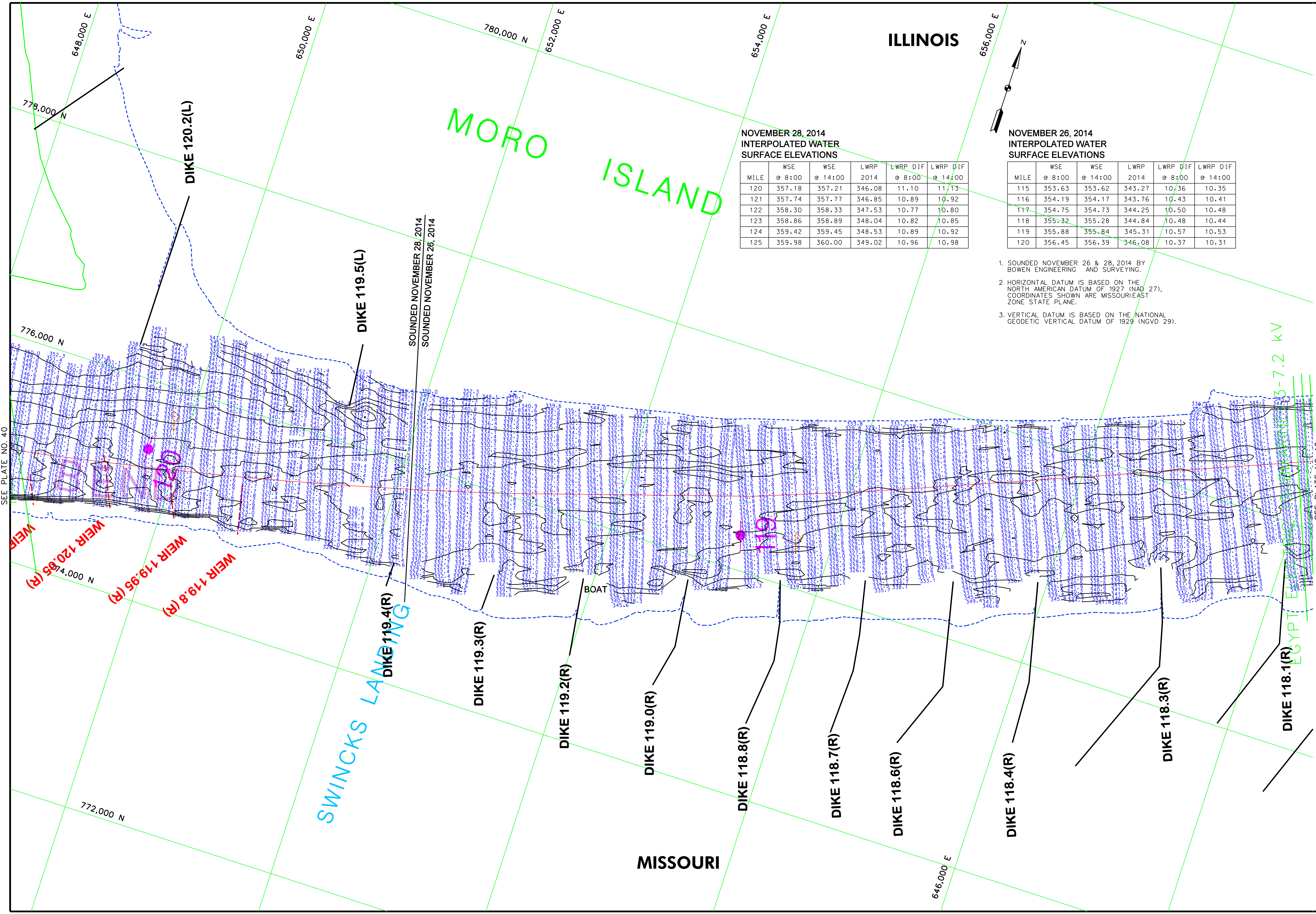




NOVEMBER 28, 2014
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 8:00	LWRP DIF @ 14:00
120	357.18	357.21	346.08	11.10	11.13
121	357.74	357.77	346.85	10.89	10.92
122	358.30	358.33	347.53	10.77	10.80
123	358.86	358.89	348.04	10.82	10.85
124	359.42	359.45	348.53	10.89	10.92
125	359.98	360.00	349.02	10.96	10.98

NOVEMBER 26, 2014
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 8:00	LWRP DIF @ 14:00
115	353.63	353.62	343.27	10.36	10.35
116	354.19	354.17	343.76	10.43	10.41
117	354.75	354.73	344.25	10.50	10.48
118	355.32	355.28	344.84	10.48	10.44
119	355.88	355.84	345.31	10.57	10.53
120	356.45	356.39	346.08	10.37	10.31

1. SOUNDED NOVEMBER 26 & 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).

CAGE RECORD				
RED ROCK LANDING, MO	BISHOPS LANDING, MO			
CHESTER, IL	BRICKY'S LANDING, MO			
ZERO N.G.V.D.	338.92	334.11	331.05	337.78
MILE	94	300.8	340.05	334.19
LWRP 2014	331.05	335.56	340.05	334.19
26 NOV 2014	X	UNRECORDED	9.708(00) 7.414(00)	7.698(00) 7.491(00)
28 NOV 2014	X	UNRECORDED	10.476(00) 10.314(00)	8.365(00) 8.361(00)

U.S. ARMY ENGINEER DIVISION	Survey Date: NOVEMBER 26 & 28, 2014
CORPS OF ENGINEERS	Drawn by: X
ST. LOUIS, MISSOURI	Checked by: X
	Reviewed by: X
UPPER MISSISSIPPI RIVER BASIN	APPROVED: X
MISSISSIPPI RIVER	

HYDROGRAPHIC SURVEYS	RIVER MILES 118.2 - 120.1
----------------------	---------------------------

120	0	100	200	240 METERS
400	0	400	800	800 FEET

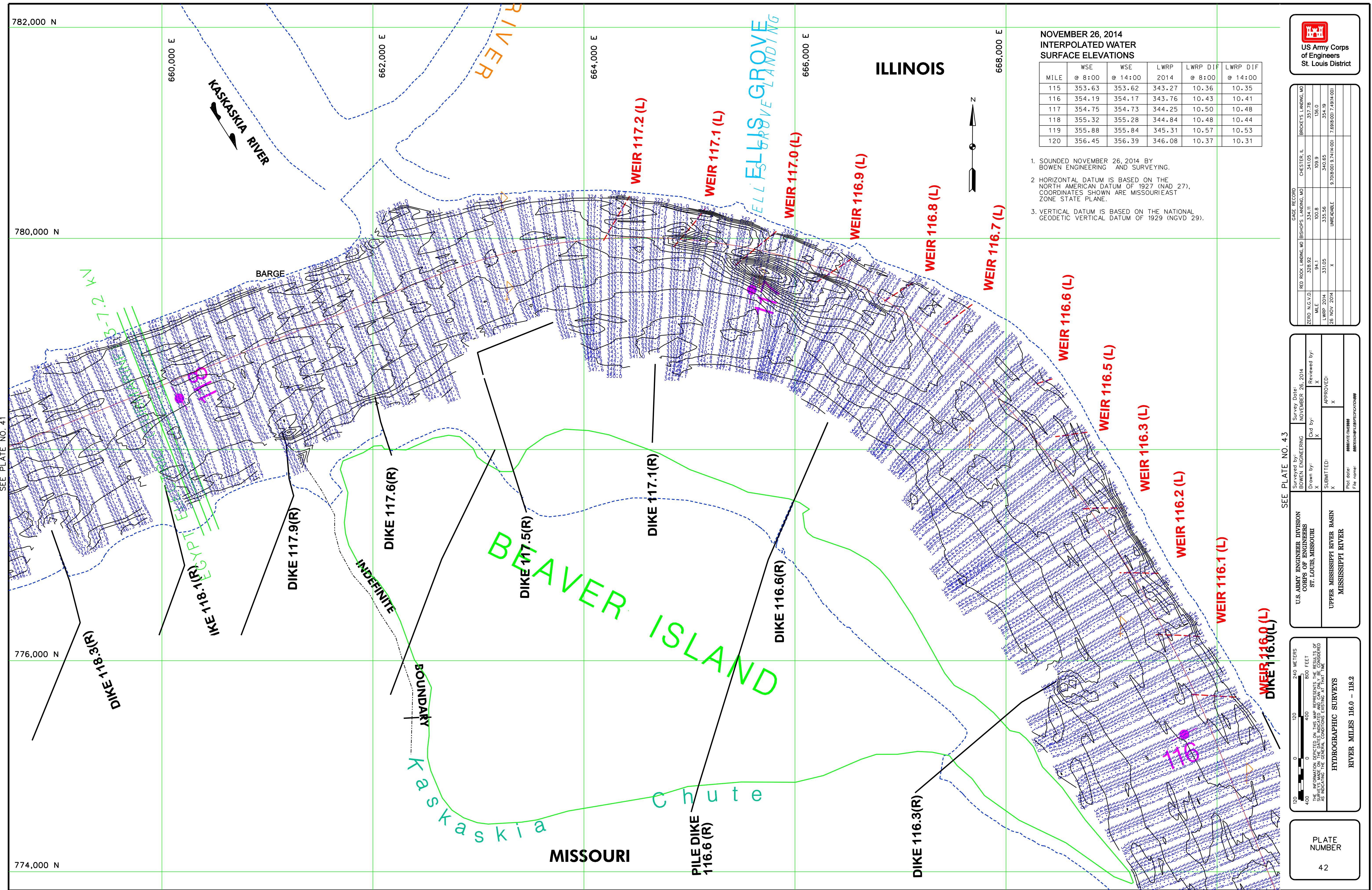
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL LOCATIONS OF THE SURVEYED AREA.

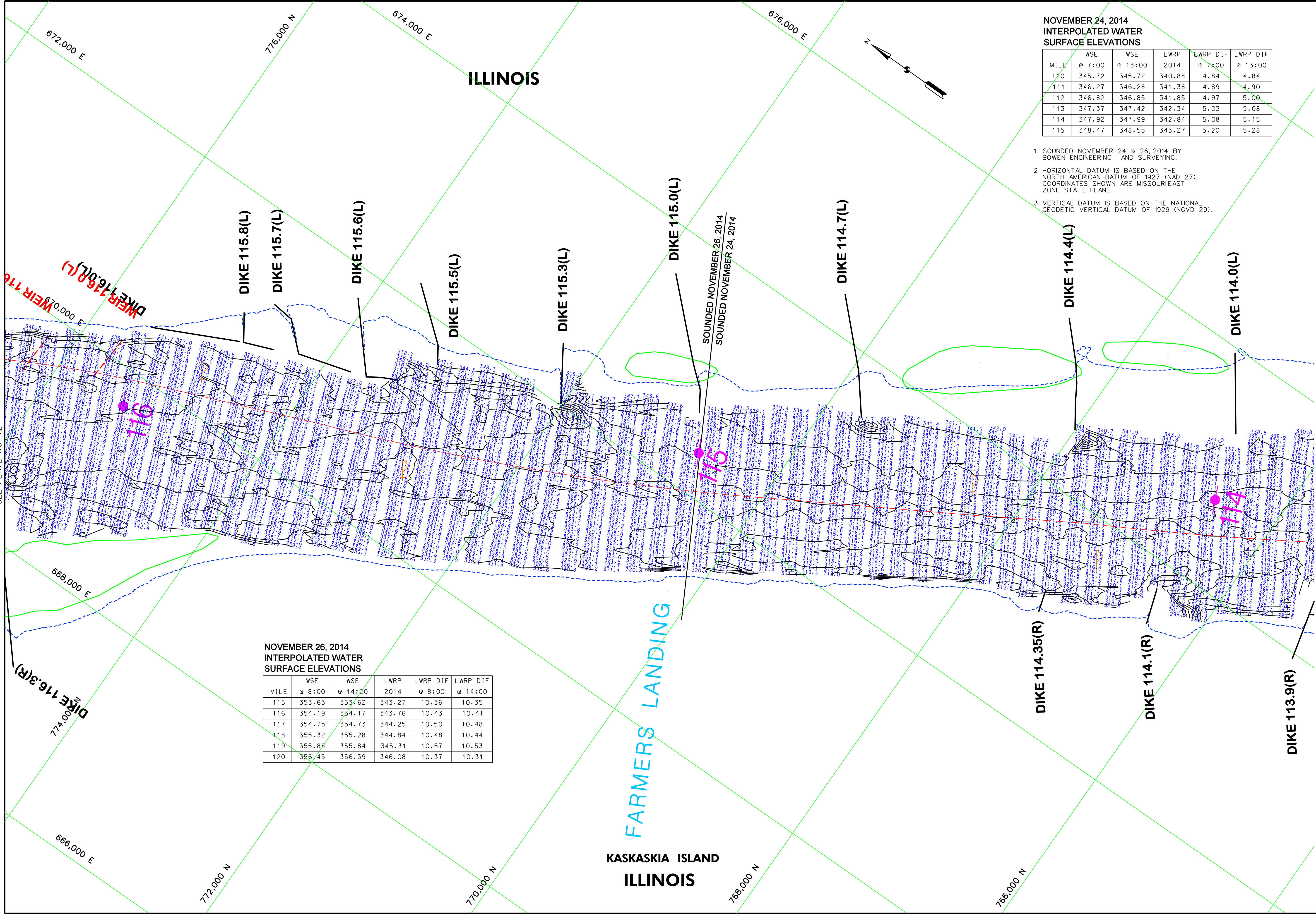
SEE PLATE NO. 40

SEE PLATE NO. 42

PLATE NUMBER

41





NOVEMBER 24, 2014
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 7:00	LWRP DIF @ 13:00
110	345.72	345.72	340.88	4.84	4.84
111	346.27	346.28	341.38	4.89	4.90
112	346.82	346.85	341.85	4.97	5.00
113	347.37	347.42	342.34	5.03	5.08
114	347.92	347.99	342.84	5.08	5.15
115	348.47	348.55	343.27	5.20	5.28

1. SOUNDED NOVEMBER 24 & 26, 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).

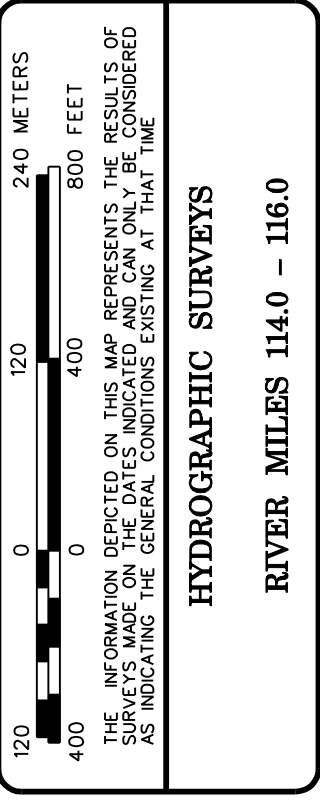
NOVEMBER 26, 2014
INTERPOLATED WATER
SURFACE ELEVATIONS

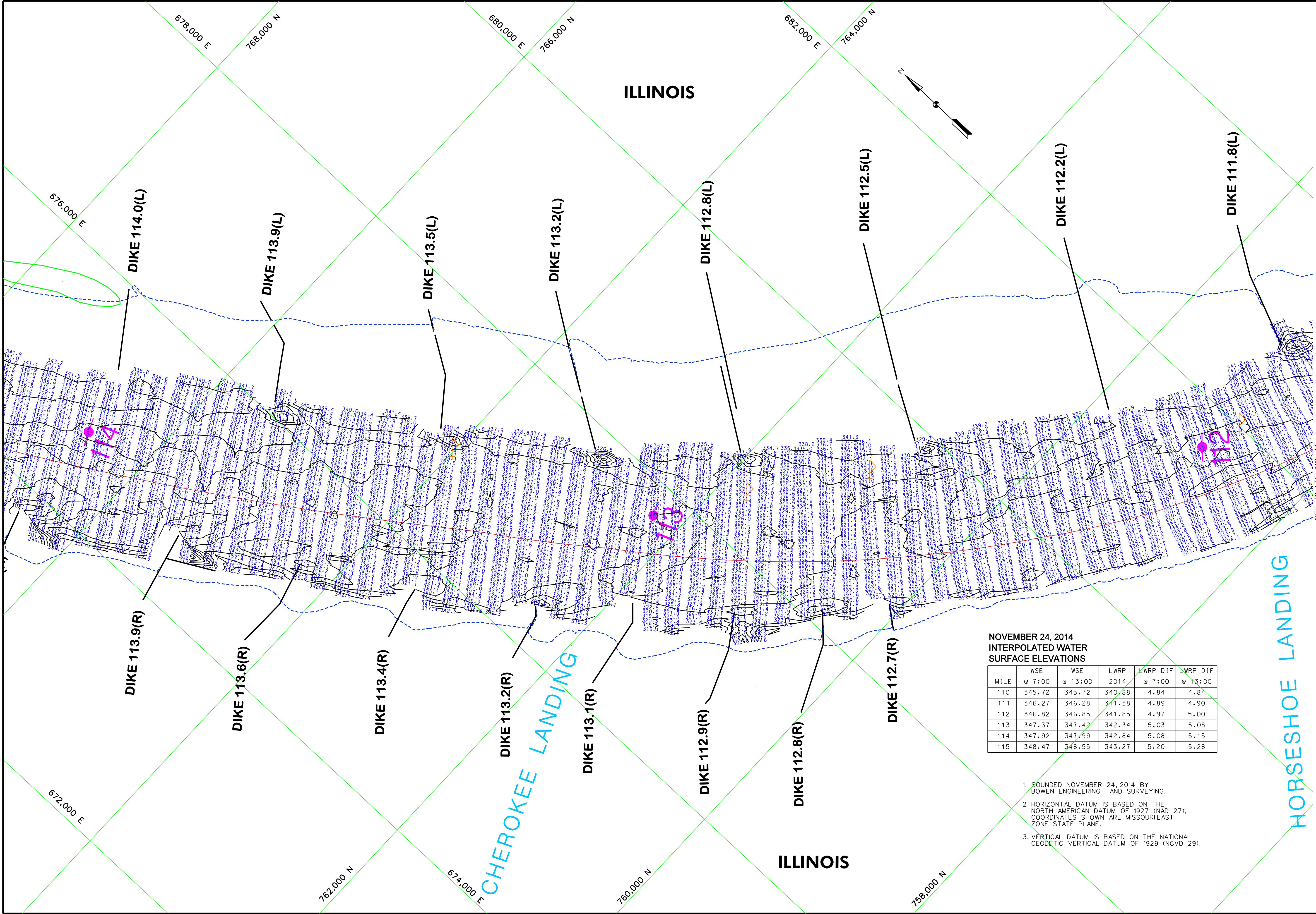
MILE	WSE @ 8:00	WSE @ 14:00	LWRP 2014	LWRP DIF @ 8:00	LWRP DIF @ 14:00
115	353.63	353.62	343.27	10.36	10.35
116	354.19	354.17	343.76	10.43	10.41
117	354.75	354.73	344.25	10.50	10.48
118	355.32	355.28	344.84	10.48	10.44
119	355.88	355.84	345.31	10.57	10.53
120	356.45	356.39	346.08	10.37	10.31



CAGE RECORD	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BRICKY'S LANDING, MO
ZERO N.G.V.D.	338.92	334.31	341.05	357.78
MILE	94	100.8	100.9	136.0
LWRP 2014	331.05	335.56	340.85	354.19
24 NOV 2014	X	UNRECOVERABLE	4.61700 + 6.81300	2.24700 + 2.881500
26 NOV 2014	X	UNRECOVERABLE	9.706500 + 3.41400	7.686500 + 4.481400

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Survey Date: NOVEMBER 24 & 26, 2014
	Drawn by: X
	Reviewed by: X
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER	Submitted: X
	APPROVED: X
Plot Date: File Name: ##PROJECT##	





NOVEMBER 24, 2014 INTERPOLATED WATER SURFACE ELEVATIONS					
MILE	WSE @ 7:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 7:00	LWRP DIF @ 13:00
110	345.72	345.72	340.88	4.84	4.84
111	346.27	346.28	341.38	4.89	4.90
112	346.82	346.85	341.85	4.97	5.00
113	347.37	347.42	342.34	5.03	5.08
114	347.92	347.99	342.84	5.08	5.15
115	348.47	348.55	343.27	5.20	5.28

1. SOUNDED NOVEMBER 24, 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

RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BRICKY'S LANDING, MO
ZERO N.G.V.D.	338.92	334.31	337.78
MILE	340.8	330.9	336.0
LWRP 2014	331.05	330.85	334.19
24 NOV 2014	X	4.61700 4.61300	2.24700 2.681500

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	SURVEY DATE: NOVEMBER 24, 2014
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER	Drawn by: X Reviewed by: X
	Submitted: X APPROVED: X
	Plot Date: File Name:

120 0 120 240 METERS

400 0 400 800 FEET

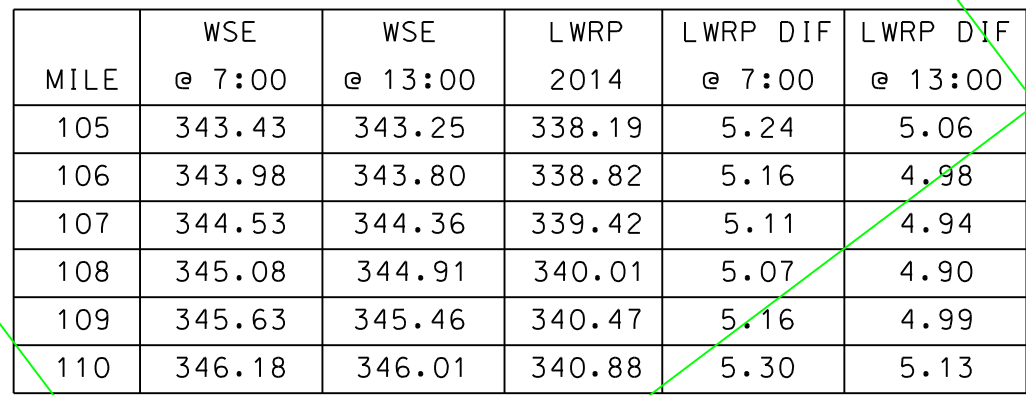
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL LOCATIONS OF THE FEATURES SHOWN.

HYDROGRAPHIC SURVEYS

RIVER MILES 112.0 - 114.0

PLATE
NUMBER

44

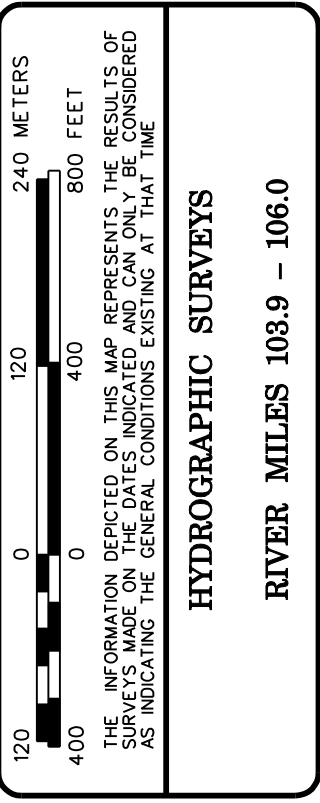


	WSE	WSE	LWRP	LWRP DIF	LWRP DIF
MILE	@ 7:00	@ 13:00	2014	@ 7:00	@ 13:00
100	341.84	341.53	335.13	6.71	6.40
101	342.38	342.07	335.90	6.48	6.17
102	342.92	342.61	336.52	6.40	6.09
103	343.46	343.15	337.07	6.39	6.08
104	344.00	343.69	337.64	6.36	6.05
105	344.55	344.23	338.19	6.36	6.04

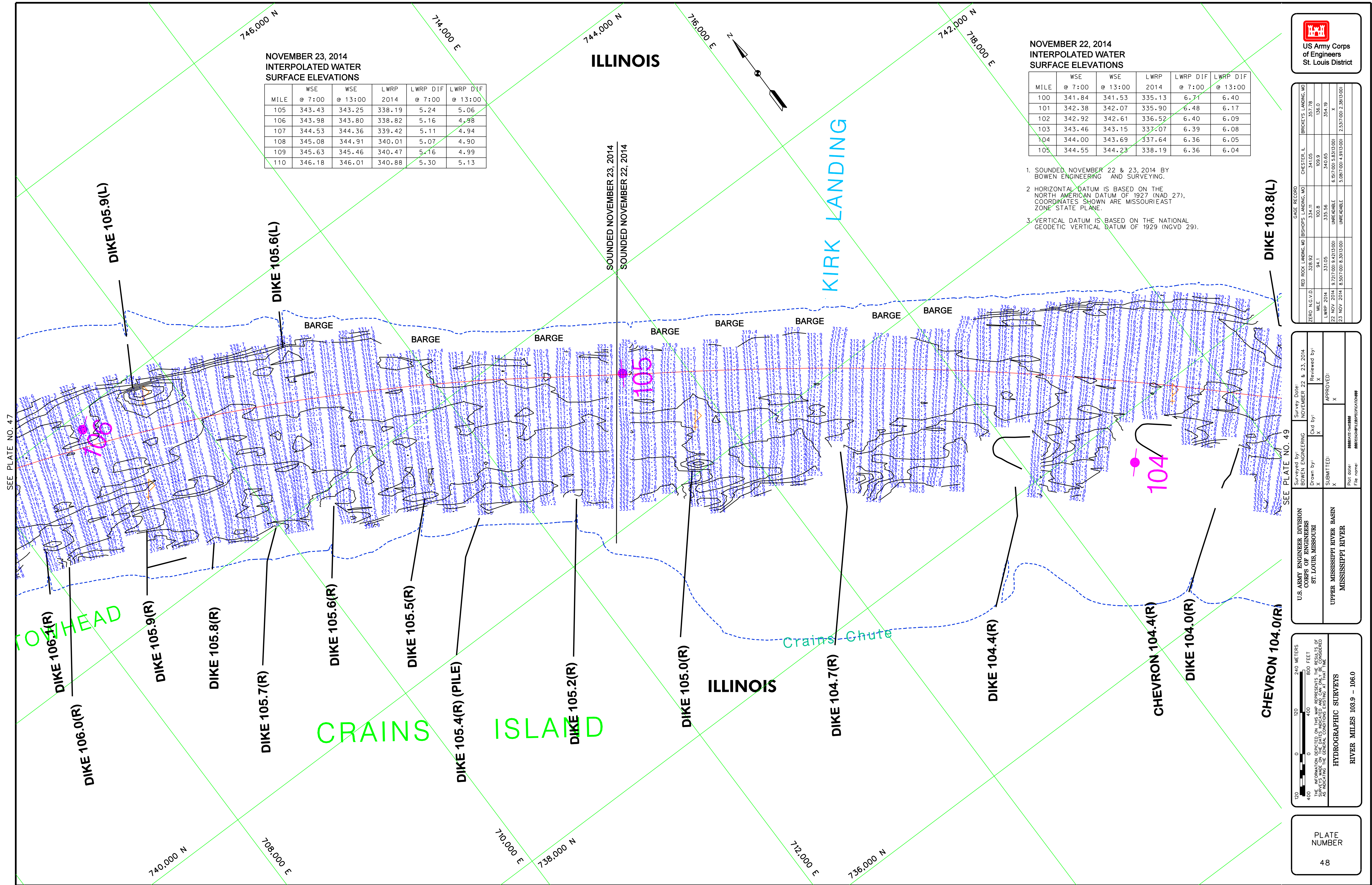
- 
- US Army Corps
of Engineers
St. Louis District

		GAGE RECORD			
		RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BROCKEYS LANDING, MO
ZERO	N.S.V.D.	328.92	334.11	341.05	357.78
			335.56		
			334.91		
LWRP	2014	331.05	340.65		354.19
22 NOV	2014	9,727,000 4.92(13,00)	UNRE-ADABLE	6,157,700 5.83(13,00)	x
23 NOV	2014	8,507,000 6.30(13,00)	UNRE-ADABLE	5,081,700 4.91(13,00)	2,537,000 2.38(13,00)

U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Surveyed by:		Survey Date:	
	BOWEN ENGINEERING		NOVEMBER 22 & 23, 2014	
	Drawn by:	Ckd by:		
		X		X
	Reviewed by:			
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER	SUBMITTED:	APPROVED:		
	X	X		
	Plot date: #####DATE####			
	File name: #####SAMPLE#PCSPCTA04###			



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NOVEMBER 22, 2014
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 7:00	LWRP DIF @ 13:00
100	341.84	341.53	335.13	6.71	6.40
101	342.38	342.07	335.90	6.48	6.17
102	342.92	342.61	336.52	6.40	6.09
103	343.46	343.15	337.07	6.39	6.08
104	344.00	343.69	337.64	6.36	6.05
105	344.55	344.23	338.19	6.36	6.04

1. SOUNDED NOVEMBER 22, 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).



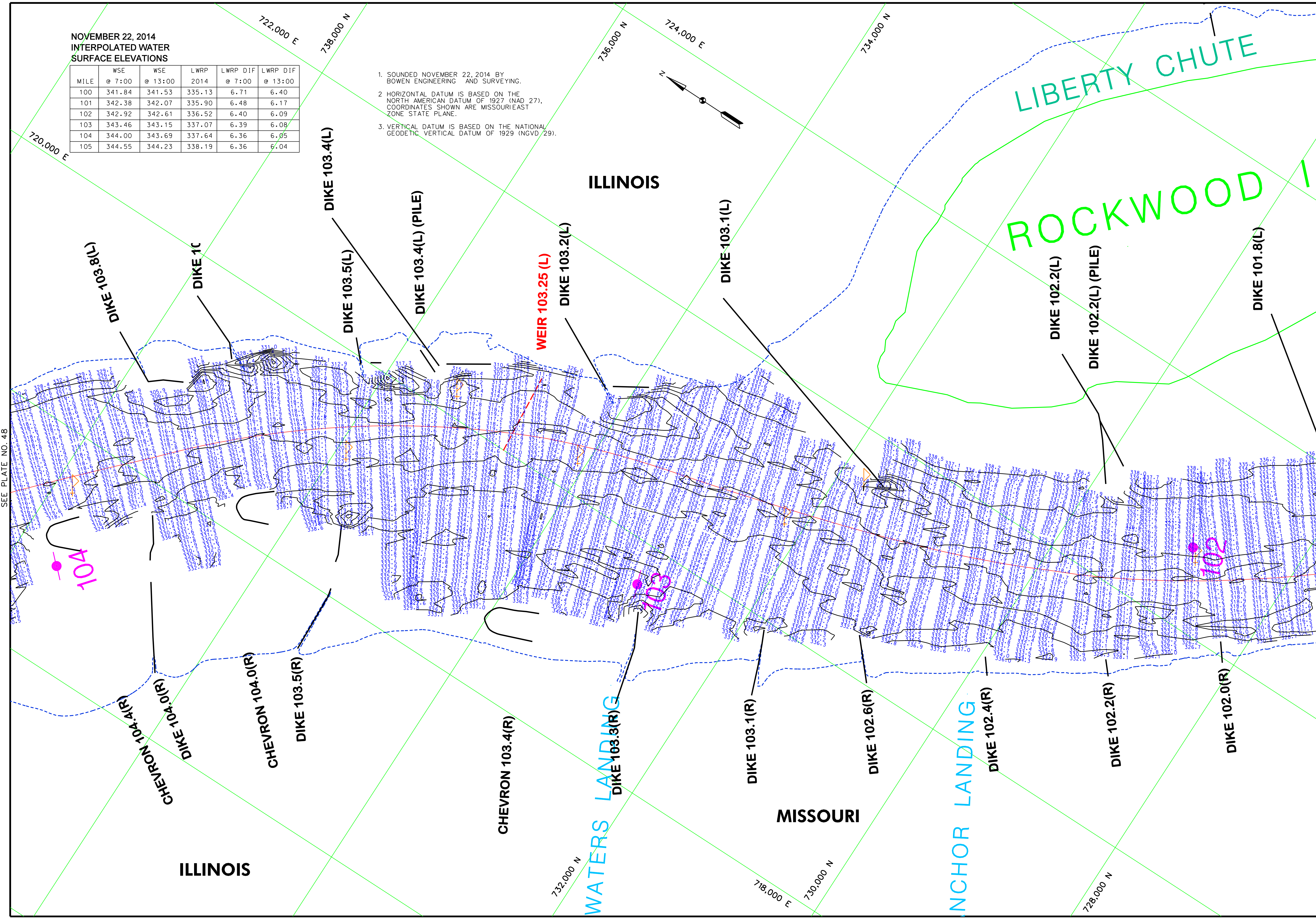
US Army Corps
of Engineers
St. Louis District

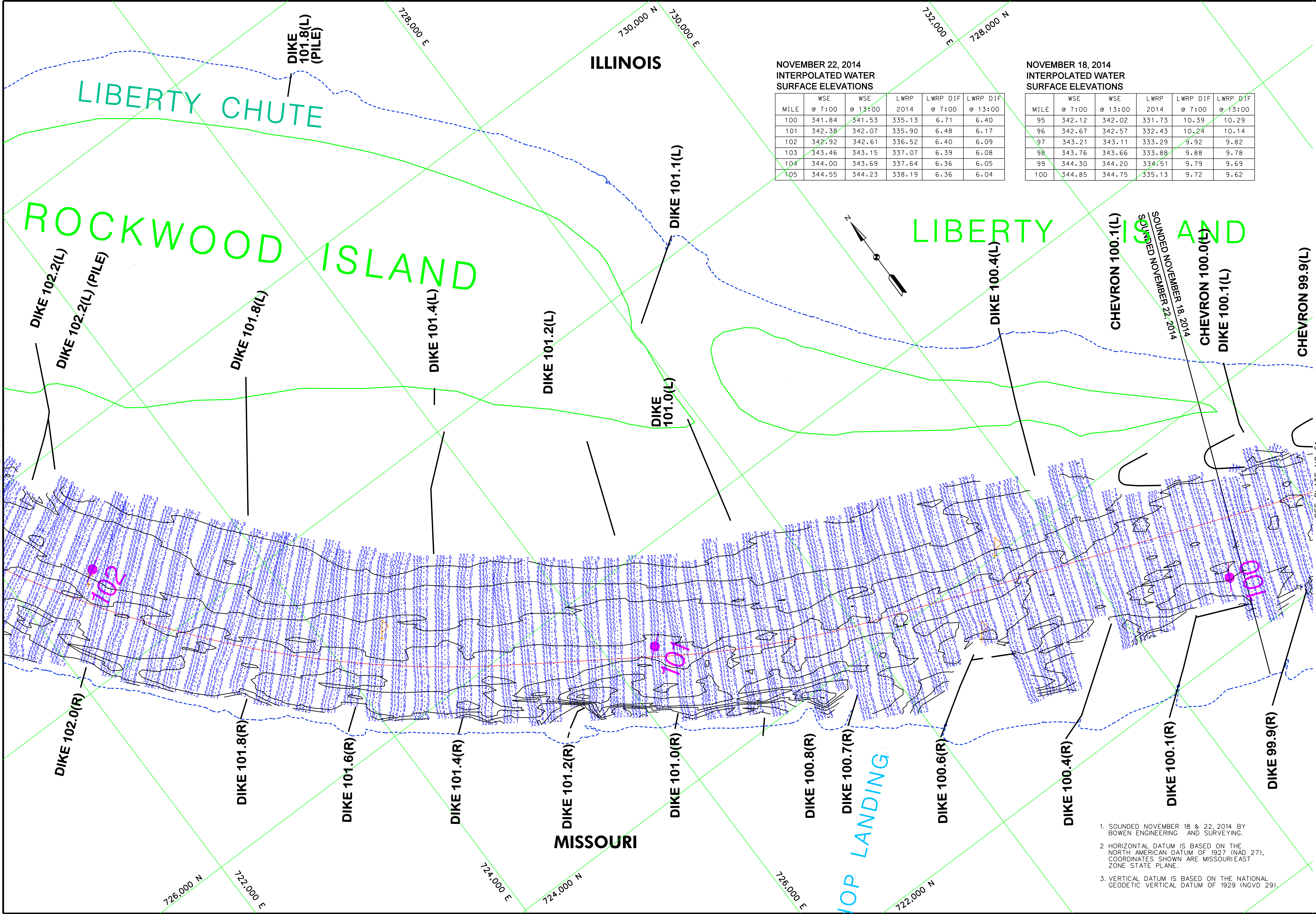
CAGE RECORD					
RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BRICKY'S LANDING, MO		
ZERO N.G.V.D.	338.92	334.11	334.05	337.78	
MILE	94	100.8	109.9	136.0	
LWRP 2014	331.05	335.56	340.85	354.19	
22 NOV 2014	9.727300 14413300	UNK AVAILABLE	6.151700 14413300		

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

HYDROGRAPHIC SURVEYS
RIVER MILES 102.0 - 103.9

PLATE NUMBER
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NOVEMBER 22, 2014
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 7:00	LWRP DIF @ 13:00
100	341.84	341.53	335.13	6.71	6.40
101	342.38	342.07	335.90	6.48	6.17
102	342.92	342.61	336.52	6.40	6.09
103	343.46	343.15	337.07	6.39	6.08
104	344.00	343.69	337.64	6.36	6.05
105	344.55	344.23	338.19	6.36	6.04

NOVEMBER 18, 2014
INTERPOLATED WATER
SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 7:00	LWRP DIF @ 13:00
95	342.12	342.02	331.73	10.39	10.29
96	342.67	342.57	332.43	10.24	10.14
97	343.21	343.11	333.29	9.92	9.82
98	343.76	343.66	333.88	9.88	9.78
99	344.30	344.20	334.51	9.79	9.69
100	344.85	344.75	335.13	9.72	9.62

US Army Corps
of Engineers
St. Louis District

CAGE RECORD	
RED ROCK LANDING, MO	BISHOPS LANDING, MO
CHESTER, IL	CHESTER, IL
BRICKY'S LANDING, MO	BRICKY'S LANDING, MO
0	337.78
100	334.11
200	330.8
300	327.5
400	324.2
500	320.9
600	317.6
700	314.3
800	311.0
900	307.7
1000	304.4
1100	301.1
1200	297.8
1300	294.5
1400	291.2
1500	287.9
1600	284.6
1700	281.3
1800	278.0
1900	274.7
2000	271.4
2100	268.1
2200	264.8
2300	261.5
2400	258.2
2500	254.9
2600	251.6
2700	248.3
2800	245.0
2900	241.7
3000	238.4
3100	235.1
3200	231.8
3300	228.5
3400	225.2
3500	221.9
3600	218.6
3700	215.3
3800	212.0
3900	208.7
4000	205.4
4100	202.1
4200	198.8
4300	195.5
4400	192.2
4500	188.9
4600	185.6
4700	182.3
4800	179.0
4900	175.7
5000	172.4
5100	169.1
5200	165.8
5300	162.5
5400	159.2
5500	155.9
5600	152.6
5700	149.3
5800	146.0
5900	142.7
6000	139.4
6100	136.1
6200	132.8
6300	129.5
6400	126.2
6500	122.9
6600	119.6
6700	116.3
6800	113.0
6900	109.7
7000	106.4
7100	103.1
7200	99.8
7300	96.5
7400	93.2
7500	89.9
7600	86.6
7700	83.3
7800	80.0
7900	76.7
8000	73.4
8100	70.1
8200	66.8
8300	63.5
8400	60.2
8500	56.9
8600	53.6
8700	50.3
8800	47.0
8900	43.7
9000	40.4
9100	37.1
9200	33.8
9300	30.5
9400	27.2
9500	23.9
9600	20.6
9700	17.3
9800	14.0
9900	10.7
10000	7.4
10100	4.1
10200	0.8
10300	-2.5
10400	-5.8
10500	-9.1
10600	-12.4
10700	-15.7
10800	-19.0
10900	-22.3
11000	-25.6
11100	-28.9
11200	-32.2
11300	-35.5
11400	-38.8
11500	-42.1
11600	-45.4
11700	-48.7
11800	-52.0
11900	-55.3
12000	-58.6
12100	-61.9
12200	-65.2
12300	-68.5
12400	-71.8
12500	-75.1
12600	-78.4
12700	-81.7
12800	-85.0
12900	-88.3
13000	-91.6
13100	-94.9
13200	-98.2
13300	-101.5
13400	-104.8
13500	-108.1
13600	-111.4
13700	-114.7
13800	-118.0
13900	-121.3
14000	-124.6
14100	-127.9
14200	-131.2
14300	-134.5
14400	-137.8
14500	-141.1
14600	-144.4
14700	-147.7
14800	-151.0
14900	-154.3
15000	-157.6
15100	-160.9
15200	-164.2
15300	-167.5
15400	-170.8
15500	-174.1
15600	-177.4
15700	-180.7
15800	-184.0
15900	-187.3
16000	-190.6
16100	-193.9
16200	-197.2
16300	-200.5
16400	-203.8
16500	-207.1
16600	-210.4
16700	-213.7
16800	-217.0
16900	-220.3
17000	-223.6
17100	-226.9
17200	-230.2
17300	-233.5
17400	-236.8
17500	-240.1
17600	-243.4
17700	-246.7
17800	-250.0
17900	-253.3
18000	-256.6
18100	-259.9
18200	-263.2
18300	-266.5
18400	-269.8
18500	-273.1
18600	-276.4
18700	-279.7
18800	-283.0
18900	-286.3
19000	-289.6
19100	-292.9
19200	-296.2
19300	-299.5
19400	-302.8
19500	-306.1
19600	-309.4
19700	-312.7
19800	-316.0
19900	-319.3
20000	-322.6
20100	-325.9
20200	-329.2
20300	-332.5
20400	-335.8
20500	-339.1
20600	-342.4
20700	-345.7
20800	-349.0
20900	-352.3
21000	-355.6
21100	-358.9
21200	-362.2
21300	-365.5
21400	-368.8
21500	-372.1
21600	-375.4
21700	-378.7
21800	-382.0
21900	-385.3
22000	-388.6
22100	-391.9
22200	-395.2
22300	-398.5
22400	-401.8
22500	-405.1
22600	-408.4
22700	-411.7
22800	-415.0
22900	-418.3
23000	-421.6
23100	-424.9
23200	-428.2
23300	-431.5
23400	-434.8
23500	-438.1
23600	-441.4
23700	-444.7
23800	-448.0
23900	-451.3
24000	-454.6
24100	-457.9
24200	-461.2
24300	-464.5
24400	-467.8
24500	-471.1
24600	-474.4
24700	-477.7
24800	-481.0
24900	-484.3
25000	-487.6
25100	-490.9
25200	-494.2
25300	-497.5
25400	-500.8
25500	-504.1
25600	-507.4
25700	-510.7
25800	-514.0
25900	-517.3
26000	-520.6
26100	-523.9
26200	-527.2
26300	-530.5
26400	-533.8
26500	-537.1
26600	-540.4
26700	-543.7
26800	-547.0
26900	-550.3
27000	-553.6
27100	-556.9
27200	-560.2
27300	-563.5
27400	-566.8
27500	-570.1
27600	-573.4
27700	-576.7
27800	-580.0
27900	-583.3
28000	-586.6
28100	-589.9
28200	-593.2
28300	-596.5
28400	-599.8
28500	-603.1
28600	-606.4
28700	-609.7
28800	-613.0
28900	-616.3
29000	-619.6
29100	-622.9
29200	-626.2
29300	-629.5
29400	-632.8
29500	-636.1
29600	-639.4
29700	-642.7
29800	-646.0
29900	-649.3
30000	-652.6
30100	-655.9
30200	-659.2
30300	-662.5
30400	-665.8
30500	-669.1
30600	-672.4
30700	-675.7
30800	-679.0
30900	-682.3
31000	-685.6
31100	-688.9
31200	-692.2
31300	-695.5
31400	-698.8
31500	-702.1
31600	-705.4
31700	-708.7
31800	-712.0
31900	-715.3
32000	-718.6
32100	-721.9
32200	-725.2
32300	-728.5
32400	-731.8
32500	-735.1
32600	-738.4
32700	-741.7
32800	-745.0
32900	-748.3
33000	-751.6
33100	-754.9
33200	-758.2
33300	-761.5
33400	-764.8
33500	-768.1
33600	-771.4
33700	-774.7
33800	-778.0
33900	-781.3
34000	-784.6
34100	-787.9
34200	-791.2
34300	-794.5
34400	-797.8
34500	-801.1
34600	-804.4
34700	-807.7
34800	-811.0
34900	-814.3
35000	-817.6
35100	-820.9
35200	-824.2
35300	-827.5
35400	-830.8
35500	-834.1
35600	-837.4
35700	-840.7
35800	-844.0
35900	-847.3
36000	-850.6
36100	-853.9
36200	-857.2
36300	-860.5
36400	-863.8
36500	-867.1
36600	-870.4
36700	-873.7
36800	-877.0
36900	-880.3
37000	-883.6
37100	-886.9
37200	-890.2
37300	-893.5
37400	-896.8
37500	-900.1
37600	-903.4
37700	-906.7
37800	-910.0
37900	-913.3
38000	-916.6
38100	-919.9
38200	-923.2
38300	-926.5
38400	-929.8
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39000	-949.6
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39600	-969.4
39700	-972.7
39800	-976.0
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40000	-982.6
40100	-985.9
40200	-989.2
40300	-992.5
40400	-995.8
40500	-999.1
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40700	-1005.7
40800	-1009.0
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41000	-1015.6
41100	-1018.9
41200	-1022.2
41300	-1025.5
41400	-1028.8
41500	-1032.1
41600	-1035.4
41700	-1038.7
41800	-1042.0
41900	-1045.3
42000	-1048.6
42100	-1051.9
42200	-1055.2
42300	-1058.5
42400	-1061.8
42500	-1065.1
42600	-1068.4
42700	-1071.7
42800	-1075.0
42900	-1078.3
43000	-1081.6
43100	-1084.9
43200	-1088.2
43300	-1091.5
43400	-1094.8
43500	-1098.1
43600	-1101.4
43700	-1104.7
43800	-1108.0
43900	-1111.3
44000	-1114.6
44100	-1117.9
44200	-1121.2
44300	-1124.5
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44500	-1131.1
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44700	-1137.7
44800	-1141.0
44900	-1144.3
45000	-1147.6
45100	-1150.9
45200	-1154.2
45300	-1157.5
45400	-1160.8
45500	-1164.1
45600	-1167.4
45700	-1170.7
45800	-1174.0
45900	-1177.3
46000	-1180.6
46100	-1183.9
46200	-1187.2
46300	-1190.5
46400	