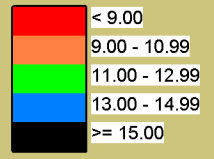




St. Louis District



SURVEY NOTES:

- 1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT
- 2) VERTICAL DATUM:
NAVD88 (GEOID18), FOOT
- 3) DEPTHS SHOWN ARE BELOW LWRP2014 SURFACE.
- 4) 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
- 5) THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

**OCTOBER 26, 2023
INTERPOLATED WATER SURFACE ELEVATIONS**

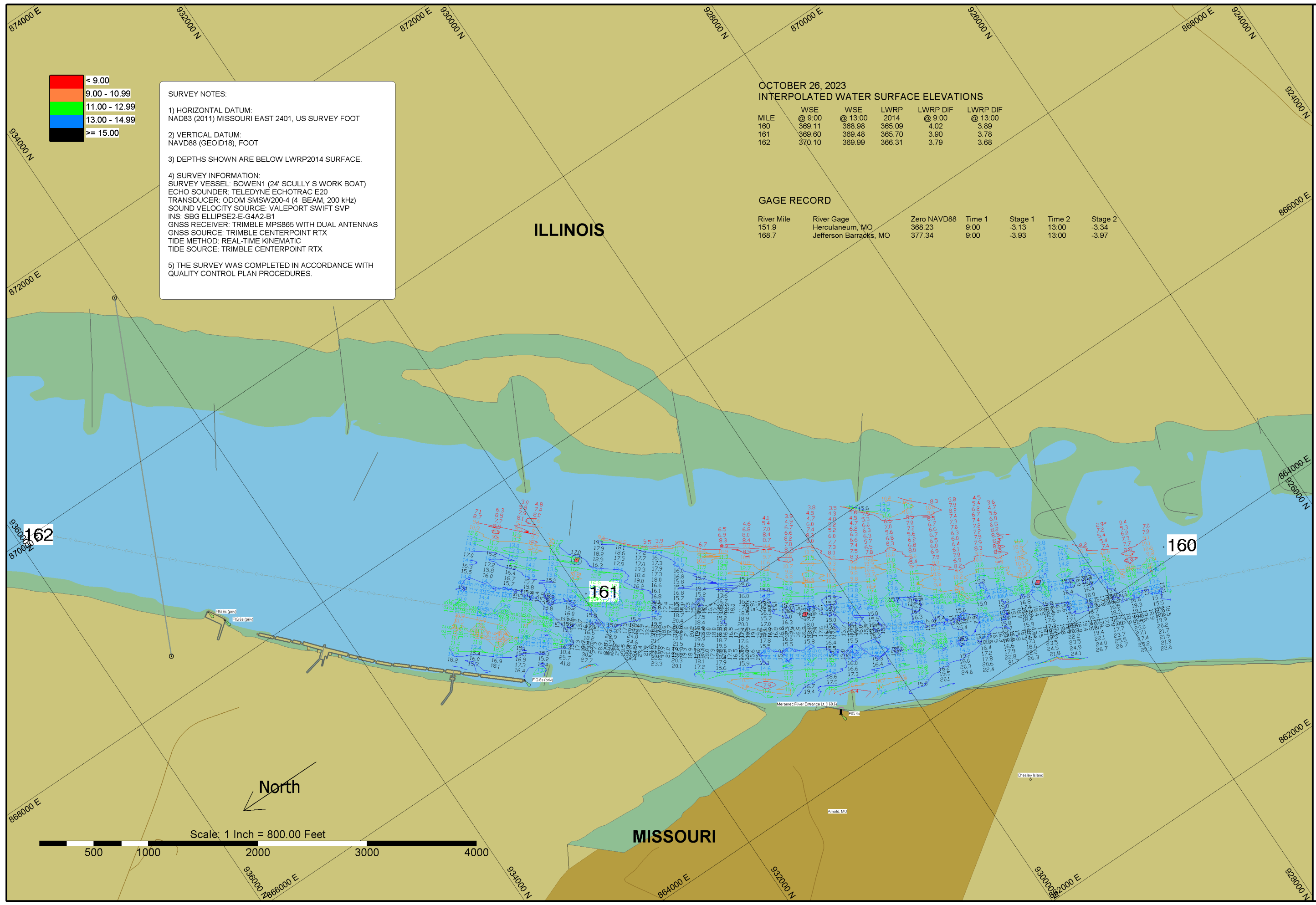
MILE	WSE @ 9:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 13:00
160	369.11	368.98	365.09	4.02	3.89
161	369.60	369.48	365.70	3.90	3.78
162	370.10	369.99	366.31	3.79	3.68

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
151.9	Herculaneum, MO	368.23	9:00	-3.13	13:00	-3.34
168.7	Jefferson Barracks, MO	377.34	9:00	-3.93	13:00	-3.97

ILLINOIS

MISSOURI



DATE OF SURVEY:
OCTOBER 26, 2023

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:
FILE NO.: 161J2623
TASK NO.: W912P923F0086

APPROVED:
FIELD CARTOGRAPHER:
CIVIL ENGINEERING TECH.
ASST. CHIEF OF SURVEY
CHIEF OF SURVEY

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

SHEET NO.
1 OF 1

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

UPPER MISSISSIPPI
RIVER BASIN
MISSISSIPPI RIVER
PRE DREDGE SURVEY
RIVER MILES 161.2 - 160.0