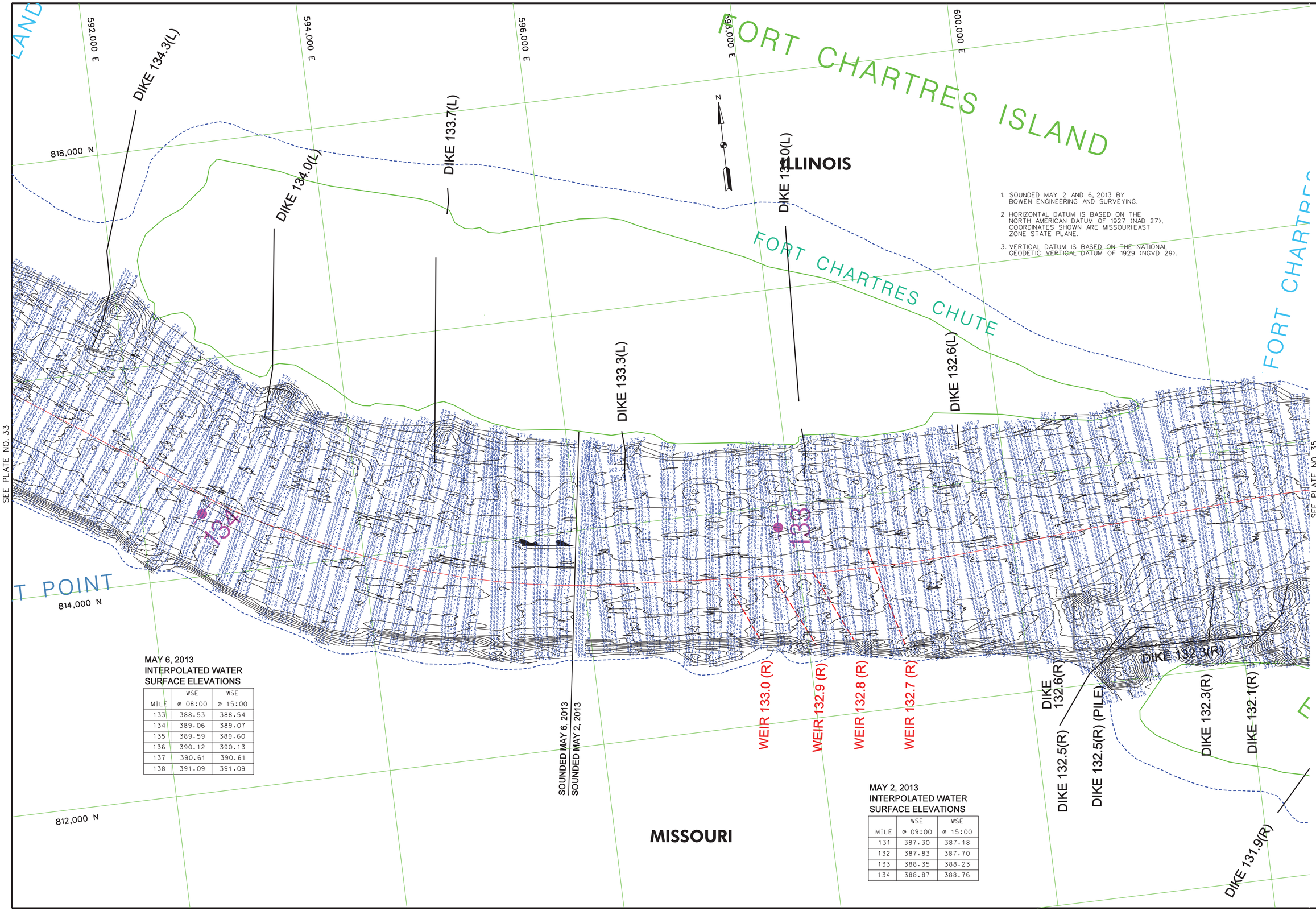
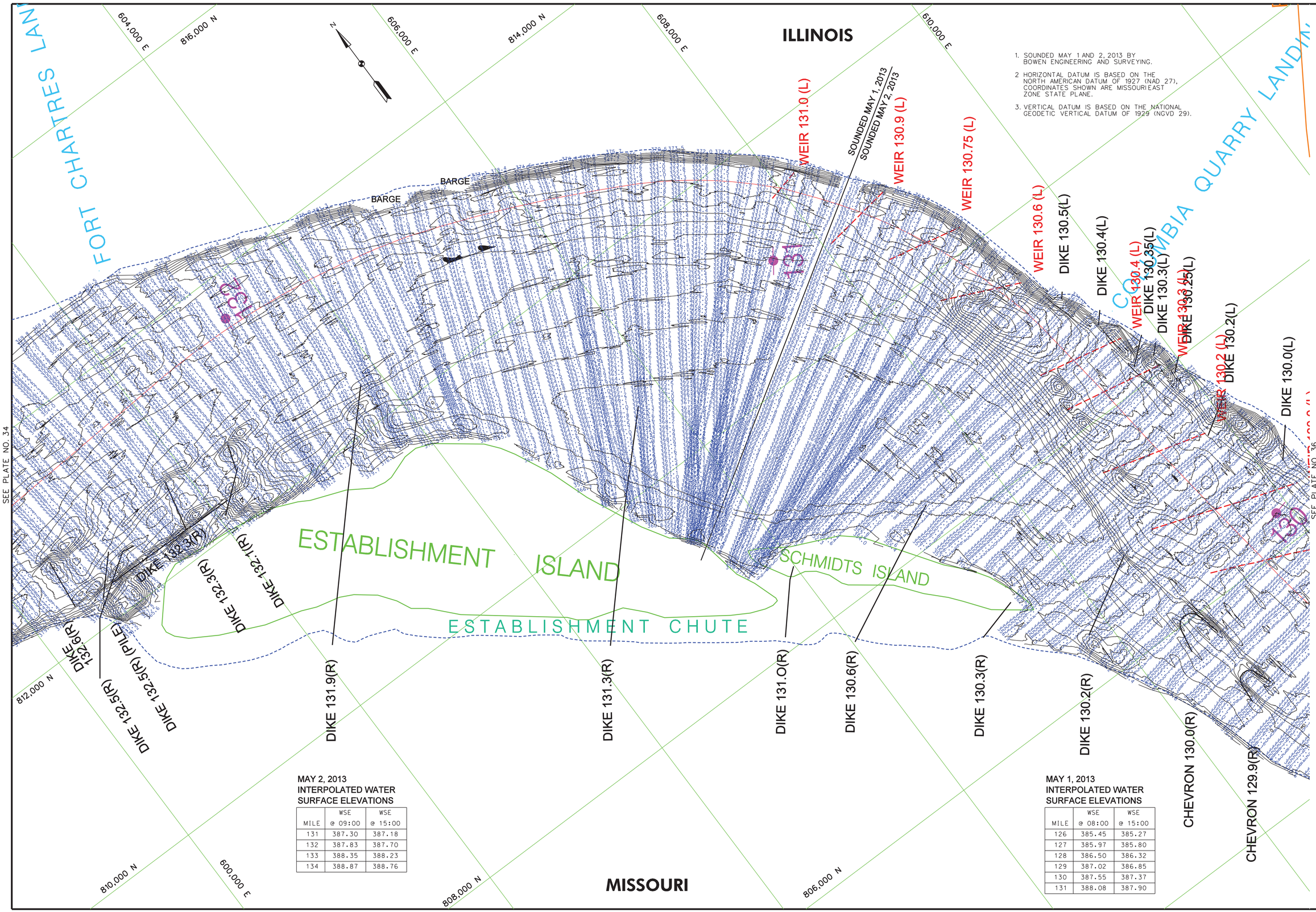


MAY 6, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
133	388.53	388.54
134	389.06	389.07
135	389.59	389.60
136	390.12	390.13
137	390.61	390.61
138	391.09	391.09

MAY 2, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 09:00	WSE @ 15:00
131	387.30	387.18
132	387.83	387.70
133	388.35	388.23
134	388.87	388.76



1. SOUNDED MAY 1 AND 2, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27), COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

MAY 2, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 09:00	WSE @ 15:00
131	387.30	387.18
132	387.83	387.70
133	388.35	388.23
134	388.87	388.76

MAY 1, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
126	385.45	385.27
127	385.97	385.80
128	386.50	386.32
129	387.02	386.85
130	387.55	387.37
131	388.08	387.90

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	BISHOPS LANDING, MO	CHESTER, IL	BRICKEYS LANDING, MO	ST. LOUIS, MO
ZERO N.G.V.D.	334.11	341.05	357.78	379.94
MILE	100.8	109.9	136.0	179.6
L. W. R. P.	335.4	340.4	356.2	376.4
01 MAY 2013	x	35.9268:00) 35.75(15:00)	32.93(8:00) 32.75(15:00)	x
02 MAY 2013	x	35.2(9:00) 35.02(15:00)	32.14(9:00) 32.03(15:00)	x

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. G:\#DP\154.000 C.F.S.)

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

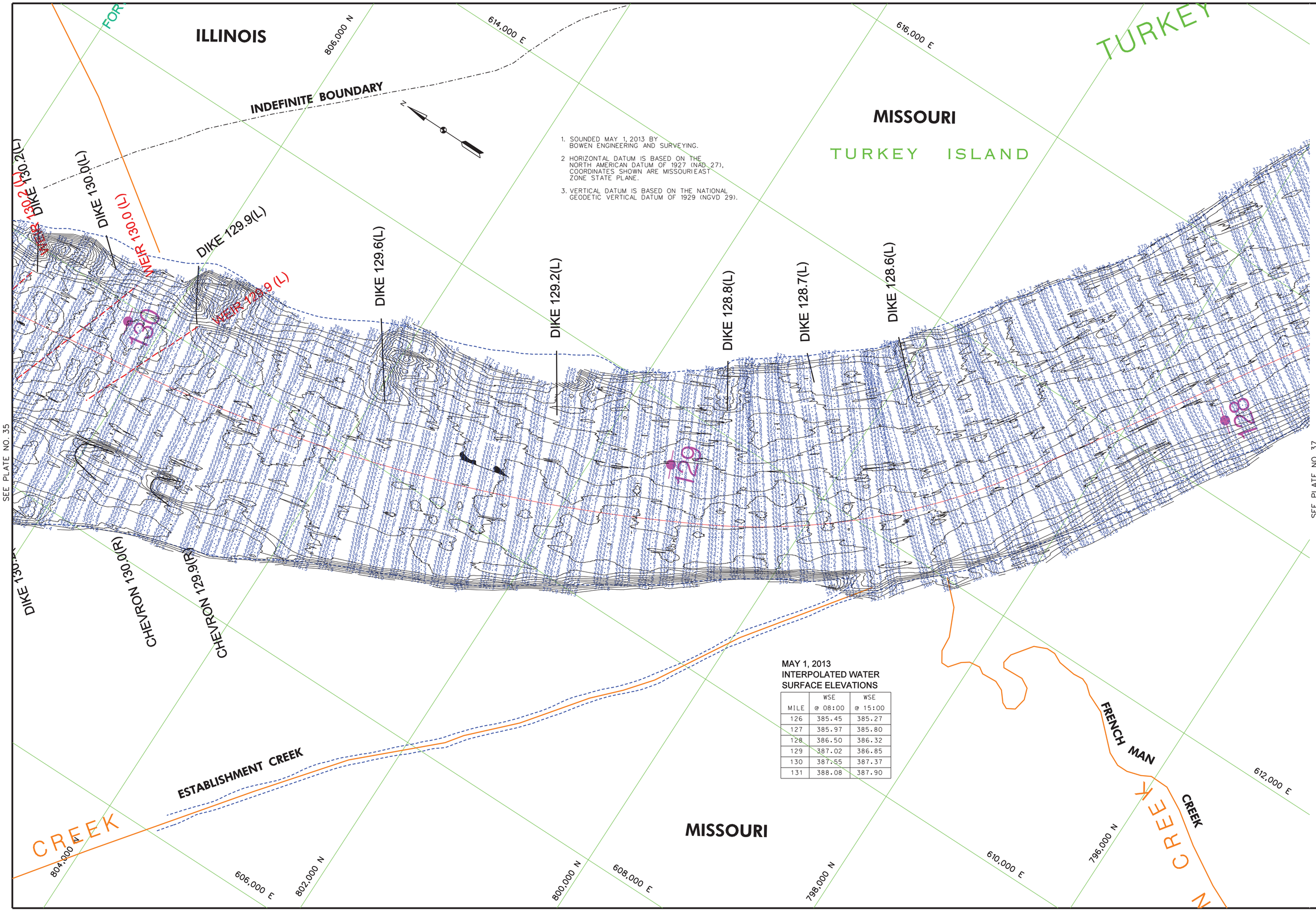
Surveyed by: BOWEN ENGINEERING
Survey Date: May 1 and 2, 2013
Drawn by: X
Ckd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: ##########
File name: ##########

240 METERS
800 FEET
120 0 120 400
0 400

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE BY BOWEN ENGINEERING AND SHOULD BE USED ONLY AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

HYDROGRAPHIC SURVEYS
RIVER MILES 130.0 – 132.2

PLATE NUMBER
35



1. SOUNDED MAY 1, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27), COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

MAY 1, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
126	385.45	385.27
127	385.97	385.80
128	386.50	386.32
129	387.02	386.85
130	387.55	387.37
131	388.08	387.90

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	BISHOPS LANDING, MO	CHESTER, IL	BRICKEYS LANDING, MO	ST. LOUIS, MO
ZERO N.G.V.D.	334.11	341.05	357.78	379.94
MILE	100.8	109.9	136.0	179.6
L.W.R.P.	335.4	340.4	356.2	376.4
01 MAY 2013	x	35.92(8:00) 35.75(15:00)	32.93(8:00) 32.75(15:00)	x

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (54,000 C.F.S.)

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

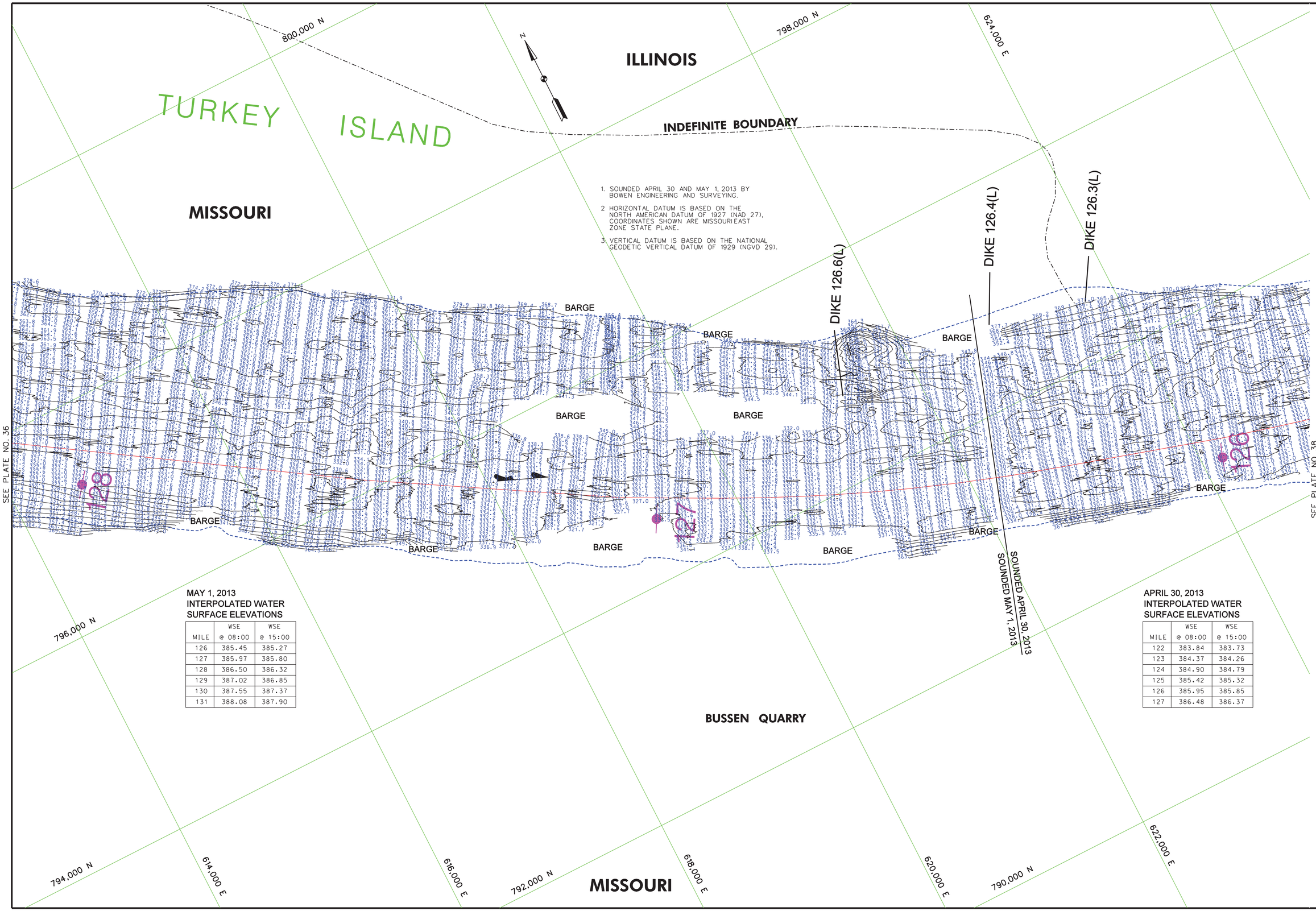
Surveyed by: BOWEN ENGINEERING
Survey Date: May 1, 2013
Drawn by: X
Ckd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: ##########
File name: ##########

240 METERS
800 FEET
120 0 120
0 400 400

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE BY THE ST. LOUIS DISTRICT, CORPS OF ENGINEERS AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

HYDROGRAPHIC SURVEYS
RIVER MILES 128.0 – 130.0

PLATE NUMBER
36



1. SOUNDED APRIL 30 AND MAY 1, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27), COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

MAY 1, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
126	385.45	385.27
127	385.97	385.80
128	386.50	386.32
129	387.02	386.85
130	387.55	387.37
131	388.08	387.90

APRIL 30, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
122	383.84	383.73
123	384.37	384.26
124	384.90	384.79
125	385.42	385.32
126	385.95	385.85
127	386.48	386.37

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	BISHOPS LANDING, MO	CHESTER, IL	BRICKEYS LANDING, MO	ST. LOUIS, MO
ZERO N.G.V.D.	334.11	341.05	357.78	379.94
MILE	100.8	109.9	136.0	179.6
L.W.R.P.	335.4	340.4	356.2	376.4
30 APR 2013	X	36.3918(-00) 36.29(15:00)	33.46(8:00) 33.35(15:00)	X
01 MAY 2013	X	35.92(8:00) 35.75(15:00)	32.93(8:00) 32.75(15:00)	X

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (54,000 C.F.S.)

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

Surveyed by: BOWEN ENGINEERING
Survey Date: April 30 and May 1, 2013
Drawn by: X
Ckd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: ####DATE/TIME####
File name: ####DESIGNFILE\SPECIFICATION####

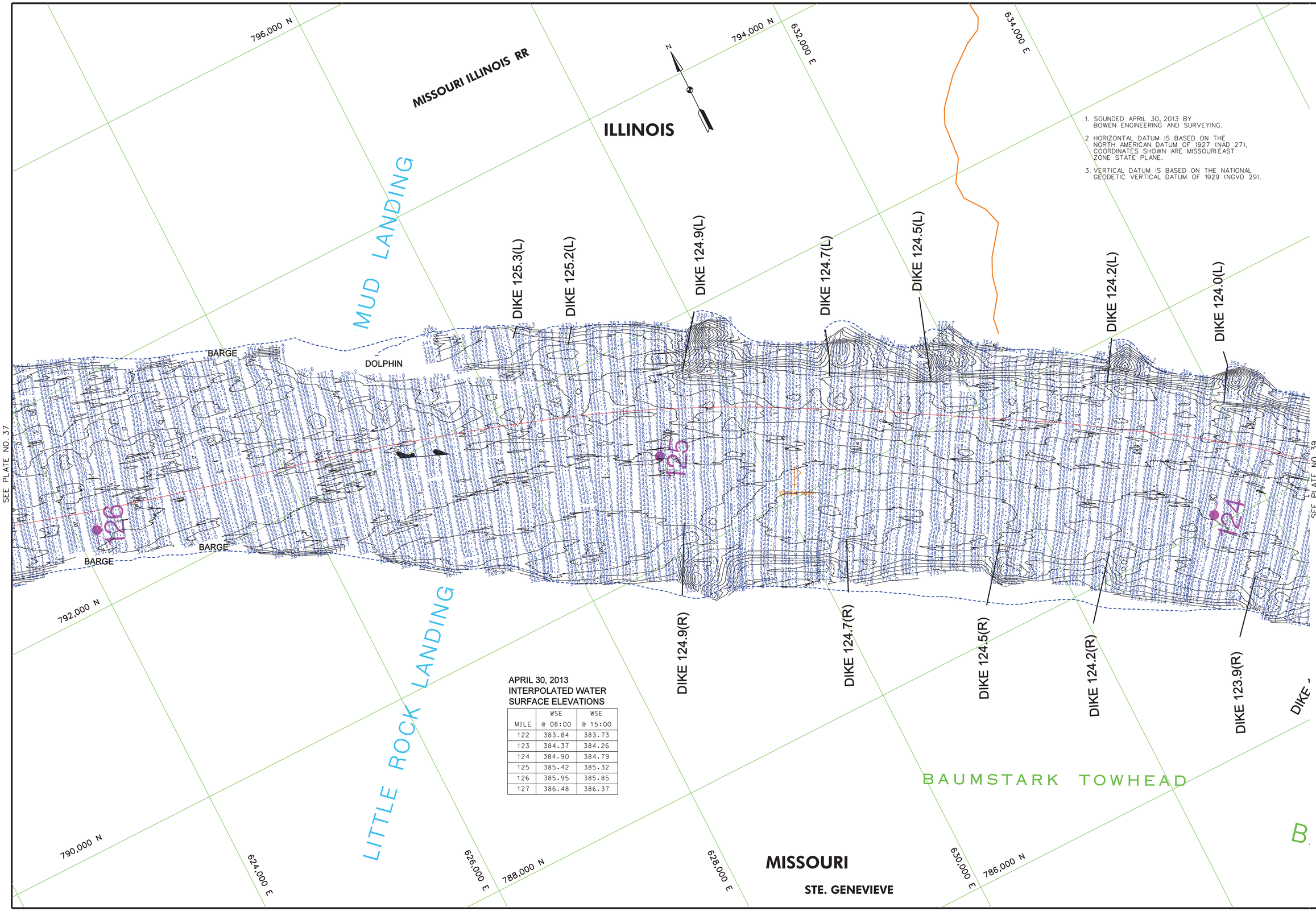
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

HYDROGRAPHIC SURVEYS
RIVER MILES 126.0 – 128.0

120 400 0 0 120 240 METERS
400 800 FEET

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED. THE SURVEYS WERE MADE AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

PLATE NUMBER
37



APRIL 30, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
122	383.84	383.73
123	384.37	384.26
124	384.90	384.79
125	385.42	385.32
126	385.95	385.85
127	386.48	386.37

1. SOUNDED APRIL 30, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27), COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BRICKEYS LANDING, MO
ZERO N.G.V.D.	328.92	334.11	341.05	357.78
MILE	94.1	100.8	109.9	136.0
L. W. R. P.	330.7	335.4	340.4	356.2
30 APR 2013	X	X	36.39(8:00) 36.29(15:00)	33.46(8:00) 33.35(15:00)

ELEVATIONS ARE REFERENCED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (54,000 C.F.S.)

Surveyed by: BOWEN ENGINEERING
Survey Date: April 30, 2013
Drawn by: X
Ckd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: ##########
File name: ##########

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

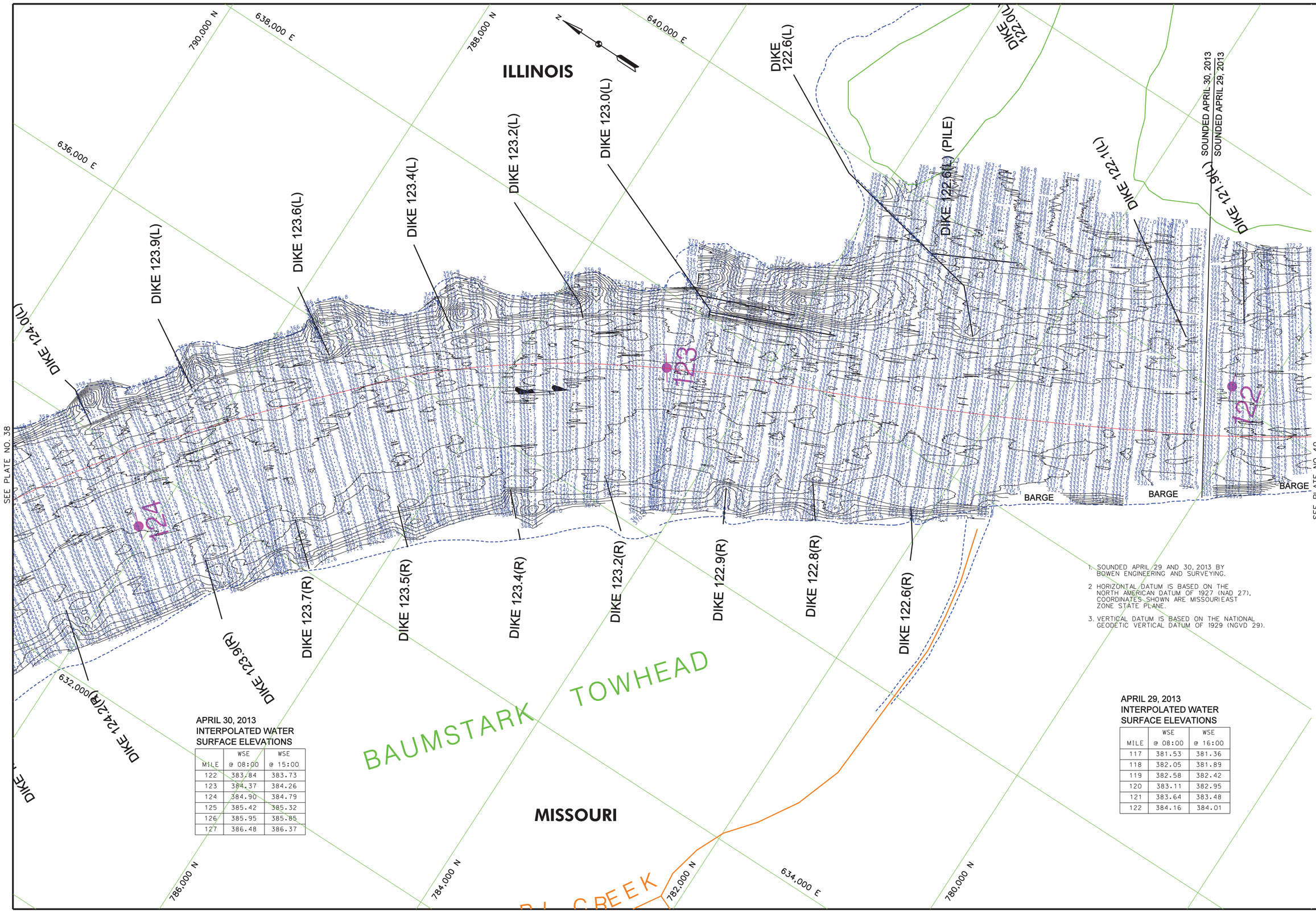
240 METERS 120 0 120
800 FEET 400 0 400

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND IS CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

HYDROGRAPHIC SURVEYS

RIVER MILES 124.0 – 126.0

PLATE NUMBER
38



1. SOUNDED APRIL 29 AND 30, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27). COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

APRIL 30, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
122	383.84	383.73
123	384.37	384.26
124	384.90	384.79
125	385.42	385.32
126	385.95	385.85
127	386.48	386.37

APRIL 29, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 16:00
117	381.53	381.36
118	382.05	381.89
119	382.58	382.42
120	383.11	382.95
121	383.64	383.48
122	384.16	384.01

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BRICKEYS LANDING, MO
ZERO N.G.V.D.	328.92	334.11	341.05	357.78
MILE	94.1	100.8	109.9	136.0
L. W. R. P.	330.7	335.4	340.4	356.2
29 APR 2013	X	X	36.73(8:00) 36.55(16:00)	33.77(8:00) 33.64(16:00)
30 APR 2013	X	X	36.39(8:00) 36.29(15:00)	33.46(8:00) 33.35(15:00)

ELEVATIONS ARE REFERENCED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. (L.W.R.P.) (54,000 C.F.S.)

US Army Corps of Engineers
St. Louis District

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

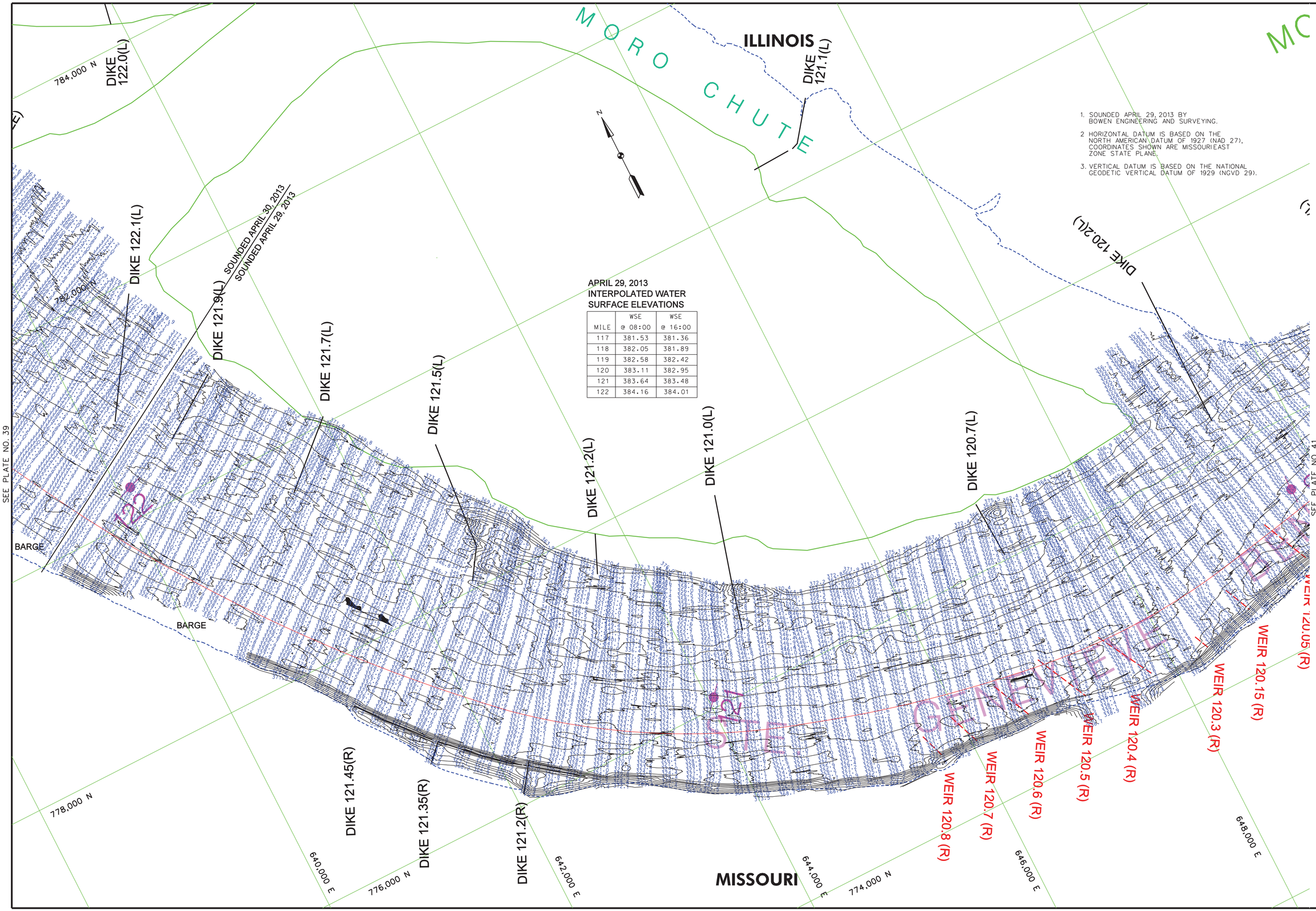
Surveyed by: BOWEN ENGINEERING
Drawn by: X
Ckd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: ####DATE-TIME####
File name: ####DESIGNFILEBRIFICATION####

240 METERS 120 0 120 400
800 FEET 400 0 400 120

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND ACCURATELY REPRESENTS THE GENERAL CONDITIONS EXISTING AT THAT TIME

HYDROGRAPHIC SURVEYS
RIVER MILES 122.0 – 124.0

PLATE NUMBER
39



APRIL 29, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 16:00
117	381.53	381.36
118	382.05	381.89
119	382.58	382.42
120	383.11	382.95
121	383.64	383.48
122	384.16	384.01

1. SOUNDED APRIL 29, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27), COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BRICKEYS LANDING, MO
ZERO N.G.V.D.	328.92	334.11	341.05	357.78
MILE	94.1	100.8	109.9	136.0
L.W.R.P.	330.7	335.4	340.4	356.2
29 APR 2013	X	X	36.7318(-00)	33.7718(-00) 33.6416(-00)

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (54,000 C.F.S.)

US Army Corps of Engineers
St. Louis District

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

Surveyed by: BOWEN ENGINEERING
Drawn by: X
SUBMITTED: X
Reviewed by: X
Ckd by: X
APPROVED: X
Survey Date: April 29, 2013
Plot date: ####DATE/TIME####
File name: ####DESIGNFILE\DESIGNFLOCATION####

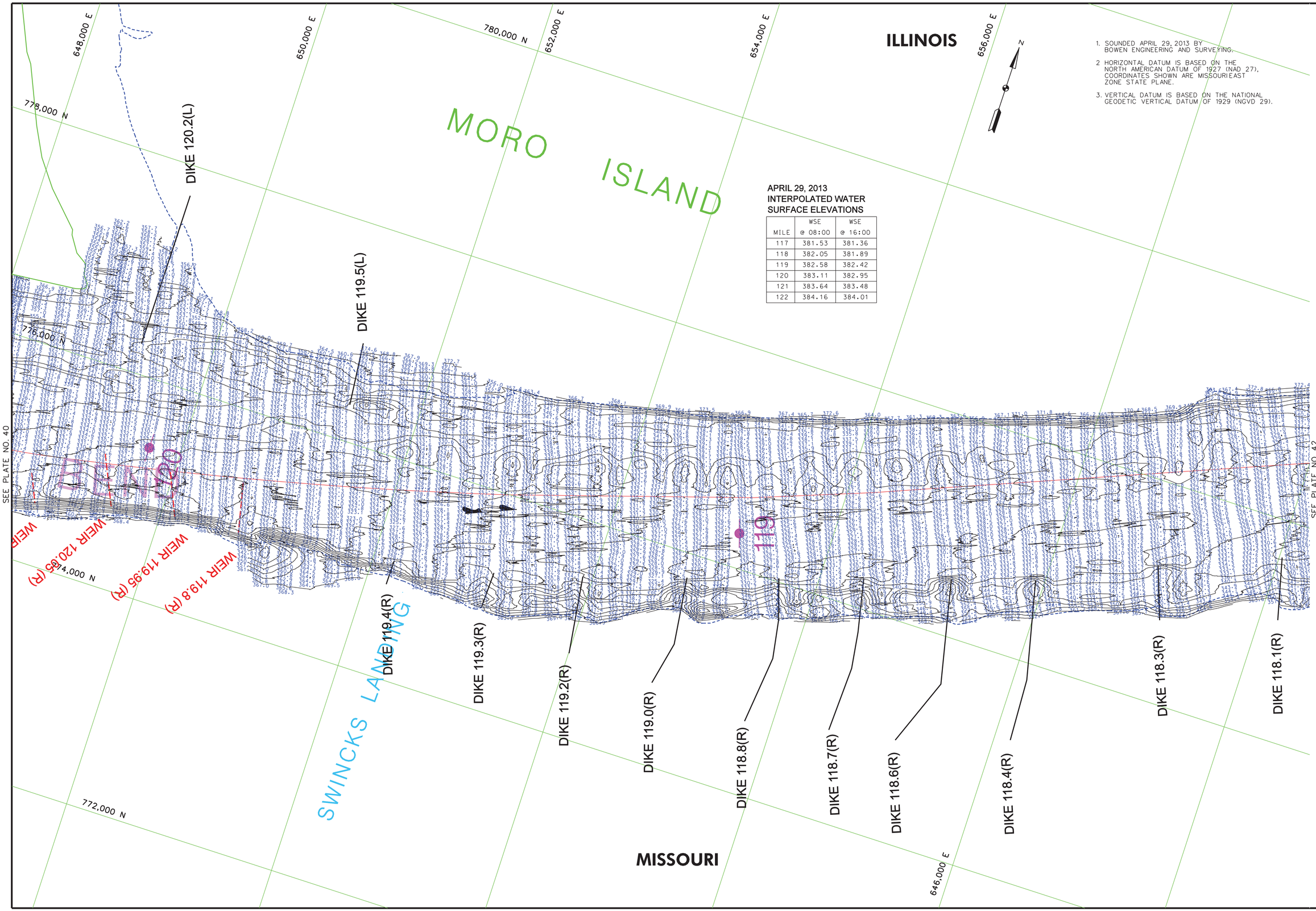
120 400 0 0 120 240 METERS
400 800 FEET

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE BY THE ST. LOUIS DISTRICT, CORPS OF ENGINEERS AND IS INTENDED TO BE A REPRESENTATION OF THE GENERAL CONDITIONS EXISTING AT THE TIME AS INDICATED.

HYDROGRAPHIC SURVEYS

RIVER MILES 120.1 – 122.0

PLATE NUMBER
40



APRIL 29, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 16:00
117	381.53	381.36
118	382.05	381.89
119	382.58	382.42
120	383.11	382.95
121	383.64	383.48
122	384.16	384.01

1. SOUNDED APRIL 29, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27), COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BRICKEYS LANDING, MO
ZERO N.G.V.D.	328.92	334.11	341.05	357.78
MILE	94.1	100.8	109.9	136.0
L.W.R.P.	330.7	335.4	340.4	356.2
29 APR 2013	X	X	36.7318(00) 36.5516(-00)	33.7718(00) 33.6416(-00)

ELEVATIONS ARE REFERENCED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. (L.W.R.P.) (54,000 C.F.S.)

Surveyed by: BOWEN ENGINEERING
Drawn by: X
Chd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Survey Date: April 29, 2013
Plot date: ####DATE-TIME####
File name: ####DESIGNFILEREFERENCE####

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

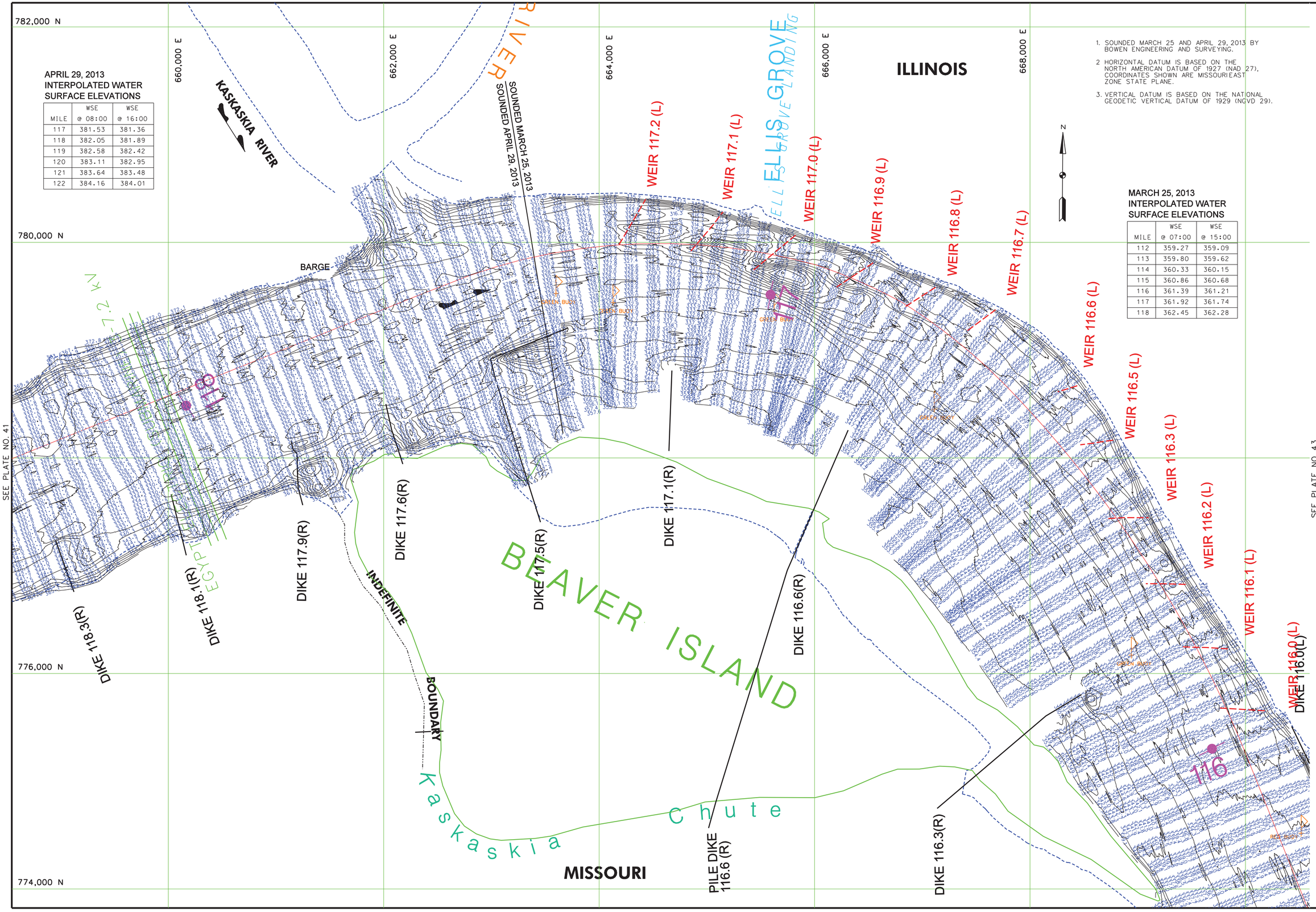
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

120 0 120 240 METERS
400 0 400 800 FEET
THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE ROSES TO OF DISTANCE AND DEPTHS OF WATER AS MEASURED ON THE DATE SHOWN AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

HYDROGRAPHIC SURVEYS

RIVER MILES 118.2 – 120.1

PLATE NUMBER
41



APRIL 29, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 16:00
117	381.53	381.36
118	382.05	381.89
119	382.58	382.42
120	383.11	382.95
121	383.64	383.48
122	384.16	384.01

MARCH 25, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 07:00	WSE @ 15:00
112	359.27	359.09
113	359.80	359.62
114	360.33	360.15
115	360.86	360.68
116	361.39	361.21
117	361.92	361.74
118	362.45	362.28

1. SOUNDED MARCH 25 AND APRIL 29, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27), COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BRICKEYS LANDING, MO
ZERO N.G.V.D.	328.92	334.11	341.05	357.78
MILE	94.1	100.8	109.9	136.0
L. W. R. P.	330.7	335.4	340.4	356.2
25 MAR 2013	X	X	17.10(07:00) 16.93(15:00)	14.23(07:00) 14.04(15:00)
29 APR 2013	X	X	36.73(8:00) 36.55(16:00)	33.77(8:00) 33.64(16:00)

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. G:\#DP\154.000 C.F.S.)

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

Surveyed by: BOWEN ENGINEERING
Survey Date: March 25 and April 29, 2013
Drawn by: X
Ckd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: ####DATE-TIME####
File name: ####DESIGNFILEBRTITLEOFFICATION####

240 METERS 120 0 120 400
800 FEET 400 0 400 1200

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND IS PRESENTED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

HYDROGRAPHIC SURVEYS
RIVER MILES 116.0 – 118.2

PLATE NUMBER
42