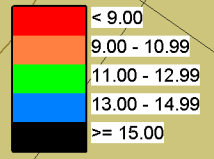




St. Louis District



SURVEY NOTES:

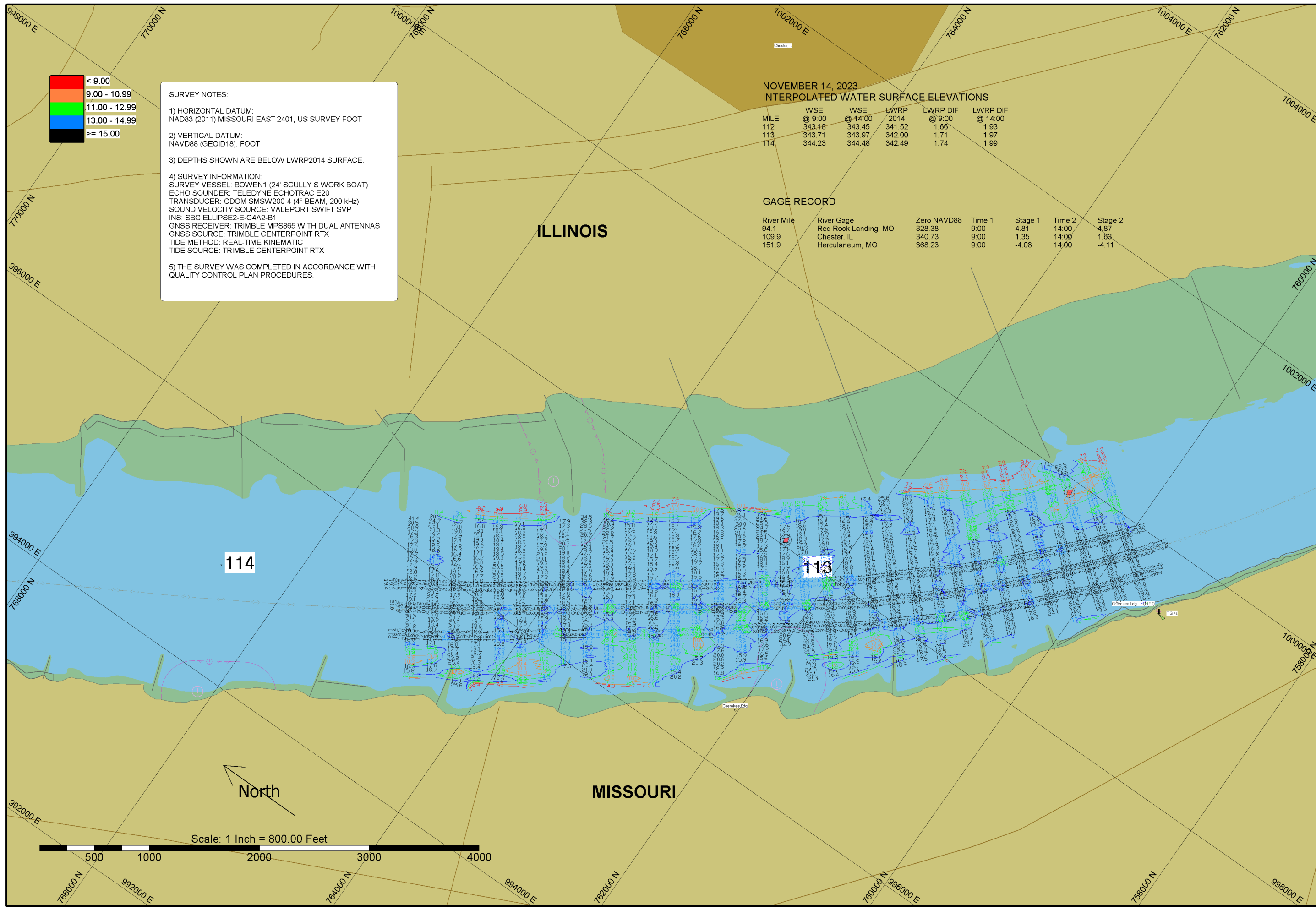
- HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT
- VERTICAL DATUM:
NAVD88 (GEOID18), FOOT
- DEPTHS SHOWN ARE BELOW LWRP2014 SURFACE.
- SURVEY INFORMATION:
SURVEY VESSEL: BOWEN1 (24' SCULLY S WORK BOAT)
ECHO SOUNDER: TELEDYNE ECHOTRAC E20
TRANSDUCER: ODOM SMSW200-4 (4" BEAM, 200 kHz)
SOUND VELOCITY SOURCE: VALEPORT SWIFT SVP
INS: SBG ELLIPSE2-E-G4A2-B1
GNSS RECEIVER: TRIMBLE MPS865 WITH DUAL ANTENNAS
GNSS SOURCE: TRIMBLE CENTERPOINT RTX
TIDE METHOD: REAL-TIME KINEMATIC
TIDE SOURCE: TRIMBLE CENTERPOINT RTX
- THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

**NOVEMBER 14, 2023
INTERPOLATED WATER SURFACE ELEVATIONS**

MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
112	343.48	343.45	341.52	1.66	1.93
113	343.71	343.97	342.00	1.71	1.97
114	344.23	344.48	342.49	1.74	1.99

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	9:00	4.81	14:00	4.87
109.9	Chester, IL	340.73	9:00	1.35	14:00	1.63
151.9	Herculeaneum, MO	368.23	9:00	-4.08	14:00	-4.11



DATE OF SURVEY:
NOVEMBER 14, 2023

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:
FILE NO.: 113K1423
TASK NO.: W912P923F0086

Approved: _____
FIELD CARTOGRAPHER

Approved: _____
CIVIL ENGINEERING TECH

Approved: _____
ASST. CHIEF OF SURVEY

Approved: _____
CHIEF OF SURVEY

Date: _____

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING & SURVEYING, P.C.
2121 MEGAN DRIVE, CAPE GIRARDEAU, MO

UPPER MISSISSIPPI
RIVER BASIN
MISSISSIPPI RIVER

PRE DREDGE SURVEY
RIVER MILES 113.6 - 112.4

SHEET NO.
1 OF 1