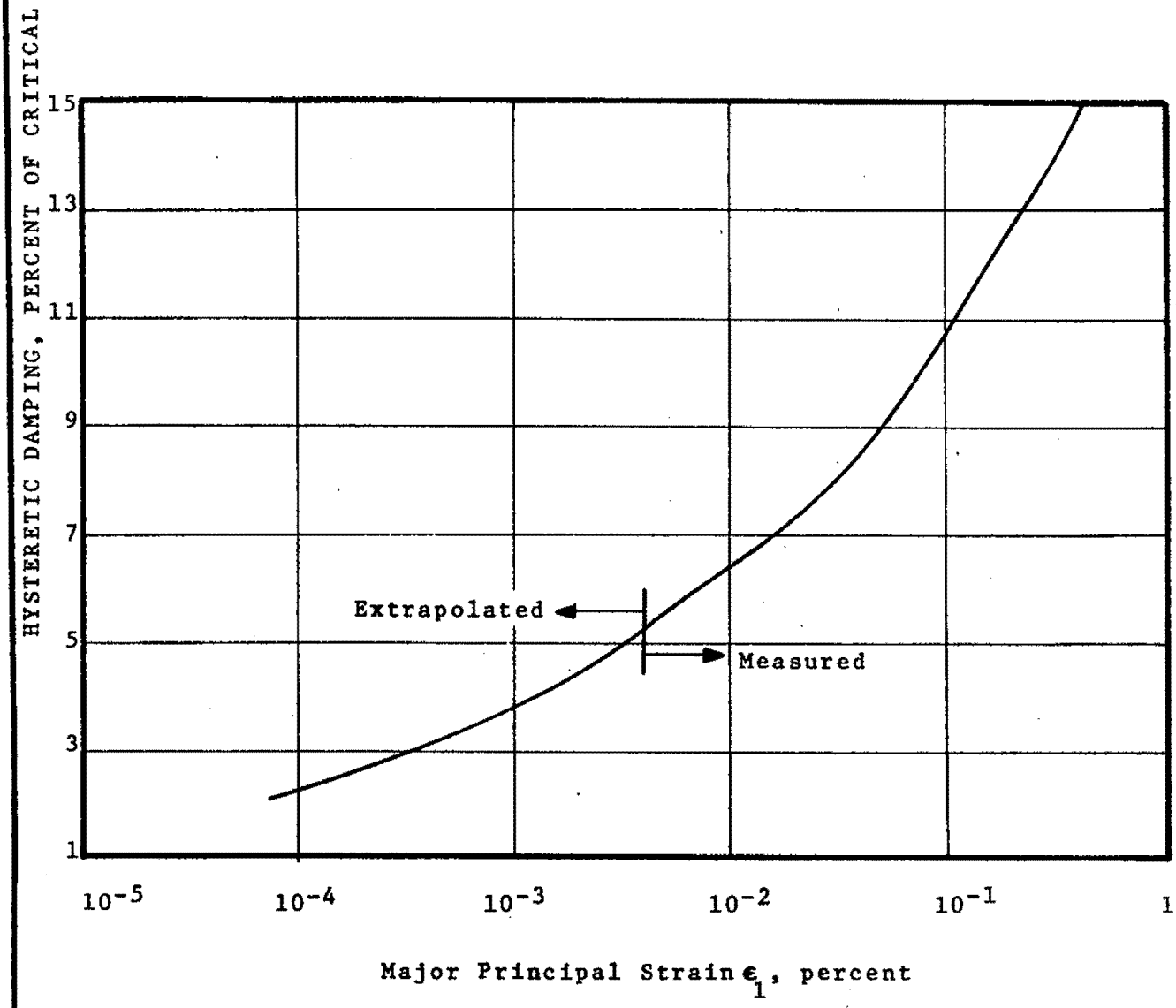

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION Job Number: B469C	RECOMMENDED VALUES OF HYSTERETIC DAMPING	Fig. B-4

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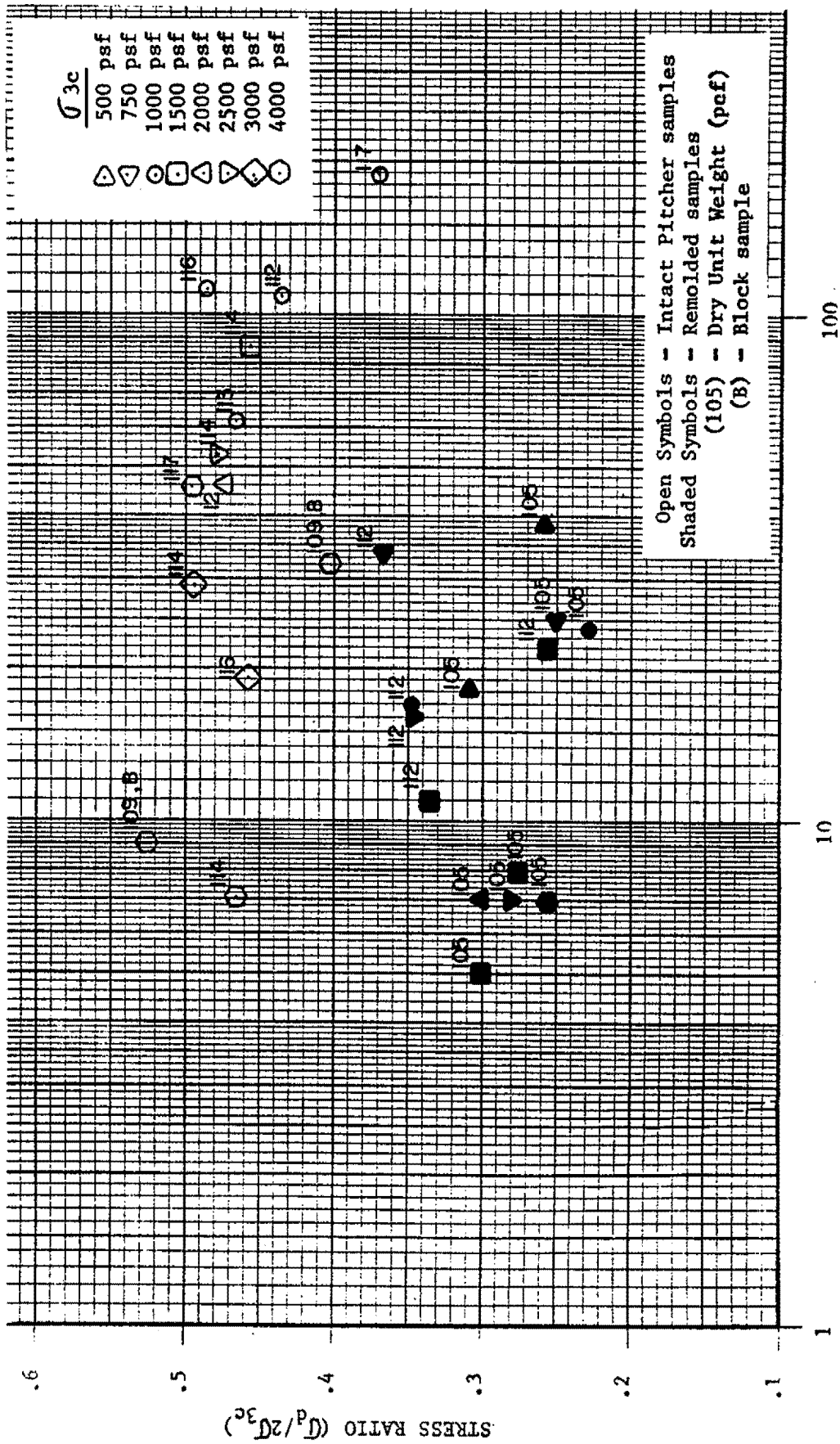

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number:** B469C	DYNAMIC STRENGTH TEST RESULTS FOR SAN MATEO SAND	Fig. B-5

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APPENDIX C

SOIL PROPERTIES

C-1 General

Examination of the field exploration results, presented in Appendix A indicates that San Mateo Sand is the principal soil at the site. In order to properly evaluate the site for liquefaction, it is necessary that the laboratory data be interpreted properly to reflect in-situ soil conditions. To arrive at such an interpretation, data developed and our report entitled *Liquefaction Evaluation for the Proposed Units 2 and 3, San Onofre Nuclear Generating Station, San Onofre, California,* dated 22 Jun 74, have been used in conjunction with the data obtained for this study. The stiffness and damping properties used in this study have been presented in Appendix B.

C-2 Soil Density

One hundred twenty-five in-situ moisture and density determinations were made, using Sand Cone tests (ASTM Designation D1556-70), on San Mateo Sand exposed during the excavations for switchyard slopes in progress presently. A summary of these tests is presented in the form of a histogram in Fig. C-1. Based on these data, we believe that a dry density of 123 pcf is appropriate for in-situ San Mateo Sand. This value has been used in further analysis.

C-3 The Effect of Density and Recompaction of Dynamic Strength

The effect of density and recompaction of the dynamic strength of San Mateo Sand was studied during an earlier work

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presented in the above referenced report. For ease in reference, Fig. C-2 and C-4 from that report are presented here as Fig. C-2 and C-3, respectively.

From the field density data, presented in Section C-1, a dry density of 123 pcf was considered appropriate. Thus, in further refinement of laboratory data, the results were normalized to that density. This normalization was done by using the curves presented in Fig. C-2. The normalized data are presented in Fig. C-4.

C-4 Effect of Confinement on Dynamic Strength

To study the influence of confining pressure on the dynamic strength (expressed as a ratio of super-imposed cyclic shear stress ($\sigma_d'/2$) and confining stress (σ_{3c}) the strength data was normalized with respect to the strength of recompacted samples at σ_{3c} = 4000 psf. To do this, the data for recompacted samples was also normalized to a dry density of 123 pcf. The normalized data are presented in Fig. C-5. The average increase in normalized dynamic strength with decreasing confining pressure can be represented by the dashed curve for recompacted samples. Similarly, the normalized strength for intact samples can be conservatively represented by the solid curve. This curve was used in modifying the strength of recompacted samples to obtain that of the intact samples for various confining pressures. Further, in view of the evidence presented in Appendix D, which indicates that the San Mateo

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Sand is significantly overconsolidated, the correction factor C_r (to reduce triaxial test data to correspond to field strength values) equal to 0.9 was considered appropriate. Thus the curve for dynamic strength of recompacted samples at σ_{3c} = 4000 psf, shown in Fig. C-1, was modified for: a) a dry density of 123 psf: and b) a C_r factor equal to 0.9.

The final strength curves for isotropic loading condition (K_c= 1.0) are presented in Fig. C-6. In view of the fact that no increase in strength due to drainage has been considered and that local influence of anisotropic stress conditions has also been disregarded, we believe that the strength curves used in the analysis for liquefaction are conservative.

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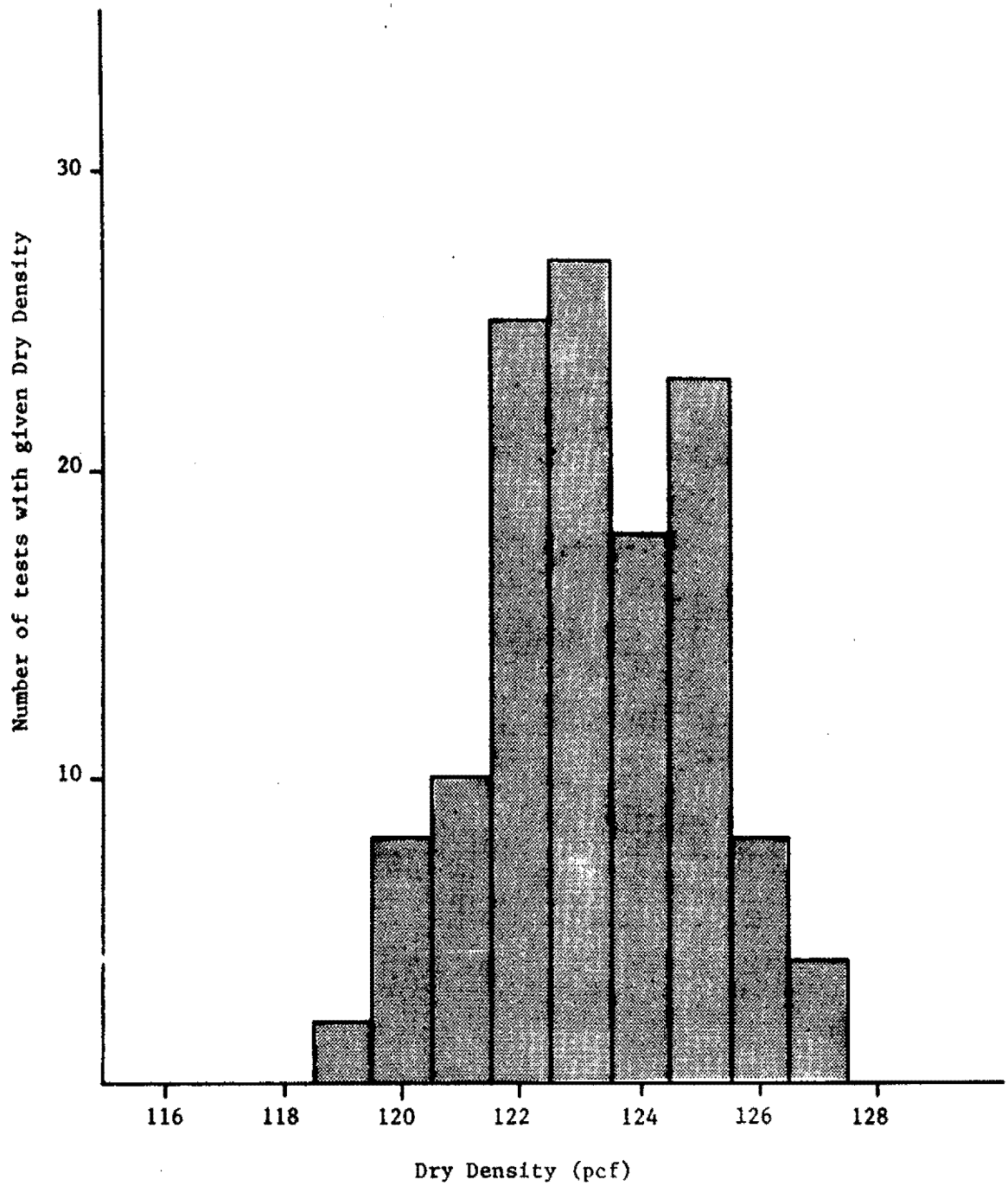

Results of Sand Cone Tests on In-situ San Mateo Sand

Project: SONGS OFFSHORE LIQUEFACTION EVALUATION **Job Number:** B469C	RESULTS OF SAND CONE TESTS ON IN-SITU SAN MATEO SAND	Fig. C-1

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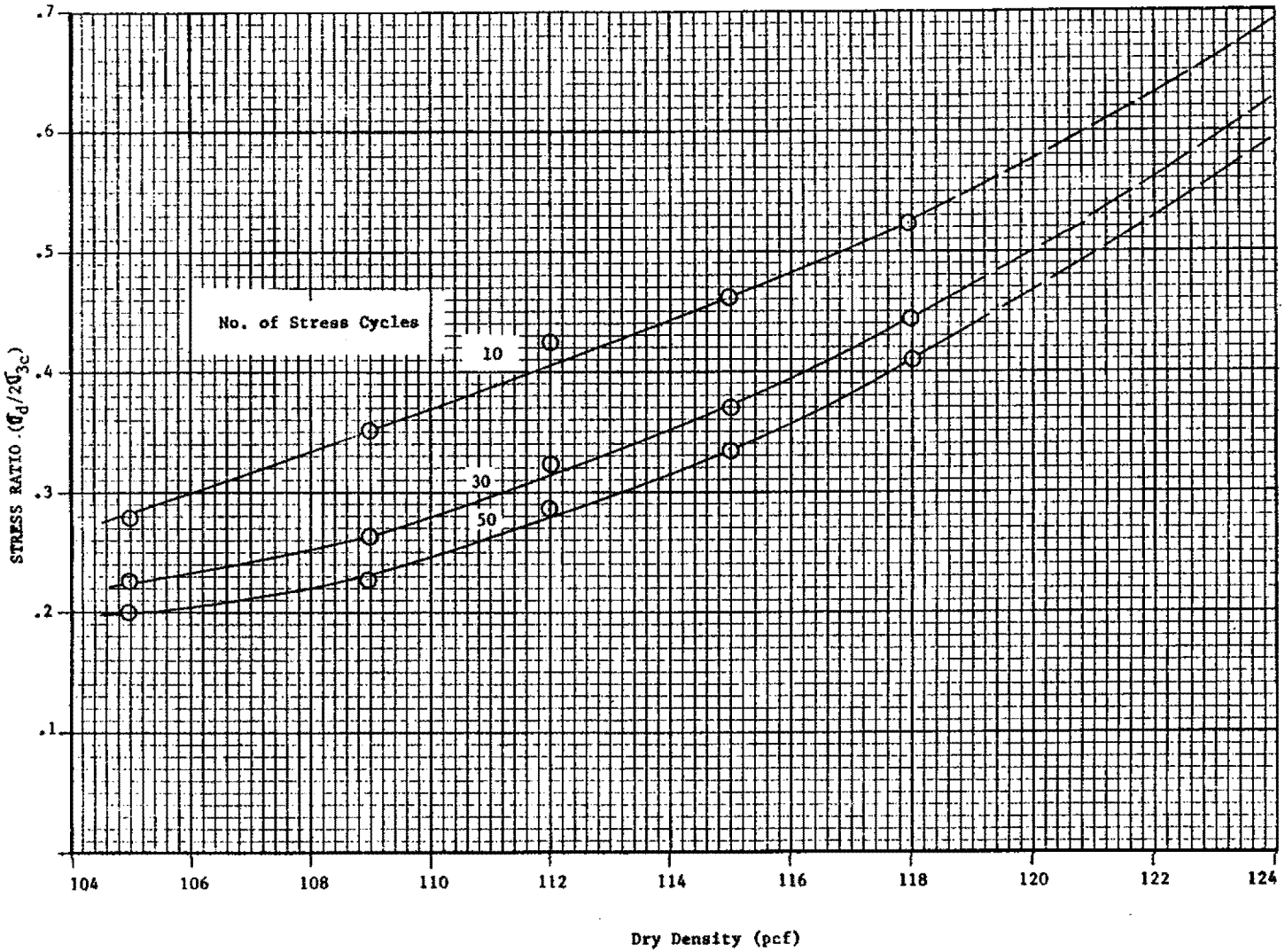
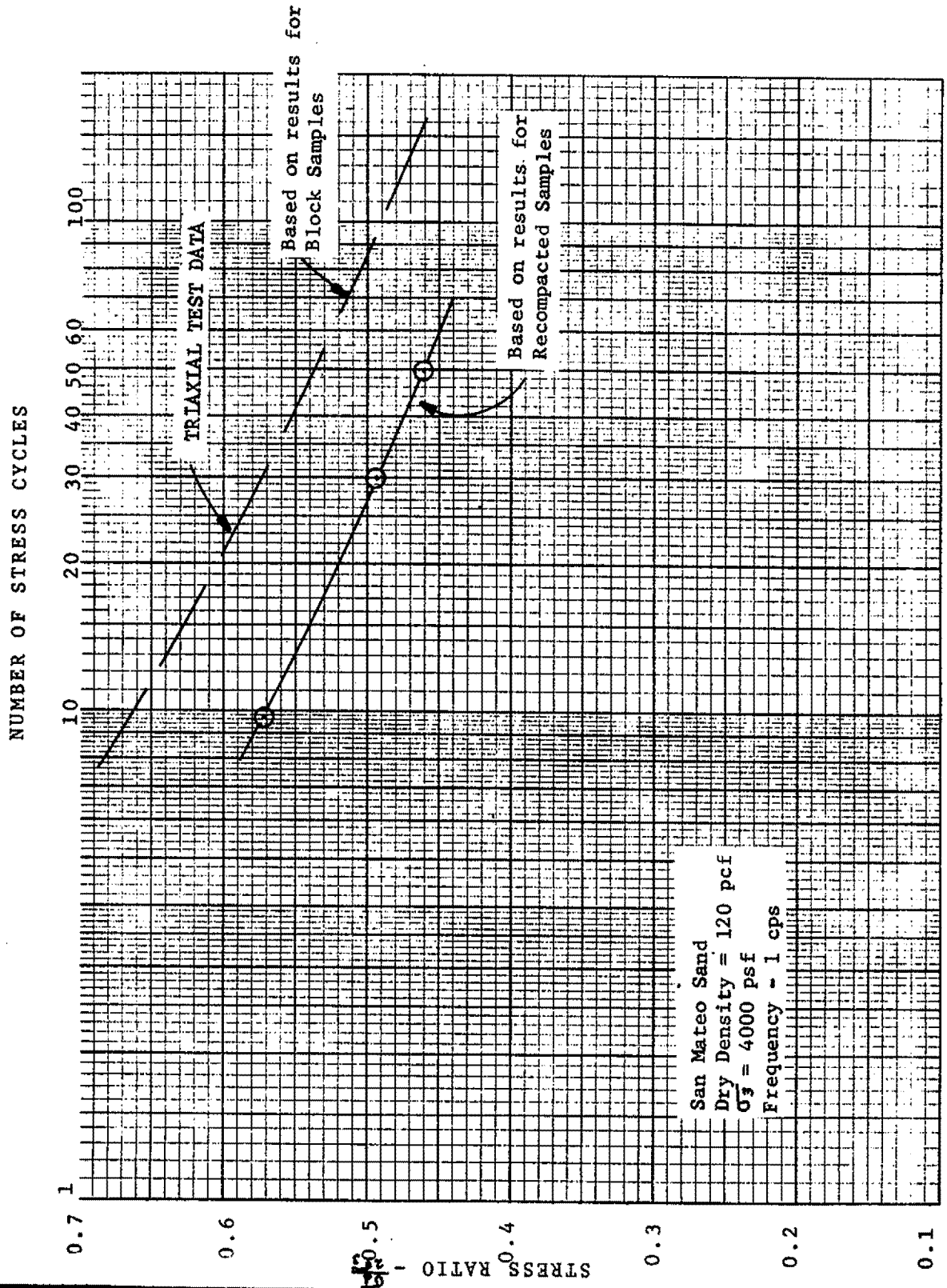


SONGS OFF-SHORE LIQUEFACTION EVALUATION B469C	EFFECT OF DENSITY ON DYNAMIC STRENGTH OF SAN MATEO SAND	Fig. C-2

Amended: April 2009 TL: E048000



Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION
Job Number: B469C

LABORATORY STRENGTH CURVE FOR SAN MATEO SAND

Fig. C-3

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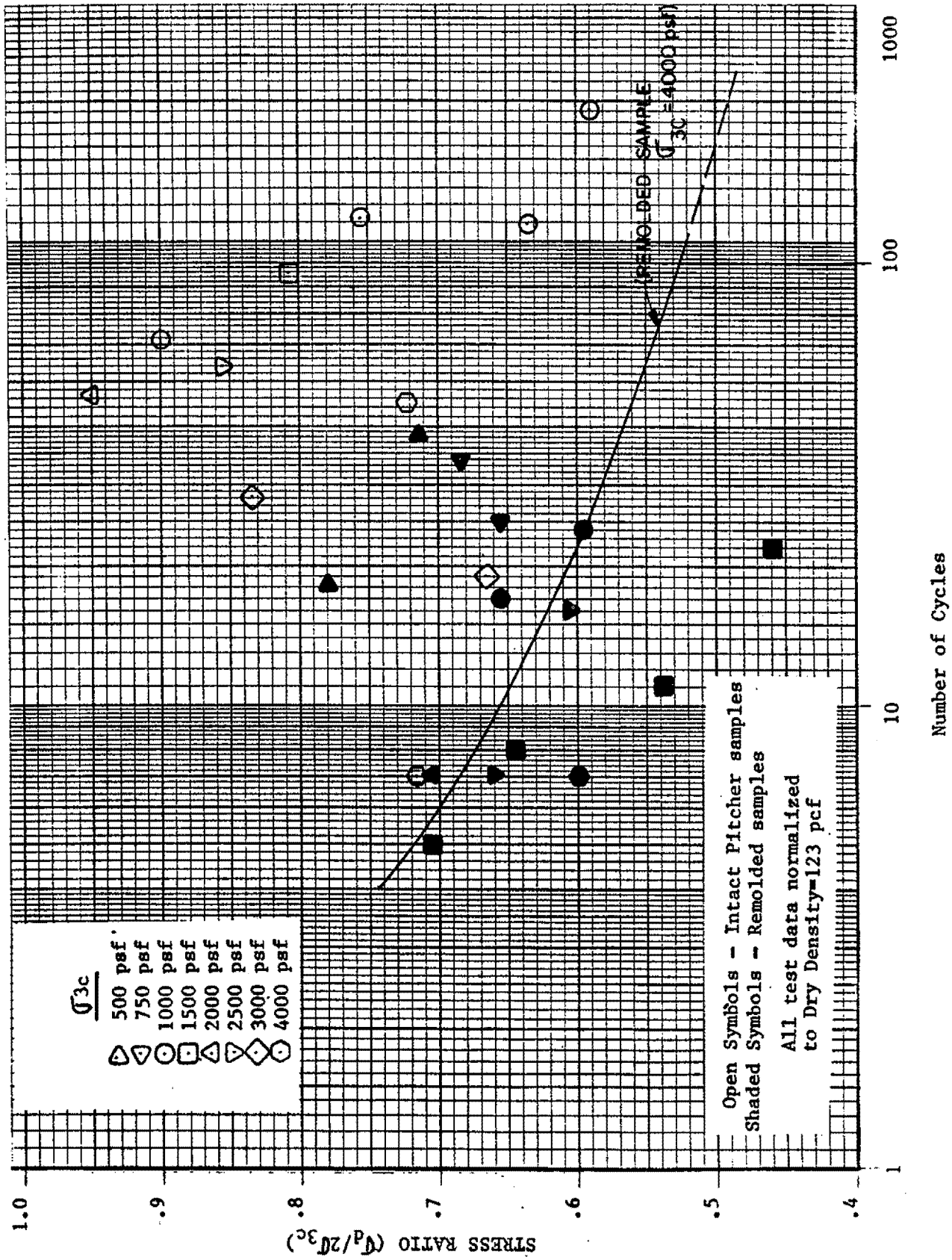
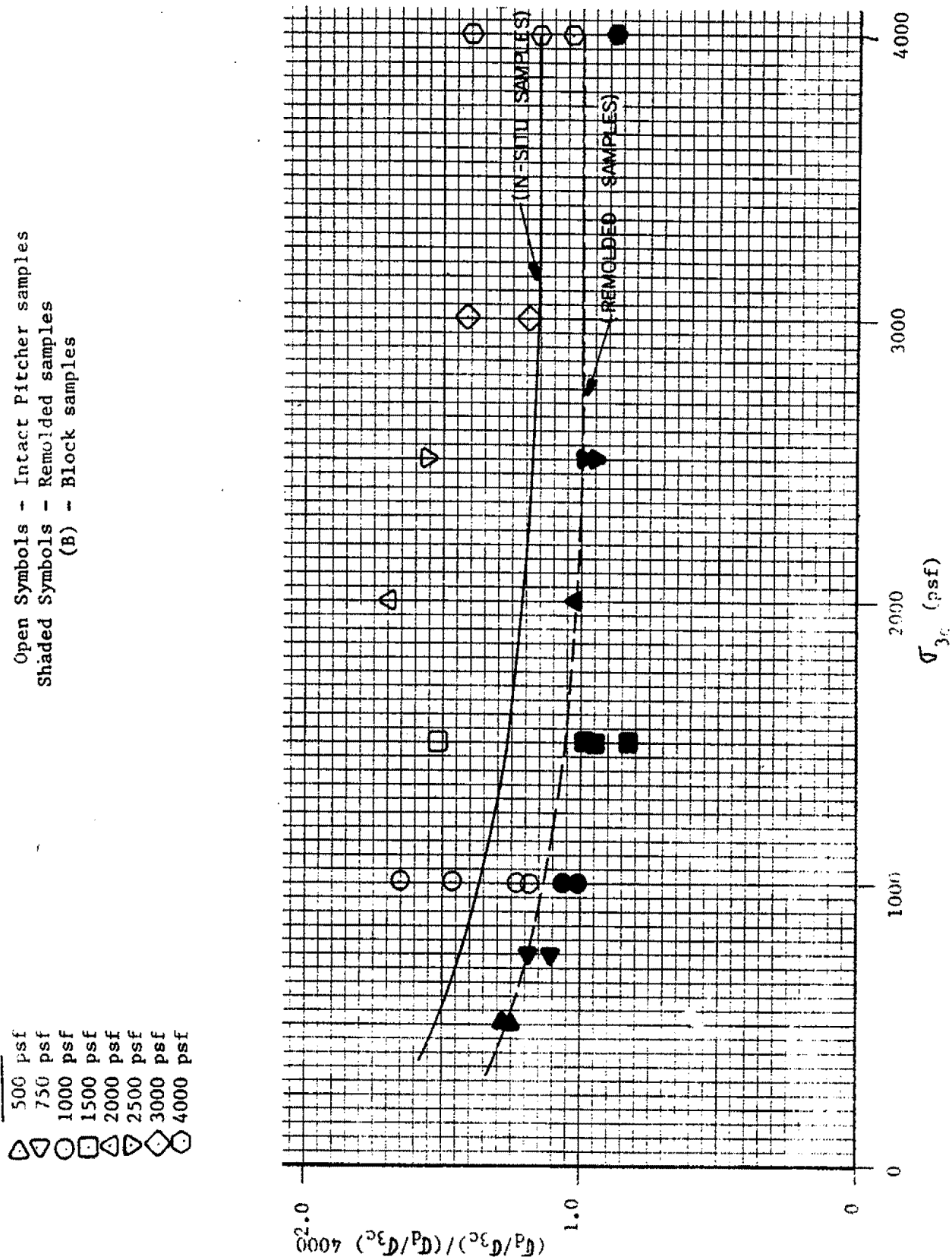


Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number:** B469C	DYNAMIC STRENGTH TEST RESULTS NORMALIZED TO γ_d=123 pcf	Fig. C-4



Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number:** B469C	EFFECT OF CONFINING PRESSURE ON DYNAMIC STRENGTH OF SAN MATEO SAND	Fig C-5

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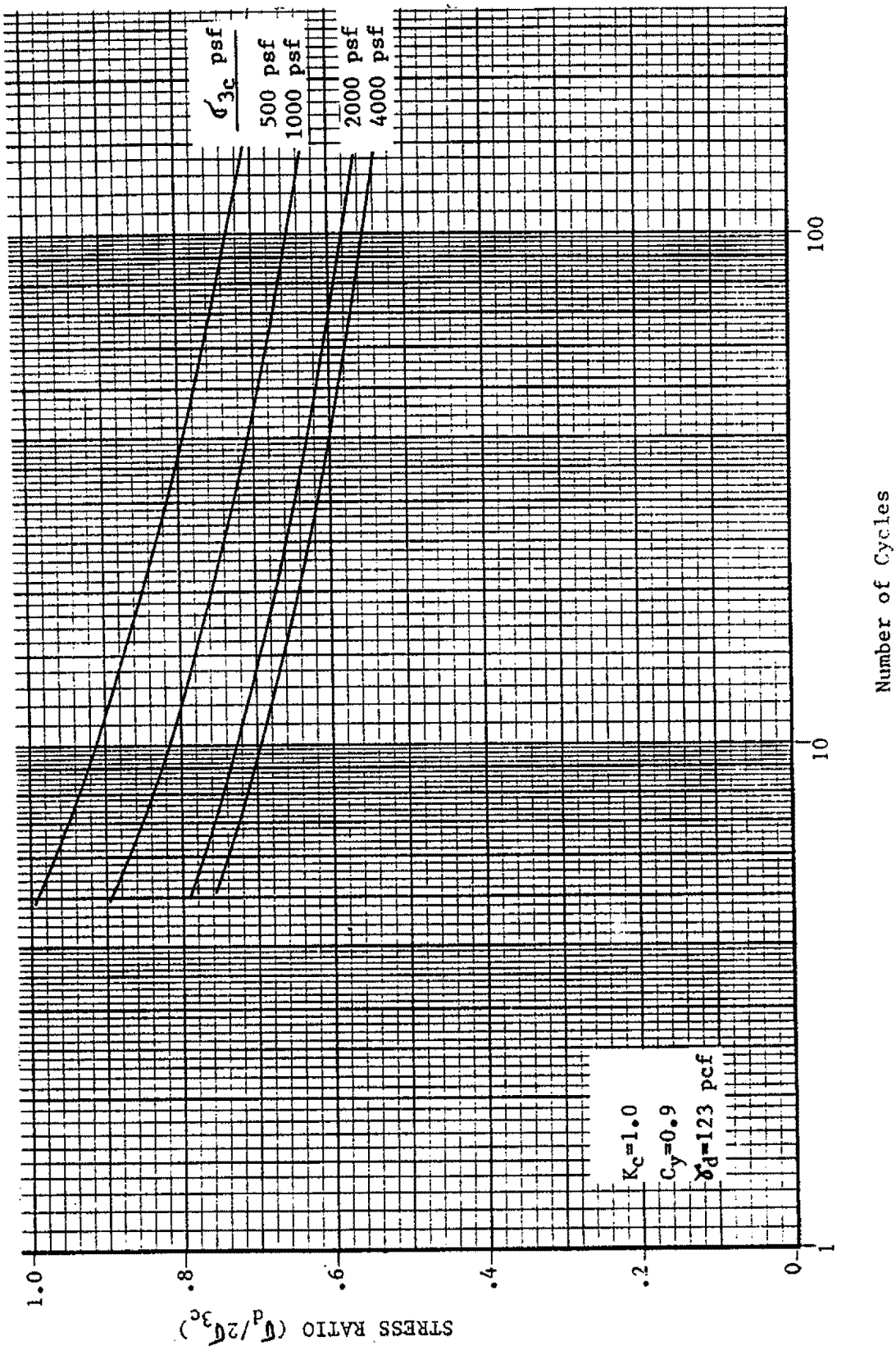

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number:** B469C	IN-SITU DYNAMIC STRENGTH OF SAN MATEO SAND	Fig. C-6

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APPENDIX D

OVERCONSOLIDATION OF SAN MATEO SAND AT THE SITE

D-1 General

The stress conditions in the San Mateo material are important because the dynamic and other properties depend on the degree to which the material has been preloaded and overconsolidated. Those stress conditions are considered here by study of the geologic history of loading/unloading (Sec D-2), and by laboratory measurements (Sec D-3).

D-2 Geologic Evidence

The pre-loading and overconsolidation stress history of the San Mateo Sands exposed in the Units 2 and 3 excavations are a function of the depositional and erosional history of the San Mateo and Capistrano Formations in the site area. This history has been studied and estimates of the probable maximum thickness of sediments overlying the site and the duration of loading have been developed.

The sedimentary sequence which underlies the site area includes the following formations or units: Terrace Deposits, the uppermost and most recent unit (Quaternary); San Mateo Formation, exposed in the site excavations (Pliocene); Capistrano Formation, underlying the San Mateo Formation (Miocene); and the San Onofre Breccia, oldest of units described (pre-Miocene). Of these units, the San Mateo and Terrace deposits relate most directly to the site stress history.

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The following formations underly or are exposed at the site, with the principal formation of interest being the San Mateo Sandstone, in which the proposed offshore facilities will lie:

The Capistrano Formation is composed primarily of thin-bedded siltstones and mudstones, with occasional clean sandstone members. The sediments are indicative of deposition in a marine environment, in moderately deep waters.

The San Mateo Sandstone, which overlies the Capistrano Formation, is a well graded quartzose sandstone, with little or no apparent cementation. The quartz grains predominate, although a fair percentage of feldspar fragments are still found, and are rounded to sub-angular in nature. Packing of the grains is very tight, and probably represents both depositional packing and post-depositional consolidation. The lithology of the formation and the relative roundness of the grains indicate deposition in near-shore environments with considerable working of the sand grains. The San Mateo is approximately 1000 ft thick at the site.

The Terrace deposits are composed of a matrix of sandy silts and sandy clays, containing zones of small to large beach cobbles. They are typical of deposits along an emerging coastline, with intermixture of coarse and fine deposits in the near-shore or surf zones.

Figure D-1 has been prepared to help explain the chronology of geologic events in the site area.

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Remnants of old beach terraces are found to the east of the SONGS site (Fig. D-1-B). These terraces are similar to and may be correlated with terraces found in the vicinity of the Palos Verdes Peninsula (50 miles north) and San Diego (45 miles south). Studies of the terrraces at these other locations indicate that they have been cut during periods of constant sea level, either as the continental margin rose during tectonic uplift or as the sea level dropped during the Ice Ages, or both. The age of the oldest (highest) terraces has been established as late Miocene to early Miocene (11×10^6 years BP), while the age of the lowest sea level (120 ft below present level, Fig. D-1-A) is thought to be perhaps 10,000 years BP.

The schematic diagram of Fig. D-1-A shows the gradual seaward deposition of the San Mateo Formation over a period of time, as the continental margin rose. This deposition included materials carried down by the rivers of the time, as well as reworked material from headward erosion of the older terrace deposits. The clean, rounded to sub-angular quartz sands exposed on the San Onofre Bluffs support this hypothesis.

During periods in which the shoreline rose, it rose at a faster rate than the headward erosion of the sea cliffs, as equal rates would results in a uniformly sloping surface with no terraces developed. Because terraces are evident, there must have been periods of intermittant uplift. It is

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reasonable to anticipate that depositional conditions during the past were somewhat similar to those today, and that seaward of the surf line the ground surface had a slope similar to that found today. Thus, during the third terrace level before present, it is reasonable to assume that a thickness of perhaps 120 ft of material, as shown in Fig. D-1-A overlay the present sea bottom offshore of San Onofre. Following successive uplift of sea level and headland erosion, the present day situation (Fig. D-1-B) has been achieved.

From the evidence available, it is concluded that the SONGS 2 and 3 site has been loaded with a minimum of 120 ft of sediment in past history. Within the previous 10,000 years the headward erosion of the San Onofre Bluffs had removed this load from about 10,000 ft offshore to the present bluff position.

D-3 Laboratory Evidence - K_o Tests

Triaxial tests were performed on samples of San Mateo Sand obtained from the beach area. Each sample was initially isotropically consolidated under the existing overburden pressure. Then the major principal stress was increased, in steps to the estimated maximum overburden pressure, and the minor principal stress was continuously adjusted to maintain zero net lateral strain. The major principal stress was then reduced to the existing overburden. The resulting value of the ratio of major to minor principal stress is the coefficient of earth pressure at rest, K_o, for that soil.

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A total of four tests were done as described above. Two tests were done on reconstituted samples and two on intact Pitcher tube samples. Pertinent parameters for these tests are presented on Table D-1. Results of these tests are presented schematically in Figs. D-2 to D-5.

The values of K_o for the San Mateo Sand are quite high (about 0.8, compared to 0.5 for normally consoldiated sands), indicating significant historical preload.

D-4 Conclusions

Geologic evidence strongly indicates past overburdens of at least 120 ft of terrace materials; and the laboratory tests show definite preconsolidation with a K_o-value of about 0.8.

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TABLE D-1

SUMMARY OF K_o TESTS ON SAN MATEO SAND

Test No.	Type of Sample	γ_d pcf	Max σ_1 kg/cm²	K_o
1	Reconstituted	121.3	4.00	∿.8
2	Reconstituted	122.5	3.45	.8
3	Pitcher, B2-P5	107.9	6.00	.75
4	Pitcher, B3-P5	123.6	2.12	.80

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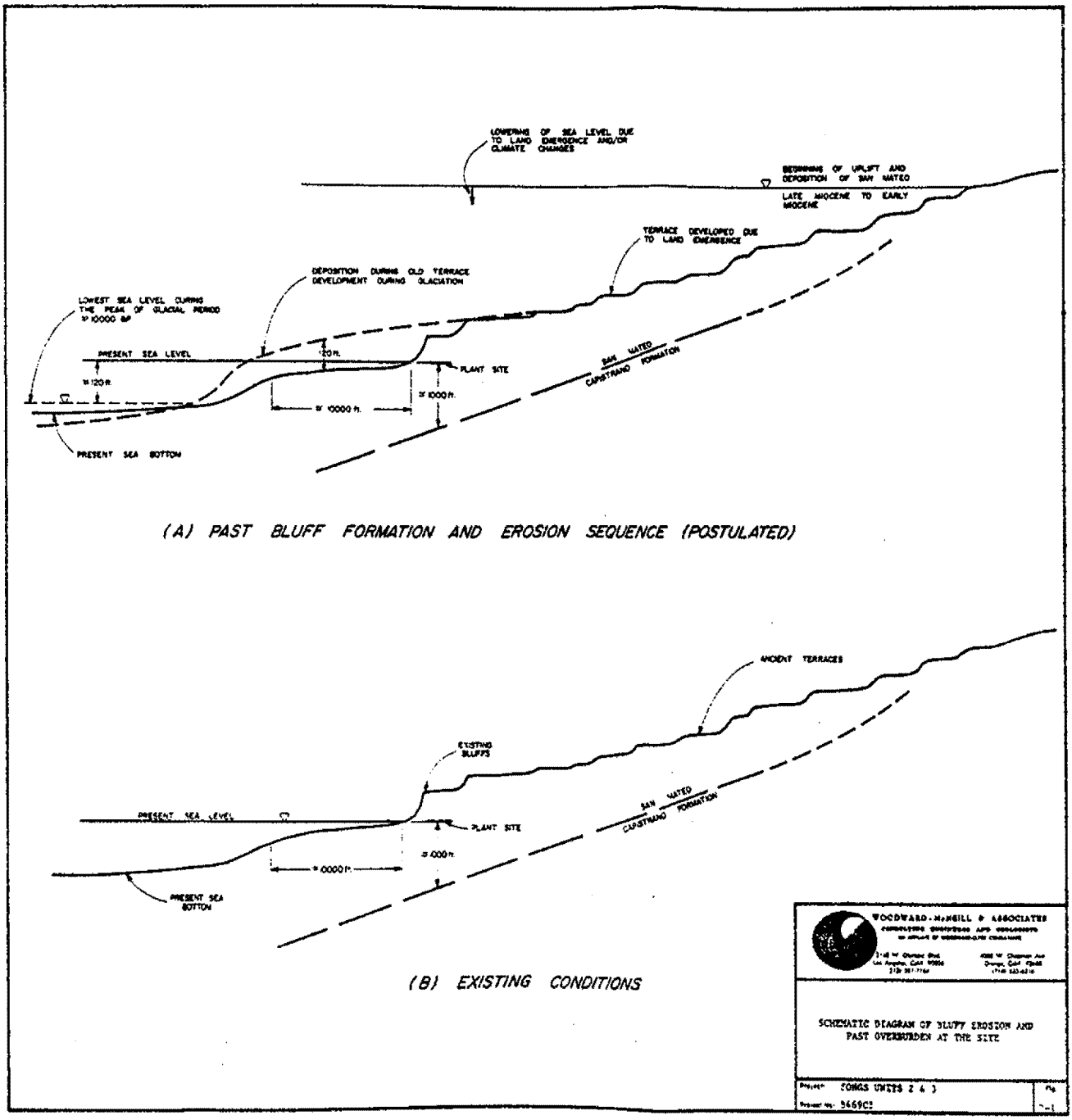
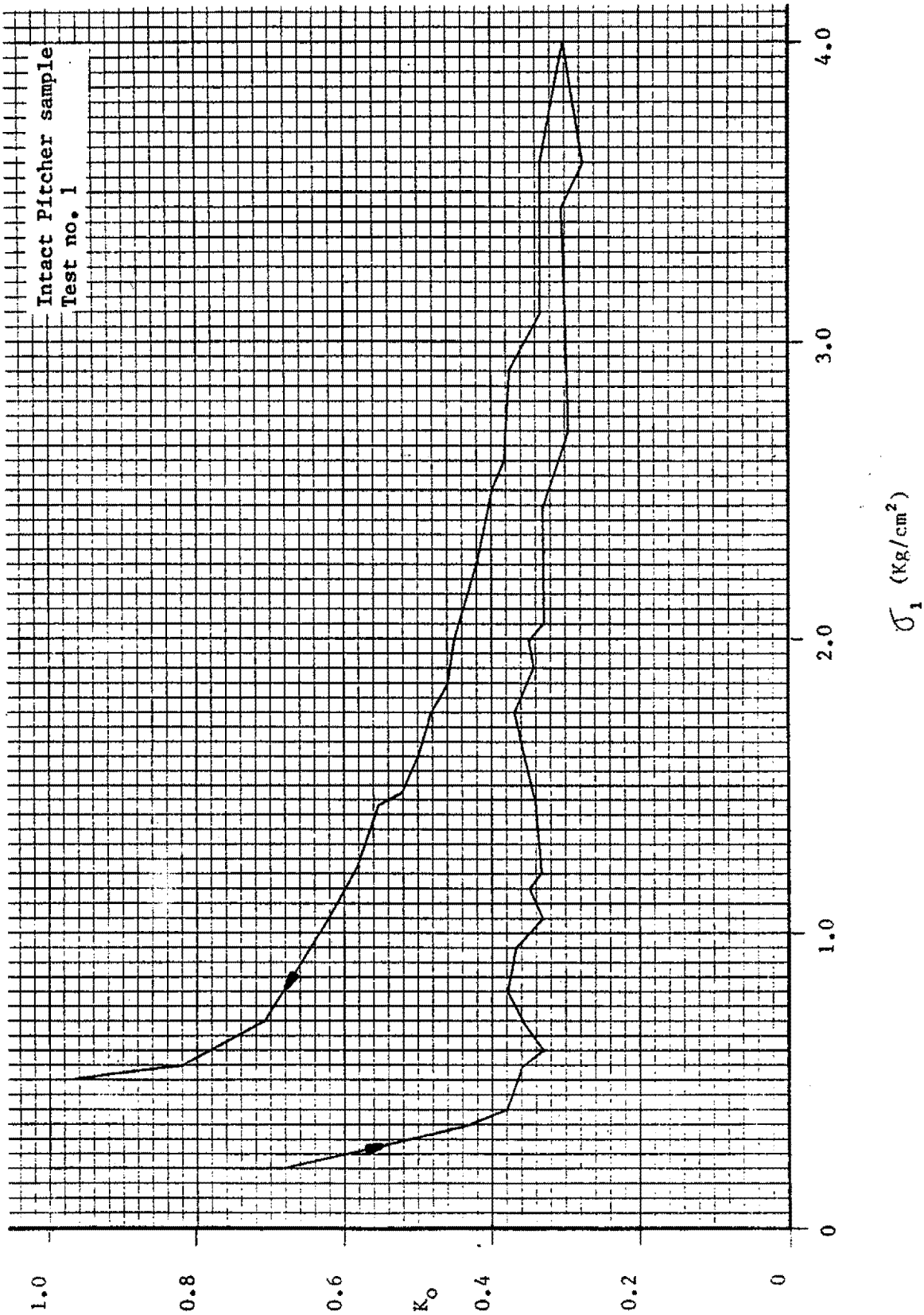
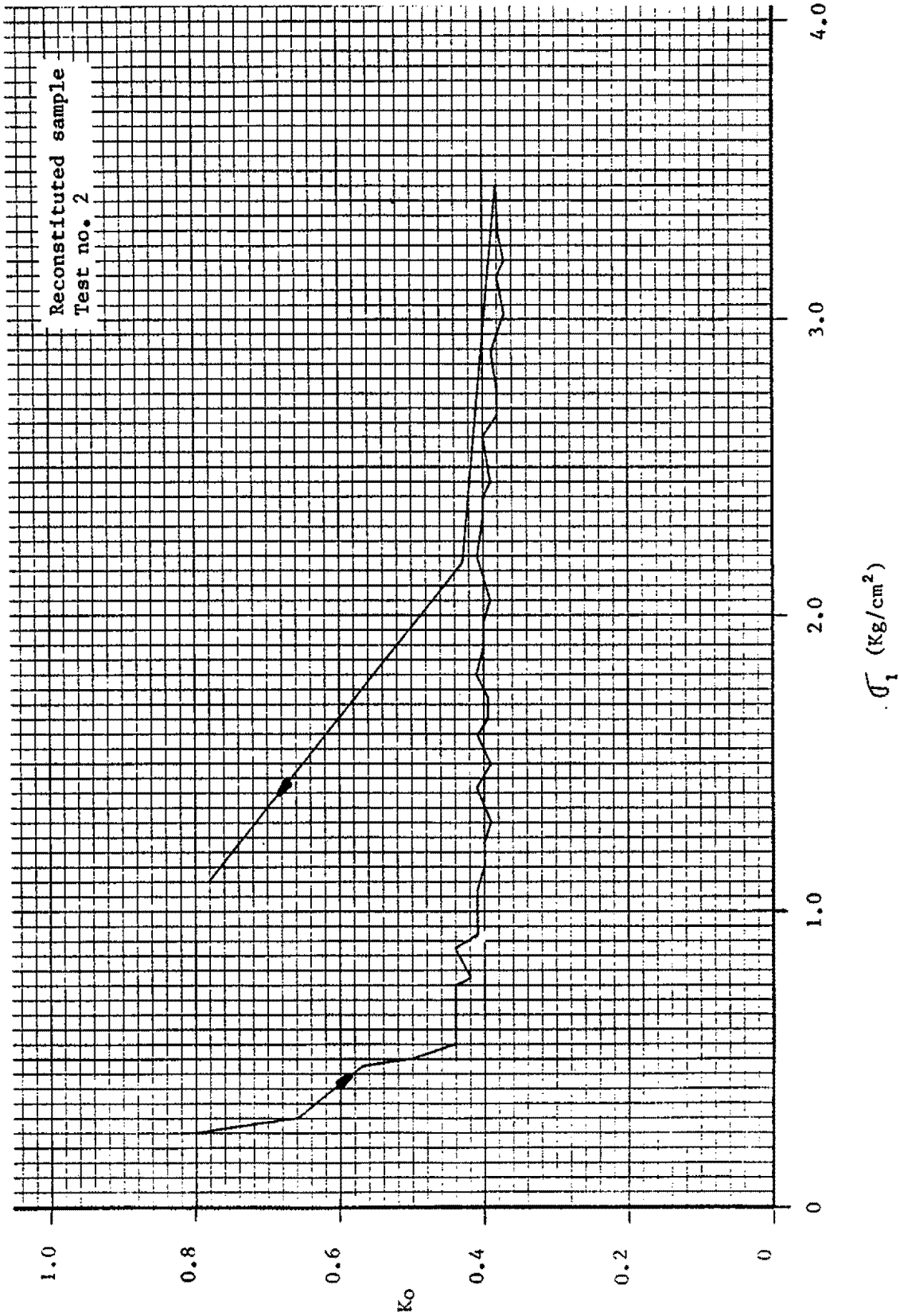

LOWERING OF SEA LEVEL DUE TO LAND EMERGENCE AND/OR CLIMATE CHANGES
BEGINNING OF UPLIFT AND DEPOSITION OF SAN MATEO
LATE MIOCENE TO EARLY MIOCENE
TERRACE DEVELOPED DUE TO LAND EMERGENCE
DEPOSITION DURING OLD TERRACE DEVELOPMENT DURING GLACIATION
LOWEST SEA LEVEL DURING THE PEAK OF GLACIAL PERIOD
PRESENT SEA LEVEL
120 ft.
PLANT SITE
≈120 ft.
≈ 10000 ft.
≈ 1000 ft.
SAN MATEO
CAPISTRANO FORMATION
PRESENT SEA BOTTOM
(A) PAST BLUFF FORMATION AND EROSION SEQUENCE (POSTULATED)
ANCIENT TERRACES
EXISTING BLUFFS
PRESENT SEA LEVEL
PLANT SITE
≈ 1000 ft.
≈ 10000 ft.
SAN MATEO
CAPISTRANO FORMATION
PRESENT SEA BOTTOM
(B) EXISTING CONDITIONS
WOODWARD-MCNEILL & ASSOCIATES
SCHEMATIC DIAGRAM OF BLUFF EROSION AND PAST OVERBURDEN AT THE SITE
SONGS UNITS 2 & 3



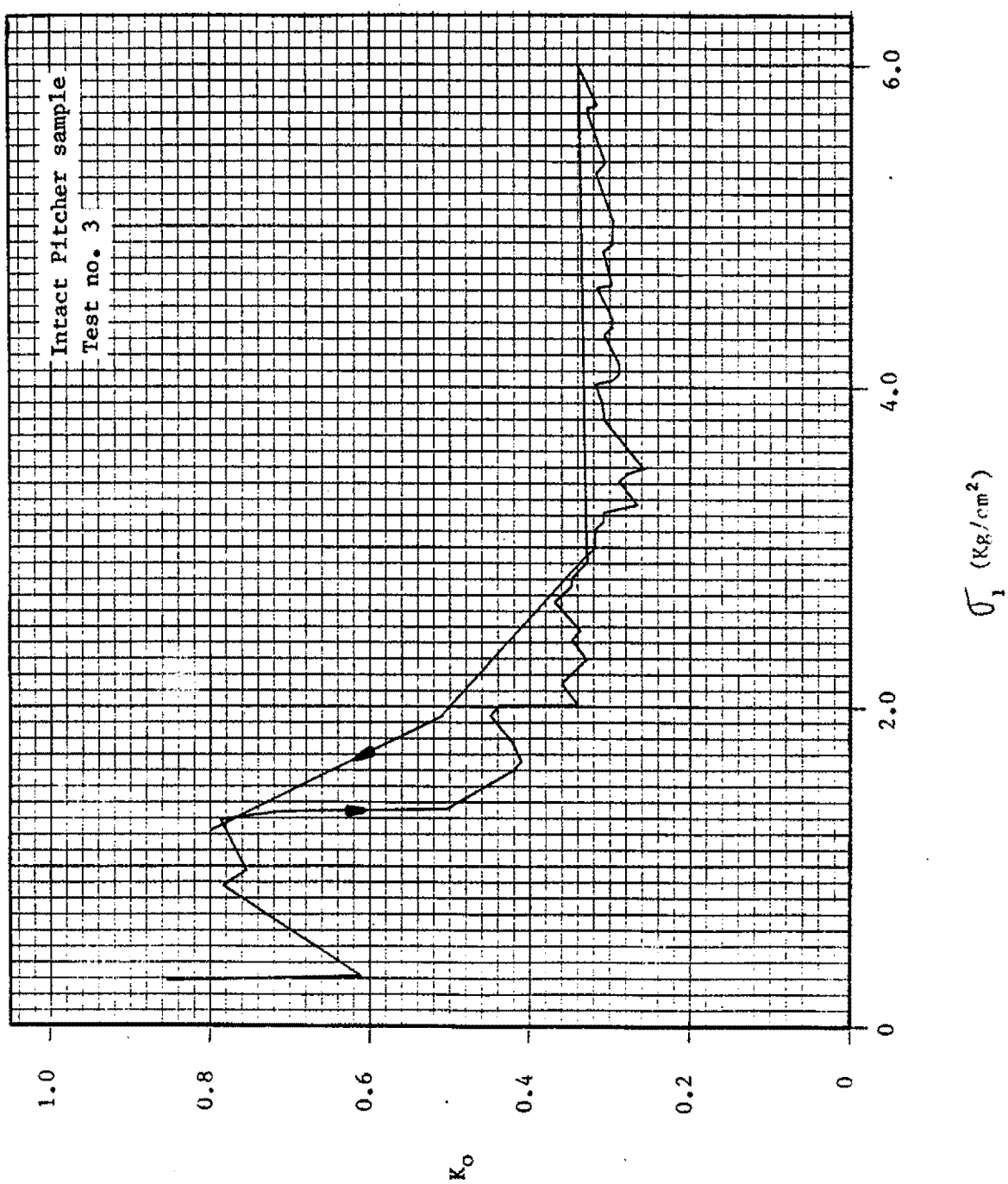
Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number:** B469C	K_o TEST RESULTS	Fig D-2

Amended: April 2009 TL: E048000



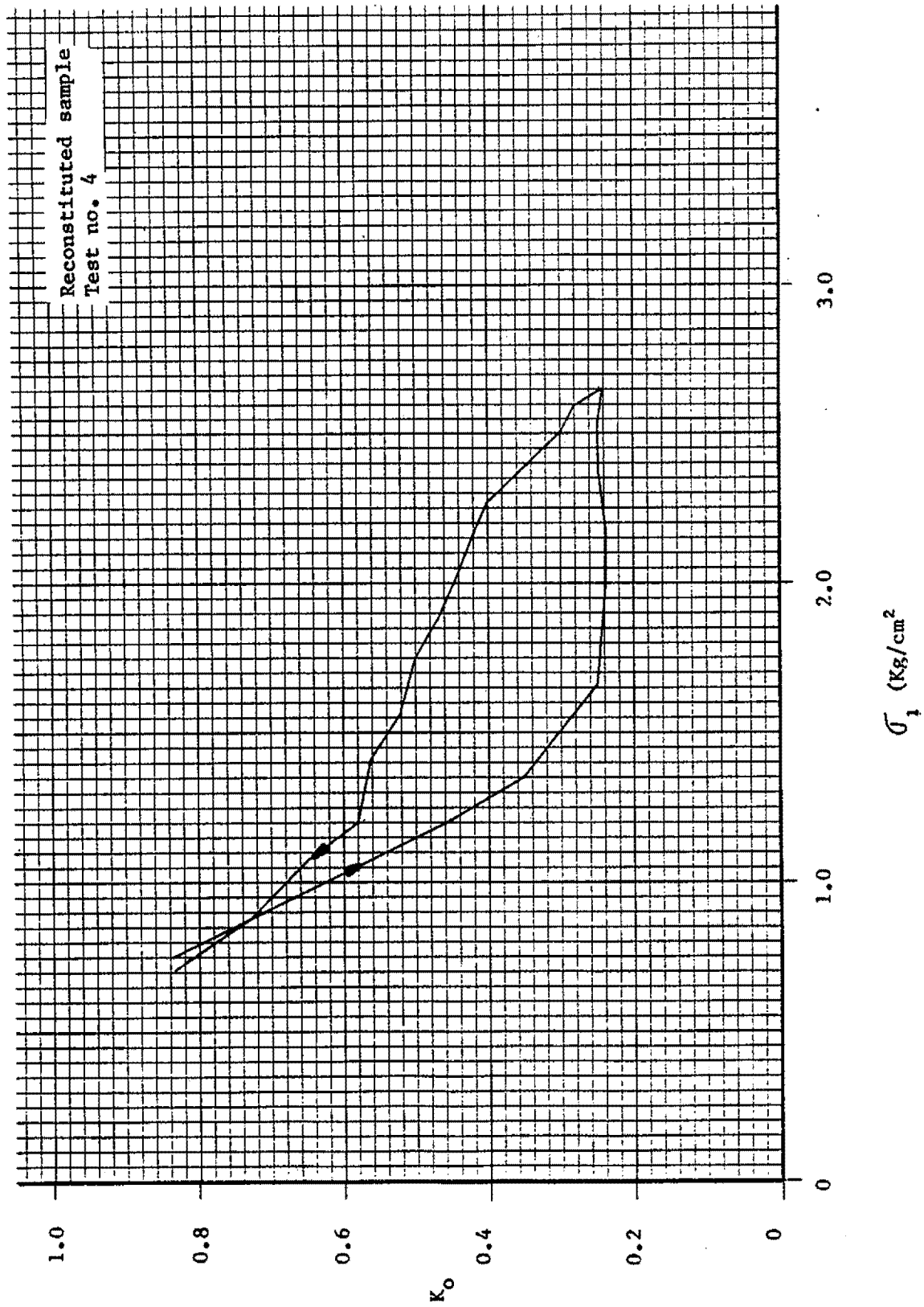
Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION Job Number: B469C	K_o TEST RESULTS	Fig. D-3

Amended: April 2009 TL: E048000



Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION Job Number: B469C	K_o TEST RESULTS	Fig. D-4

Amended: April 2009 TL: E048000



Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION Job Number: B469C	K_o TEST RESULTS	Fig. D-5

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APPENDIX E

INFLUENCE OF DRAINAGE ON DYNAMIC STRENGTH OF SAN MATEO SAND

E-1 General

Observations from field pump tests, conducted for dewatering the plant site, have shown the soil at the site to be quite permeable. The coefficient of permeability obtained from these tests is on the order of 0.025 ft/min. Because the dissipation of excess pore water pressure during an earthquake is influenced by the permeability of the soil, it was considered appropriate to investigate the influence of any drainage of pore water that might occur during an earthquake, on the dynamic strength of San Mateo Sand.

E-2 Test Program

The investigation was carried out by conducting dynamic stress-controlled tests on Pitcher samples in both drained and undrained conditions. The drainage was initially simulated by a sand column. This column was of San Mateo Sand having a diameter equal to that of the sample and a known length. During the dynamic testing, however, the samples could not be failed. This was apparently due to the compliance of the test apparatus (i.e., due to the flexibility of the sand column the pore pressure could not be developed to fail the specimen). For subsequent tests, the drainage was simulated by a metered valve through which a known amount of flow was allowed. Some details of this set-up are shown in Figs. E-1 to E-3. The

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amount of drainage could be correlated to the length of drainage using the permeability of San Mateo Sand. Such a correlation was made for two extreme values of the permeability of San Mateo Sand, the larger value of 0.025 ft/min obtained from the field well-pumping data and the smaller value 0.005 ft/min obtained on the basis of grain size (using Allen Hazen's formula and correction*). For these permeabilities, a drainage rate of 0.10 cc/sec. is equivalent to a drainage length of about 80 ft for a permeability of 0.025 ft/min and about 5 ft for a permeability of 0.005 ft/min. From these calculations, it is expected that some drainage would occur within 10 to 30 ft from a free draining surface. A summary of various tests conducted to study the influence of drainage on dynamic strength is presented in Table E-1.

E-3 Results and Conclusions

The results of the above mentioned tests are presented schematically in Fig. E-4. These results indicate that there is an increase in the dynamic strength of San Mateo Sand samples for drained tests as compared to the undrained tests. From these results, we believe that this strength increase is on order of 10% in areas near a drainage boundary (i.e., within 10 to 30 ft of the ocean bottom or the side of a gravel-packed trench).

* NAVDOCKS DM-7 - page 7.3.10.

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TABLE E-1

SUMMARY OF DYNAMIC TESTS

Sample No.		Depth ft	Dry Density pcf	σ_{3c} psf	$\sigma_d/2\sigma_{3c}$	Number of cycles for peak to peak strain of 10%	Drainage
B2-P3	(B)	14.0	115.9	1000	0.480	111	Undrained
"	(T)	"	113.4	1000	0.740	>1000	Sand column
B2-P6	(B)	23.0	115.0	2500	0.460	70	0.037 cc/sec.
"	(T)	"	113.9	2500	0.480	53	Undrained
B2-P8	(B)	29.0	113.7	1500	0.455	85	Undrained
"	(M)	"	114.5	1500	0.468	101	0.52 cc/sec.
B2-P9	(T)	32.0	114.0	4000	0.470	7	Undrained
"	(M)	"	116.1	4000	0.490	>1000	Sand column
B2-P10	(B)	35.0	112.7	2000	0.750	143	Undrained
"	"	"	"	"	0.496	400	.52 cc/sec.
"	(M)	"	112.5	2000	0.462	24	.101 cc/sec.
"	(T)	"	112.2	2000	0.474	46	Undrained
B2-P12	(B)	41.0	116.6	4000	0.495	45	Undrained
"	(T)	"	116.0	4000	0.560	48	0.037 cc/sec.
B3-P2	(B)	13.0	116.8	1000	0.435	107	Undrained
"	(M)	"	116.8	1000	0.455	>1000	Sand column
B3-P3	(B)	16.0	114.7	1000	0.385	>1000	Sand column
"	(M)	"	116.5	1000	0.370	70	Undrained
"	"	"	"	"	"	186	Undrained
B3-P4	(B)	19.0	111.8	1000	0.454	89	0.52 cc/sec.
"	(M)	"	112.5	1000	0.492	147	0.101 cc/sec.
"	(T)	"	113.2	1000	0.467	61	Undrained
B3-P6	(B)	25.0	118.7	3000	0.495	29	0.037 cc/sec.
"	(M)	"	113.6	3000	0.495	28	Undrained
"	(T)	"	115.4	3000	0.500	57	0.111 cc/sec.
B3-P7	(M)	28.0	115.7	3000	0.490	25	0.037 cc/sec.

(B) = Bottom of tube
(M) = Middle of tube
(T) = Top of tube

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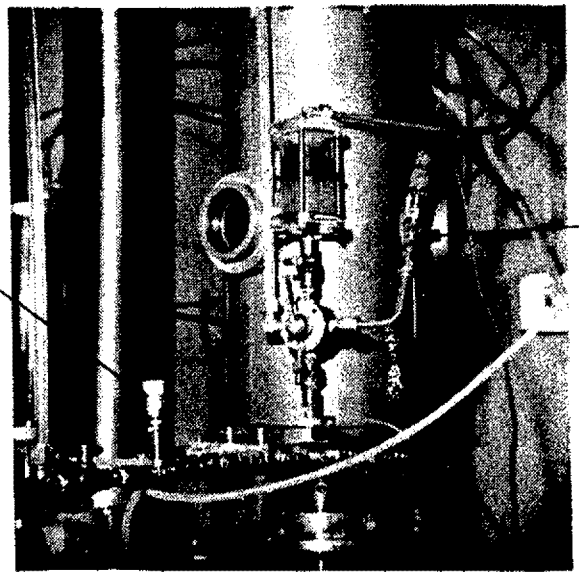

Project: SONGS UNITS 2 & 3 Job Number: B469C	DETAILS OF TEST SET-UP	Fig. E-1

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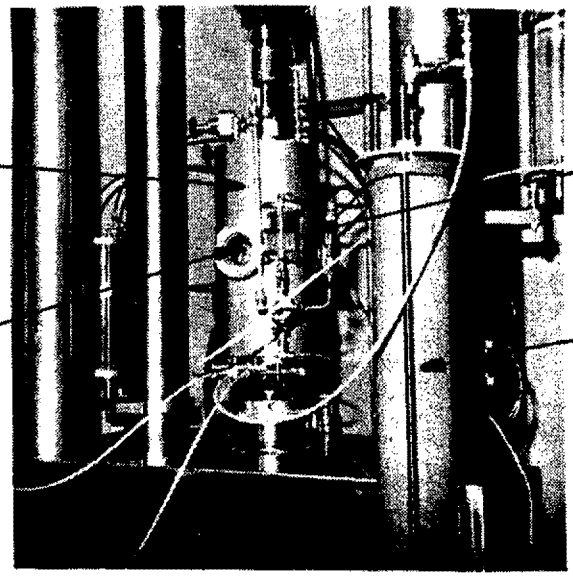

Project: SONGS UNITS 2 & 3 Job Number: B469C	DETAILS OF TEST SET-UP	Fig. E-2

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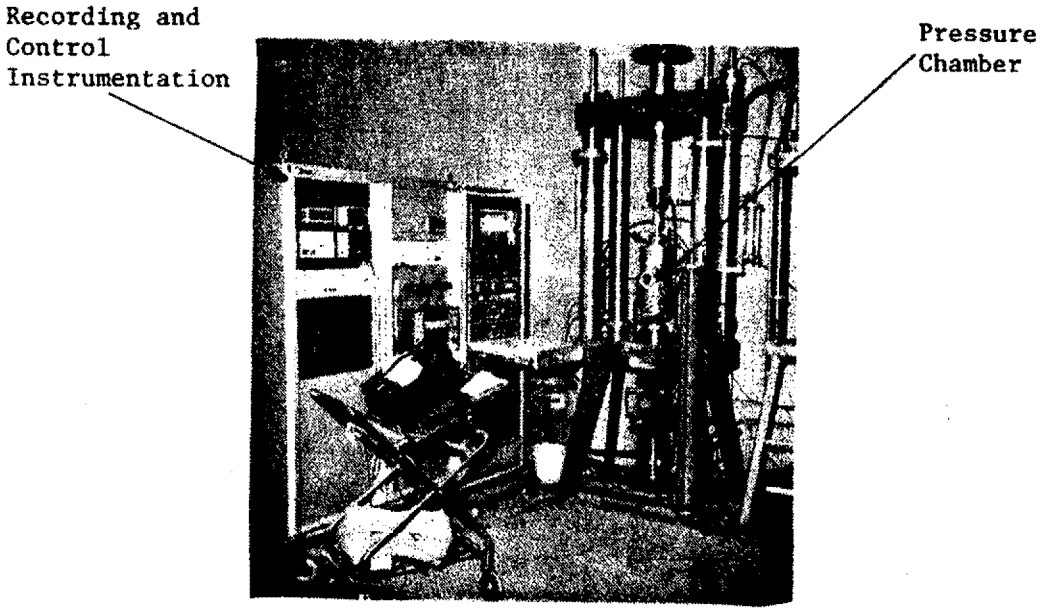

Project: ONGS UNITS 2 & 3 Job Number: B469C	DETAILS OF TEST SET-UP	Fig. E-3

WOODWARD-McNEILL & ASSOCIATES

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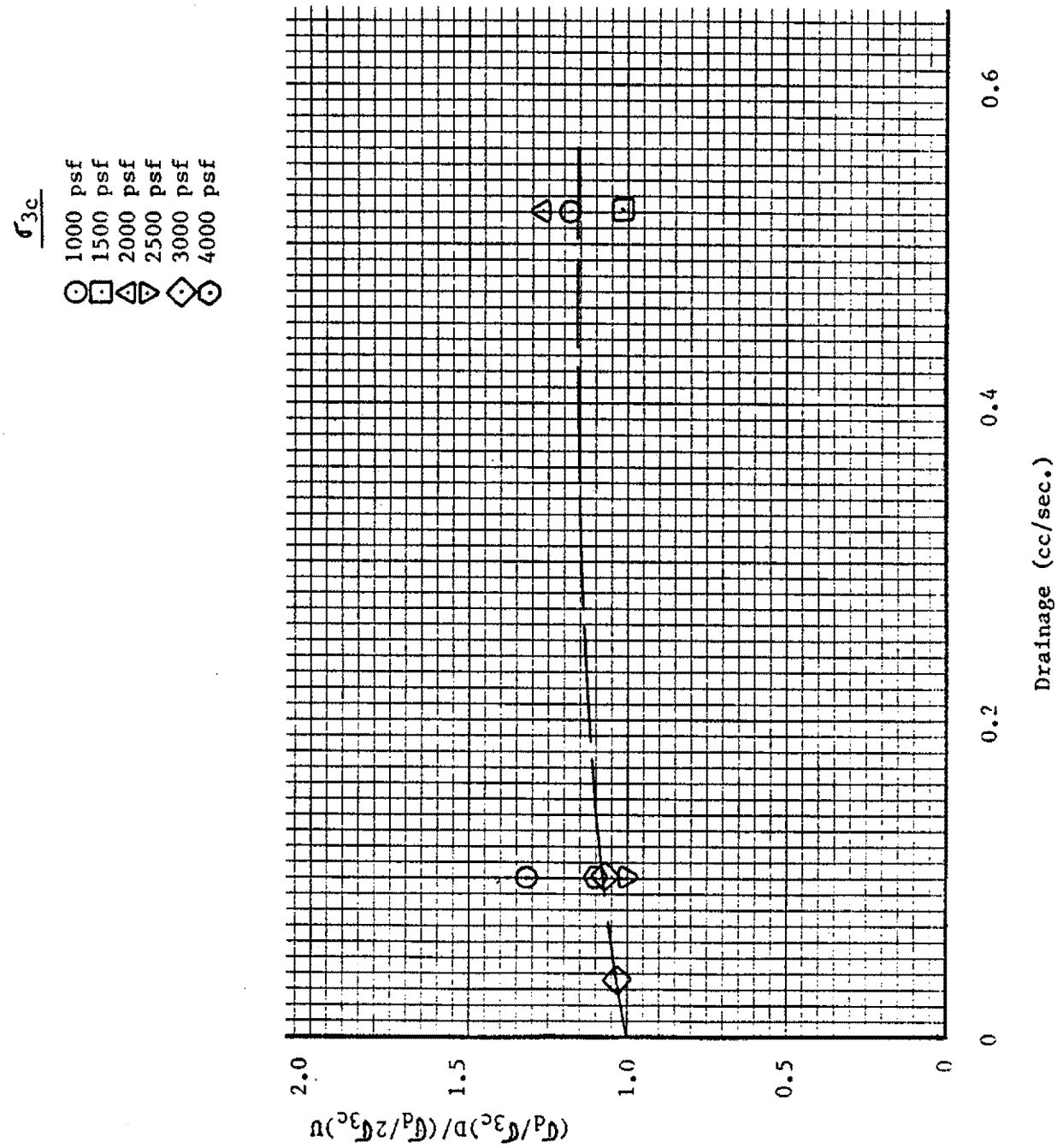

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION Job Number: B469C	INFLUENCE OF DRAINAGE ON DYNAMIC STRENGTH OF SAN MATEO SAND	Fig. E-4

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APPENDIX F

DBE INDUCED STRESSES

F-1 General

In determining the dynamic stress induced by DBE, two basic steps are involved:

a) selection of an input time-history (DBE) to give the desired free field response, and

b) apply the above acceleration time-history to a model of the site and obtain the maximum stresses. This has been done in the present study by using a dynamic finite-element procedure.

These items are discussed in the following paragraphs.

F-2 DBE Input Motion

The procedures involved in developing the input motion have been described in our report entitled, *Stability of Proposed Slopes for the Proposed Units 2 & 3, San Onofre Generating Station, San Onofre, California* dated 29 Mar 73. The finite-element model was analysed using a 22 sec. time history, the development of which is presented in the above referenced report. The 22 sec. time history has the same maximum acceleration and the essential features of the response spectra as the 80 sec. motion, so that the maximum stresses obtained from the 22 sec. motion would be appropriate for this analysis. Horizontal and vertical motions were input simultaneously to the model.

F-3 Determination of Maximum Shear Stress

For obtaining the DBE induced shear stresses, by the dynamic finite-element procedure, a cross-section of the site was cast into a suitable finite-element model. The significant

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criteria included in developing this mesh are: 1) the size of the finite-element is selected so as to give sufficient detail in the area of interest and 2) the side boundaries are so located that they do not influence the response in the area of interest. The finite element mesh used for the present analysis is presented in Fig. F-1. The computer program used for the analysis is QUAD 4, developed at the University of California, Berkeley. This program uses strain compatible soil properties i.e., stiffness and damping parameters. These properties have been presented in Appendix C. The output from the program includes maximum shear stress for each element and maximum accelerations at each nodal point. For the reason of assuring compatibility of results from the finite-element analysis and the specified DBE criterion (i.e., 0.67g at the free field) stresses calculated by the finite-element analysis were normalized to be consistent with a free field 0.67g horizontal and 0.44g vertical accelerations. The shear stresses in the free-field region were also obtained by a one-dimensional wave-propagation method (SHAKE program, developed at the University of California, Berkeley). These stresses were found to be in close agreement with those obtained by the finite-element procedure.

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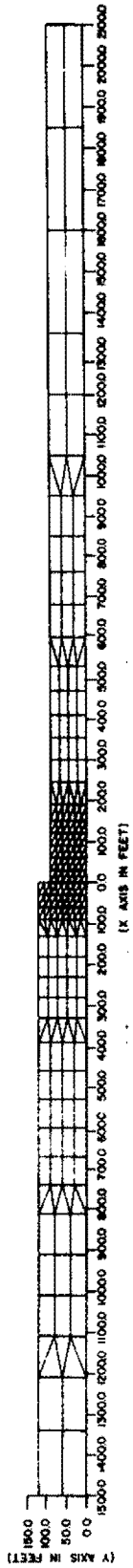

No. of Elements =271
No. of Nodal Points = 231

Project: SONGS OFF-SHORE LIQUEFACTION EVALUATION **Job Number:** B469C	FINITE ELEMENT MODEL	Fig. F-1

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APPENDIX 2.5B

CHRONOLOGY OF THE DEVELOPMENT OF THE DBE RESPONSE SPECTRUM

Site File Copy

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APPENDIX 2.5.B

CHRONOLOGY OF THE DEVELOPMENT OF THE DBE RESPONSE SPECTRUM

2.5.B.1 Introduction

Site-response studies were initiated in 1971 and continued through July 1976. A total of nine reports were issued, describing the development of the DBE response spectrum. These reports are listed and summarized in Table 2.5.B.1. For ease in presentation, the reports which have already been submitted to the NRC are referenced and condensed here. Other reports with supporting data are presented in Section 2.5.B.3. The fundamental relationships between stiffness, damping and strain for the San Mateo Formation Sand, used in the referenced studies, have been presented in Section 2.5.4.2.2

2.5.B.2 Chronology

At the time the first site-response studies were done in late 1971 and early 1972, the expectation was that the design-reference acceleration would be 0.5g; and the response studies were based on that value. The work involved calculation of the response spectra for 33 real earthquake records, scaled to accelerations large enough to yield about 0.5g maximum response in the free field (taken as the nominal base of containment, 30 ft below finished grade). The model was lumped-mass, representing the profile as being both 300 and 1000 ft thick so as to include all site effects. The resulting spectra were carefully inspected for their strengths at the high-amplification periods, and the peaks were adjusted as appropriate in a rational

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manner. The resulting reduced spectra were then conservatively enveloped to define the DBE spectrum, based on the 1/2-g reference acceleration. Details of these studies are presented in the San Onofre Nuclear Generating Station Units 2 and 3 PSAR (Ammendment 12, Appendix 2E, Attachment 2).

At about the time the foregoing work was being finished, it was conservatively agreed with AEC that the design reference acceleration would be 0.67g. For this reason, a study was done to determine if the 0.5g work could be used as a guide to constructing the spectrum for 0.67g reference acceleration. For this purpose, the effects of change in stiffness of the soil at the site due to higher strains caused by 0.67g earthquakes on the spectral shape was studied as described in Section 2.5.B.3.1. Figure 2.5.B.1 shows the relationship between modulus and strain for the San Mateo Formation Sand used for this study. For the range of strains for high-g earthquakes the figure shows that the modulus values for the San Mateo Formation Sand do not vary greatly. For this reason, it was concluded that the maximum values of acceleration response are essentially proportional to the zero-period acceleration in these high-g ranges. Based on the results of response analyses for developing 1/2g design response spectrum, described above, estimates of maximum responses and amplification factors for various zero-period accelerations were made. These estimates are presented in Fig. 2.5.B.2. From these studies it was considered conservative to linearly scale the 0.5g design spectrum to obtain 0.67g design spectrum.

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At the time of that work (1971-1972), the effects of model-profile thickness were limited by the state-of-the-art, so a few calculations were made for 1000-ft thick and 2500-ft thick profiles using lumped-mass models. The results of these analyses, described in Section 2.5.B.3.2, in terms of the ratio of the maximum acceleration for the 1000 ft profile to that for the 2500 ft profile as a function of depth are presented in Fig. 2.5.B.3. This figure showed that the 1000-ft model used for the majority of the calculations gave slightly greater response in comparison to the response of thicker profile, and were therefore conservative. In a separate study, response spectra at the surface and at the base-of-structure elevation (+30 ft) were calculated using the lumped-mass technique for many scaled real earthquakes. The spectra were compared for shape and maximum value of acceleration response. It was recommended that the surface and base-of-structure motions be taken as the same. Details of the work done and the results are presented in Section 2.5.B.3.3. It is now known that this procedure is quite conservative, because for high "g" values surface motions exceed free-field motions at depth in a soil deposit.

As a part of the work done in 1971-1972, it was necessary to develop a systematic, rational, and documentable way of smoothing the otherwise very jagged calculated spectra, to minimize arbitrary averaging or smoothing procedures. This led to the development of the pulse spectrum, whereby each vibration (pulse) of an oscillator is analyzed for its period

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and amplitude. The amplitude of each pulse is plotted as a function of period, defining a spectrum of pulse points. From the distribution of pulse points, a direct approach may be used to determine and document at what acceleration level there are significant number of pulses. Figure 37 of Section 2.5.B.3.4 presents the results of that approach for small earthquakes at the site and indicates that computed spectra could be lowered to about 70 to 78% of peak values to represent average spectra. The results of subsequent work reported on 21 Jun 72 for 2/3g earthquakes have been summarized in the San Onofre Nuclear Generating Station Units 2 and 3 PSAR (Ammendment 14, Appendix 2E). That work resulted in the development of 2/3g design basis spectrum with turning points at periods of 0.05 and 0.20 sec. with maximum amplification factor of 3.2.

In mid-1972 an agreement was reached with AEC to modify the design spectrum amplification factors and spectrum turning points. The OBE was selected to be half the DBE. As a result of this agreement, a turning point was moved from 0.05 sec to 0.033 sec and the maximum amplification factor was increased from 3.2 to 3.5. The documentation of these changes and resulting spectra for various damping values have been presented in the San Onofre Nuclear Generating Station Units 2 and 3 PSAR (Ammendment 16, Appendix 2E).

In order to develop an acceleration-time history which enveloped the smooth design spectrum, the acceleration-time history of a strong earthquake was adjusted until its spectrum appropriately matched the DBE spectrum for the appropriate

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damping. Subsequently the applicants were informed that AEC would require consideration on some spikes between 0.67g and 0.75g on the 0.67g acceleration-time history; and that it was intended that these spikes would not have an effect on the design. The oscillator periods used in developing the DBE time history are given in Table 2.5.B.2. The basis for these periods is described in the report presented in Section 2.5.B.3.5.

The essential results of these site response studies are summarized in Figs. 2.5.B.4 and 2.5.B.5, which show the spectra for the DBE and OBE, for several dampings. The acceleration-time history of the DBE is presented in Fig. 2.5.B.6, with its response spectrum for 2% damping in Fig. 2.5.B.7.

An inspection of Fig. 2.5.B.6 shows that the resulting DBE acceleration-time history is extremely severe. To investigate this point further, particularly with reference to the specified few spikes between 0.67g and 0.75g, the severity of the DBE time history was compared to the severity of many recorded earthquakes (see Section 2.5.B.3.6 for details). Some of these were scaled to 0.67g with several peaks between 0.67g and 0.75g superimposed. The relative severity of these earthquakes and that of the DBE was studied using six measures: spectral amplification ratio, spectral intensity, pulse distribution, impulse, kinetic energy and Housner's severity parameters. The results show that the DBE time history is much more severe than the scaled real earthquakes that include acceleration spikes up to 0.75g, as indicated in Section 2.5.B.3.6.

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2.5.B.3 Referenced Studies

This section presents the details of some of the studies referenced in the previous sections. Sections 2.5.B.3.1 to 2.5.B.3.5 present studies for the DBE response spectrum. In these sections references have been made to C-Earthquakes and D-Earthquakes which were defined in other reports appearing in the PSAR. For the sake of clarity, these earthquakes are defined in Tables 2.5.B.3 and 2.5.B.4. Section 2.5.B.3.6 presents the results of severity evaluation studies for the DBE acceleration-time history.

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TABLE 2.5.B.1

SUMMARY OF SITE-RESPONSE STUDIES

1. Estimates of Site Dynamic Response 05 Apr 72 Report

   This report analyzed the site response to 33 earthquakes, 22 of which were at low acceleration levels, and 11 of which were at high DBE levels of 1/2g. The result was a recommended 1/2g spectrum, with a maximum amplification ratio of 3.5. PSAR (Ammendment 12, Appendix 2E, Attachment 2).

2. Estimates of High-g Spectral Values 26 May 72 Report

   Utilizing the results of the 05 Apr 72 report, this report recommended procedures to scale from the 1/2g spectrum to higher accelerations. Section 2.5.B.3.1.

3. Effect of Soil Profile Model on Surface and 30-ft Acceleration 26 May 72 Report

   Referring to 05 Apr 72 report, this report presented results of calculations for a deep (2500-ft) profile model to verify conservatism of calculations done on more shallow (300-ft and 1000-ft) profiles. Section 2.5.B.3.2.

4. Ground-Surface Response Spectra 26 May 72 Report

   Referring to 05 Apr 72 report, this report compared response spectrum for the ground surface, with that at depth (30 ft). Section 2.5.B.3.3.

5. Importance of Response-Spectra Peaks 26 May 72 Report

   Referring to the D-earthquakes in the 05 Apr 72 report, this report showed pulse spectra to demonstrate that the peaks of the design spectrum should be less than the peaks of any one response spectrum. Section 2.5.B.3.4.

6. Estimates of Site Dynamic Response 21 Jun 72 Report

   This report analyzed site response to earthquakes large enough to yield 2/3g at the surface and demonstrated the sufficiency of scaled up spectrum presented in the report of 26 May 72. PSAR (Ammendment 14, Appendix 2E, Attachment 2).

7. Design Spectra 14 Aug 72 Report

   This report developed and presented revised spectra for 2/3g, and for AEC-moved control point (0.05 sec to 0.033 sec). PSAR (Ammendment 16, Appendix 2E).

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TABLE 2.5.B.1 (Cont'd)

8. Criteria for Development of SONGS Units 2 and 3 Time History 09 May 75 Report

   This report presents a summary of the oscillator periods used in fitting the DBE time history. Section 2.5.B.3.5

9. Severity Evaluation Studies 1 Jul 76 Report

   This report presented comparisons, using several measures of the severity of the synthetic DBE time history to the severity of many real earthquakes scaled to 3/4g maximum acceleration. Section 2.5.B.3.6.

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TABLE 2.5.B.2

OSCILLATOR PERIODS USED IN SPECTRA CALCULATIONS

Period Range (Sec.)	Oscillator Interval (Sec.)
0.01 to 0.20	0.01
0.20 to 1.80	0.02
1.80 to 2.0	0.05

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TABLE 2.5.B.3

CATALOG OF C-EARTHQUAKES

Earthquake No.	Trace	Profile	Maximum Bedrock Excitation, g	Predominant Period, sec.	Calculated Maximum Surface Acceleration
C-1	Modified Taft	1000'	0.62	0.38	0.53
C-2	Modified Golden Gate	1000'	3.92	0.14	0.53
C-3	Modified Pacoima	1000'	0.71	0.20	0.59
C-4	Modified Olympia	1000'	0.65	0.40	0.46
C-5	Modified Helena	1000'	1.32	0.14	0.46
C-6	Synthesized Trace	1000'	0.65	0.34	0.49
C-7	Compressed Synthesized Trace	1000'	2.22	0.07	0.38
C-8	Synthesized Trace	300'	0.32	0.34	0.53
C-9	Compressed Synthesized Trace	300'	0.51	0.08	0.44
C-10	Modified Helena	300'	0.66	0.14	0.52
C-11	Modified Olympia	300'	0.32	0.38	0.50

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TABLE 2.5.B.4

CATALOG OF D-EARTHQUAKES

Earthquake Number	Predominant Period, sec.	Bedrock Input Acceleration, g	Model Thickness, ft
D-1	0.15	0.07	300
D-2	0.30	0.07	300
D-3	0.45	0.07	300
D-4	0.60	0.07	300
D-5	0.15	0.07	1000
D-6	0.30	0.07	1000
D-7	0.45	0.07	1000
D-8	0.60	0.07	1000
D-9	0.30	0.10	300
D-10	0.45	0.10	300
D-11	0.60	0.10	300
D-12	0.30	0.10	1000
D-13	0.45	0.10	1000
D-14	0.60	0.10	1000
D-15	0.15	0.06	300
D-16	0.30	0.06	300
D-17	0.45	0.06	300
D-18	0.60	0.06	300
D-19	0.15	0.06	1000
D-20	0.30	0.06	1000
D-21	0.45	0.06	1000
D-22	0.60	0.06	1000

NOTE: Earthquakes D-1 to D-8 were derived from 1952 Taft N21E.
Earthquakes D-9 to D-14 were derived from 1957 San Francisco S80E.
Earthquakes D-15 to D-22 were derived from 1949 Olympia N10W.

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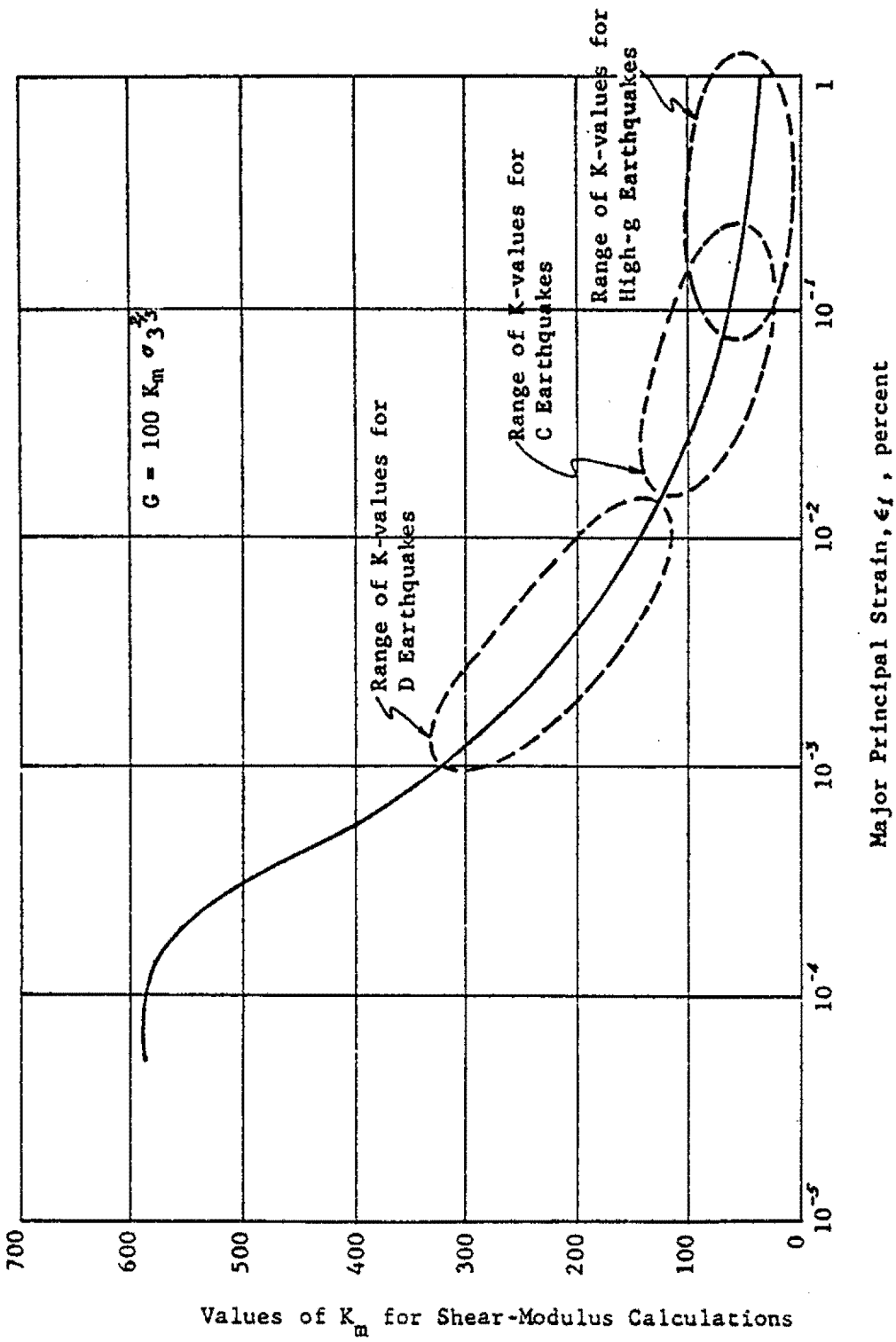


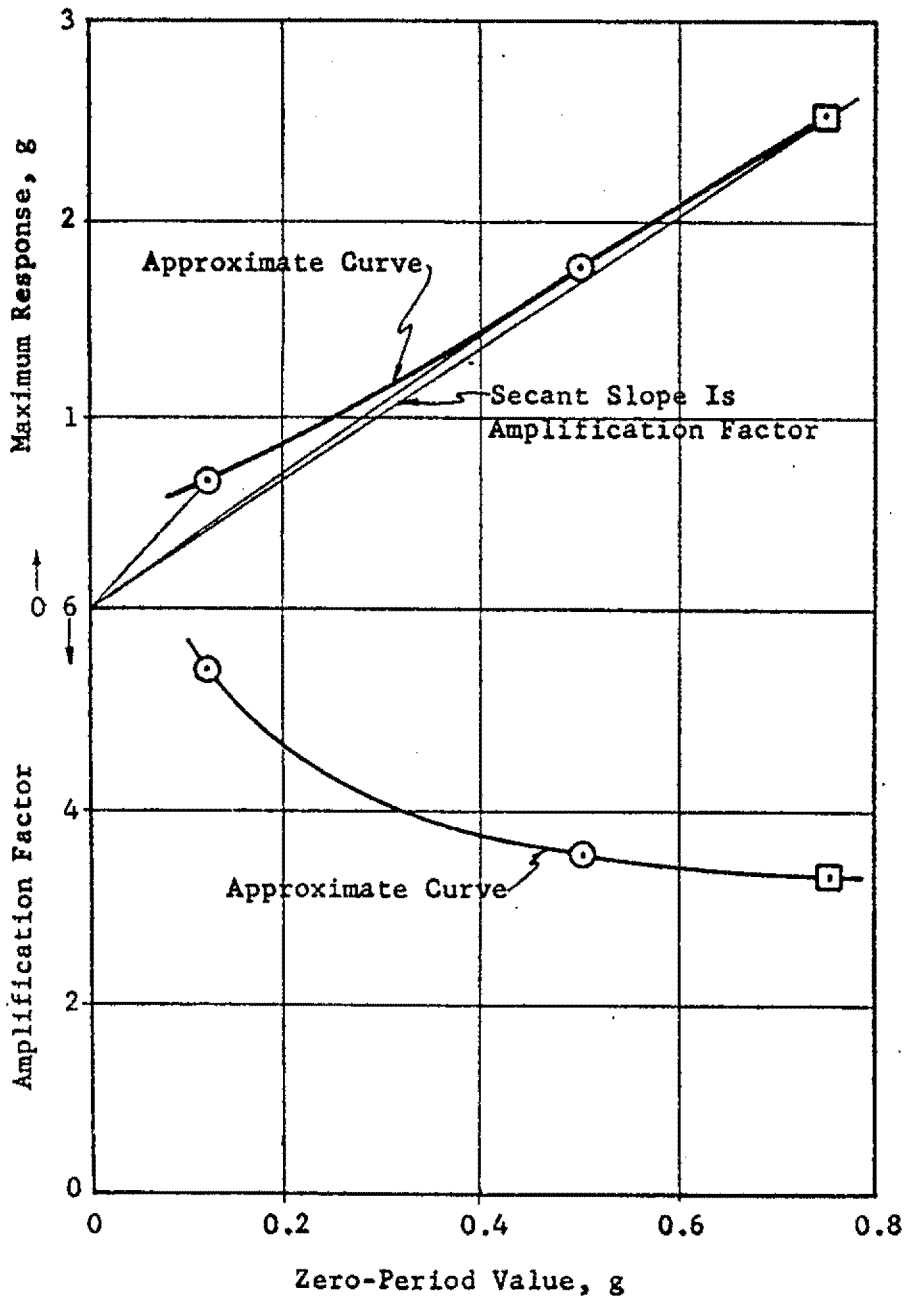
G = Shear Modulus

σ_3 = Confining Pressure

Fig. 2.5.B.1

MODULUS VALUES FOR GIVEN EARTHQUAKES

Amended: April 2009 TL: E048000



Notes:

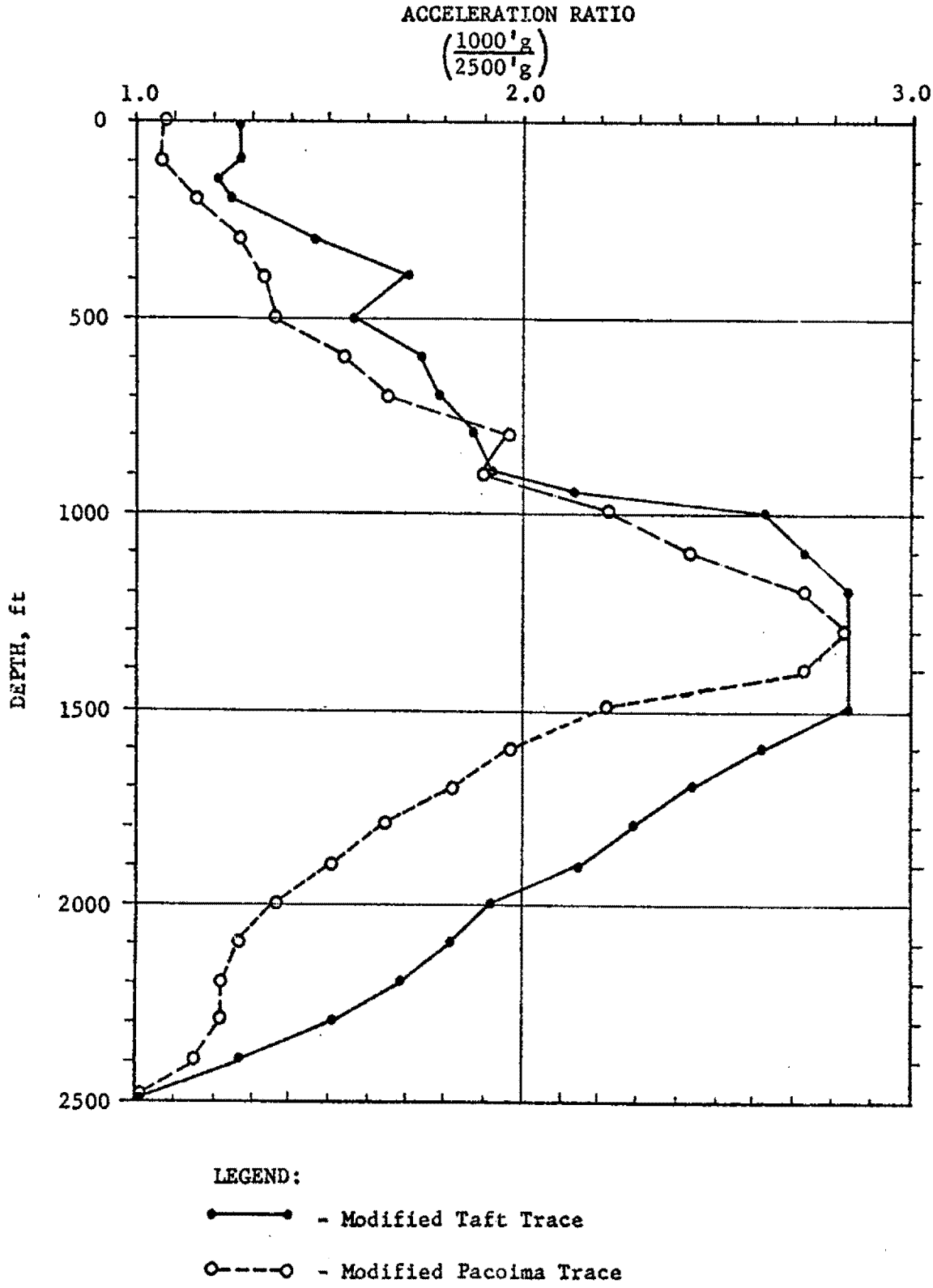
⊙ - Based on results given in 05 April report and subsequent letters.

⊡ - Based on approximate and limited calculations.

* 2% Damping

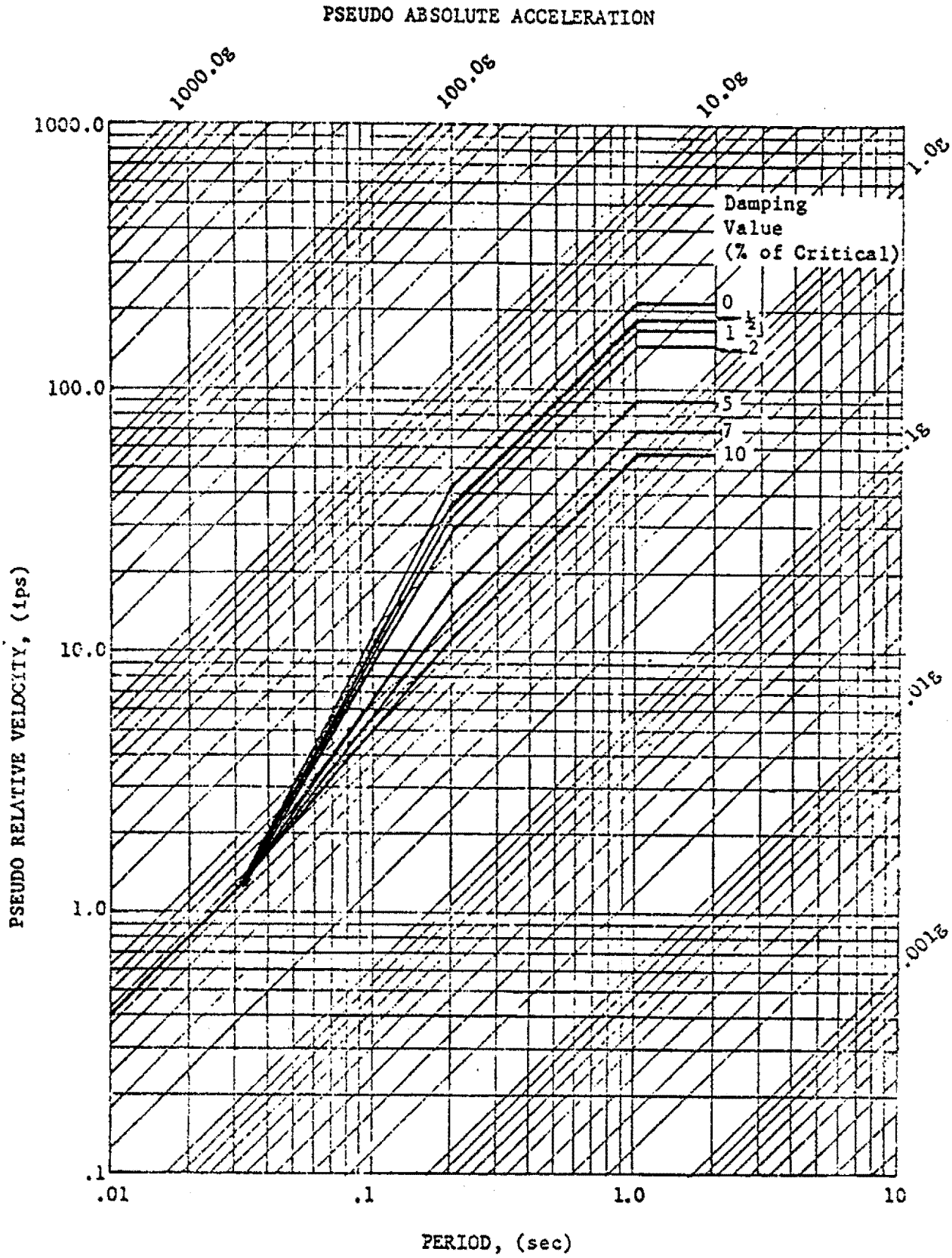
APPROXIMATE SPECTRAL VALUES	Fig. 2.5.B.2

Amended: April 2009 TL: E048000



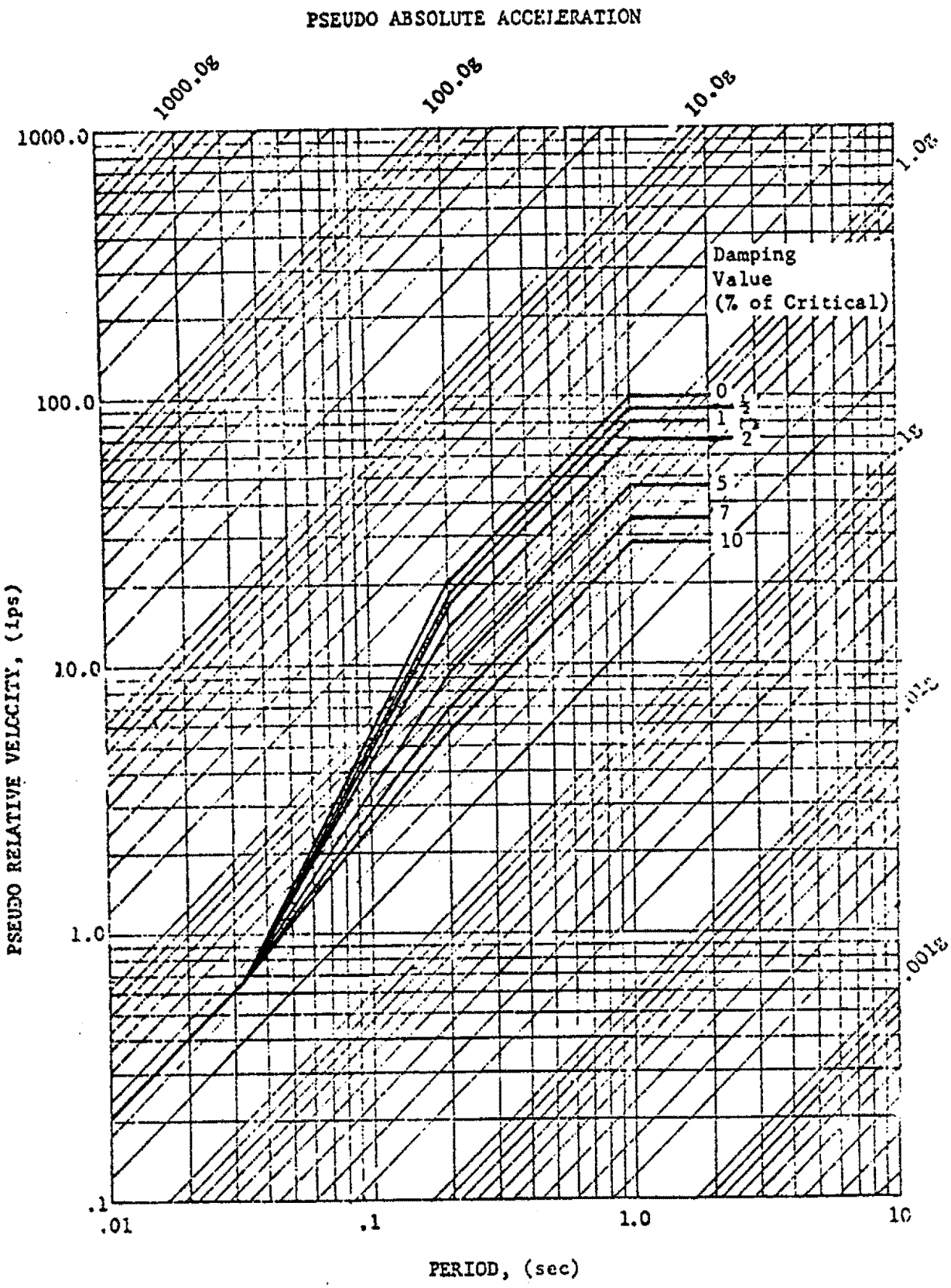
ACCELERATION RATIO VS DEPTH	Fig. 2.5.B.3

Amended: April 2009 TL: E048000



DESIGN SPECTRA, SONGS 2 & 3, DBE VARIOUS DAMPING VALUES

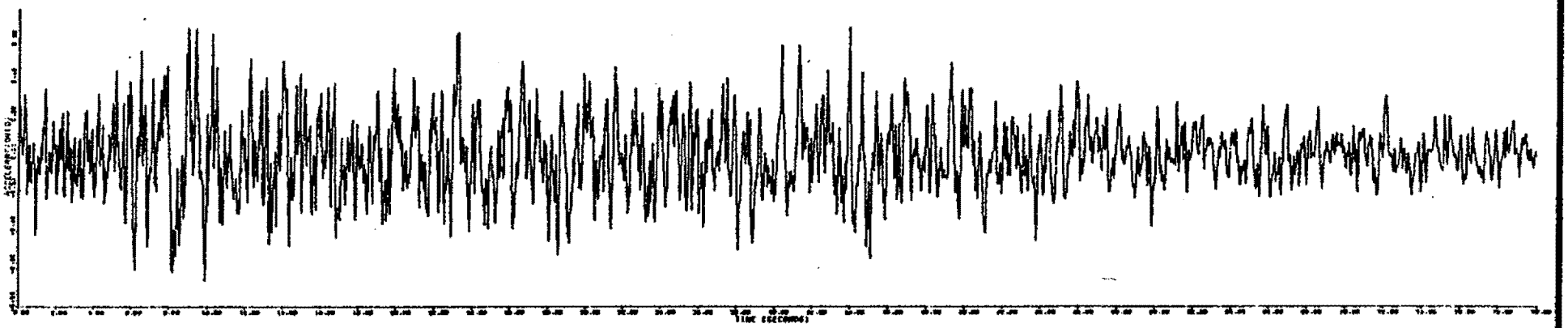
Fig. 2.5.B.4



DESIGN SPECTRA, SONGS 2 & 3, OBE VARIOUS DAMPING VALUES

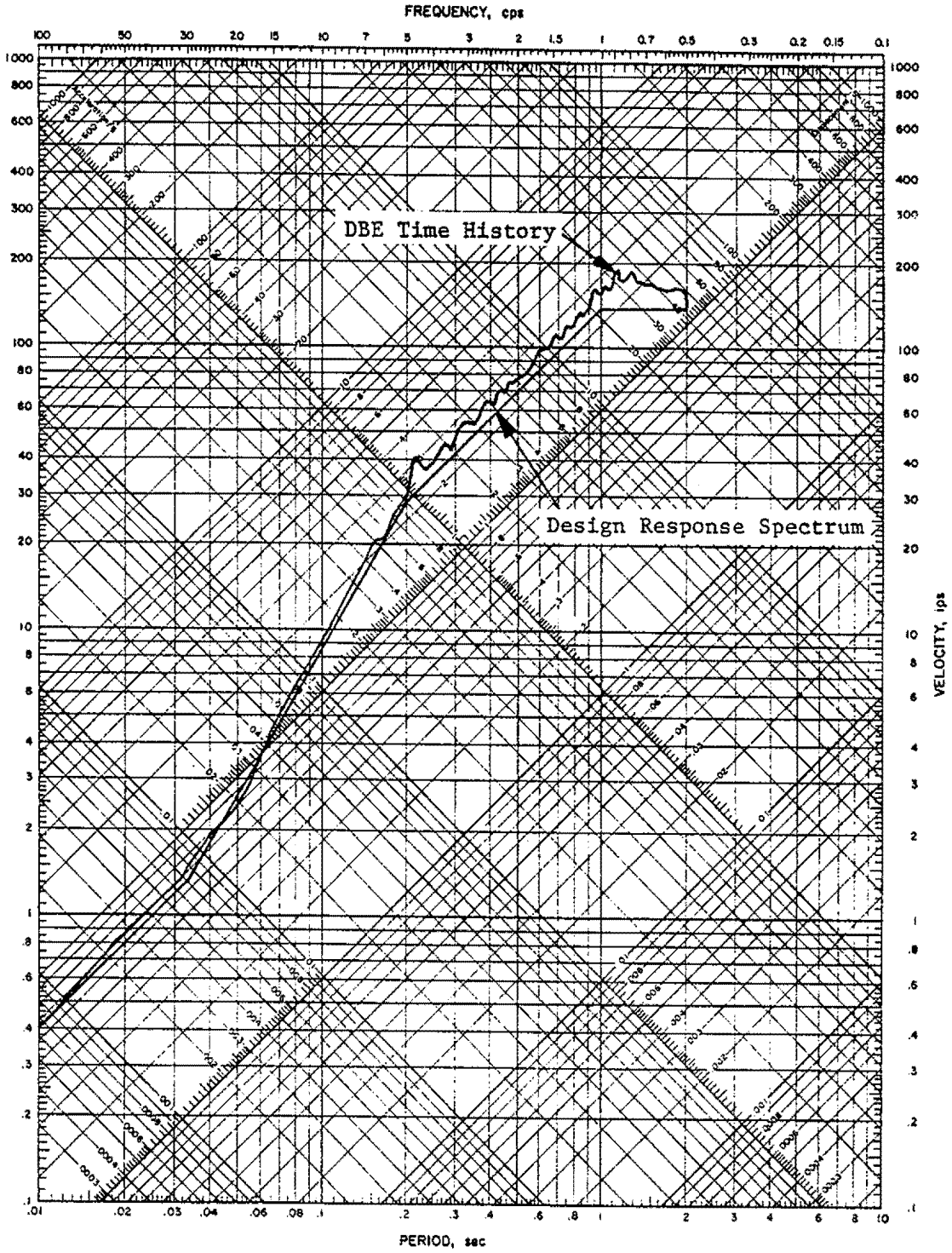
Fig. 2.5.B.5

Amended: April 2009 TL: E048000



DBE ACCELERATION-TIME HISTORY

Fig. 2.5.B.6



DESIGN AND TIME-HISTORY SPECTRA,
2% DAMPING

Fig. 2.5.B.7

Amended: April 2009 TL: E048000

Section 2.5.B.3.1

ESTIMATES OF HIGH-g SPECTRAL VALUES

Report Dated 26 May 72

Amended: April 2009 TL: E048000

Los Angeles
26 May 1972
Project No. B156S

Southern California Edison Company
P. O. Box 800
Rosemead, California 91770

Attention: Mr. David Johns

SUBJECT: ESTIMATES OF HIGH-*g*
SPECTRAL VALUES, UNITS 2 & 3
SAN ONOFRE NUCLEAR GENERATING STATION

Gentlemen:

You have asked for our present best estimates of what higher-*g* response values might be for the subject site. We have made certain calculations to assist us in those estimates.

For those high-*g* values, we presently do not feel that the turning points of the spectra will significantly change. That is, we presently feel the turning points of 0.05 sec, 0.20 sec, and 1.0 sec will be about the same if higher-*g* spectra were calculated. In the range of zero-period acceleration from about 1/2*g* to 3/4*g*, at the base of the structure, the stresses and strains induced in the soil (San Mateo formation) are quite high. Fig. 1 shows the strain range, from 0.1 to 1 percent; and also shows that, in the strain range of these high-*g* earthquakes, the modulus values do not vary greatly. For this reason, the maximum values of acceleration response are essentially proportional to the zero-period values of acceleration in these high-*g* ranges. For the lower-*g* ranges of the C-earthquakes (arbitrary 0.5*g*) and the D-earthquakes (tenth-length rupture), the strain-modulus range are also shown in Fig 1.

At your request, we have analyzed the diverse data and calculations available to us, to estimate the maximum responses and amplification factors for the site. Those very approximate results are given in Fig 2.

Very truly yours,

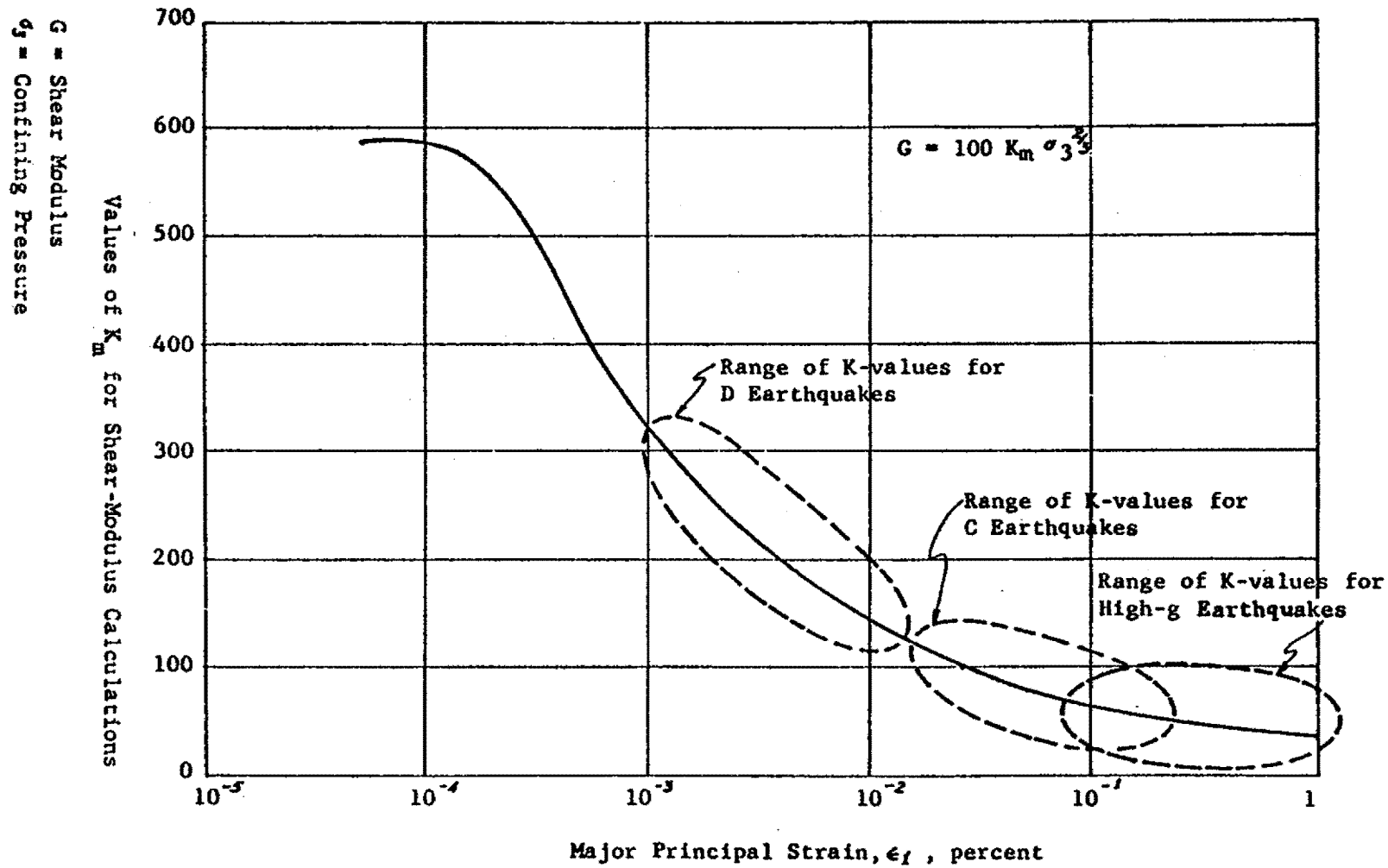
WOODWARD-McNEILL & ASSOCIATES

by
Robert L. McNeill

RLM/ao

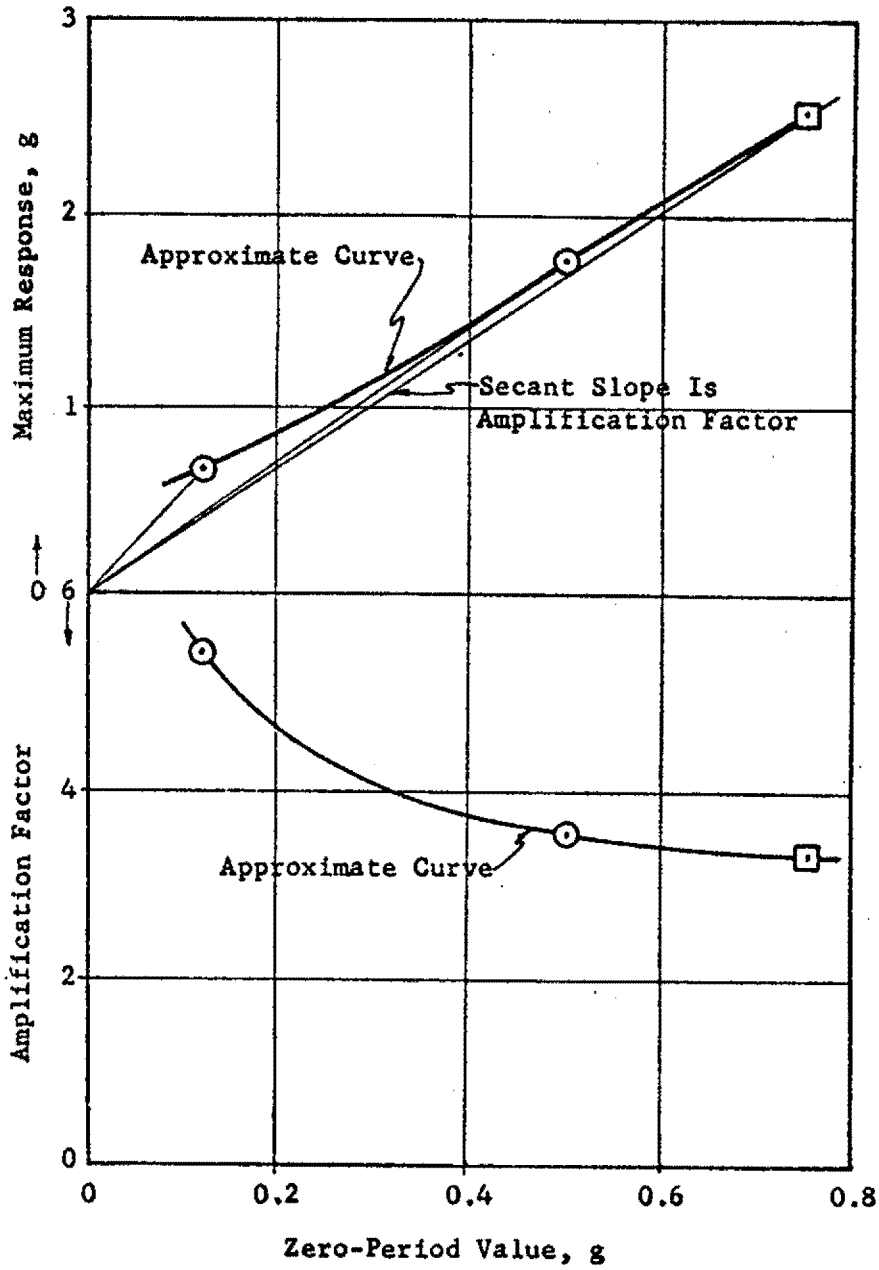
Attachments

Amended: April 2009 TL: E048000



Project: SCE Spectrum Job Number: B15[illegible]	MODULUS VALUES FOR GIVEN EARTHQUAKES	Fig. 1

Amended: April 2009 TL: E048000



Notes:

⊙ - Based on results given in 05 April report and subsequent letters.

⊡ - Based on approximate and limited calculations.

* 2% Damping

Project: SCE Spectrum Job Number: B156S	APPROXIMATE SPECTRAL VALUES	Fig. 2

Section 2.5.B.3.2

EFFECT OF SOIL PROFILE MODEL ON SURFACE AND 30-FT ACCELERATION

Report Dated 26 May 72

Amended: April 2009 TL: E048000

Los Angeles
26 May 1972
Project No. B156I

Southern California Edison
P. O. Box 800
Rosemead, California 91770

Attention: Mr. David Johns

SUBJECT: EFFECT OF SOIL PROFILE MODEL ON SURFACE AND THIRTY-FOOT ACCELERATION SAN ONOFRE NUCLEAR GENERATING STATIONS 2 & 3

Gentlemen:

As requested, we have completed our investigation at the subject site toward the evaluation of the effects on site response of increasing the depth of the soil model. The maximum depth considered in detail to date was 1000 ft which reaches the base of the San Mateo Formation. The Capistrano Formation, a poorly indurated siltstone has been reported by others to underly the San Mateo Formation and extend to a depth of 2000 ft; and that is in turn, underlain by the Monterey Formation, extending to about 2500 ft.

We have analyzed a 1000-ft soil model and a 2500-ft soil model to facilitate a comparison of site response. In order to make such a comparison valid, the same number of lumped masses were taken in both analyses for the top 1000 ft with a similar number per unit depth utilized below 1000 ft in the 2500-ft model. The results of these two analyses in terms of the ratio of the maximum acceleration for the 1000-ft profile to the 2500-ft profile as a function of depth are presented in Fig 1 for the Taft and Pacoima accelerograms. As can be noted from this figure, the accelerations at the ground surface and at a depth of 30 ft for the 1000 and 2500-ft models are essentially identical for the Pacoima accelerogram and only slightly different for the Taft accelerogram, with the 1000 ft model yielding the more conservative results.

Amended: April 2009 TL: E048000

It is our opinion, based on the data presented, that the 1000-ft model is appropriate for the maximum thickness soil model to utilize in the evaluation of design and operating base response spectra for the proposed Units 2 and 3.

Very truly yours,

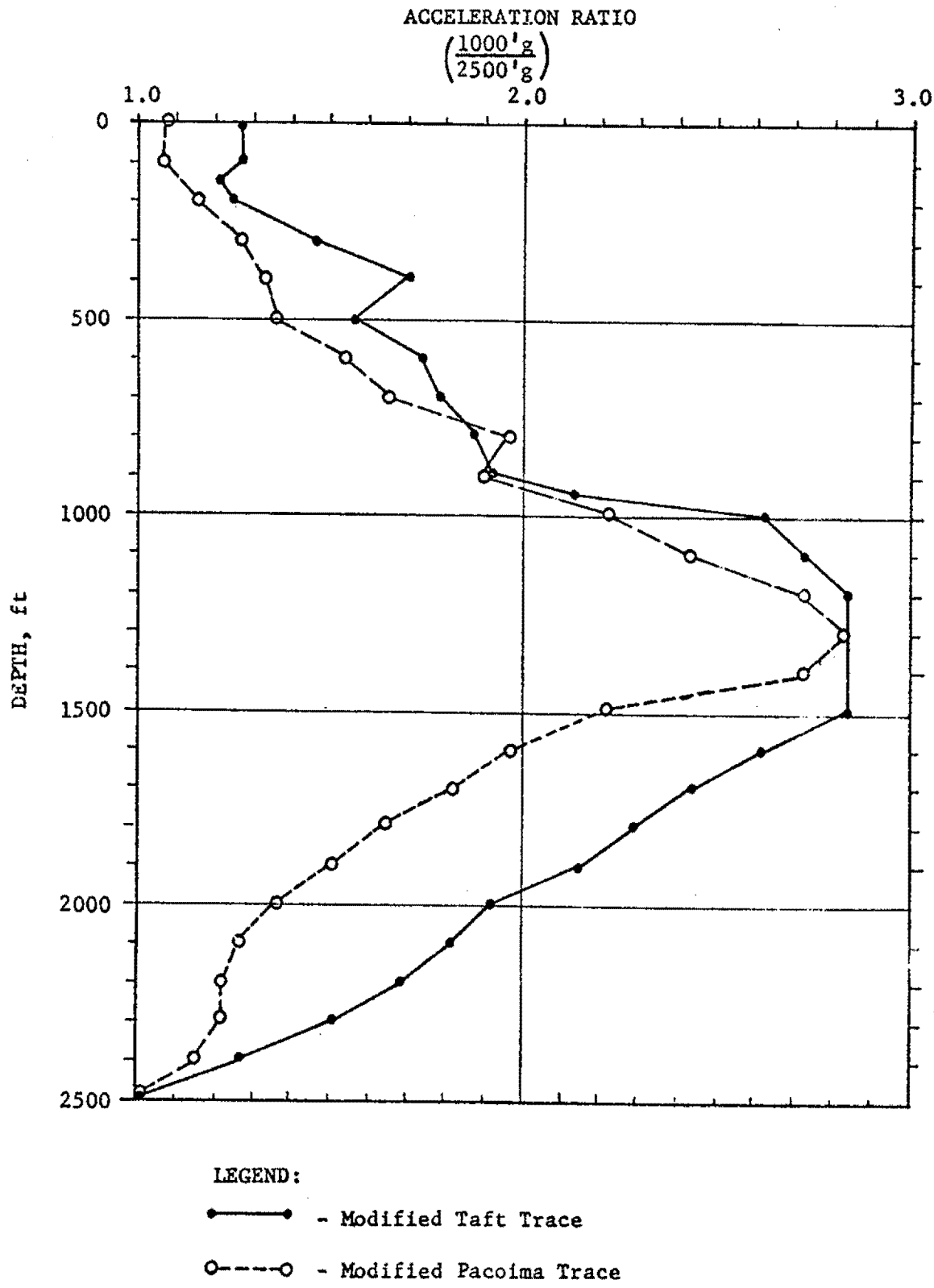
WOODWARD-McNEILL & ASSOCIATES

by

JAB/ao

Attachment

Amended: April 2009 TL: E048000



Project:SCE Spectrum Job Number:B156S	ACCELERATION RATIO VS DEPTH	Fig. 1

Amended: April 2009 TL: E048000

Section 2.5.B.3.3

GROUND-SURFACE RESPONSE SPECTRA

Report Dated 26 May 72

Amended: April 2009 TL: E048000

WOODWARD-McNEILL & ASSOCIATES
CONSULTING ENGINEERS AND GEOLOGISTS
AN AFFILIATE OF WOODWARD-CLYDE CONSULTANTS

2140 W. Olympic Blvd.
Los Angeles, Ca. 90006
(213) 380-1966

758 N. Batavia
Orange, Ca. 92668
(714) 633-6316

Please Reply to:

Los Angeles
26 May 1972
Project No. B156I

Southern California Edison Company
P. O. Box 800
Rosemead, California 91770

Attention: Mr. David Johns

SUBJECT: GROUND-SURFACE RESPONSE SPECTRA
UNITS 2 and 3
SAN ONOFRE NUCLEAR GENERATING STATION

Gentlemen:

In response to your request, we have investigated whether the ground-surface response spectra for design at the subject site should be different from the base-of-structure spectra reported to you in *Estimates of Site Dynamic Response* on 5 April 1972.

The base-of-structure spectra were calculated at a nominal 30 ft below the ground surface, using the modulus value from Fig. 1 of the 5 April report, and the site models of Figs. 3 and 4 of that report. At the ground surface, where confinement is zero, the modulus relationship (Fig. 1 of 5 April report) tells the model that the theoretical soil stiffness is zero, which of course is not the case. Thus for calculations of ground-surface motions and spectra, the model must be modified slightly to allow a nominal stiffness of the near-surface elements. To do this, the top 30 ft of the model was held at a constant modulus value, and calculations were made of the surface motions. The catalog of the calculations made are given in Table 1.

For the D-Earthquakes, calculations were made for assumed near-surface stiffness of 2000, 4000, and 6000 ksf. The results are shown on a comparative basis in Figs. 1 through 33. The data in those figures are raw and uncorrected, and are intended *only* for comparing surface to base-of-structure motions. The degree of difference between the surface motions and the base-of-structure motions can be assessed by comparing the 2 plots for each case on each figure. That comparison will show that the differences are small and that the shapes of the curves are similar. For ease of reference, Table 2 compares the peak values of each of the curves (the values in Table 2 are raw and uncorrected, to be used *only* for purposes of this comparison). Those peaks are essentially the same, varying the most for the assumed less stiff material. For values of modulus in the range 4000 to 6000 ksf (which is, in our opinion, the appropriate range), the differences are less than 10 percent.

The response spectra for the SC-Earthquakes are given in Figs. 34 through 37. These were calculated only for the case of 4000 ksf stiffness. The spectra are similar in shape and maxima to the base-of-structure spectra presented in the 5 April report.

On the basis of these calculations, we presently concluded that the differences between the surface motions and the base-of-structure motions are not significantly large from a practical standpoint; and we do not recommend that you utilize different spectra for surface and base-of-structure motions at this site.

Very truly yours,

WOODWARD-McNEILL & ASSOCIATES

by

Robert L. McNeill

RLM/ao

Attachments

TABLE 1

CATALOG OF SURFACE CALCULATIONS

Earthquake Number*	Figure Number, for Modulus Value**		
	2000 (ksf)	4000 (ksf)	6000 (ksf)
SD-2	1	--	--
SD-3	2	12	23
SD-4	3	13	24
SD-7	4	14	25
SD-9	--	15	26
SD-10	5	16	27
SD-11	6	17	28
SD-13	7	18	29
SD-14	8	19	30
SD-17	9	20	31
SD-20	10	21	32
SD-21	11	22	33
SC-8	--	34	--
SC-9	--	35	--
SC-10	--	36	--
SC-11	--	37	--

* Refers to D- or C-Earthquakes in 5 April 1972 report.

** Modulus constant value, upper 30 ft.

Amended: April 2009 TL: E048000

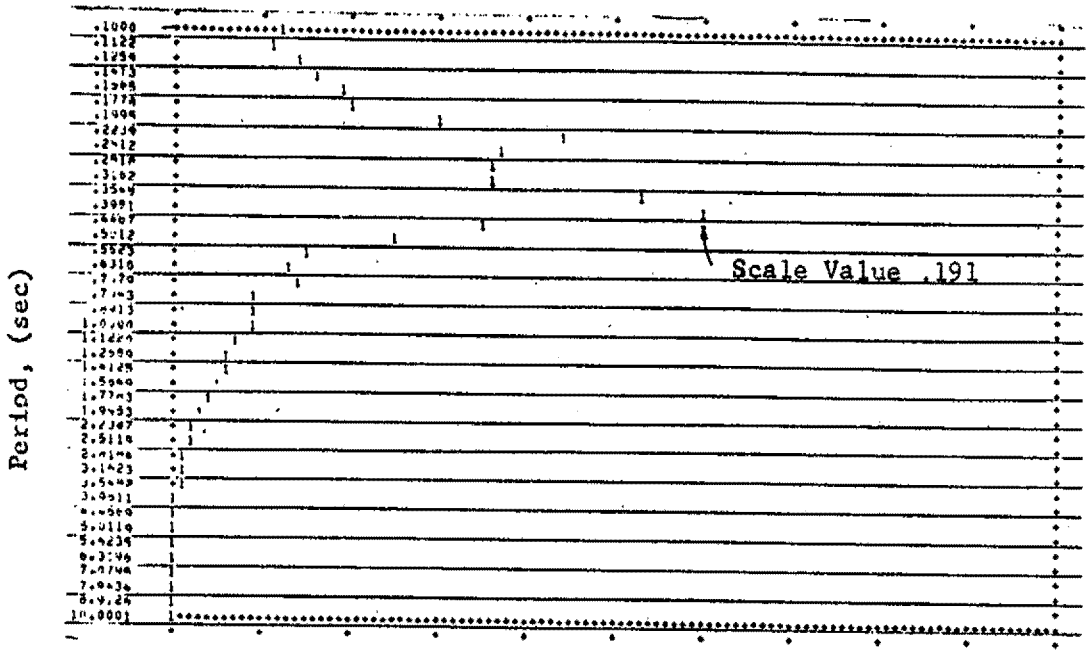
TABLE 2

ANALYSIS OF SD-EARTHQUAKES

Earthquake Number	Peak Values, Surface/Base-of-Structure		
	2000 (ksf)	4000 (ksf)	6000 (ksf)
SD-2	0.9/0.8	------	-------
SD-3	0.9/0.7	0.5/0.6	0.8/0.8
SD-4	1.2/1.2	1.2/1.1	1.1/1.1
SD-7	0.5/0.4	0.5/0.4	0.4/0.4
SD-9	-------	0.9/0.8	0.9/0.8
SD-10	0.9/0.8	0.9/0.8	0.8/0.8
SD-11	1.1/0.9	1.0/1.0	0.9/0.9
SD-13	0.9/0.7	0.8/0.8	0.8/0.8
SD-14	1.0/0.8	0.8/0.8	0.7/0.8
SD-17	0.8/0.7	0.8/0.7	0.8/0.7
SD-20	0.6/0.6	0.6/0.6	0.6/0.6
SD-21	0.5/0.4	0.4/0.4	0.4/0.4

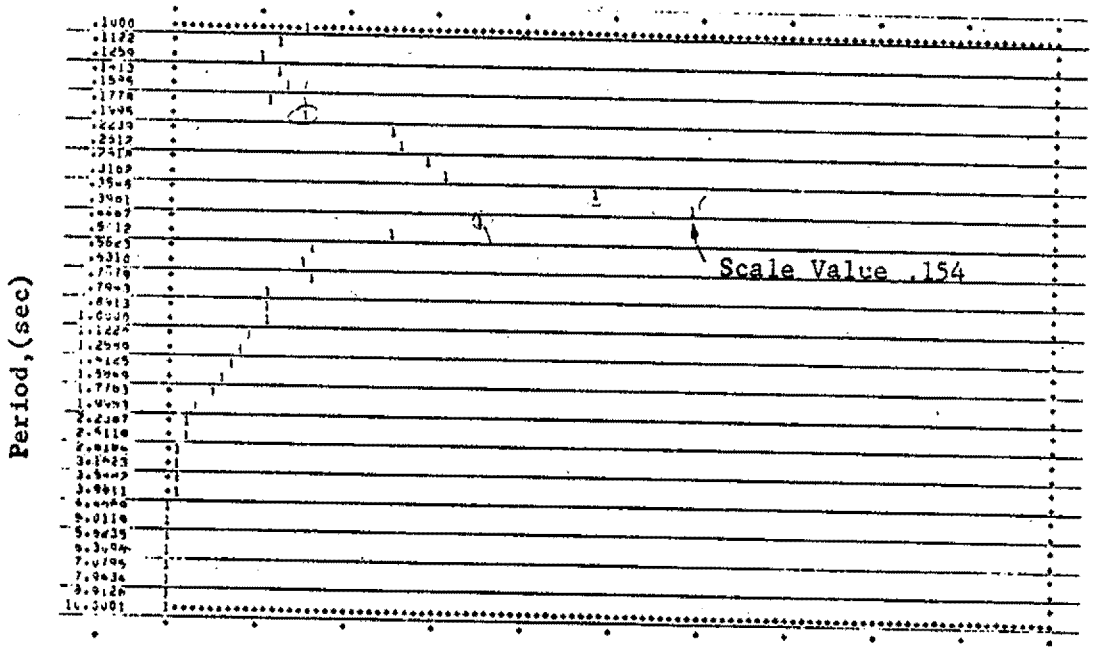
Values for relative comparison only.

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

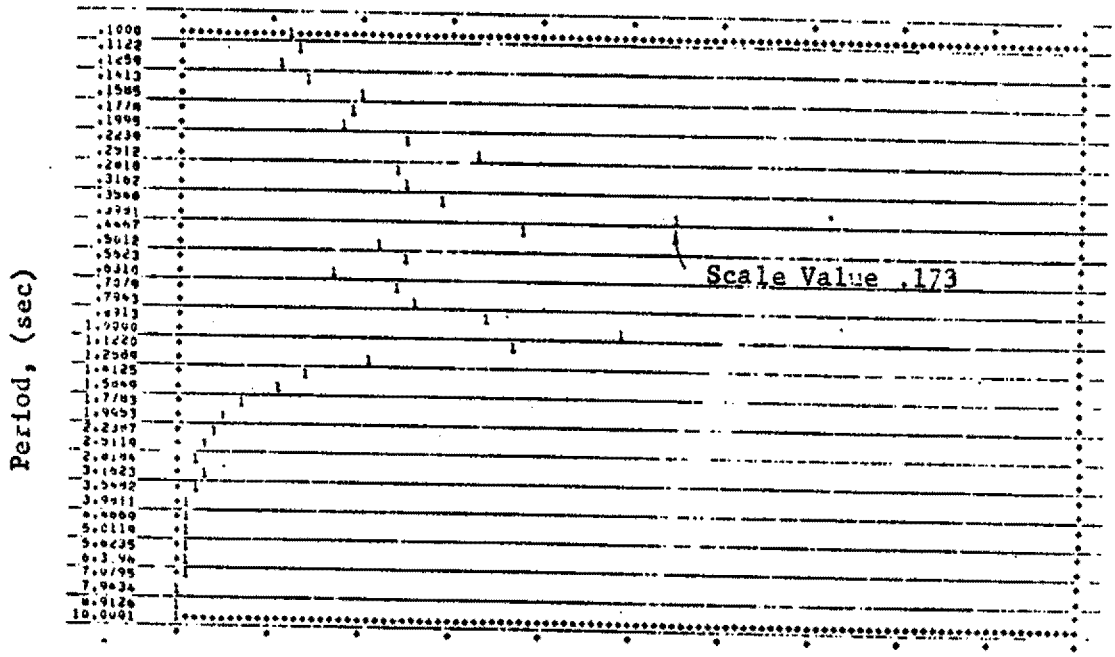
Job Number: B1560

EARTHQUAKE SD - 2

M_s = 2,000,000 psf

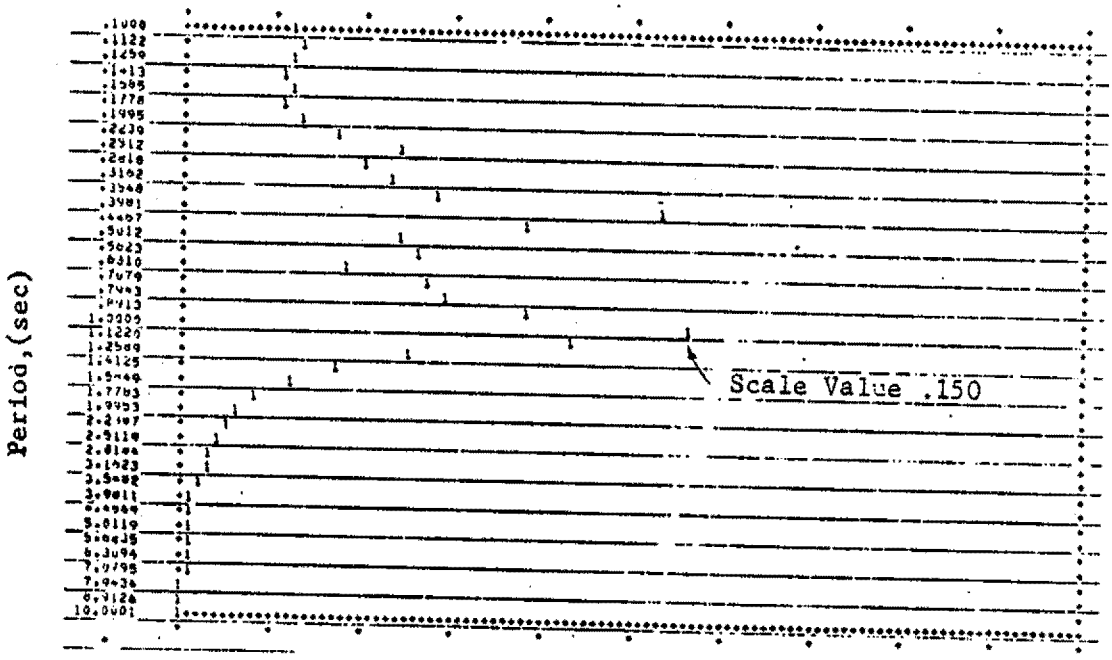
Fig. 1

Normalized Acceleration



Ground Surface

Normalized Acceleration

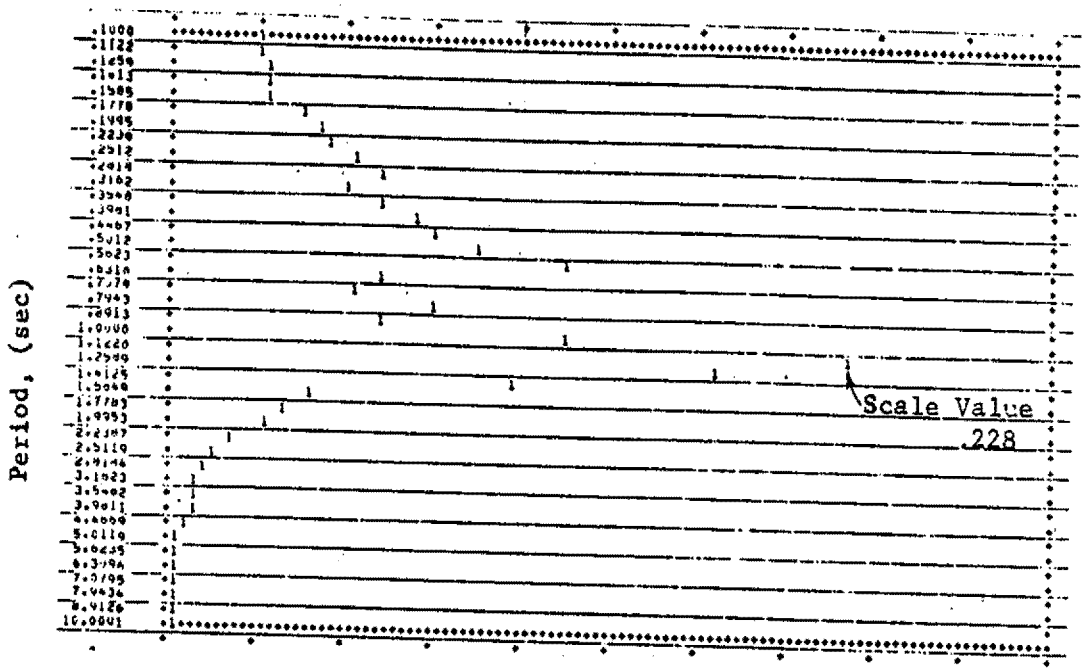


Base of Structure

Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 3 M_s = 2,000,000 psf	Fig. 2

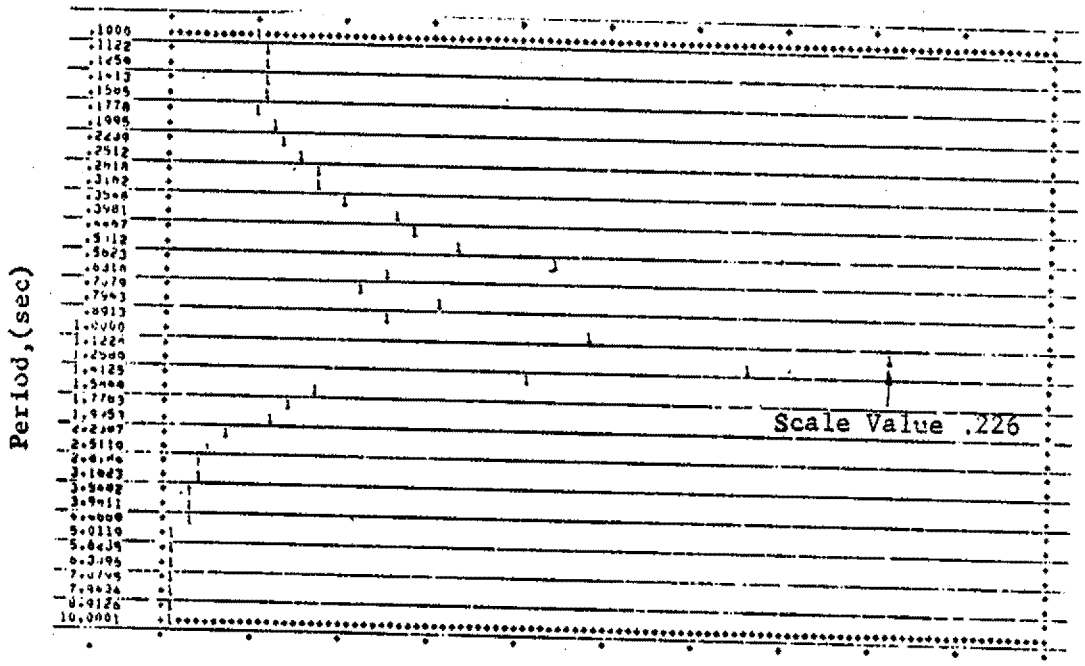
WOODWARD-McNEILL & ASSOCIATES
Amended: April 2009 TL: E048000

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

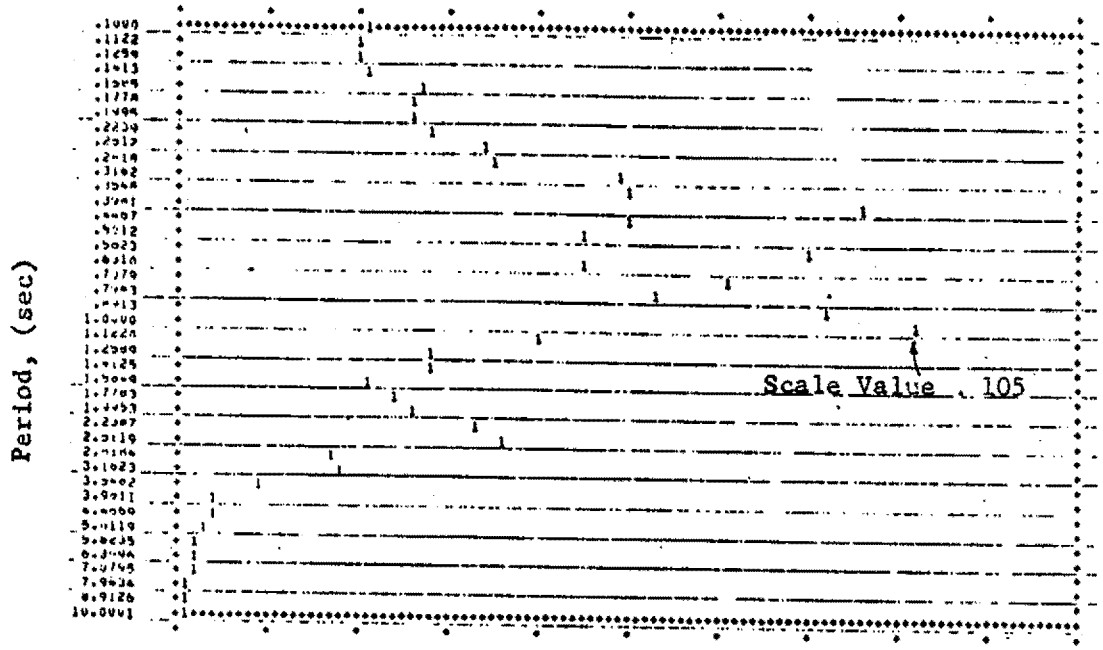
Job Number: B156S

EARTHQUAKE SD - 4

M_s = 2,000,000 psf

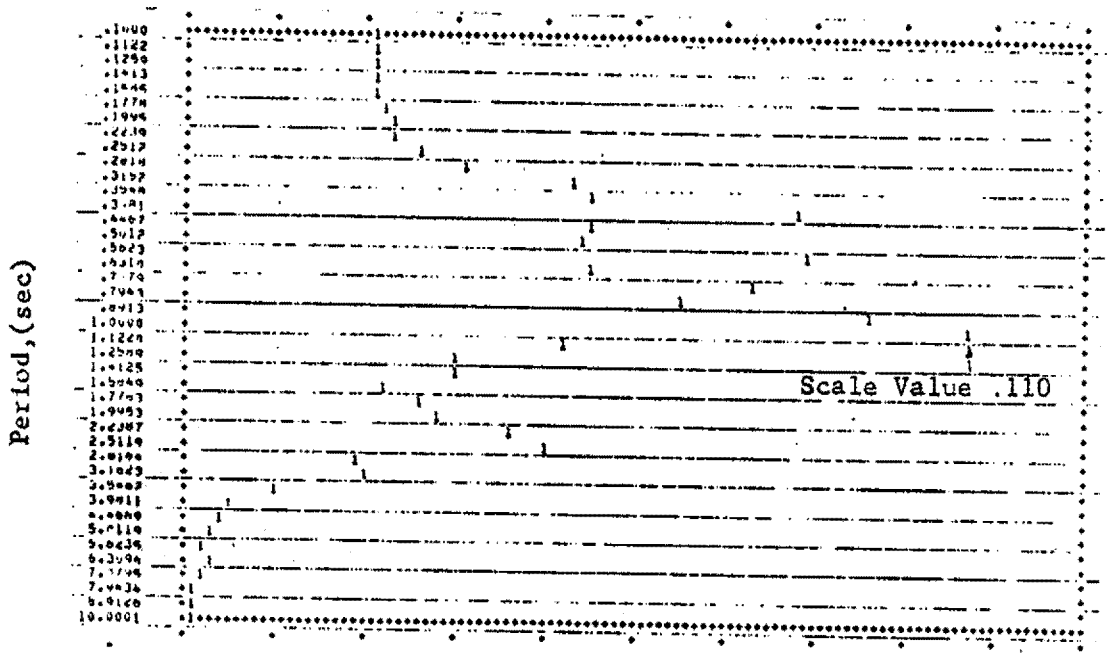
Fig. 3

Normalized Acceleration



Ground Surface

Normalized Acceleration

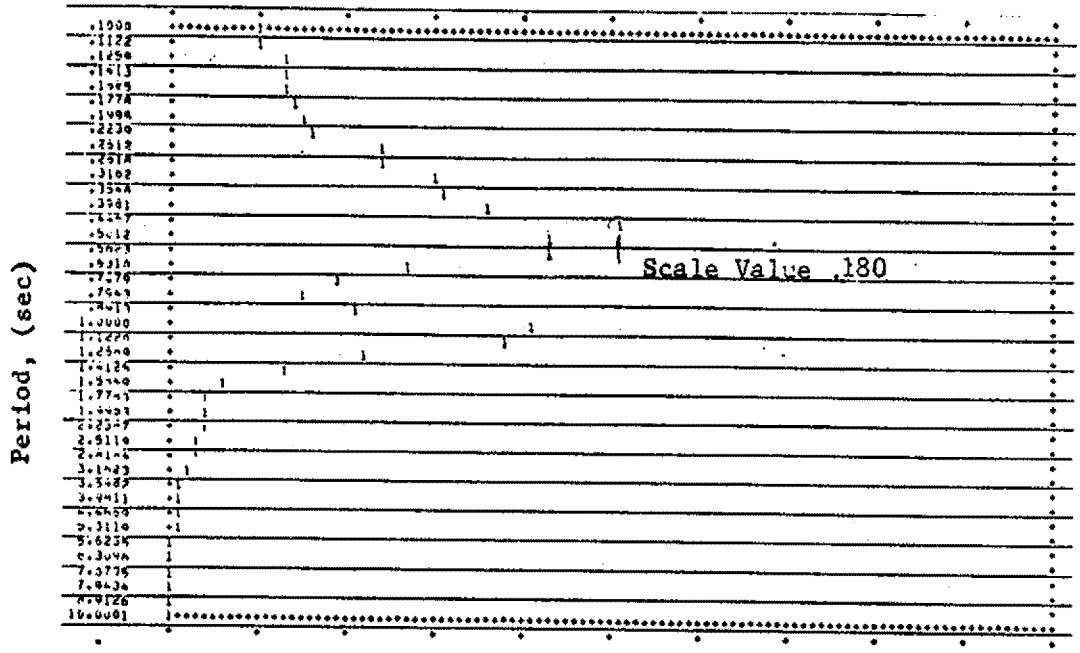


Base of Structure

Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 7 M_B = 2,000,000 psf	Fig. 4

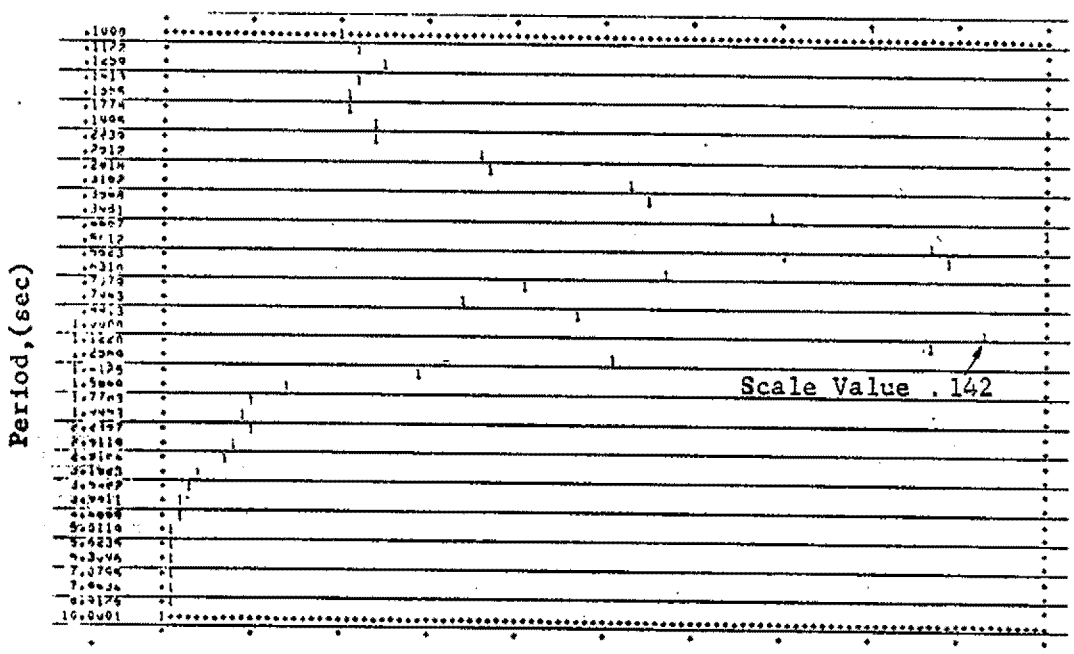
Amended: April 2009 TL: E048000

Normalized Acceleration



Ground Surface

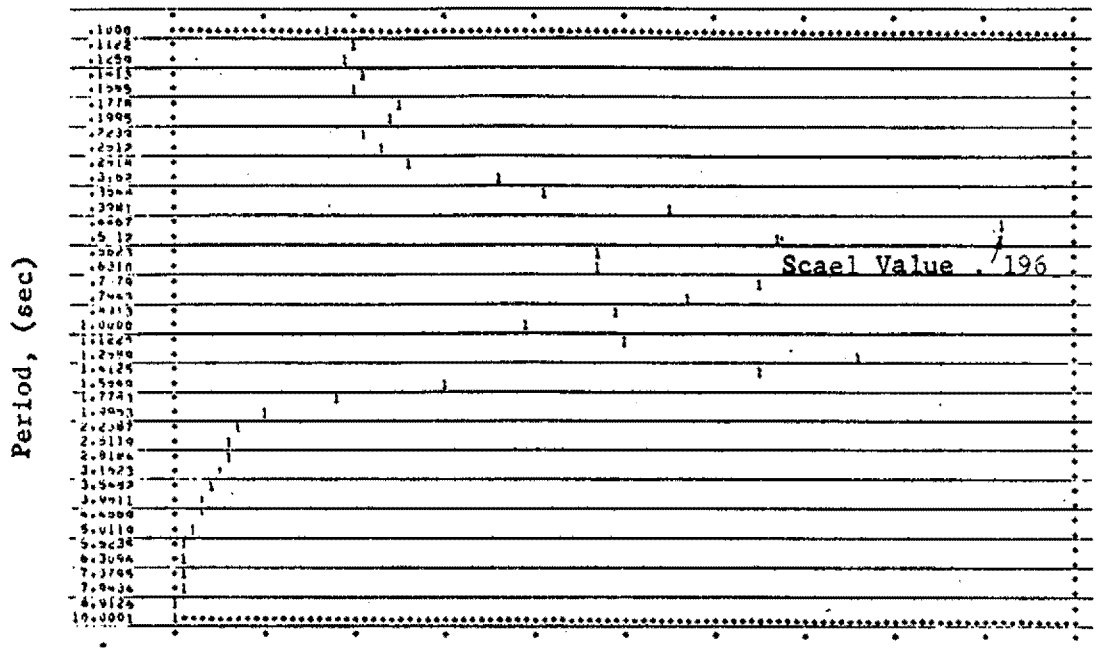
Normalized Acceleration



Base of Structure

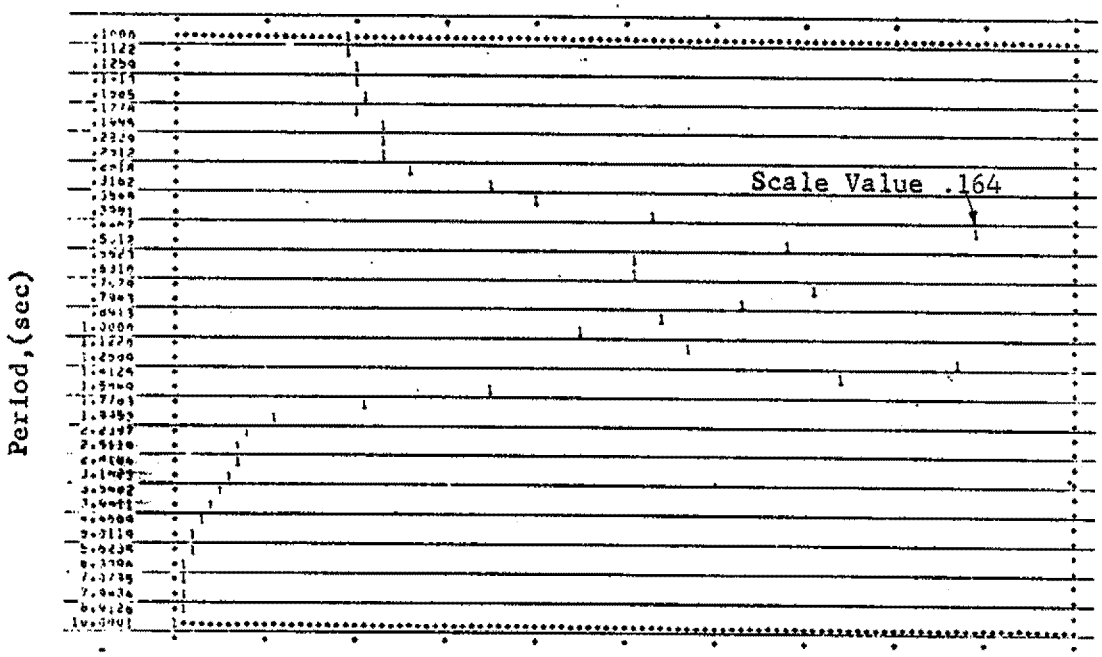
Project: SCE Spectrum	EARTHQUAKE SD - 10	Fig.
Job Number: B156S	M_S = 2,000,000 psf	5

Normalized Acceleration



Ground Surface

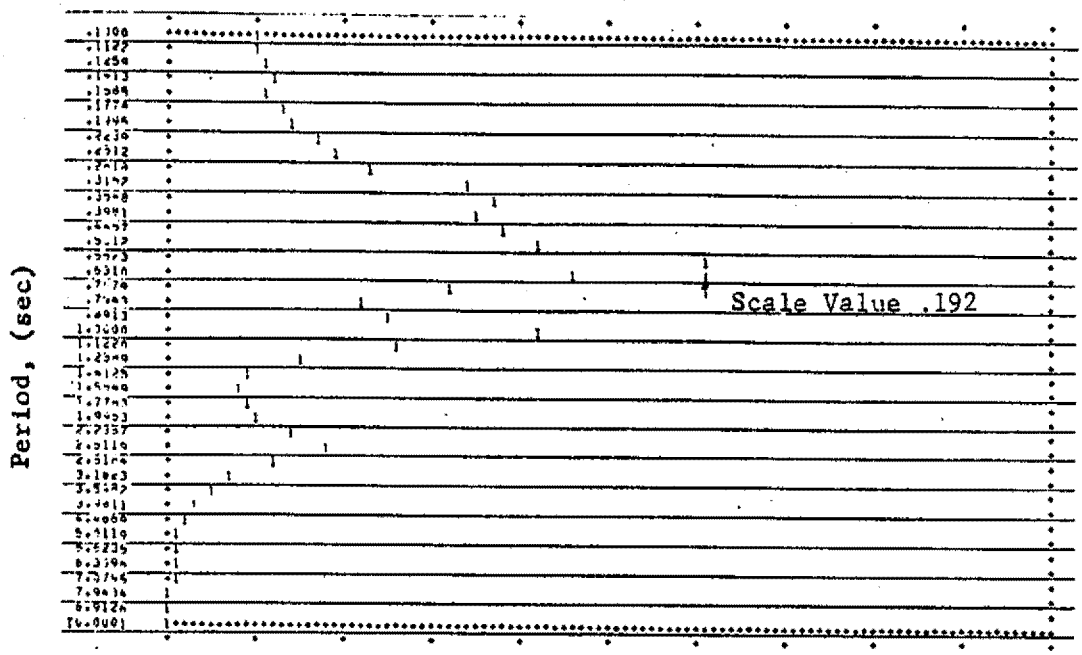
Normalized Acceleration



Base of Structure

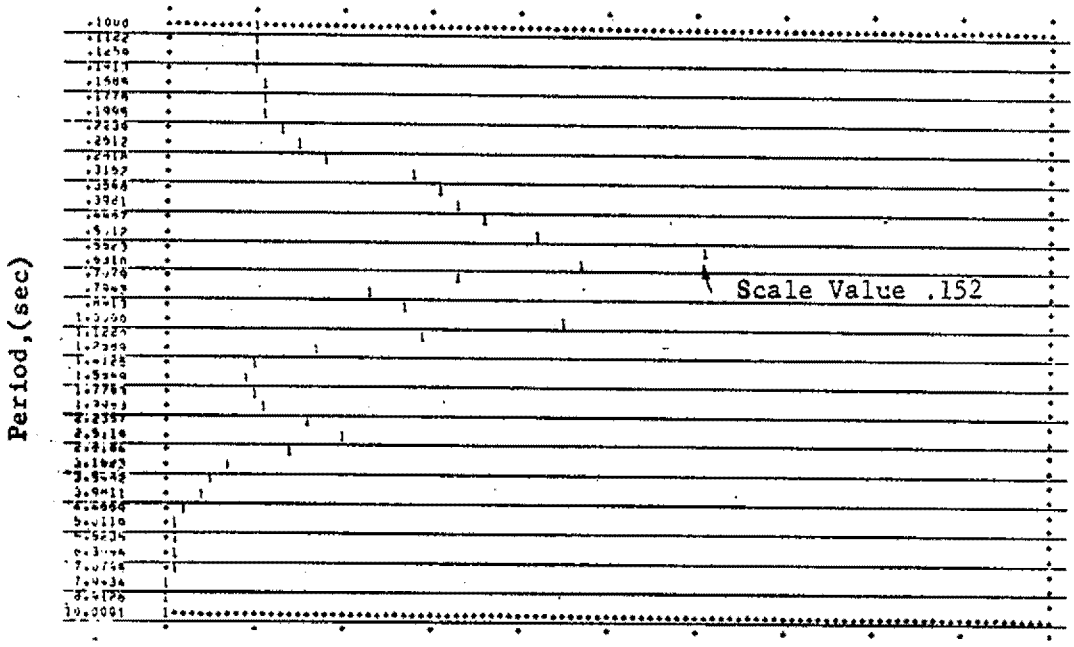
Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 11 M_s = 2,000,000 psf	Fig. 6

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

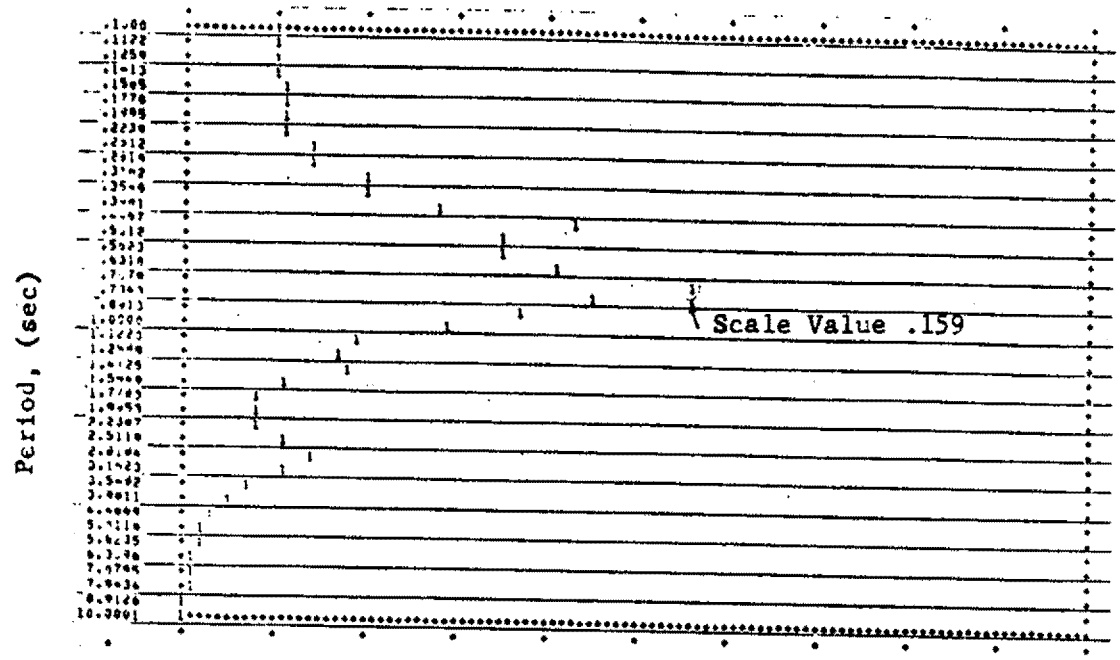
Project: SCE Spectrum

Job Number: B156S

EARTHQUAKE SD - 13
M_s = 2,000,000 psf

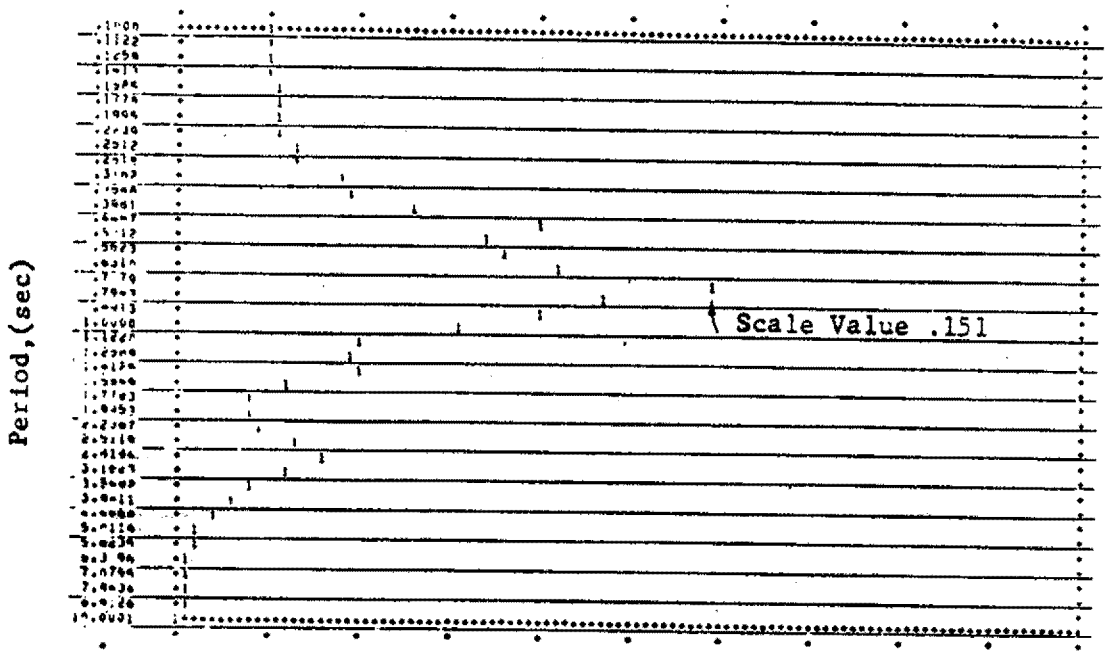
Fig. 7

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

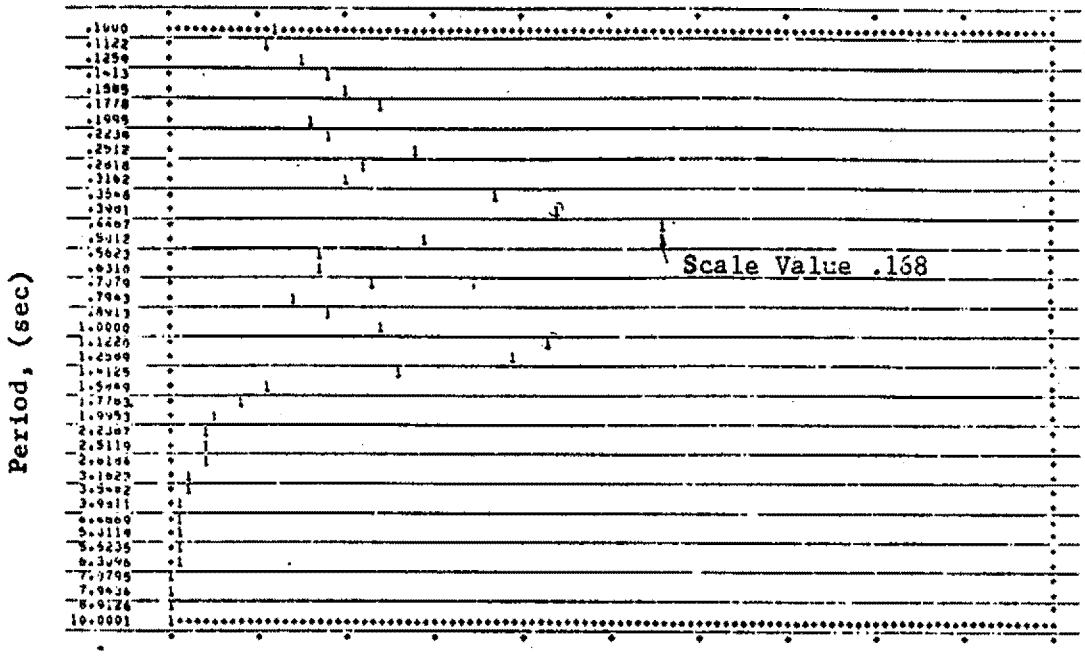
Job Number: B1568

EARTHQUAKE SD - 14
M_S = 2,000,000 psf

Fig. 8

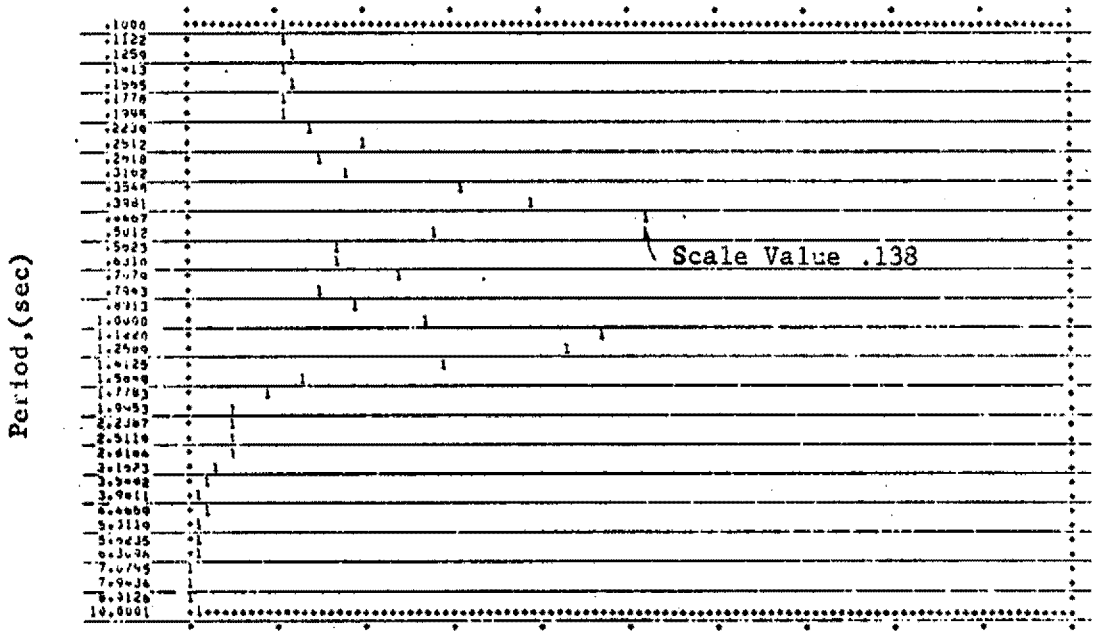
Amended: April 2009 TL: E048000

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

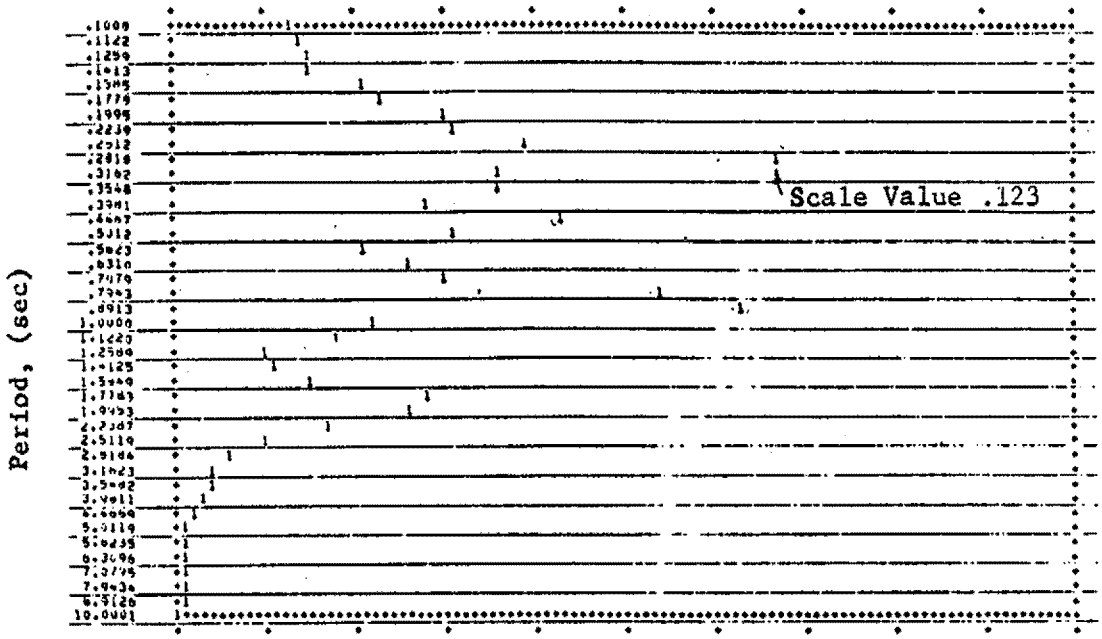
Job Number: B156S

EARTHQUAKE SD - 17

M_s = 2,000,000 psf

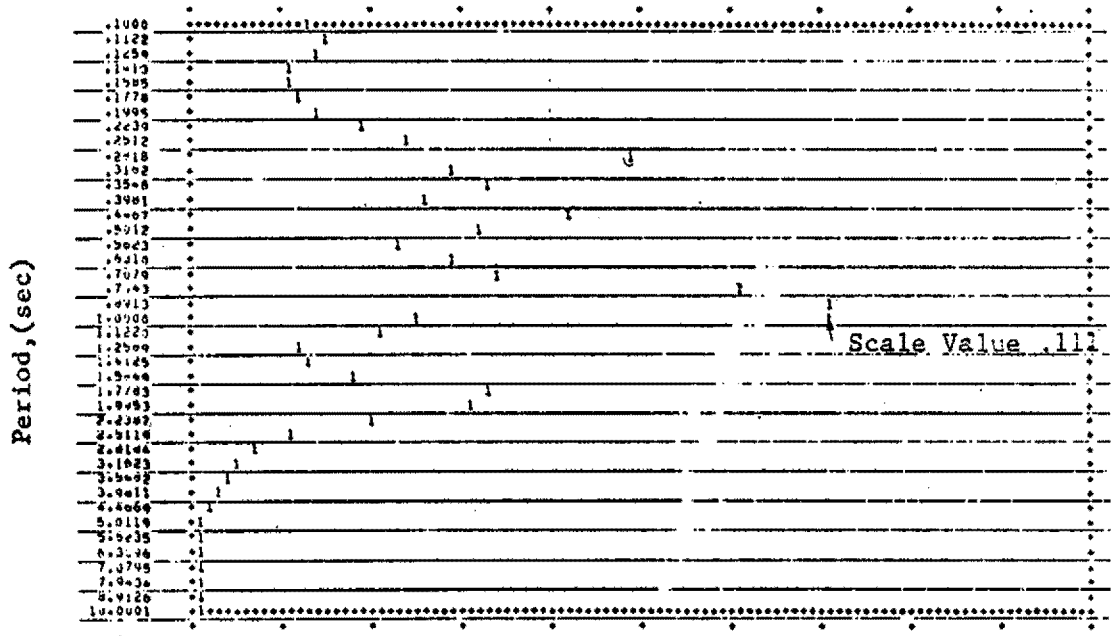
Fig. 9

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

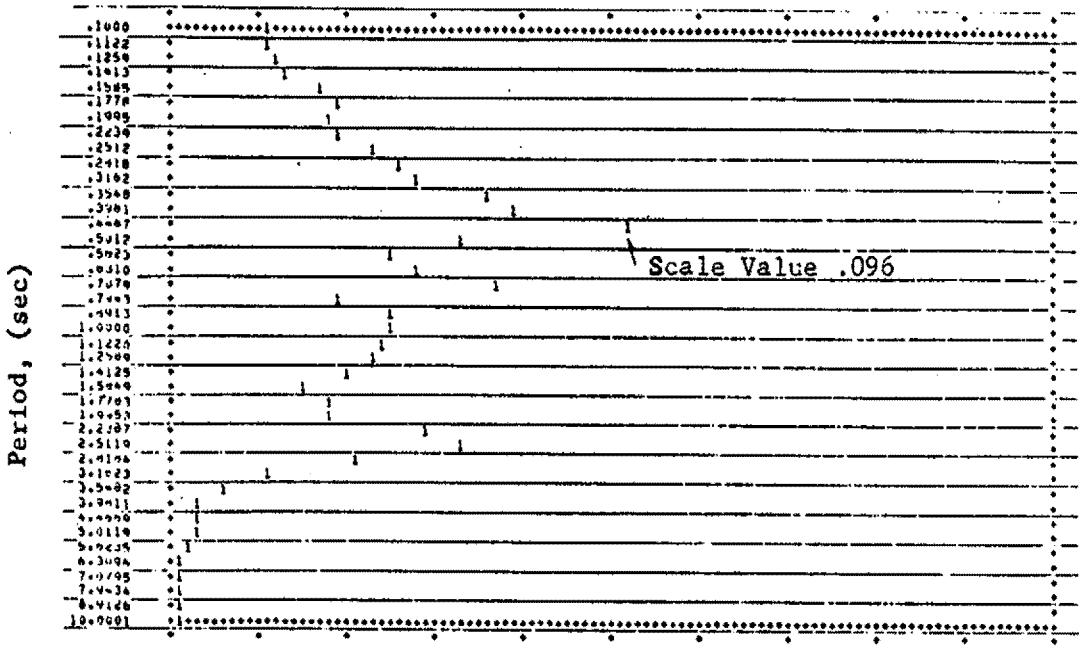
Job Number: B156S

EARTHQUAKE SD - 20

M_s = 2,000,000 psf

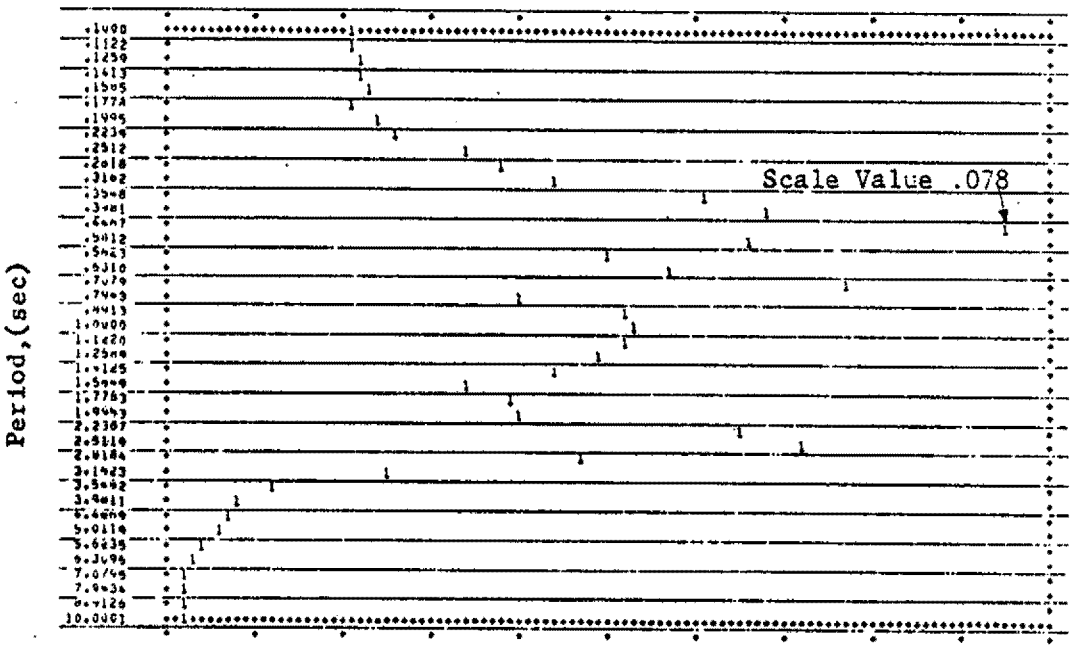
Fig. 10

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

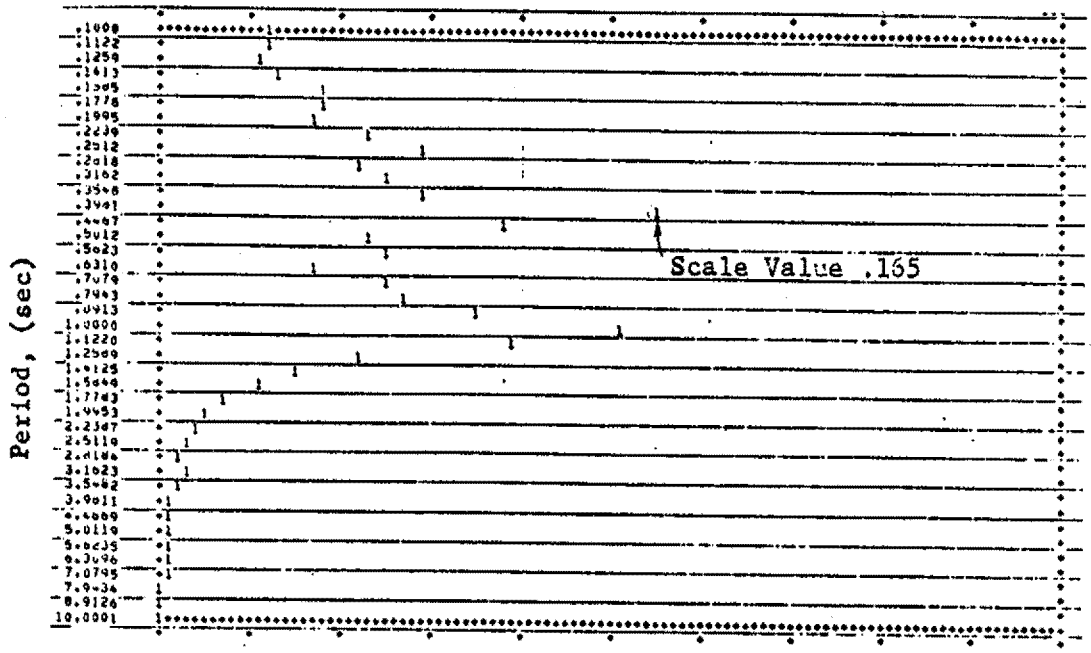
Job Number: E156S

EARTHQUAKE SD - 21
M_s = 2,000,000 psf

Fig. 11

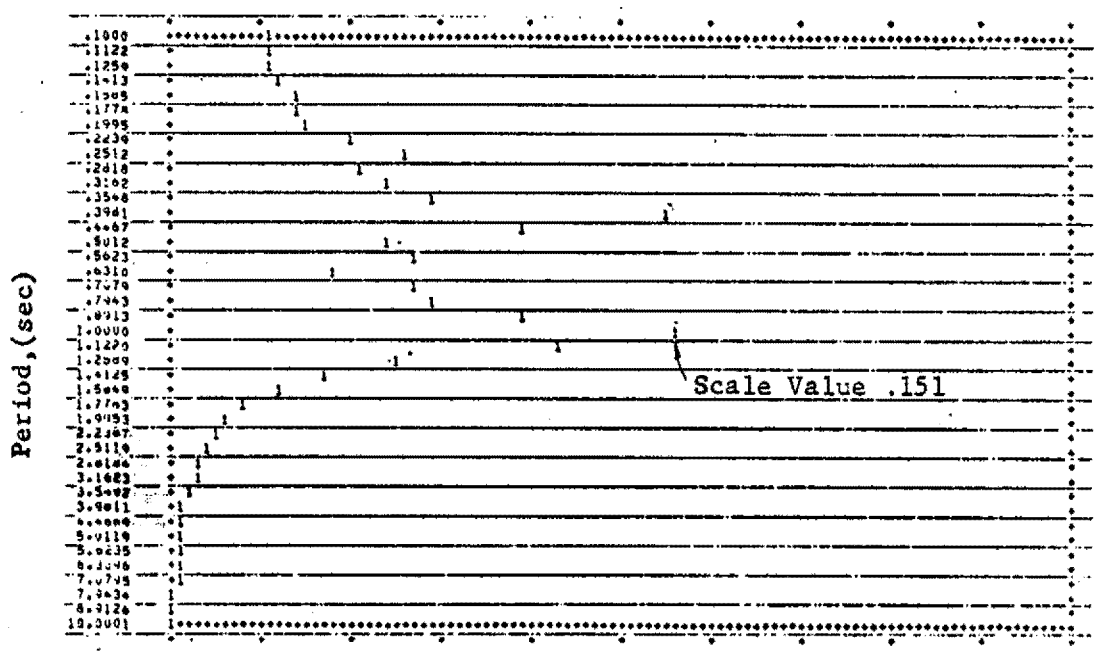
Amended April 2009 TLE048000

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

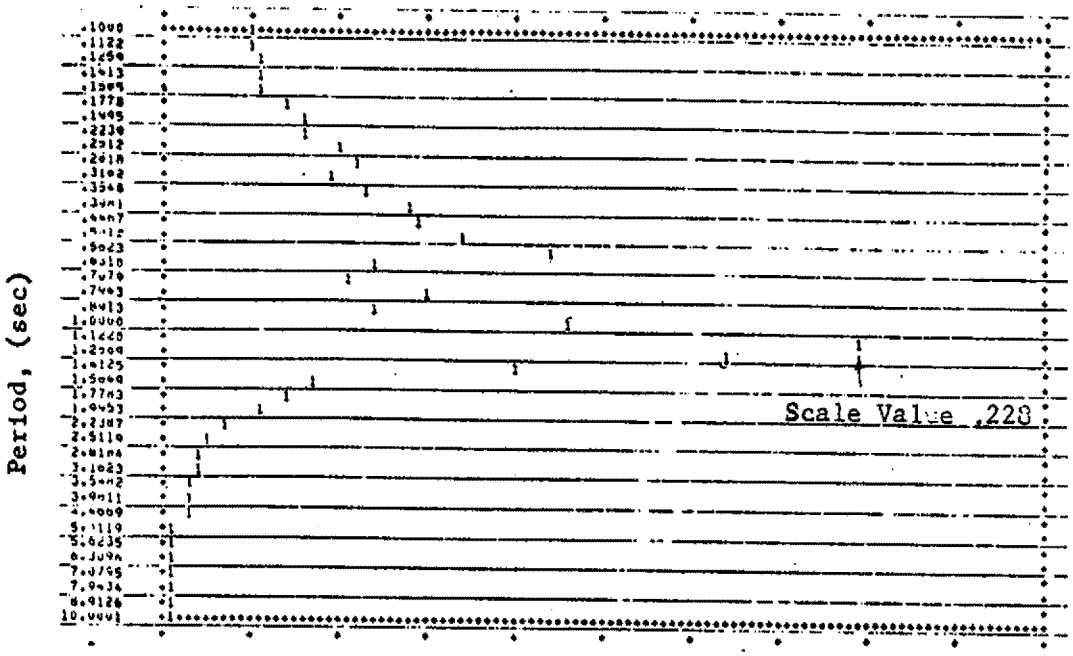
Project: SCE Spectrum

Job Number: B156S

EARTHQUAKE SD - 3
M_S = 4,000,000 psf

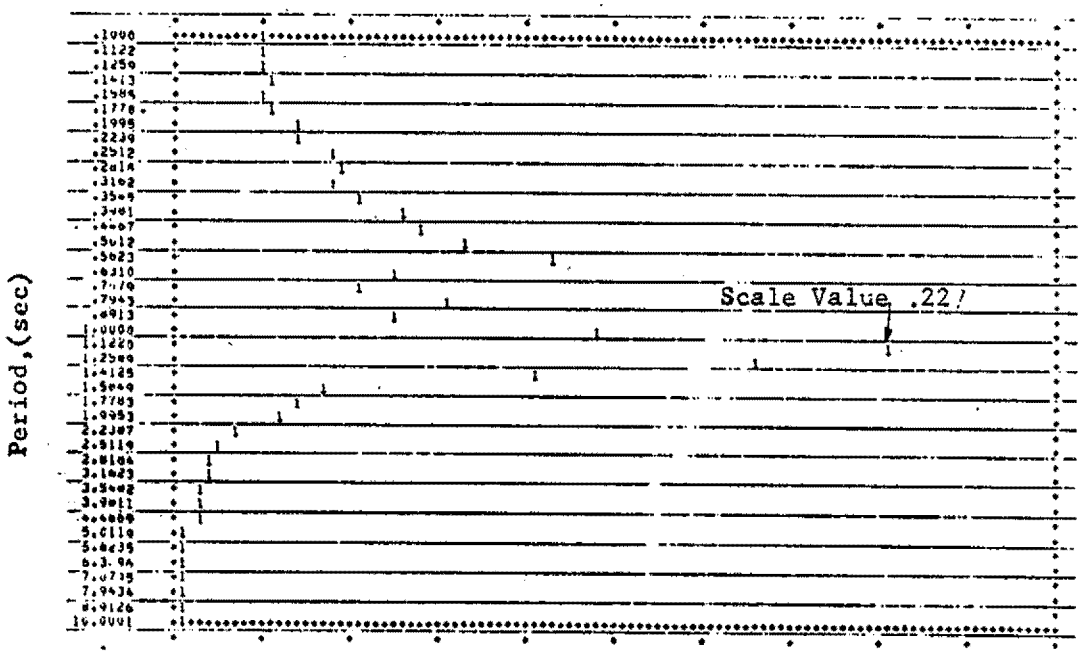
Fig. 12

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

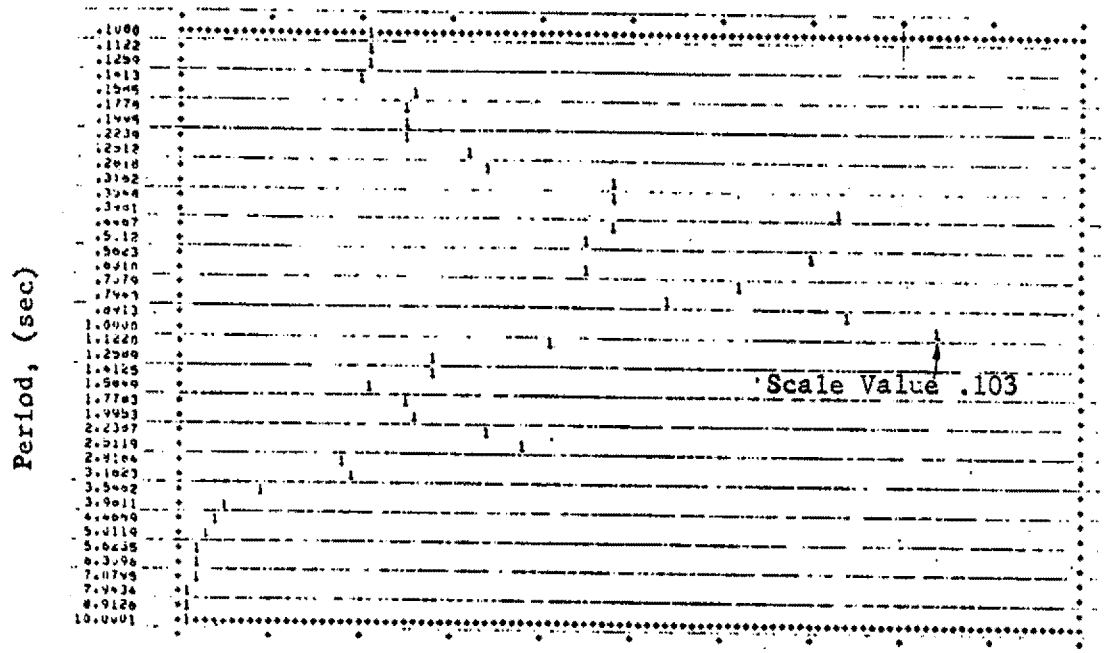
Project: SCE Spectrum

Job Number: B156S

EARTHQUAKE SD - 4
M_s = 4,000,000 psf

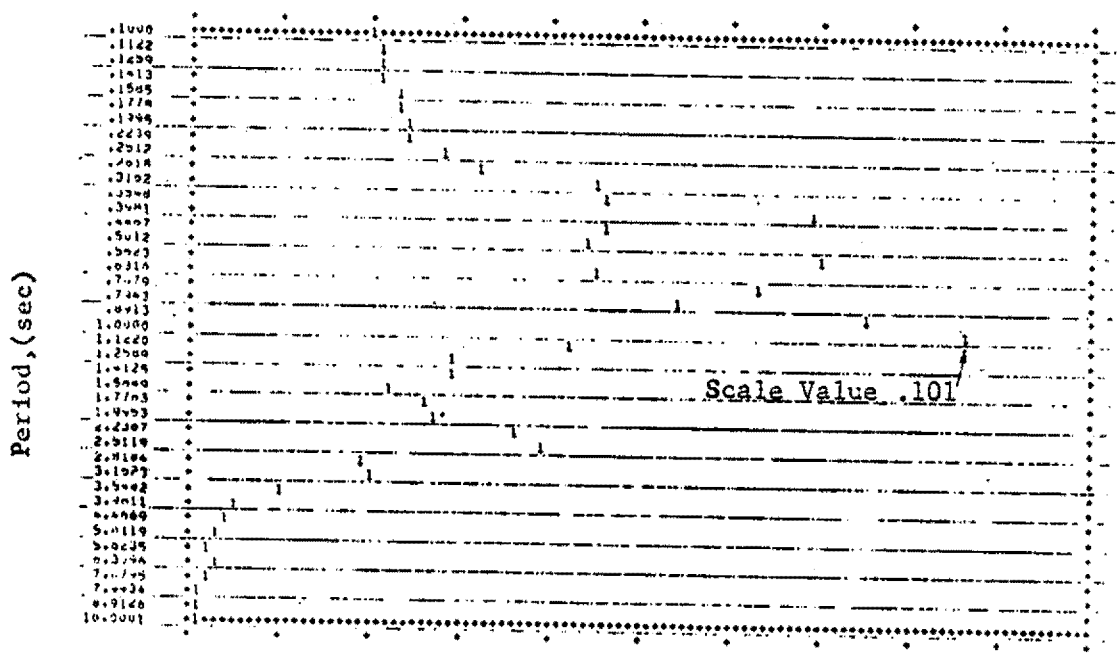
Fig. 13

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

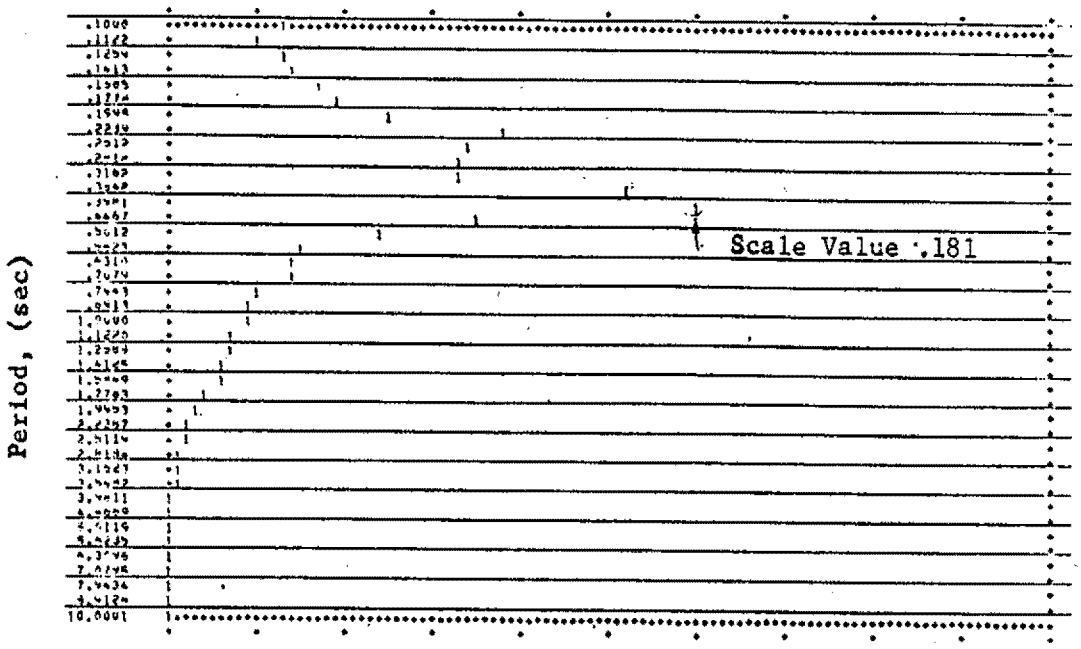
Job Number: B156S

EARTHQUAKE SD - 7

M_s = 4,000,000 psf

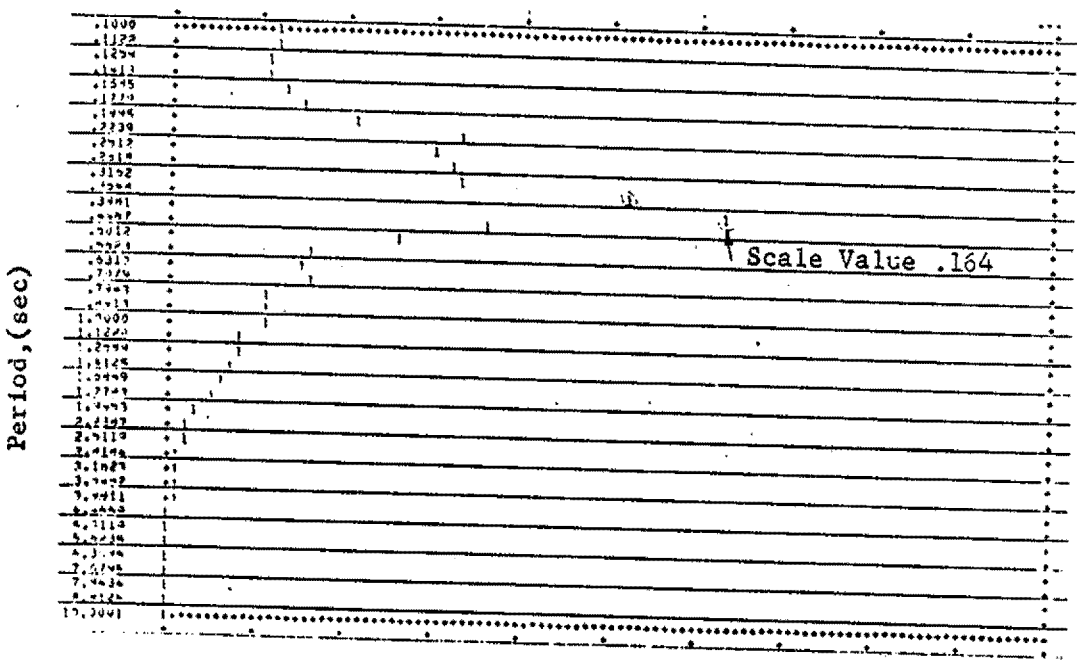
Fig. 14

Normalized Acceleration



Ground Surface

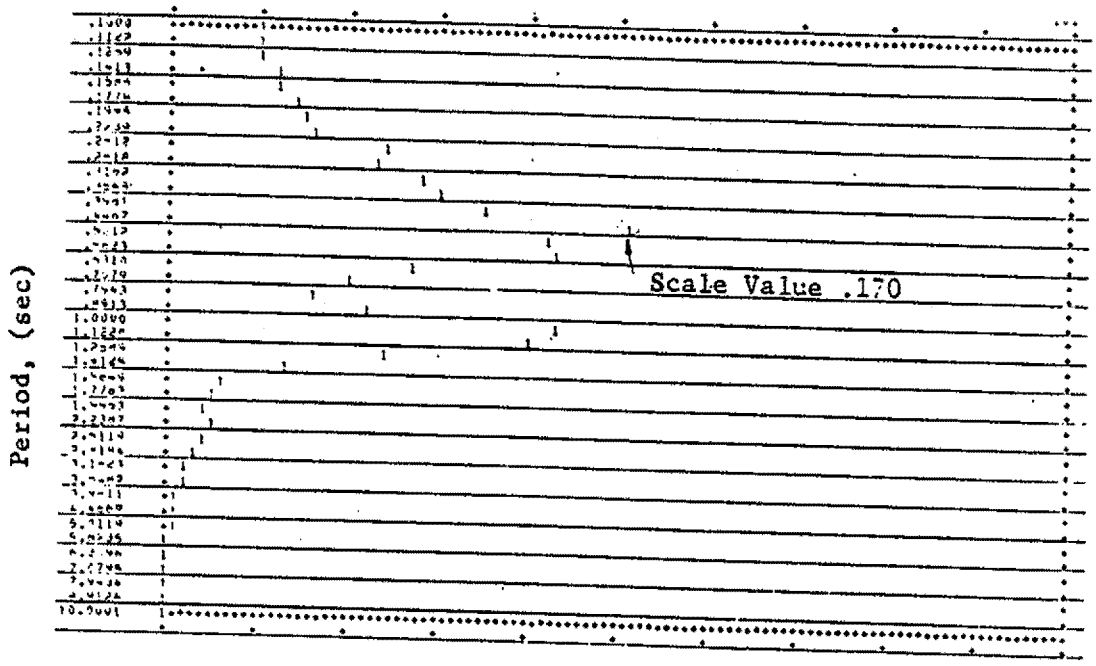
Normalized Acceleration



Base of Structure

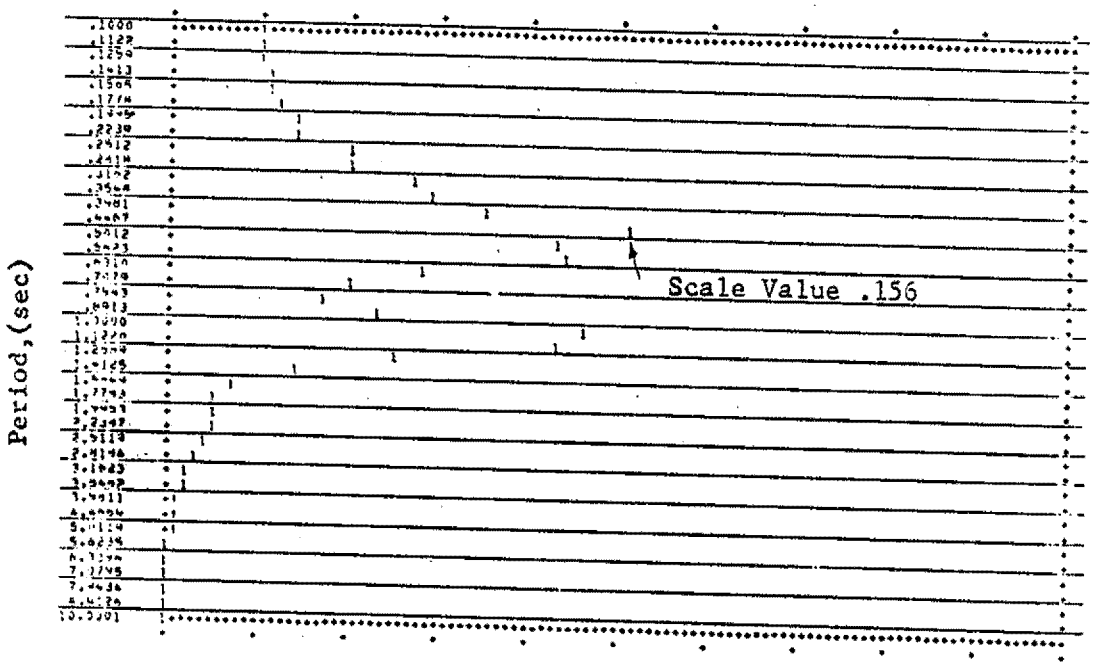
Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 9 M_s = 4,000,000 psf	Fig. 15

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

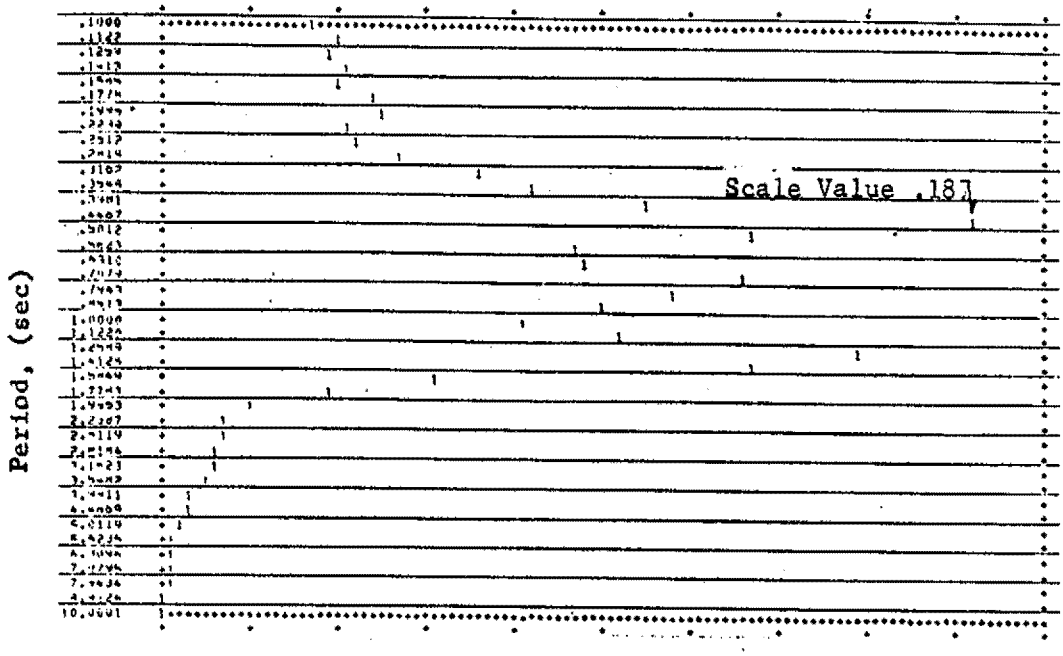
Job Number: B156S

EARTHQUAKE SD - 10
M_s = 4,000,000 psf

Fig. 16

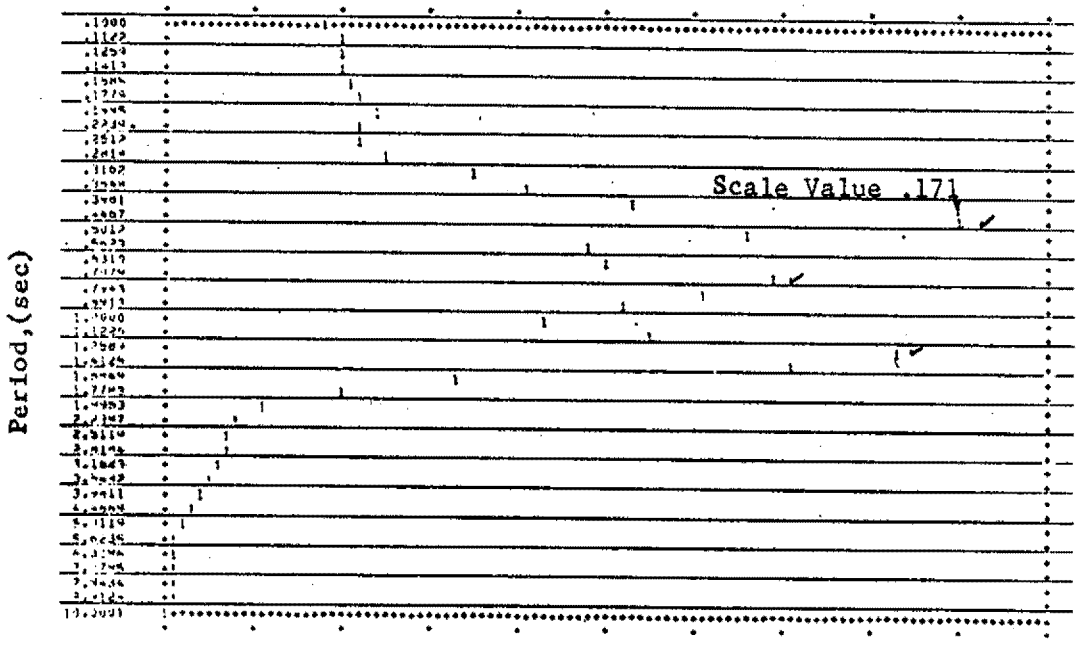
Amended: April 2009 - LL E046000

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

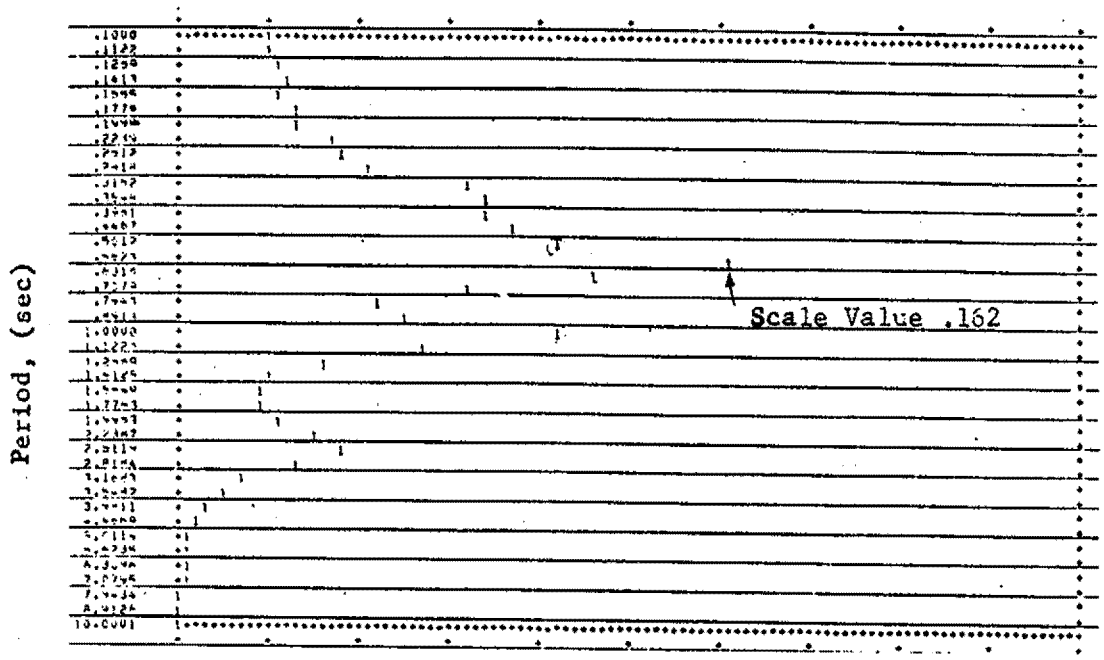
Project: SCE Spectrum

Job Number: B156S

EARTHQUAKE SD - 11
M_s = 4,000,000 psf

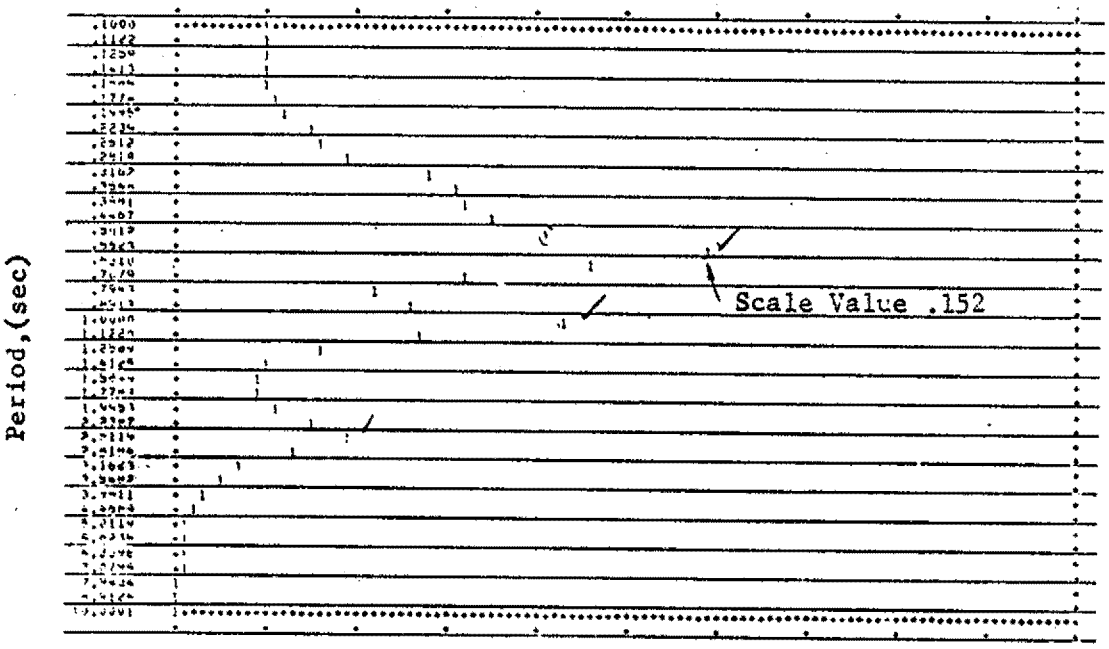
Fig. 17

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

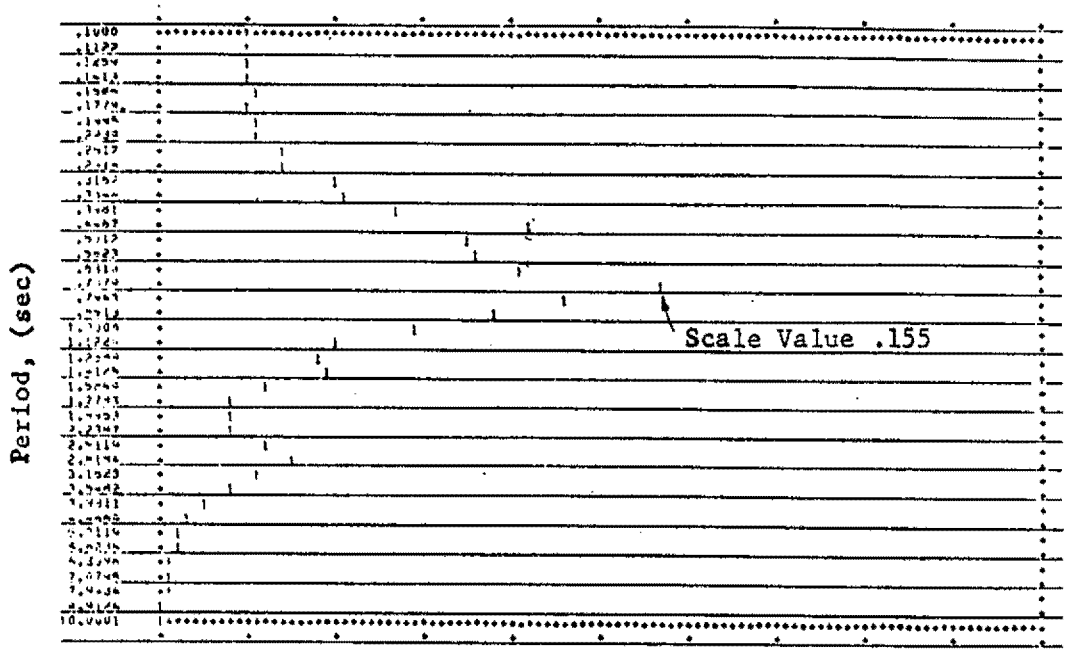
Job Number: B156S

EARTHQUAKE SD - 13
M_S = 4,000,000 psf

Fig. 18

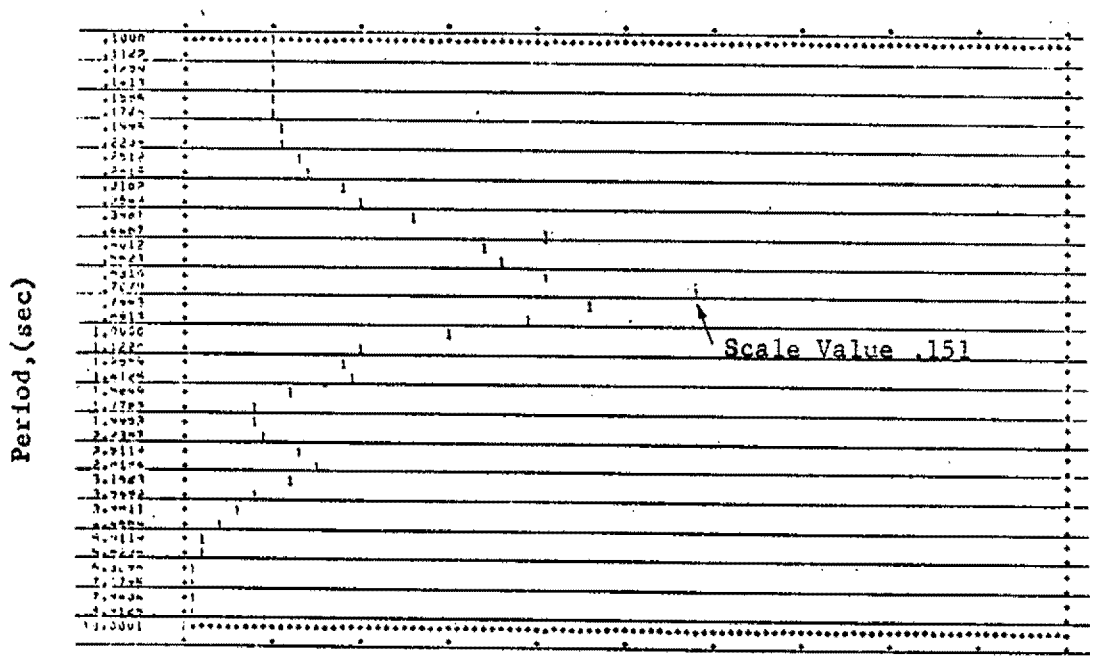
Amended: April 2009 TL E048000

Normalized Acceleration



Ground Surface

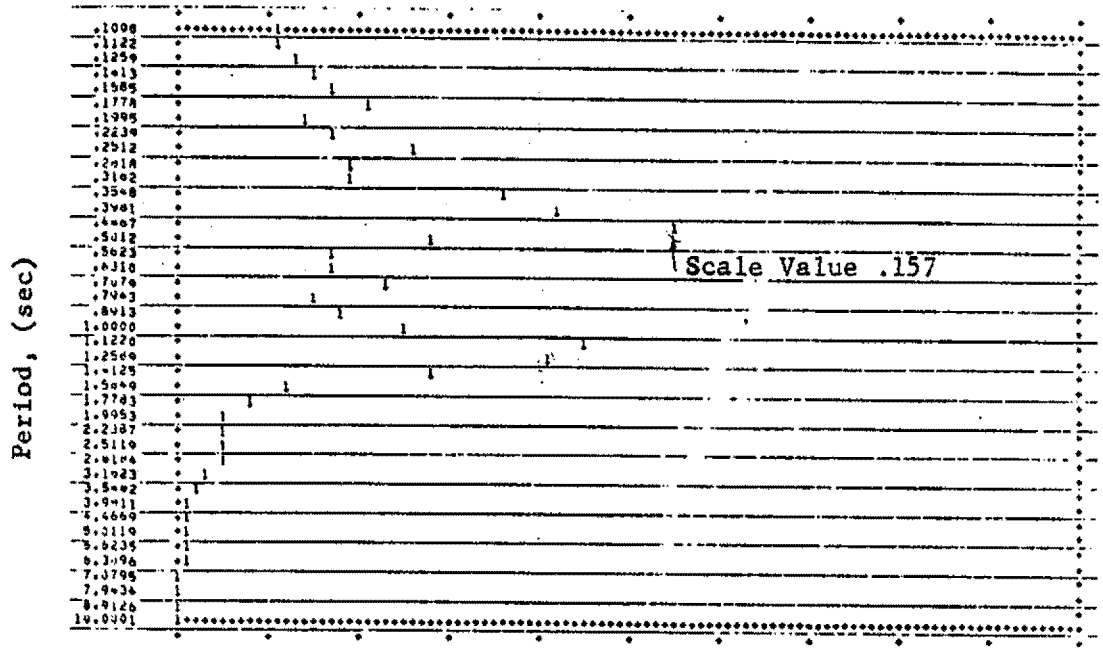
Normalized Acceleration



Base of Structure

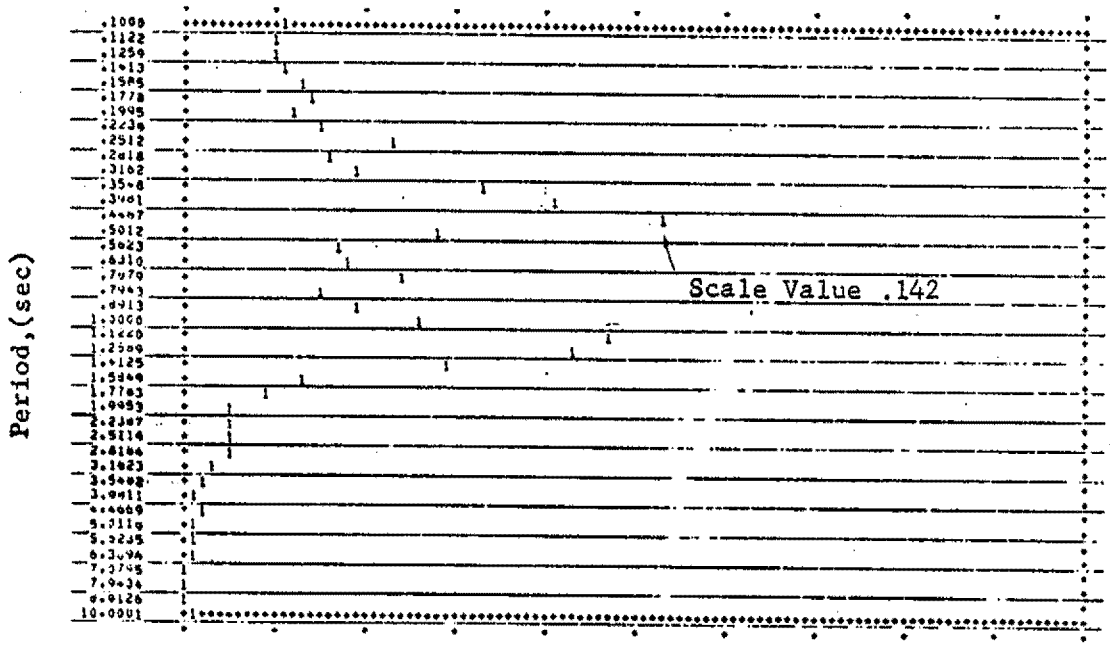
Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 14 M_s = 4,000,000 psf	Fig. 19

Normalized Acceleration



Ground Surface

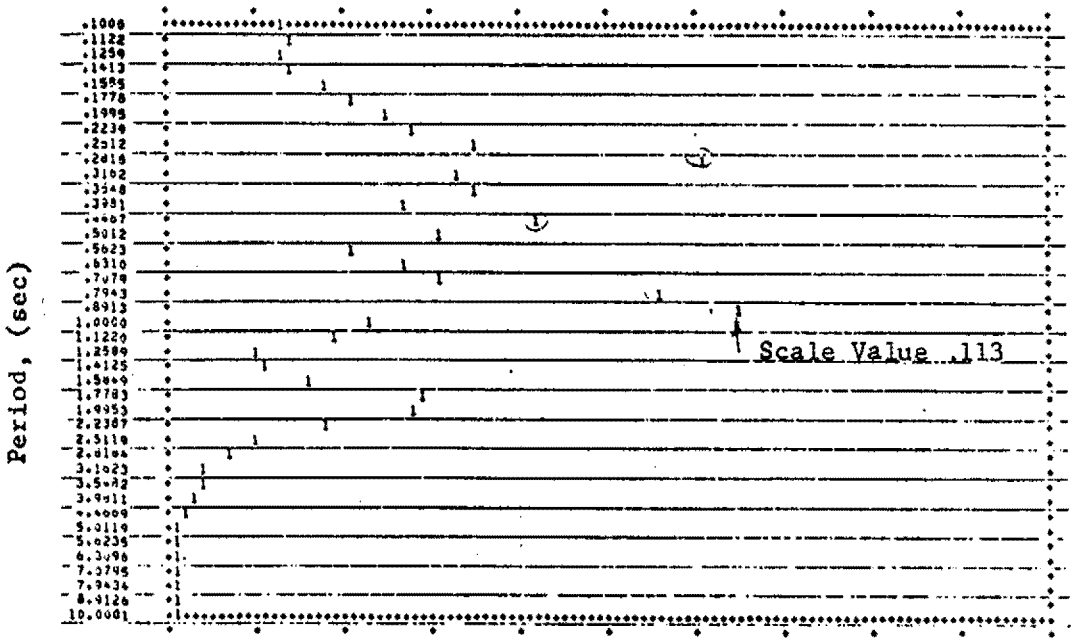
Normalized Acceleration



Base of Structure

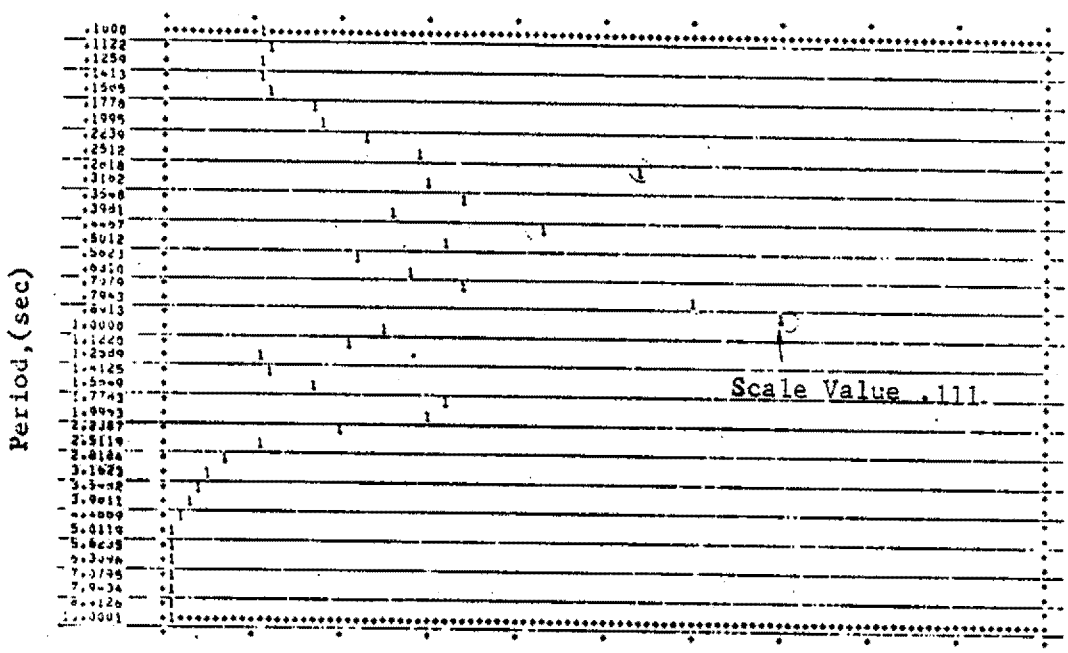
Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 17 M_s = 4,000,000 psf	Fig. 20

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

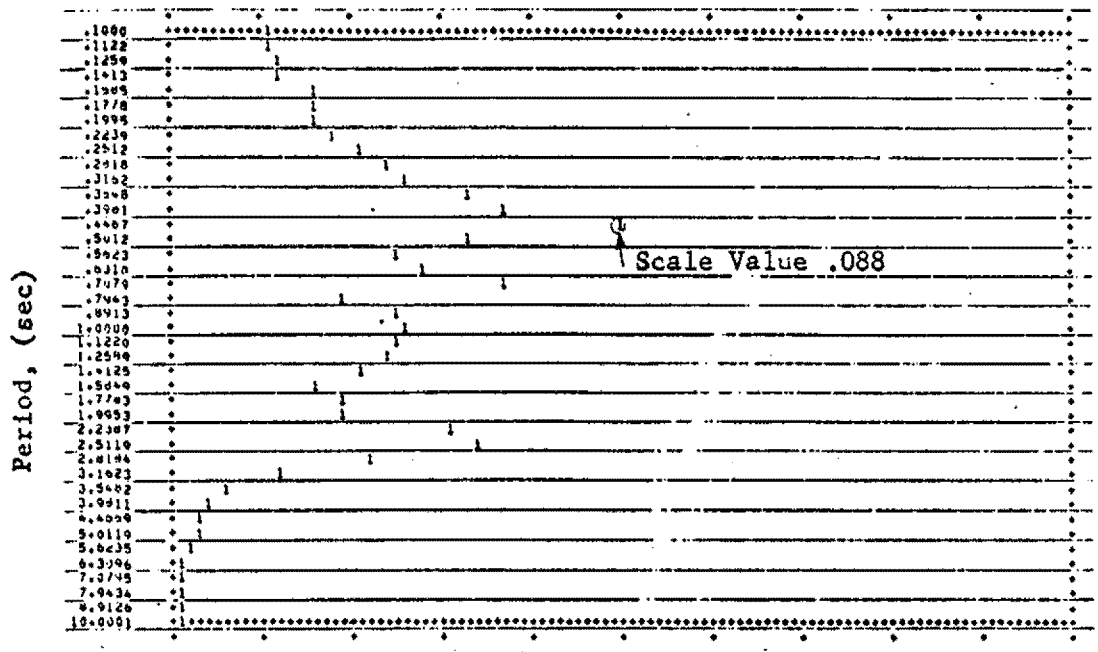
Project: SCE Spectrum

Job Number: B156S

EARTHQUAKE SD - 20
M_s = 4,000,000 psf

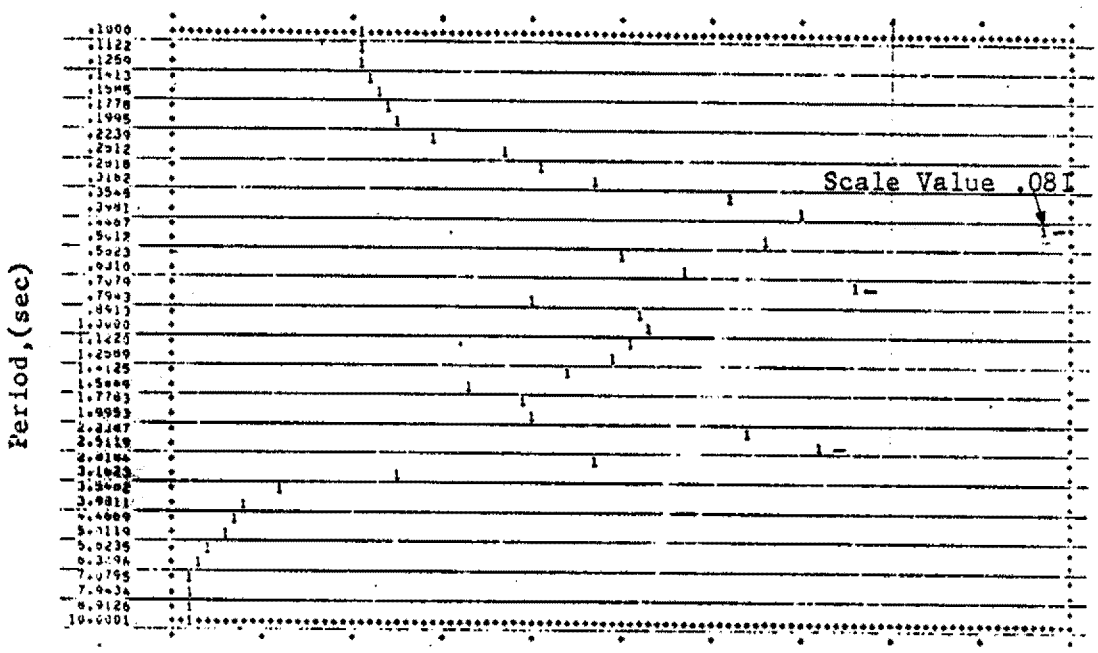
Fig. 21

Normalized Acceleration



Ground Surface

Normalized Acceleration

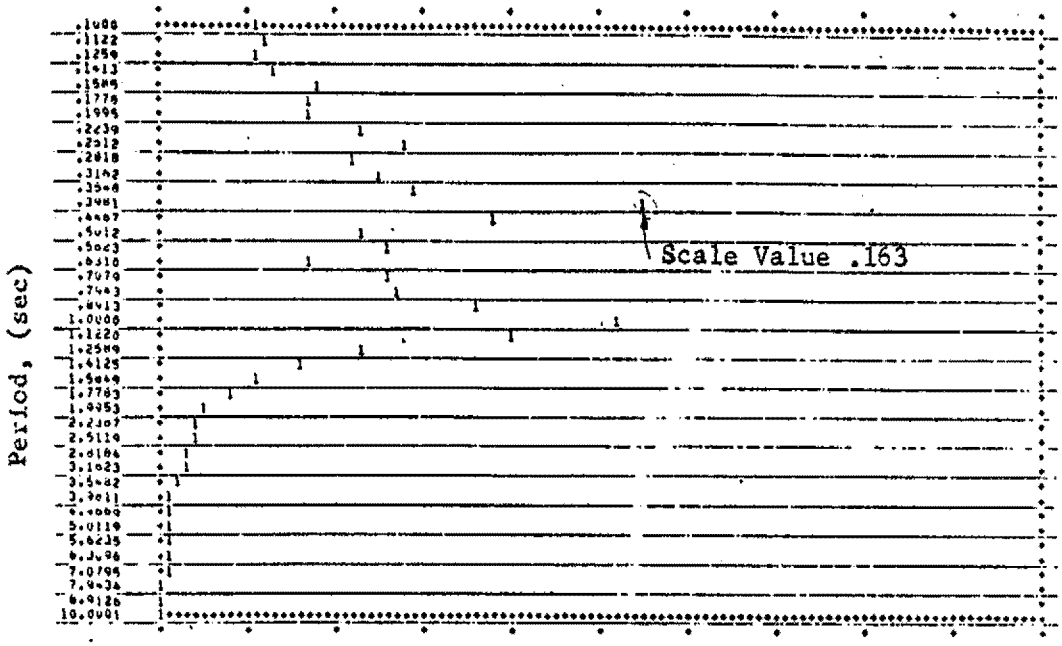


Base of Structure

Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 21 M_S = 4,000,000 psf	Fig. 22

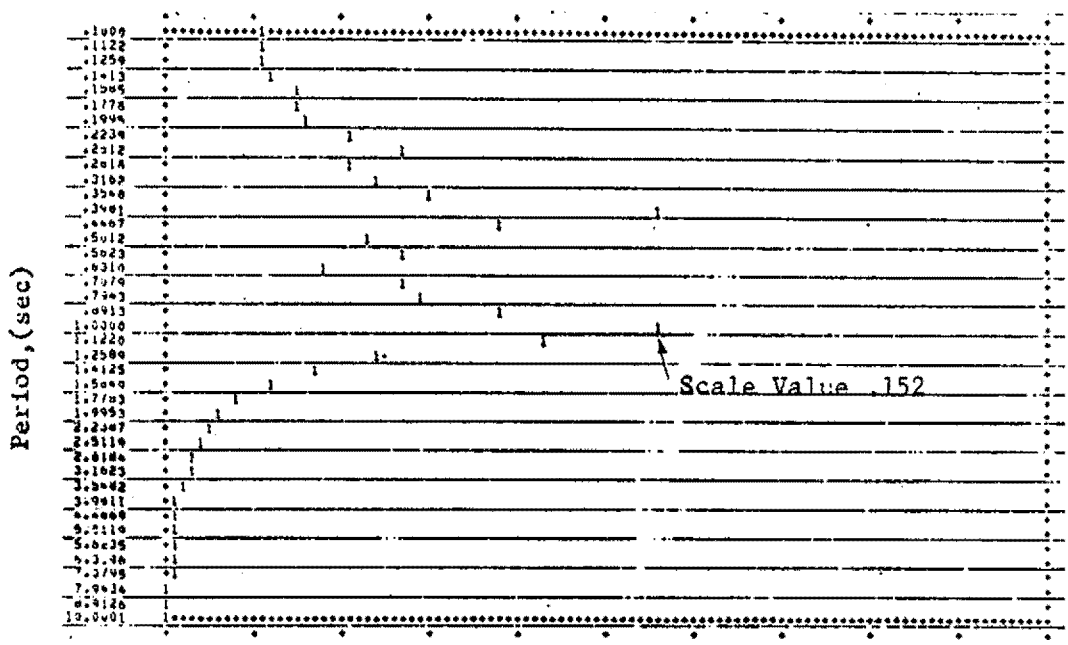
Amended: April 2009 TL E048000

Normalized Acceleration



Ground Surface

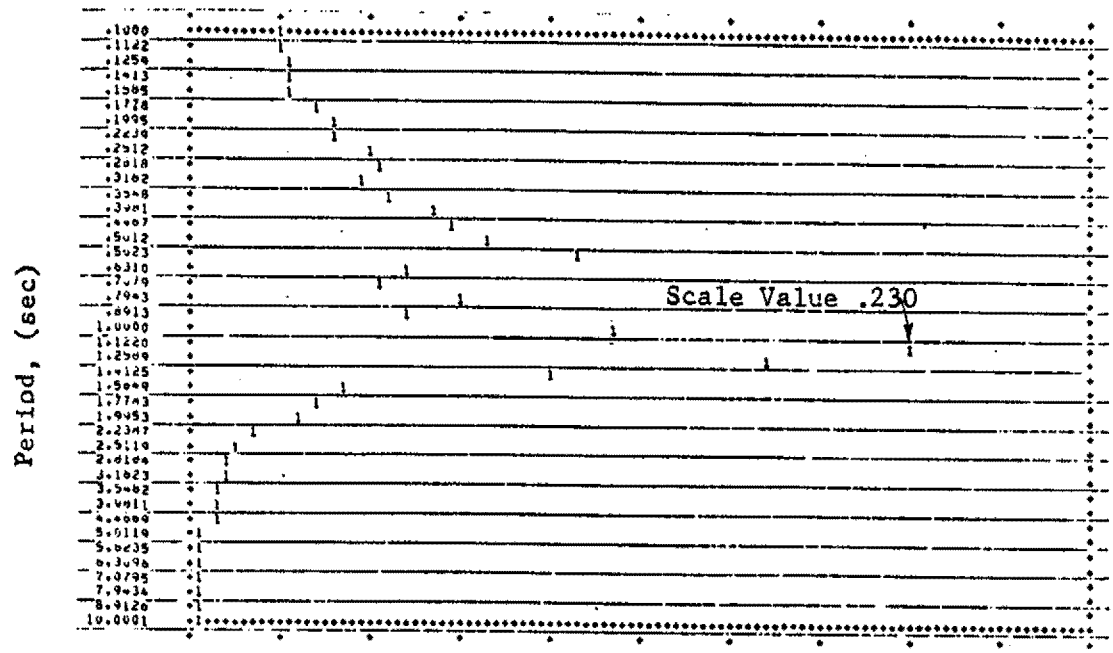
Normalized Acceleration



Base of Structure

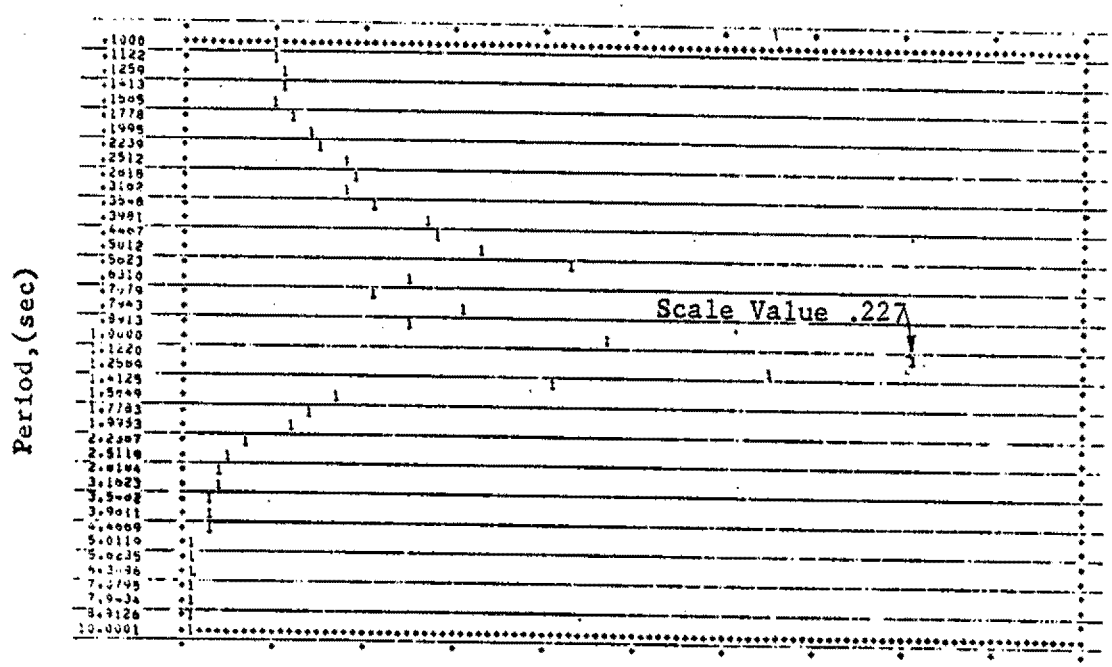
Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 3 M_s = 6,000,000 psf	Fig. 23

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

Job Number: B156S

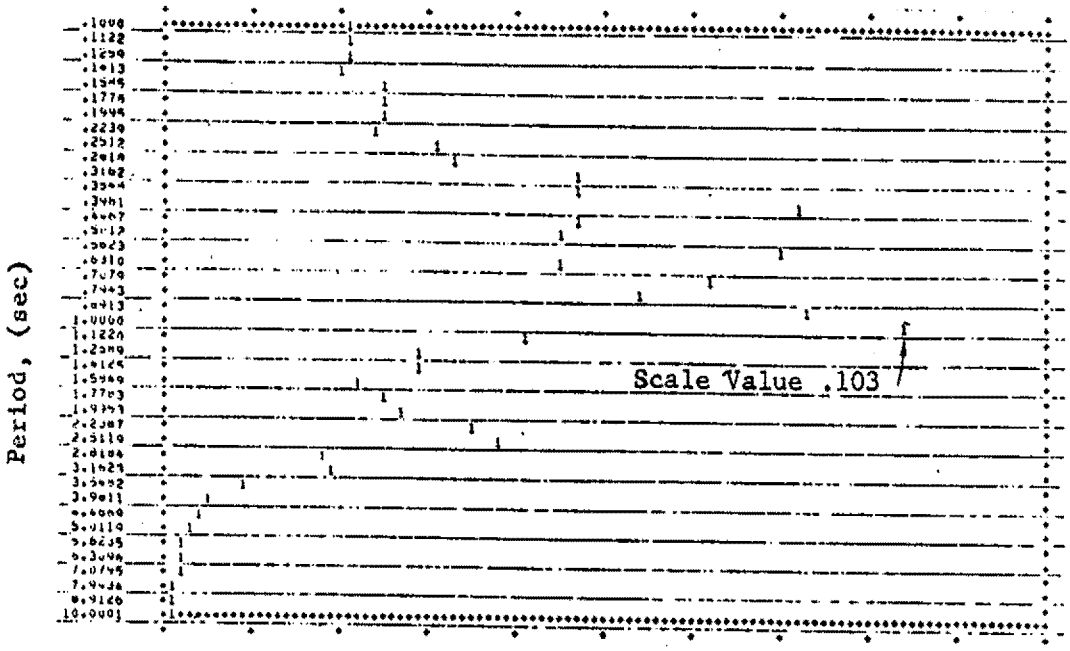
EARTHQUAKE SD - 4

M_s = 6,000,000 psf

Fig. 24

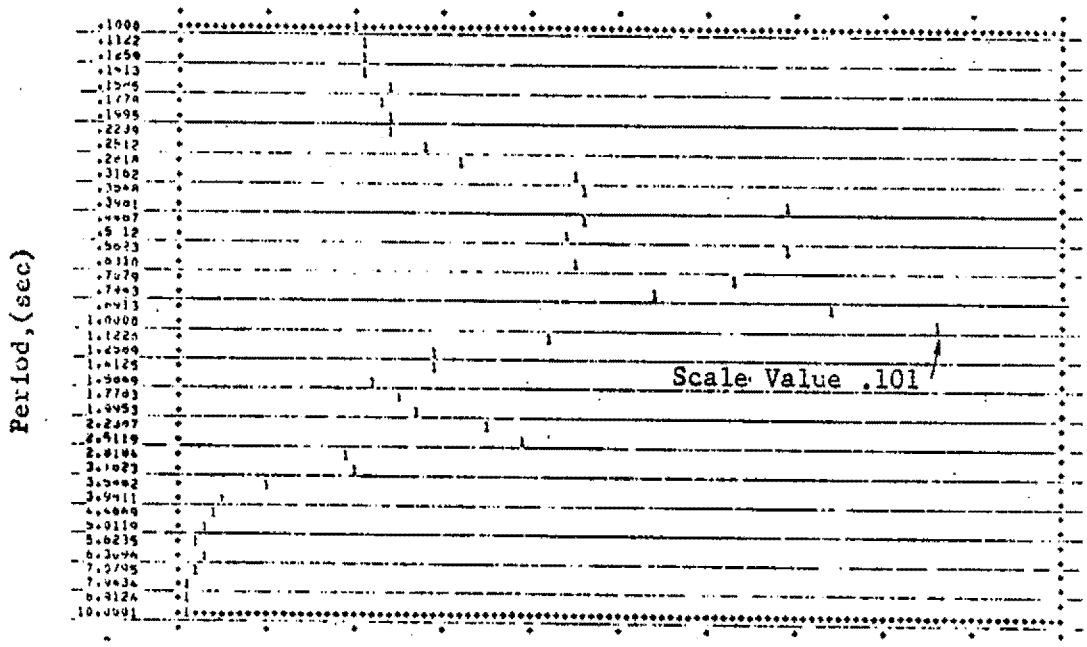
Amended April 2009 TL E048000

Normalized Acceleration



Ground Surface

Normalized Acceleration

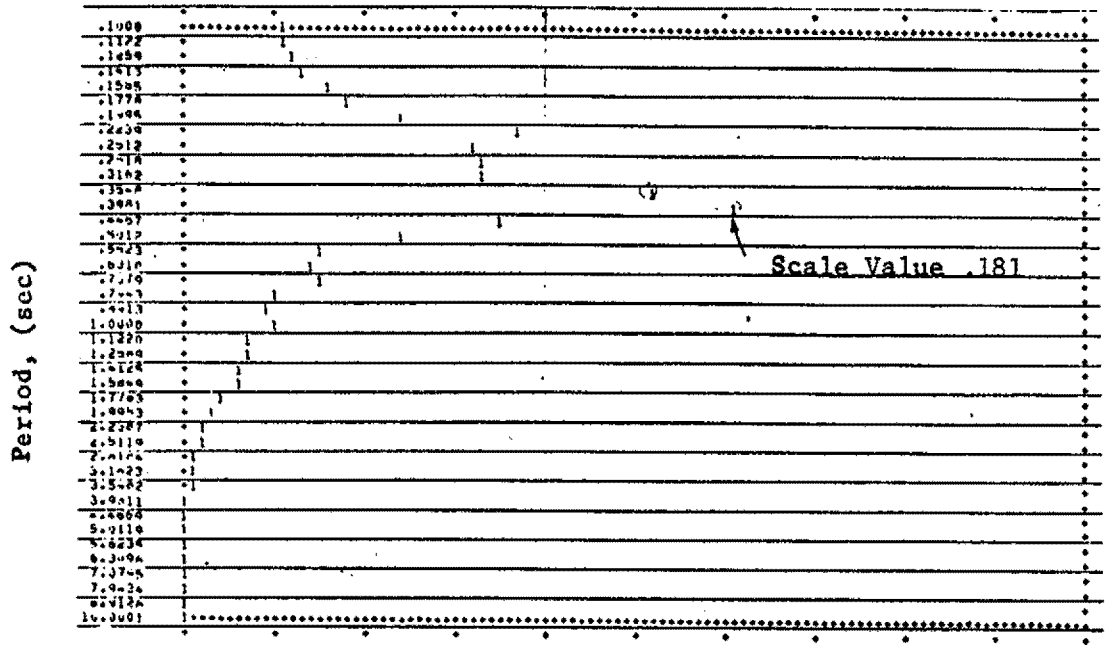


Base of Structure

Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 7 M_s = 6,000,000 psf	Fig. 25

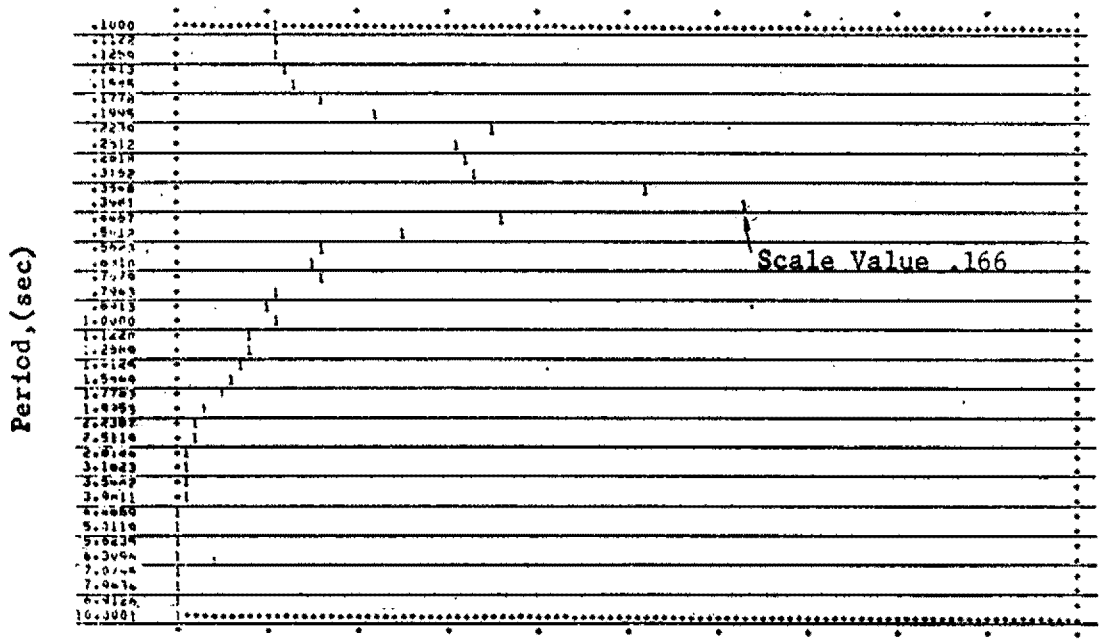
Amended: April 2009 TL E048000

Normalized Acceleration



Ground Surface

Normalized Acceleration

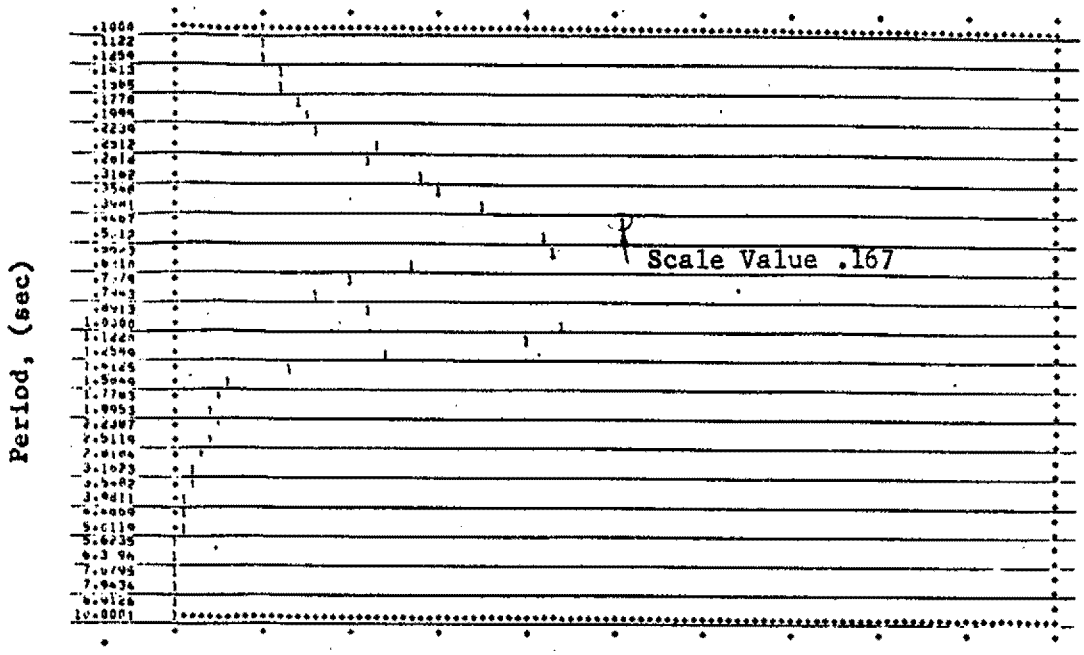


Base of Structure

Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD -9 M_s = 6,000,000 psf	Fig. 26

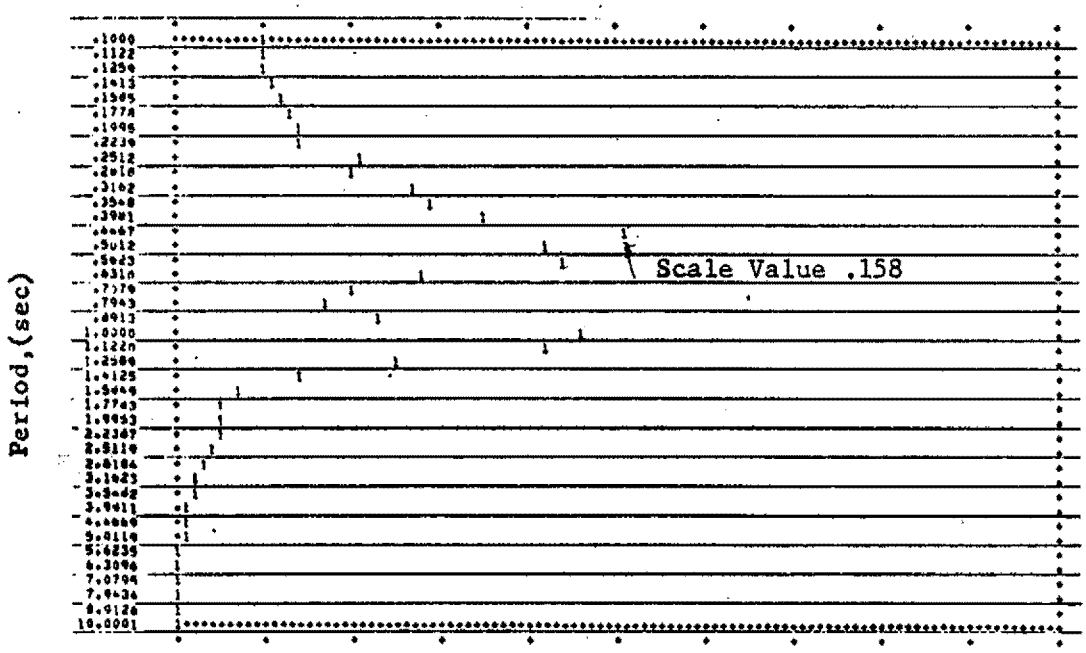
Amended: April 2008 51-5046000

Normalized Acceleration



Ground Surface

Normalized Acceleration

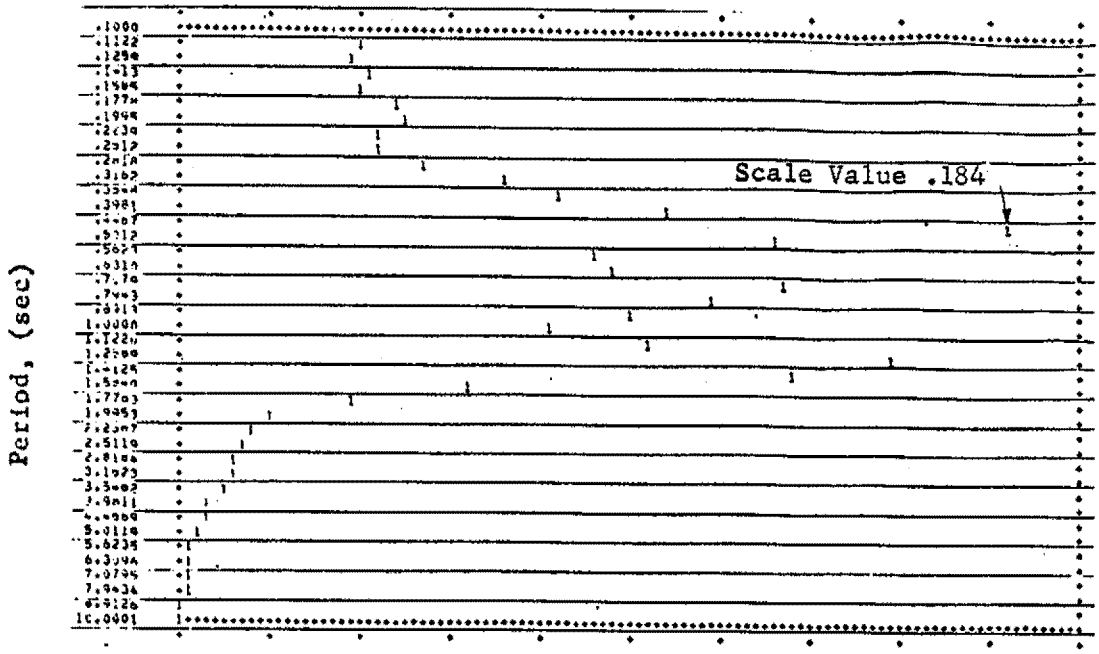


Base of Structure

Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 10 M_s = 6,000,000 psf	Fig. 27

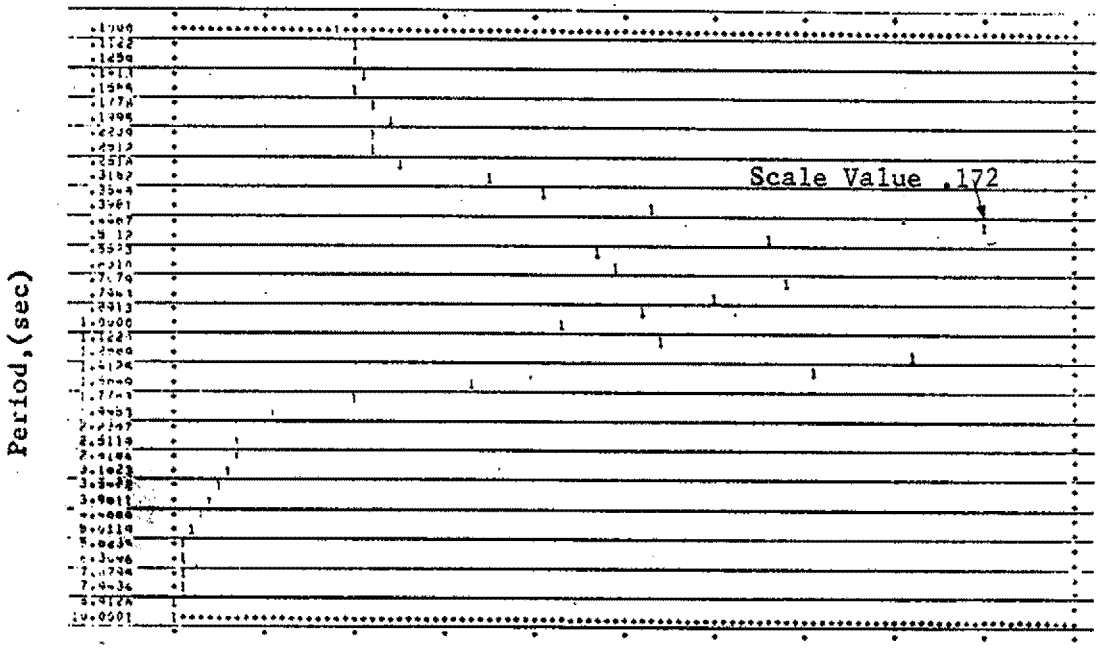
Amended April 2009 FL E048000

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

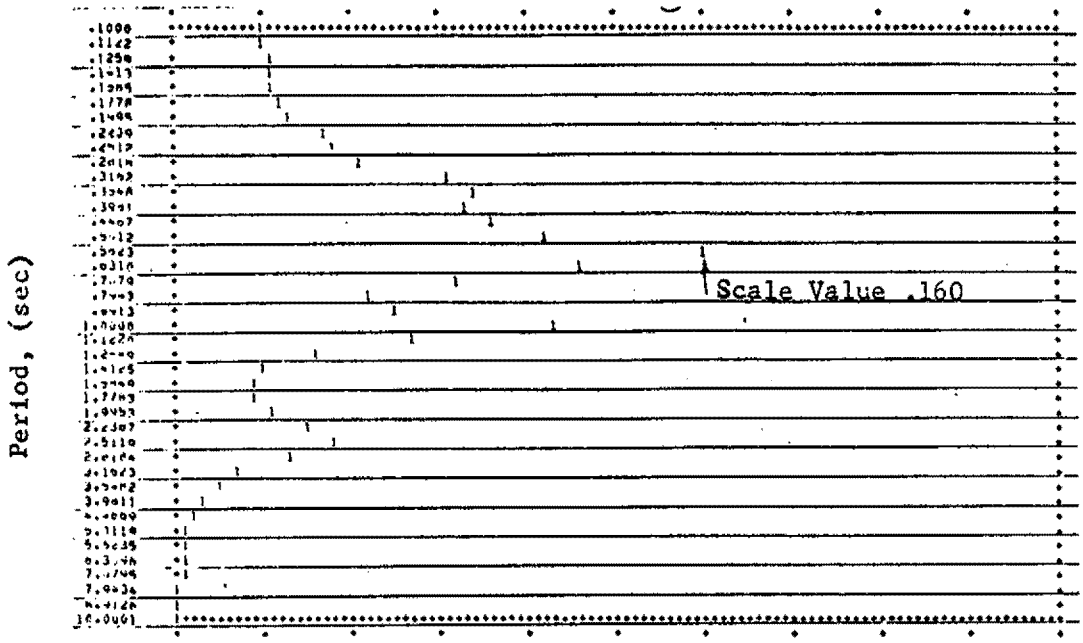
Job Number: B156S

EARTHQUAKE SD - 11
M_S = 6,000,000 psf

Fig. 28

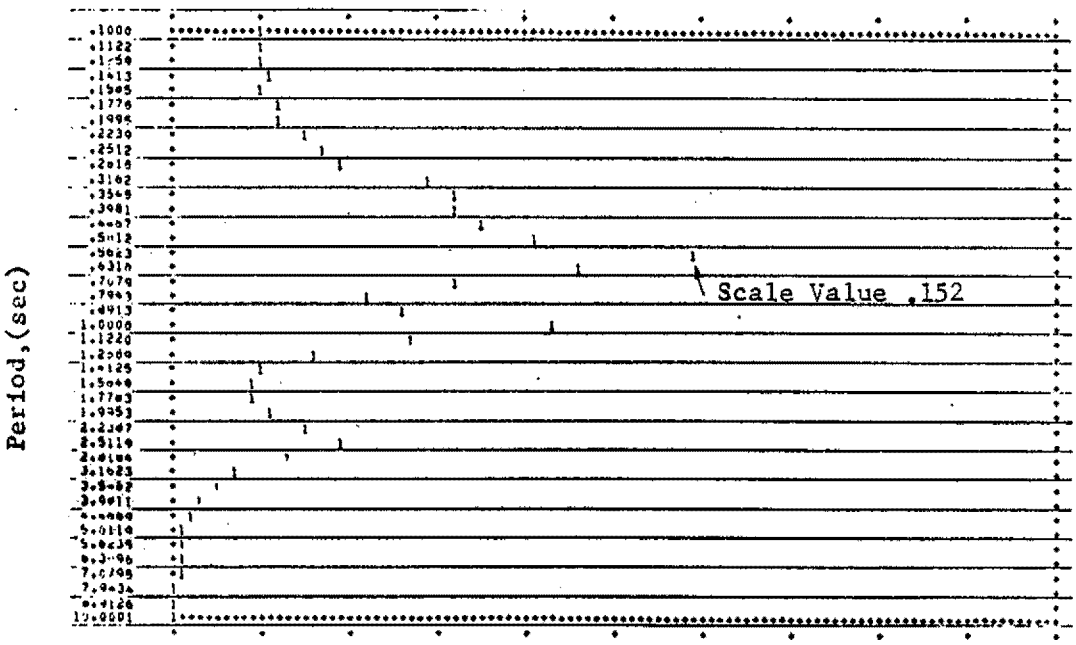
Amended: April 2009 TL: E048000

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

Job Number: B156S

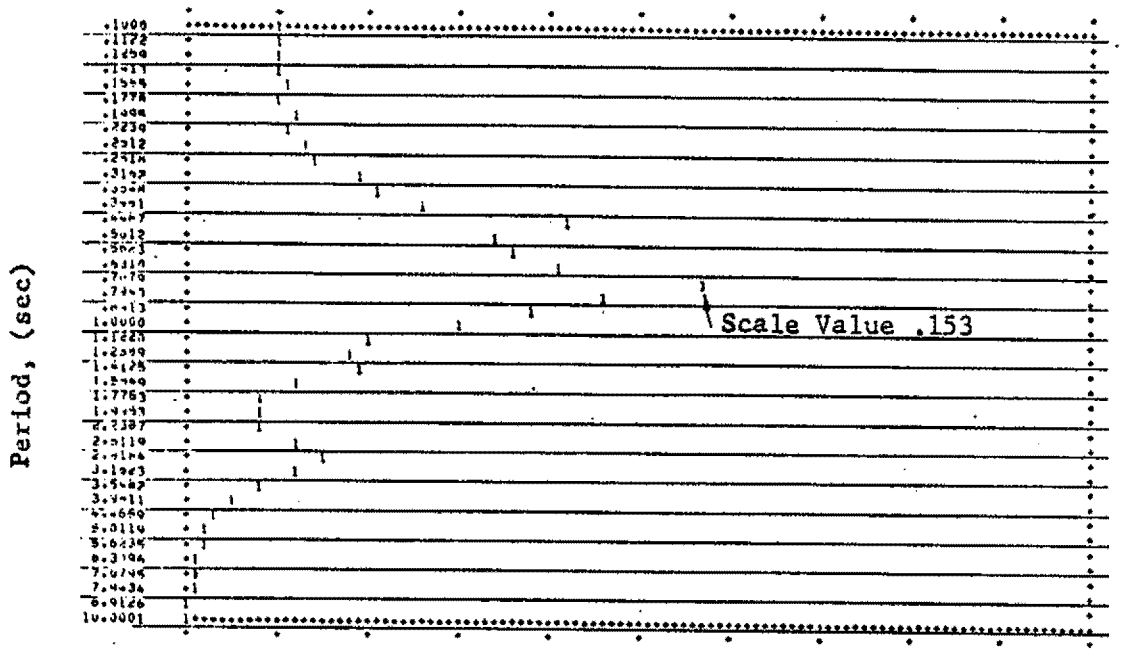
EARTHQUAKE SD - 13

M_s = 6,000,000 psf

Fig. 29

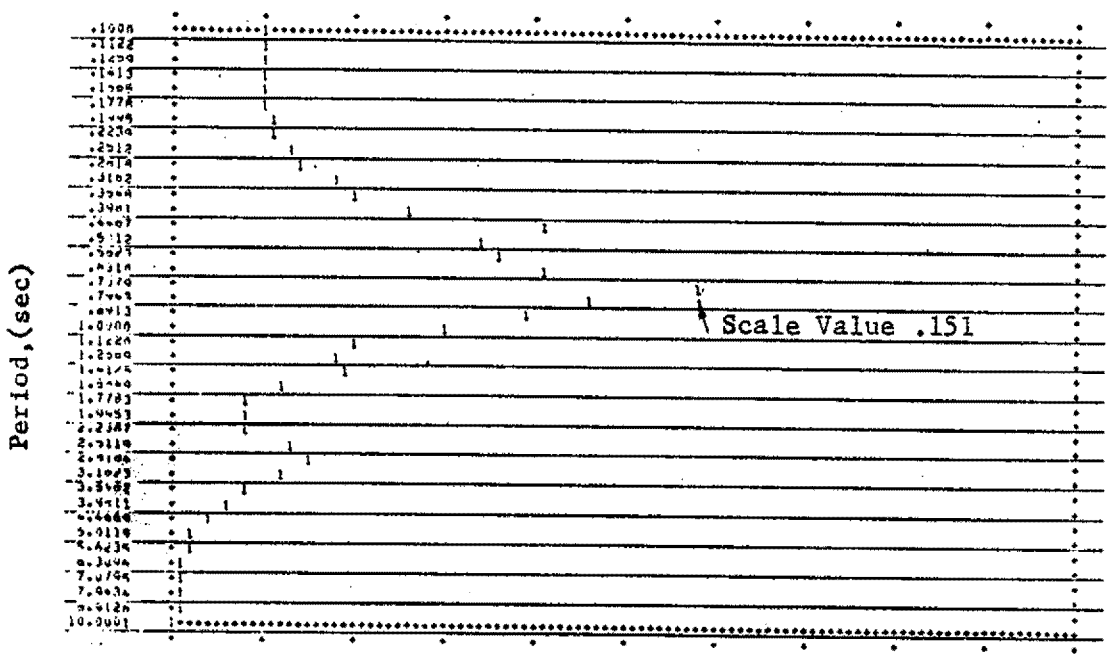
Amended: April 2009 TL: E048000

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum

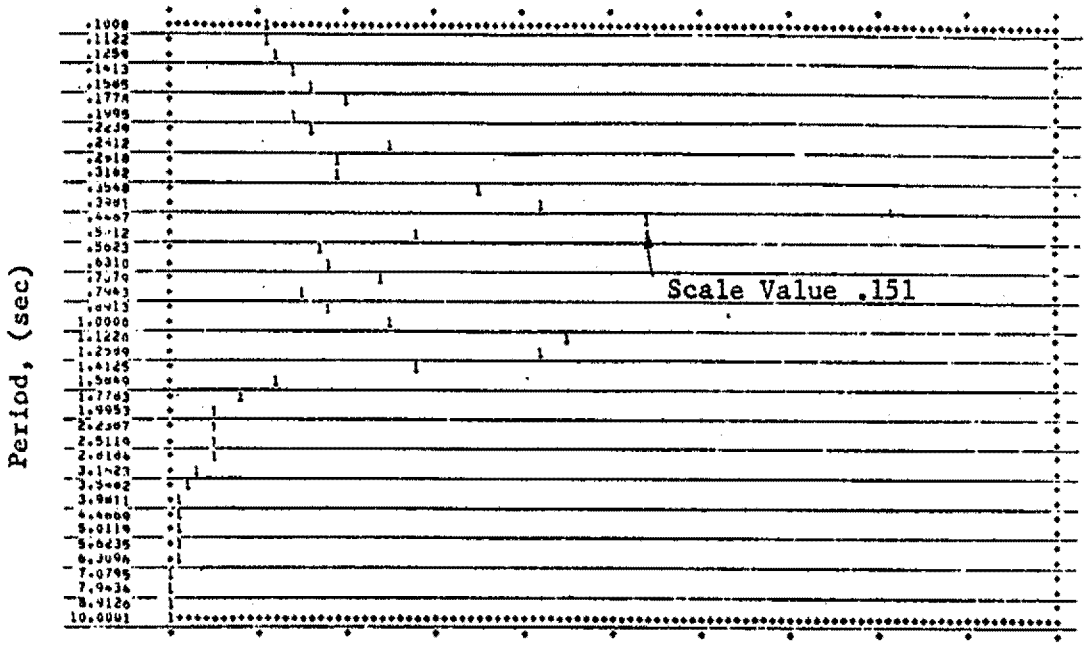
Job Number: 81560

EARTHQUAKE SD - 14
M_S = 6,000,000 psf

Fig. 30

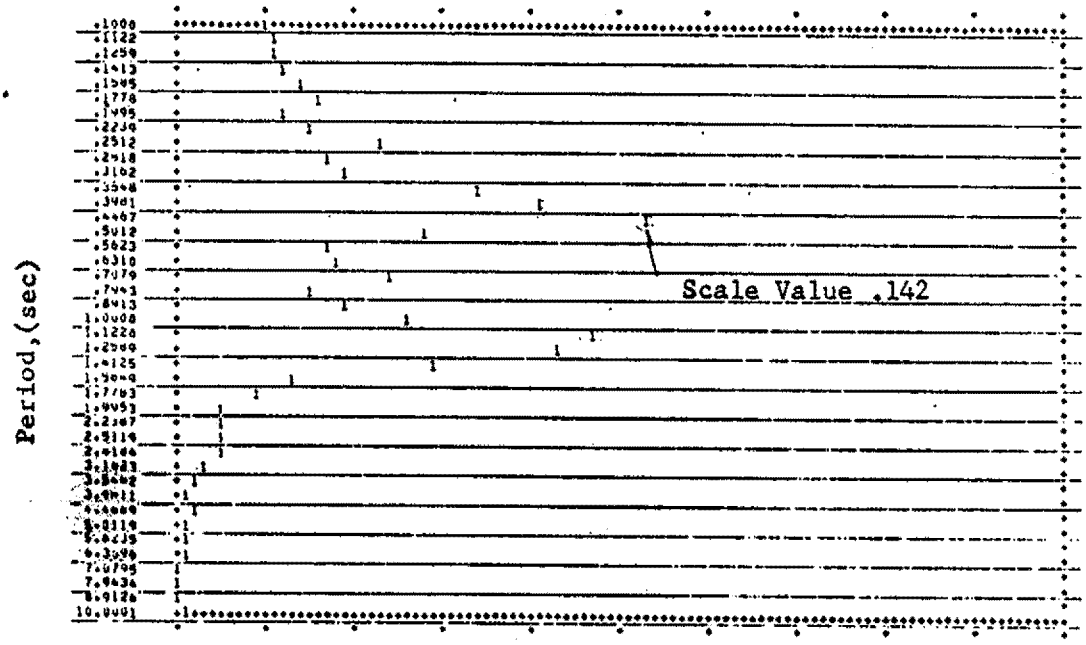
Amended: April 2009 TL: E048000

Normalized Acceleration



Ground Surface

Normalized Acceleration



Base of Structure

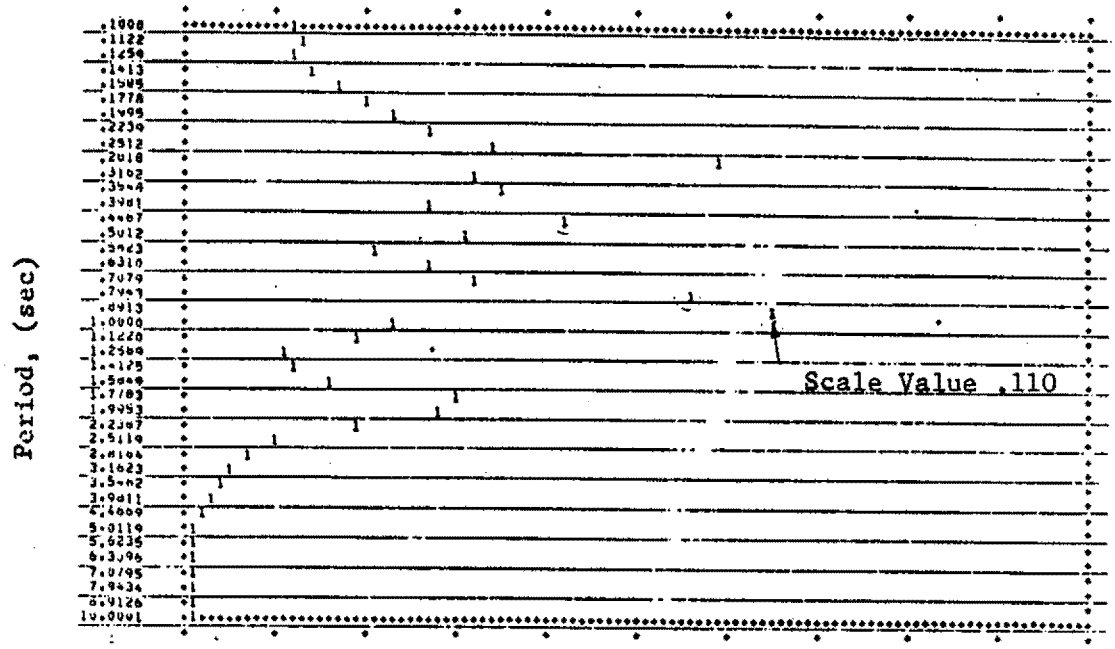
Project: SCE Spectrum

Job Number: 8156S

EARTHQUAKE SD - 17
M_s = 6,000,000 psf

Fig. 31

Normalized Acceleration



Ground Surface

Normalized Acceleration

Base of Structure

Project: SCE Spectrum

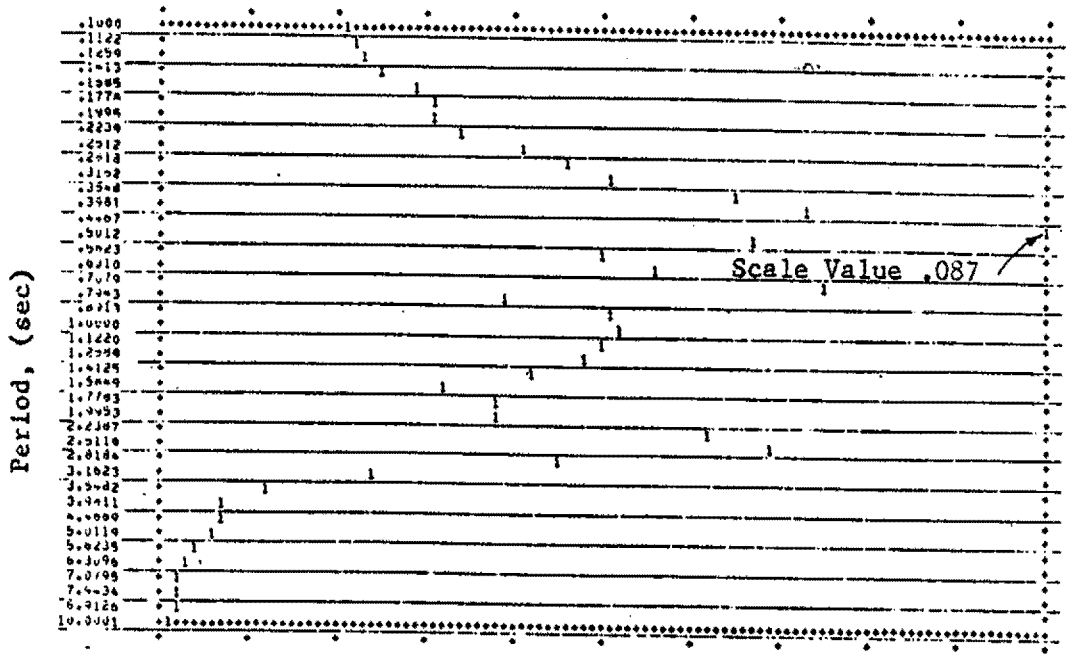
Job Number: B156S

EARTHQUAKE SD - 20
M_S = 6,000,000 psf

Fig. 32

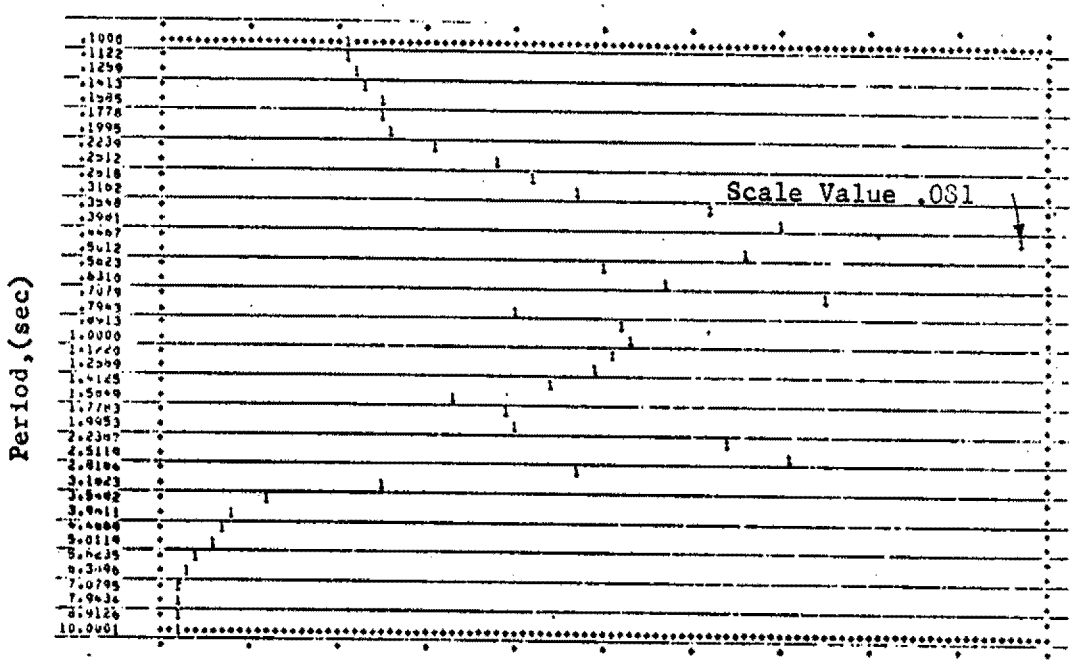
WOODWARD-Amendell: April 2009 TLL E048000

Normalized Acceleration



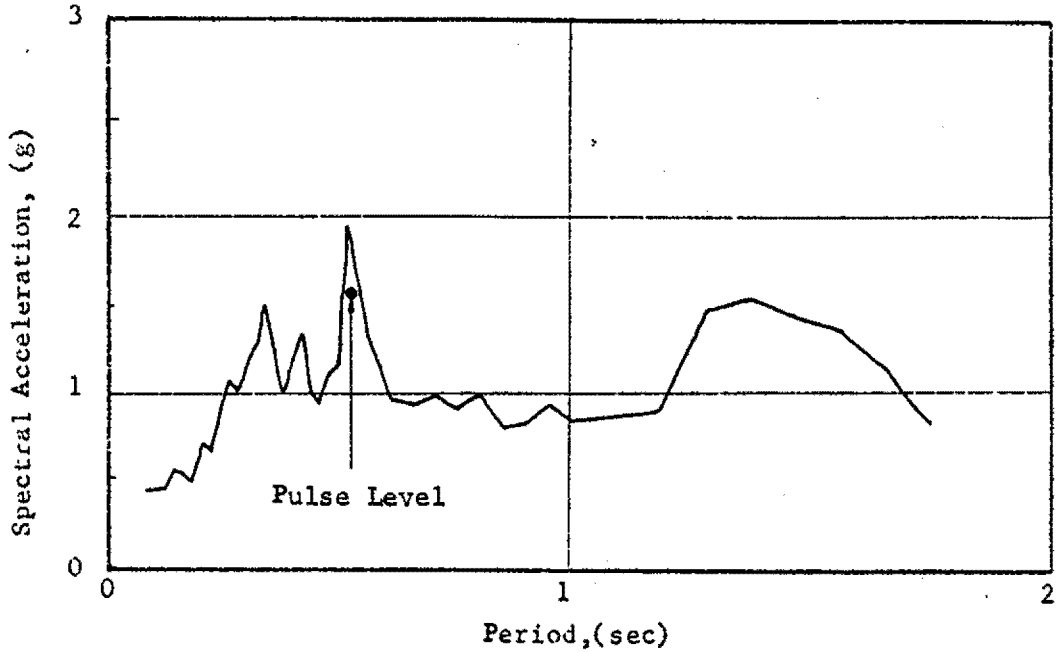
Ground Surface

Normalized Acceleration



Base of Structure

Project: SCE Spectrum Job Number: B156S	EARTHQUAKE SD - 21 M_s = 6,000,000 psf	Fig. 33

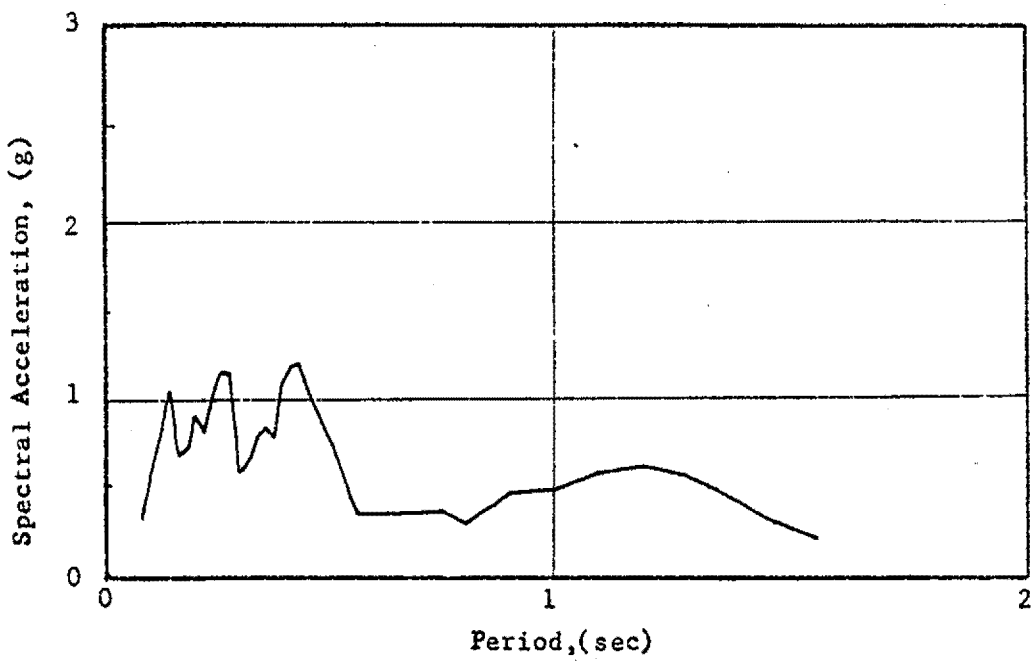


Project: SCE Spectrum
Job Number: B1368

RESPONSE SPECTRA, EARTHQUAKE SC-8

Fig. 34

Amended: April 2009 TL: E048000

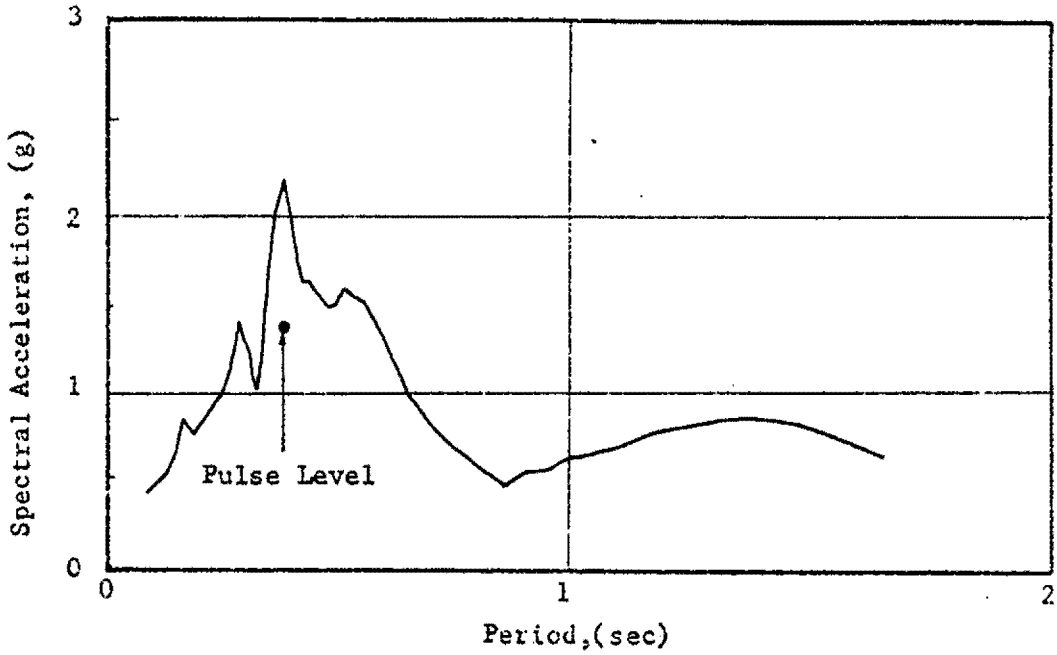


Project: SCE Spectrum

Job Number: 31588

RESPONSE SPECTRA, EARTHQUAKE SC-9

Fig. 35



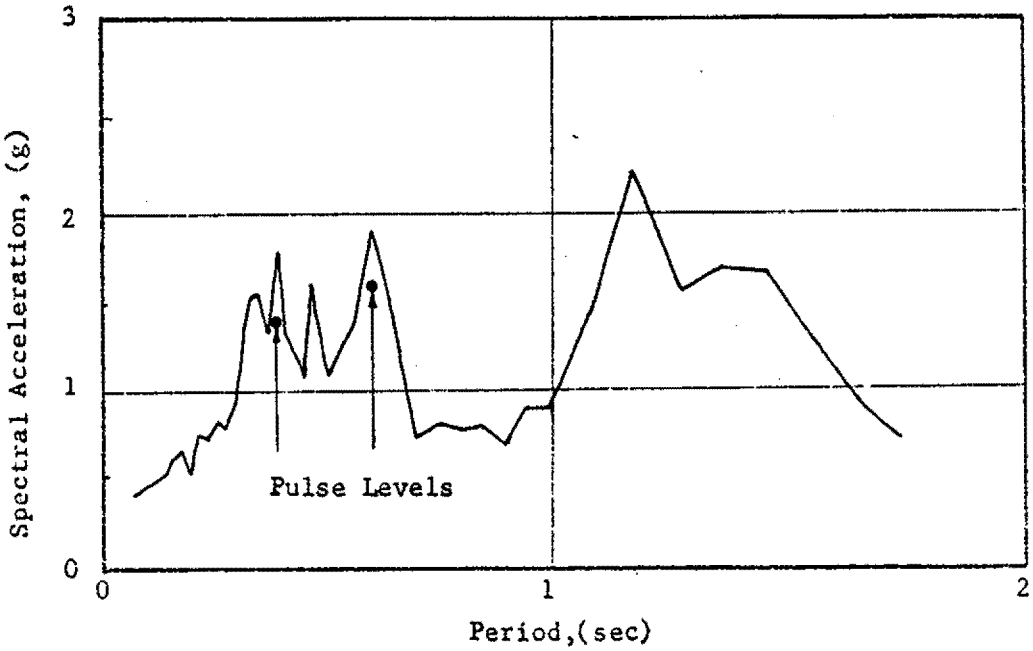
Project: SCE Spectrum

Job Number: B1668

RESPONSE SPECTRA, EARTHQUAKE SC-10

Fig. 36

Amended: April 2009 TL: E048000



Project: SCE Spectrum

Job Number: [illegible]

RESPONSE SPECTRA, EARTHQUAKE SC-11

Fig. 37

Amended: April 2009 TL: E048000

Section 2.5.B.3.4

IMPORTANCE OF RESPONSE-SPECTRA PEAKS

Report Dated 26 May 72

Amended: April 2009 TL: E048000

Los Angeles
26 May 1972
Project No. B156I

Southern California Edison Company
P. O. Box 800
Rosemead, California 91770

Attention: Mr. David Johns

SUBJECT: IMPORTANCE OF RESPONSE-SPECTRA PEAKS
UNITS 2 AND 3, FOR
SAN ONOFRE NUCLEAR GENERATING STATION

Gentlemen:

In response to you request, we have studied the importance of the peaks of the response spectra for the D-Earthquake reported to you in *Estimate of Site Dynamic Response* on 5 April 1972. The study was done by calculating the pulse spectra for the controlling periods of the controlling spectra.

The pulse spectra and their interpretation are given in Figs 1 through 22. The controlling pulse levels are plotted on the response spectra in Figs 23 through 36. The enveloping spectra are compared in Fig 37.

The comparison of enveloping spectra in Fig 37 shows that the reported spectrum for the D-Earthquakes (Fig 38 of the 5 April report) could safely be reduced to 70 to 78% of its peak value, to perhaps 0.65*g*.

Very truly yours,

WOODWARD-McNEILL & ASSOCIATES

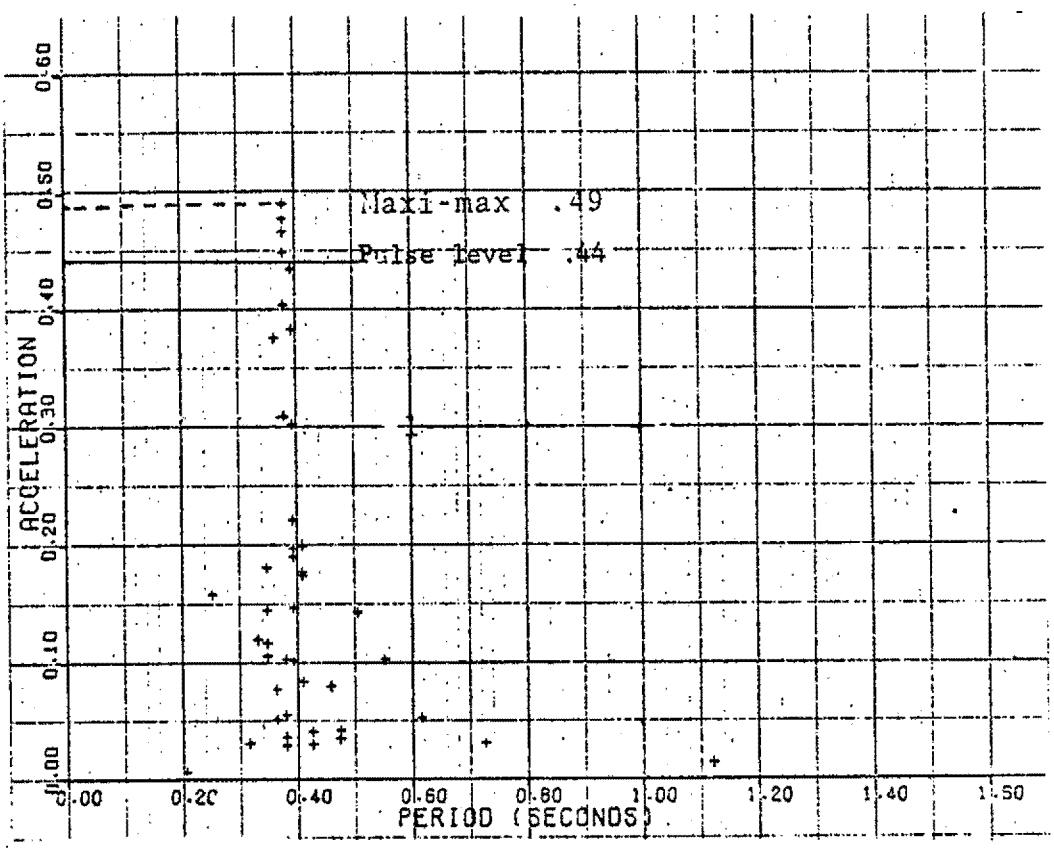
by
Robert L. McNeill

RLM/ao

Attachments

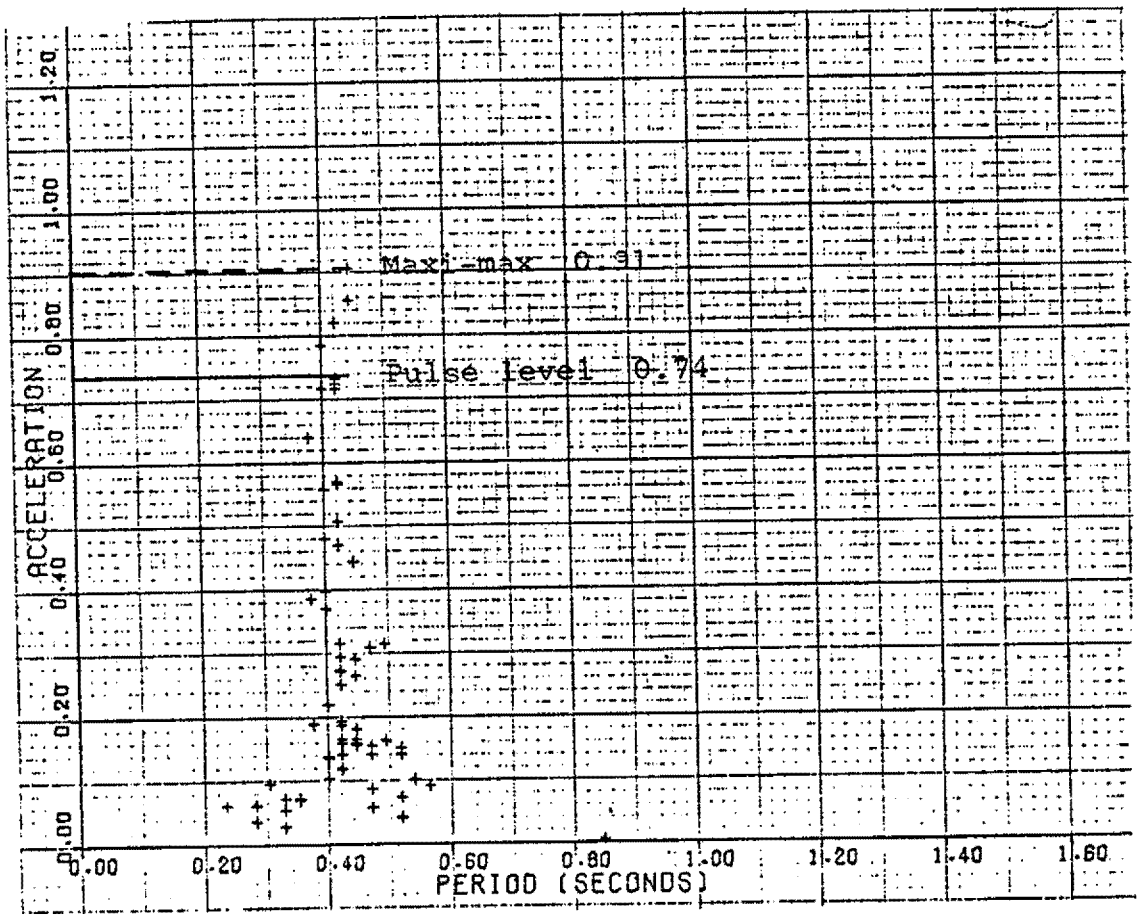
2.5B-79/2.5B-80

Amended: April 2009 TL: E048000



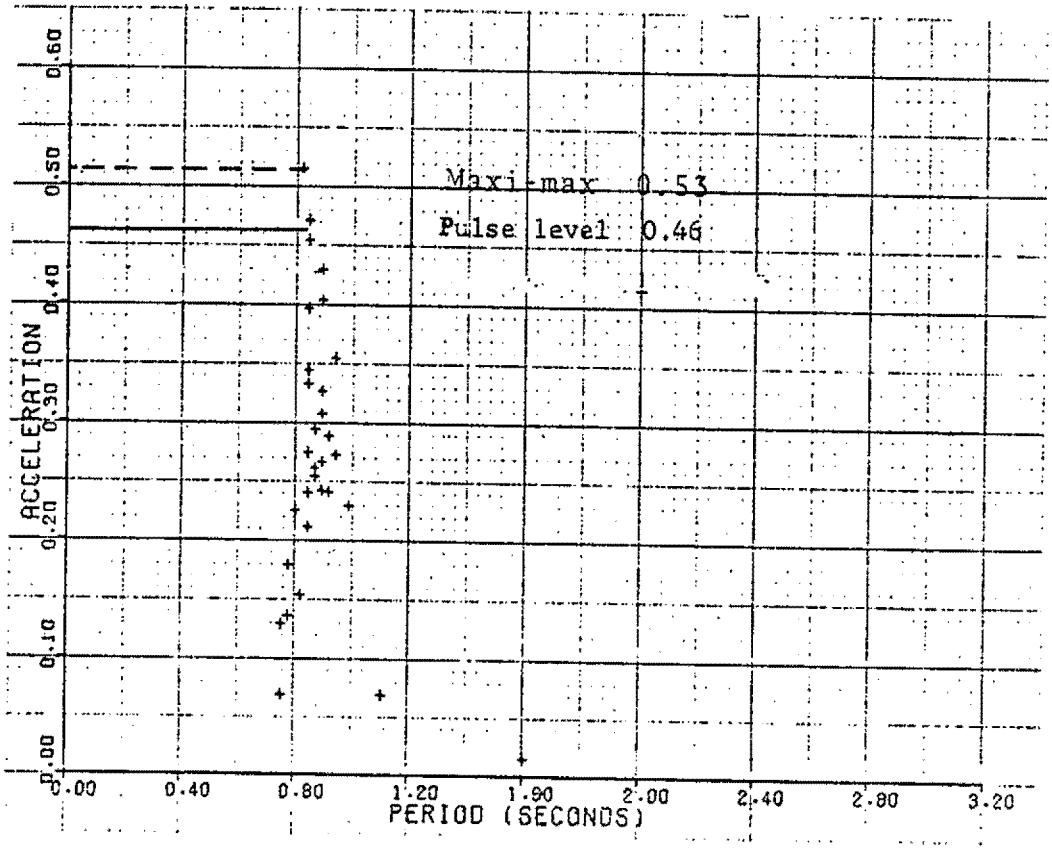
Project: SCE Spectrum Job Number: [illegible]	PULSE PEAKS, EARTHQUAKE D-2 RESPONSE-SPECTRUM PERIOD 0.38 sec	Fig. 1

Amended: April 2009 TL: E048000



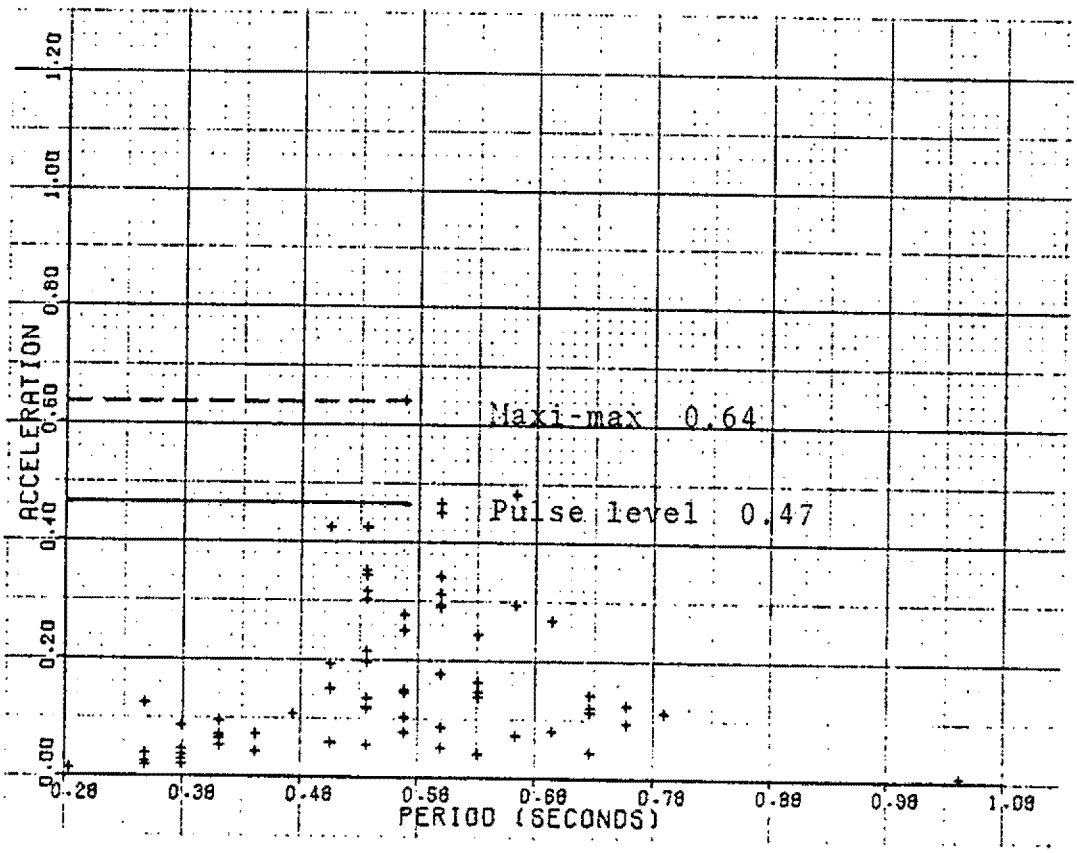
Project: SCS Spectrum Job Number: 15CS	PULSE PEAKS, EARTHQUAKE D-3 RESPONSE-SPECTRUM PERIOD 0.42 sec	Fig. 2

Amended: April 2009 TL: E048000



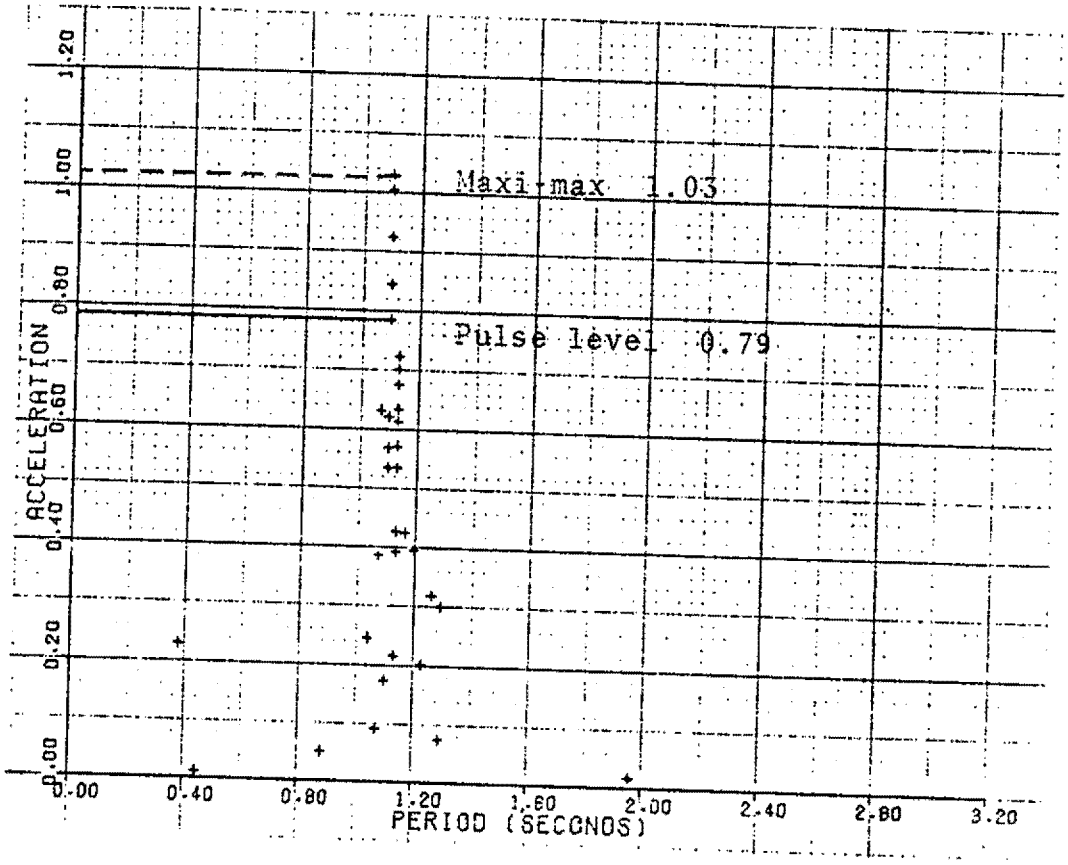
Project: SSE Spectrum Job Number: [illegible]	PULSE PEAKS, EARTHQUAKE D-3 RESPONSE-SPECTRUM PERIOD 0.85 sec	Fig. 3

Amended: April 2009 TL: E048000



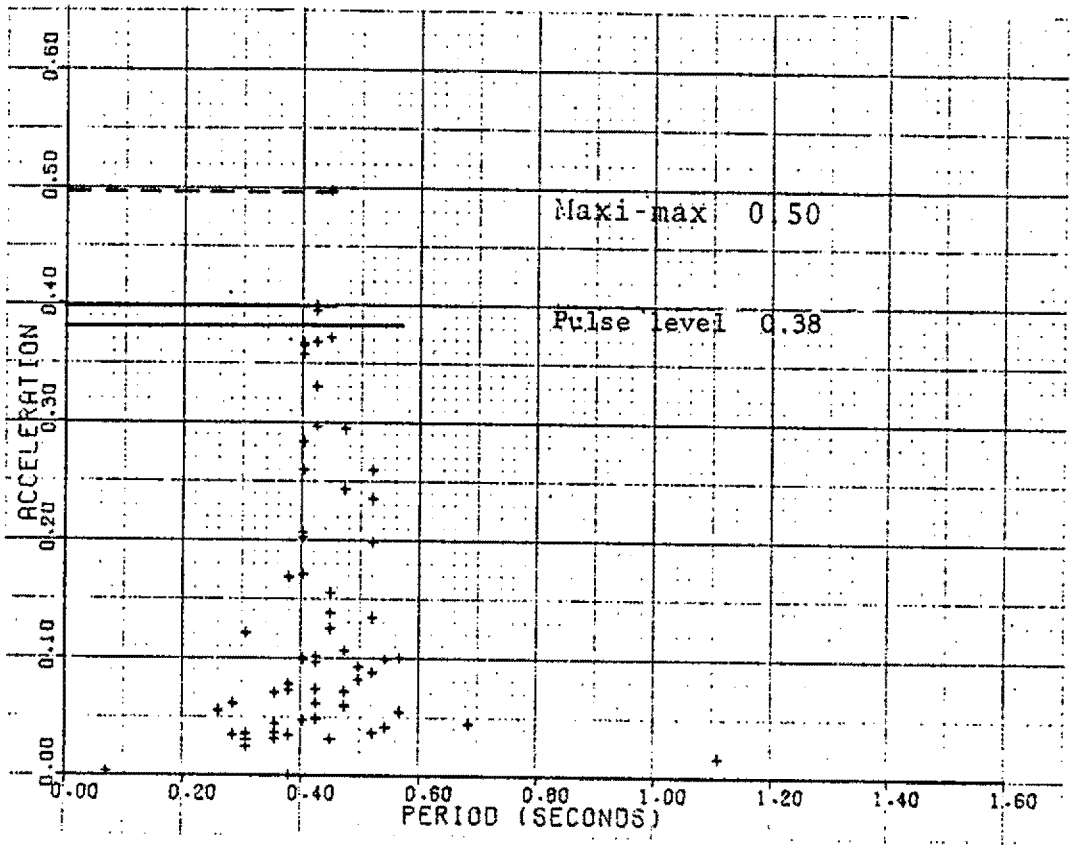
Project: SCE Spectrum Job Number: 3156S	PULSE PEAKS, EARTHQUAKE D-4 RESPONSE-SPECTRUM PERIOD 0.55 sec	Fig. 4

Amended: April 2009 TL: E048000



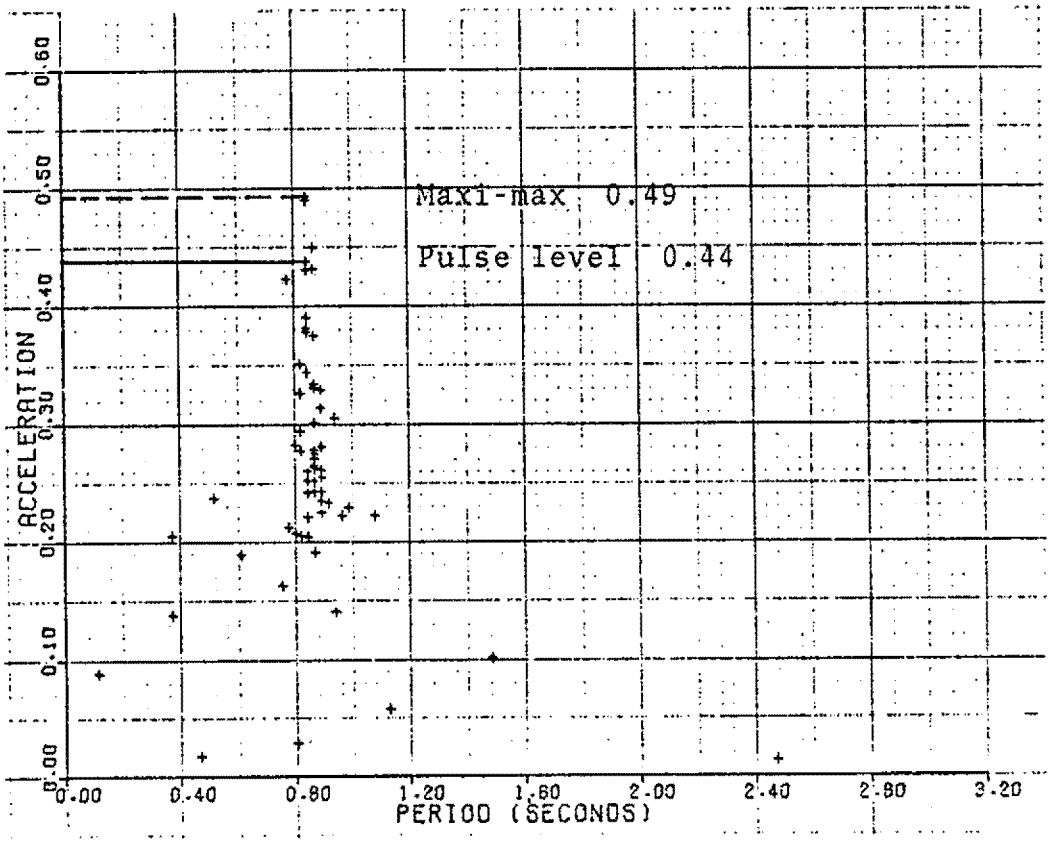
Project: SHB Spectrum **Job Number:** 71[illegible]3.	PULSE PEAKS, EARTHQUAKE D-4 RESPONSE-SPECTRUM PERIOD 1.10 sec	Fig. 5

Amended: April 2009 TL: E048000

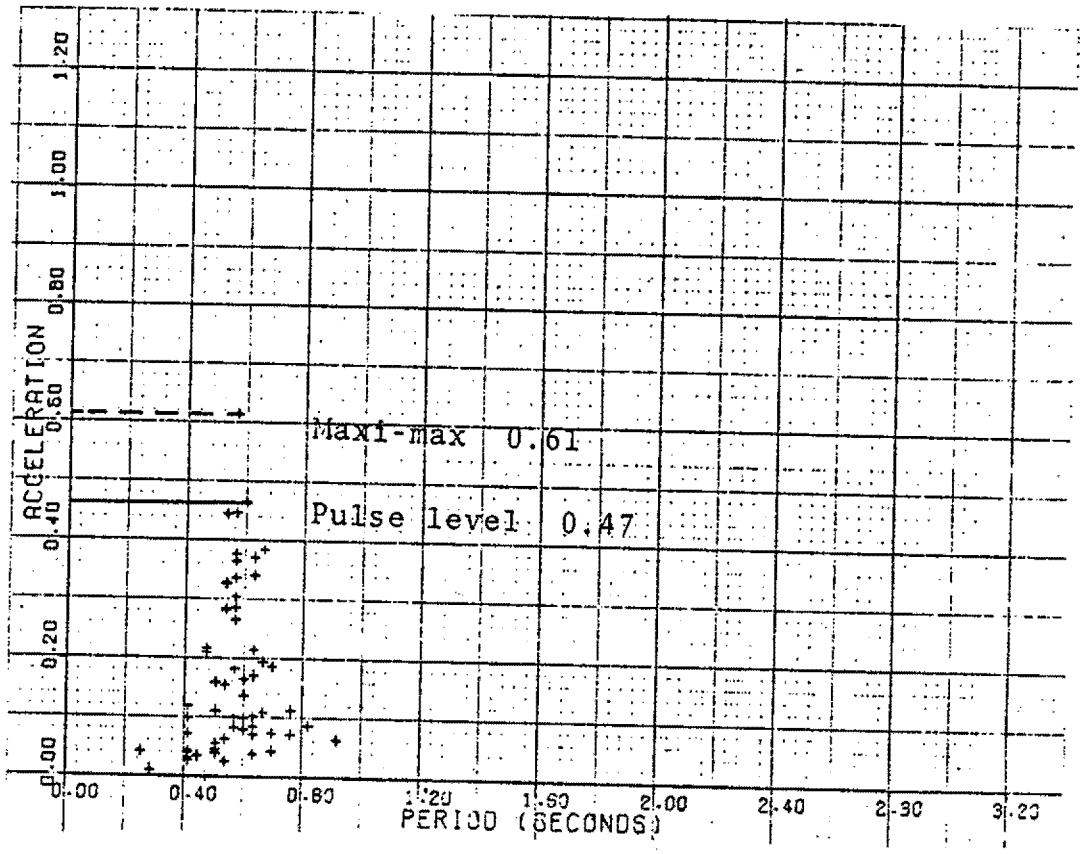


Project: SCE Spectrum Job Number: 21786	PULSE PEAKS, EARTHQUAKE D-7 RESPONSE-SPECTRUM PERIOD 0.42 sec	Fig. 6

Amended: April 2009 TL E048000

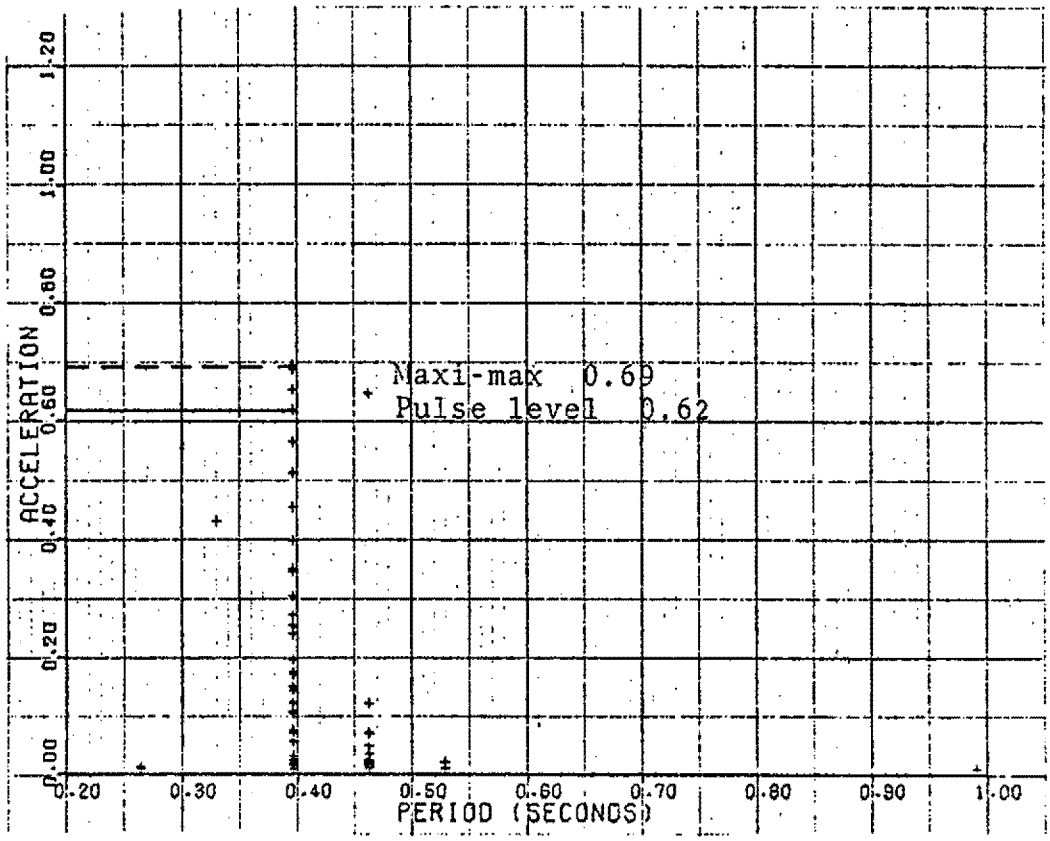


Project: SSE Spectrum Job Number: 1155	PULSE PEAKS, EARTHQUAKE D-7 RESPONSE-SPECTRUM PERIOD 0.85 sec	Fig. 7



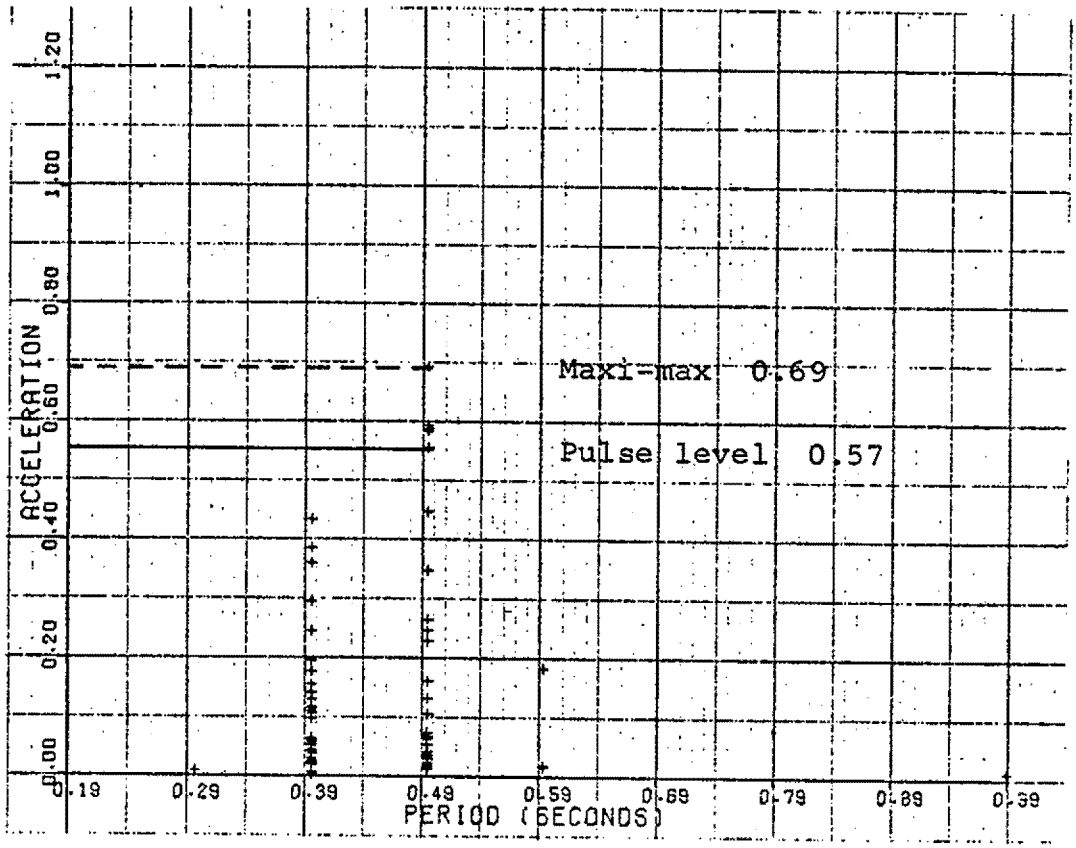
Project: SCE Spectrum Job Number: 3156S	PULSE PEAKS, EARTHQUAKE D-8 RESPONSE-SPECTRUM PERIOD 0.55 sec	Fig. 8

Amended: April 2009 TL: E048000



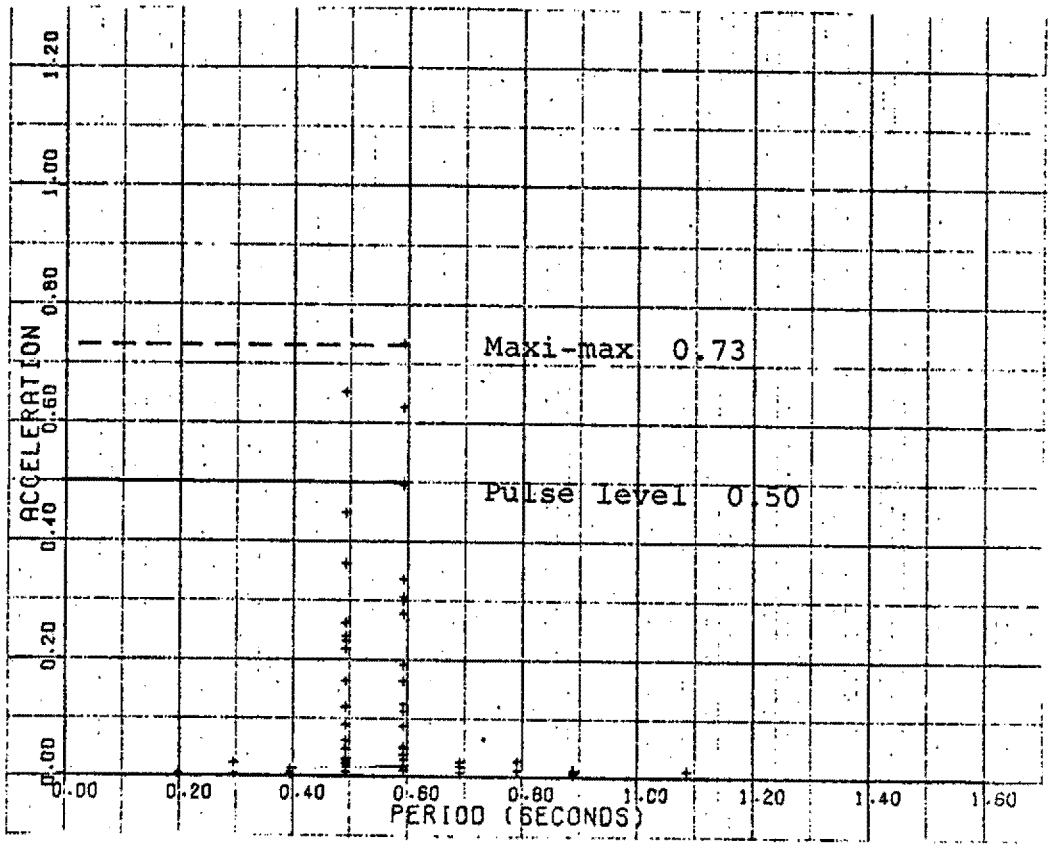
Project: SCE Spectrum **Job Number:** [illegible]	PULSE PEAKS, EARTHQUAKE D-9 RESPONSE-SPECTRUM PERIOD 0.40 sec	Fig. 9

Amended: April 2009 - FE-E046000-



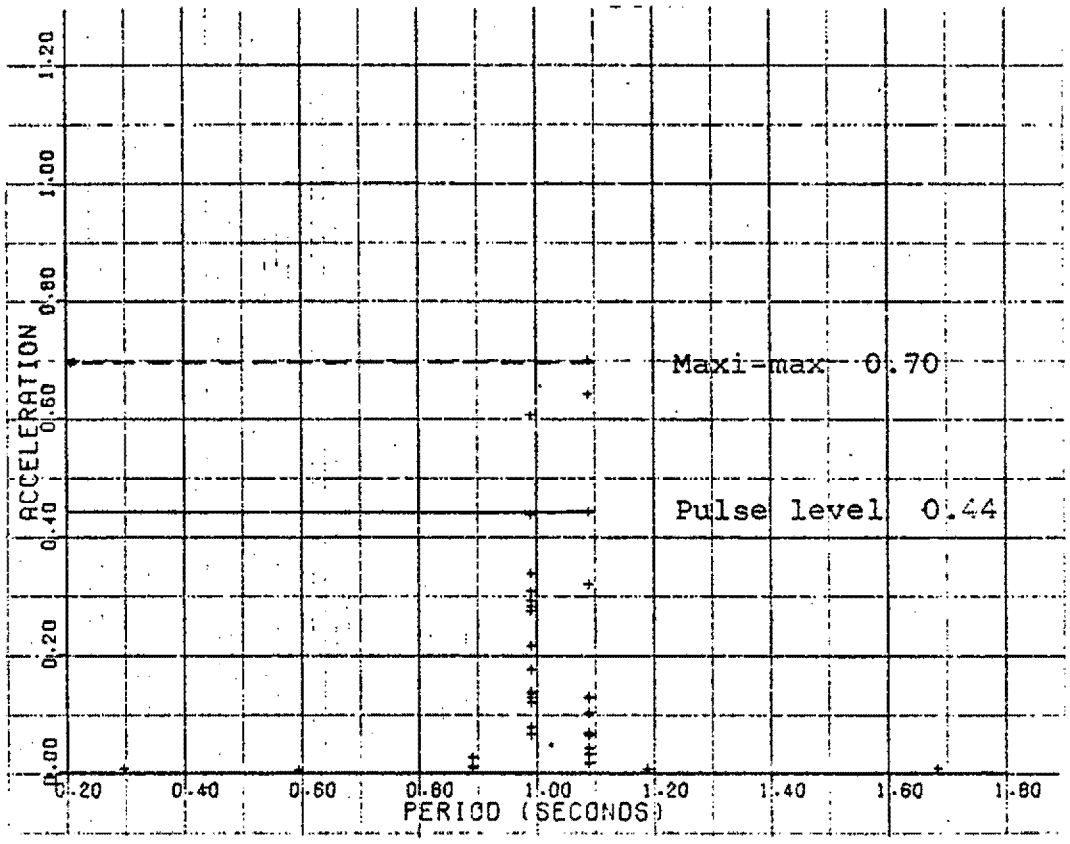
Project: SCE Spectrum **Job Number:** [illegible]	PULSE PEAKS, EARTHQUAKE D-10 RESPONSE-SPECTRUM PERIOD 0.44 sec	Fig. 10

Amended: April 2009 TL: E048000

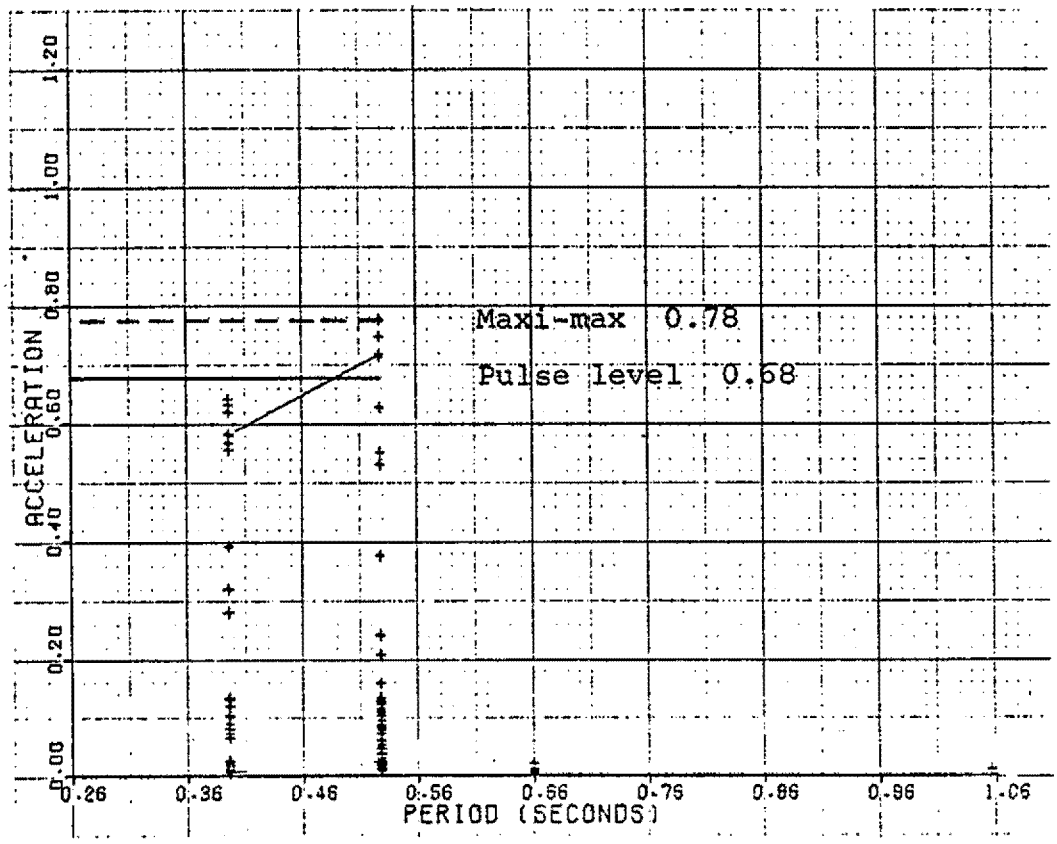


Project: SCE Spectrum **Job Number:** 5158S	PULSE PEAKS, EARTHQUAKE D-10 RESPONSE-SPECTRUM PERIOD 0.55 sec	Fig. 11

Amended: April 2009 TL: E048000

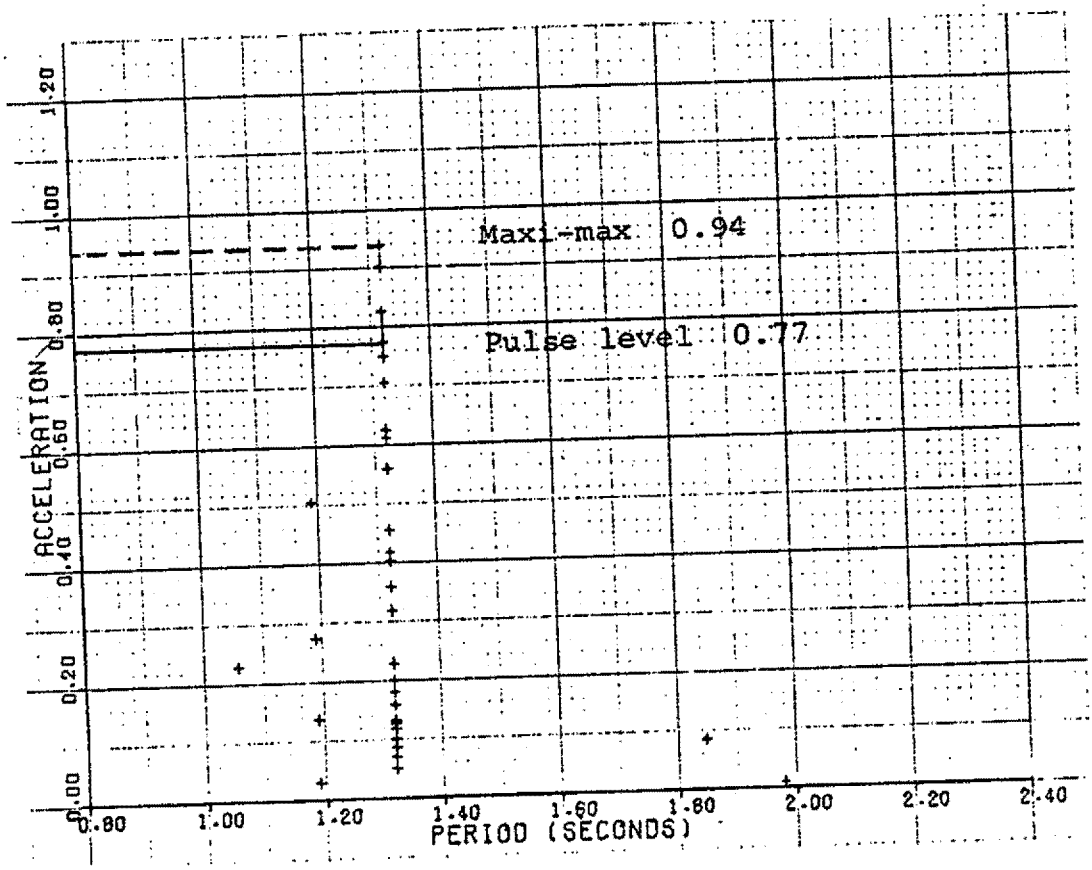


Project: SCE Spectrum Job Number : 3176S	PULSE PEAKS, EARTHQUAKE D-10 RESPONSE-SPECTRUM PERIOD 1.00 sec	Fig. 12



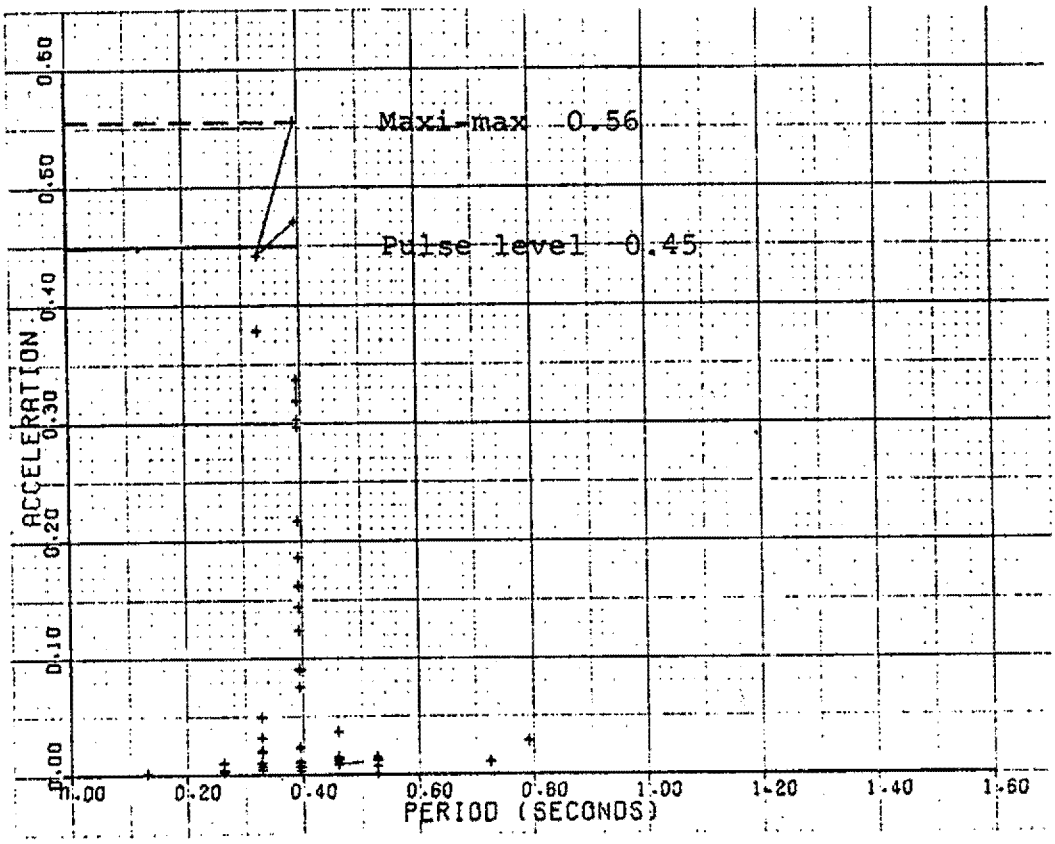
Project: SCE Sprectrum **Job Number:** 2156S	PULSE PEAKS, EARTHQUAKE D-11 RESPONSE-SPECTRUM PERIOD 0.46 sec	Fig. 13

Amended: April 2009 TL: E048000



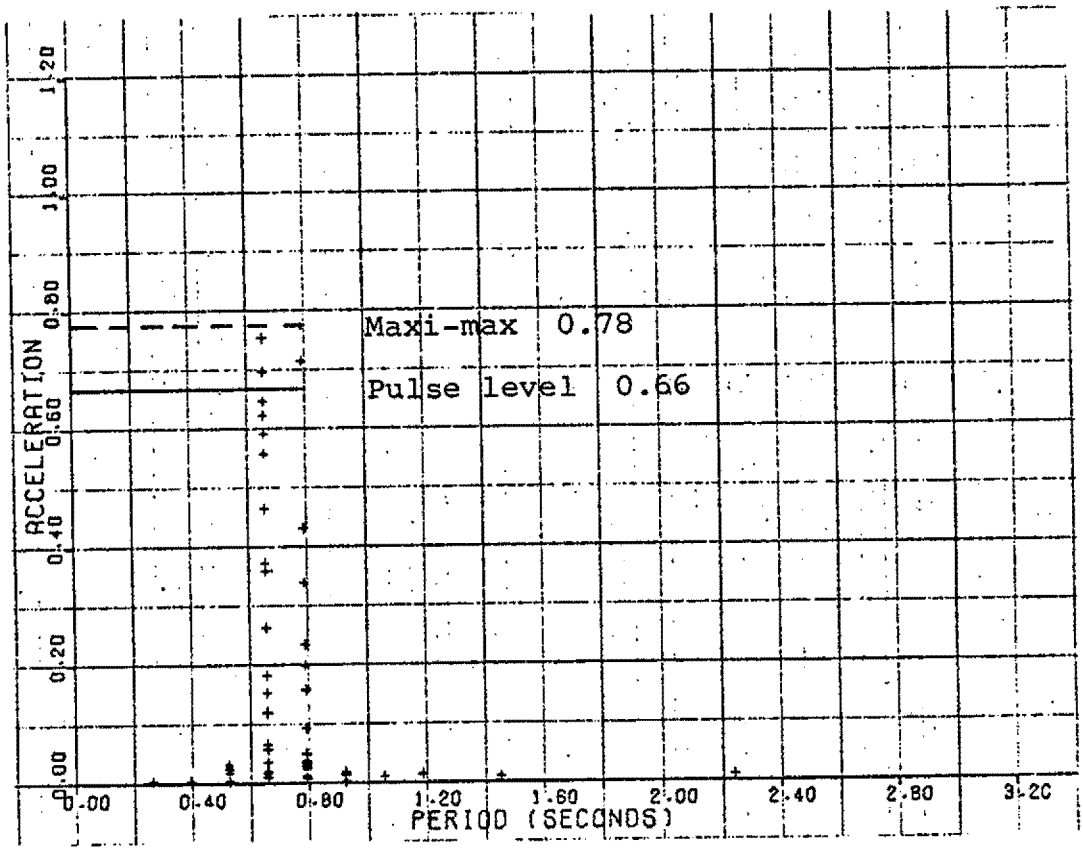
Project: SCE Spectrum **Job Number:** 31[illegible]S	PULSE PEAKS, EARTHQUAKE D-11 RESPONSE-SPECTRUM PERIOD 1.30 sec	Fig. 14

Amended: April 2009 TL: E048000



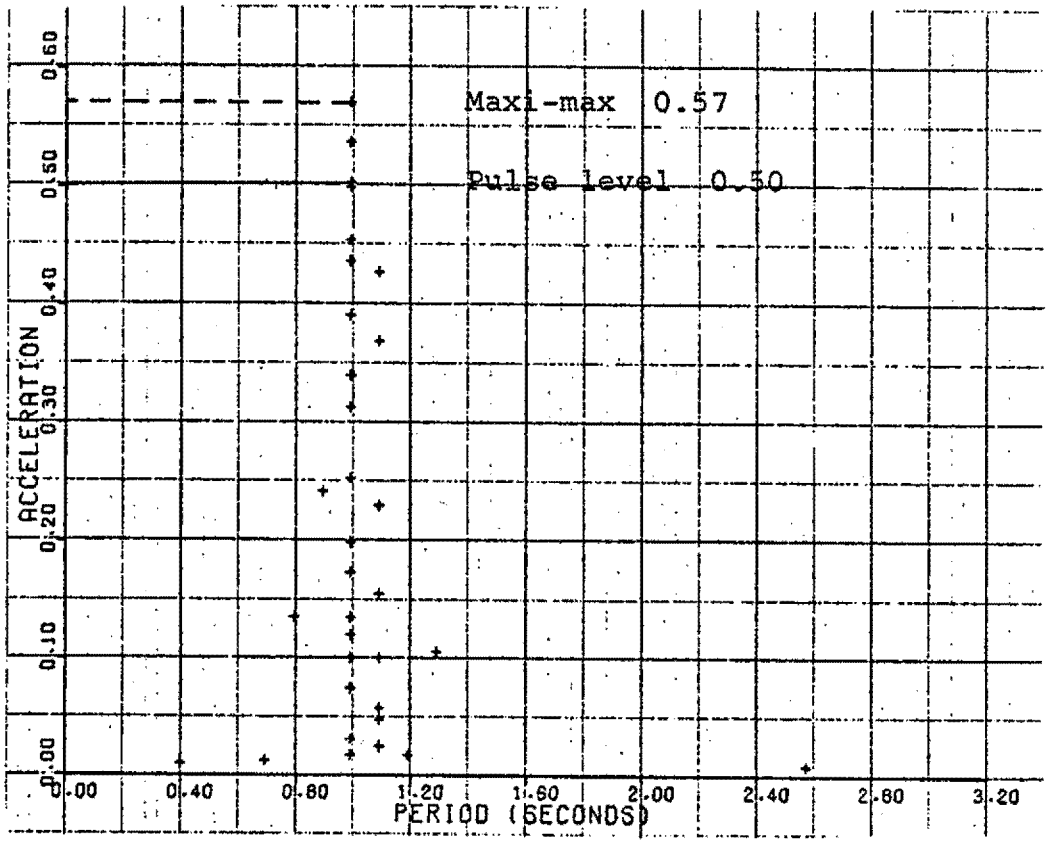
Project: SCE Spectrum Job Number: 2156S	PULSE PEAKS, EARTHQUAKE D-12 RESPONSE-SPECTRUM PERIOD 0.38 sec	Fig. 15

Amended: April 2009 TL: E048000



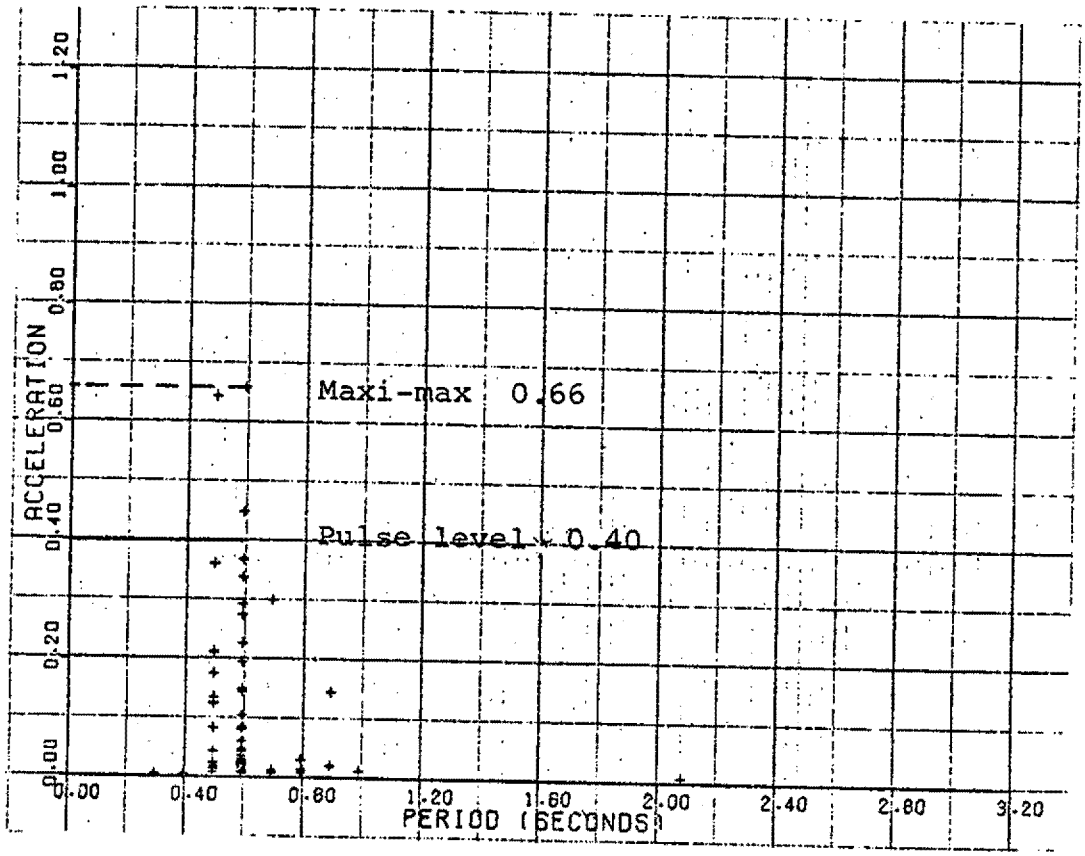
Project: SCE Spectrum Job Number: [illegible]SS	PULSE PEAKS, EARTHQUAKE D-13 RESPONSE-SPECTRUM PERIOD 0.55 sec	Fig. 16

Amended: April 2009 TL: E048000



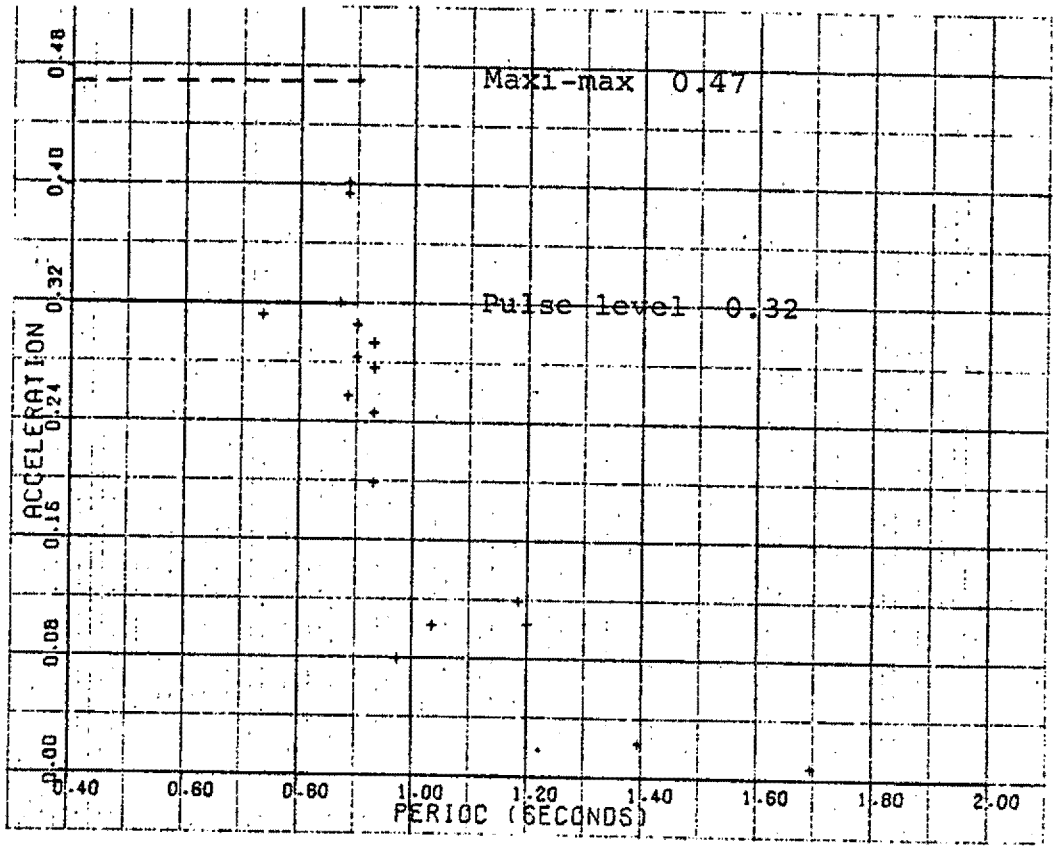
Project: SCE SPECTRUM Job Number: 2156S	PULSE PEAKS, EARTHQUAKE D-13 RESPONSE-SPECTRUM PERIOD 1.0 sec	Fig. 17

Amended: April 2009 FL: E046000



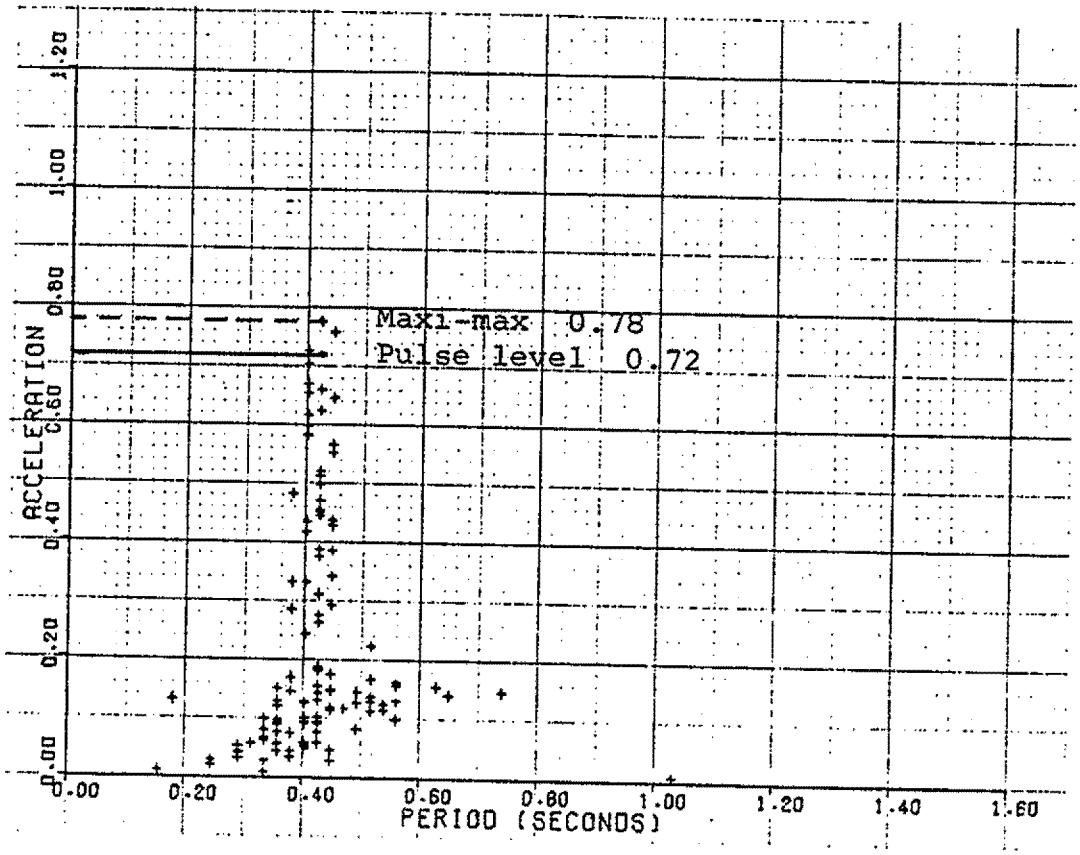
Project: SCE Spectrum Job Number: [illegible]S	PULSE PEAKS, EARTHQUAKE D-14 RESPONSE-SPECTRUM PERIOD 0.60 sec	Fig. 18

Amended: April 2009 TL: E048000



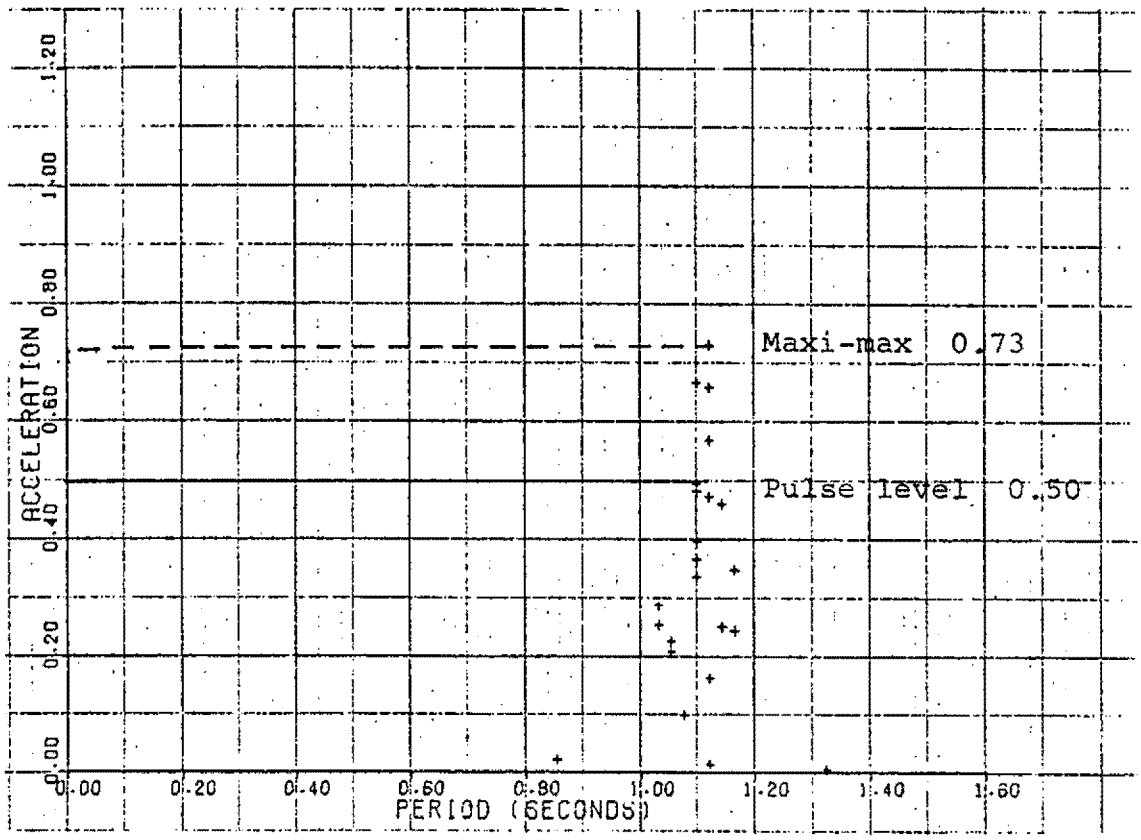
Project: SCE Spectrum Job Number: 3156S	PULSE PEAKS, EARTHQUAKE D-16 RESPONSE-SPECTRUM PERIOD 0.90 sec	Fig. 19

Amended: April 2009 TL: E048000



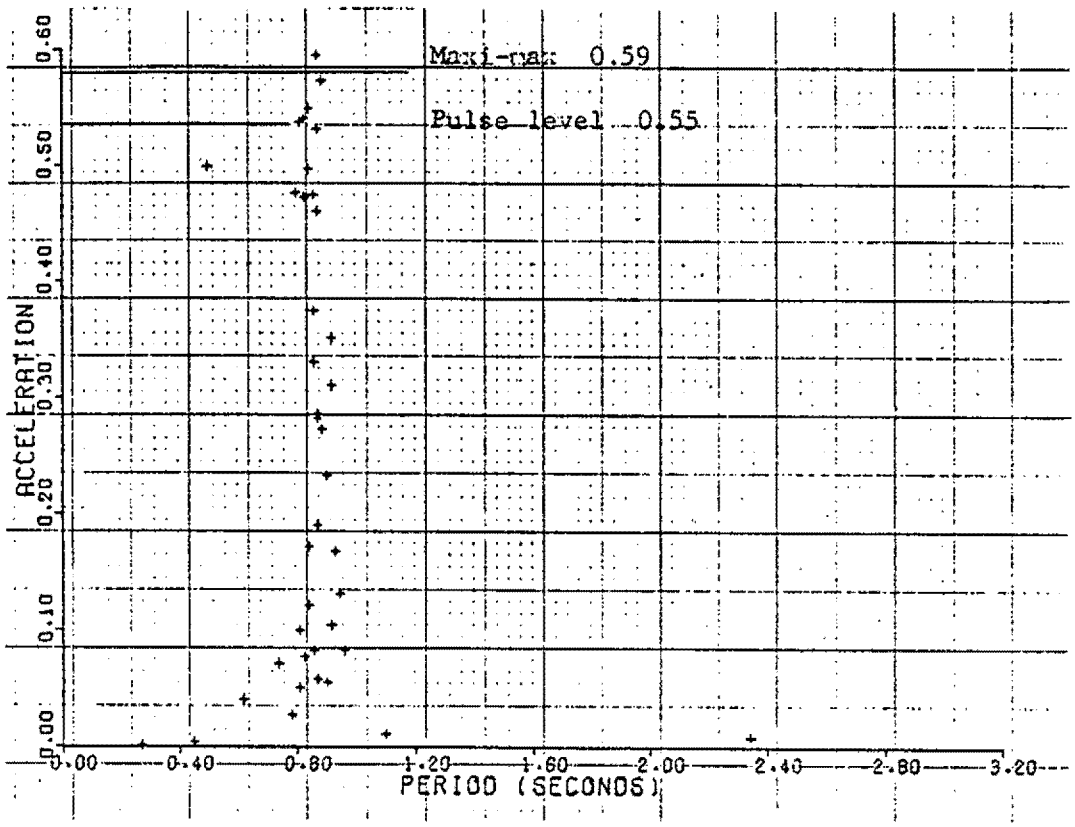
Project: SCE Spectrum Job Number: 31768	PULSE PEAKS, EARTHQUAKE D-17 RESPONSE-SPECTRUM PERIOD 0.42 sec	Fig. 20

Amended: April 2009 TL: E048000



Project: SCE Spectrum Job Number: 8156S	PULSE PEAKS, EARTHQUAKE D-17 RESPONSE-SPECTRUM PERIOD 1.10 sec	Fig. 21

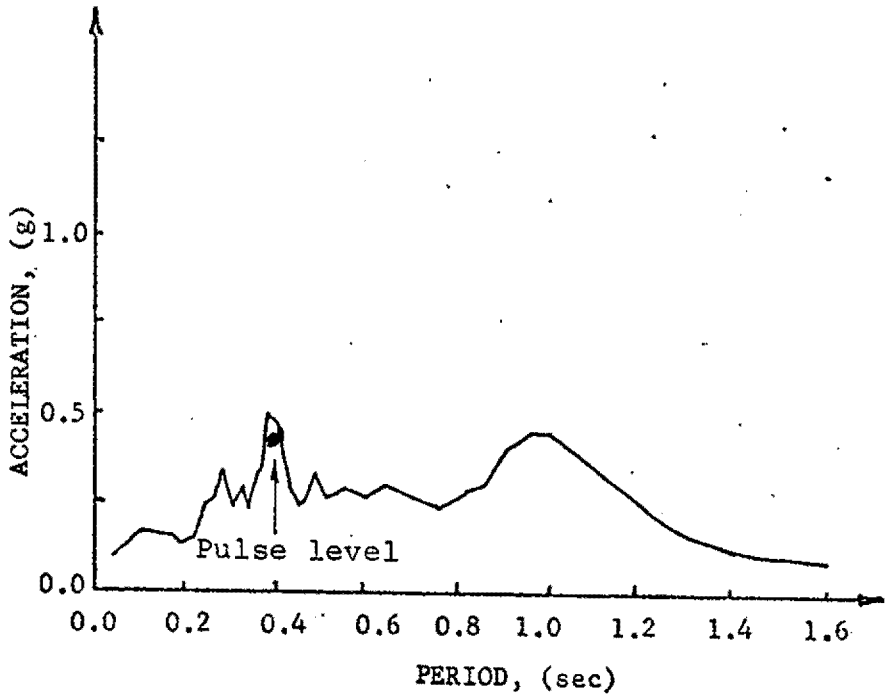
Amended: April 2009 TL: E048000



Project: SCE Spectrum Job Number: [illegible]	PULSE PEAKS, EARTHQUAKE D-20 RESPONSE-SPECTRUM PERIOD 0.83 sec	Fig. 22

WOODWARD-McNEILL & ASSOCIATES

Amended: April 2009 TL: E048000



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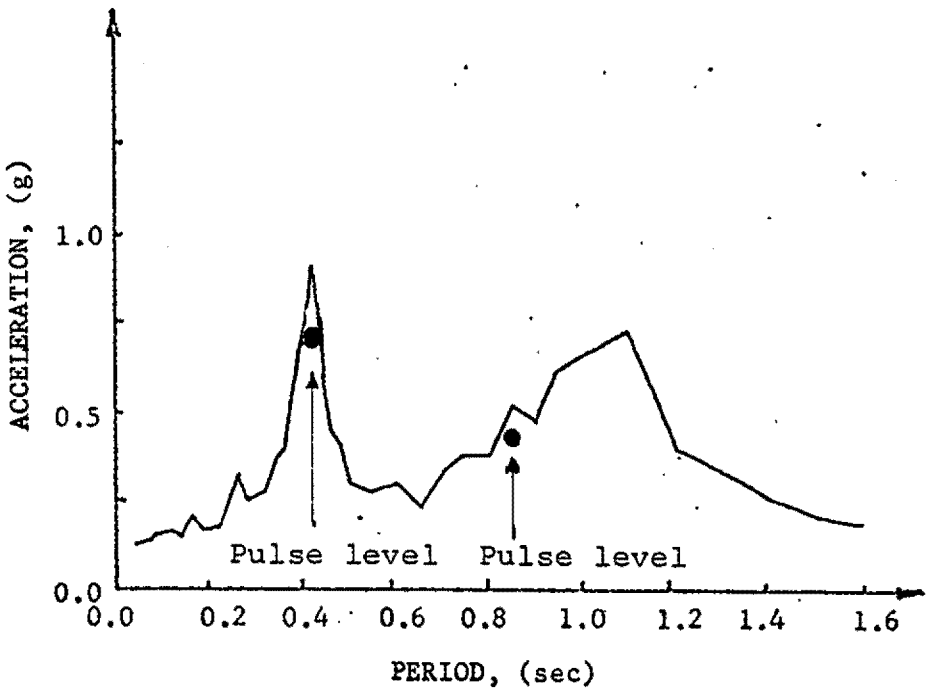
Predominant Period = 0.30 sec

Project: SCE Spectrum Job Number: B1505	RESPONSE SPECTRA, EARTHQUAKE D-2	Fig. 23

Amended April 2009 FL E048000



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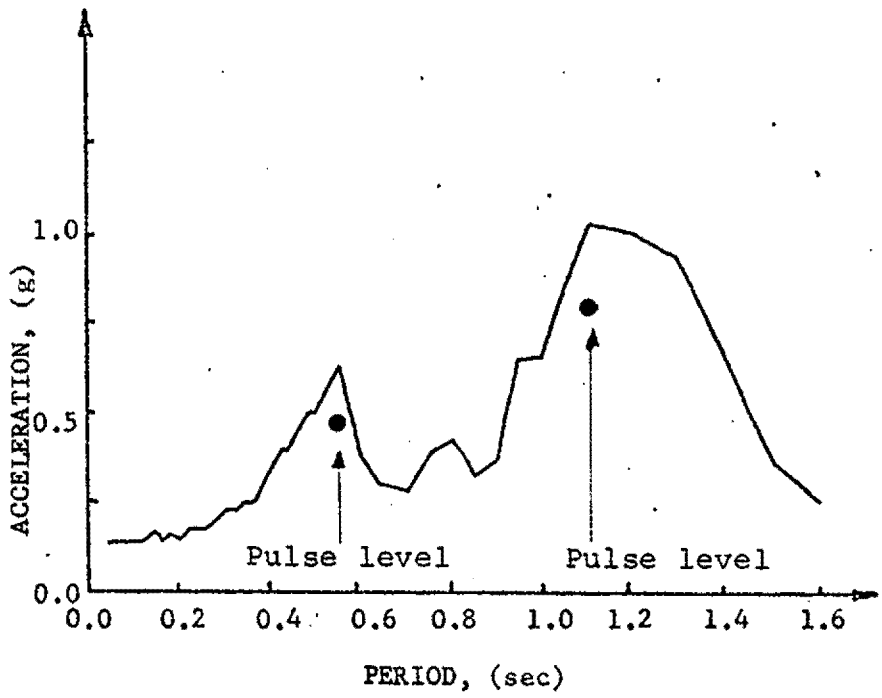
Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-2	Fig. 24

Amended: April 2009 TL: E048000



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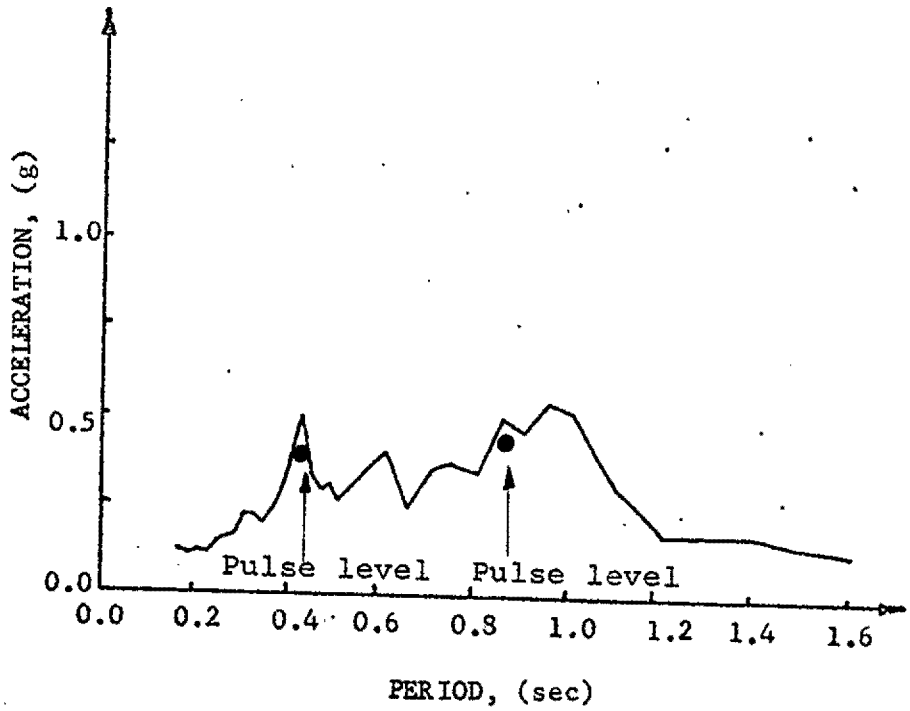
Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-4	Fig. 25

Amended: April 2009 TR-E048000



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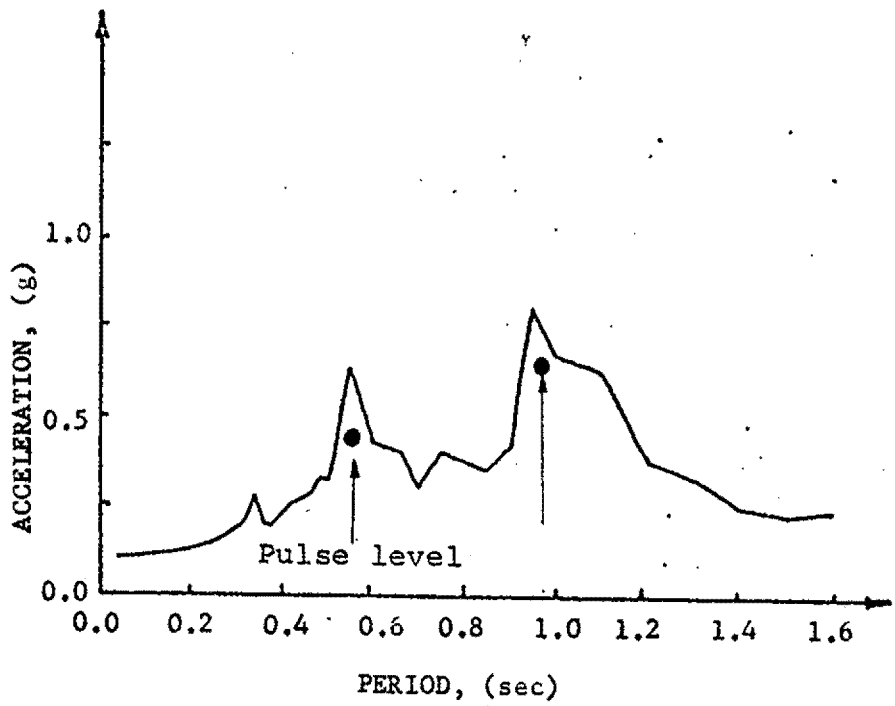
Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-7	Fig. 26

Amended: April 2009 TL: E048000



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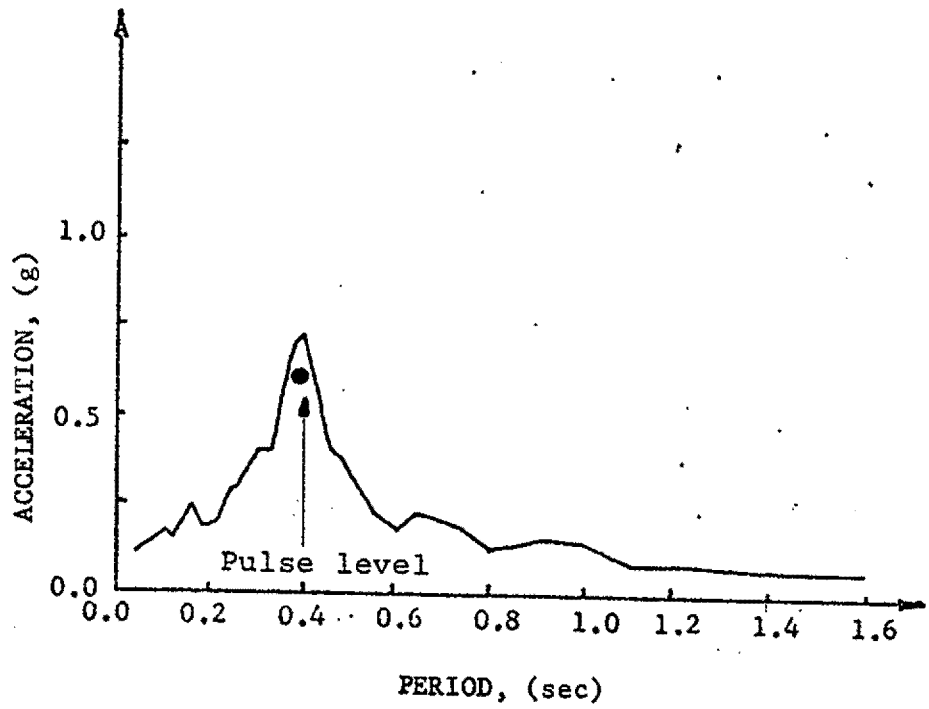
Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-8	Fig. 27



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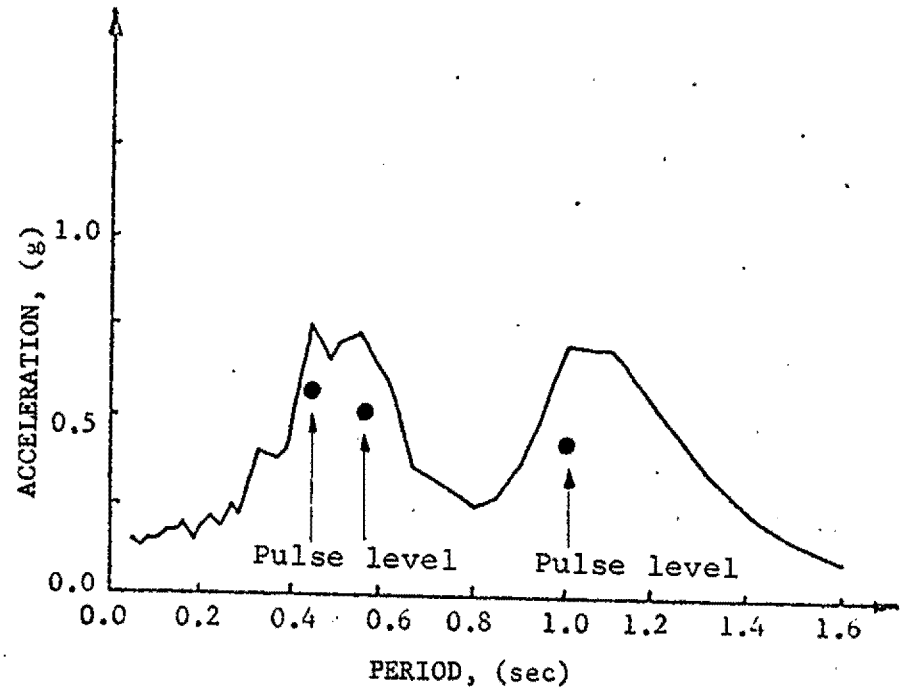
Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-9	Fig. 28

Amended: April 2009 TL: E048000



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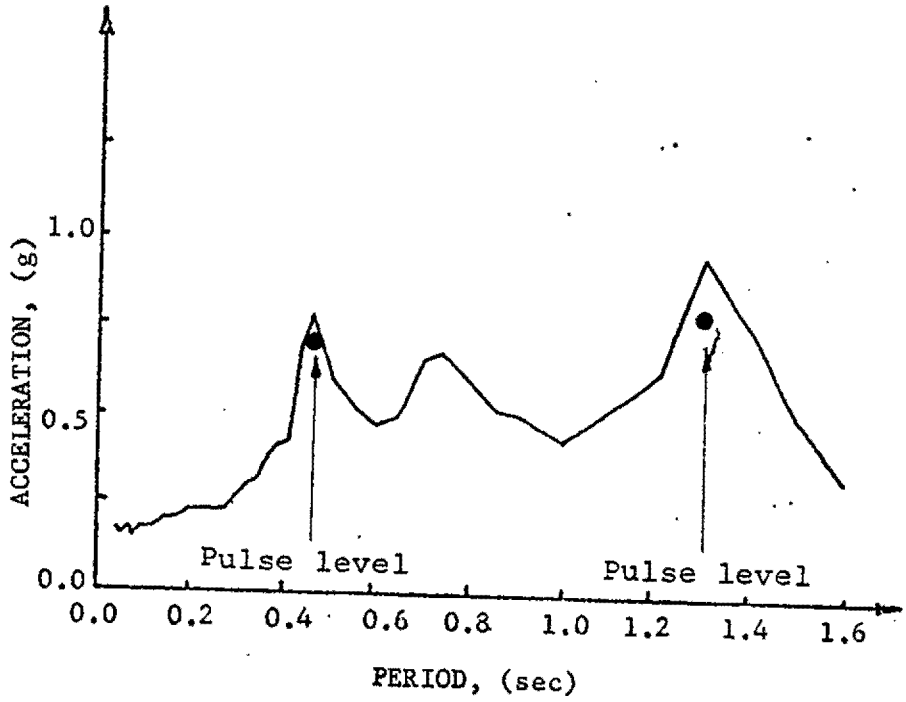
Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-10	Fig. 29



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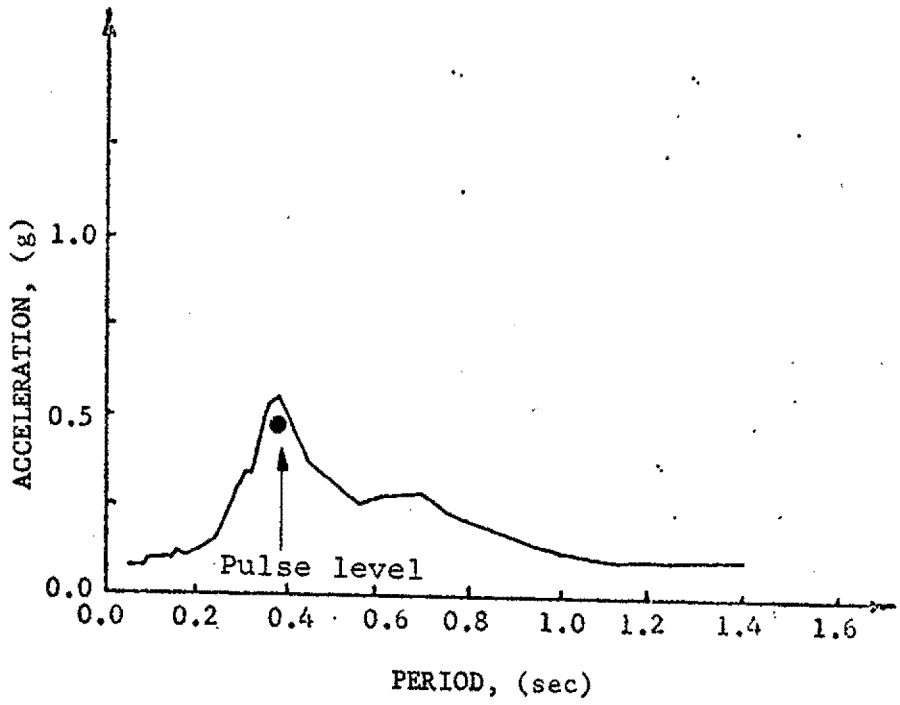
Project: SCE Spectrum Job Number: B1558	RESPONSE SPECTRA, EARTHQUAKE D-11	Fig. 30

Amended: April 2009 TL: E048000



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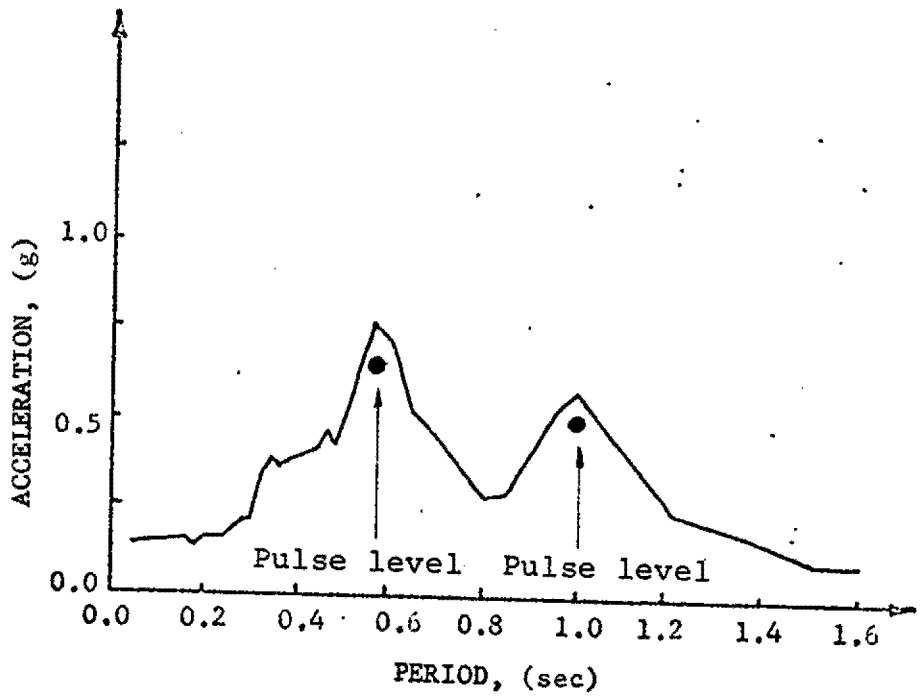
Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-12	Fig. 31



DATA:

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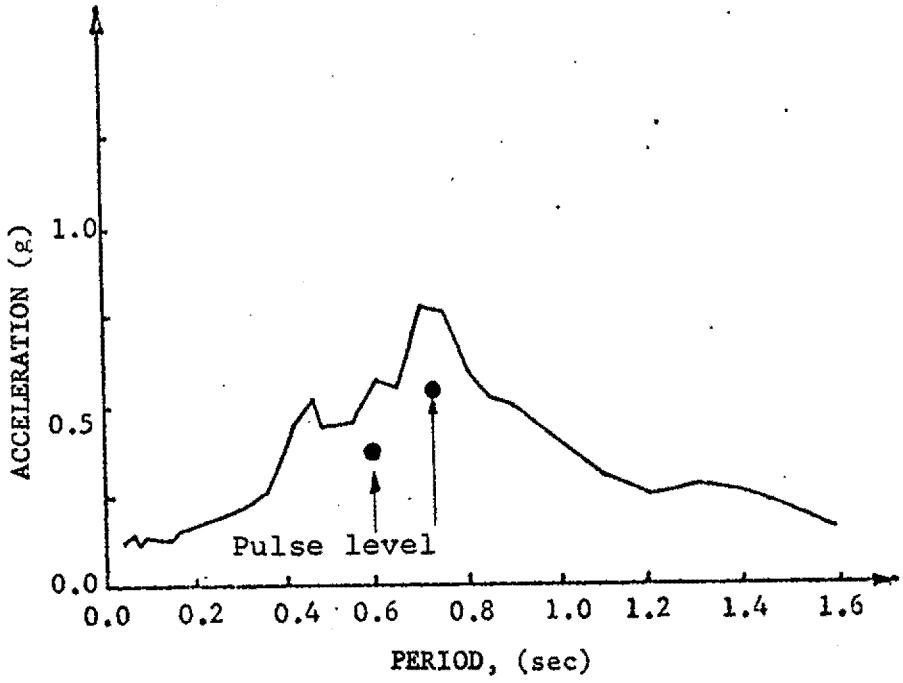
Predominant Period = 0.45 sec

Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-13	Fig. 32

Amended: April 2009 TL: E048000



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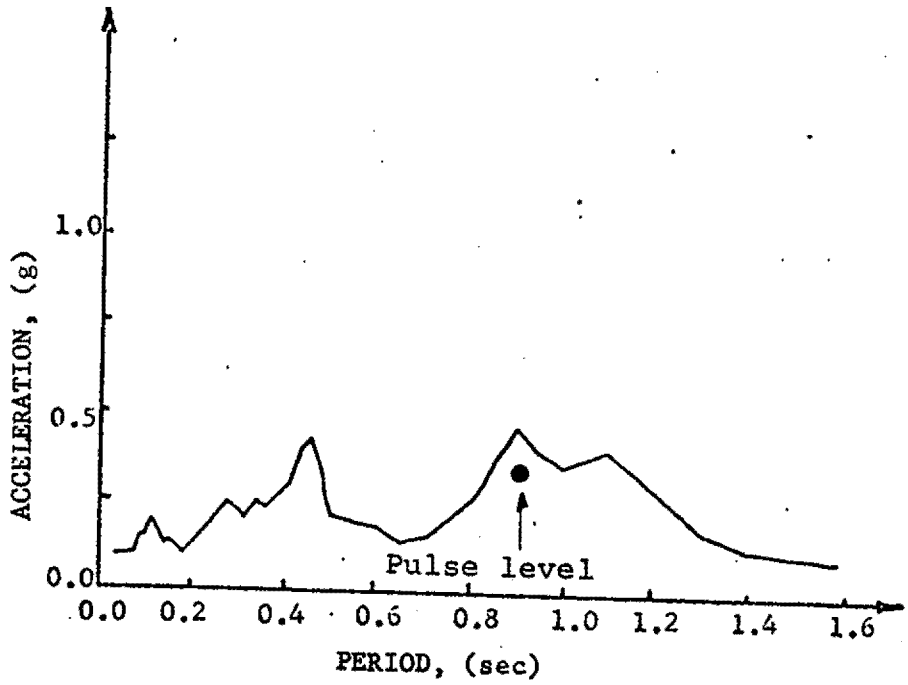
Predominant Period = 0.60 sec

Project: SCE Spectrum Job Number: B1F6S	RESPONSE SPECTRA, EARTHQUAKE D-14	Fig. 33



DATA:

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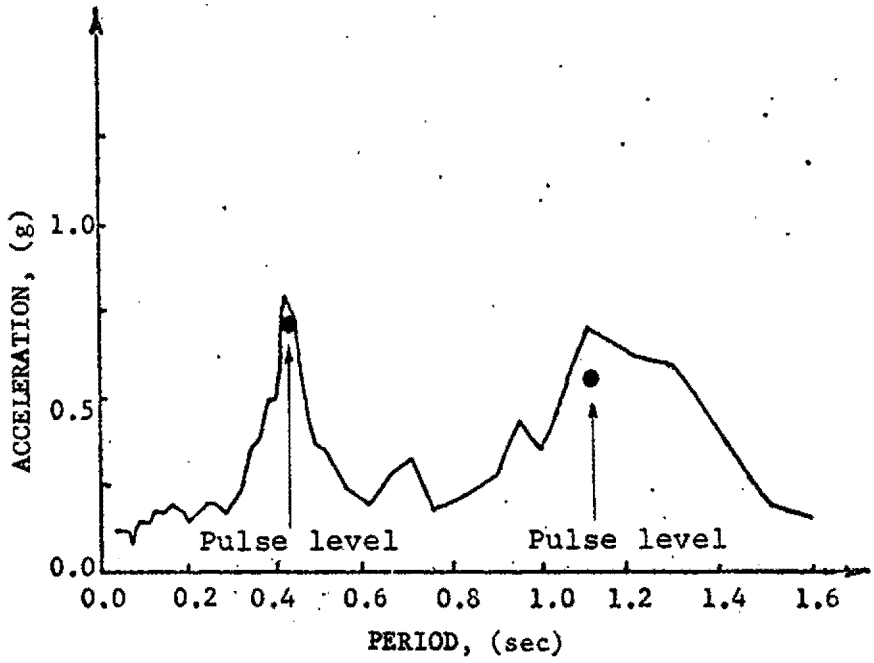
Predominant Period = 0.30 sec

Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-16	Fig. 34

Amended: April 2009 TL: E048000

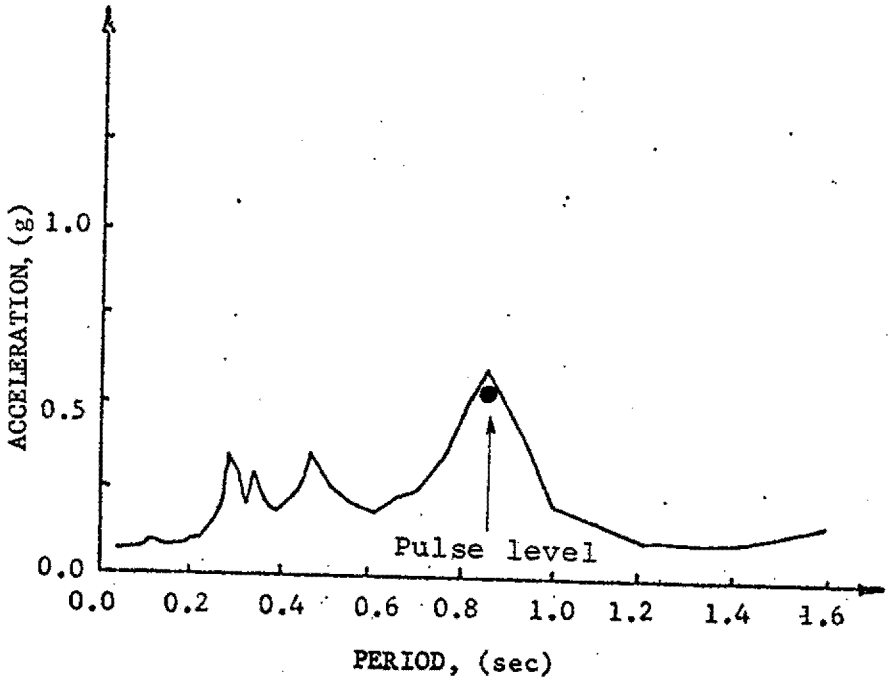


DATA:

300 ft. Profile
Maximum Bedrock Excitation = 0.06 g
Predominant Period = 0.45 sec

Project: SCE Spectrum Job Number: B156S	RESPONSE SPECTRA, EARTHQUAKE D-17	Fig. 35

Amended: April 2009 TL: E048000

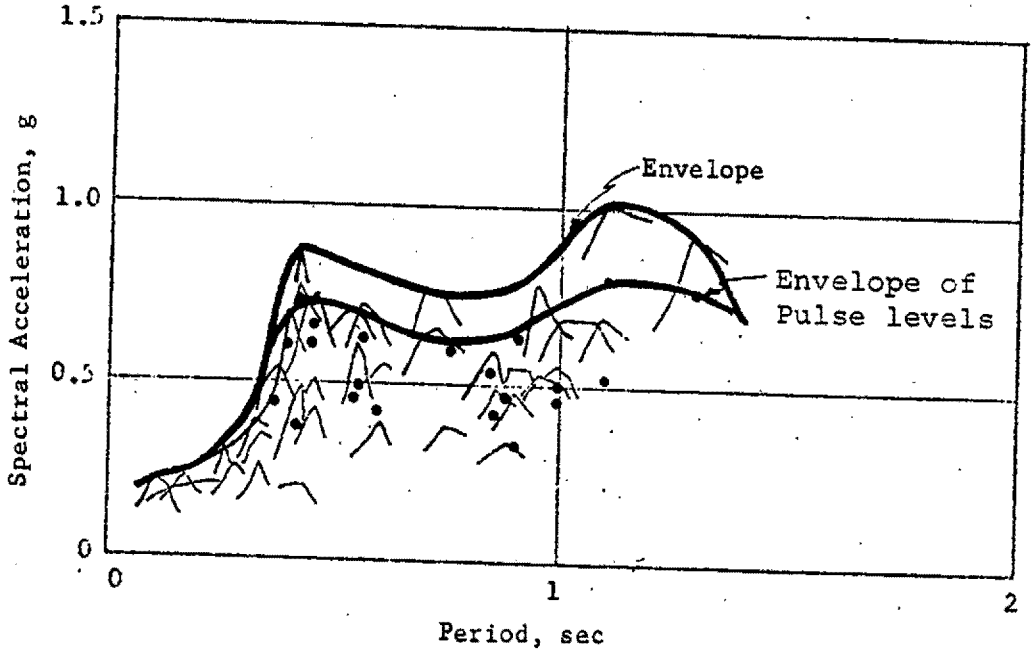


DATA:

1000 ft. Profile
Maximum Bedrock Excitation = 0.06 g
Predominant Period = 0.30 sec

Project: SCE Spectrum Job Number. R1568	RESPONSE SPECTRA, EARTHQUAKE D-20	Fig. 36

Amended: April 2009 TL: E048000



Project: SCE Spectrum

Job Number: B156S

SPECTRAL PEAKS, D EARTHQUAKES

Fig. 37

Amended: April 2009 TL: E048000

Section 2.5.B.3.5

CRITERIA FOR DEVELOPMENT OF SONGS UNITS 2 AND 3 TIME HISTORY

Report Dated 09 May 75

9 May 1975
B 606 I

Southern California Edison
P. O. Box 800
2244 Walnut Grove Avenue
Rosemead, California 91770

Attention: Mr. David H. Johns

SUBJECT : CRITERIA FOR DEVELOPMENT OF SONGS UNITS 2 and 3 DBE TIME HISTORY

Gentlemen:

As requested by Mr. D. H. Johns on 7 May 1975, this letter presents background information pertaining to criteria used for development of the SONGS 2 and 3 DBE (.67g) time history.

At the time the work was done (August and September 1972), meetings between SCE, Bechtel, and Woodward-McNeill personnel were held to discuss the form of the DBE, but no fixed guidelines or criteria were generated for the development of the subject time history. Our initial task was to develop an 80-second time history that would have a response spectrum which at all points would be above the enveloped DBE spectrum for 2% damping. After considerable work with the Tsai spectrum modification computer program, it was found that to have "all points" above the enveloped spectrum would cause many period-ranges of the spectrum to have unrealistically high peaks, which Bechtel personnel indicated could seriously affect design in an unnecessarily conservative way. As a result, we developed the time history with a few points below the enveloped spectrum, without having high peaks.

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At the time the work was done, no AEC guidelines for time-history response spectra were available, and the number and frequency of oscillators to use for spectra calculation were not specified. Therefore, we selected 104 oscillators to use for spectrum alteration. Those oscillators had the period intervals given below:

Period Range (sec.)	Oscillator Interval (sec.)
0.01 to 0.20	.01
0.20 to 1.80	.02
1.80 to 2.0	.05

If you have any questions, or require further information, please contact this office at your earliest convenience.

Very truly yours,

WOODWARD-CLYDE CONSULTANTS

By John A. Barneich
John A. Barneich

JAB:cab

Amended: April 2009 TL: E048000

Section 2.5.B.3.6

SEVERITY EVALUATION STUDIES

Report Dated 1 Jul 76

Amended: April 2009 TL: E048000

SEVERITY EVALUATION STUDIES FOR THE SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 AND 3 DBE ACCELERATION-TIME HISTORY SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 AND 3 SAN ONOFRE, CALIFORNIA

For

Southern California Edison Company
P. O. Box 800
Rosemead, California 91770

WOODWARD-CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

2.5B-125/2.5B-126

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WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS

4000 West Chapman Avenue
Orange
California 92668
Phone (714) 634-4440

2140 West Olympic Boulevard
Los Angeles
California 90006
Phone (213) 581-7164

1 July 1976
Project No. B720C

Southern California Edison
P. O. Box 800
Rosemead, California 91770

Attention: Mr. David H. Johns

SUBJECT : SEVERITY EVALUATION STUDIES
FOR THE SONGS UNITS 2 AND 3
DBE ACCELERATION-TIME HISTORY
SAN ONOFRE NUCLEAR GENERATING STATION
SAN ONOFRE, CALIFORNIA

Gentlemen:

In accordance with the provisions of your Purchase Order No. U0415903 we have completed the proposed tasks for updating the strength evaluation studies for the DBE acceleration-time history for the subject site. The attached report presents the results of this work.

In brief, it has been shown that, utilizing several measures of severity, the DBE acceleration-time history is significantly more severe than the recorded earthquake acceleration-time histories which (1) have been scaled up to 0.75g, or (2) have been scaled to 0.67g with a few peaks of higher accelerations up to 0.75g superimposed.

The project and staff personnel who performed primary tasks include Messrs. A. Worswick and J. Hou of this office and Dr. R. L. McNeill, the Project Consultant.

We trust that the attached report meets the needs of the project at present. If you have any questions, please contact this office at your convenience.

Very truly yours,

WOODWARD-CLYDE CONSULTANTS

By John A. Barneich
John A. Barneich

By Jmathur
Jagdish N. Mathur

JAB:JNM:ls
Attachments

2.5B-131/2.5B-132

SEVERITY EVALUATION STUDIES
FOR THE SONGS UNITS 2 AND 3
DBE ACCELERATION-TIME HISTORY
SAN ONOFRE NUCLEAR GENERATING STATION
SAN ONOFRE, CALIFORNIA

1.0 INTRODUCTION

1.1 Site Description

The detailed description of the geologic and seismic setting of the San Onofre Nuclear Generating Station (SONGS) site has been presented in Sections 2.9 and 2.10 of the PSAR. Of particular relevance to this report are the facts that the site is located on recent (Quaternary) terrace deposits underlain by San Mateo Formation (Pliocene) to a great depth. The San Mateo Formation consists of an uncemented, very dense deposit of medium to coarse sand, which in turn is underlain by bedrock of the Capistrano Formation. Seismically, the site is located at about 5 miles from a postulated zone of deformation. This zone is postulated (1) to extend from the Santa Monica Mountains to Baja California, (2) to be active, and (3) to be a potential source of large seismic events for the site.

1.2 Development of the Design Spectrum

Based on detailed considerations of the seismicity of Southern California, and of the SONGS site in particular, a site-response spectrum was developed for an event with a peak ground acceleration of 0.50g (Woodward-McNeill report of 5 Apr 72, Ref. 1). Subsequently, that peak ground acceleration was increased, conservatively, to 0.67g. Details of the development of the site-specific response spectrum with 0.67g as peak ground acceleration were presented in the Woodward-McNeill & Associates report of 21 Jun 72 (Ref. 2). For the final development of this spectrum, the maximum spectral amplification factor was conservatively increased from 3.2 to 3.5 and a turning point was altered from 0.05 sec to 0.033 sec. The present

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design spectrum, for 2% damping, is shown in Fig. 1.

1.3 Development of DBE Acceleration-Time History

Details of the procedures to develop an acceleration-time history such that its response spectrum envelopes the design response spectrum, have been described in the Woodward-McNeill & Associates report of 2 Oct 72 (Ref. 3). The design response spectrum was based on an envelope of the response of a representative site soil profile to a number of earthquake acceleration-time histories input at the base of the profile. Thus, the design response spectrum includes the influences of local soil conditions. In order to force a maximum acceleration to be 0.67g at the surface, accelerations at depth had to be assumed to be large; on the order of a few g's. The acceleration-time history so developed has a duration of 80 sec, reflecting conservatively a hypothetical fault length of about 150 miles. Figure 2 presents the acceleration-time history.

1.4 0.75g Spikes in the DBE Acceleration-Time History

A review of the design response spectrum, developed as described in the previous section, was made by the AEC through its consultants (NOAA, Ref. 4). It was required by NOAA that an acceleration of 0.67g be used to represent the ground motion from the maximum earthquake likely to affect the site, and that the developed site-specific design response spectrum be used for the design. In conformance to a 12 Jan 73 AEC staff response to an interrogatory, it was further required that the accelerogram contain a few peaks between 0.67g and 0.75g during the 0.67g interval. These few peaks may not be more than five in number, and not more than two need occur consecutively. It was further required that these peaks should have a frequency of 10 cps or less. In view of these requirements, AEC stated that the response spectrum associated with the synthetic acceleration-time history envelope the 0.67g design

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response spectrum and a 0.75g response spectrum in the frequency range of 10 cps and below that is derived from an appropriate 0.67g periodic function with a few 0.75g spikes of 10 cps and below superimposed. No actual earthquake representing the DBE spectral characteristics with a maximum acceleration of 0.67g or 0.75g has ever been recorded. The synthetic time history is extremely severe due to the manipulations required for a broad-band spectrum matching. However, in order to investigate this severity, several characteristics of the DBE time history were compared with 0.67g acceleration-time histories on which 0.75g spikes have been superimposed in accordance with AEC/NOAA requirements.

1.5 Organization of the Report

The objectives of this study are presented in Section 2, which is followed in Section 3 by a discussion of the earthquakes used in the DBE comparison studies. Section 4 describes the severity measures used in the comparison studies, and the results of the severity analyses are presented in Section 5. The conclusions of the study are presented in Section 6. The details of analyses performed are presented in Appendix A.

2.0 OBJECTIVE

The objective of this study is to investigate the severity of the synthetic DBE acceleration-time history, as compared to the real earthquake acceleration-time histories which have been scaled to high acceleration levels (0.75g). The term severity describes an earthquake's potential to cause damage, which is a complex phenomenon involving characteristics of the ground motions, the soils and the structures. For a given site and construction, a number of ground motion characteristics are important, including maximum acceleration, frequency, duration of vibrations, and distribution of strong-motion pulses. The relative importance of these factors depends on the nature

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of the structure and its design requirements. Thus, for example, where fatigue is the design criterion, the duration of the strong-motion would be the severity criterion of importance, while for a non-ductile, lightly damped structure, the strong-motion pulses would be most important. Thus, in order to examine the general severity of an earthquake motion for a wide variety of structures, several criteria must be examined. For these reasons, several measures of severity are presented in this report. In addition, spikes between 0.67 and 0.75g have been inserted in some of the more severe time histories, in accordance with the AEC/NOAA requirements for severity comparisons. These spikes were added such that: (1) the final velocity change due to these pulses was insignificant, and (2) abnormally high velocities or displacements did not develop during the time history.

3.0 COMPARISON EARTHQUAKES

A number of available strong-motion records commonly used in earthquake engineering analyses were used in this study. In their original forms, many of these records do not have acceleration levels comparable to that of the DBE. These records were therefore linearly scaled to a maximum acceleration of 0.75g for comparison with the DBE. To examine the effects of peaks between 0.67g and 0.75g, as per NOAA requirements, acceleration-time histories including those controlling the design spectrum were scaled to 0.67g, and spikes between 0.67g and 0.75g were added to them.

In view of the high acceleration levels recorded at the Pacoïma Dam during the San Fernando earthquake (1971), that record is of particular significance to this study. However, the following features associated with the record are noted:

1. The record was obtained on the up-thrown block of the San Fernando thrust fault system.

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2. The record was obtained on a topographic ridge. A number of studies (Refs. 5, 6 and 7) have shown that the accelerogram recorded at Pacoima contains significant amplifications of frequencies containing the maximum acceleration peaks, due, apparently, to the amplification response by the ridge.

Table 1 presents brief descriptions of the ways in which the acceleration-time histories used in this study were prepared for comparison with the DBE. Table 2 presents the list of earthquakes and preparations used for comparison with the DBE.

4.0 SEVERITY MEASURES USED FOR COMPARISON

This section presents, using Appendix A for details, the measures of severity used. The results and conclusions are presented in later sections.

4.1 Spectral-Amplification Ratio

Spectral-amplification ratio of an acceleration-time history at a given period is the ratio between the representative response value at that period to the response value at zero period (which is, by definition, equal to the maximum acceleration value in the acceleration-time history). Many important structures are designed using the response spectrum, and spectral-amplification ratio is often used as a comparative measure of the severities of ground motions. The procedure used to calculate spectral amplification ratio in this study is presented in Appendix A. The computed spectral values, and therefore the amplification ratios, are misleading for detailed point-by-point comparisons between spectra if their acceleration-time histories have been scaled by large factors, say perhaps scale-factors of greater than 1½ to 2. For this reason, in this study, point-by-point comparisons of spectral amplification factors were made only for acceleration time-histories which were modified by scale factors of 1½ or less. For scale

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factors greater than 1½ in this study, comparisons of average amplification ratios were made in the period range of 0.2 to 1 sec. The procedure used to obtain these average values is presented in Appendix A. (The smoothing was done only to facilitate comparison between spectra, because the unsmoothed spectra occupy a broad amplitude band and sharp spectral peaks and valleys often overlap each other. Figure 3 compares the smoothed and unsmoothed forms of the spectra of the DBE time history.) Values for other acceleration-time histories are summarized and discussed in Section 5.

4.2 Spectral Intensity

Spectral intensity, the area under the velocity response spectrum from 0.1 to 2.5 sec, is a commonly used average measure of the severity of the ground shaking (Ref. 8). For this study, velocity response spectra for 2% damping were used. For the DBE, a spectral intensity of 296 in-sec/sec was calculated. Values for other acceleration-time histories are summarized and discussed in Section 5.

4.3 Pulse Distribution

The number and distribution of pulses of high accelerations are good measures of severity of ground shaking. Thus, for two events with the same duration, the one with larger number of pulses at high acceleration levels would likely be the more severe. The procedure to obtain the pulse distribution for an acceleration-time history, along with the results of the computations are presented in Appendix A.

The objective of a pulse-distribution study is to examine how the magnitude and distribution of high-acceleration pulses of the DBE acceleration-time history compare to the magnitude and distribution of pulses recorded for actual earthquakes. For the DBE, there are 11 pulses above 90% of maximum acceleration, 18 pulses above 75% of maximum acceleration, 110 pulses

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above 50% of maximum acceleration, and 231 pulses above 33% of maximum acceleration. Results for other acceleration-time histories are graphically presented in Appendix A, and are summarized and discussed in Section 5.

4.4 Impulse Characteristics

The impulse, or the force imparted by each acceleration pulse, is another good measure of the severity of transient loads. For this study, impulse was measured as the area under the acceleration(force)-time history for each pulse recorded. The procedure used to compute the impulse values and results are presented in Appendix A. The DBE impulse-time history is presented for illustration in Fig. 4. A summary of peak impulse values for the various acceleration-time histories is presented and discussed in Section 5. For the time histories which are linearly scaled by large factors, single maximum peak values of impulse are often quite high, not well understood, and perhaps unreasonable. To remove the bias from this effect, average values for the five and ten highest impulse peaks are presented and discussed in Section 5.

4.5 Kinetic Energy Characteristics

The kinetic-energy characteristics of earthquake acceleration-time histories were measured in terms of the square of the particle velocity. The procedure used to calculate particle velocity is presented in Appendix A. The energy-time history for the DBE is presented in Fig. 5 for illustration. Energy camparisons were made in three ways: (1) single maximum peak values, (2) average cumulative energy at 10, 20 and 30 sec of elapsed time, and (3) total cumulative kinetic energy. These results are summarized and discussed in Section 5. The average cumulative energy was obtained by integrating the kinetic energy curve, and dividing by the elapsed time. A comparison of cumulative energy distribution with time for the various

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acceleration-time histories used in this study is also presented and discussed in Section 5.

4.6 Housner Severity Criterion

Housner (1975, Ref. 9) pointed out that conventional single parameters used to describe the severity of ground motions (such as spectral intensity, total energy, etc.) may not be always indicative of the true severity of that ground motion, as has been mentioned in Section 2 above. The damage caused by an earthquake is dependent not only on the total energy, but also on the rate at which that energy is delivered to the structure. Housner thus suggested a two-parameter severity measure: P' and T, where P' is the rate at which significant portion of the total energy (80 to 90% of the total) is delivered, and T is the duration for which this rate of energy delivery is maintained. Details of the procedures used for calculations are presented in Appendix A. The relationship between P' and time for the DBE is presented in Fig. 6. The results of these computations for other earthquake motions are expressed for comparison as plots of P' as a function of T, are described and discussed in Section 5.

5.0 RESULTS OF SEVERITY CALCULATIONS AND COMPARISONS WITH THE DBE

This section presents the summary of results of severity computations described in Section 4 and Appendix A. The results are compared with the corresponding evaluation for the DBE time history. For ease of a direct visual comparison, all the severity parameters for all earthquake motions considered have been plotted on separate sheets in Appendix A followed by a plot of the DBE on a single foldout sheet.

5.1 Amplification Factors

The spectra, at 2% damping, are given in Figs. 7 through 10 for the time histories which were not scaled up by more

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than about 1½. The spectra have been smoothed as previously explained (Appendix A) to facilitate clear visual comparisons. The design response spectrum and the DBE time-history response spectrum are also shown on each figure. The largest maximum amplification factor from the scaled real earthquakes is 3.39, while for the DBE time history it is 4.03. For the design response spectrum, it is 3.5.

The average amplification factors for all earthquakes studied are given in Table 3. The largest average amplification factor from the scaled real earthquakes is 2.97, while for the DBE time history it is 3.72. Comparison of smoothed spectra for the individual acceleration-time histories, which were conditioned as per AEC/NOAA requirements (Section 2), with DBE smooth spectrum are presented in Figs. 11 and 12.

These comparisons show that the design spectrum and the spectrum of the DBE time history have higher amplification ratios than would be deduced from scaled or conditioned real earthquakes.

5.2 Spectral Intensity

Table 4 presents the spectral intensity values for the various acceleration-time histories used in this study. The spectral intensity for the DBE is 296, while the maximum value for other acceleration-time histories is 291. Thus the DBE is more intense on average-energy basis than the other scaled acceleration-time histories, including those with added high acceleration peaks.

5.3 Pulse Distribution

Table 5 presents the number of pulses above acceleration ranges of 90, 75, 50 and 33% of the maximum acceleration. Pulse spectra are presented in Appendix A. To make this comparison complete, pulse-distribution characteristics were

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further studied with respect to the magnitude of the maximum acceleration and the magnitude of the event recorded with no scaling of acceleration-time history or superposition of 0.75g peaks. Figures 13 through 16 present plots of number of pulses which are greater than 90, 75, 50 or 33% of the maximum acceleration with the maximum recorded acceleration. These pulse distributions are also plotted with the magnitudes of the recorded events in Figs. 17 through 20. The data for the DBE are plotted as a line over a range of magnitudes. Reasonably conservative trends of relationships between the number of pulses above different acceleration levels and the magnitude of an event are indicated by enveloping lines. The reasonableness of these envelopes is indicated by the summary plots of Fig. 21 which shows a smooth family of curves representing relationships between magnitude and number of pulses above a given level of acceleration.

The summary of pulse distributions for various levels of acceleration presented in Table 5 shows that for the DBE there are 11 pulses above 90% maximum acceleration, 18 above 75%, 110 above 50%, and 231 above 33% maximum acceleration, while the maximum number of pulses above these acceleration levels for all other acceleration-time histories are 6, 11, 29 and 75. Thus the DBE is more severe in number of strong pulses than the other acceleration-time histories. The point is further illustrated by Fig. 21, which shows that the DBE has significantly more pulses above various acceleration levels than indicated by average trends for earthquakes of various magnitudes.

5.4 Impulse Characteristics

Values of single maximum peak-impulse values and values for average of 5 and 10 largest peak values are presented in Table 6. The impulse time histories are presented in Appendix A.

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From the summary of impulse values presented in Table 6, most of the single maximum impulse values are smaller than the value for the DBE. The table also shows that when small earthquakes are arbitrarily scaled to high accelerations, their scaled values of apparent maximum impulse can be quite high, and perhaps unrealistic. To lessen the bias of the single maxima, the impulse strength of earthquakes was taken as the average of the highest five and ten impulse values. These average values are also shown in Table 6, and show that the DBE has the highest impulse strength.

5.5 Kinetic Energy Characteristics

A summary of single maximum peak kinetic energy values and average kinetic energy at 10, 20 and 30 sec is presented in Table 7. A comparison of total cumulative energy for various acceleration-time histories with that for the DBE is presented in Fig. 22. Time histories of instantaneous value of kinetic energy for the various acceleration-time histories are presented in Appendix A.

Comparison of kinetic-energy values shown in Table 7 indicates that except for acceleration-time histories which have been scaled up by a large factor (e.g., Ferndale, 1938; Vernon, 1933, S08W) the single maximum value of kinetic energy for the DBE acceleration-time history is significantly larger than that for any of the other time histories. As pointed out earlier, these high peak values are perhaps unreasonable due to the required large, linear scaling. Measures of average energy at 10, 20 and 30 sec during the time histories show that the DBE maintained higher average energy for a longer time than other time histories. The severity comparison made on the basis of total energy, shown on Fig. 22, indicates the DBE is more severe than the scaled acceleration-time histories.

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5.6 Housner Severity Criterion

A comparison of the various acceleration-time histories with the DBE on the basis of Housner severity parameters is presented in Fig. 23. Distributions of the rates at which energies are delivered for the various acceleration-time histories are presented in Appendix A. Figure 24 shows that the data point for the DBE is located above the upper bound equal-total-energy line (for E_e=30) for the other acceleration-time histories by about 30%.

6.0 CONCLUSIONS

In this study the DBE acceleration-time history has been compared with a number of recorded earthquake acceleration-time histories which have been scaled to 0.75g, or which have been scaled to 0.67g and a few peaks of higher accelerations up to 0.75g superimposed on them. On the basis of the comparisons, utilizing several measures of severity, i.e., spectral amplification factors, spectral intensity values, pulse magnitudes and distributions, impulse values, kinetic-energy measures, and Housner's severity parameters, it is concluded that the DBE acceleration-time history is significantly more severe than the various other acceleration-time histories, including those appropriate time histories with 0.67g maximum acceleration on which a few peaks between 0.67 and 0.75g have been superimposed.

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TABLE 1

DESCRIPTION OF THE PREPARATION OF VARIOUS EARTHQUAKE RECORDS

Preparation Designation	Description
A	Acceleration-time histories were scaled to 0.75g. All severity comparisons were then made with the DBE.
B	Acceleration-time histories representing some of the high magnitude events (greater than M 6.5) with high maximum acceleration values (equal to or greater than 0.2g) were scaled to 0.67g, and peaks between 0.67g and 0.75g were added as recommended by the NOAA. The peaks were added in the 0.67g interval, and were so placed that abnormal velocities or displacements did not occur.
C	Record conditioned to remove the effects of topography. Procedure used was similar to the one suggested by Boore (1973).

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TABLE 2

SUMMARY OF PREPARATIONS OF VARIOUS ACCELERATION-TIME HISTORIES

Earthquake Description				Preparation A		Preparation B		Preparation C	
No.	Name	Magnitude	Original Maximum Acceleration		Scale Factor		Scale Factor		Scale Factor
1	1934 El Centro E-W	6.5	0.178	X	4.2				
2	1940 El Centro N-S	7.1	0.353	X	2.1				
3	1967 Eureka N79E	5.8	0.277	X	2.7				
4	1954 Ferndale N44E	6.6	0.160	X	4.7				
5	1954 Ferndale S46E	6.6	0.200	X	3.8	X	3.33		
6	1957 Golden Gate S80E	5.3	0.124	X	6.0				
7	1935 Helena E-W	6.0	0.161	X	4.7				
8	1961 Hollister N89W	5.6	0.188	X	4.0				
9	1972 Melendy Ranch	4.7	0.630	X	1.2				
10	1965 Olympia S	6.5	0.149	X	5.0				
11	1971 Pacoima Dam S16E	6.6	1.220	X	0.61			X	1.0
12	1949 Olympia S86E	7.1	0.31	X	2.41	X	2.10		
13	1966 Parkfield N65W	5.3	0.506	X	1.5				
14	1949 Seattle N88W	7.1	0.071	X	10.7				
15	1952 Taft N21E	7.7	0.178	X	4.2				
16	1933 Vernon N82W	6.3	0.155	X	4.8				
17	1933 Vernon S08W	6.3	0.134	X	5.6				
18	DBE	--	0.67						

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TABLE 3

AVERAGE SPECTRAL AMPLIFICATION RATIOS

No.†	Earthquake Name	Amplification Ratio††
1A	1934 El Centro E-W	2.76
2A	1940 El Centro N-S	2.66
3A	1967 Eureka N79E	2.63
4A	1954 Ferndale N44E	2.74
5A	1954 Ferndale S46E	2.08
5B	1954 Ferndale S46E with spikes	*
6A	1957 Golden Gate S80E	1.09
7A	1935 Helena E-W	2.02
8A	1961 Hollister N89W	2.05
9A	1972 Melendy Ranch	*
10A	1965 Olympia S	2.59
11A	1971 Pacoima Dam S16E	*
11C	1971 Pacoima Dam S16E; Preparation C	*
12A	1949 Olympia S86E	1.50
12B	1949 Olympia S86E with spikes	*
13A	1966 Parkfield N65W	*
14A	1949 Seattle N88W	2.39
15A	1952 Taft N21E	2.46
16A	1933 Vernon N82W	1.52
17A	1933 Vernon S08W	2.26
18	DBE	3.72 (3.32**)

† For Preparations A, B and C, see Table 2
†† Period range considered is 0.2 to 1.0 sec

* Point by point comparisons shown in Figs. 7 through 12
** Corresponds to zero period acceleration of 3/4g.

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TABLE 4

SPECTRAL INTENSITY

No.*	Earthquake Name	Spectral Intensity (0.1 - 2.5 sec) $\frac{\text{in-sec}}{\text{sec}}$
1A	1934 El Centro E-W	104
2A	1940 El Centro N-S	117
3A	1967 Eureka N79E	113
4A	1954 Ferndale N44E	291
5A	1954 Ferndale S46E	190
5B	1954 Ferndale S46E with spikes	40
6A	1957 Golden Gate S80E	31
7A	1935 Helena E-W	98
8A	1961 Hollister N89W	92
9A	1972 Melendy Ranch	14
10A	1965 Olympia S	85
11A	1971 Pacoima Dam S16E	98
11C	1971 Pacoima Dam S16E; Preparation C	30
12A	1949 Olympia S86E	21
12B	1949 Olympia S86E with spikes	26
13A	1966 Parkfield N65W	156
14A	1949 Seattle N88W	154
15A	1952 Taft N21E	115
16A	1933 Vernon N82W	158
17A	1933 Vernon S08W	231
18	DBE	296

* For Preparations A, B and C, see Table 2

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TABLE 5

SUMMARY OF DISTRIBUTION OF PULSES

No.*	Earthquake Name	No. of pulses above 90% of Max. Accel.	No. of pulses above 75% of Max. Accel.	No. of pulses above 50% of Max. Accel.	No. of pulses above 33% of Max. Accel.
1A	1934 El Centro E-W	4	5	24	57
2A	1940 El Centro N-S	1	5	23	42
3A	1967 Eureka N79E	2	6	9	19
4A	1954 Ferndale N44E	3	8	12	25
5A	1954 Ferndale S46E	1	3	5	8
5B	1954 Ferndale S46E with spikes	4	5	8	12
6A	1957 Golden Gate S80E	1	5	10	12
7A	1935 Helena E-W	2	3	10	12
8A	1961 Hollister N89W	1	1	5	10
9A	1972 Melendy Ranch	1	2	3	3
10A	1965 Olympia S	5	11	29	75
11A	1971 Pacoima Dam S16E	1	2	9	27
11C	1971 Pacoima Dam S16E; Preparation C	1	4	10	25
12A	1949 Olympia S86E	1	1	12	60
12B	1949 Olympia S86E with spikes	5	6	11	47
13A	1966 Parkfield N65W	1	3	4	7
14A	1949 Seattle N88W	1	3	20	40
15A	1952 Taft N21E	2	4	28	54
16A	1933 Vernon N82W	1	1	3	12
17A	1933 Vernon S08W	2	2	8	23
18	DBE	11	18	110	231

* For Preparations A, B and C, see Table 2

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TABLE 6

SUMMARY OF IMPULSE VALUES

No.*	Earthquake Name	Maximum Impulse Value (g-sec)	Average Impulse: 5 Top Impulse Peaks (g-sec)	Average Impulse: 10 Top Impulse Peaks (g-sec)
1A	1934 El Centro E-W	0.13	0.12	0.10
2A	1940 El Centro N-S	0.19	0.13	0.11
3A	1967 Eureka N79E	0.16	0.11	0.08
4A	1954 Ferndale N44E	0.23	0.18	0.15
5A	1954 Ferndale S46E	0.15	0.12	0.09
5B	1954 Ferndale S46E with spikes	0.26	0.18	0.14
6A	1957 Golden Gate S80E	0.08	0.06	0.04
7A	1935 Helena E-W	0.14	0.08	0.06
8A	1961 Hollister N89W	0.17	0.11	0.08
9A	1972 Melendy Ranch	0.04	0.01	0.01
10A	1965 Olympia S	0.13	0.09	0.07
11A	1971 Pacoima Dam S16E	0.08	0.06	0.05
11C	1971 Pacoima Dam S16E; Preparation C	0.08	0.08	0.06
12A	1949 Olympia S86E	0.19	0.11	0.08
12B	1949 Olympia S86E with spikes	0.32	0.22	0.14
13A	1966 Parkfield N65W	0.22	0.14	0.08
14A	1949 Seattle N88W	0.24	0.16	0.13
15A	1952 Taft N21E	0.16	0.12	0.10
16A	1933 Vernon N82W	0.17	0.10	0.08
17A	1933 Vernon S08W	0.27	0.13	0.10
18	DBE	0.21	0.17	0.15

* For Preparations A, B and C, see Table 2.

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TABLE 7

SUMMARY OF THE RESULTS OF KINETIC ENERGY ANALYSES

No.†	Earthquake Name	Measure of Average Energy at Elapsed Time			Measure at Single Maximum Value (g-ft)
		10 Sec	20 Sec	30 Sec	
1A	1934 El Centro E-W	0.28	0.27	0.52	3.0
2A	1940 El Centro N-S	0.45	0.64	0.54	8.6
3A	1967 Eureka N79E	0.61	0.33	0.24	7.1
4A	1954 Ferndale N44E	2.95	2.04	1.5	28.4
5A	1954 Ferndale S46E	0.70	0.55	0.46	9.5
5B	1954 Ferndale S46E with spikes	2.24	1.63	1.20	27.5
6A	1957 Golden Gate S80E	0.03	0.01	0.01	0.8
7A	1935 Helena E-W	0.23	0.12	0.2	5.3
8A	1961 Hollister N89W	0.34	0.17	0.17	5.7
9A	1972 Melendy Ranch	0.02	0.08	0.09*	0.9
10A	1965 Olympia S	0.16	0.14	0.15	0.2
11A	1971 Pacoima Dam S16E	0.39	0.20	0.13	5.0
11C	1971 Pacoima Dam S16E; Preparation C	0.23	0.13	0.09	2.1
12A	1949 Olympia S86E	0.32	0.60	0.66	2.6
12B	1949 Olympia S86E with spikes	0.26	0.80	0.57	14.6
13A	1966 Parkfield N65W	0.78	0.41	0.27	14.1
14A	1949 Seattle N88W	0.07	0.38	0.48	9.3
15A	1952 Taft N21E	0.61	0.62	0.44**	6.0
16A	1933 Vernon N82W	2.72	1.74	1.37	12.8
17A	1933 Vernon S08W	4.6	2.98	2.07	28.5
18	DBE	1.97	2.21	2.45	22.8

† For Preparations A, B and C, see Table 2.

* Melendy Ranch N29W '72, measure of average energy base on elapsed time 24.6 sec.
** Taft N21E '52, measure of average energy based on elapsed time 29 sec.

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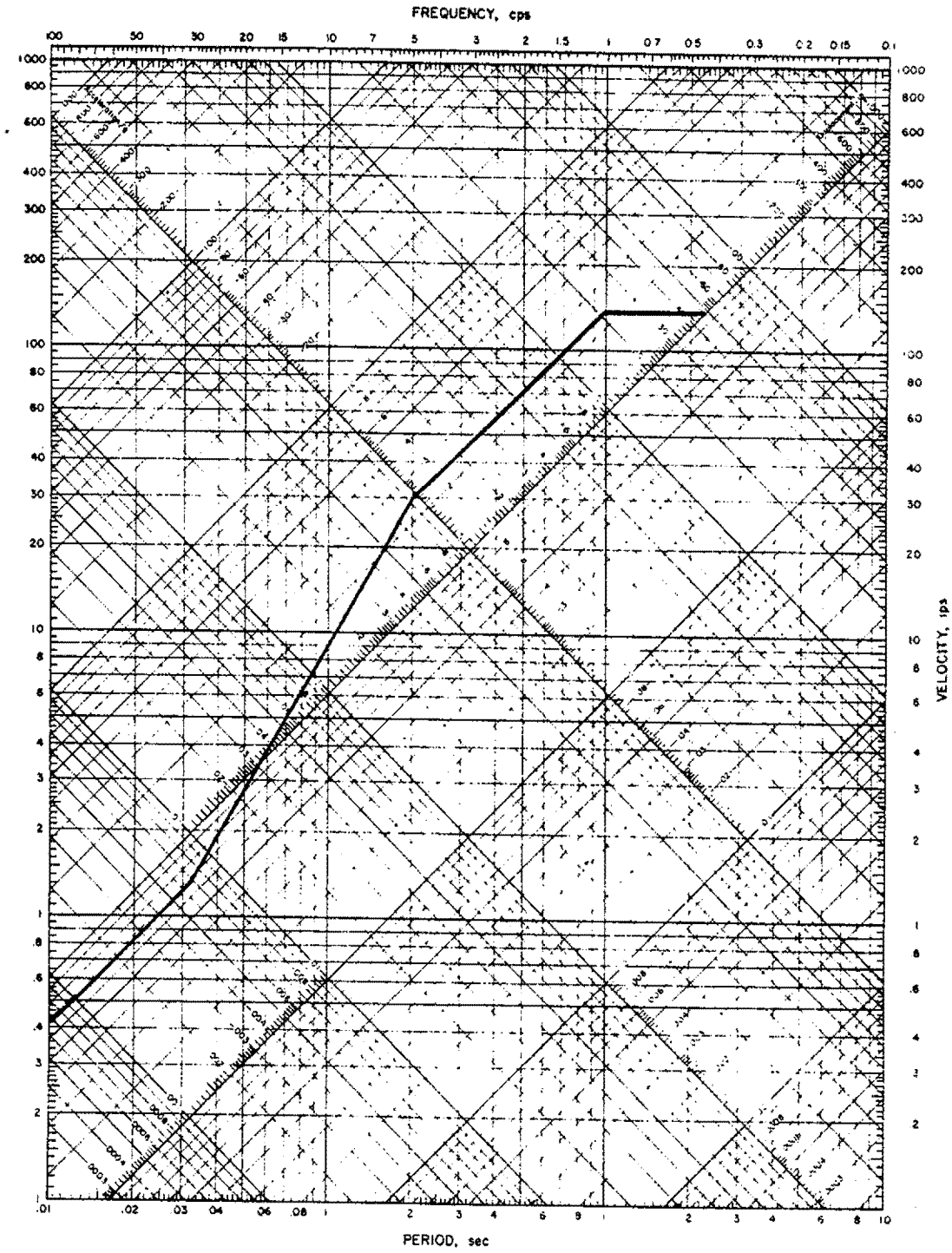
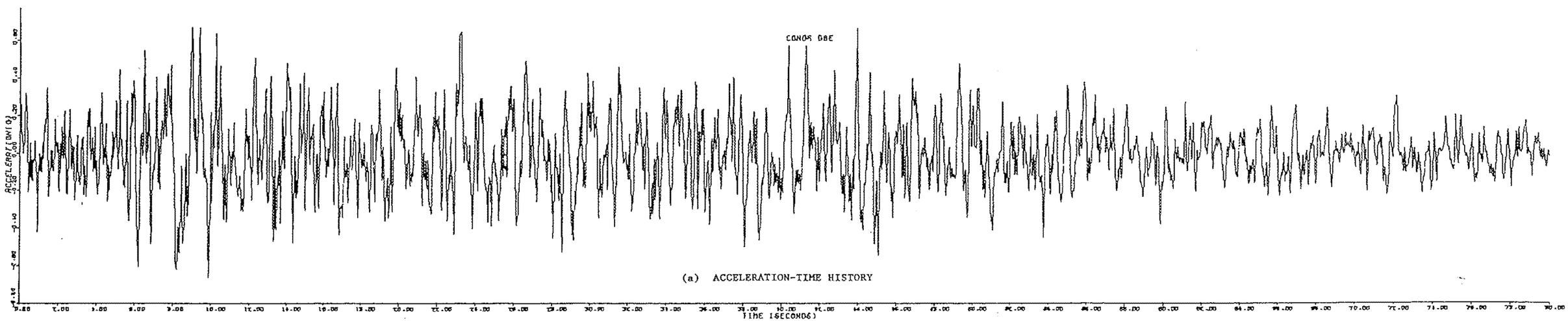


(Damping = 2%)

Project: SONGS 2 & 3 **Job Number:** B720C	DESIGN RESPONSE SPECTRUM	Fig. 1

Amended: April 2009 TL: E048000



(a) ACCELERATION-TIME HISTORY

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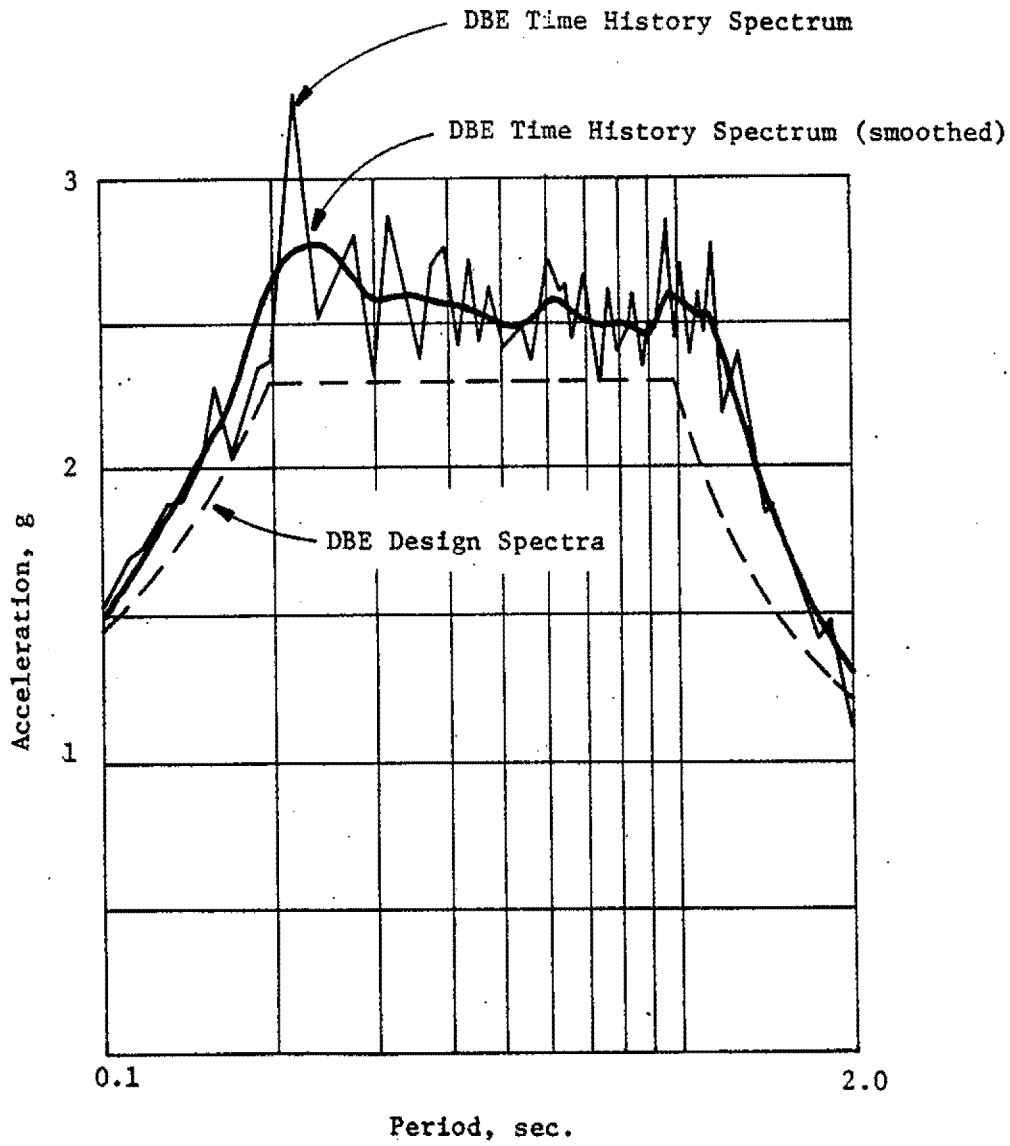
DBE ACCELERATION-TIME HISTORY

Project: SONGS 2 & 3	Fig.
Project No. B720C	2

Amended: April 2009 TL: E048000



(Damping = 2%)

Project: SONGS 2 & 3 Job Number: B720C	SMOOTHED RESPONSE SPECTRUM FOR DBE	Fig. 3

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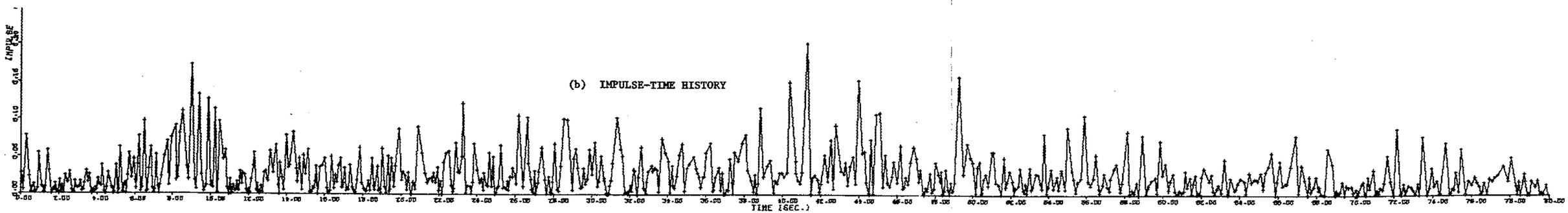

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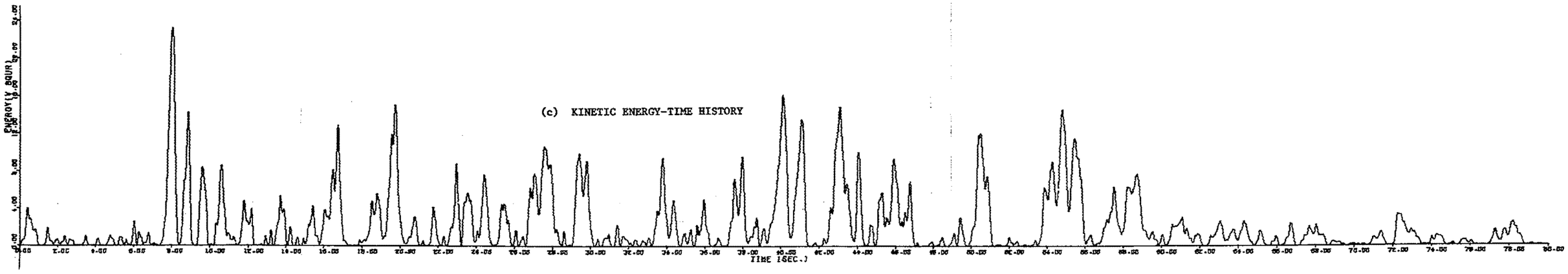
DBE IMPULSE-TIME HISTORY

Project: SONGS 2 & 3	Fig.
Project No: B720C	4

2.5B-159/2.5B-160



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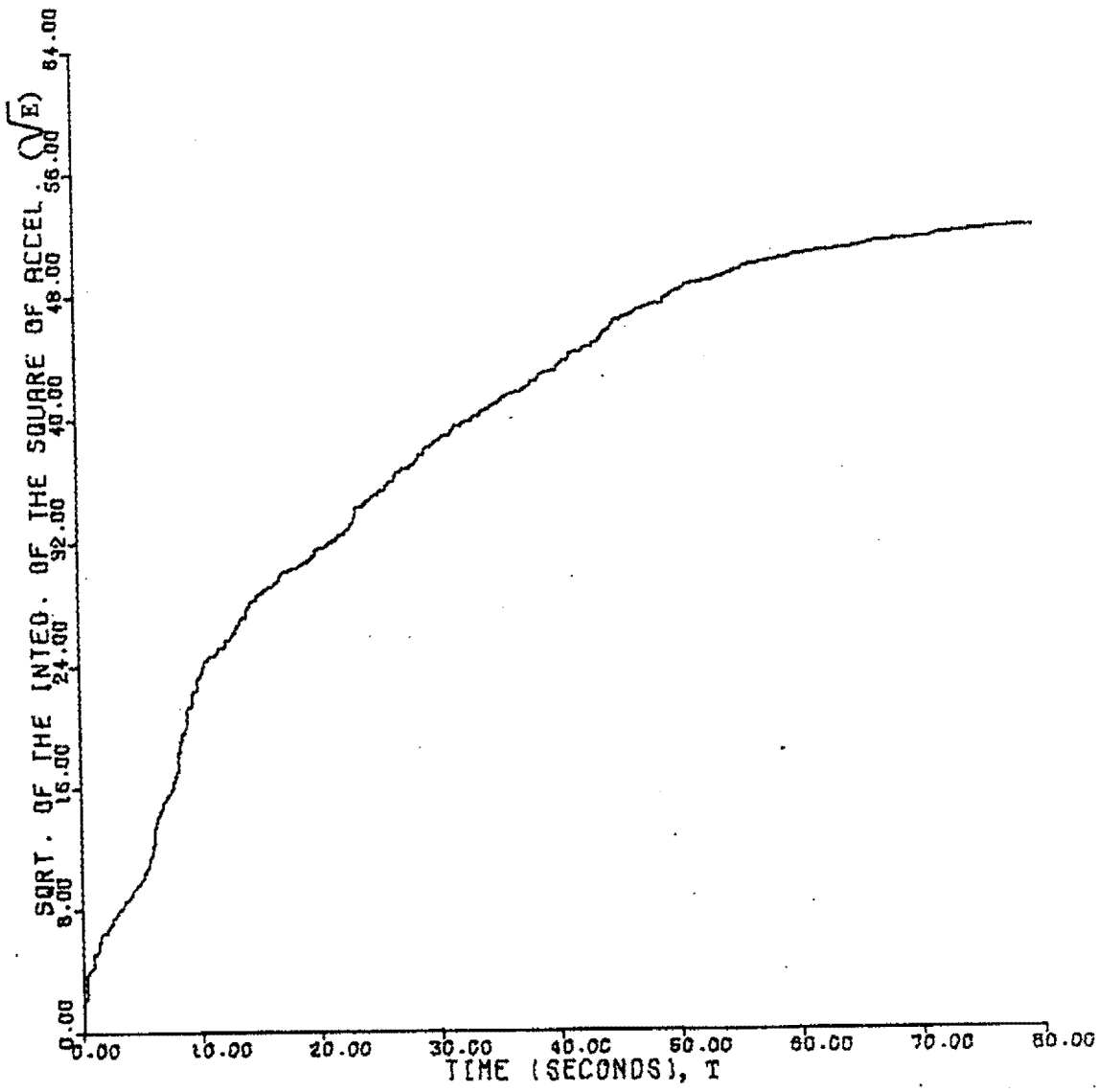
DBE KINETIC ENERGY TIME HISTORY

Project:	SONGS 2 & 3	Fig.
Project No:	B720C	5

2.5B-161/2.5B-162



Project: SONGS 2 & 3 Job Number: B720C	$\sqrt{E}$ VS. TIME FOR THE DBE	Fig. 6

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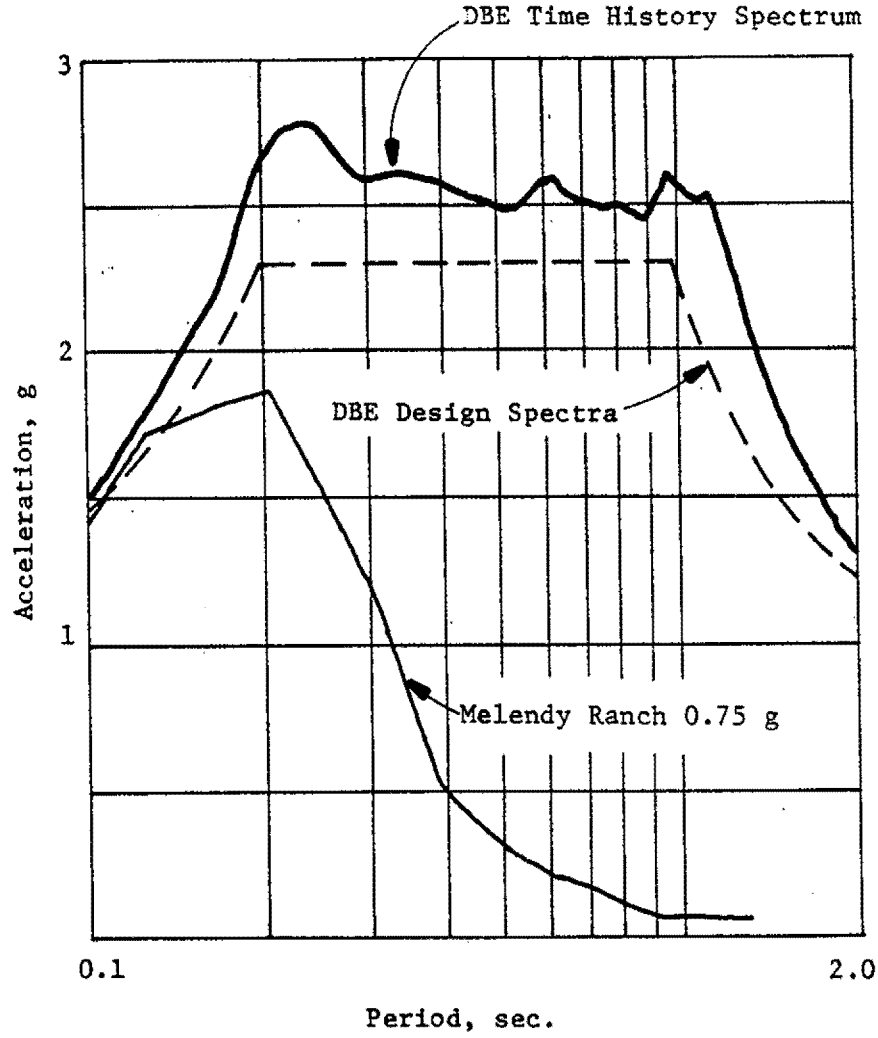

Note: Spectrum smoothed for the purposes of comparison only.

Project: SONGS 2 & 3 Job Number: B720C	SMOOTHED RESPONSE SPECTRUM FOR EARTHQUAKE 9-A MELENDY RANCH, 1972	Fig. 7

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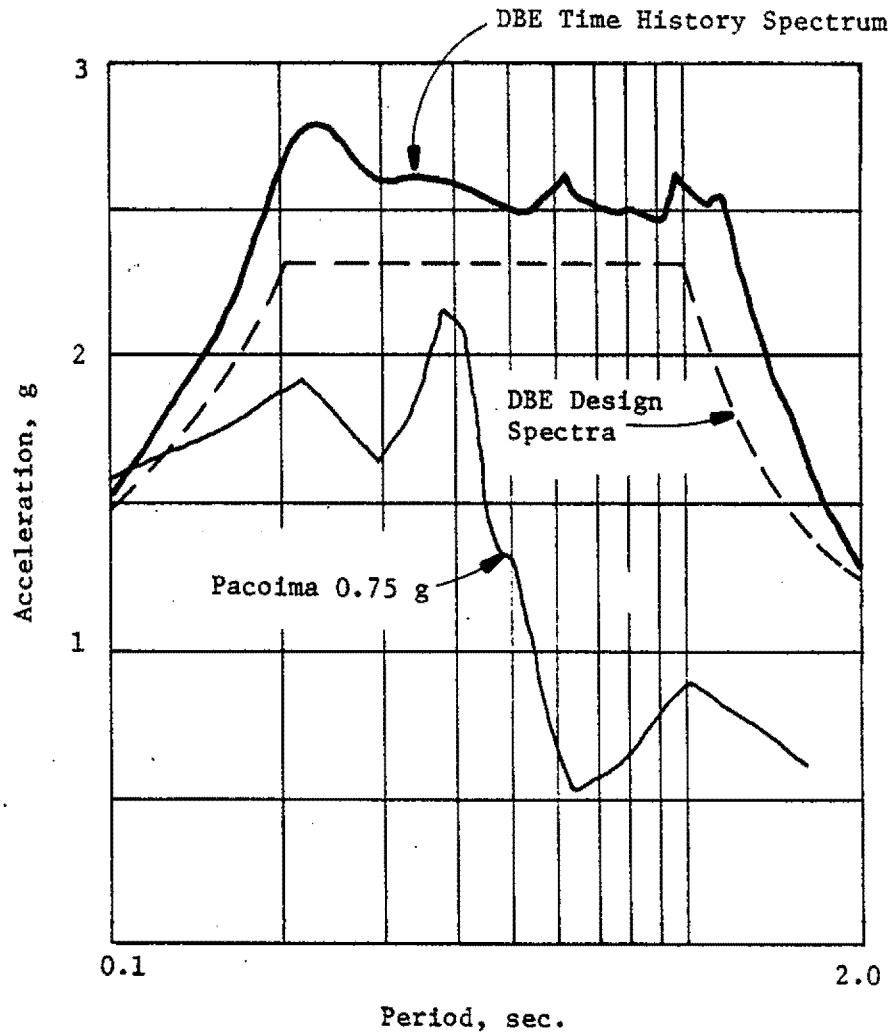

Note: Spectrum smoothed for the purposes of comparison only.

Project: SONGS 2 & 3 Job Number: B720C	SMOOTHED RESPONSE SPECTRUM FOR EARTHQUAKE 11-A, PACOIMA, 1971	Fig. 8

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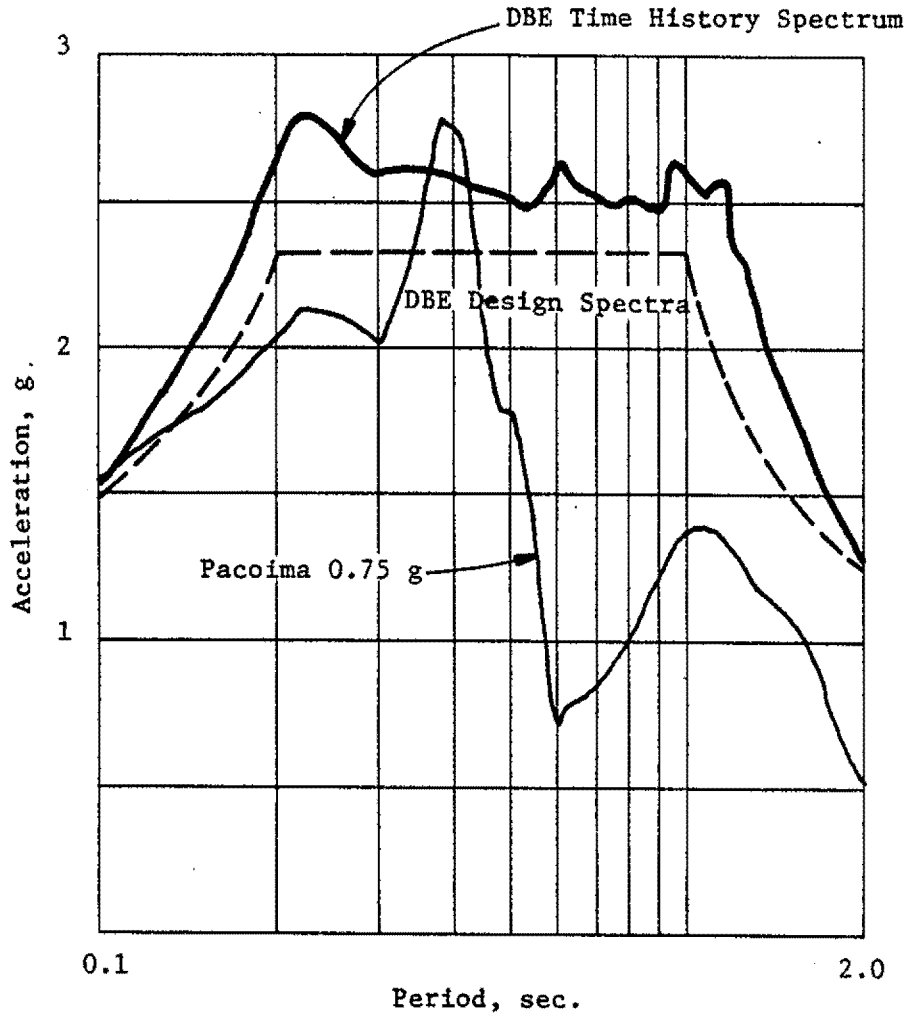
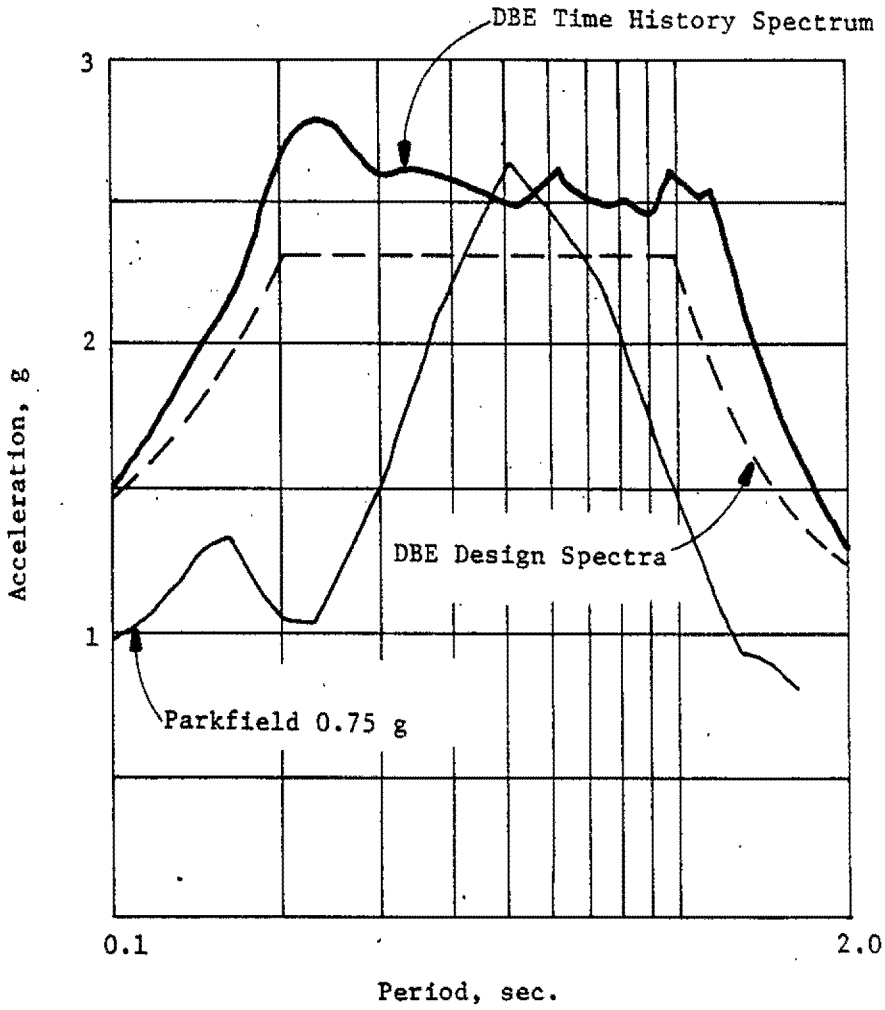


Note: Spectrum smoothed for the purposes of comparison only.

Project: SONGS 2 & 3 Project No: B720C	SMOOTHED RESPONSE SPECTRUM FOR EARTHQUAKE 11-C, PACOIMA, 1971	Fig. 9



Note: Spectrum smoothed for the purposes of comparison only.

Project: SONGS 2 & 3 Job Number: B720C	SMOOTHED RESPONSE SPECTRUM FOR EARTHQUAKE 13-A, PARKFIELD, 1966	Fig. 10

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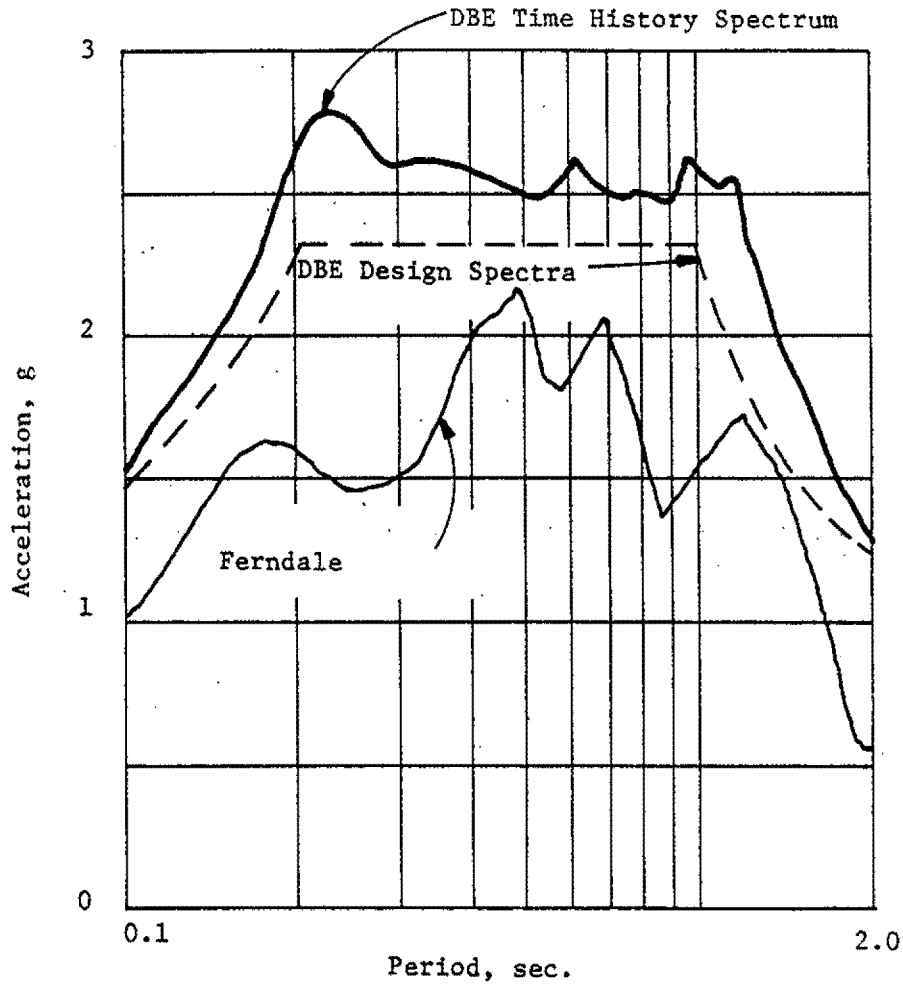

Note: Spectrum smoothed for the purposes of comparison only.

Project: SONGS 2 & 3 Job Number: B720C	SMOOTHED RESPONSE SPECTRUM FOR EARTHQUAKE 5-B, FERNDALE, 54	Fig. 11

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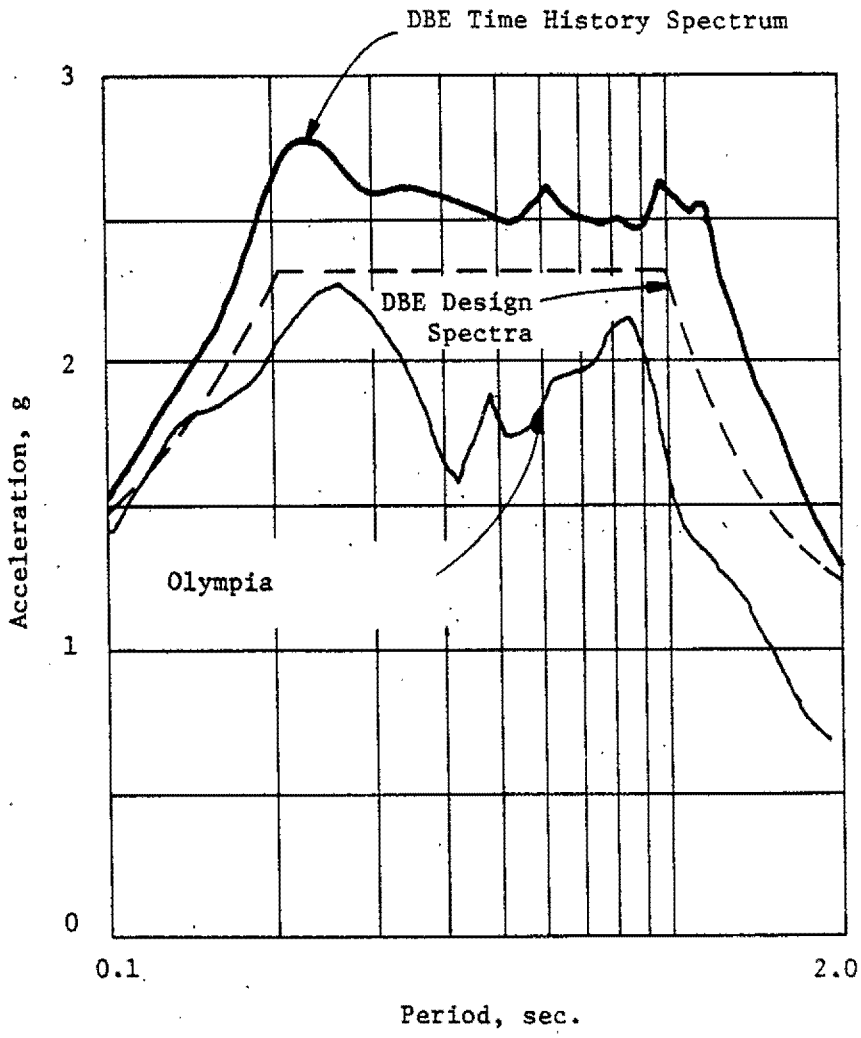

Note: Spectrum smoothed for the purposes of comparison only.

Project: SONGS 2 & 3 Job Number: B720C	SMOOTHED RESPONSE SPECTRUM FOR EARTHQUAKE 12-B, OLYMPIA, 49	Fig. 12

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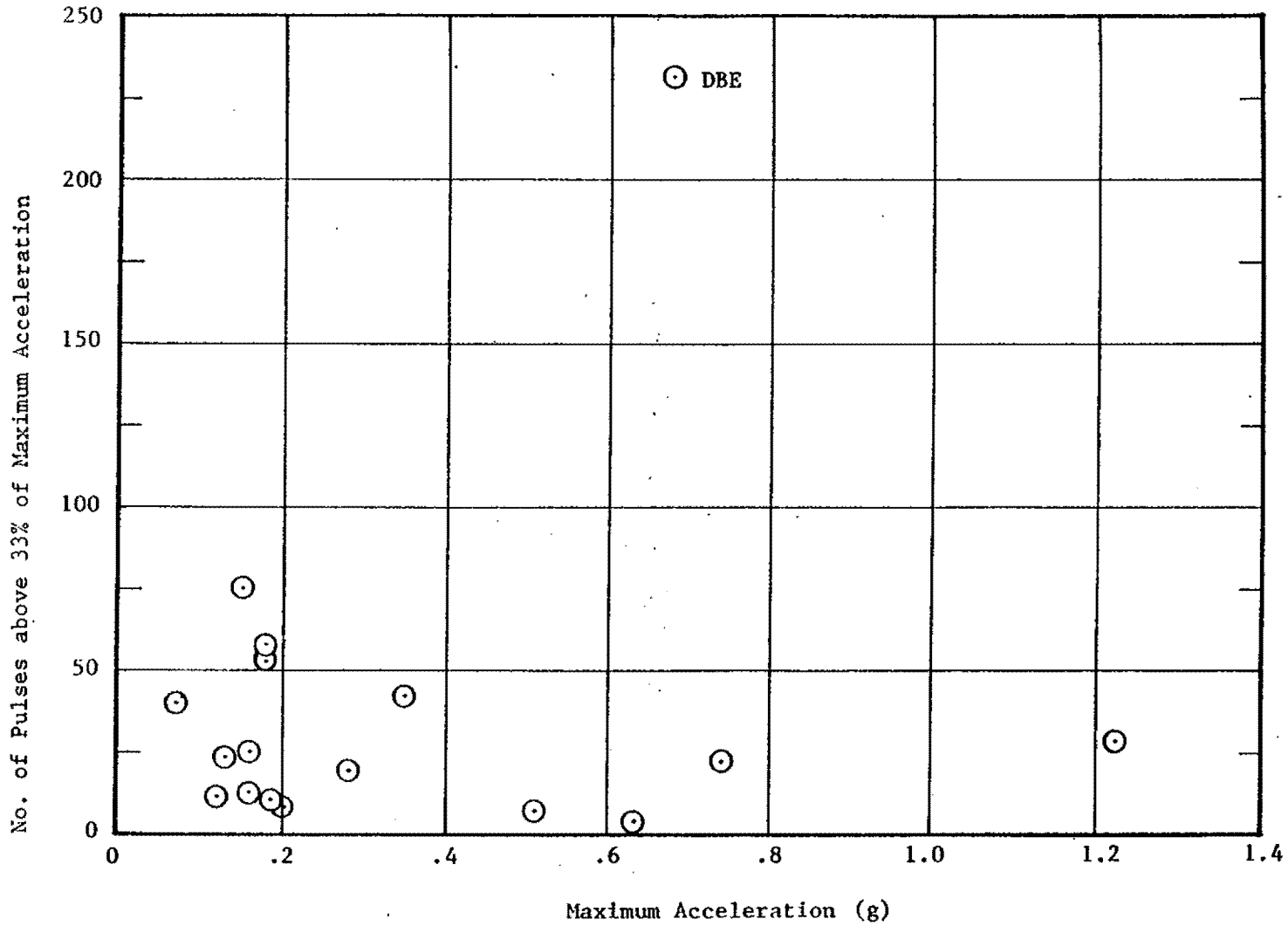

Project: SONGS 2 & 3 Project No. B720C	NUMBER OF PULSES vs. MAXIMUM ACCELERATION	Fig. 13

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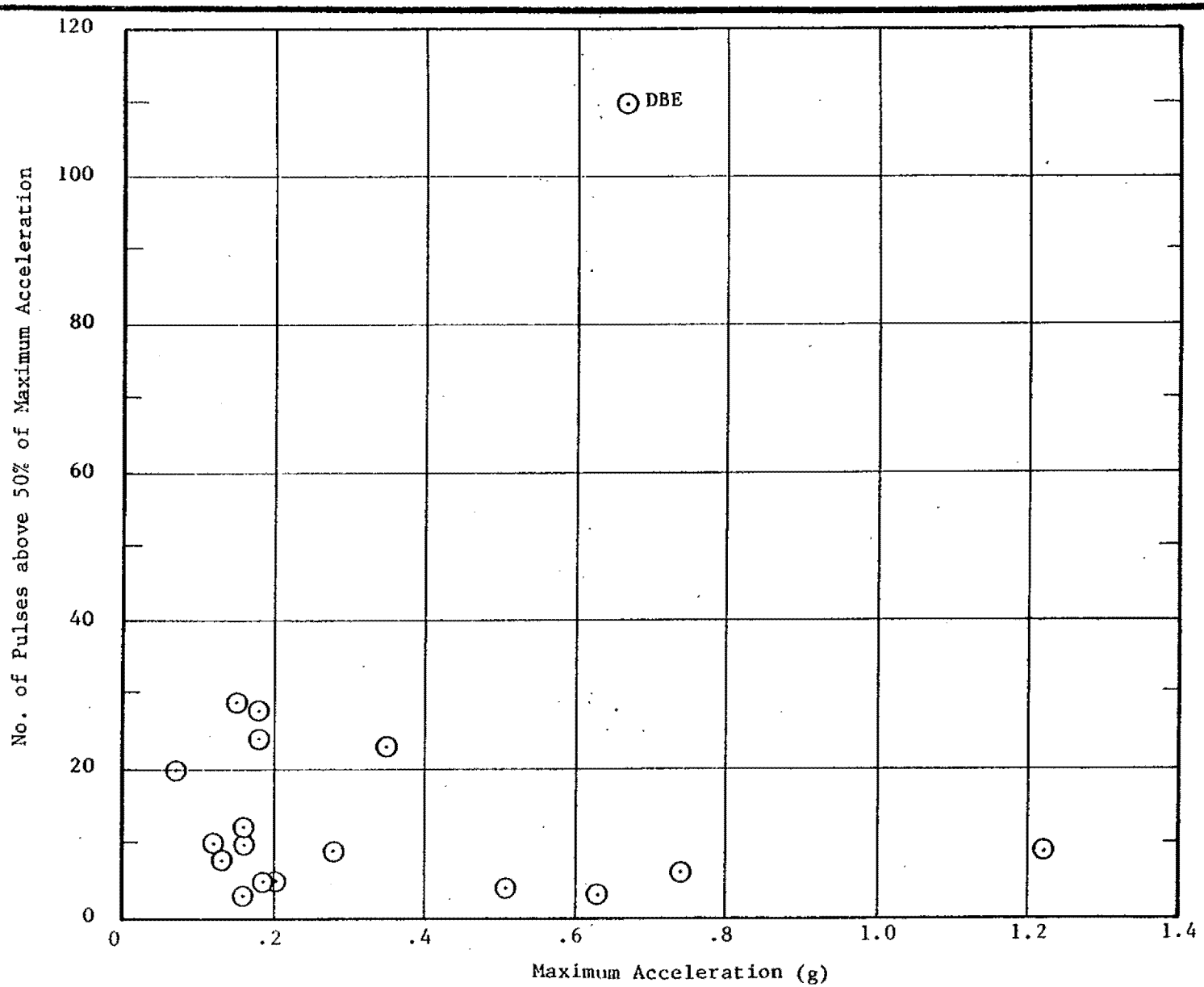

Project: SONGS 2 & 3 Project No. B720C	NUMBER OF PULSES vs. MAXIMUM ACCELERATION	Fig. 14

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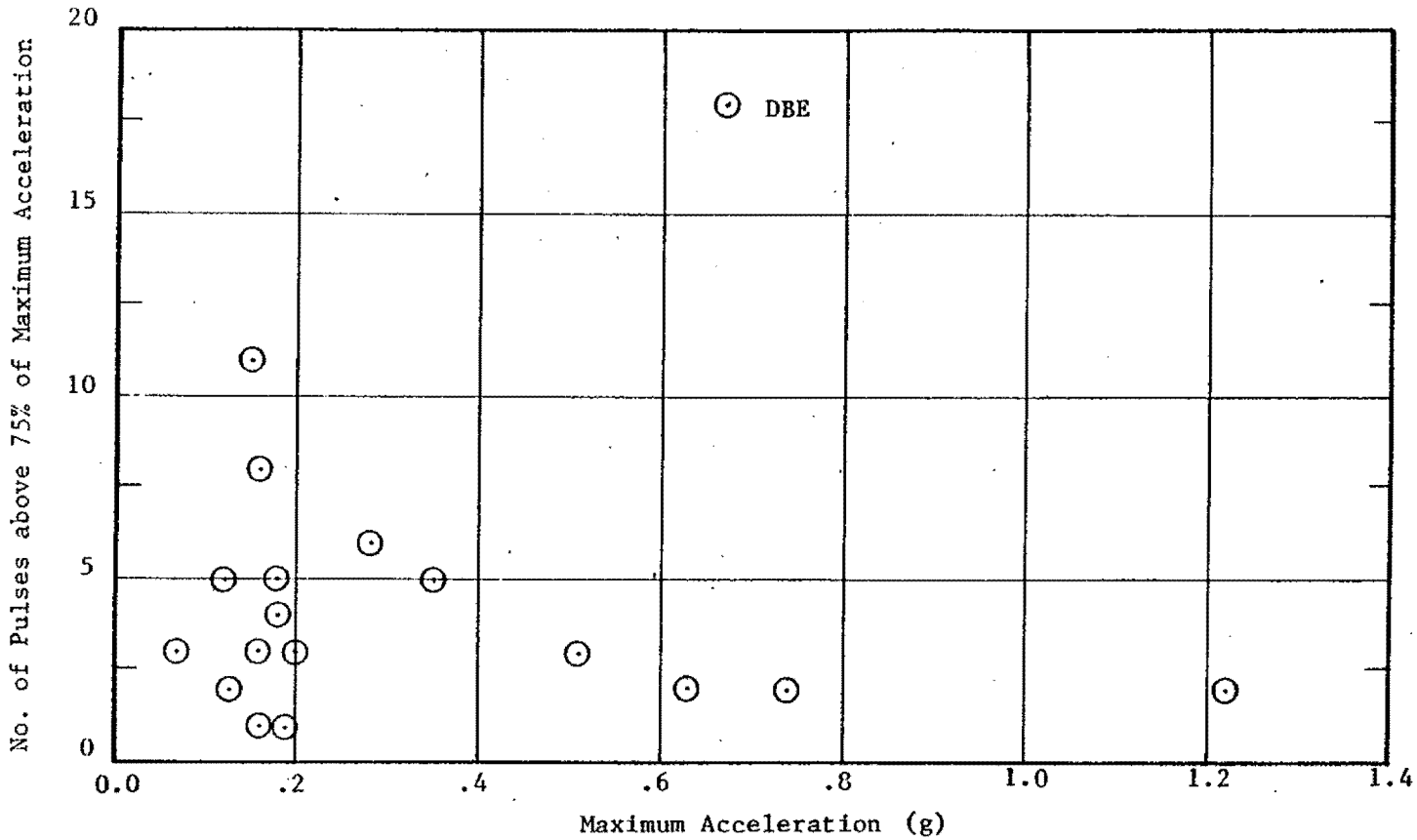

Project: SONGS 2 & 3 Project No. B720C	NUMBER OF PULSES vs. MAXIMUM ACCELERATION	Fig. 15

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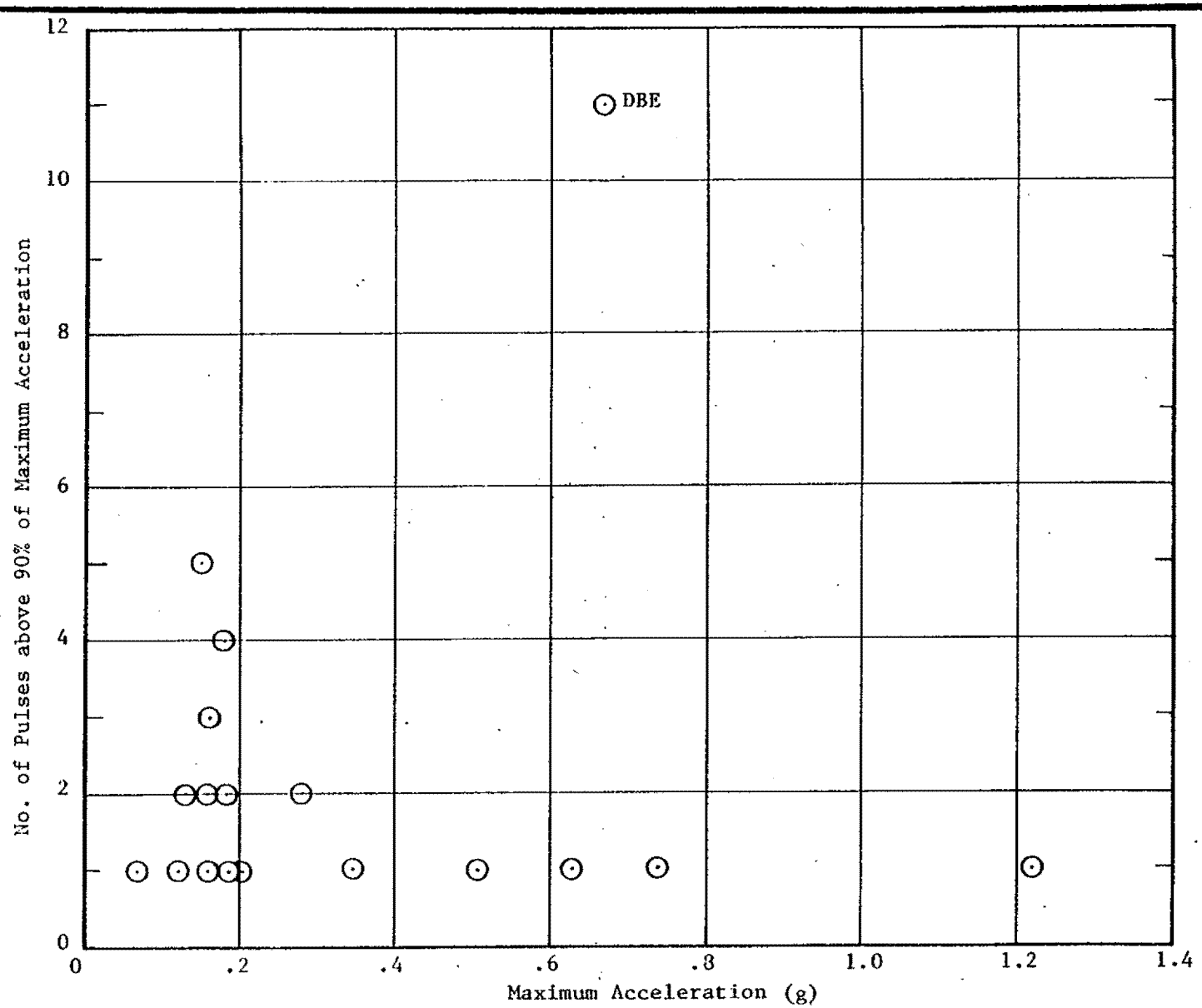

Project: SONGS 2 & 3

Project No. B720C

NUMBER OF PULSES vs. MAXIMUM ACCELERATION

Fig. 16

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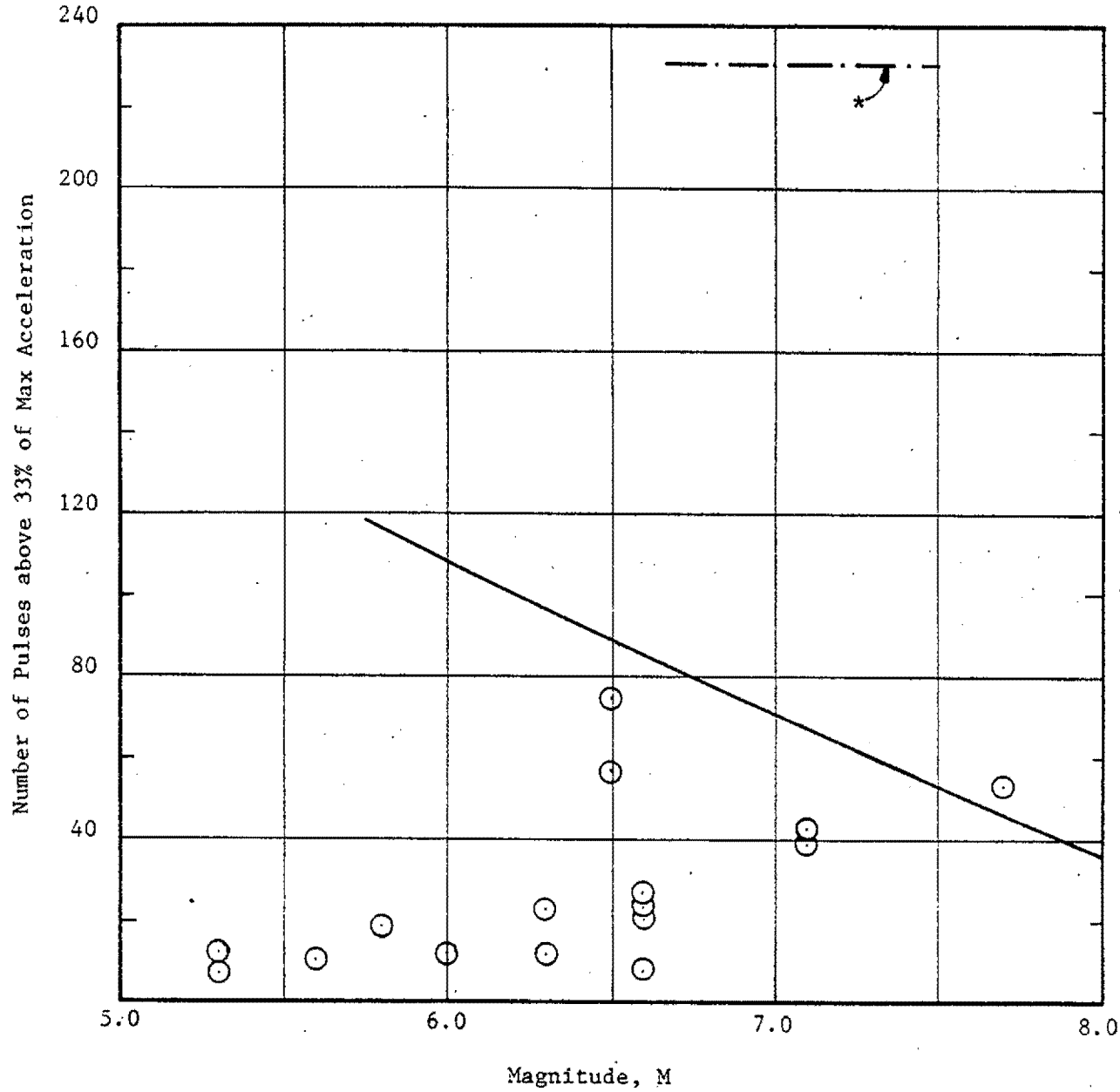

*Only approxmiate range of Magnitude of DBE shown.

Project: SONGS 2 & 3 Job Number: B720C	NUMBER OF PULSES vs. MAGNITUDE	Fig. 17

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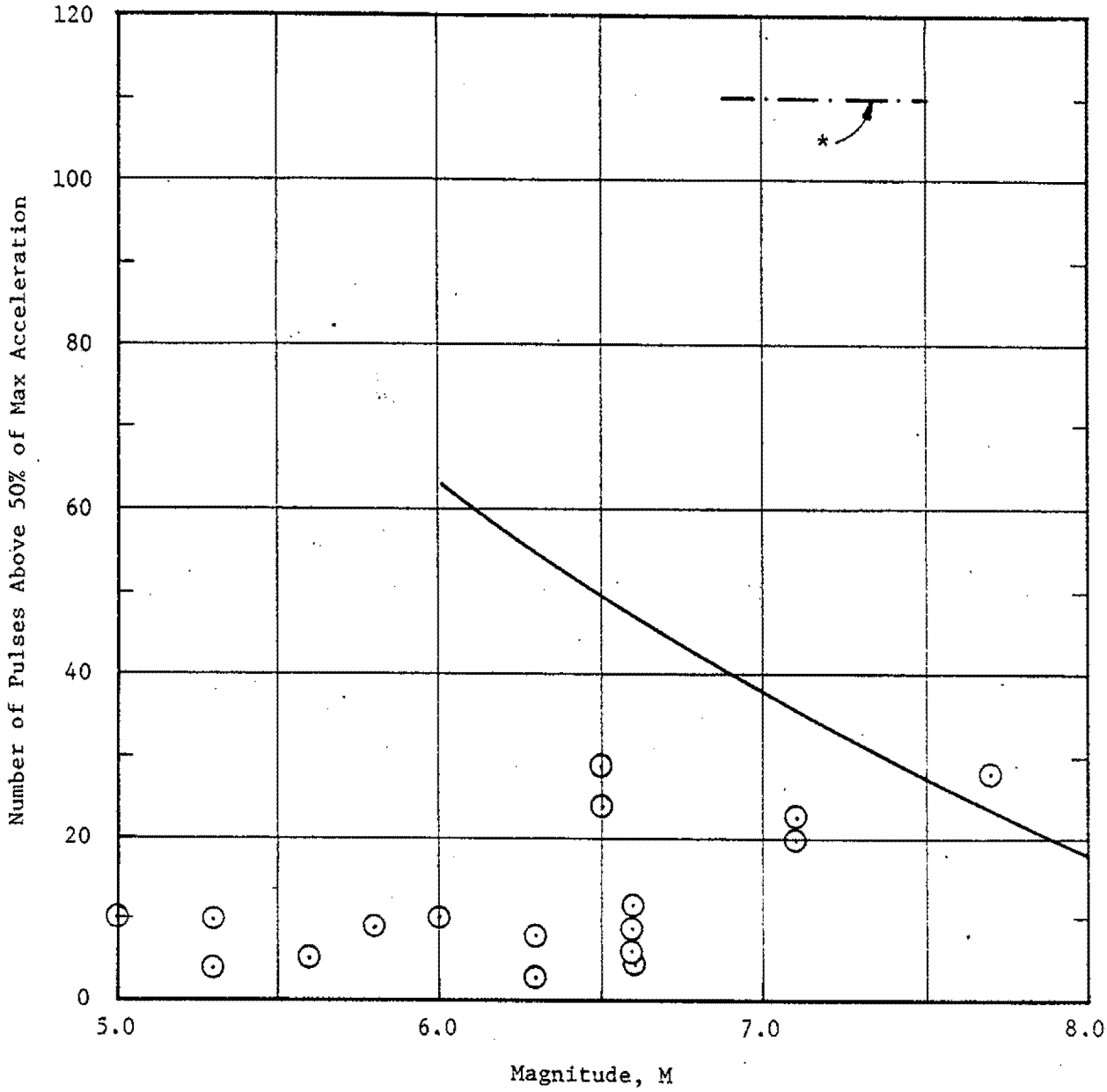
Amended: April 2009 TL: E048000



*Only approximate range of Magnitude of DBE shown.

Project: SONGS 2 & 3 Job Number: B720C	NUMBER OF PULSES vs. MAGNITUDE	Fig. 18

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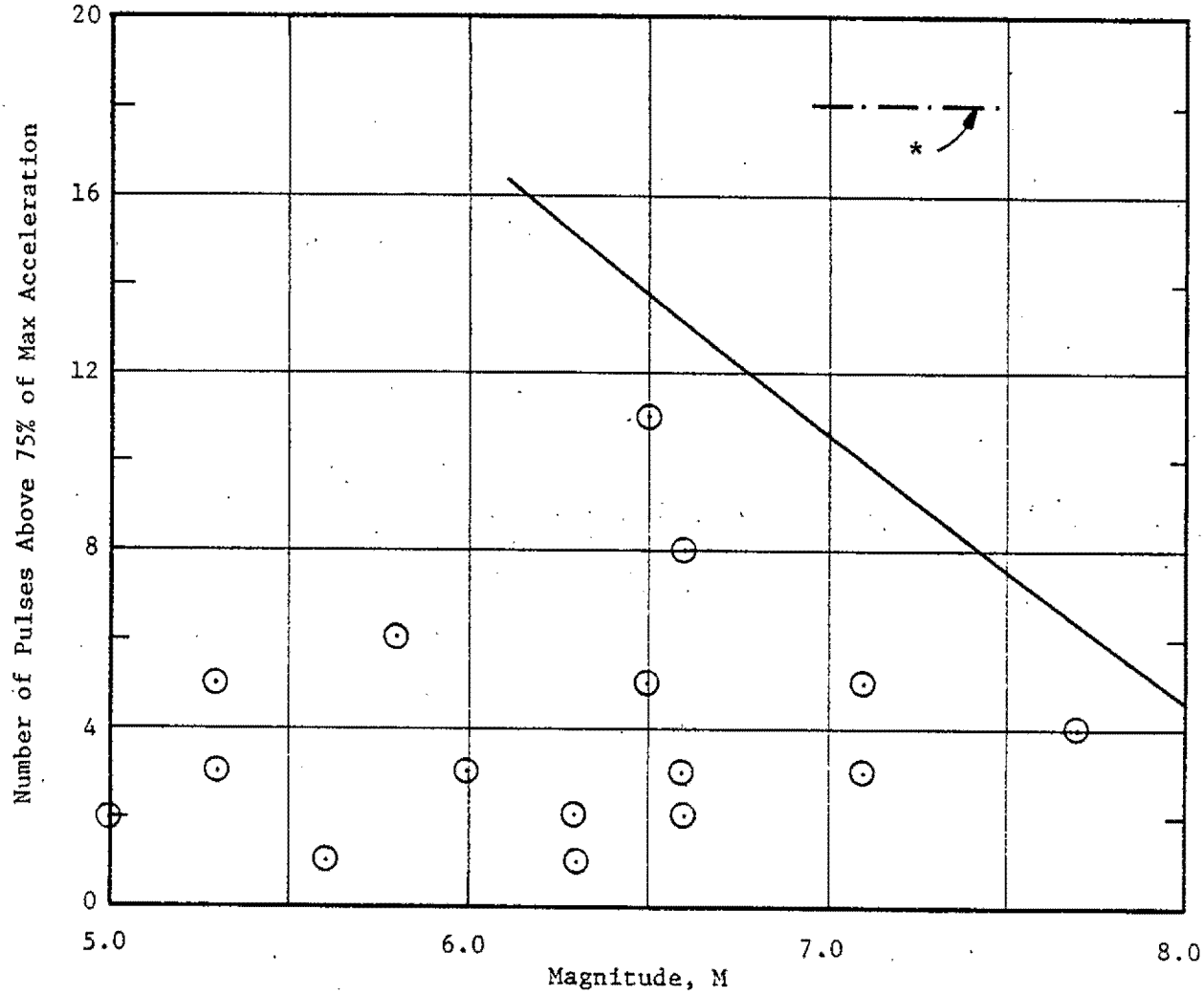

*Only approximate range of Magnitude of DBE shown.

Project: SONGS 2 & 3 Job Number: 8720C	NUMBER OF PULSES vs. MAGNITUDE	Fig. 19

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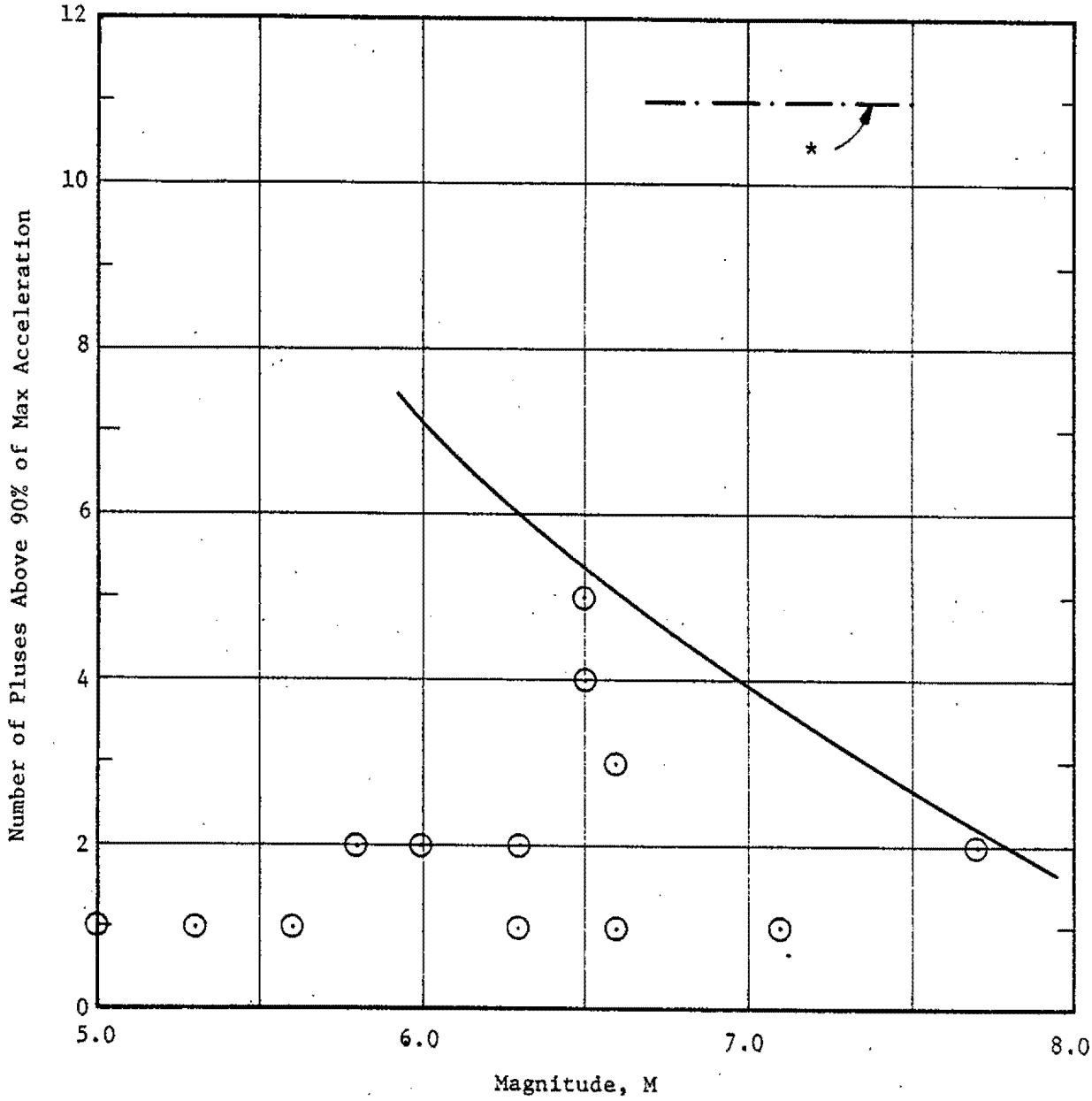
Amended: April 2009 TL: E048000



*Only approximate range of Magnitude of DBE shown.

Project: SONGS 2 & 3 Job Number: B720C	NUMBER OF PULSES vs. MAGNITUDE	Fig. 20

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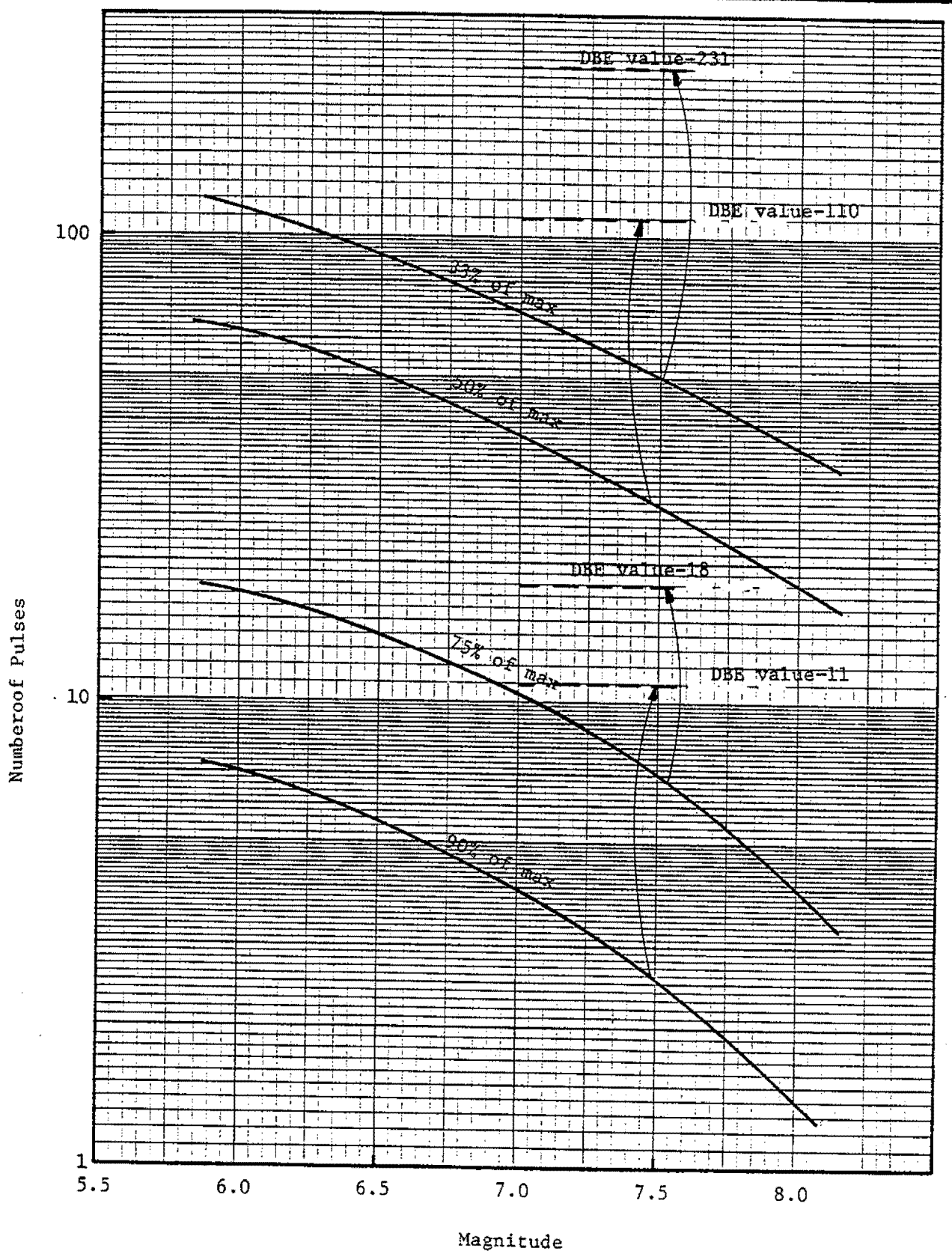
Amended: April 2009 TL: E048000



Project: SONGS 2 & 3 Job Number: B720C	SUMMARY OF PULSE DISTRIBUTION	Fig. 21

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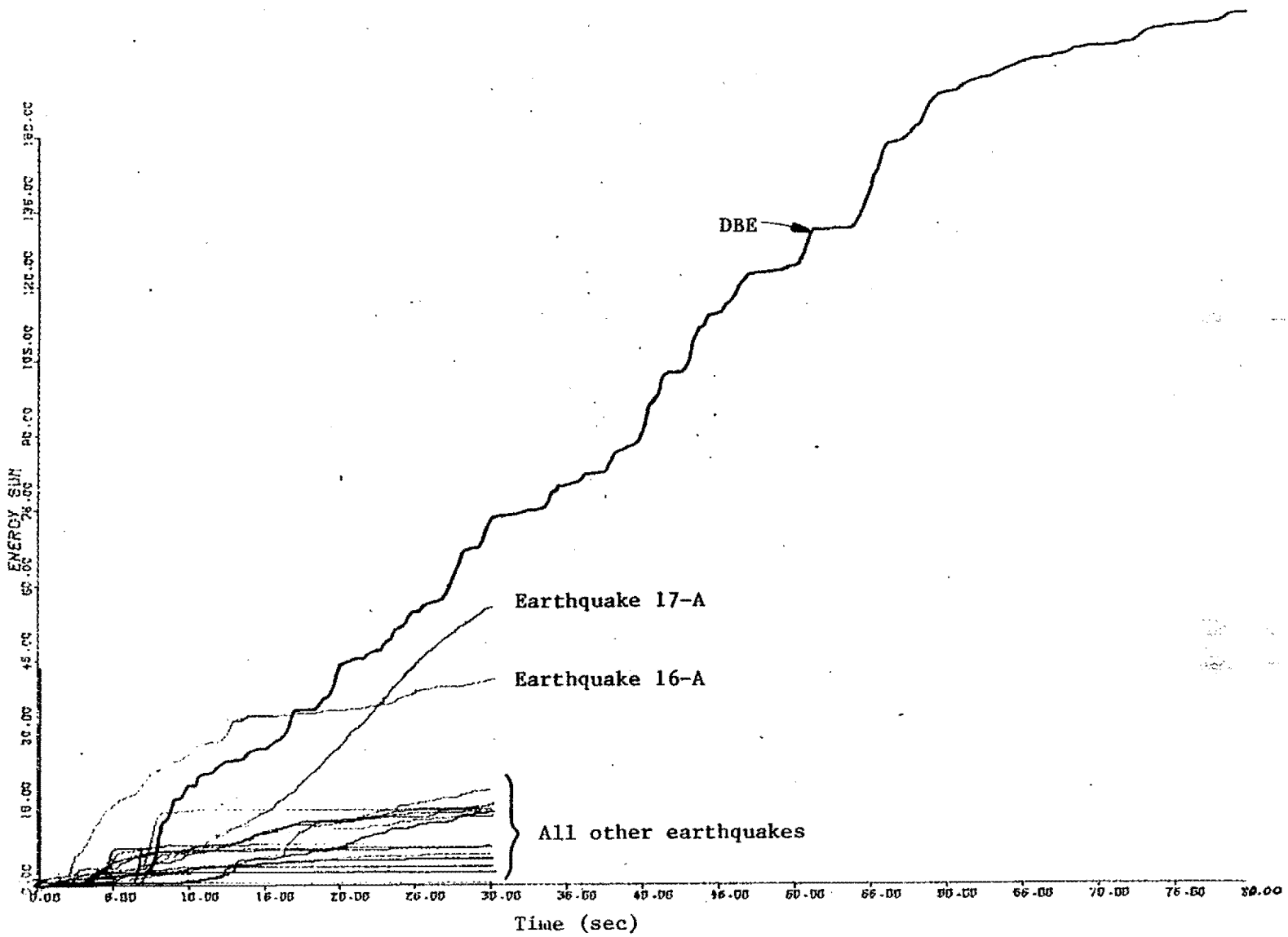

Project SONGS 2 & 3 Project No. B720C	COMPARISON OF CUMULATIVE KINETIC ENERGY WITH TIME	Fig. 22

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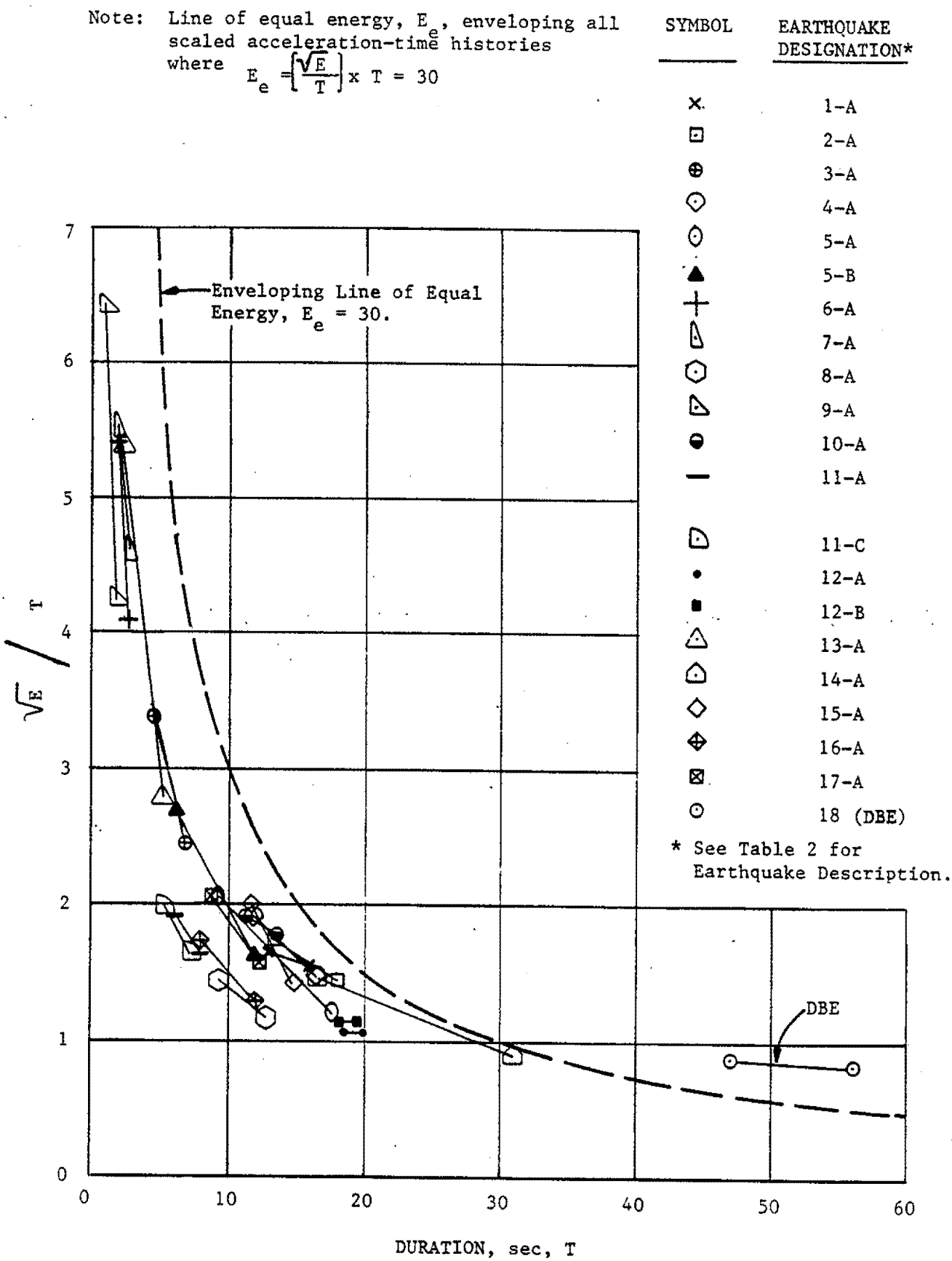

Project: SONGS 2 & 3 Project No: B720C	COMPARISON OF HOUSNER SEVERITY PARAMETERS	Fig. 23

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APPENDIX A

PROCEDURES TO CALCULATE THE VARIOUS SEVERITY MEASURES

A-1 General

This section presents a brief description of the procedures used to compute the numerical values for the several severity measures used in this study. Results of these calculations are also presented in graphical form. For ease in presentation and comparison, the results for the DBE are presented last, on a fold-out sheet so that a direct visual comparison may be made, if desired, with the characteristics of other acceleration-time histories.

A-2 Spectral Amplification Factors

Spectral amplification factor for acceleration-time history is the ratio between the response value at an oscillator period and the maximum acceleration value in the acceleration-time history. In comparing the spectral values for different acceleration-time histories which have been scaled by different factors, two important considerations should be included:

a) For those time histories which have been scaled by a large factor (greater than 1½) the response values may be unrealistic and a point-by-point comparison with DBE response spectrum is not always reasonable. For these acceleration-time histories, average amplification ratios in several period ranges, from 0.2 sec to 1.0 sec were calculated, as illustrated in Schematic 1. Results of these calculations are presented in Table 3 in the main text.

b) The response spectrum usually has widely varying values with many high peaks and deep valleys. In many cases, these peak values may represent only a few peaks in the response-time history for a particular period and, thus

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may not be representative of average response at that period. Therefore, the response spectra for those time-histories which were scaled by a factor of 1½ or less were smoothed so that point-by-point comparisons could be made in a consistent manner at various periods. Smoothing of spectra was done by a three-point averaging procedure, illustrated in Schematic 2.

A-3 Spectral Intensity

The spectral intensity is the area under the velocity spectrum curve between periods of 0.1 and 2.5 sec (Ref. 8). To calculate the values of spectral intensity, the velocity response spectrum for 2% damping, was plotted on an arithmetic graph paper. The appropriate areas were obtained by a planimeter. These values are listed in Table 4 in the main text.

A-4 Pulse Distribution

The pulse distribution of an acceleration-time history was obtained by monitoring the zero crossings and changes in the sign of slope of the trace. Each time the acceleration-time trace crossed the time axis or changed the sign of its slope, a pulse was considered to have occurred. The resulting time interval between such crossings or slope changes was considered as half the equivalent period of that pulse; and the peak was taken at that pulse's amplitude.

The results of computations were plotted by computer, in the form of a pulse spectrum, on which peak values of individual pulses are plotted as a function of equivalent period for that pulse. Pulse-spectrum plots for the records used in this study are presented in Figs. A-1(d) through A-21(d).

A-5 Impulse Computation

Impulse is the force-time value delivered by a pulse; and is an approximate measure of severity, neglecting extreme

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values of impact and near-static loads. One comparative measure of impulse is the area under the acceleration pulse (because force is directly proportional to acceleration), whose period and amplitude are obtained in Section A-4. Thus, knowing the amplitude and equivalent period of the pulse and the time at which the pulse occurs, an impulse time history is obtained. For the computations reported here, the absolute values of accelerations were used.

Impulse time-histories so obtained for the acceleration-time histories used in this study are presented in Figs. A-1(b) through A-21(b).

A-6 Energy Computations

The energy characteristics of the acceleration-time histories can be represented approximately by kinetic energy, a measure of which is the square of the particle velocity. Particle-velocity-time history is obtained by integrating the acceleration-time history.

$$\text{i.e., } v(t) = \int_{t_o}^{t_o+t} a(\tau)\,d\tau$$

$v(t)$ = velocity at time t
$a(\tau)$ = acceleration at time τ
$d\tau$ = small time interval containing τ
t_o = initial time

Plots of this measure of kinetic energy, as functions of time, and for the various acceleration-time histories are presented in Figs. A-1(c) through A-21(c).

A-7 Housner's Severity Measure

Housner (1975) (Ref. 9) suggested a two-parameter severity measure to compare the damage potential of different earthquakes. These parameters could be the average rate of input of

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Energy, P, and the duration, T, for which this rate is maintained.

$$P = \frac{E(T)}{T} = \frac{1}{T}\int_{t_o}^{to+T} a^2(t)dt$$

Where a(t) = acceleration
E(t) = total energy input during T

Housner suggests that in place of P, a quantity $P' = \sqrt{E(T)/T}$ could be used as it is representative of the amplitude attained by a damped oscillator and P' coincides with customary notions of intensity.

A typical plot of $\sqrt{E(t)}$ vs. t is shown in Schematic 3. This figure also illustrates the procedure to obtain the average value for P' and the-duration T. For the present study two sets of values of P' and T were obtained for each earthquake; one set for 90% of the $(\sqrt{E})_{max}$, where $(\sqrt{E})_{max}$ is the maximum values of $\sqrt{E(t)}$ (5% of maximum to 95% of maximum), and the other for 80% of $(\sqrt{E})_{max}$ value (10% of maximum to 90% of maximum). This was down to better define the relationship between parameters P' and T.

Plots for $\sqrt{E(t)}$ vs. t for the various acceleration time histories used for this study are presented in Figs. A-1(e) through A-21(e).

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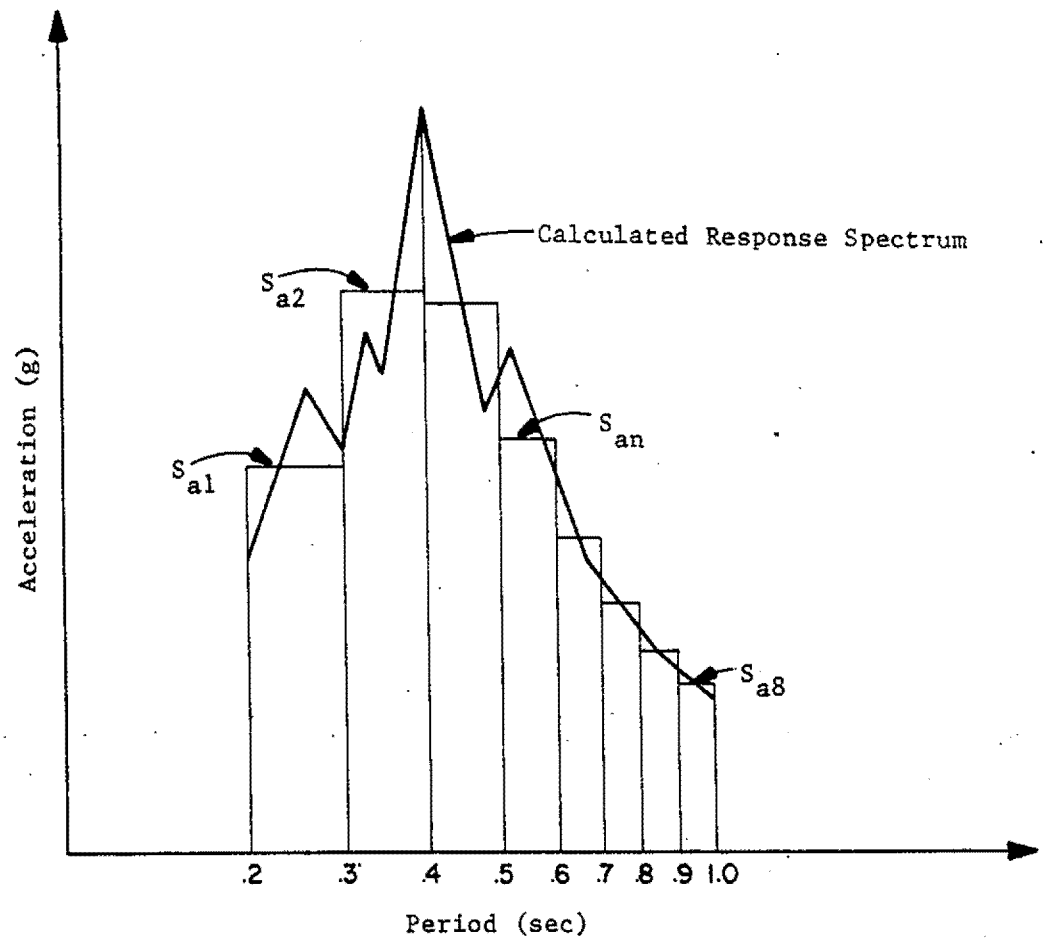


S_{an} - average response acceleration in n^{th} 0.1 sec. period interval.

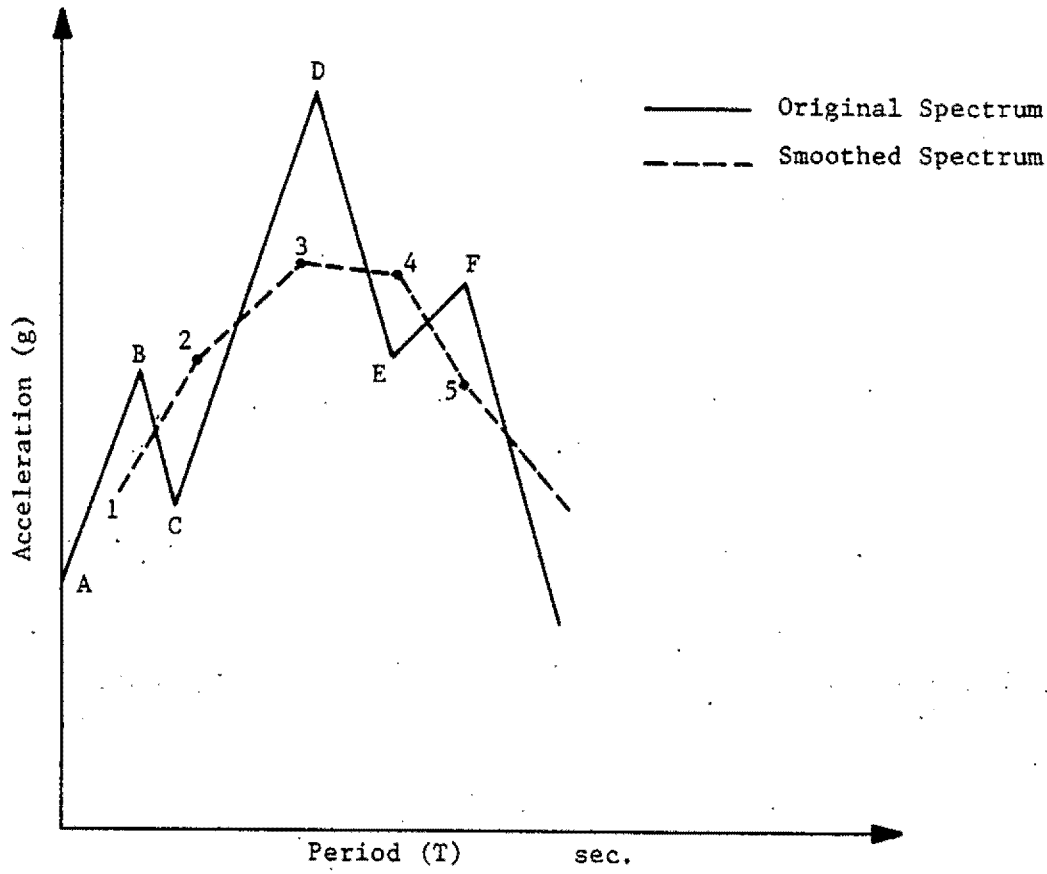
Average spectral value in the range 0.2 to 1.0 sec

$$S_{Av} = \frac{S_{a1} + S_{a2} \cdots S_{a8}}{8}$$

$$\text{Average Amplification factor} = \frac{S_{Av}}{A_0}$$

Where A_0 = Maximum acceleration of the time history

Project: SONGS 2 & 3 Job Number: B720C	SCHEMATIC 1 -- PROCEDURE TO OBTAIN AVERAGE AMPLIFICATION FACTOR



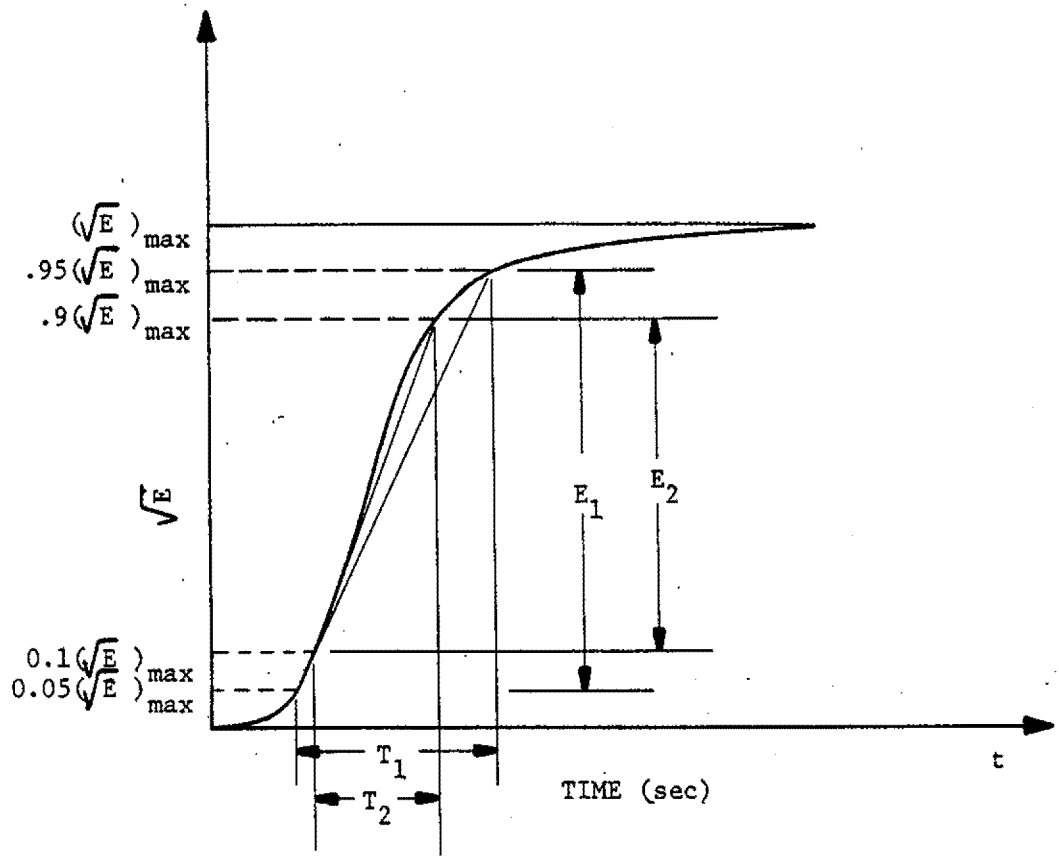
$$S_1 = \frac{S_A + 2S_B + S_C}{4} \qquad T_1 = \frac{T_A + 2T_B + T_C}{4}$$

$$S_2 = \frac{S_B + 2S_C + S_D}{4} \qquad T_2 = \frac{T_B + 2T_C + T_D}{4}$$

Similarly other values

Project: SONGS 2 & 3 Job Number: B720C	SCHEMATIC 2 -- SCHEMATIC REPRESENTATION OF SPECTRUM-SMOOTHING PROCEDURE

Amended: April 2009 - TL: E048000

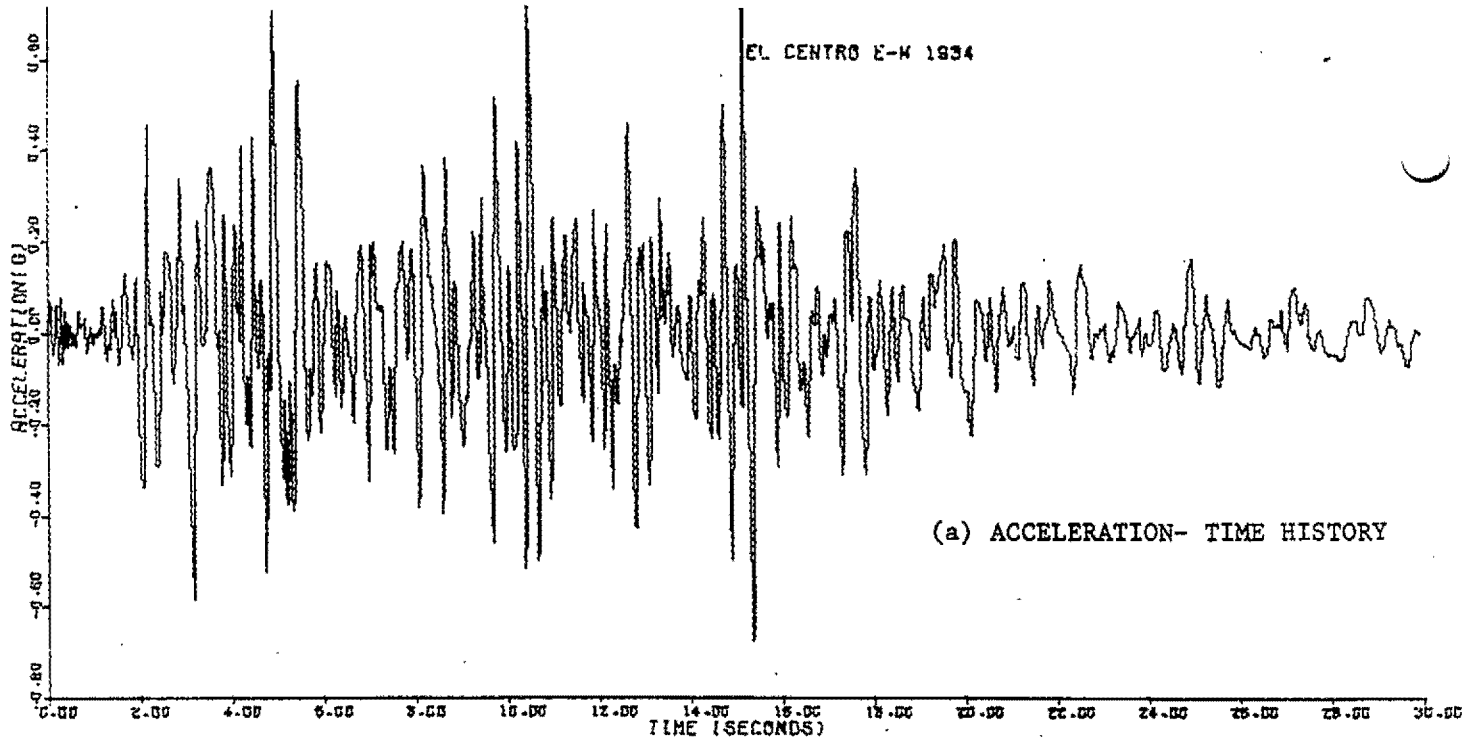


$$P_1' = \frac{E_1}{T_1} \qquad E(t) = \int_0^t a^2(t)dt$$

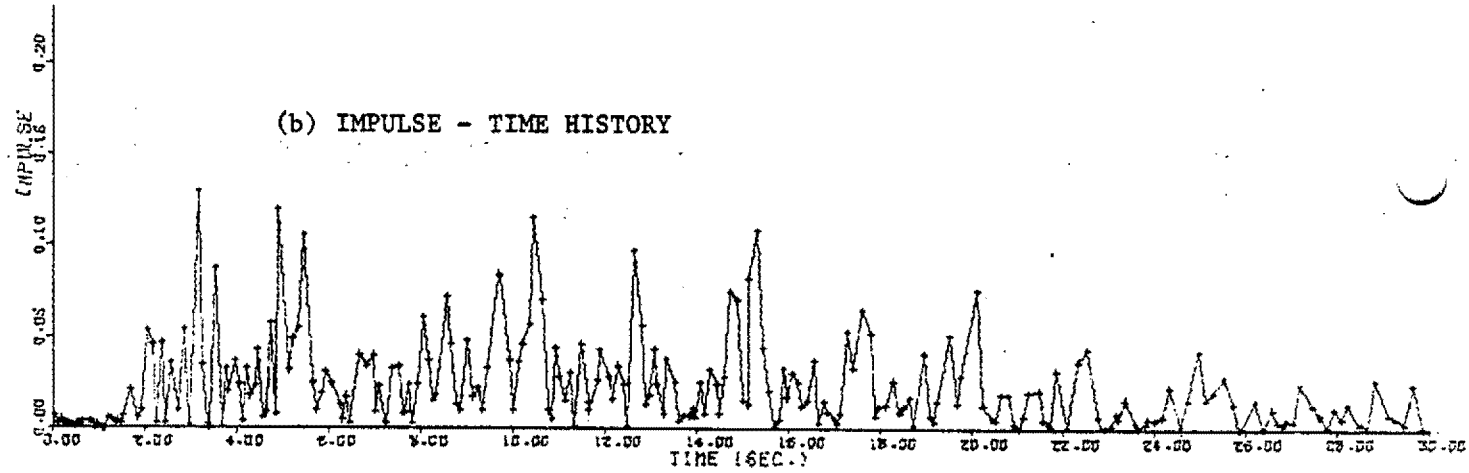
$$P_2' = \frac{E_2}{T_2}$$

Note: Both Points, (P_1', T_1) and (P_2', T_2), were plotted to provide a range.

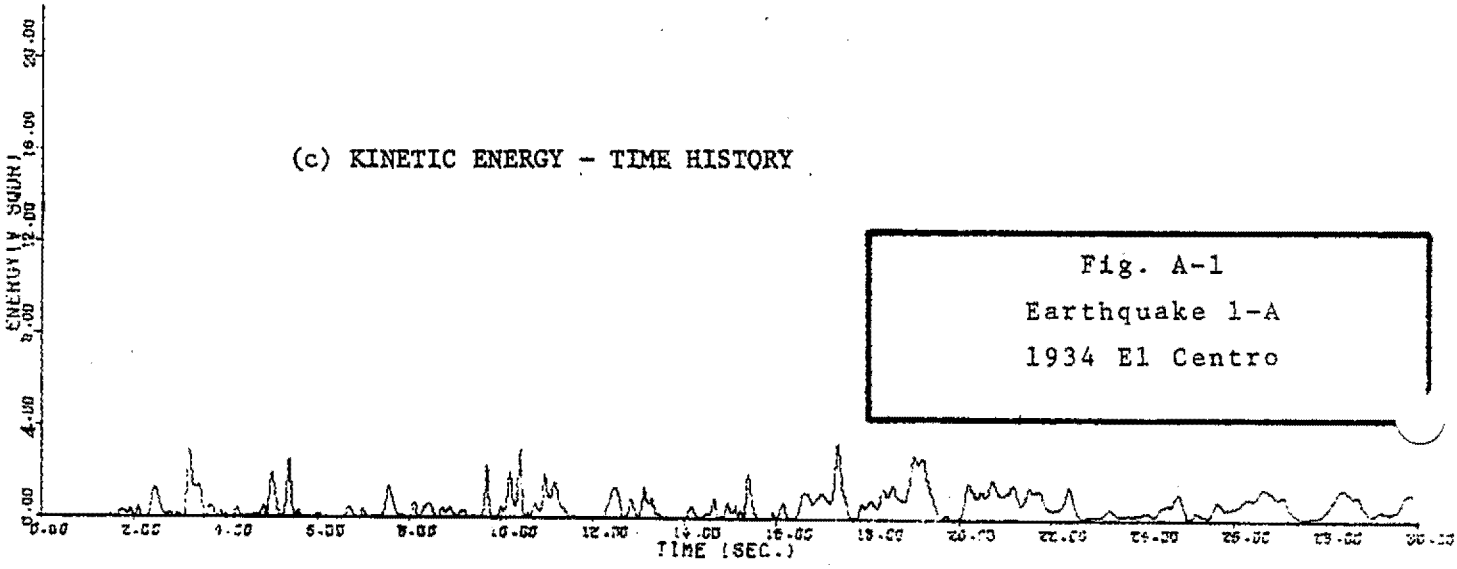
Project: SONGS 2 & 3 Job Number: B720C	SCHEMATIC 3 -- DETERMINATION OF HOUSNER'S SEVERITY PARAMETERS



(a) ACCELERATION- TIME HISTORY

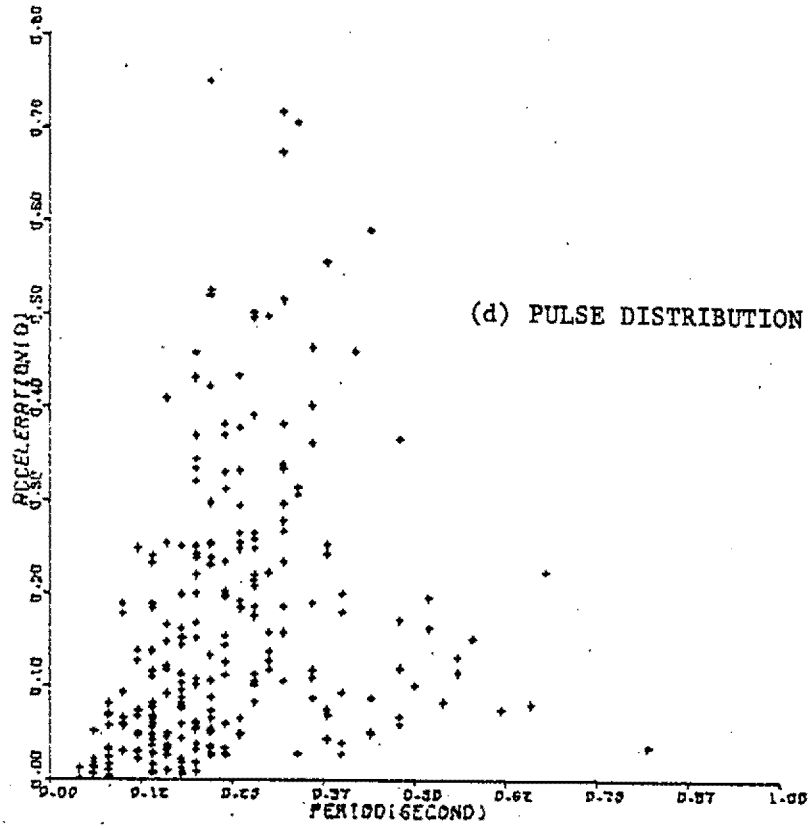


(b) IMPULSE - TIME HISTORY

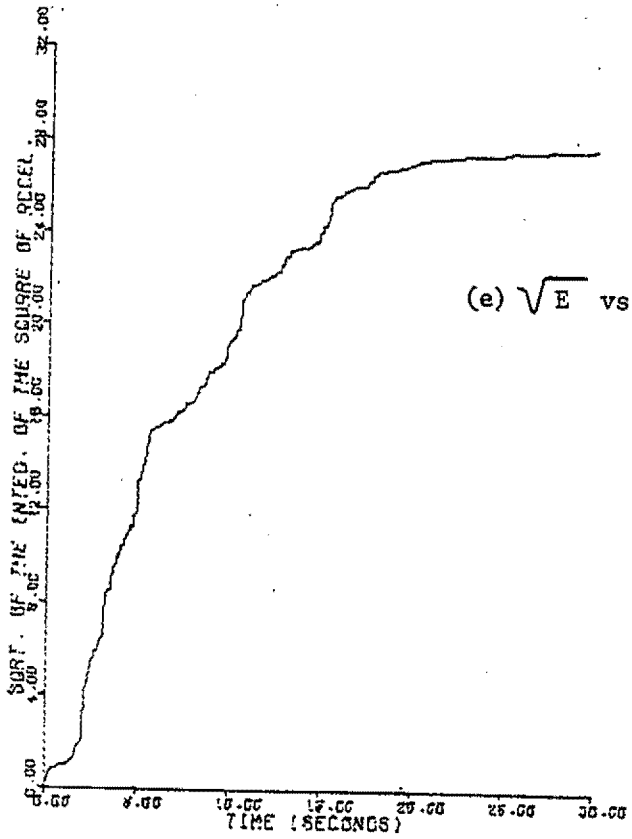


(c) KINETIC ENERGY - TIME HISTORY

Fig. A-1
Earthquake 1-A
1934 El Centro

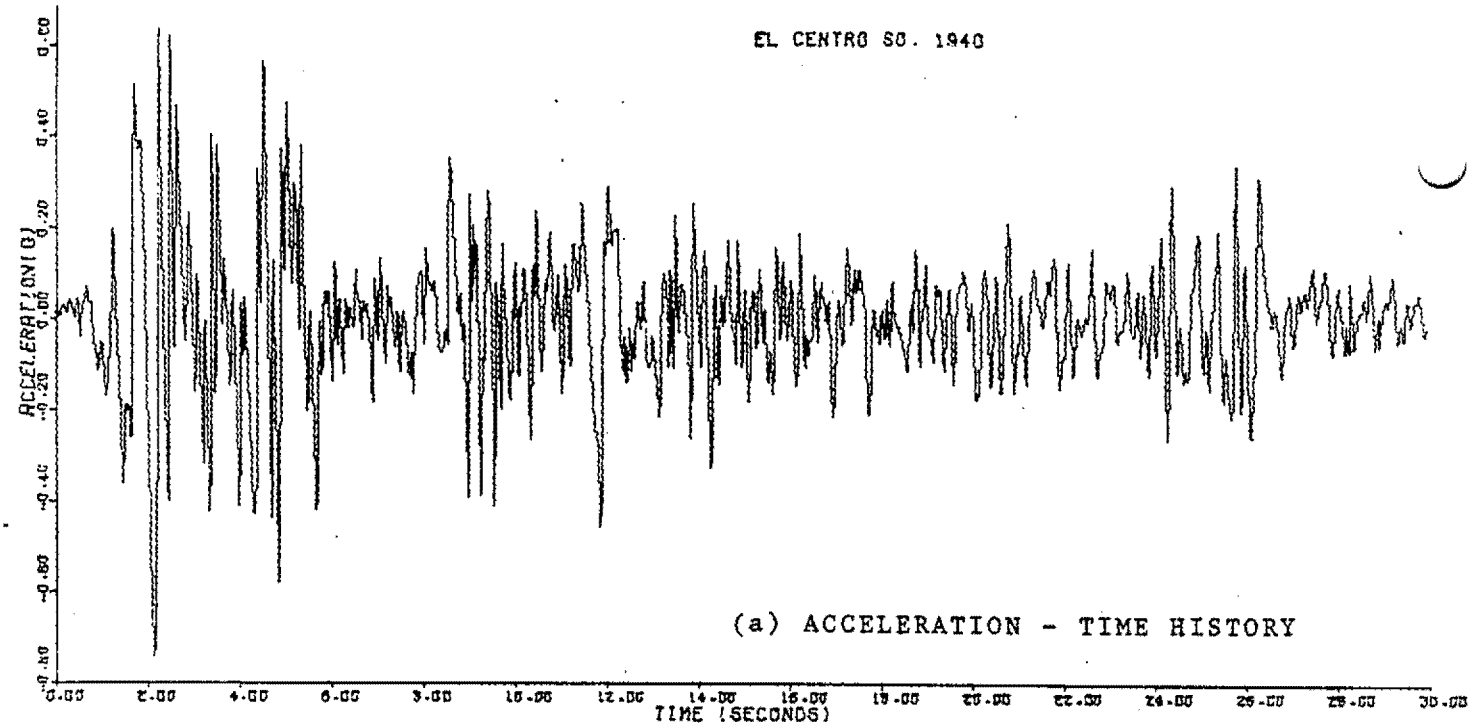


(d) PULSE DISTRIBUTION

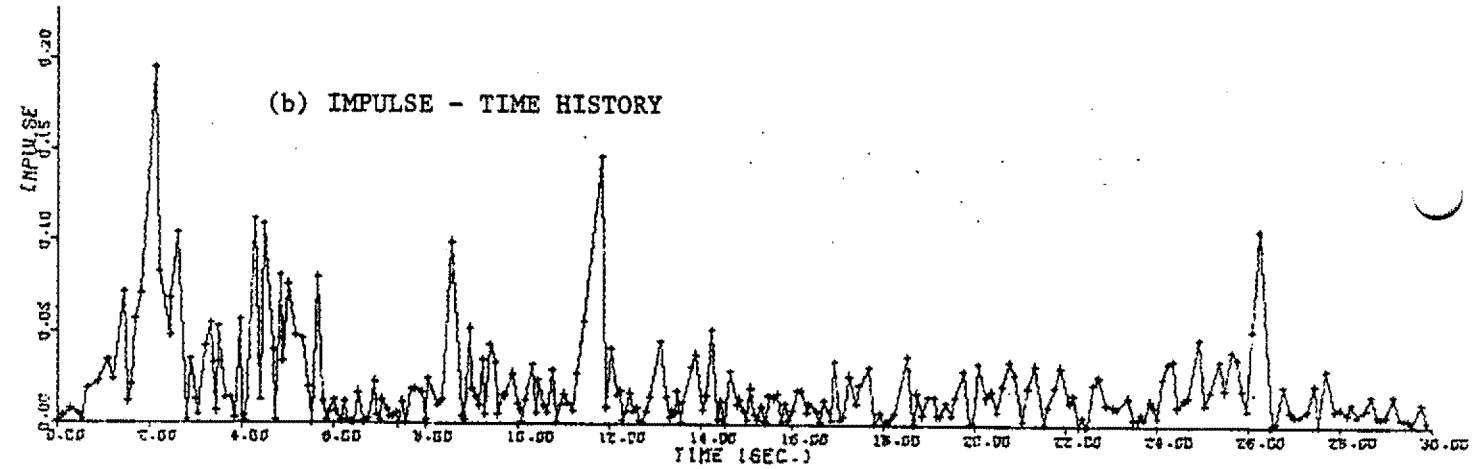


(e) $\sqrt{E}$ vs. TIME

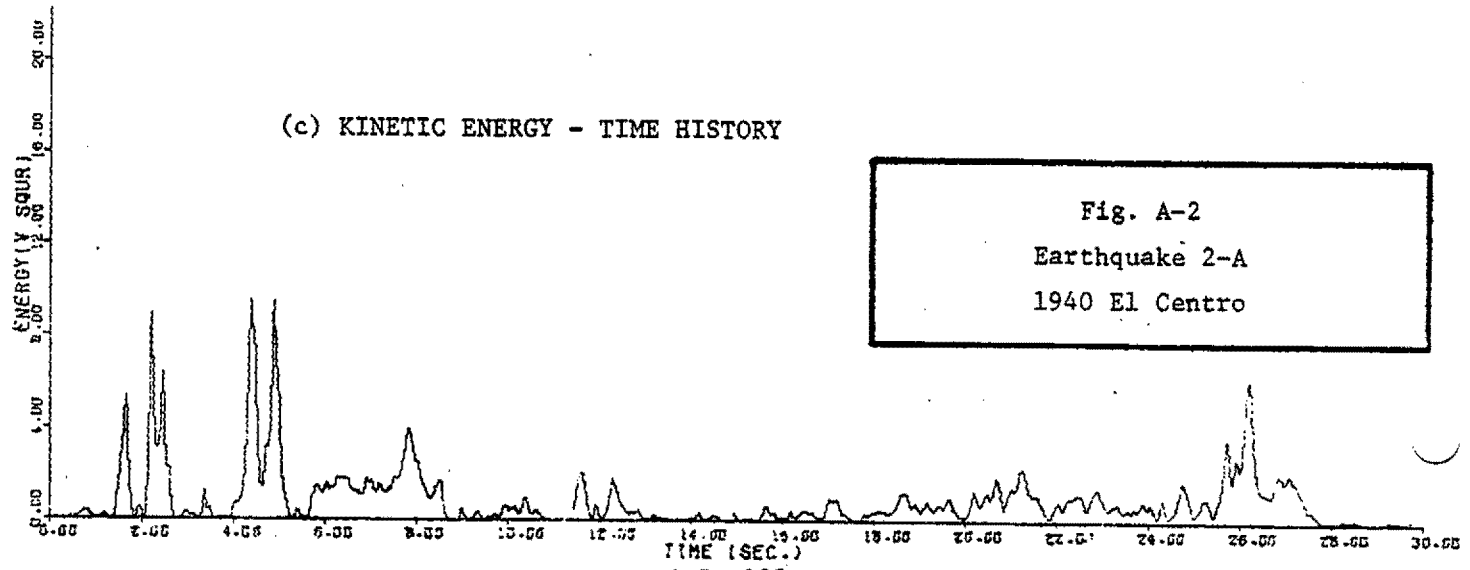
Fig. A-1 cont.
Earthquake 1-A
1934 El Centro



(a) ACCELERATION - TIME HISTORY

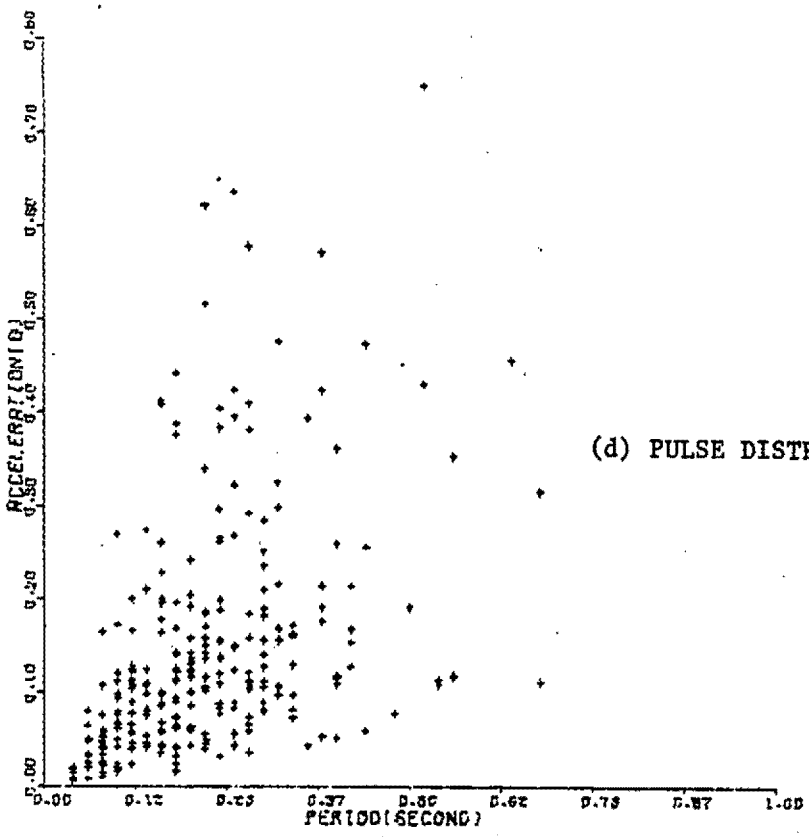


(b) IMPULSE - TIME HISTORY

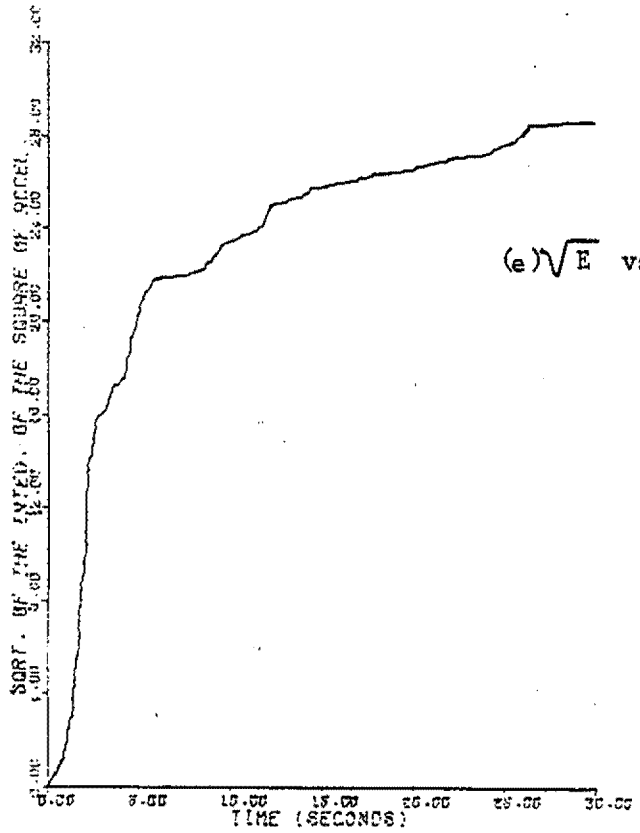


(c) KINETIC ENERGY - TIME HISTORY

Fig. A-2
Earthquake 2-A
1940 El Centro

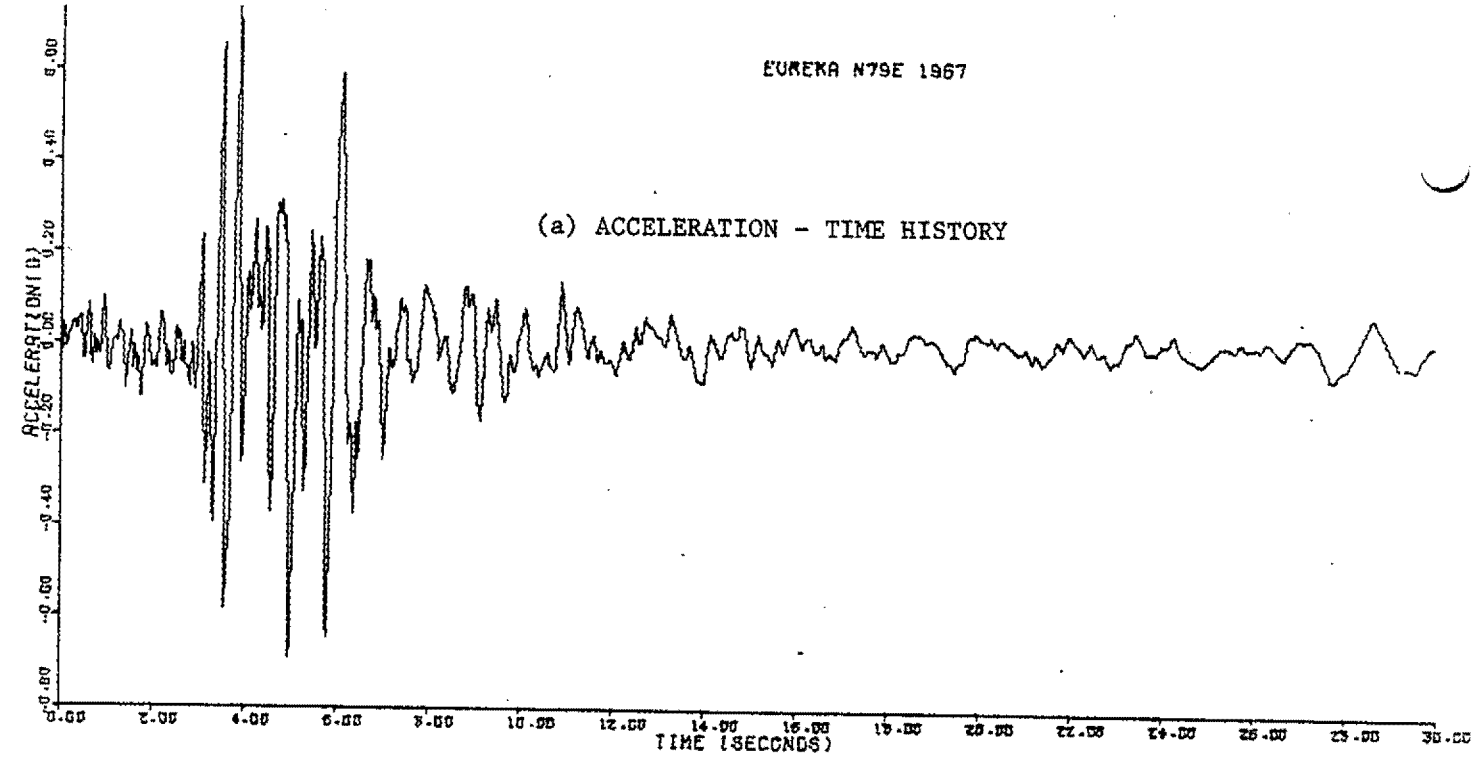


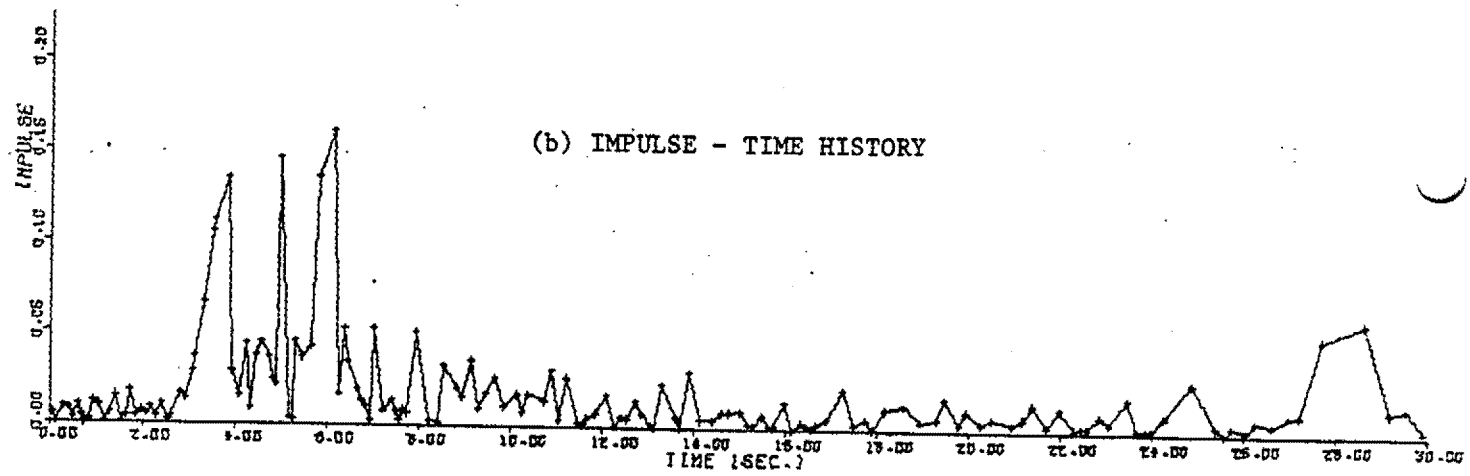
(d) PULSE DISTRIBUTION



(e) $\sqrt{E}$ vs. TIME

Fig. A-2 cont.
Earthquake 2-A
1940 El Centro





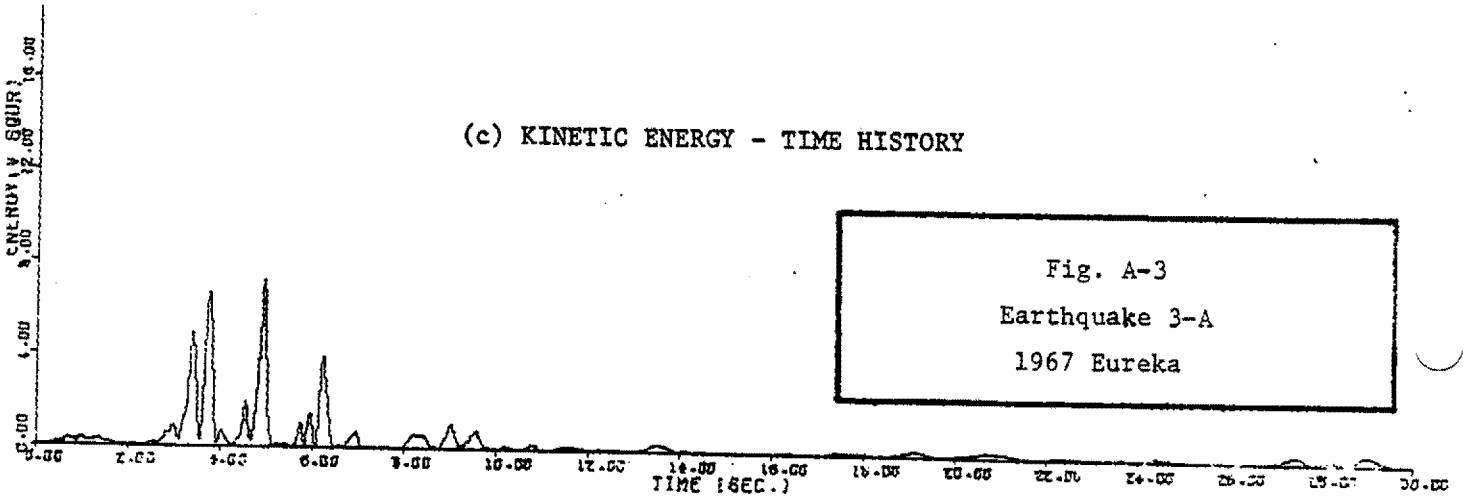
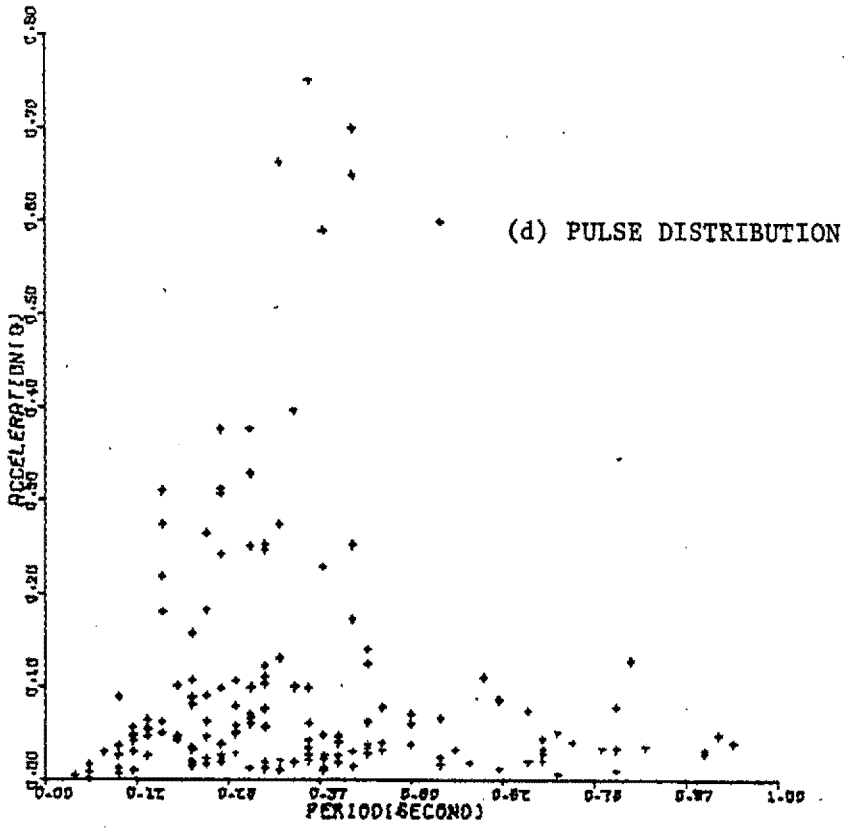


Fig. A-3
Earthquake 3-A
1967 Eureka



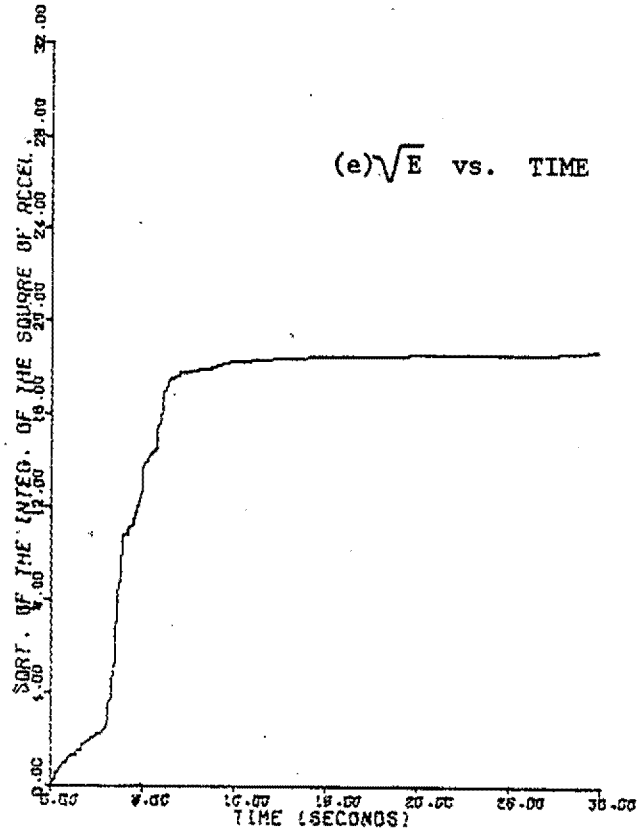
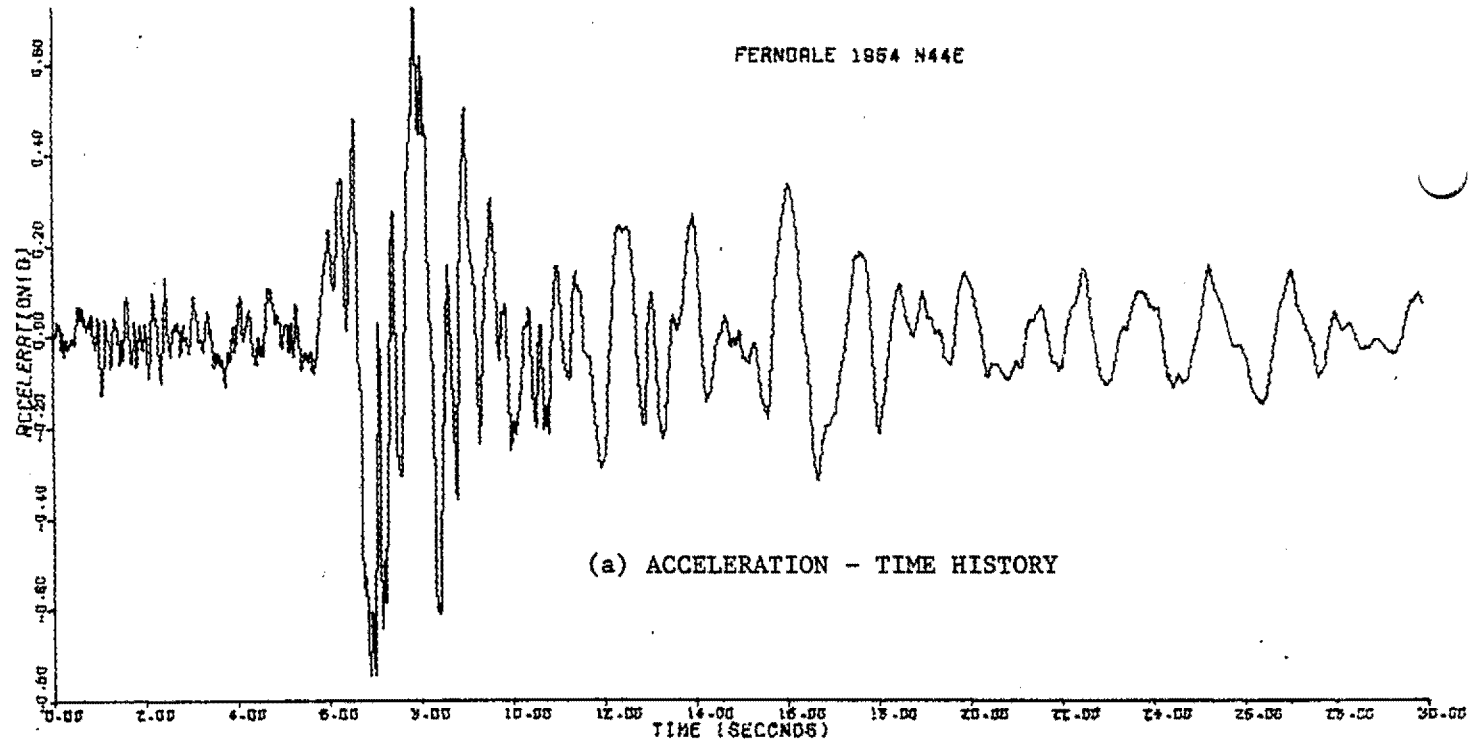
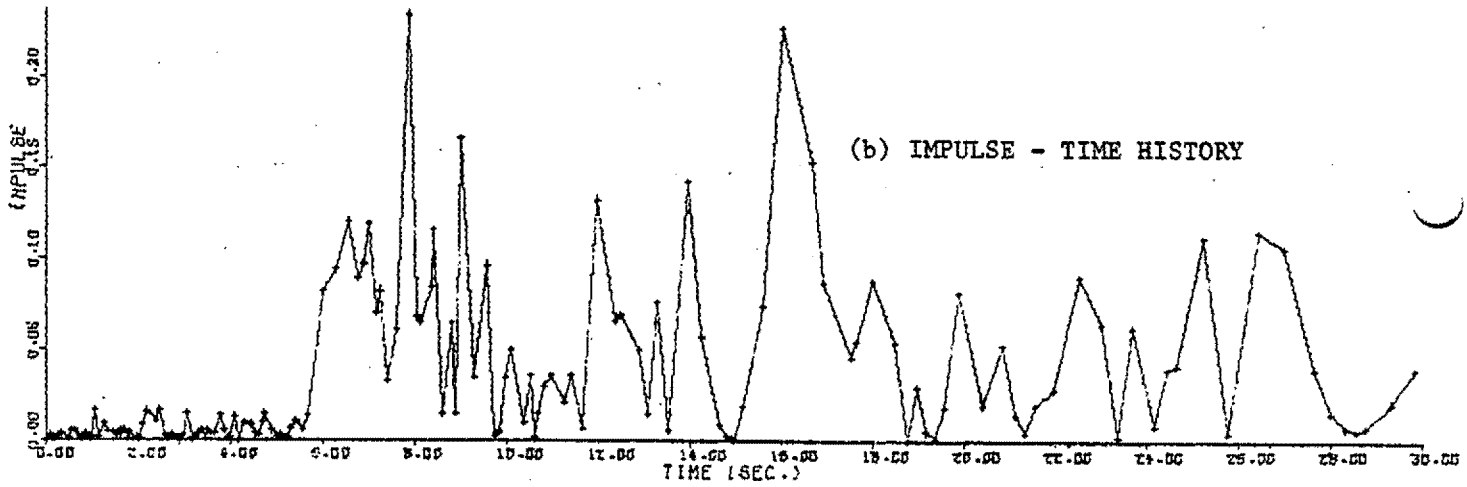


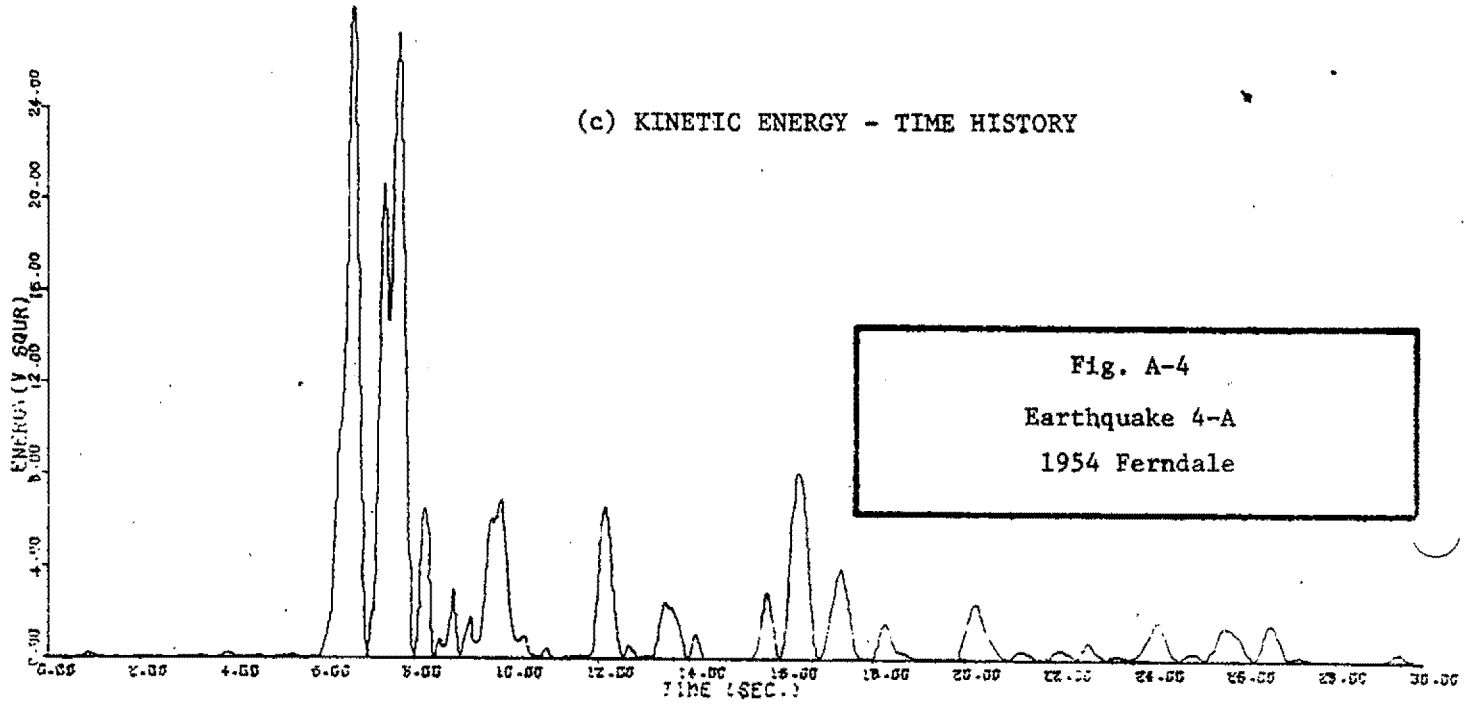
Fig. A-3 cont.
Earthquake 3-A
1967 Eureka



(a) ACCELERATION - TIME HISTORY



(b) IMPULSE - TIME HISTORY

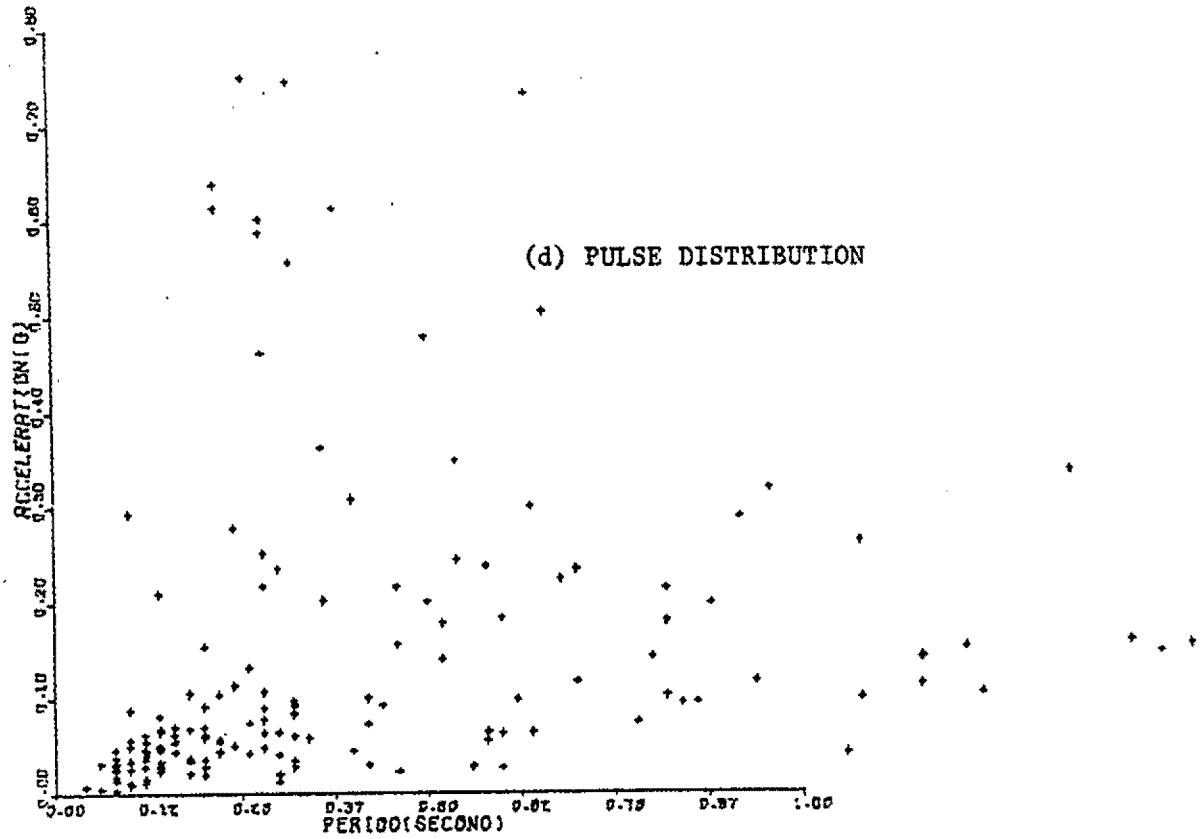


(c) KINETIC ENERGY - TIME HISTORY

Fig. A-4

Earthquake 4-A

1954 Ferndale



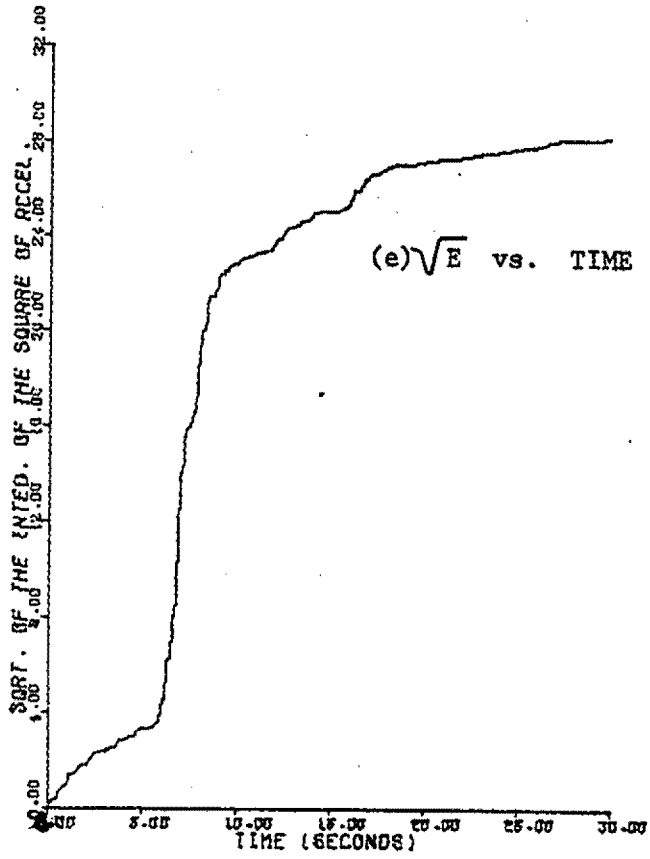
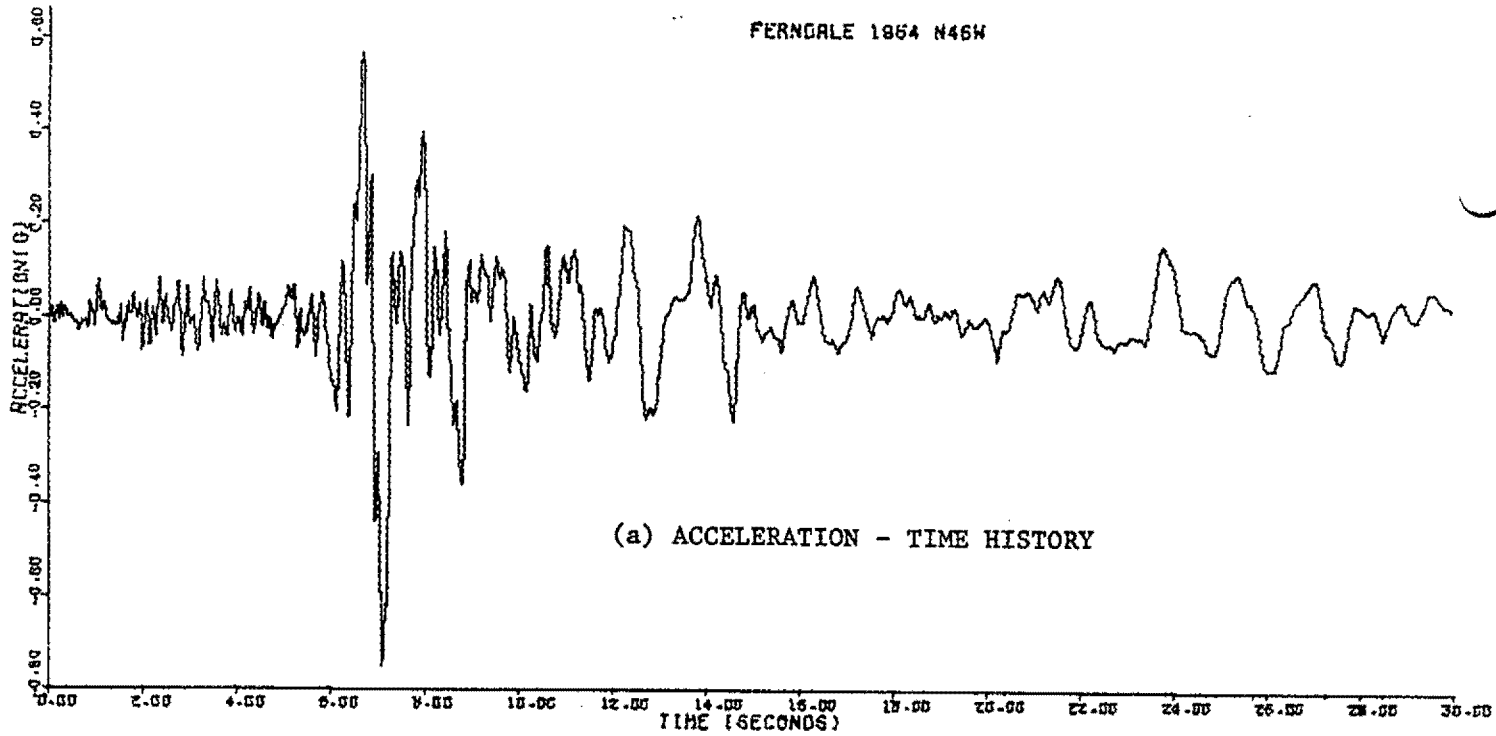
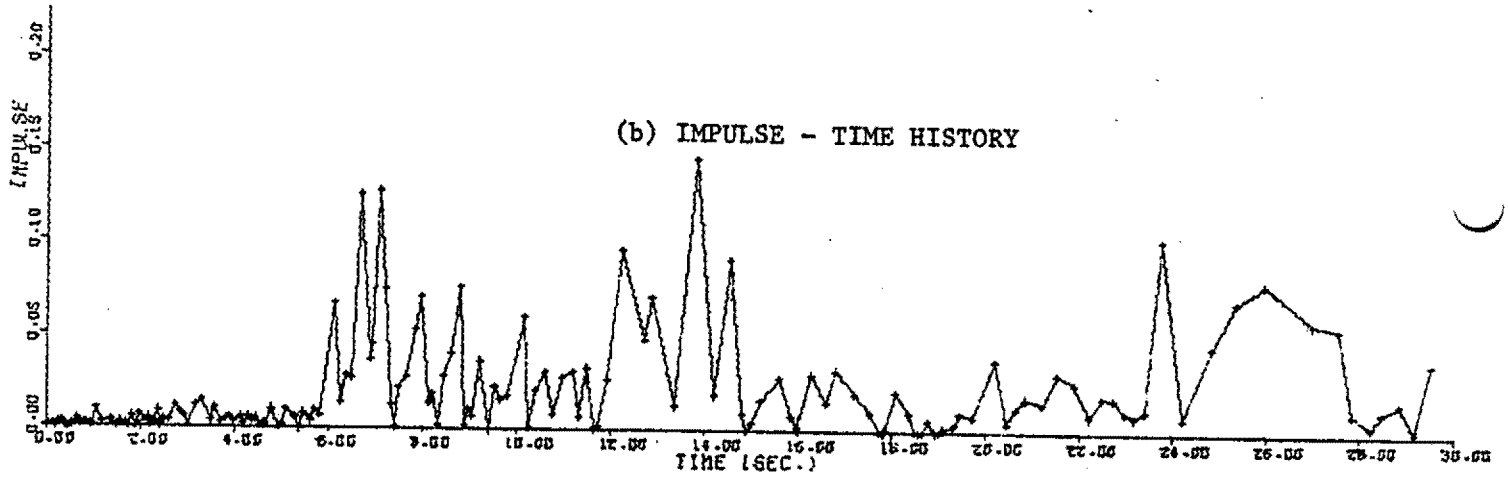


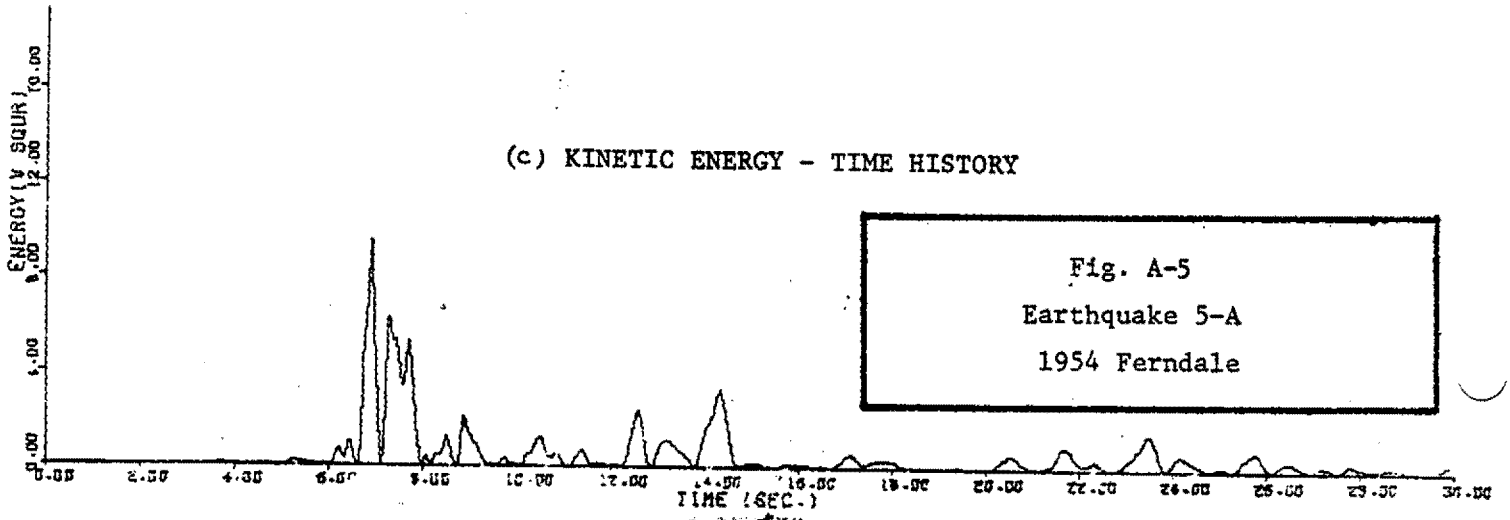
Fig. A-4 cont.
Earthquake 4-A
1954 Ferndale



(a) ACCELERATION - TIME HISTORY

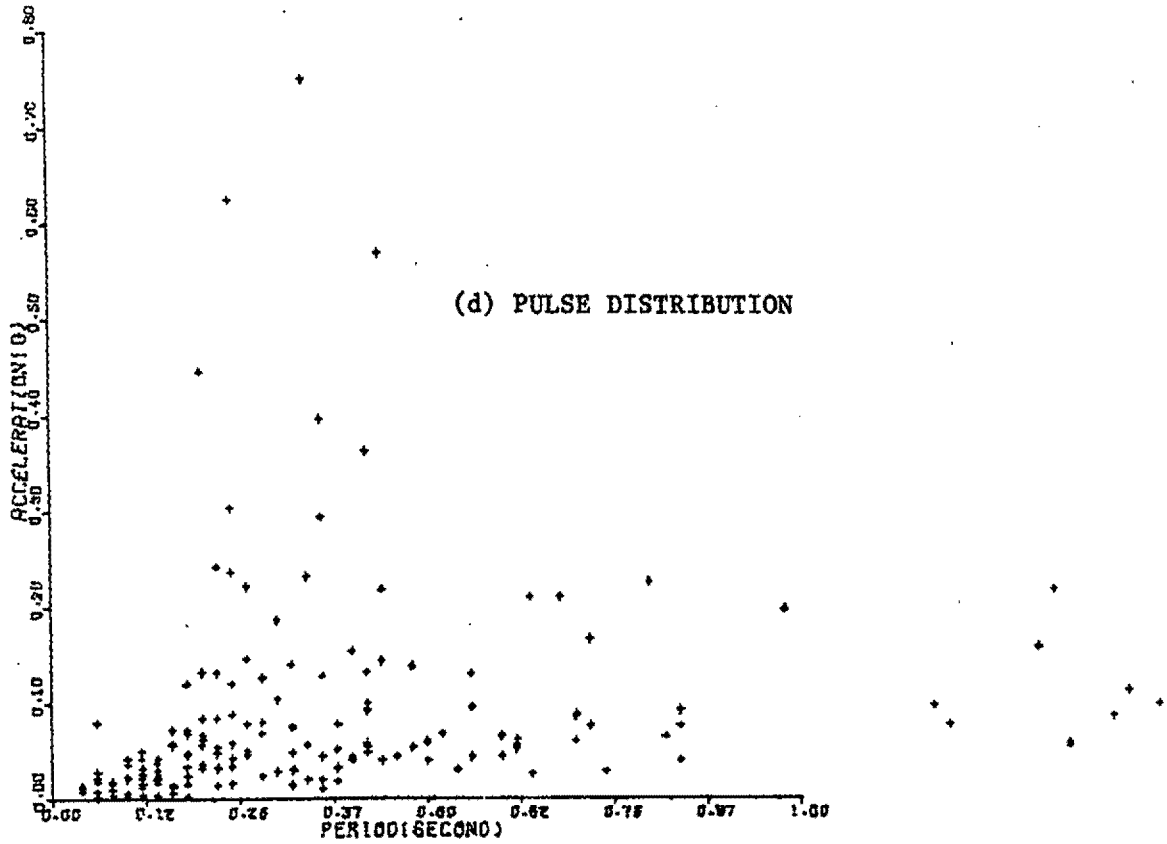


(b) IMPULSE - TIME HISTORY



(c) KINETIC ENERGY - TIME HISTORY

Fig. A-5
Earthquake 5-A
1954 Ferndale



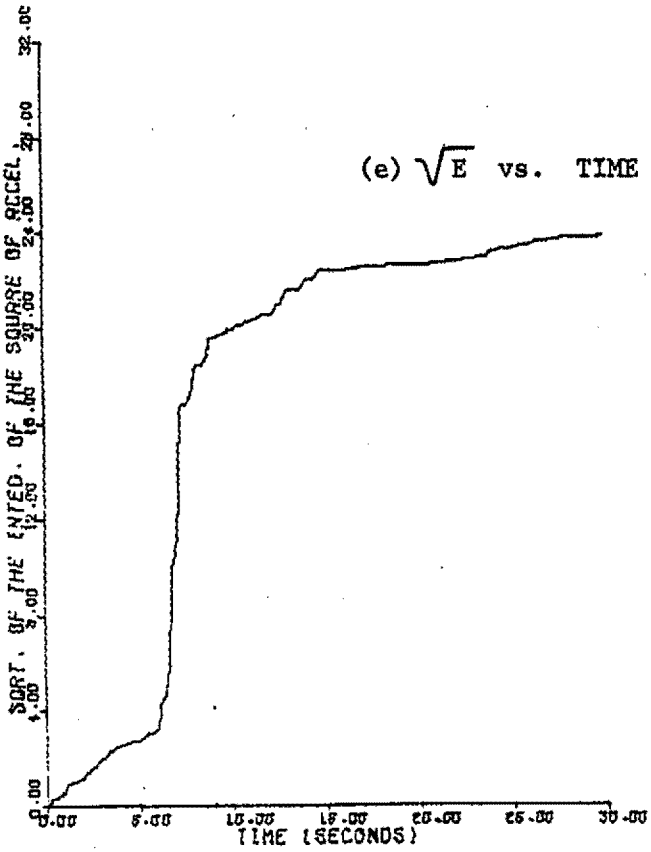
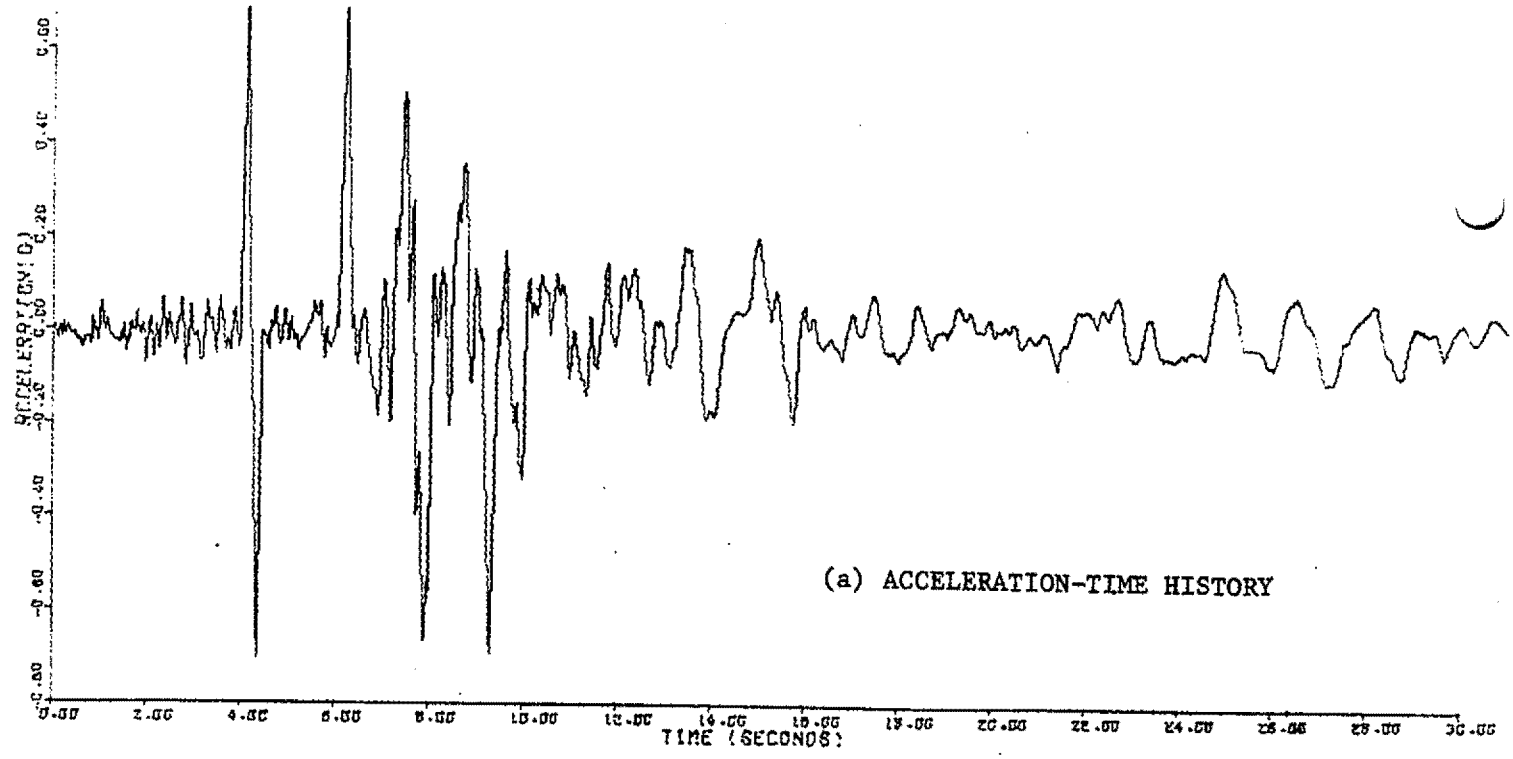
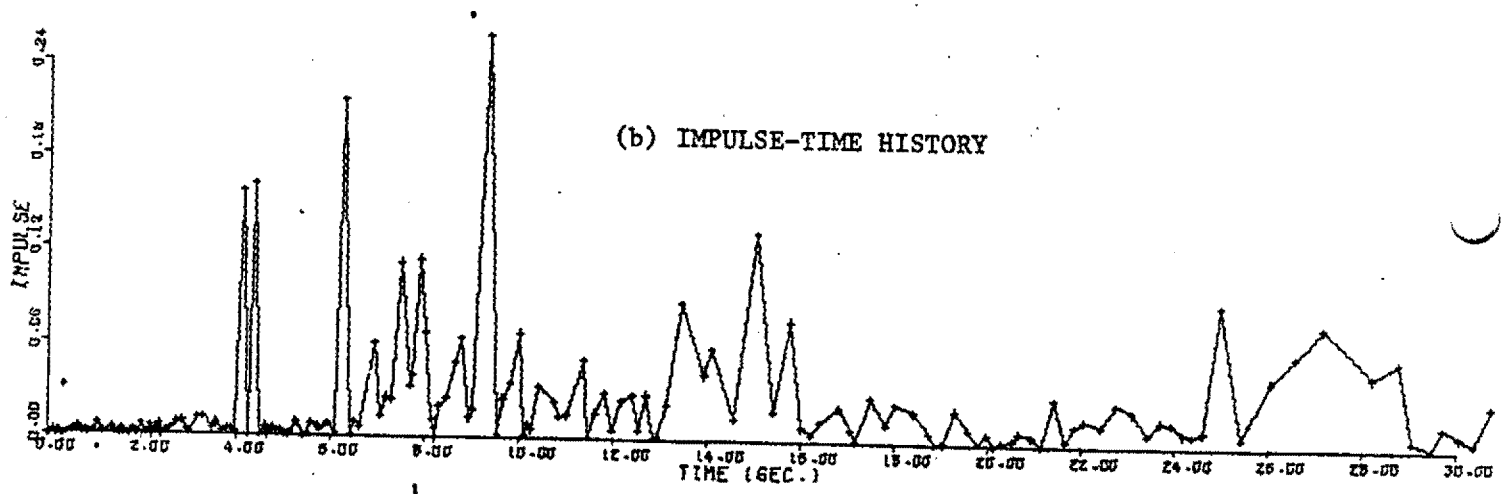


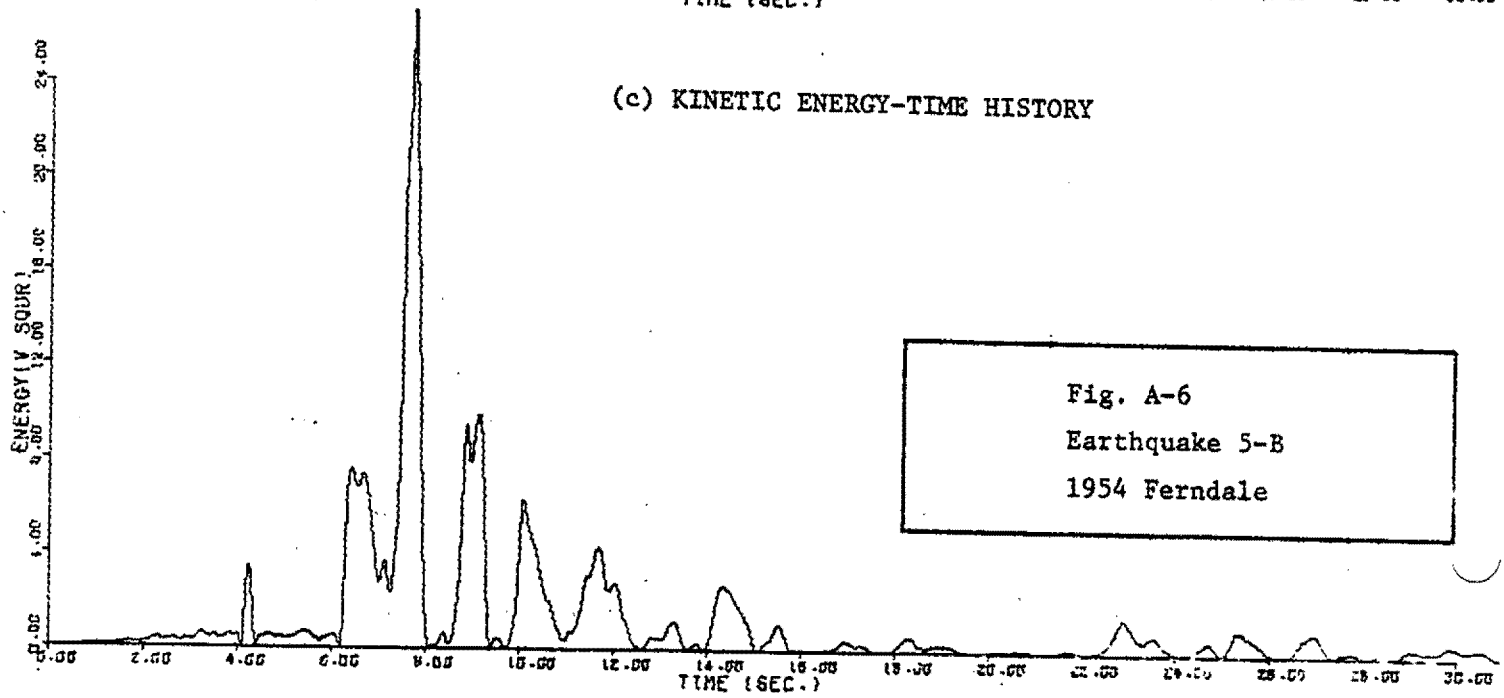
Fig. A-5 cont.
Earthquake 5-A
1954 Ferndale



(a) ACCELERATION-TIME HISTORY

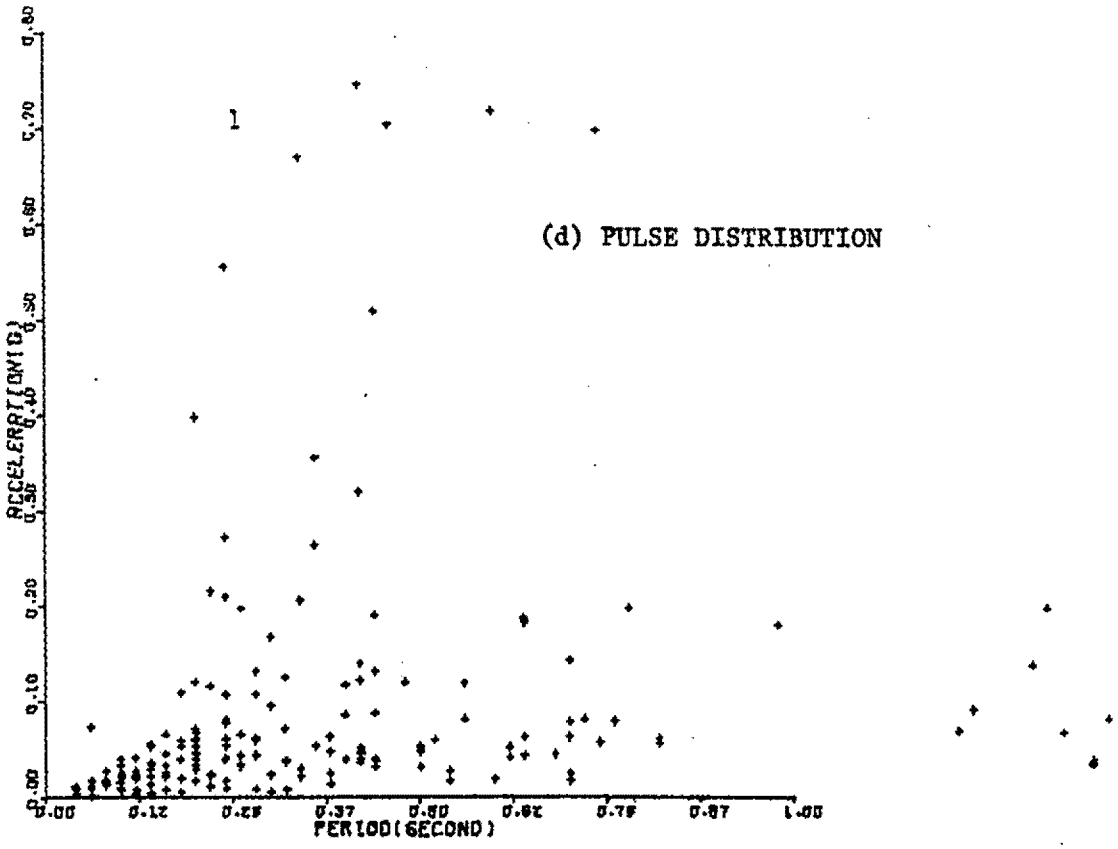


(b) IMPULSE-TIME HISTORY



(c) KINETIC ENERGY-TIME HISTORY

Fig. A-6
Earthquake 5-B
1954 Ferndale



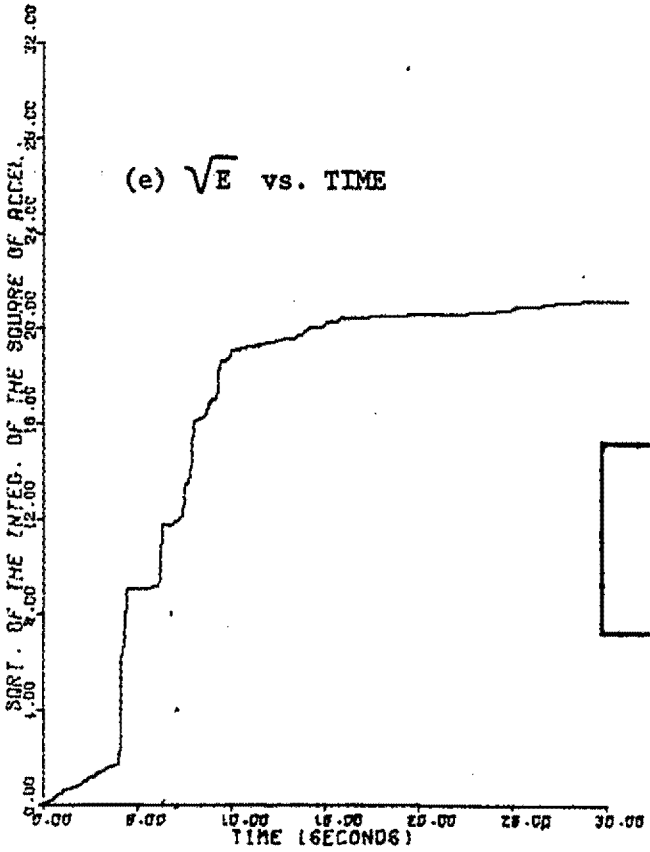
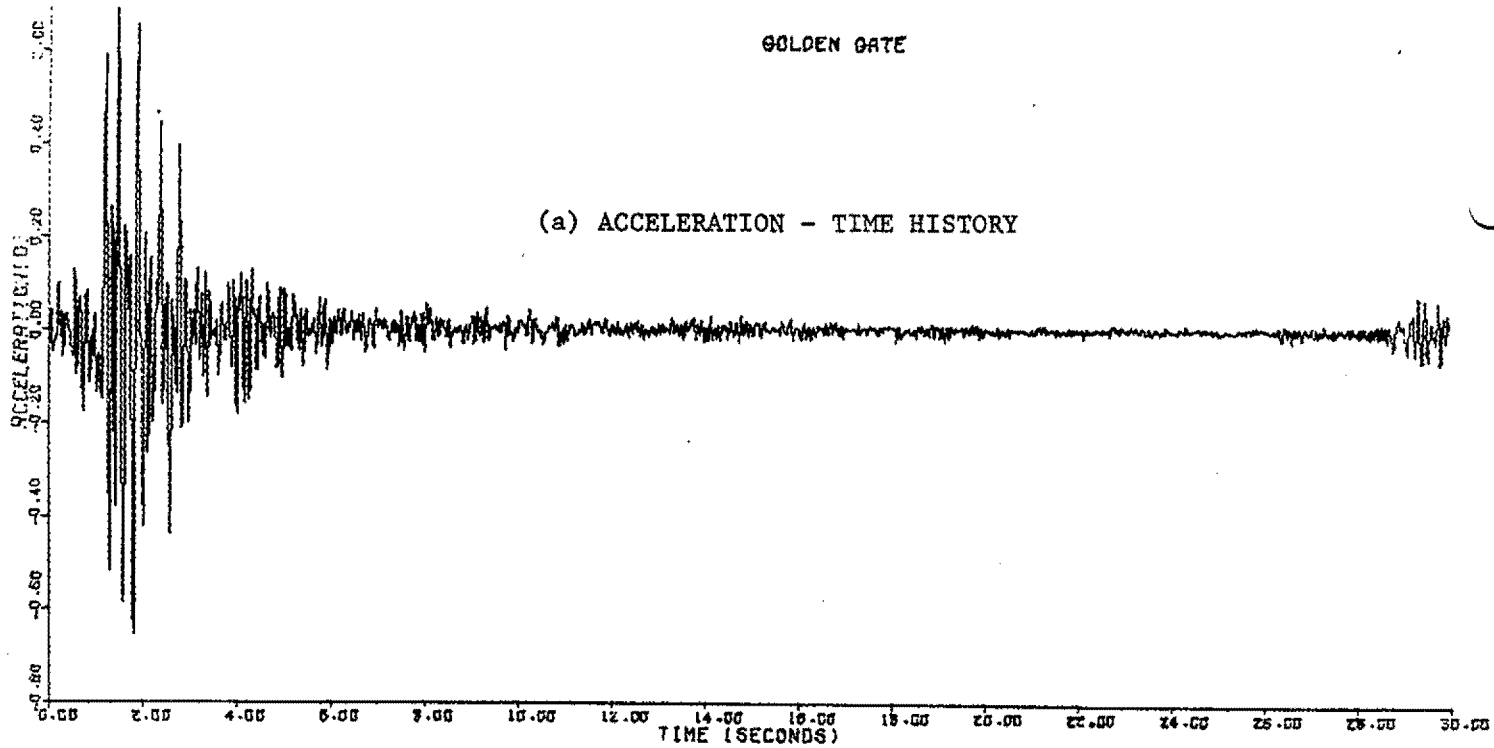
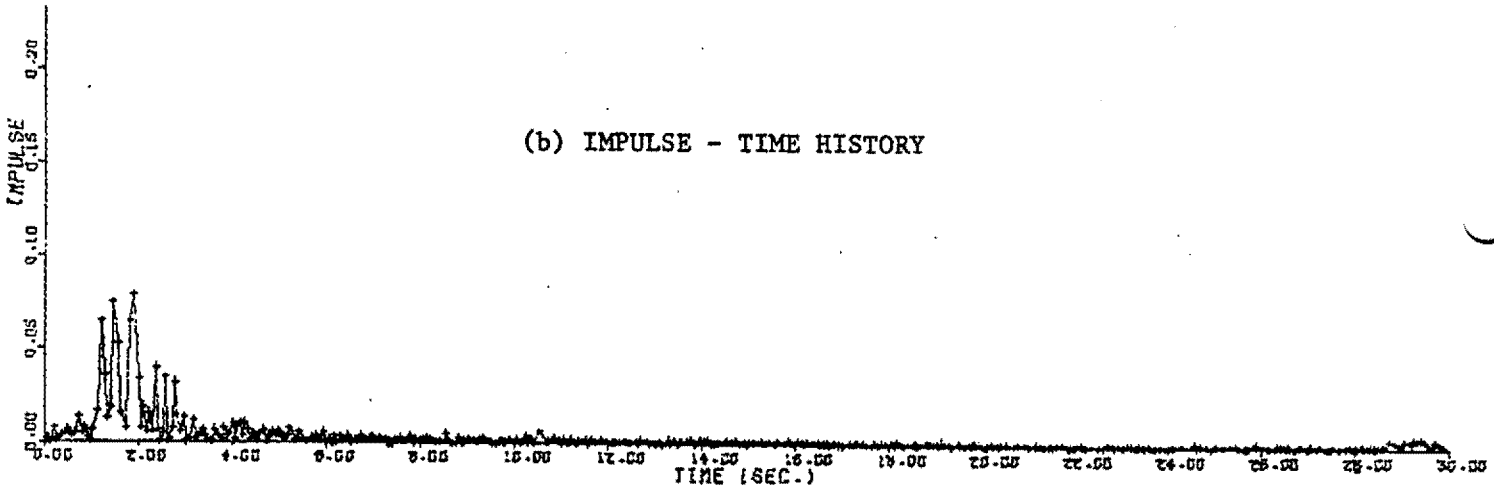


Fig. A-6 cont.
Earthquake 5-B
1954 Ferndale





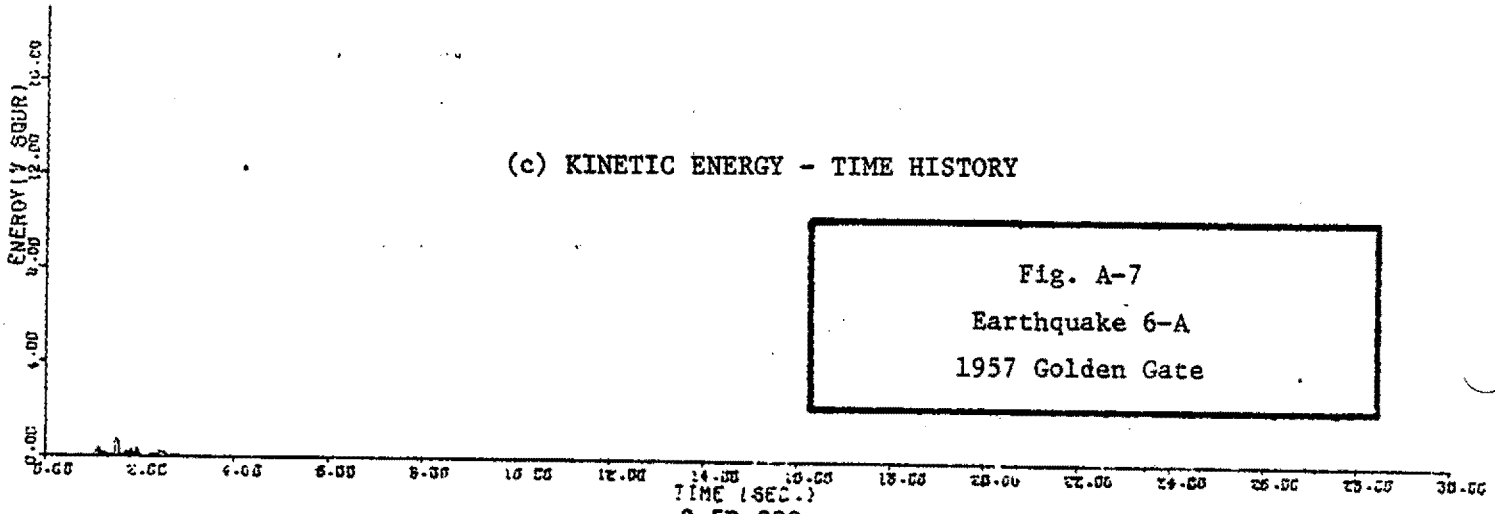
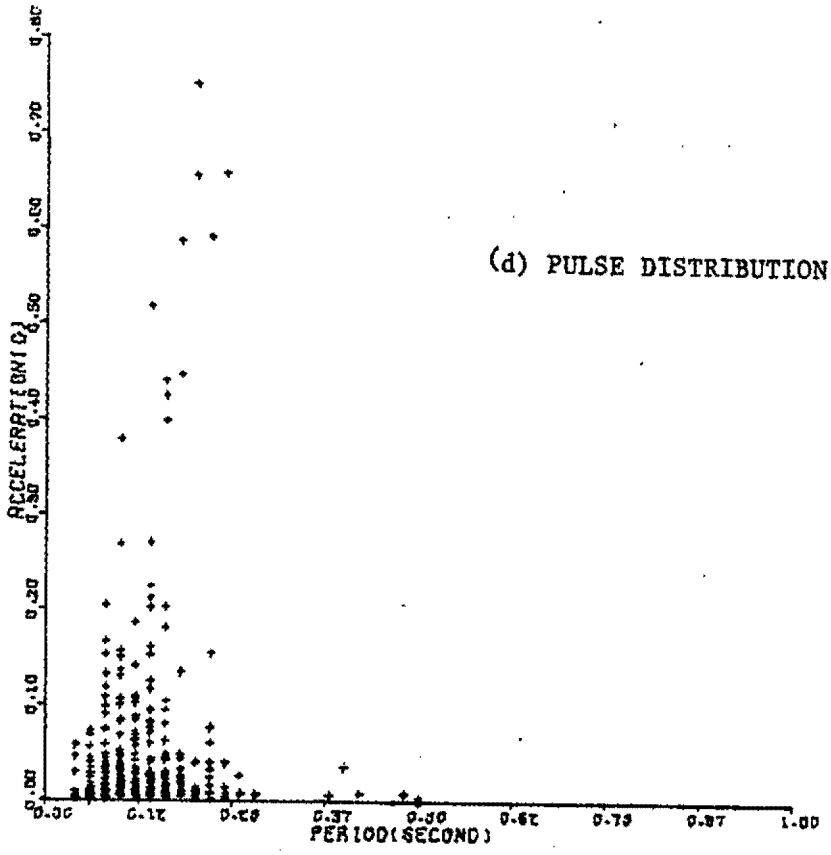
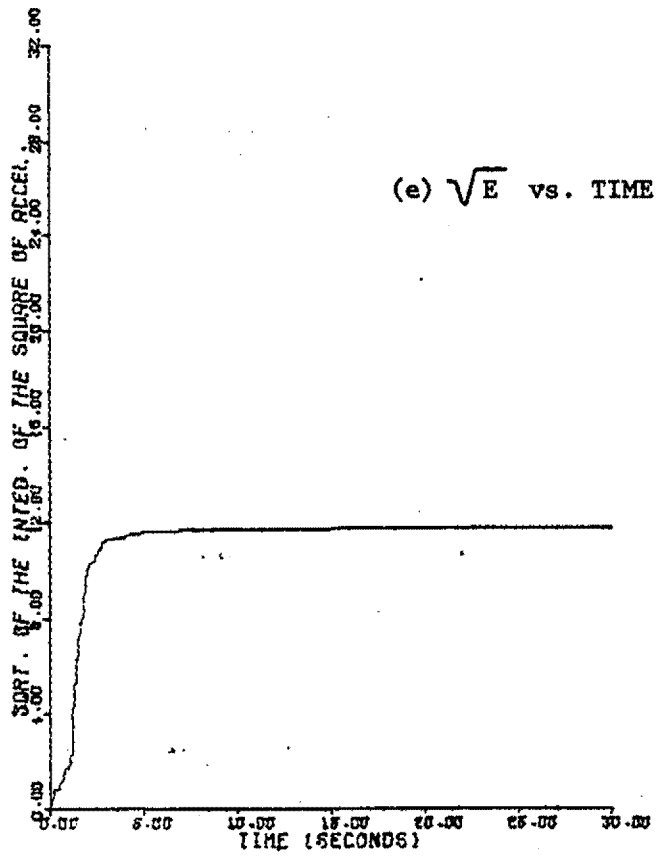


Fig. A-7
Earthquake 6-A
1957 Golden Gate



(d) PULSE DISTRIBUTION



(e) $\sqrt{E}$ vs. TIME

Fig. A-7 cont.
Earthquake 6-A
1957 Golden Gate

Amended: April 2009 TL: E048000

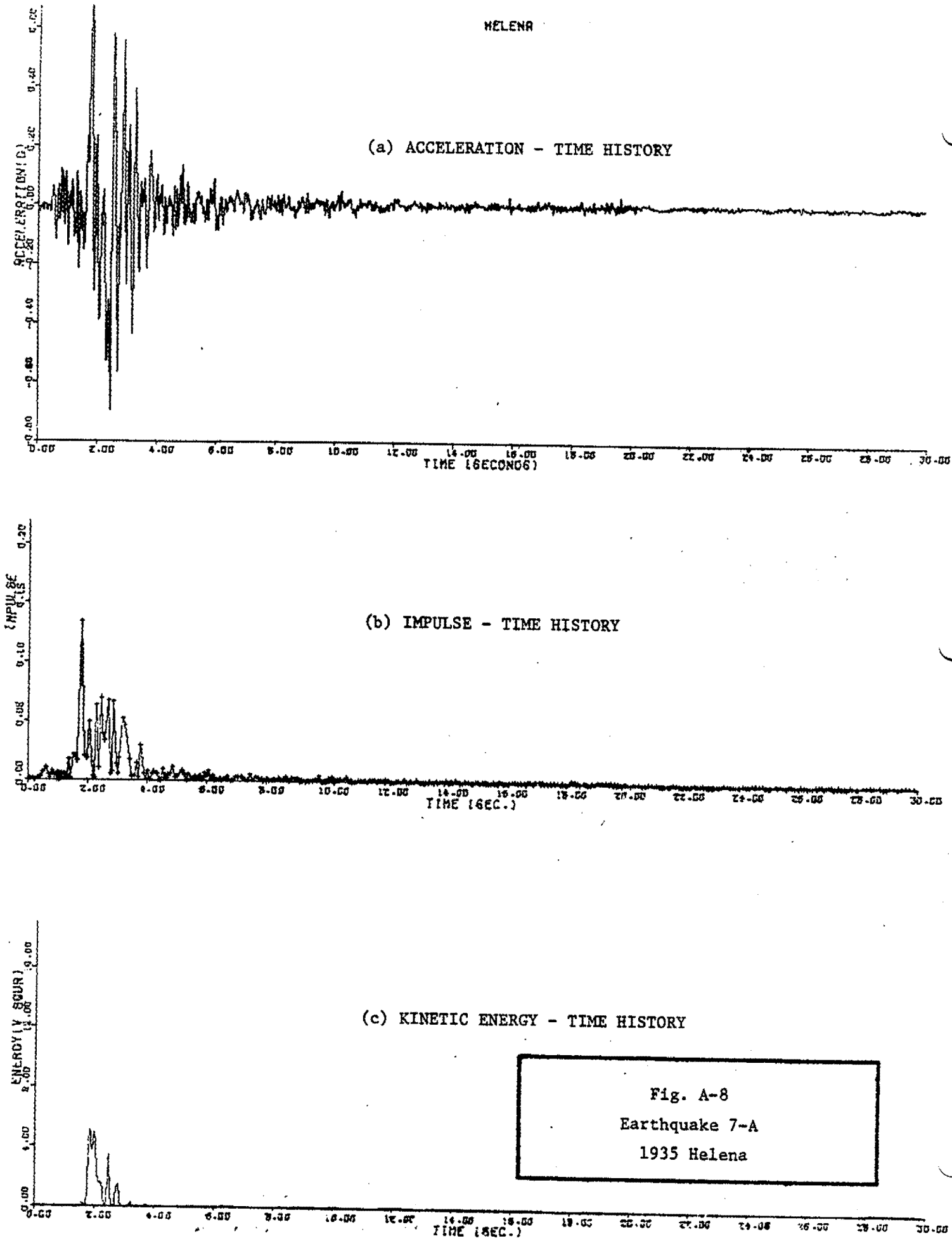
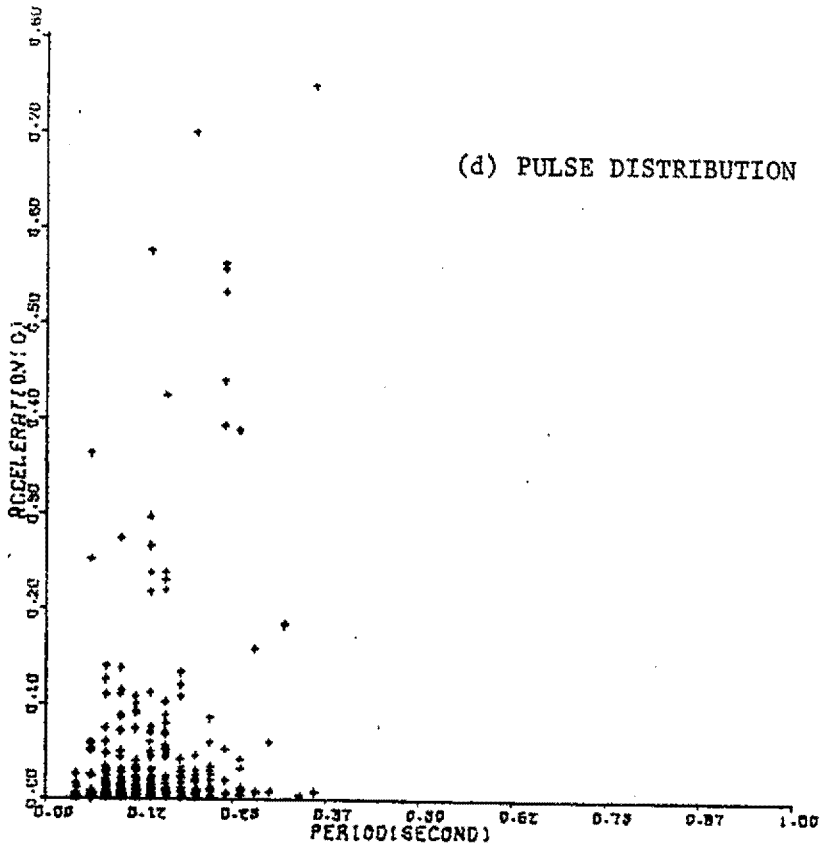


Fig. A-8
Earthquake 7-A
1935 Helena



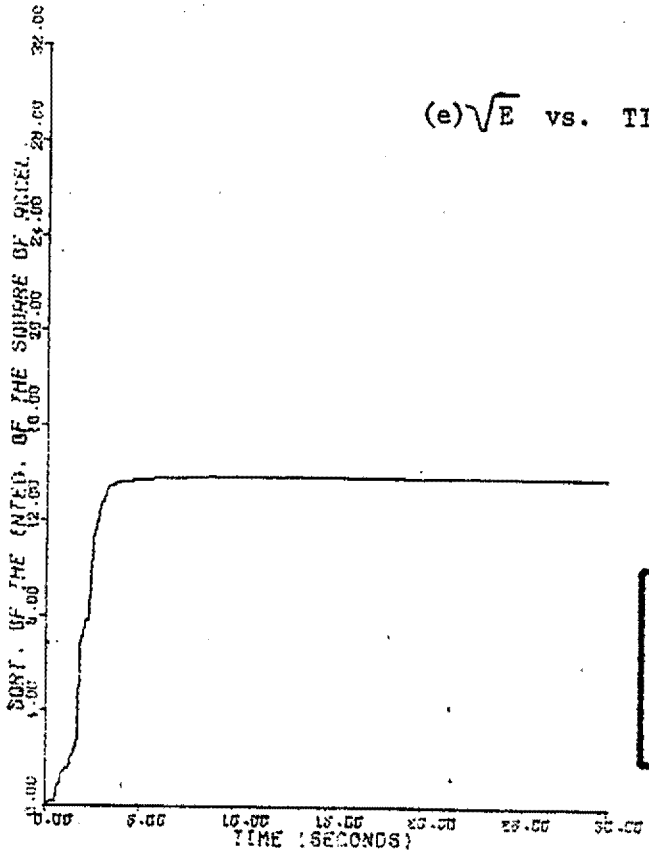
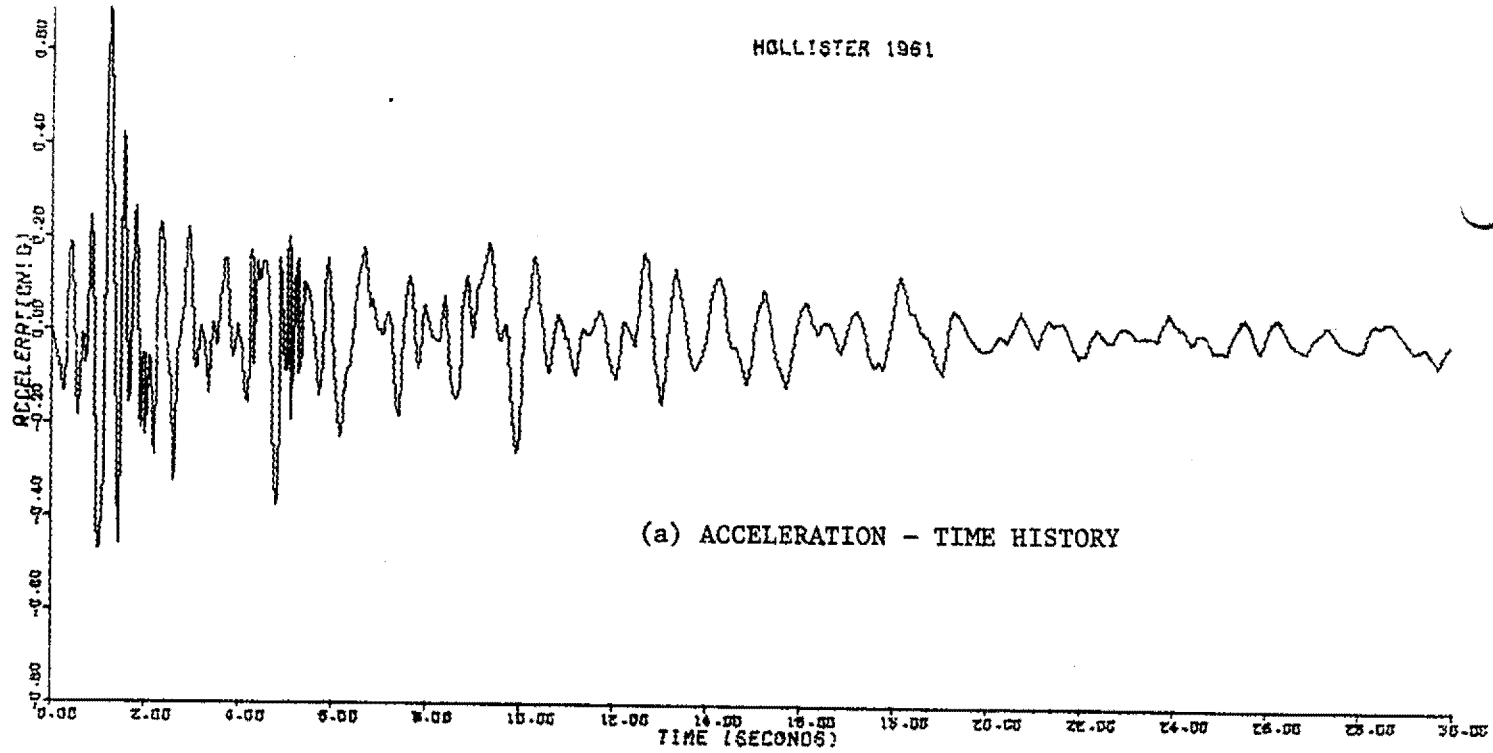
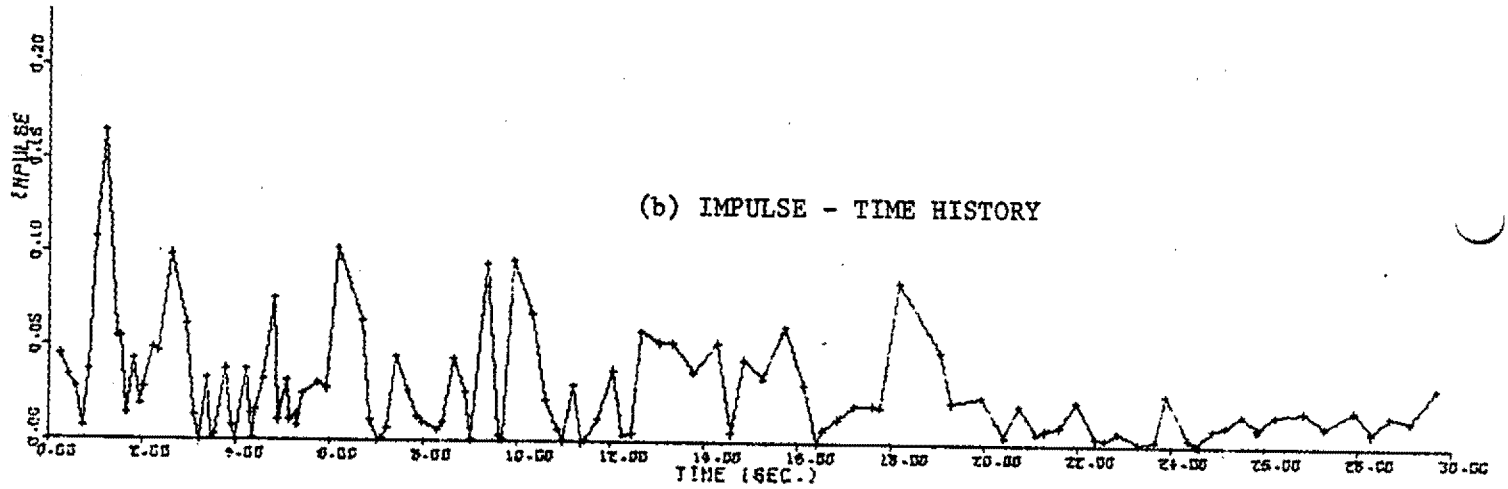


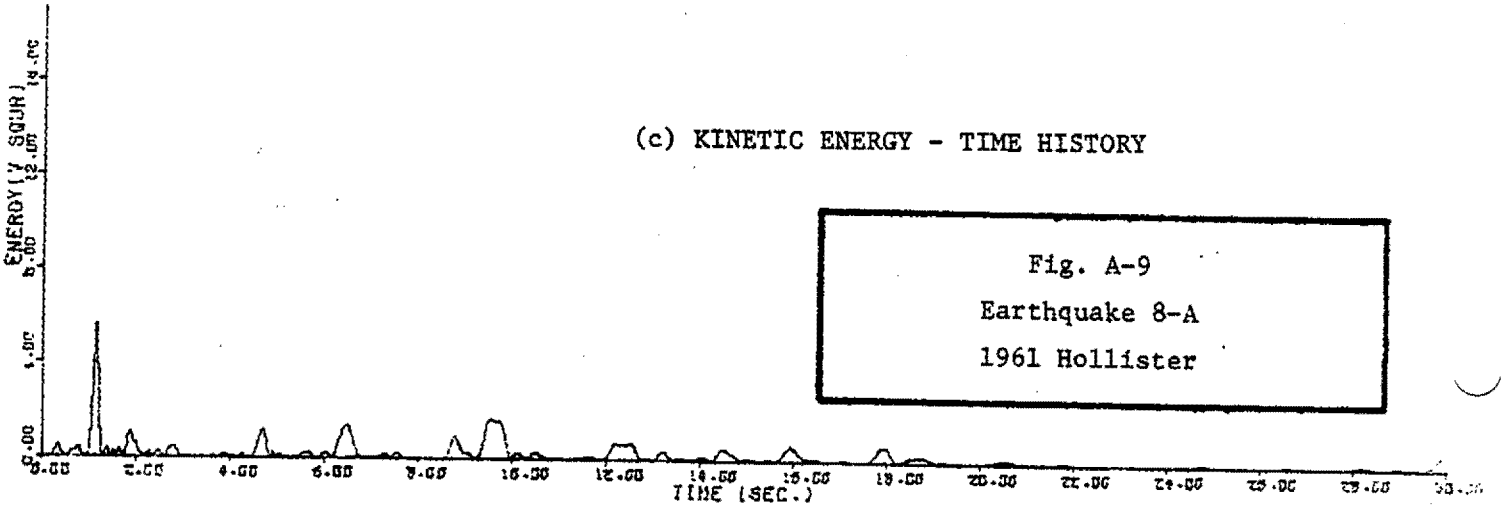
Fig. A-8 cont.
Earthquake 7-A
1935 Helena



(a) ACCELERATION - TIME HISTORY

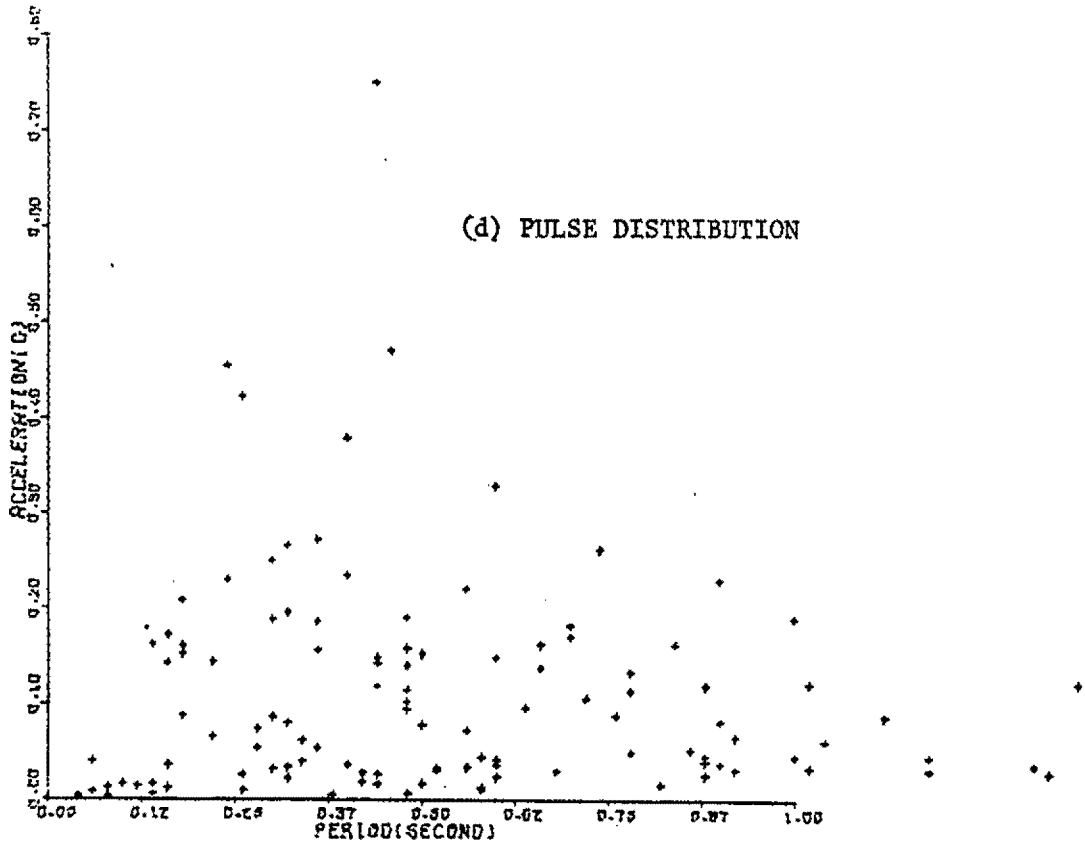


(b) IMPULSE - TIME HISTORY



(c) KINETIC ENERGY - TIME HISTORY

Fig. A-9
Earthquake 8-A
1961 Hollister



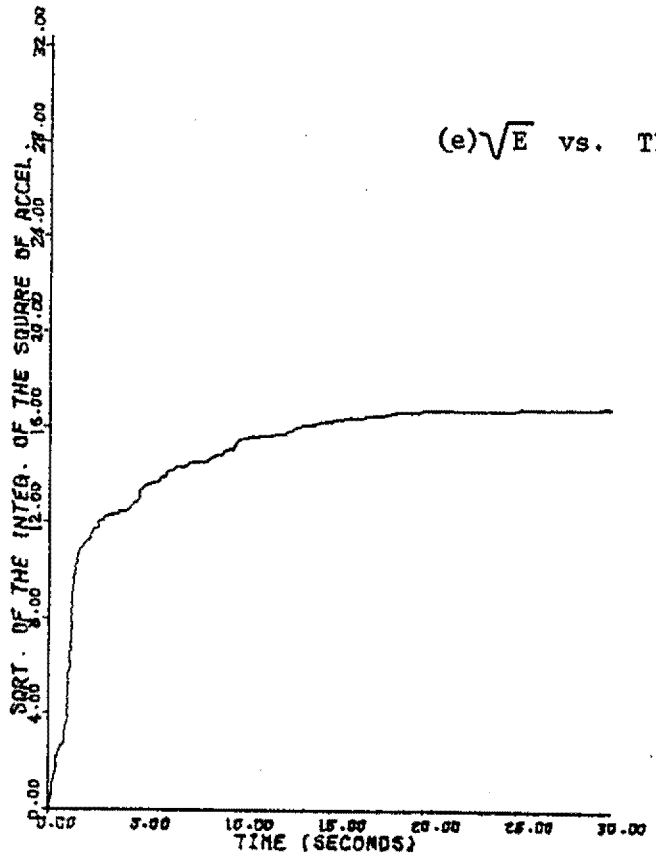
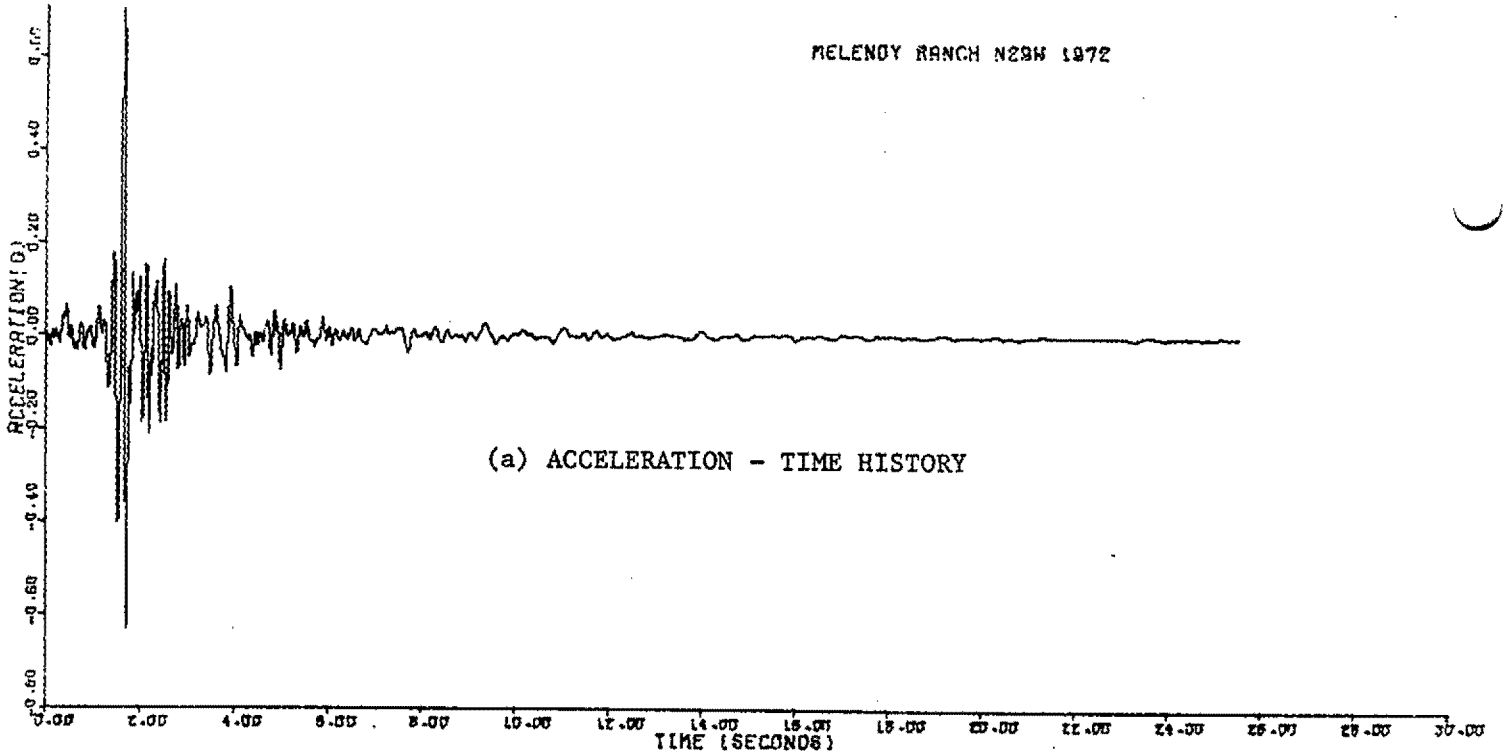
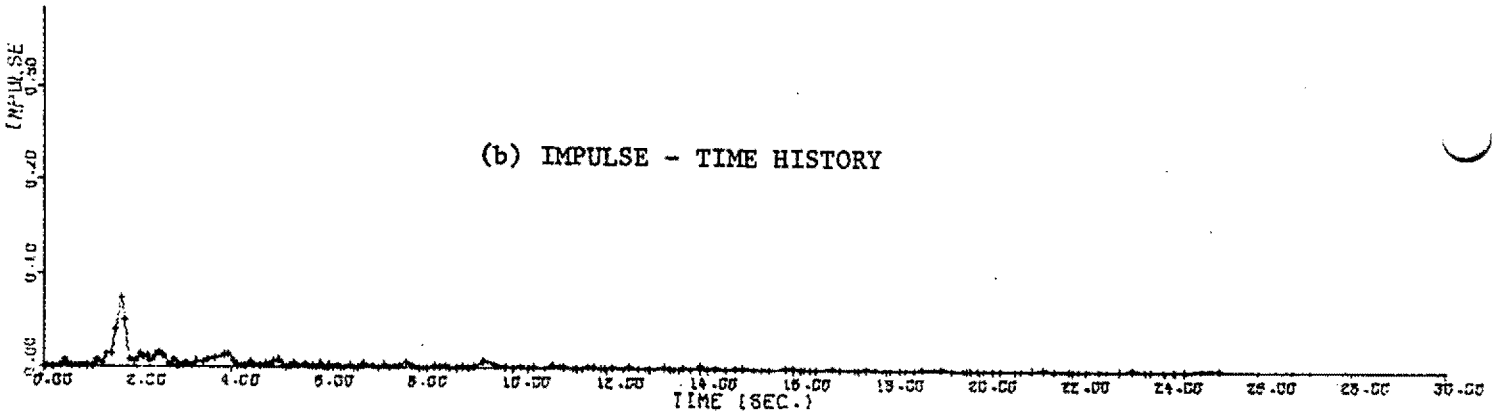


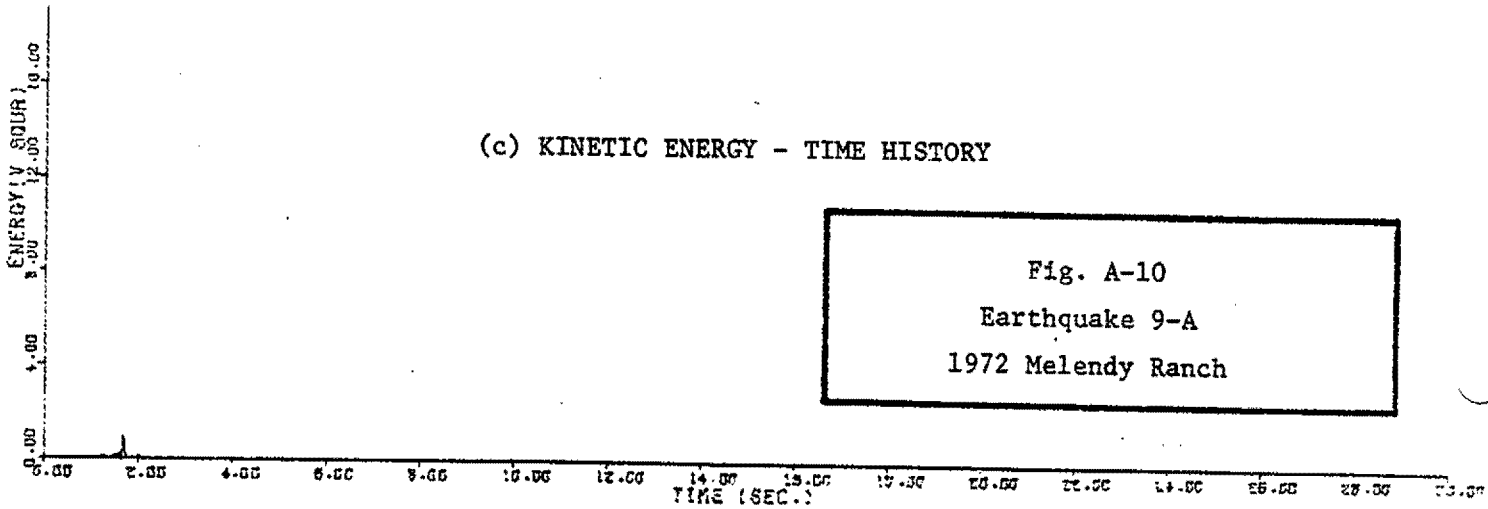
Fig. A-9 cont.
Earthquake 8-A
1961 Hollister



(a) ACCELERATION - TIME HISTORY



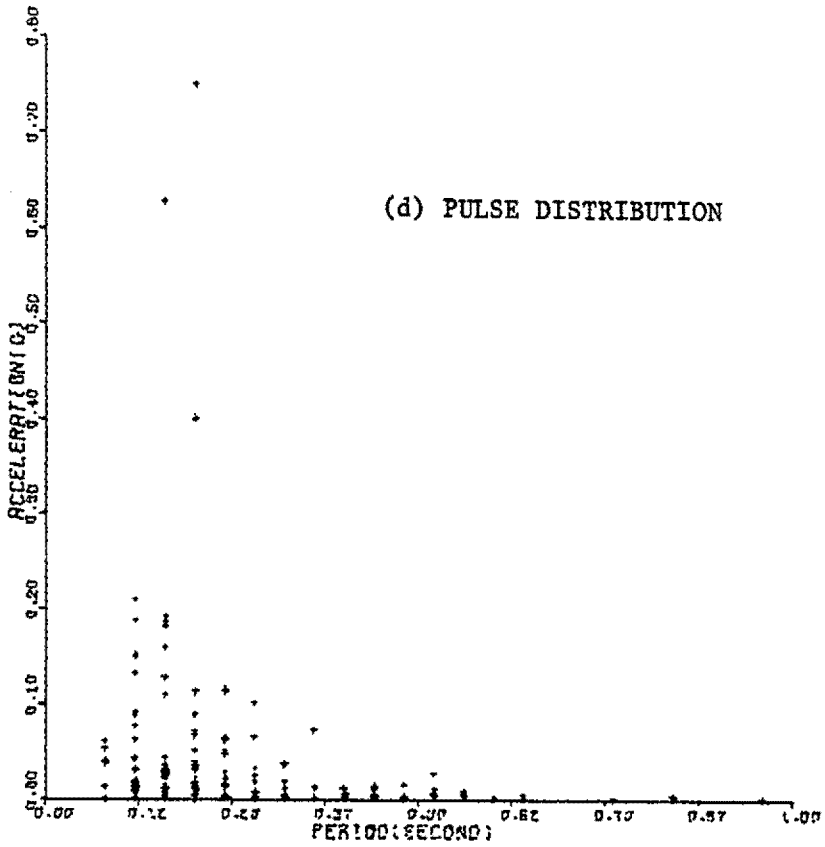
(b) IMPULSE - TIME HISTORY



(c) KINETIC ENERGY - TIME HISTORY

Fig. A-10
Earthquake 9-A
1972 Melendy Ranch

Amended: April 2009 TL: E048000



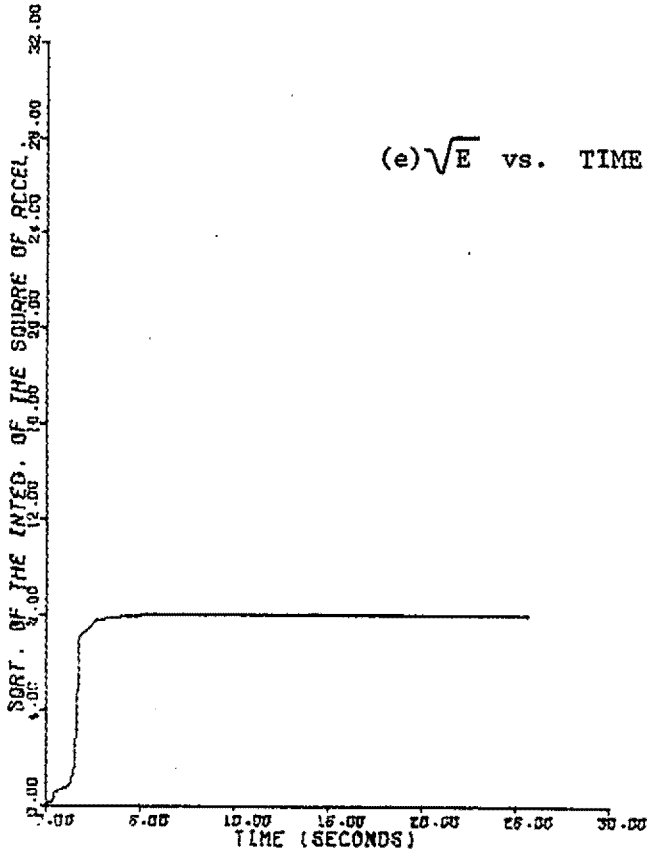
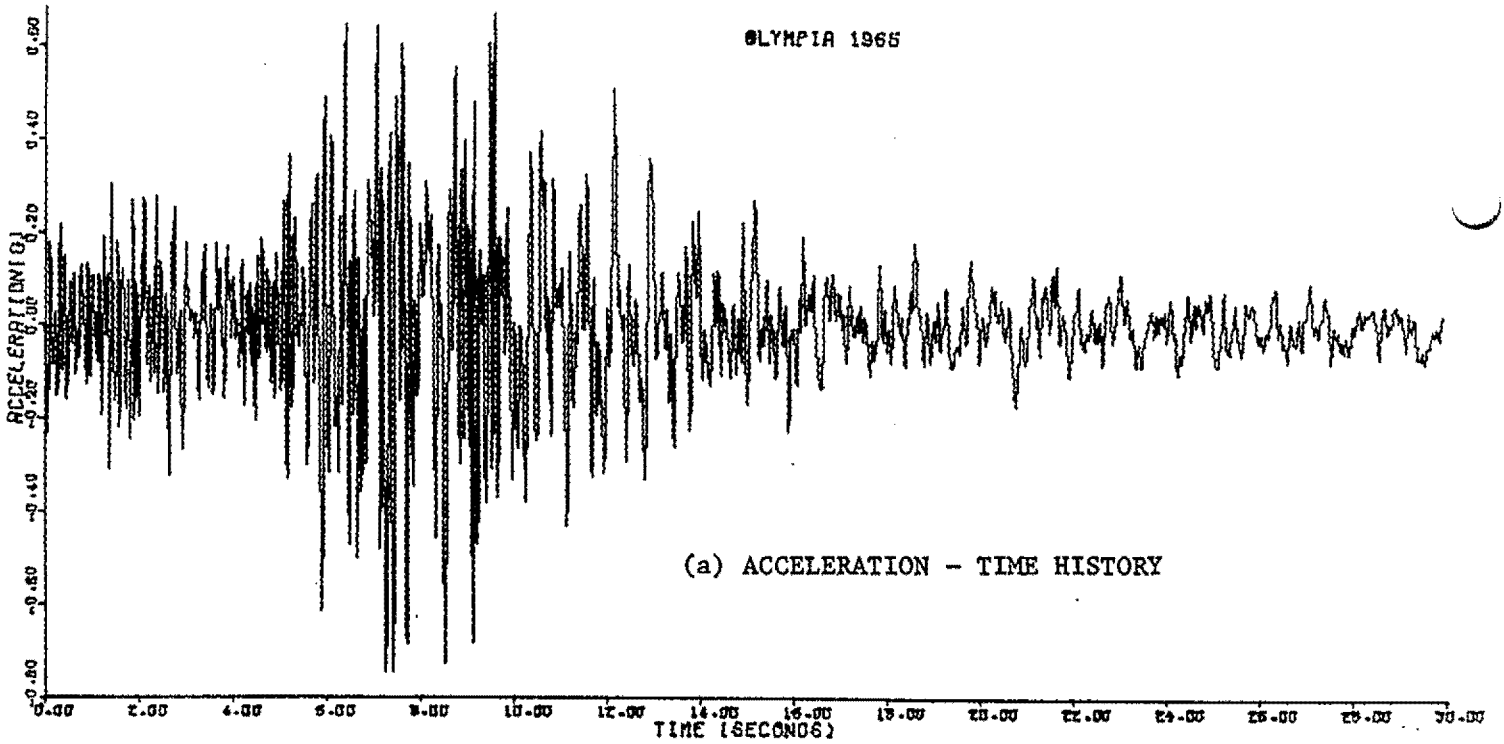
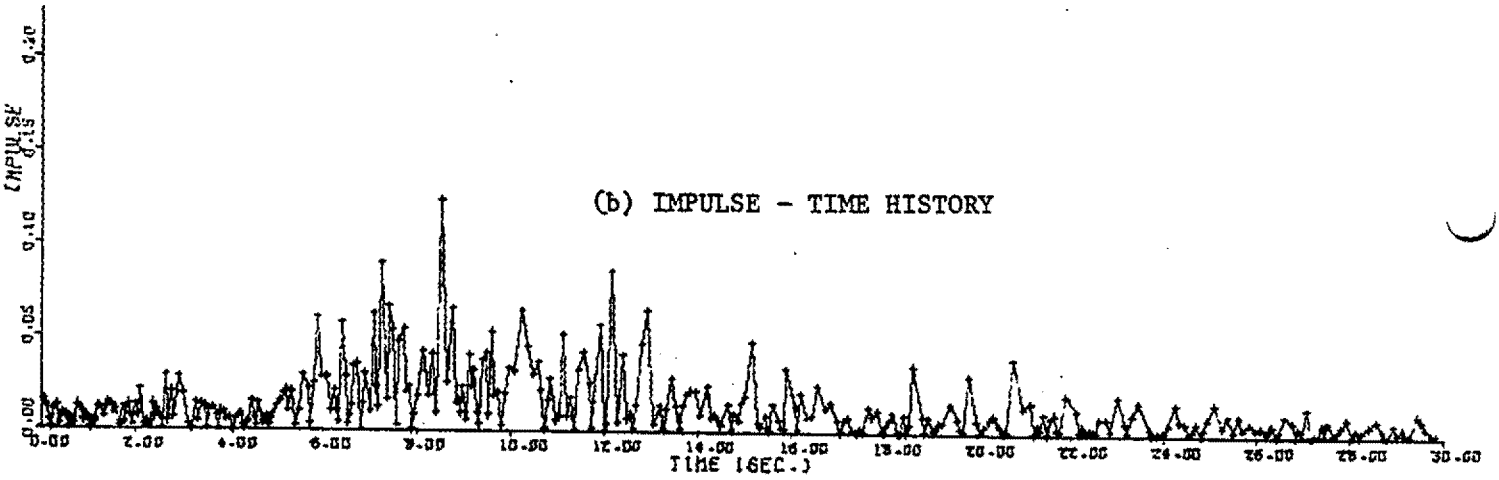


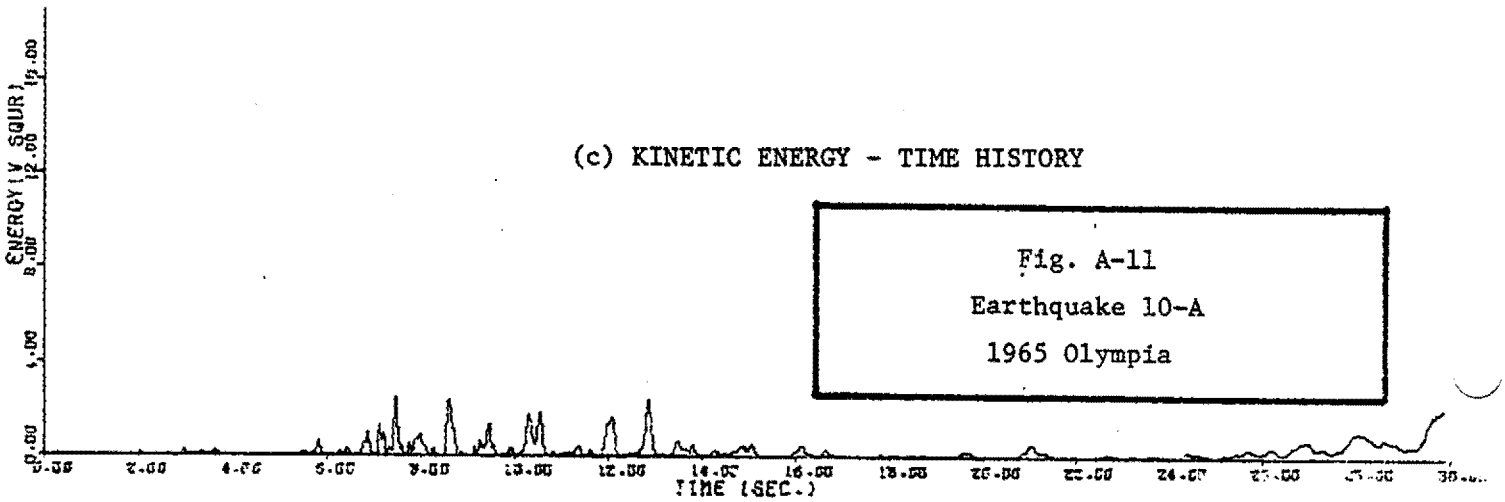
Fig. A-10 cont.
Earthquake 9-A
1972 Melendy Ranch



(a) ACCELERATION - TIME HISTORY

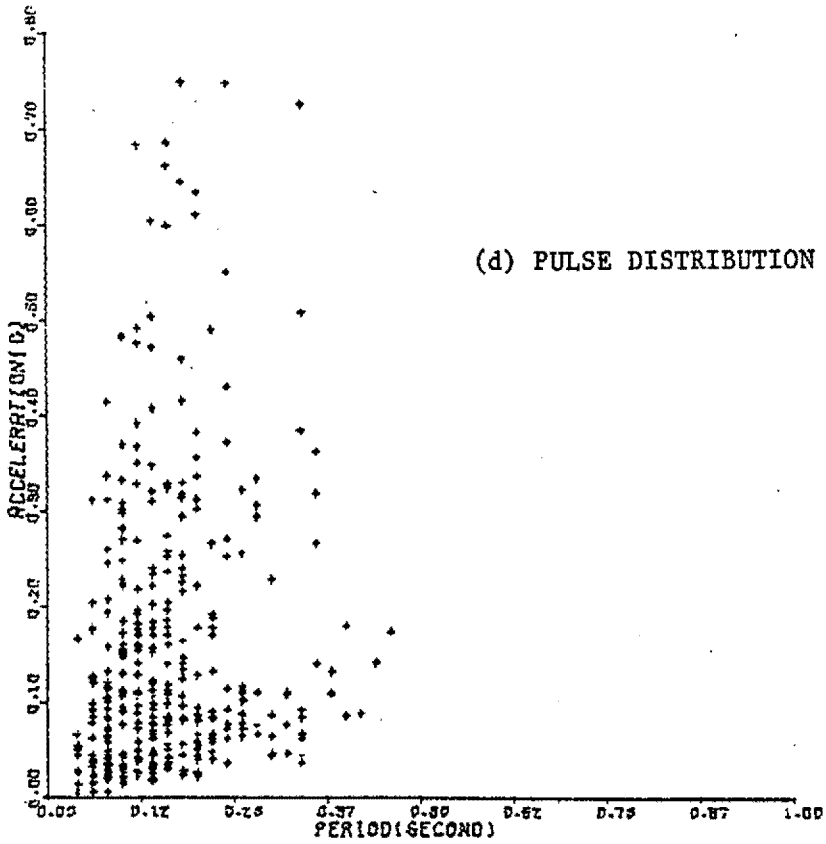


(b) IMPULSE - TIME HISTORY

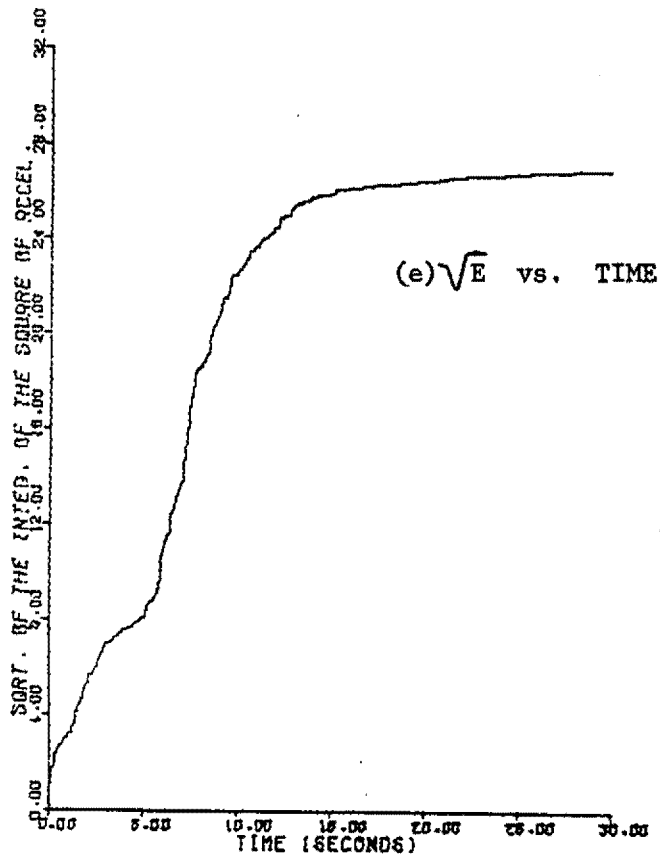


(c) KINETIC ENERGY - TIME HISTORY

Fig. A-11
Earthquake 10-A
1965 Olympia

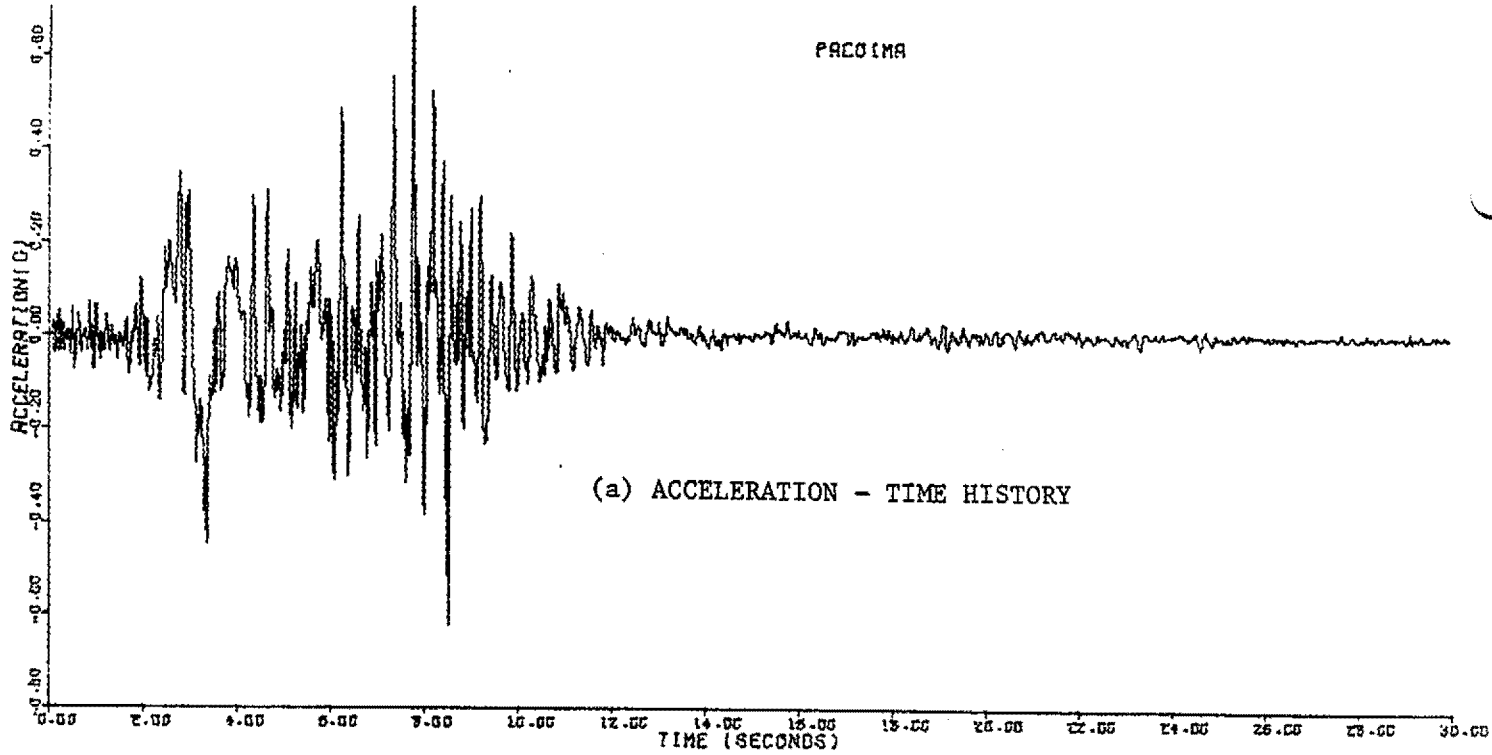


(d) PULSE DISTRIBUTION

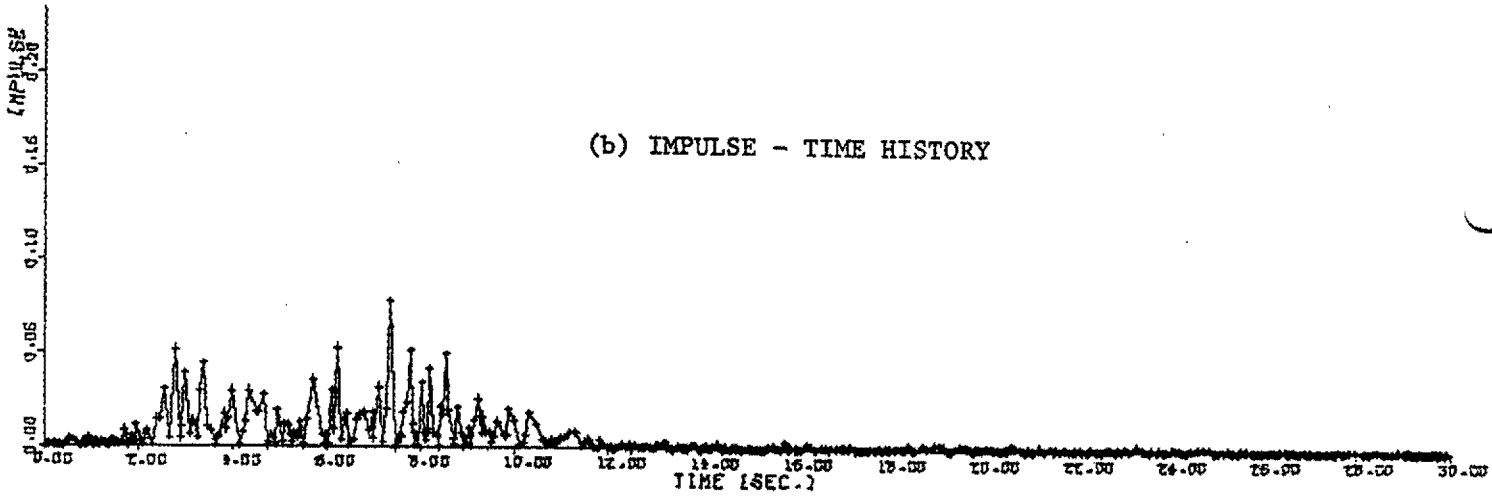


(e) $\sqrt{E}$ vs. TIME

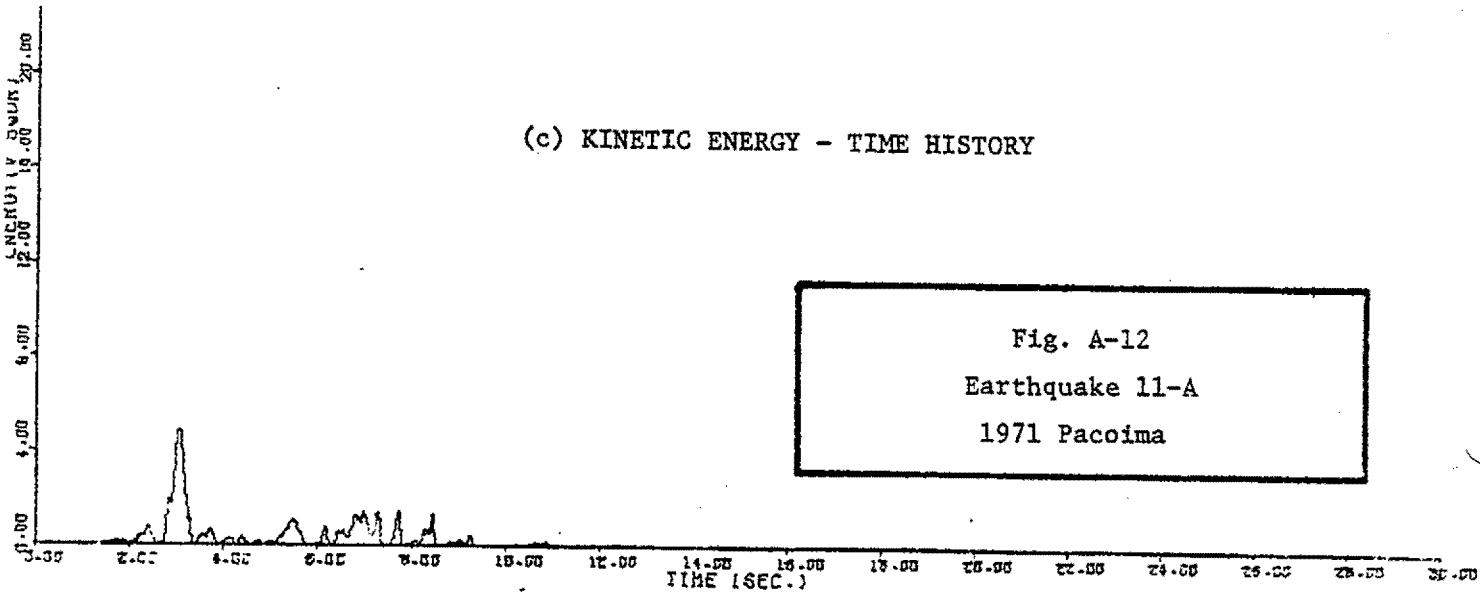
Fig. A-11 cont.
Earthquake 10-A
1965 Olympia



(a) ACCELERATION - TIME HISTORY

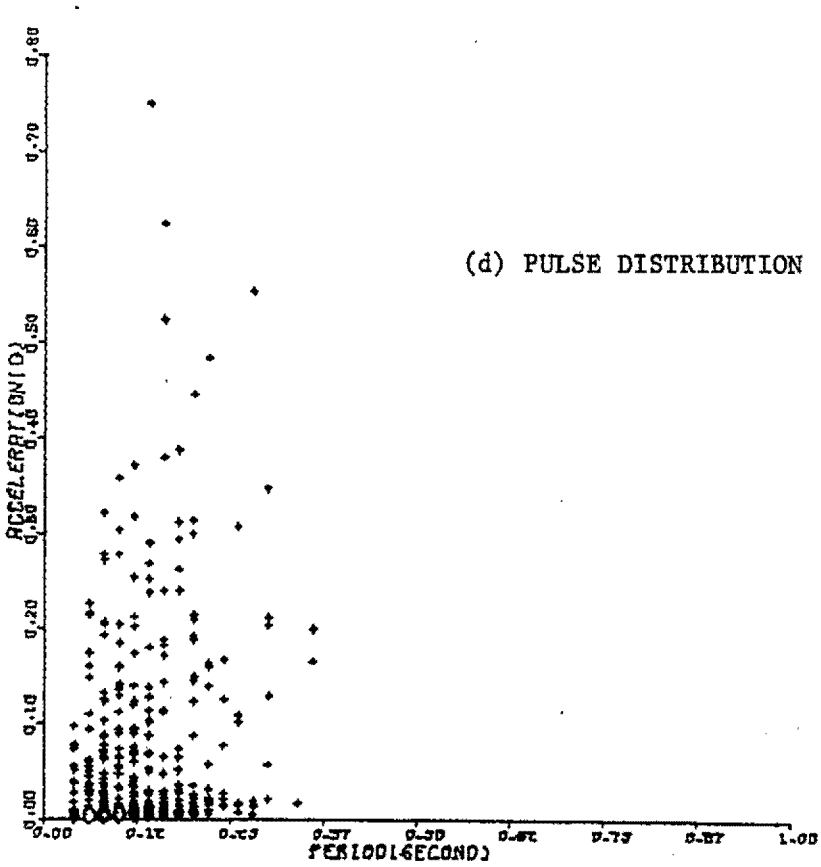


(b) IMPULSE - TIME HISTORY

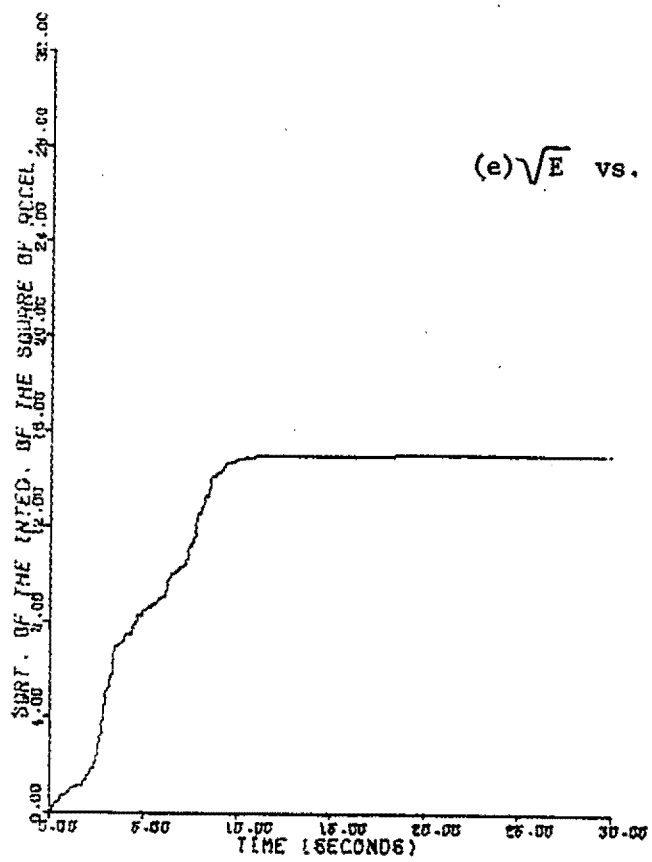


(c) KINETIC ENERGY - TIME HISTORY

Fig. A-12
Earthquake 11-A
1971 Pacoima

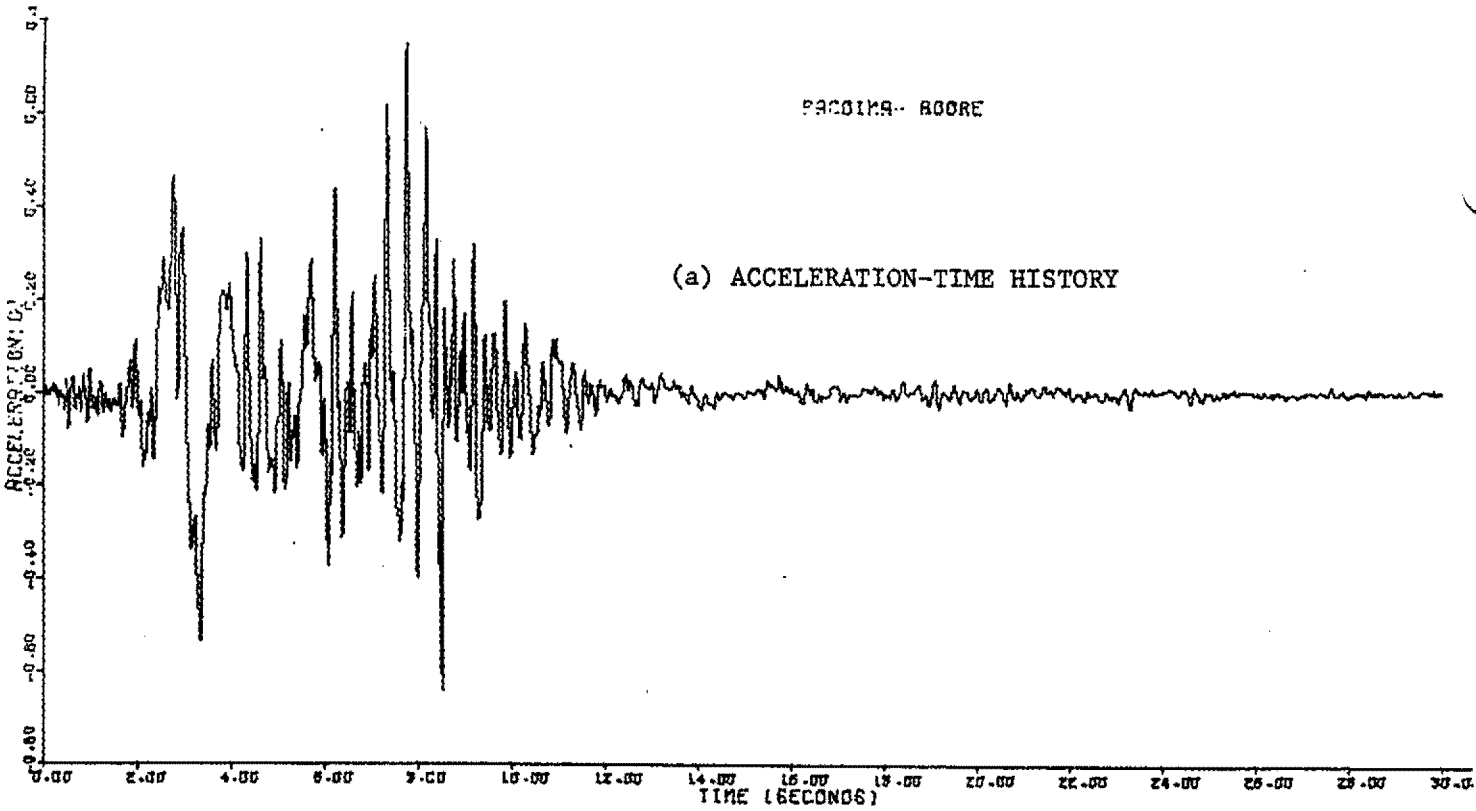


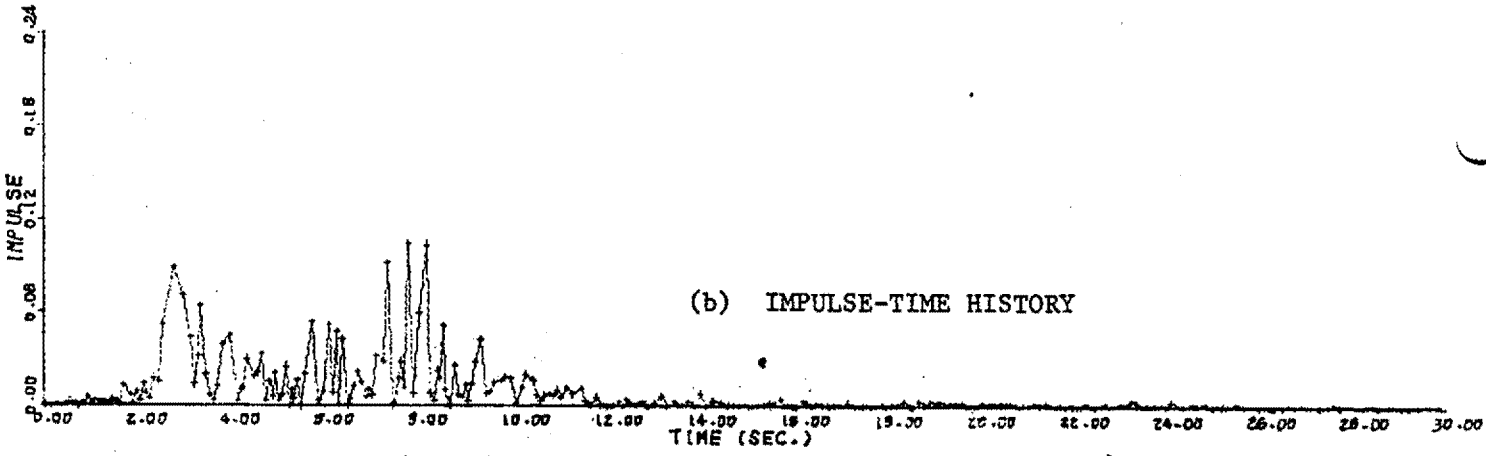
(d) PULSE DISTRIBUTION



(e) $\sqrt{E}$ vs. TIME

Fig. A-12 cont.
Earthquake 11-A
1971 Pacoima





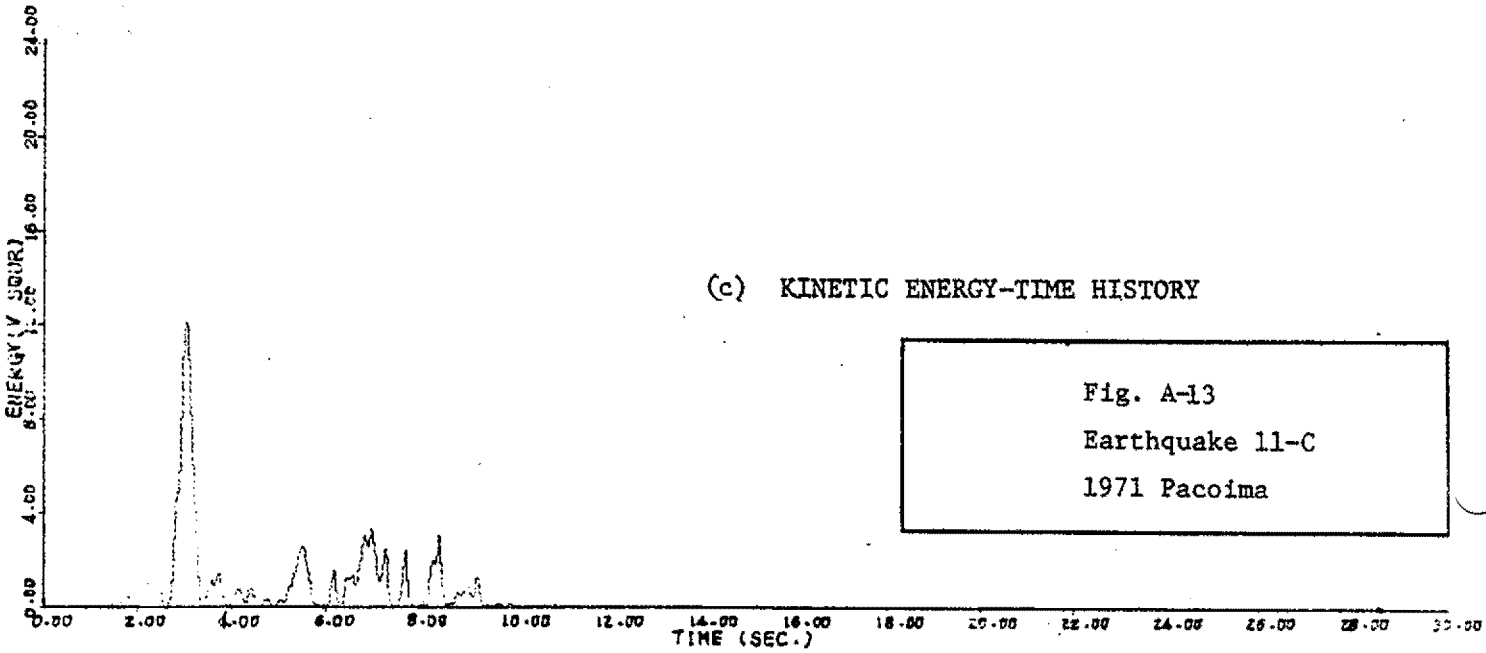
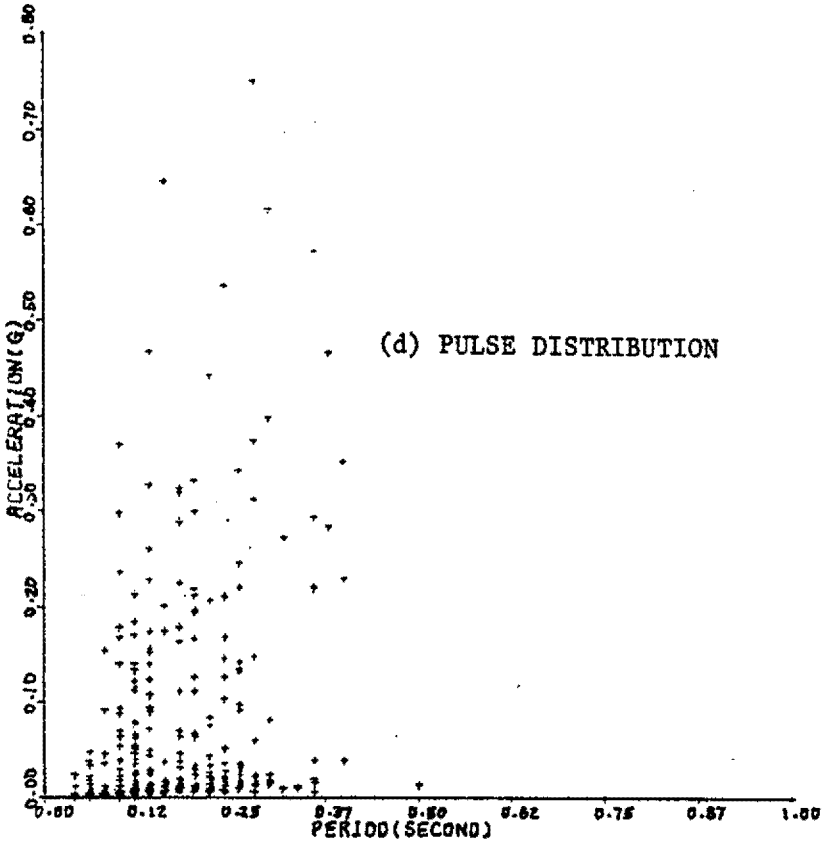


Fig. A-13
Earthquake 11-C
1971 Pacoima

Amended: April 2009 TL: E048000



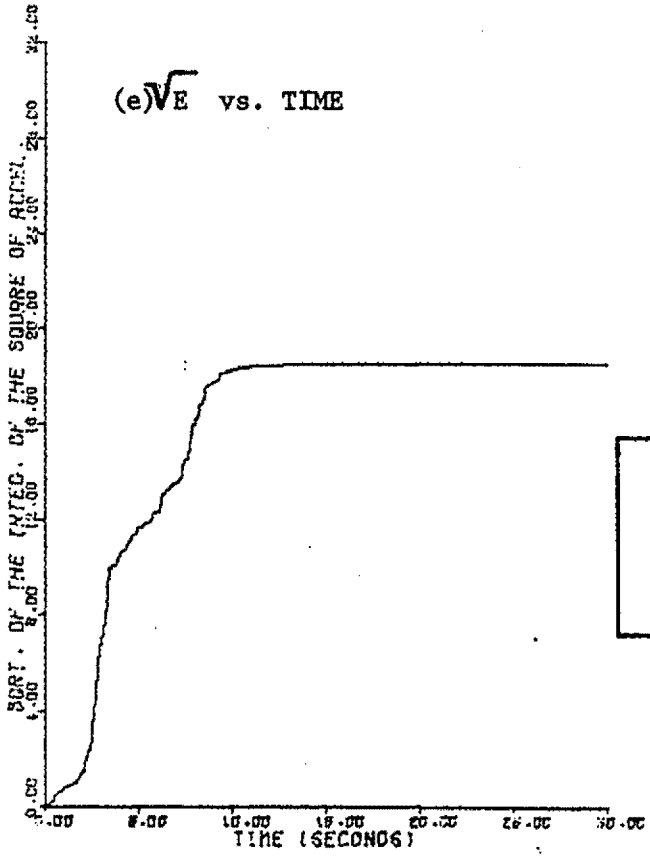


Fig. A-13 cont.
Earthquake 11-C
1971 Pacoima

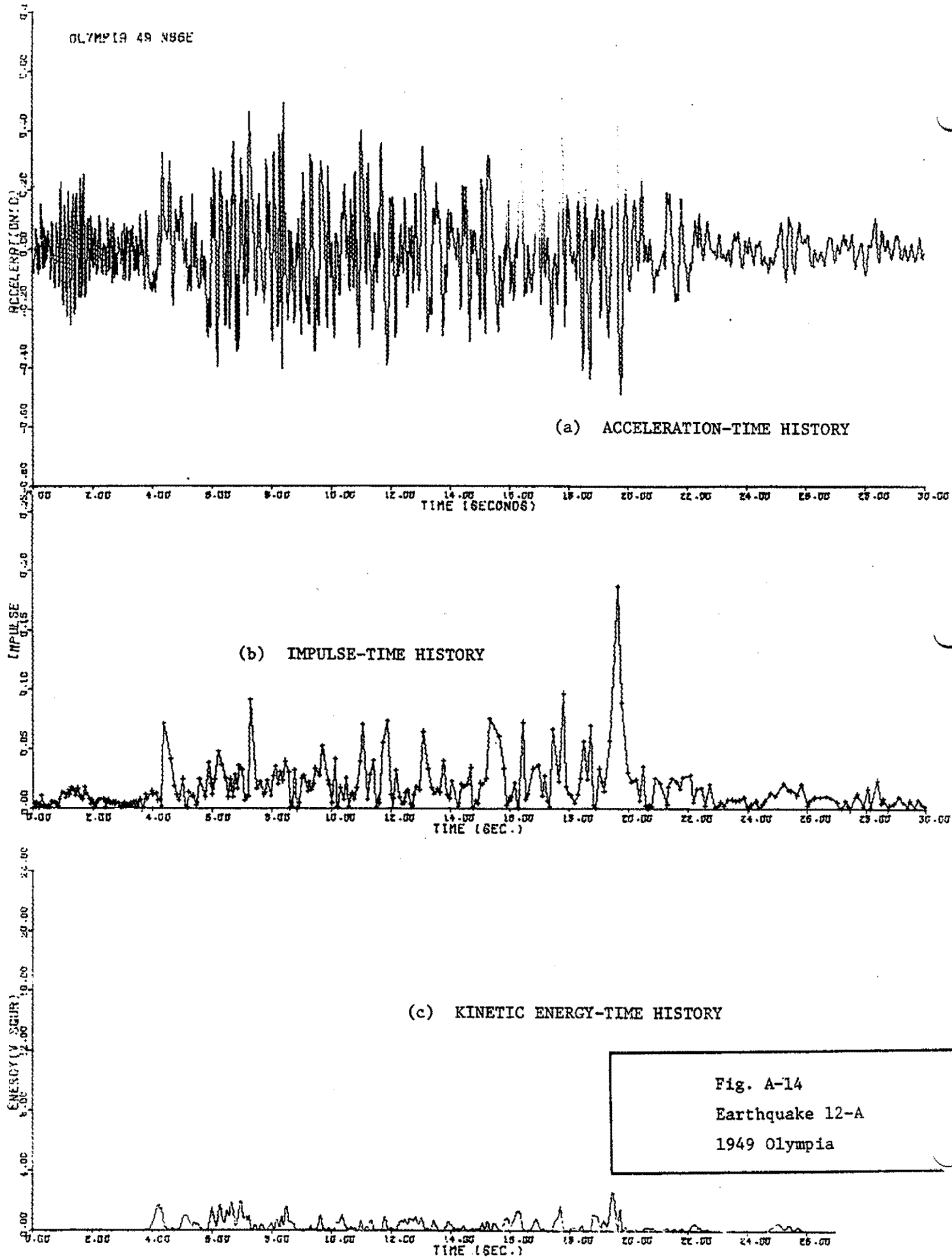
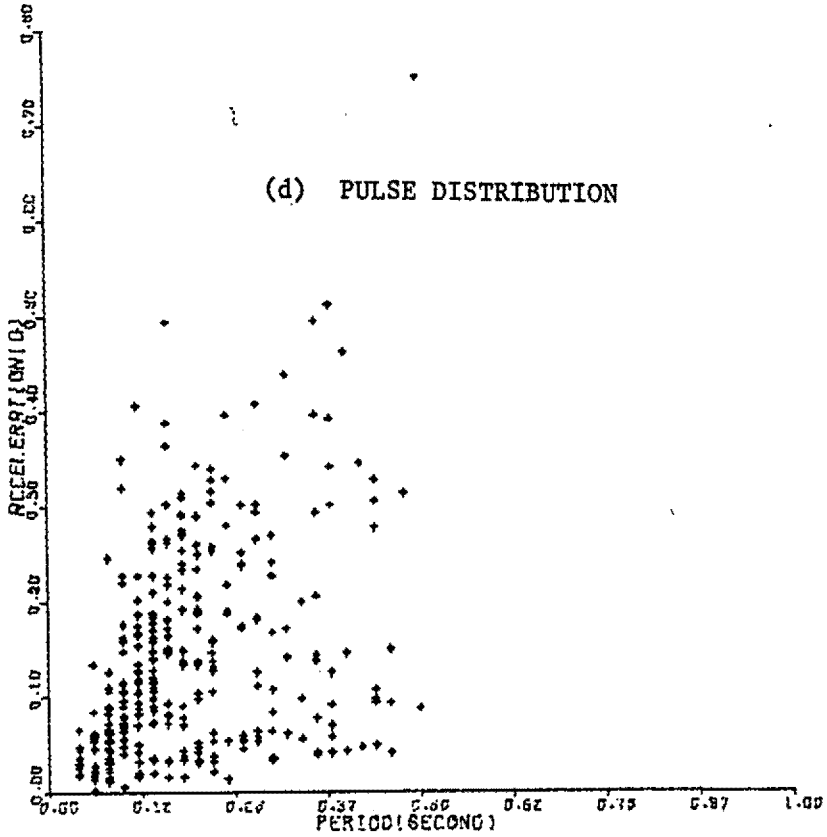


Fig. A-14
Earthquake 12-A
1949 Olympia



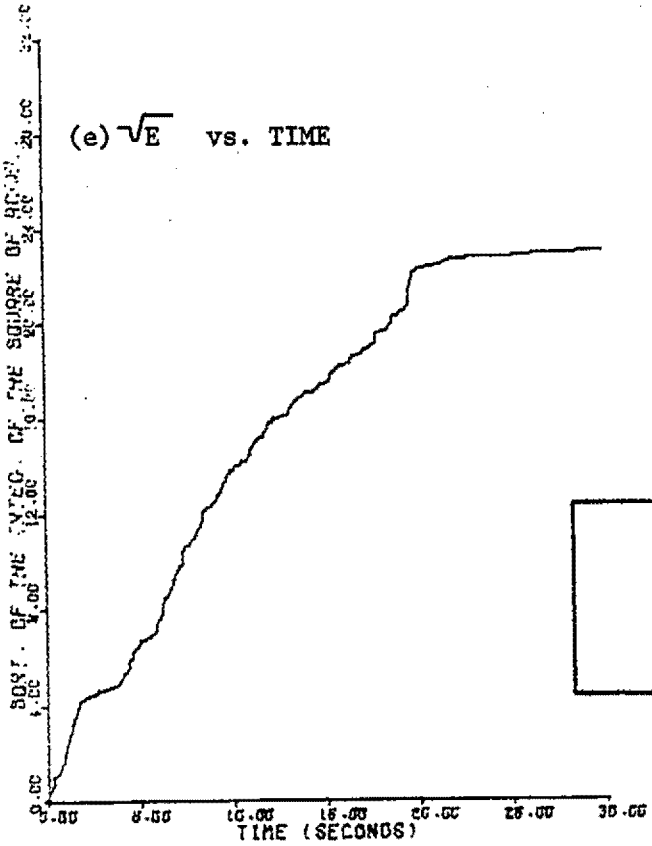
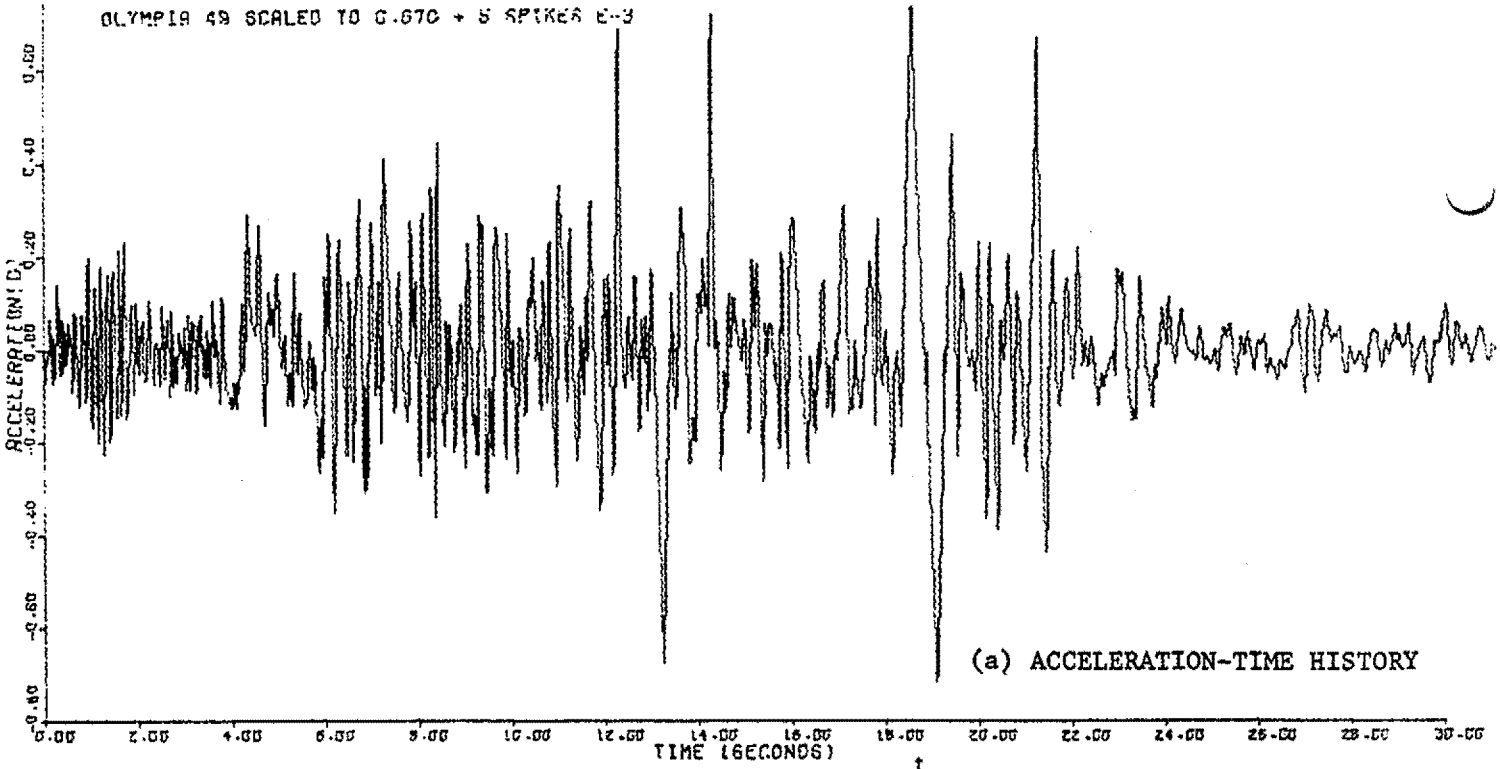
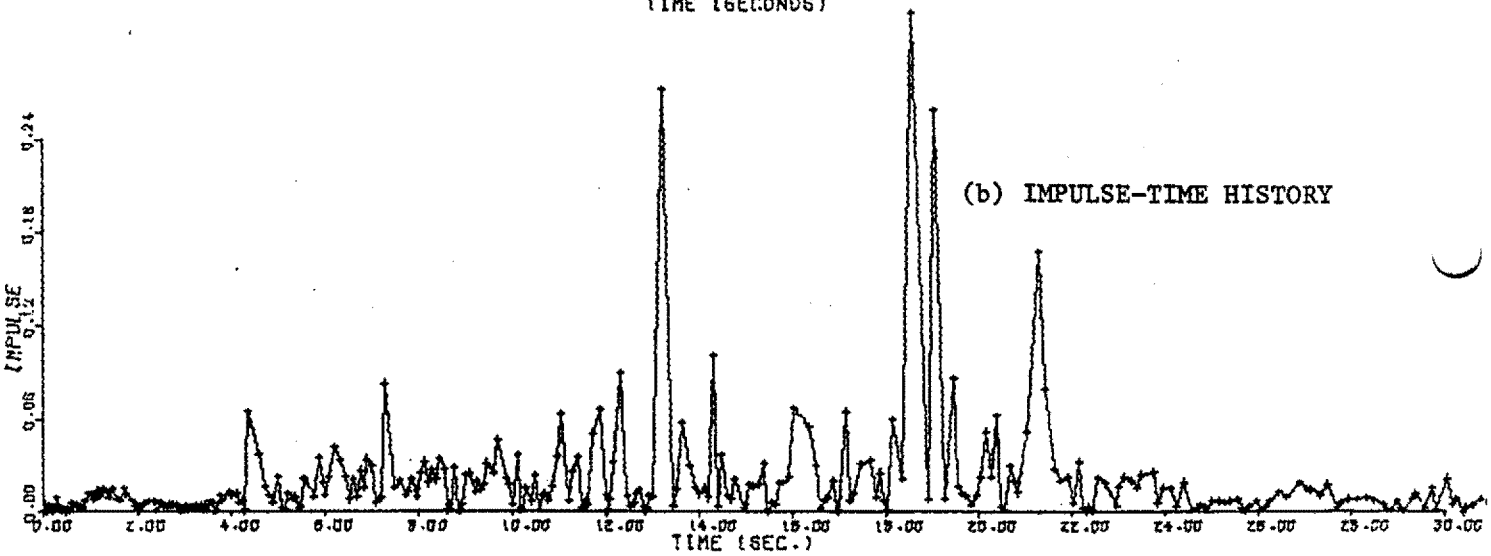


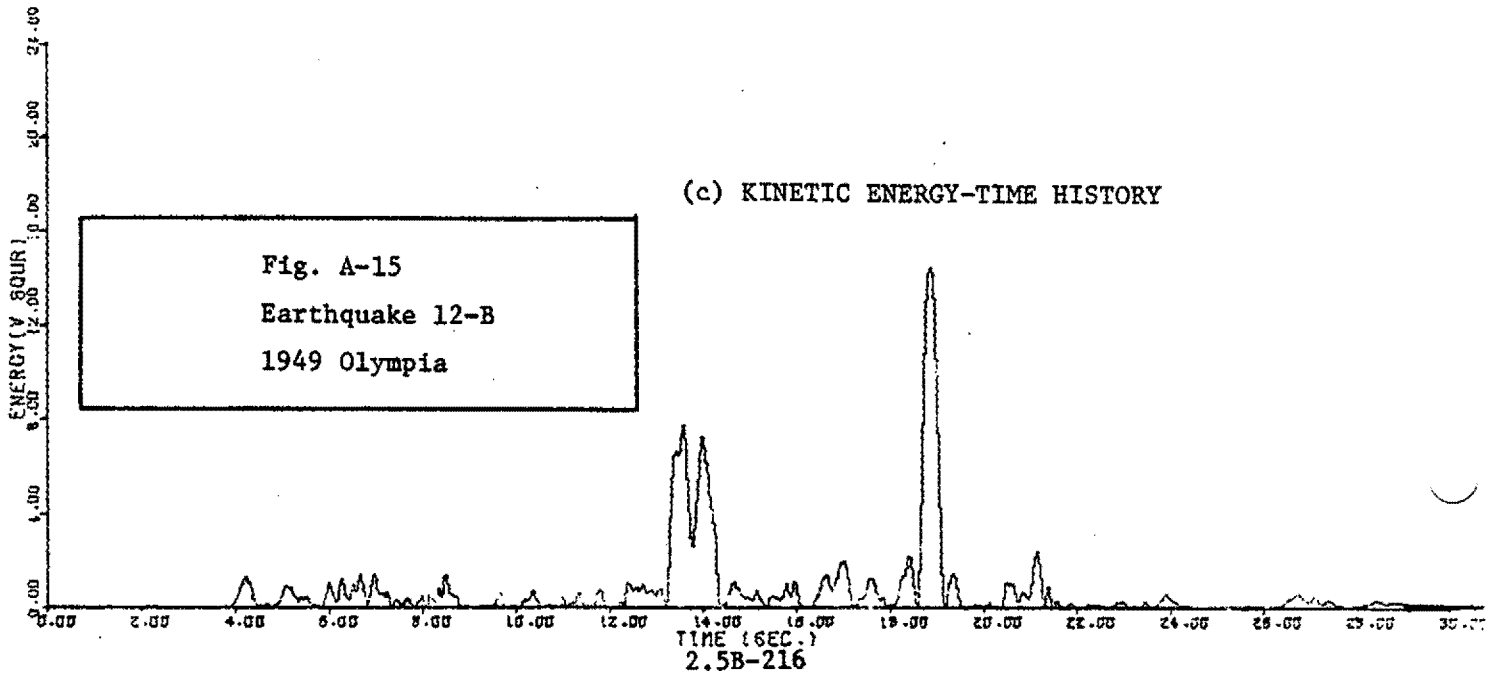
Fig. A-14 cont.
Earthquake 12-A
1949 Olympia



(a) ACCELERATION-TIME HISTORY



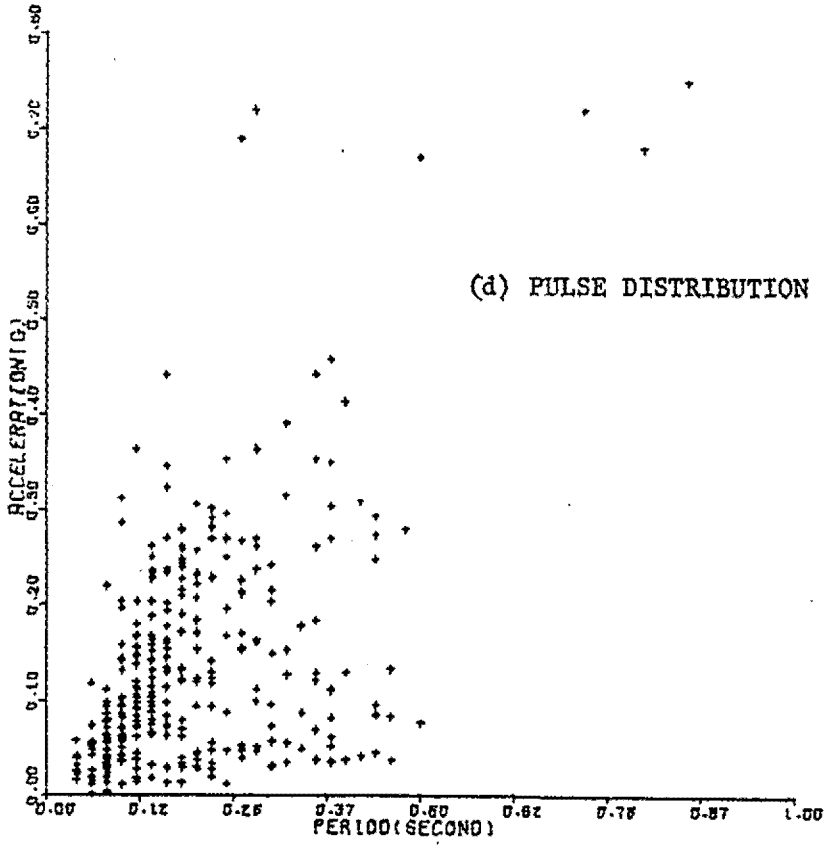
(b) IMPULSE-TIME HISTORY



(c) KINETIC ENERGY-TIME HISTORY

Fig. A-15
Earthquake 12-B
1949 Olympia

Amended: April 2009 TL: E048000



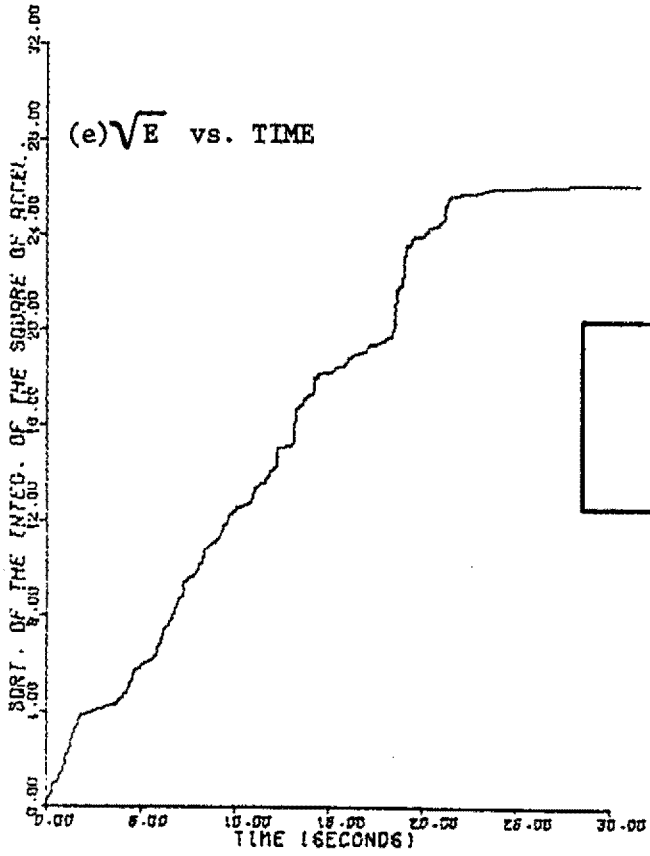
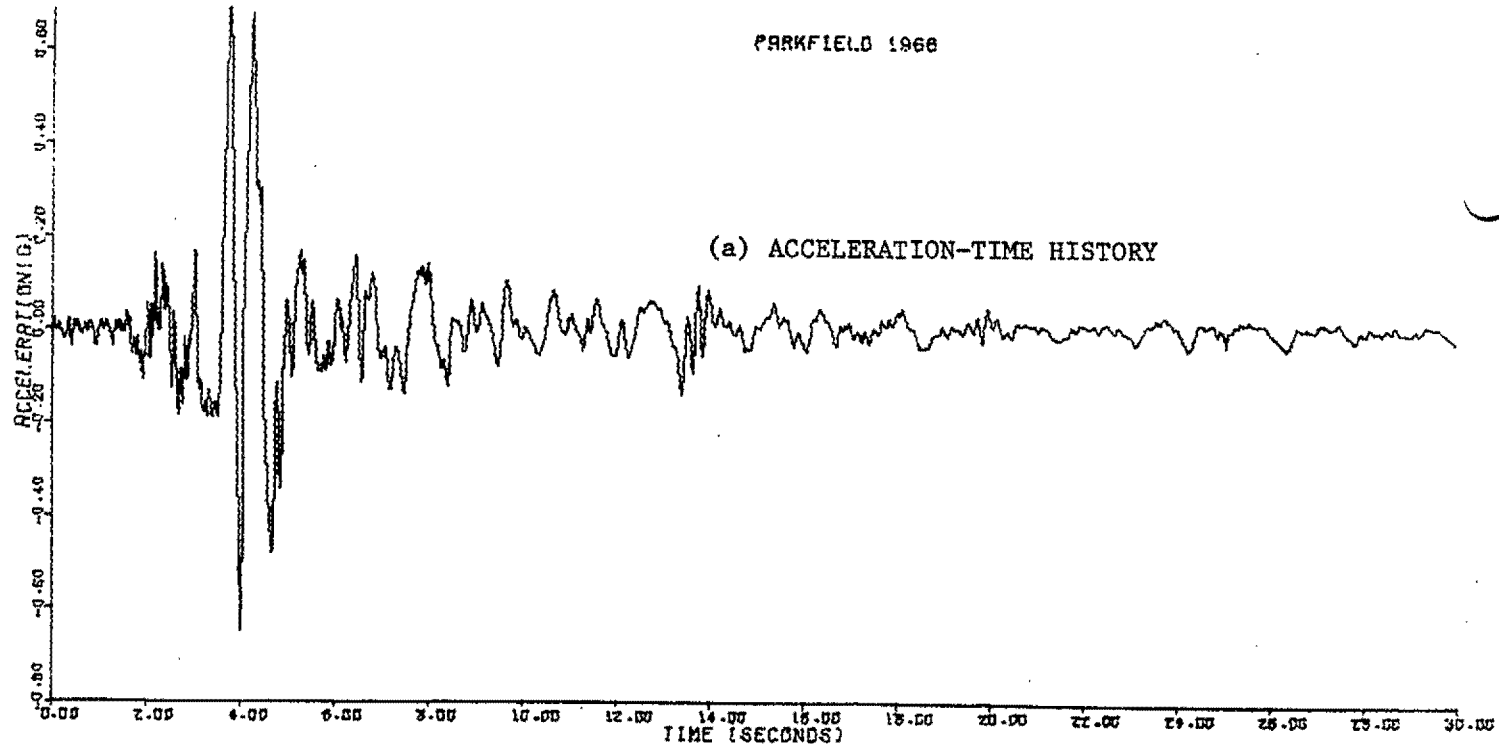
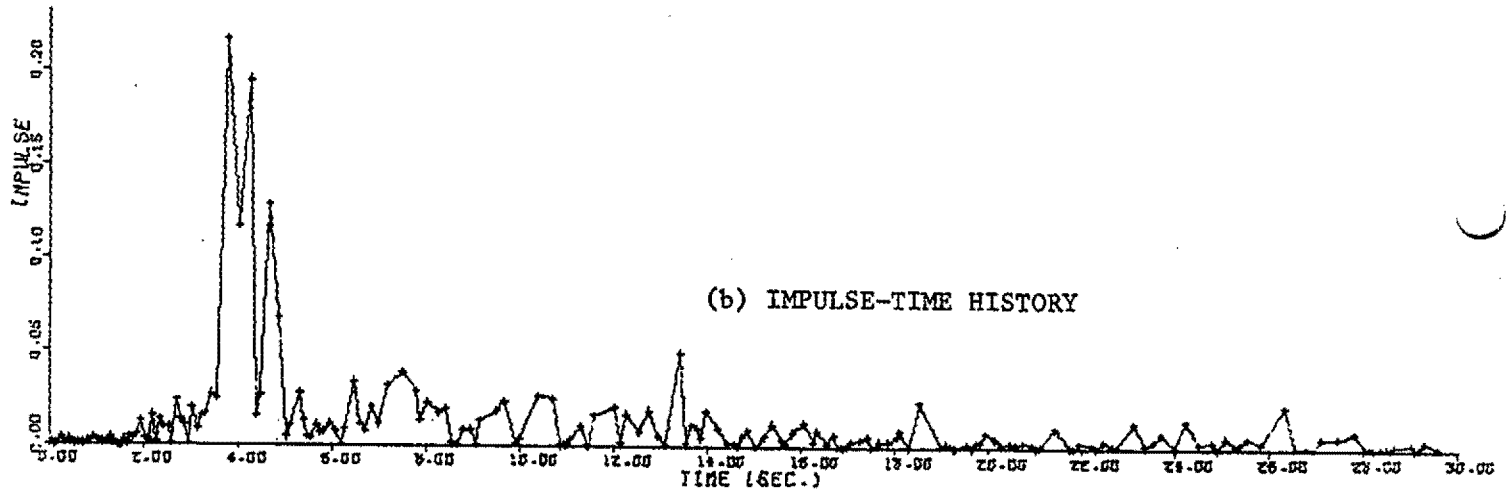


Fig. A-15 cont.
Earthquake 12-B
1949 Olympia





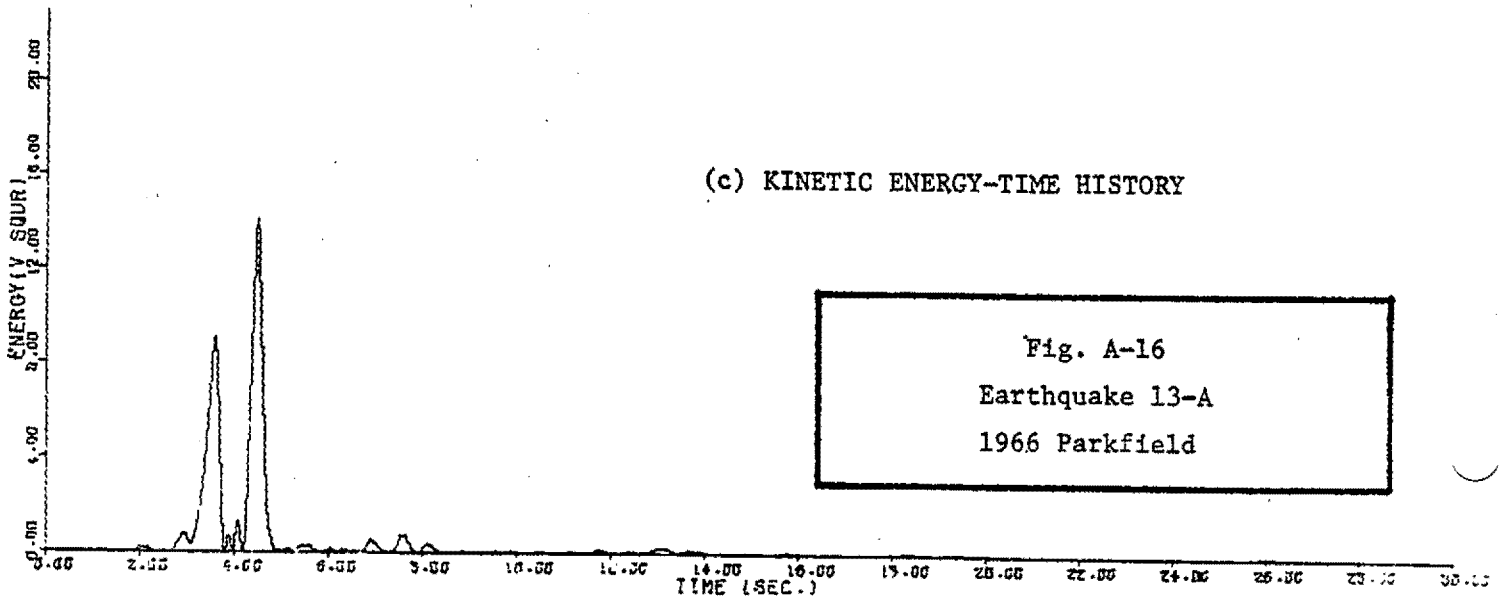
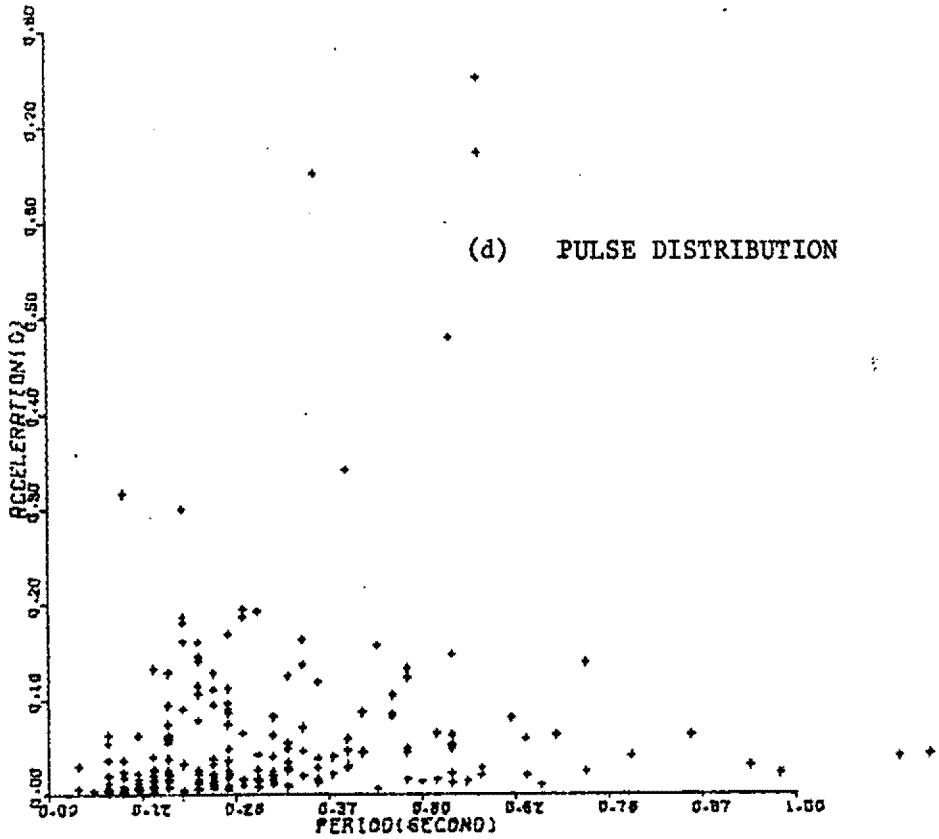
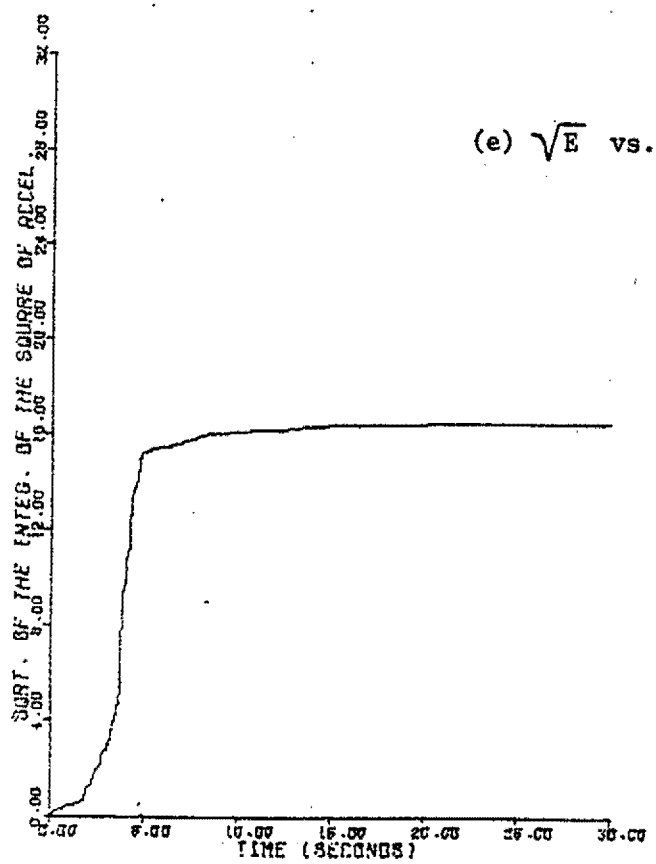


Fig. A-16
Earthquake 13-A
1966 Parkfield

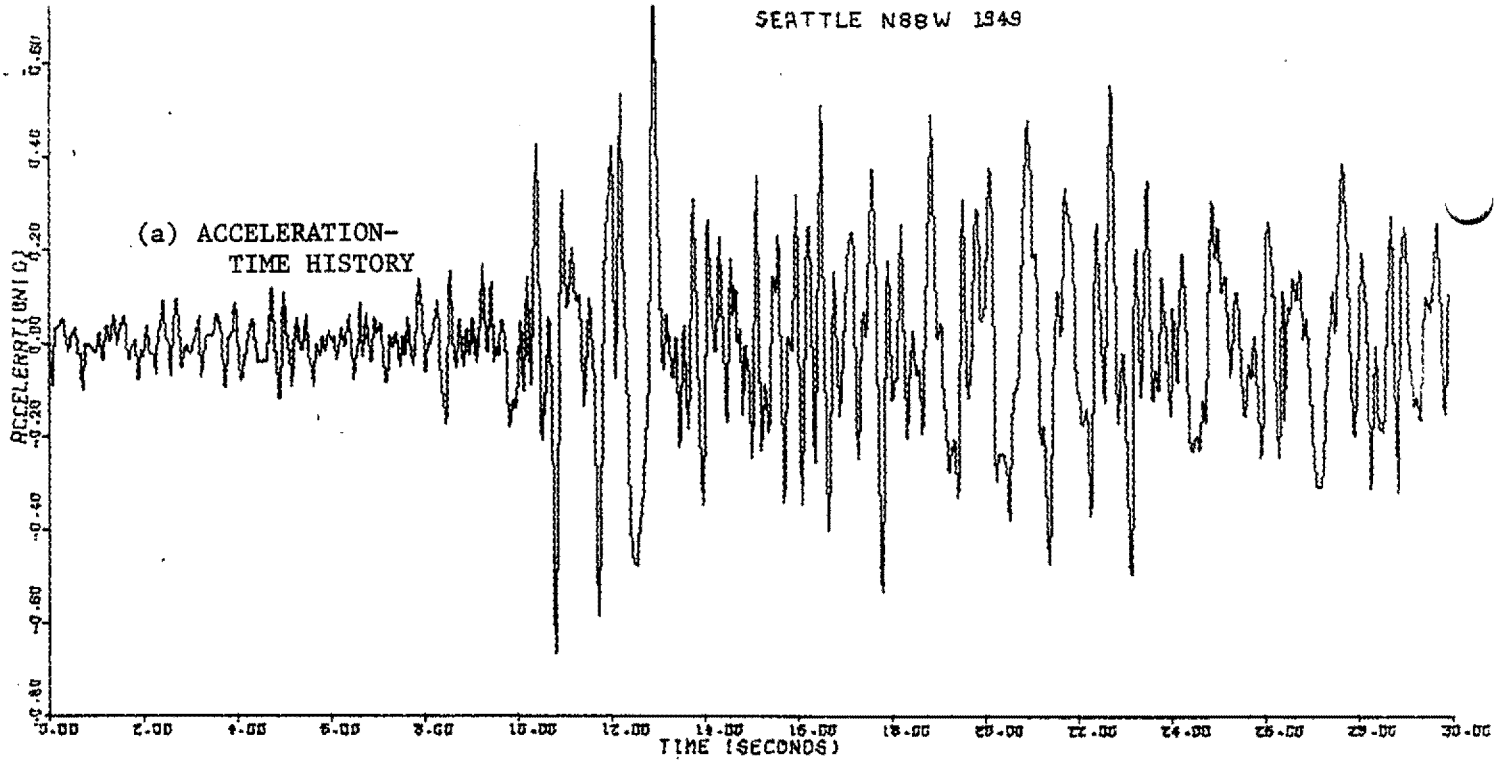


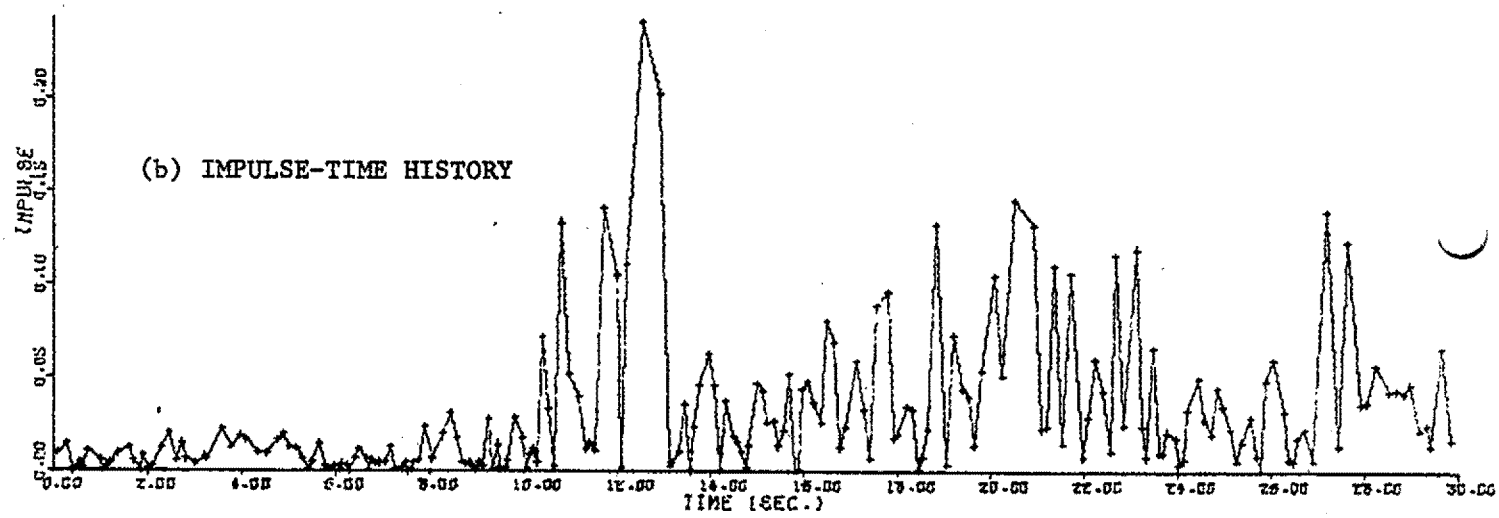
(d) PULSE DISTRIBUTION



(e) $\sqrt{E}$ vs. TIME

Fig. A-16 cont.
Earthquake 13-A
1966 Parkfield





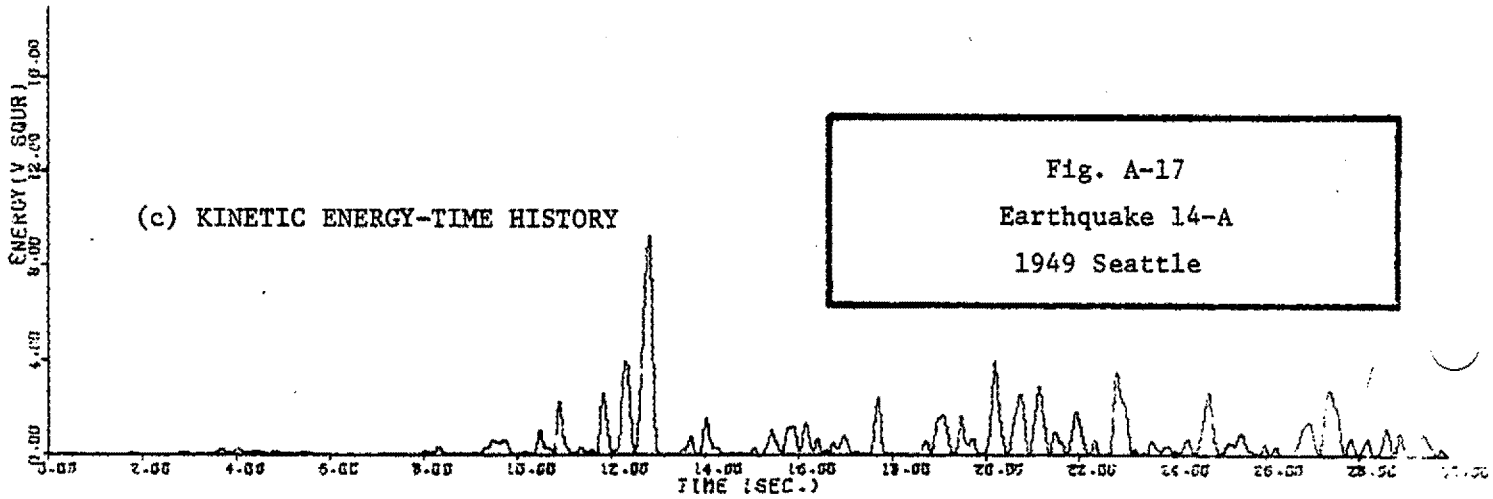
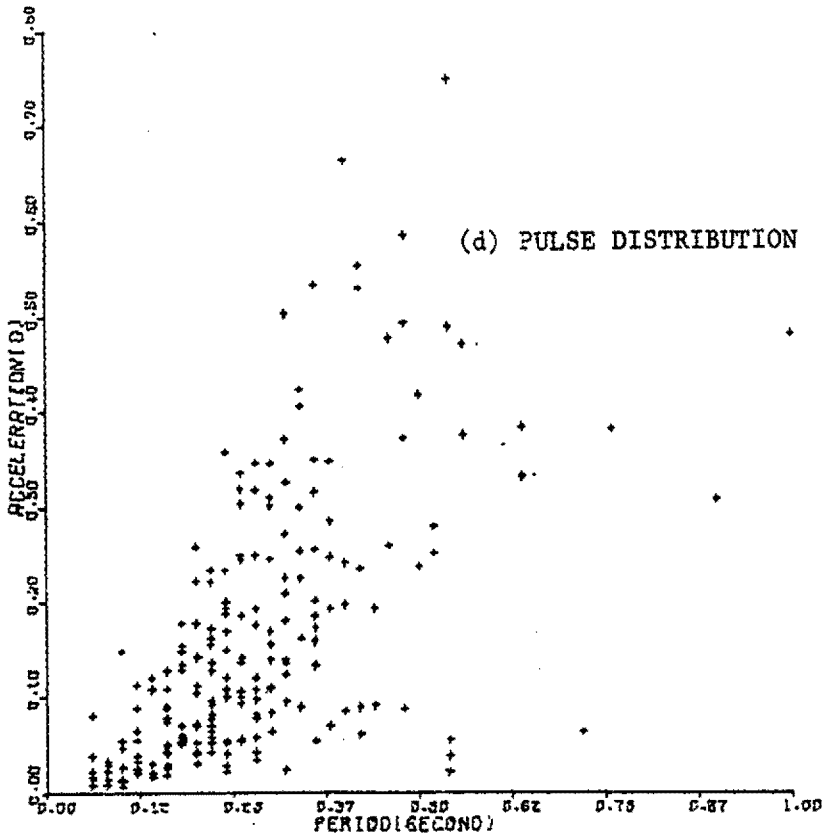


Fig. A-17
Earthquake 14-A
1949 Seattle



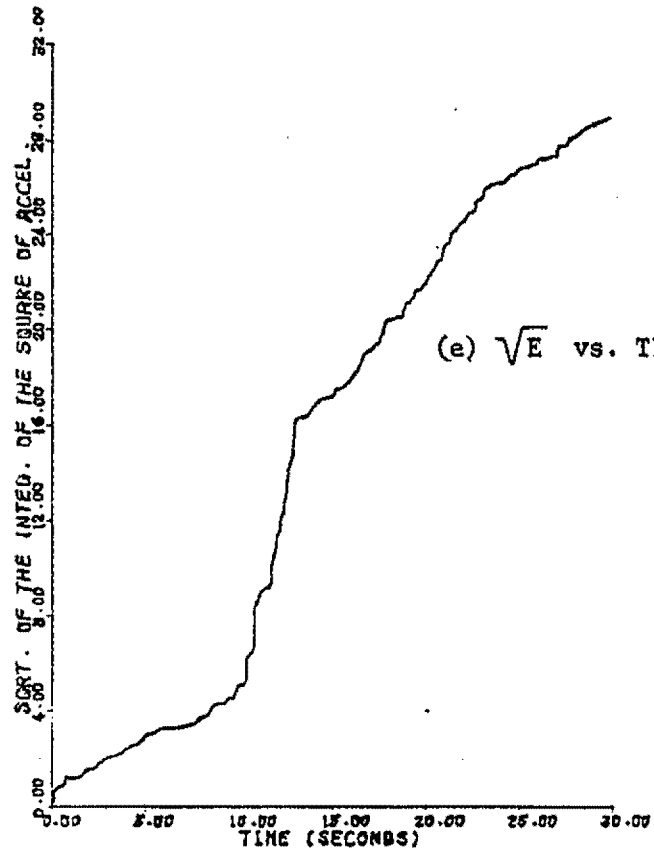
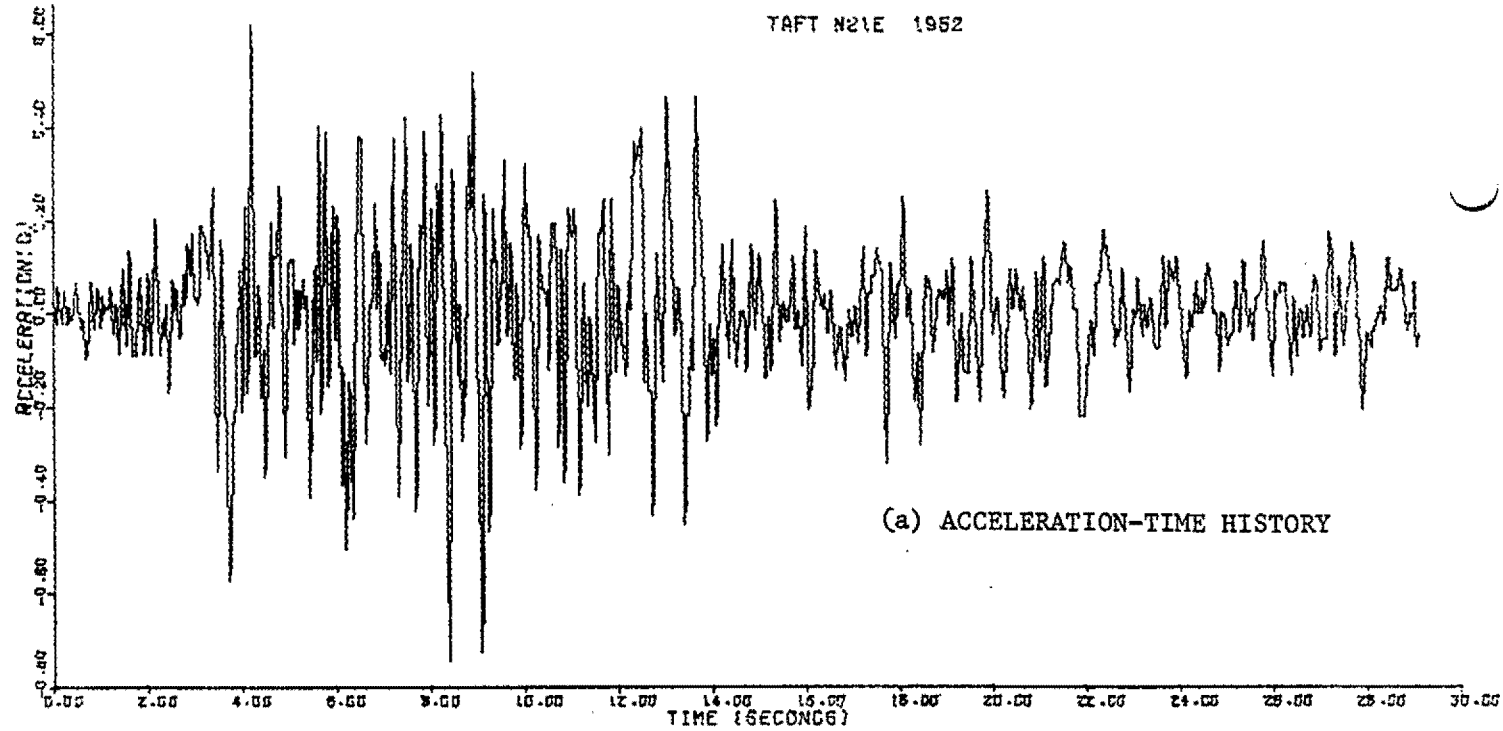
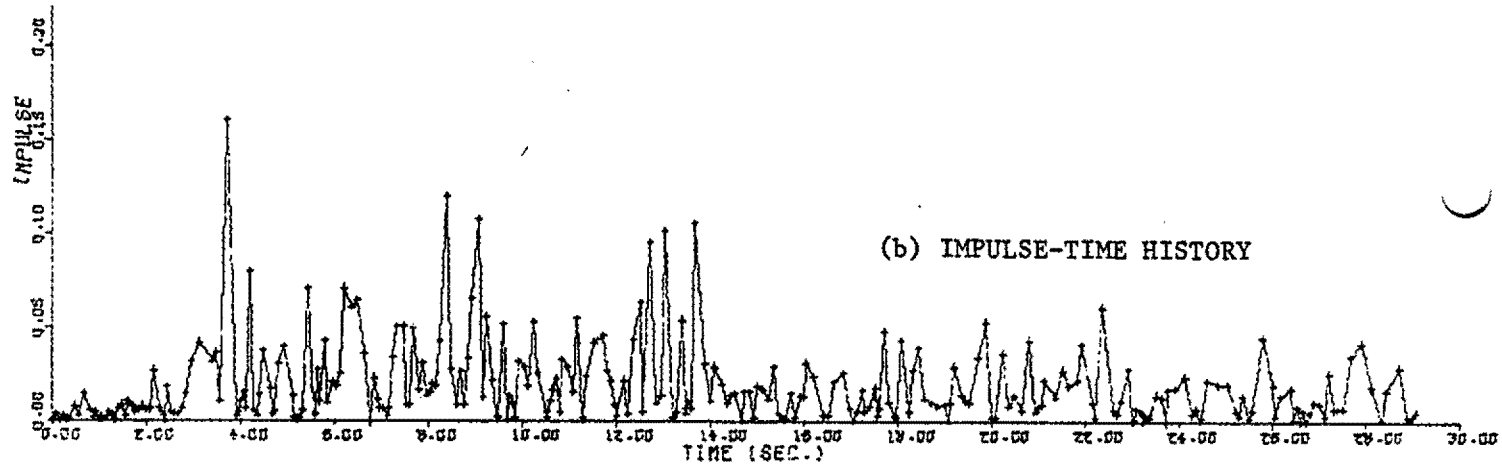


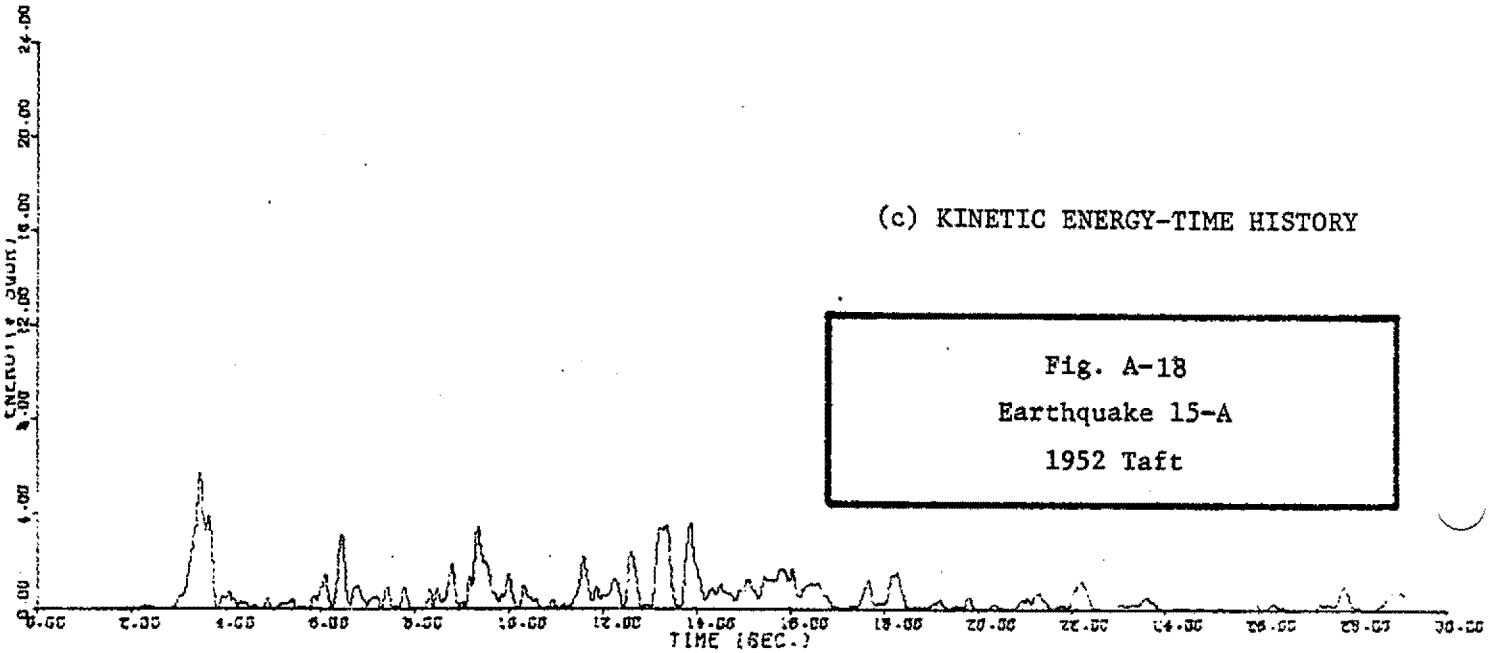
Fig. A-17 cont.
Earthquake 14-A
1949 Seattle



(a) ACCELERATION-TIME HISTORY



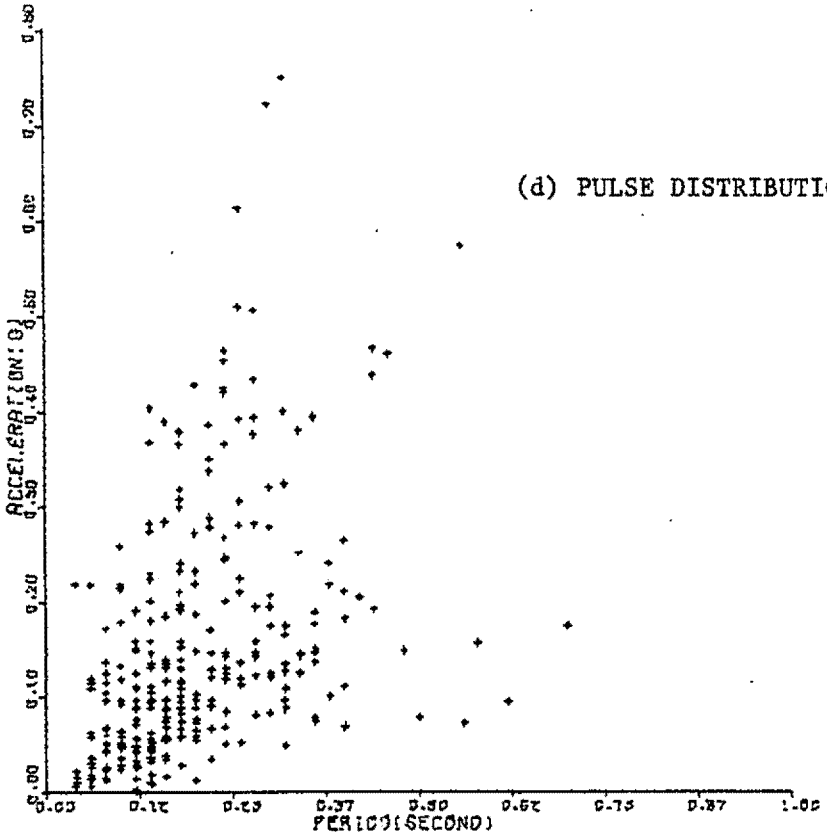
(b) IMPULSE-TIME HISTORY



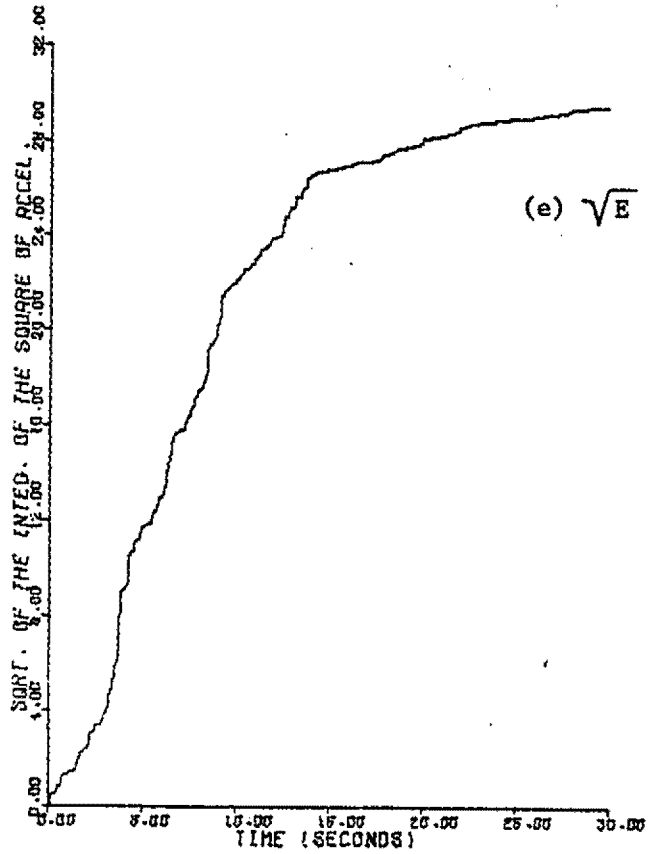
(c) KINETIC ENERGY-TIME HISTORY

Fig. A-18
Earthquake 15-A
1952 Taft

Amended: April 2009 TL: E048000



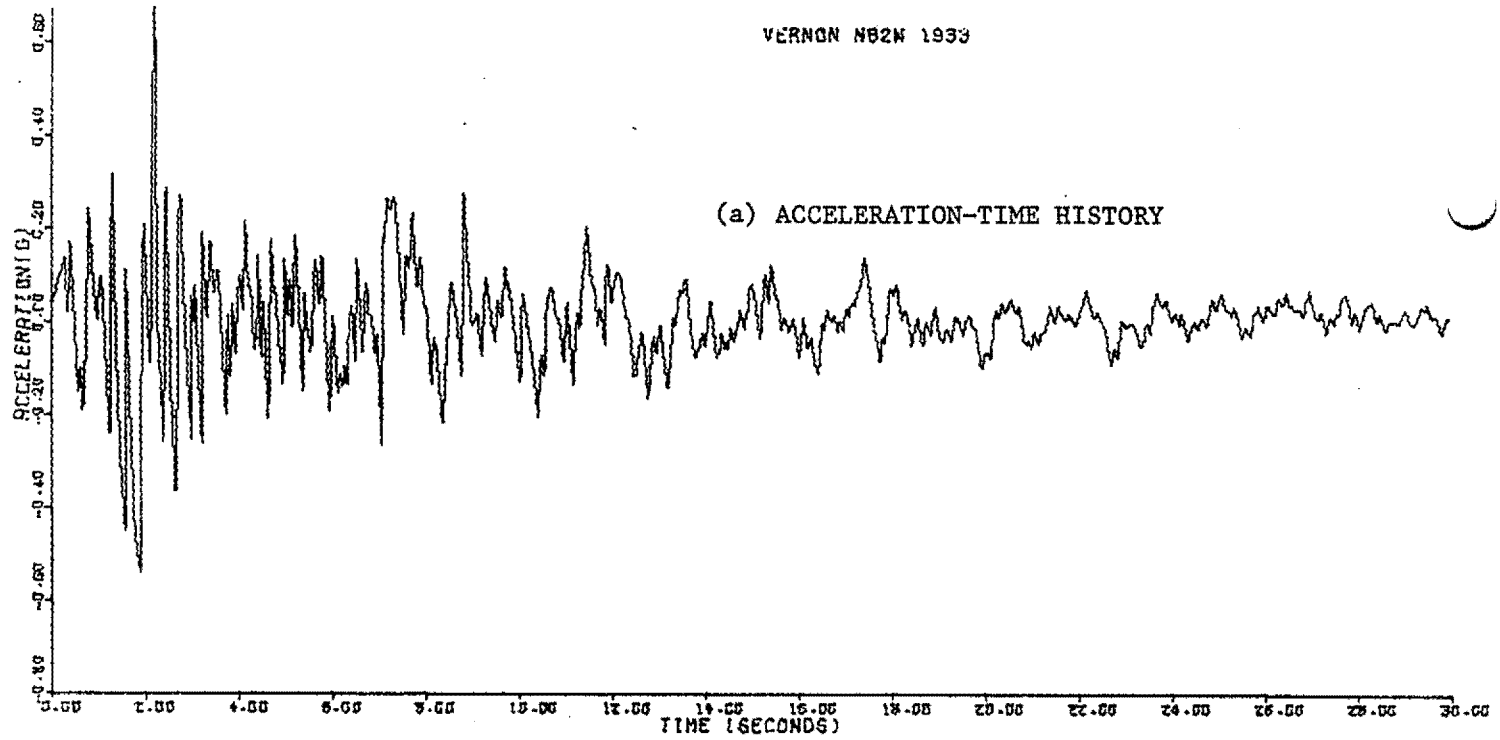
(d) PULSE DISTRIBUTION

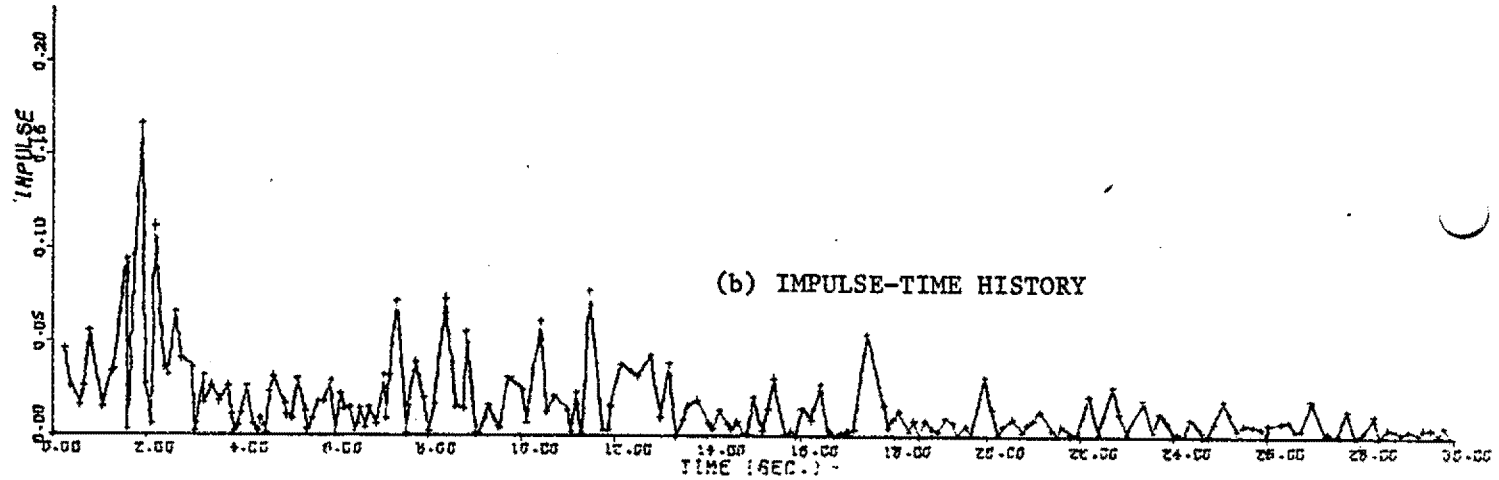


(e) $\sqrt{E}$ vs. TIME

Fig. A-18 cont.
Earthquake 15-A
1952 Taft

Amended: April 2009 TL: E048000





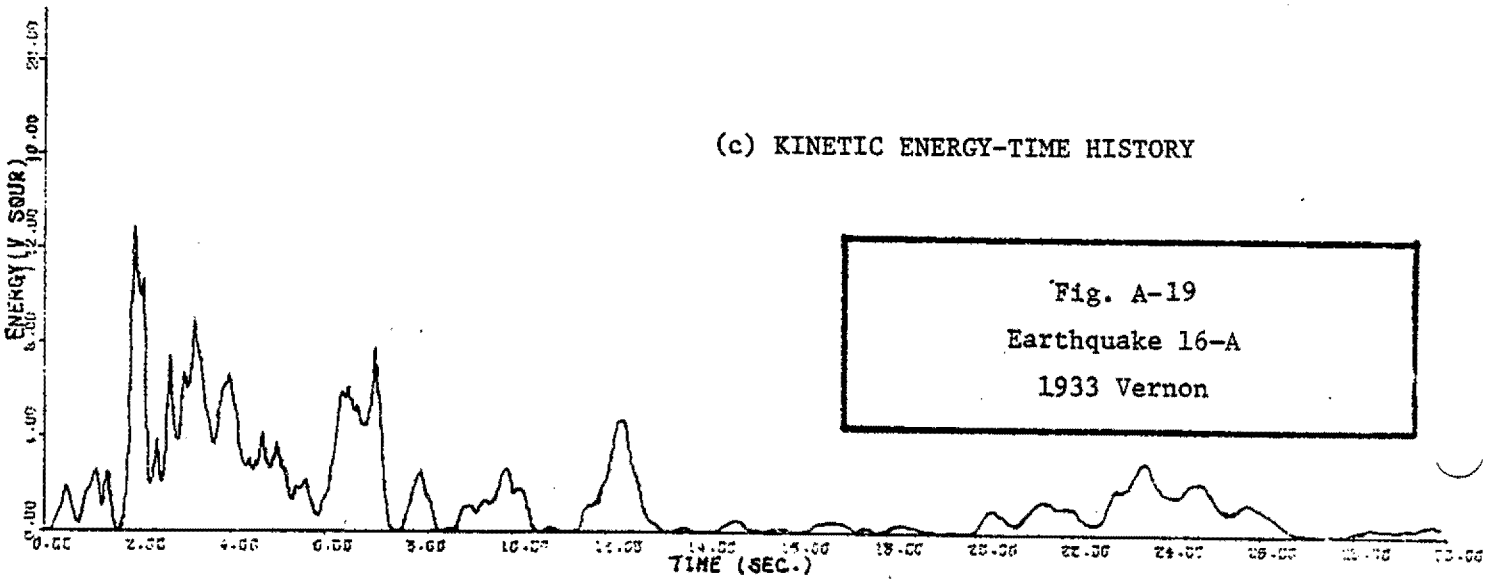
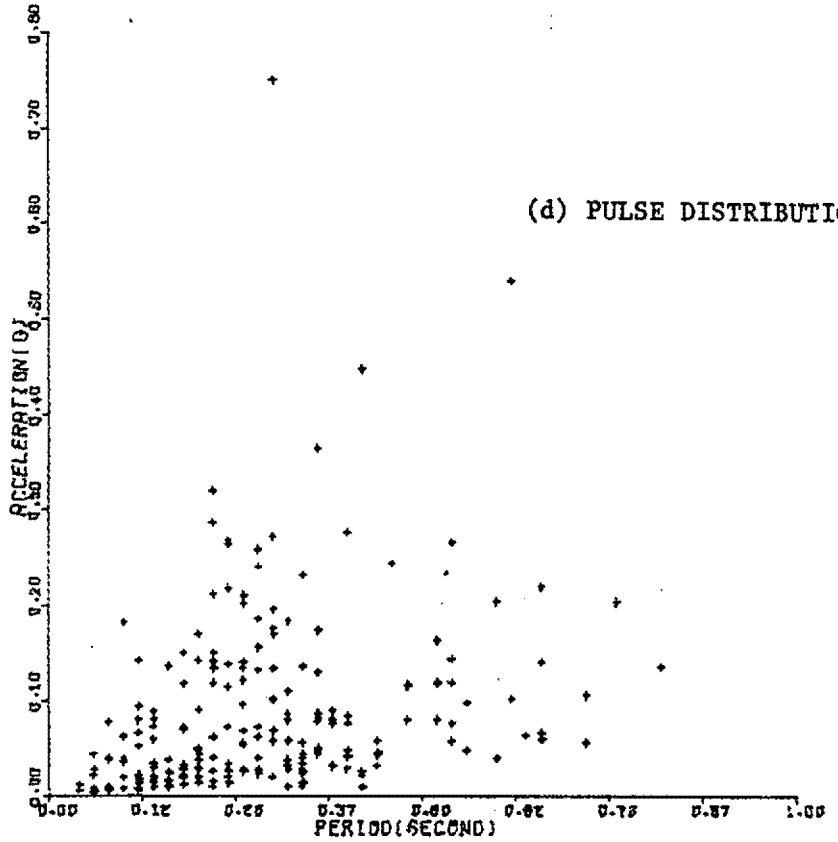


Fig. A-19
Earthquake 16-A
1933 Vernon



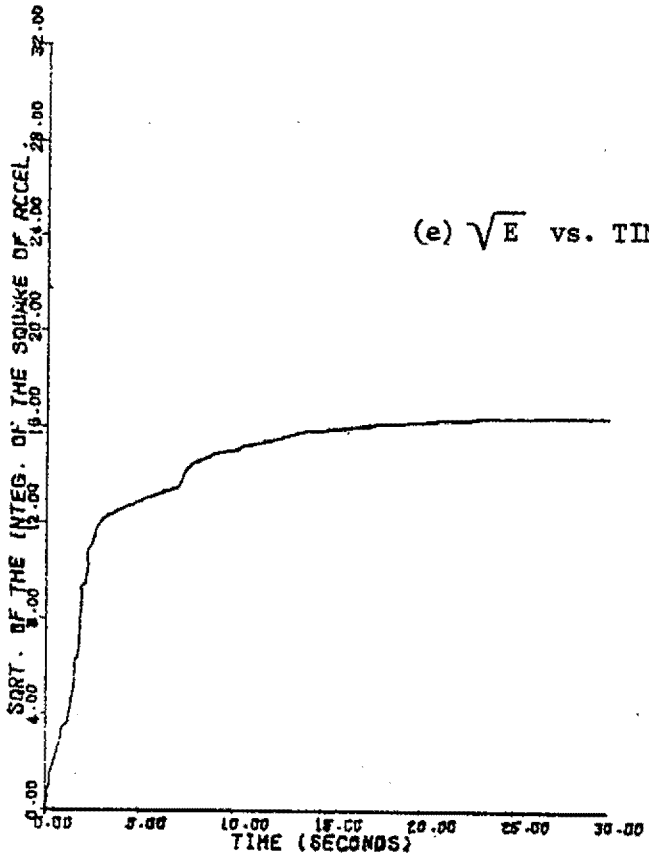


Fig. A-19 cont.
Earthquake 16-A
1933 Vernon

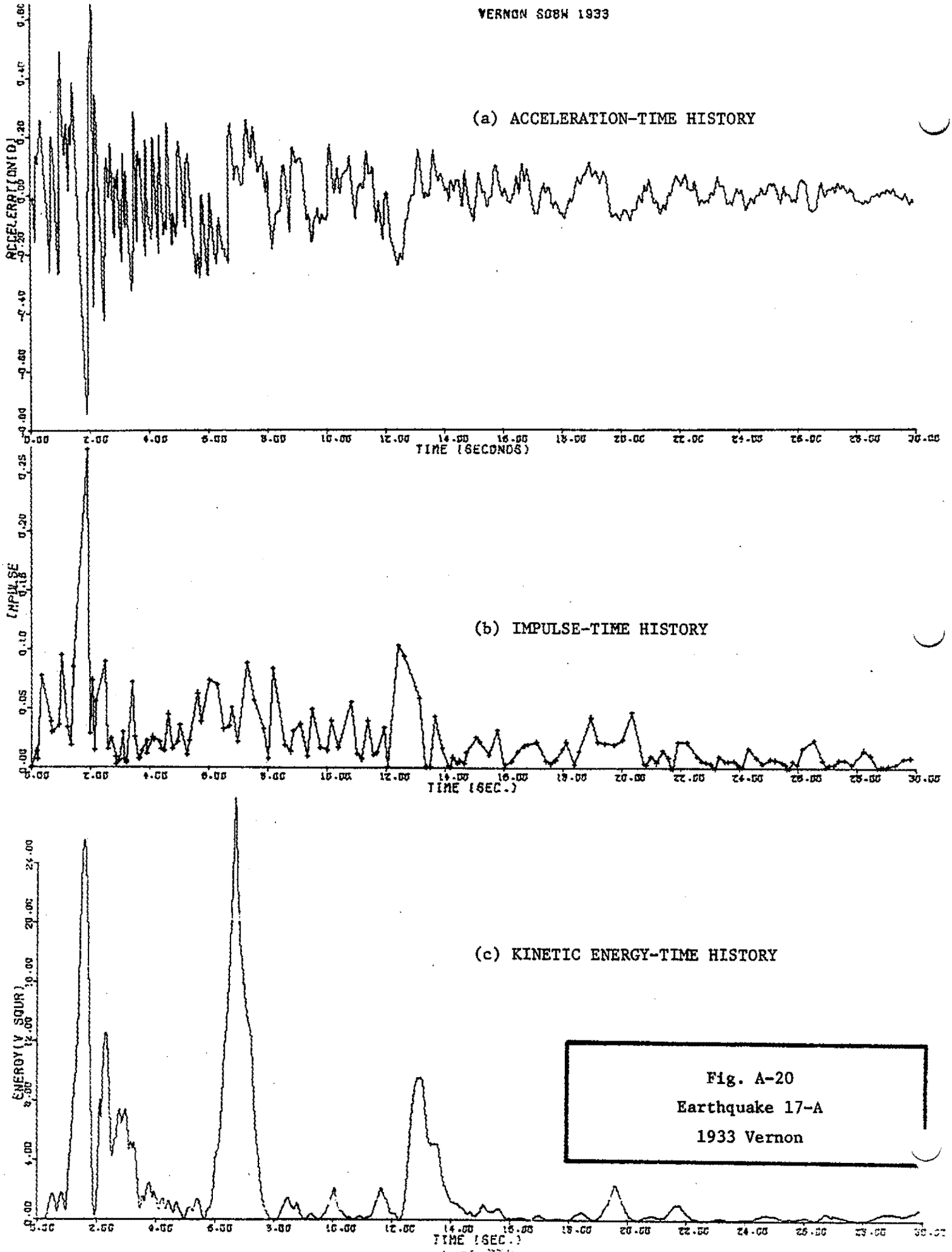
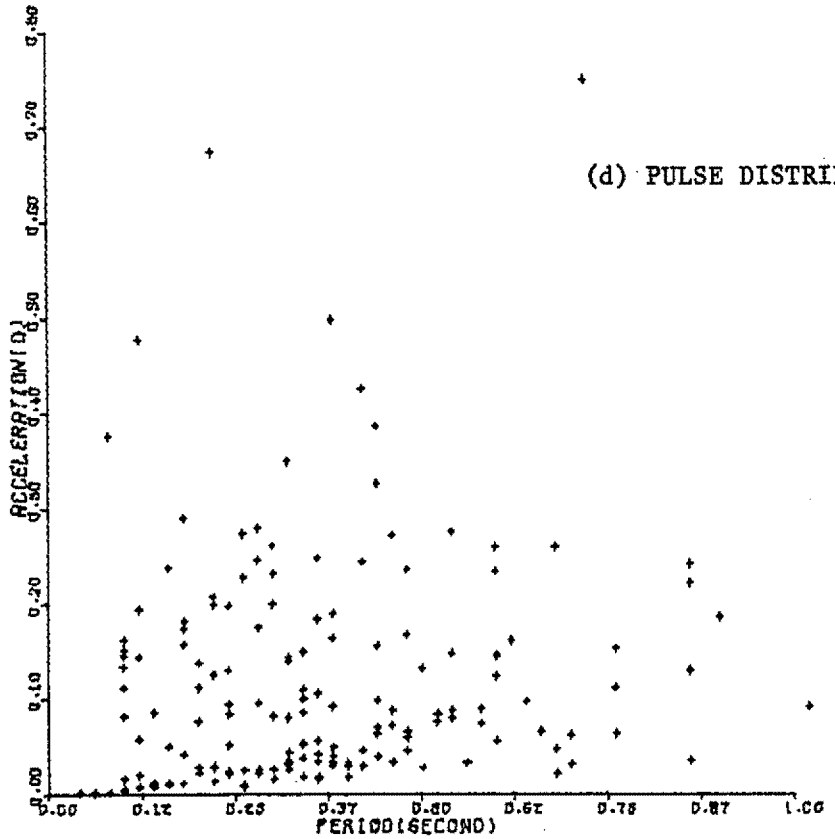


Fig. A-20
Earthquake 17-A
1933 Vernon



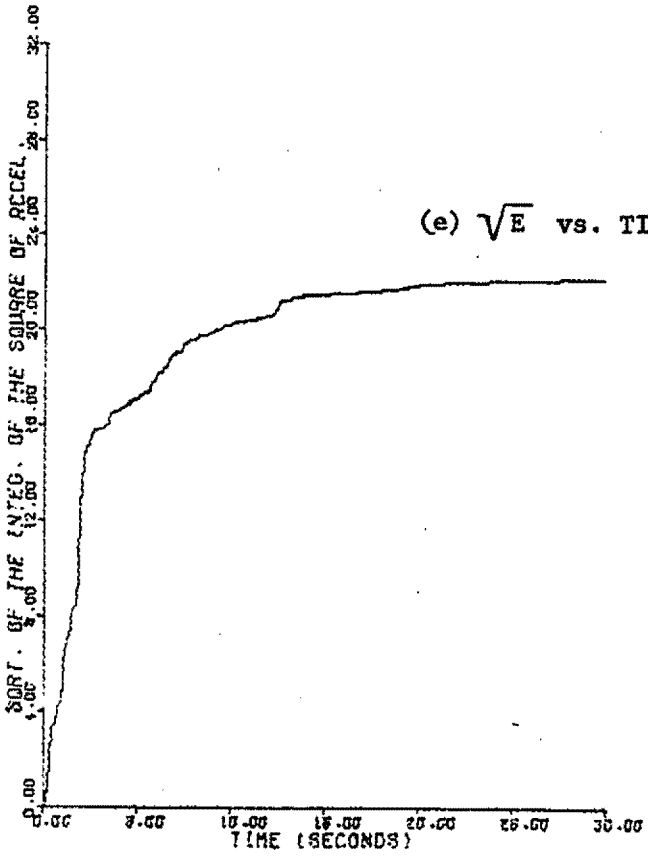
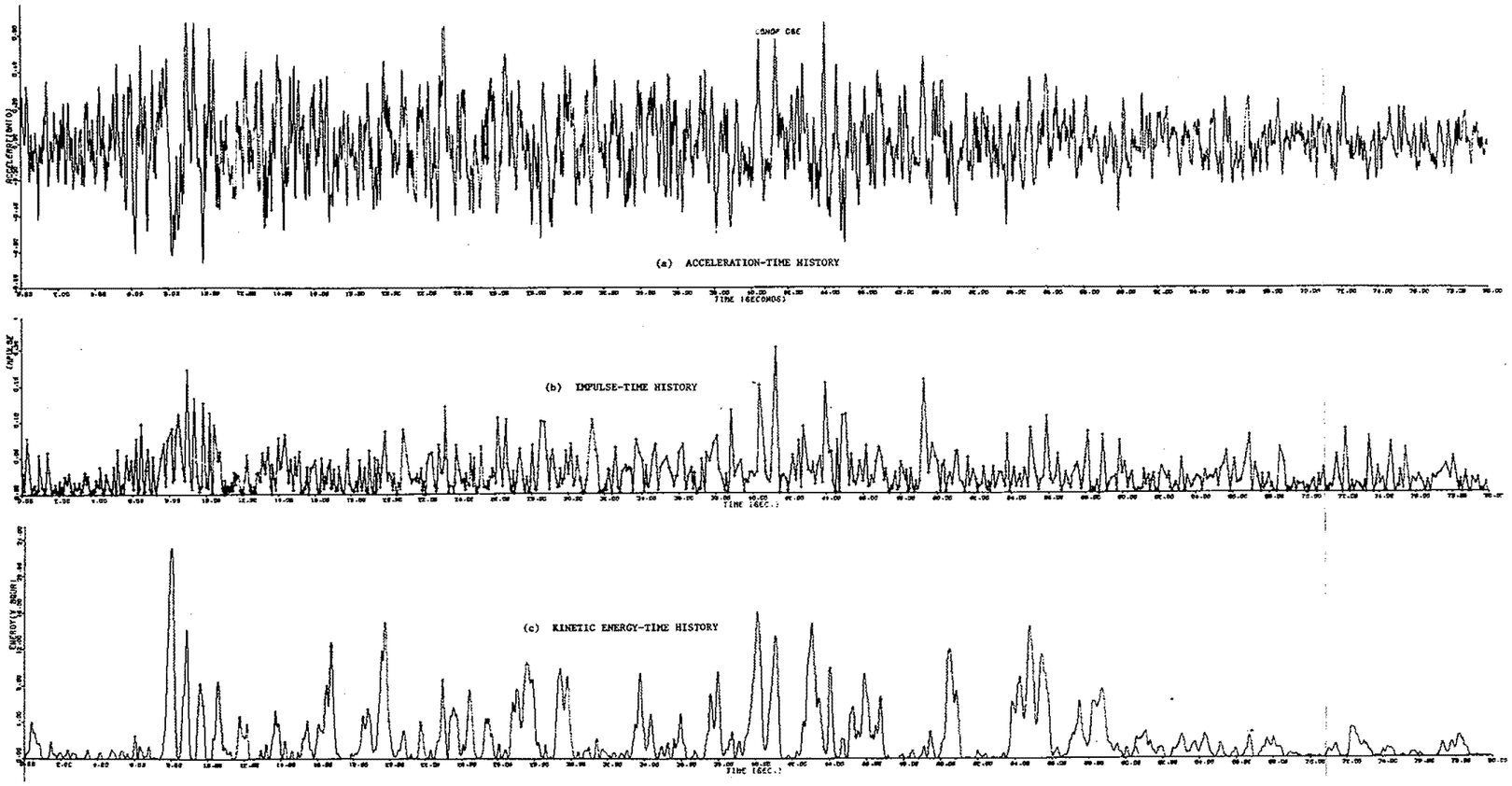
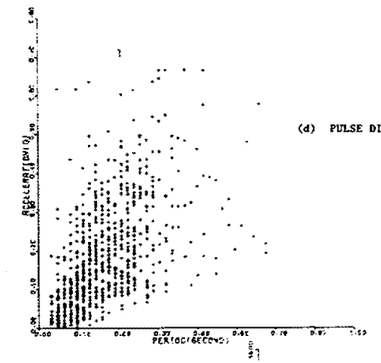


Fig. A-20 cont.
Earthquake 17-A
1933 Vernon





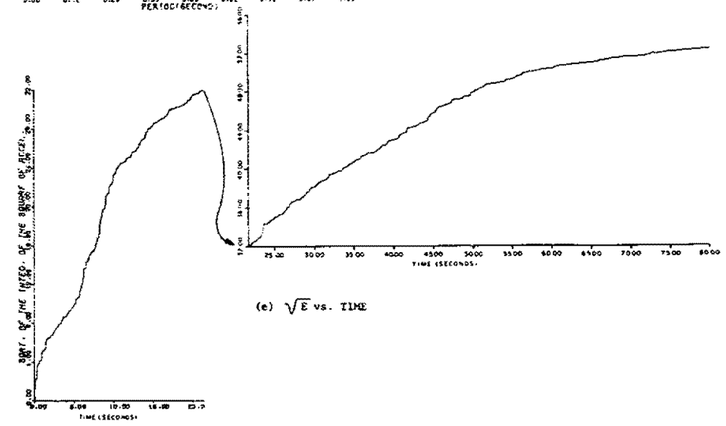


Figure A-21
DESIGN BASIS EARTHQUAKE

2.5B-229/2.5B-230 (Blank)

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