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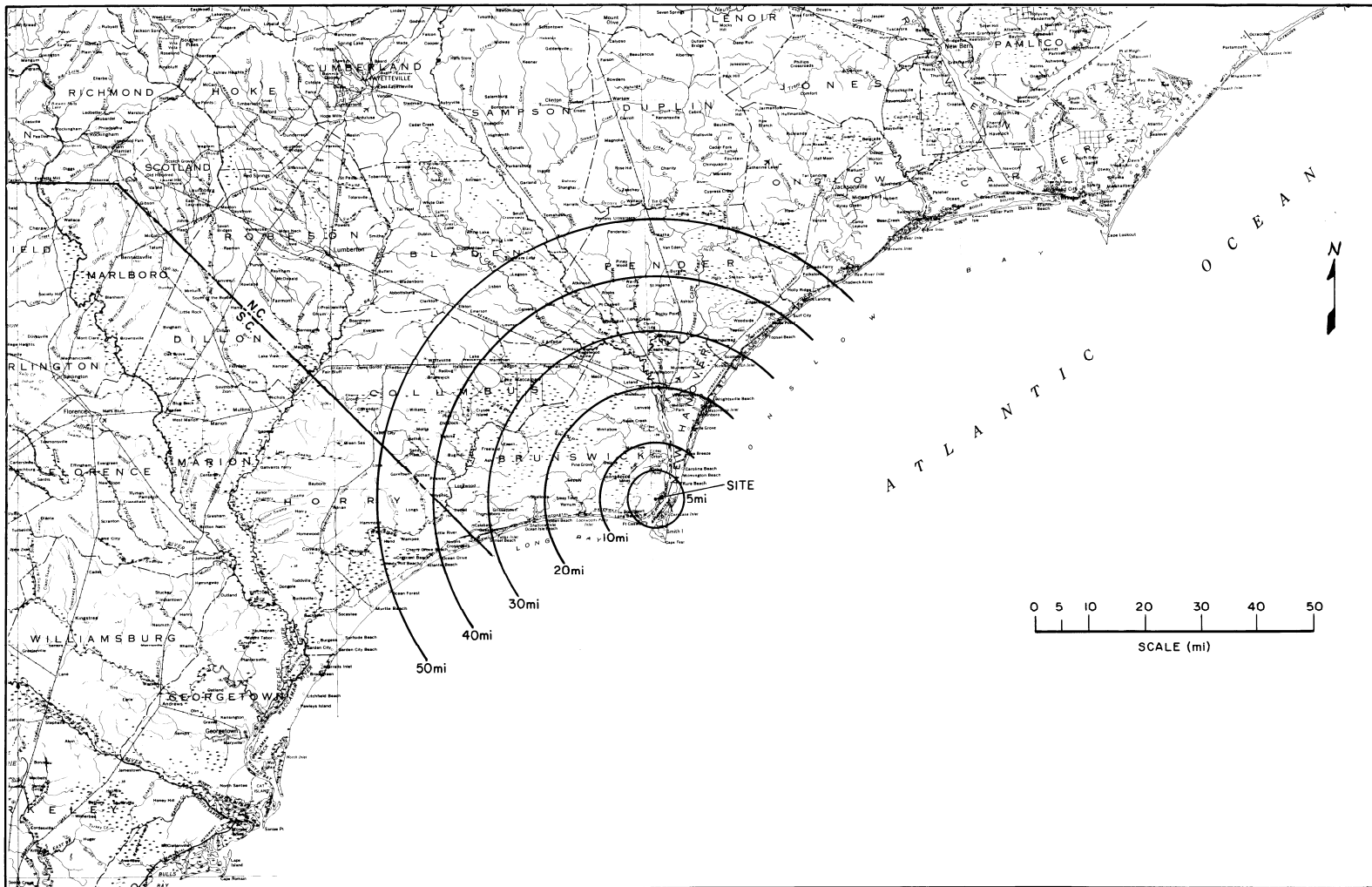
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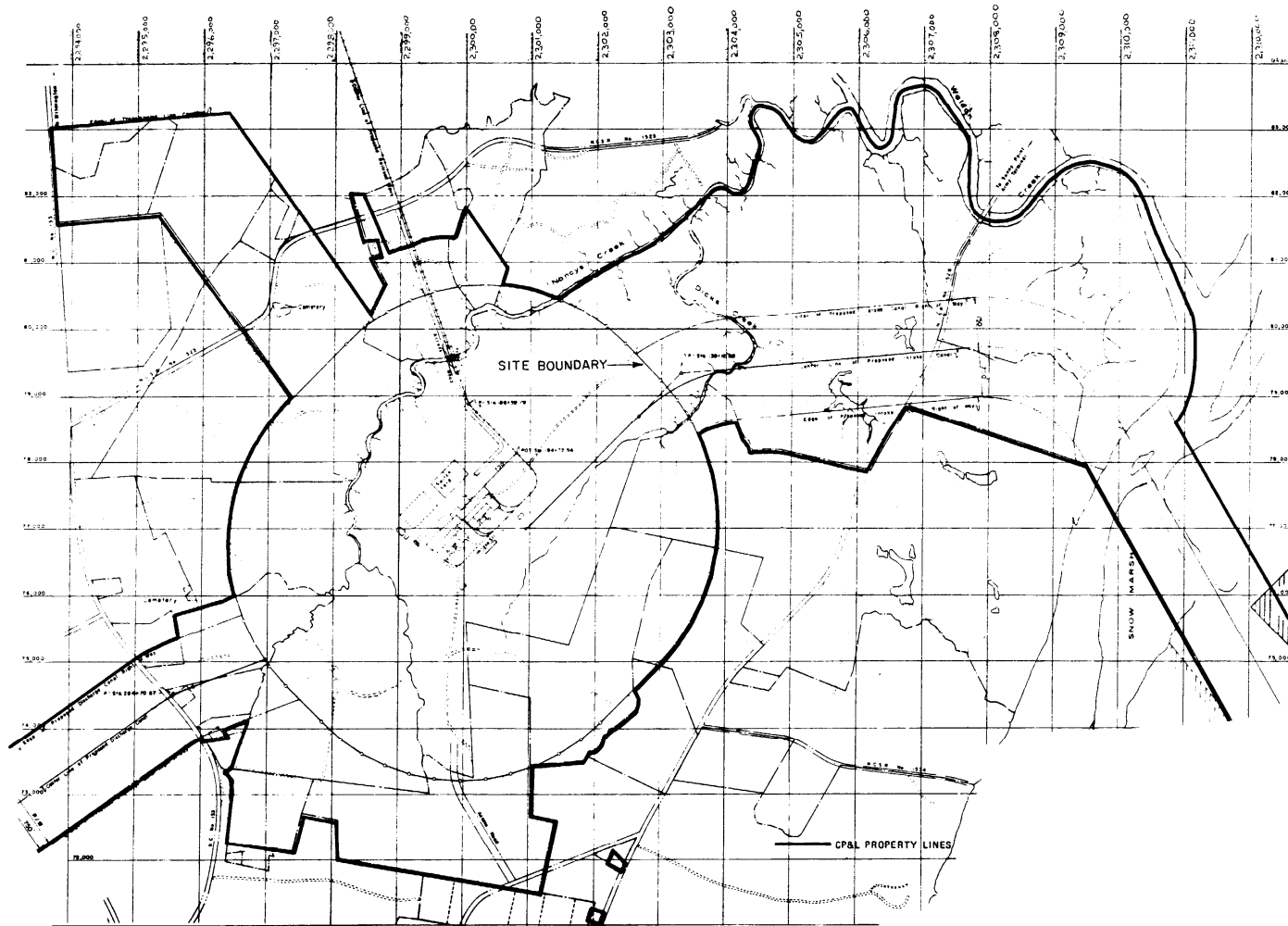
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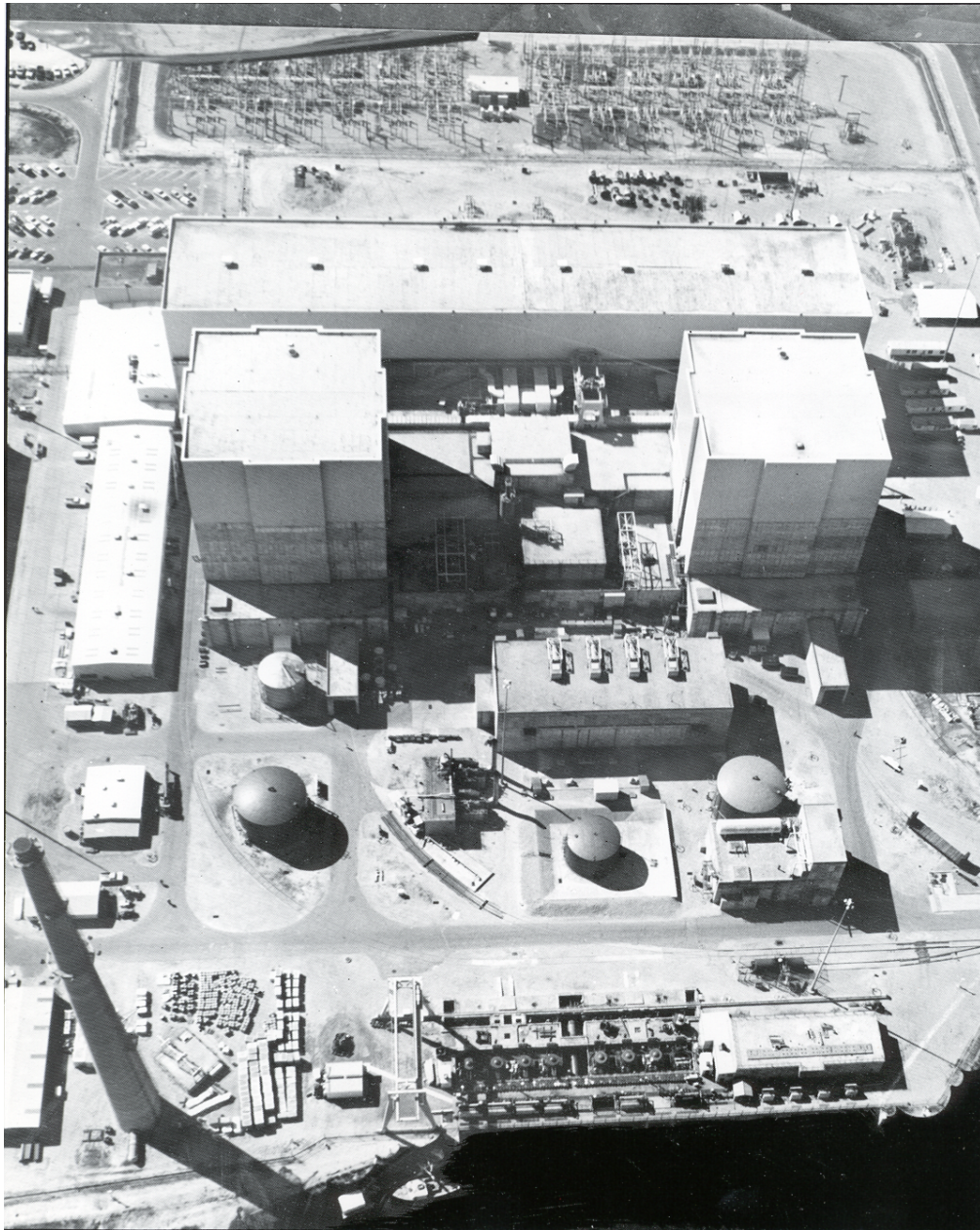
General Site Location Map



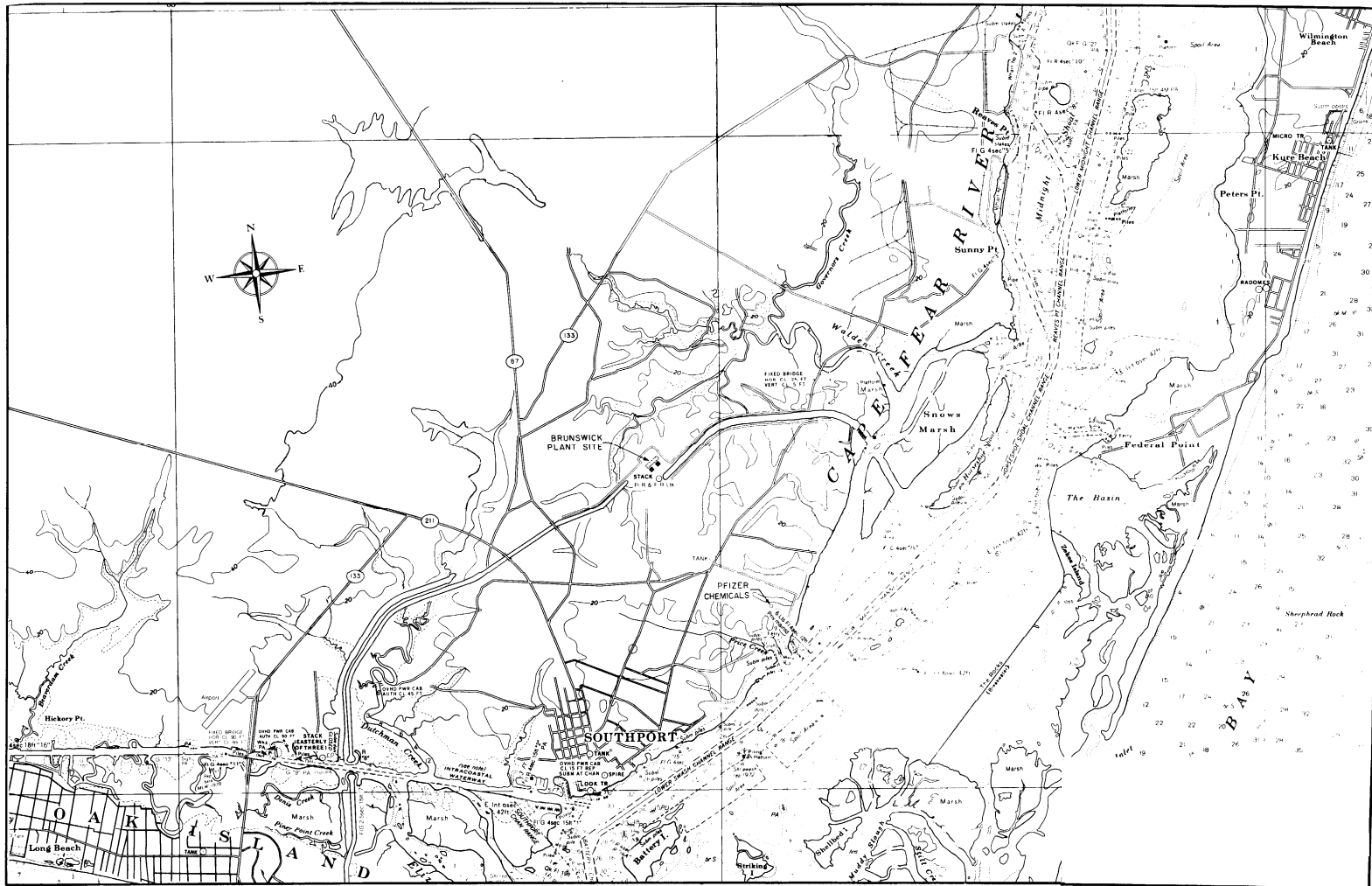
Site Map



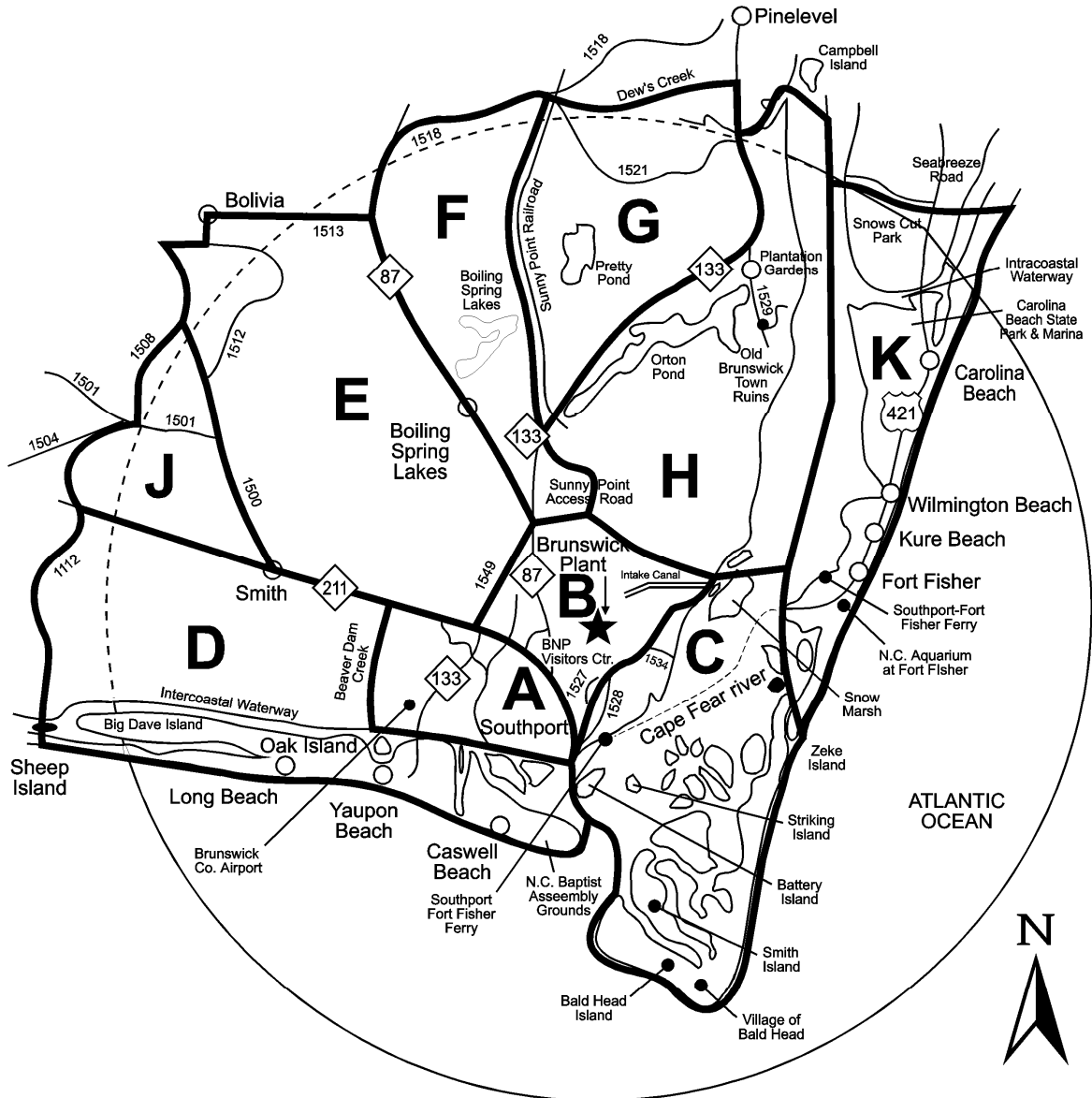
Aerial Photograph Of Site (1981)



General Site Topography



Evacuation Zones (10 Mile EPZ)





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Evacuation Zones (10 Mile EPZ)

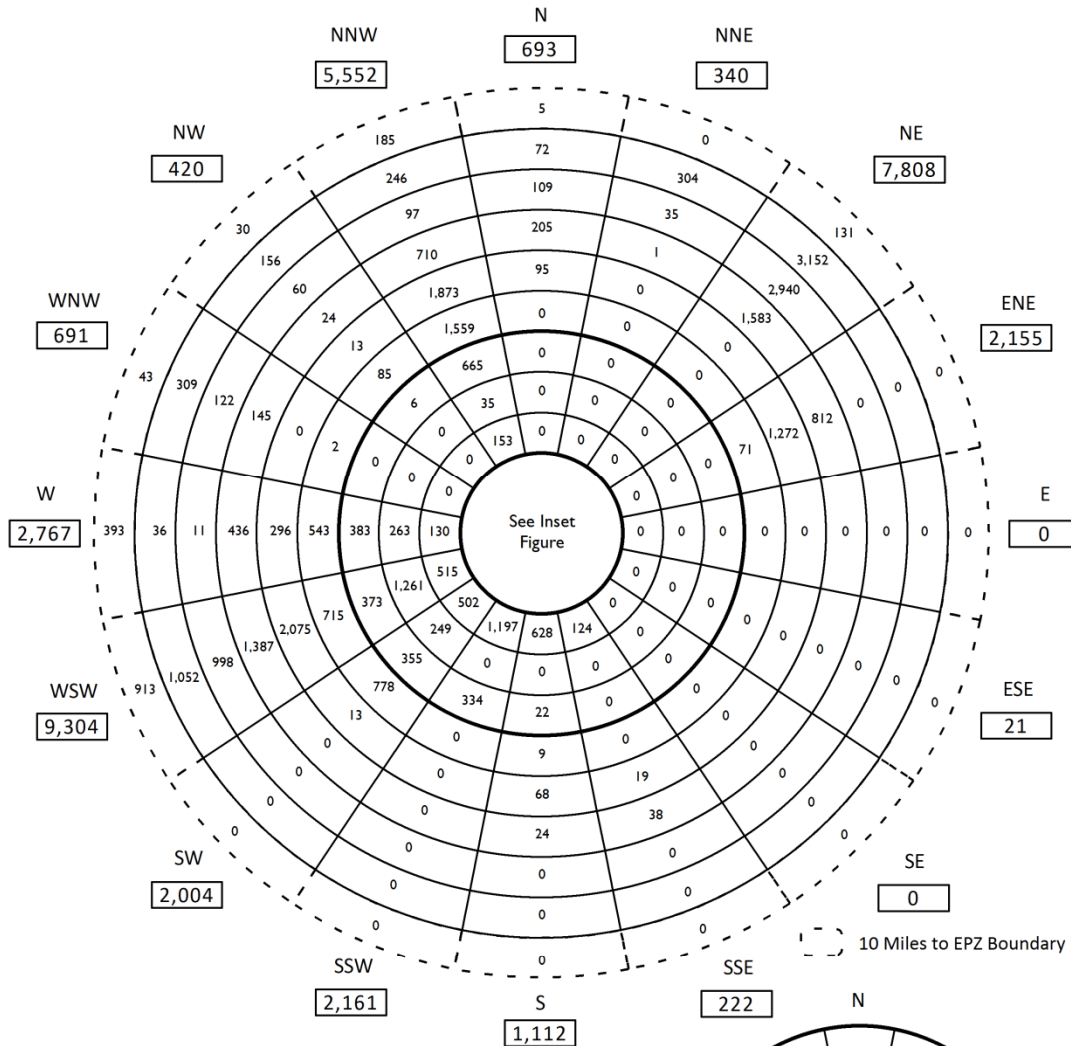




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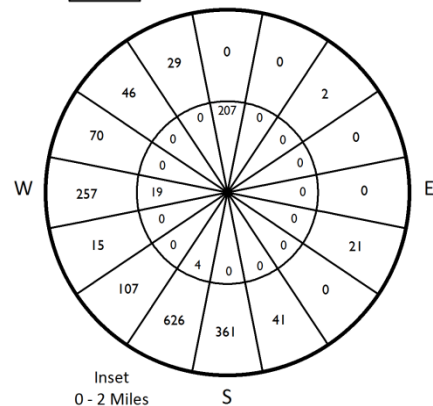
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Permanent Resident Population by Sector

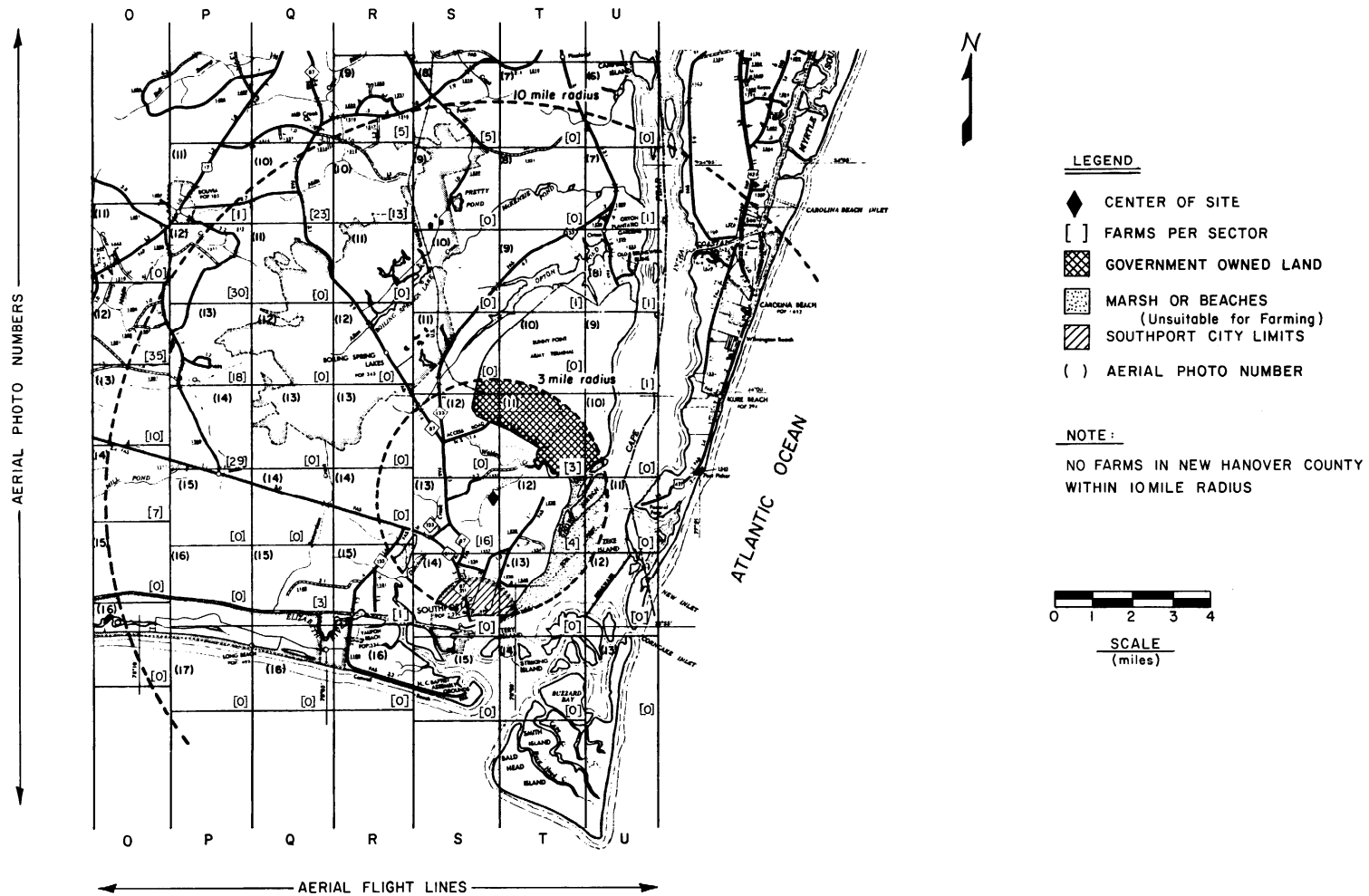


Resident Population

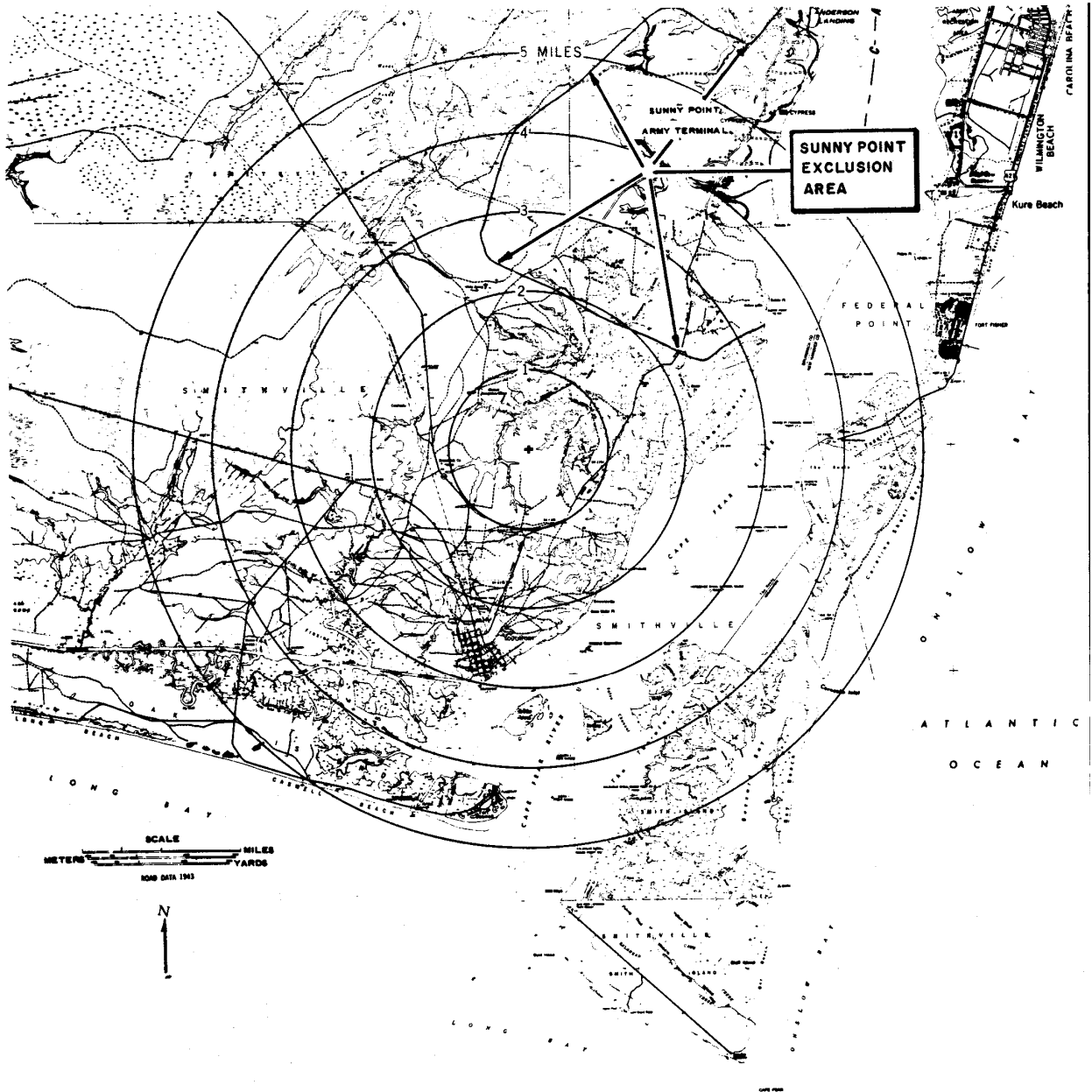
Miles	Subtotal by Ring	Cumulative Total
0 - 1	230	230
1 - 2	1,575	1,805
2 - 3	3,249	5,054
3 - 4	1,808	6,862
4 - 5	2,138	9,000
5 - 6	3,762	12,762
6 - 7	5,724	18,486
7 - 8	5,365	23,851
8 - 9	4,372	28,223
9 - 10	5,327	33,550
10 - EPZ	1,700	35,250
Total:		35,250



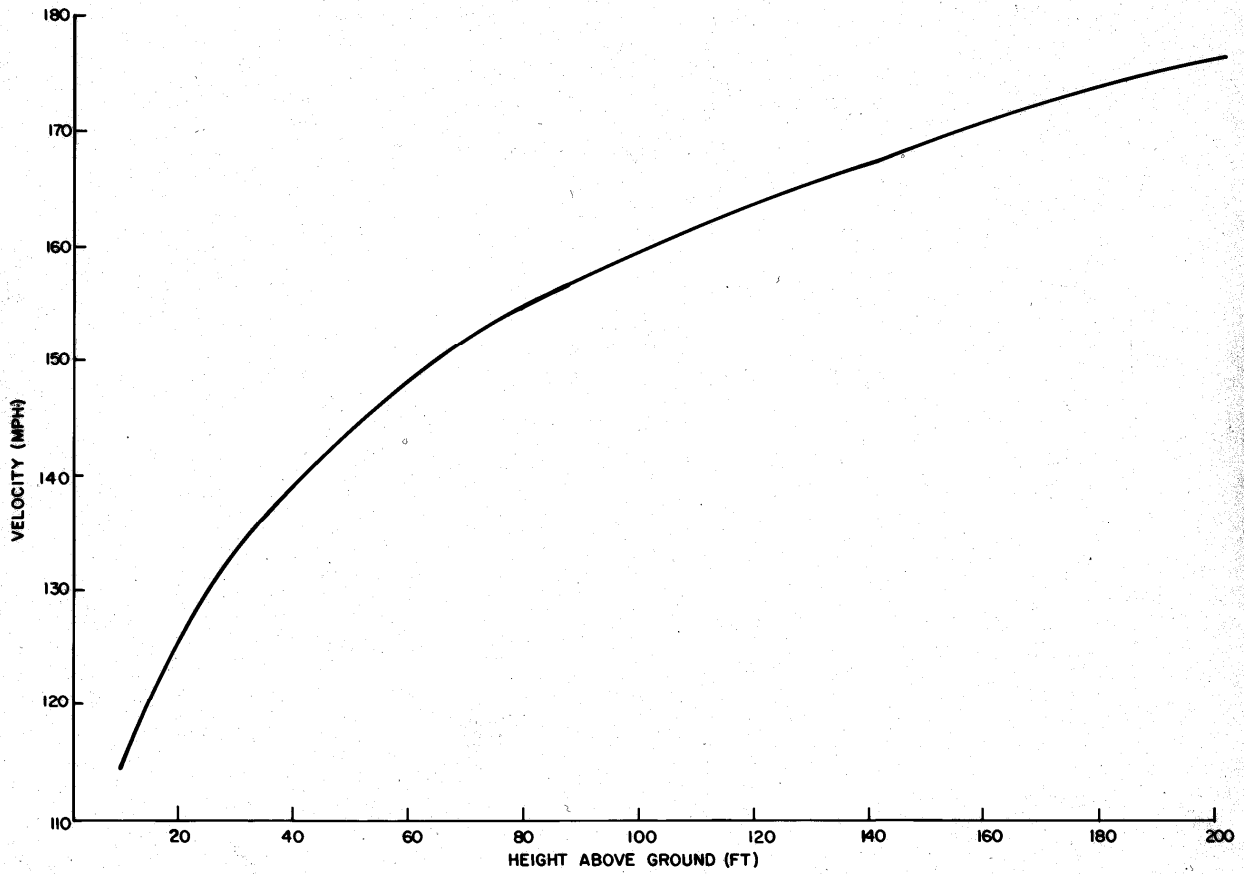
Location of Farms Within 10 Miles of the Site



Local Site Topography

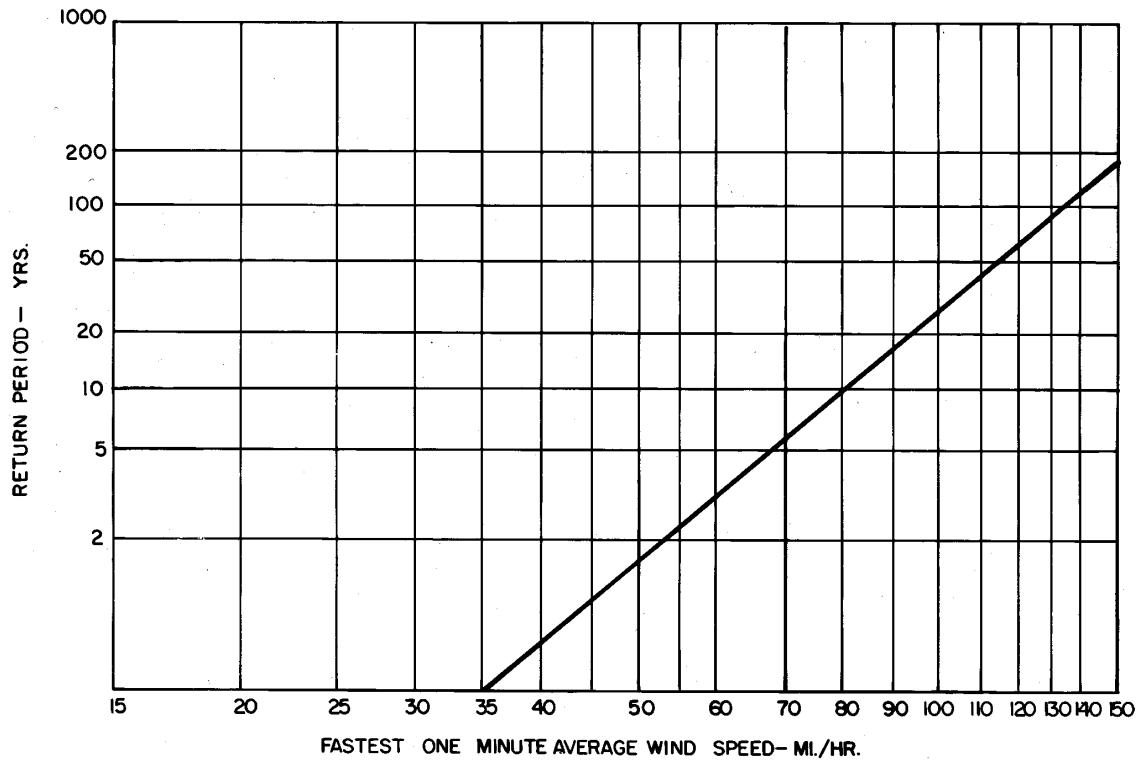


Vertical Profile At The Extreme Mile Wind

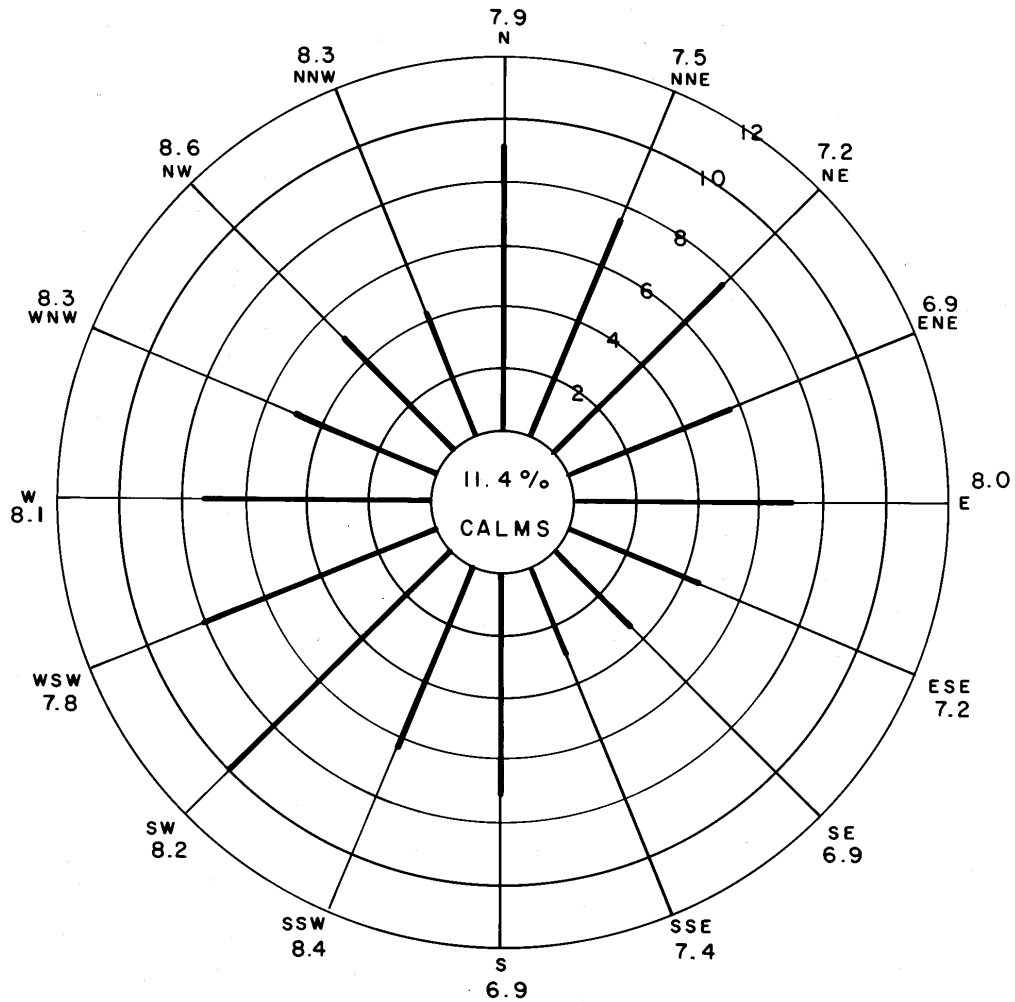




Recurrence Period of Fastest 1 Minute Extreme Wind for Site



Wilmington, N.C. Weather Service Wind Rose



\bar{u} = 6.9 MPH

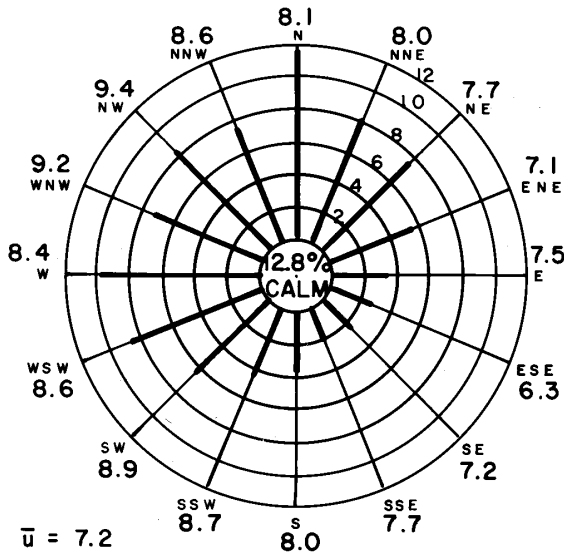
\bar{u} = ALL DIRECTION AVERAGE WIND SPEED

NOTE: DIRECTIONAL AVERAGE WIND SPEEDS (MPH)
 ARE DISPLAYED RADIALY

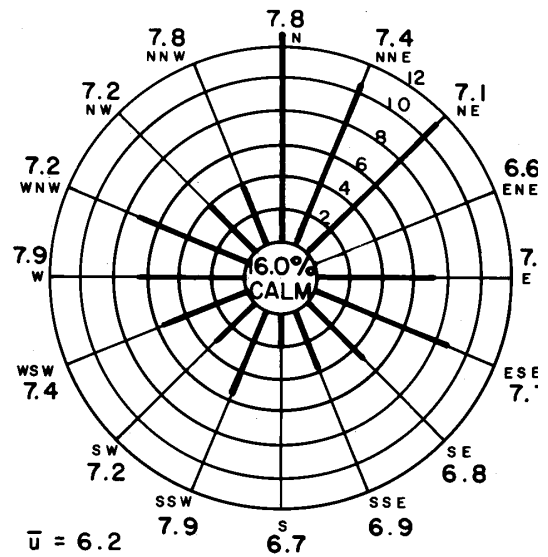
— WIND DIRECTION (%)

Wilmington, N.C. Weather Service Seasonal Wind Rose

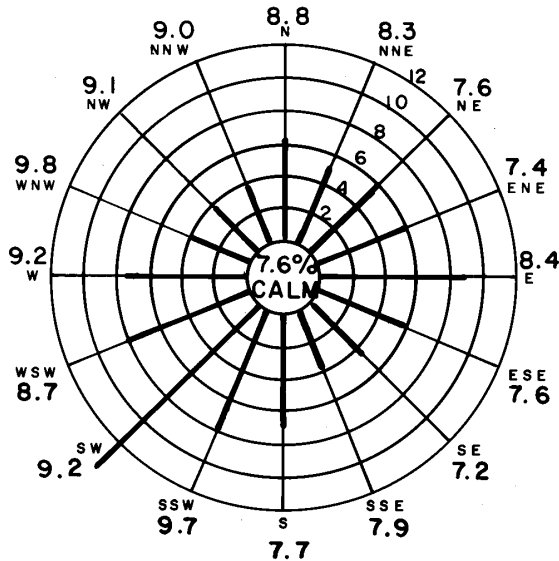
WINTER (DEC, JAN, FEB,)



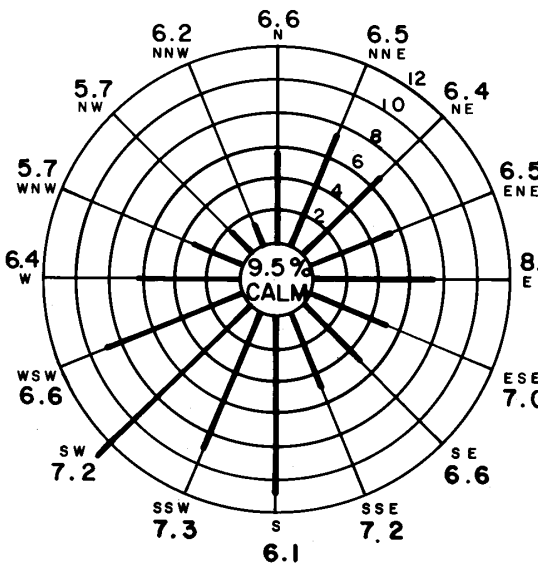
SPRING (MAR, APR, MAY)



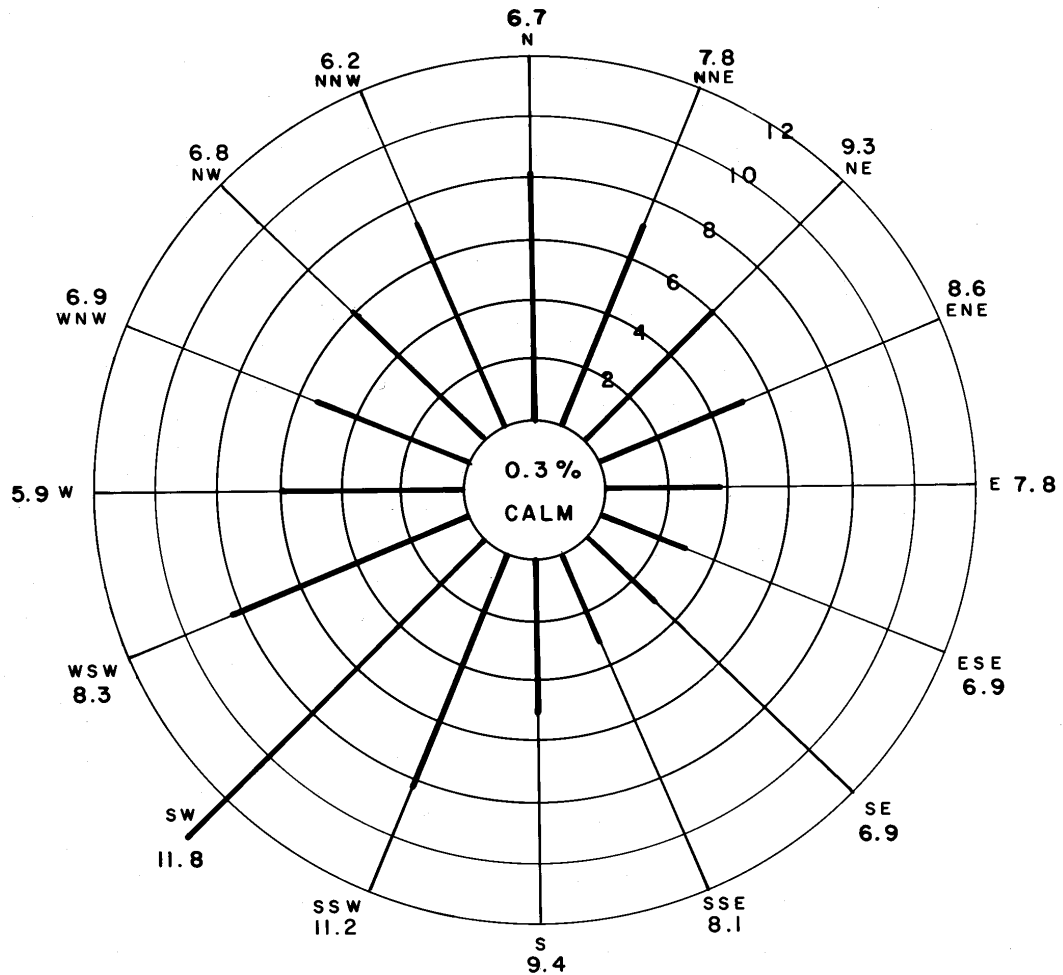
SUMMER (JUN, JUL, AUG)



FALL (SEP, OCT, NOV)



BSEP On-Site Lower Level Wind Rose



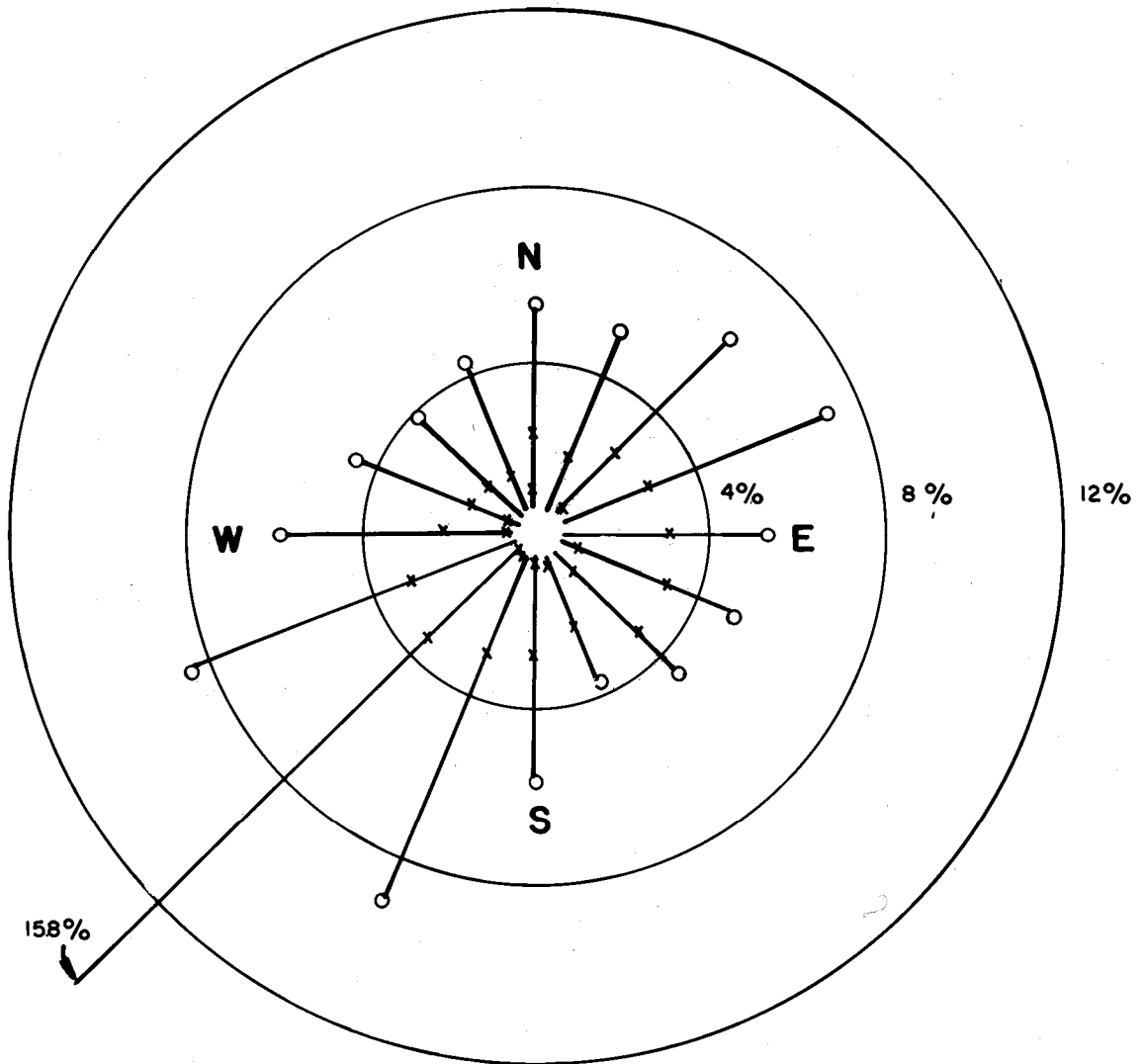
u = 8.5 MPH

u = ALL DIRECTION AVERAGE WIND SPEED

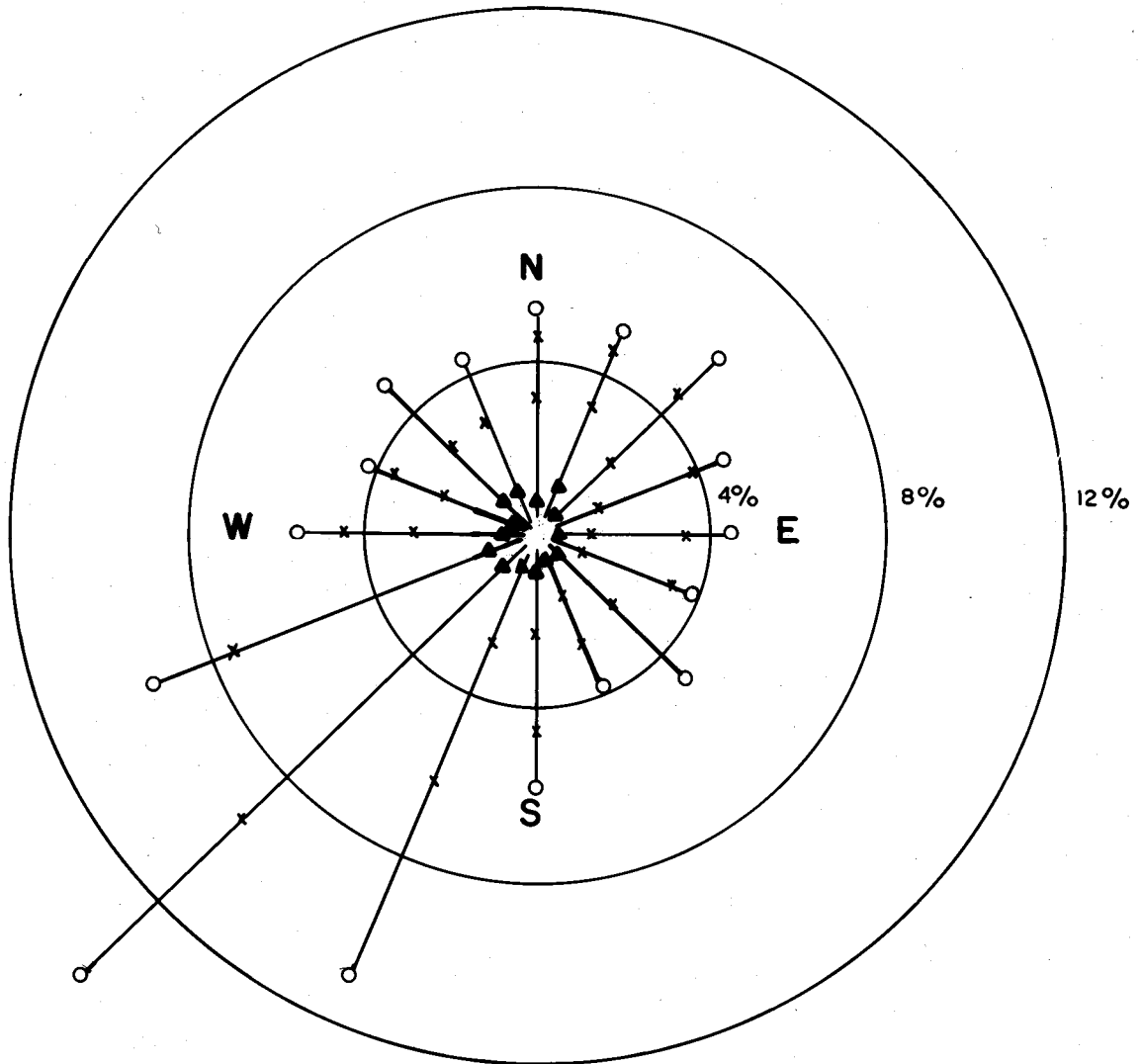
NOTE: DIRECTIONAL AVERAGE WIND SPEEDS (MPH)
 ARE DISPLAYED RADIALLY

— WIND DIRECTION (%)

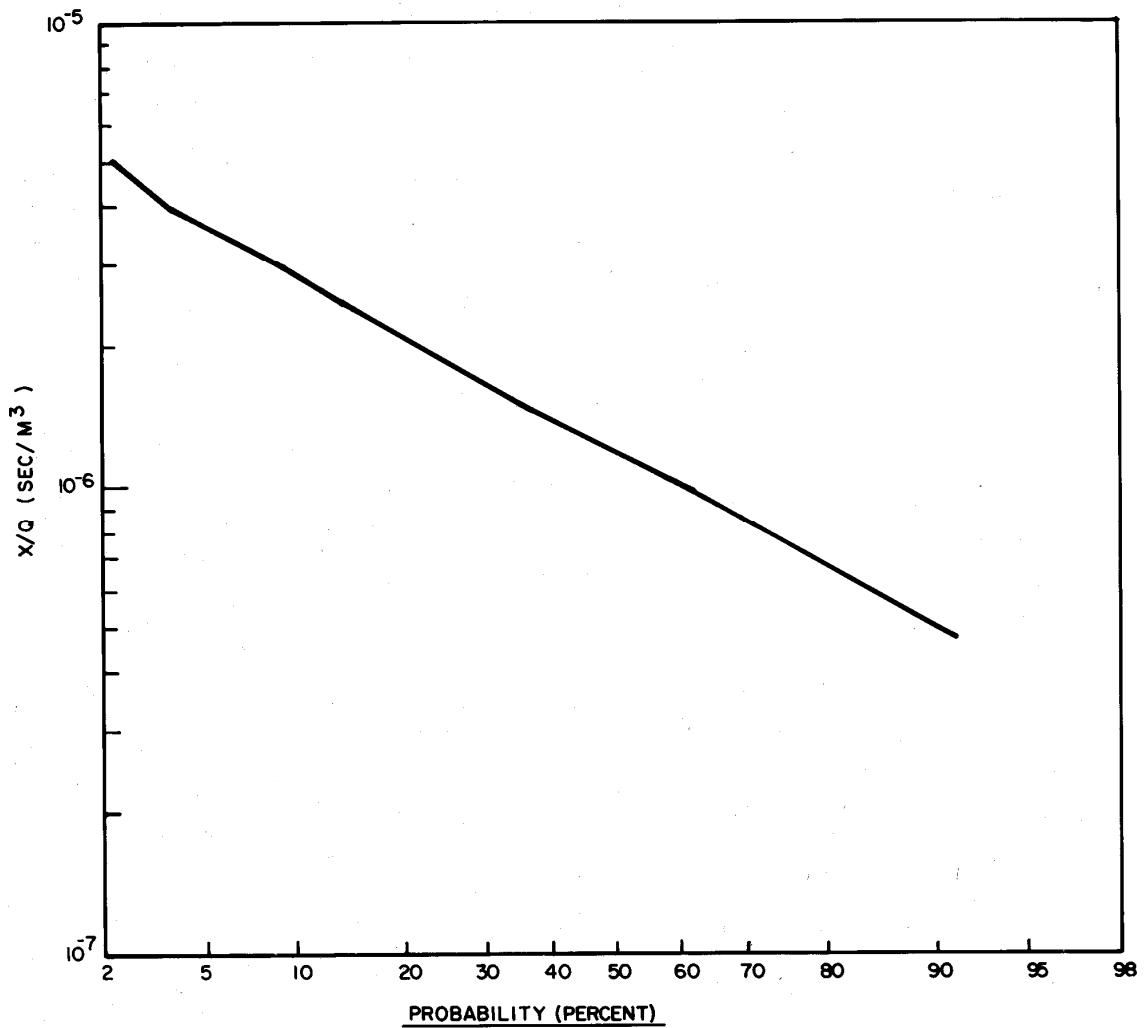
350 Foot Wind Rose



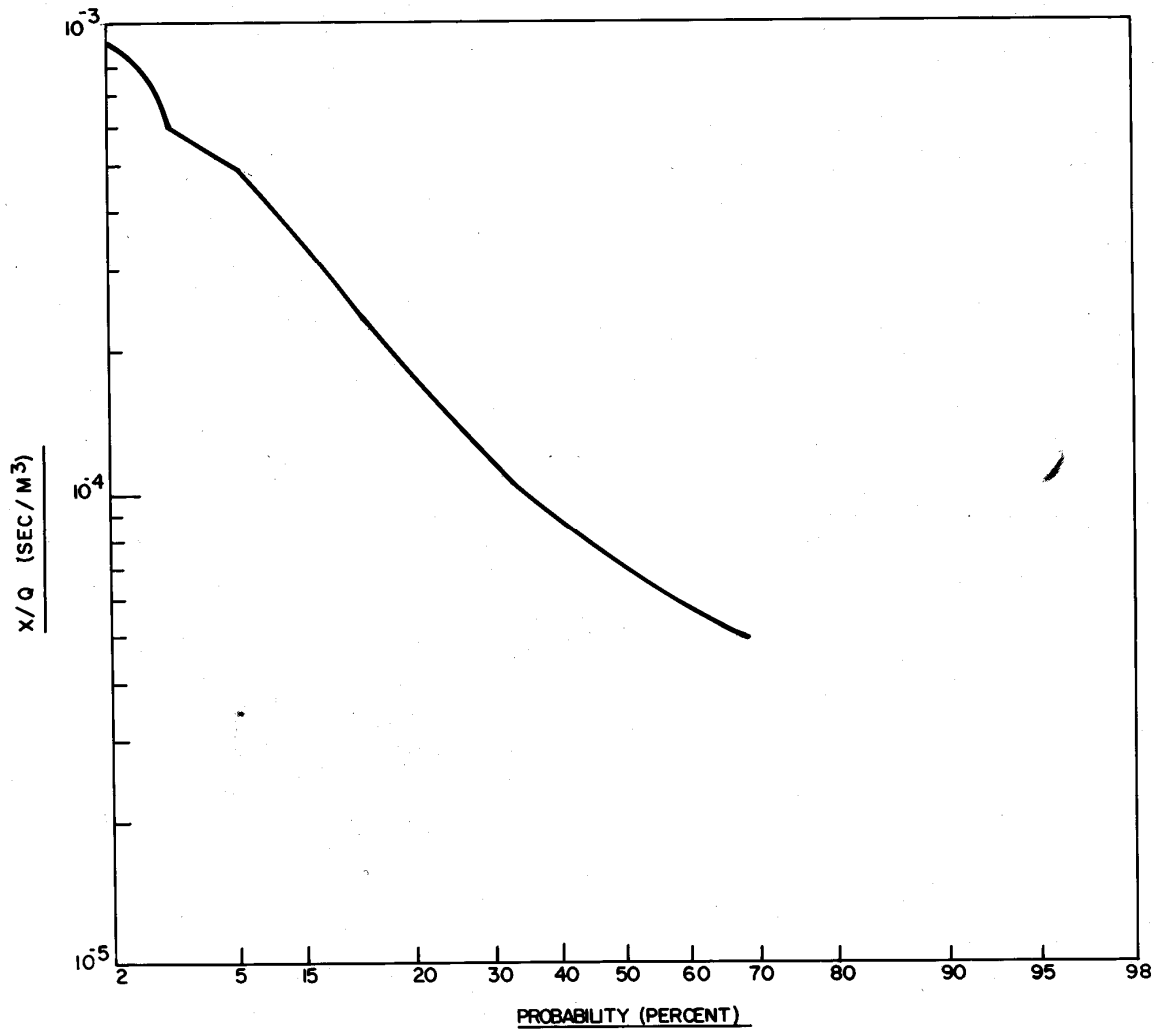
44 Foot Wind Rose



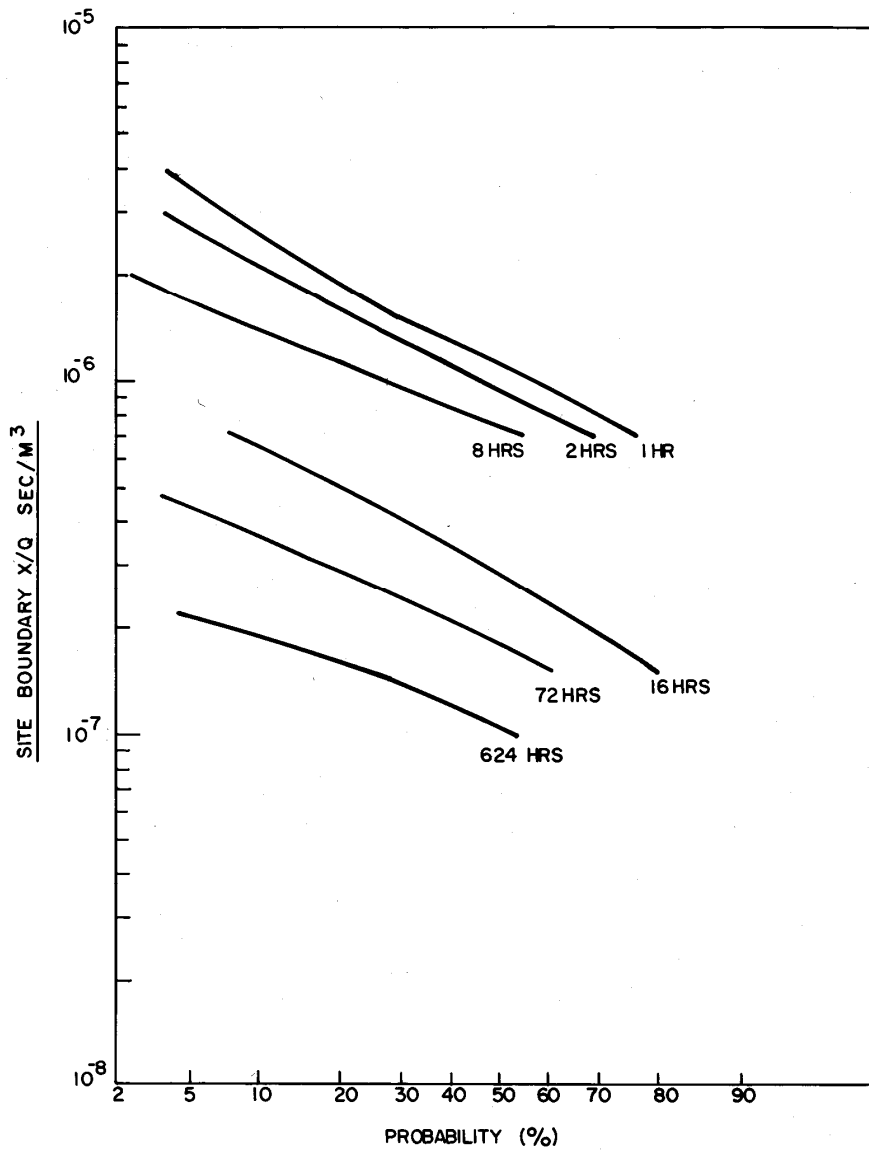
Brunswick Tower 350 Foot Cumulative Probability of X/Q Values from Ground Release



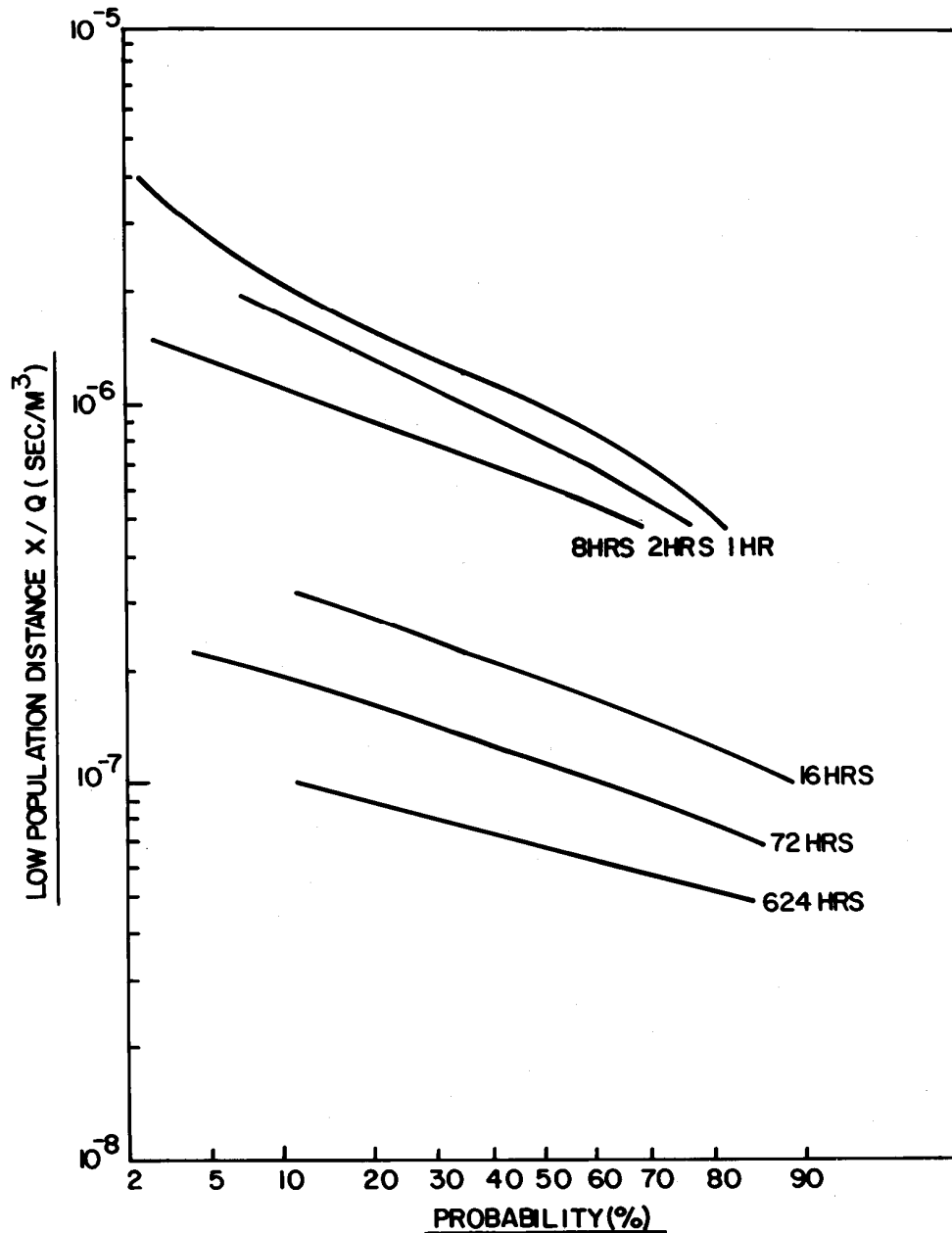
Brunswick Tower 44 Foot Cumulative Probability of X/Q Values from Ground Release



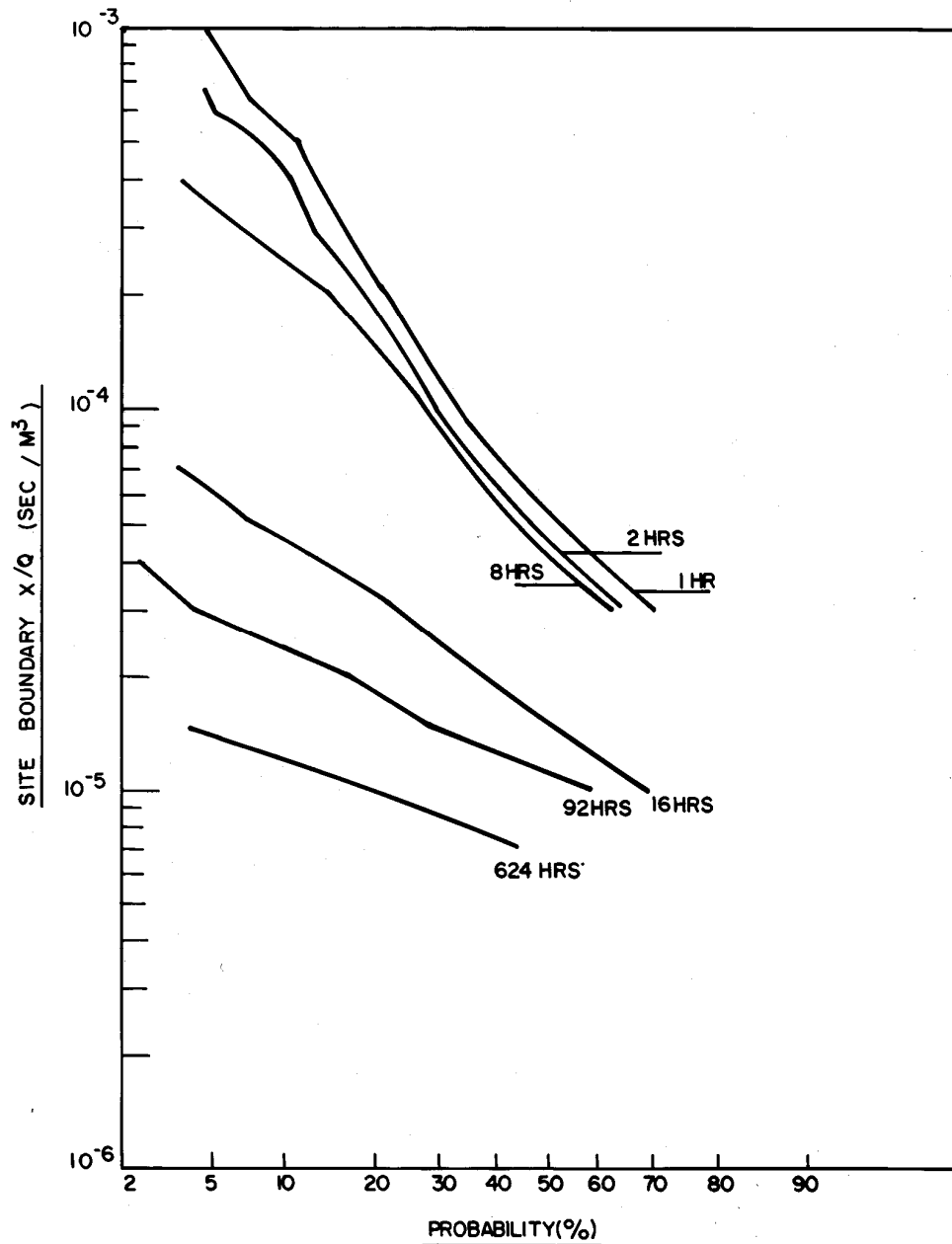
Cumulative Probability of Average X/Q Values for Stack Releases Based on 350 Foot Level Composite Year of Brunswick Data (Site Boundary)



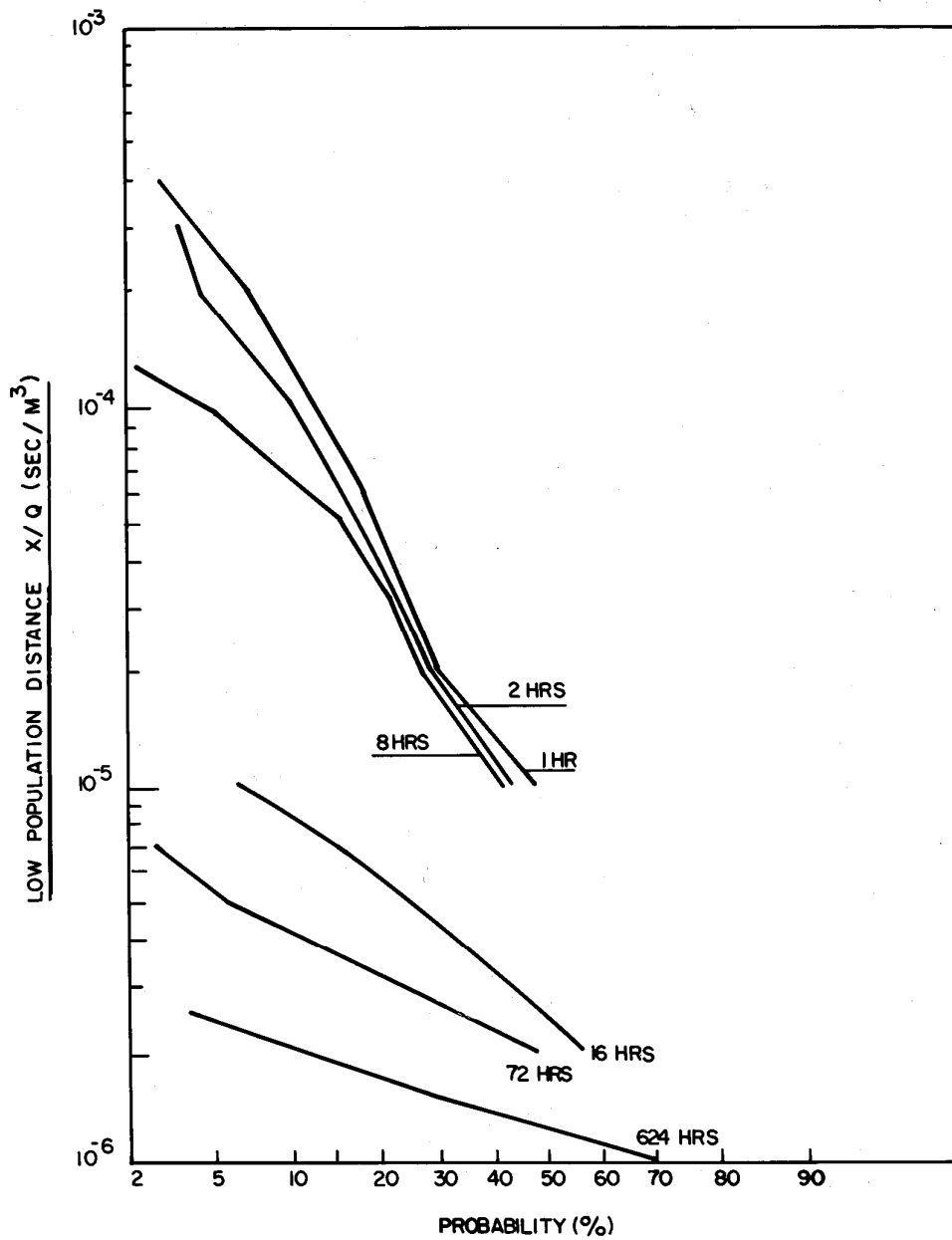
Cumulative Probability of Average X/Q Values for Stack Releases Based on 350 Foot Level Composite Year of Brunswick Data (Low Population Distance)



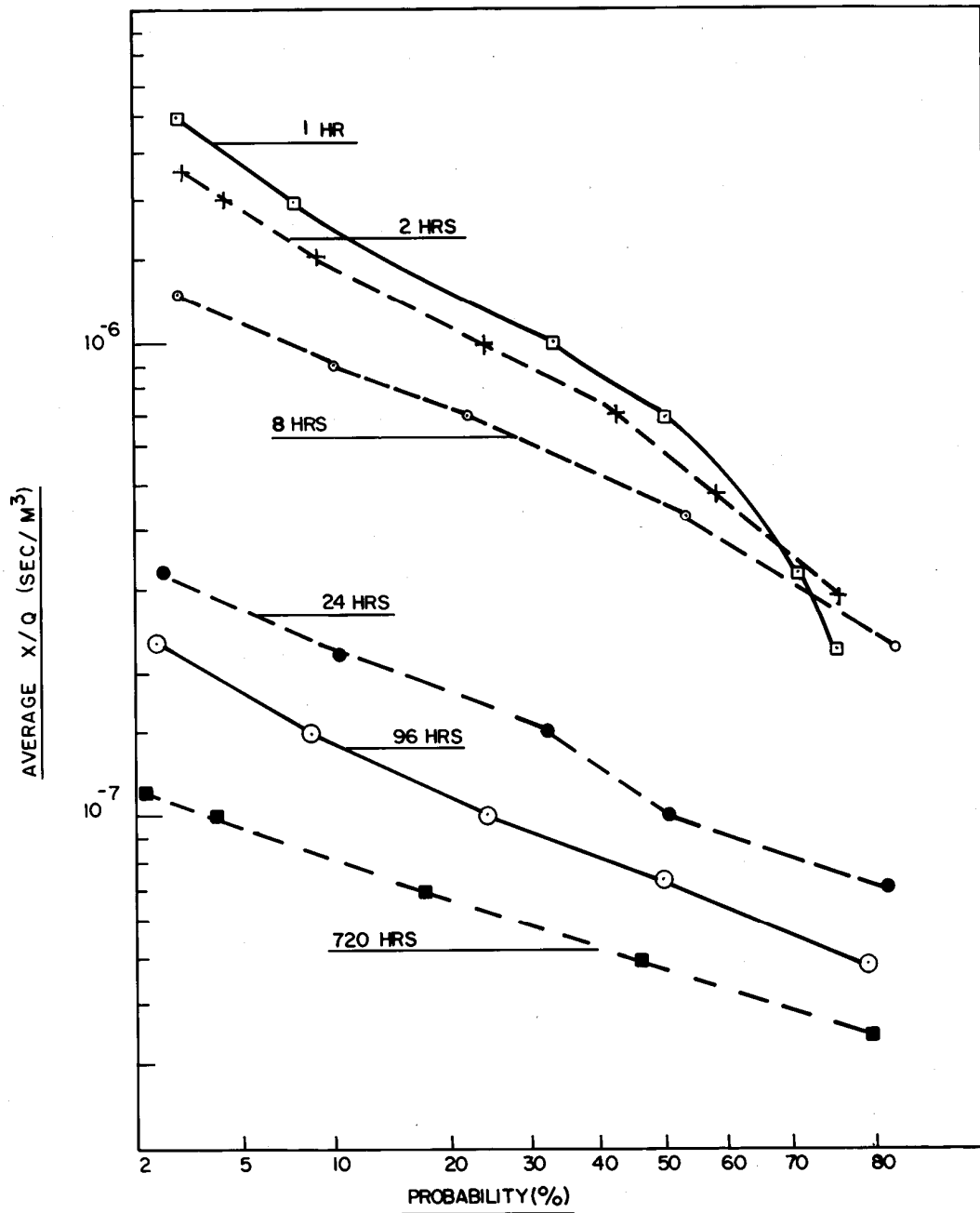
Cumulative Probability of Average X/Q Values for Stack Releases Based on 44 Foot Level Composite Year of Brunswick Data (Site Boundary)



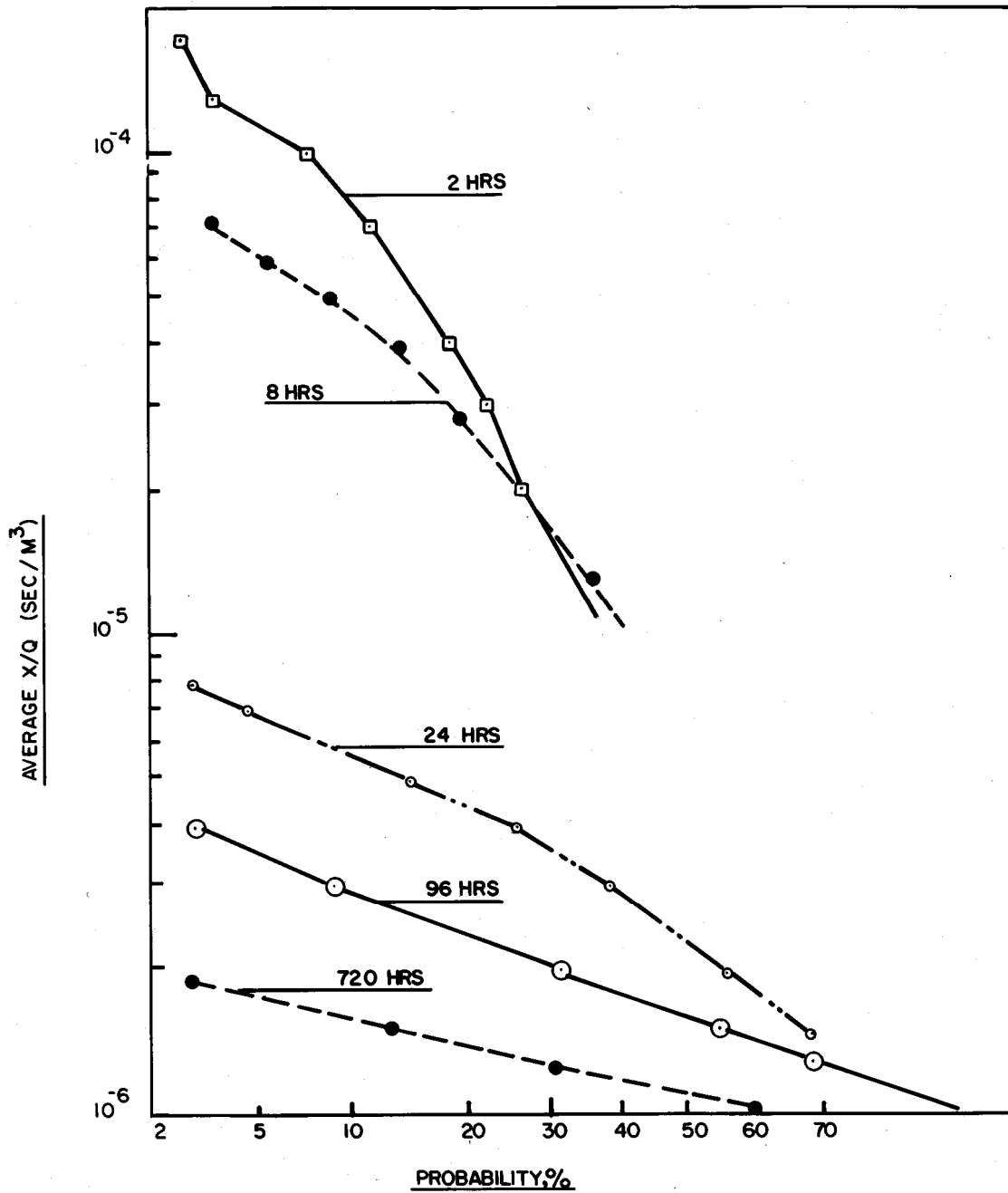
Cumulative Probability of Average X/Q Values for Ground Level Releases Based on 44 Foot Level Composite Year of Brunswick Data (Low Population Distance)



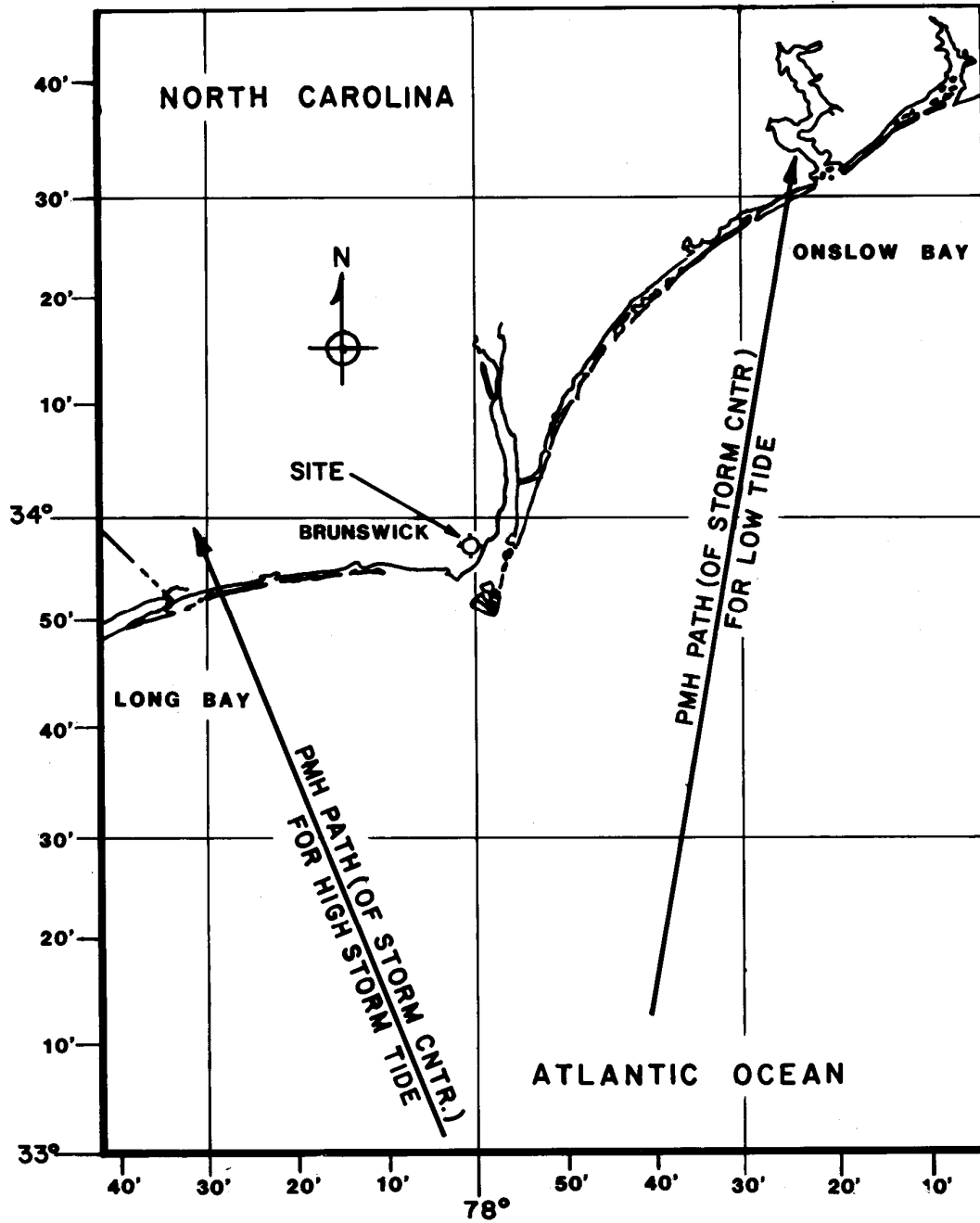
Cumulative Probability of Average X/Q Values (1970 – 1971 Brunswick Site Data – Stack Release)



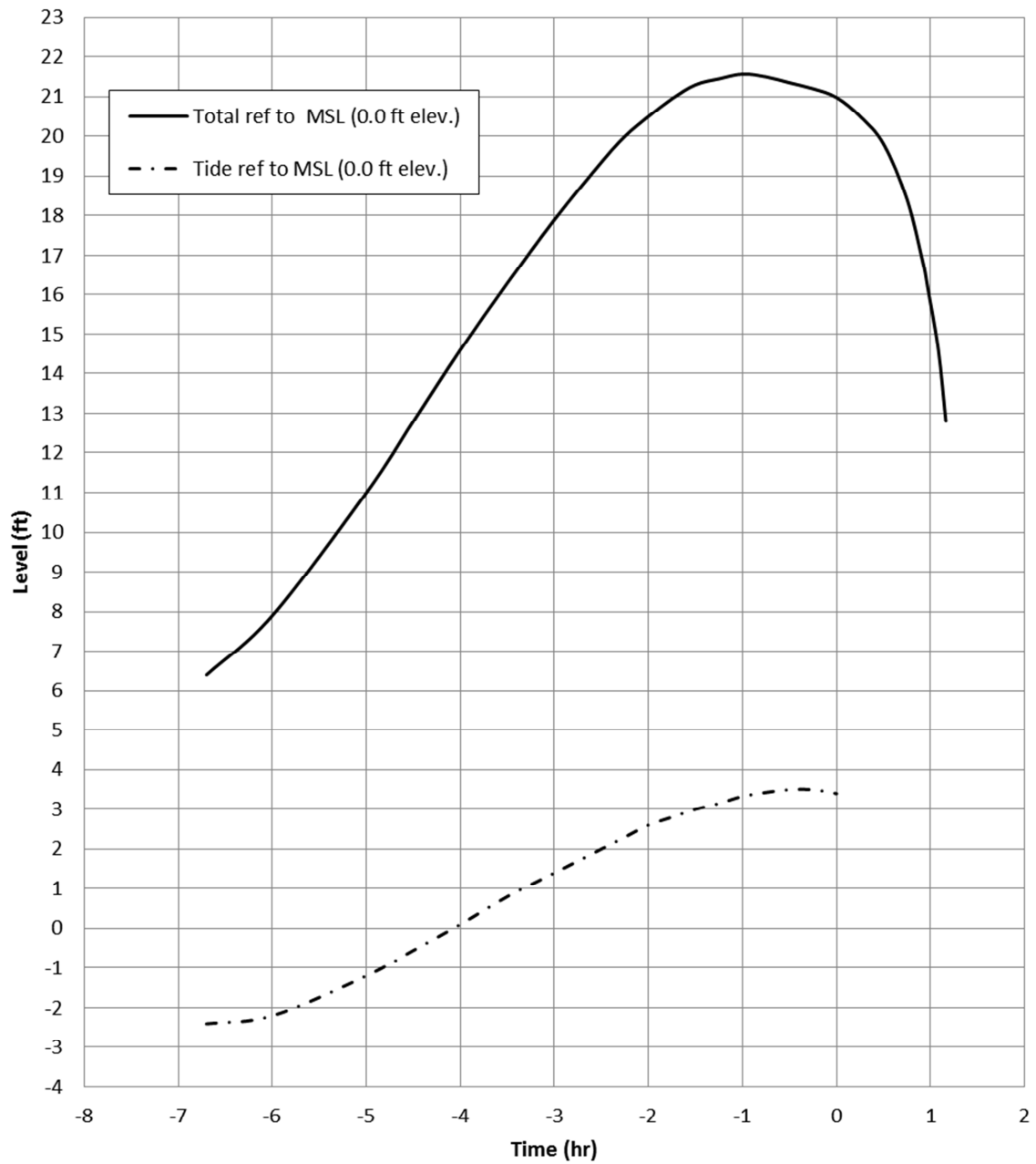
**Cumulative Probability of Average X/Q Values
 (1970 – 1971 Brunswick Site Data – Ground Release)**



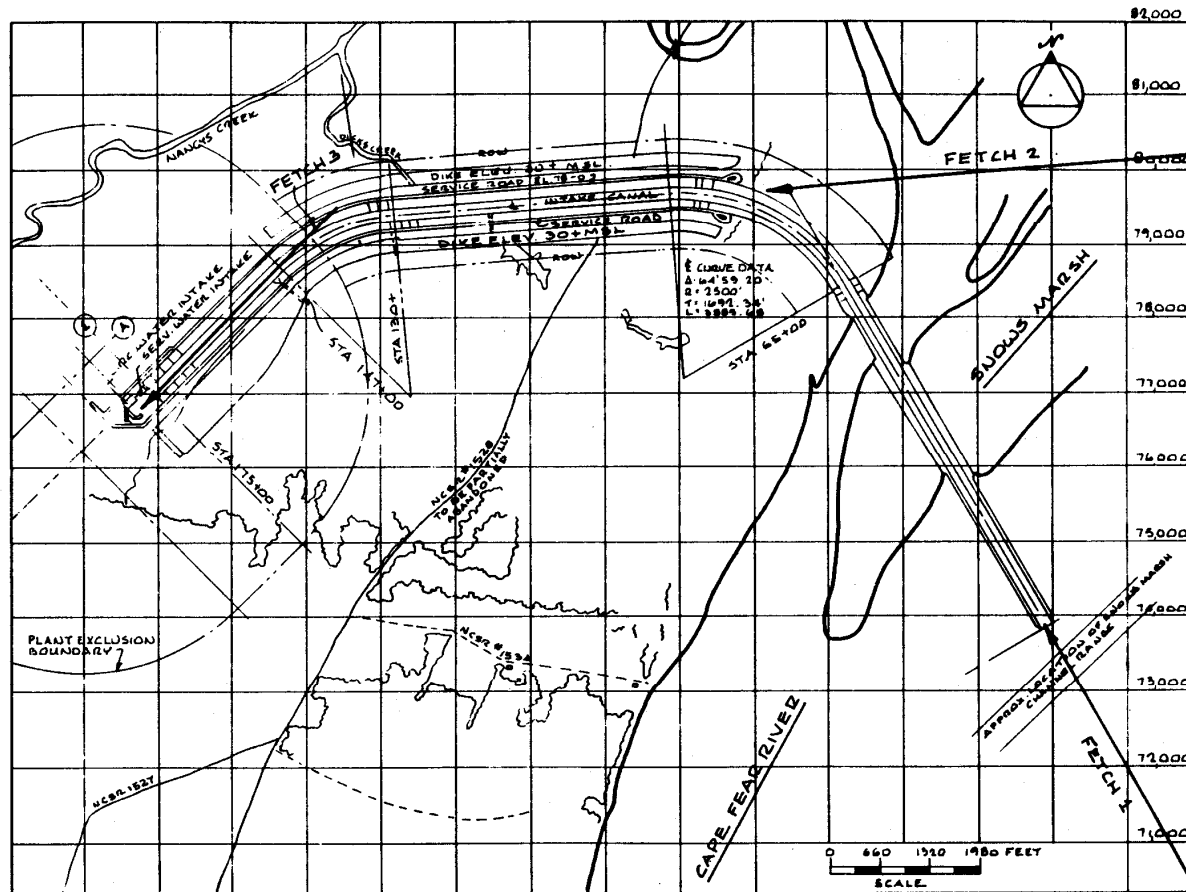
Storm Paths for High and Low Storm Tides



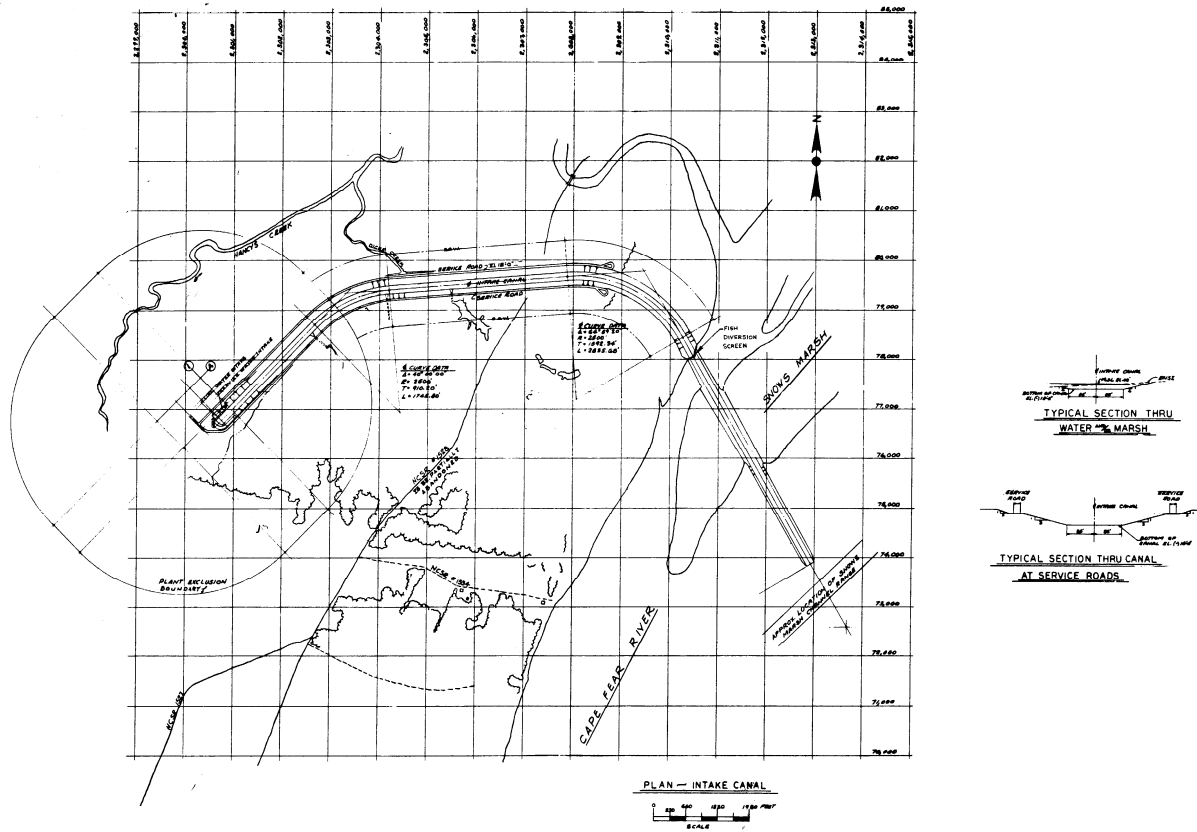
Time History of PMH at the Open Coast



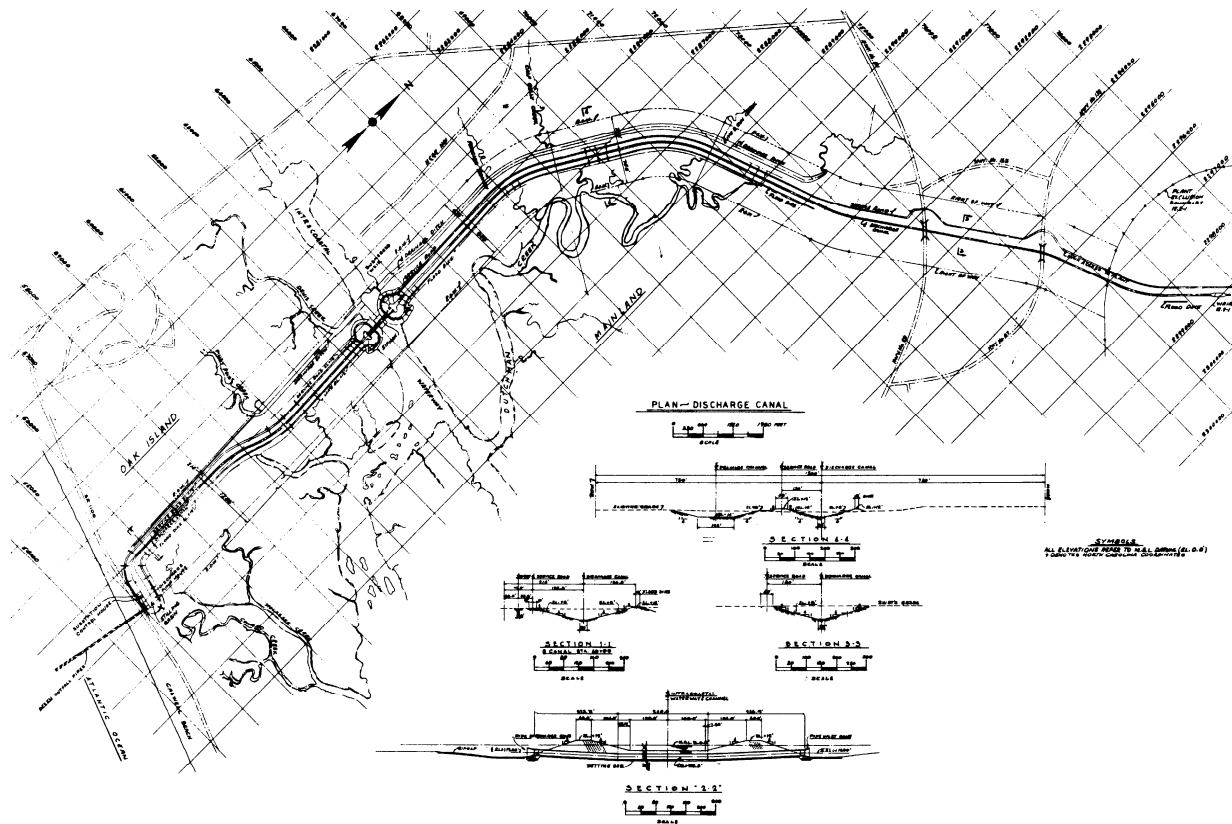
Storm Fetches for Maximum and Minimum Water Levels



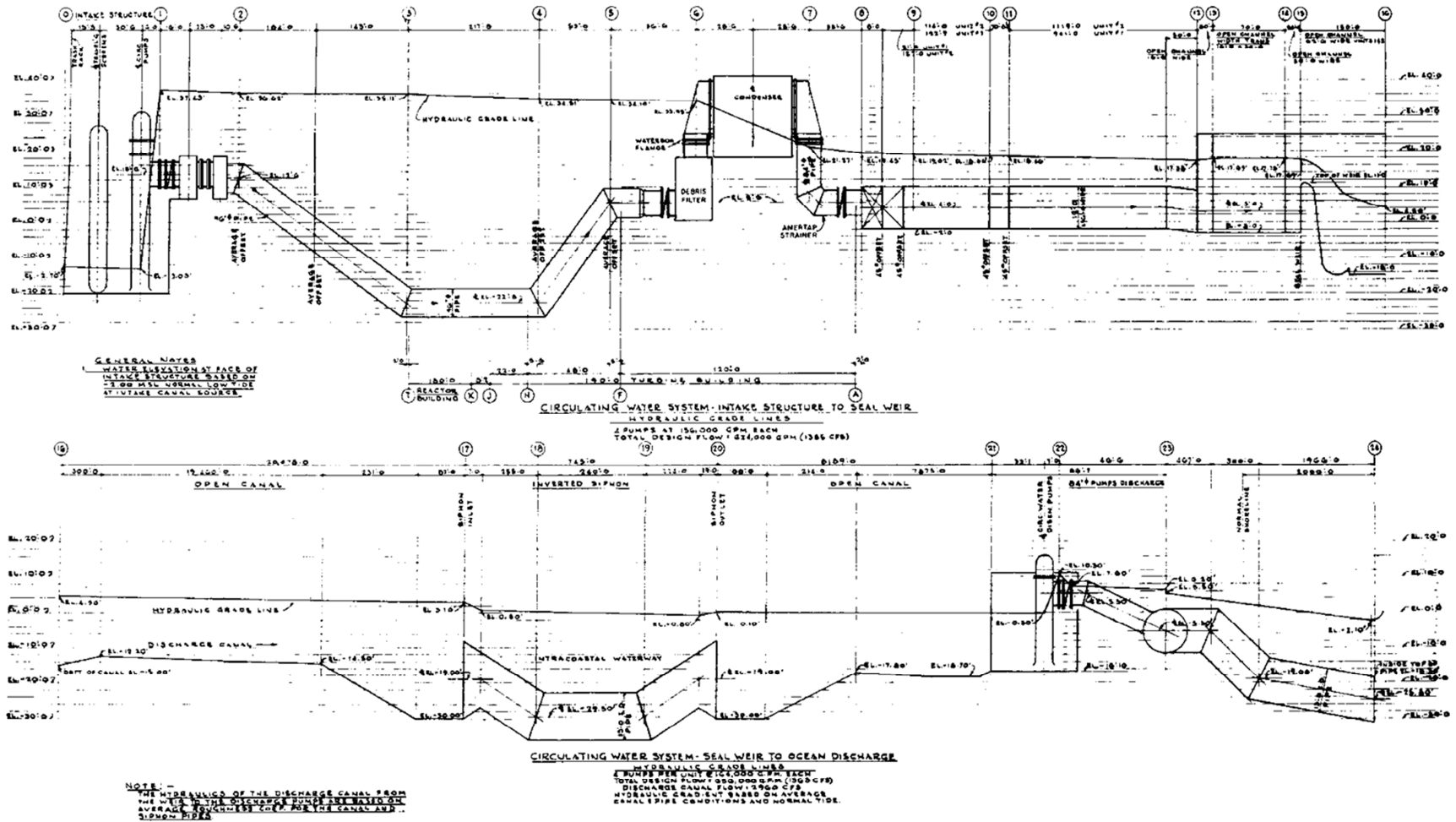
General Arrangement – Intake Canal



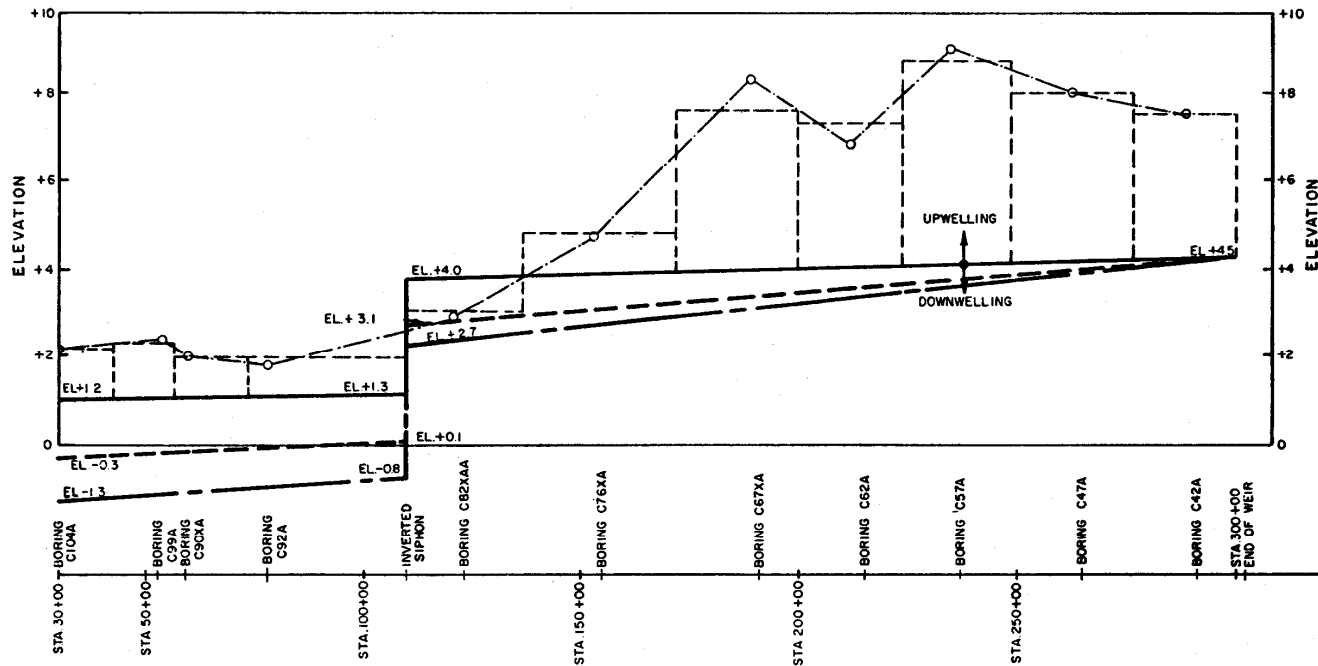
General Arrangement – Discharge Canal



Circulating Water System Hydraulic Gradient



Artesian Head and Water Surface Along the Discharge Canal Route

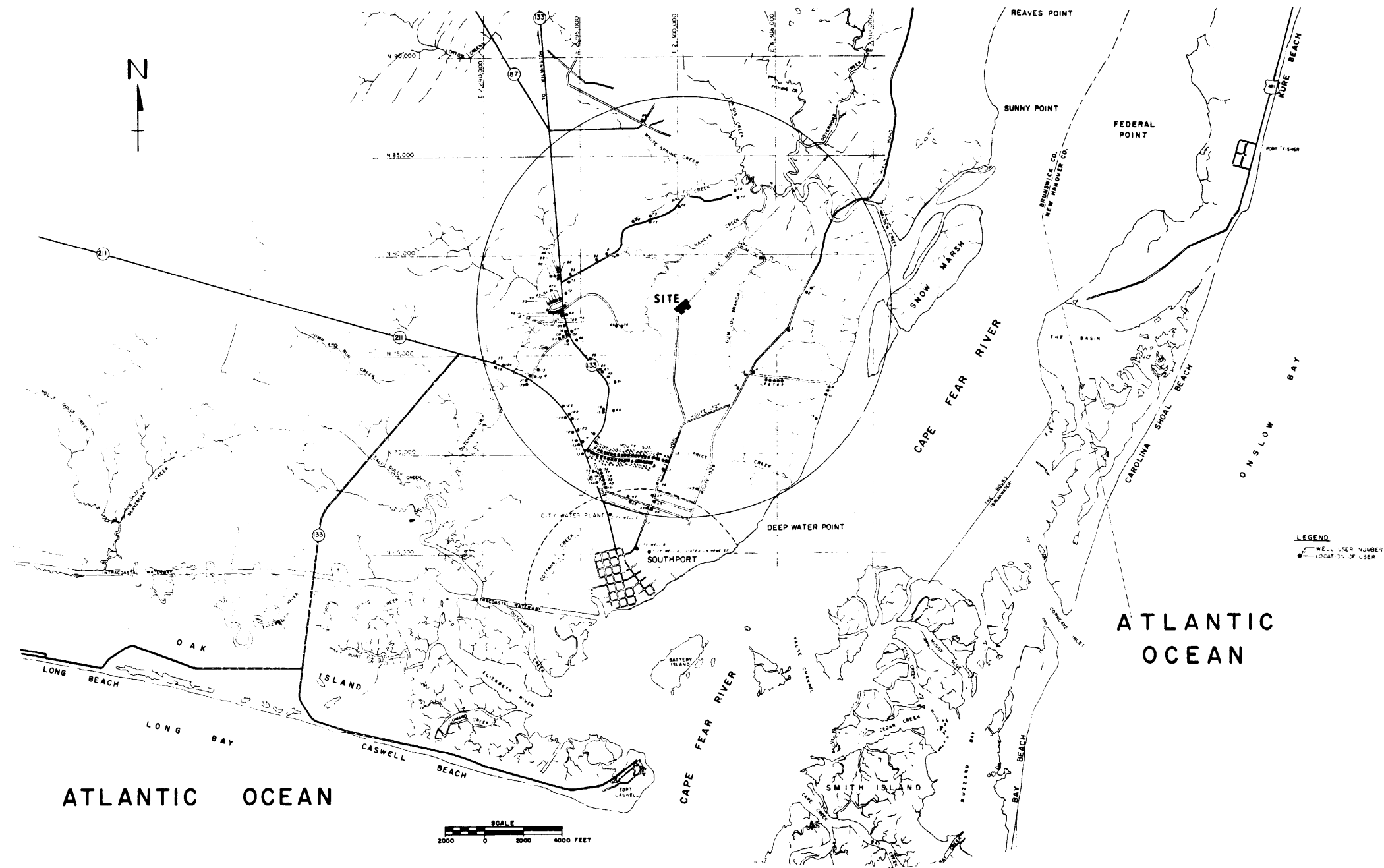


NOTE:
 THE CANAL WATER SURFACES WERE ADJUSTED TO ACCOUNT FOR THE DIFFERENCE IN THE SPECIFIC GRAVITIES OF FRESH WATER AND SALT WATER IN COMPUTING THE QUANTITIES OF UPWELLING AND DOWNWELLING.

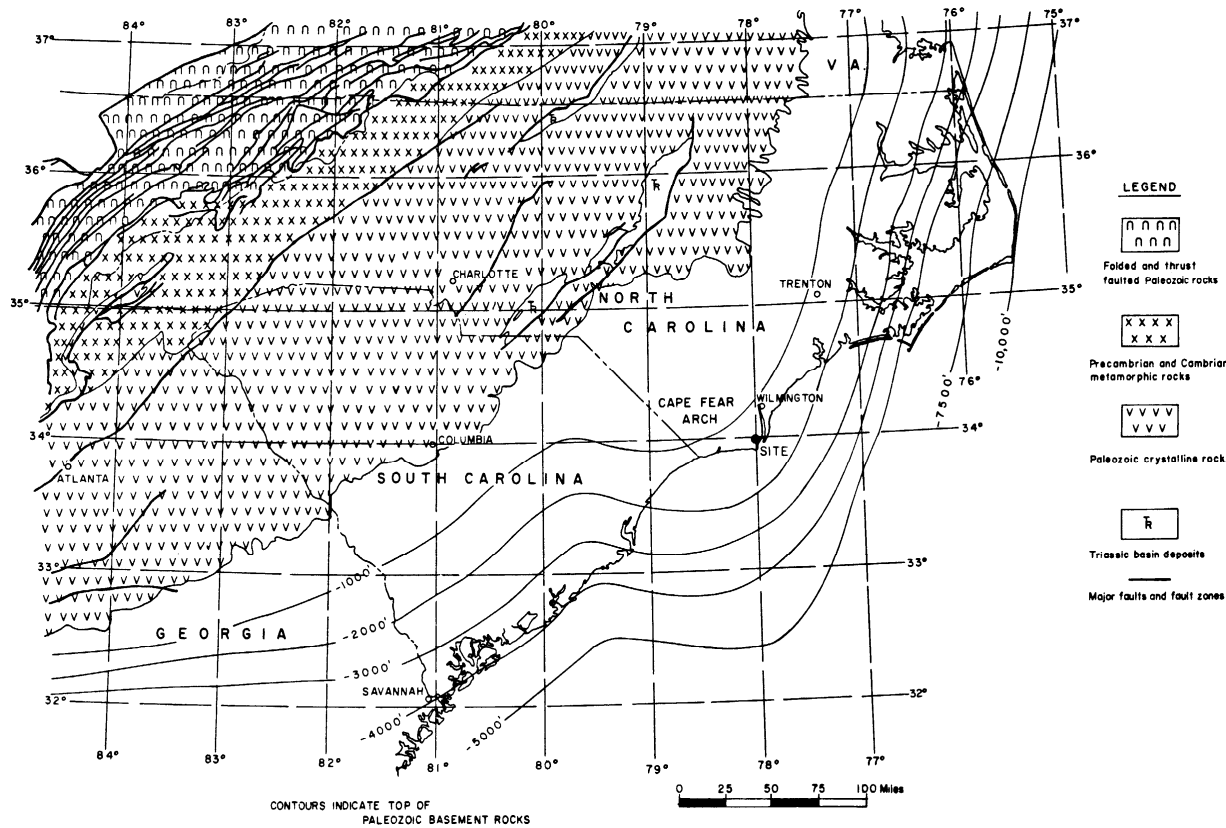
LEGEND

- ARTESIAN HEAD ALONG CANAL
- - - AVERAGE ARTESIAN HEAD OVER A REACH
- PIEZOMETRIC DATA POINT
- CANAL LEVEL AT BEGINNING OF TWO UNIT OPERATION
- - - CANAL LEVEL AT AVERAGE, OR MIDDLE AGE, CONDITION
- CANAL LEVEL AT EXPECTED PLANT LIFE

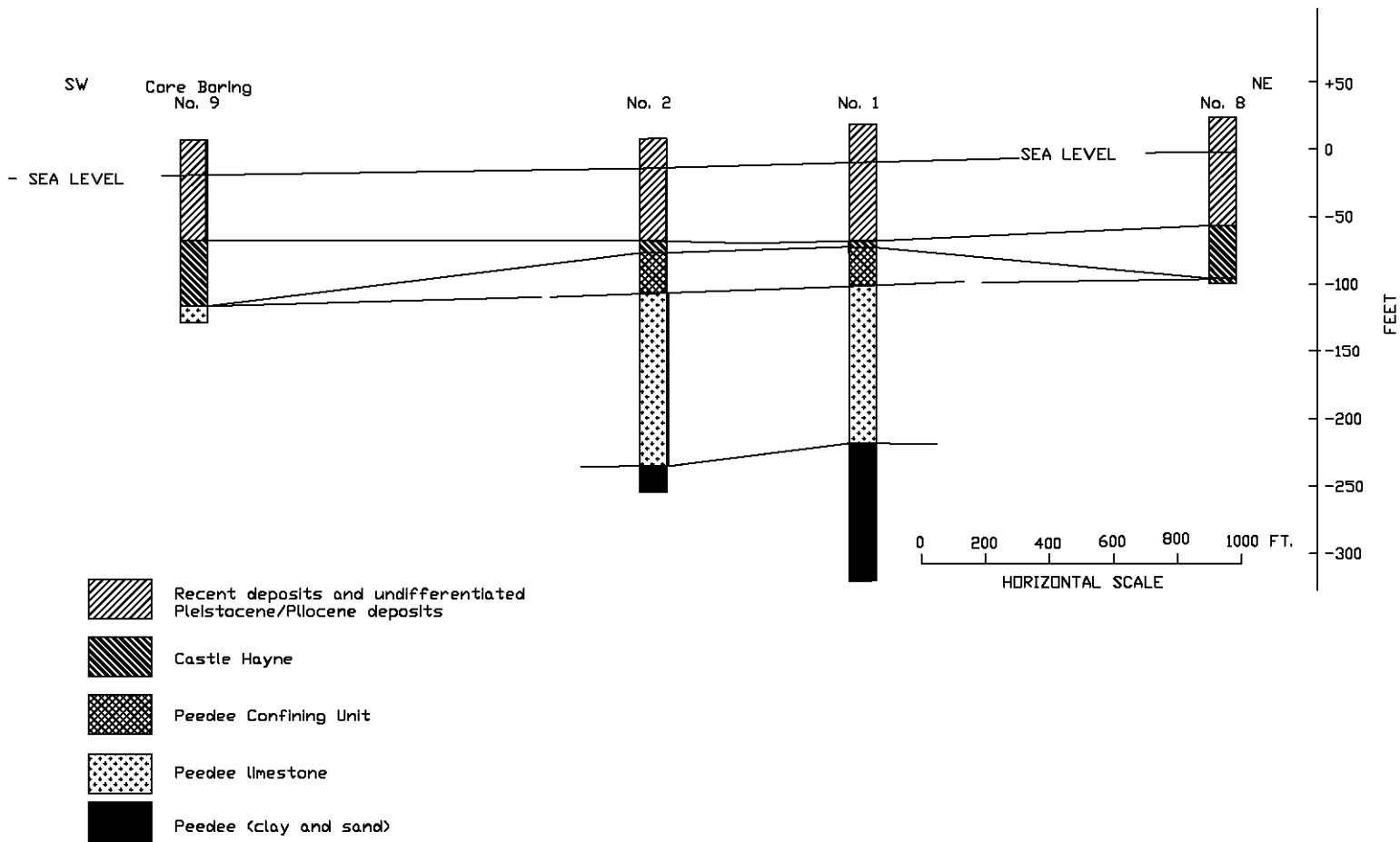
Location of Existing Wells Within a Two-Mile Radius of Plant Site [Historical Information]



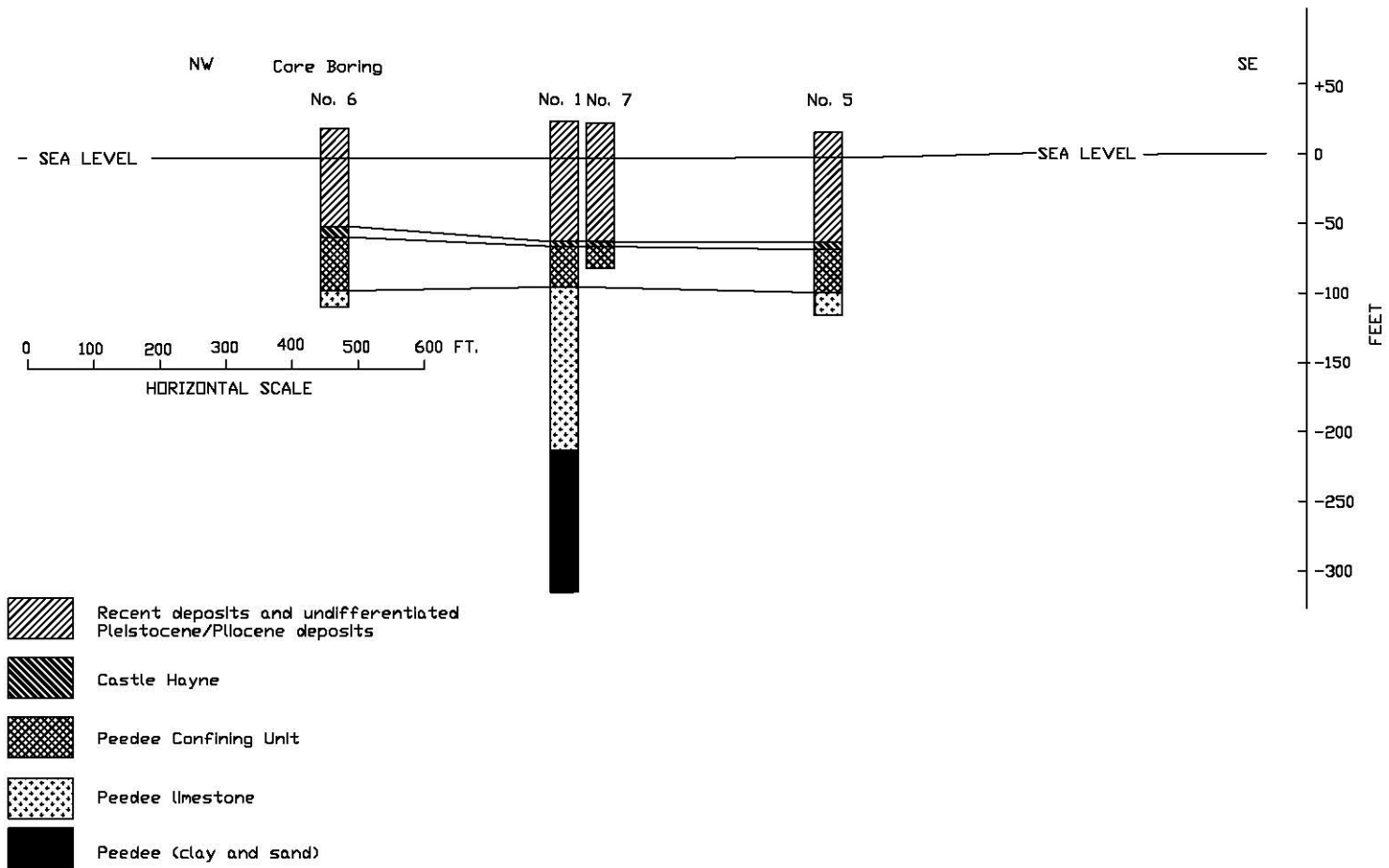
Tectonic Map North and South Carolina



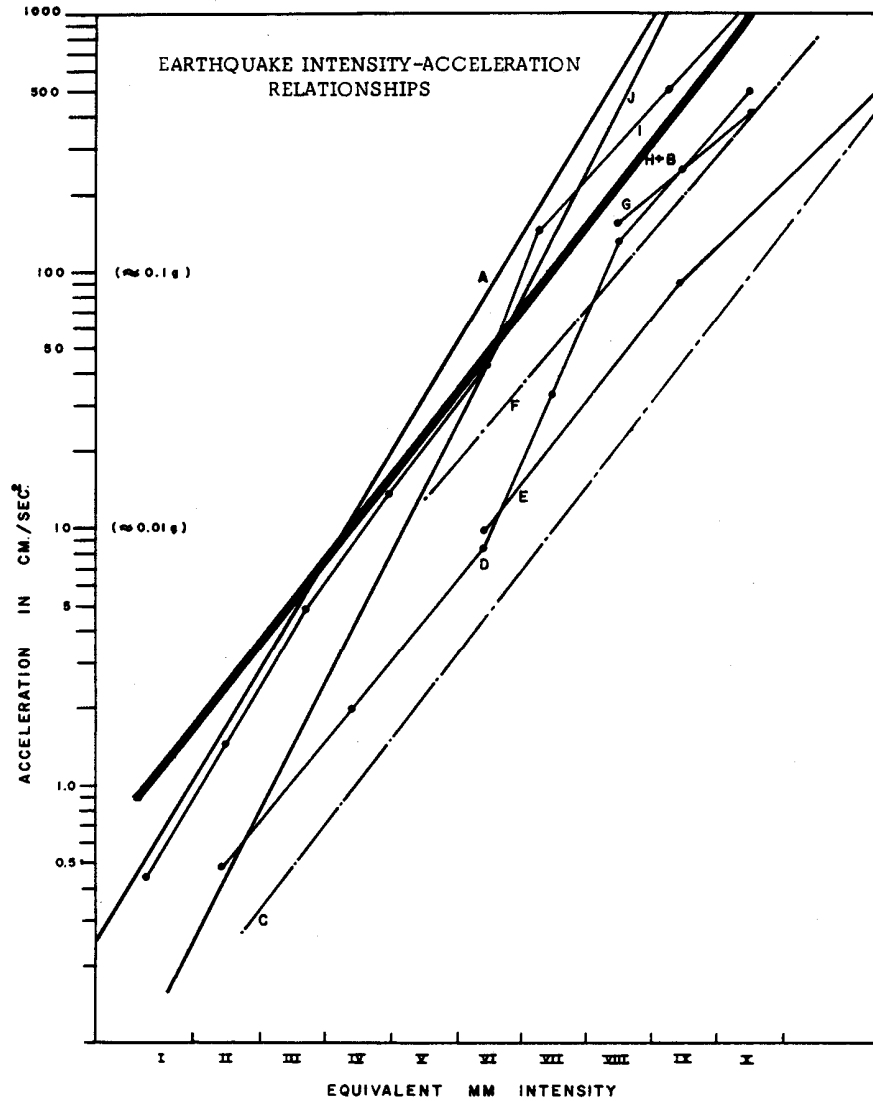
**Geological Cross Section
 At Brunswick Site
 (Part 1)**



**Geological Cross Section
 At Brunswick Site
 (Part 2)**



Earthquake Intensity - Acceleration Relationships



- | | |
|----------------------------------|------------------------------|
| A - HERSHBERGER (1956) | * F - MEDVEDEV ET AL. (1963) |
| B - GUTENBERG & RICHTER (1942) | * G - N.Z. DRAFT BY-LAW |
| * C - CANCANI (1904) | H - TID-7024 (1963) |
| * D - ISHIMOTO (1932) | * I - KAWASUMI (1951) |
| * E - SAVARENSKY & KIRNOS (1955) | * J - PETERSCHMITT (1951) |

* DATA FROM G.A. EIBY (1965)

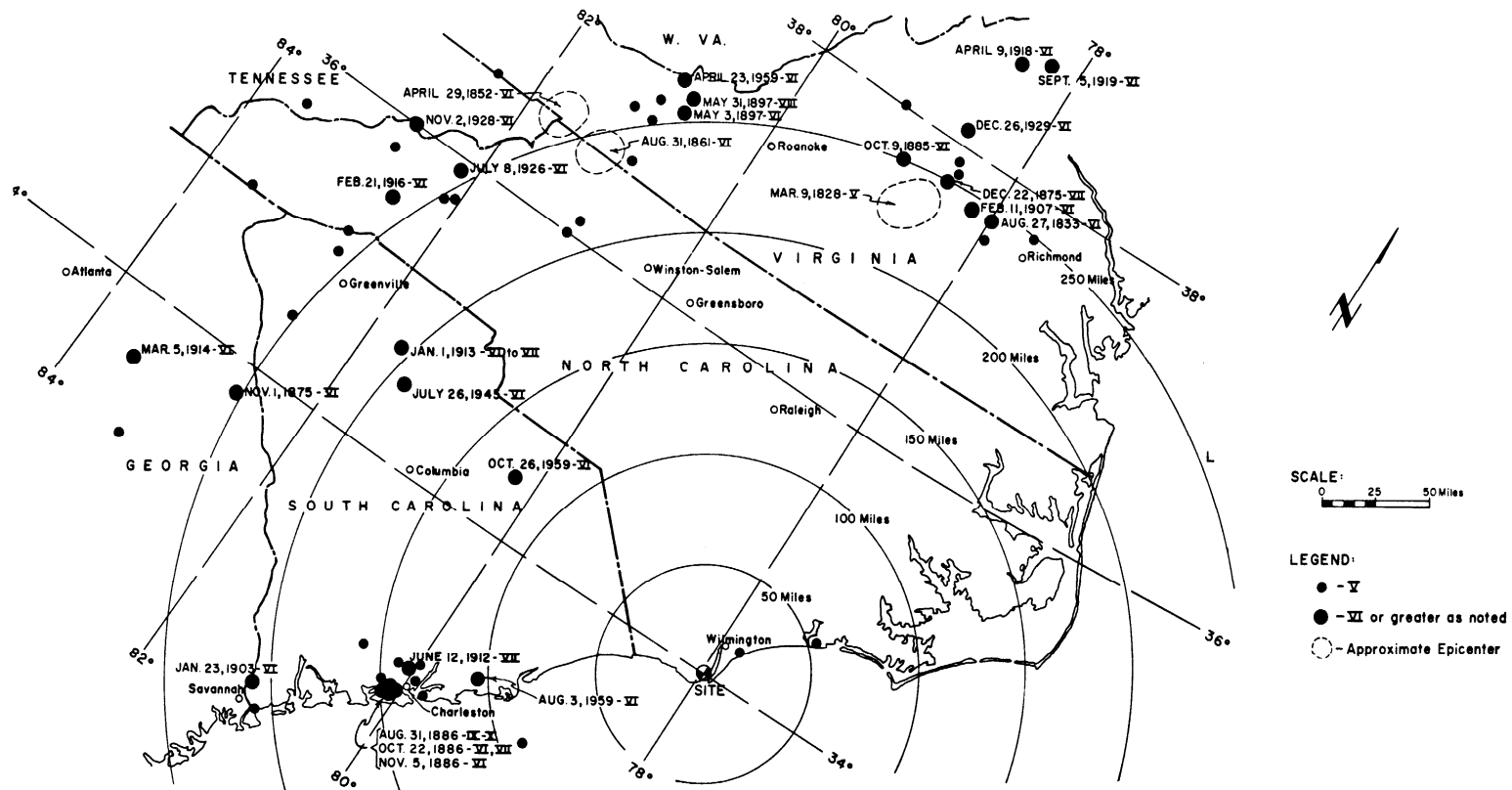
Modified Mercalli Intensity Scale Approximate Relationship with Magnitude, Ground Acceleration and Rossi-Forel Intensity Scale

ROSSI - FOREL INTENSITY SCALE	ABRIDGED MODIFIED MERCALLI INTENSITY SCALE		MAGNITUDE (RICHTER SCALE) GROUND ACCELERATION IN g'S
I	I	Not felt except by a very few under especially favourable circumstances.	
II	II	Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.	3
III	III	Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration like passing of truck. Duration estimated.	0.05
IV	IV	During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	4
V	V	Felt by nearly everyone; many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbance of trees, poles and other tall objects sometimes noticed. Pendulum clocks may stop.	
VI	VI	Felt by all; many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.	5
VII	VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.	6
VIII	VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	.1
IX	IX	Damage considerable in specially designed structures; well designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	7
X	X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations, ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	5

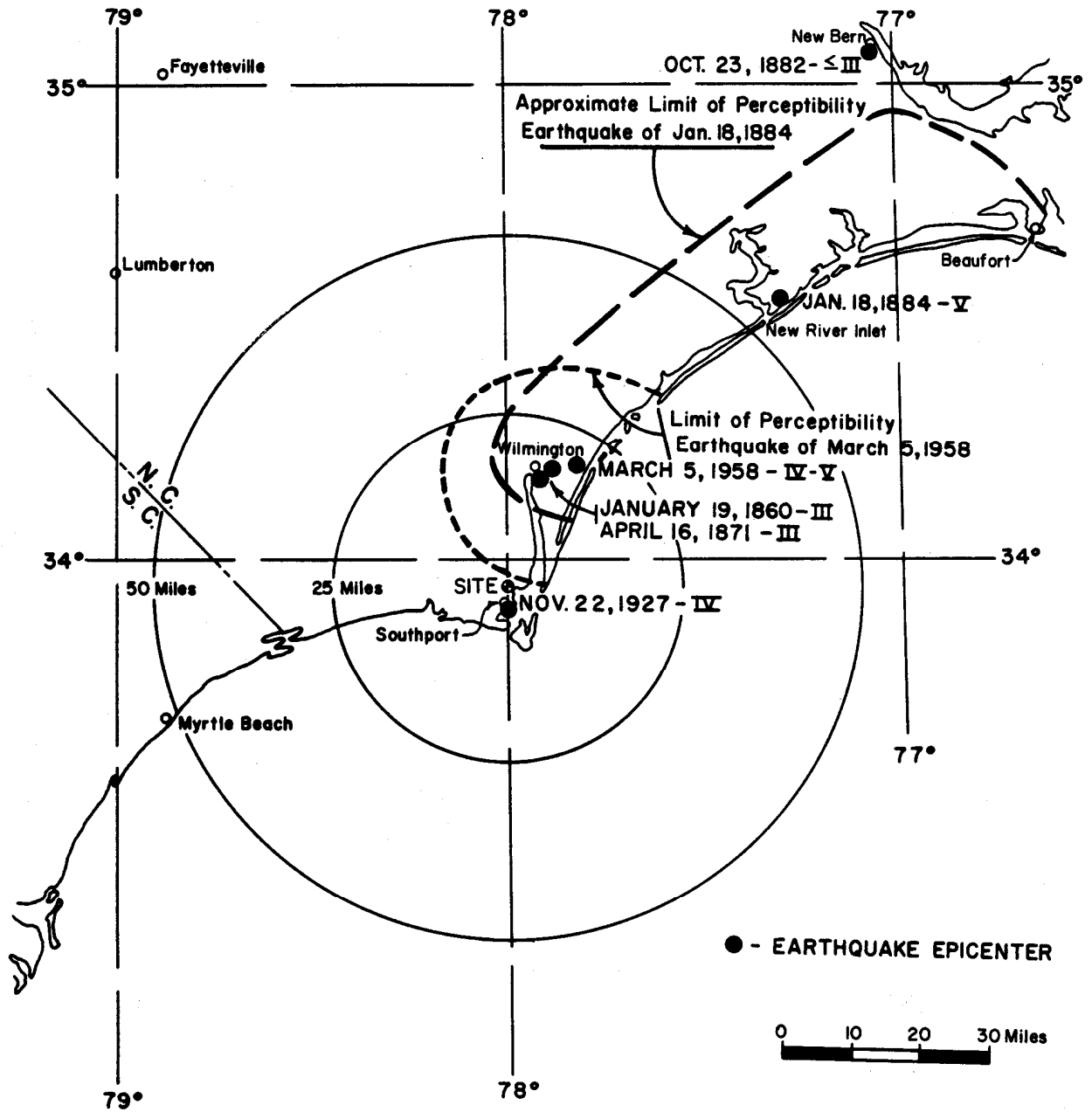
Modified Mercalli Intensity Scale and relationship with Rossi-Forel Scale after Wood and Neumann, 1931 (Modified Mercalli Intensities XI and XII not included).

Magnitude and acceleration values taken from Nuclear Reactors and Earthquakes, TID-7024, United States Atomic Energy Commission.

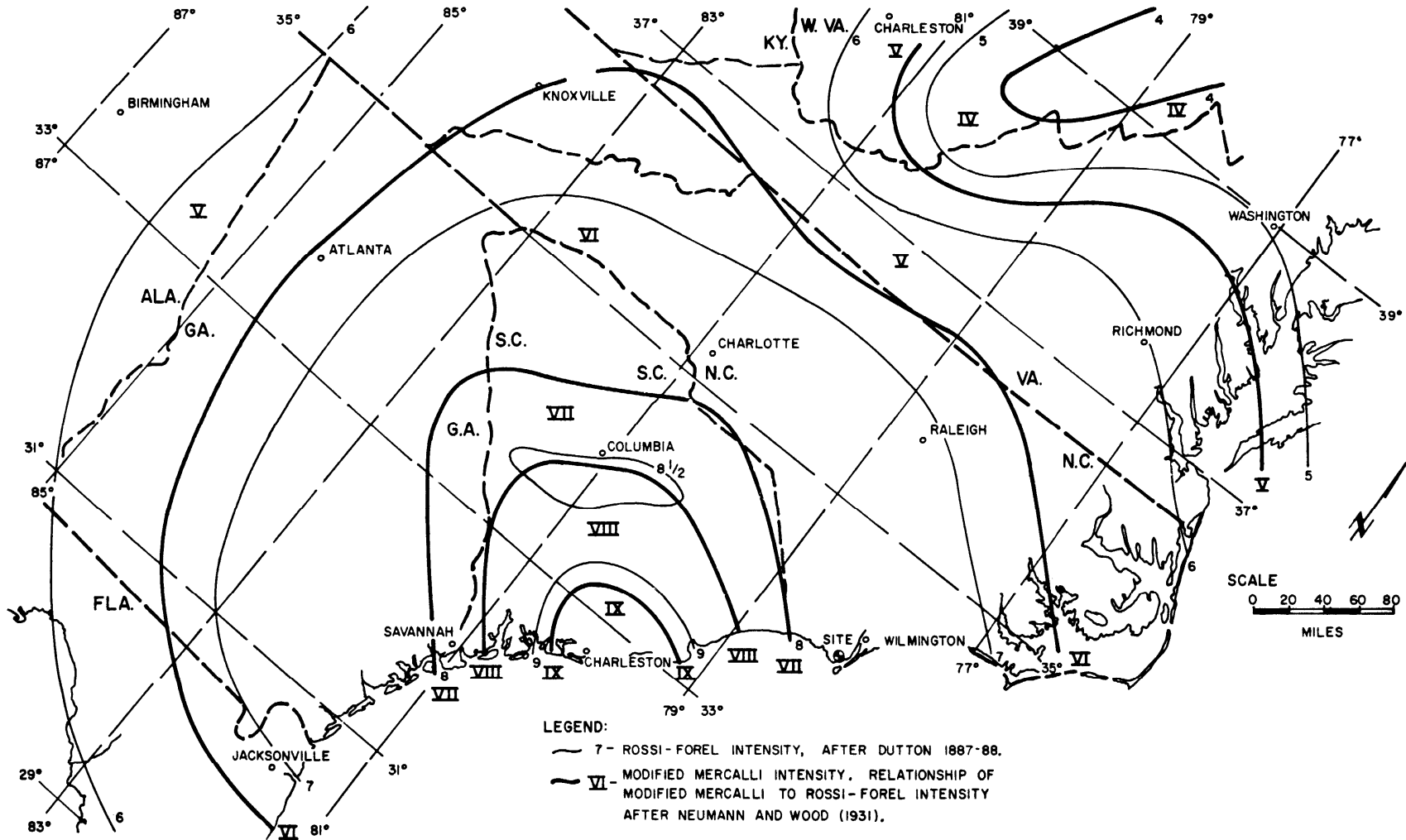
Compilation of Earthquakes Virginia and the Carolinas



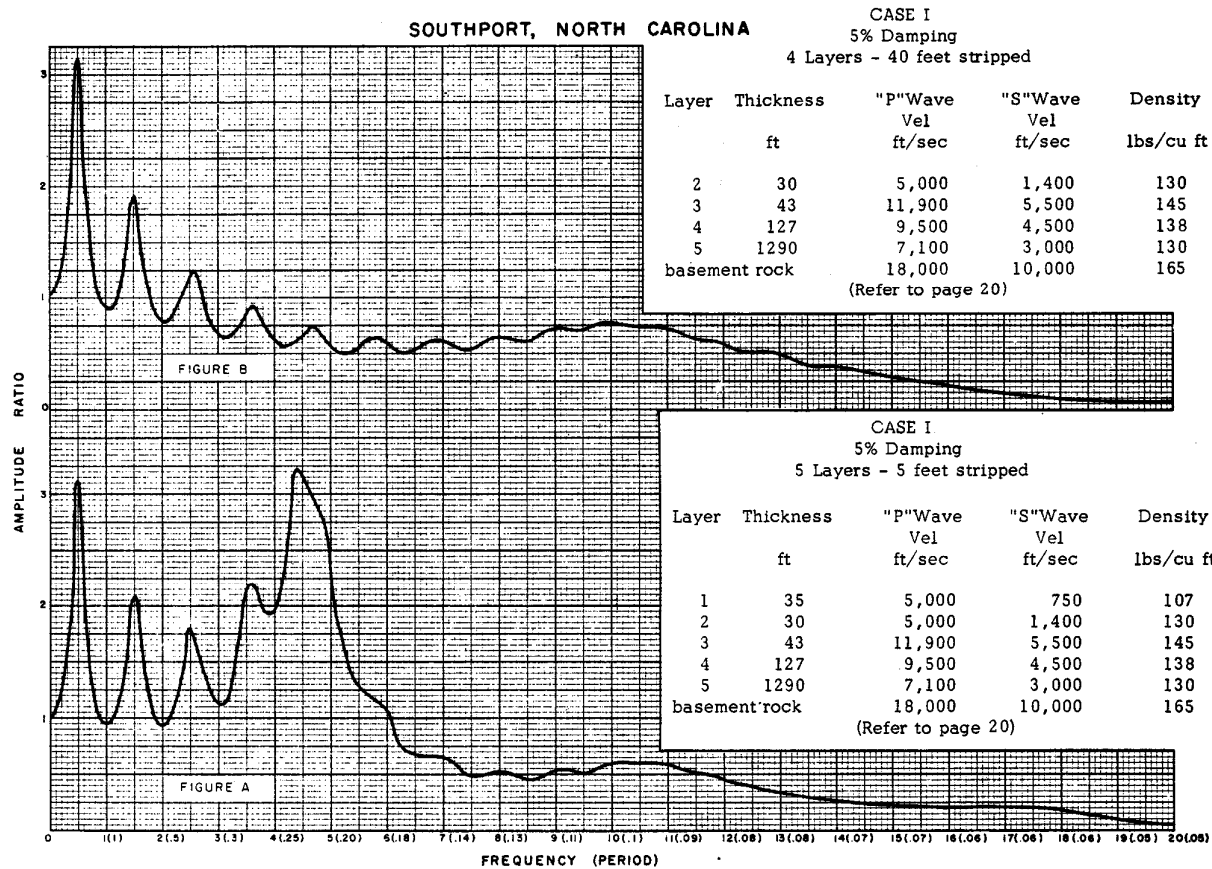
Compilation of Earthquakes Southeastern North Carolina



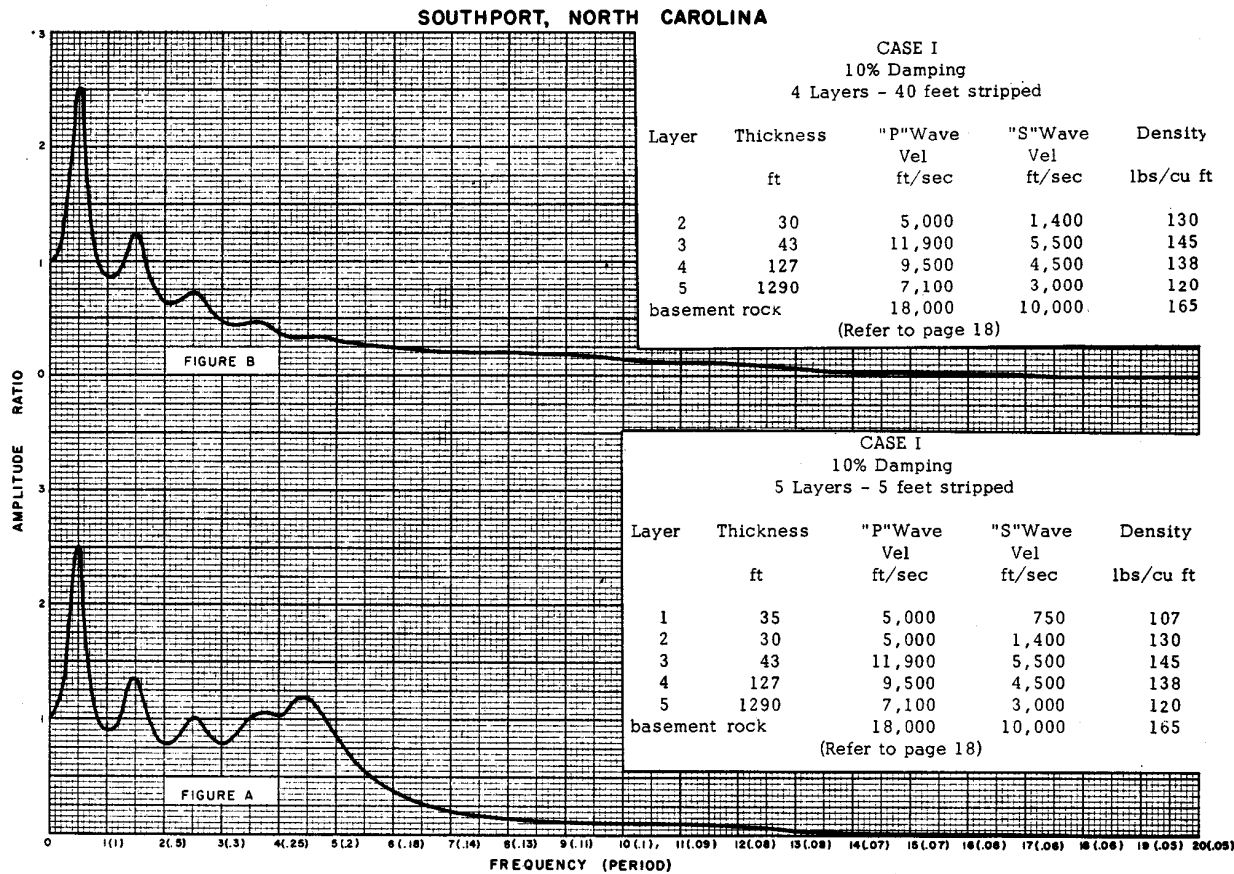
Iseoseismal Map Charleston Earthquake of August 31, 1886



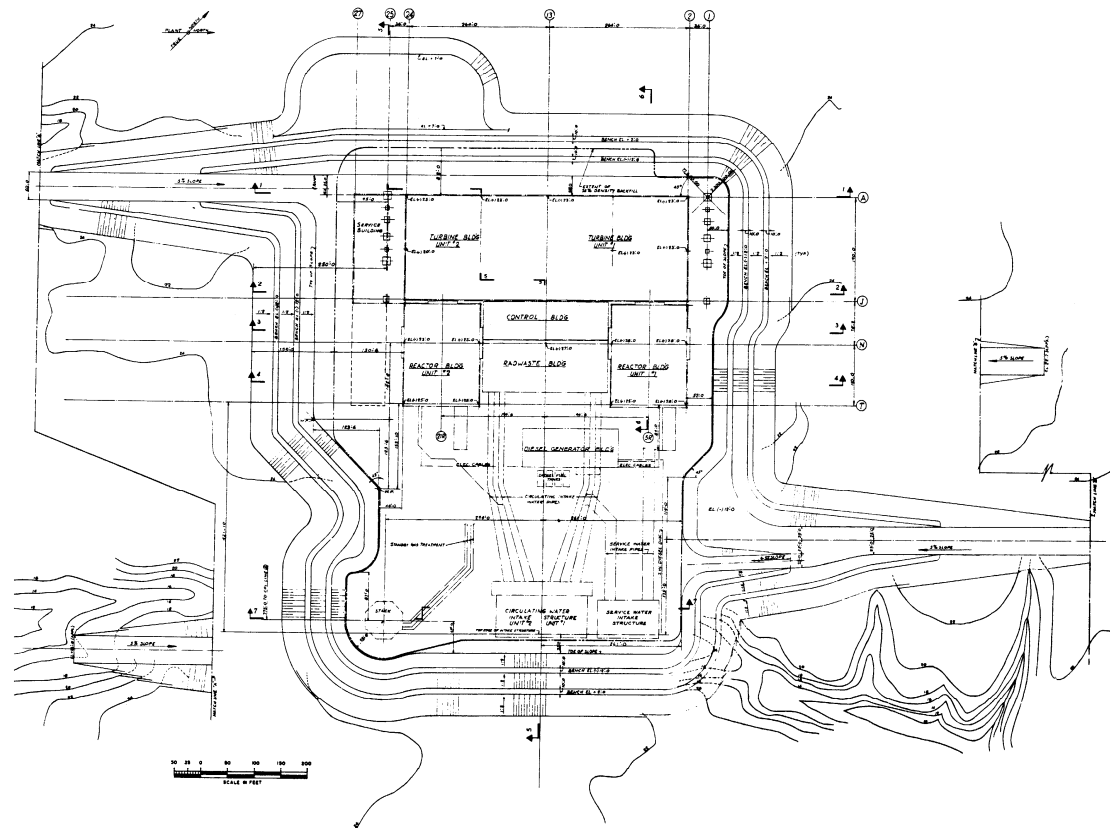
Seismic Amplification Curves 5 Percent Damping



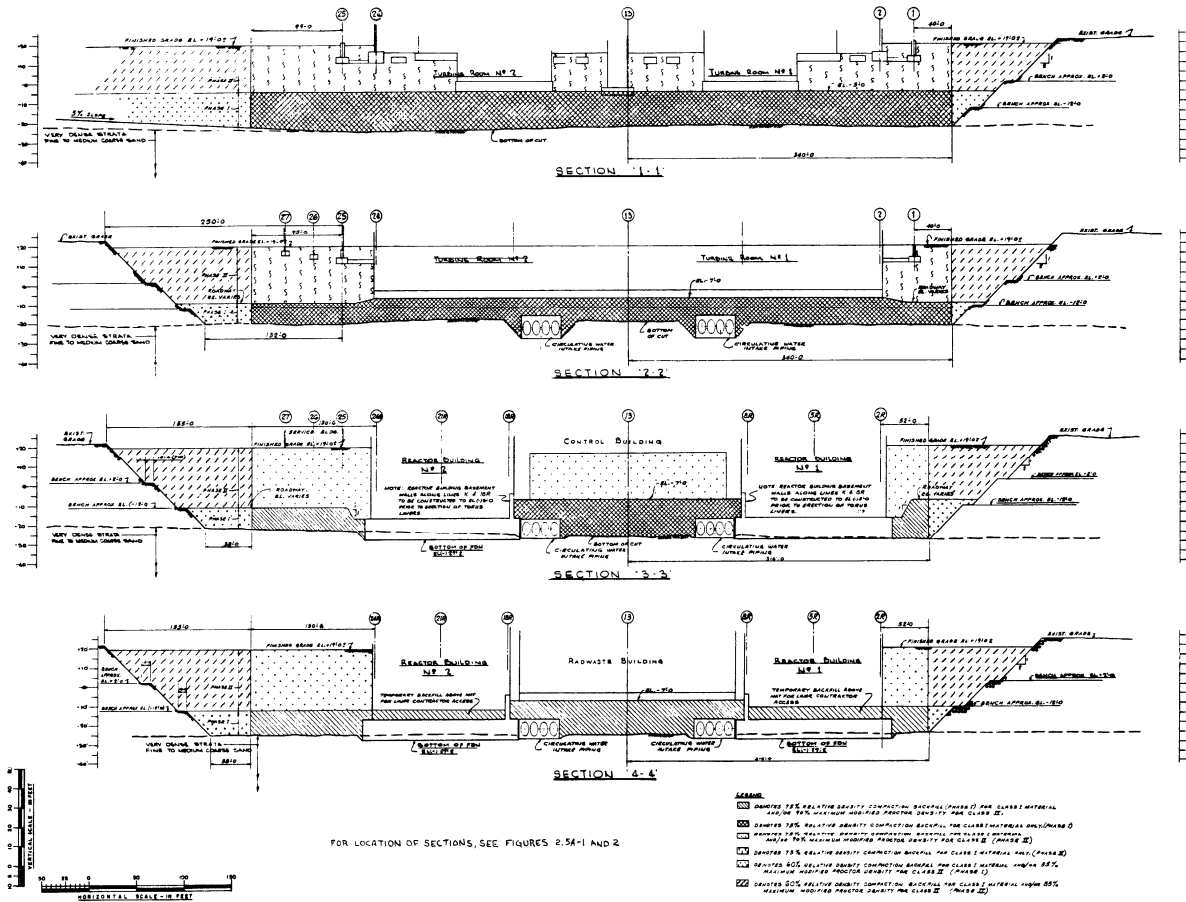
Seismic Amplification Curves 10 Percent Damping



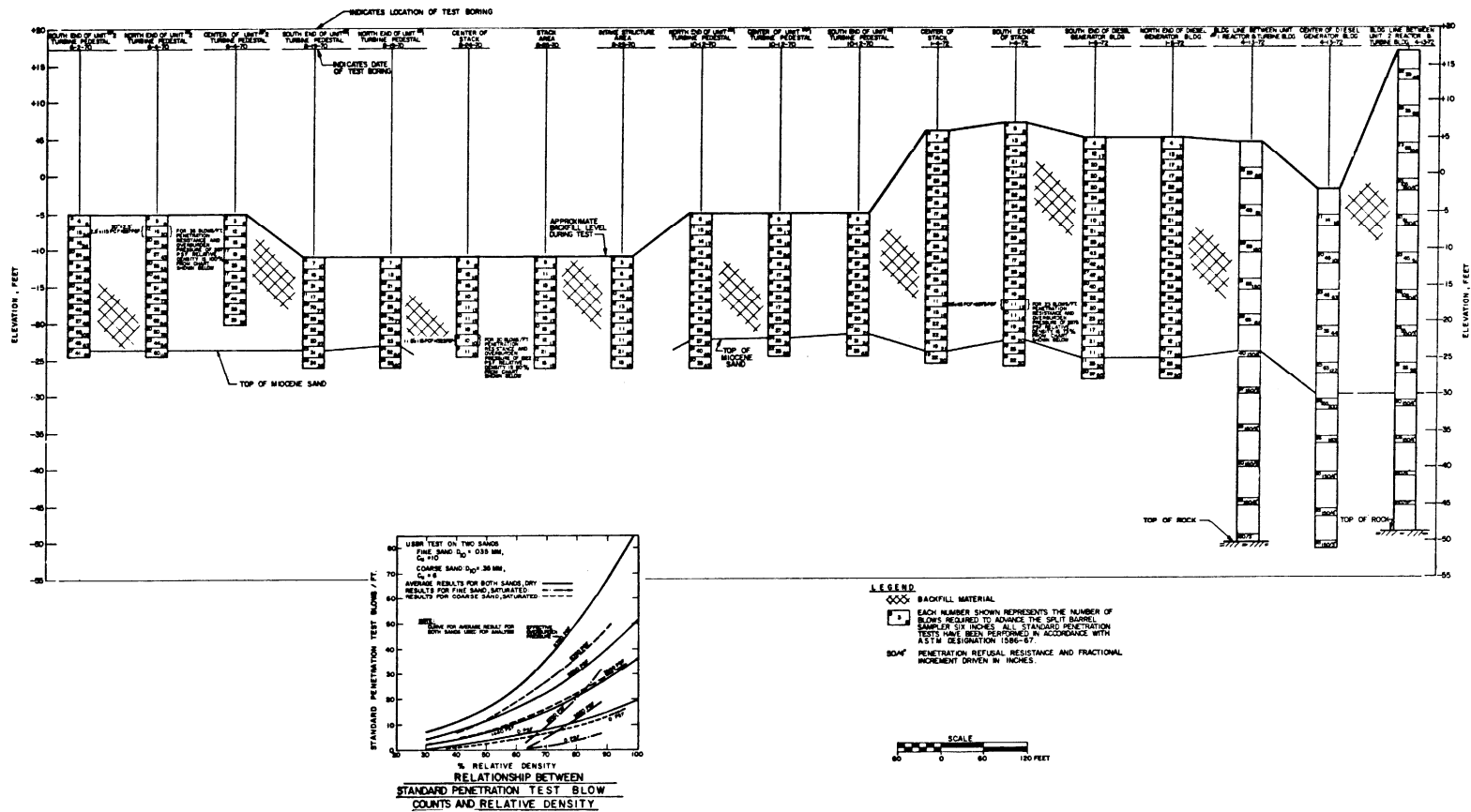
General Plant Excavation - Plan



General Plant Excavation Sections (Part 1 of 2)



Test Data for All Standard Penetration Tests Performed at BSEP Site as Part of Quality Assurance Program



Permeability Test In Insitu Soil

A) FALLING HEAD METHOD

$$K = \frac{r^2}{2L(t_2 - t_1)} \ln\left(\frac{H_1}{H_2}\right) \ln\left(\frac{H_1}{H_2}\right)$$

WHERE

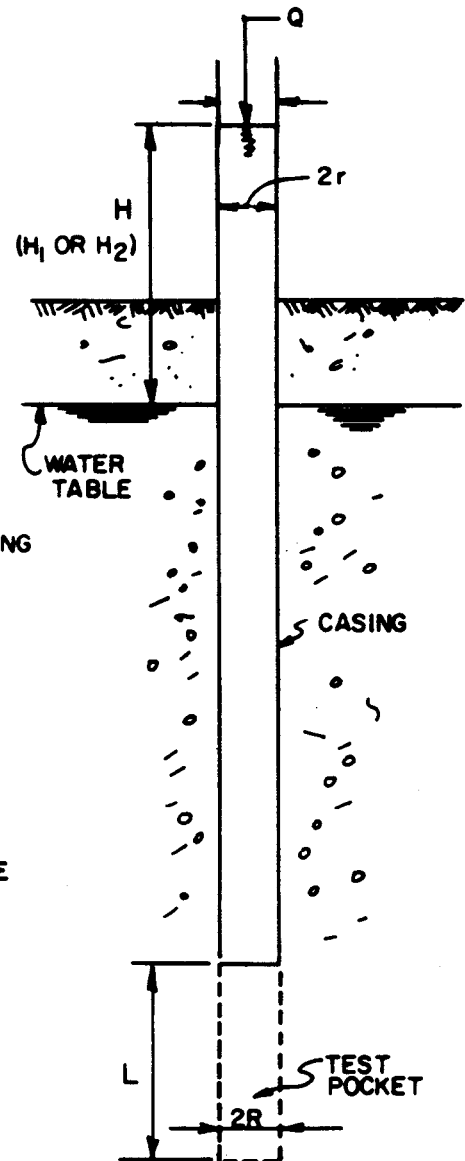
- K = PERMEABILITY
- r = RADIUS OF STANDPIPE
- L = LENGTH OF TEST POCKET
- R = RADIUS OF TEST POCKET = RADIUS OF CASING
- H₁ AND H₂ = WATER HEADS AT TIME T₁ AND T₂
- ln = NATURAL LOGARITHM

B) CONSTANT HEAD METHOD

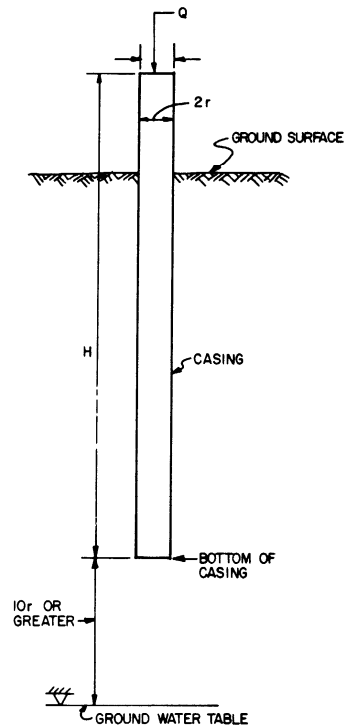
$$K = \frac{Q}{CH}$$

WHERE

- Q = FLOW OF WATER TO KEEP H CONSTANT
- H = HEAD DIFFERENCE BETWEEN WATER INSIDE CASING AND GROUNDWATER LEVEL (TEST ZONE BELOW GROUNDWATER LEVEL).
- C = TEST FACTOR, DEPENDING ON L AND R



Permeability Test in Soil

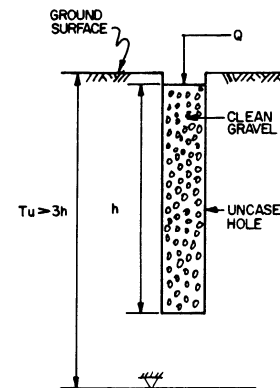


A) CONSTANT HEAD METHOD

$$k = \frac{Q}{5.5rH}$$

WHERE

Q = FLOW OF WATER TO KEEP H CONSTANT
 H = DIFFERENTIAL HEAD OF WATER (DISTANCE BETWEEN WATER LEVEL IN CASING AND BOTTOM OF CASING).
 r = INTERNAL RADIUS OF CASING



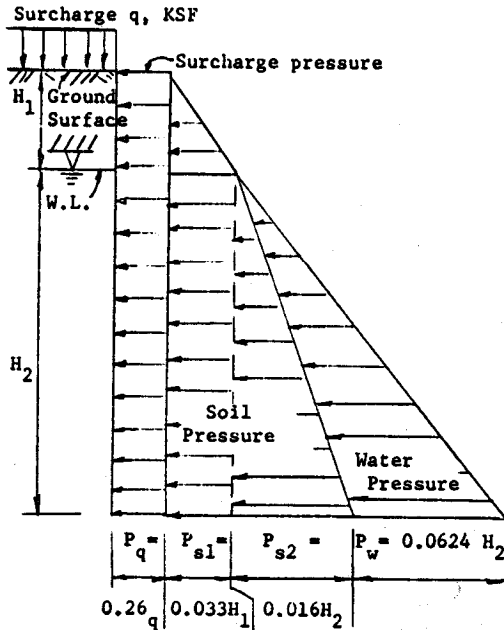
B) CONSTANT HEAD METHOD

WHERE

k_{20} = COEFFICIENT OF PERMEABILITY, FEET PER YEAR
 h = HEIGHT OF WATER IN THE WELL, FEET
 r = RADIUS OF WELL, FEET
 Q = DISCHARGE RATE OF WATER FROM THE WELL FOR STEADY STATE CONDITION, CUBIC FEET PER MINUTE
 μ_T = VISCOSITY OF WATER AT TEMPERATURE T
 μ_{20} = VISCOSITY OF WATER AT 20°C
 T_u = UNSATURATED DISTANCE BETWEEN THE WATER SURFACE IN THE WELL AND THE WATER TABLE, FEET

Soil Pressure Diagrams for Foundation Design – Cases I and II

CASE I ACTIVE PRESSURE WITH SURCHARGE, q, ABOVE GROUNDWATER LEVEL



$$P_q = \text{Surcharge pressure} = K_a q$$

$$= 0.26q$$

$$P_{s1} = \text{Soil pressure} = K_a \gamma_t H_1 = 0.033H_1$$

$$P_{s2} = \text{Soil pressure} = K_a \gamma_{\text{subm.}} H_2 = 0.016H_2$$

$$P_w = \text{Water pressure} = \gamma_w H_2 = 0.0624H_2$$

Sand submerged fill:

$$\text{Wet Unit Weight} = \gamma_t = 0.125 \text{ KCF}$$

$$\text{Saturated Unit Weight} = \gamma_t = 0.125 \text{ KCF}$$

$$\text{Submerged Unit Weight} = \gamma_{\text{subm.}}$$

$$= 0.063 \text{ KCF}$$

$$\bar{\phi} = 36^\circ, K_a = \frac{1 - \sin \bar{\phi}}{1 + \sin \bar{\phi}} = 0.26$$

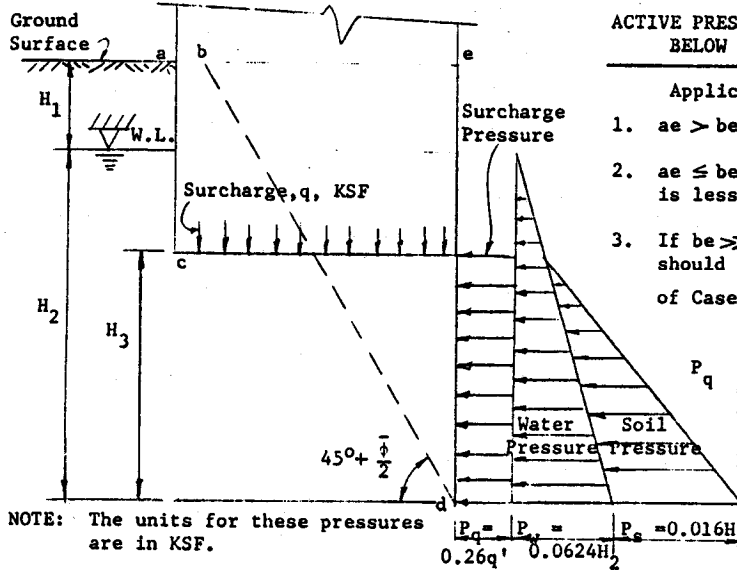
For 0.08g earthquake, increase K_a to 1.17 K_a

For 0.16g earthquake, increase K_a to 1.36 K_a

CASE II ACTIVE PRESSURE WITH SURCHARGE, q, BELOW GROUNDWATER LEVEL

Applicable Conditions:

1. $ae > be$
2. $ae \leq be$ but the weight of soil ac is less than q.
3. If $be \gg ae$, the pressure diagram should be the sum of $P_{s1} + P_{s2} + P_w$ of Case I and P_q of Case II



$$P_q = \text{Surcharge pressure} = K_a q'$$

$$= 0.26q'$$

where $q' = q - (H_2 - H_3)\gamma_w$

$$P_s = \text{Soil pressure} = K_a \gamma_{\text{subm.}} H_3$$

$$= 0.016H_3$$

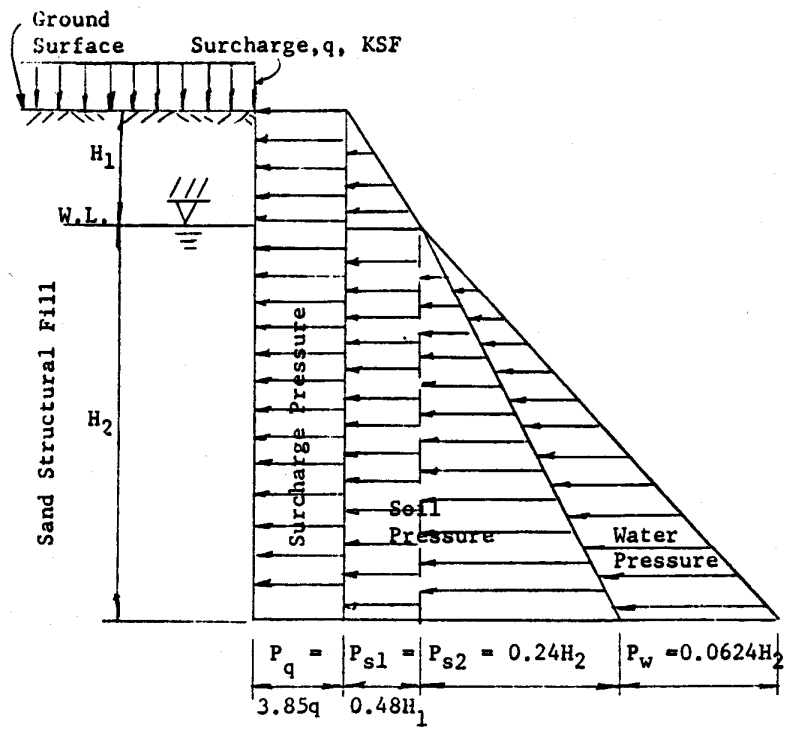
$$P_w = \text{Water pressure} = \gamma_w H_2$$

$$= 0.0624H_2$$

NOTE: The units for these pressures are in KSF.

Soil Pressure Diagrams for Foundation Design – Case III

CASE III
PASSIVE PRESSURE WITH SURCHARGE, q, AT GROUND SURFACE



For Soil Properties, See
 Fig. 12.3-5

$$K_p = \frac{1 + \sin \bar{\phi}}{1 - \sin \bar{\phi}} = 3.85$$

$$P_q = \text{Surcharge pressure} = K_p q = 3.85q$$

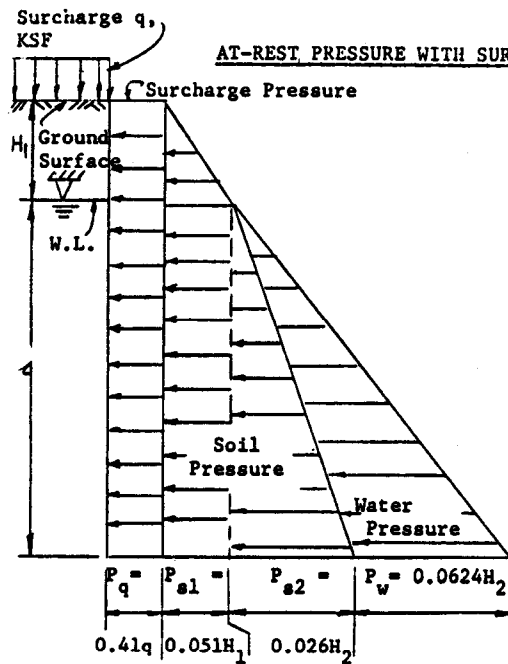
$$P_{s1} = \text{Soil pressure} = K_p \gamma_t H_1 = 0.48H_1$$

$$P_{s2} = \text{Soil pressure} = K_p \gamma_{\text{subm.}} H_2 = 0.24H_2$$

$$P_w = \text{Water pressure} = \gamma_w H_2 = 0.0624H_2$$

NOTE: The units for these pressures are in KSF.

Soil Pressure Diagrams for Foundation Design – Cases IV and V



For Soil Properties, See Fig. 12.3-5

$$\bar{\phi} = 36^\circ, K_o = 1 - \sin \bar{\phi} = 0.41$$

$$P_q = \text{Surcharge pressure} = K_o q = 0.41q$$

$$P_{s1} = \text{Soil pressure} = K_o \gamma_t H_1 = 0.051H_1$$

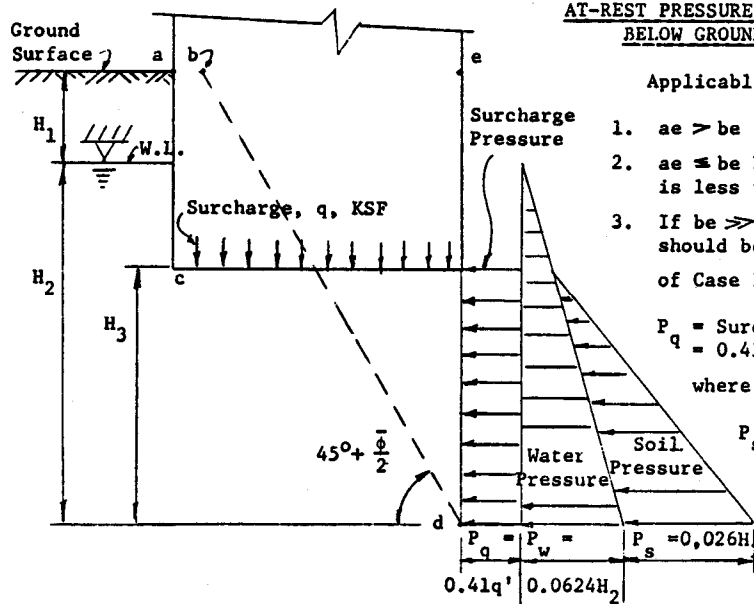
$$P_{s2} = \text{Soil pressure} = K_o \gamma_{\text{subm}} H_2 = 0.026H_2$$

$$P_w = \text{Water pressure} = \gamma_w H_2 = 0.0624H_2$$

For 0.08g earthquake, increase K_o to 1.17 K_o

For 0.16g earthquake, increase K_o to 1.36 K_o

CASE V
AT-REST PRESSURE WITH SURCHARGE, q, BELOW GROUNDWATER LEVEL



Applicable Conditions:

1. $ae > be$
2. $ae \leq be$ but the weight of soil ac is less than q .
3. If $be \gg ae$, the pressure diagram should be the sum of $P_{s1} + P_{s2} + P_w$ of Case IV and P_q of Case V

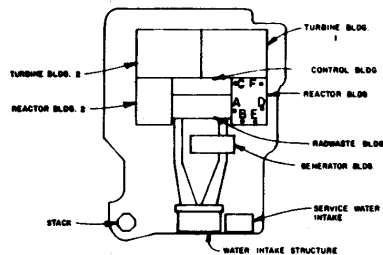
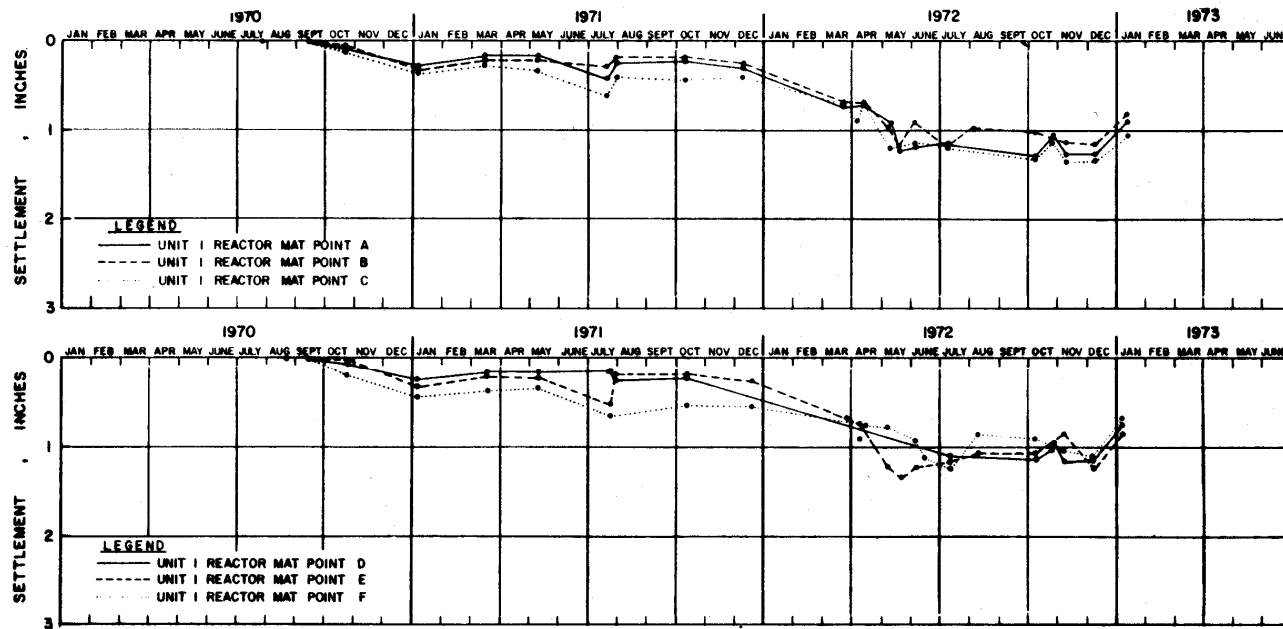
$$P_q = \text{Surcharge pressure} = K_o q' = 0.41q'$$

$$\text{where } q' = q - (H_2 - H_3)\gamma_w$$

$$P_s = \text{Soil pressure} = K_o \gamma_{\text{subm}} H_3 = 0.026H_3$$

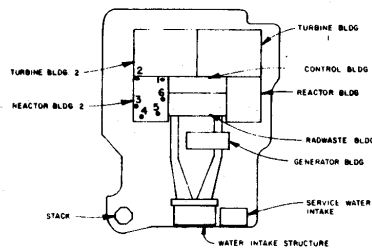
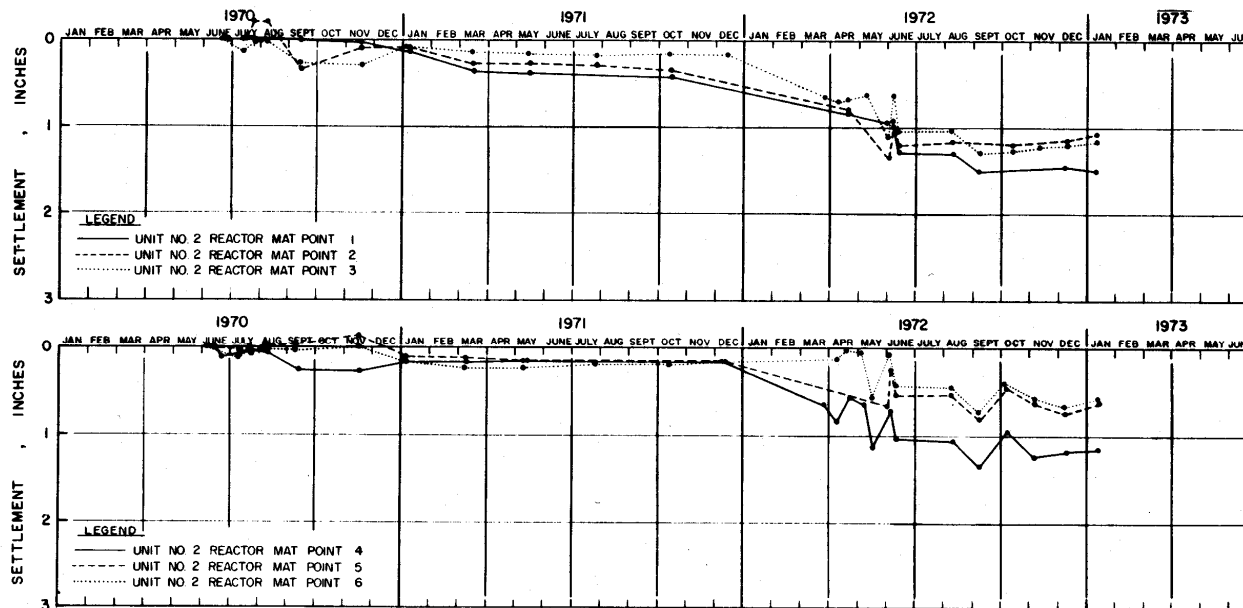
$$P_w = \text{Water pressure} = \gamma_w H_2 = 0.0624H_2$$

Settlement of Unit 1 Reactor Mat



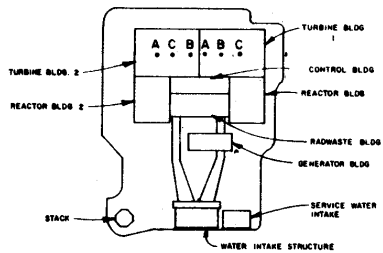
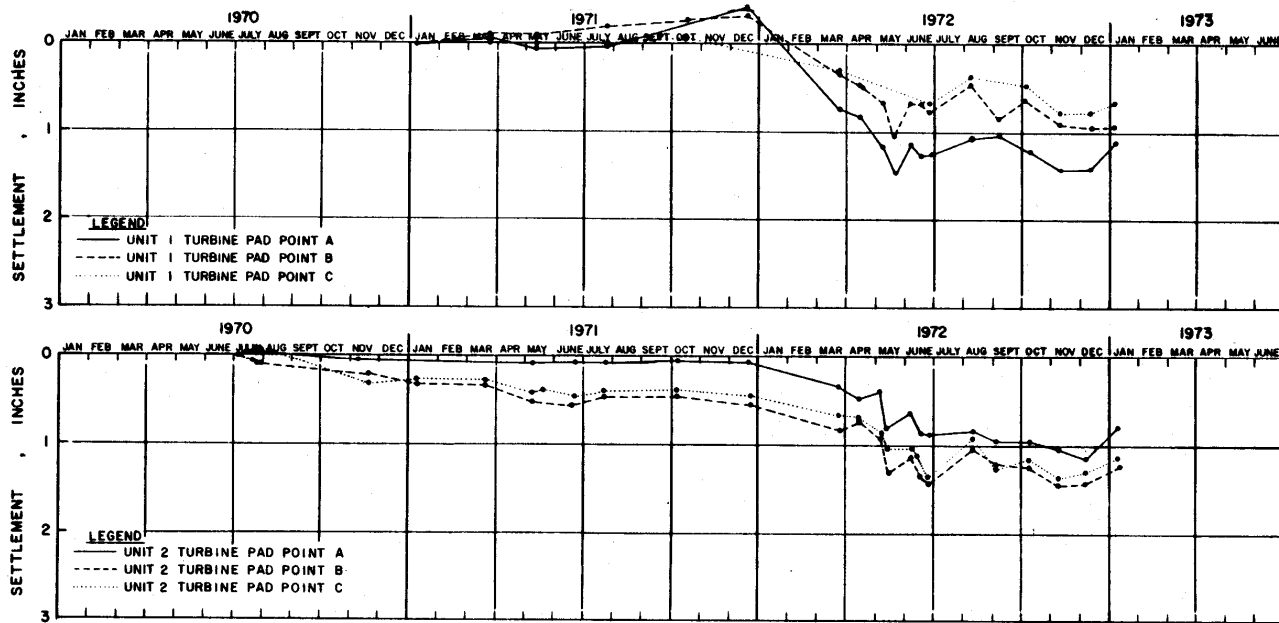
NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO. 10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO. 10.

Settlement of Unit 2 Reactor Mat



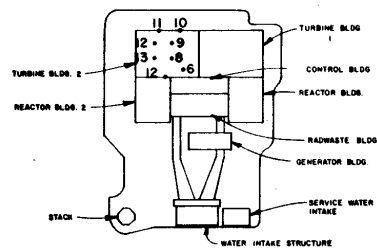
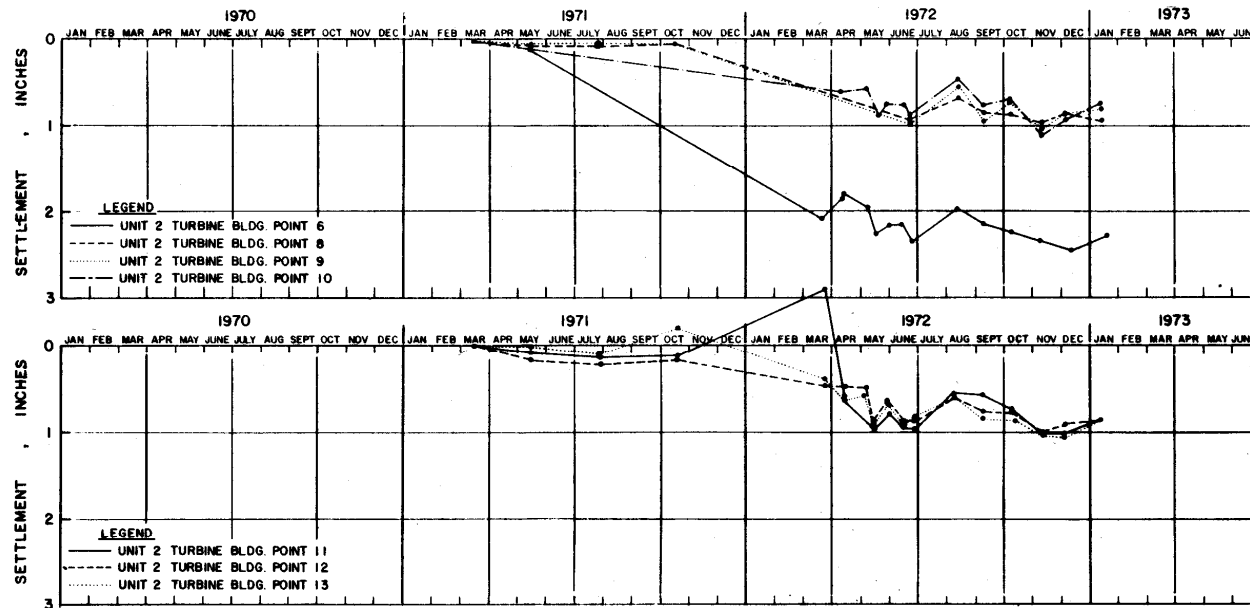
NOTE
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO 10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO 10.

Settlement of Unit 1 & Unit 2 Turbine Pads



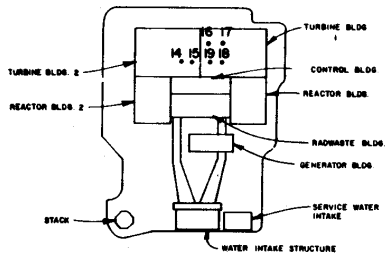
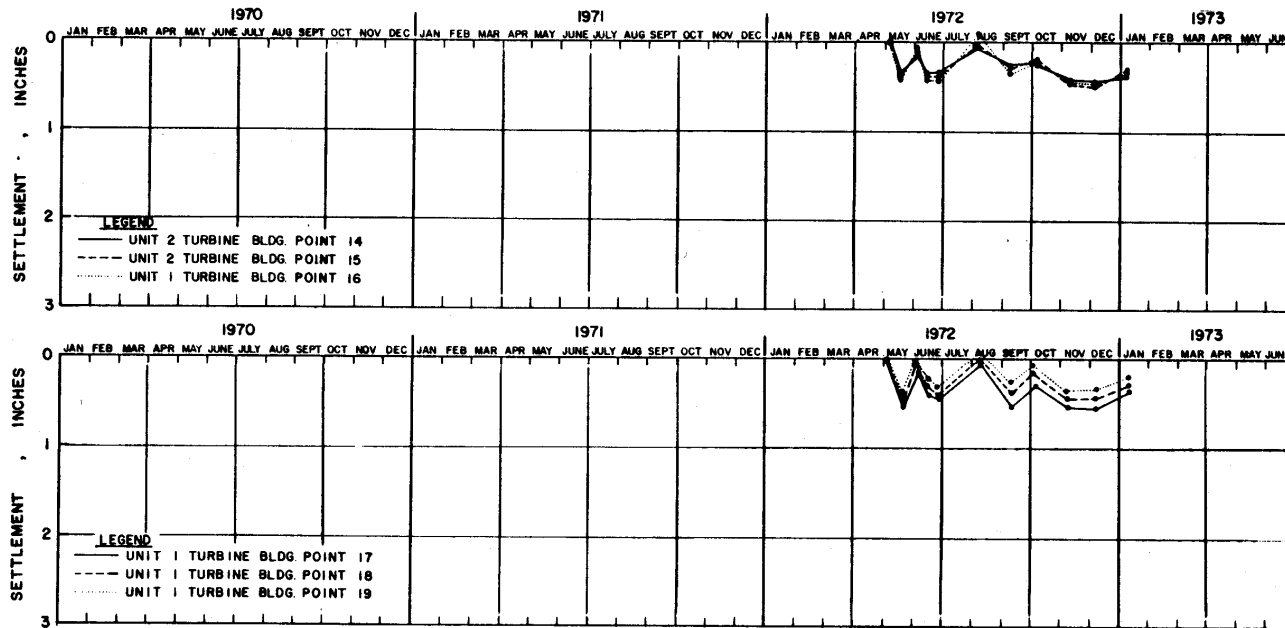
NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO.10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO. 10

Settlement of Unit 2 Turbine Building



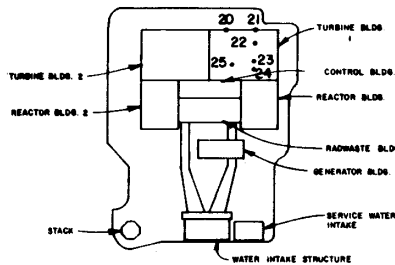
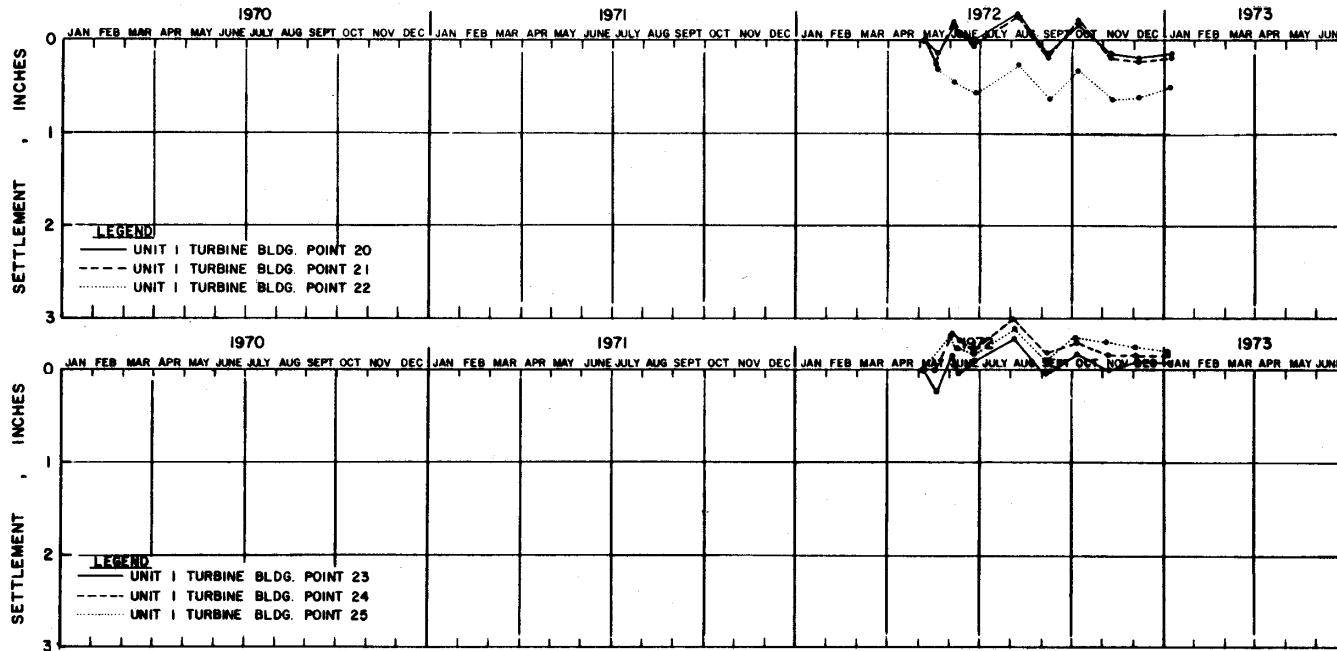
NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO. 10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO. 10.

Settlement of Unit 1 & Unit 2 Turbine Buildings



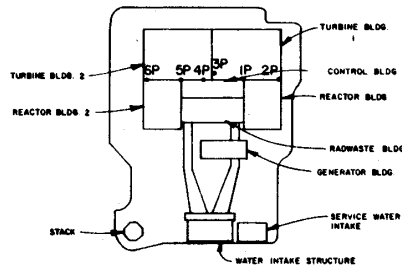
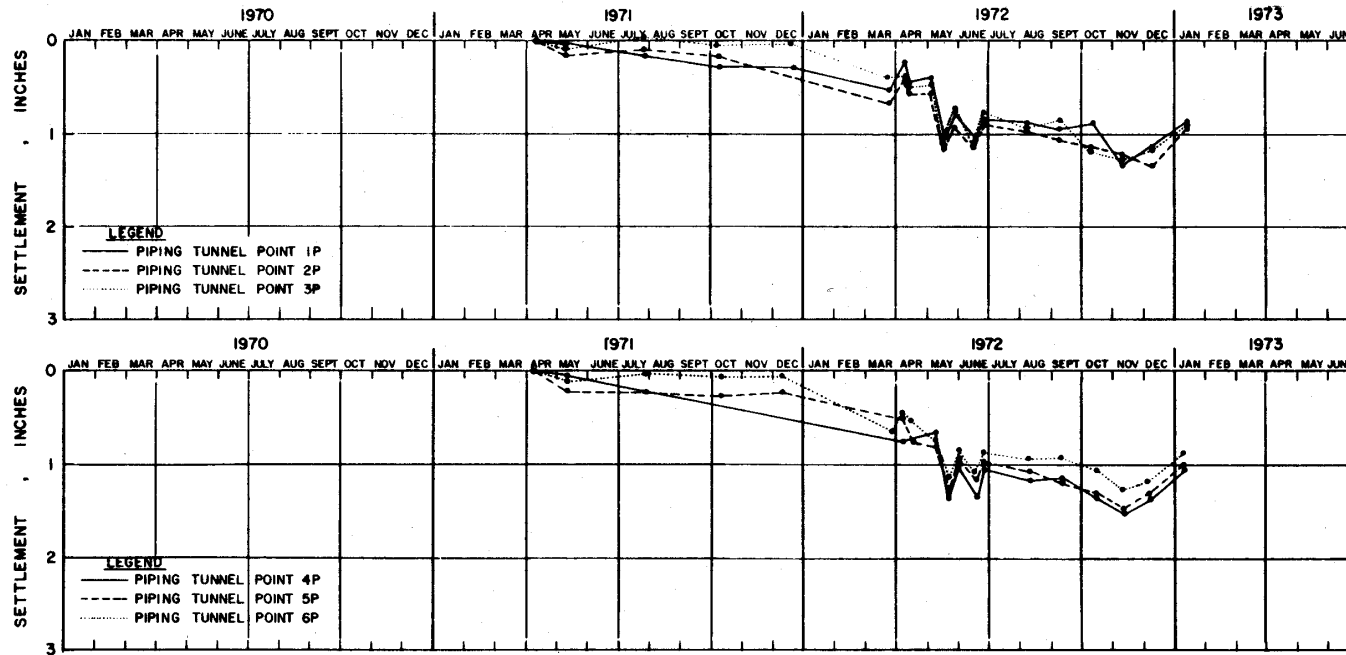
NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO. 10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO. 10.

Settlement of Unit 1 Turbine Building



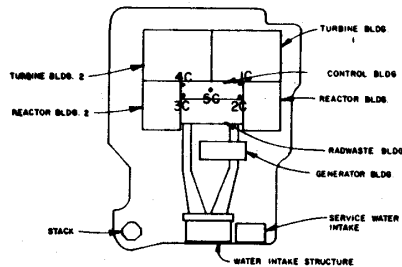
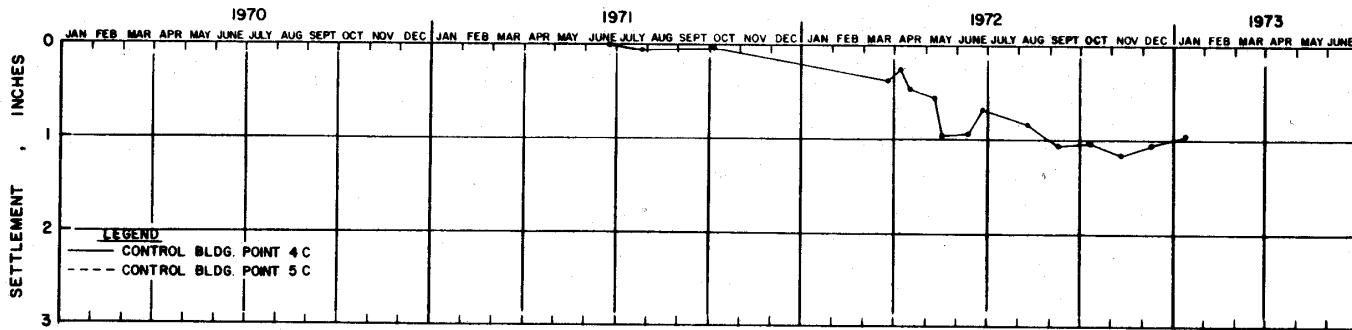
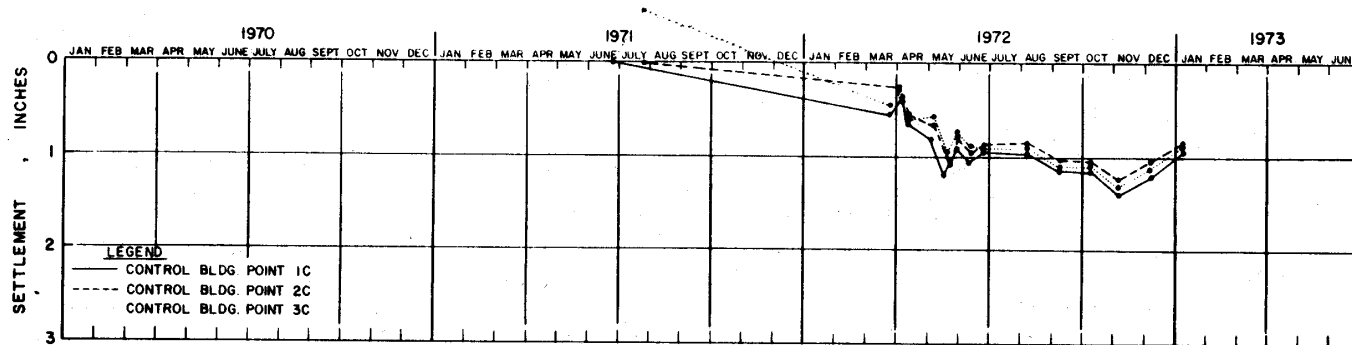
NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO.10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO.10.

Settlement of Piping Tunnel



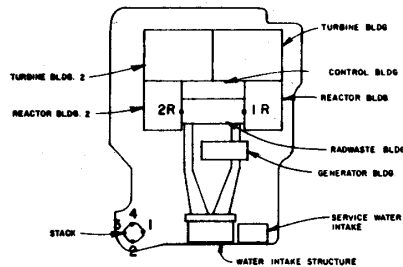
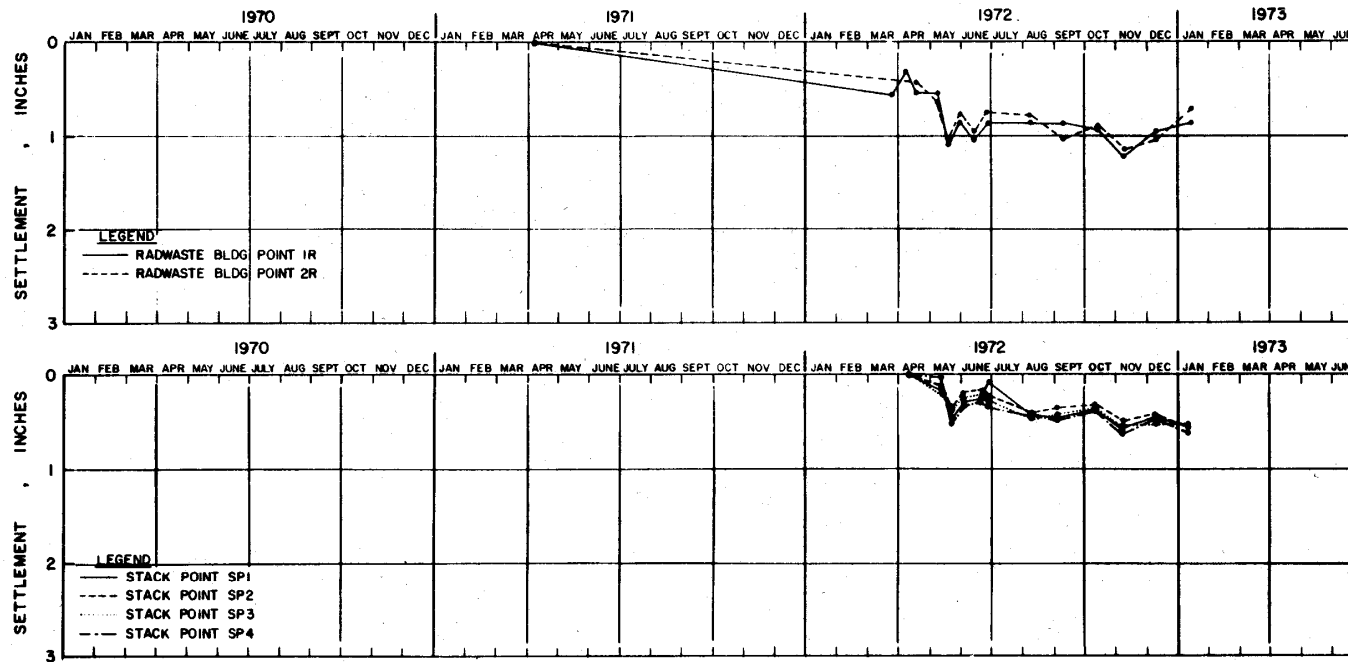
NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO 10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO 10.

Settlement of Control Building



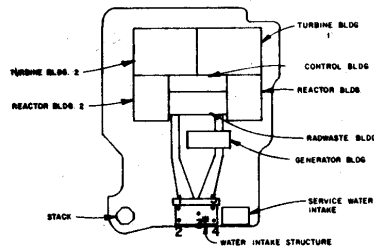
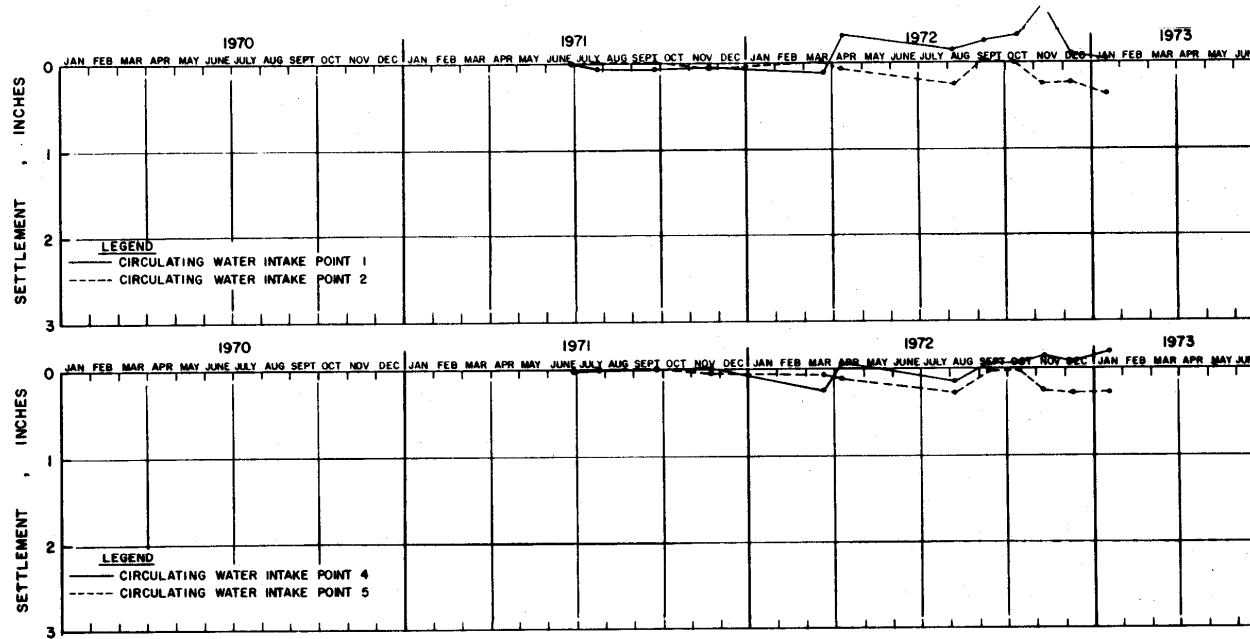
NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY
 IS DEEP WELL CASING NO. 10. ALL DATA SHOWN
 IS RAW SURVEY DATA REFERENCED FROM AND
 TIED-IN TO WELL CASING NO. 10.

Settlement of Radwaste Building and Stack



NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO. 10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO. 10.

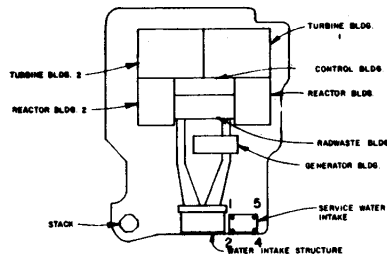
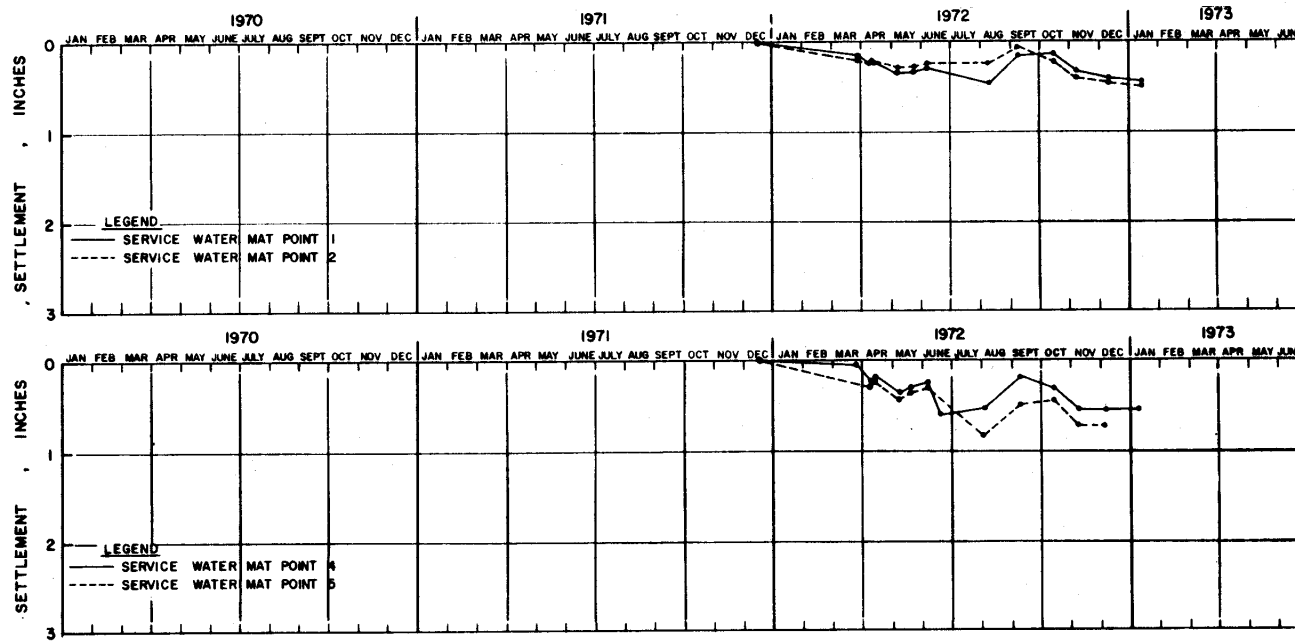
Settlement of Circulating Water Intake



NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY
 IS DEEP WELL CASING NO 10 ALL DATA SHOWN
 IS RAW SURVEY DATA REFERENCED FROM AND
 TIED-IN TO WELL CASING NO. 10.

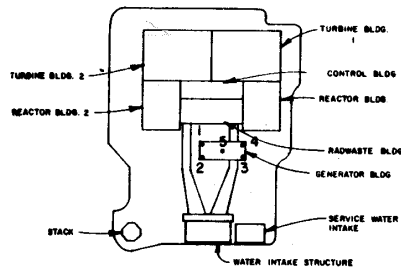
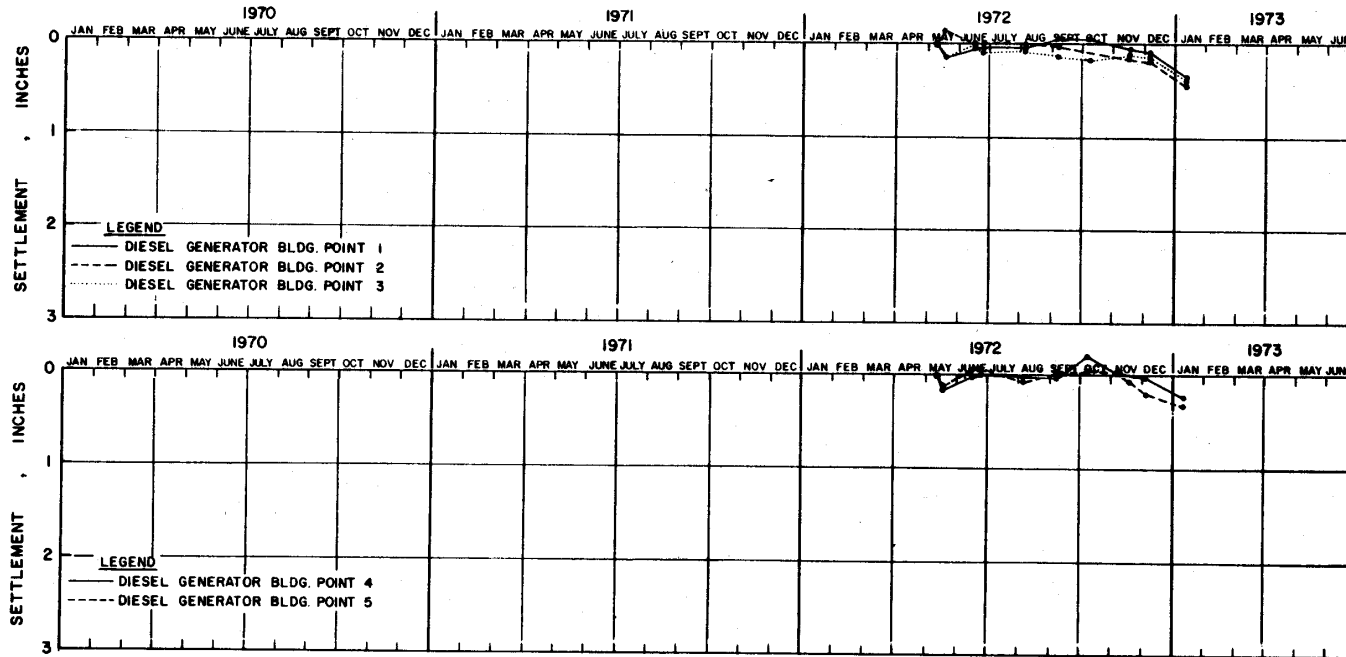
* POINT 3 DESTROYED

Settlement of Service Water Intake



NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO.10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO.10.

Settlement of Diesel Generator Building



NOTE:
 PERMANENT BENCH MARK FOR THIS SURVEY IS DEEP WELL CASING NO. 10. ALL DATA SHOWN IS RAW SURVEY DATA REFERENCED FROM AND TIED-IN TO WELL CASING NO. 10.



UPDATED FSAR
SITE CHARACTERISTICS
CHAPTER 2 FIGURES

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Intake Canal Boring Log C15A – Sheet 1 of 3

BORING NO. <u>C15A</u>											
N <u>79,965</u> E <u>2,308,220</u>											
GROUND SURFACE EL. <u>+13.60</u>											
ELEV. FEET	DEPTH FEET	SAMPLE TYPE	PROFILE	DESCRIPTION	U.S.C.S.	PENETRATION RESISTANCE BLOWS PER FOOT					REMARKS
						10	20	30	40	50	
10				LOOSE FINE SAND	SP						
	5										
	10										
0				14.0'							
	15	○		LOOSE SAND	SW						(21.1)
	20	○		19.0'							
-10				VERY SOFT SANDY CLAY	CL						(46.5)
	25	○		24.0'							
	30	○		MEDIUM STIFF SILTY CLAY - SOME SHELLS	CH						(76.9)
	35	○		29.0'							
-20				SOFT SANDY CLAY - SOME SAND LENSES	CL						(47.4)
	40	○		34.0'							
	45	○		MEDIUM STIFF SILTY CLAY - SOME SHELLS	CH						(60.0)
-30				44.0'							
	50	○		MEDIUM DENSE FINE SAND	SP						(25.0)



UPDATED FSAR
SITE CHARACTERISTICS
CHAPTER 2 FIGURES

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 Figure: 2-64
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Intake Canal Boring Log C15A – Sheet 3 of 3

BORING NO. C15A												
N <u>79,965</u> E <u>2,308,220</u>												
GROUND SURFACE EL. <u>+13.60</u>												
ELEV. FEET	DEPTH FEET	SAMPLE TYPE	PROFILE	DESCRIPTION	USCS	PENETRATION RESISTANCE BLOWS PER FOOT					REMARKS	
						10	20	30	40	50		
-90		18		HARD CONGLOMERATIC SHELL								
	105			LIMESTONE AND SHELL LIMESTONE								
		23		(DENSE WITH VUGS)								
	110											
-100		30										
	115			VERY SOFT DRILLING								
		0		NO RECOVERY								
	120											
		(3.0)		MEDIUM HARD TO HARD SHELL								
-110		37		LIMESTONE (MEDIUM DENSE TO								
	125			VERY POROUS - VUGS)								TOP OF CASTLE HAYNE
		(2.6)		SOFT TO MEDIUM HARD SANDY								
	130			SHELL LIMESTONE (POROUS								
		22		WITH VUGS)								
	130											
		(1.4)										
-120		10										
	135			SOFT TO MEDIUM HARD SANDY SHELL								
		(0.8)		LIMESTONE								
-125.4	139.0	14										
				BOTTOM OF BORING								
				139.0'								PIEZOMETER INSTALLED



UPDATED FSAR
SITE CHARACTERISTICS
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Discharge Canal Boring Log C42A – Sheet 1 of 3

BORING NO. C42A											
N 75,810 E 2,297,965											
GROUND SURFACE EL. +18.00											
ELEV. FEET	DEPTH FEET	SAMPLE TYPE	PROFILE	DESCRIPTION	USCS	PENETRATION RESISTANCE BLOWS PER FOOT		REMARKS			
						10	20	30	40	50	
		○		LOOSE FINE SAND	1.5'	SP					(15.2)
	5	○		LOOSE TO MEDIUM DENSE CLAYEY MEDIUM FINE SAND - TRACE OF SILT	7.0'	SP					(17.5)
10	10	○		LOOSE CLAYEY SAND	9.5'	SC					(28.9)
	15	○		VERY LOOSE TO LOOSE SILTY SAND		SM					(33.6)
0	20	18" 1		SOFT SILTY CLAY AND SAND LENSES	19.0'	CL					
	25	○		MEDIUM STIFF SILTY CLAY, SAND AND SHELL LENSES	24.0'	CL					(66.3)
-10	30	○		MEDIUM STIFF TO STIFF SILTY CLAY	29.0'	CL					(123.8)
	35	○									(84.4)
-20	40	○		STIFF SILTY CLAY WITH SILT LENSES (6" SPACING)	39.0'	CL					(90.0)
	45	○			44.0'						(94.5)
-30	50	○		MEDIUM STIFF TO STIFF SILTY CLAY		CL					(88.3)



UPDATED FSAR
SITE CHARACTERISTICS
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Discharge Canal Boring Log C42A – Sheet 2 of 3

BORING NO. C42A							
N 75,810 E 2,297,965							
GROUND SURFACE EL. +18.00							
ELEV. FEET	DEPTH FEET	SAMPLE TYPE	PROFILE	DESCRIPTION	USCS	PENETRATION RESISTANCE BLOWS PER FOOT 10 20 30 40 50	REMARKS
				MEDIUM STIFF SILTY CLAY - SOME FINE SAND			(47.3)
	55			54.0'			
-40				LOOSE MEDIUM FINE SAND - TRACE OF SILT AND SHELLS			(36.8)
	60			59.9'			TOP OF POCK
				VERY DENSE FINE SAND			
				SOFT TO MEDIUM HARD MEDIUM DENSE SHELL LIMESTONE			(33.0)
	65	100		67.6'			STARTED NX CORING (2-1/8" DIA. CORE)
-50				HARD MASSIVE TO SLIGHTLY BROKEN DENSE SHELL LIMESTONE (VUGGIE)			
	70	100		70.6'			
				MEDIUM HARD SLIGHTLY BROKEN SHELL LIMESTONE - VERY POROUS			
	75	60		75.8'			
				SOFT TO MEDIUM HARD BROKEN SHELL LIMESTONE (VUGGIE)			
-60				HARD MASSIVE SHELL LIMESTONE - DENSE			
	80	96		85.0'			
				SOFT TO MEDIUM HARD BROKEN TO SLIGHTLY BROKEN SHELL LIMESTONE - POROUS			
	85	100		88.2'			
-70				HARD BROKEN TO SLIGHTLY BROKEN CONGLOMERATIC SHELL LIMESTONE (VUGGIE)			
	90	100		93.7'			
				SOFT BROKEN SHELL LIMESTONE - POROUS, FRIABLE			
	95	100					
-80				VERY BROKEN TO BROKEN CONGLOMERATIC MEDIUM HARD TO SHELL LIMESTONE			
	100	40					
		76					



UPDATED FSAR
SITE CHARACTERISTICS
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Intake Canal Boring Log C42A – Sheet 3 of 3

BORING NO. <u>C42A</u>											
N <u>75.810</u> E <u>2.297.965</u>											
GROUND SURFACE EL. <u>+18.00</u>											
ELEV. FEET	DEPTH FEET	SAMPLE TYPE	PROFILE	DESCRIPTION	USCS	PENETRATION RESISTANCE BLOWS PER FOOT		REMARKS			
						10	20	30	40	50	
				SAME AS ABOVE	101.1'						
	105	76		HARD SLIGHTLY BPOKEN TO MASSIVE CONGLOMERATIC SHELL LIMESTONE							
				105.0'							
-90		82		SOFT TO MEDIUM HARD SHELL LIMESTONE - SLIGHTLY POROUS							TOP OF CASTLE HAYNE
	110			107.8'							
		(3.0)		MEDIUM HARD BROKEN SHELL LIMESTONE - POROUS							
		46		MEDIUM HARD VEPEY BPOKEN SHELL LIMESTONE - POPOUS							
	115			110.0'							
		(0.8)		SOFT TO MEDIUM HARD MASSIVE TO BROKEN MEDIUM DENSE SHELL LIMESTONE - SLIGHTLY POROUS							
-100		100		113.6'							
	120			MEDIUM HARD SLIGHTLY BROKEN MEDIUM DENSE SHELL LIMESTONE	118.3'						
		(0.4)		120.3'							
		90		SOFT TO MEDIUM HARD SLIGHTLY BROKEN SANDY TEXTURED SHELL							
	125			120.3'							
		(0.6)		LIMESTONE - POROUS, FRIABLE							
-109.8	127.8	0		127.8'							PIEZOMETER INSTALLED AT COMPLETION OF BORING
				BOTTOM OF BORING							
				127.8'							

BORING COMPLETED 1-29-70