

TABLE 2.5-1

LIST OF REFERENCES

Agencies and Individuals Interviewed

<u>Agency</u>	<u>Location</u>	<u>Individual</u>
New Jersey Geological Survey	Trenton, NJ	Mr. F. J. Markewicz
Delaware University, Delaware Geological Survey	Newark, DE	Dr. R. R. Jordan
Maryland Geological Survey	Baltimore, MD	Dr. K. N. Weaver
Maryland Geological Survey	Baltimore, MD	Dr. H. J. Hansen
Johns Hopkins University	Baltimore, MD	Dr. E. Cloos
U.S. Corps of Engineers	Philadelphia, PA	Mr. A. Depman
U.S. Corps of Engineers	Philadelphia, PA	Mr. B. Uibel
U.S. Geological Survey	Trenton, NJ	Mr. H. Meisler
U.S. Geological Survey	Trenton, NJ	Mr. H. Gill
Alpine Geophysics	Norwood, NJ	Dr. C. Frye
Lamont Geological Observatory	Palisades, NY	Dr. C. Drake
University of Massachusetts	Amherst, MA	Dr. R. Bromery

TABLE 2.5-2

MODIFIED MERCALLI INTENSITY (DAMAGE) SCALE OF 1931
(Abridged)

- I. Not felt except by a very few under especially favorable circumstances. (I Rossi-Forel Scale.)
- II. Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing. (I to II Rossi-Forel Scale.)
- III. Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motorcars may rock slightly. Vibration like passing of truck. Duration estimated. (III Rossi-Forel Scale.)
- 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 motorcars rocked noticeably. (IV to V Rossi-Forel Scale.)
- V. Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop. (V to VI Rossi-Forel Scale.)
- VI. Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight. (VI to VII Rossi-Forel Scale.)
- 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 motorcars. (VIII Rossi-Forel Scale.)
- 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 motorcars disturbed. (VIII+ to IX Rossi-Forel Scale.)
- IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse.

TABLE 2.5-2 (Cont)

Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken. (IX+ Rossi-Forel Scale.)

- 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. (X Rossi-Forel Scale.)
- XI. Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.
- XII. Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into the air.

TABLE 2.5-3

SIGNIFICANT EARTHQUAKES WITHIN 100 MILES OF SALEM, NEW JERSEY
(Intensity V or Greater)

<u>Year</u>	<u>Date</u>	<u>Time</u>	<u>Intensity</u>	<u>Location</u>	<u>N. Lat. (degrees)</u>	<u>W. Long. (degrees)</u>	<u>Area Felt (sq mi)</u>	<u>Distance From Site (mi)</u>
1871	Oct. 9	09:40	VII	Wilmington, DE	39 3/4	75 1/2	- -	15
1877	Sept. 10	09:59	IV-V	Delaware Valley	40.1	74.9	300	60
1879	Mar. 25	19:30	IV-V	Delaware River	39 3/4	75 1/2	600	15
1883	Mar. 11	18:57	IV-V	Harford County, MD	39.5	76.4	Local	50
	Mar. 12	00:00 01:00	IV-V	Harford County, MD	39.5	76.4	Local	50
1884	May 31	- -	V	Allentown, PA	40.6	75.5	Local	80
1889	Mar. 8	18.40	VI	Southeastern, PA	40	76 3/4	4,000	50
1895	Sept. 1	06:09	VI	Near High Bridge, NJ	40.7	74.8	35,000	90
1906	May 8	12:41	V	Seaford, DE	38.7	75.7	400	50
1908	May 31	12:42	VI	Allentown, PA	40.6	75.5	Local	80
1921	Jan. 26	18:40	V	Moorestown, NJ	40.0	75.0	150	45
1927	June 1	07:23 07:31 07:39	VII	New Jersey Coast	40.3	74.0	3,000	90

TABLE 2.5-3 (Cont)

<u>Year</u>	<u>Date</u>	<u>Time</u>	<u>Intensity</u>	<u>Location</u>	<u>N. Lat. (degrees)</u>	<u>W. Long. (degrees)</u>	<u>Area Felt (sq mi)</u>	<u>Distance From Site (mi)</u>
1933	Jan. 24	21:00	V	Central NJ	40.1	74.5	600	60
1938	Aug. 22 Aug. 23	22:37 00:05 02:03	V	Central NJ	40.1	74.5	5,000	70
1939	Nov. 14	21:54	V	Salem County, NJ	39.6	75.2	6,000	20
1954	Jan. 7	02:25	VI	Sinking Spring, PA	40.3	76.0	- -	60
1957	Mar. 23	14:03	VI	West-Central, NJ	40.6	74.8	- -	90
1961	Sept. 14	21:17	V	Lehigh Valley, PA	40.6	75.4	Local	80
1961	Dec. 27	12:06	V	PA-NJ Border	40.1	74.8	- -	60
1964	May 12	04:45	VI	Cornwall, PA	40.2	76.5	- -	70
1968	Dec. 10	09:12	V	Wharton State Forest	39.7	74.6	- -	50
1973	Feb. 28	03:21	V	Penns Grove, NJ/ Wilmington, DE	39.7	75.4	15,000	20