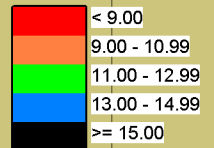




St. Louis District



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 15, 2023
INTERPOLATED WATER SURFACE ELEVATIONS**

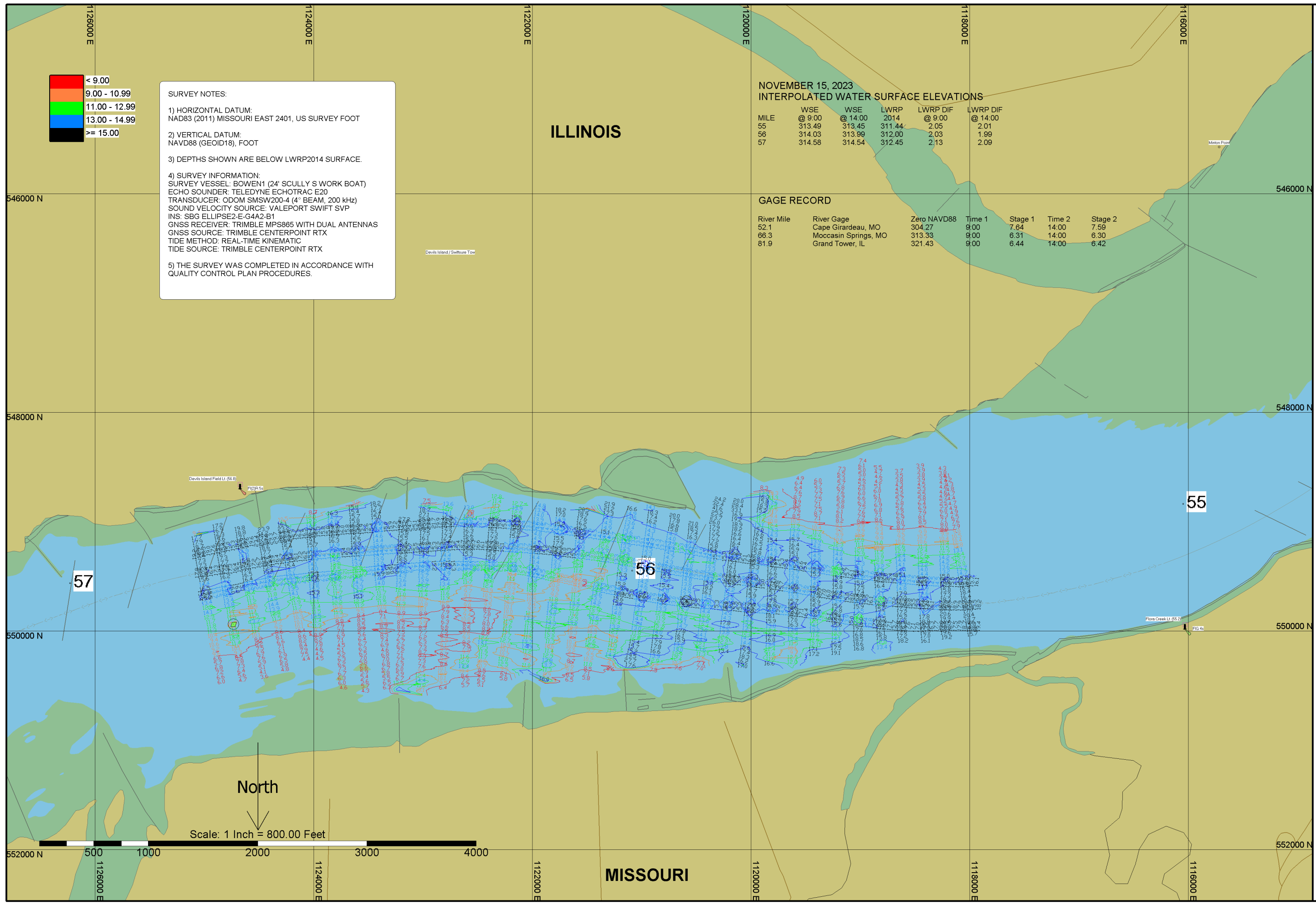
MILE	WSE @ 9:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 14:00
55	313.49	313.45	311.44	2.05	2.01
56	314.03	313.99	312.00	2.03	1.99
57	314.58	314.54	312.45	2.13	2.09

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
52.1	Cape Girardeau, MO	304.27	9:00	7.64	14:00	7.59
66.3	Moccasin Springs, MO	313.33	9:00	6.31	14:00	6.30
81.9	Grand Tower, IL	321.43	9:00	6.44	14:00	6.42

ILLINOIS

MISSOURI



DATE OF SURVEY:
NOVEMBER 15, 2023

FILE NO.: 056K1523
TASK NO.: W912P923F0086

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

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 56.8 - 55.4

SHEET NO.
1 OF 1