



GAGE RECORD			
L S D 22 LOWER	MUNDOY LANDING	LOUISIANA, MO	L S D 24 UPPER
PERERO N.C.V.D.	441.95	437.33	421.81
MILE	30.0	282.9	273.5
L S D	449.1	449.0	449.0
NOV. 30, 1914	16,680.0	18,813.00	24,526.00
NOV. 30, 1914	16,680.0	18,813.00	24,526.00
NOV. 31, 1914	X	19,001.00	25,494.00

ALL ELEVATIONS ARE REFERRED TO N.C.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.S.P. 154,000 C.F.S.)

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Surveyed by: BOWEN ENGINEERING	Survey Date: JULY 30 & 31, 2014
UPPER MISSISSIPPI RIVER BASIN	Drawn by: X	Clid by: X
	SUBMITTED: X	APPROVED: X
MISSISSIPPI RIVER	File name ##BDSIGNSRIVERINFORMATION##	Plot date: ##BDSIGDATE##

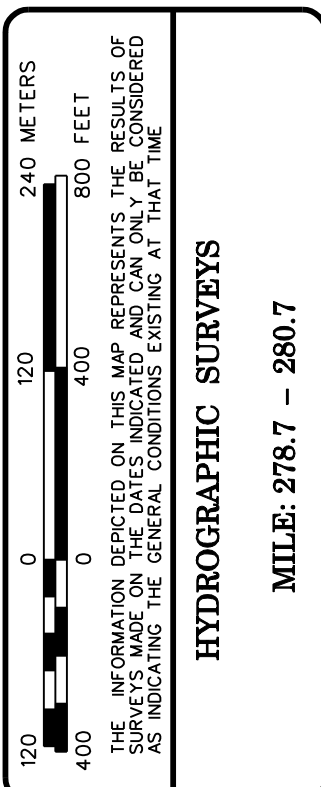
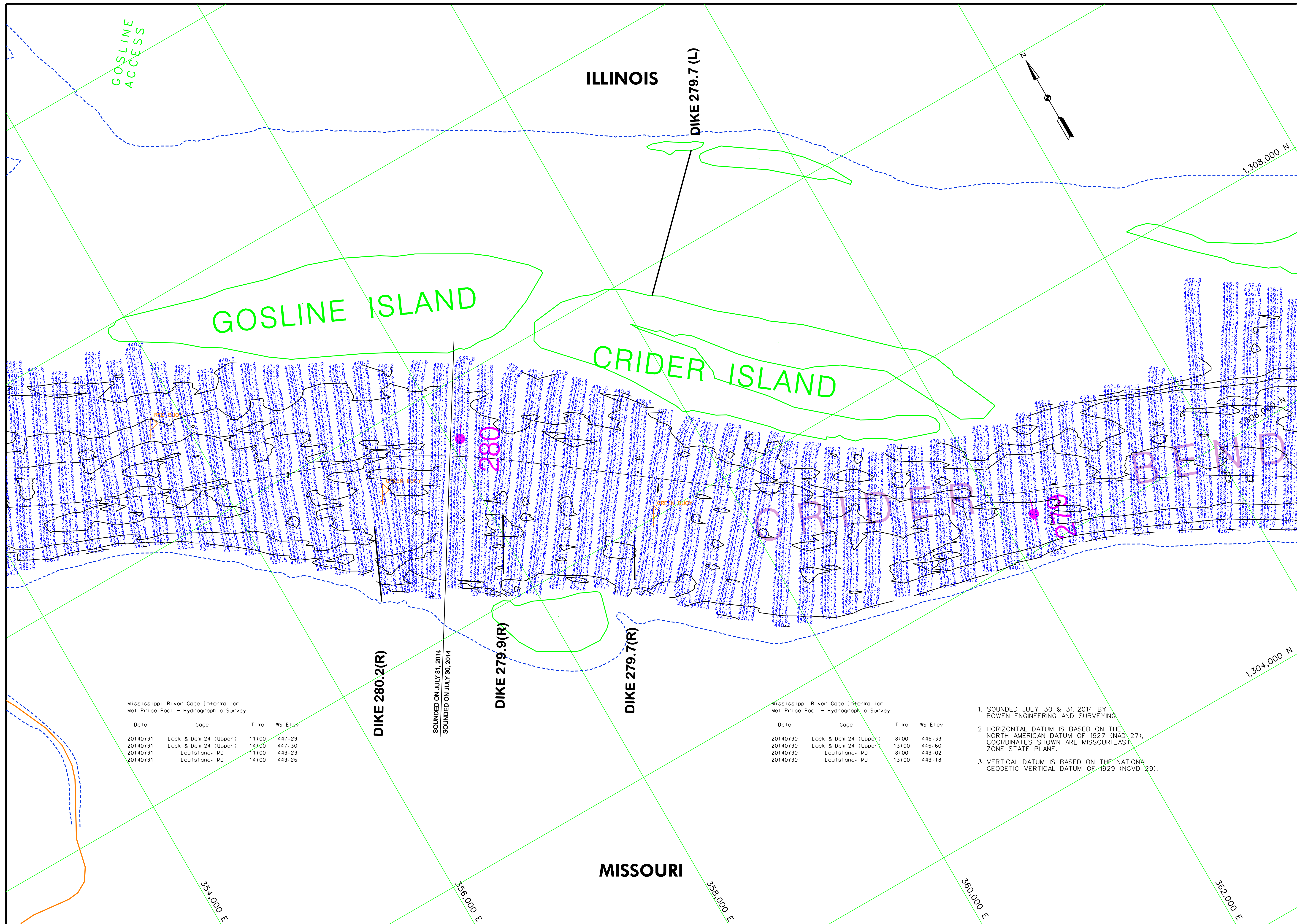
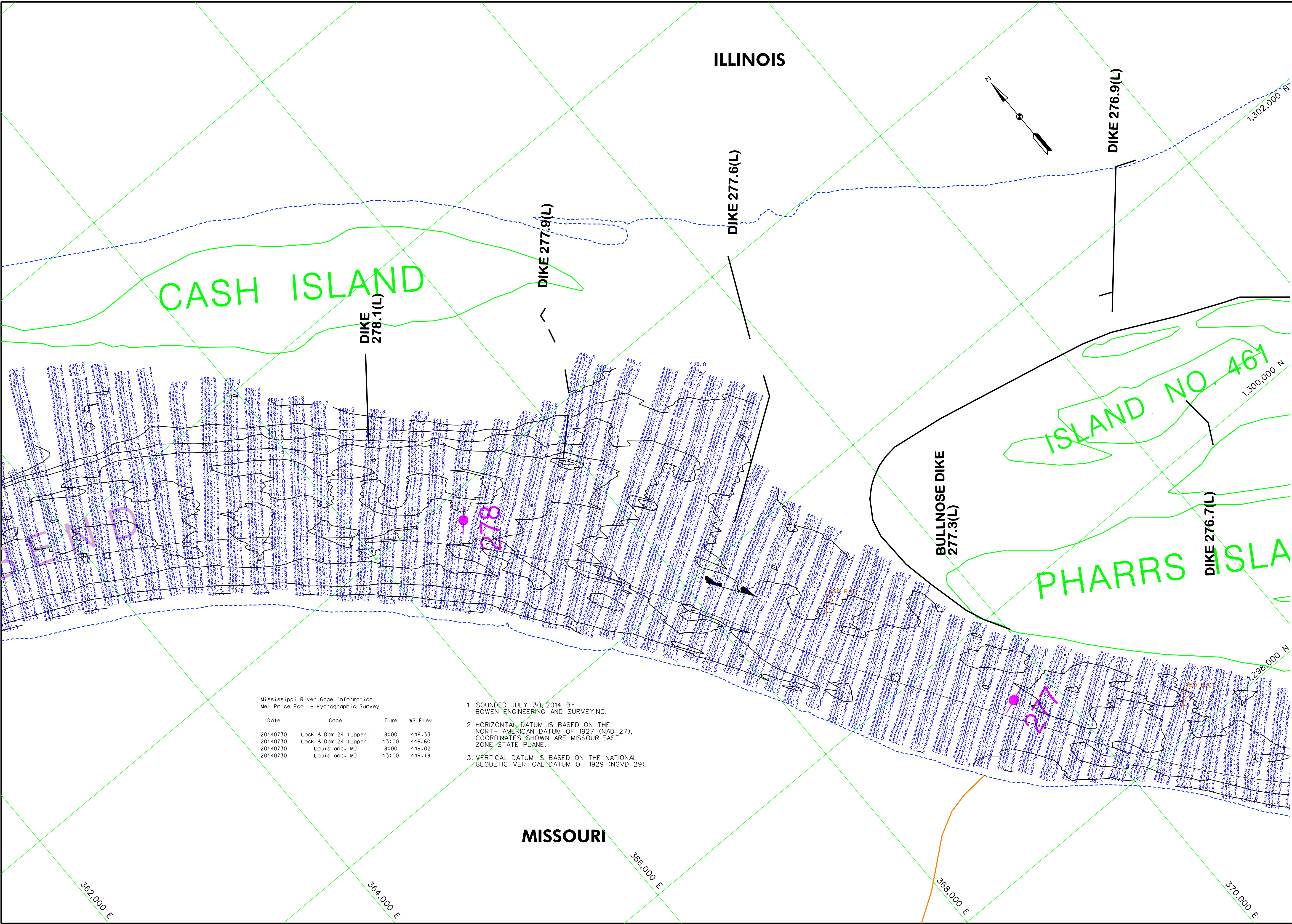


PLATE
NUMBER

11





Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140730	Lock & Dam 24 (Upper)	8:00	446.33
20140730	Lock & Dam 24 (Upper)	13:00	446.60
20140730	Louisiana, MO	8:00	449.02
20140730	Louisiana, MO	13:00	449.18

1. SOUNDED JULY 30, 2014 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).

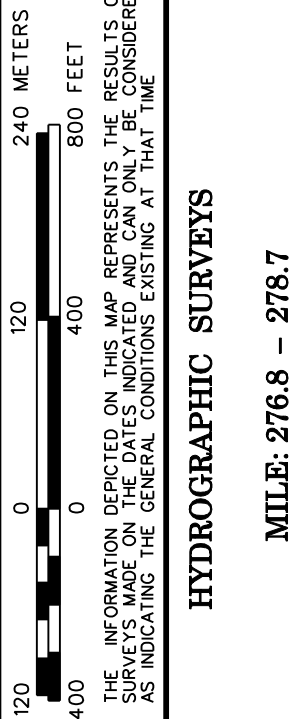


US Army Corps
of Engineers
St. Louis District

GAGE RECORD	
L & D 22 (LOWER)	LOUISIANA MO
L & D 24 (UPPER)	L & D 24 (UPPER)
ZERO NGVD	MUNDY'S LANDING
446.30	441.85
447.33	431.81
293.0	292.9
301.1	273.5
L.W.R.D.	448.0
449.1	445.3
30 JUL 2014	X
1688(00) 1681(100)	21-52(800) 21-51(500)
ELEVATIONS ARE REFERRED TO M.S.L. - CONTOURS ARE BELOW 1996-21 LOW WATER REFERENCE PLANE (L.W.R.P.) 164.000 (C.S.)	

Surveyed by: BOWEN ENGINEERING	Survey Date: JUL 30, 2014
Drawn by: X	Reviewed by: X
SUBMITTED: X	APPROVED: X
File Name: ##DESIGN/REPRODUCTION##	Plot Date: ##DATE/TIME##

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER	



120 400 800 FEET
120 400 800 METERS

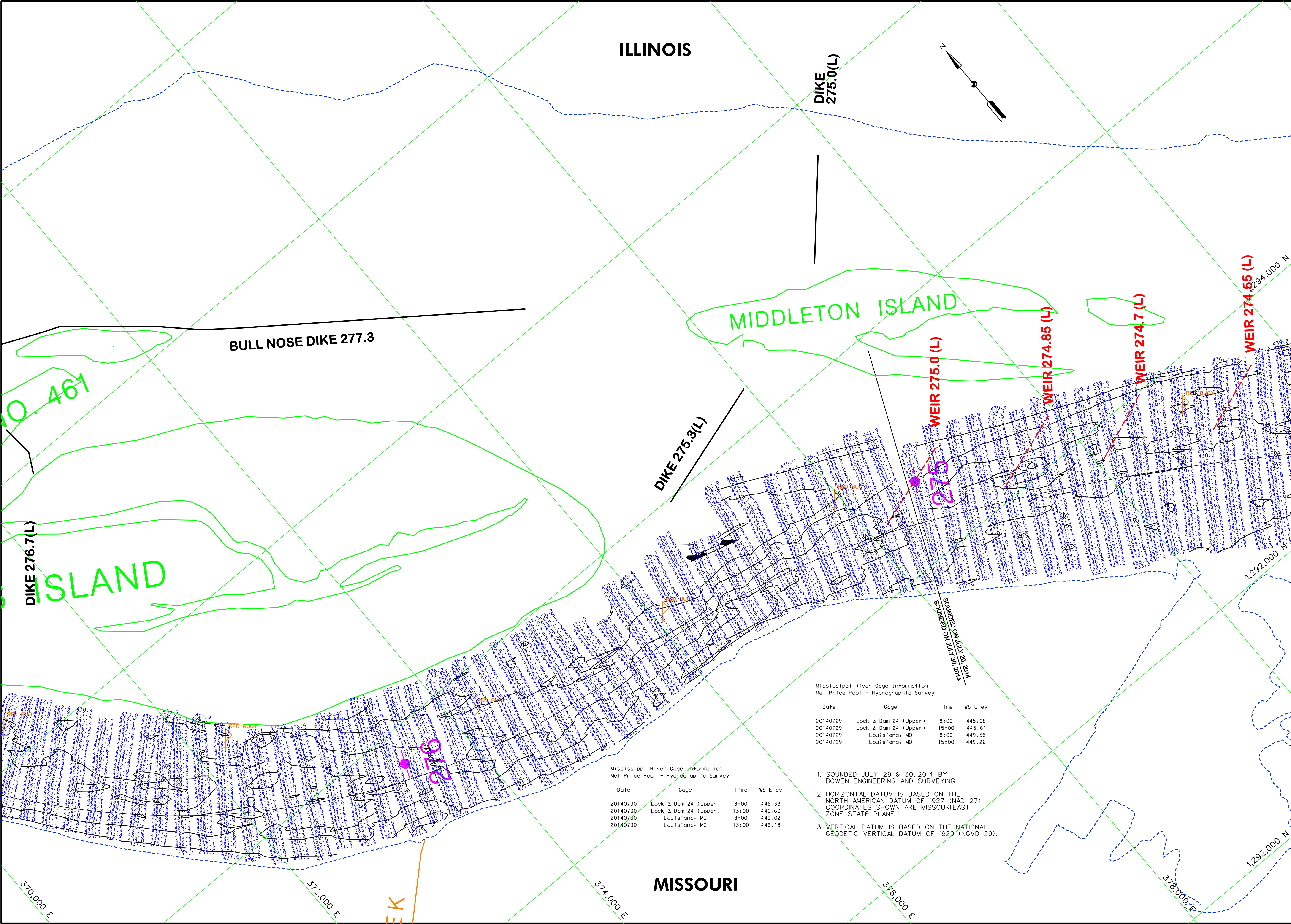
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS ACCURATE TO THE DATE SURVEYED AND NOT AS A FINAL PRODUCT.

HYDROGRAPHIC SURVEYS

MILE: 276.8 - 278.7

PLATE
NUMBER

12



GAGE RECORD		LOUISIANA MO		L & D 24 UPPER	
L & D 22 (LOWER)	MUNDY'S LANDING	446.0	441.85	437.33	431.81
ZERO NGVD		301.0	293.0	282.0	273.5
MLE		449.1	449.0	446.8	445.3
LWRB		X	X	X	X
29 JUL 2014		X	X	X	X
30 JUL 2014		X	X	X	X

ELEVATIONS ARE REFERRED TO NGVD - CONTOURS ARE BELOW 1996-97 LOW WATER REFERENCE PLANE (LWRP) (14.000 G.F.S.)

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		Survey Date: JUL 29 & 30, 2014	Checked by: X
UPPER MISSISSIPPI RIVER BASIN		Drawn by: X	Reviewed by: X
MISSISSIPPI RIVER		Submitted: X	Approved: X
File name: ##DESIGN##PERMIT##		Plot Date: ##DATE##/##TIME##	

HYDROGRAPHIC SURVEYS

120 0 120 240 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 SURVEYED OF THAT TIME.

MISSILE: 274.5 - 276.8

Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140730	Lock & Dam 24 (Upper)	8:00	446.33
20140730	Lock & Dam 24 (Upper)	13:00	446.60
20140730	Louisiana, MO	8:00	449.02
20140730	Louisiana, MO	13:00	449.18

Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140729	Lock & Dam 24 (Upper)	8:00	445.68
20140729	Lock & Dam 24 (Upper)	15:00	445.61
20140729	Louisiana, MO	8:00	449.55
20140729	Louisiana, MO	15:00	449.26

1. SOUNDED JULY 29 & 30, 2014 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).

Date	Gage	Time	WS Elev
20140729	Mosier Landing, MD	8:00	439.19
20140729	Mosier Landing, MD	15:00	439.06
20140729	Lock & Dam 24 (Lower)	8:00	443.92
20140729	Lock & Dam 24 (Lower)	15:00	443.72
20140729	Lock & Dam 24 (Upper)	8:00	445.68
20140729	Lock & Dam 24 (Upper)	15:00	445.61
20140729	Louisiana, MD	8:00	449.55
20140729	Louisiana, MD	15:00	449.26

1. SOUNDED JULY 29, 2014 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).

WEIR 274.55 (L)

424
423
423
423
422
421
420
420
422
424
424

~~DIKE 273.9(R)~~

DIKE 273.8(L)

DIKE 273.5(L)

ILLINOIS

~~DIKE 273.2(L)~~

DIKE 272.9(L)

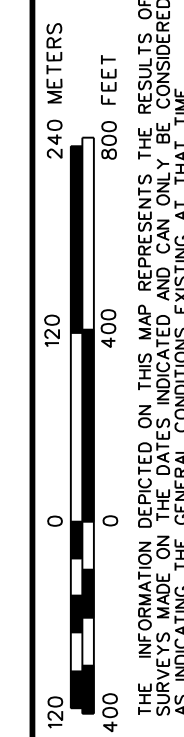
DIKE 272.7(L)

CLARKS

3

CLARKSVILLE

MISSOURI



HYDROGRAPHIC SURVEYS

MILE: 272.6 - 274.5

PLATE
NUMBER

14

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Surveyed by: BOWEN ENGINEERING		Survey Date: JULY 29, 2014	
	Drawn by: X	X	Reviewed by: X	Ok'd by: X
UPPER MISSISSIPPI RIVER BASIN	SUBMITTED: X		APPROVED: X	
MISSISSIPPI RIVER	File name: #MISSISSIPPI/ENGINEERING/STATION##		Plot date: ##MM/YY##	

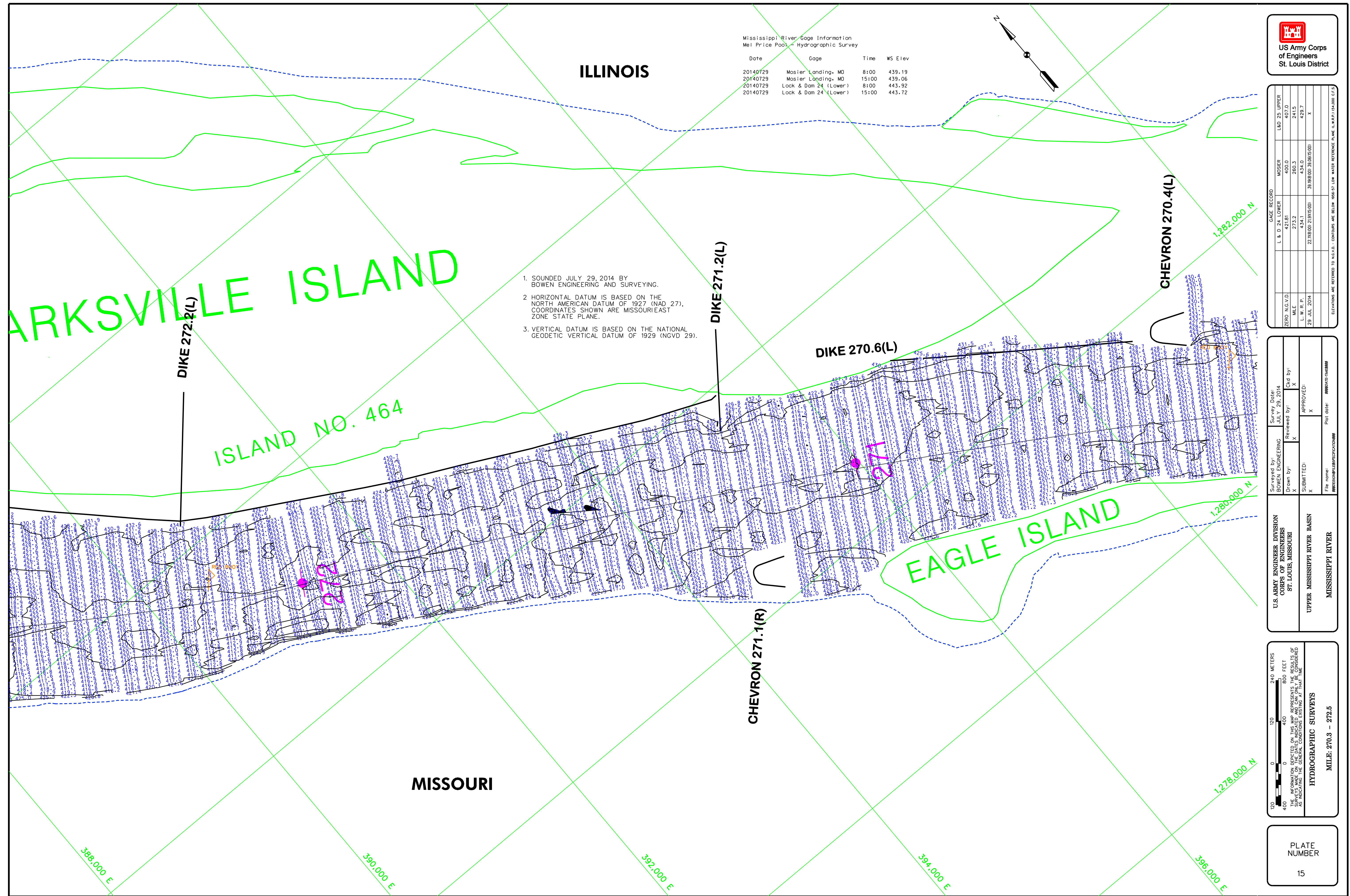
GAGE RECORD					
	LOUISIANA MO	L & D 24 UPPER	L & D 24 LOWER	MOSIER	
ZERO N.G.V.D.	437.33	421.81	421.81	400.0	
M.E.	262.9	273.5	273.2	260.3	
W. L. R. P.	448.8	445.5	434.1	434.0	
29 JUL. 12	21218.00/11.9145-00	2318716.00/21.28015-00	2211168.00/21.9115-00	393918.00/39.0615-00	

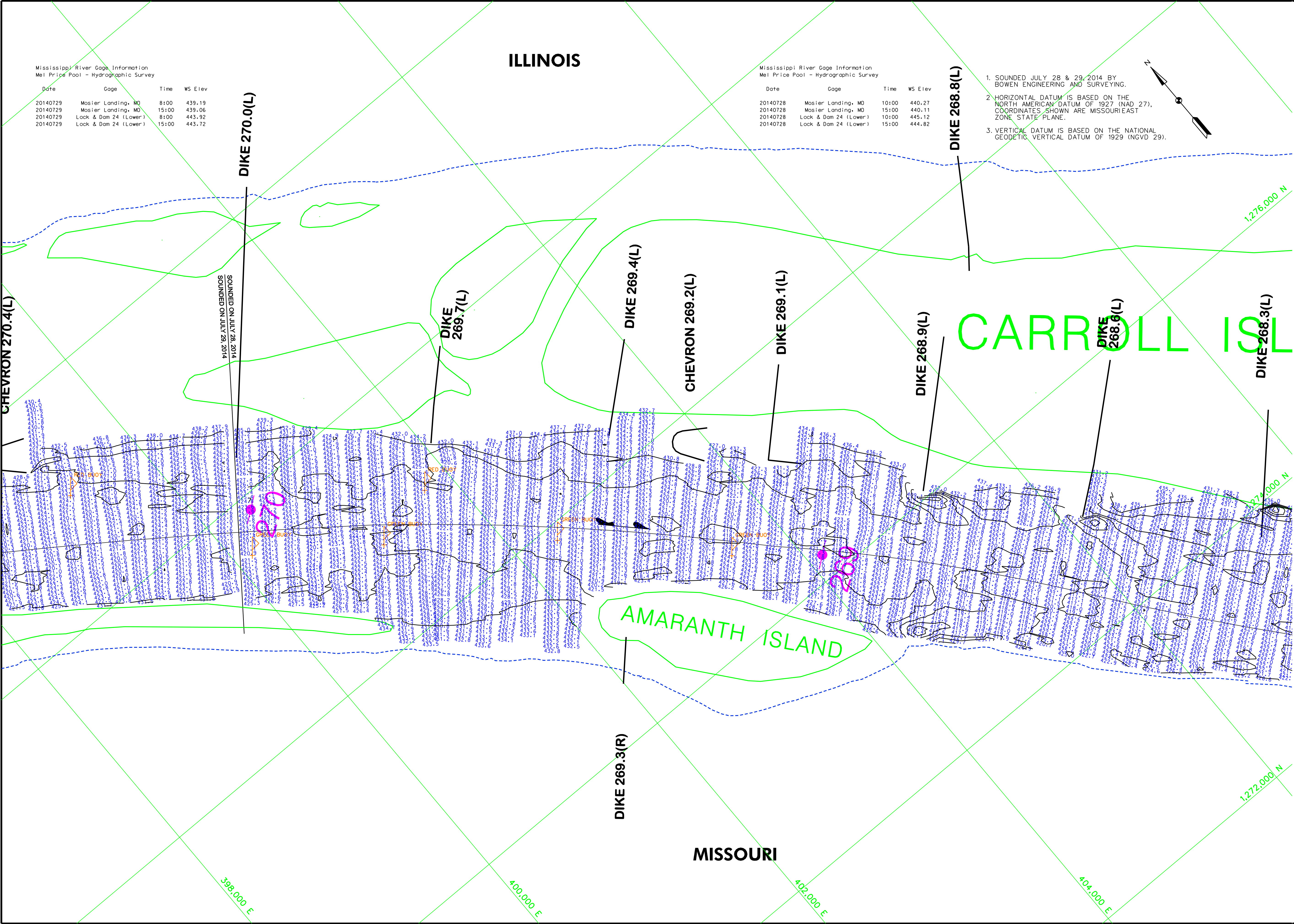
ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTIGUES ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) 54.000 C.F.S.



US Army Corps
of Engineers
St. Louis District

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.)





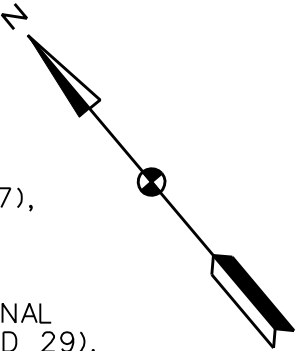
Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140729	Mosier Landing, MO	8:00	439.19
20140729	Mosier Landing, MO	15:00	439.06
20140729	Lock & Dam 24 (Lower)	8:00	443.92
20140729	Lock & Dam 24 (Lower)	15:00	443.72

Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140728	Mosier Landing, MO	10:00	440.27
20140728	Mosier Landing, MO	15:00	440.11
20140728	Lock & Dam 24 (Lower)	10:00	445.12
20140728	Lock & Dam 24 (Lower)	15:00	444.82

1. SOUNDED JULY 28 & 29, 2014 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).



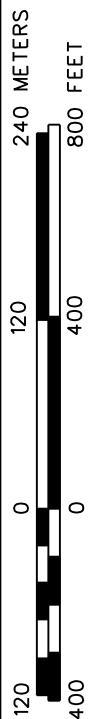


US Army Corps
of Engineers
St. Louis District

GAGE RECORD	
L & D 24 LOWER	WOSER
431.81	400.0
431.81	407.0
273.2	268.3
434.2	434.0
23.38000 2.071500	40.271500 4.011500
22.18500 2.071500	39.98500 3.981500
28 JUL 2014	X
29 JUL 2014	X

ELEVATIONS ARE REFERRED TO NGVD - CONTIGUES ARE BELOW 1996-57 LOW WATER REFERENCE PLANE (LWRP) 154000 07.5

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Survey Date: JUL 28 & 29, 2014
	Drawn by: X
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER	Reviewed by: X
	Submitted: X
APPROVED: X	
File Name: ##DESIGN/REPRODUCTION##	
Plot Date: ##DATE/TIME##	



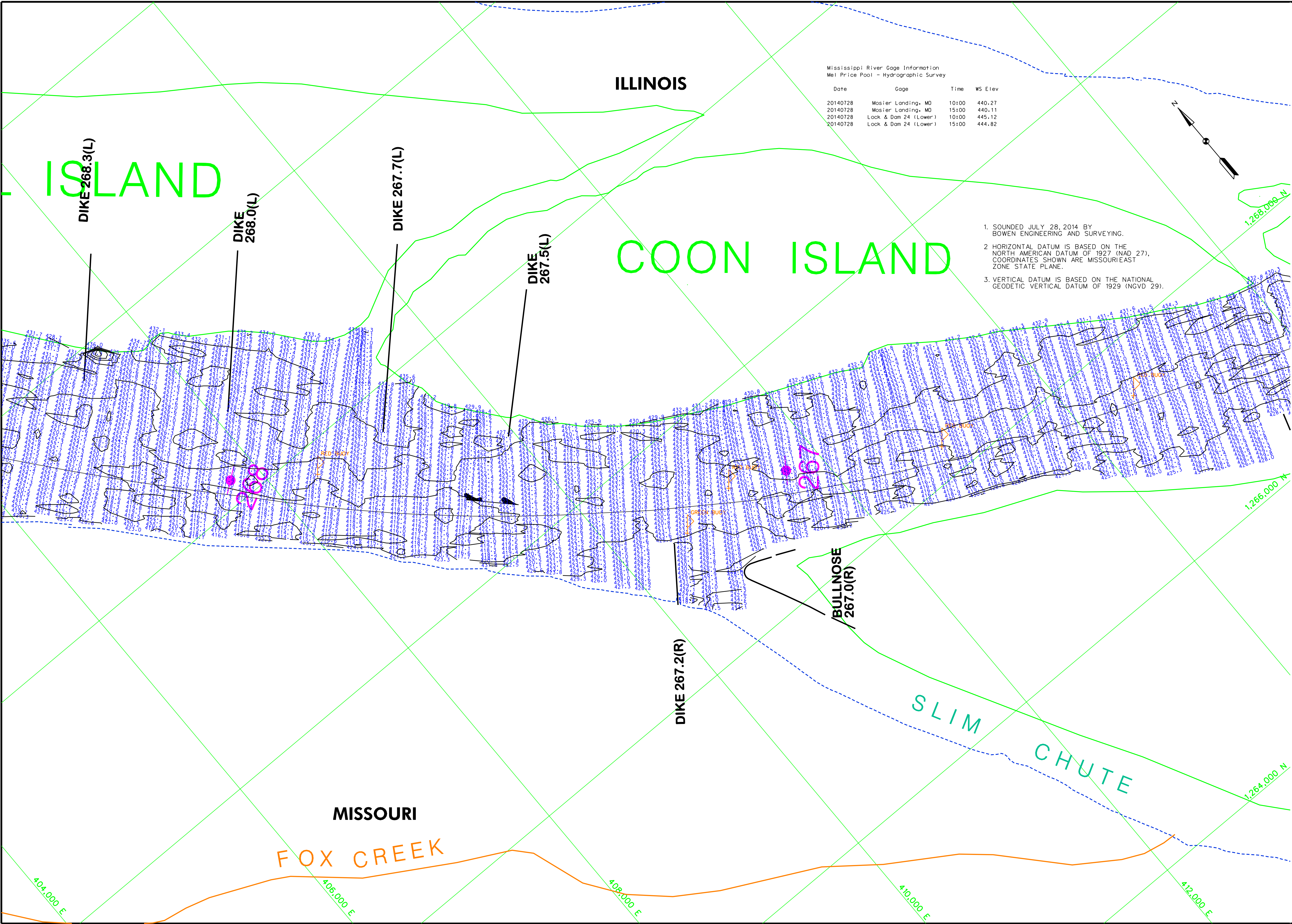
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS ACCURATE TO THE DATE SURVEYED AND NOT BE USED FOR ANY OTHER PURPOSE.

HYDROGRAPHIC SURVEYS

MILE: 268.3 - 270.3

PLATE
NUMBER

16



Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140728	Mosier Landing, MO	10:00	440.27
20140728	Mosier Landing, MO	15:00	440.11
20140728	Lock & Dam 24 (Lower)	10:00	445.12
20140728	Lock & Dam 24 (Lower)	15:00	444.82

1. SOUNDED JULY 28, 2014 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).

US Army Corps
of Engineers
St. Louis District

GAGE RECORD	L & D 24 LOWER	MOSIER	L&D 25 UPPER
	421.81	400.0	407.0
	273.2	260.3	241.5
	434.1	434.0	429.7
ZERO NGVD	23.100/20.230/15.00		40.270/40.110/15.00
DATE	28 JUL 2014		
ELEVATIONS ARE REFERRED TO NGVD - CONTIGUOUS ARE BELOW 1985-57 LOW WATER REFERENCE PLANE (LWRP) 14.000 OF 5			

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

Survey Date: JUL 28, 2014
Reviewed by: X
APPROVED: X

File Name: ##DESIGN/FILE/REP/DATE/##
Plot Date: ##DATE/##

120 400 800 1200 METERS

0 400 800 FEET

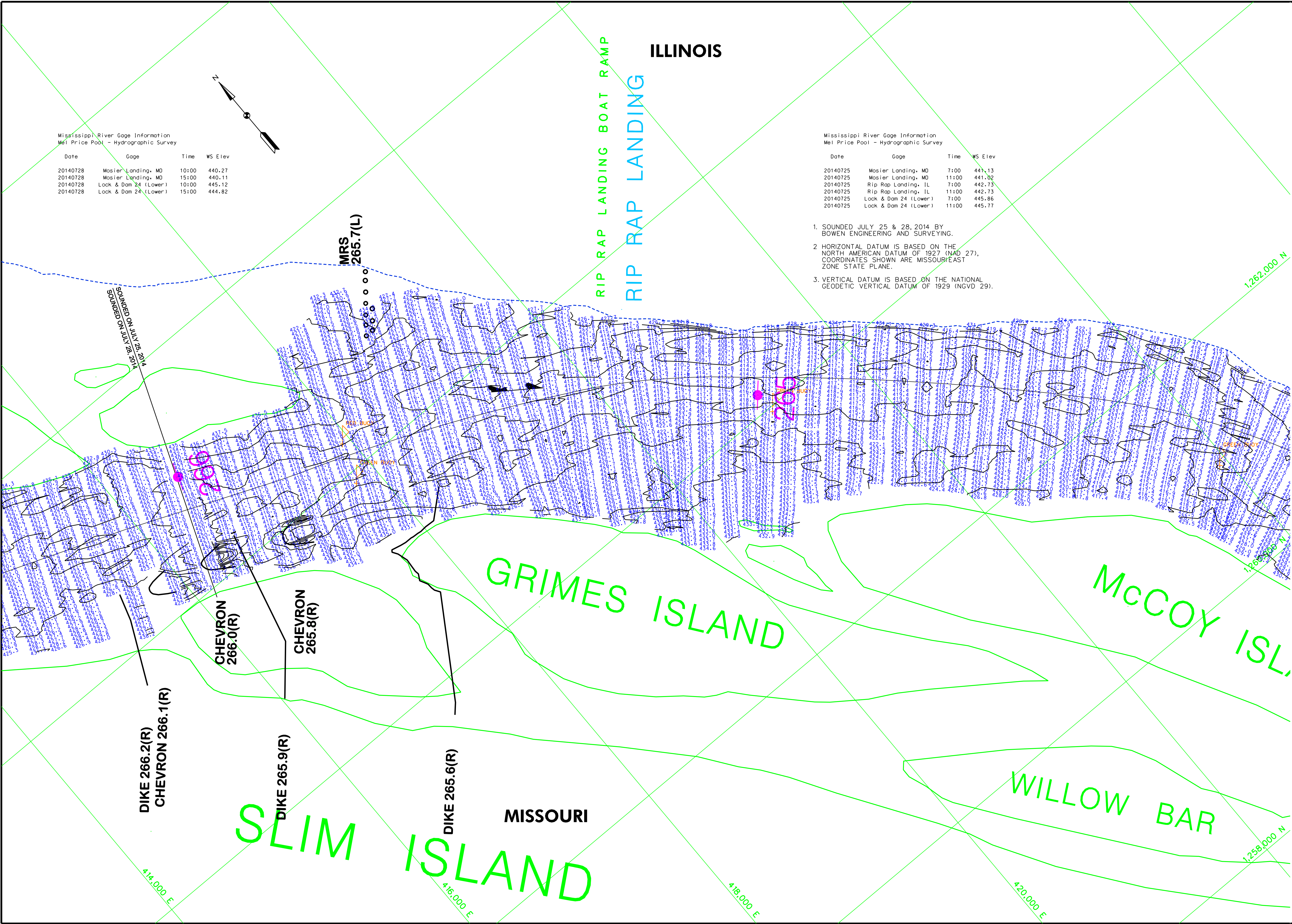
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL LOCATIONS OF FEATURES SHOWN.

HYDROGRAPHIC SURVEYS

MLB: 266.3 - 268.3

PLATE NUMBER

17



Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140728	Mosier Landing, MO	10:00	440.27
20140728	Mosier Landing, MO	15:00	440.11
20140728	Lock & Dam 24 (Lower)	10:00	445.12
20140728	Lock & Dam 24 (Lower)	15:00	444.82

Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140725	Mosier Landing, MO	7:00	441.13
20140725	Mosier Landing, MO	11:00	441.02
20140725	Rip Rap Landing, IL	7:00	442.73
20140725	Rip Rap Landing, IL	11:00	442.73
20140725	Lock & Dam 24 (Lower)	7:00	445.86
20140725	Lock & Dam 24 (Lower)	11:00	445.77

1. SOUNDED JULY 25 & 28, 2014 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	
L & D 24 LOWER	RIP RAP LANDING
ZERO NGVD	420.0
MOSIER	400.0
MILE	260.3
L.W.R.D.	260.3
25 JUL 2014	4137.00 (102.11500)
28 JUL 2014	4027.00 (101.11500)

ELEVATIONS ARE REFERRED TO NGVD - CONTOURS ARE BELOW 1994.57 LOW WATER REFERENCE PLANE (LWRP) 1984.00 OF 5

Surveyed by: BOWEN ENGINEERING	Survey Date: JUL 25 & 28, 2014
Drawn by: X	Reviewed by: X
SUBMITTED: X	APPROVED: X

File Name:
#PROJECT/ITERATION#
Plot Date:
#DATE/TIME#

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

UPPER MISSISSIPPI RIVER BASIN

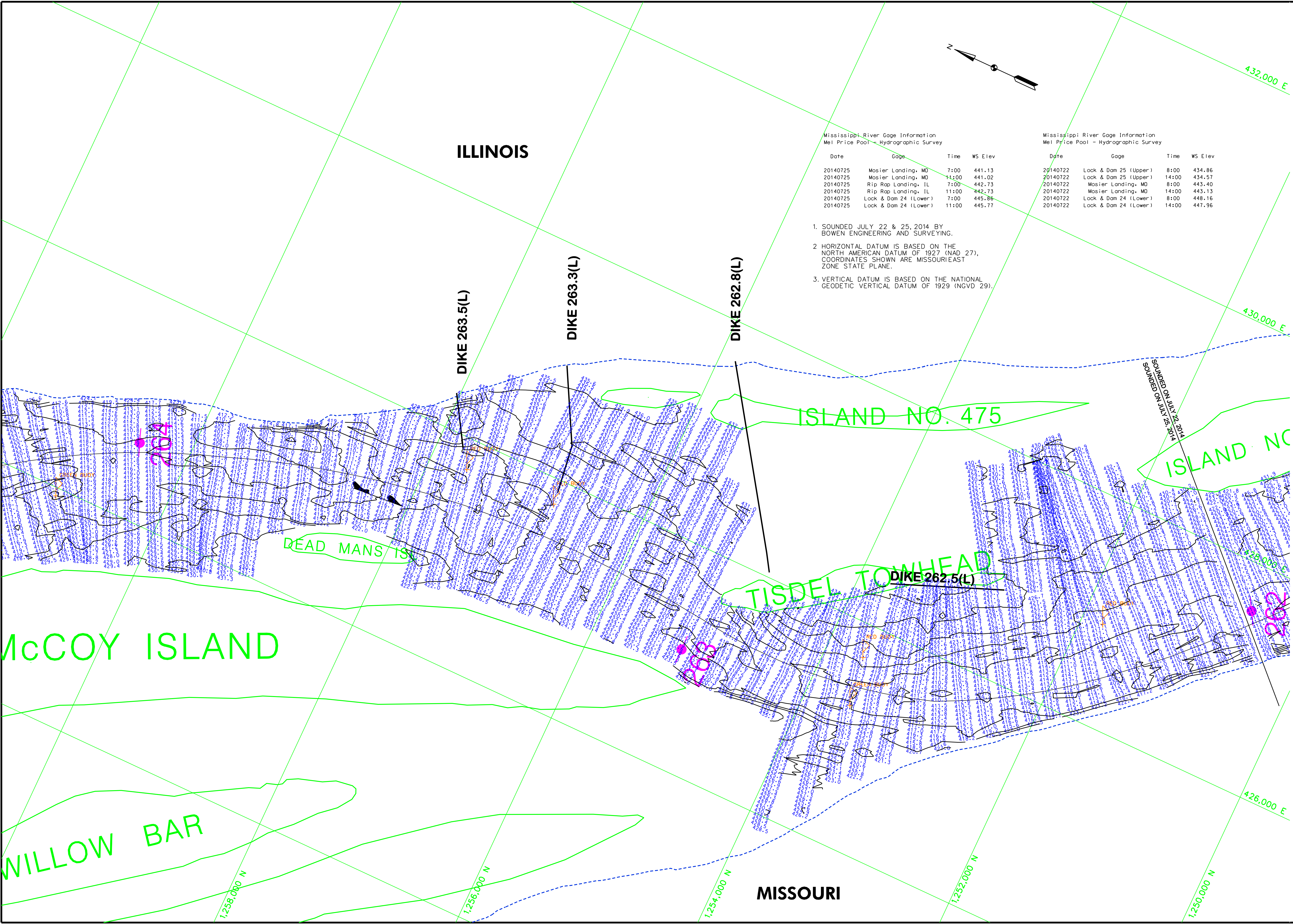
MISSISSIPPI RIVER

HYDROGRAPHIC SURVEYS

MILE: 264.2 - 266.2

PLATE
NUMBER

18



Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140725	Mosier Landing, MO	7:00	441.13
20140725	Mosier Landing, MO	11:00	441.02
20140725	Rip Rap Landing, IL	7:00	442.73
20140725	Rip Rap Landing, IL	11:00	442.73
20140725	Lock & Dam 24 (Lower)	7:00	445.86
20140725	Lock & Dam 24 (Lower)	11:00	445.77

Mississippi River Gage Information
Mel Price Pool - Hydrographic Survey

Date	Gage	Time	WS Elev
20140722	Lock & Dam 25 (Upper)	8:00	434.86
20140722	Lock & Dam 25 (Upper)	14:00	434.57
20140722	Mosier Landing, MO	8:00	443.40
20140722	Mosier Landing, MO	14:00	443.13
20140722	Lock & Dam 24 (Lower)	8:00	448.16
20140722	Lock & Dam 24 (Lower)	14:00	447.96

1. SOUNDED JULY 22 & 25, 2014 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).



GAUGE RECORD				L&D 25 UPPER			
RIP RAP LANDING				MOSIER			
L & D 24 LOWER				400.0			
ZERO NGVD				260.3			
MILE				241.5			
L.W.R.D.				429.7			
22 JUL 2014				434.0			
23 JUL 2014				434.0			
25 JUL 2014				434.0			
27 JUL 2014				434.0			
29 JUL 2014				434.0			
31 JUL 2014				434.0			
ELEVATIONS ARE REFERRED TO NGVD - CONTIGUOUS ARE BELOW 1984-27 LOW WATER REFERENCE PLANE (L.W.R.P.) 14.000 G.T.S.				X			

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI		Survey Date: JUL 22 & 25, 2014	
Drawn by: X		Reviewed by: X	
SUBMITTED: X		APPROVED: X	
UPPER MISSISSIPPI RIVER BASIN		Plot Date: ##DATE/##	
MISSISSIPPI RIVER		File Name: ##DESIGN/##	

HYDROGRAPHIC SURVEYS	
MILE: 262.0 - 264.2	

PLATE NUMBER
19