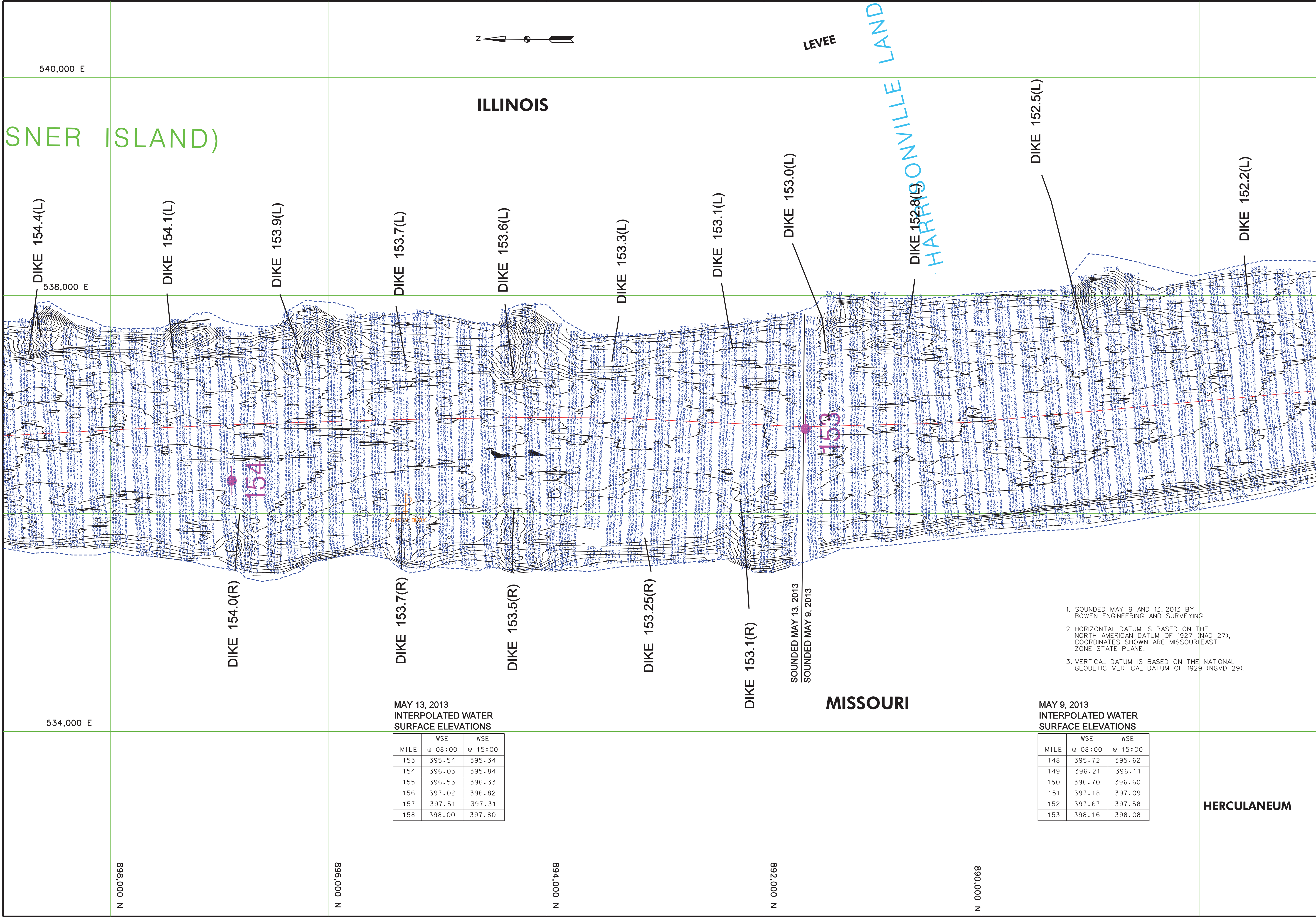




US Army Corps of Engineers St. Louis District

CAGE RECORD		WATER'S POINT		ST. LOUIS MO	
BROCK'S LANDING MO	SEMA MO	10.00	370.39	379.84	
ZERO NGVD	357.78	145.8	358.5	379.6	
MILE	356.2	361.0	357.4	376.4	
L.W.R.D.	32.078(00) 3.94(15:00)	DAMAGED - NOT USABLE	DAMAGED - NOT USABLE	31.23(8:00) 3.71(15:00)	
09 MAY 2013	29.39(6:00) 2.92(15:00)	DAMAGED - NOT USABLE	DAMAGED - NOT USABLE	28.70(8:00) 2.81(15:00)	
13 MAY 2013	29.39(6:00) 2.92(15:00)	DAMAGED - NOT USABLE	DAMAGED - NOT USABLE	28.70(8:00) 2.81(15:00)	
ELEVATIONS ARE REFERRED TO NGVD - CONTOURS ARE BELOW 1006.57 LOW WATER REFERENCE PLANE (LWRP) 104.000 OF S1					

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		Survey Date: May 9 and 13, 2013	
Drawn by: X	Reviewed by: X	Ckd by: X	
SUBMITTED: X		APPROVED: X	
File Name: ##DESIGN##REFERRATION##		Plot Date: ##DATE##/##TIME##	

120
400
0
0
100
240 METERS

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL LOCATIONS OF SURVEYED POINTS.

HYDROGRAPHIC SURVEYS
RIVER MILES 152.2 - 154.4

PLATE NUMBER
24

1. SOUNDED MAY 9 AND 13, 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).

ILLINOIS

MISSOURI

HERCULANEUM

1. SOUNDED MAY 9, 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 9, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE	
	@ 08:00	@ 15:00
148	395.72	395.62
149	396.21	396.11
150	396.70	396.60
151	397.18	397.09
152	397.67	397.58
153	398.16	398.08



CAGE RECORD			
BRICKER'S LANDING, MO	SEMA, MO	WATER'S POINT	ST. LOUIS, MO
357.78	350.00	370.39	379.84
356.7	345.8	358.5	379.6
L.W.R. P.	361.0	367.4	376.4
09 MAY 2013 32.0718(00) 31.9415(00)	DAMAGED - NOT USABLE	DAMAGED - NOT USABLE	31.2318(00) 31.2115(00)

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (10,400 OF 5.1)

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Survey Date: May 31, 2013
Drawn by: X	Reviewed by: X
Submitted: X	Approved: X
File Name: ##DESIGN##REF##	Plot Date: ##DATE/TIME##

HYDROGRAPHIC SURVEYS RIVER MILES 150.2 - 152.2

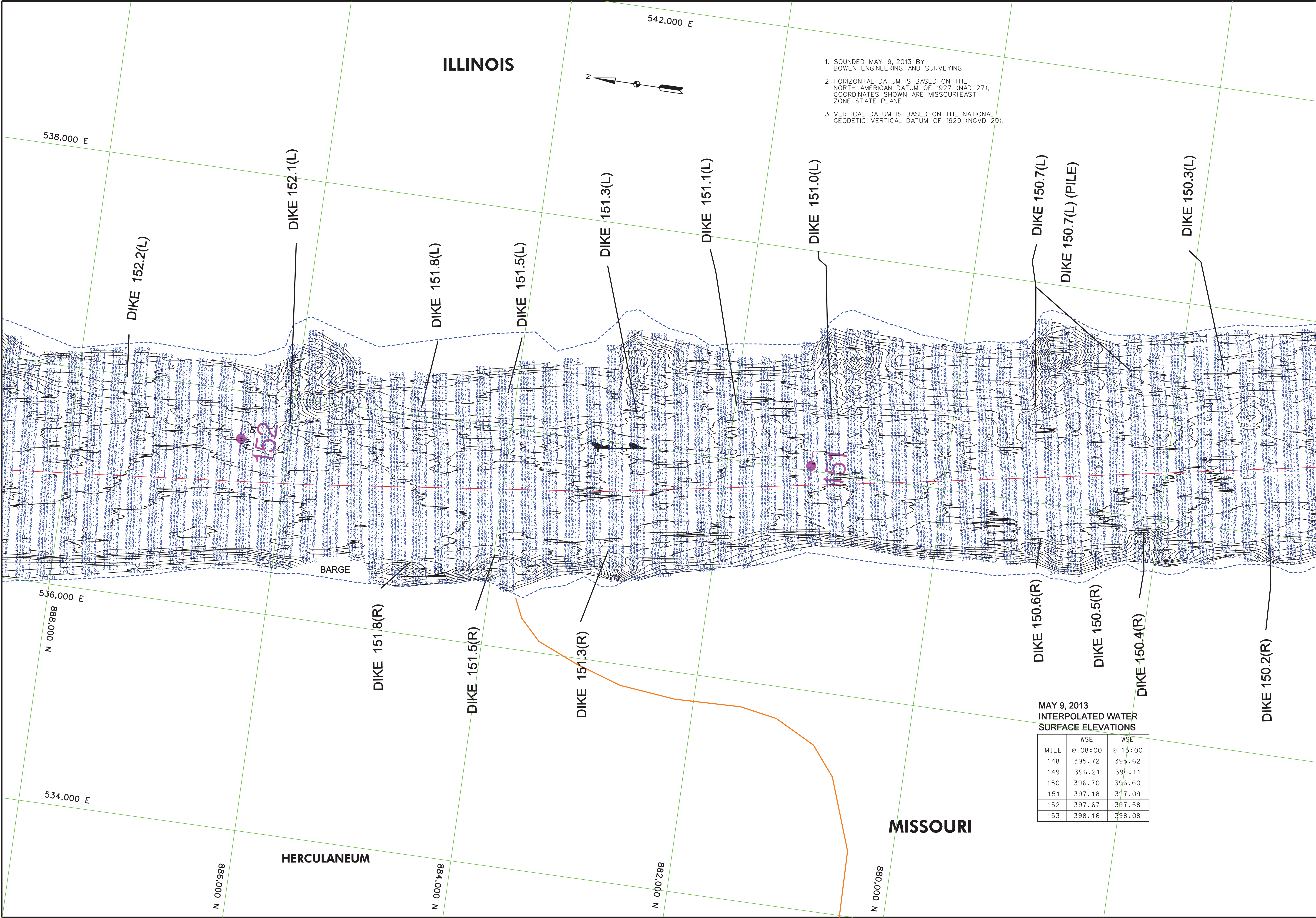
PLATE NUMBER 25

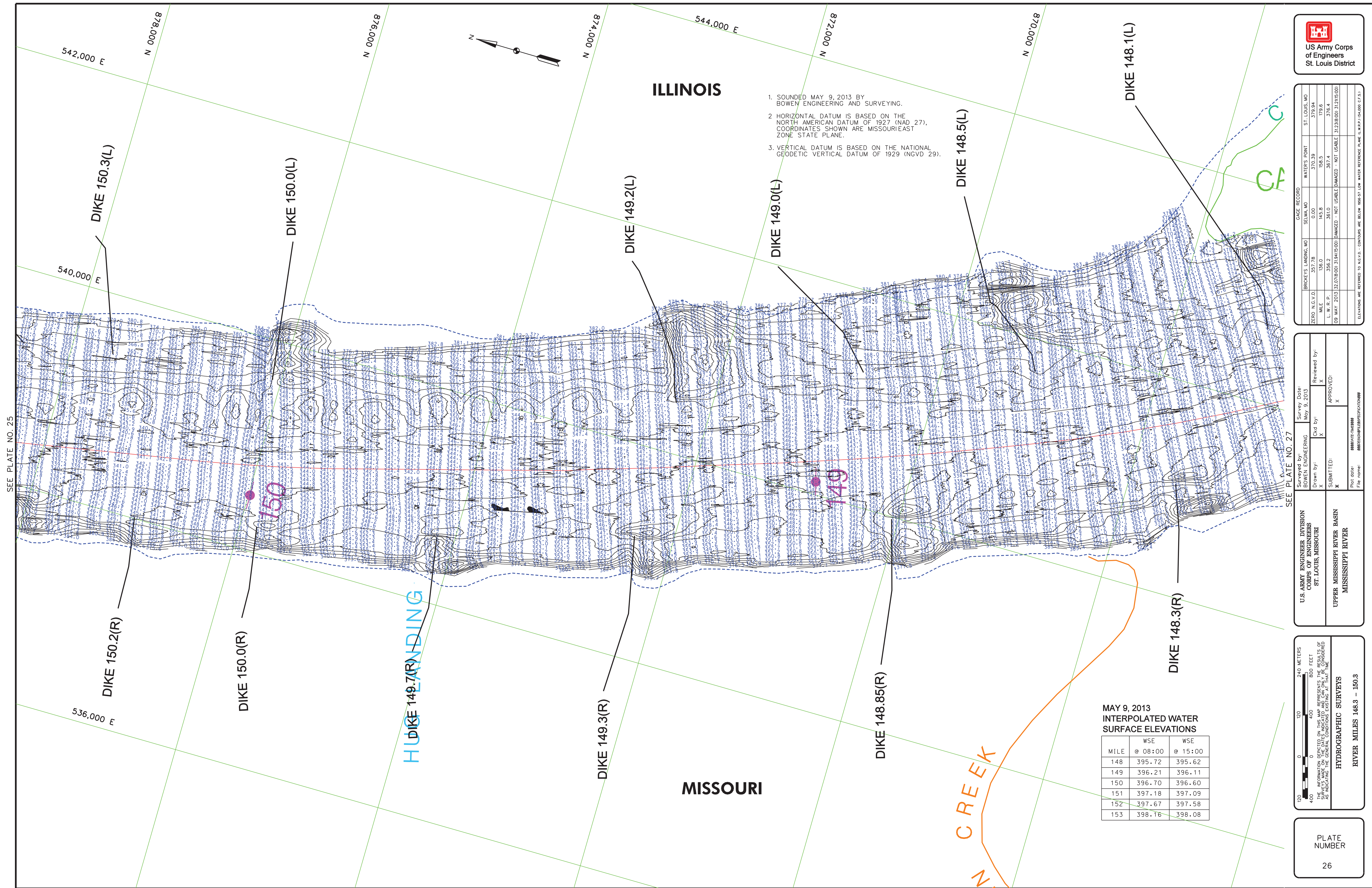


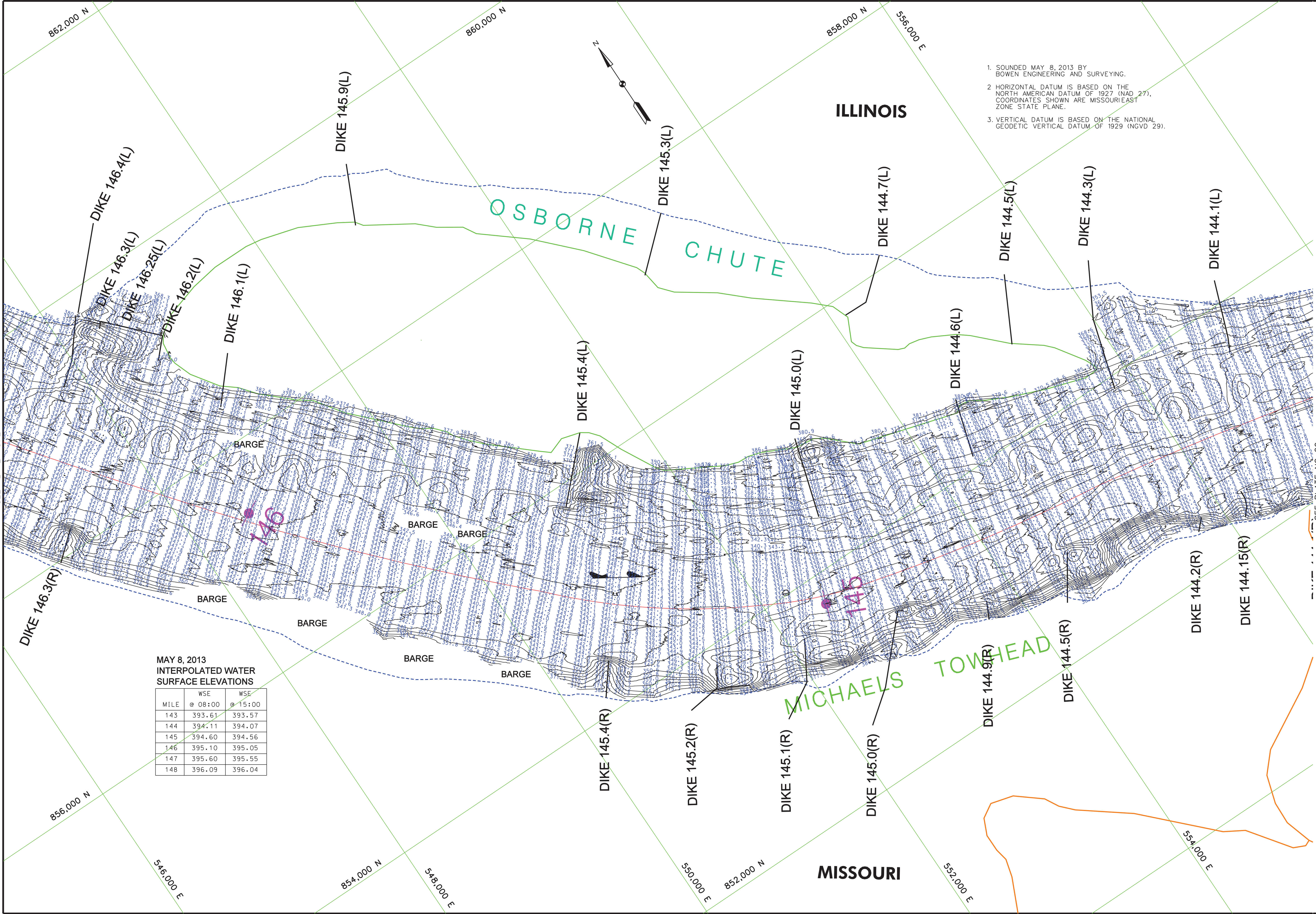
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF
SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED
AS INDICATING THE GENERAL CONTOURS OF THE SURFACE OF THE WATER.

SEE PLATE NO. 26

SEE PLATE NO. 24







MAY 8, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

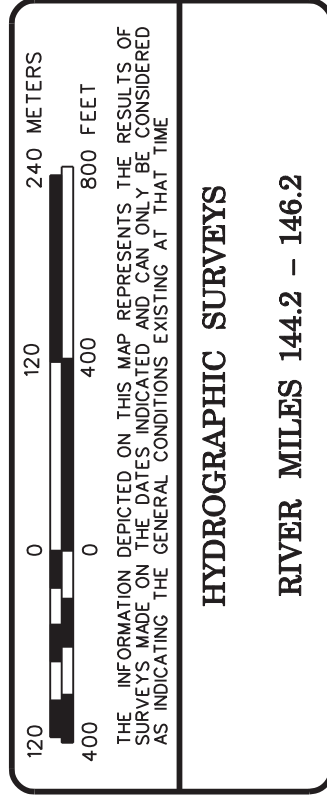
MILE	WSE @ 08:00	WSE @ 15:00
143	393.61	393.57
144	394.11	394.07
145	394.60	394.56
146	395.10	395.05
147	395.60	395.55
148	396.09	396.04

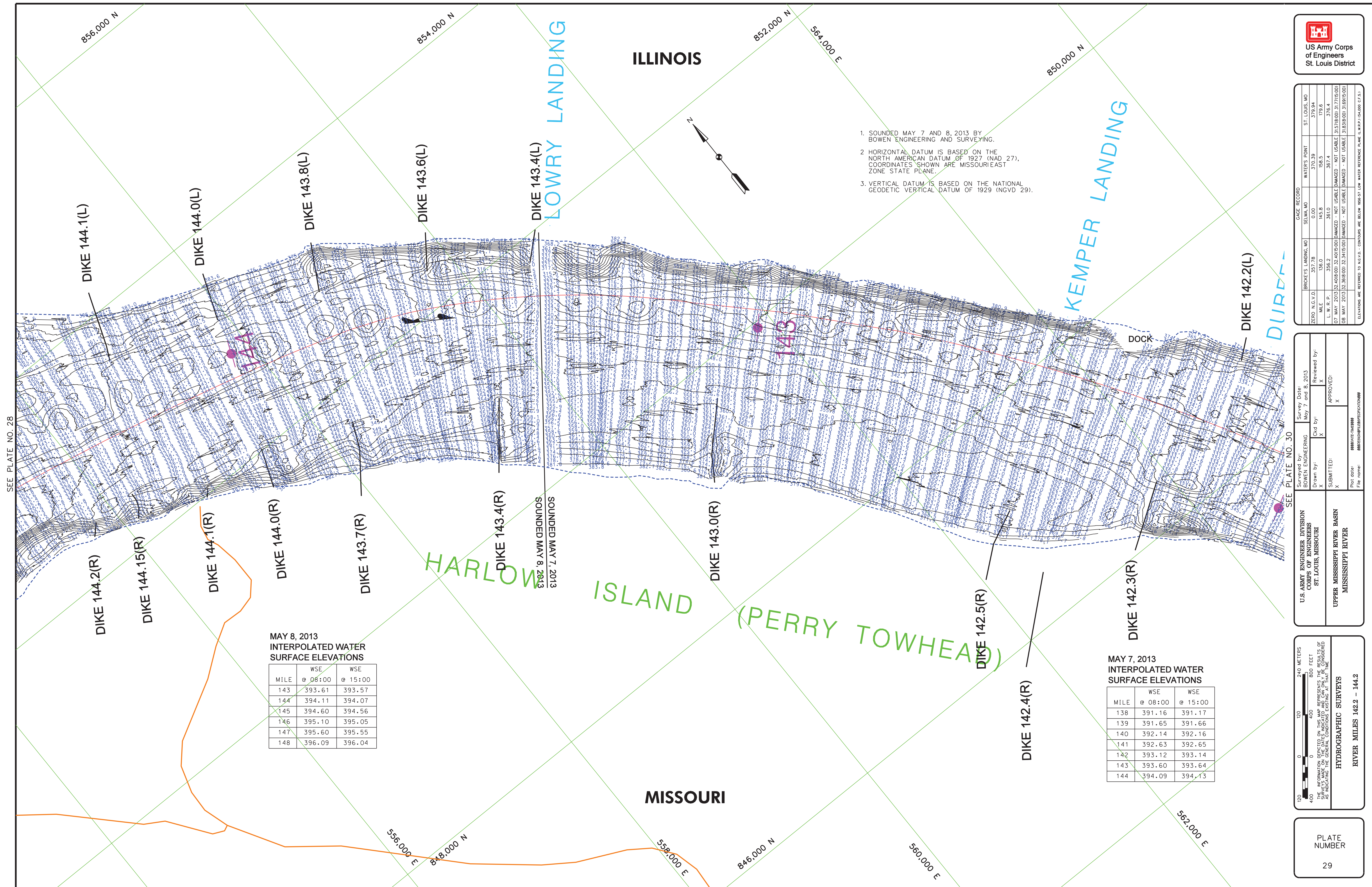
1. SOUNDED MAY 8, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27), COORDINATES SHOWN ARE MISSOURI EAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).



CAGE RECORD	ST. LOUIS MO
BROCKEY'S LANDING MO	379.84
SEMA MO	379.84
WATER'S POINT	379.84
ZERO N.G.V.D.	379.84
MILE	379.84
L.W.R.D.	379.84
08 MAY 2013 12:36:00 32.3415 300 DAMAGED - NOT USABLE 31.8318 300 316.15 500	379.84
ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956.57 LOW WATER REFERENCE PLANE (LWRP) 194.000 (7.51)	379.84

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Survey Date May 8, 2013
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER	Drawn by: X
	Reviewed by: X
	APPROVED: X
	Submitted: X
	Plot Date: File Name:



[illegible]

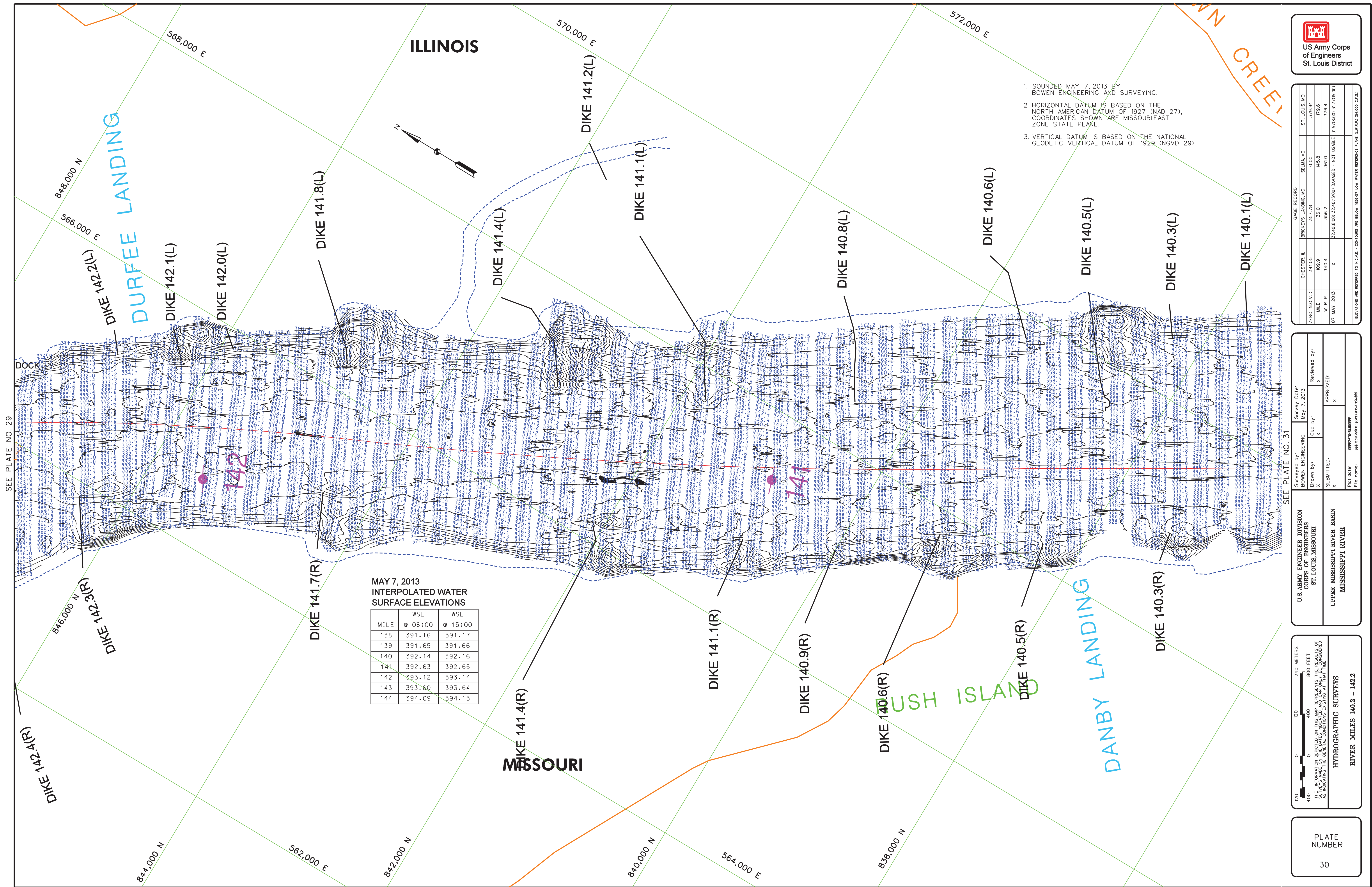
U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Surveyed by:	Survey Date:	
	BOWEN ENGINEERING	May 7 and 8, 2013	
	Drawn by:	Ckd by:	Reviewed by:
	X	X	X
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER	SUBMITTED:	APPROVED:	
	X	X	
	Plot. date: #####DATE####		
	File name: #####SAMPLESPECIFIC####		

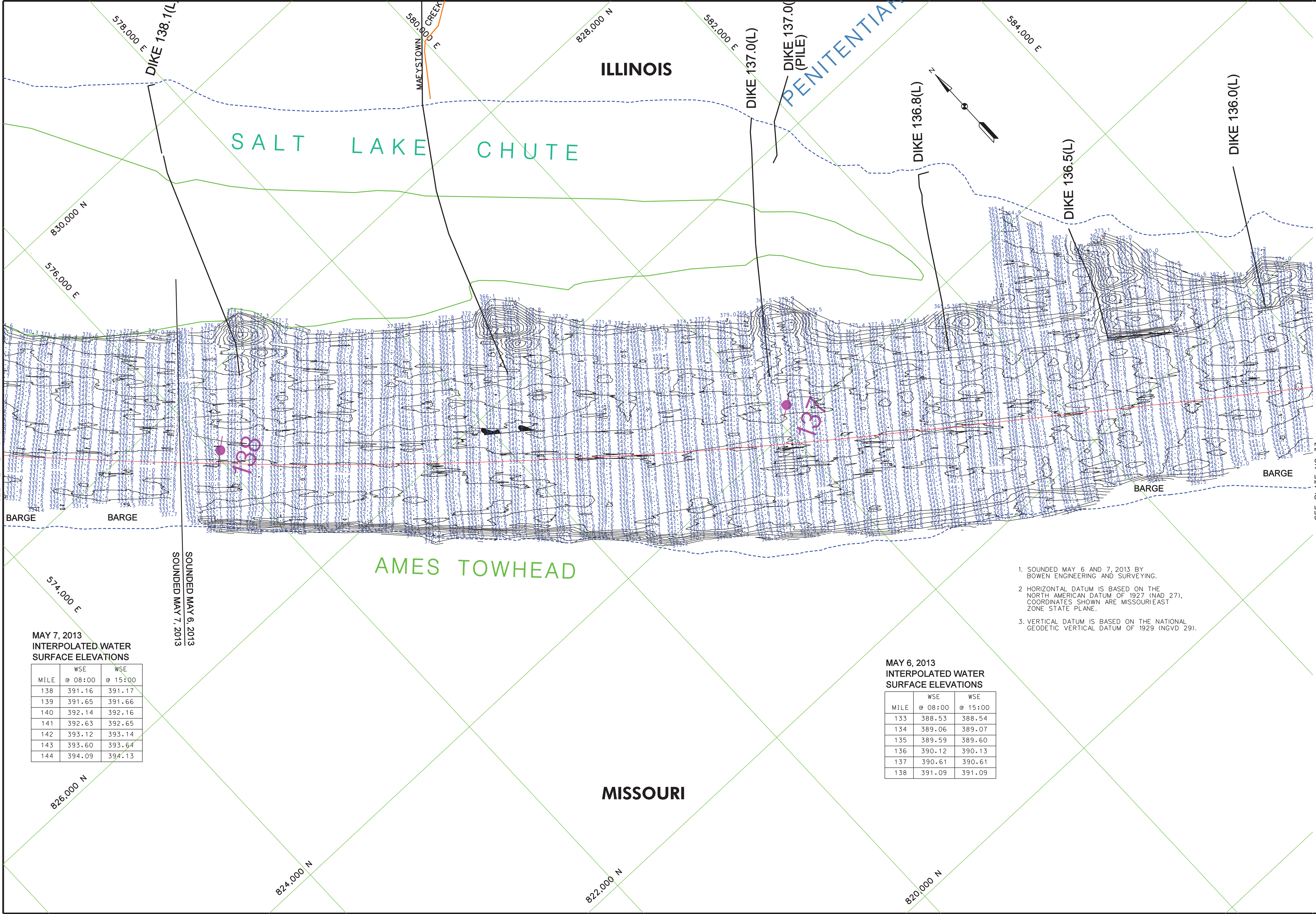
120 0 120 240 METERS
400 0 400 800 FEET

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF AERIAL PHOTOGRAPHIC INTERPRETATION AND CAN BE CONSIDERED AS AN INDICATION OF GENERAL CONDITIONS EXISTING AT THE TIME.

HYDROGRAPHIC SURVEYS

RIVER MILES 142.2 - 144.2





MAY 7, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
138	391.16	391.17
139	391.65	391.66
140	392.14	392.16
141	392.63	392.65
142	393.12	393.14
143	393.60	393.64
144	394.09	394.13

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

1. SOUNDED MAY 6 AND 7, 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).

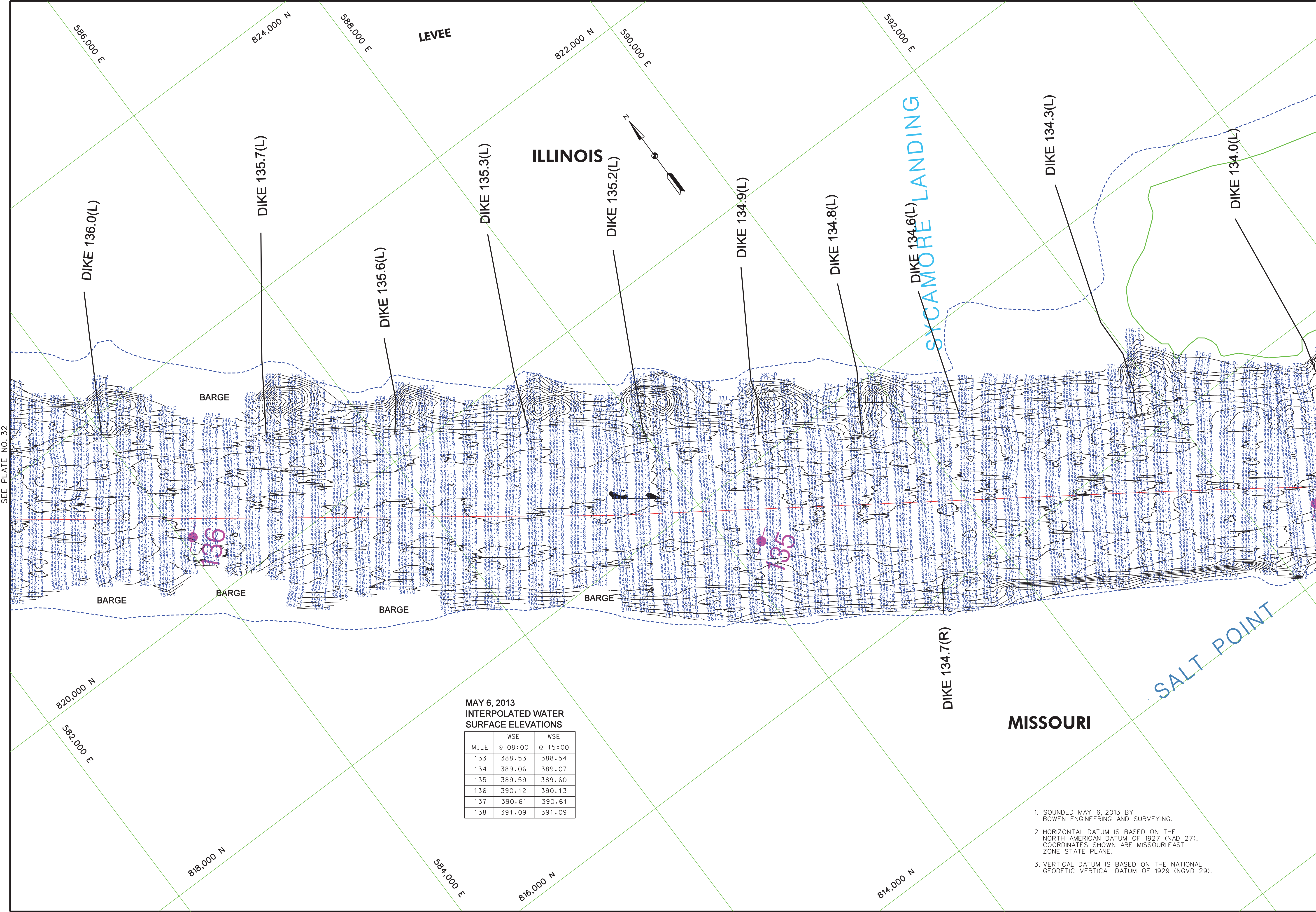


CAGE RECORD	CHESTER, IL	BRIDGES LANDING, MO	SEMA, MO	ST. LOUIS, MO
ZERO N.G.V.D.	341.05	357.78	350.00	379.84
MILE	309.9	336.0	345.8	370.6
L.W.R.D.	340.4	356.2	361.0	376.4
05 MAY 2013	35.24(8.00)	35.29(15.00)	32.34(8.00)	31.41(6.00)
07 MAY 2013	X	X	32.40(6.00)	31.77(15.00)

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (LWRP) 114.000 (7.5').

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Survey Date: May 6 and 7, 2013
	Reviewed by: X
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER	Submitted by: X
	APPROVED: X
Plot Date: File Name:	

HYDROGRAPHIC SURVEYS	RIVER MILES 136.2 - 138.2
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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

1. SOUNDED MAY 6, 2013 BY BOWEN ENGINEERING AND SURVEYING.
2. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1927 (NAD 27). COORDINATES SHOWN ARE MISSOURIEAST ZONE STATE PLANE.
3. VERTICAL DATUM IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).



CAGE RECORD		BISCHOPS LANDING, MO		CHESTER, IL		BRICKY'S LANDING, MO		ST. LOUIS, MO	
ZERO N.G.V.D.		334.31		341.05		357.78		379.84	
MILE		300.8		309.9		336.0		379.6	
L.W.R.D.		335.4		340.4		356.2		376.4	
06 MAY 2013		X		35.24(8.00) 35.28(15.00) 32.34(8.00) 32.35(15.00)		31.41(6.00) 31.22(15.00)			

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956.57 LOW WATER REFERENCE PLANE (LWRP) 110,400 (7.51)

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		Survey Date: May 6, 2013
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER	Drawn by: X	Reviewed by: X
	SUBMITTED: X	APPROVED: X
Plot Date: File Name:		##PROJECT## ##PROJECT##

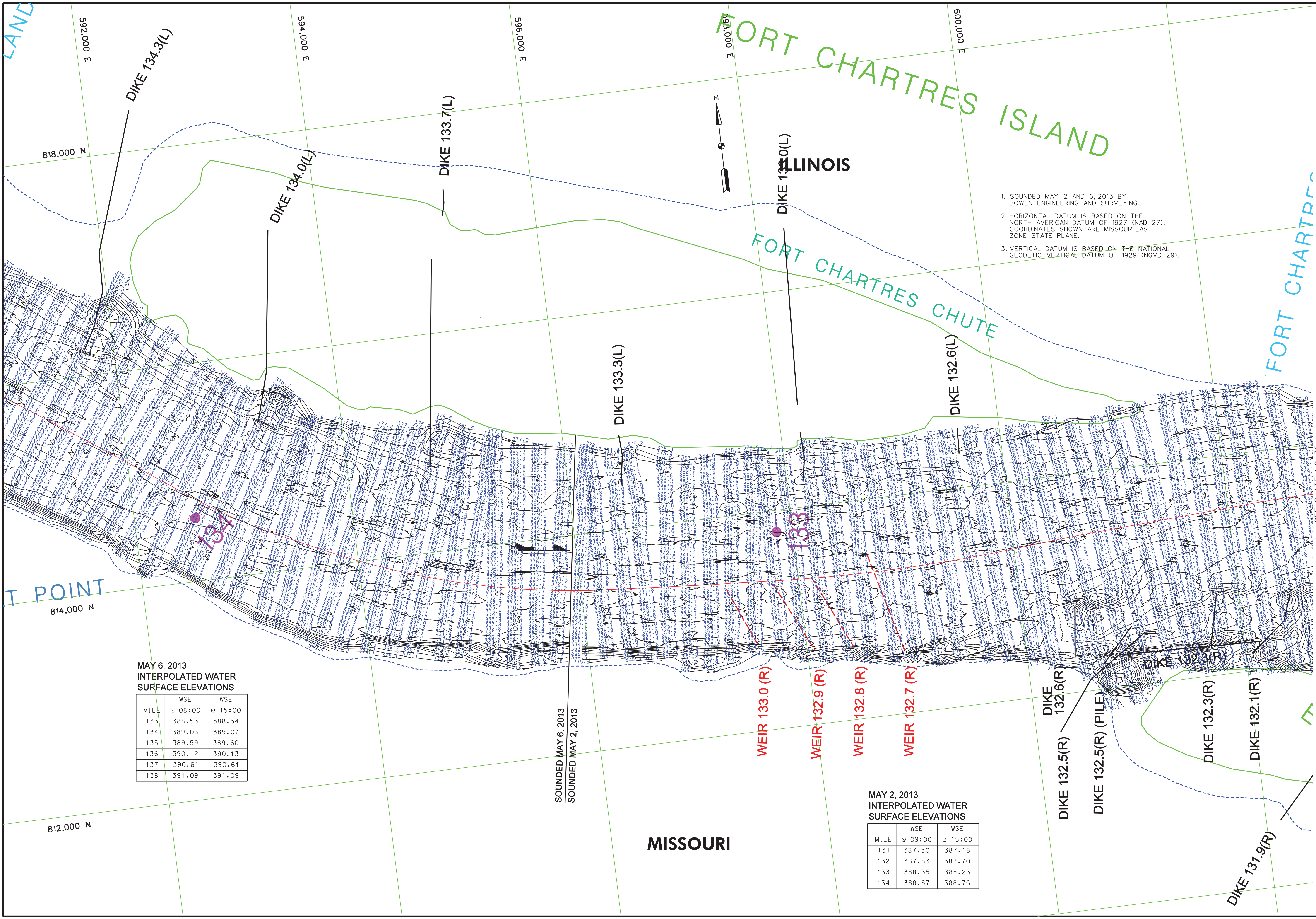
120
400
0
0
100
240 METERS

0
0
400
800 FEET

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONTOUR OF THE TERRAIN.

HYDROGRAPHIC SURVEYS

RIVER MILES 134.2 - 136.2



US Army Corps of Engineers
St. Louis District

GAGE RECORD		ST. LOUIS, MO	
BISHOPS LANDING, MO	CHESTER, IL	BRICKY'S LANDING, MO	ST. LOUIS, MO
ZERO N.G.V.D.	334.31	337.78	379.84
MILE	300.8	300.9	370.6
L.W.R.D.	335.4	340.4	376.4
02 MAY 2013	X	35.218(00) 35.021(15:00) 32.141(00) 32.031(15:00)	X
06 MAY 2013	X	35.241(00) 35.291(15:00) 32.341(00) 32.351(15:00) 31.418(00) 31.221(15:00)	X

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1996-57 LOW WATER REFERENCE PLANE (LWRP) 110,000 OF S.I.

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		Survey Date: May 2 and 6, 2013	
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER		Drawn by: X	Reviewed by: X
		Submitted: X	Approved: X
Plot Code: #####		File Name: #####	

120 0 100 200 400 800 METERS

400 0 400 800 FEET

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL LOCATIONS OF THE FEATURES SHOWN.

HYDROGRAPHIC SURVEYS

RIVER MILES 132.2 - 134.2

PLATE NUMBER

34