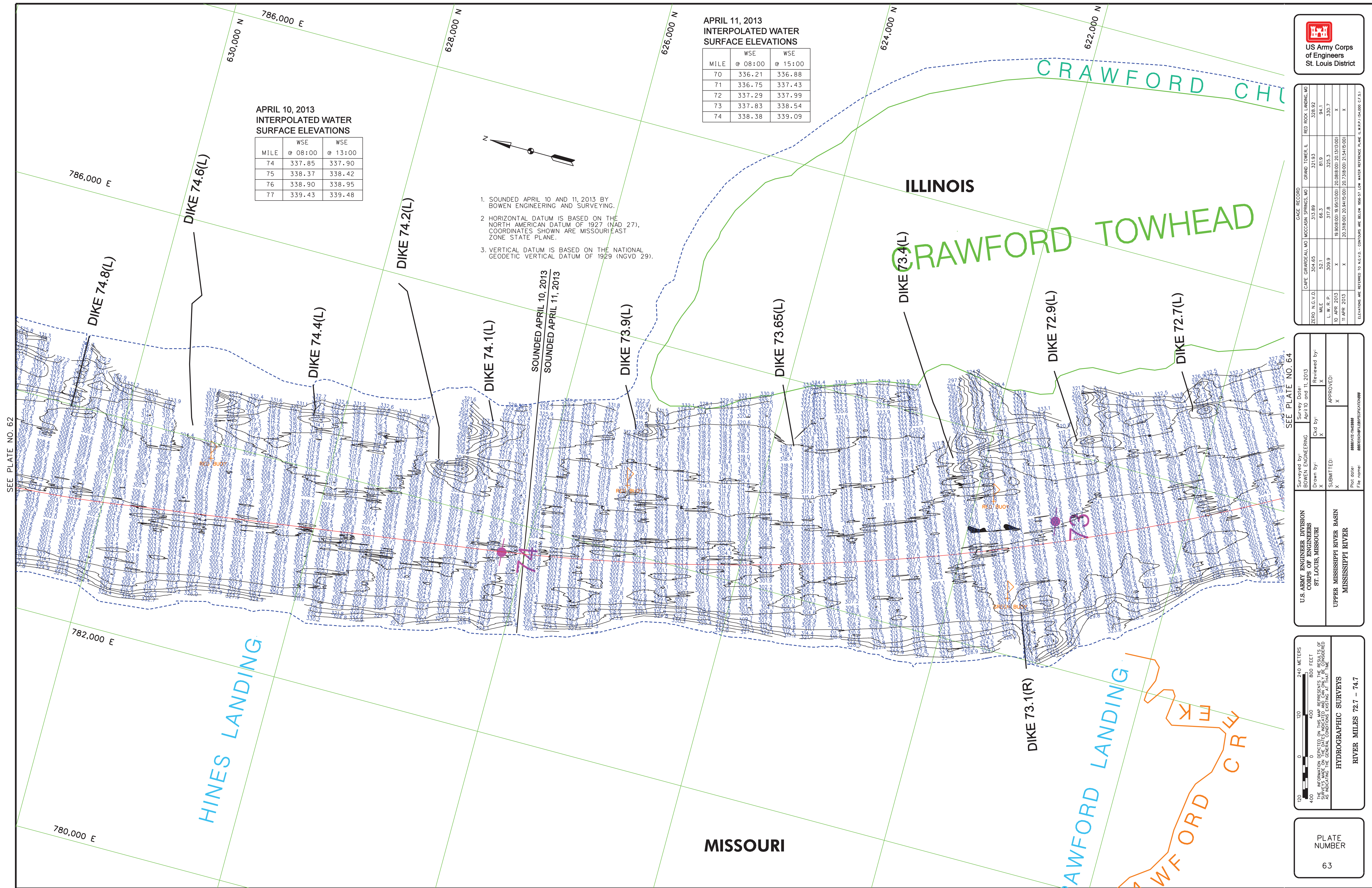
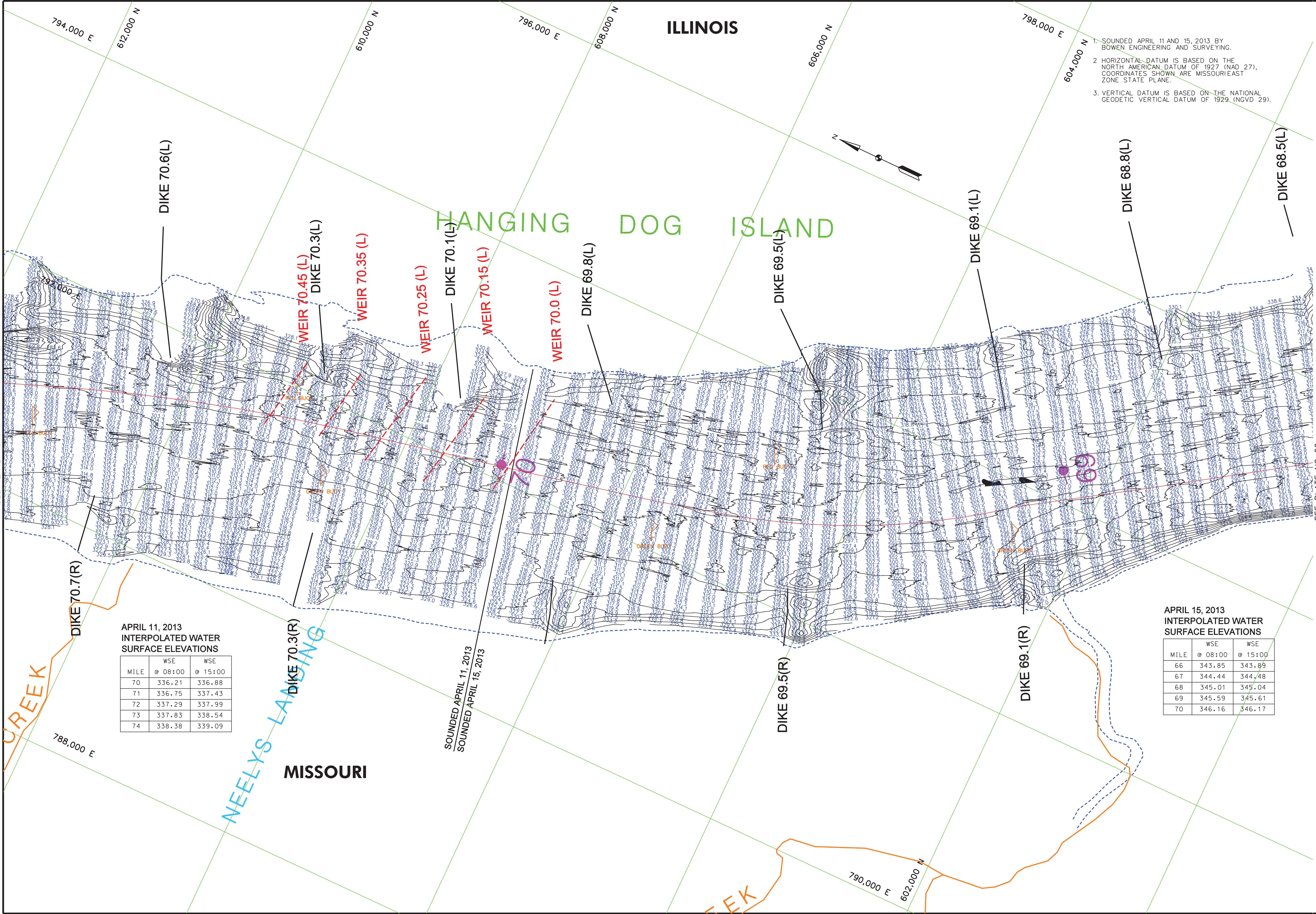






APRIL 11, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
70	336.21	336.88
71	336.75	337.43
72	337.29	337.99
73	337.83	338.54
74	338.38	339.09

APRIL 15, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 08:00	WSE @ 15:00
66	343.85	343.89
67	344.44	344.48
68	345.01	345.04
69	345.59	345.61
70	346.16	346.17

1. SOUNDED APRIL 11 AND 15, 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).

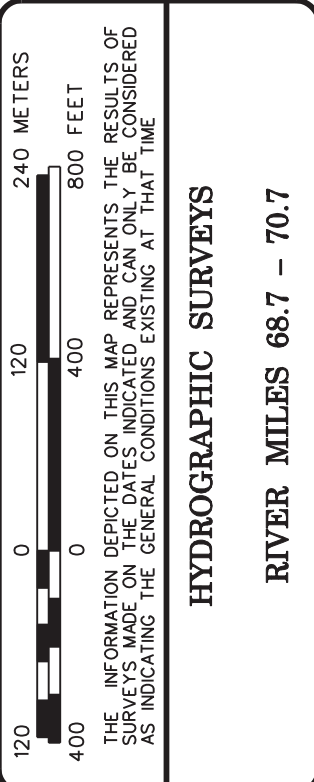


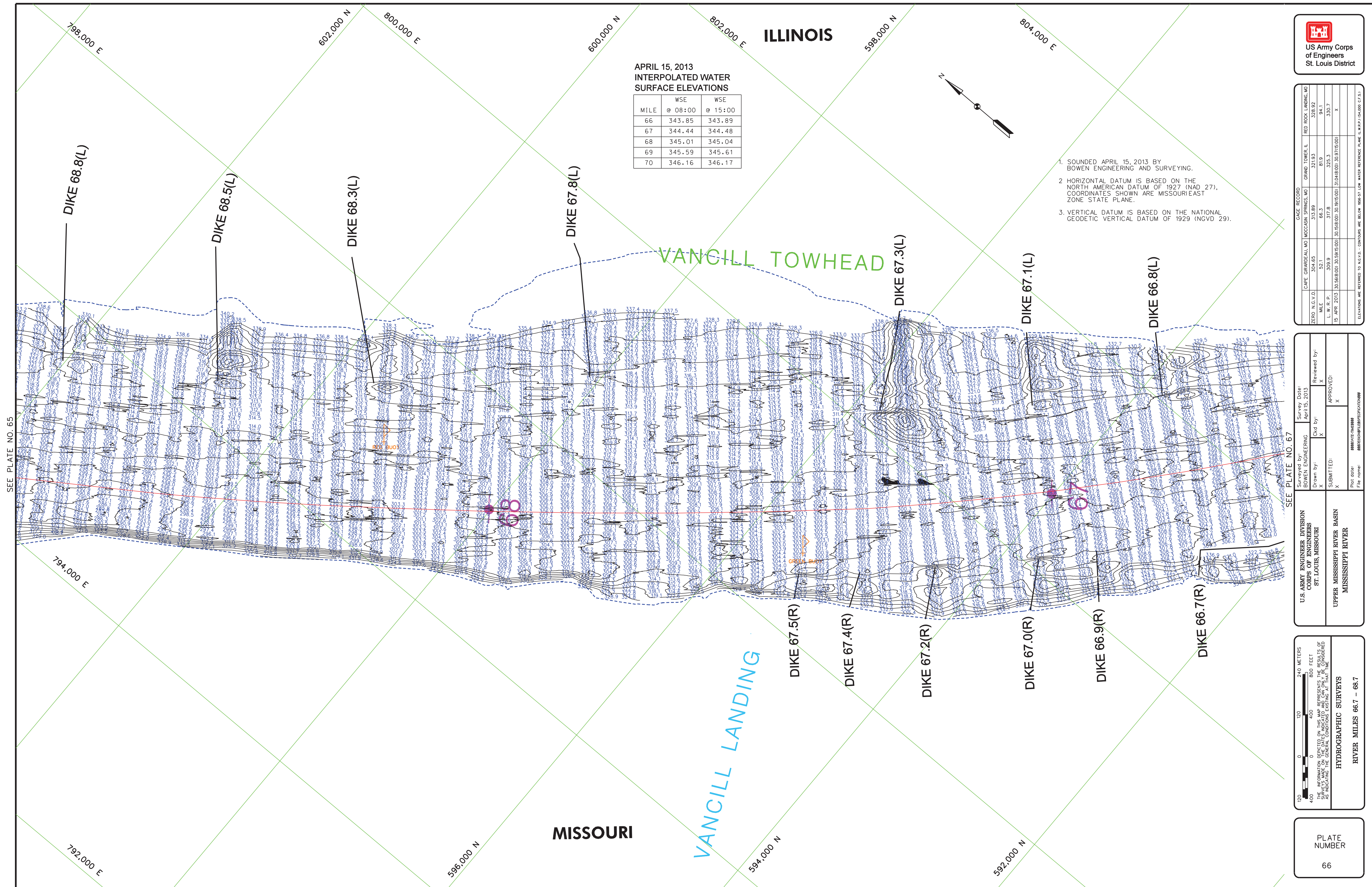
CAGE RECORD			
Cape Girardeau, MO	Moccasin Springs, MO	Grand Tower, IL	Red Rock Landing, MO
Zero N.G.V.D.	304.65	313.50	321.03
Mile	52.1	66.3	81.9
L.W.R.D.	309.9	317.8	325.3
11 APR 2013	X	20.318(00) 20.915(00)	20.738(00) 21.541(00)
15 APR 2013	30.568(00) 30.591(00)	30.158(00) 30.181(00)	31.048(00) 30.971(00)
Elevations are referred to N.G.V.D. - Contours are below 1000.5' Low Water Reference Plane (LWRP) 104.000 (7.5')			

Surveyed by: BOWEN ENGINEERING	Survey Date: April 11 and 15, 2013
Drawn by: X	Reviewed by: X
Submitted: X	APPROVED: X
Plot Date: File Name:	##PROJECT## ##PROJECT##

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER





APRIL 15, 2013		
INTERPOLATED WATER SURFACE ELEVATIONS		
	WSE	WSE
MILE	@ 08:00	@ 15:00
66	343.85	343.89
67	344.44	344.48
68	345.01	345.04
69	345.59	345.61
70	346.16	346.17

1. SOUNDED APRIL 15, 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		GRAND TOWER, IL	RED ROCK LANDING, MO
CAPE GIRARDEAU, MO	MOCCASIN SPRINGS, MO		
ZERO N.G.V.D.	304.65	317.89	328.92
W. R. P.	309.9	317.8	329.7
L. W. R. P.	309.9	317.8	330.7
15. APR. 2013	30,561(8.00) 30,591(5.00)	31,051(8.00) 32,010(5.00)	31,041(8.00) 32,071(5.00)
ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1006-37' LOW WATER REFERENCE PLANE, IL W.R.P. 154.000 C.F.S.			

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Surveyed by: BOWEN ENGINEERING		Survey Date: April 15, 2013	
	Drawn by: X	Ckd by: X	Reviewed by: X	
	SUBMITTED: X		APPROVED: X	
	Plot date: #####DATE#### File name: #####SAMPLE#PLOT#CUST#01####			
UPPER MISSISSIPPI RIVER MISSISSIPPI RIVER				

Graphic scale bar for hydrographic surveys. The bar is marked in meters (0 to 120) and feet (0 to 800). Below the bar, text reads: 'THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A HYDROGRAPHIC SURVEY CONDUCTED IN 1967. IT IS NOT TO BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.' Below this, it says 'HYDROGRAPHIC SURVEYS' and 'RIVER MILES 66.7 - 68.7'.

PLATE
NUMBER

66



GAGE RECORD				RED ROCK LANDING, MO.
CAPE GIRARDEAU, MO.	MOCCASIN SPRINGS, MO.	GRAND TOWER, IL.		
304.65	313.89	321.93	328.92	
MILE	52.1	61.9	94.1	
L. W. R. P.	509.9	517.8	525.5	
30.468-60.30.59-15.00	30.154-60.30.19-15.00	31.04-60.30.39-15.00	33.50-7	X
30.474-60.30.49-15.00	32.85-60.30.29-15.00			X
16 APR 2013				

ELEVATIONS ARE REFERRED TO N.A.S.D. - CONTOURS ARE BELOW 1986-75 LOW WATER REFERENCE PLANE (L.W.R.P.) 124.000 OF F.S.I.

Surveyed by: BOWEN ENGINEERING	Survey Date: April 15 and 16, 2013
Down by: X	Ckd by: X
SUBMITTED: X	APPROVED: X
Plot date: ##### File name: ####ENGINEERFILEFIGURATION####	

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

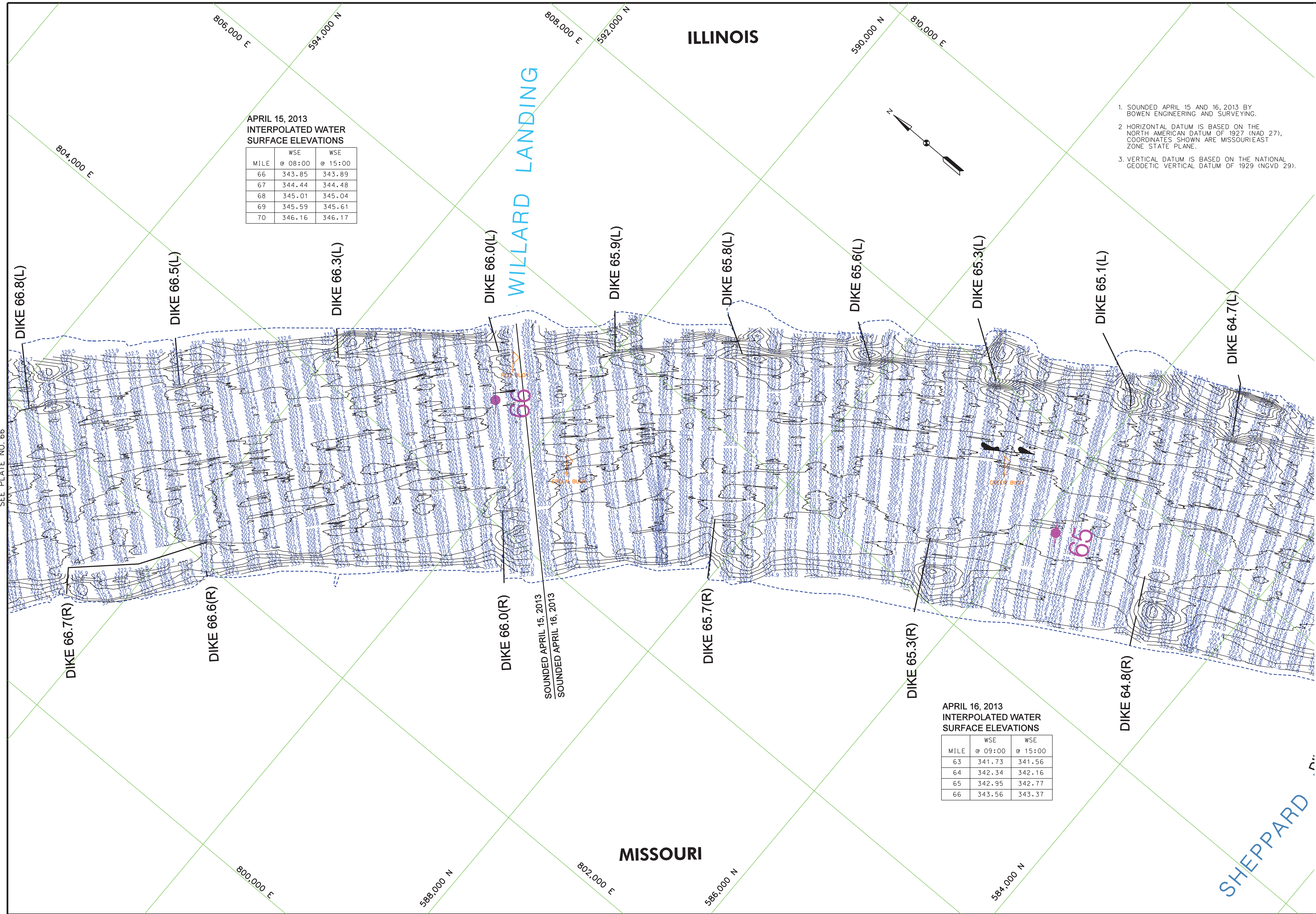
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

HYDROGRAPHIC SURVEYS

RIVER MILES 64.7 - 66.7

PLATE
NUMBER

67





US Army Corps
of Engineers
St. Louis District

GAGE RECORD				
	CAPE GIRARDEAU, MO	MOCCASIN SPRINGS, MO	GRAND TOWER, IL	RED ROCK, LANDING, MO
ZERO	N.G.V.D.		321.93	328.92
	304.65	313.89		
M.E.	52.1		66.3	94.1
L.W.P.	309.3	317.8	81.9	
	30.419, 0.30, 30.145, 0.00	29.950, 0.27, 29.661, 0.50	325.3	330.7
17 APR. 2013	30.028, 0.30, 30.135, 0.00	29.710, 0.28, 29.975, 0.51		
ELEVATIONS ARE REFERRED TO N.G.V.D.; CONTIGUES ARE BELOW 1985 F.T. LOW WATER REFERENCE PLANE (L.W.R.P.) 154.000 F.T.S.				

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.)

1. SOUNDED APRIL 16 AND 17, 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 16, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

	WSE	WSE
MILE	@ 09:00	@ 15:00
63	341.73	341.56
64	342.34	342.16
65	342.95	342.77
66	343.56	343.37

APRIL 17, 2013
INTERPOLATED WATER
SURFACE ELEVATIONS

	WSE @ 08:00	WSE @ 15:00
59	338.80	338.86
60	339.39	339.46
61	339.99	340.07
62	340.59	340.68
63	341.19	341.28

HYDROGRAPHIC SURVEYS

RIVER MILES 62.7 - 64.7

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 CONDITIONS EXISTING AT THAT TIME.

PLATE
NUMBER

68



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 CONDITIONS EXISTING AT THAT TIME

RIVER MILES 62.7 - 64.7

