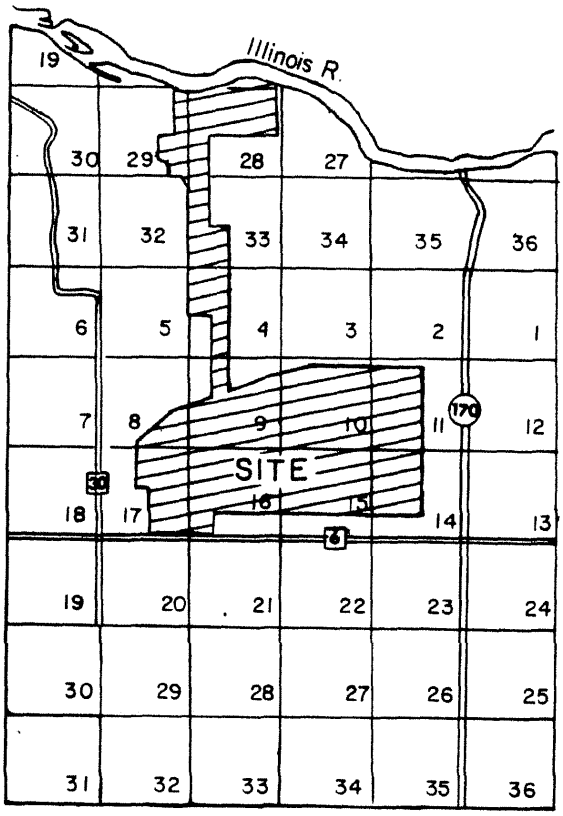
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-1

LOCATION OF THE SITE WITHIN
THE STATE OF ILLINOIS

REV. 0 - APRIL 1984



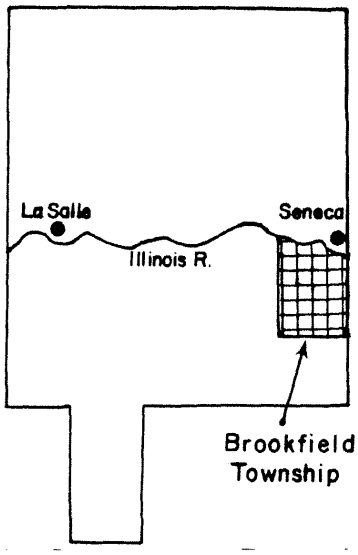
BROOKFIELD TOWNSHIP

0 1 2 3 4

Scale in Miles

NOTE:

Numbers represent township sections.



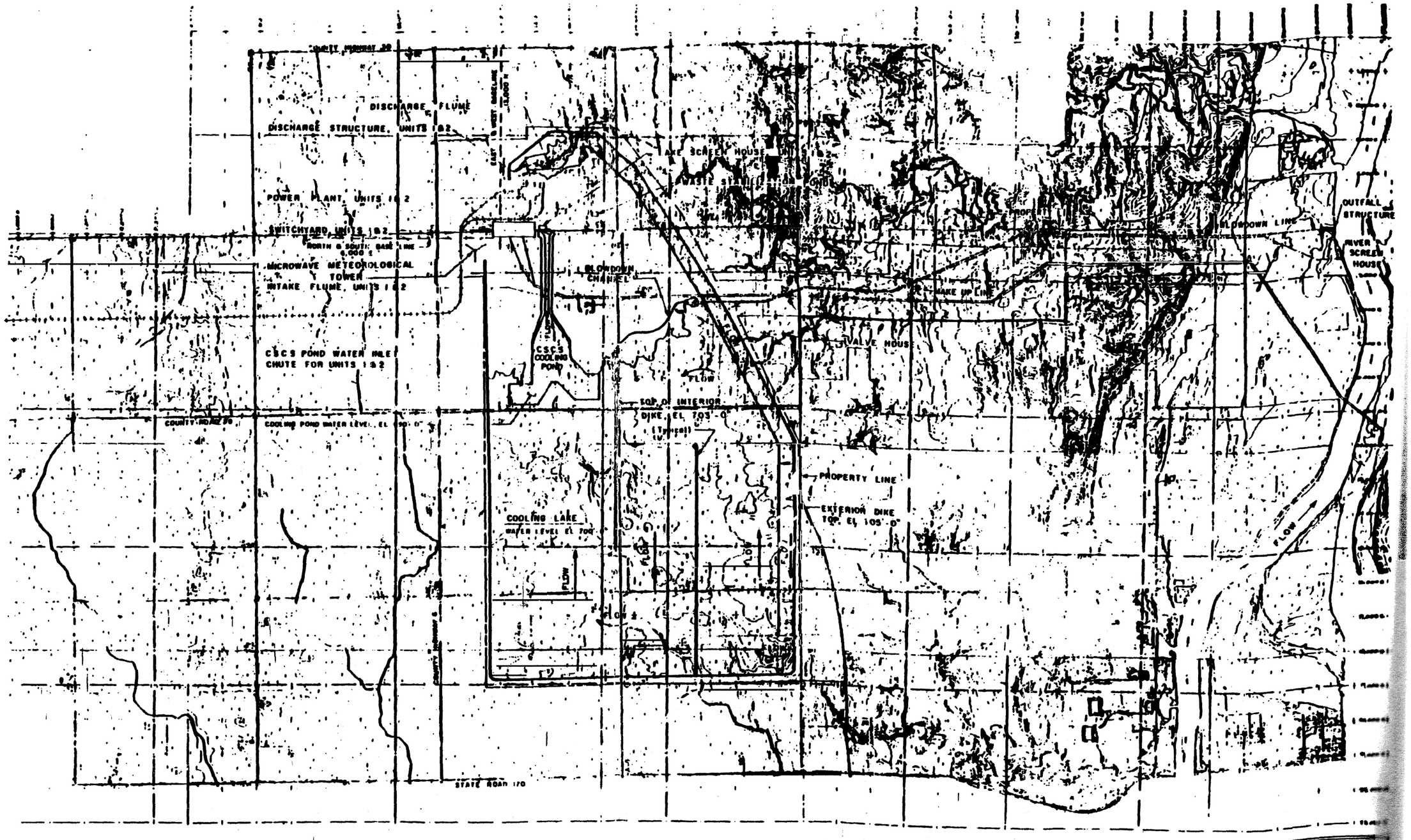
LA SALLE COUNTY

0 8 16 24 32

Scale in Miles

LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.1-2 LOCATION OF THE SITE WITH RESPECT TO LA SALLE COUNTY AND BROOKFIELD TOWNSHIP

REV. 0 - APRIL 1984

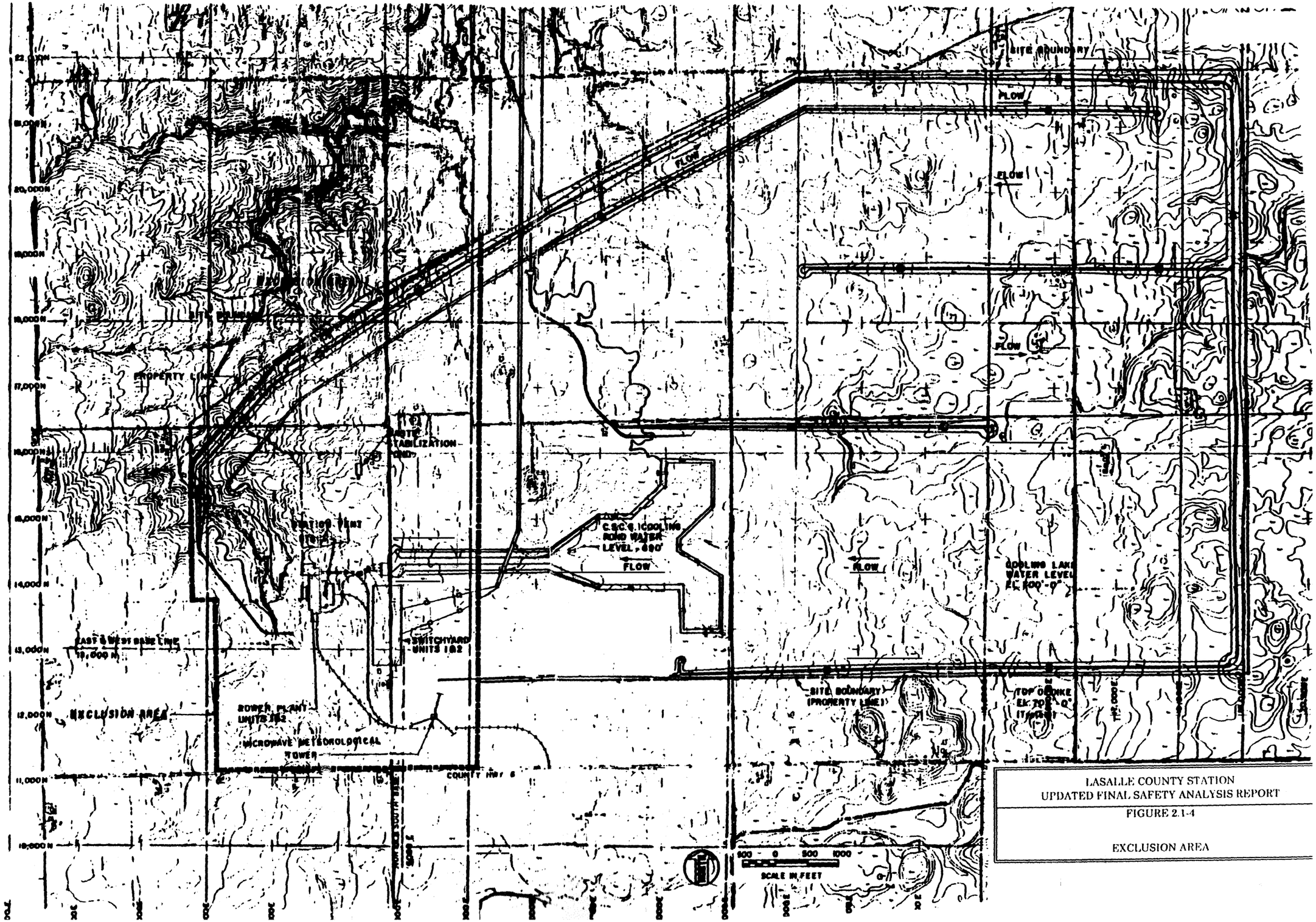


LASALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-3

MAJOR STRUCTURES AND SITE LAYOUT

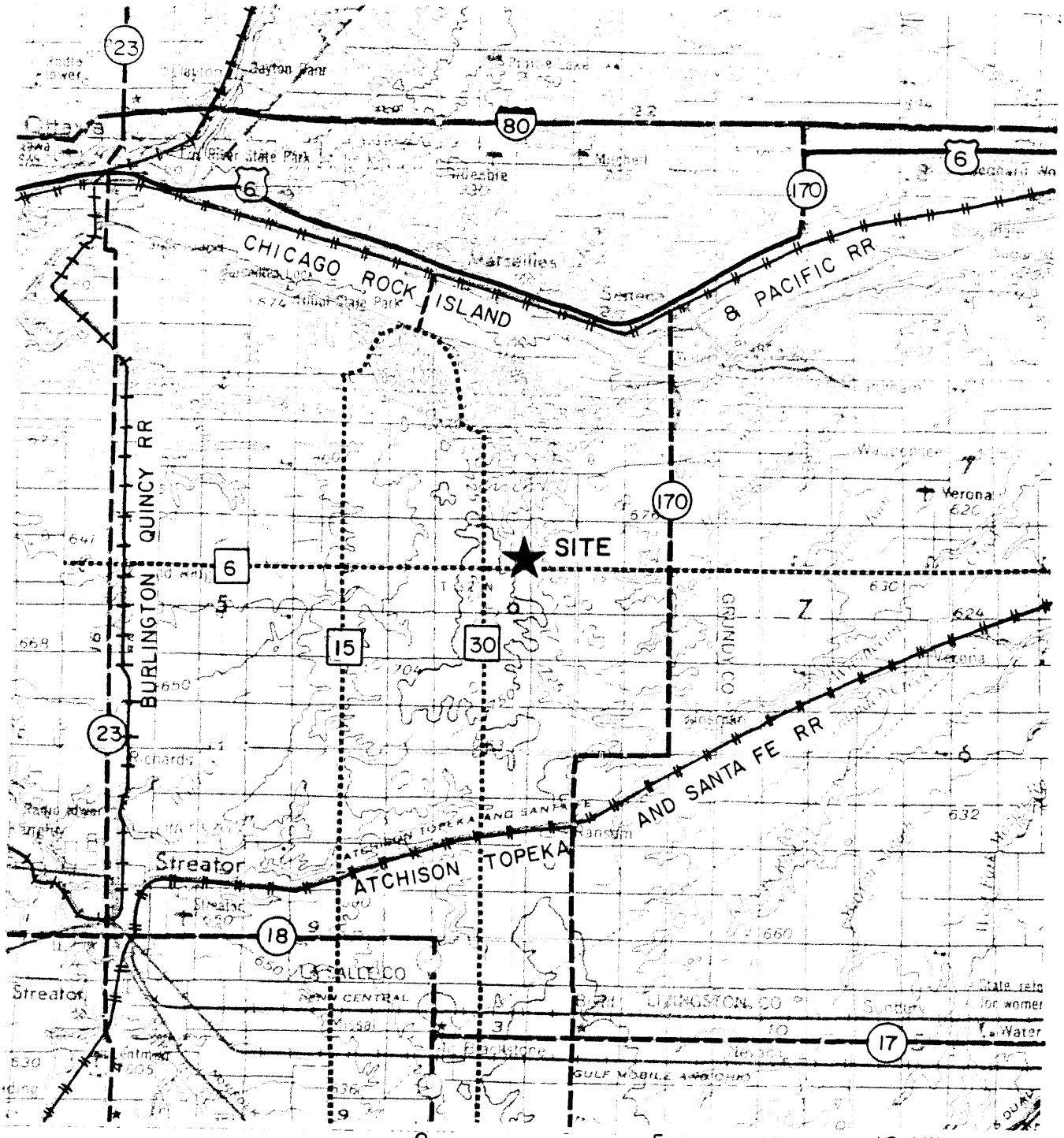
REV. 13



LASALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-4

EXCLUSION AREA

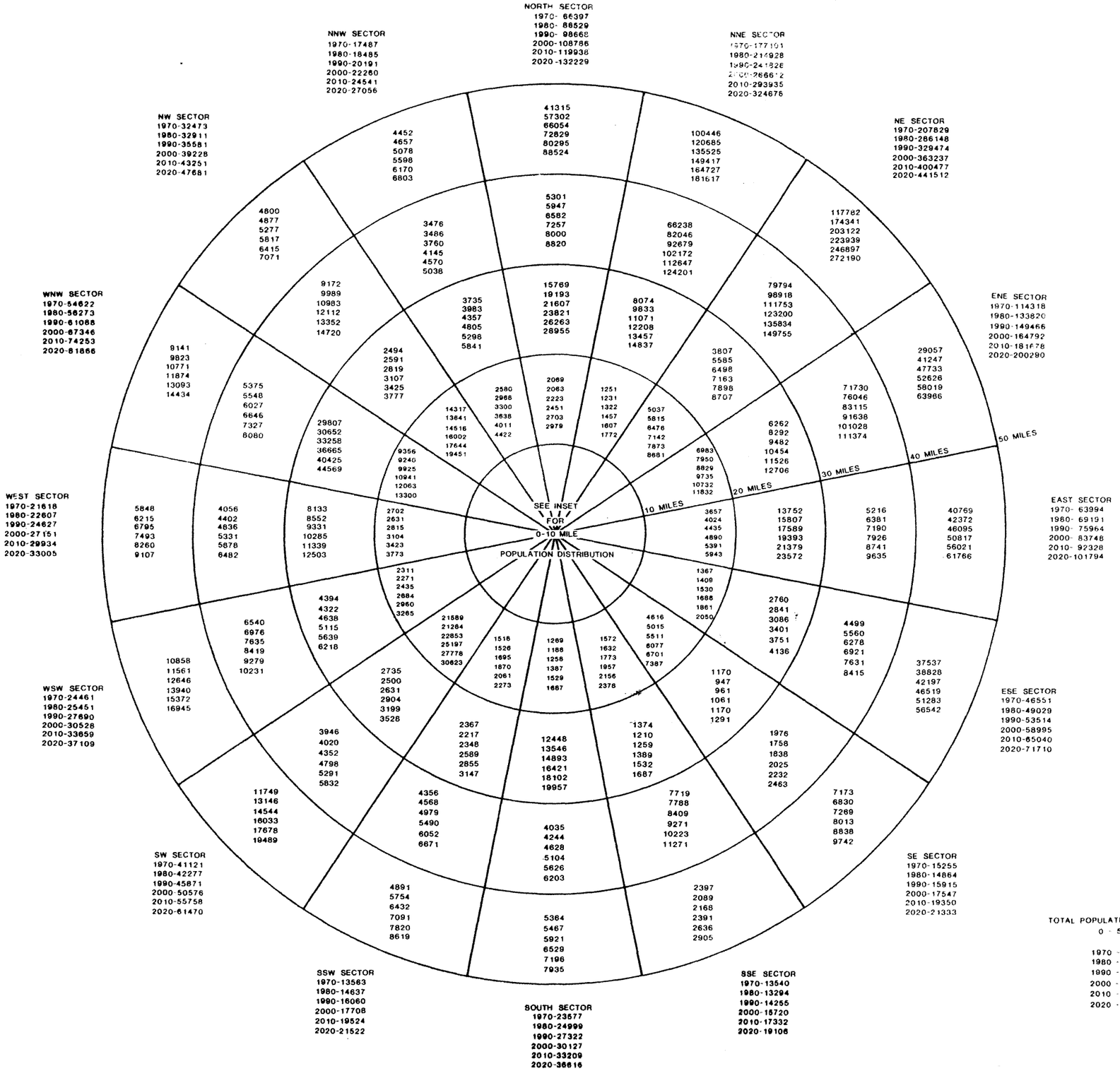


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-5

TRANSPORTATION ROUTES
IN THE SITE VICINITY

REV. 0 - APRIL 1984



TOTAL POPULATION DISTRIBUTION
0 - 50 MILES

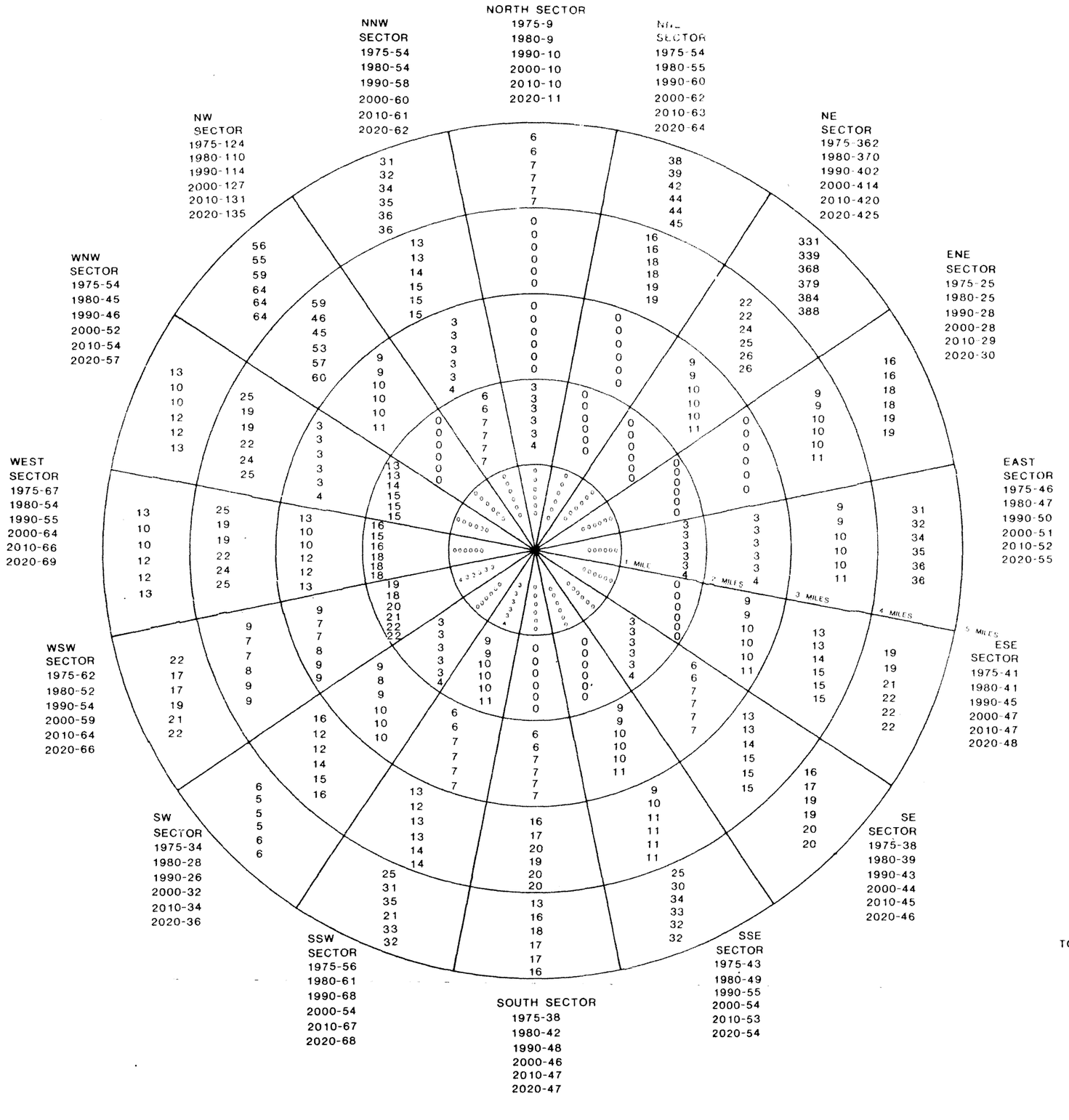
1970 - 933907
1980 - 1105443
1990 - 1237514
2000 - 1364361
2010 - 1504207
2020 - 1658377

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-6

1970 AND PROJECTED POPULATIONS WITHIN 50 MILES

REV. 0 - APRIL 1984



TOTAL POPULATION
0 - 5 MILES

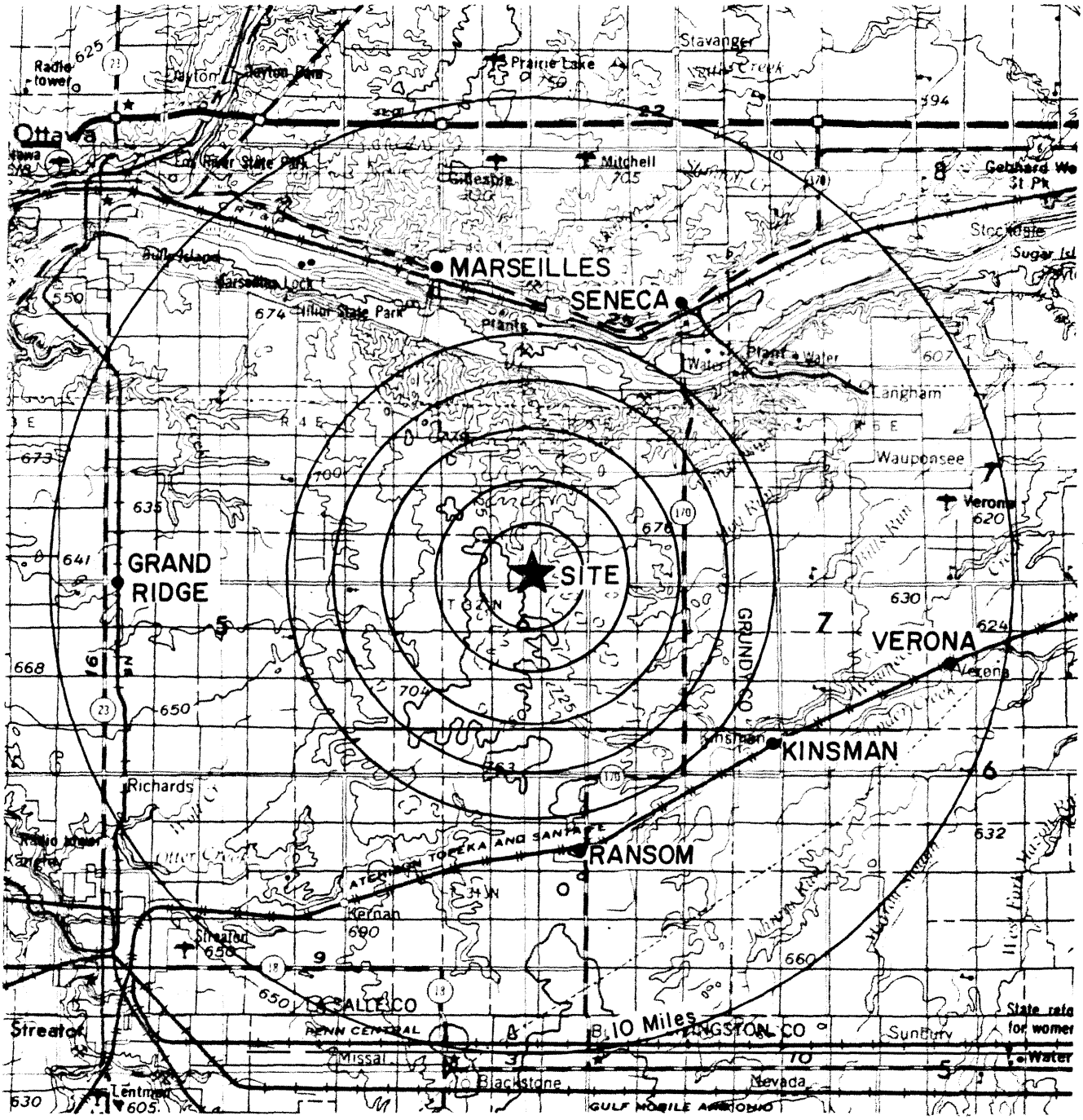
1975 - 1106
1980 - 1081
1990 - 1165
2000 - 1204
2010 - 1243
2020 - 1273

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-7

PRESENT (1975) AND PROJECTED POPULATIONS

REV. 0 - APRIL 1984

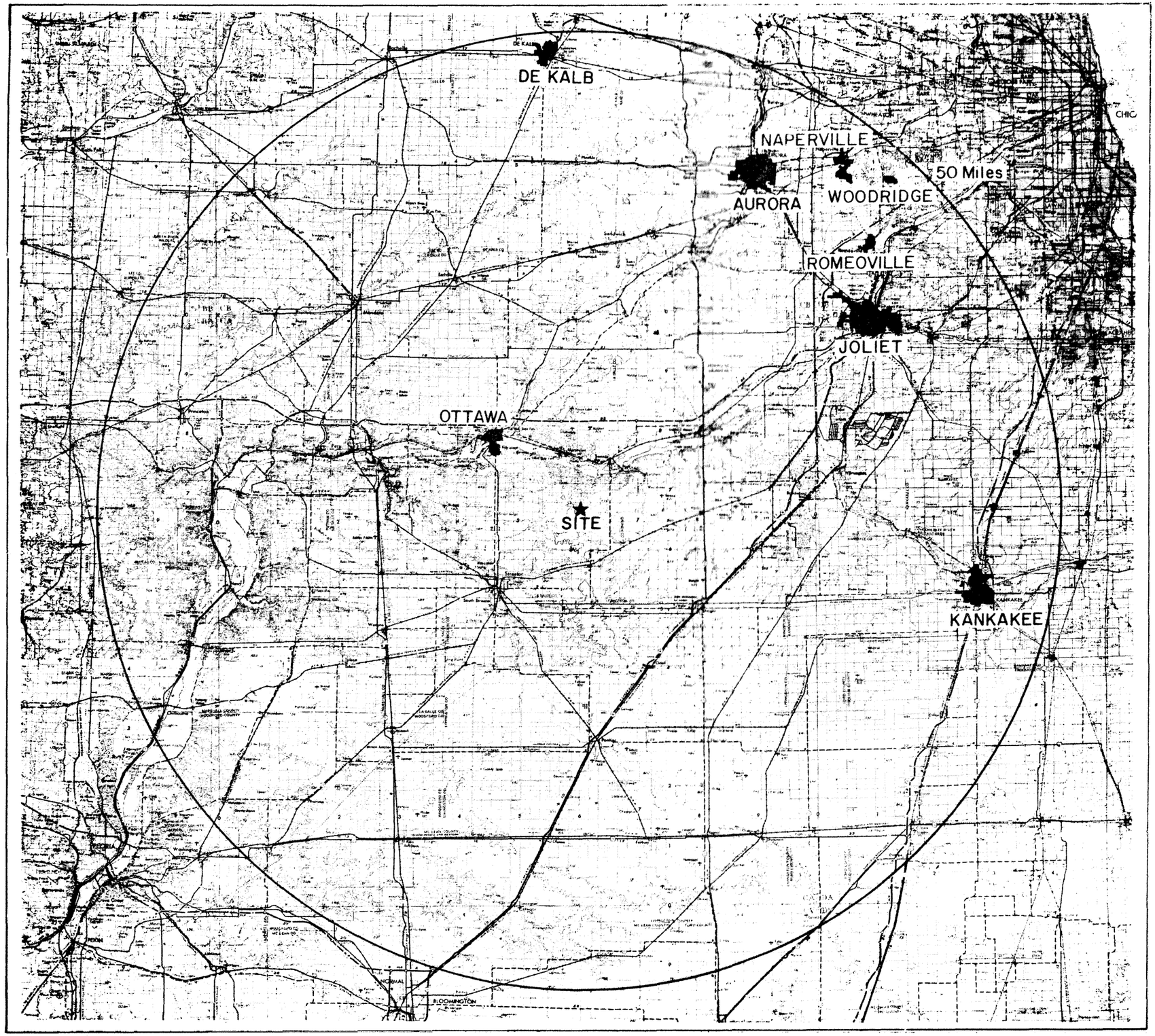


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-8

CITIES WITHIN 10 MILES OF THE SITE

REV. 0 - APRIL 1984



Note:

For details of population centers, see Table 2.1-7.

NORTH

SCALE

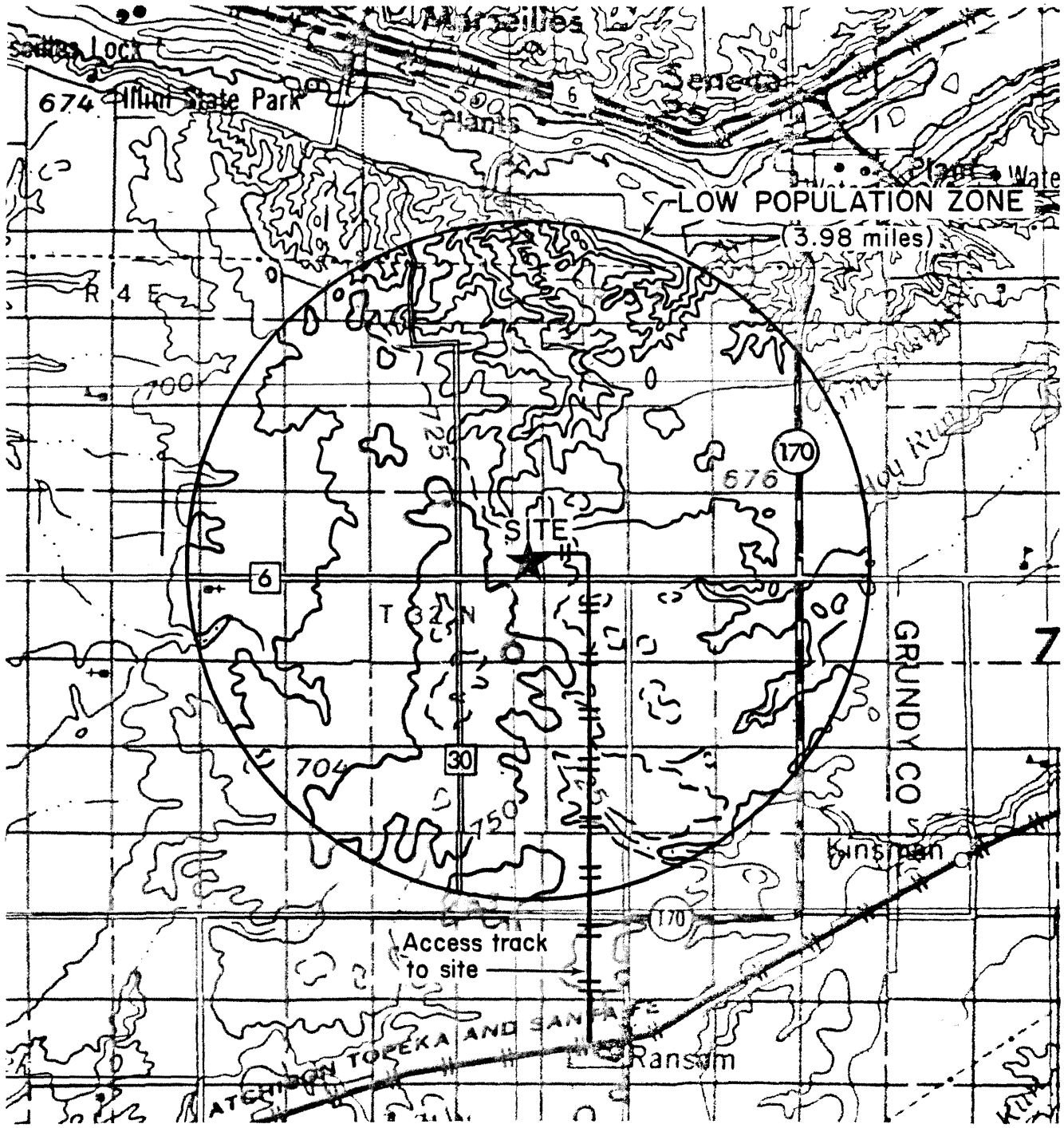
0 5 25 Miles

0 10 30 Kilometers

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-9

PRESENT AND PROJECTED POPULATION CENTERS WITHIN 50 MILES OF THE SITE

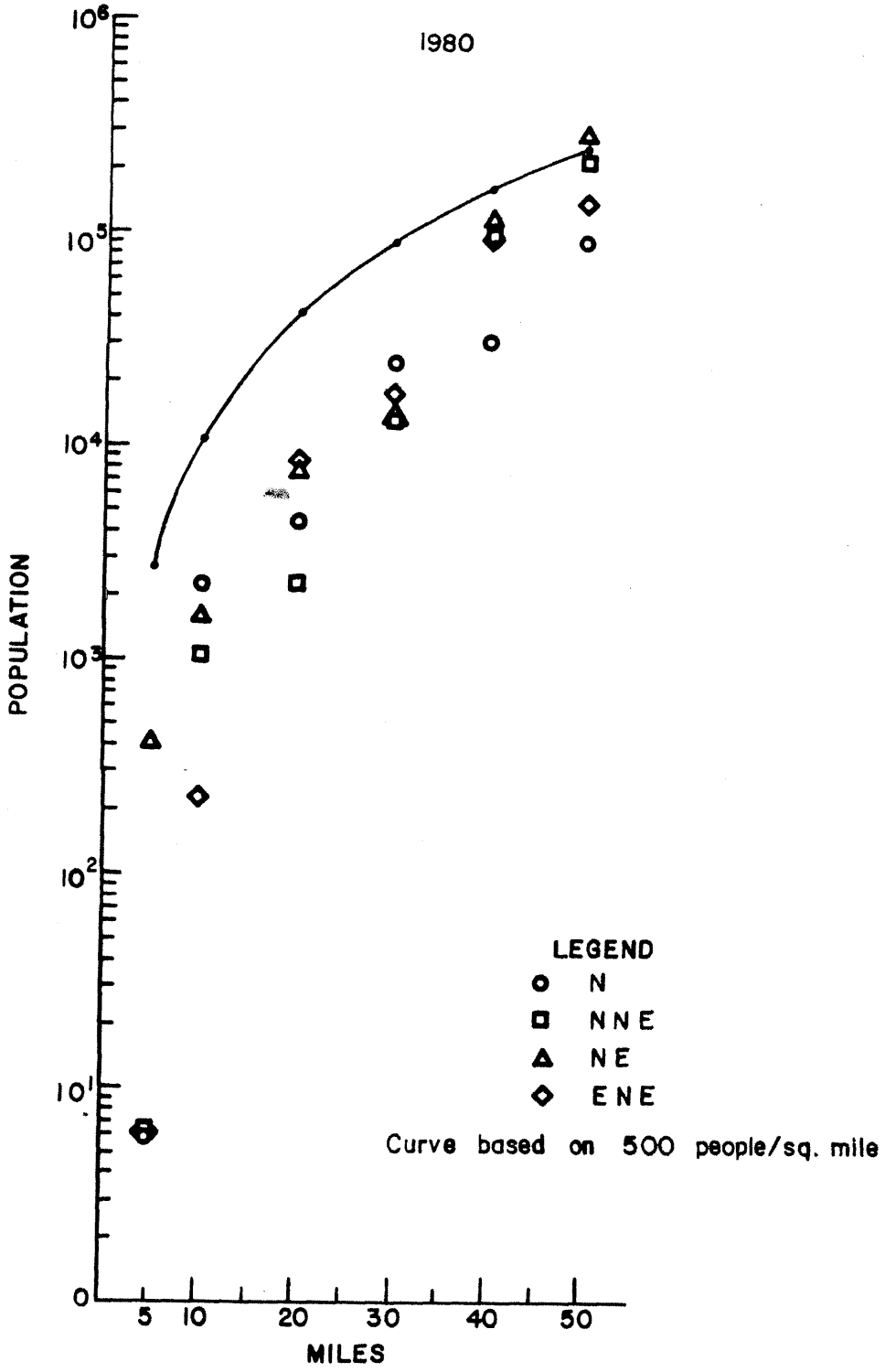


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-10

TOPOGRAPHIC FEATURES AND TRANSPORTATION ROUTES WITHIN THE LPZ

REV. 0 - APRIL 1984



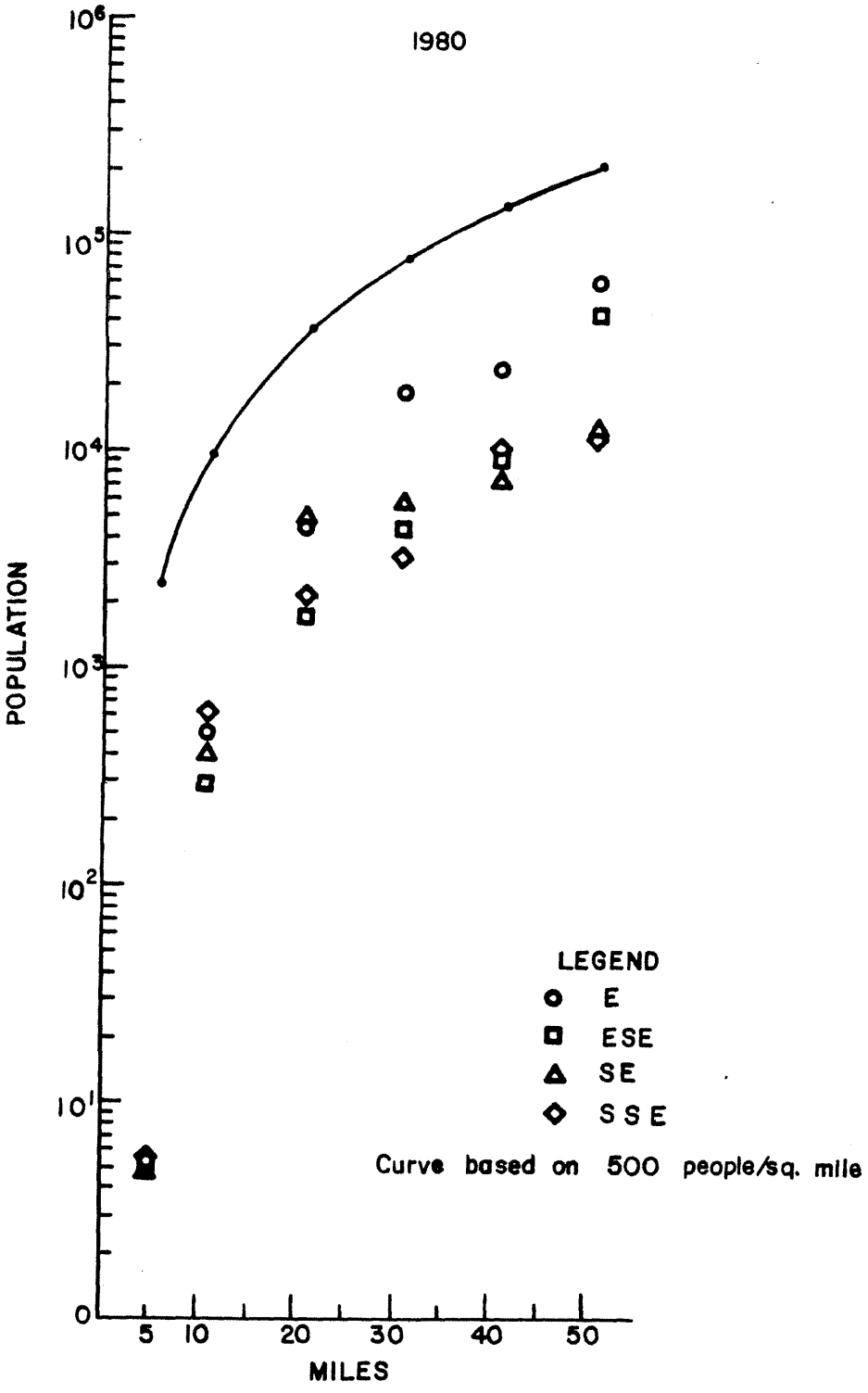
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-11

1980 POPULATION DENSITY WITHIN 50 MILES OF THE SITE

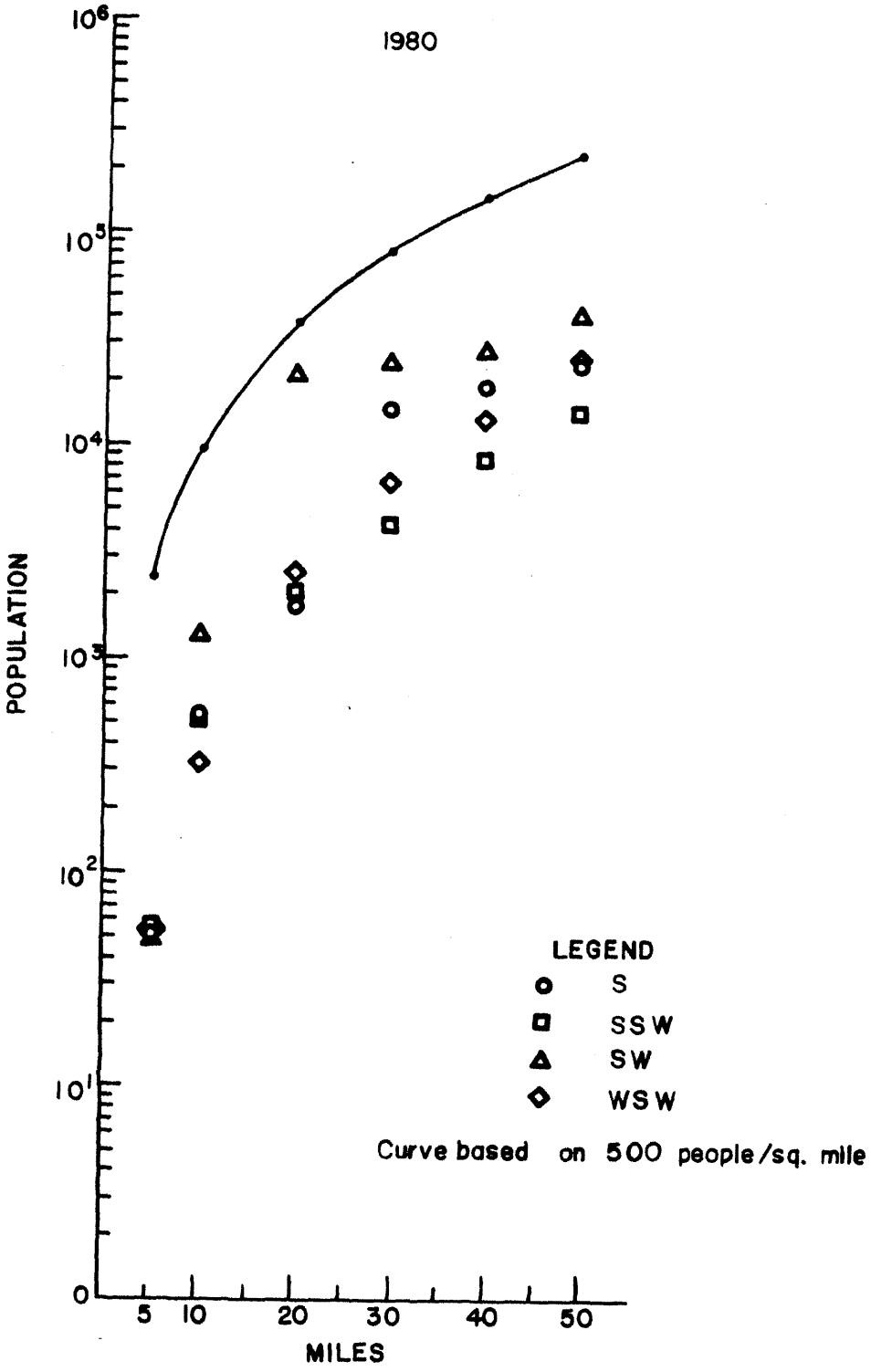
(SHEET 1 of 4)

REV. 0 - APRIL 1984



LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.1-11 1980 POPULATION DENSITY WITHIN 50 MILES OF THE SITE (SHEET 2 of 4)

REV. 0 - APRIL 1984



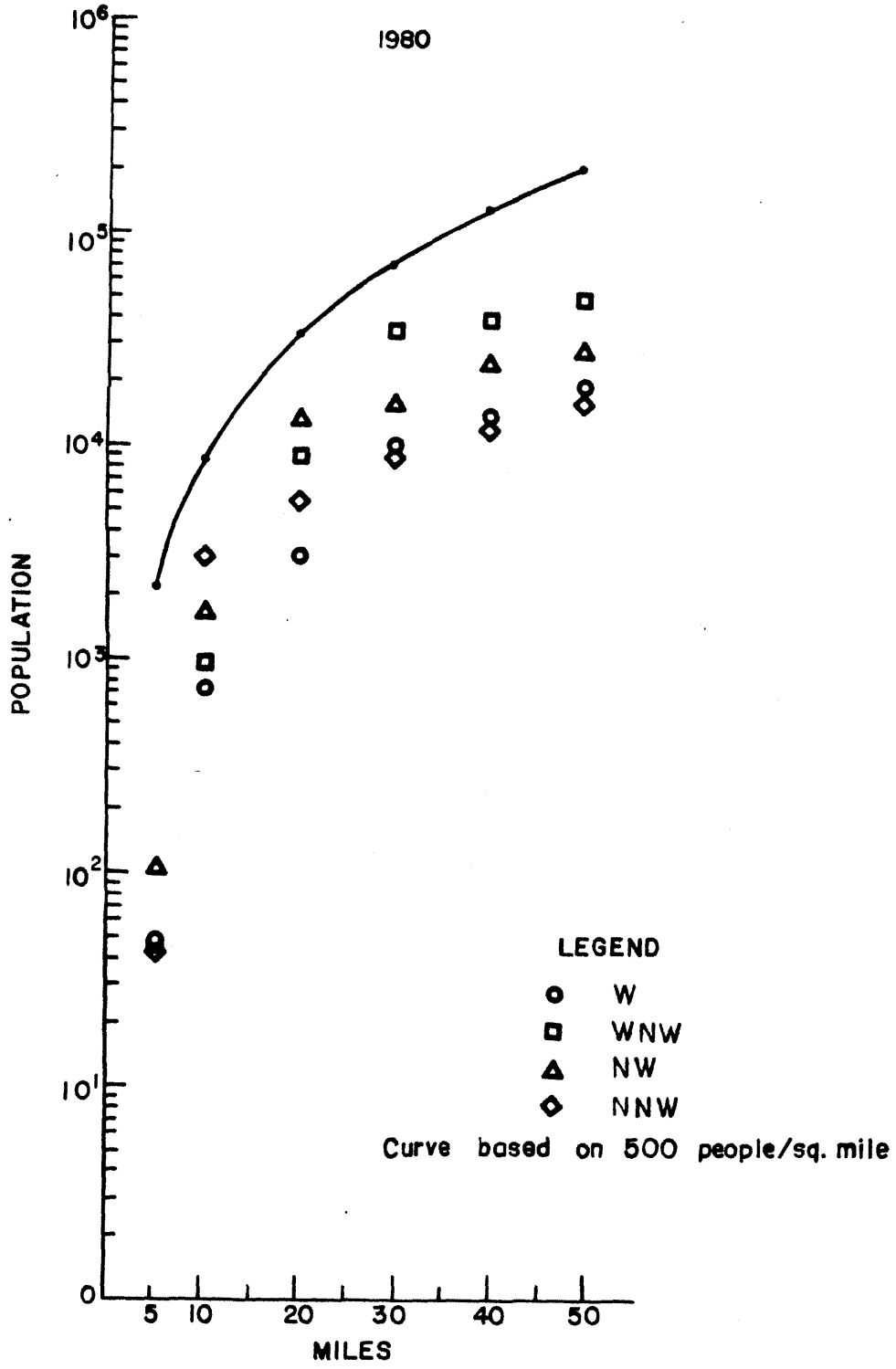
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-11

1980 POPULATION DENSITY WITHIN
50 MILES OF THE SITE

(SHEET 3 of 4)

REV. 0 - APRIL 1984



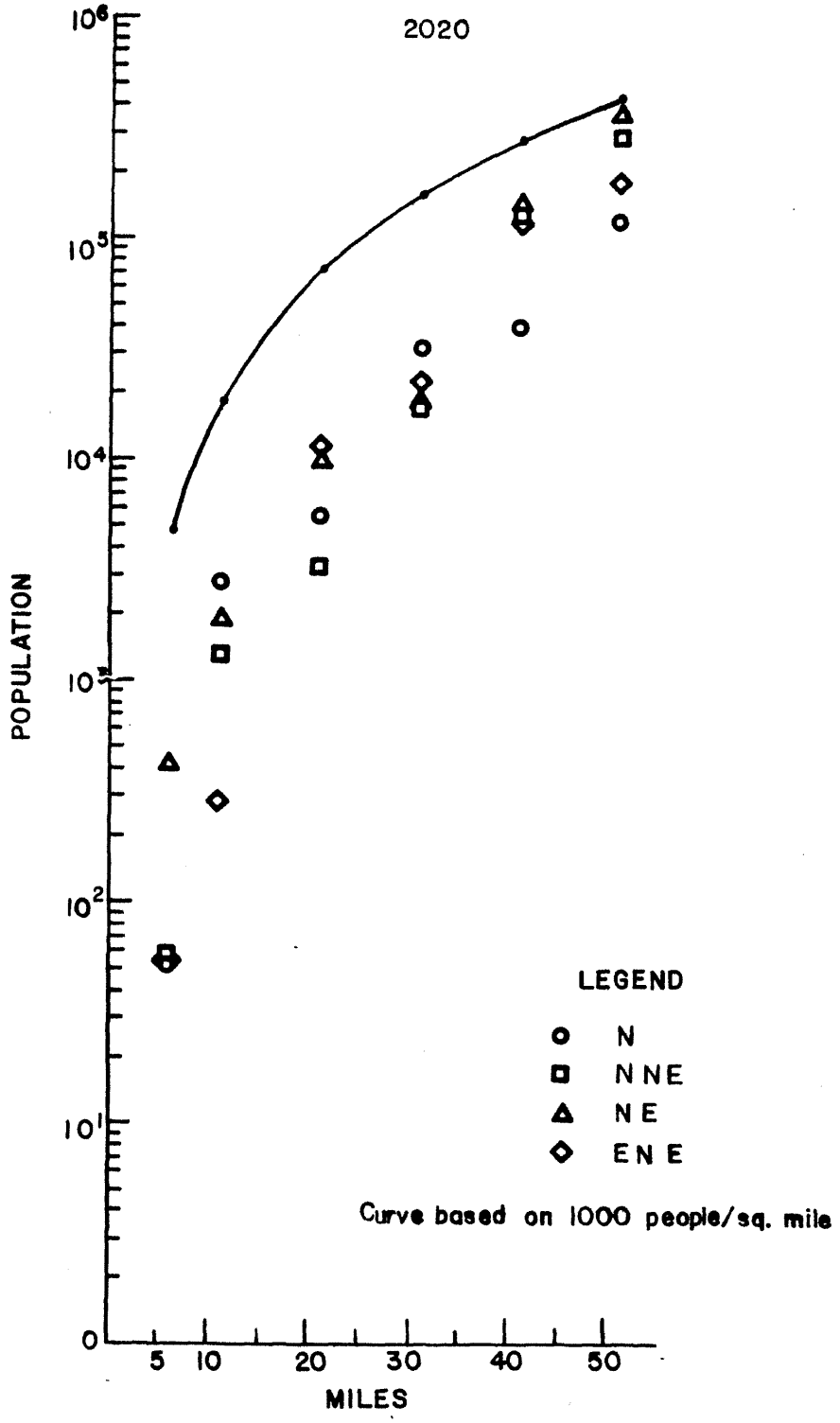
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-11

1980 POPULATION DENSITY WITHIN 50 MILES OF THE SITE

(SHEET 4 of 4)

REV. 0 - APRIL 1984

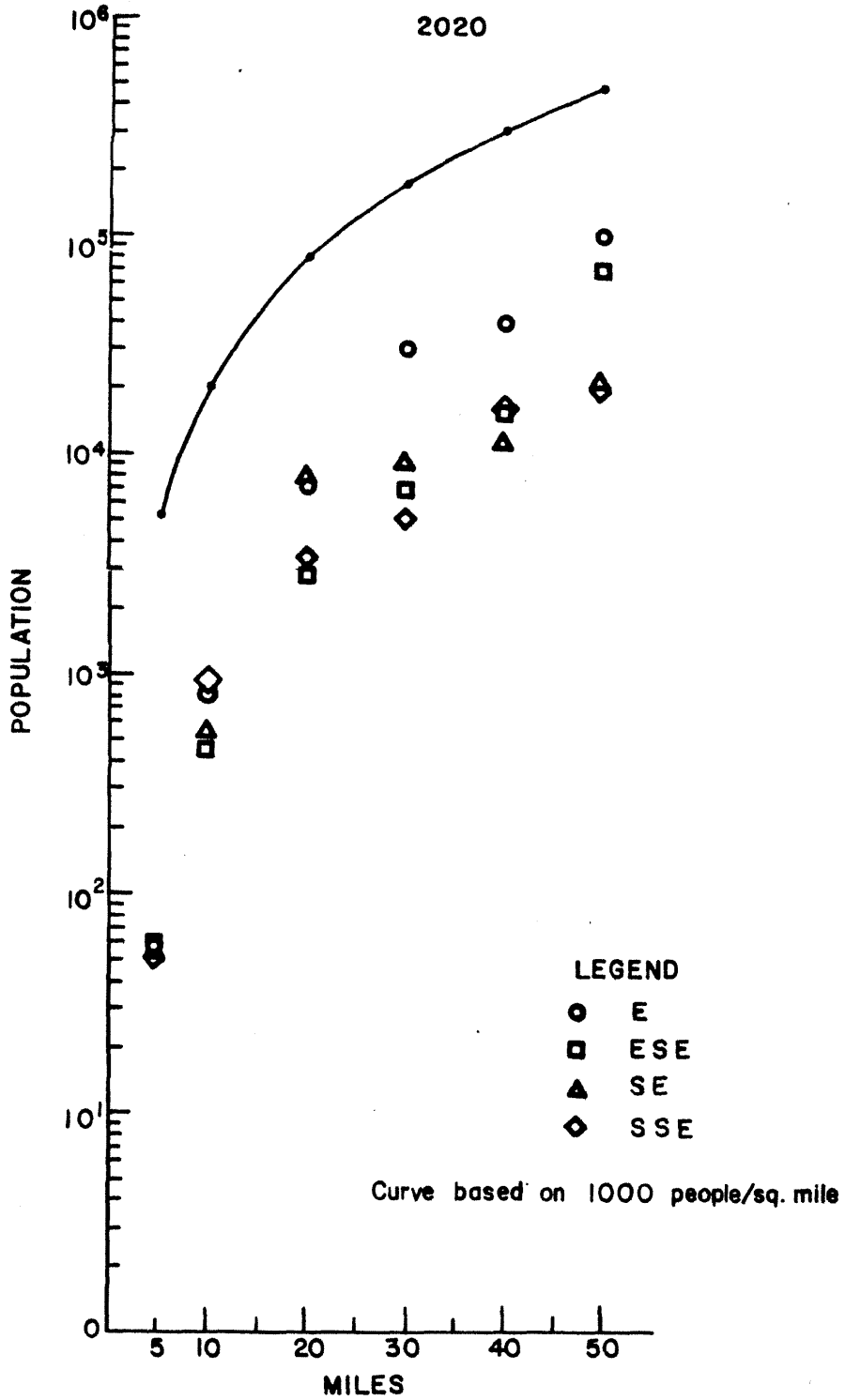


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

2020 POPULATION DENSITY WITHIN
50 MILES OF THE SITE
(SHEET 1 of 4)

REV. 0 - APRIL 1984

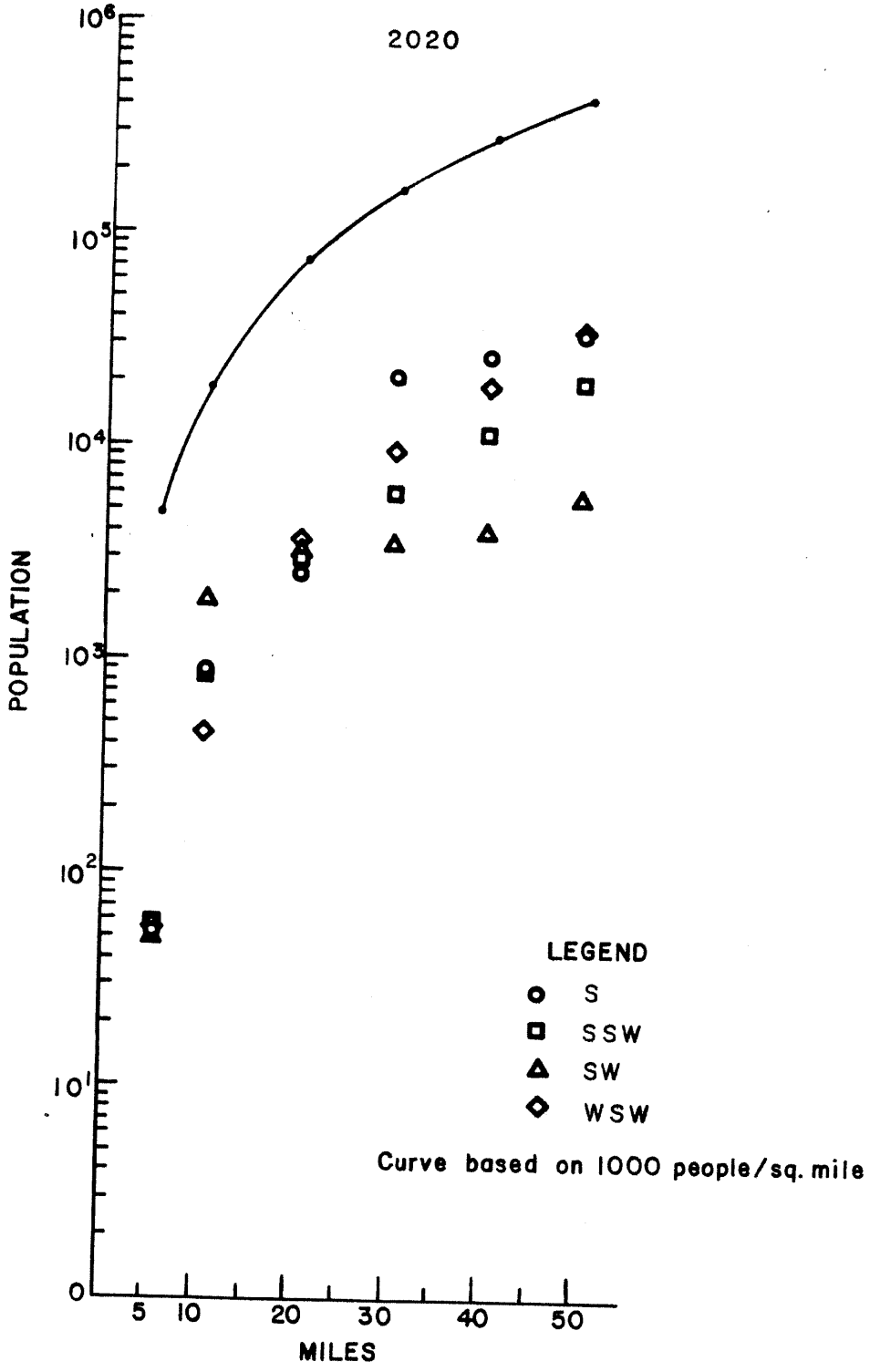


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

2020 POPULATION DENSITY WITHIN
50 MILES OF THE SITE
(SHEET 2 of 4)

REV. 0 - APRIL 1984

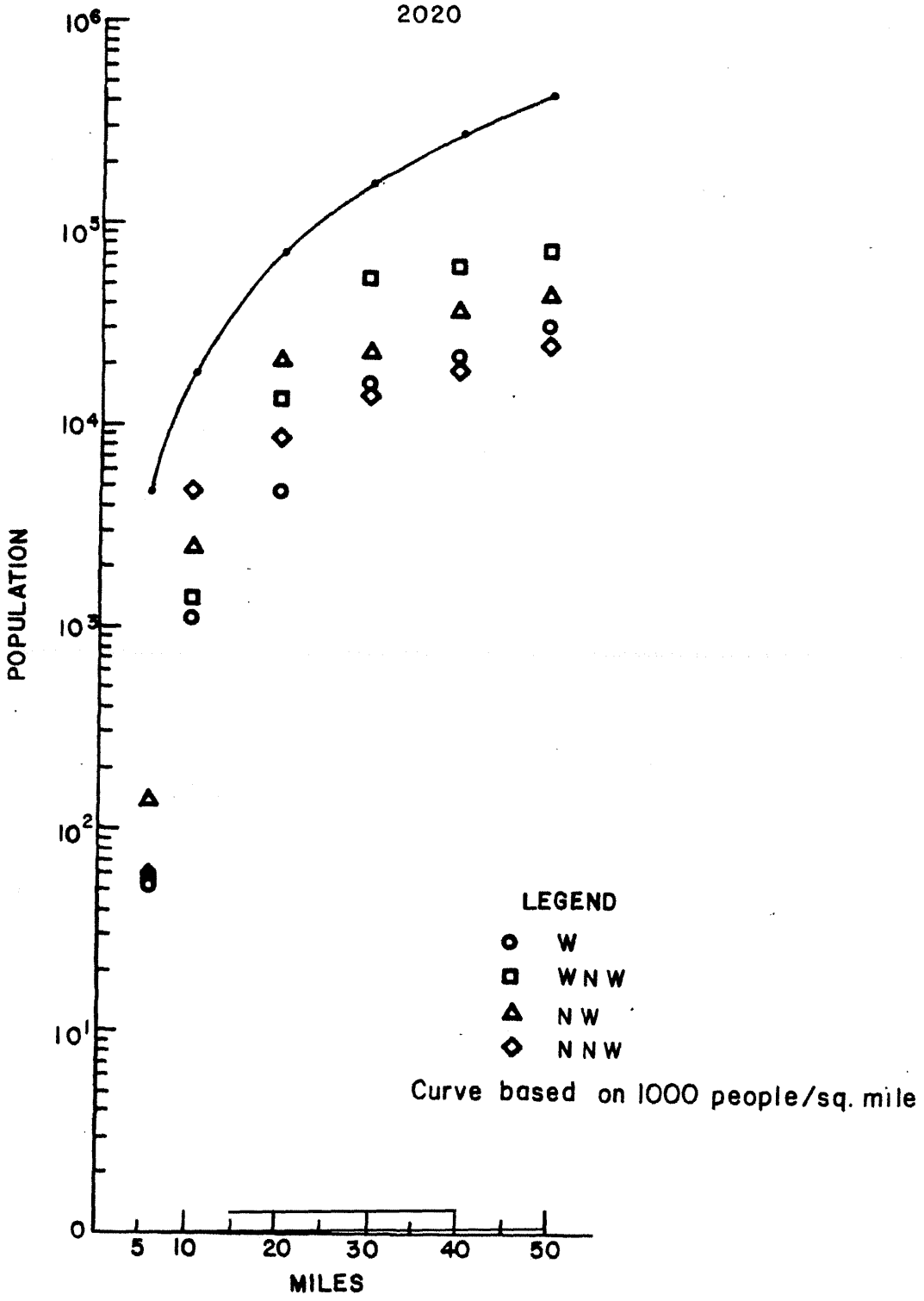


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

2020 POPULATION DENSITY WITHIN
50 MILES OF THE SITE
(SHEET 3 of 4)

REV. 0 - APRIL 1984

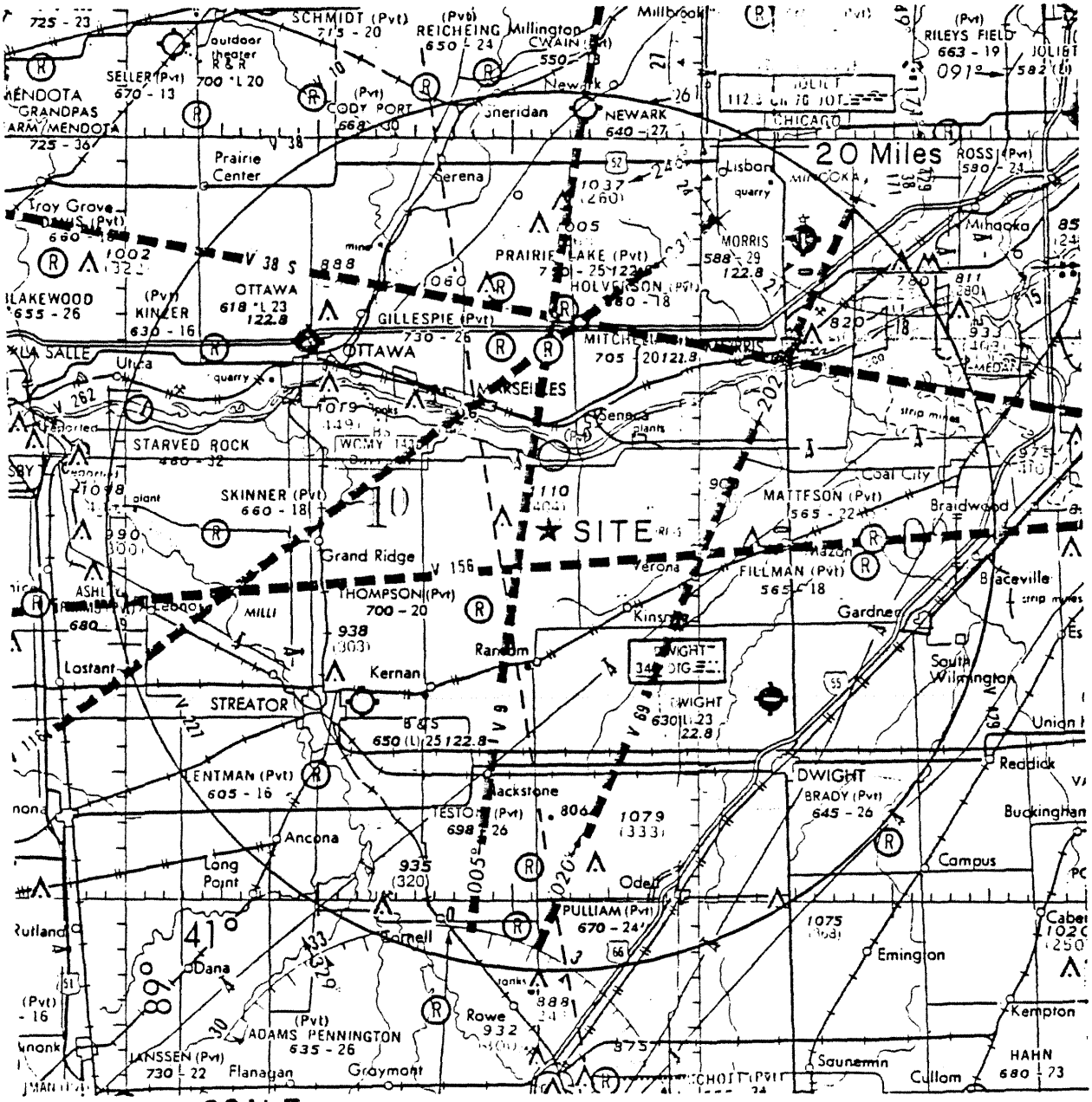


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

2020 POPULATION DENSITY WITHIN
50 MILES OF THE SITE
(SHEET 4 of 4)

REV. 0 - APRIL 1984

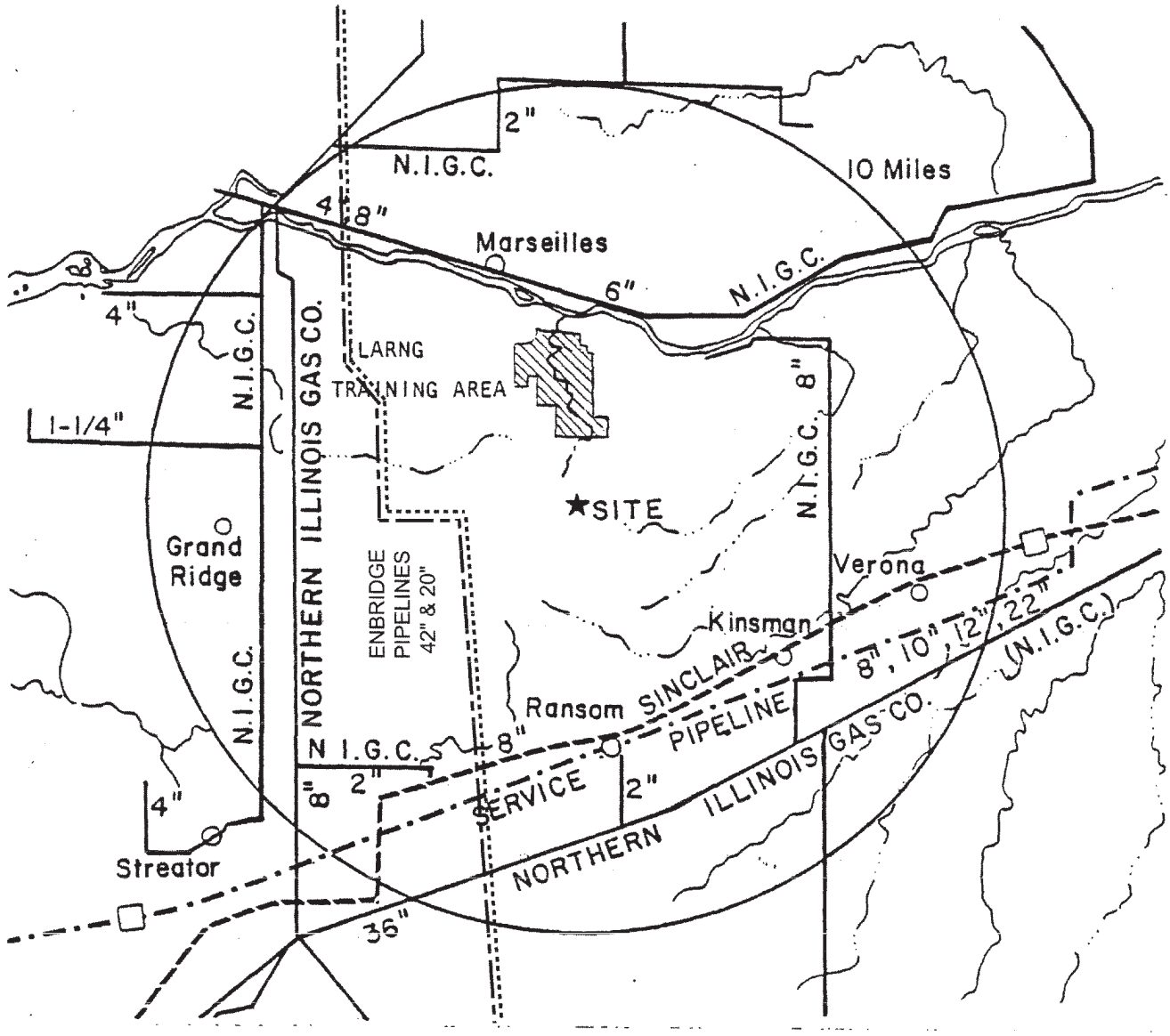


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.2-1

AIRPORTS AND FLIGHT PATTERNS WITHIN 20 MILES OF THE SITE

REV. 2 - APRIL 1986



SCALE

0 5 10 Miles

NORTH

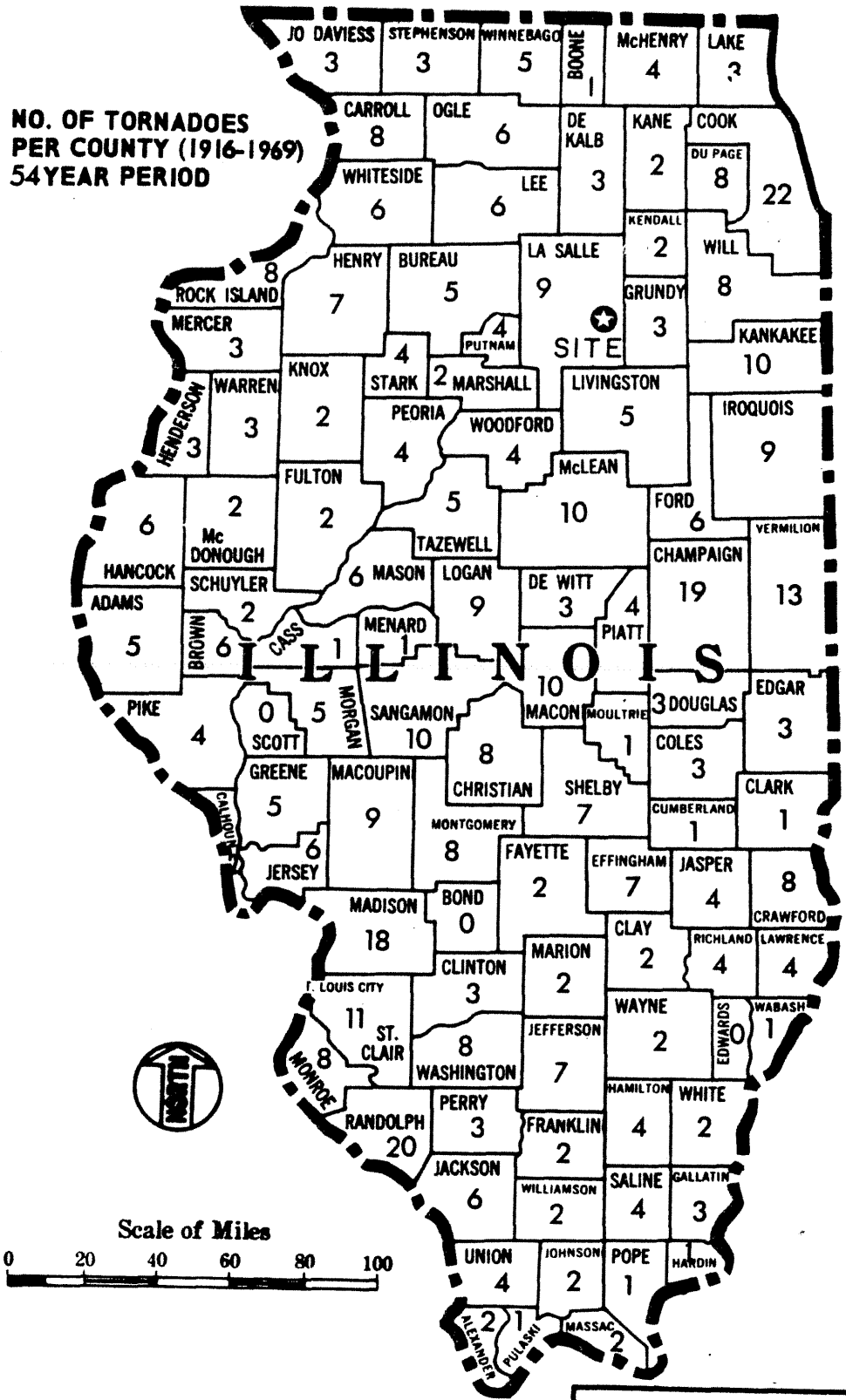
LEGEND

- Natural Gas Pipeline
- Refined Products Pipeline (gasoline, kerosene, & LPG)
- Crude Oil Pipeline
- Diluent Pipeline
- MILITARY FACILITIES

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.2-2
MILITARY FACILITIES AND
GAS PIPELINES WITHIN 10 MILES
OF THE SITE

REV. 18 - APRIL 2010

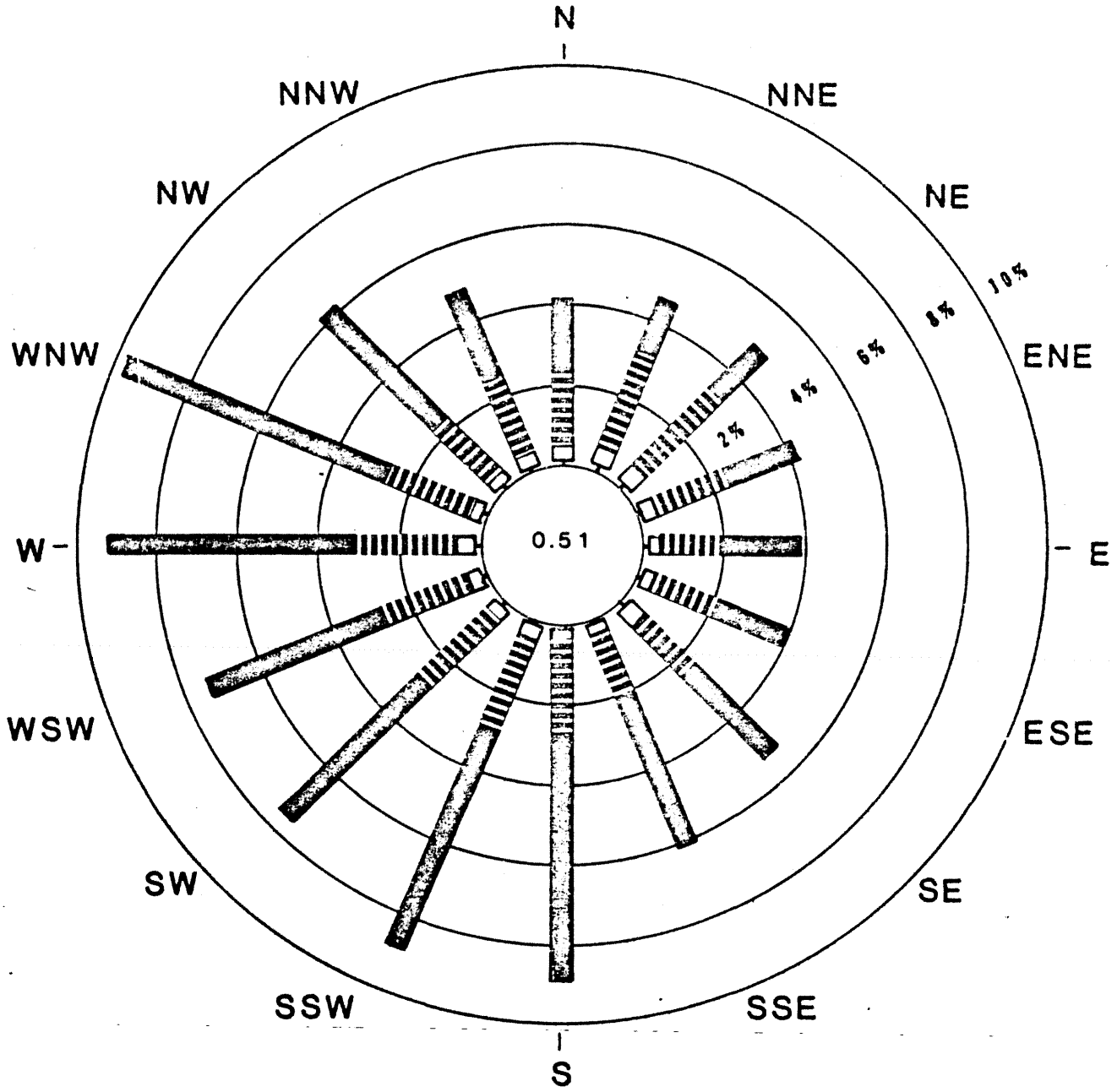


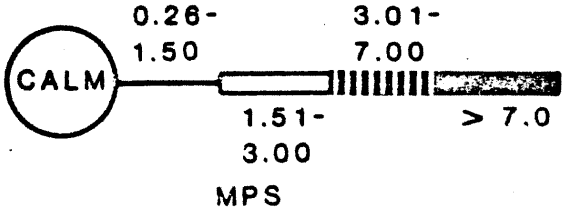
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-1

NUMBER OF TORNADOES PER COUNTY

REV. 0 - APRIL 1984



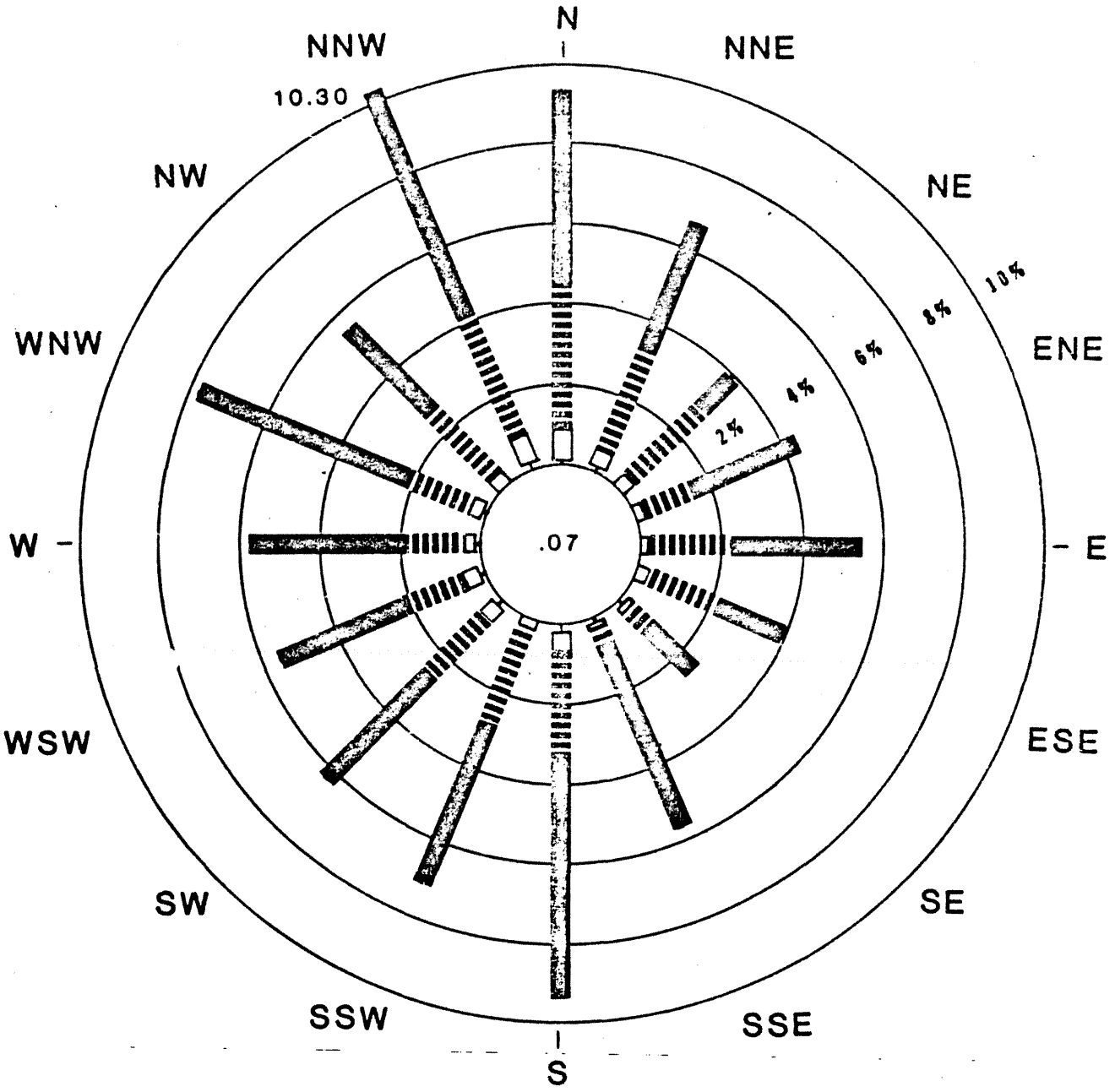


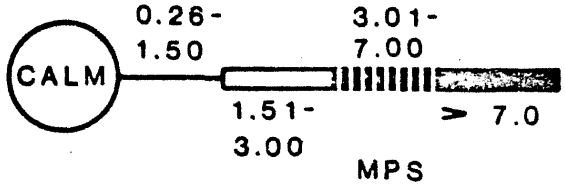
NOTE:
ANNUAL VALUES BASED ON
DATA COLLECTED OCTOBER 1,1976
THROUGH SEPTEMBER 30,1978

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-2

ANNUAL WIND ROSE 375-FOOT LEVEL



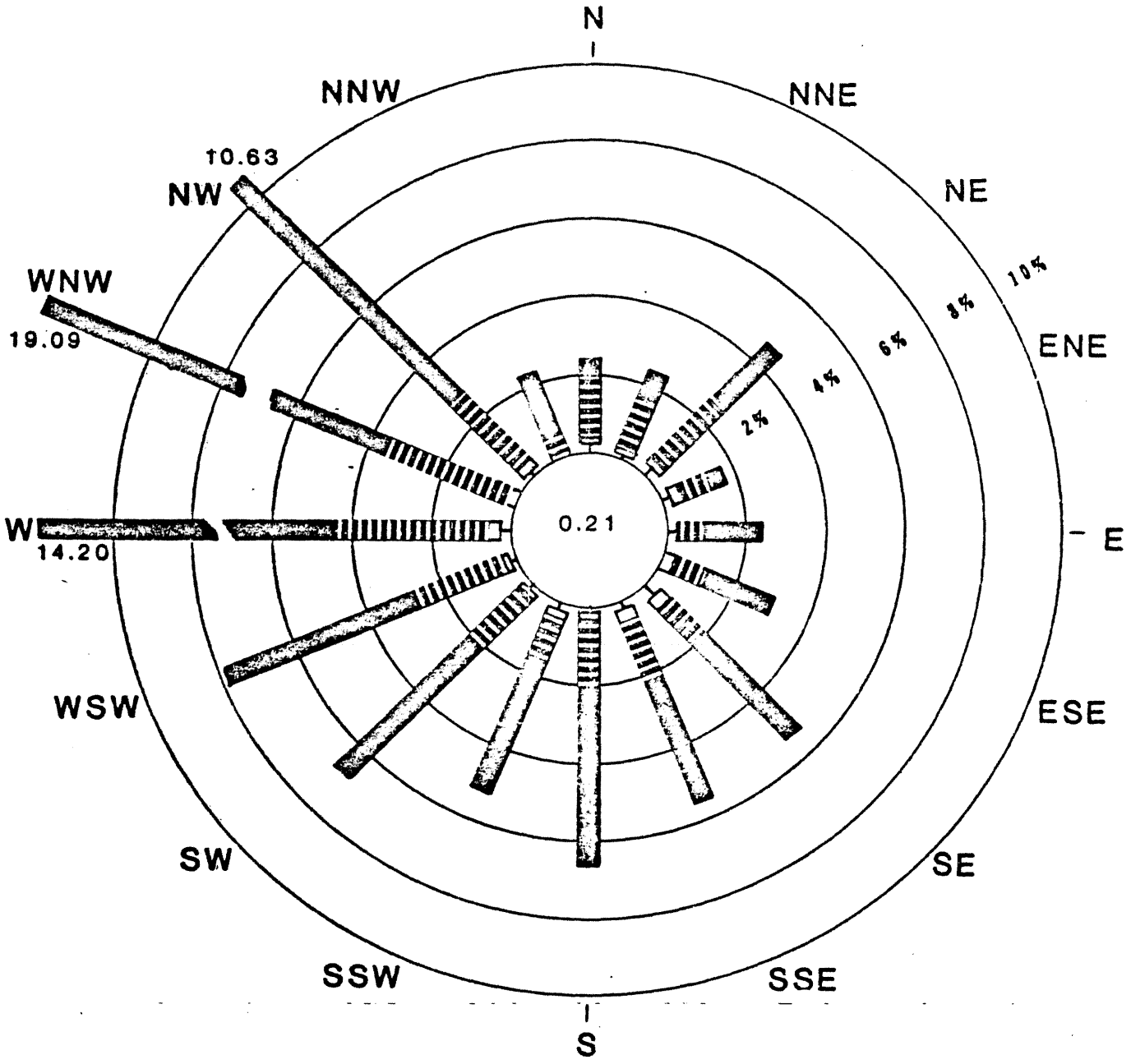


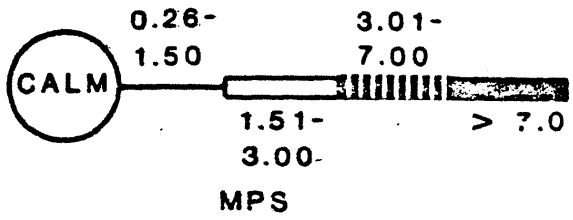
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-3

OCTOBER 1976 AND OCTOBER 1977
WIND ROSE 375-FOOT LEVEL

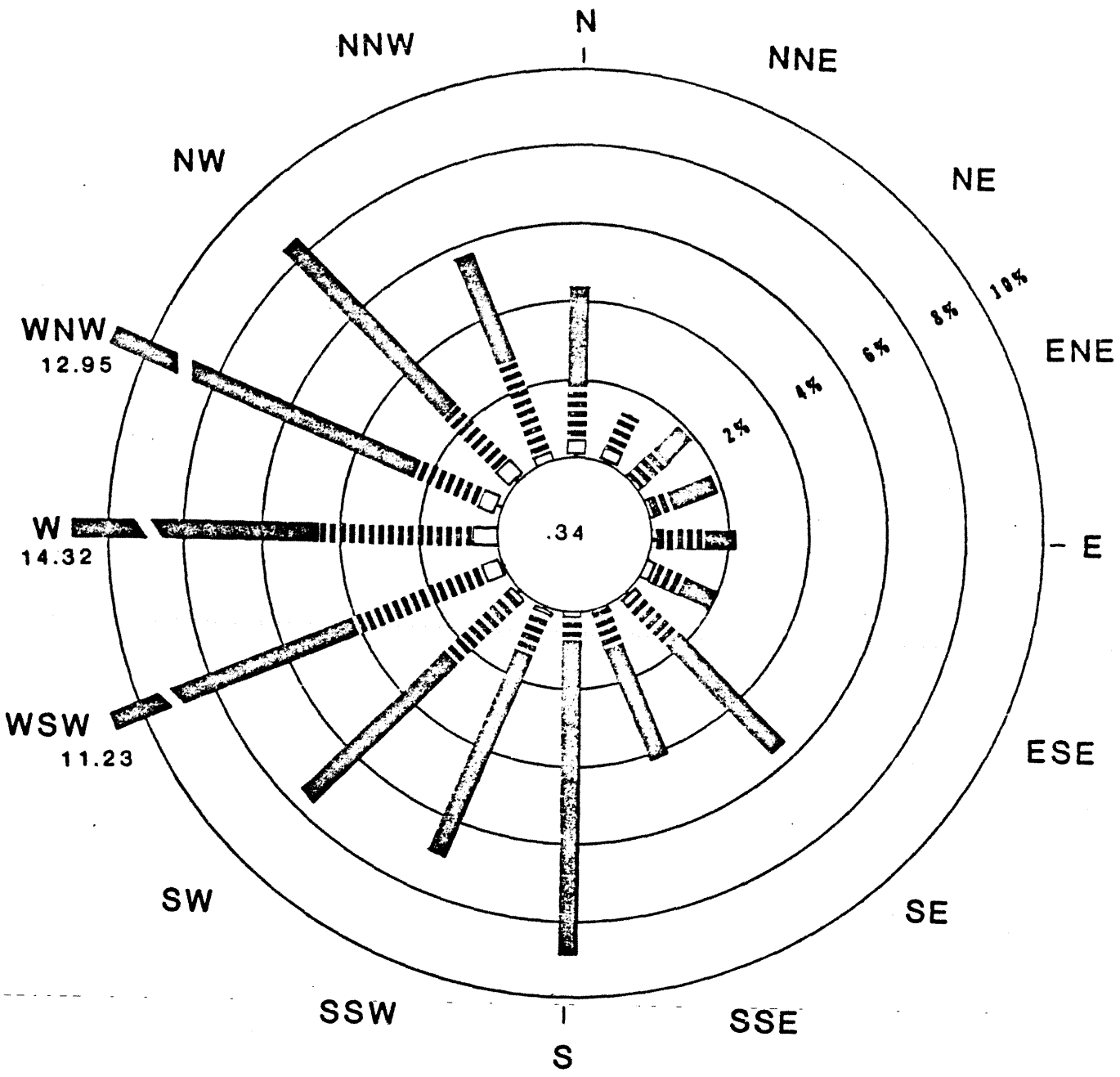
REV. 0 - APRIL 1984

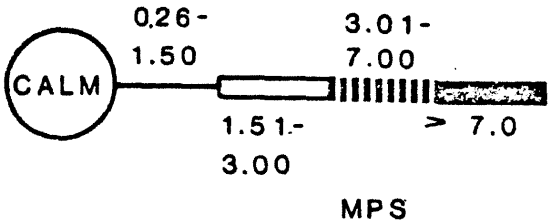




LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.3-4 NOVEMBER 1976 AND NOVEMBER 1977 WIND ROSE 375-FOOT LEVEL

REV. 0 - APRIL 1984



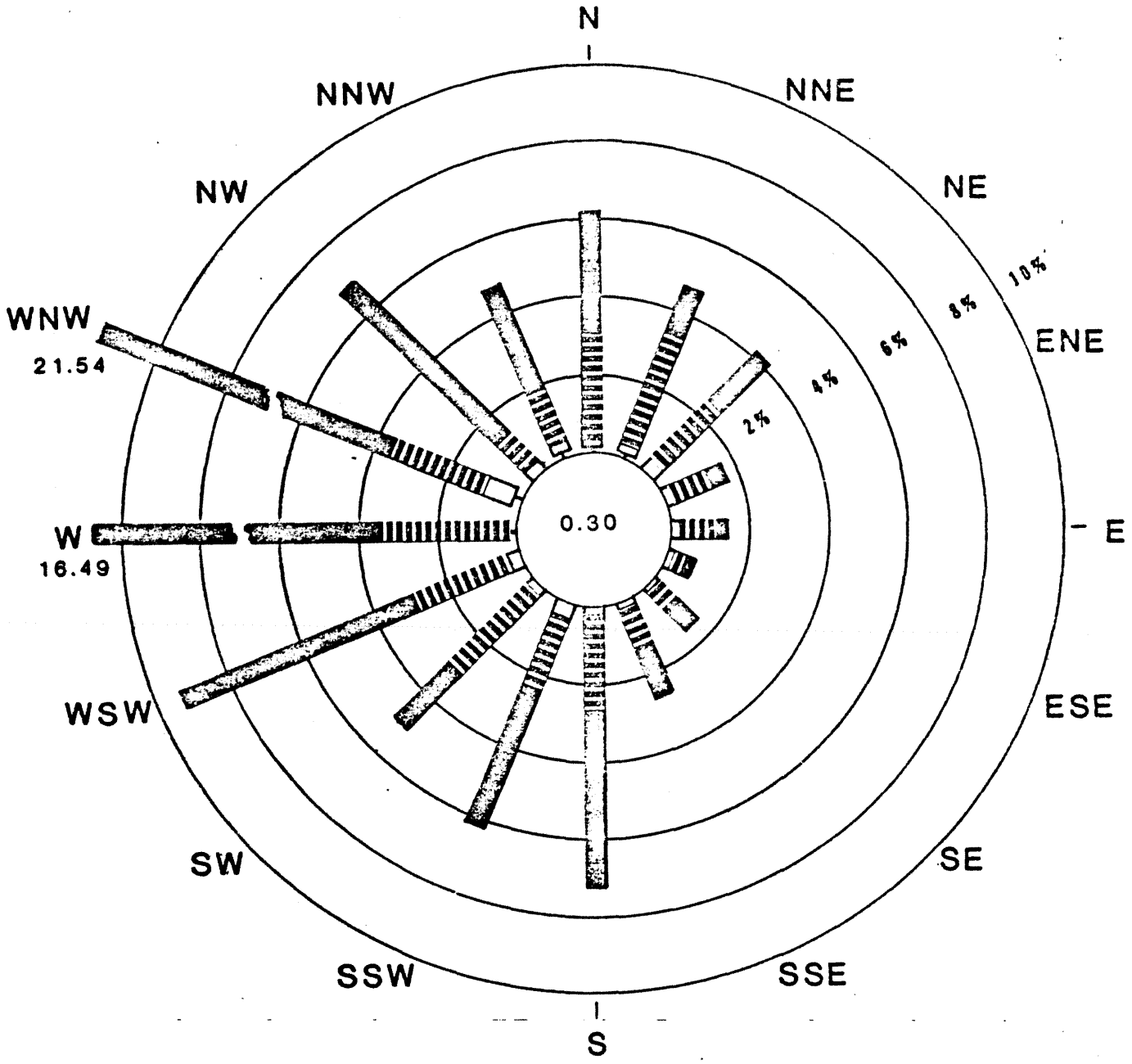


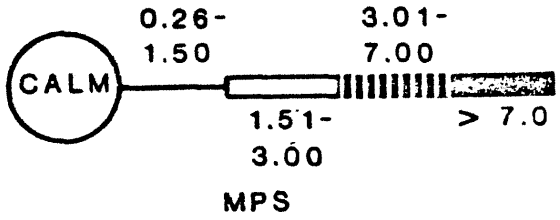
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-5

DECEMBER 1976 AND DECEMBER 1977
WIND ROSE 375-FOOT LEVEL

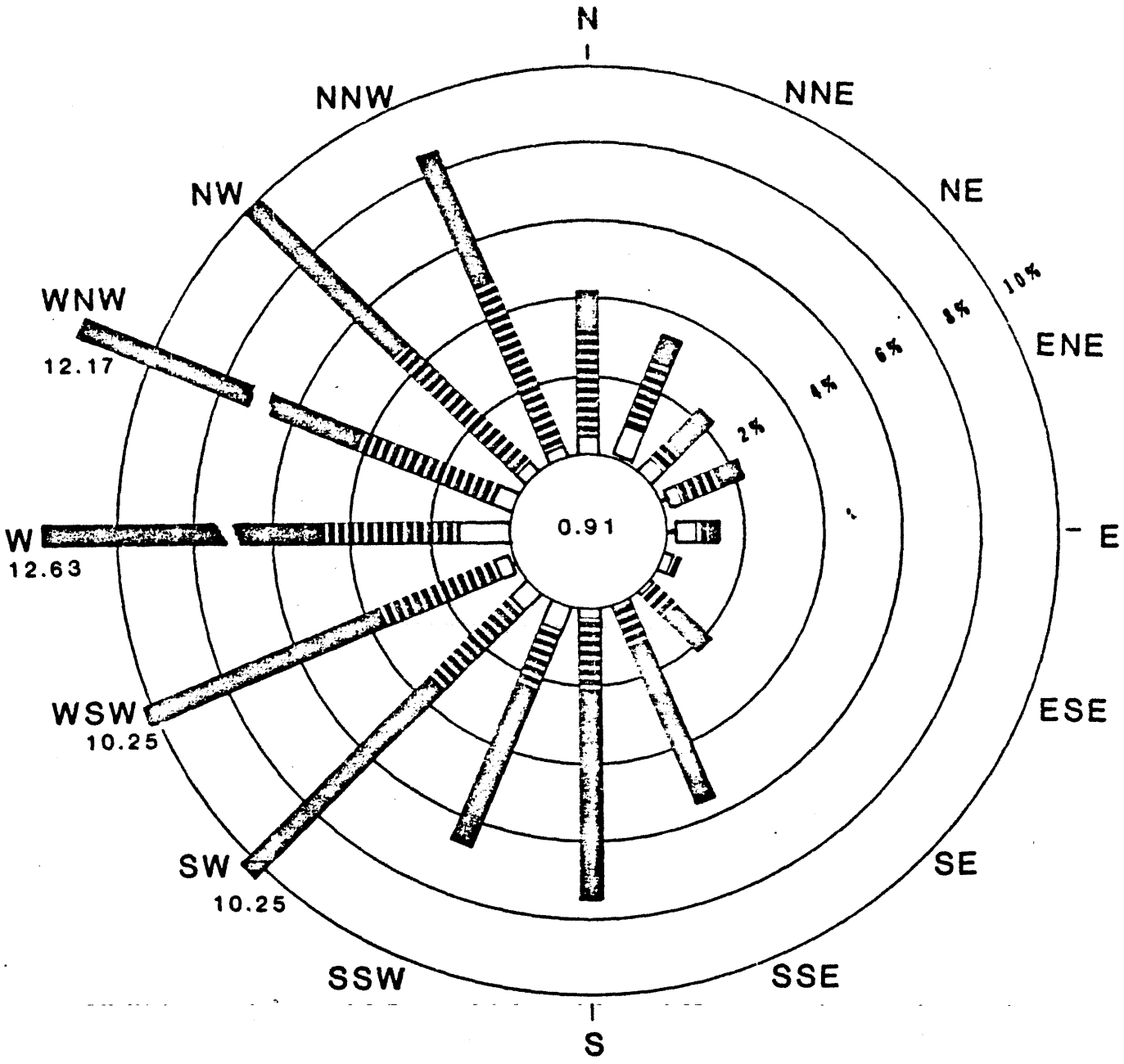
REV. 0 - APRIL 1984

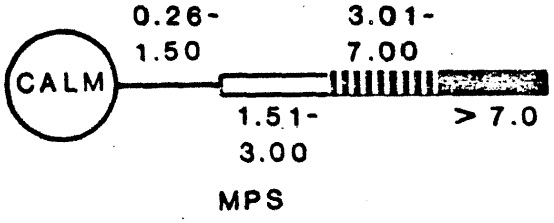




LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.3-6 JANUARY 1977 AND JANUARY 1978 WIND ROSE 375-FOOT LEVEL

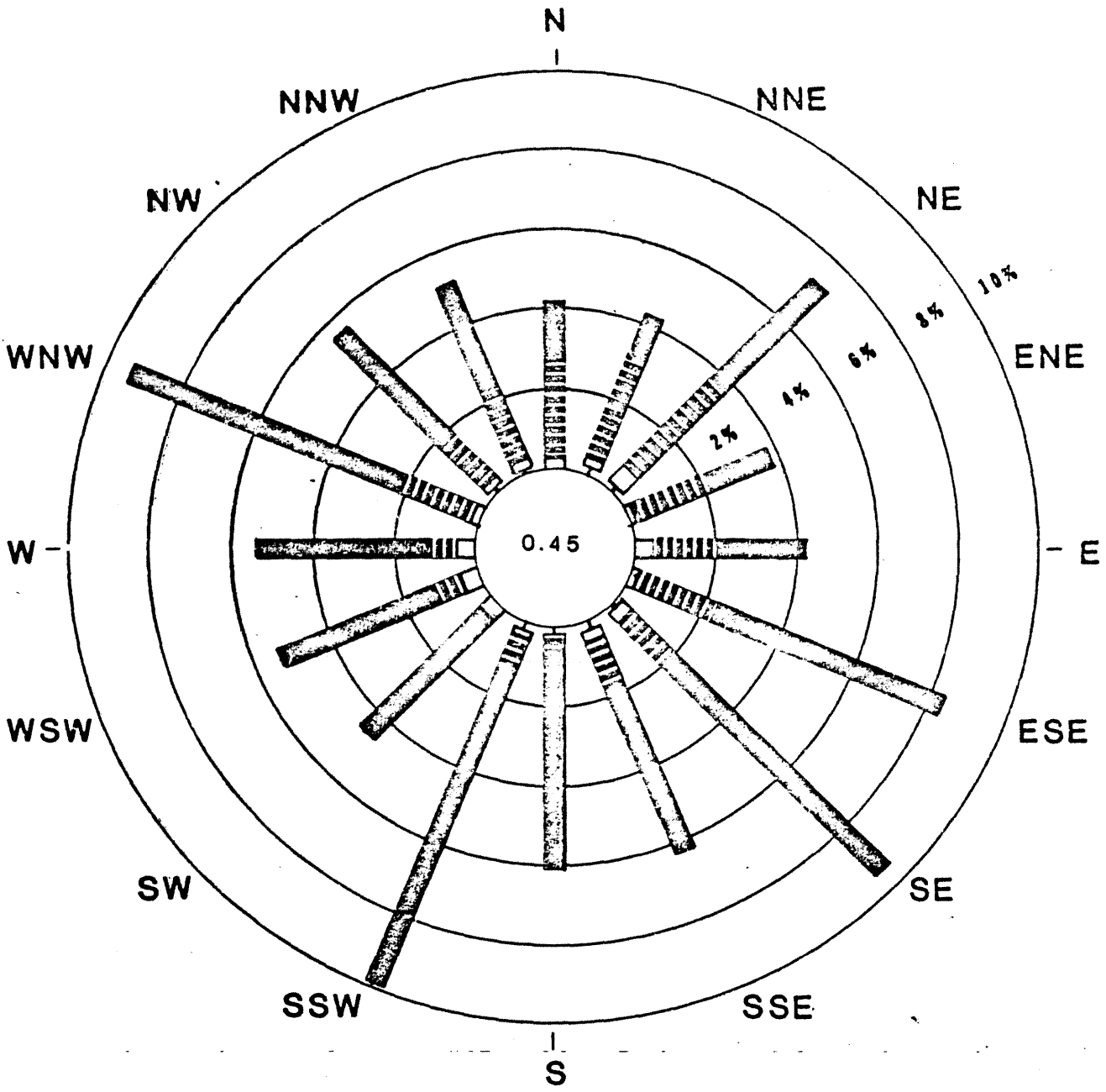
REV. 0 - APRIL 1984

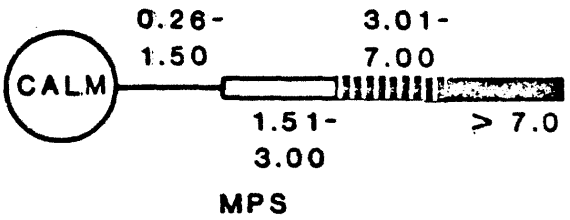




LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.3-7 FEBRUARY 1977 AND FEBRUARY 1978 WIND ROSE 375-FOOT LEVEL

REV. 0 - APRIL 1984



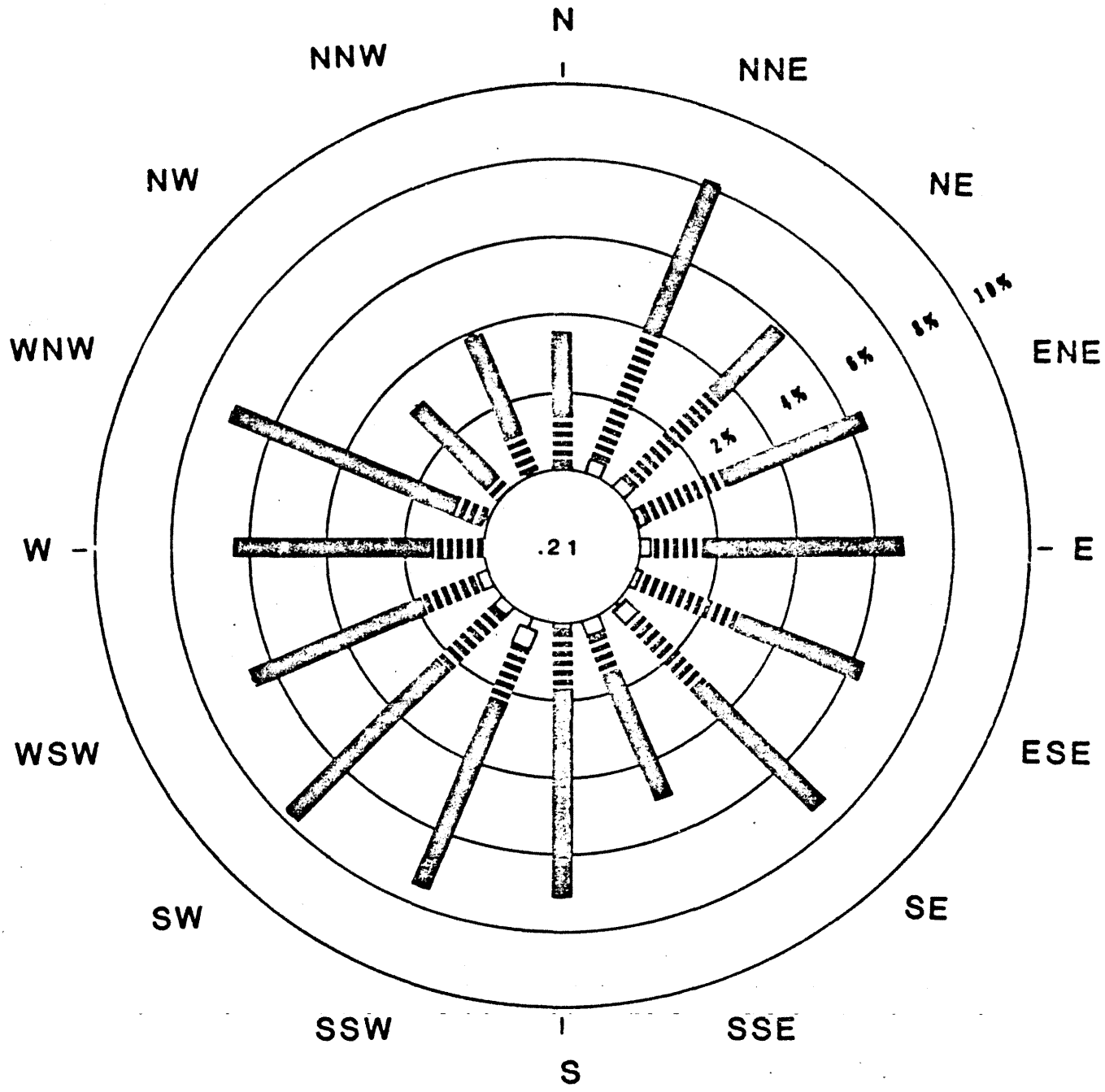


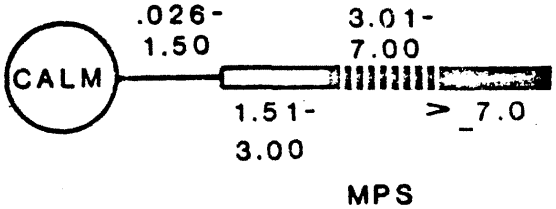
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-8

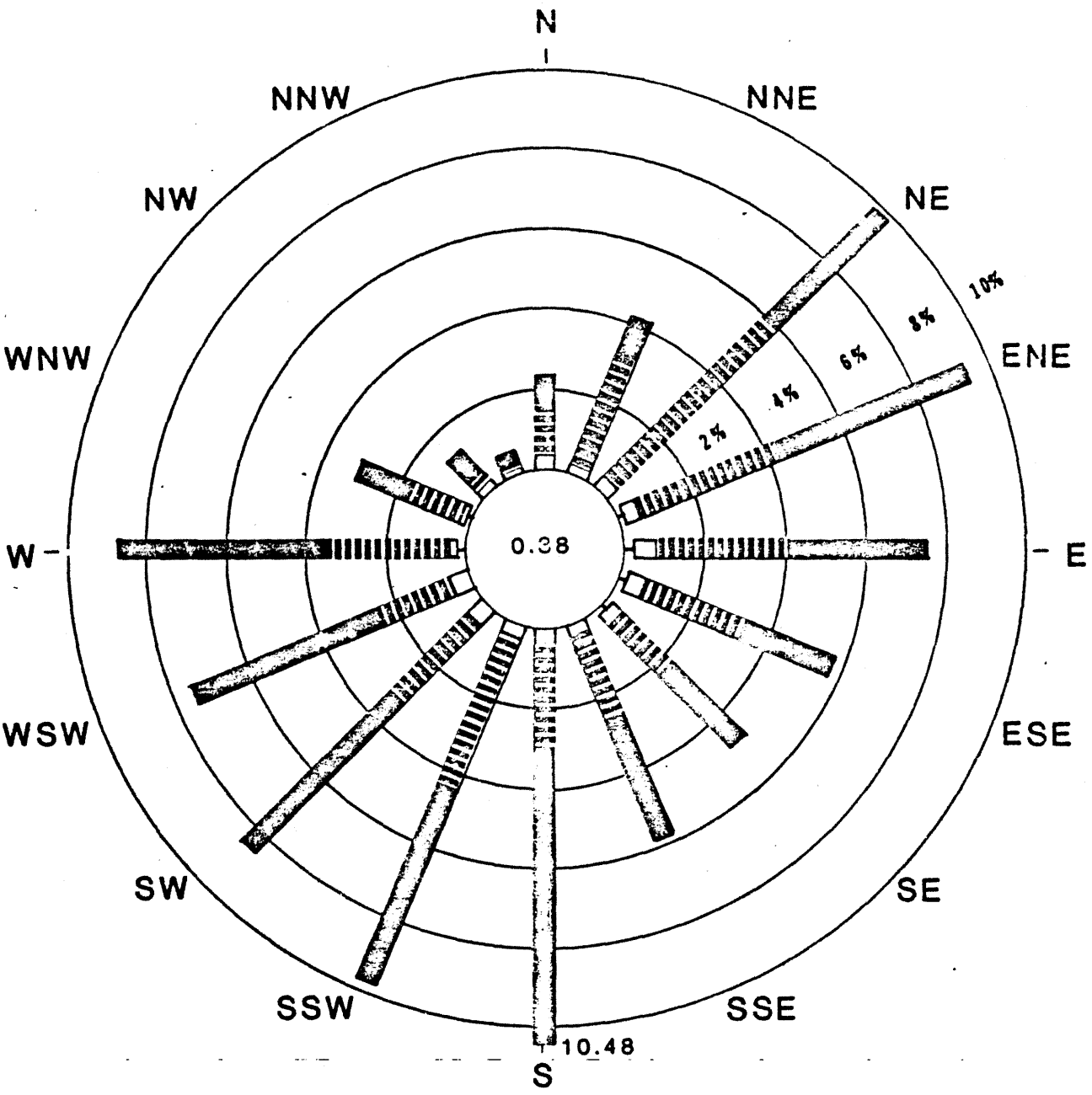
MARCH 1977 AND MARCH 1978
WIND ROSE 375-FOOT LEVEL

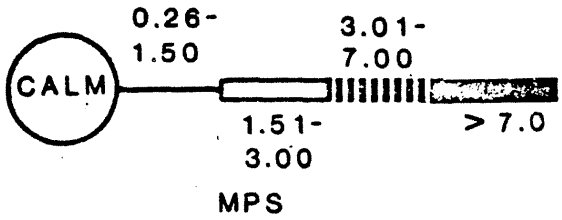
REV. 0 - APRIL 1984



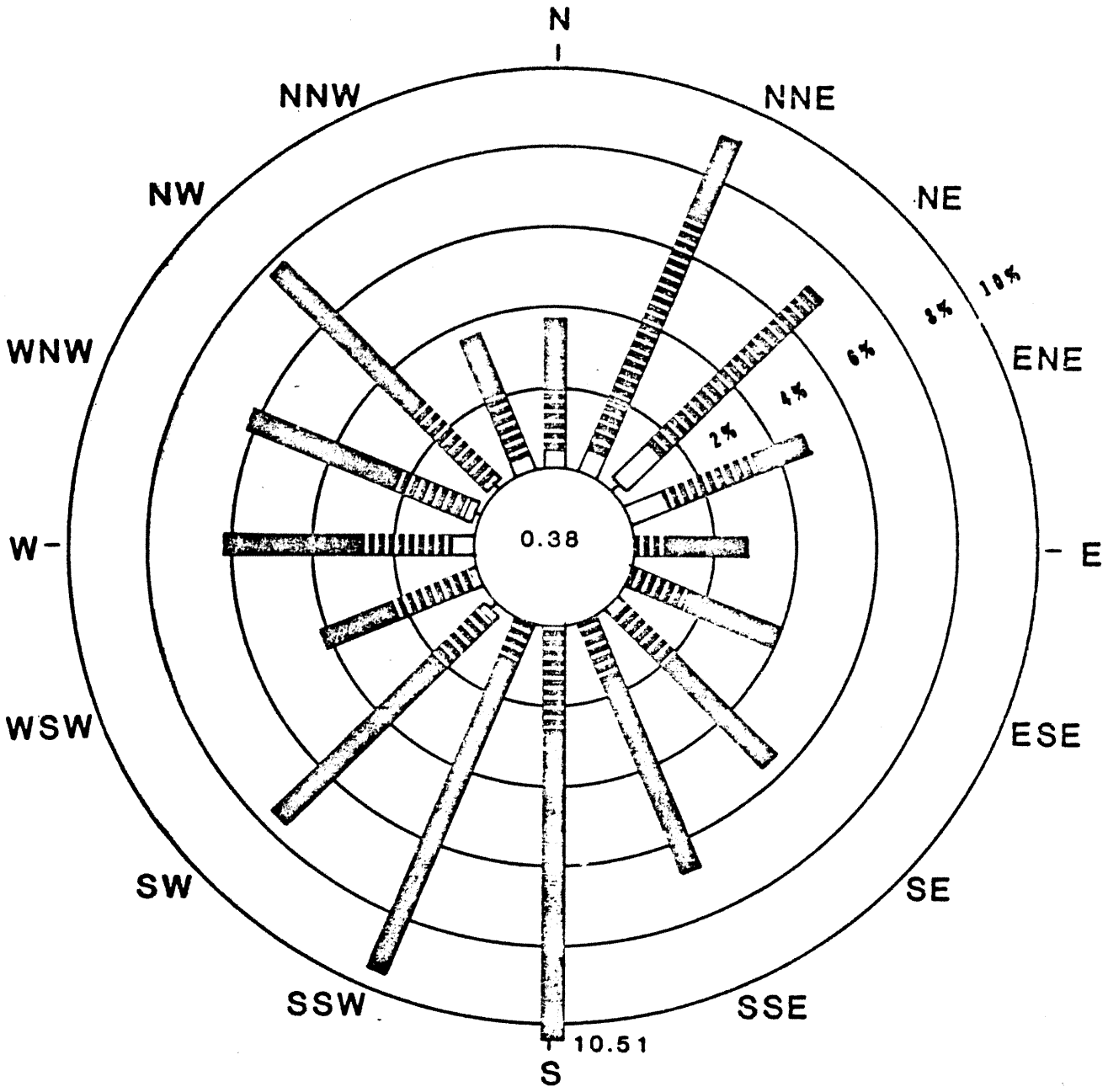


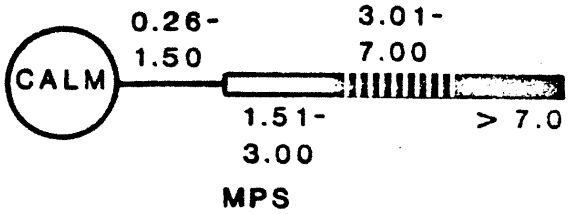
LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.3-9 APRIL 1977 AND APRIL 1978 WIND ROSE 375-FOOT LEVEL





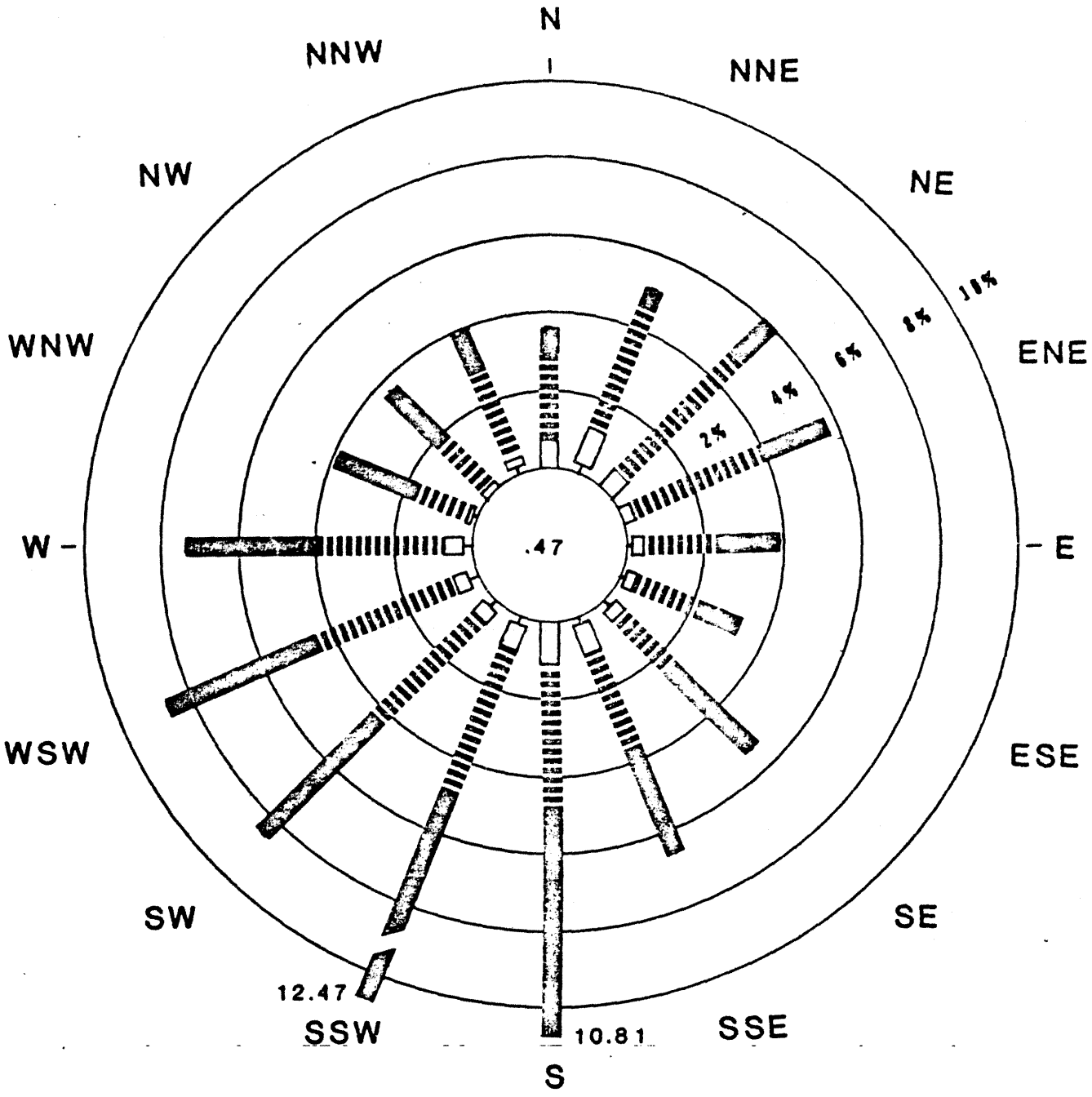
LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.3-10 MAY 1977 AND MAY 1978 WIND ROSE 375-FOOT LEVEL

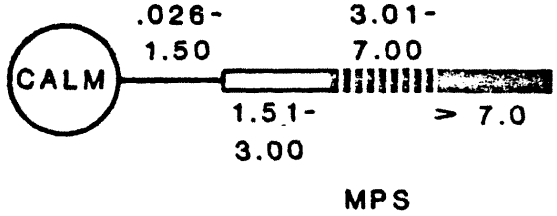




LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.3-11 JUNE 1977 AND JUNE 1978 WIND ROSE 375-FOOT LEVEL

REV. 0 - APRIL 1984



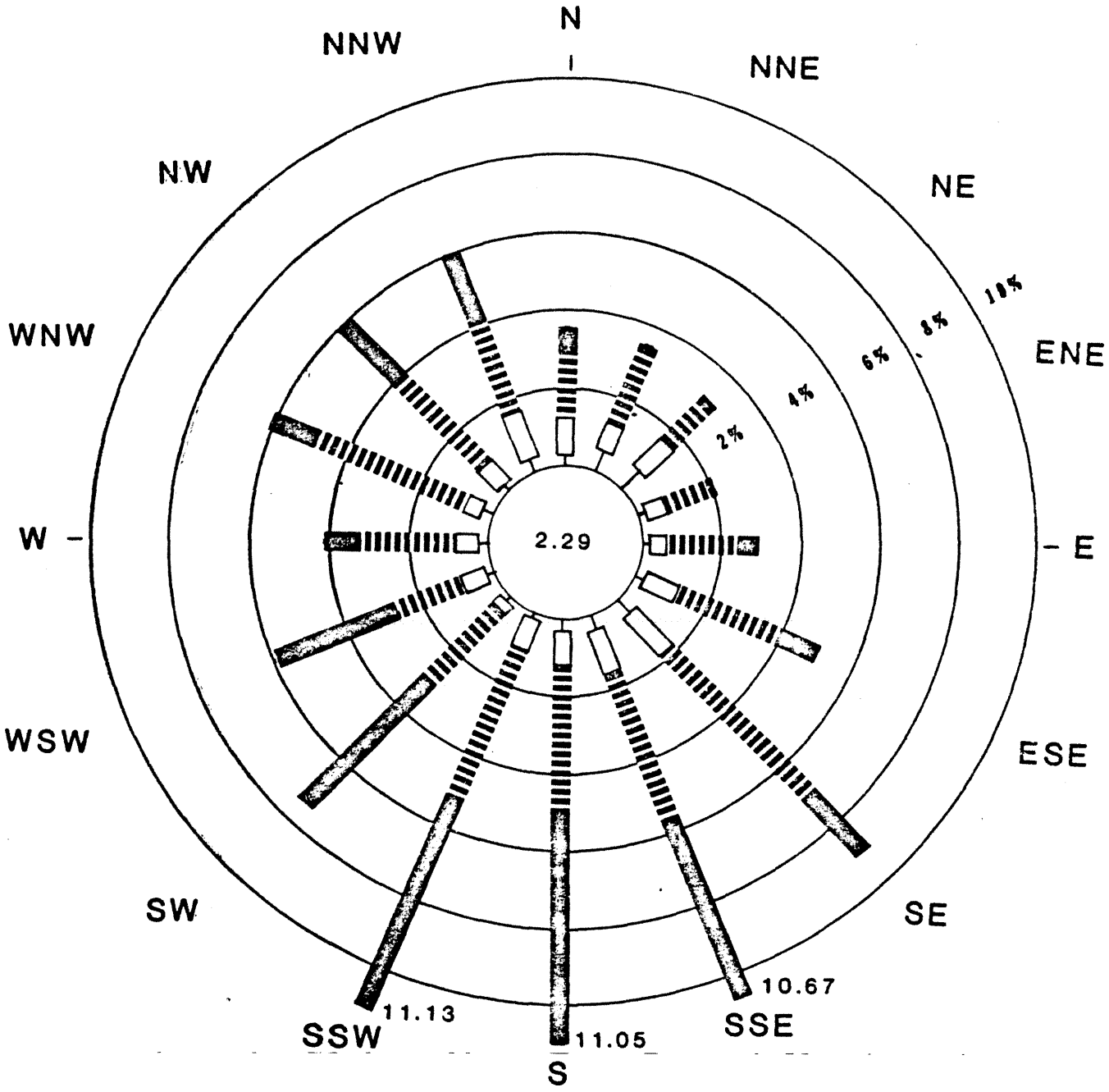


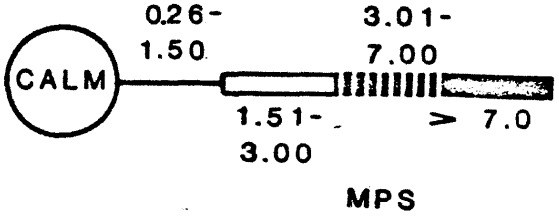
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-12

JULY 1977 AND JULY 1978
WIND ROSE 375-FOOT LEVEL

REV. 0 - APRIL 1984





LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.3-13 AUGUST 1977 AND AUGUST 1978 WIND ROSE 375-FOOT LEVEL

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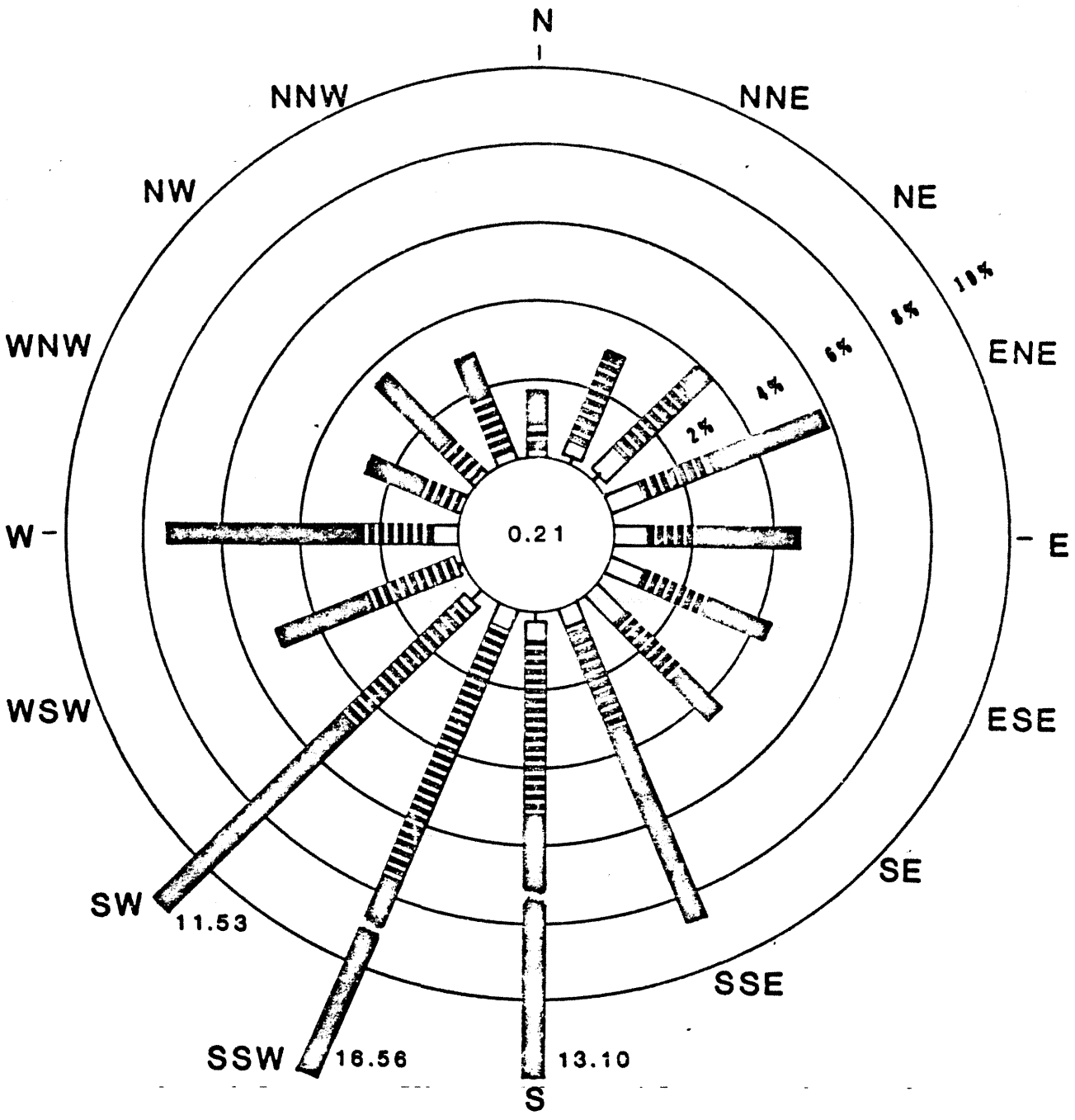
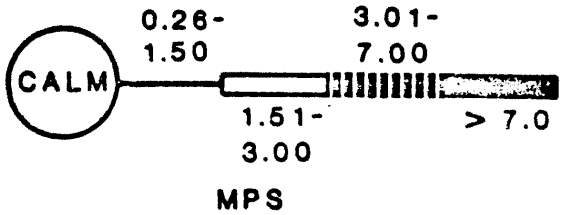
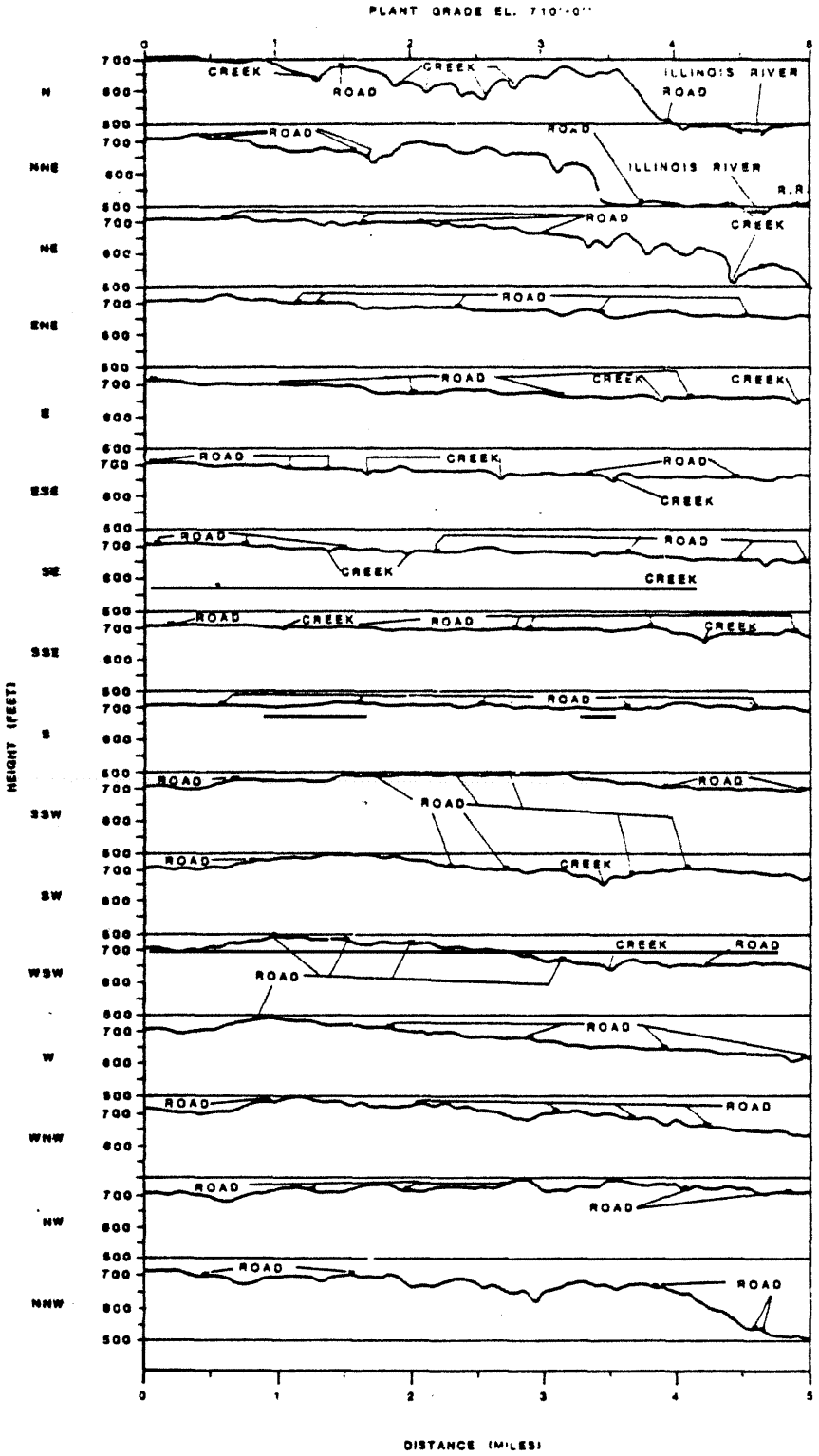




LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-14

SEPTEMBER 1977 AND SEPTEMBER 1978
WIND ROSE 375-FOOT LEVEL



LA SALLE COUNTY STATION
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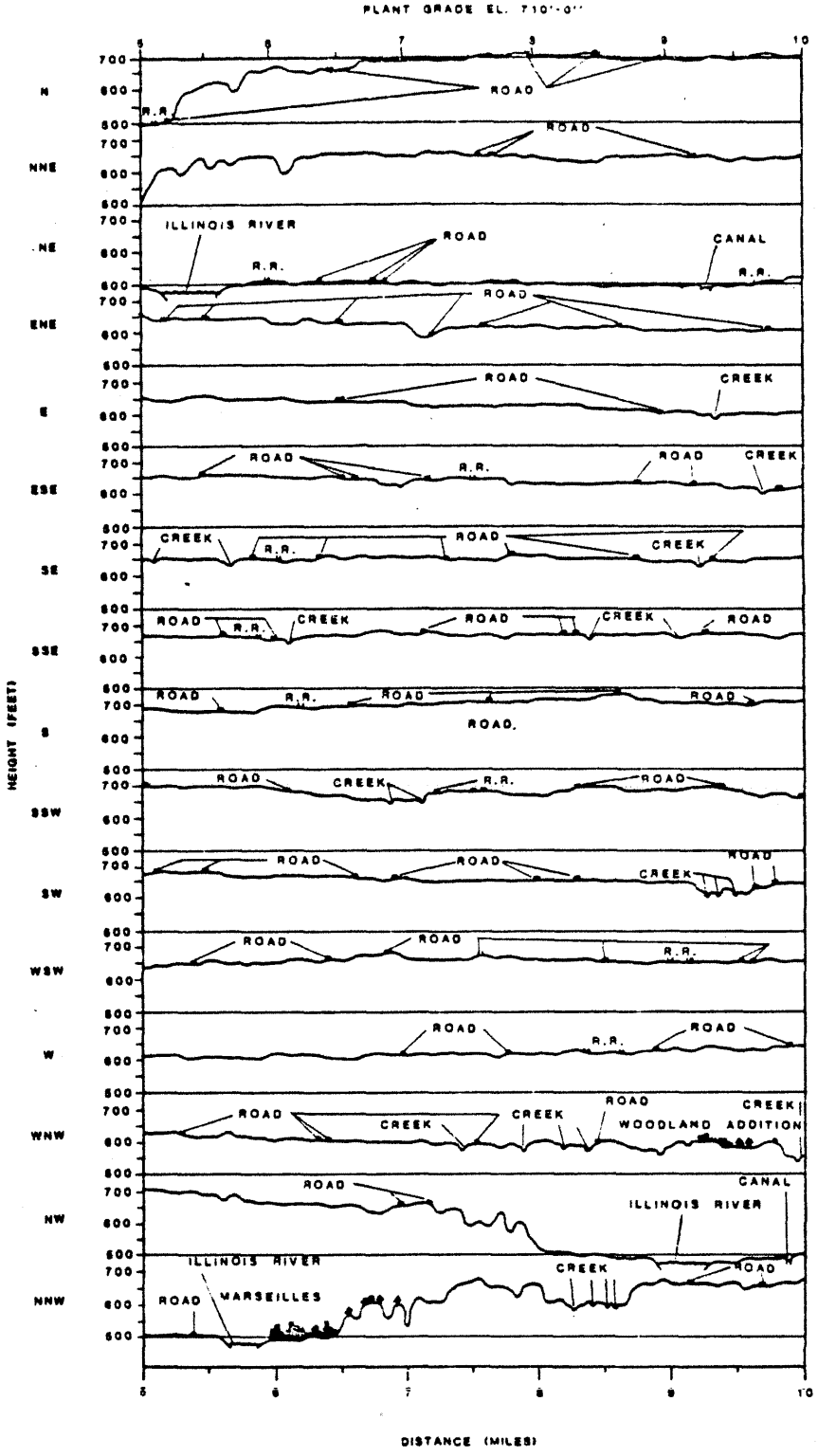
FIGURE 2.3-15

TOPOGRAPHIC PROFILES OF THE AREA 0 TO 5 MILES FROM THE LA SALLE COUNTY STATION

REV. 0 - APRIL 1984



LA SALLE COUNTY STATION
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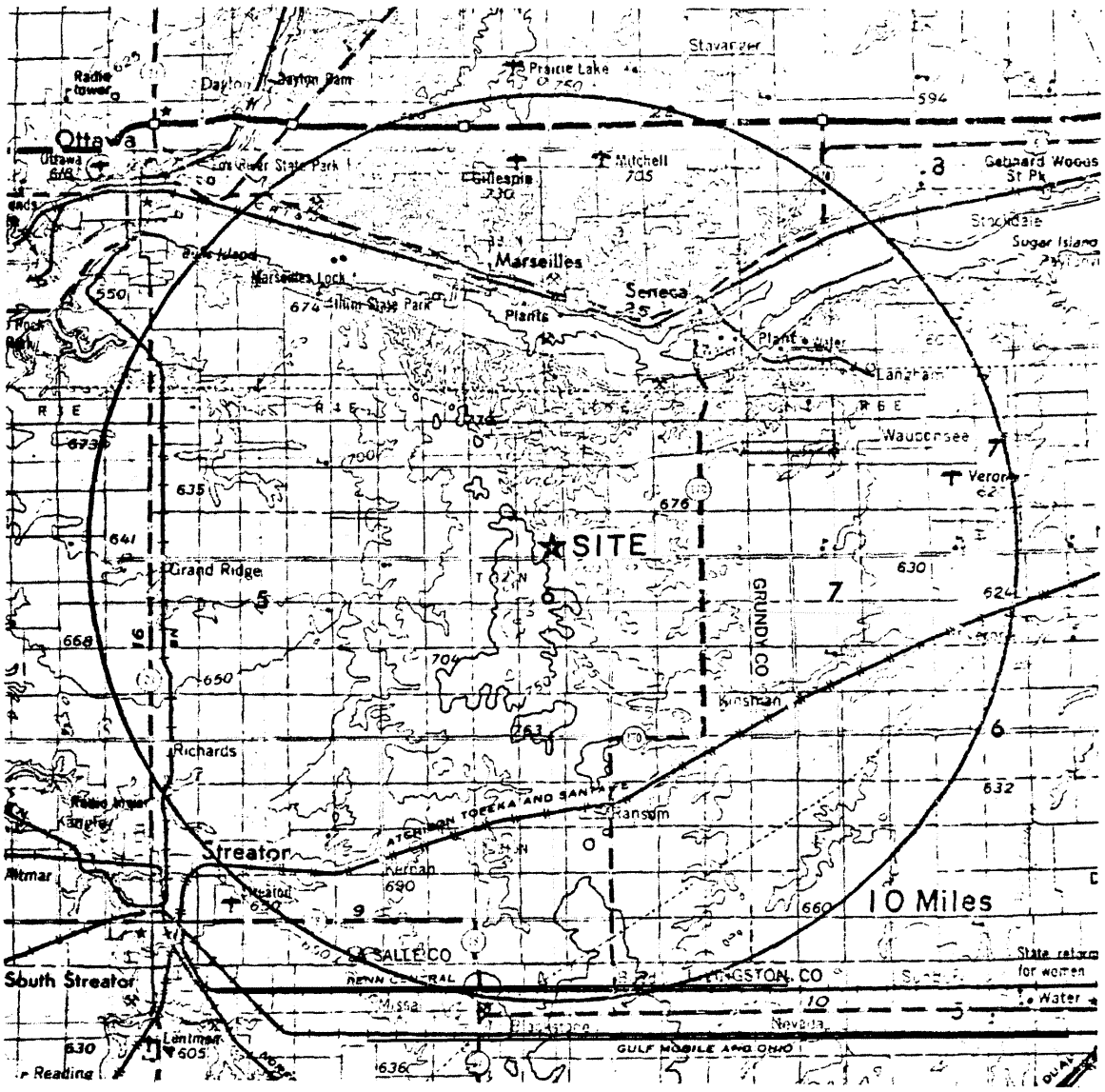
FIGURE 2.3-16

TOPOGRAPHIC PROFILES OF THE AREA 5 TO 10 MILES FROM THE LA SALLE COUNTY STATION

REV. 0 - APRIL 1984



LA SALLE COUNTY STATION
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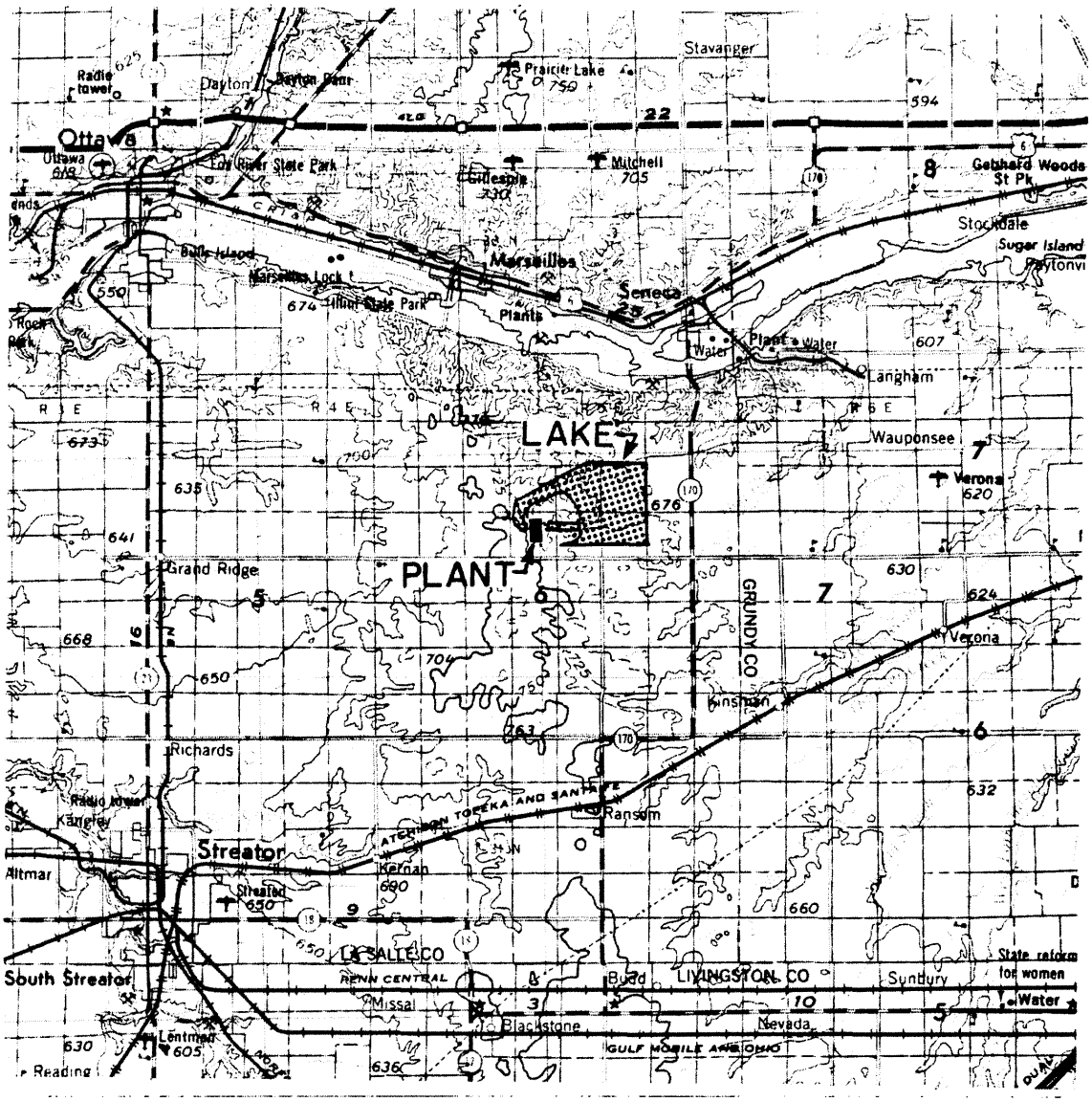
FIGURE 2.3-17

TOPOGRAPHIC FEATURES WITHIN A 10-MILE RADIUS OF THE LA SALLE COUNTY STATION
REV. 0 - APRIL 1984



LA SALLE COUNTY STATION
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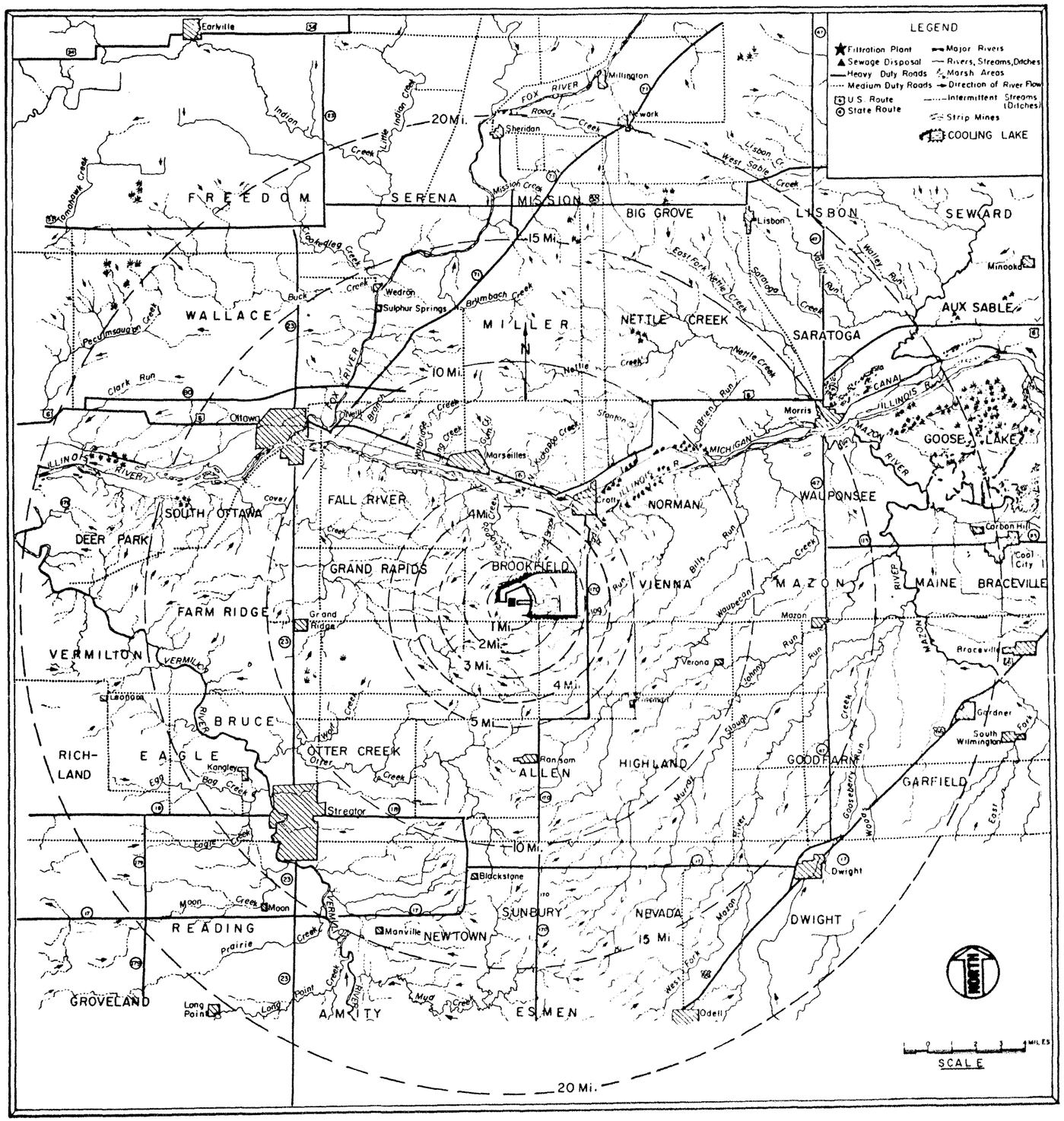
FIGURE 2.4-1

SITE LOCATION PLAN

REV. 0 - APRIL 1984



LA SALLE COUNTY STATION
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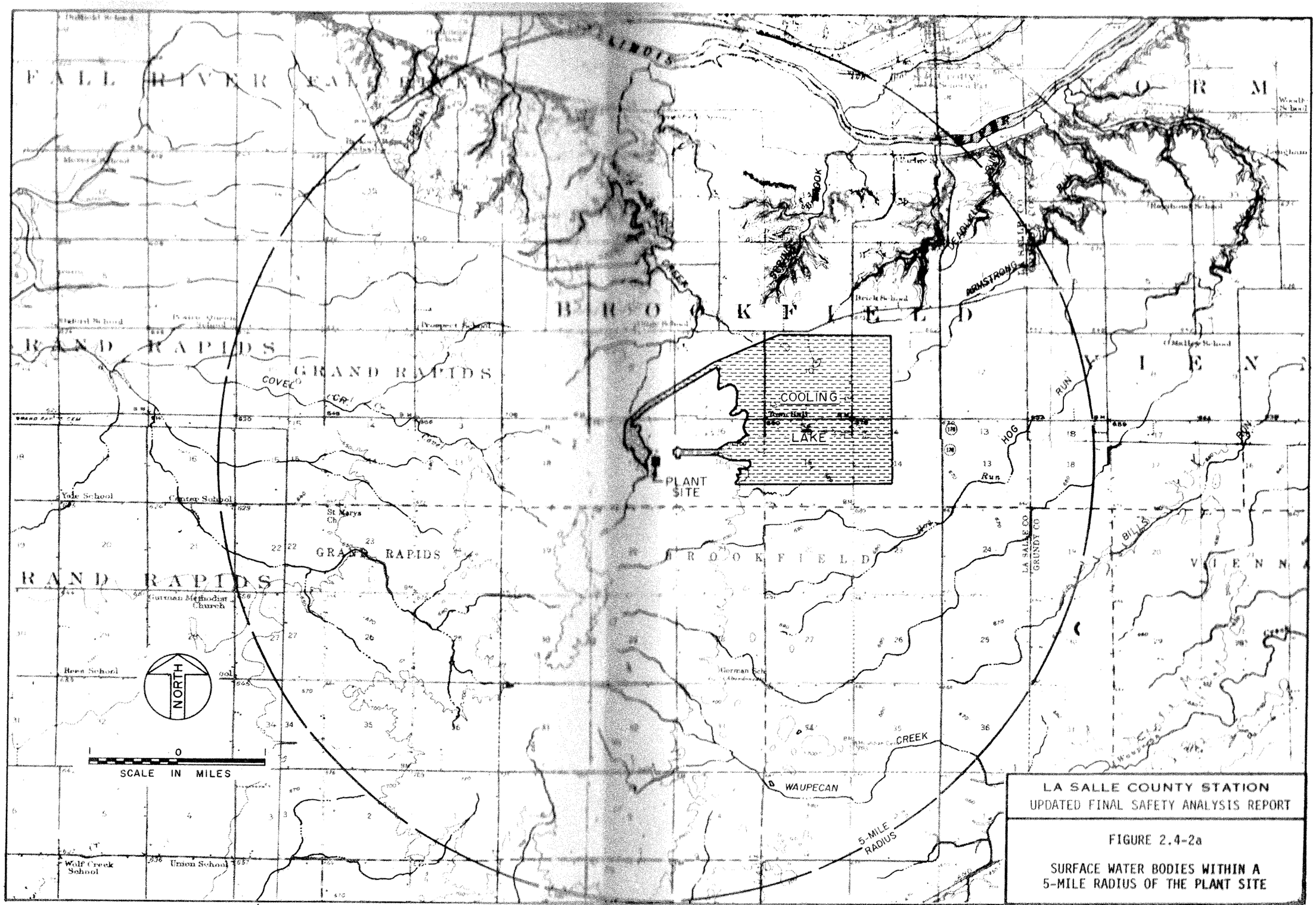
FIGURE 2.4-2

HYDROSPHERE

REV. 0 - APRIL 1984



LA SALLE COUNTY STATION
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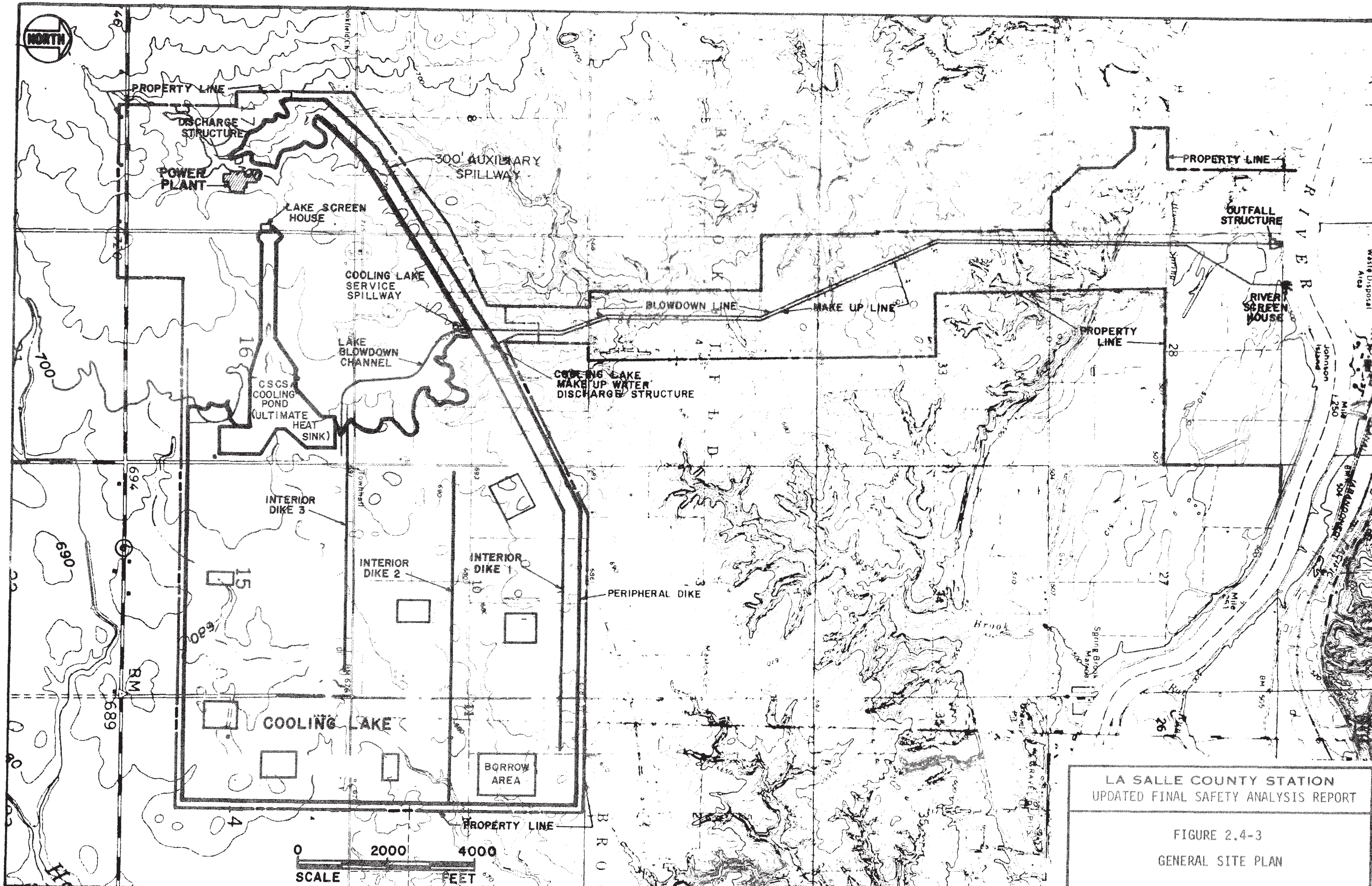
FIGURE 2.4-2a

SURFACE WATER BODIES WITHIN A
5-MILE RADIUS OF THE PLANT SITE

REV. 0 - APRIL 1984



LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-3

GENERAL SITE PLAN

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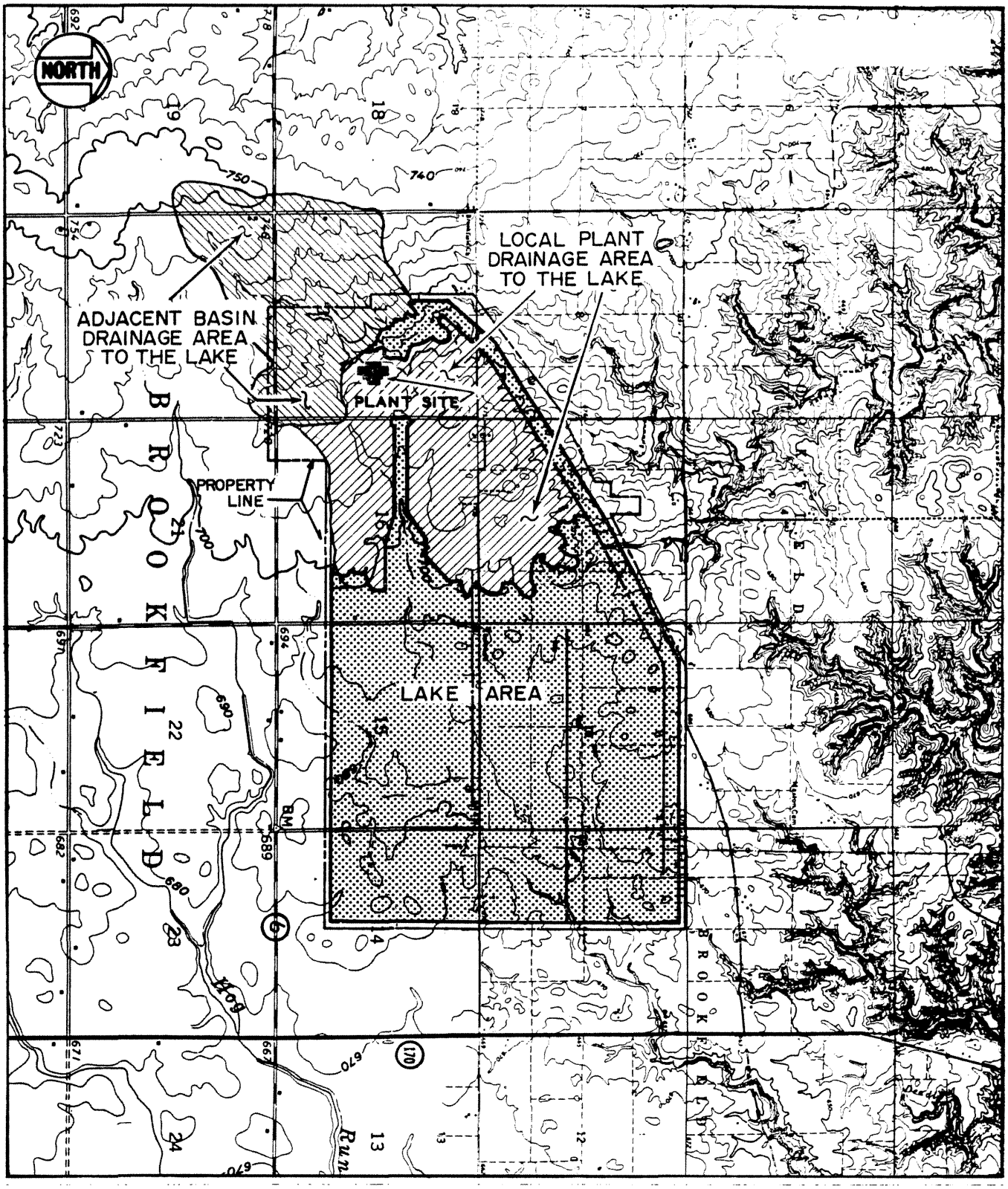
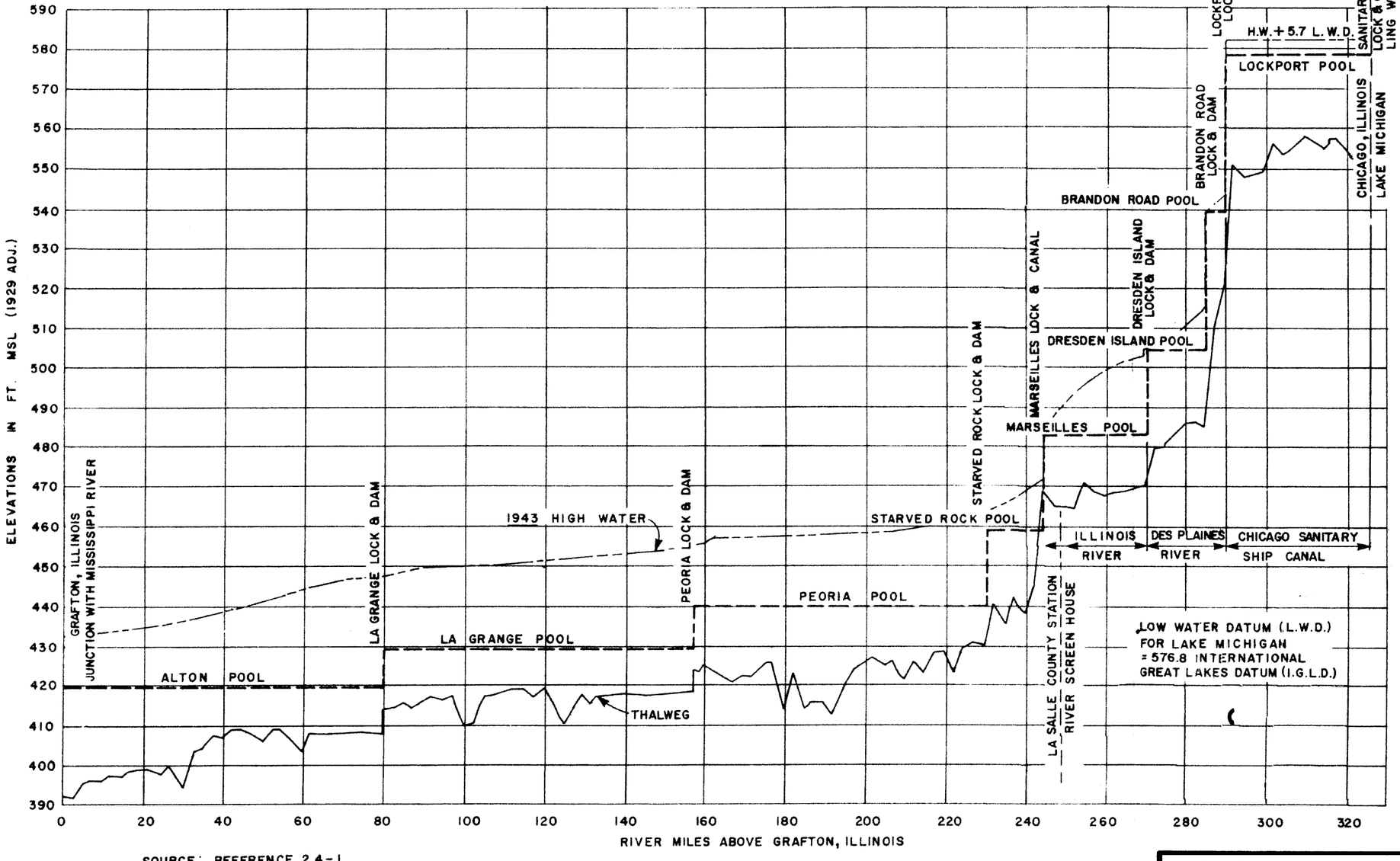


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-4

DRAINAGE AREA

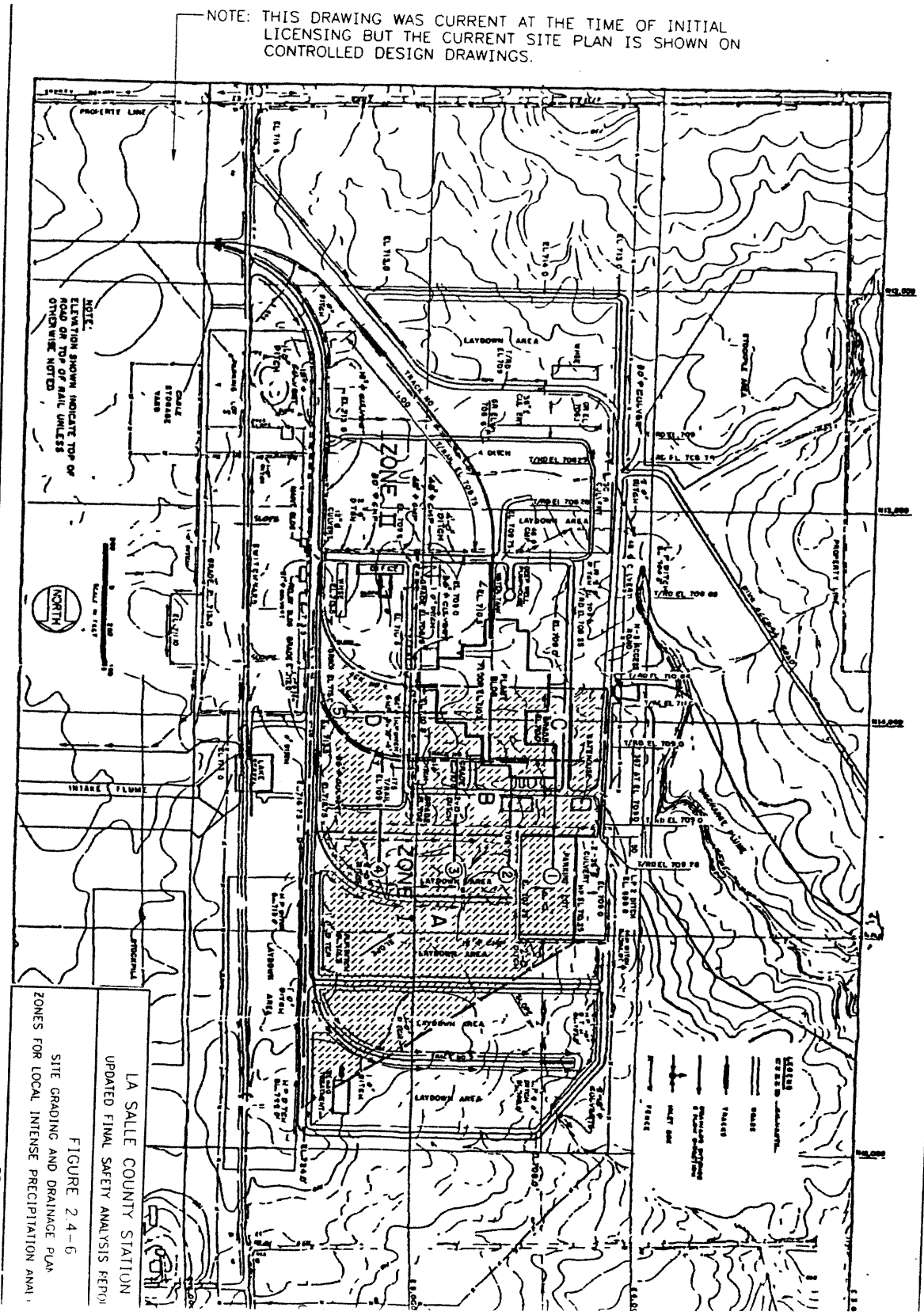


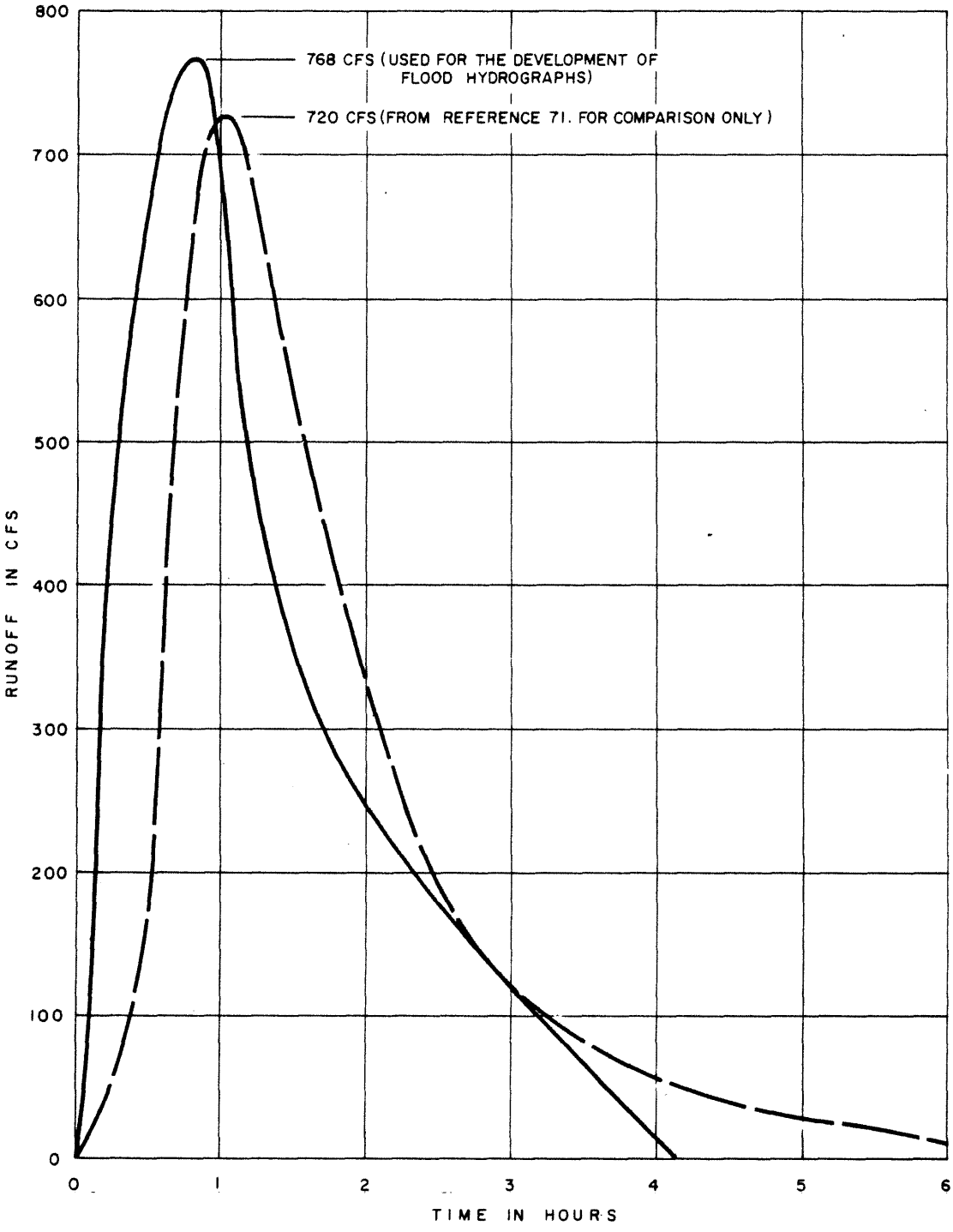
SOURCE: REFERENCE 2.4-1

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

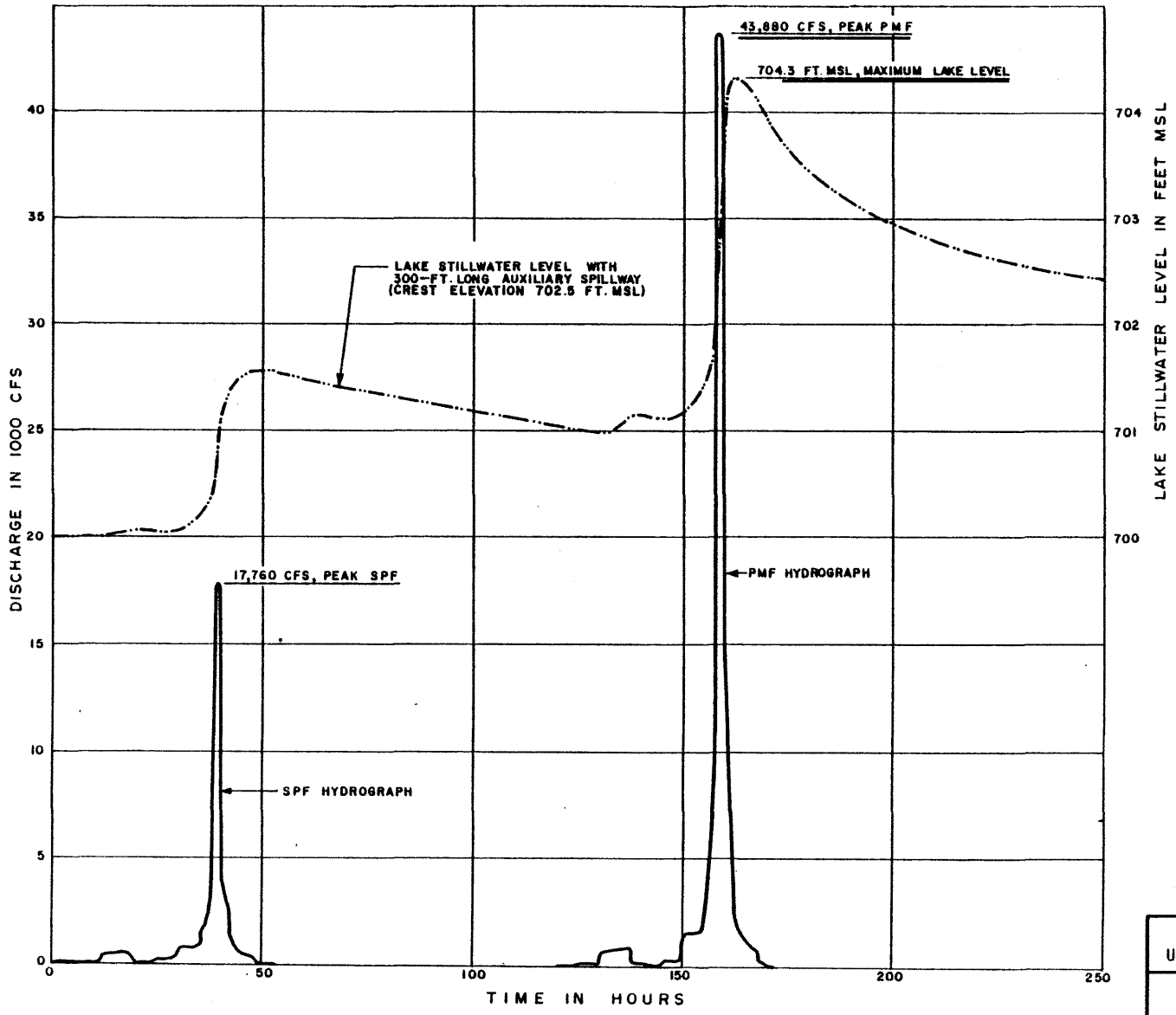
FIGURE 2.4-5

ILLINOIS WATERWAY PROFILE


NOTE: THIS DRAWING WAS CURRENT AT THE TIME OF INITIAL LICENSING BUT THE CURRENT SITE PLAN IS SHOWN ON CONTROLLED DESIGN DRAWINGS.
ZONE I
ZONE II
ZONE III
ZONE IV
ZONE V
NORTH
INTAKE FLUME
LAYDOWN AREA
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.4-6
SITE GRADING AND DRAINAGE PLAN
ZONES FOR LOCAL INTENSE PRECIPITATION ANALYSIS
REV. 4 APRIL 19



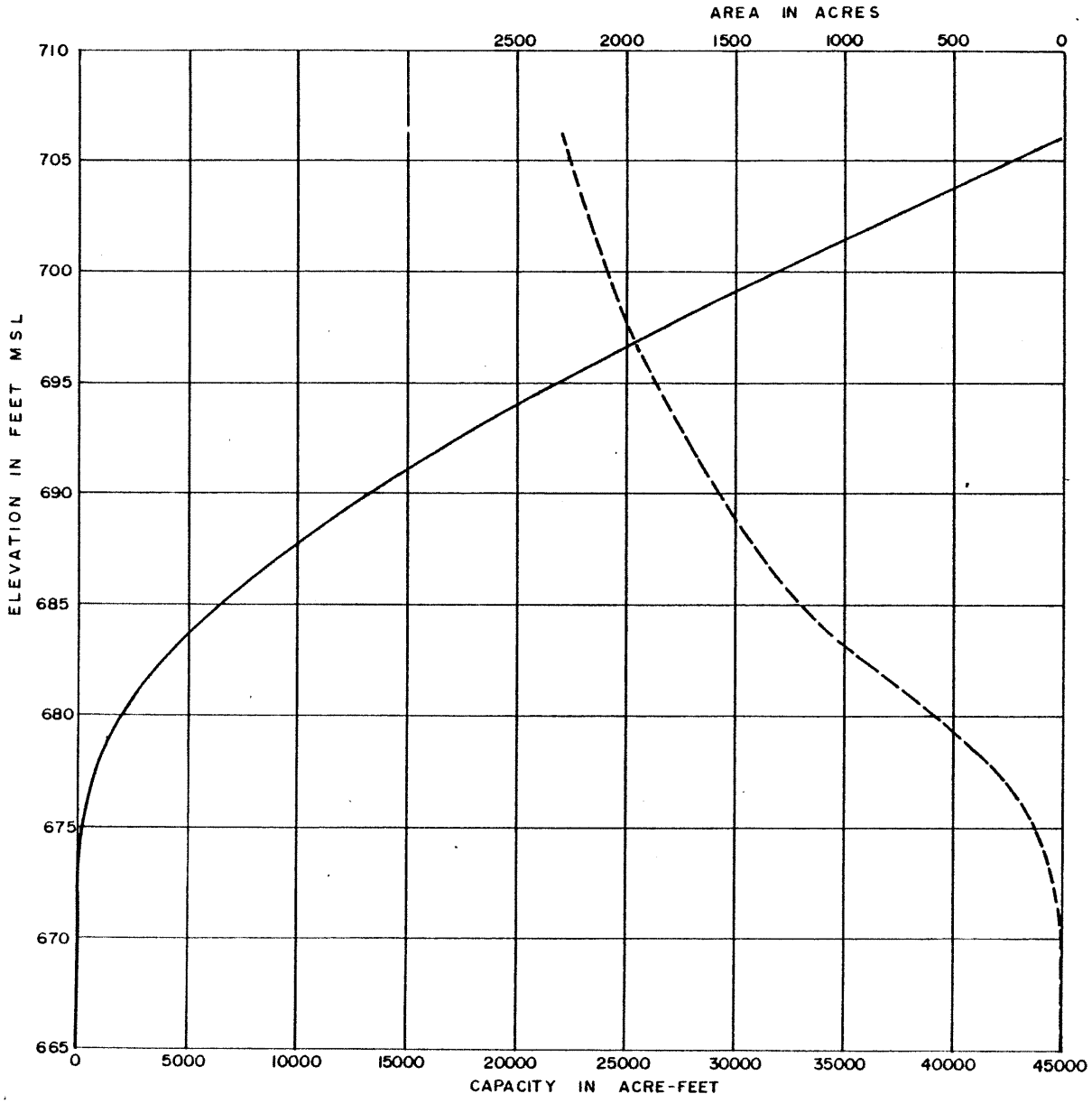
LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.4-7 15-MINUTE UNIT HYDROGRAPHS



LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-8

HYDROGRAPH OF PMF WITH ANTECEDENT SPF AND VARIATION OF LAKE LEVEL WITH TIME



ELEVATION (FEET MSL)	AREA (ACRES)	CAPACITY (ACRE-FEET)
670	15	20
680	572	1883
690	1537	13211
700	2058	31706
702	2162	35926
703	2195	38104
704	2248	40332
706	2295	44875

LEGEND

——— CAPACITY

– – – – – AREA

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-9

AREA AND CAPACITY OF LAKE

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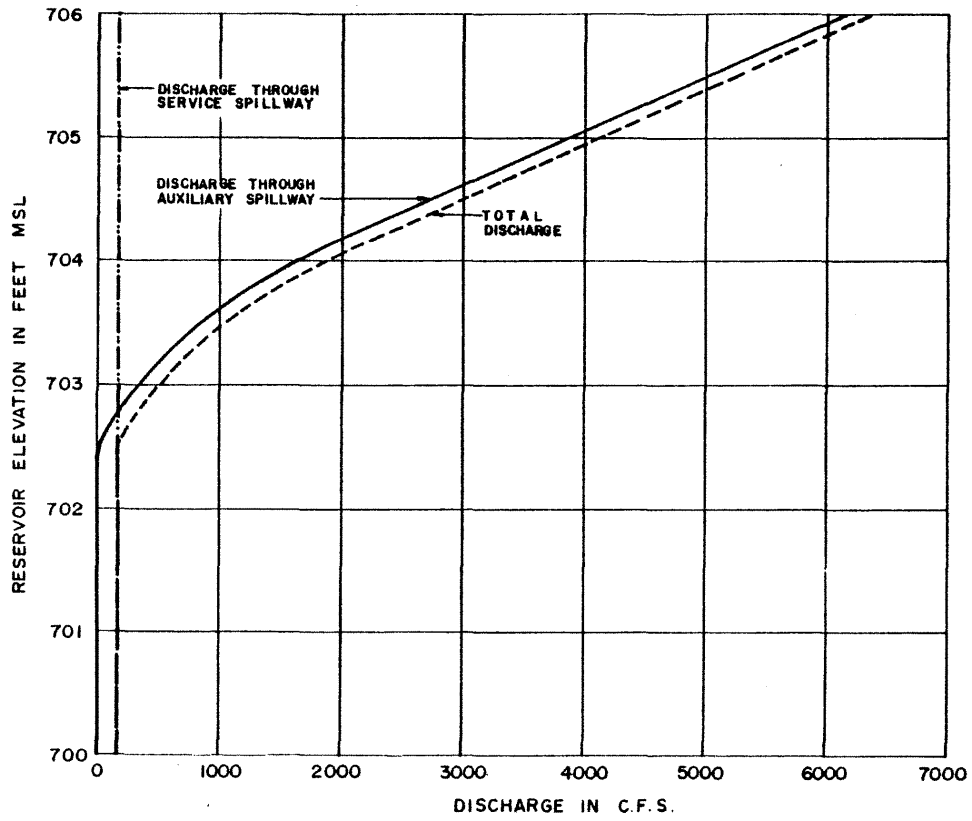

ELEVATION (FEET MSL)	RATE OF FLOW IN CFS		
	THROUGH AUXILIARY SPILLWAY	THROUGH SERVICE SPILLWAY	TOTAL
700.0	0	180	180
701.0	0	180	180
702.0	0	180	180
702.5	0	180	180
703.0	314	182	496
704.0	1667	182	1849
706.0	6175	183	6358

LA SALLE COUNTY STATION
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FIGURE 2.4-10

OUTFLOW RATING

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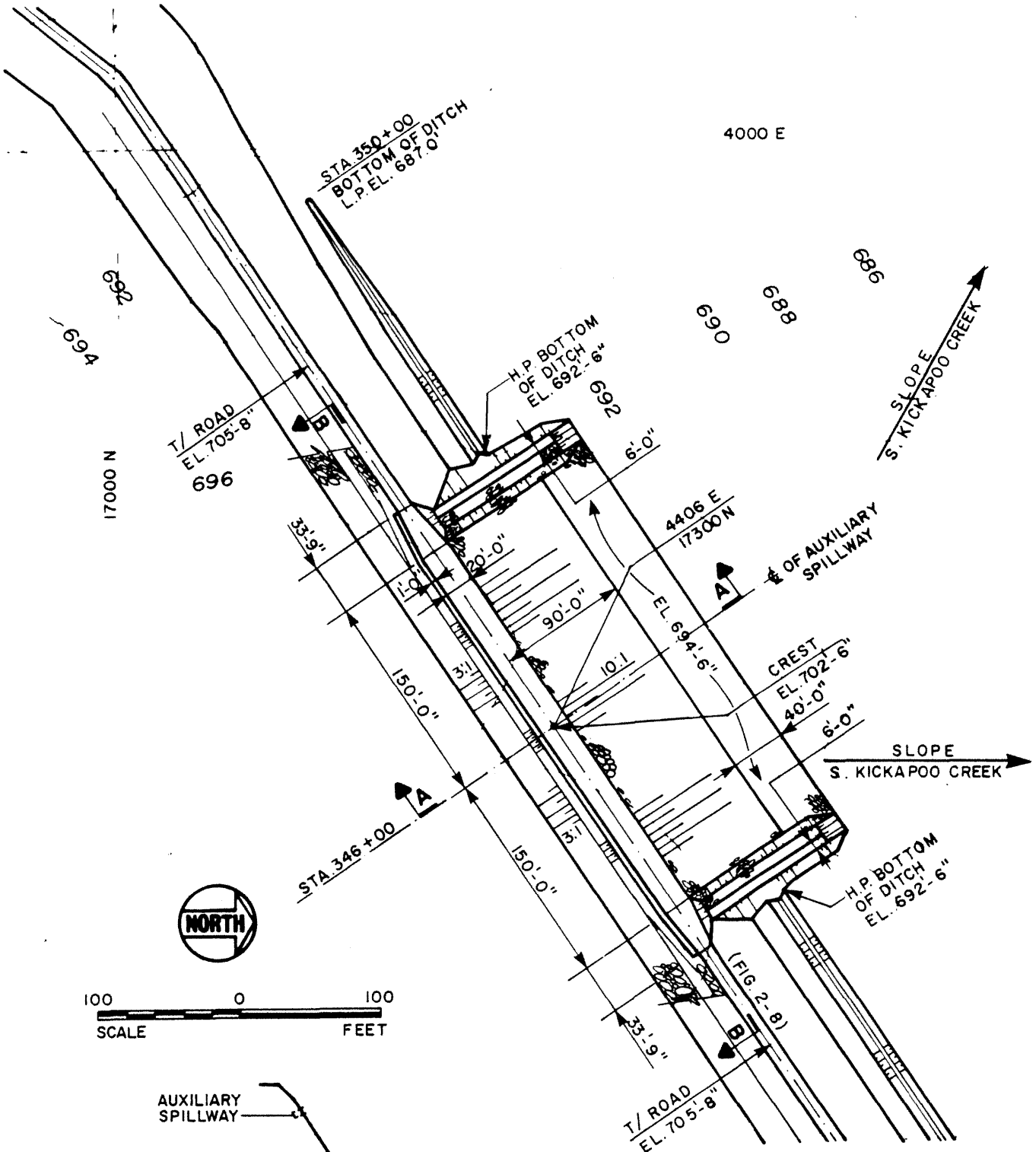

LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.4-11 PLAN OF AUXILIARY SPILLWAY

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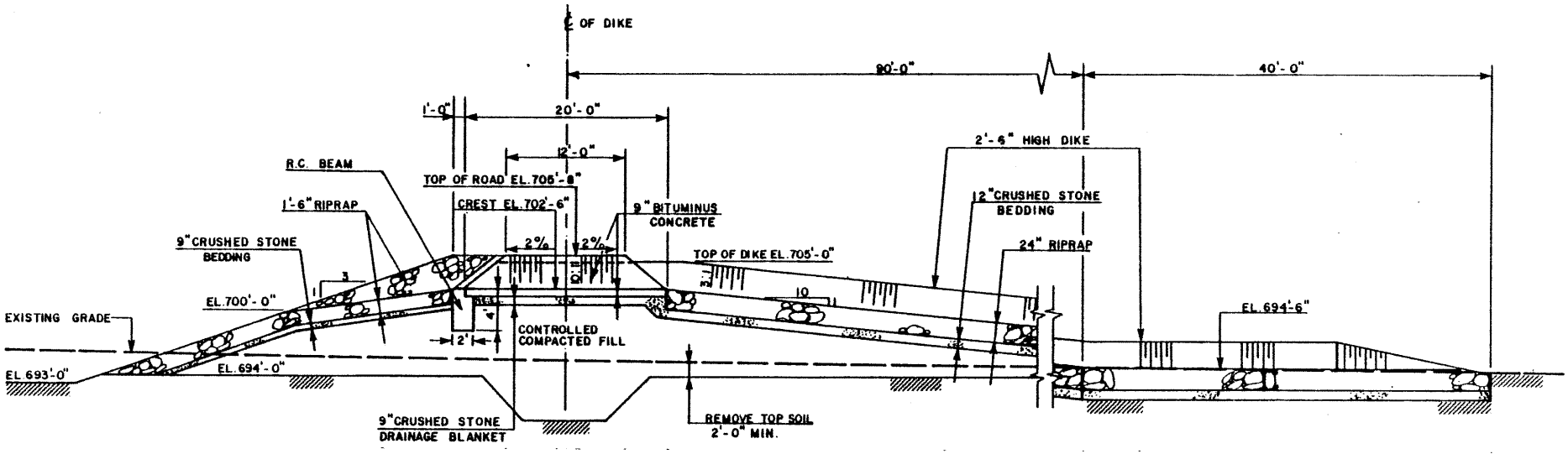


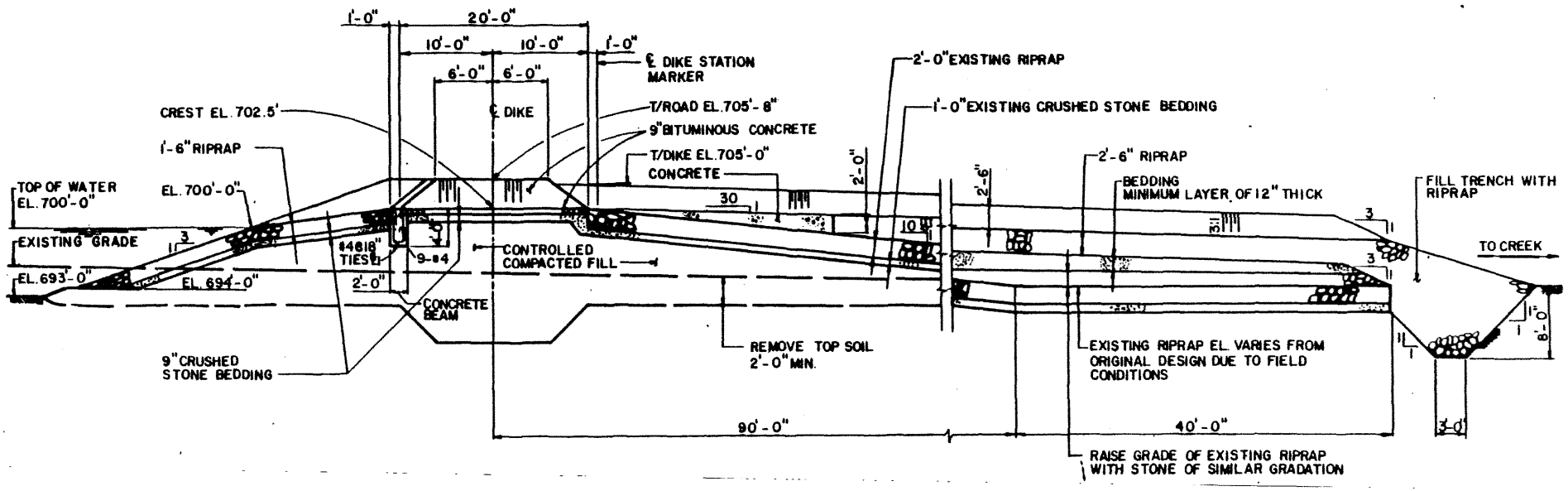
SECTION A-A

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-12

CENTERLINE SECTION OF AUXILIARY SPILLWAY

REV. 0 - APRIL 1984



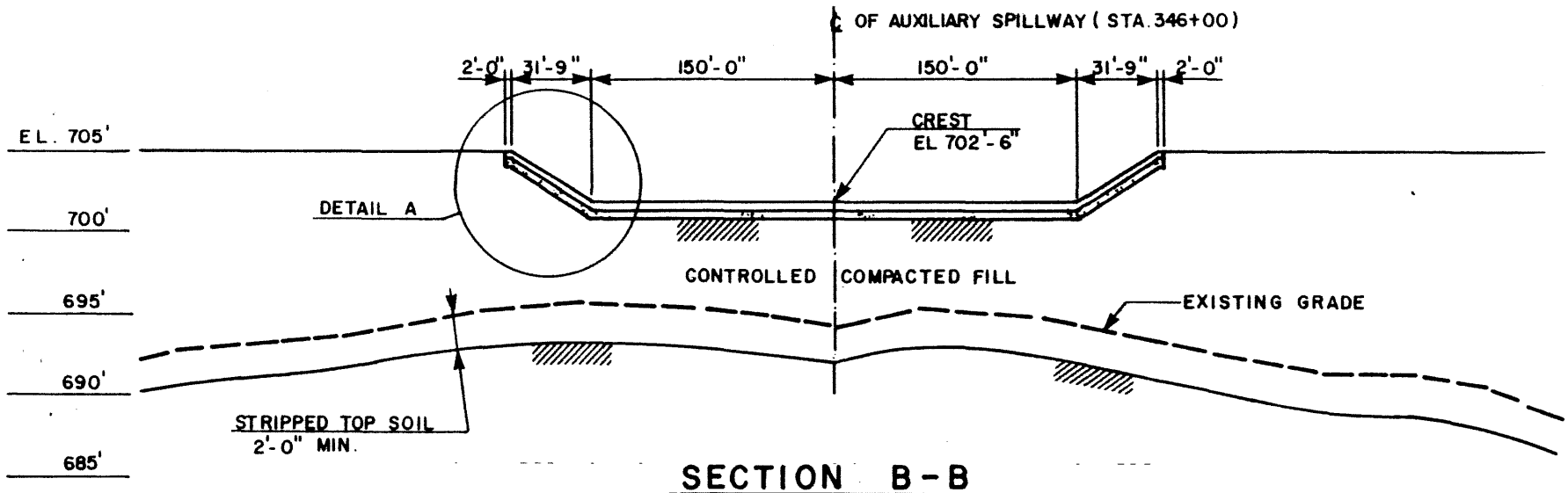
SECTION A-A

10 8 6 4 2 0 10 20

SCALE IN FEET

LA SALLE COUNTY STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.4-12a CENTERLINE SECTION OF AUXILIARY SPILLWAY (MODIFIED)

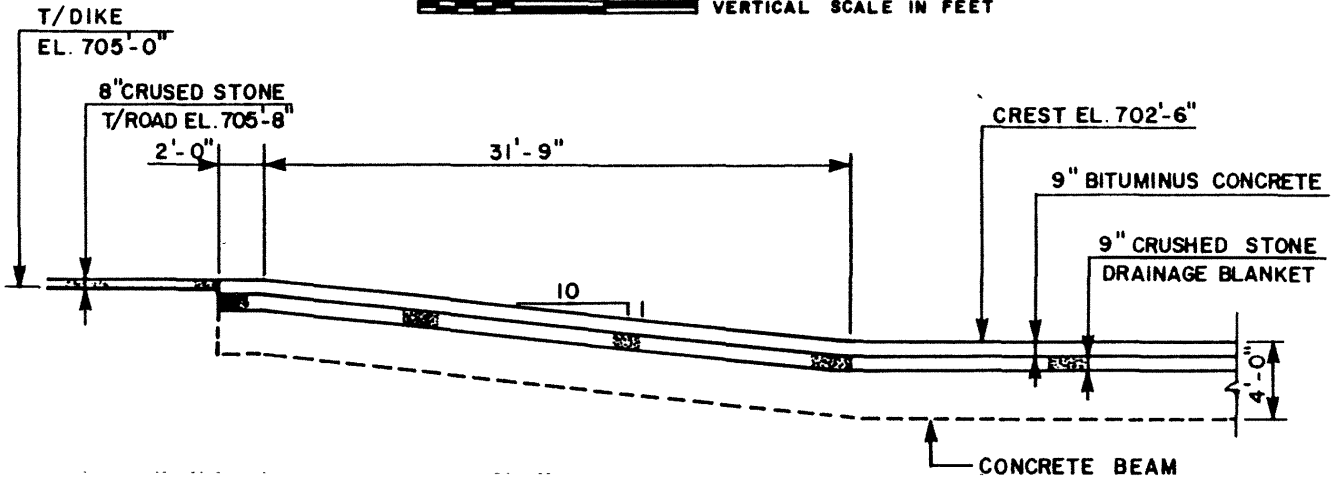
REV. 0 - APRIL 1984



SECTION B-B

50 0 50 100 HORIZONTAL SCALE IN FEET

5 0 5 10 VERTICAL SCALE IN FEET



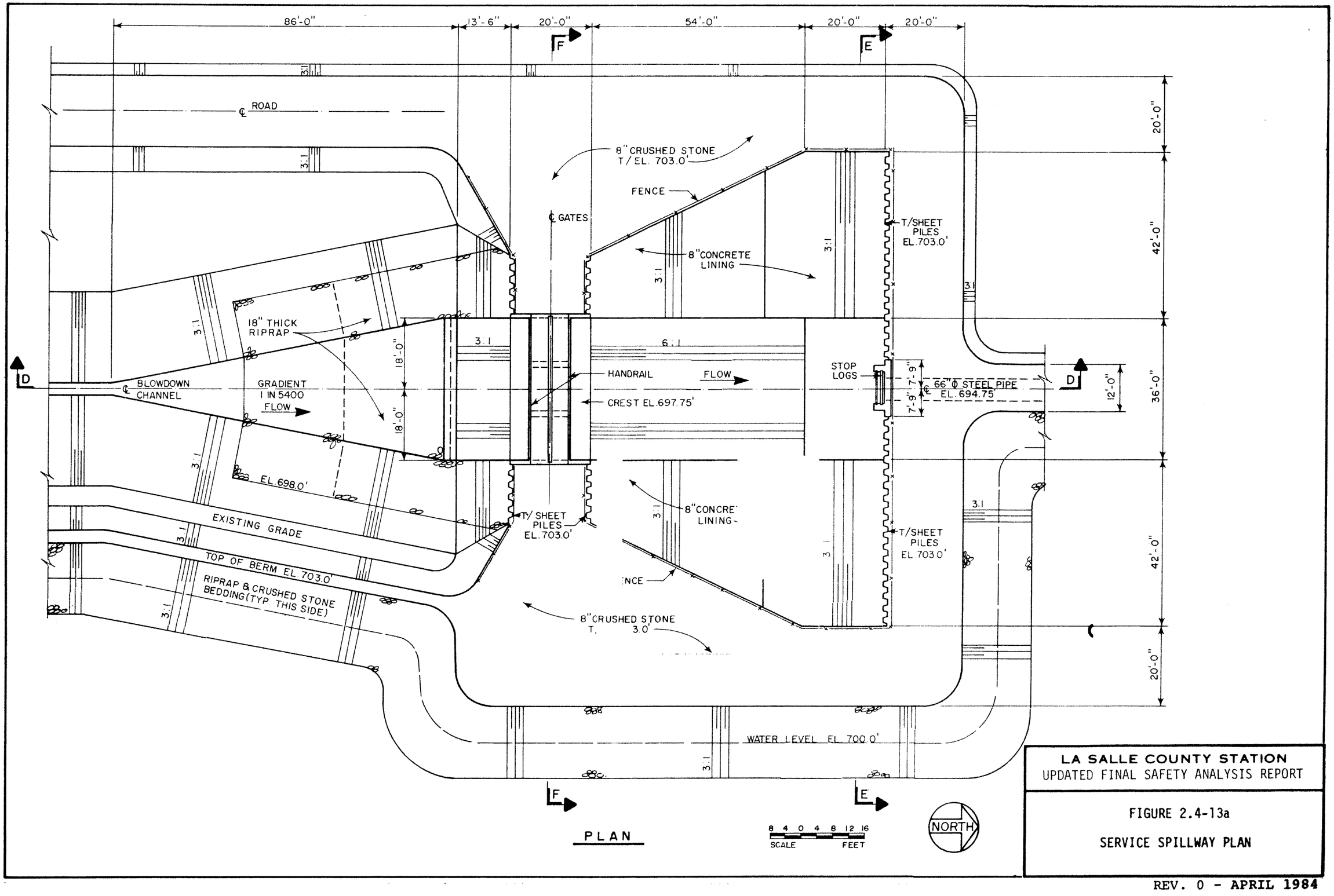
DETAIL A

5 0 5 10 SCALE IN FEET

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-13
LONGITUDINAL SECTION OF
AUXILIARY SPILLWAY

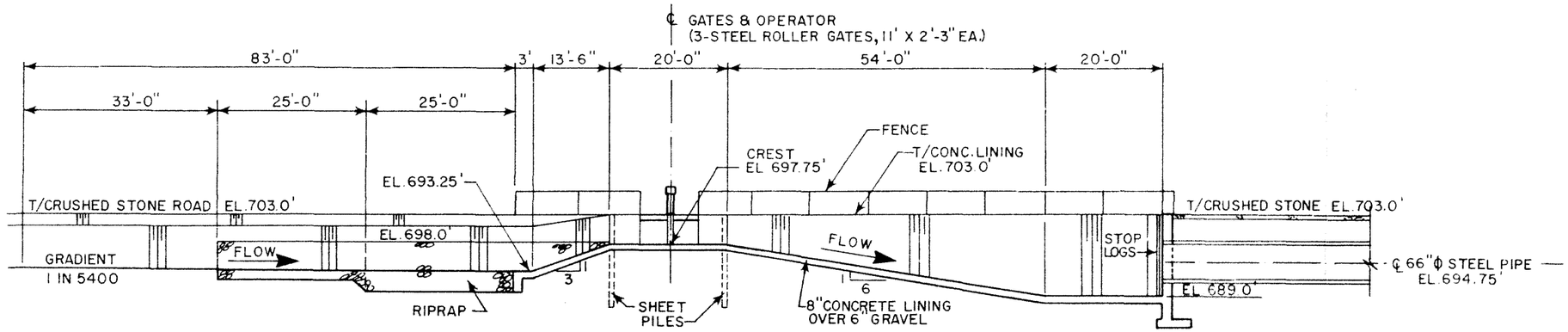
REV. 0 - APRIL 1984



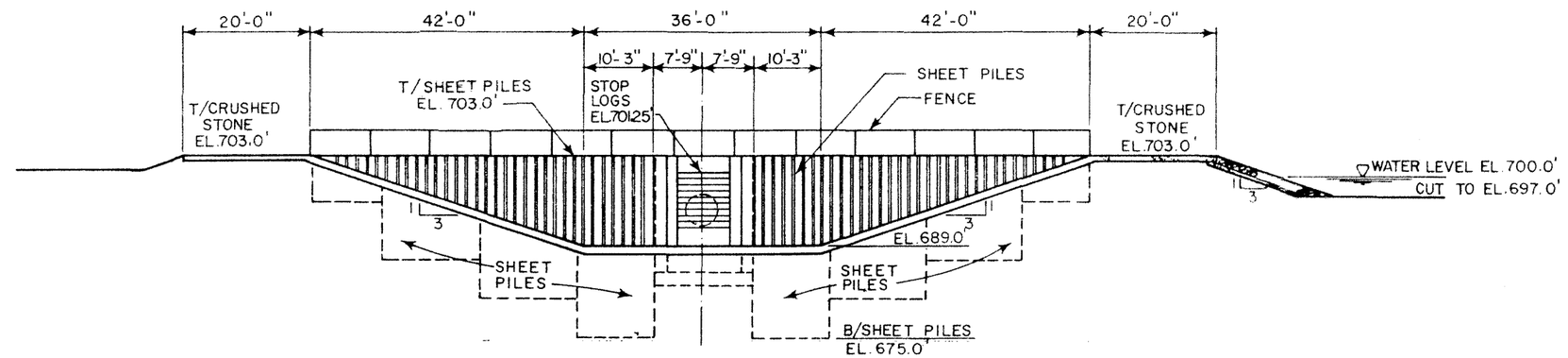
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-13a

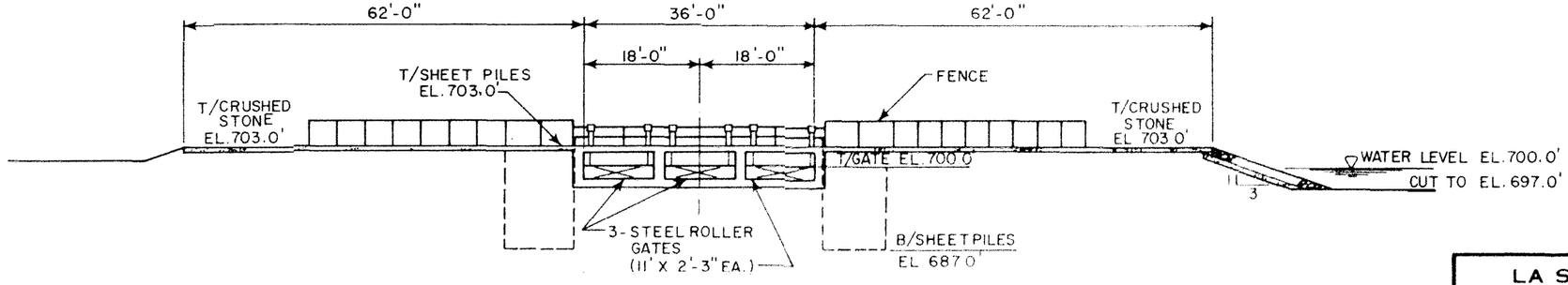
SERVICE SPILLWAY PLAN



SECTION D-D



SECTION E-E



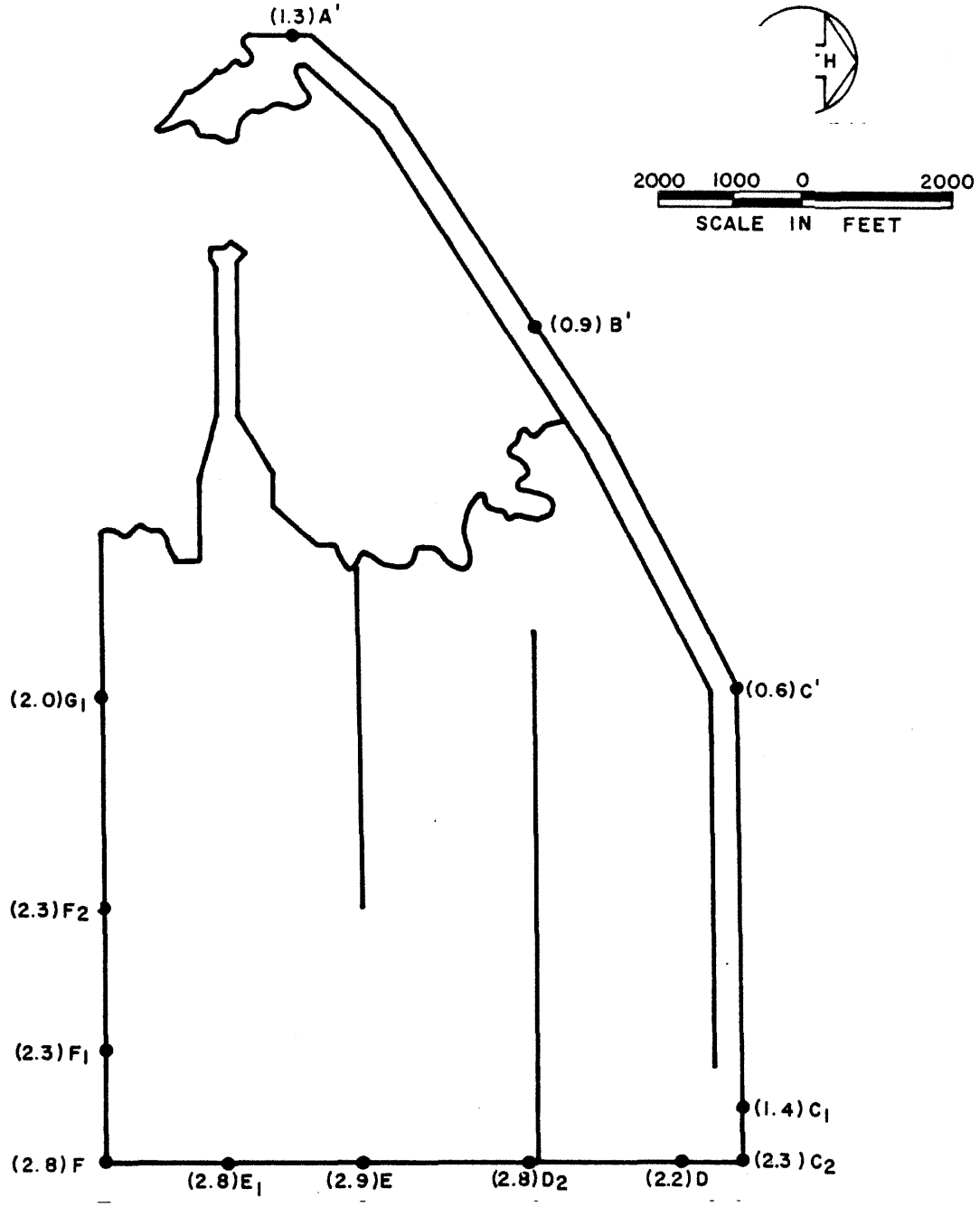
SECTION F-F

8 4 0 4 8 12 16
SCALE FEET

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-13b

SERVICE SPILLWAY SECTIONS

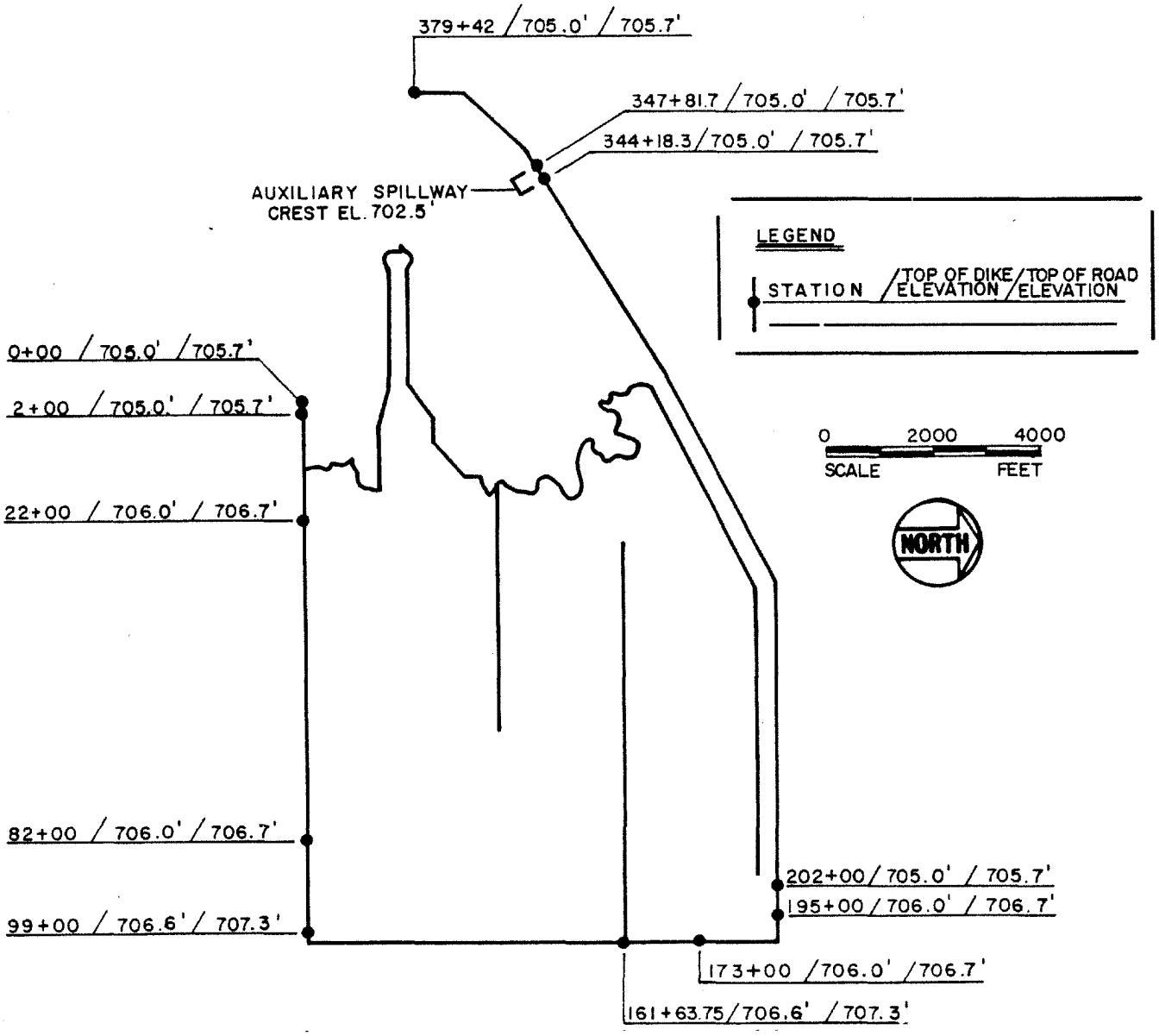


( ) FREEBOARD REQUIRED IN FEET FOR 40 MPH SUSTAINED OVERLAND WINDS IN MOST CRITICAL DIRECTION

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-14

FREEBOARD REQUIREMENTS



LA SALLE COUNTY STATION
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FIGURE 2.4-15

TOP-OF-DIKE AND TOP-OF-ROAD ELEVATIONS

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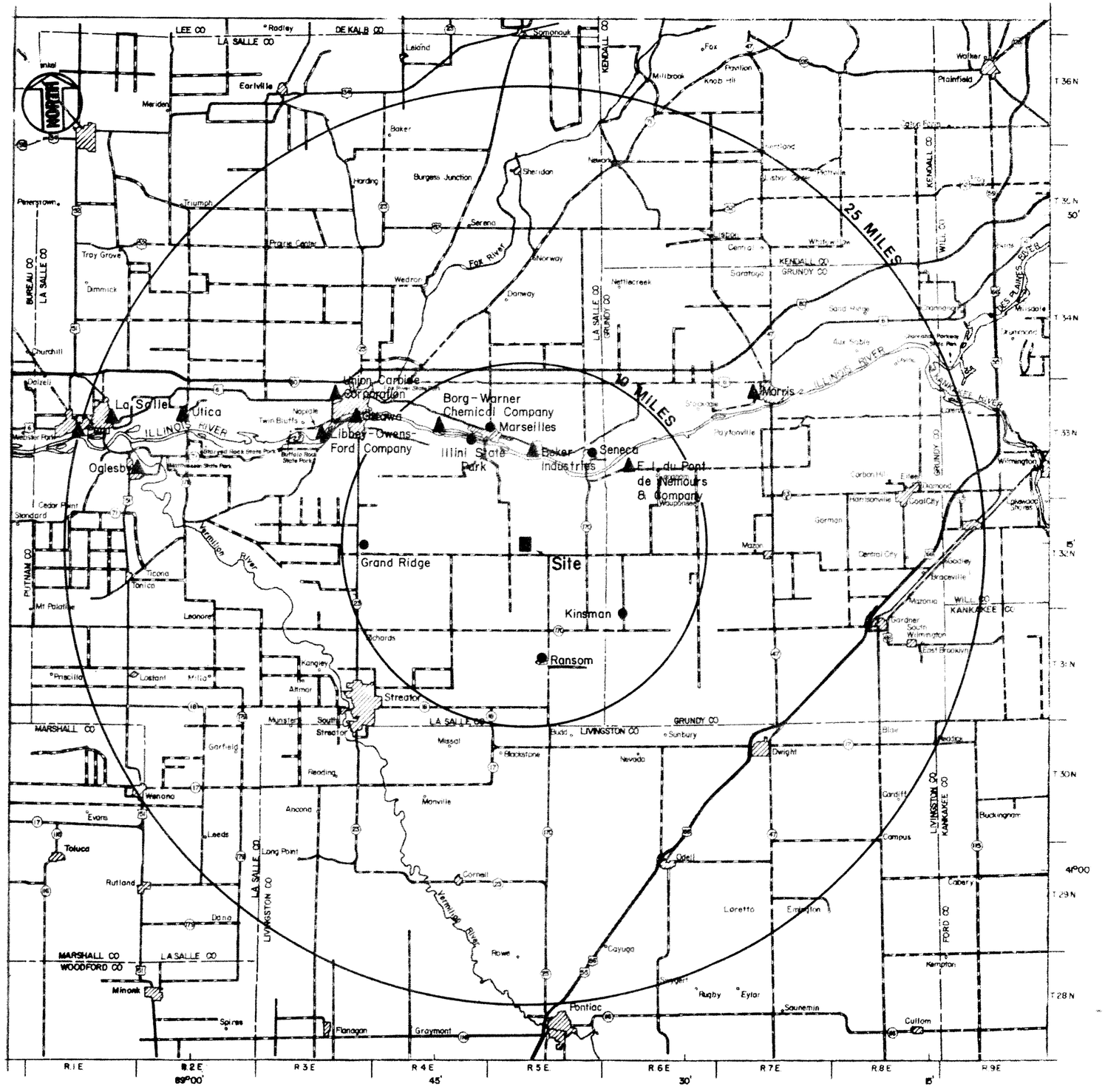


LEGEND

- ● Public ground water supply within 10 miles
- ▲ Major municipal or industrial pumping center

NOTES

1. Data for public ground water supplies within 10 miles are presented in Table 2.4-14.
2. Data for major municipal and industrial pumping centers within the regional area are presented in Table 2.4-13.
3. Base map modified from USGS, 1:250,000 series (topographic), Aurora, Illinois (NK16-7), 1958, and Peoria, Illinois (NK 16-10), 1958 (limited revision 1968).

5 0 5
Scale in Miles

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-16

MUNICIPAL AND INDUSTRIAL GROUNDWATER USE WITHIN 25 MILES

REV. 0 - APRIL 1984

SYSTEM	SERIES	GROUP OR FORMATION	HYDROGEOLOGIC UNIT		DESCRIPTION	HYDROGEOLOGIC CHARACTERISTICS
QUARTERNARY	Pleistocene	Richland Loess	Glacial Drift Aquitard		Silty clay or clayey silt	Ground water occurs predominantly in thin sand and gravel pockets within the glacial drift. Yields are quite variable and typically low, suitable only for domestic and farm purposes. Wells or cisterns that intersect the more permeable zones may exhibit high, short-term yields. The glacial drift aquitard locally overlies the buried bedrock valley aquifers.
		Wedron Formation			Silty clay or clayey silt with interspersed sand and gravel, some thin sand and gravel pockets	
			Buried Bedrock Valley Aquifers		Sand and gravel, some silt	The buried bedrock valley aquifers consist of sand and gravel deposited in channels cut into the underlying Pennsylvanian strata. Ground water occurs under water table conditions. Where the glaciofluvial deposits are clean and well-sorted, yields of 100 gpm or more can be sustained.
PENNSYLVANIAN	Missourian	Modesto Formation	Pennsylvanian Aquitard		Principally shale, with some interbedded under-clay, sandstone, lime-stone, and coal	Ground water occurs primarily in thin sandstone beds and occasionally in joints in thin limestone beds. Ground water occurs under leaky artesian conditions. The high proportion of shales make the Pennsylvanian strata generally unfavorable as aquifers. Yields are low and are suitable only for domestic and farm purposes.
	Desmoinesian	Carbondale Formation				
		Spoon Formation				
	Atokan	Abott Formation				
ORDOVICIAN	Champlainian	Galena Group	Galena-Platteville dolomites	Cambrian-Ordovician Aquifer	Dolomite and limestone, locally cherty, sandy at base, shale partings	Ground water occurs under leaky artesian conditions in the sandstones and in joints in the dolomites. Yields are variable and depend upon which units are open to the well. In terms of the total yield of a well penetrating the entire thickness of the Cambrian-Ordovician Aquifer, the Glenwood-St. Peter sandstone supplies about 15 percent, the Prairie du Chien, Eminence, Potosi, and Franconia dolomites collectively supply about 35 percent, and the Ironton-Galesville sandstone supplies about 50 percent.
		Platteville Group				
		Ancell Group	Glenwood-St. Peter sandstone		Sandstone, shale at top, little dolomite, locally cherty at base	
	Canadian	Prairie du Chien Group	Prairie du Chien, Eminence, Potosi, and Franconia dolomites		Sandy dolomite, dolomitic sandstone, cherty at top, inter-bedded shale in lower part	
CAMBRIAN	Croixan	Eminence Formation				
		Potosi Dolomite				
		Franconia Formation				
		Ironton Sandstone	Ironton-Galesville sandstone		Sandstone, upper part dolomite	
		Galesville Sandstone				
		Eau Claire Formation	Eau Claire Aquitard (upper and middle beds)		Shales, dolomites, and shaly dolomitic sandstone	Insignificant amounts of ground water may occur in joints. These beds act as a confining layer between the Cambrian-Ordovician Aquifer and the Mt. Simon Aquifer.
		Mt. Simon Sandstone	Mt. Simon Aquifer		Sandstone	Ground water occurs under leaky artesian conditions. Ground water in this aquifer is too highly mineralized for most purposes. Adequate supplies for municipal and industrial use are more easily obtained from shallower aquifers.

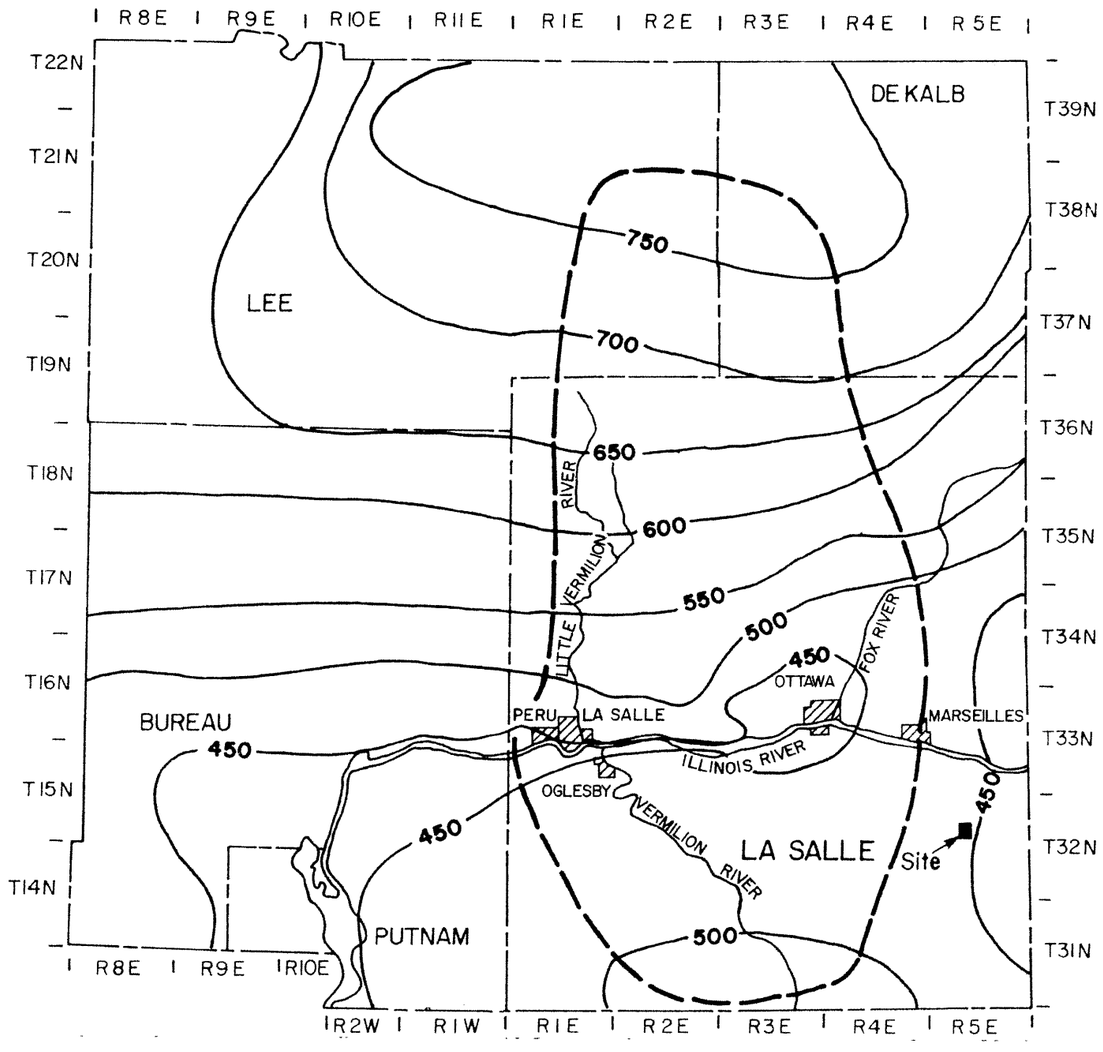
NOTE

1. Modified from Willman et al., 1975; Hoover and Schicht, 1967, p. 4; and Csallany, 1966, p. 4

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-17

SITE STRATIGRAPHIC UNITS AND THEIR HYDROGEOLOGIC CHARACTERISTICS



LEGEND

—450— Potentiometric surface contour, Cambrian - Ordovician Aquifer, Fall, 1963.

Boundary of area of diversion due to ground water withdrawals.

NOTES

1. Modified from Hoover and Schicht, 1967, p.16, **Figure 24.**
2. Contour interval is 50 feet.
3. Datum is mean sea level.
4. Elevation of Illinois River at Marseilles Dam is 483.25 feet MSL.
5. Ground water within the area of diversion flows toward pumping centers along the Illinois River.

NORTH

5 0 5 10
Scale in Miles

LA SALLE COUNTY STATION
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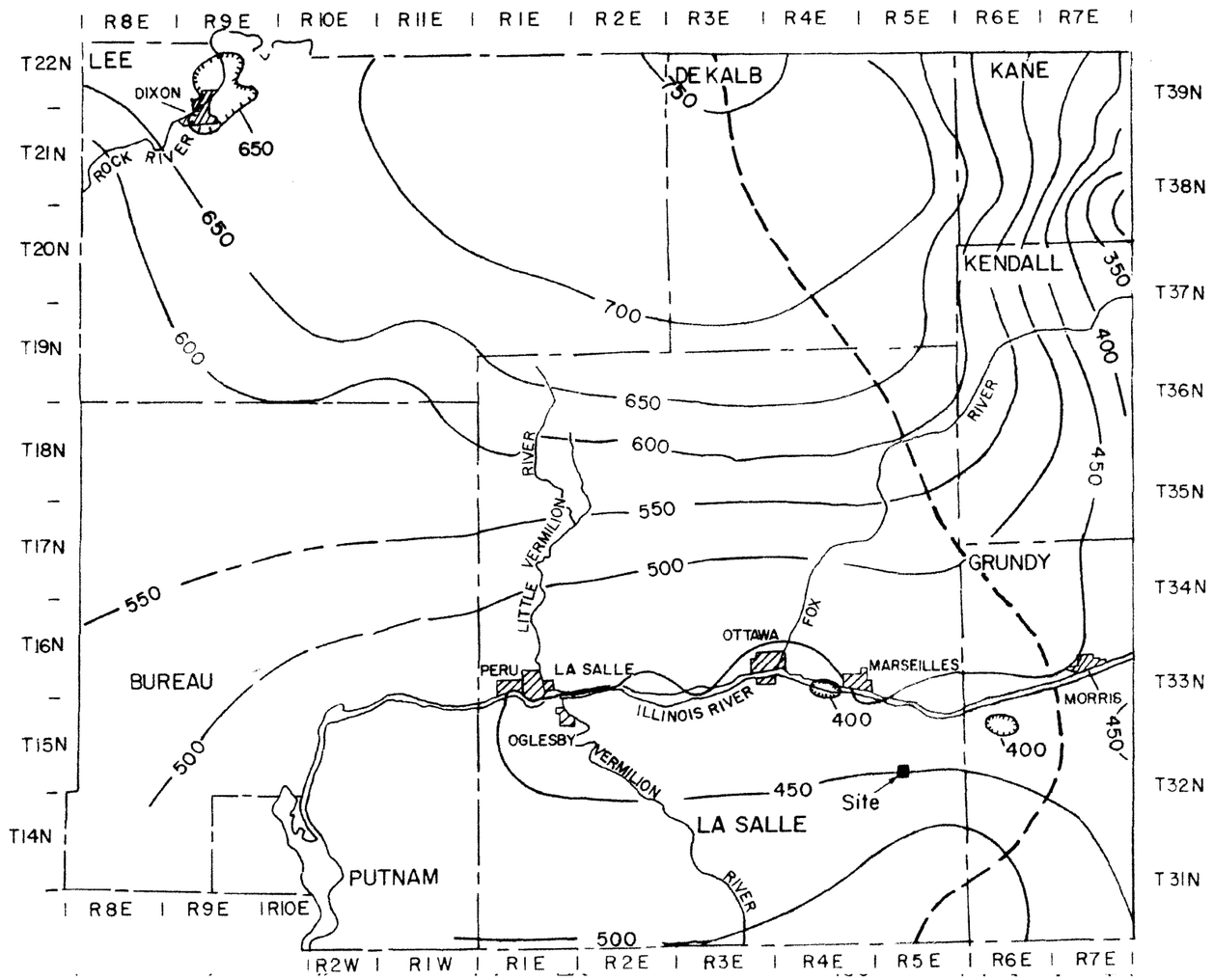
FIGURE 2.4-18

POTENTIOMETRIC SURFACE OF THE CAMBRIAN-ORDOVICIAN AQUIFER, FALL 1963

REV. 0 - APRIL 1984



LEGEND

—650— Potentiometric surface contour, Cambrian - Ordovician Aquifer, October, 1971

— — — Ground water divide

NOTES

1. Modified from Sasman et al., 1973, p. 21, Figure 10.
2. Contour interval is 50 feet.
3. Datum is mean sea level.
4. Elevation of Illinois River at Marseilles Dam is 483.25 feet MSL.
5. Ground water east of the ground water divide flows to the east-southeast toward large cones of depression developed in the greater metropolitan region around Chicago; west of the divide, ground water flows to the south, and locally to the north, toward pumping centers located along the Illinois River.

5 0 5 10
Scale in Miles

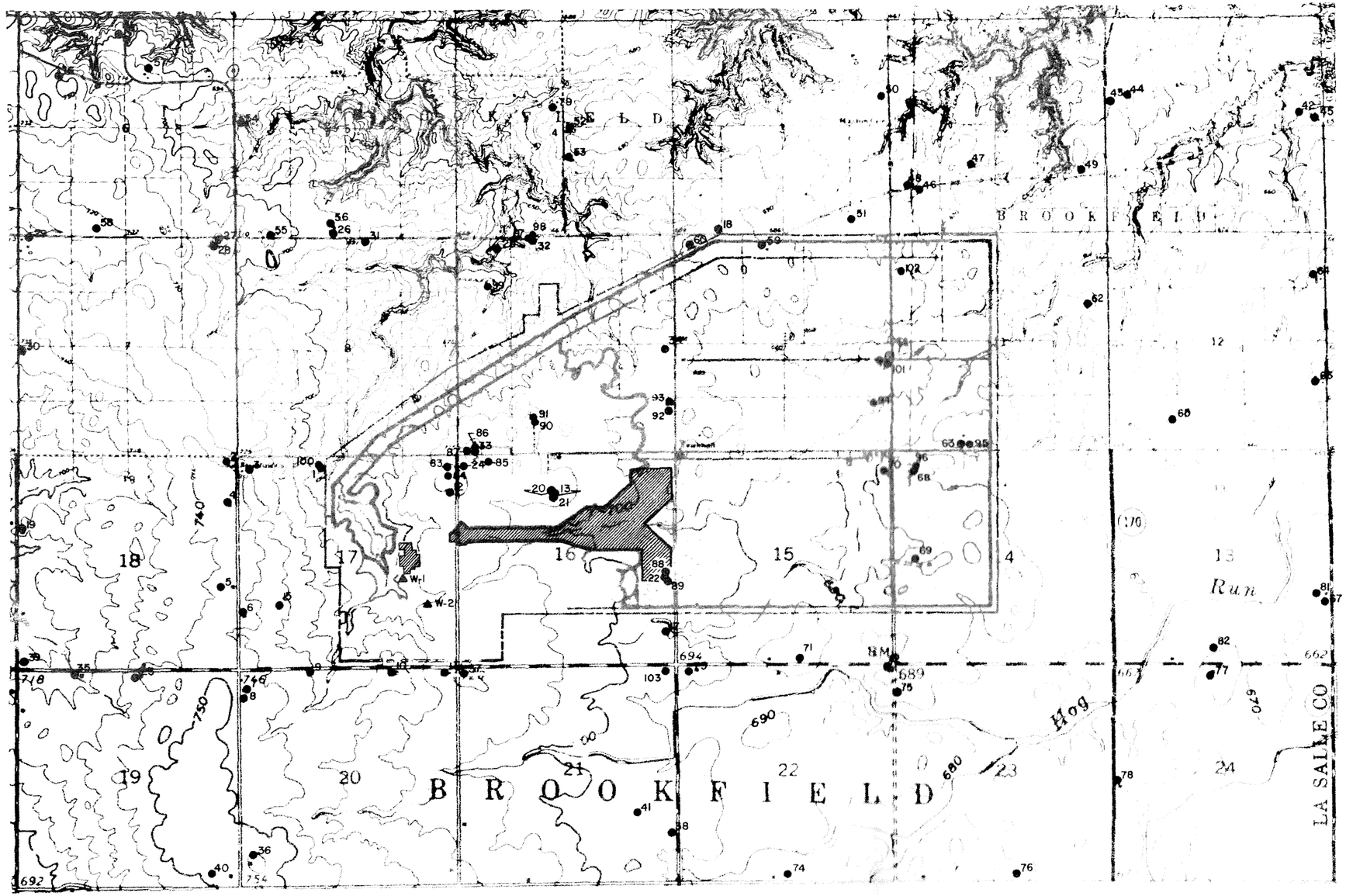
NORTH

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-19

POTENTIOMETRIC SURFACE OF THE CAMBRIAN-ORDOVICIAN AQUIFER, OCTOBER 1971

REV. 0 - APRIL 1984



LEGEND

- ● Domestic water well
- ▲ W-2 Deep well installed for La Salle County Station
- Category I Structure
- Cooling lake
- Property line

NOTES

1. Domestic well data are presented in Table 2.4-15 according to well numbers.
2. Base maps modified from USGS 15 minute series (topographic), Odell Quadrangle, Illinois, 1958, and USGS 7.5-minute series (topographic), Marseilles Quadrangle, Illinois, 1970.
3. Data for the water wells installed for La Salle County Station are presented in Table 2.4-11.
4. Contour interval is 10 feet.

1000 0 1000 2000
Scale in Feet

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-20

DOMESTIC WELL INVENTORY, INCLUDING LSCS WATER WELLS

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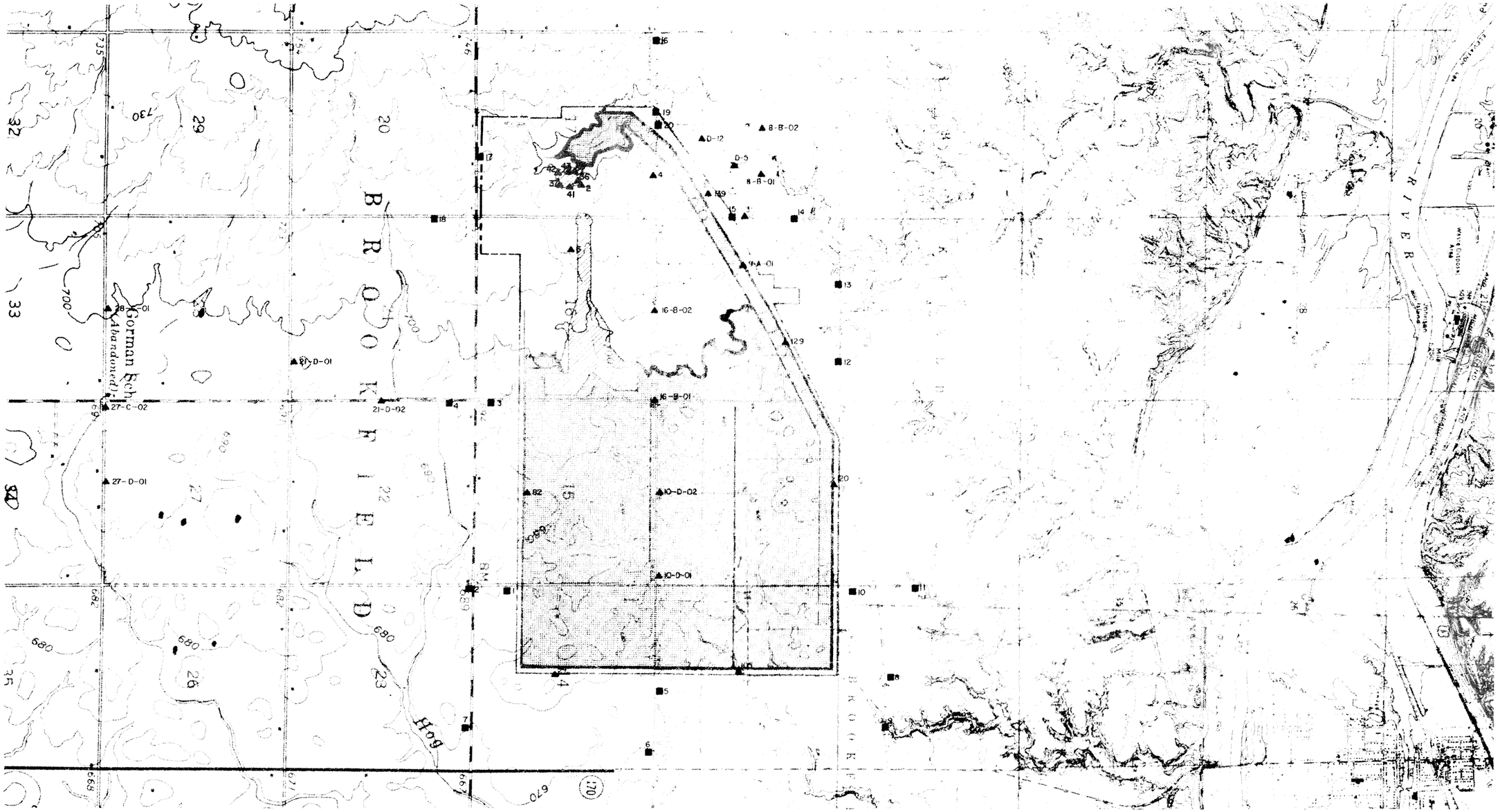

LEGEND

- ▲ Piezometer installed May 28, 1970 through October 30, 1973.
- ■ Observation well, installed December, 1974.
- Property line
- Category I Structure
- Cooling lake

NOTES

1. Dates of piezometer installation and frequency of measurement are given in Table 2.4-16.
2. Dates of water level measurement are shown in Table 2.4-17.
3. Water level fluctuations in selected piezometers are shown in Figure 2.4-22; addtional unplotted piezometer data are presented in Table 2.4-18.
4. Water level fluctuations in the observation wells are shown in Figure 2.4-23.
5. Contour interval is 10 feet.

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UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-21

LOCATIONS OF PIEZOMETERS AND OBSERVATION WELLS

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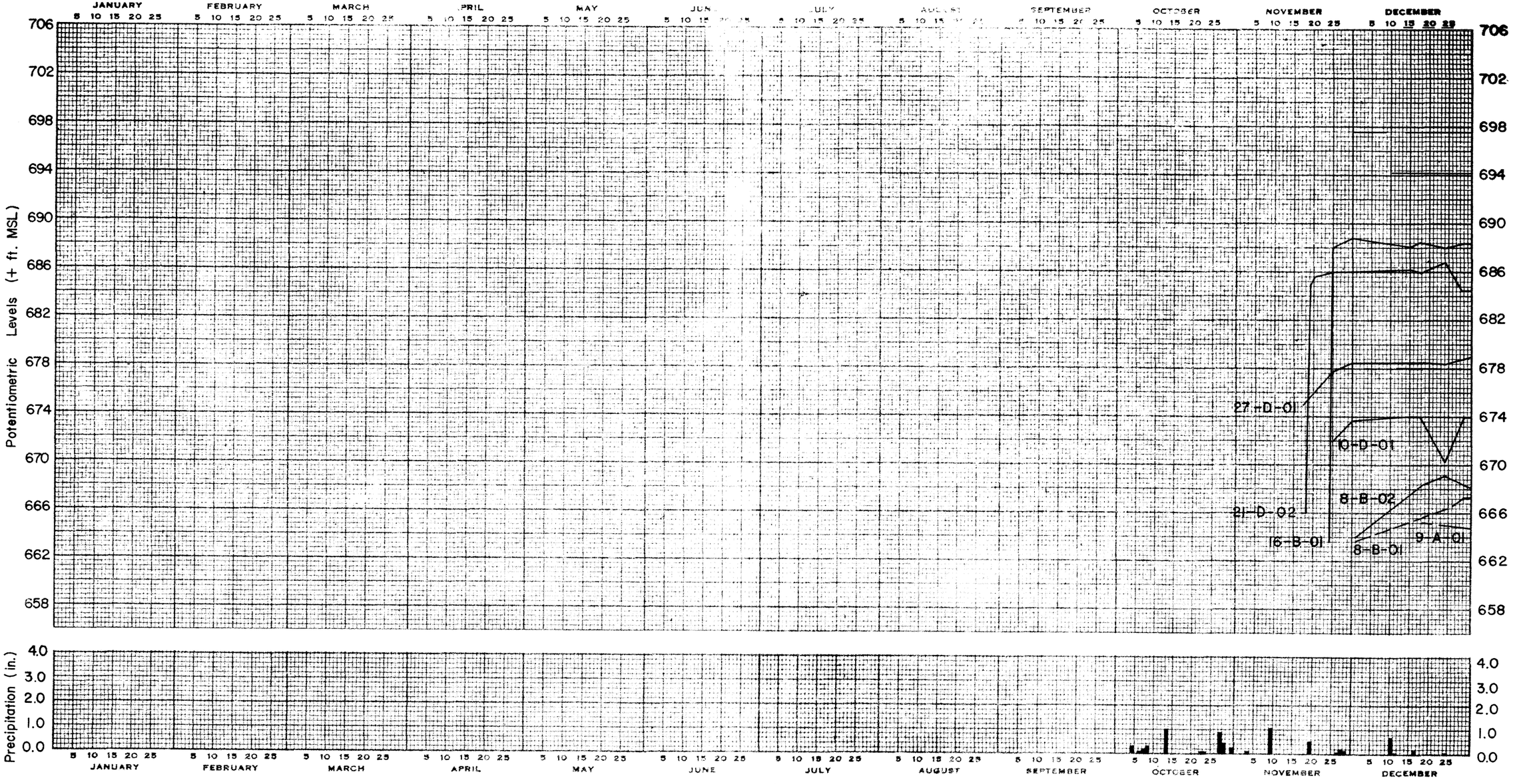

NOTES

1. Locations of piezometers are shown in Figure 2.4-21.
2. Dates of installation, surface elevations, tested intervals, and frequency of water level measurements are given in Table 2.4-16.
3. Potentiometric levels are inferred between dates of measurement.
4. Precipitation data were recorded at the Marseilles Lock, 41°21' N Lat., 88°45' W Long.
5. All piezometers are installed within the glacial drift aquitard.

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FIGURE 2.4-22

DAILY PRECIPITATION AND FLUCTUATIONS OF WATER LEVELS IN PIEZOMETERS

(SHEET 1 of 4)

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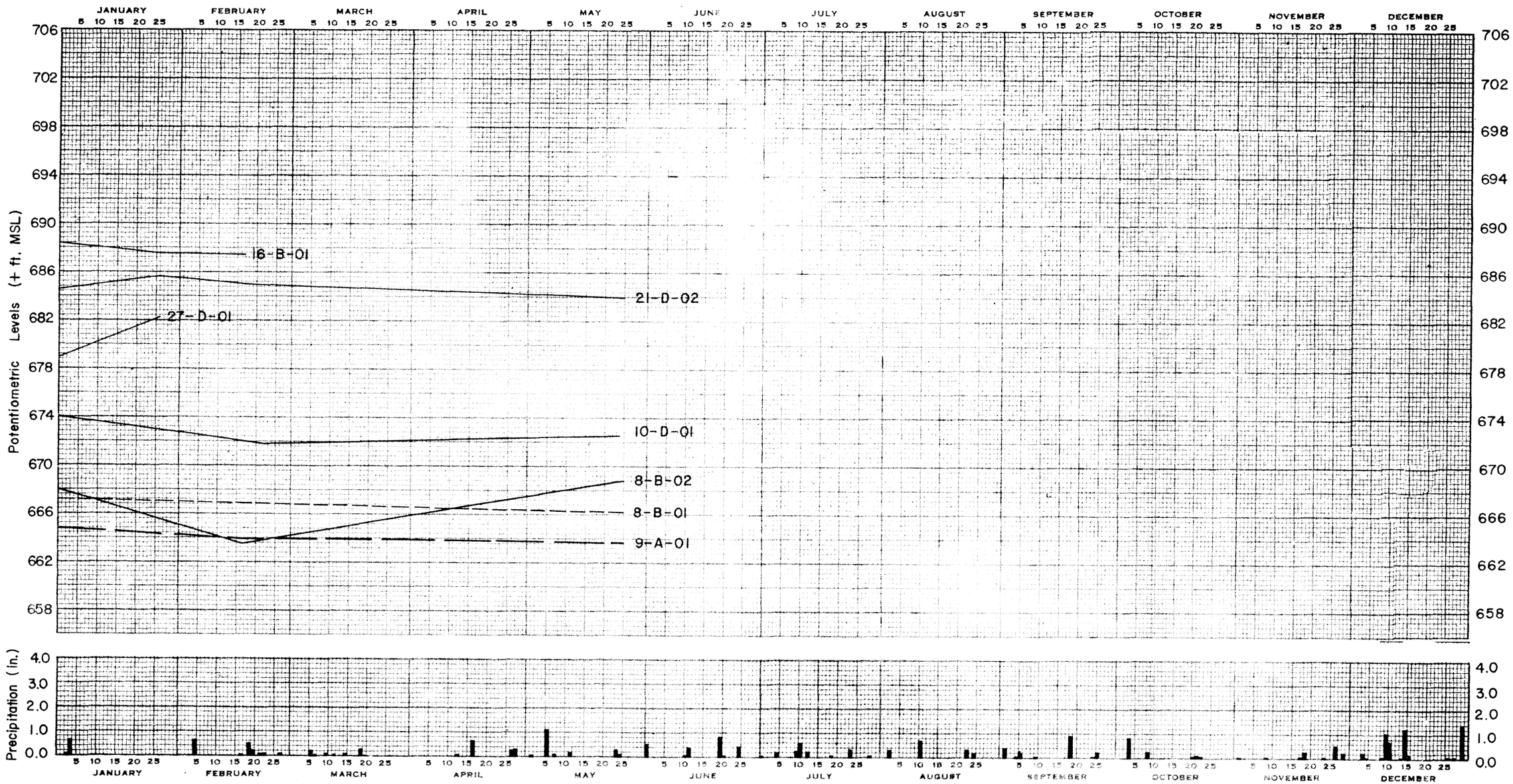

NOTES

1. Locations of piezometers are shown in Figure 2.4-21.
2. Dates of installation, surface elevations, tested intervals, and frequency of water level measurements are given in Table 2.4-16.
3. Potentiometric levels are inferred between dates of measurement.
4. Precipitation data were recorded at the Marseilles Lock, 41°21' N Lat., 88°45' W Long.
5. All piezometers are installed within the glacial drift aquitard.

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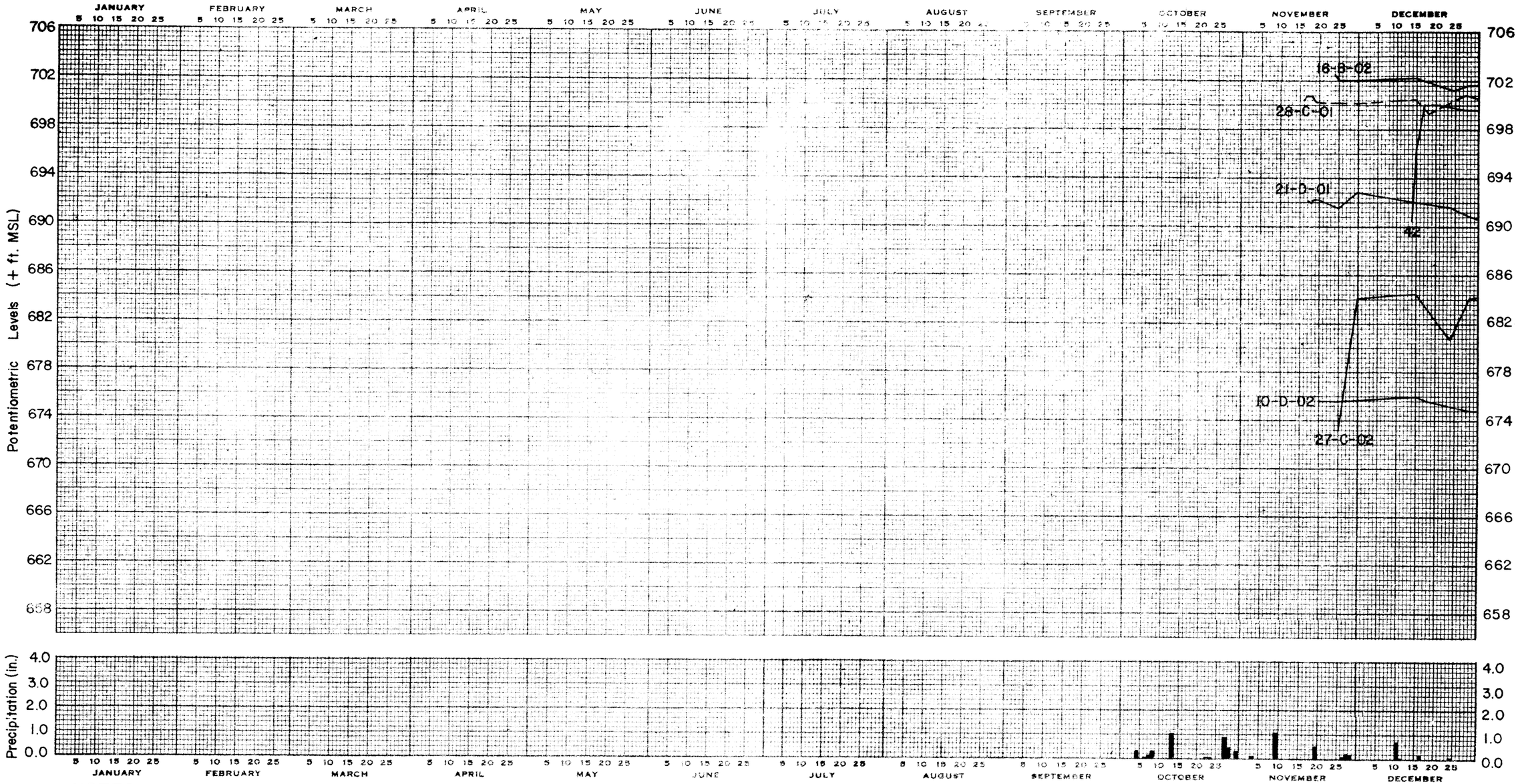
FIGURE 2.4-22

DAILY PRECIPITATION AND FLUCTUATIONS OF WATER LEVELS IN PIEZOMETERS

(SHEET 2 of 4)

REV. 0 - APRIL 1984



NOTES

1. Locations of piezometers are shown in Figure 2.4-21.
2. Dates of installation, surface elevations, tested intervals, and frequency of water level measurements are given in Table 2.4-16.
3. Potentiometric levels are inferred between dates of measurement.
4. Precipitation data were recorded at the Marseilles Lock, 41° 21' N Lat., 88° 45' W Long.
5. All piezometers are installed within the glacial drift aquitard.

1970

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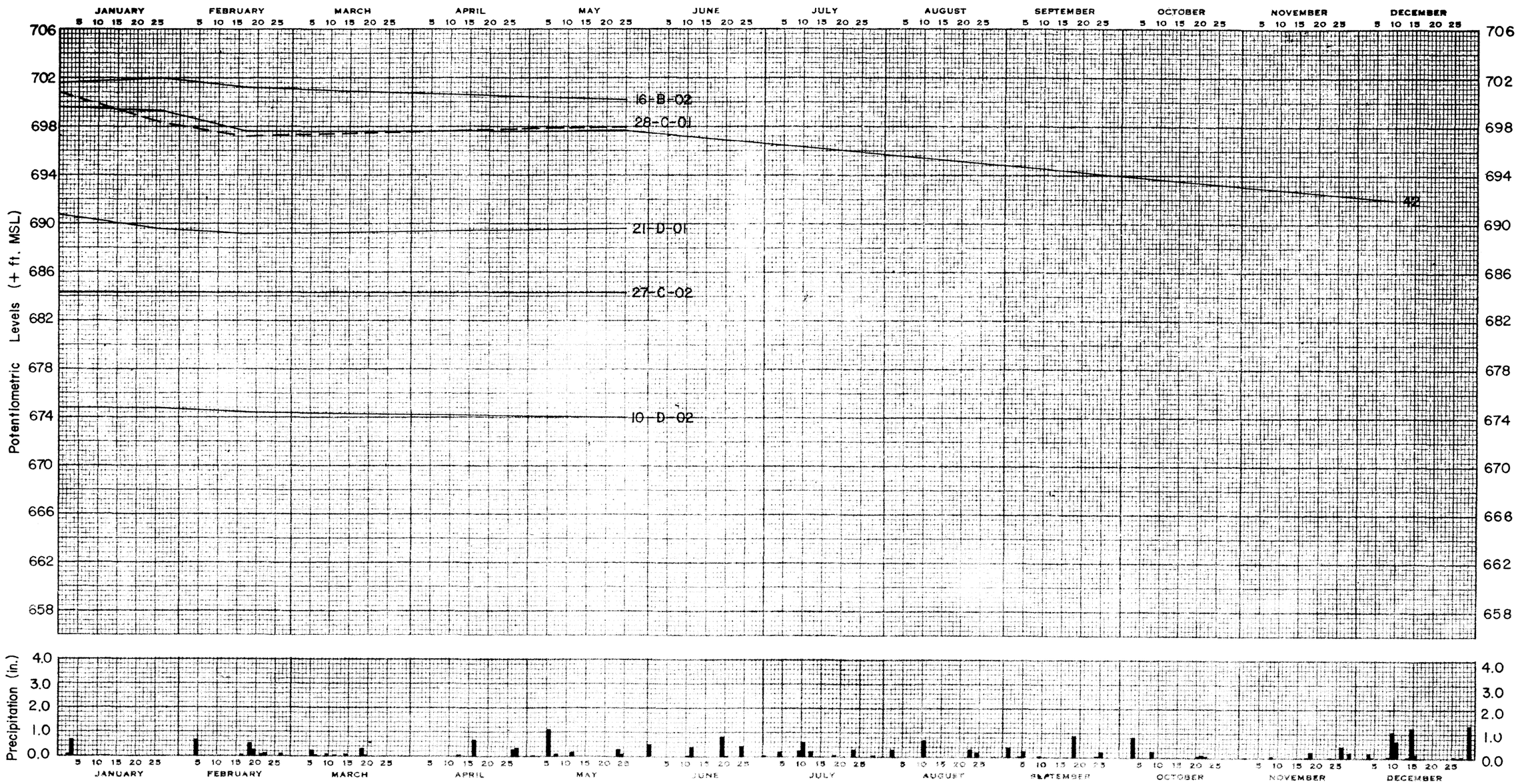
FIGURE 2.4-22

DAILY PRECIPITATION AND FLUCTUATIONS OF WATER LEVELS IN PIEZOMETERS

(SHEET 3 of 4)

REV. 0 - APRIL 1984



1971

NOTES

1. Locations of piezometers are shown in Figure 2.4-21.
2. Dates of installation, surface elevations, tested intervals, and frequency of water level measurements are given in Table 2.4-16.
3. Potentiometric levels are inferred between dates of measurement.
4. Precipitation data were recorded at the Marseilles Lock, 41°21'N Lat., 88°45'W Long.
5. All piezometers are installed within the glacial drift aquitard.

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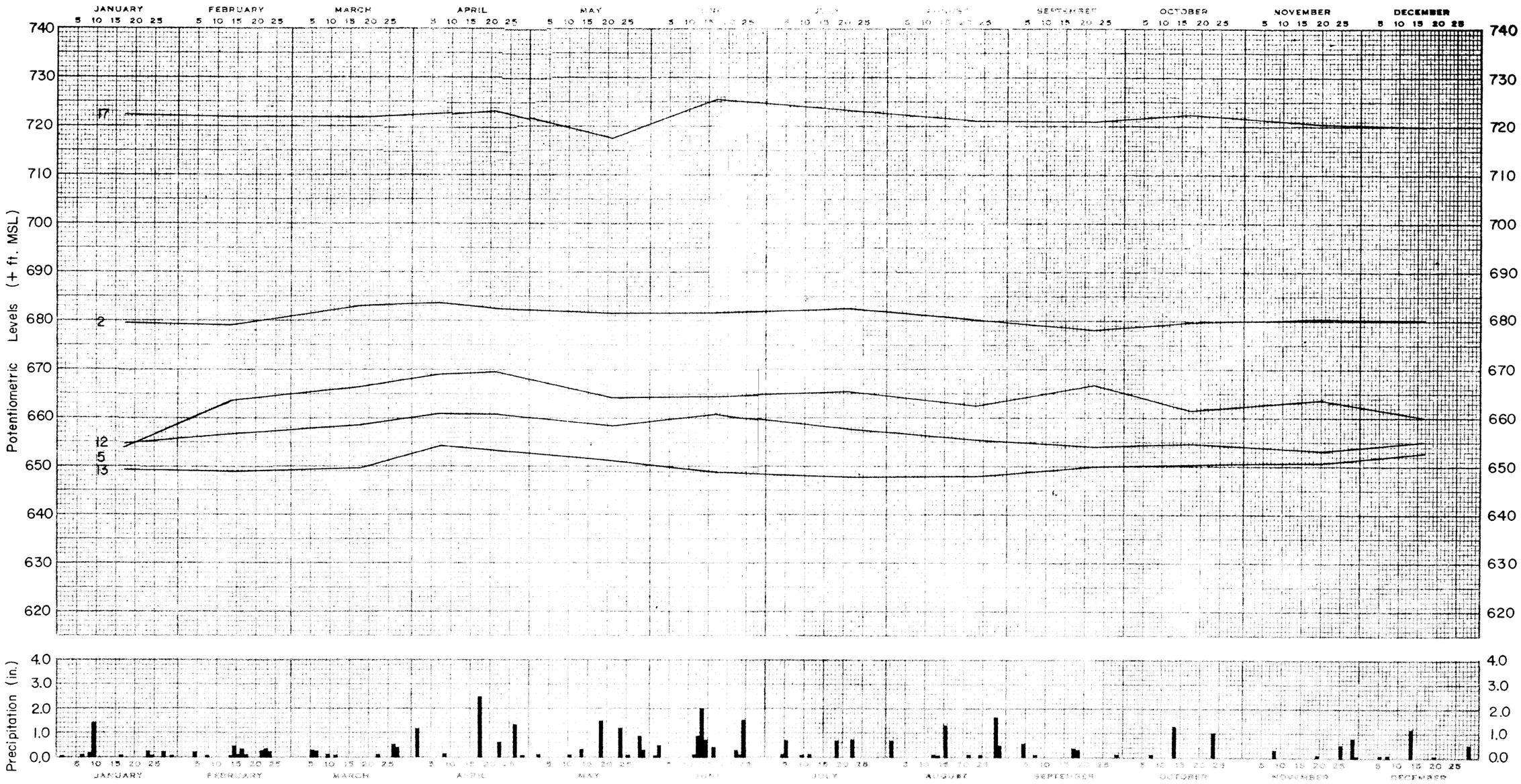
FIGURE 2.4-22

DAILY PRECIPITATION AND FLUCTUATIONS OF WATER LEVELS IN PIEZOMETERS

(SHEET 4 of 4)

REV. 0 - APRIL 1984



1975

NOTES

1. Locations of observation wells are shown in Figure 2.4-21.
2. Surface elevations of the observation wells are given in Table 2.4-17.
3. Observation wells were installed during December, 1974. The average depth is 25 ft.; granular backfill was placed around the lower 8 ft. of each observation well. All observation wells are installed in the glacial drift aquitard.
4. Dates of water level measurements are shown in Table 2.4-17; potentiometric levels are inferred between dates of measurement.
5. Precipitation data were recorded at the Marseilles Lock, 41°21'N., 88°45'W.

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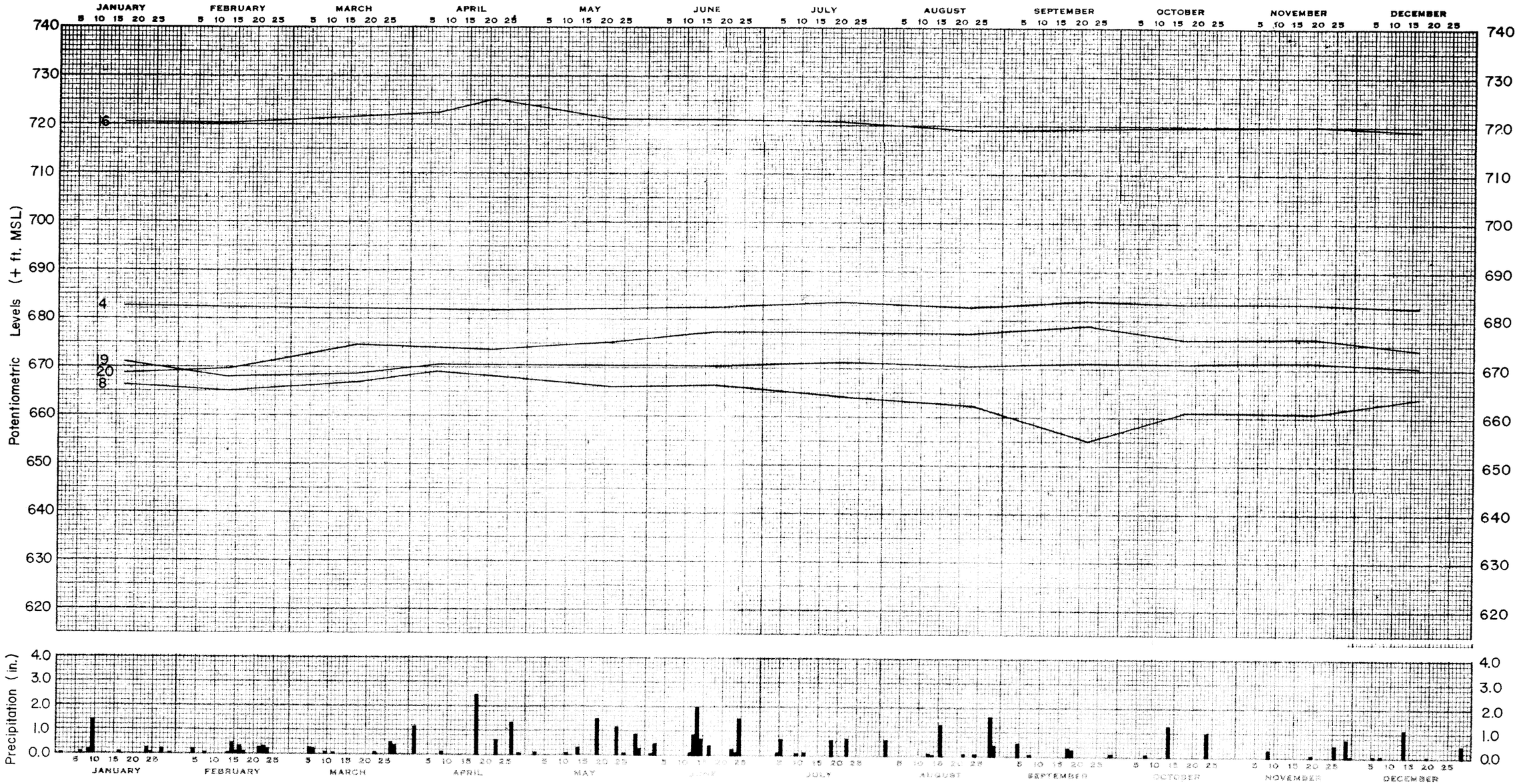
FIGURE 2.4-23

DAILY PRECIPITATION AND FLUCTUATIONS OF WATER LEVELS IN OBSERVATION WELLS

(SHEET 1 of 4)

REV. 0 - APRIL 1984



1975

NOTES

1. Locations of observation wells are shown in Figure 2.4-21.
2. Surface elevations of the observation wells are given in Table 2.4-17.
3. Observation wells were installed during December, 1974. The average depth is 25 ft.; granular backfill was placed around the lower 8 ft. of each observation well. All observation wells are installed in the glacial drift aquitard.
4. Dates of water level measurements are shown in Table 2.4-17; potentiometric levels are inferred between dates of measurement.
5. Precipitation data were recorded at the Marseilles Lock, 41°21'N., 88°45'W.

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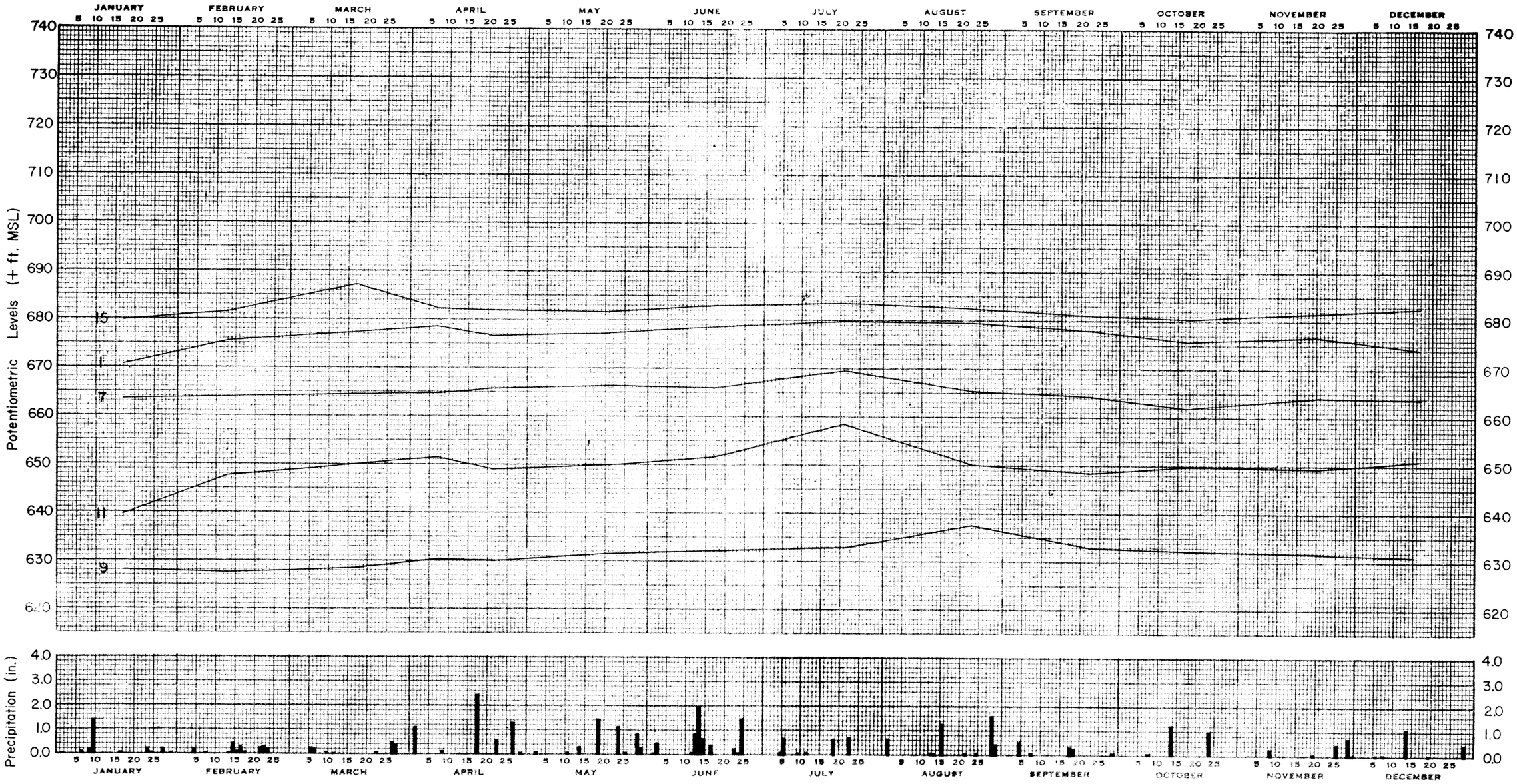
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-23

DAILY PRECIPITATION AND FLUCTUATIONS OF WATER LEVELS IN OBSERVATION WELLS

(SHEET 2 of 4)

REV. 0 - APRIL 1984



1975

NOTES

1. Locations of observation wells are shown in Figure 2.4-21.
2. Surface elevations of the observation wells are given in Table 2.4-17.
3. Observation wells were installed during December, 1974. The average depth is 25 ft.; granular backfill was placed around the lower 8 ft. of each observation well. All observation wells are installed in the glacial drift aquitard.
4. Dates of water level measurements are shown in Table 2.4-17; potentiometric levels are inferred between dates of measurement.
5. Precipitation data were recorded at the Marseilles Lock, 41° 21' N., 88° 45' W.

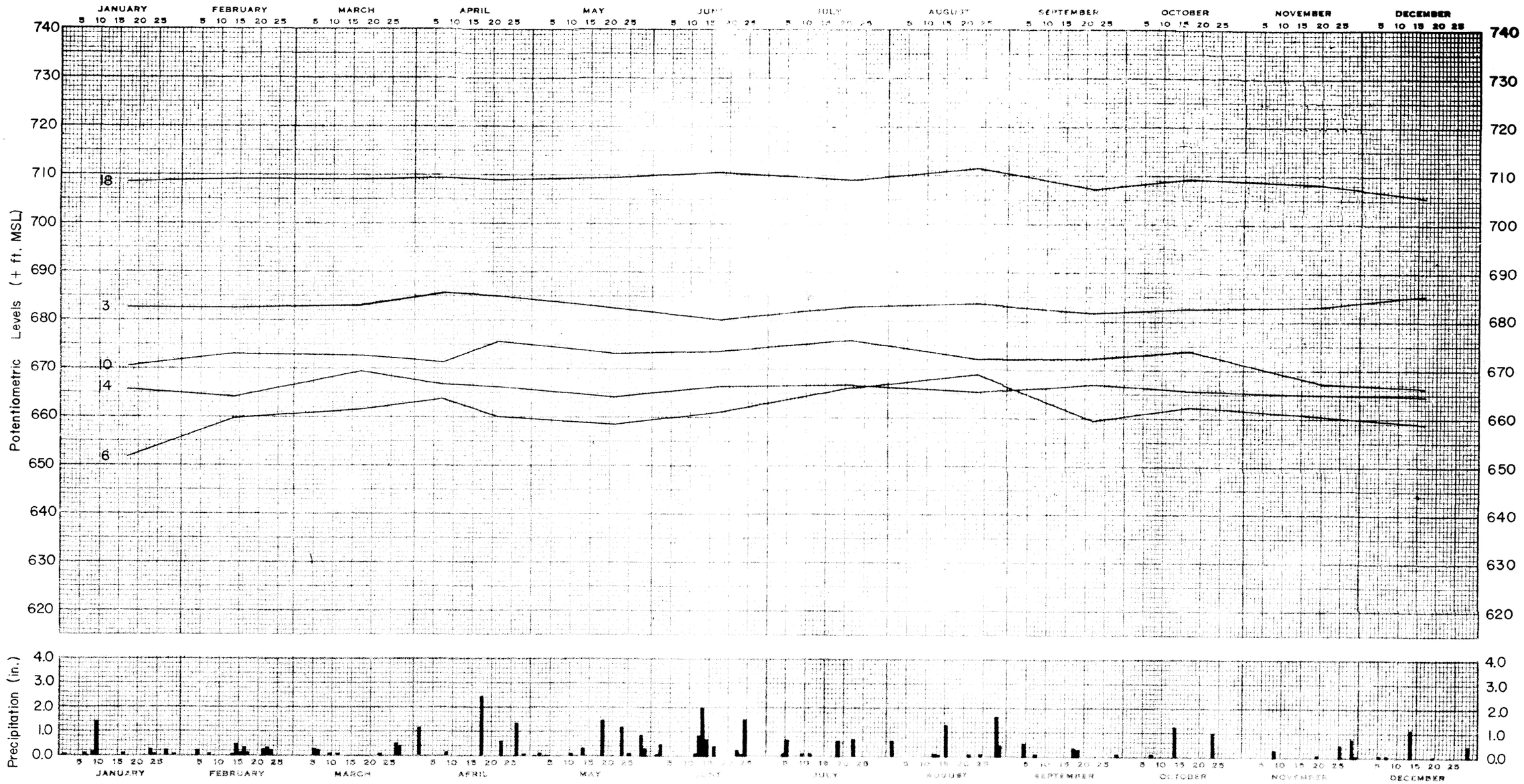
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-23

DAILY PRECIPITATION AND FLUCTUATIONS OF WATER LEVELS IN OBSERVATION WELLS

(SHEET 3 of 4)

REV. 0 - APRIL 1984



1975

NOTES

1. Locations of observation wells are shown in Figure 2.4-21.
2. Surface elevations of the observation wells are given in Table 2.4-17.
3. Observation wells were installed during December, 1974. The average depth is 25 ft.; granular backfill was placed around the lower 8 ft. of each observation well. All observation wells are installed in the glacial drift aquitard.
4. Dates of water level measurements are shown in Table 2.4-17; potentiometric levels are inferred between dates of measurement.
5. Water level measurements in well no. 18 after July 21, 1975, may be affected by a broken cap.
6. Precipitation data were recorded at the Marseilles Lock, 41°21'N., 88°45'W.

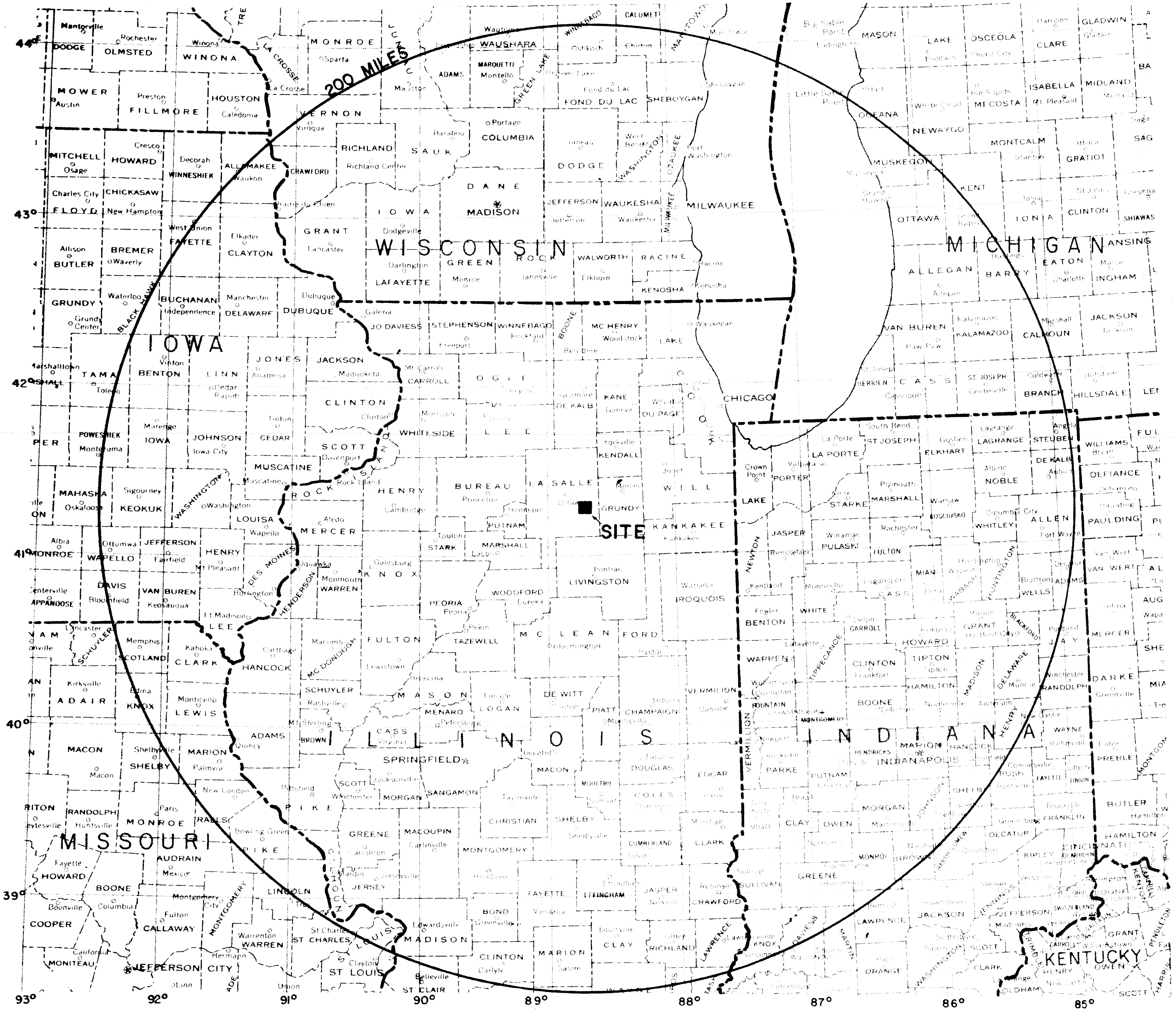
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-23

DAILY PRECIPITATION AND FLUCTUATIONS OF WATER LEVELS IN OBSERVATION WELLS

(SHEET 4 of 4)

REV. 0 - APRIL 1984



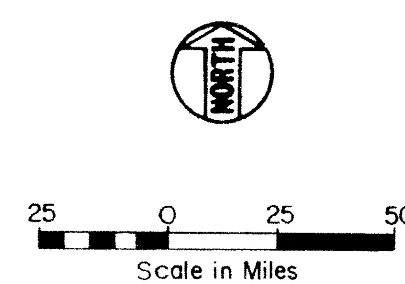


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FIGURE 2.5-1

GENERAL SITE LOCATION

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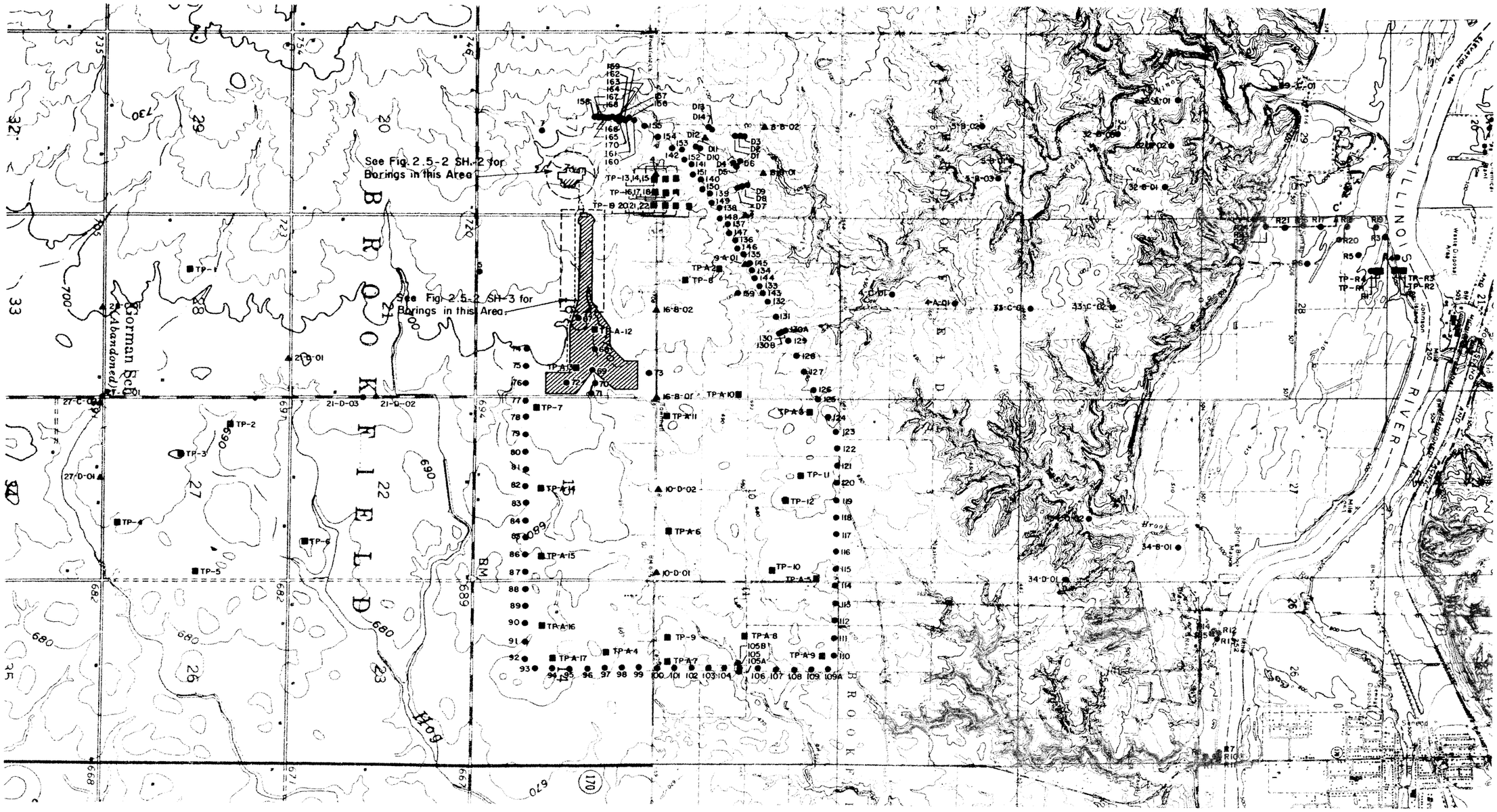

LEGEND

- ■ Test Pit
- ● Boring
- ▲ Boring with Piezometer Installation
- C ——— C' Cross Section (Figure 2.5-15)
- ▨ Category I Structure
- ------- CSCS Piping

NOTE

Source of Base Map:

U.S. Geol. Surv., 1970, Marseilles Quad.
Illinois, topog. map, 7.5min. ser.
U.S. Geol. Surv., 1958, Odell Quad.
Illinois, topog. map, 15 min. ser.
U.S. Geol. Surv., 1970, Seneca Quad
Illinois, topog. map, 7.5min ser.

2000 0 2000
Scale in Feet

NORTH

LA SALLE COUNTY STATION
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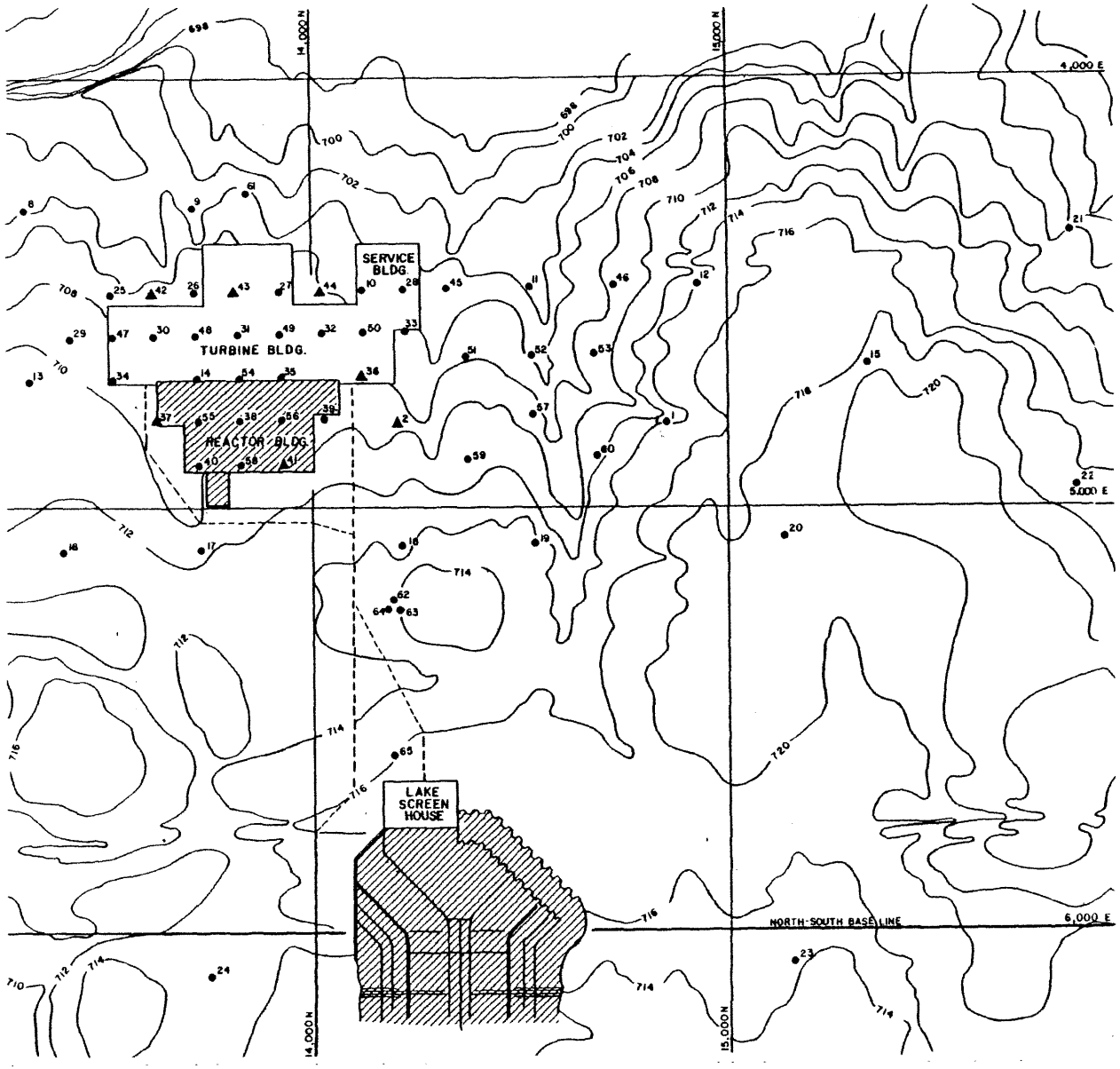
FIGURE 2.5-2
PLOT PLAN
(SHEET 1 of 3)

REV. 0 - APRIL 1984



LEGEND

- ●20 Boring location
- ▲3 Boring with piezometer installation
- Category I Structure

NOTES

1. For surrounding area, see Figure 2.5-2, Sheet 1.
2. Contour interval 2 feet.
3. Source of base map: Air Maps, Inc.

NORTH

1000 0 1000 2000

Scale in Feet

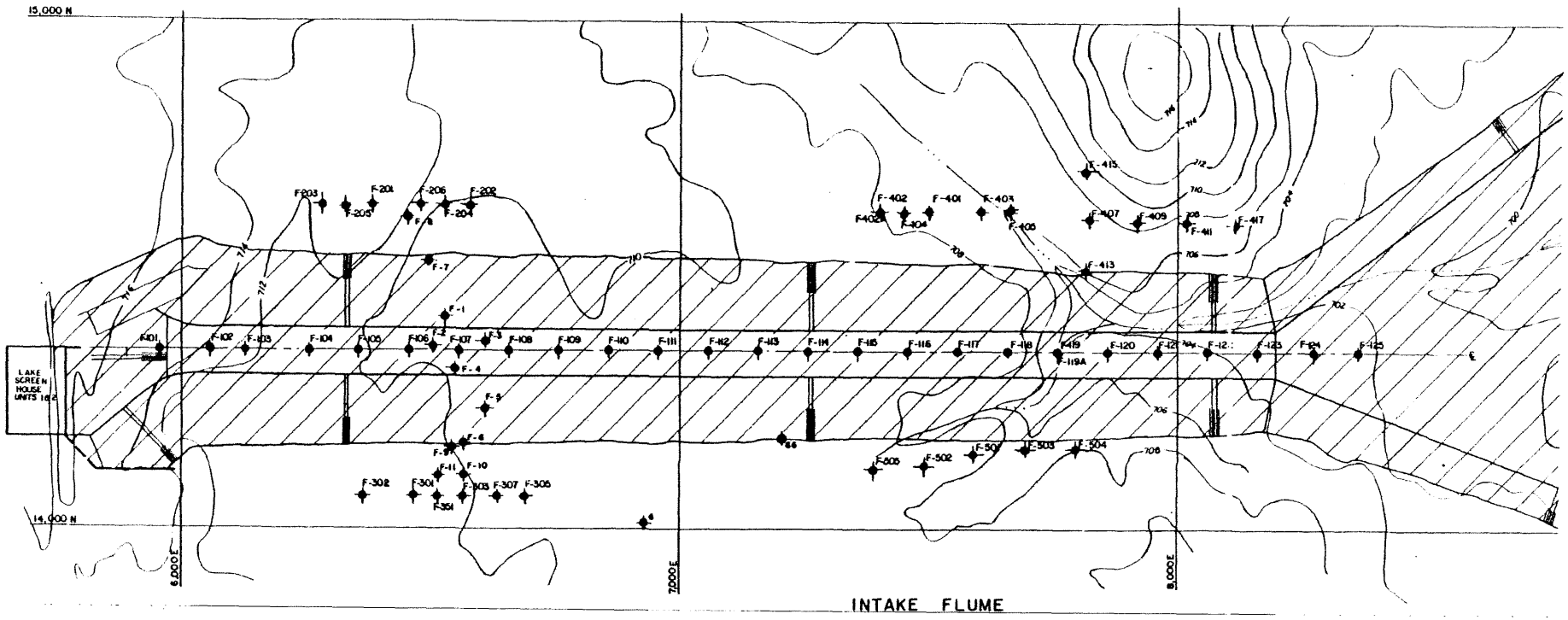
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-2

PLOT PLAN

(SHEET 2 of 3)

REV. 0 - APRIL 1984



LEGEND

- Boring
- Category I Structures

NOTES

1. For surrounding area, see Figure 2.5-2, Sheet 1.
2. Countour internal 2 feet.
3. Source of base map: Air maps, Inc.

NORTH

100 0 200

Scale in feet

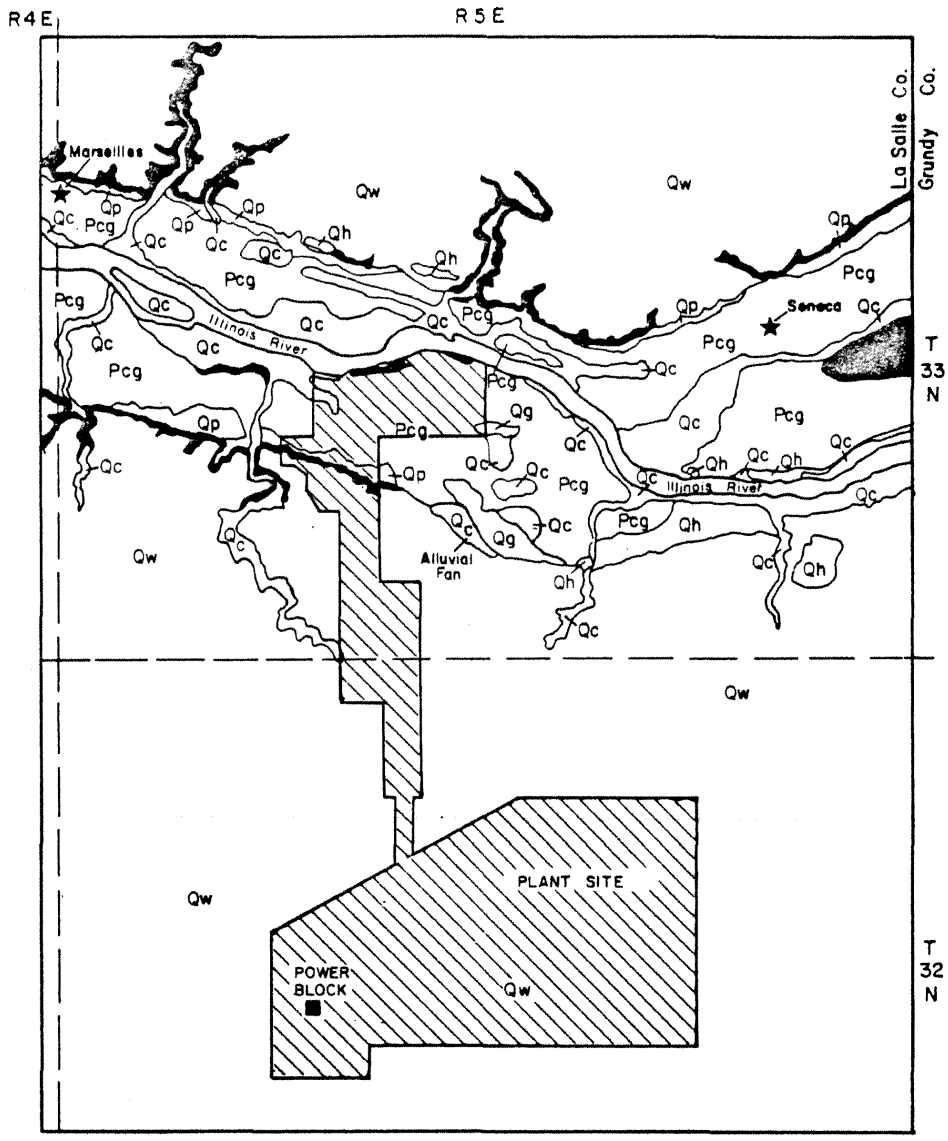
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-2

PLOT PLAN

(SHEET 3 of 3)

REV. 0 - APRIL 1984



LEGEND

Quaternary

- Qc Cahokia Alluvium
- Qp Peyton Colluvium
- Qh Henry Formation
- Qg Grayslake Peat
- Qw Wedron Formation overlain by Richland Loess

Pennsylvanian

- Pcg Carbondale Formation overlain by thin sand and gravel
- Carbondale Formation outcrop

~~ Geologic contact

Plant Site

0 1

Scale in Miles

NORTH

NOTE

1. Map modified from Willman, 1973, Plate 1

LA SALLE COUNTY STATION
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FIGURE 2.5-3

SITE AREA SURFICIAL GEOLOGIC MAP

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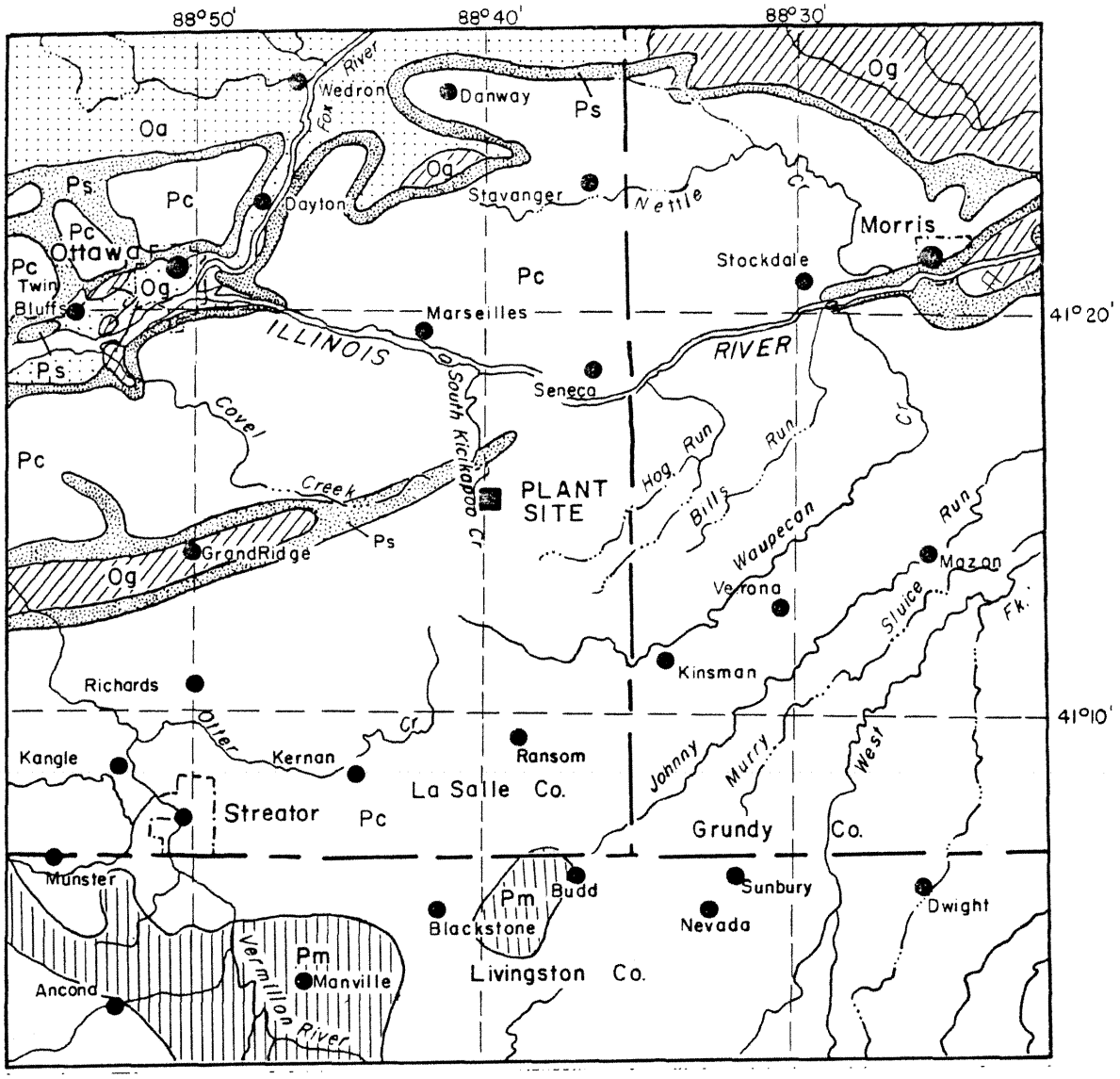

LEGEND

Pennsylvanian

- Pm — Modesto Formation
- Pc — Carbondale Formation
- Ps — Spoon Formation

Ordovician

- Og — Galena and Platteville Groups
- Oa — Ancell Group

NOTE

1. Modified from Willman, et al., 1967.

2 0 2 4
Scale in Miles

NORTH

LA SALLE COUNTY STATION
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FIGURE 2.5-4

SITE AREA BEDROCK GEOLOGY

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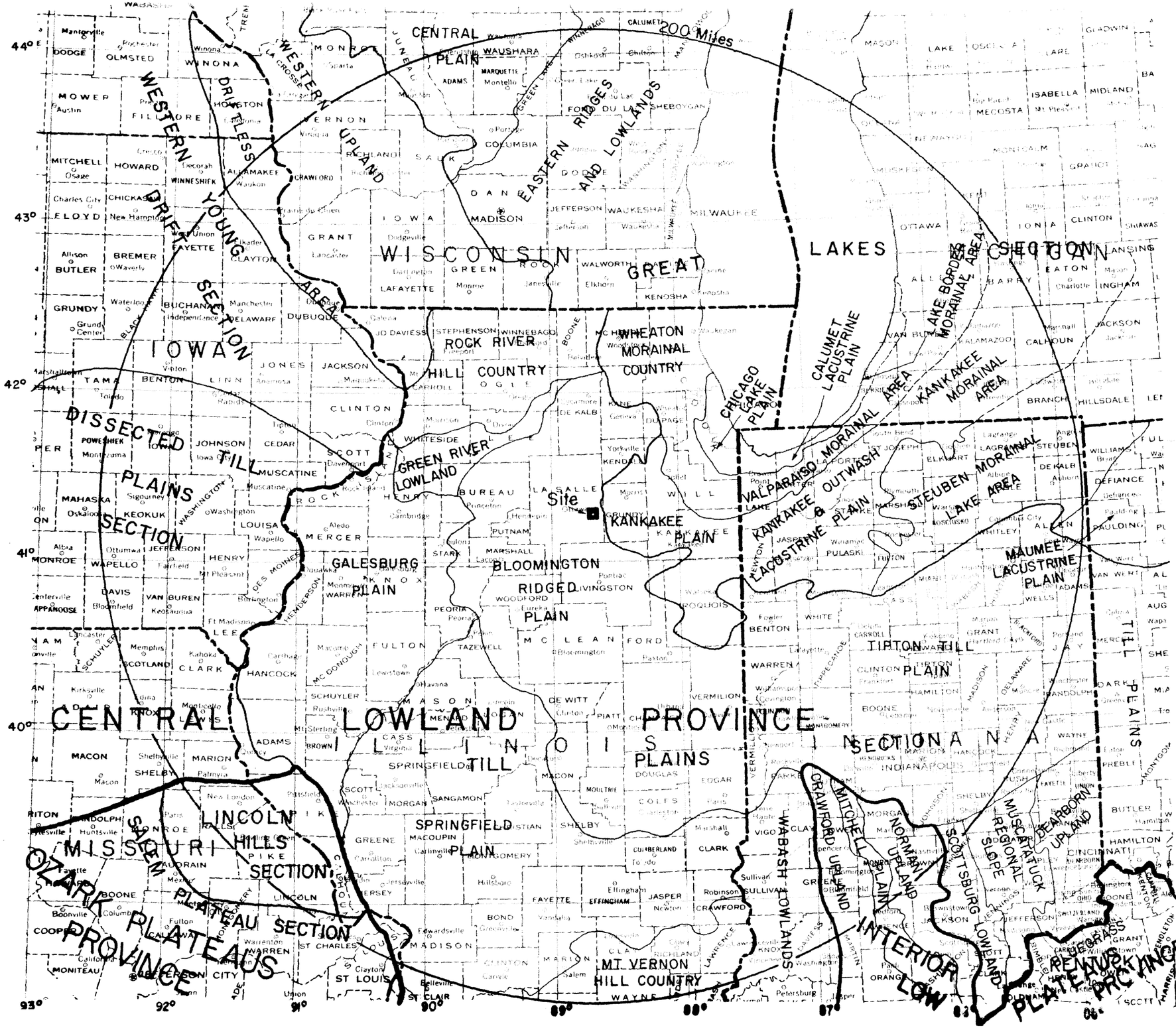
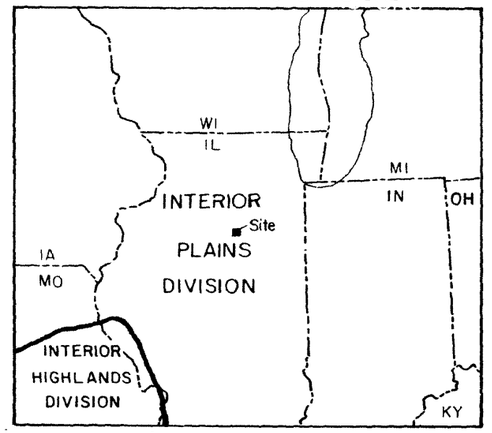


LEGEND

- Divisions
- Provinces
- Sections
- Sub-sections

PHYSIOGRAPHIC DIVISIONS



NOTES

1. Adapted from Fenneman, N.M., 1935; Thornbury, W.D., 1965; Leighton, M.M., Ekblaw, G.E. and Horberg, L., 1948; Schneider, A.F., 1966; Mallot, C.A., 1922,

2. Subsections of Great Lakes Section in Michigan by Sargent & Lundy.

NORTH

25 0 25 50

Scale in Miles

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-5

REGIONAL PHYSIOGRAPHY MAP

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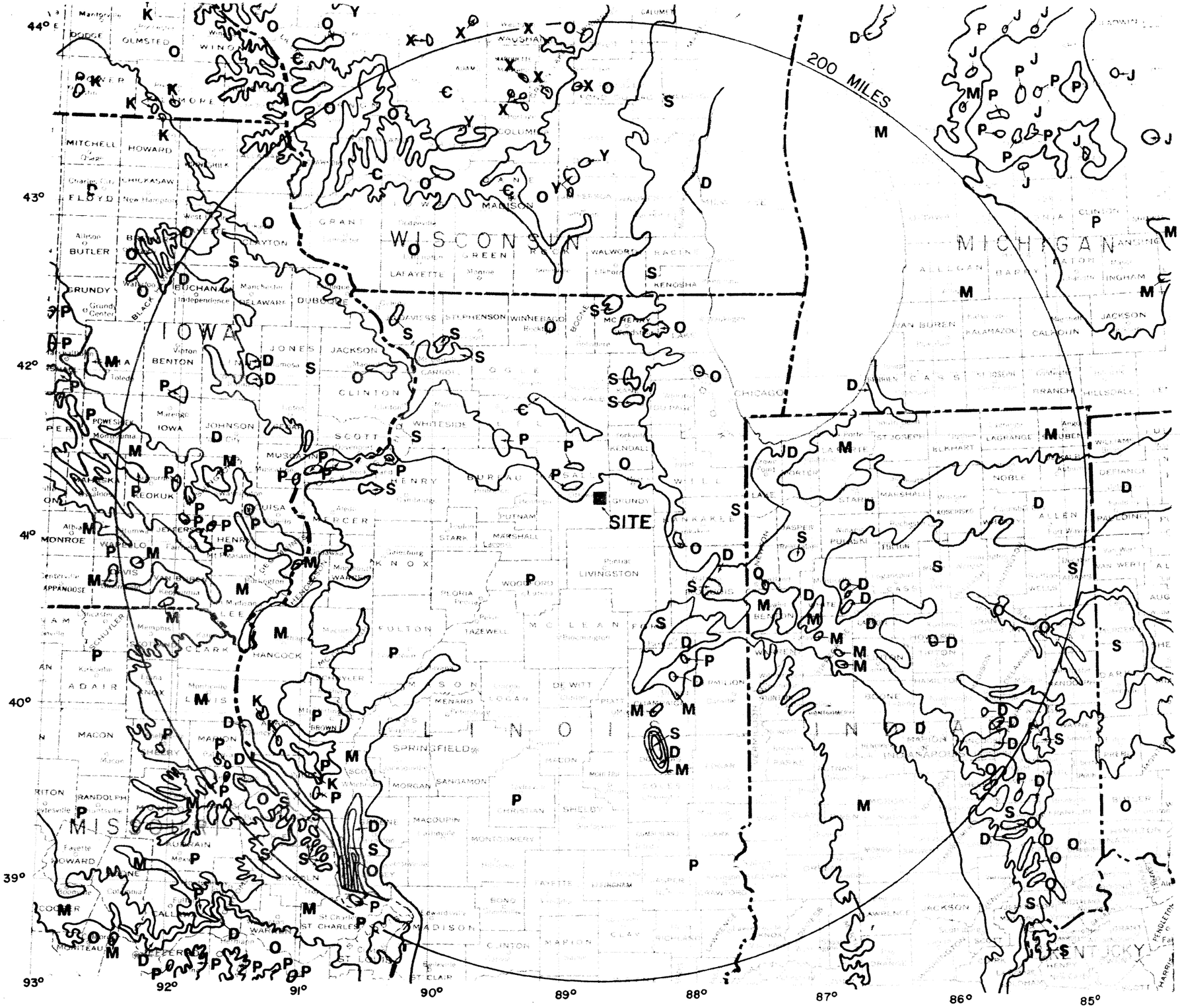

LEGEND

ERATHEM	SYSTEM	
CENOZOIC	Quaternary*	
	Tertiary*	
MESOZOIC	K	Cretaceous gravel, sand
	J	Jurassic shales, sandstones, clay, evaporites
PALEOZOIC	P	Pennsylvanian cyclothems, sandstones, shales, limestones, coals
	M	Mississippian limestones dolomites, sandstones, shales
	D	Devonian limestones, dolomites, shales, evaporites
	S	Silurian limestones, dolomites, shales
	O	Ordovician dolomites, shales, sandstones, limestones
	€	Cambrian dolomites, gravels, sands, clays
PRECAMBRIAN	Y	Precambrian (about 800 to 1,600 MY) sedimentary rocks, metamorphic rocks,
	X	Precambrian (about 1,600 to 2,500 MY) metamorphic rocks, volcanic rocks

Geologic contact

NORTH

NOTES

1. * Quaternary and Tertiary deposits were not mapped, see Figure 2.5-3 for Quaternary deposits in the site area.
2. Map modified from King, P.B. and Beikman, H.M., 1974.

25 0 25 50
Scale in Miles

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-6

REGIONAL BEDROCK GEOLOGY

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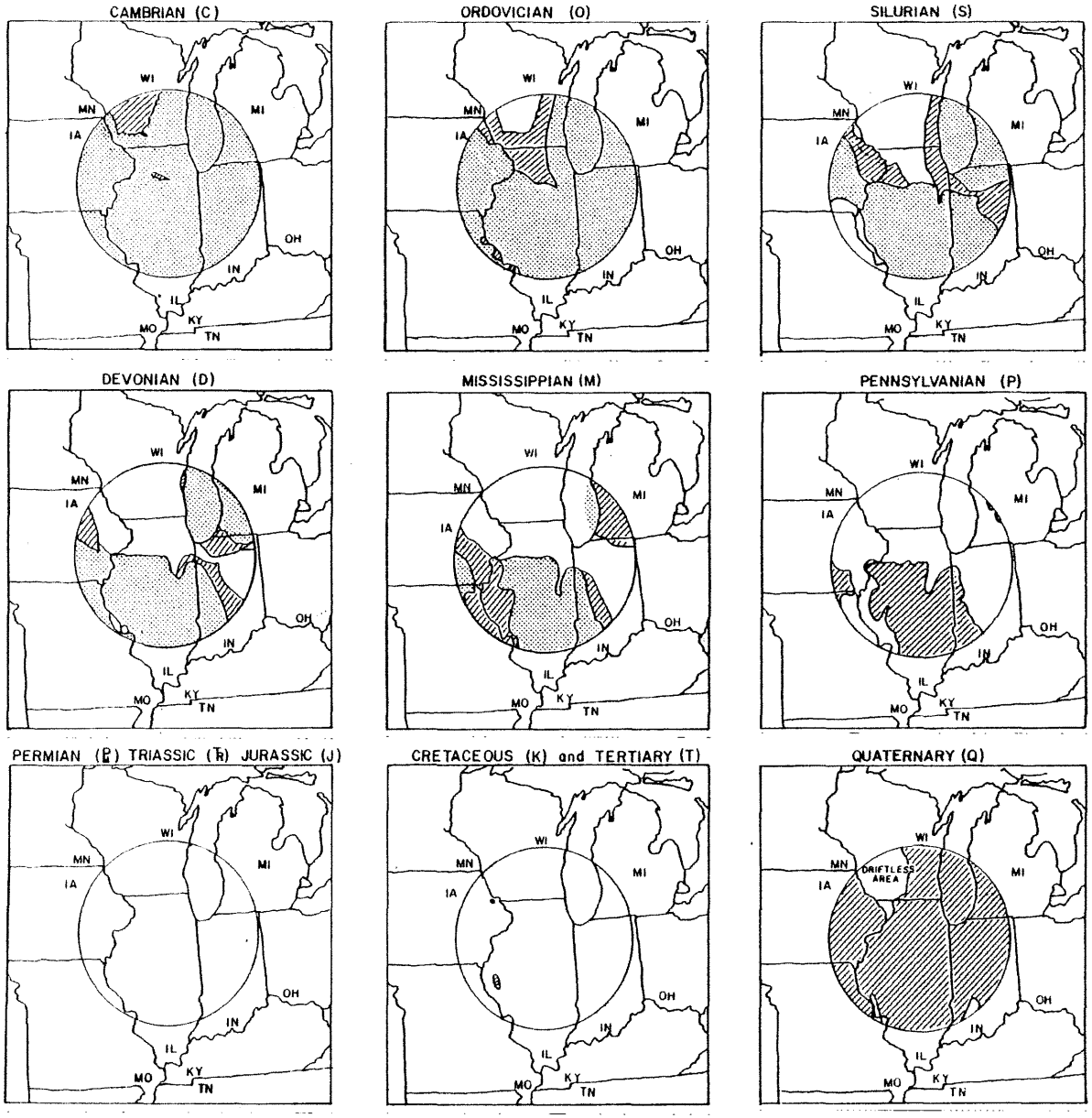

LEGEND

- Absent
- Present at surface or covered only by Quaternary drift
- Known or inferred to be present in the subsurface

NOTES

1. Modified from Moore, R.C., 1958
2. Limit of Pleistocene glaciation taken from Flint et al., 1959
3. Outcrops of Tertiary rocks are too small to be shown at this scale (see Willman et al, 1975, p. 207)

NORTH

0 100 200 300 400

Approximate Scale in Miles

LA SALLE COUNTY STATION
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FIGURE 2.5-7

GENERALIZED REGIONAL SYSTEMIC DISTRIBUTION MAP

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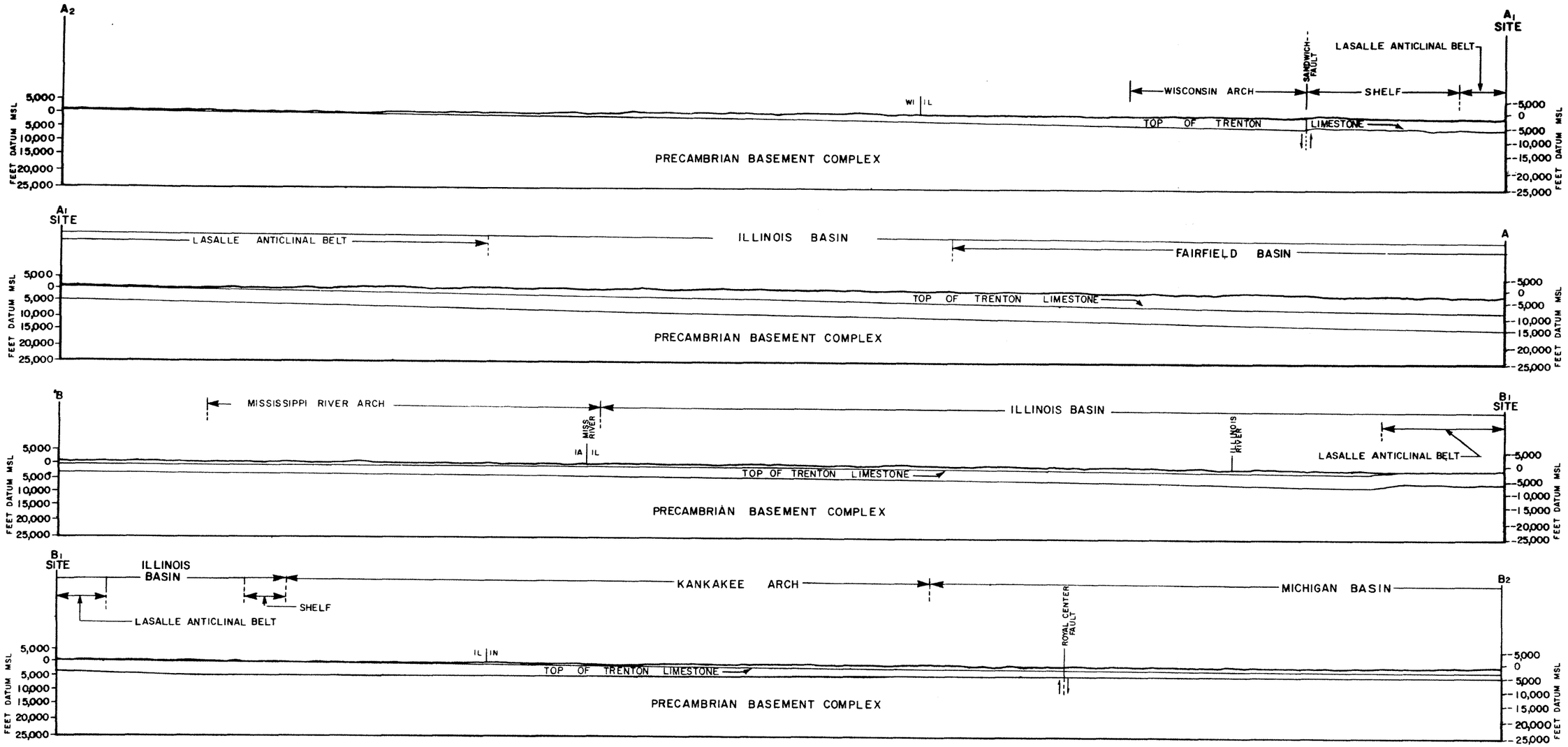

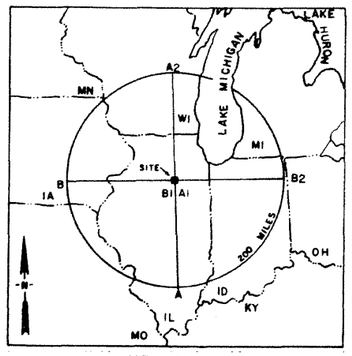

KEY PLAN

NOTES

1. Topography derived from the following US Geological Survey Topographic Maps:

   Madison, 1963 (NK16-1),
   Rockford, 1963 (NK16-4),
   Davenport, 1963 (NK15-9);
   Chicago, 1954 (NK16-8);
   FortWayne, 1953 (NK16-19),
   Illinois Base Map 1948,
   Iowa Base Map 1966.

2. Topography of basement complex modified from Atherton, 1971; Bristol & Buschbach, 1973; Flawn, 1967; Thwaites, 1957.

3. Top of Trenton derived from Bristol and Buschbach, (1973) and Cohee et al., (1962). The Trenton Limestone is a Middle Ordovician carbonate (Bristol and Buschbach, 1973).

4. Tectonic features taken from Regional Tectonic Map Basins and Arches in Paleozoic Rocks, Figure 2.5-9.

10 0 10
Scale in Miles
Vertical Exaggeration 2X

LA SALLE COUNTY STATION
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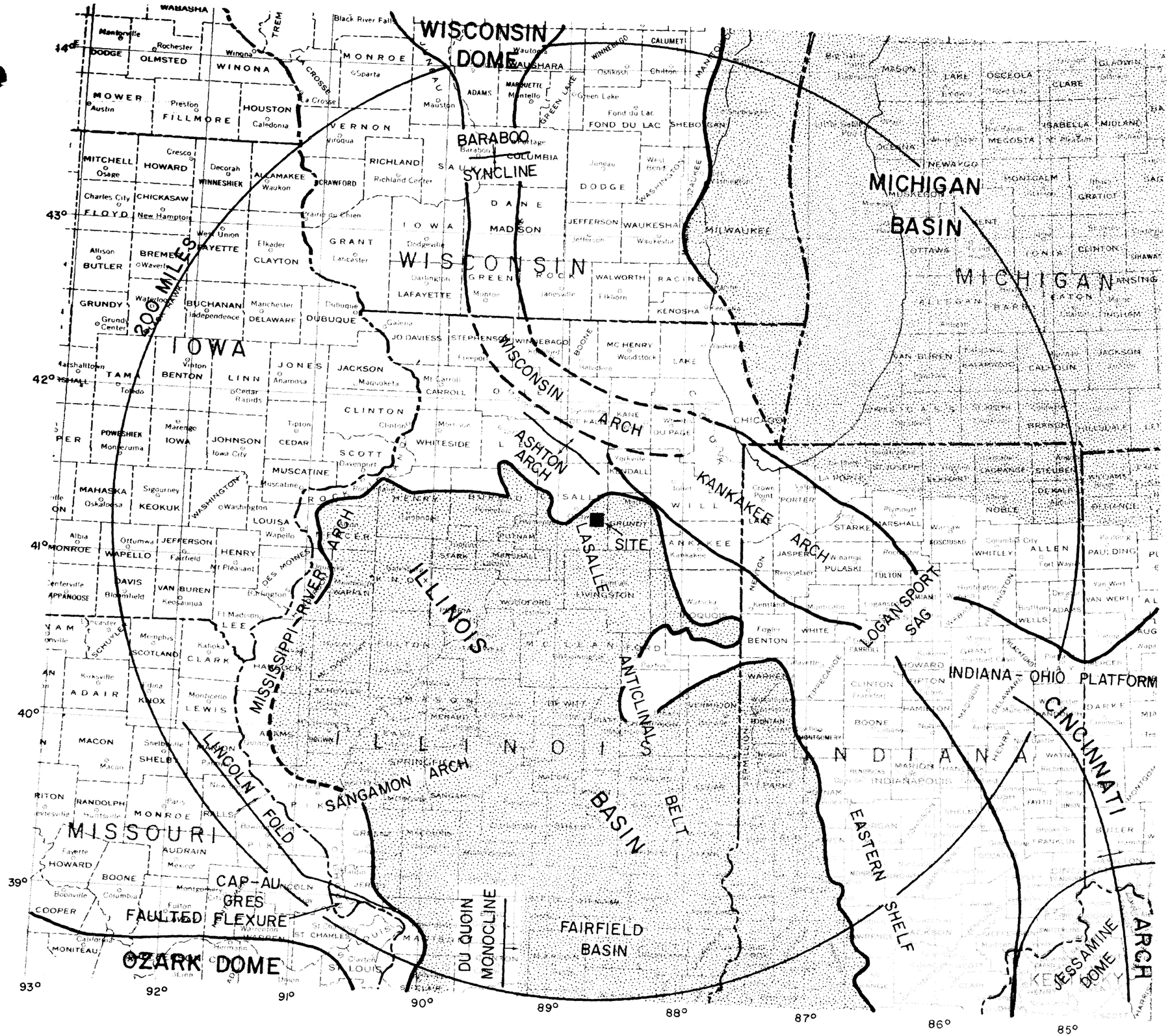
FIGURE 2.5-8

REGIONAL GEOLOGIC CROSS SECTIONS

REV. 0 - APRIL 1984



LEGEND

- Basins
- Approximate axis of anticline or arch
- Approximate axis of syncline or trough
- Approximate axis of monocline

NOTES

1. From:
   Cohee et. al., 1962;
   Eardley, A.J., 1962;
   Riggs, E.A., 1960
2. Definitions of selected features are given in Section 2.5.1.1.5.1.

LA SALLE COUNTY STATION
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FIGURE 2.5-9

REGIONAL TECTONIC MAP
BASINS AND ARCHES - PALEOZOIC ROCKS

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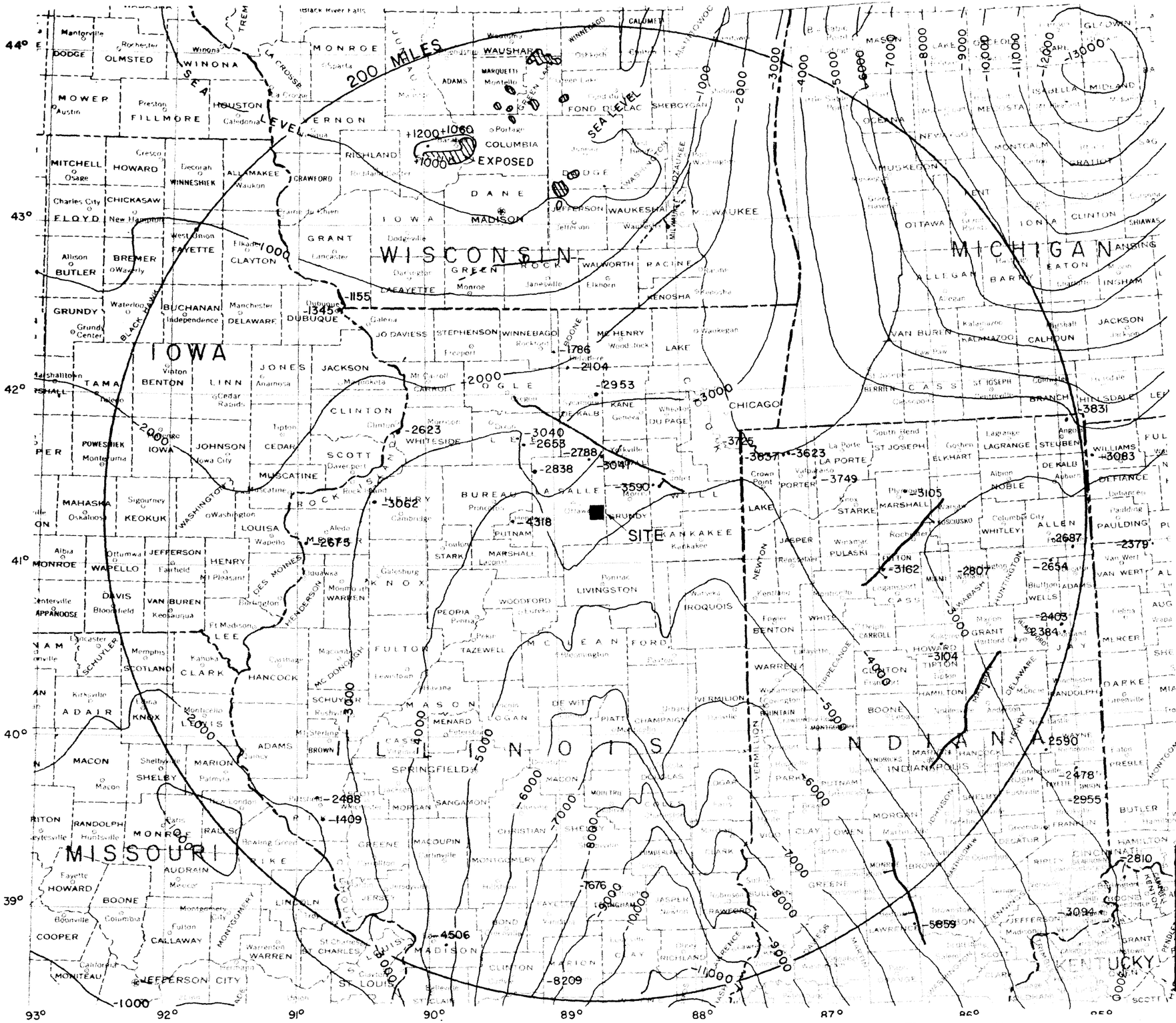

LEGEND

- Precambrian exposed
- -7000 Contour, interval 1000 feet datum mean sea level.
- Fault, ball and bar on downthrown side
- -2583 Location of wells penetrating basement with corresponding basement elevation; data from published well logs.

NOTE:

1. Modified from Atherton, 1971 Buschbach, 1971; Eardley, 1962 Flawn, 1967; Ostrom, 1971

NORTH

25 0 25 50
SCALE IN MILES

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-10

REGIONAL PRECAMBRIAN SURFACE

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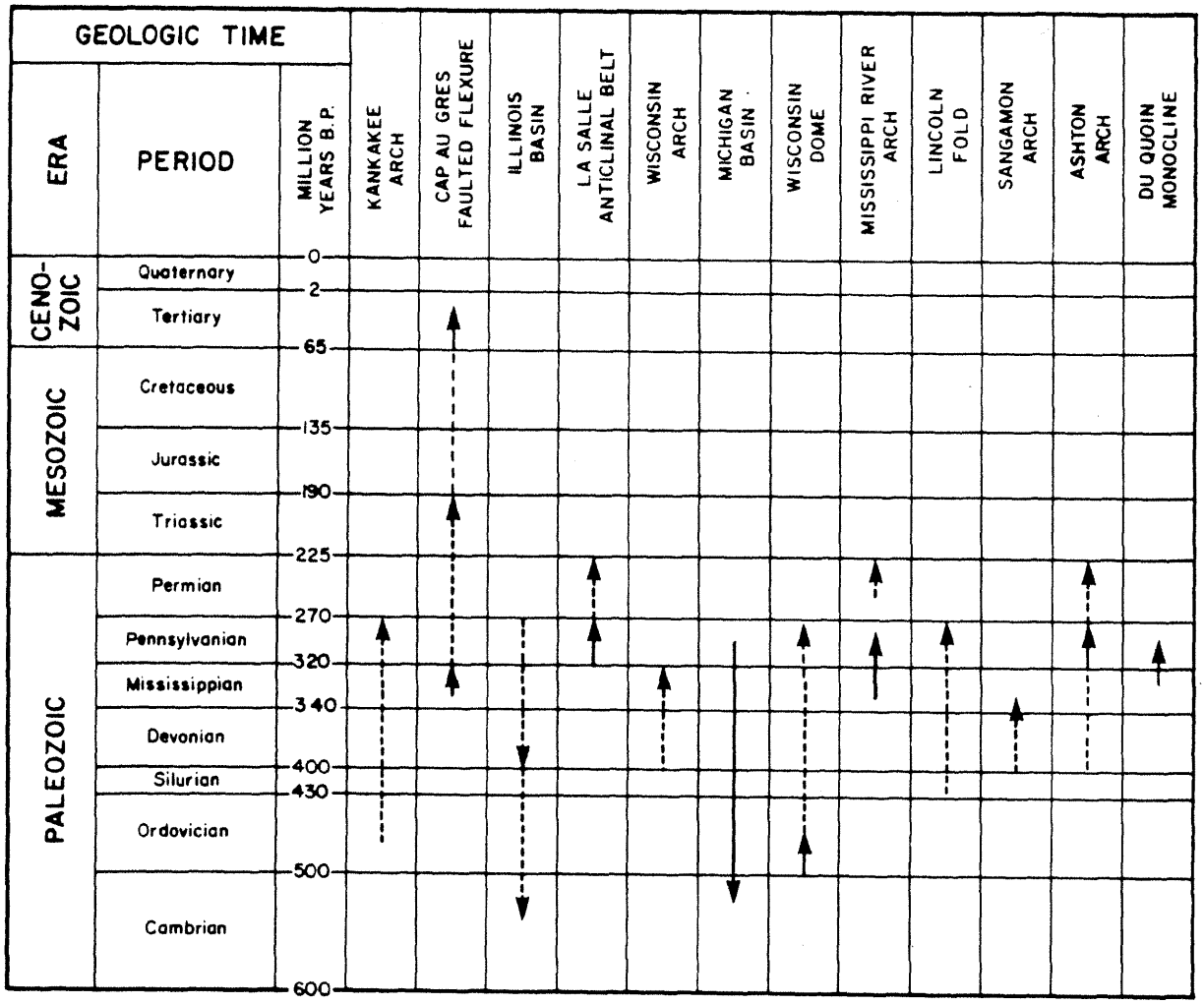

LEGEND

UPWARPING

DOWNWARPING

NOTES

1. Solid line indicates major movement, dashed line indicates intermittent movement.
2. Discussion of these features is presented in subsection 2.5.1.1.5.1 and their locations are shown on Figure 2.5-9.

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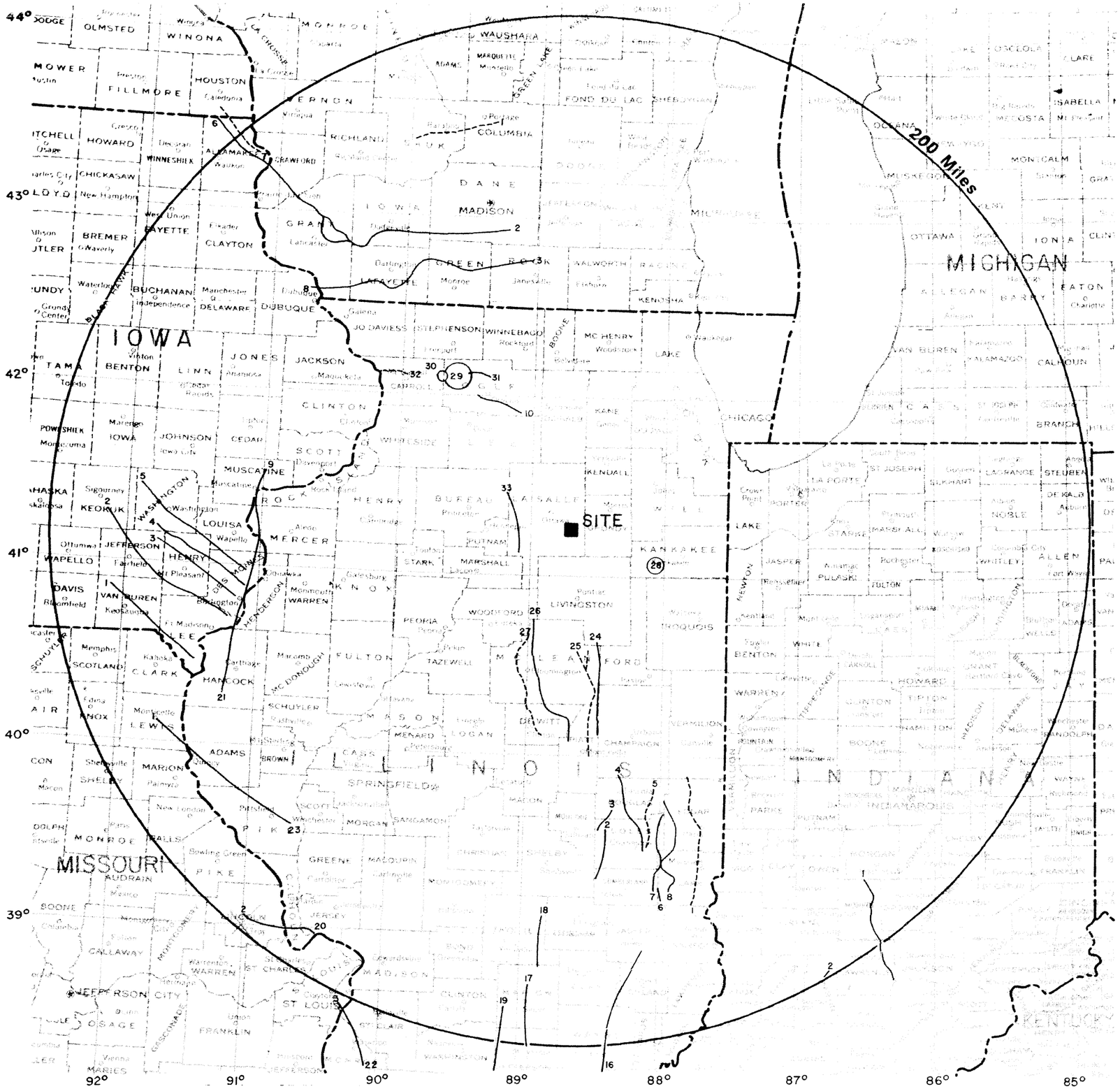
FIGURE 2.5-11

RELATIVE MOVEMENT OF REGIONAL TECTONIC FEATURES

REV. 0 - APRIL 1984



LEGEND

- Trace of Anticline Axis
- Trace of Syncline Axis
- Domes

NOTES

1. Only folds having axis two miles or longer are shown.
2. Folds are numbered according to state.
3. Data are summarized by state in Tables 2.5-8 through 2.5-12.

NORTH

25 0 25 50
Scale in Miles

LA SALLE COUNTY STATION
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FIGURE 2.5-12

REGIONAL TECTONIC MAP - FOLDS

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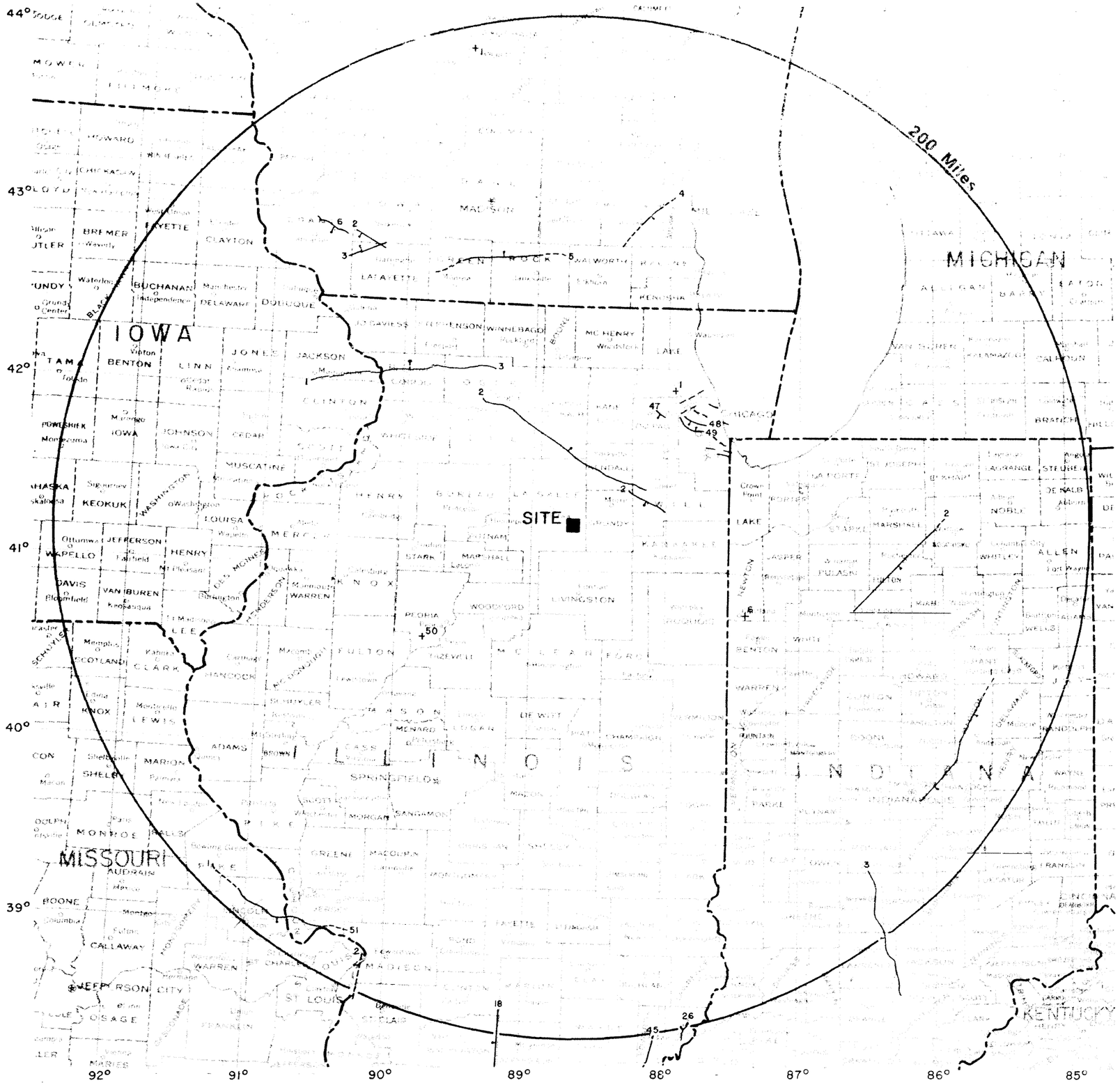

LEGEND

——— Fault, solid where positively or approximately located; dashed where inferred. Ball and bar on downthrown side.

\+ Faulted complex, astroblem or cryptovolcanic.

2 Fault identification number.

NOTES

1. Only faults having traces two miles or longer are shown.
2. Faults are numbered according to state.
3. Data are summarized by state in Tables 2.5-3 through 2.5-7.

NORTH

25 0 25 50
Scale in Miles

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FIGURE 2.5-13

REGIONAL TECTONIC MAP - FAULTS

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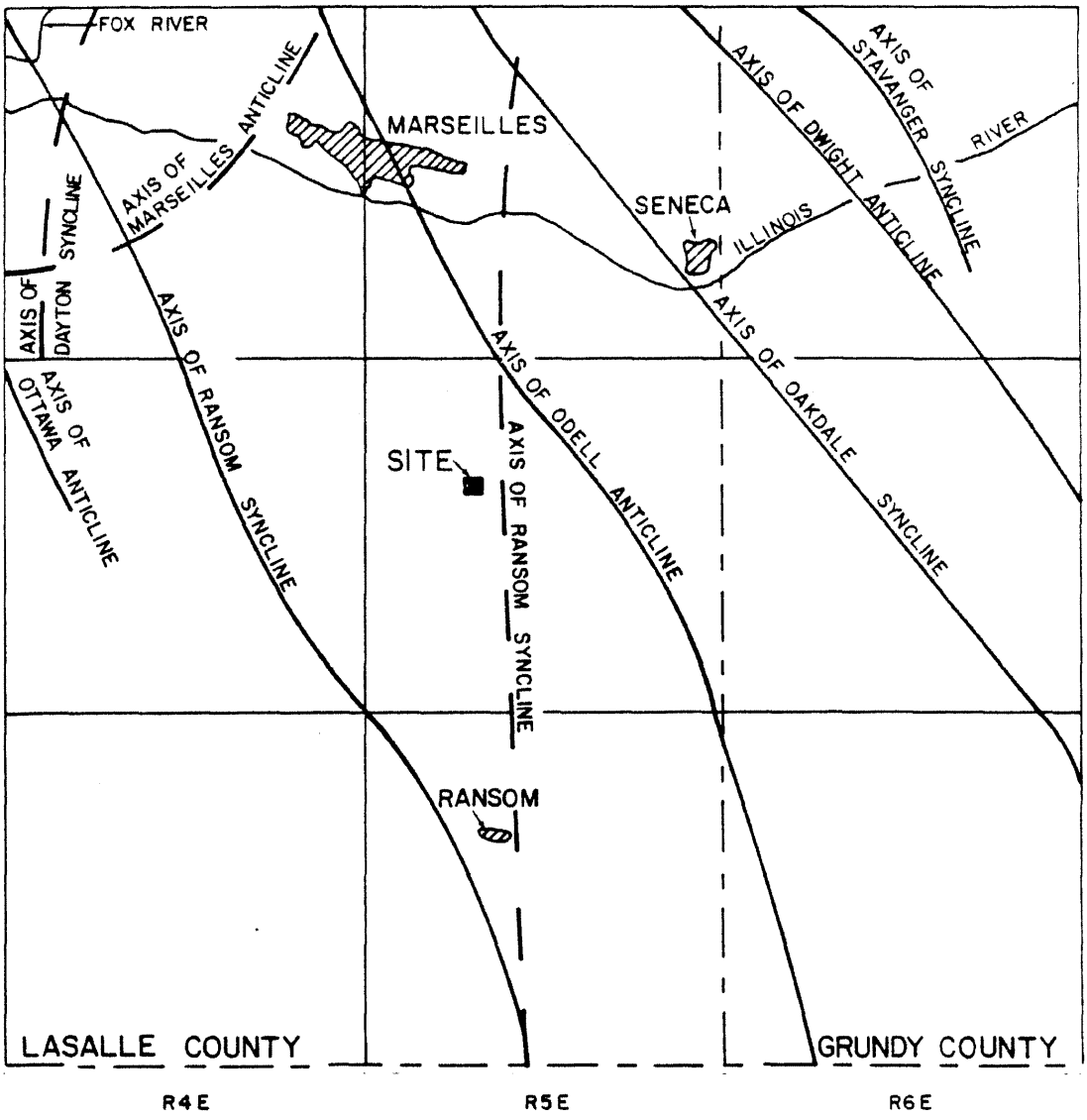

LEGEND

— — — Pre-St. Peter structure

——— Post-St. Peter structure

0 1 2 3 4

Scale in Miles

NORTH

NOTE

1. Modified from Willman and Payne, 1942, p. 182

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FIGURE 2.5-14

SITE STRUCTURAL GEOLOGY

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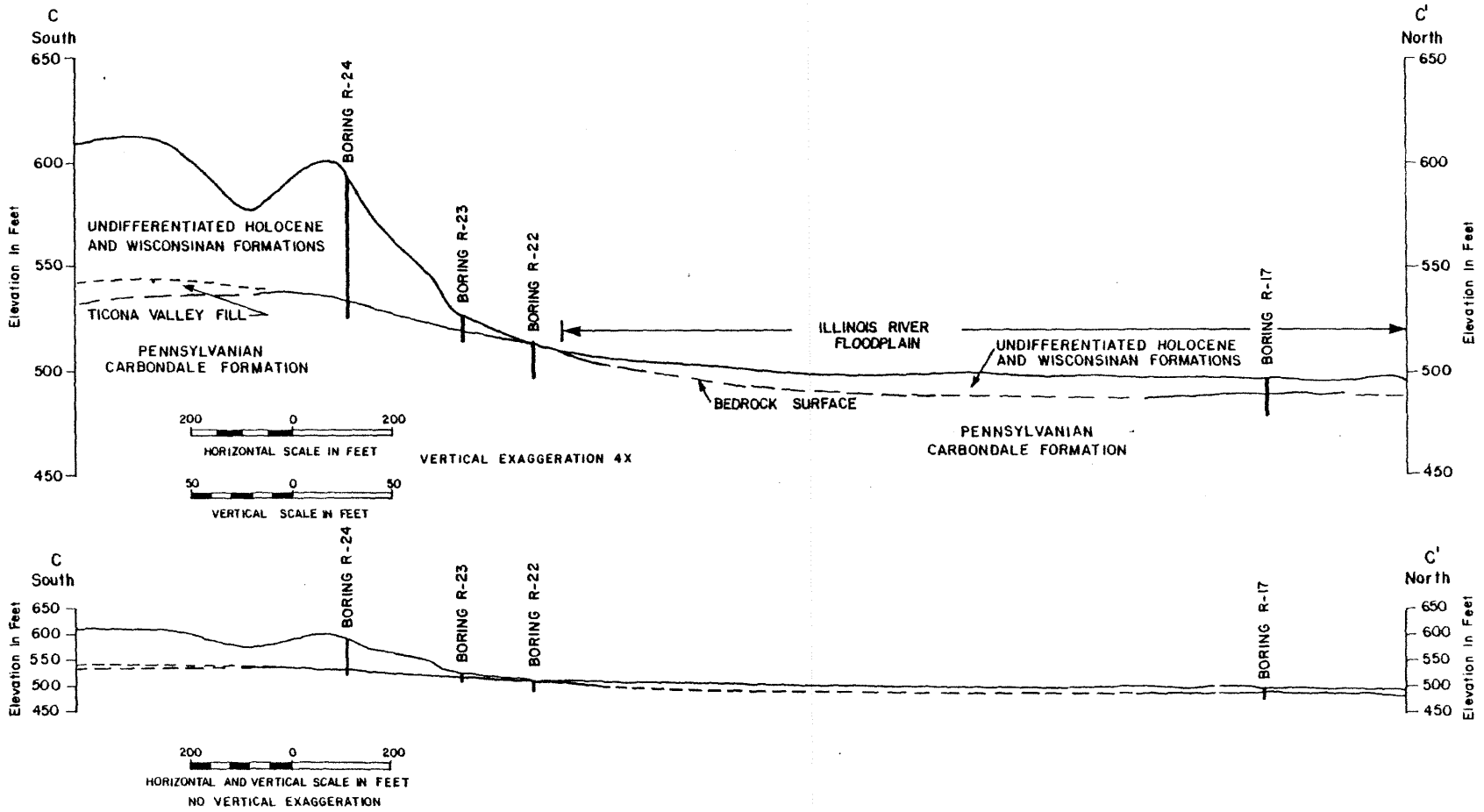
FOR INFORMATION ONLY



NOTES

1. Cross section location shown on Figure 2.5-2, Sheet 1.
2. Datum mean sea level.
3. Holocene and Wisconsinan deposits were not identified on a formational level in the boring logs.

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FIGURE 2.5-15

CROSS SECTION - SOUTH BLUFF OF ILLINOIS RIVER

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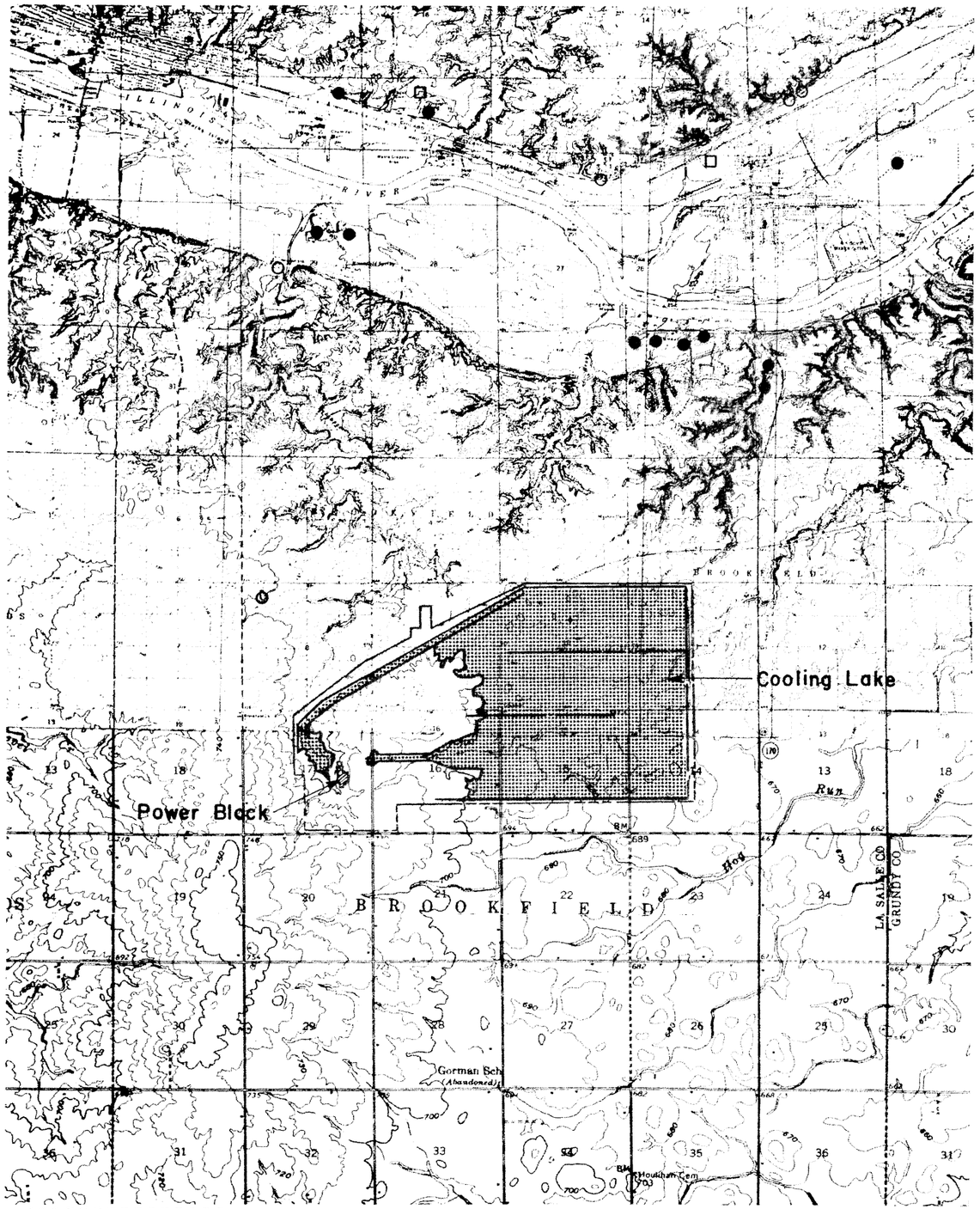

LEGEND

- ● Gravel Pit
- ○ Gravel Pit (abandoned)
- □ Surface Mine (abandoned)

NOTES

1. Base map derived from U.S.G.S. Topographic Maps (Illinois): 7.5 Minute Series, Ottawa, 1970; Marseilles, 1970; Seneca, 1970; 15 Minute Series, Streator, 1925; Odell, 1958.

2. Locations of pits and mines from U.S.G.S topographic base maps and from Sellin, et al., 1931 and Willman, 1973.

NORTH

0

Scale in Miles

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FIGURE 2.5-16

ECONOMIC GEOLOGY IN SITE VICINITY

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Shear Strength Column Key

a. Shear strength defined as one-half the peak axial compressive stress (deviator stress), in PSF, as determined by unconsolidated undrained triaxial compression tests. Values in parentheses represent shear stress defined as one-half the axial compressive stress at 10 percent axial strain (for all tests in which the peak axial compressive stress occurred at axial strain levels greater than 10 percent).

b. Cell pressure in PSF for unconsolidated undrained triaxial tests.

c. Shear strength defined as one-half the peak axial compressive stress, in PSF, as determined by unconfined compression tests. Values in parentheses represent shear stress defined as one-half the axial compressive stress at 10 percent axial strain (for all tests in which the peak axial compressive stress occurred at axial strain levels greater than 10 percent).

d. Shear strength defined as cohesion, the PSF, as determined by a pocket penetrometer used in the field as samples were obtained. Values in parentheses or in excess of 4500 PSF are estimated strengths.

d_1. Shear strength defined as cohesion, in PSF, as determined by a torvane. Values in excess of 5000 PSF are indicated by (5000+).

e. Shear strengths defined as the yield shear stress, in PSF, as determined by direct shear tests.

f. Normal pressure, in PSF, for direct shear tests.

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FIGURE 2.5-17
EXPLANATION OF BORING LOGS
(SHEET 1 OF 3)

LEGEND

Indicates the number of blows required to drive a Dames & Moore type U sampler one foot (except as noted) with a 340-pound hammer falling 24 inches. Blow count column marked * indicates the number of blows required to drive the sampler one foot with a 350-pound hammer falling 30 inches. Blow count column marked ** indicates the number of blows required to drive the sampler one foot with a 350-pound hammer falling 24 inches. Blow count marked ( ) indicates the number of blows required to drive the sampler one foot with a 340-pound hammer falling 30 inches.

15 ■ Indicates depth of undisturbed sample obtained with Dames & Moore type U sampler (3.25" O.D., 2.42" I.D. Split Spoon Sampler).

P Indicates sampler was hydraulically pushed to obtain sample

Indicates the number of blows required to Drive a standard penetration test sampler one foot (except as noted) with a 340-pound hammer falling 24 inches. Blow count column marked * indicates the number of blows required to drive the sampler one foot with a 350-pound hammer falling 30 inches. Blow count column marked ** indicates the number of blows required to drive the sampler one foot with a 350-pound hammer falling 24 inches. Blow count column marked * indicates the number of blows required to drive the sampler one foot with a 140-pound hammer falling 30 inches. Blow count marked ( ) indicates the number of blows required to drive the sampler one foot with a 340-pound hammer falling 30 inches.

20. ◥ Indicates depth of standard penetration test (2" O.D. Split Spoon Sampler).

☒ Indicates recovery of disturbed sample.

◸ or □ Indicates depth of sampling attempt with no recovery.

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FIGURE 2.5-17 EXPLANATION OF BORING LOGS (SHEET 2 OF 3)

	Indicates depth of sample obtained by pushing a standard shelby tube (thinwall 3" I.D. 36" tube)
	Indicates a gradational contact
95%	Indicates depth, length and percent of core run recovered for NX diamond drill rock coring.
RQD	Rock Quality Designation Sum of pieces of sound rock 4 inches or more in length divided by the total length in inches of the core run, expressed as a percentage.
LL	Indicates the Liquid Limit
PL	Indicates the Plastic Limit
PI	Indicates the Plasticity Index
B	Type of tests and test results reported in Section 2.5.4.2.2
C	Indicates consolidation test
MA	Indicates Mechanical Analysis
MA (H)	Indicates Mechanical Analysis and Hydrometer Analysis
TX/CU	Indicates Consolidated Undrained Triaxial Test
TX/CU/PP	Indicates Consolidated Undrained Triaxial Test with Pore Pressure Measurements
PERM	Indicates Permeability Test

NOTES

1. Elevations refer to mean seal level datum (1968 local adjustment).

2. Rock stratigraphic units, discussed at a formational level in the Section 2.5.1.2.2, have not been identified on the boring logs.

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FIGURE 2.5-17
EXPLANATION OF BORING LOGS
(SHEET 3 OF 3)

MAJOR DIVISIONS			GRAPH SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS — MORE THAN 50 % OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS — MORE THAN 50 % OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS — MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS — MORE THAN 50 % OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS — LIQUID LIMIT LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS — LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICTY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTES

1. DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE CLASSIFICATIONS.
2. WHEN SHOWN ON THE BORING LOGS, THE FOLLOWING TERMS ARE USED TO DESCRIBE THE CONSISTENCY OF COHESIVE SOILS AND THE RELATIVE COMPACTNESS OF COHESIONLESS SOILS.

COHESIVE SOILS

	(APPROXIMATE SHEARING STRENGTH IN KSF)
VERY SOFT	LESS THAN 0.25
SOFT	0.25 TO 0.5
MEDIUM STIFF	0.5 TO 1.0
STIFF	1.0 TO 2.0
VERY STIFF	2.0 TO 4.0
HARD	GREATER THAN 4.0

COHESIONLESS SOILS

VERY LOOSE	THESE ARE USUALLY BASED ON AN EXAMINATION OF SOIL SAMPLES, PENETRATION RESISTANCE, AND SOIL DENSITY DATA
LOOSE	
MEDIUM DENSE	
DENSE	
VERY DENSE	

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FIGURE 2.5-18

SOIL CLASSIFICATION SYSTEM

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BORING 1

SURFACE ELEVATION 712.2

DEPTH IN FEET	OTHER TESTS	GRAIN SIZE ANALYSES	CONSOLIDATION TESTS	STRENGTH TEST DATA IN PSF: UNIT STRENGTH	STRENGTH TEST DATA IN PSF: LOAD STRENGTH	ATTERBERG LIMITS IN PER CENT: LIQUID LIMIT	ATTERBERG LIMITS IN PER CENT: PLASTIC LIMIT	ATTERBERG LIMITS IN PER CENT: PLASTICITY INDEX	FIELD MOISTURE CONTENT IN PER CENT	DRY DENSITY IN LBS/CU FT	BLOW COUNTS SAMPLES	SYMBOLS	DESCRIPTIONS
0					4800				15.5	117	(5)	OL	12 INCHES DARK BROWN SANDY SILT-TOPSOIL
											(27)	CL	MOTTLED BROWN AND GRAY SILTY CLAY WITH SOME SAND AND GRAVEL,(VERY STIFF)
10				2800	2800				12.1	127	(17)		
				2000	2100	23.2	14.0	9.2	11.5	130	(14)		GRADING LESS CLAY GRADING TO GRAY
20											(13)		
											(10)	SM	GRAY SILTY FINE TO COARSE SAND WITH SOME CLAY (MEDIUM DENSE)
											(13)	ML	GRAY CLAYEY SILT WITH SOME SAND AND GRAVEL, (STIFF)
30				2400	3200	34.4	17.5	16.9	16.5	115	(19)	CL	GRAY SILTY CLAY,(VERY STIFF) GRADING WITH SOME GRAVEL
											(15)		
40											(12)	ML	GRAY CLAYEY SILT WITH SOME SAND AND GRAVEL, (STIFF)
				2800	3200				19.1	110	(17)	CL	GRAY SILTY CLAY WITH SOME GRAVEL,(VERY STIFF)
50				* 1000	1500	38.5	11.7	24.8	20.5	107	(18)		(GRADING HARD)
				4300	5000				20.8	109	(16)		
60											(10)	S.M ML	GRAY SANDY SILT WITH SOME CLAY,(MEDIUM DENSE)
				3800	4300				15.7	119	(18)	CL	GRAY SILTY CLAY WITH SOME SAND AND GRAVEL, (VERY STIFF)
70											(17)		
				2800	3600				16.8	117	(20)		
80				** 1900	2250	31.0	15.2	15.8	16.5	115	(23)		
											(23)		GRAY SILTY CLAY WITH SOME SAND AND GRAVEL, (HARD)
90				4900	6300				10.3	126	(23)	CL	
				3300	4500				18.8	114	(29)		GRADING MORE GRAVEL
100											(34)		GRAY SILTY CLAY WITH OCCASIONAL GRAVEL AND SAND POCKETS,(HARD)

* DIRECT SHEAR TEST
CONFINING PRESSURE = 3000 PSF

** DIRECT SHEAR TEST
CONFINING PRESSURE = 5000 PSF

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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 1)

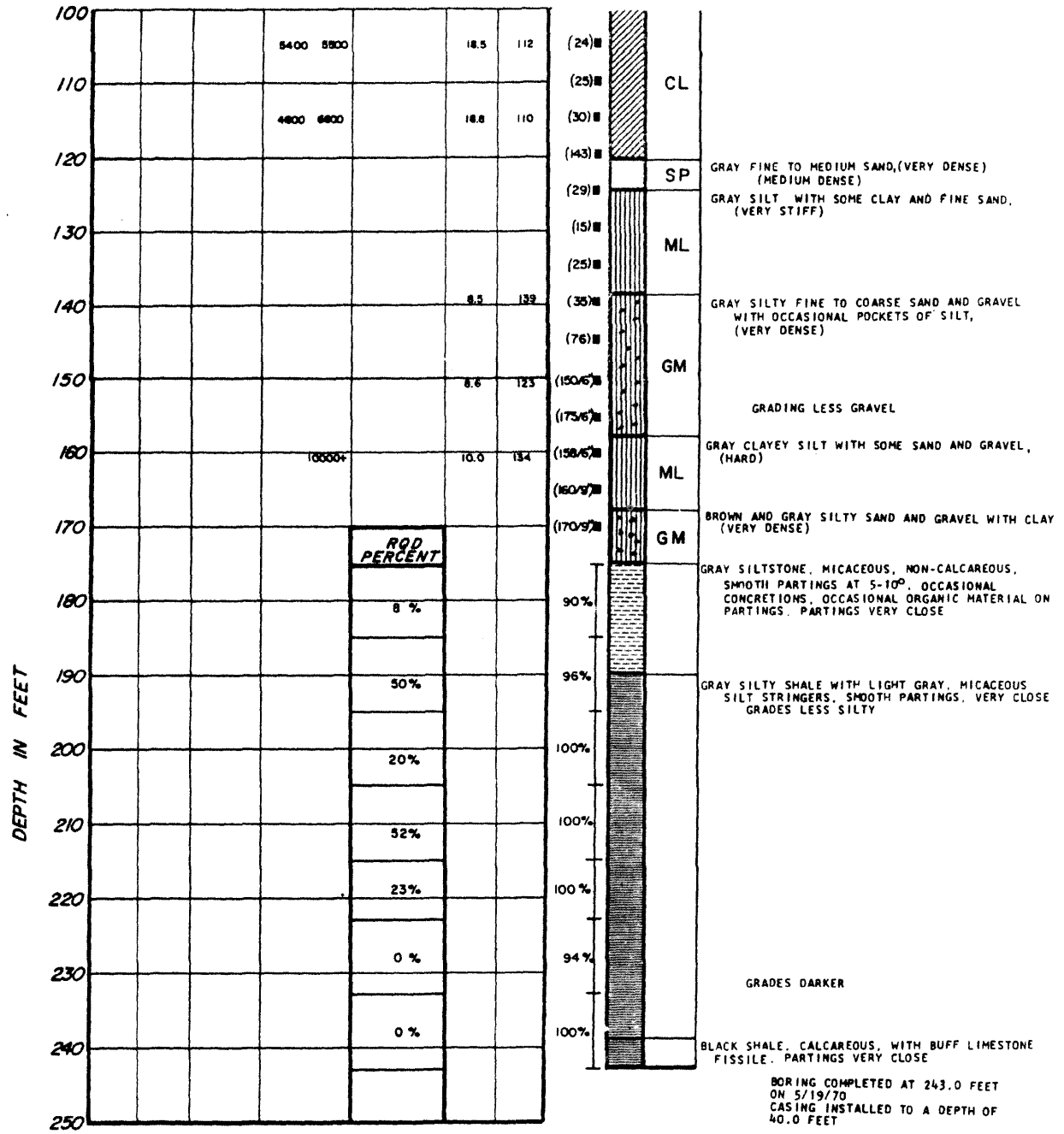

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FIGURE 2.5-19

LOGS OF BORINGS
(SHEET 2)

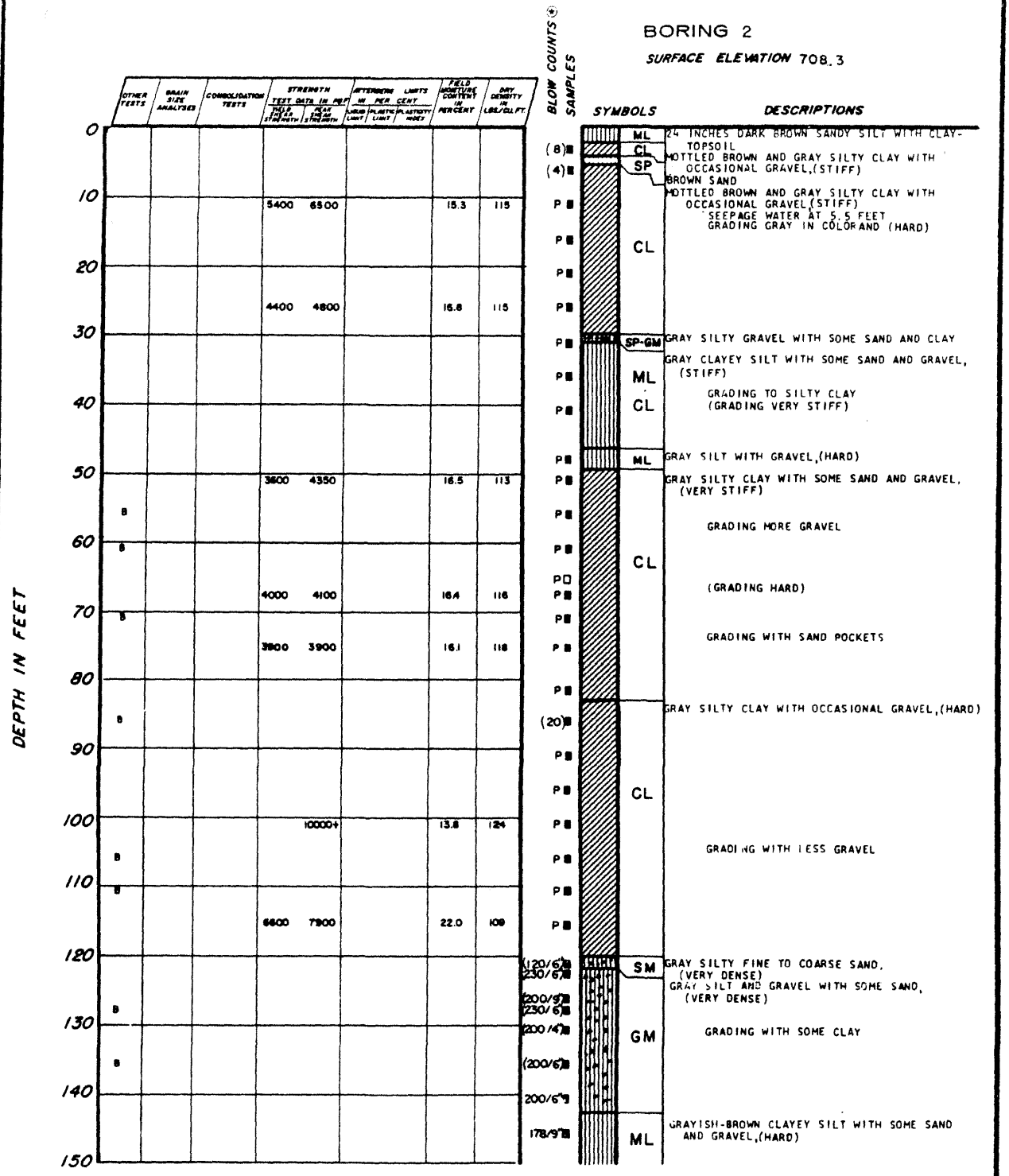

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FIGURE 2.5-19

LOGS OF BORINGS
(SHEET 3)

REV. 0 - APRIL 1984

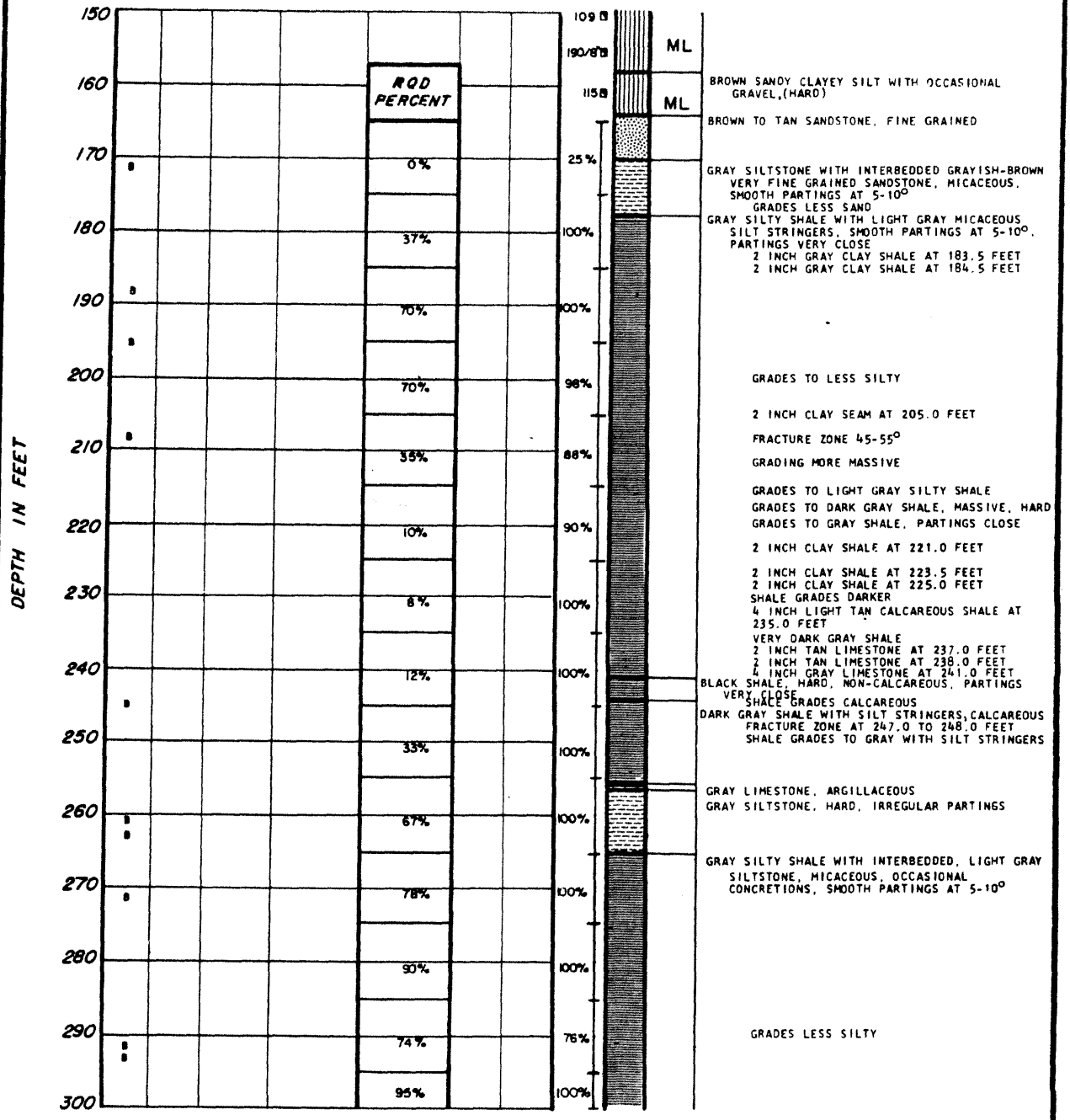

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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 4)

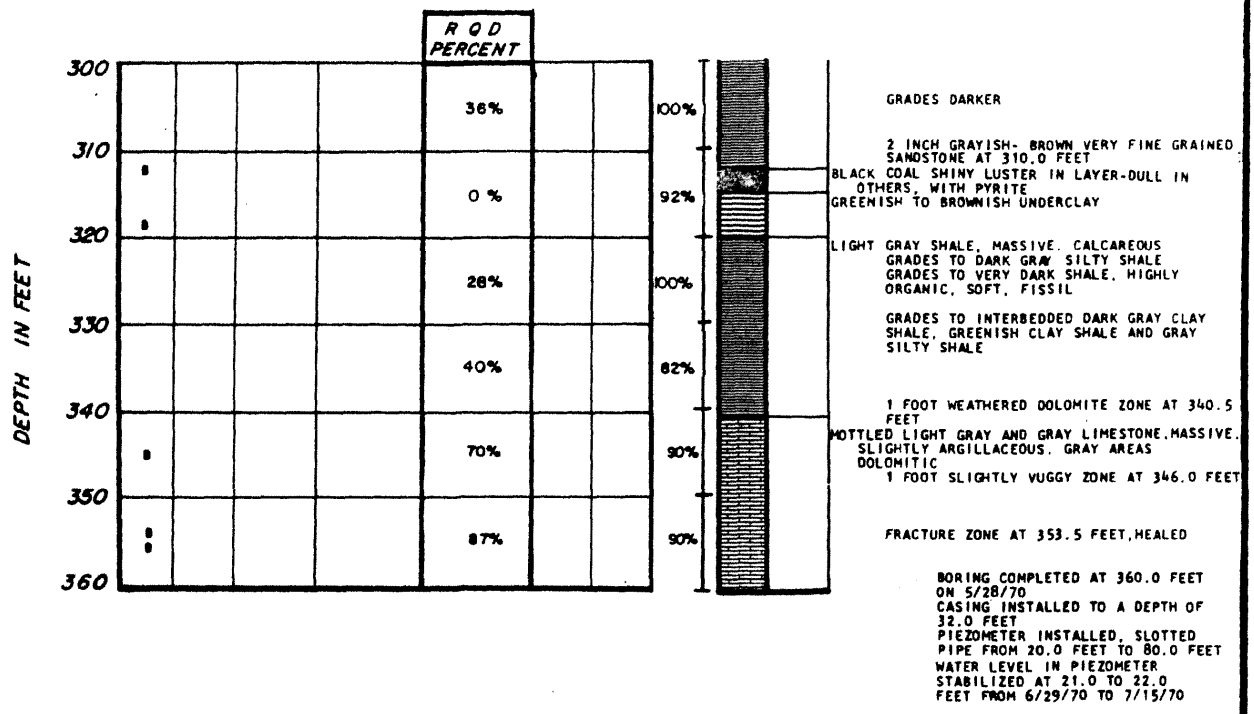

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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 5)

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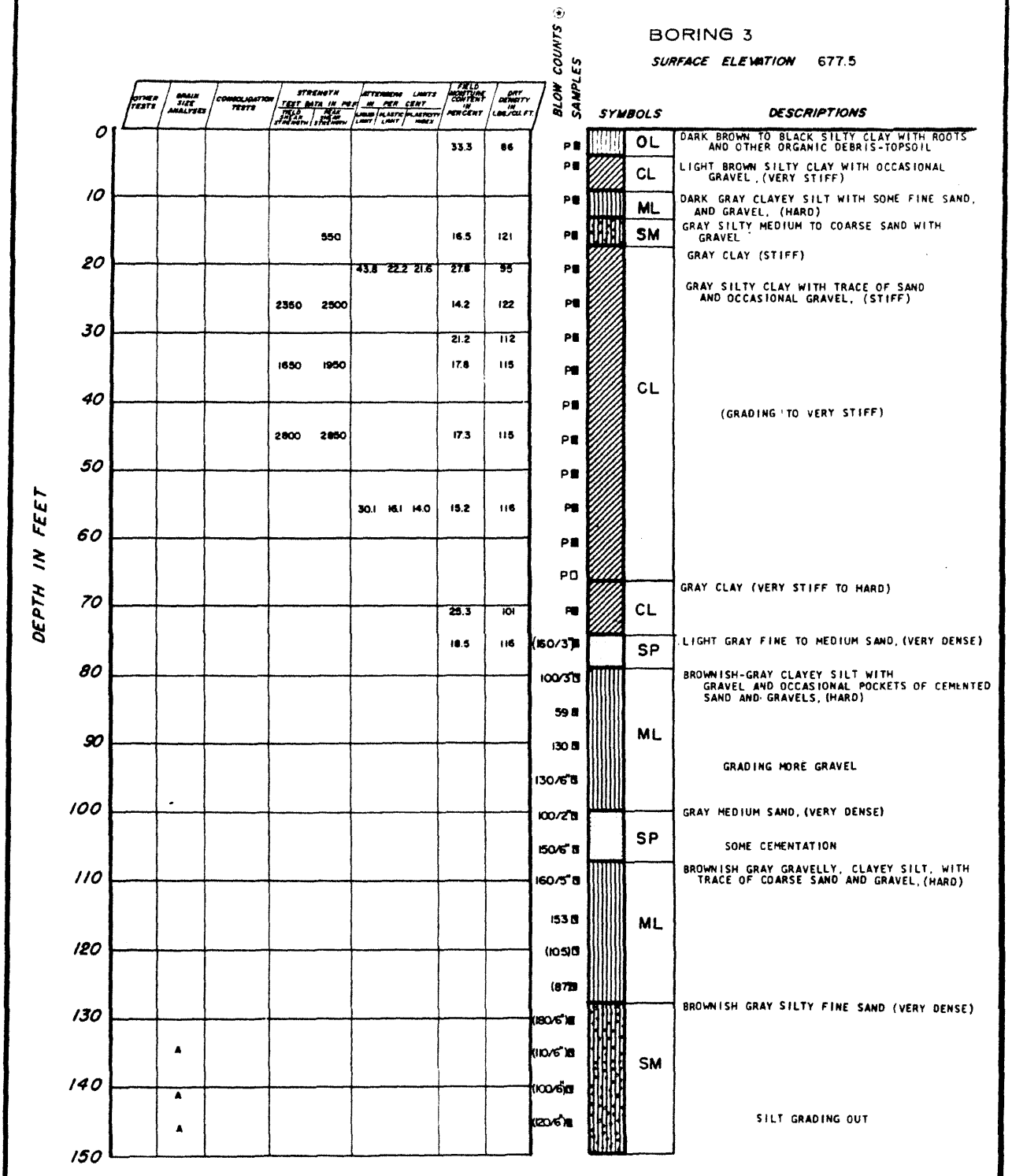

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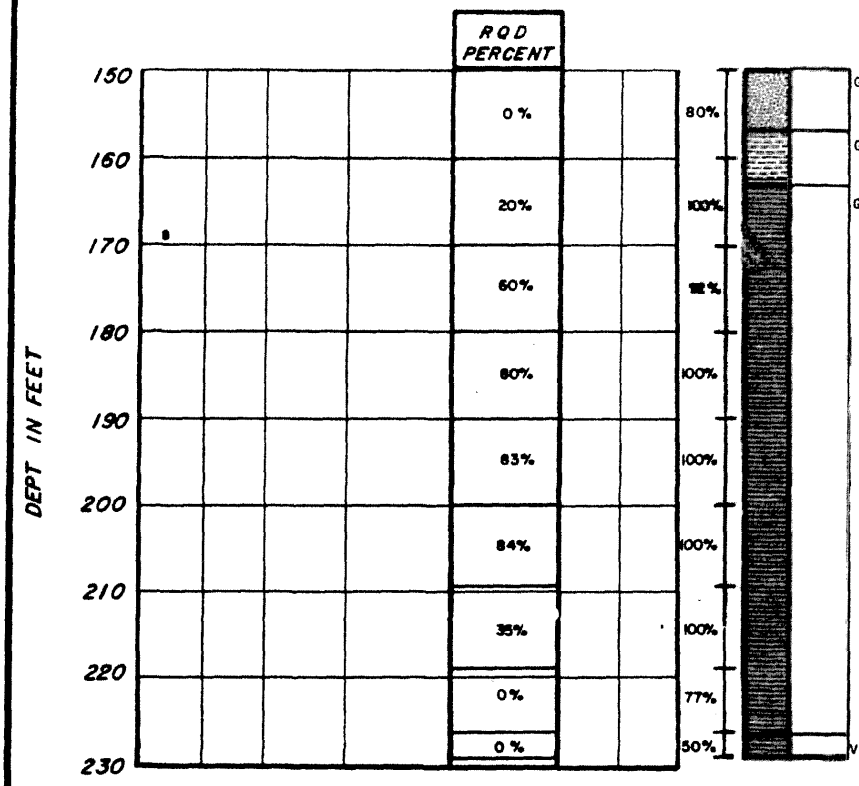
FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 6)



BORING COMPLETED AT 229.0 FEET ON 6/9/70
CASING INSTALLED TO A DEPTH OF 20.0 FEET
PIEZOMETER INSTALLED, SLOTTED PIPE FROM 130.0 FEET TO 150.0 FEET

WATER LEVEL READINGS

DATE	DEPTH IN FEET
6/11/70	85.5
6/12/70	95.5
6/16/70	113.0
6/18/70	122.0
6/23/70	131.0
6/25/70	122.0
6/26/70	132.0
6/29/70	136.0
7/7/70	139.0
7/15/70	140.7

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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 7)

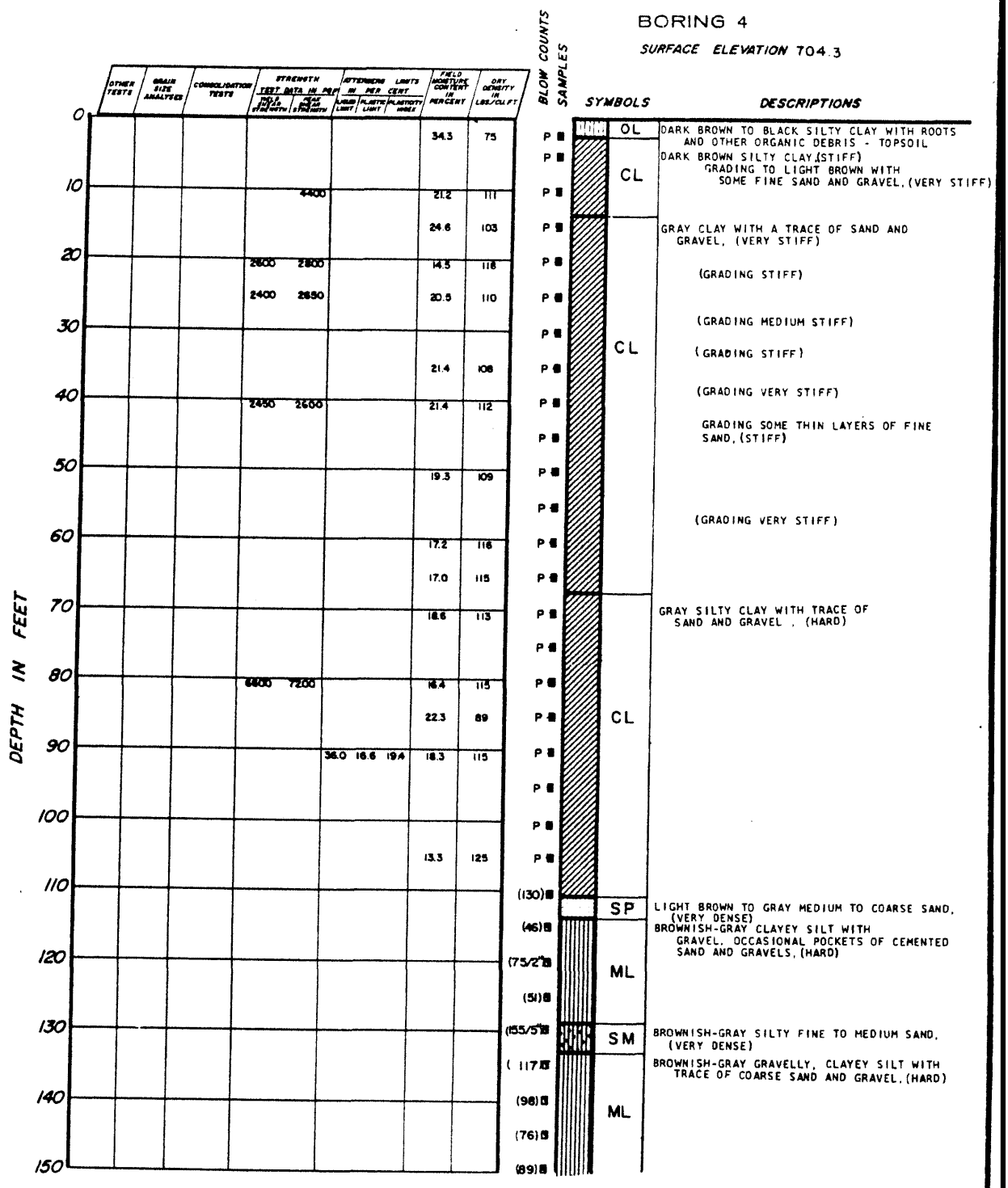

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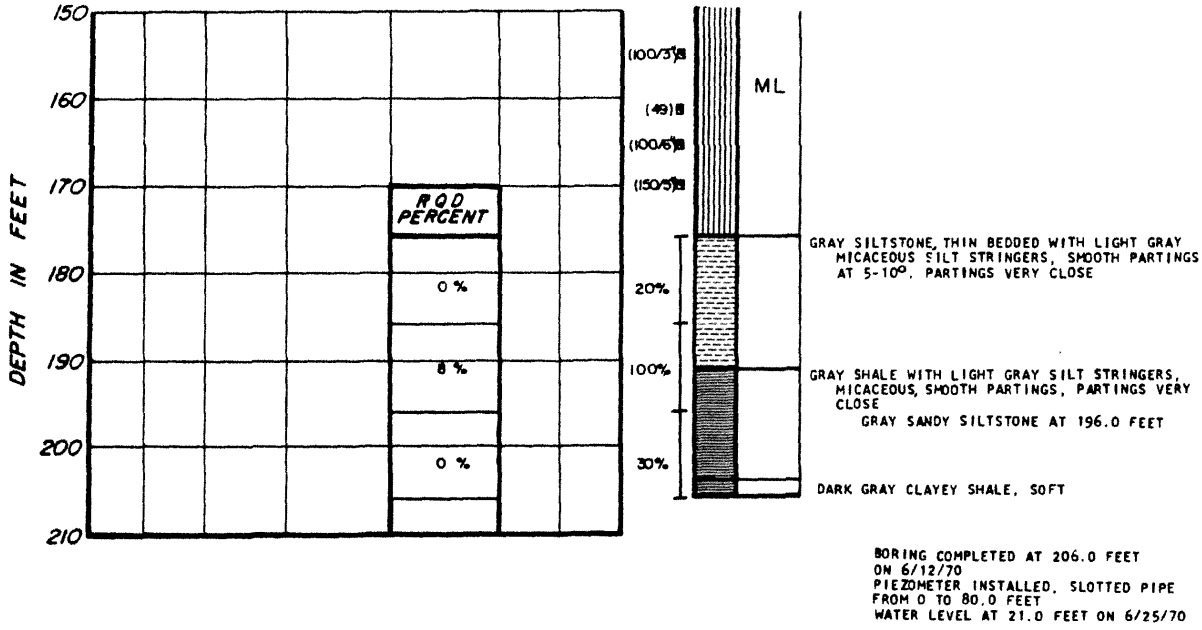
FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 8)

REV. 0 - APRIL 1984



BORING 5

SURFACE ELEVATION 713.7

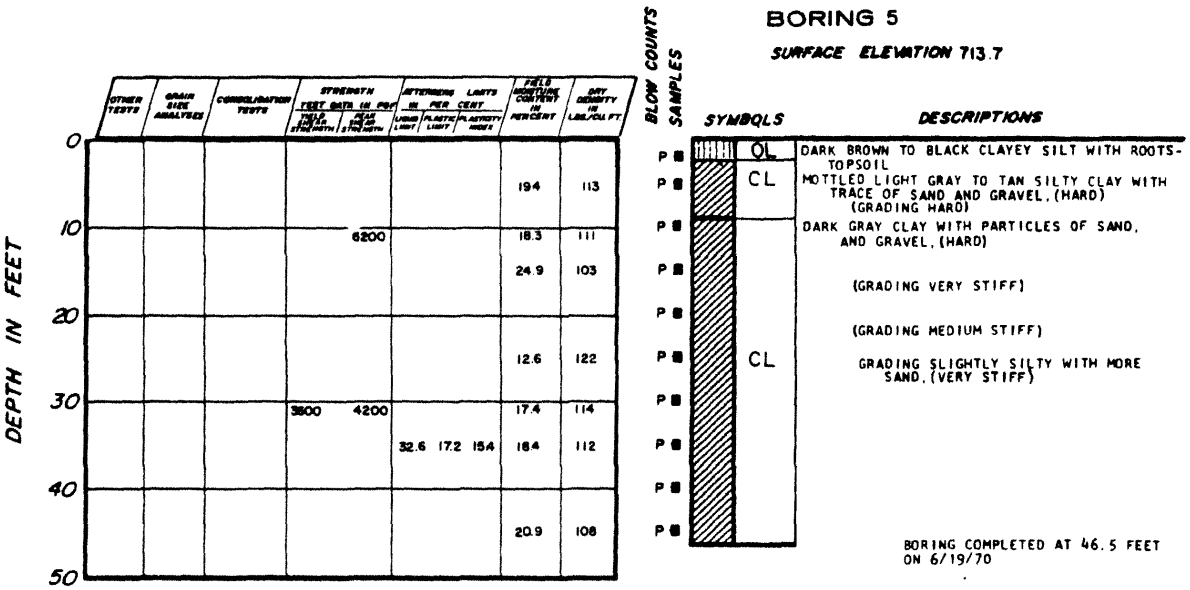


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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 9)

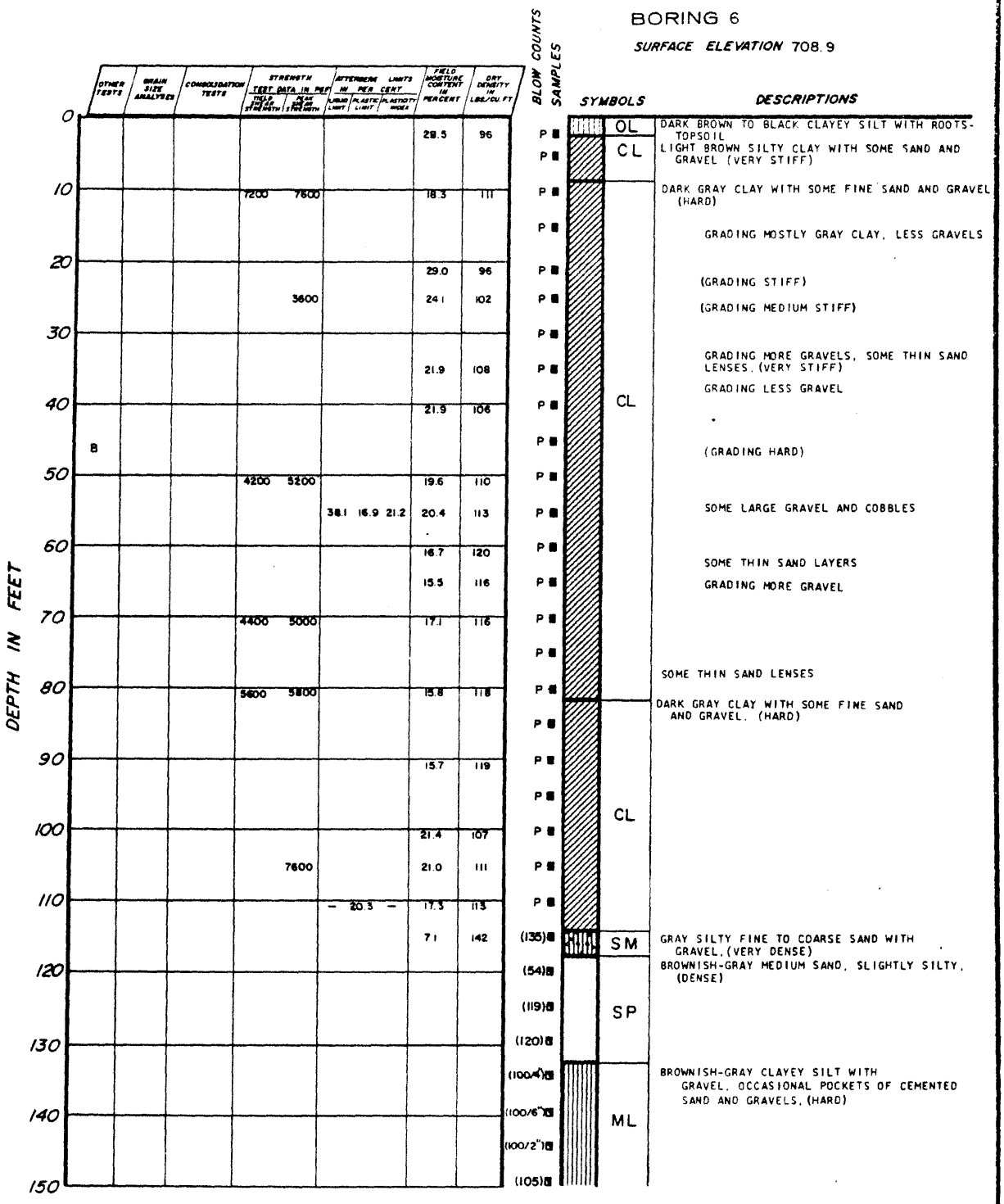

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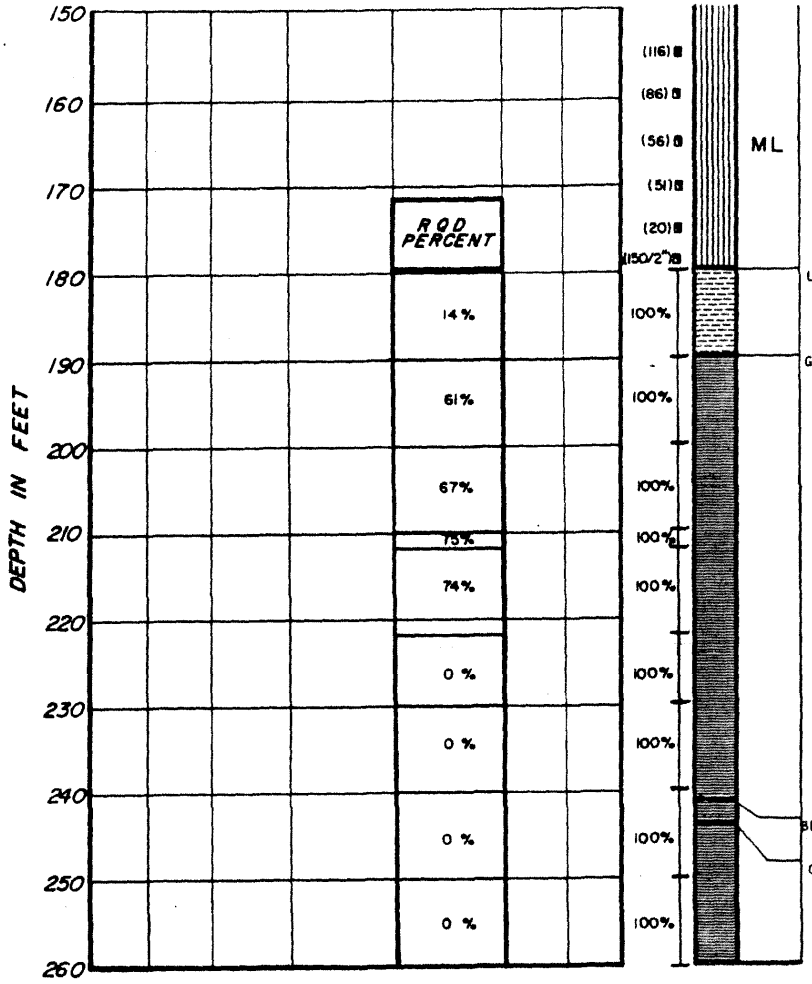
FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 10)

REV. 0 - APRIL 1984



BORING COMPLETED AT 260.0 FEET ON 6/23/70
PIEZOMETERS INSTALLED, SLOTTED PIPE FROM 120.0 FEET TO 135.0 FEET AND FROM 180.0 FEET TO 260.0 FEET

WATER LEVEL READINGS
UPPER PIEZOMETER

DATE	DEPTH IN FEET
6/30/70 TO 7/15/70	32.0 TO 33.0 FEET

WATER LEVEL READINGS
LOWER PIEZOMETER

DATE	DEPTH IN FEET
6/30/70 TO 7/15/70	118.0 TO 119.0 FEET

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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 11)

REV. 0 - APRIL 1984

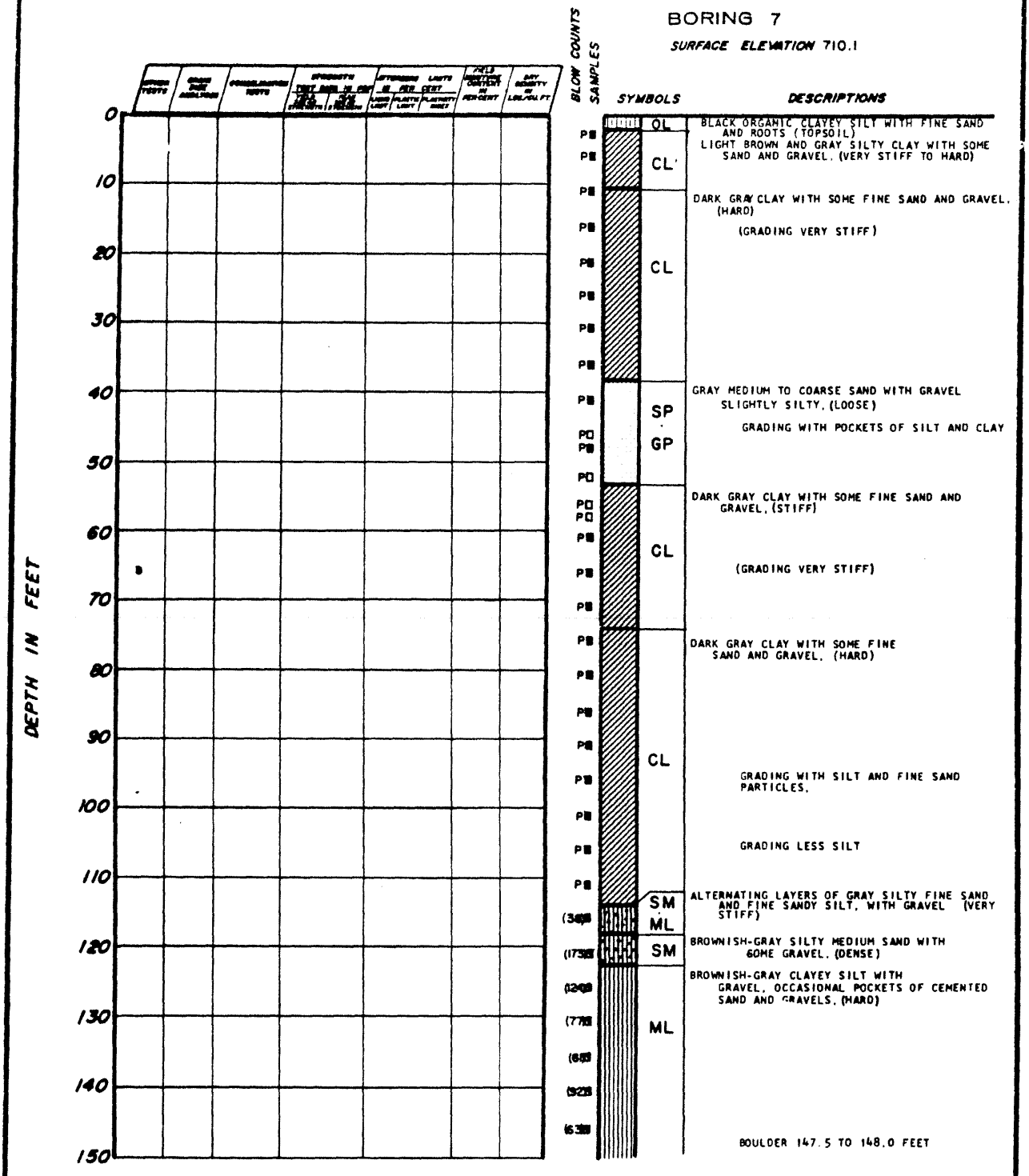

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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 12)

REV. 0 - APRIL 1984

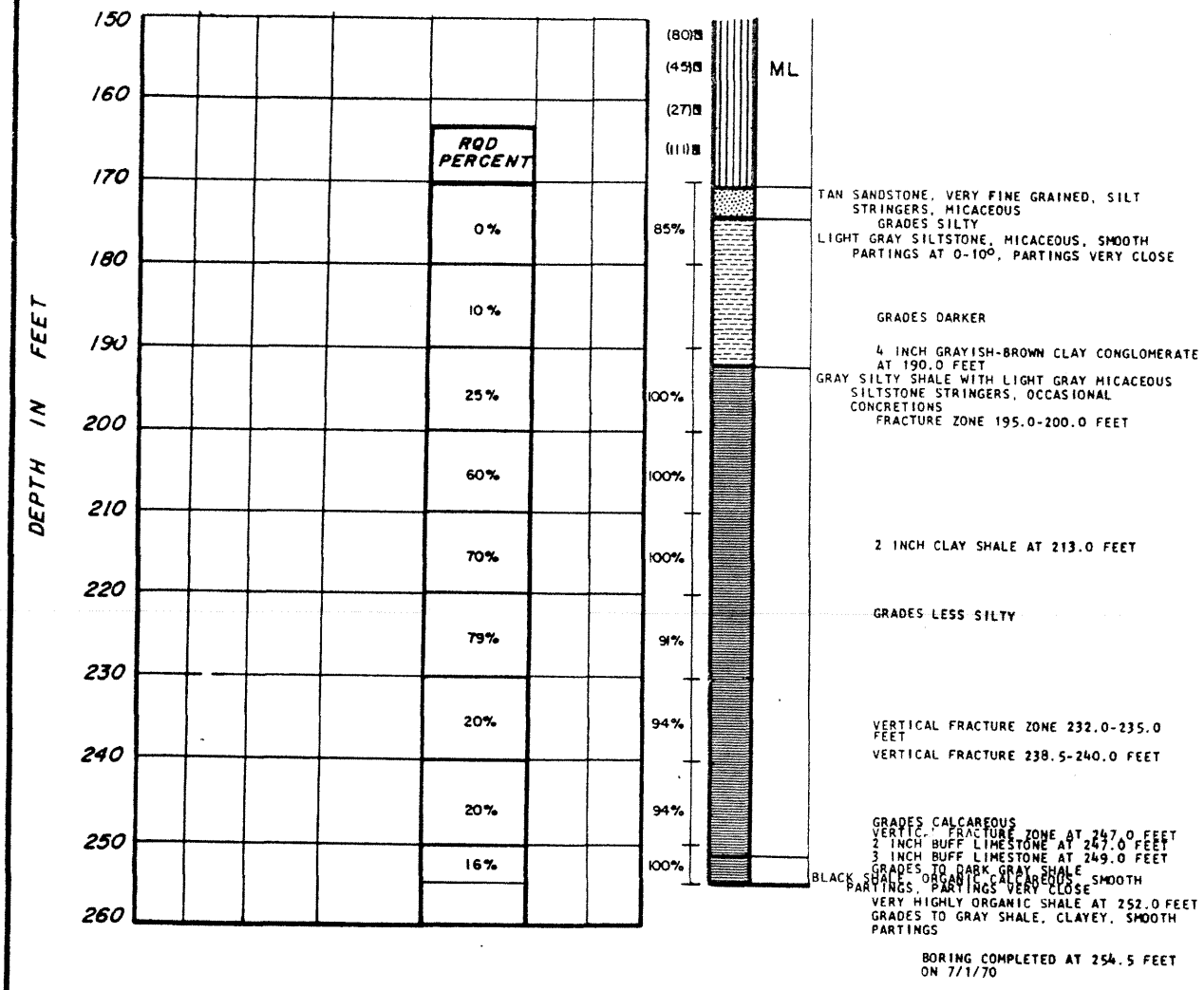

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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 13)

REV. 0 - APRIL 1984

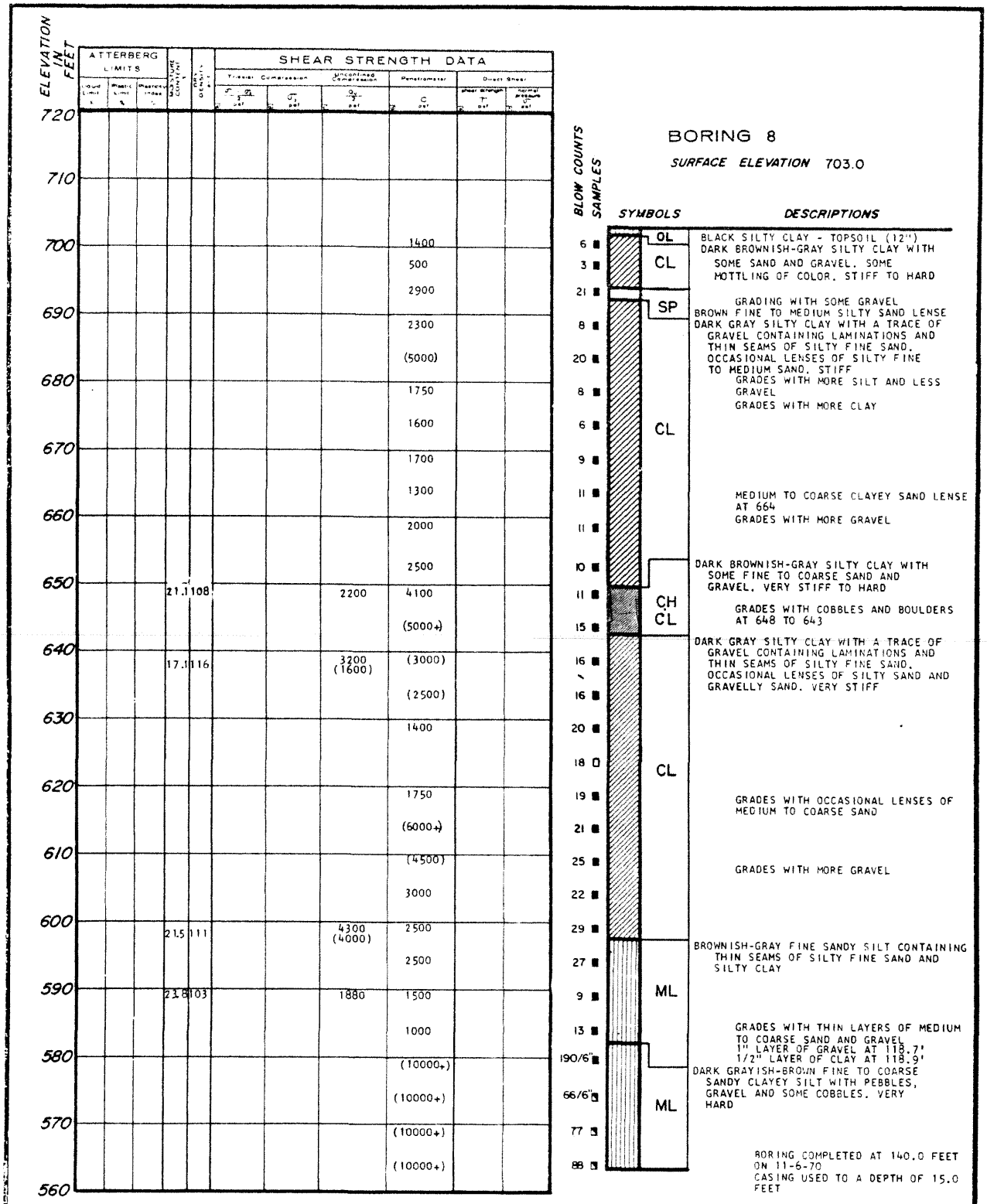

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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 14)

REV. 0 - APRIL 1984

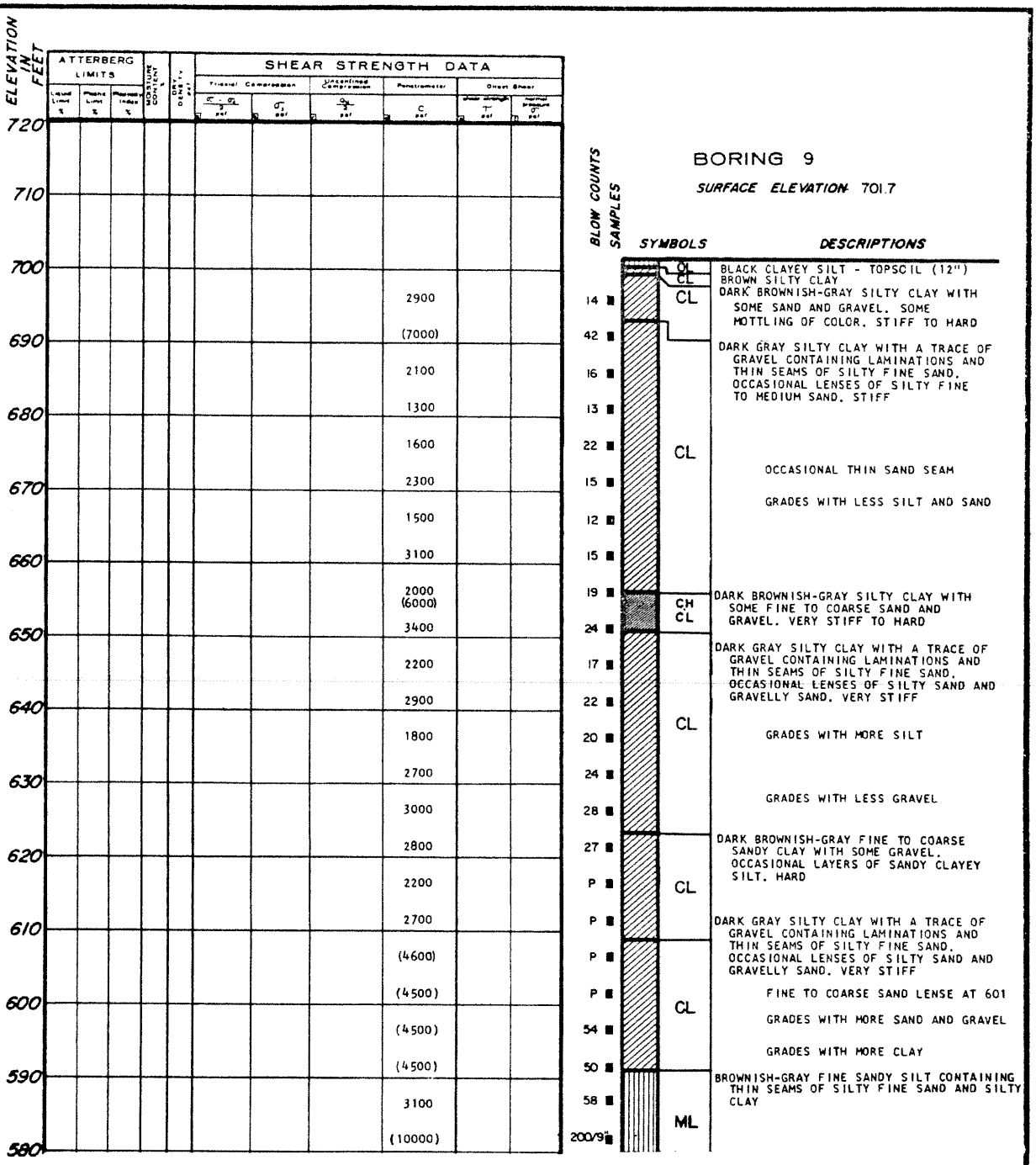

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FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 15)

BORING 9 CONTINUED

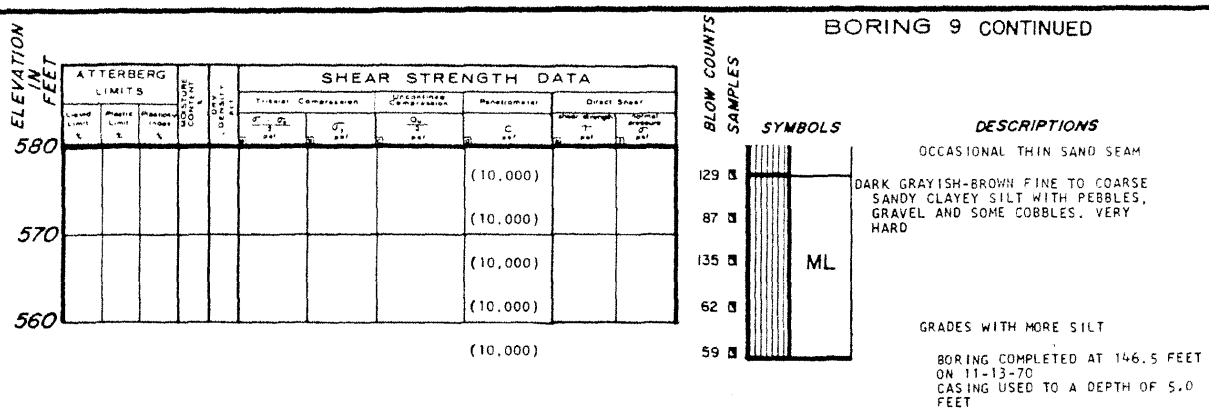

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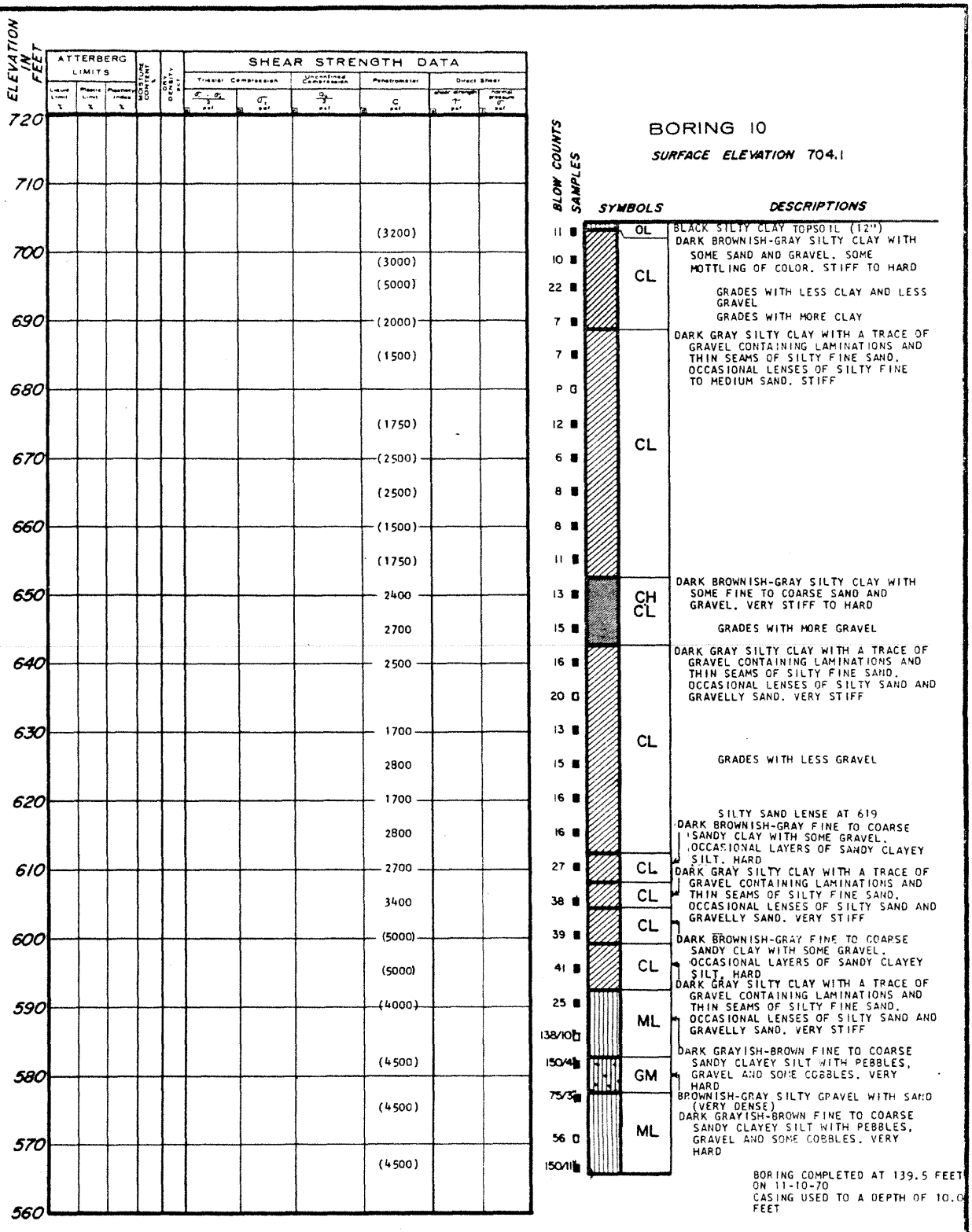
FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 16)

REV. 0 - APRIL 1984



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UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 17)

REV. 0 - APRIL 1984

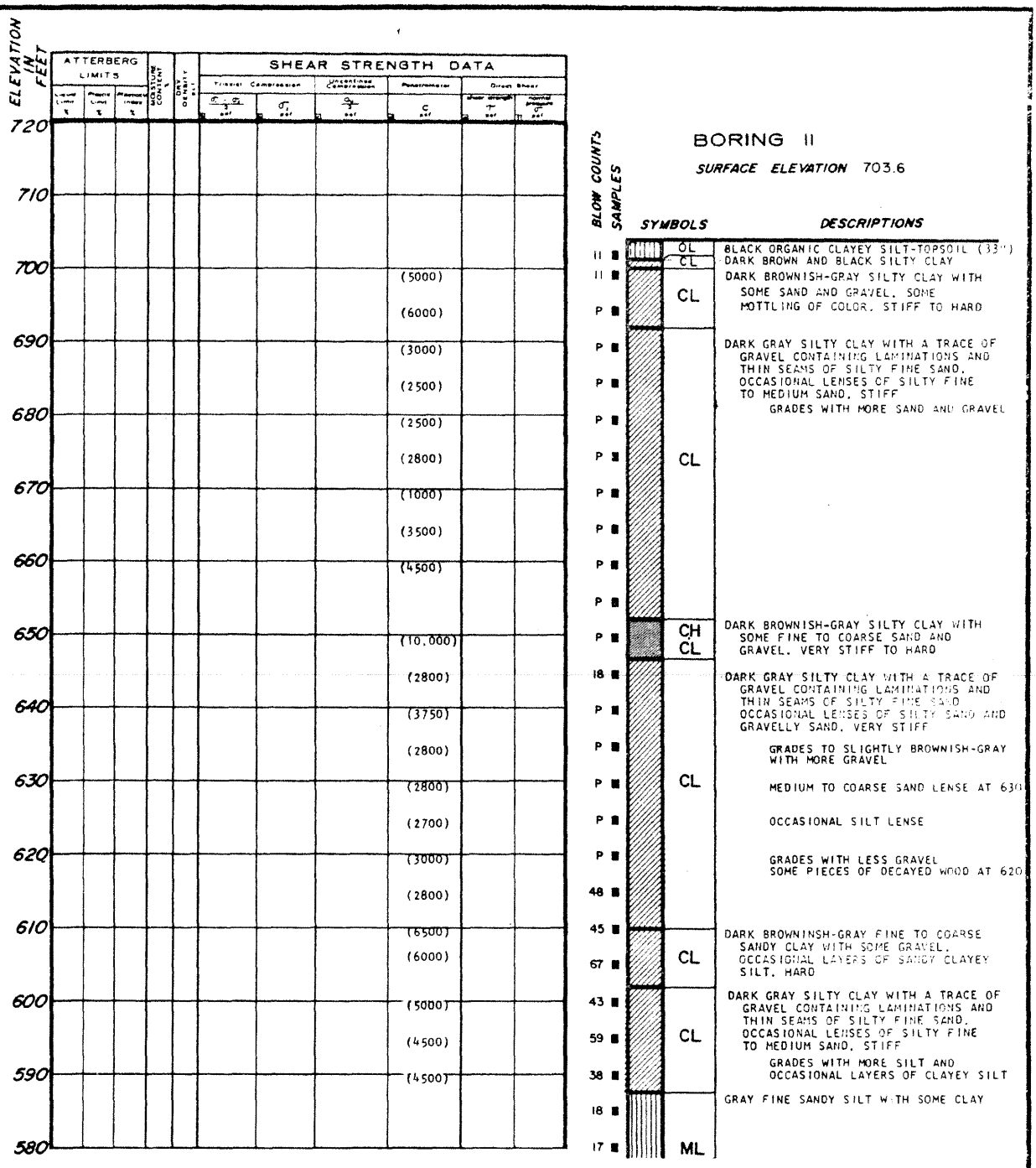

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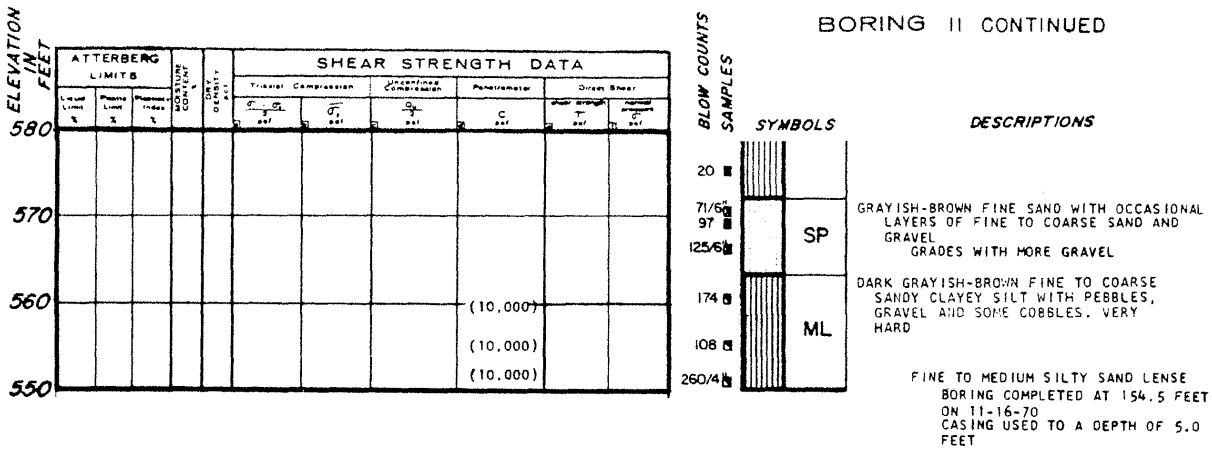
FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 18)

BORING II CONTINUED

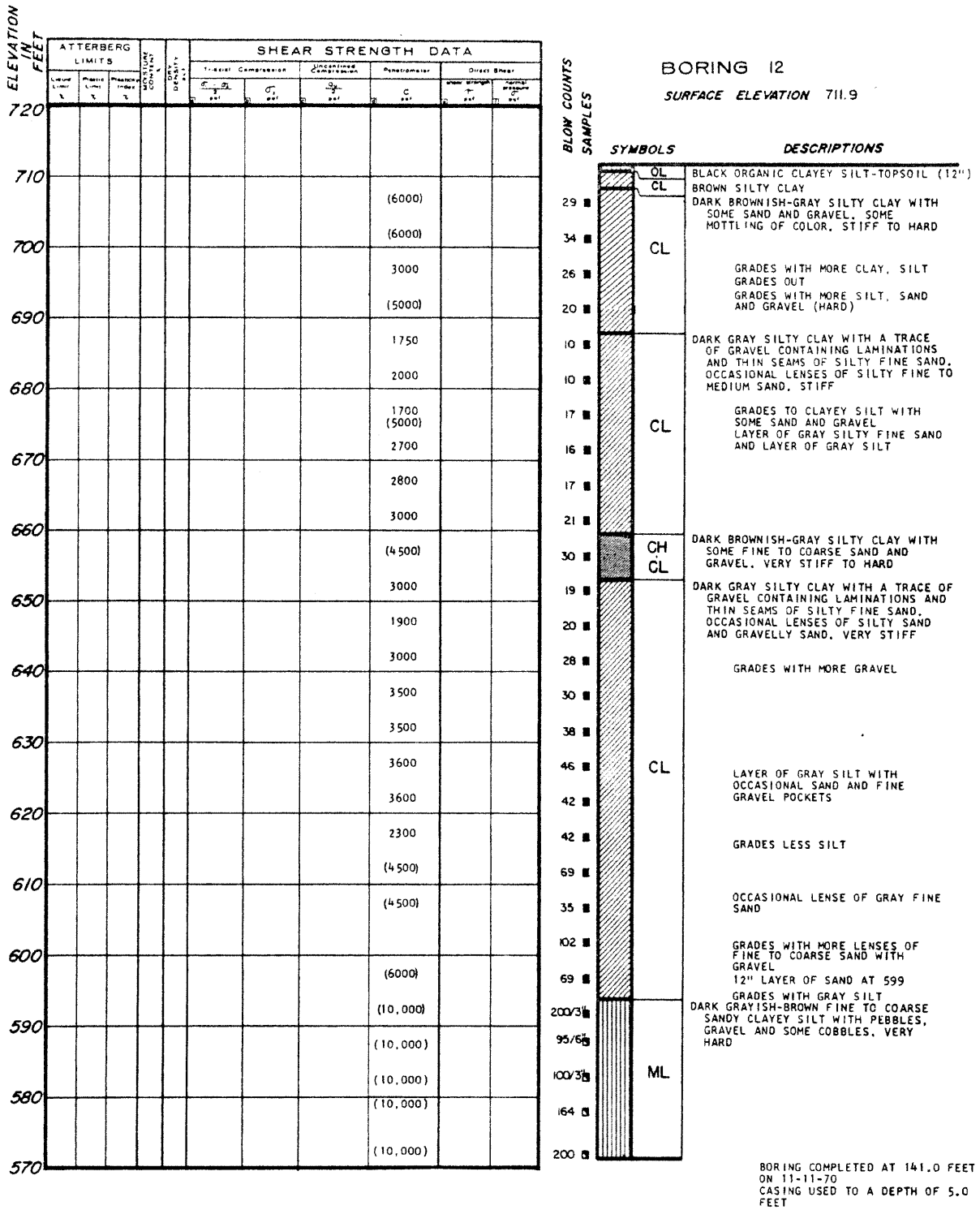


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 19)

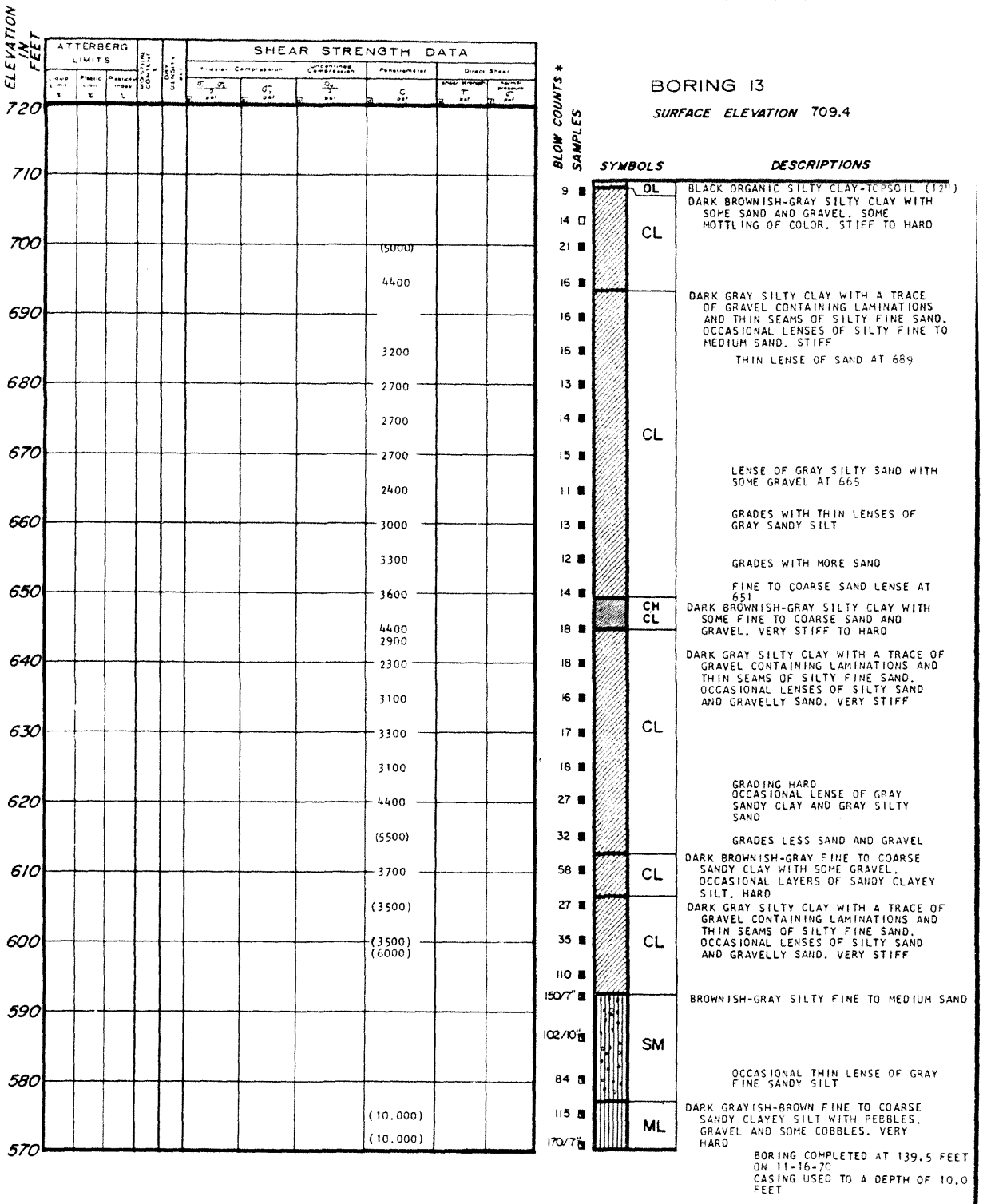


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 20)



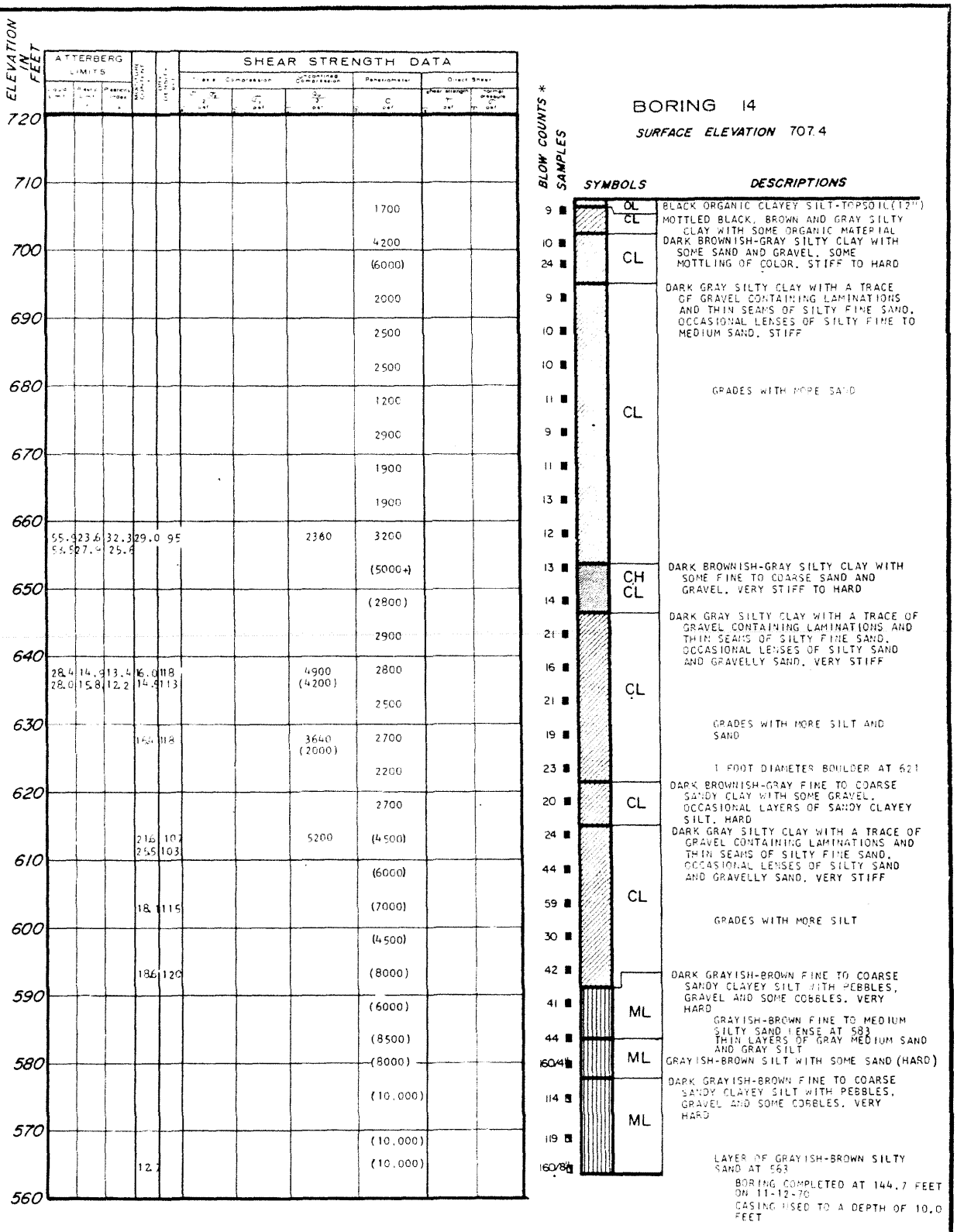
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 21)

REV. 0 - APRIL 1984



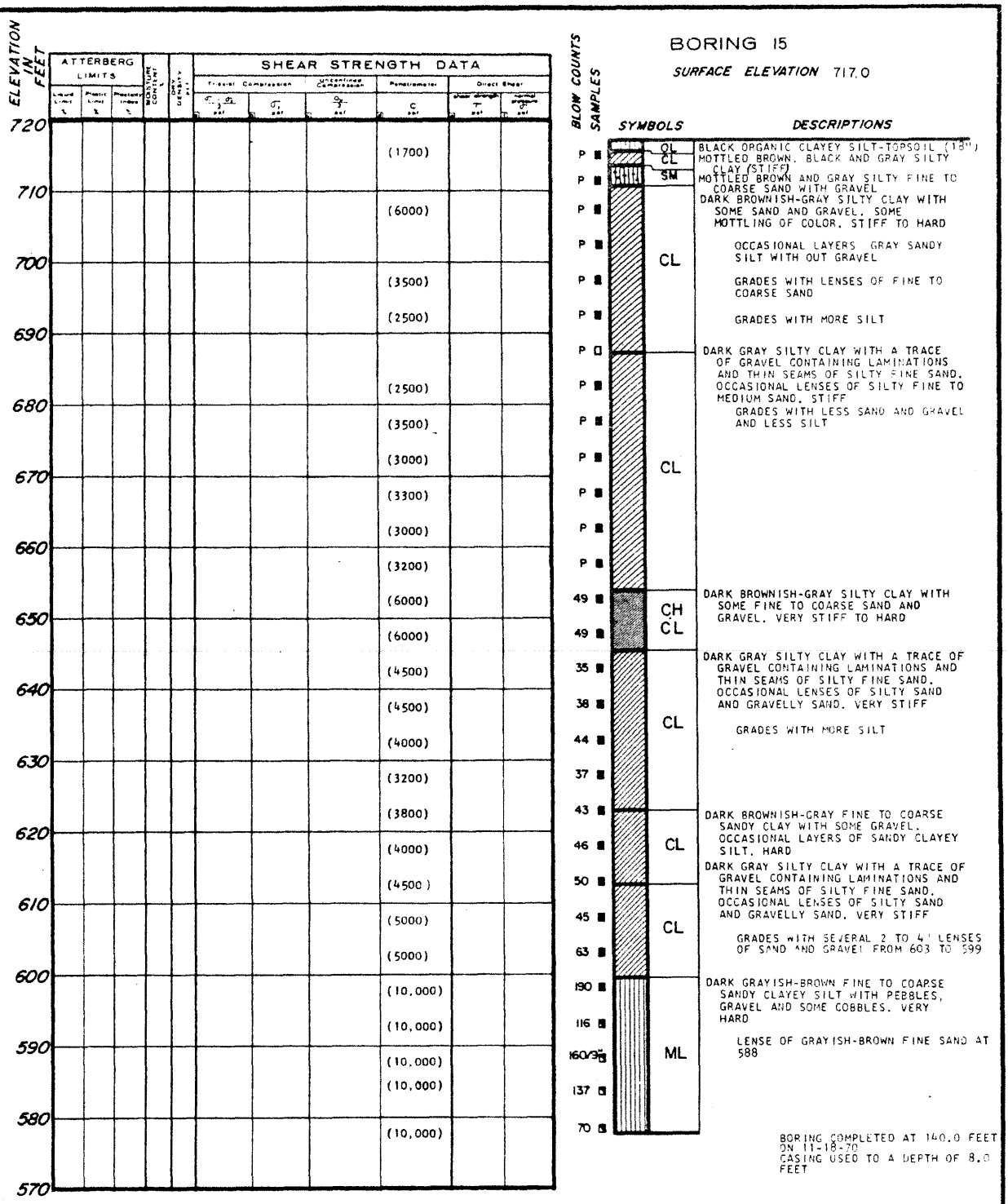
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 22)

REV. 0 - APRIL 1984

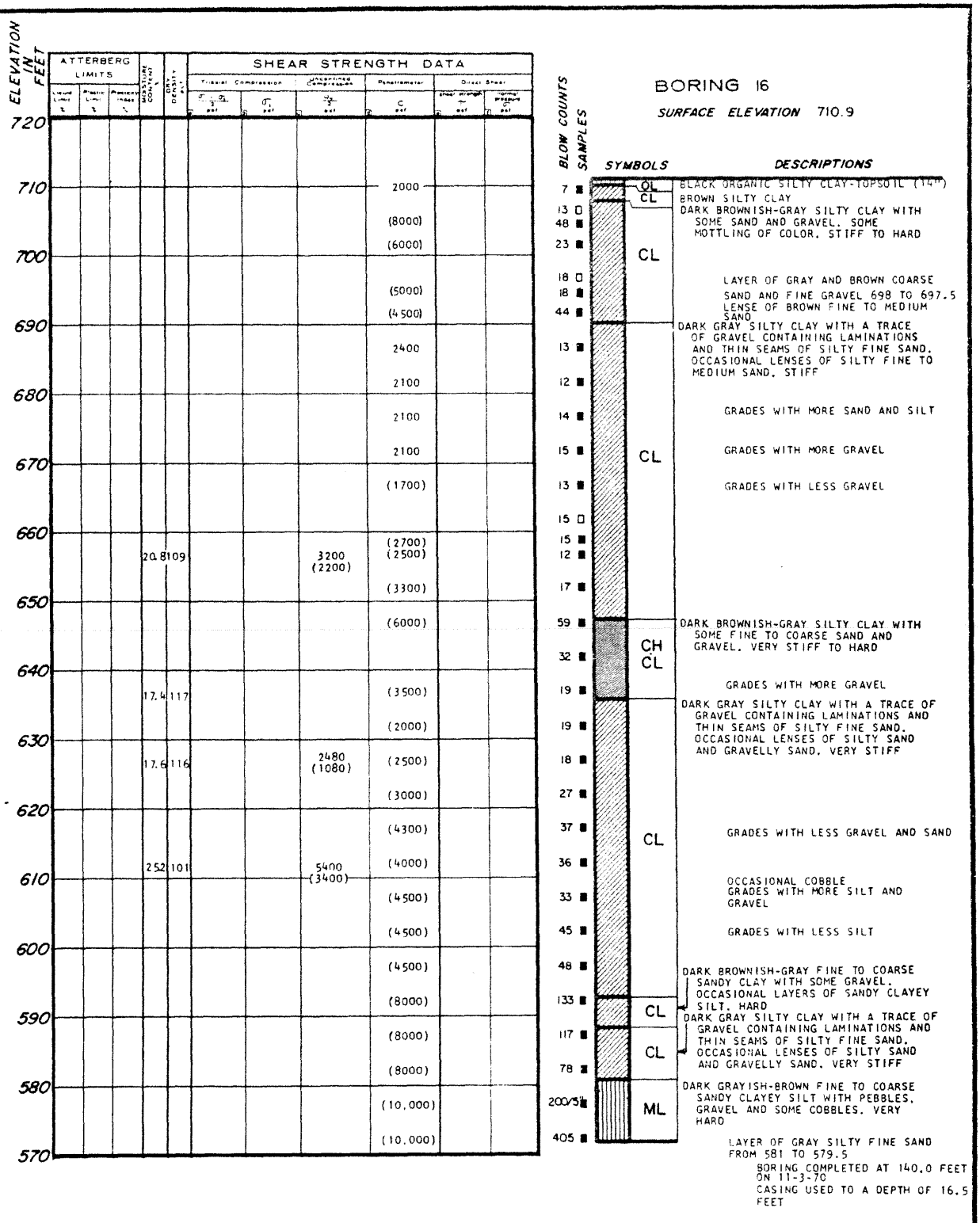


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 23)

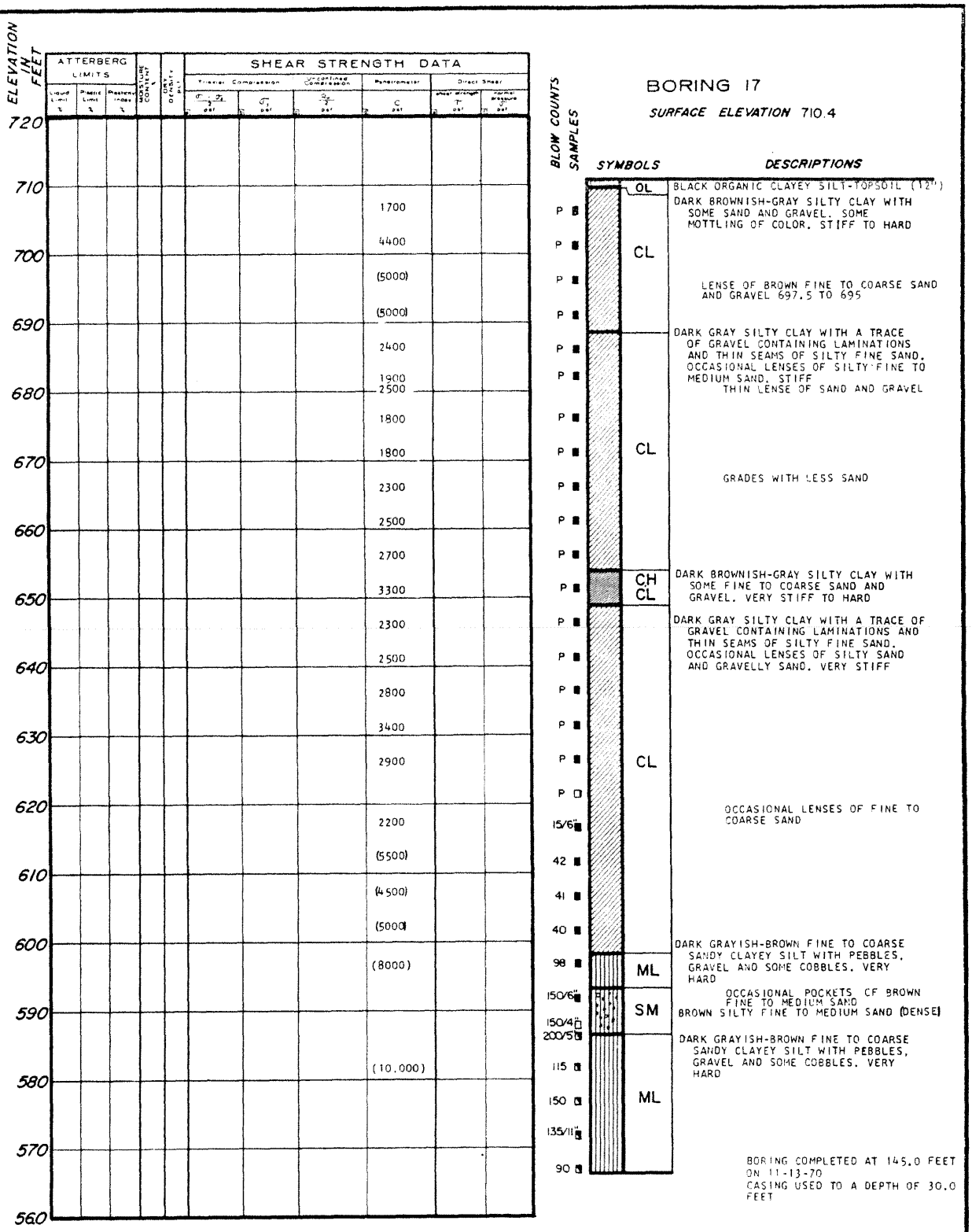


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 24)



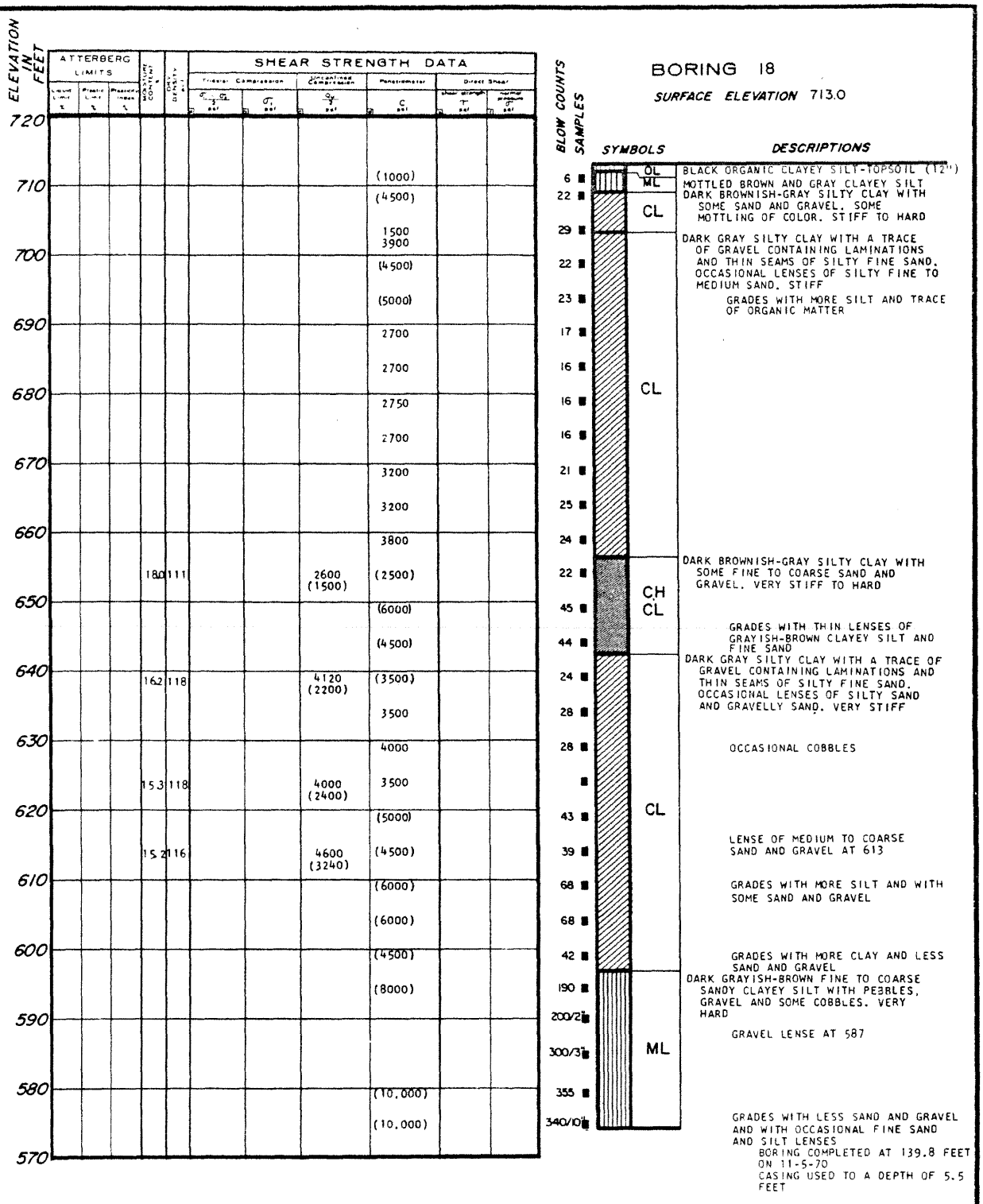
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 25)

REV. 0 - APRIL 1984

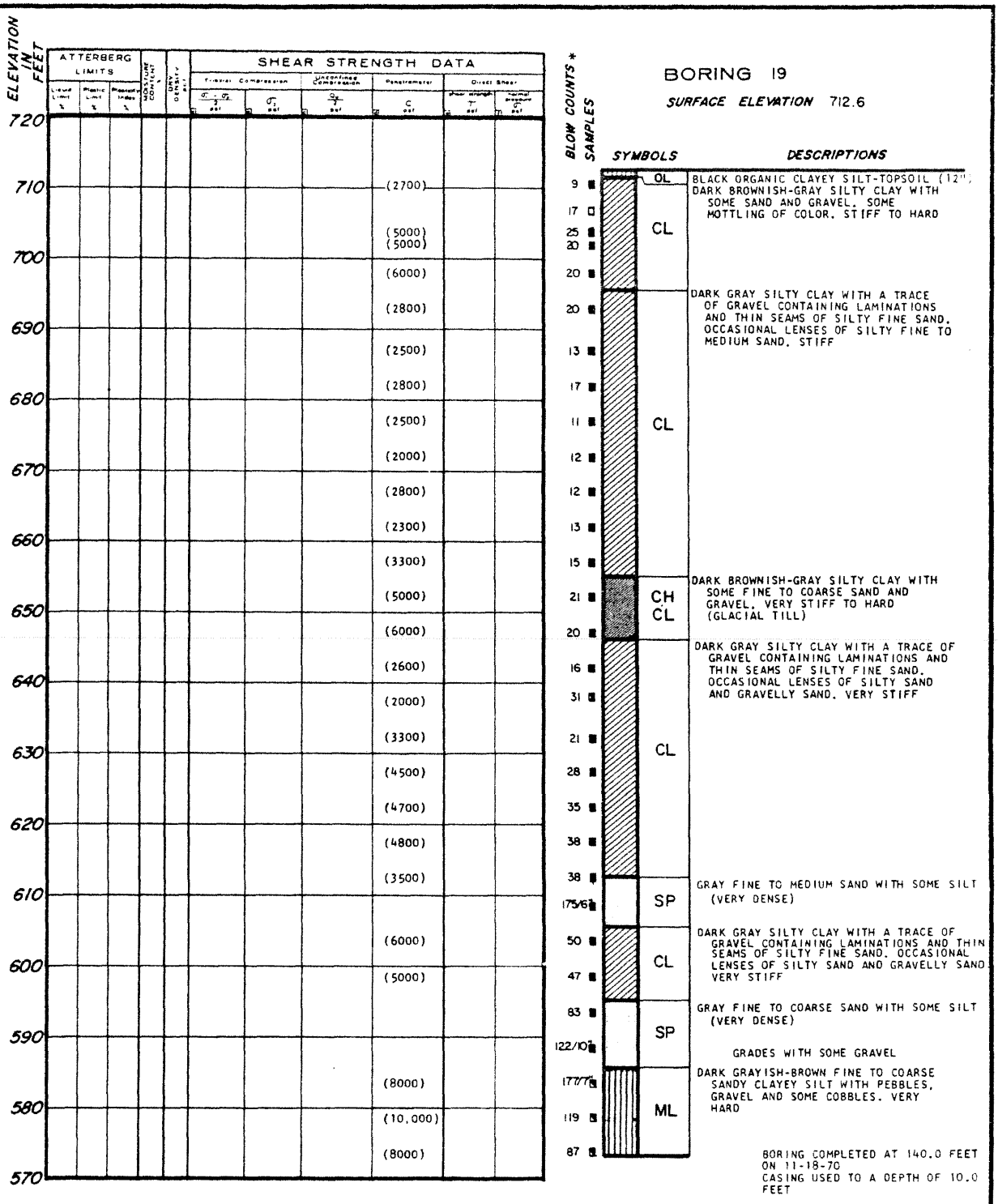


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 26)



LA SALLE COUNTY STATION
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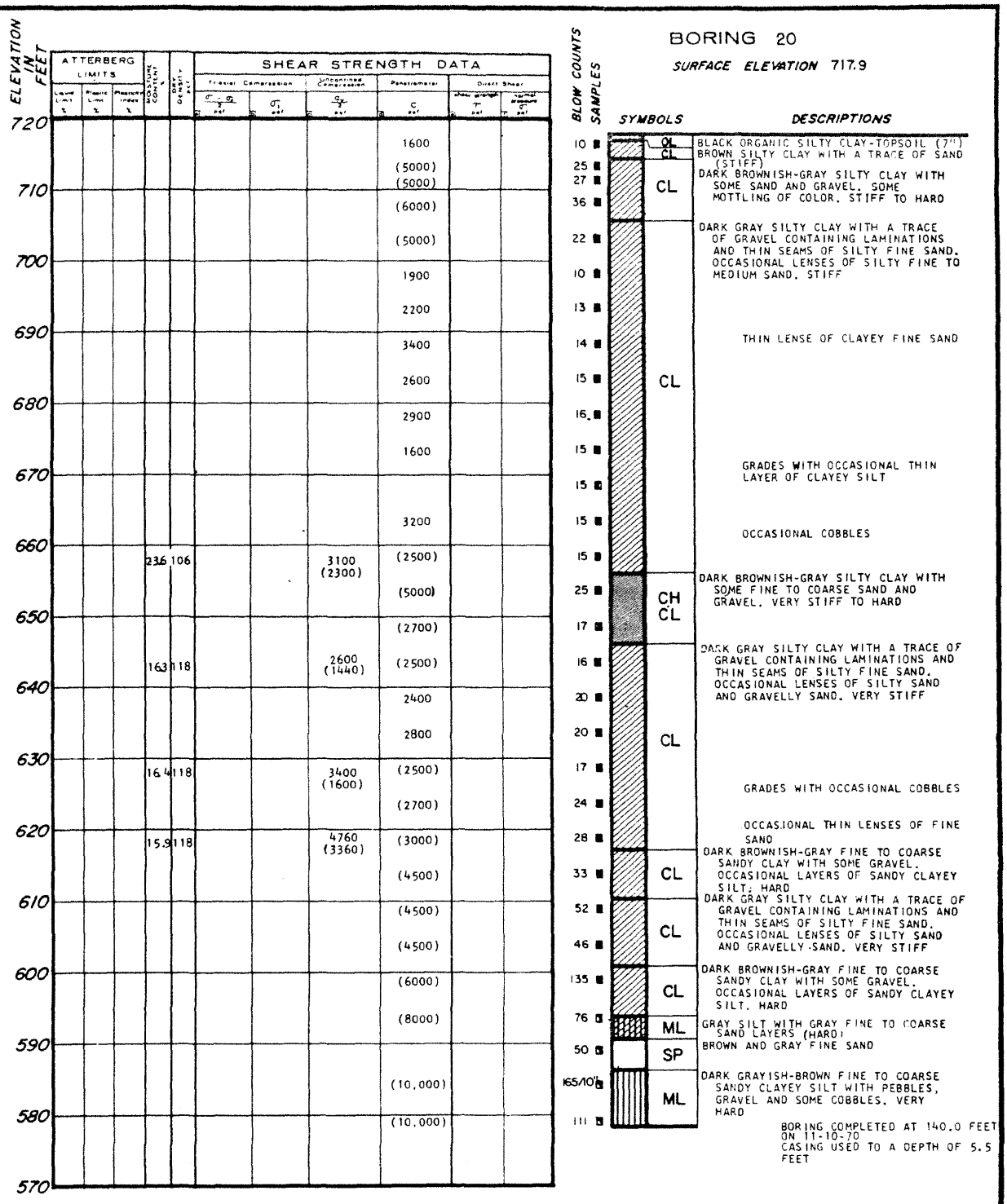
FIGURE 2.5-19
LOGS OF BORINGS
(SHEET 27)



LA SALLE COUNTY STATION
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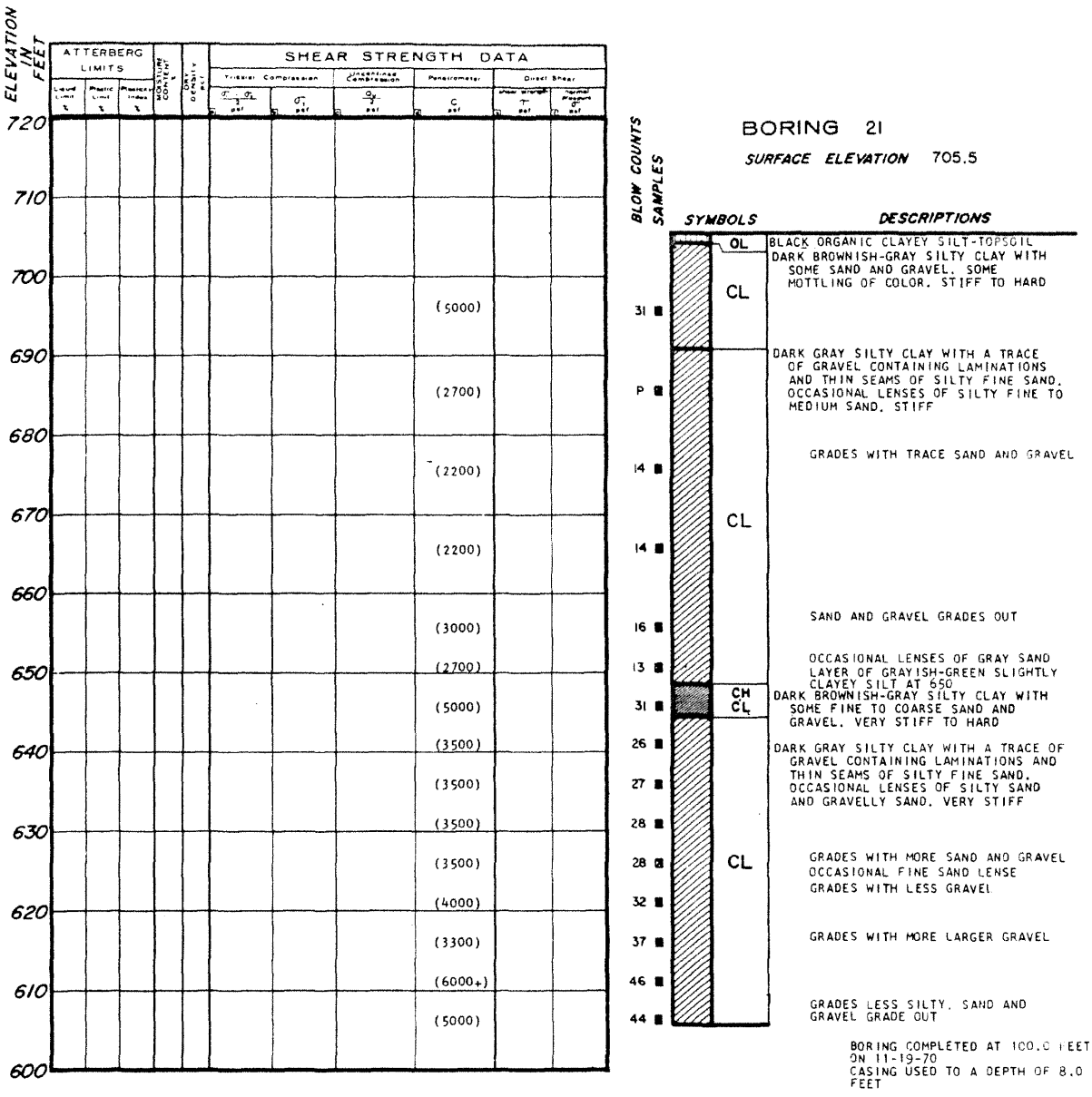
FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 28)



LA SALLE COUNTY STATION
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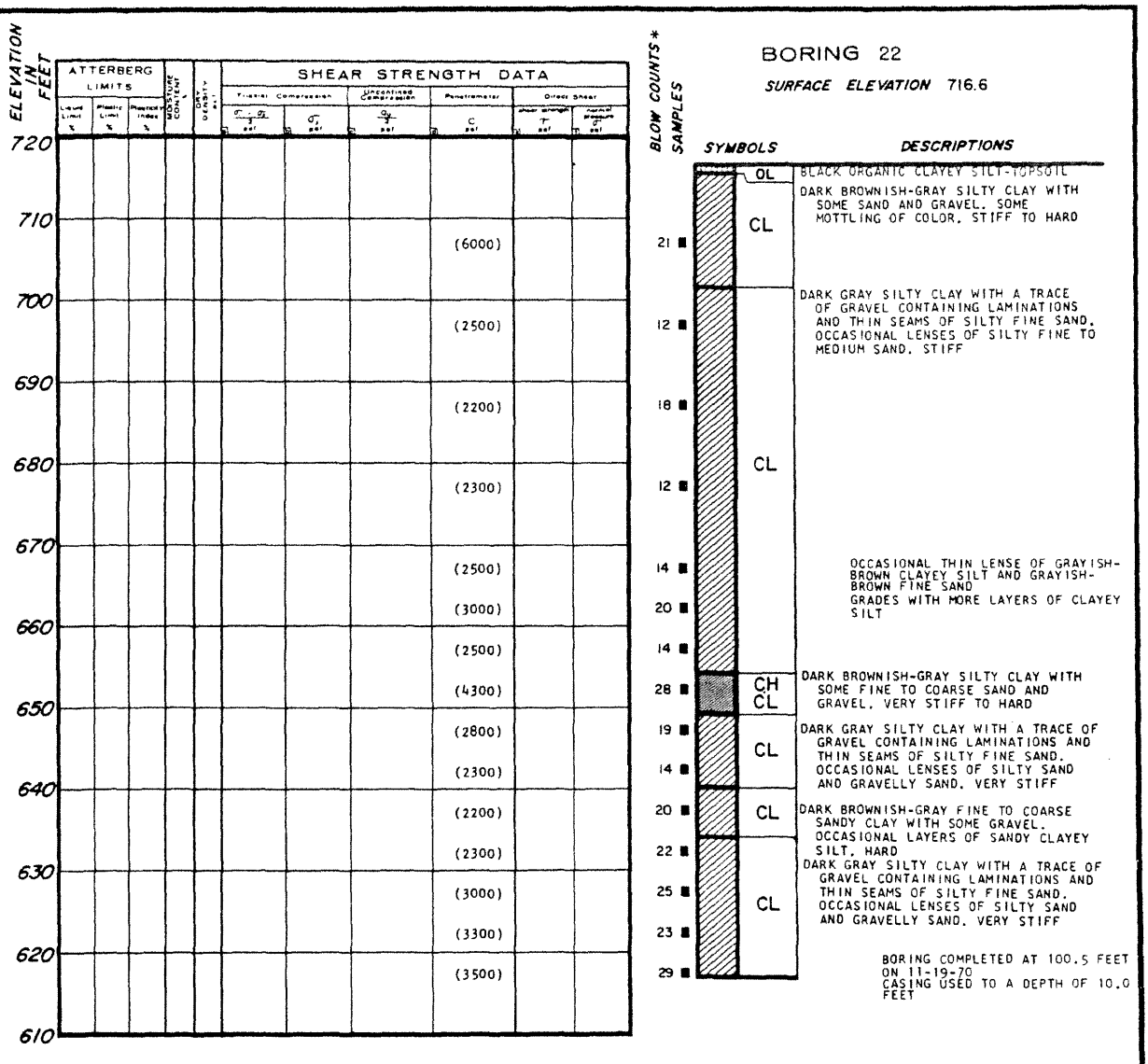
FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 29)

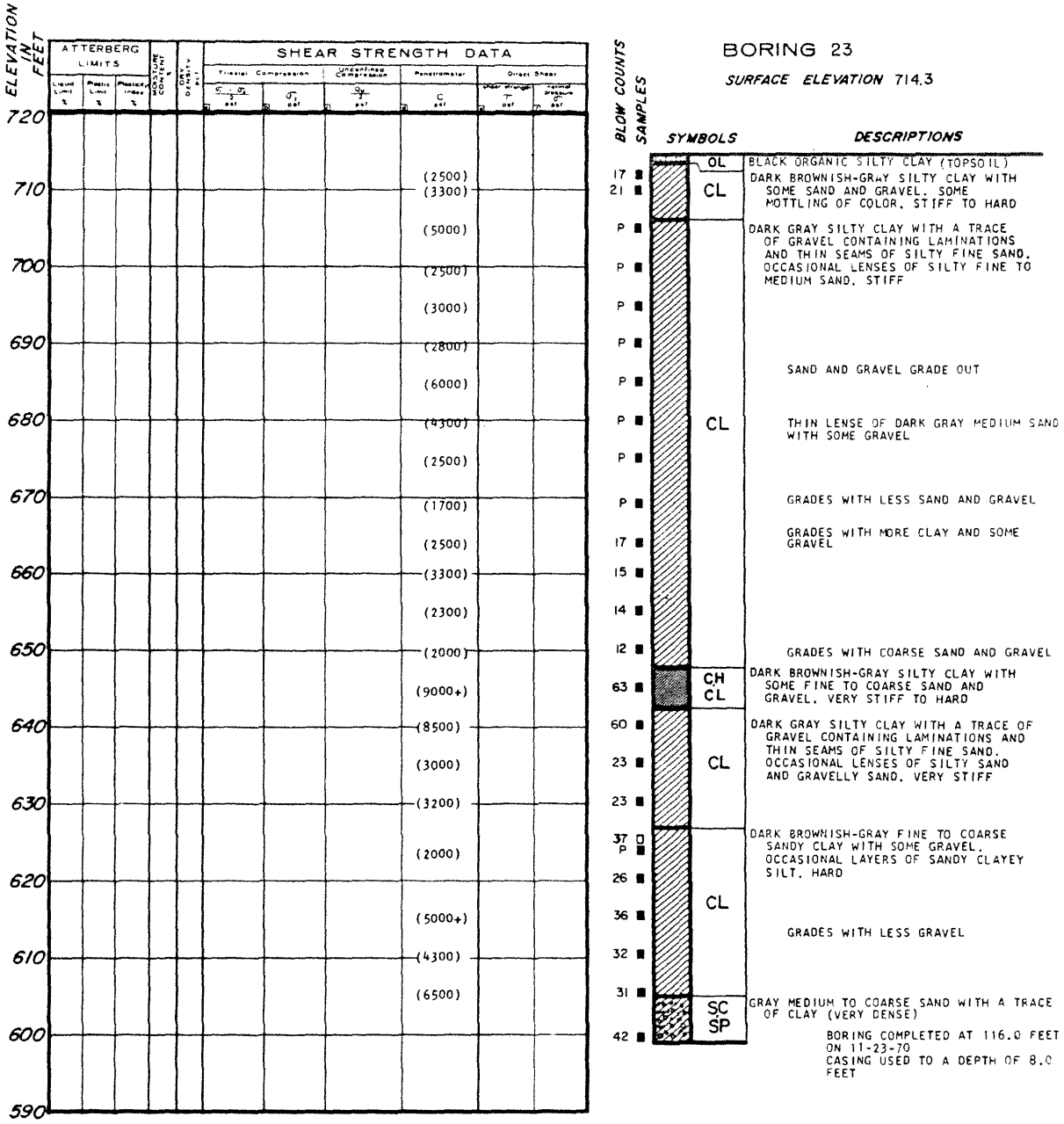


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 30)

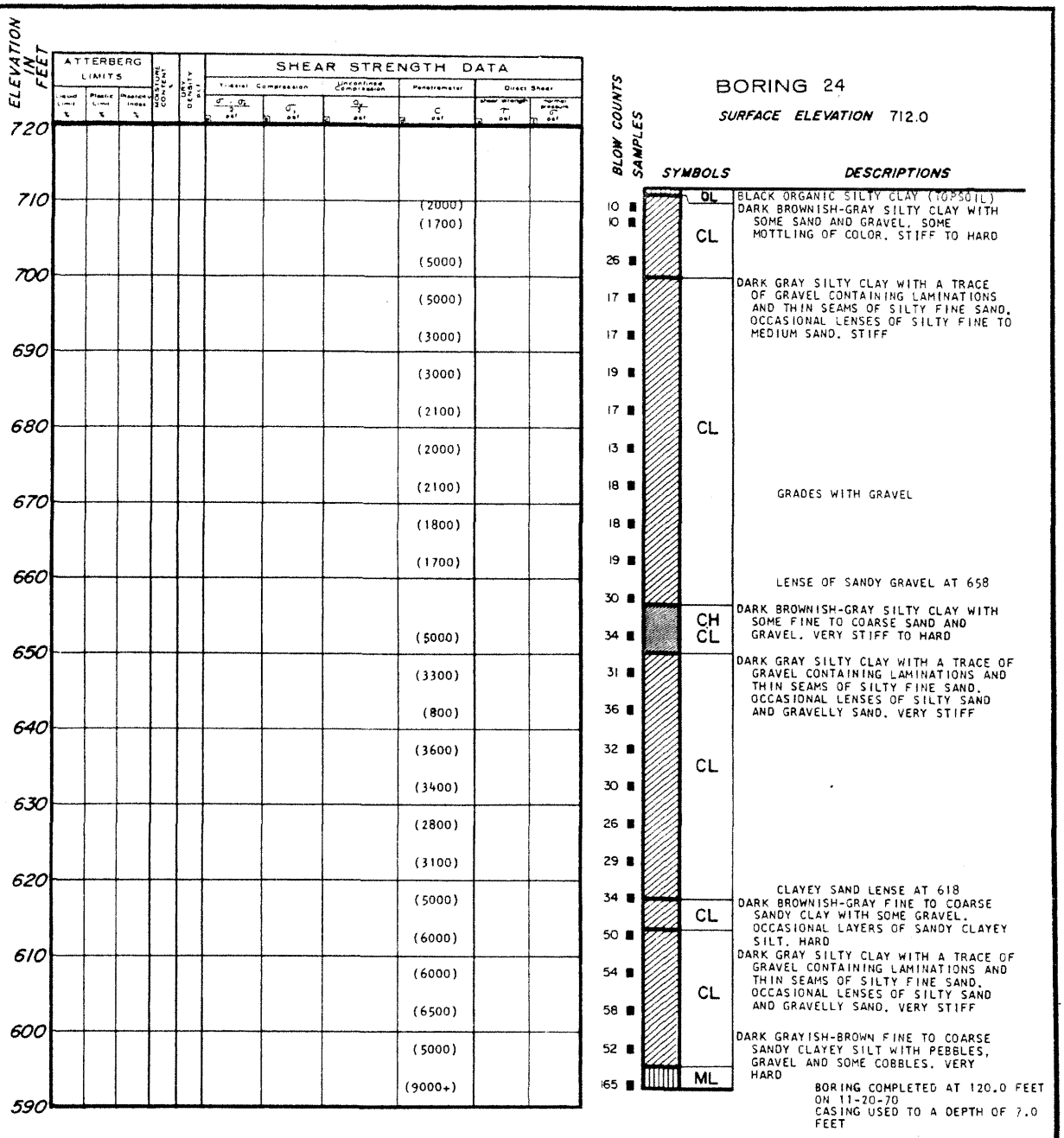


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19.

LOGS OF BORINGS

(SHEET 31)



LA SALLE COUNTY STATION
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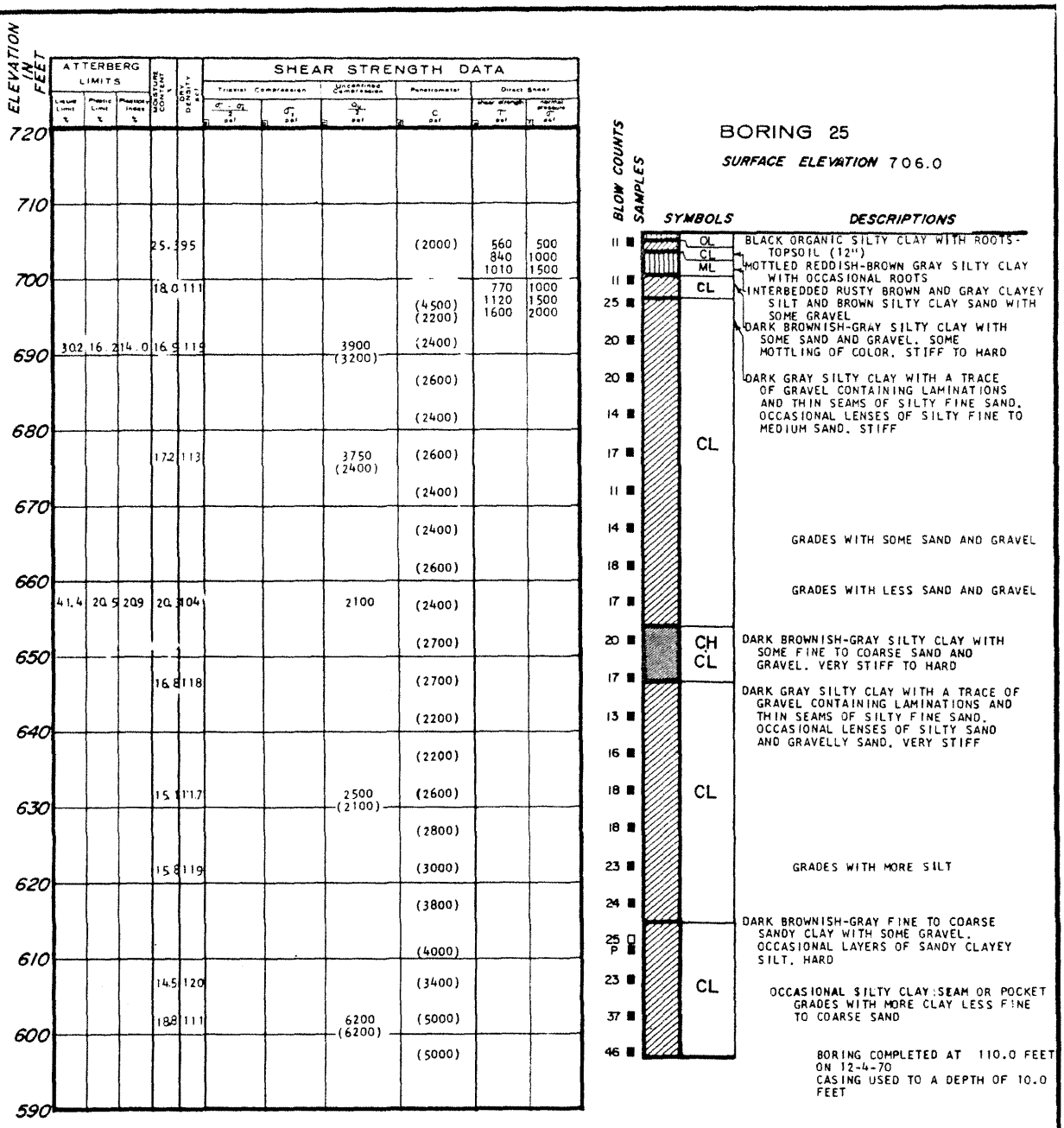
FIGURE 2.5-19
LOGS OF BORINGS
(SHEET 32)

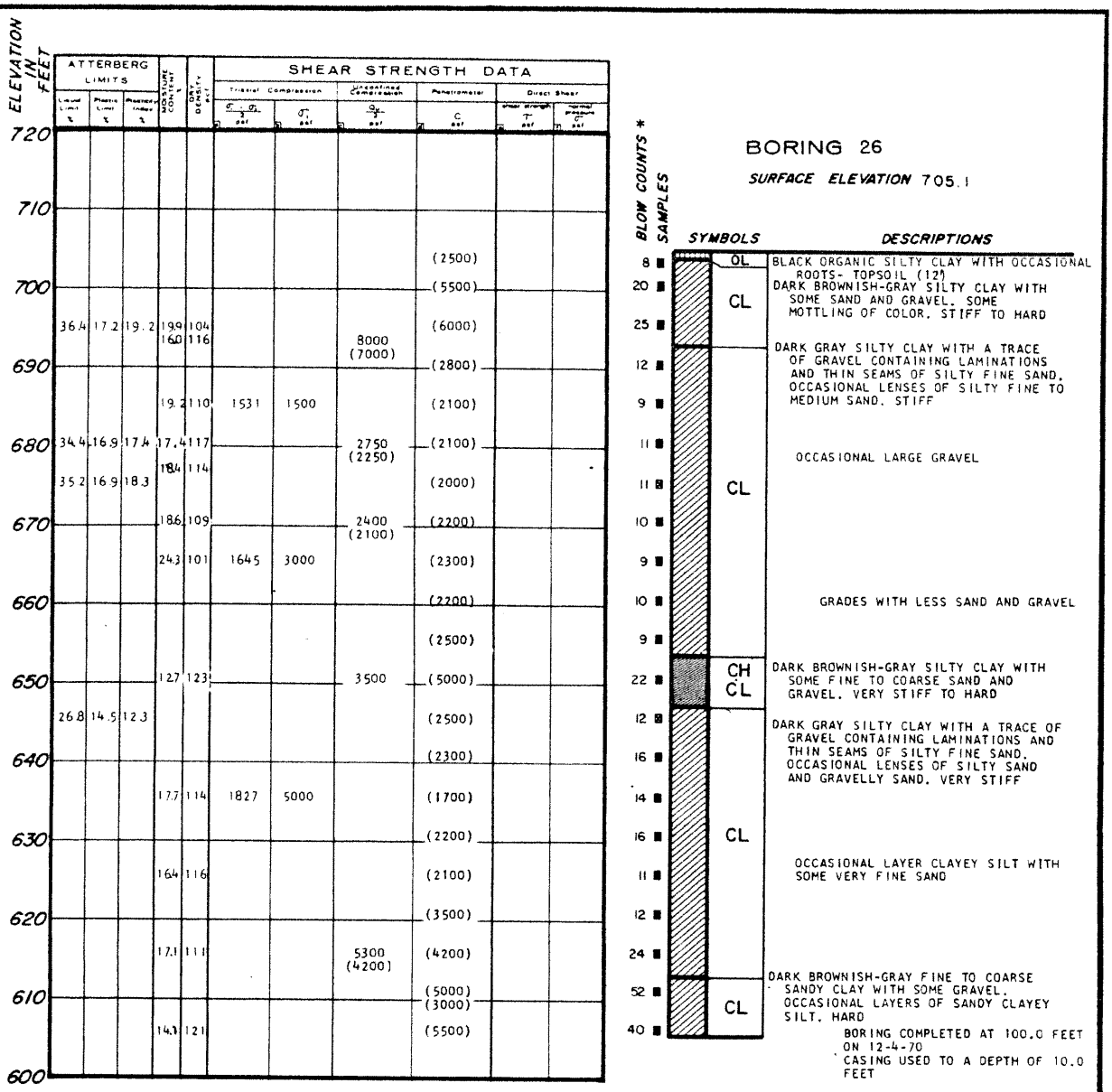


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 33)

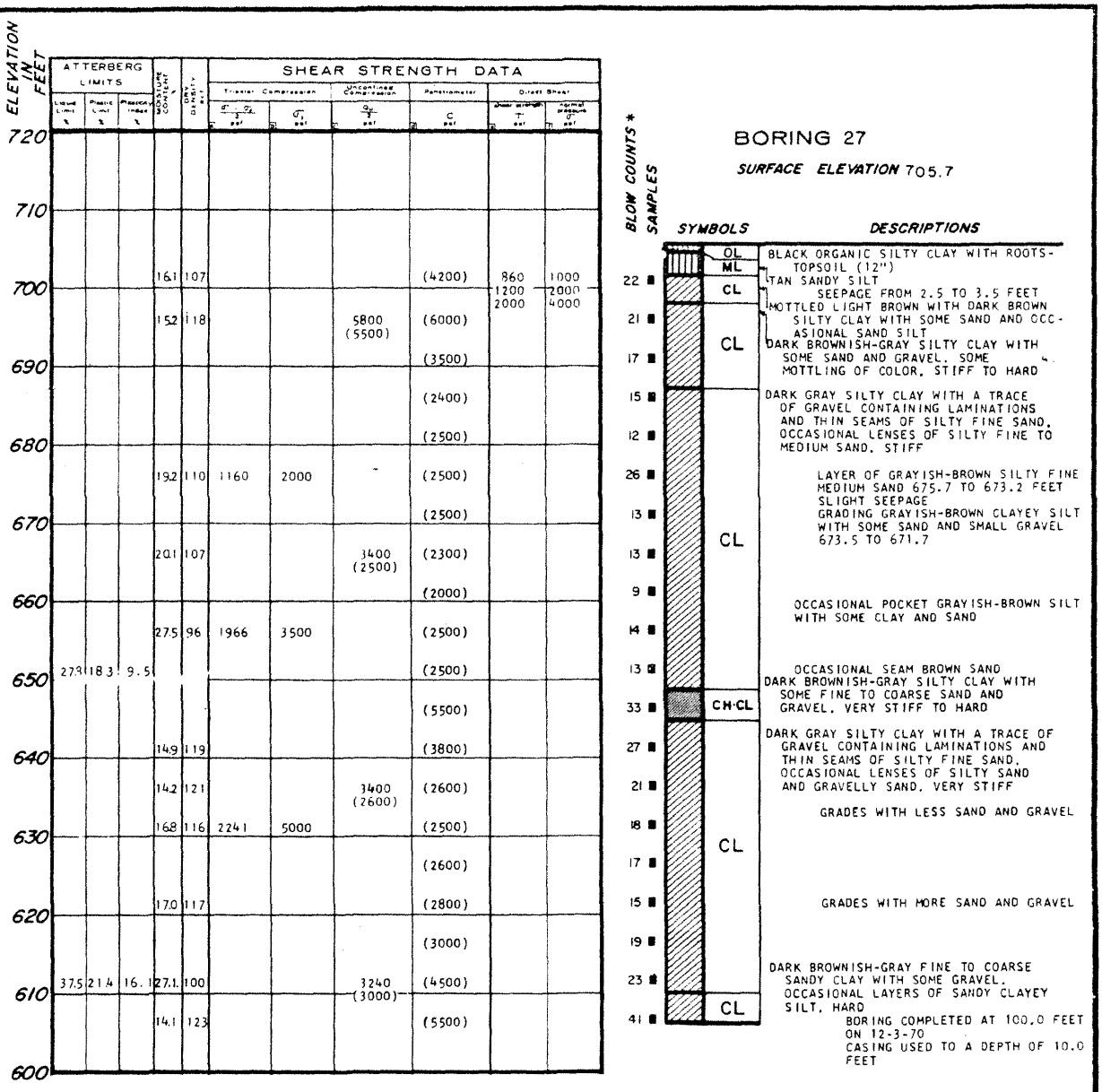


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

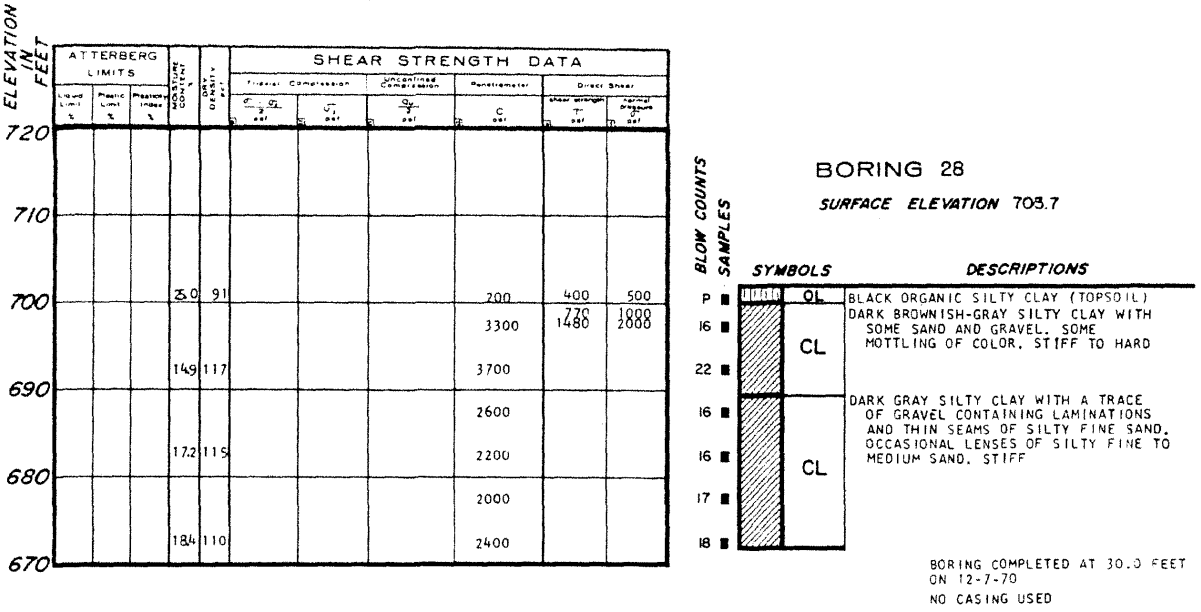
LOGS OF BORINGS

(SHEET 34)



LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19
LOGS OF BORINGS
(SHEET 35)

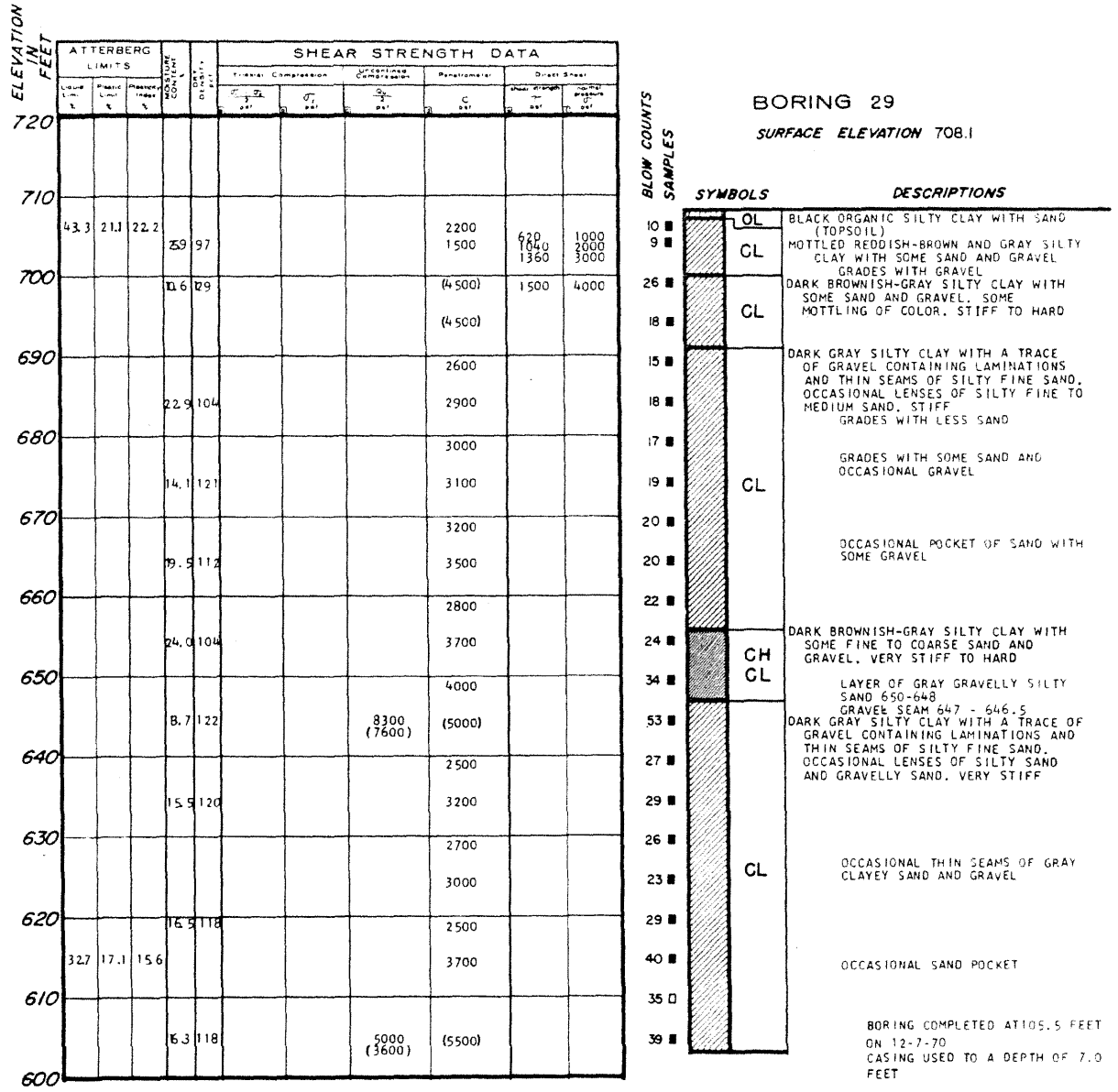


LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 36)



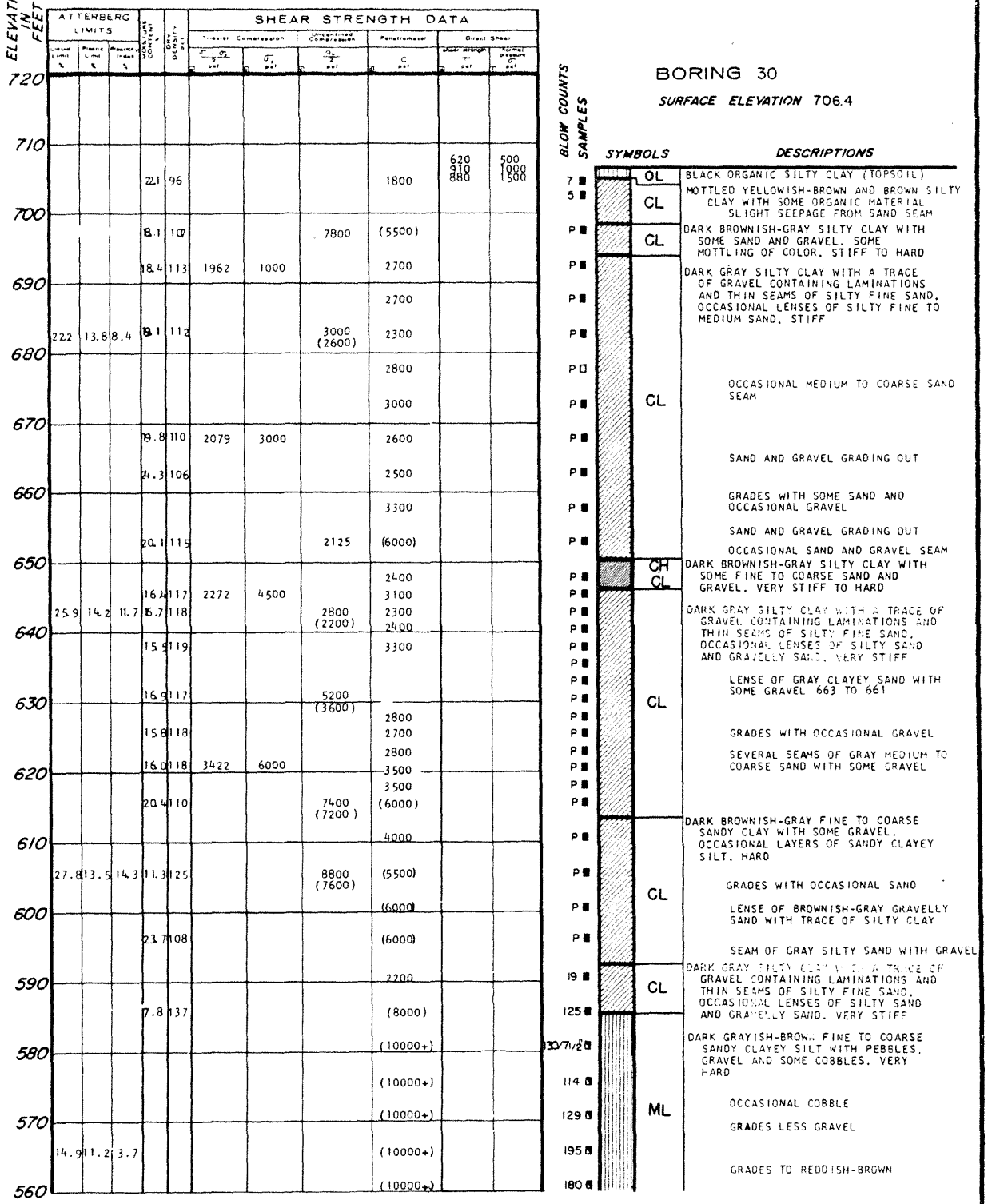
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 37)

REV. 0 - APRIL 1984



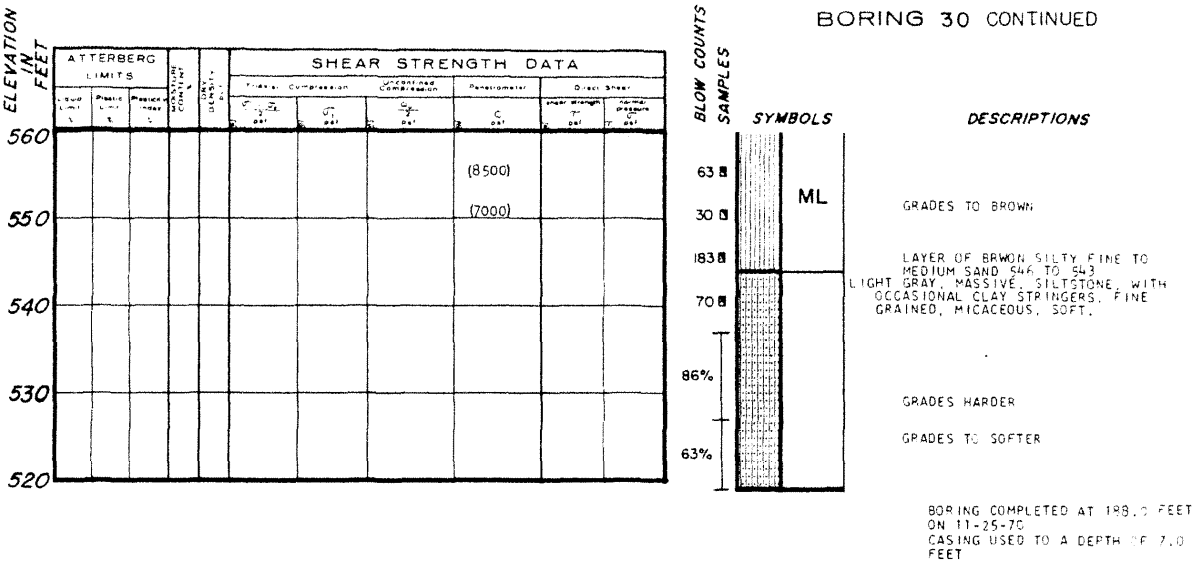
LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19

LOGS OF BORINGS

(SHEET 38)

BORING 30 CONTINUED



BORING COMPLETED AT 189.0 FEET ON 11-25-70
CASING USED TO A DEPTH OF 7.0 FEET

LA SALLE COUNTY STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.5-19
LOGS OF BORINGS
(SHEET 39)