Branch of Atlantic Marine Geology
CRUISE REPORT

July 31, 1991

9102/

Boat name: R/V Neptune

Cruise number: ~~NP-1-91~~ NPTN 91-2

Project: Southern Lake Michigan

Area of Operations: Nearshore zone off Illinois Beach State Park

Dates: July 11–18, 1991; 12 hr/day operations from Waukegan Harbor (Illinois)

Chief Scientist: James S. Booth, USGS, Woods Hole

Cruise Personnel: William J. Winters, USGS, Woods Hole
Ken Parolski, USGS, Woods Hole
Ron Circé, USGS, Reston
Dann Blackwood, USGS, Woods Hole
Greg Miller, USGS, Woods Hole
Nicole Moser, USGS, Reston

Purpose of Cruise: Collect in-situ data on sand density, statigraphy and penetration resistance of lake floor, and photograph lake floor (SCUBA divers); collect grab samples in nearshore zone; field test new In-Situ Cone Penetrometer system

Navigation: Integrated Loran-C and GPS (unused), Laser ranging for some in-situ stations

Scientific equipment: In-situ volumetric sampler, Miniature Standard Penetrometer, Diver corer, Camera, Shipek grab sampler, Gravity Corer, Megapulse 500 Loran-C system, In Situ Cone Penetrometer

Cruise Information: Days: 8
In Situ Stations: 12
Grab Stations: 64
Station data: see attached sheet

Southern Lake Michigan Project

Cruise: R/V Neptune Area: Illinois Beach State Park

Raw Station Data

STATION	TYPE	LATITUDE (N)	LONGITUDE (W)	DEPTH[1] (meters)
GS–1	Shipek Grab	42° 25.35'	87° 48.15'	4.7
GS–2	Shipek Grab	42° 25.32'	87° 48.05'	5.6
GS–3	Shipek Grab	42° 25.29'	87° 47.88'	6.6
GS–4	Shipek Grab	42° 25.32'	87° 47.61'	7.6
GS–5	Shipek Grab	42° 25.24'	87° 47.38'	8.5
GS–6	Shipek Grab	42° 25.38'	87° 47.11'	9.4
GS–7	Shipek Grab	42° 25.29'	87° 46.87'	10.7
GS–8	Shipek Grab	42° 25.29'	87° 46.52'	12.8
GS–9	Shipek Grab	42° 25.28'	87° 46.19'	15.5
GS–10	Shipek Grab	42° 25.27'	87° 45.77'	20.1
GS–11	Shipek Grab	42° 25.28'	87° 43.78'	30.6
GS–12	Shipek Grab	42° 25.57'	87° 46.14'	15.2
GS–13	Shipek Grab	42° 25.54'	87° 46.50'	12.6
GS–14	Shipek Grab	42° 25.52'	87° 46.84'	10.7
GS–15	Shipek Grab	42° 25.60'	87° 47.03'	9.6
GS–16	Shipek Grab	42° 25.54'	87° 47.38'	8.5
GS–17	Shipek Grab	42° 25.55'	87° 47.58'	7.6
GS–18	Shipek Grab	42° 25.53'	87° 47.73'	7.0
GS–19	Shipek Grab	42° 25.57'	87° 48.09'	5.5
GS–20	Shipek Grab	42° 25.54'	87° 48.17'	4.6
GS–21	Shipek Grab	42° 25.80'	87° 48.16'	4.6
GS–22	Shipek Grab	42° 25.79'	87° 48.00'	5.5
GS–23	Shipek Grab	42° 25.83'	87° 47.77'	6.7
GS–24	Shipek Grab	42° 25.85'	87° 47.49'	7.9
GS–25	Shipek Grab	42° 25.76'	87° 47.36'	8.5
GS–26	Shipek Grab	42° 25.83'	87° 47.14'	9.4
GS–27	Shipek Grab	42° 25.82'	87° 46.71'	10.8
GS–28	Shipek Grab	42° 25.81'	87° 46.37'	13.1
GS–29	Shipek Grab	42° 25.80'	87° 46.01'	16.1
GS–30	Shipek Grab	42° 25.83'	87° 45.61'	20.6
GS–31	Shipek Grab	42° 25.82'	87° 43.94'	30.6
GS–32	Shipek Grab	42° 26.07'	87° 46.00'	15.8
GS–33	Shipek Grab	42° 26.07'	87° 46.40'	12.6
GS–34	Shipek Grab	42° 26.06'	87° 46.79'	10.7
GS–35	Shipek Grab	42° 26.05'	87° 47.05'	9.8
GS–36	Shipek Grab	42° 26.10'	87° 47.40'	8.5
GS–37	Shipek Grab	42° 26.04'	87° 47.70'	7.5
GS–38	Shipek Grab	42° 25.99'	87° 47.81'	6.6
GS–39	Shipek Grab	42° 26.07'	87° 48.01'	5.6
GS–40	Shipek Grab	42° 26.06'	87° 48.13'	4.6

GS–41	Shipek Grab	42° 26.37'	87° 48.02'	4.6
GS–42	Shipek Grab	42° 26.35'	87° 47.95'	5.6
GS–43	Shipek Grab	42° 26.33'	87° 47.76'	6.9
GS–44	Shipek Grab	42° 26.32'	87° 47.58'	7.9
GS–45	Shipek Grab	42° 26.35'	87° 47.35'	8.7
GS–46	Shipek Grab	42° 26.33'	87° 47.10'	9.6
GS–47	Shipek Grab	42° 26.36'	87° 46.72'	10.7
GS–48	Shipek Grab	42° 26.30'	87° 46.28'	13.0
GS–49	Shipek Grab	42° 26.33'	87° 45.88'	16.2
GS–50	Shipek Grab	42° 26.33'	87° 45.51'	20.6
GS–51	Shipek Grab	42° 26.35'	87° 43.99'	30.8
GS–52	Shipek Grab	42° 26.63'	87° 45.85'	15.8
GS–53	Shipek Grab	42° 26.63'	87° 46.26'	12.5
GS–54	Shipek Grab	42° 26.58'	87° 46.85'	10.7
GS–55	Shipek Grab	42° 26.60'	87° 47.22'	9.4
GS–56	Shipek Grab	42° 26.58'	87° 47.47'	8.5
GS–57	Shipek Grab	42° 26.58'	87° 47.59'	7.6
GS–58	Shipek Grab	42° 26.59'	87° 47.76'	6.4
GS–59	Shipek Grab	42° 26.64'	87° 47.85'	5.5
GS–60	Shipek Grab	42° 26.61'	87° 47.95'	4.6
GS–61	Shipek Grab	42° 27.05'	87° 47.79'	4.9
GS–62	Shipek Grab	42° 27.01'	87° 47.70'	5.5
GS–63	Shipek Grab	42° 27.01'	87° 47.58'	6.4
GS–64	Shipek Grab	42° 27.03'	87° 47.40'	7.6
ISS-1	In Situ Staton[2]	42° 25.54'	87° 46.63'	10.95
ISS-2	In Situ Staton	42° 25.50'	87° 47.11'	8.10
ISS-3	In Situ Staton	42° 25.50'	87° 47.66'	6.55
ISS-4	In Situ Staton	42° 25.53'	87° 48.06'	4.10
ISS-5	In Situ Staton	42° 25.54'	87° 46.64'	11.10
ISS-6	In Situ Staton	42° 25.60'	87° 47.06'	8.70
ISS-7	In Situ Staton	42° 25.58'	87° 47.72'	6.10
ISS-8	In Situ Staton	42° 25.56'	87° 48.03'	4.20
ISS-9	In Situ Staton	42° 25.64'	87° 48.07'	3.90
ISS-10	In Situ Staton	42° 25.63'	87° 46.66'	10.80
ISS-11	In Situ Staton	42° 25.61'	87° 47.10'	8.70
ISS-12	In Situ Staton	42° 25.63'	87° 47.67'	5.80

Lake positions

[1] Not corrected to lake level datum

[2] In situ station activities: (1) collect in-situ density sample, (2) collect surface sample (upper 2 cm), (3) collect diver core, (4) operate of a manual dynamic cone penetrometer, (5) operate remote, electronic cone penetrometer system, and (6) take bottom photos and provide description of lakebed