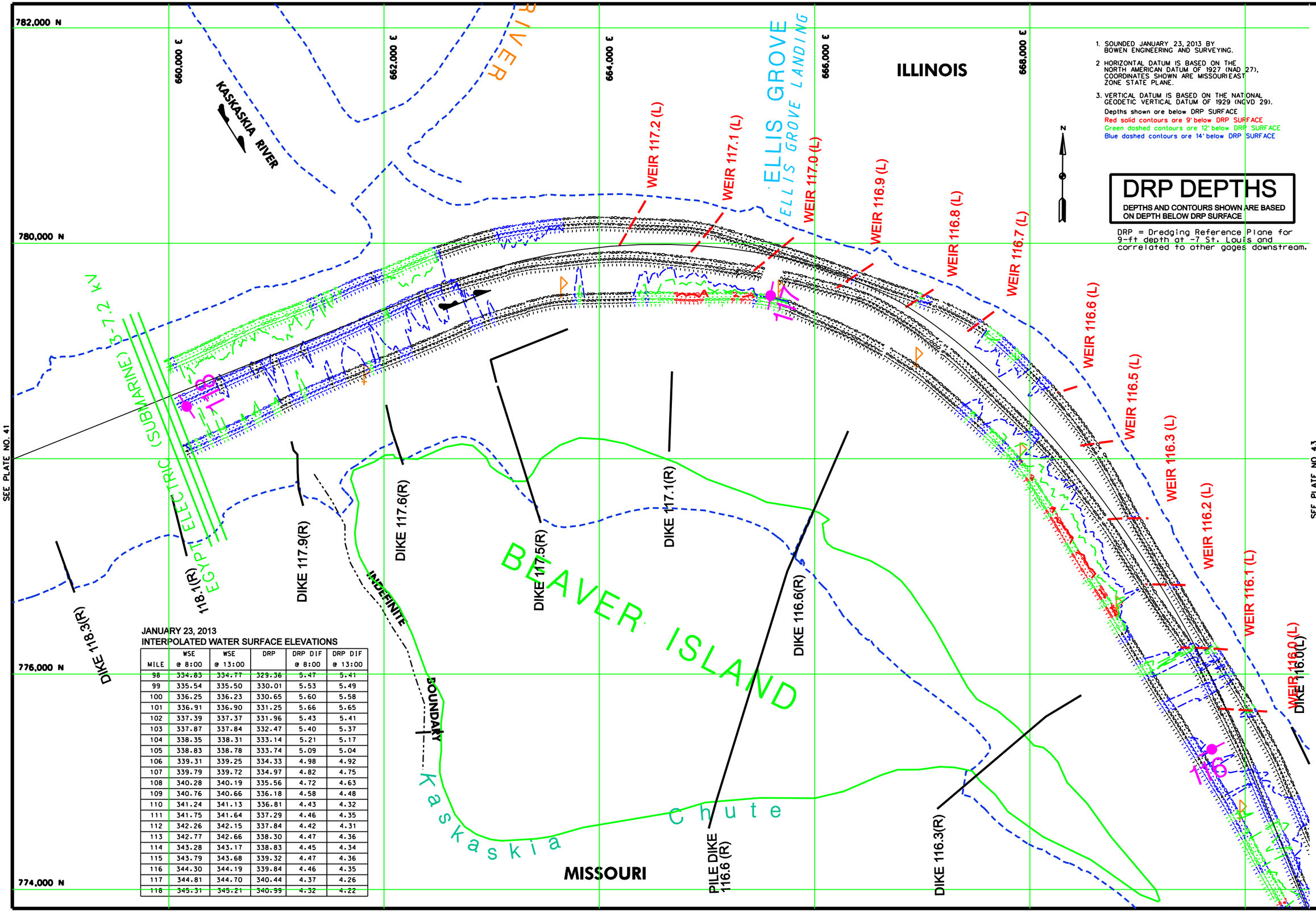
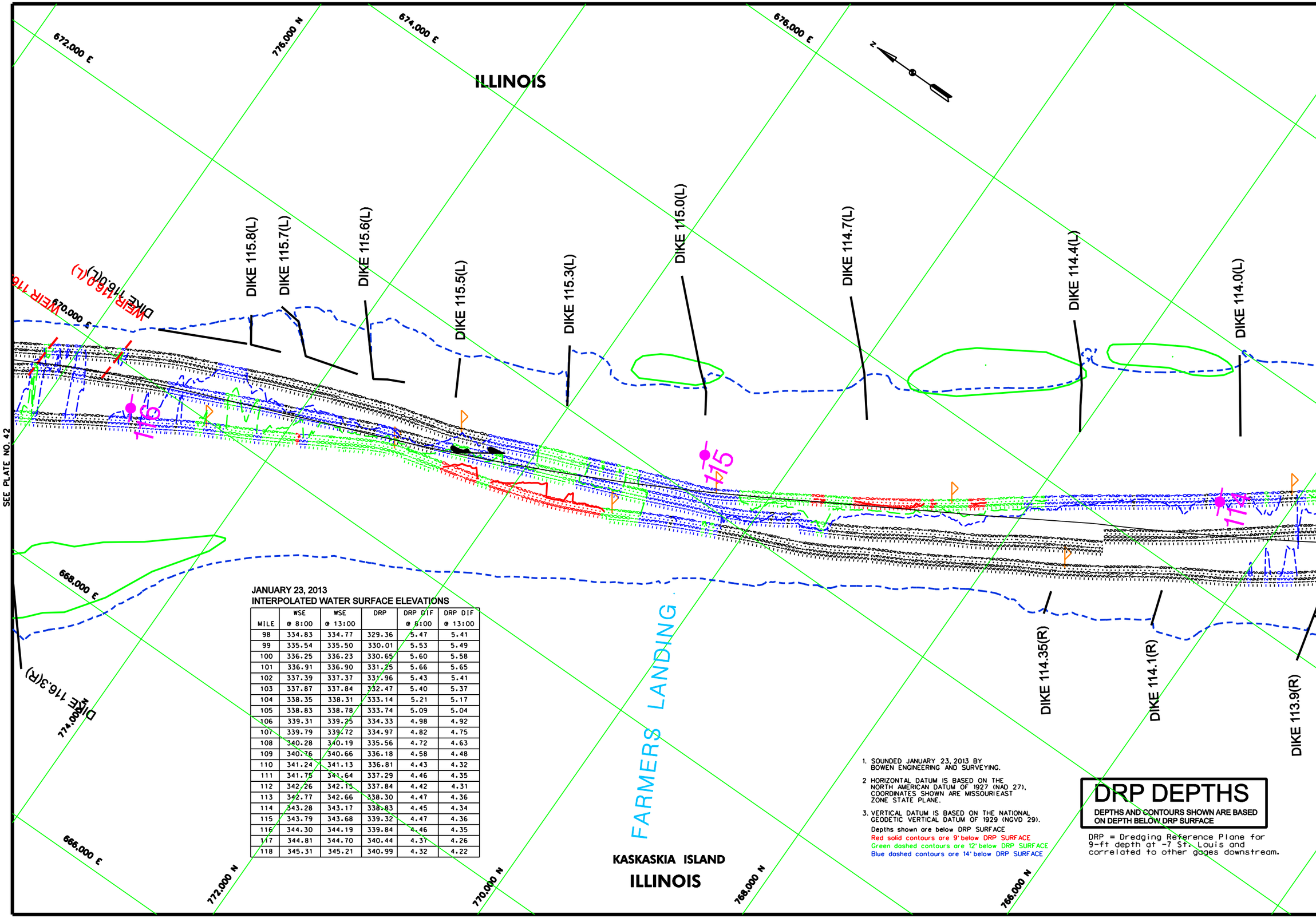


JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34
115	343.79	343.68	339.32	4.47	4.36
116	344.30	344.19	339.84	4.46	4.35
117	344.81	344.70	340.44	4.37	4.26
118	345.31	345.21	340.99	4.32	4.22



JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34
115	343.79	343.68	339.32	4.47	4.36
116	344.30	344.19	339.84	4.46	4.35
117	344.81	344.70	340.44	4.37	4.26
118	345.31	345.21	340.99	4.32	4.22

1. SOUNDED JANUARY 23, 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).

Depths shown are below DRP SURFACE
Red solid contours are 9' below DRP SURFACE
Green dashed contours are 12' below DRP SURFACE
Blue dashed contours are 14' below DRP SURFACE

DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

DRP = Dredging Reference Plane for 9-ft depth at -7 St. Louis and correlated to other gages downstream.

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	CHESTER, IL	BRICKEYS LANDING, MO	ST. LOUIS, MO
ZERO N.G.V.D.	341.05	357.78	379.94
MILE	109.9	136.0	179.6
L. W. R. P.	340.4	356.2	376.4
23 JAN 2013	0.148:00 0.030:13:00	-1.308:00 -1.381:13:00	

ELEVATIONS ARE REFERENCED TO N.G.V.D. - CONTOURS ARE BELOW 1954-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (14.000 C.F.S.)

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

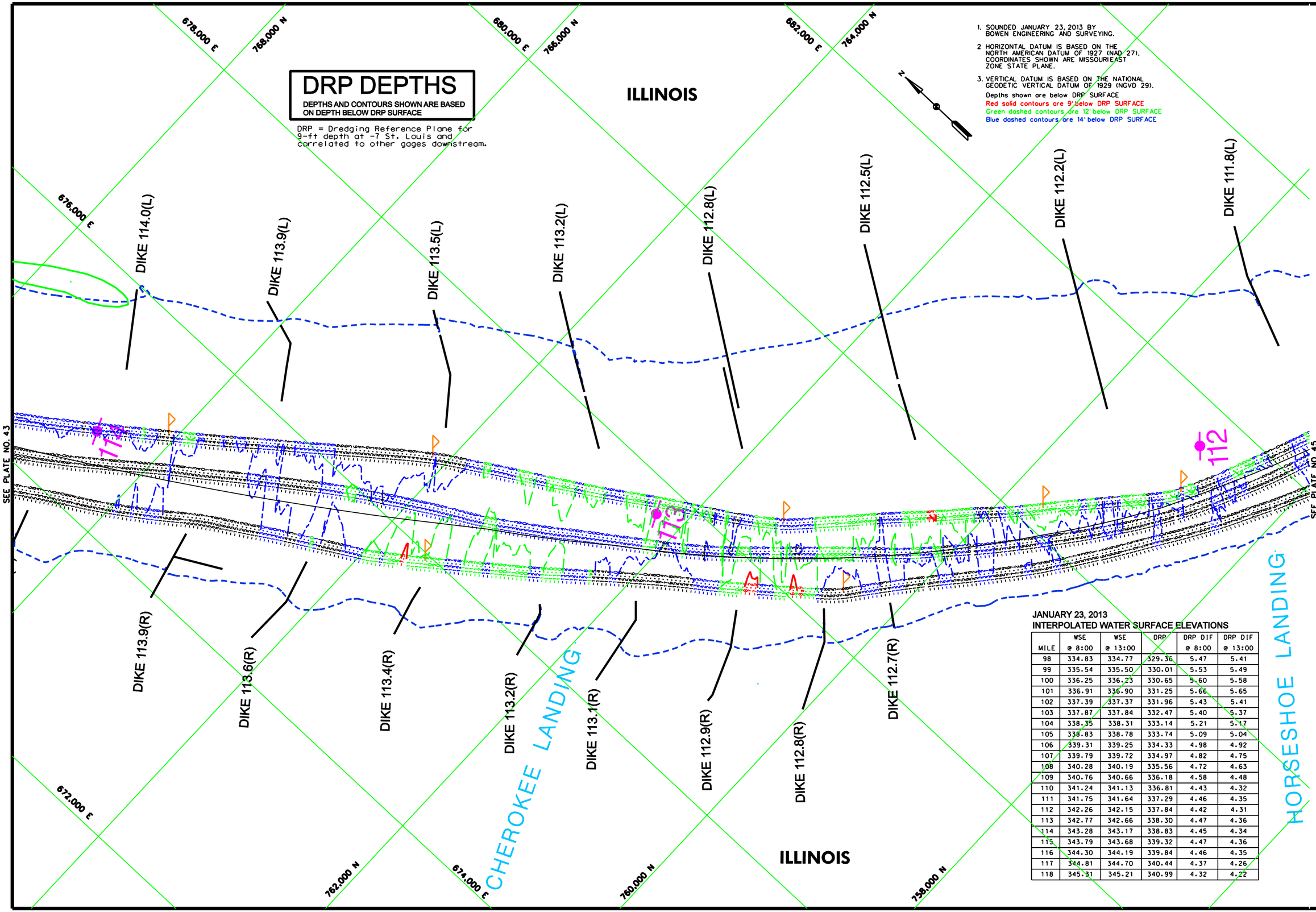
Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 23, 2013
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MM/DD/YYYY
File name: MRRSSCONPLBRPFIGATION.MM

120 0 120 240 METERS
400 0 400 800 FEET

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE INDICATED. IT IS PRESENTED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

CHANNEL PATROL
RIVER MILES 114.0 - 116.0

PLATE NUMBER
43



JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34
115	343.79	343.68	339.32	4.47	4.36
116	344.30	344.19	339.84	4.46	4.35
117	344.81	344.70	340.44	4.37	4.26
118	345.31	345.21	340.99	4.32	4.22

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	CHESTER, IL	BRICKEYS LANDING, MO	ST. LOUIS, MO
ZERO N.G.V.D.	341.05	357.78	379.94
MLE	109.9	136.0	179.6
L. W. R. P.	340.4	356.2	376.4
23 JAN 2013	0.948:00 0.030:13:00	-1.308:00 -1.381:13:00	

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

Survey Date: JANUARY 23, 2013
Surveyed by: BOWEN ENGINEERING
Reviewed by: x
Drawn by: x
Ckd by: x
SUBMITTED: x
APPROVED: x
Plot date: ##/##/YR-TIME##
File name: ##/##/DGN/FILENAME/SHEETCAT/CONTRACT##

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

0 120 240 METERS
0 400 800 FEET
THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE ROSS TS OF THE SURVEY. THE CHANNEL CONDITIONS MAY VARY FROM THOSE AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL
RIVER MILES 112.0 – 114.0

PLATE NUMBER
44

1. SOUNDED JANUARY 23, 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).

Depths shown are below DRP SURFACE
Red solid contours are 9' below DRP SURFACE
Green dashed contours are 12' below DRP SURFACE
Blue dashed contours are 14' below DRP SURFACE

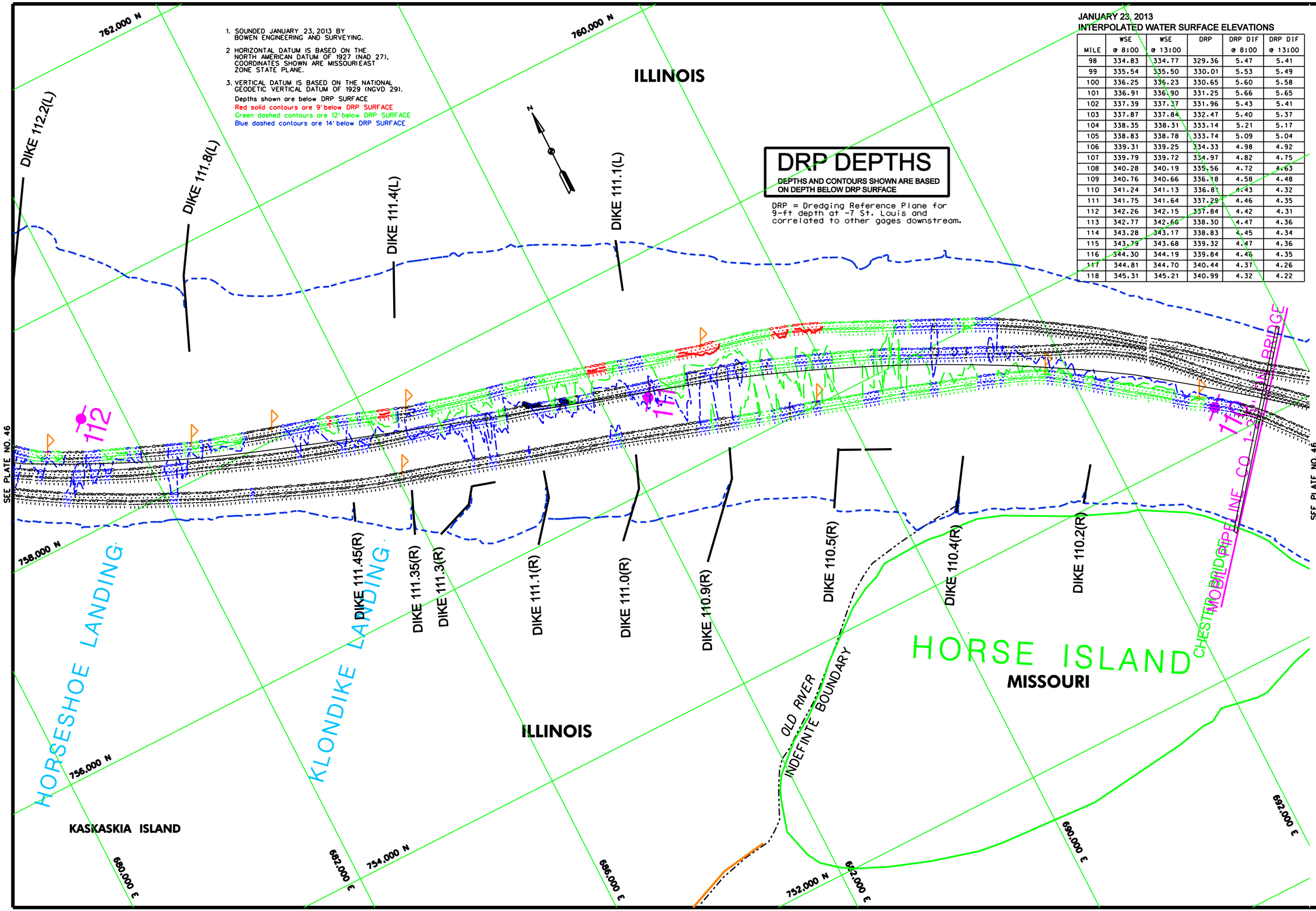
DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

DRP = Dredging Reference Plane for 9-ft depth at -7 St. Louis and correlated to other gages downstream.

JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34
115	343.79	343.68	339.32	4.47	4.36
116	344.30	344.19	339.84	4.46	4.35
117	344.81	344.70	340.44	4.37	4.26
118	345.31	345.21	340.99	4.32	4.22



US Army Corps of Engineers
St. Louis District

GAGE RECORD			
	CHESTER, IL	BROKEY'S LANDING, MO	ST. LOUIS, MO
ZERO N.G.V.D.	341.05	357.78	379.94
MILE	109.9	136.0	179.6
L. W. R. P.	340.4	356.2	376.4
23 JAN 2013	0.148:001 0.030:13:001	-1.306:001 -1.381:13:001	X

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. ILMRP:1:54:000 C.F.S.1

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 23, 2013
Drawn by: X
Chkd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: 00000:DATE:/%d%m%y
File name: 00000:DESIGN\PLEB\PTCCR\CATCH\000

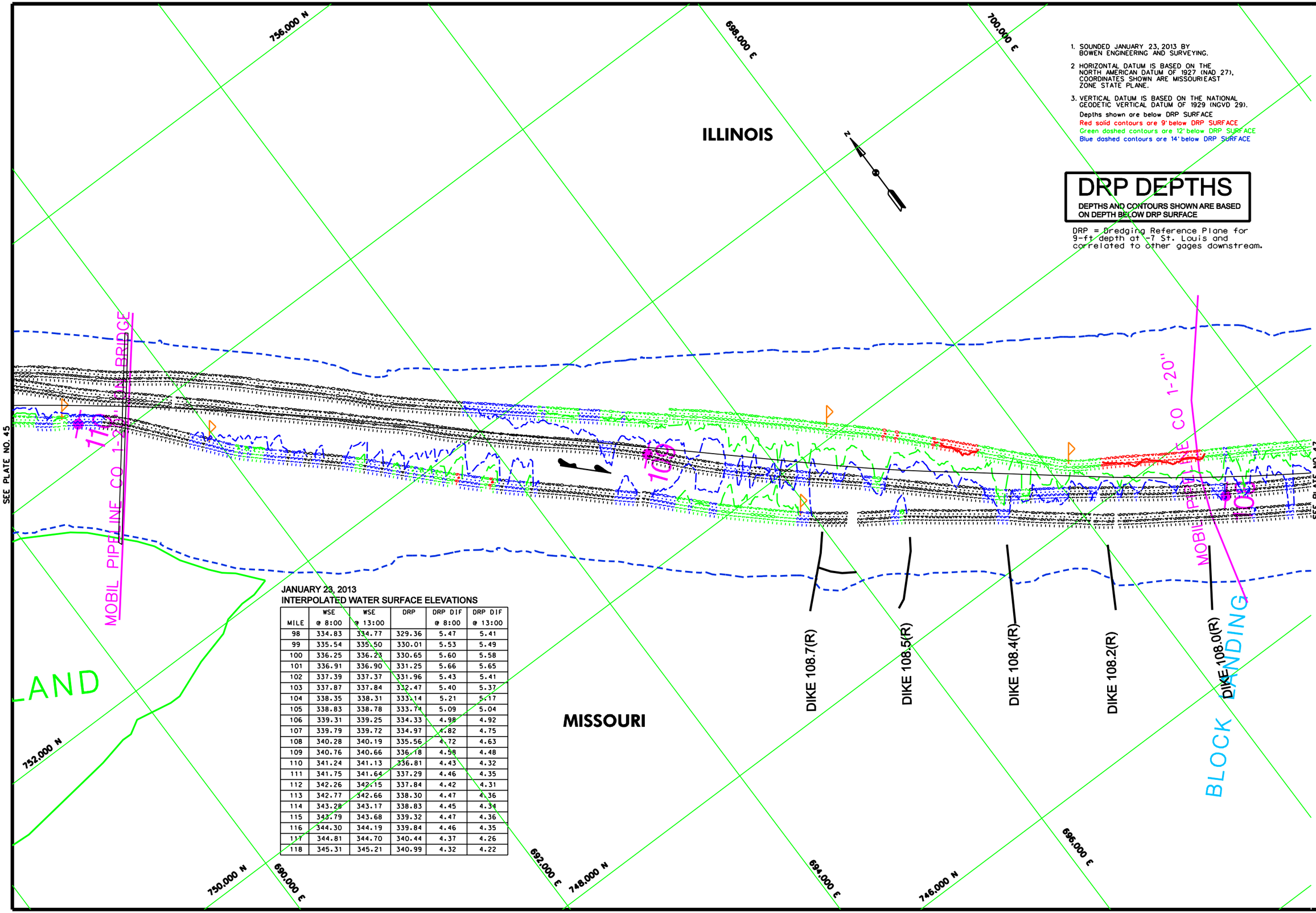
120 0 120 240 METERS
400 0 400 800 FEET

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

CHANNEL PATROL

RIVER MILES 110.0 – 112.0

PLATE NUMBER
45



1. SOUNDED JANUARY 23, 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).

Depths shown are below DRP SURFACE
Red solid contours are 9' below DRP SURFACE
Green dashed contours are 12' below DRP SURFACE
Blue dashed contours are 14' below DRP SURFACE

DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

DRP = Dredging Reference Plane for 9-ft depth at -7 St. Louis and correlated to other gages downstream.

JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34
115	343.79	343.68	339.32	4.47	4.36
116	344.30	344.19	339.84	4.46	4.35
117	344.81	344.70	340.44	4.37	4.26
118	345.31	345.21	340.99	4.32	4.22

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BROCKEYS 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
23 JAN 2013	3.9608-001 3.0613-001	2.7008-001 2.7014-001	0.4418-001 0.0313-001	-3.3018-001 -3.3813-001

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

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 23, 2013
Drawn by: X
Chd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: 08/05/2013
File name: 08050000PLATE01CHANNEL

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

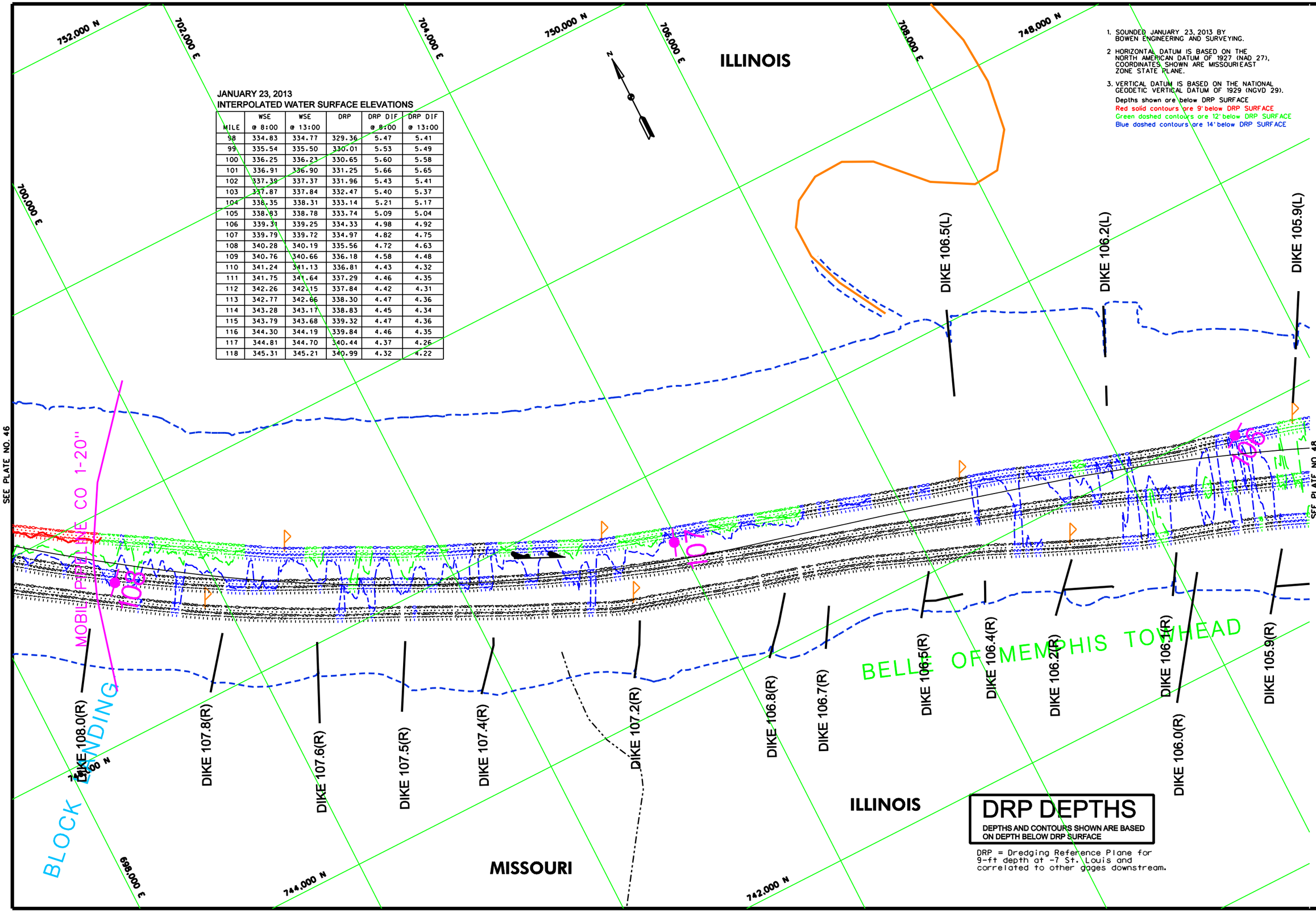
120 400 0 0 120 240 METERS
400 800 FEET

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE INDICATED. IT IS PRESENTED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL

RIVER MILES 108.0 – 110.0

PLATE NUMBER
46



JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34
115	343.79	343.68	339.32	4.47	4.36
116	344.30	344.19	339.84	4.46	4.35
117	344.81	344.70	340.44	4.37	4.26
118	345.31	345.21	340.99	4.32	4.22

1. SOUNDED JANUARY 23, 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).

Depths shown are below DRP SURFACE
Red solid contours are 9' below DRP SURFACE
Green dashed contours are 12' below DRP SURFACE
Blue dashed contours are 14' below DRP SURFACE

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BROCKEYS 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
23 JAN 2013	3.1808-001	3.0013-001	2.7008-001	2.7014-001	0.1418-001	0.0313-001	-3.3008-001	-3.3013-001

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. ILWRP=1/4.000 C.F.S.

Surveyed by: BOWEN ENGINEERING
Drawn by: x
SUBMITTED: x
Reviewed by: x
APPROVED: x
Survey Date: JANUARY 23, 2013
Plot date: 00000TIME/00000
File name: 00000SCANFILE00TCCATCH00000

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

CHANNEL PATROL

RIVER MILES 106.0 – 108.0

120 400 0 0 120 240 METERS
400 800 FEET

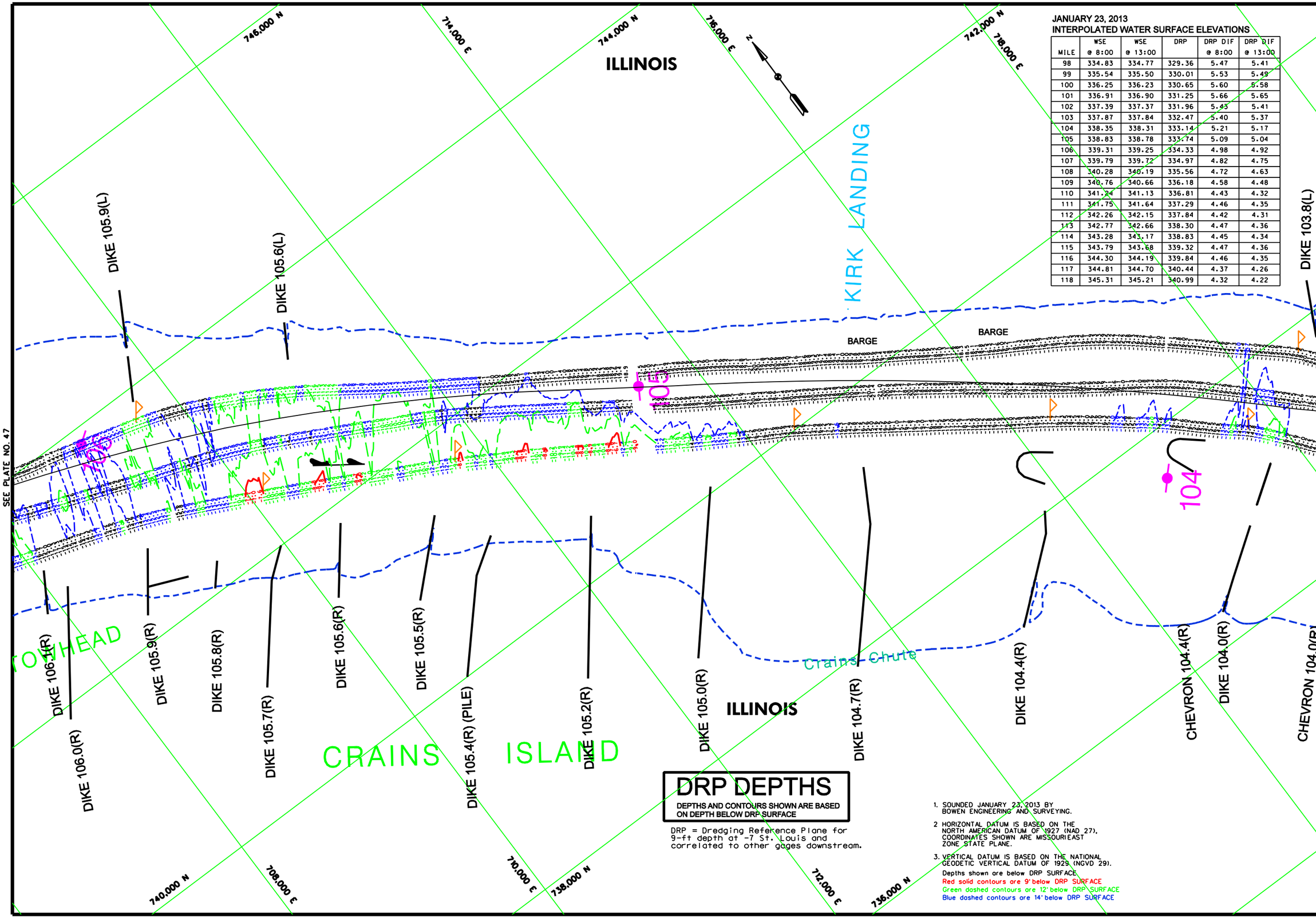
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE AT THE TIME AND DATE INDICATED. THE CONTOURS ARE AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

DRP = Dredging Reference Plane for 9-ft depth at -7 St. Louis and correlated to other gages downstream.

PLATE NUMBER
47



JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34
115	343.79	343.68	339.32	4.47	4.36
116	344.30	344.19	339.84	4.46	4.35
117	344.81	344.70	340.44	4.37	4.26
118	345.31	345.21	340.99	4.32	4.22

DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

DRP = Dredging Reference Plane for 9-ft depth at -7 St. Louis and correlated to other gages downstream.

1. SOUNDED JANUARY 23, 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).

Depths shown are below DRP SURFACE
Red solid contours are 9' below DRP SURFACE
Green dashed contours are 12' below DRP SURFACE
Blue dashed contours are 14' below DRP SURFACE

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BROCKEYS 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
23 JAN 2013	3.3808-001 3.0013-001	2.7008-001 2.7014-001	0.1418-001 0.0313-001	-3.3008-001 -3.3013-001

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. (L.W.R.P.) (14,000 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: JANUARY 23, 2013
Drawn by: x
Chkd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: 00000DATE/TIME0000
File name: 0000DESIGNFILE0000FIGURE/CATION0000

240 METERS 800 FEET
THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE INDICATED. IT IS PRESENTED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

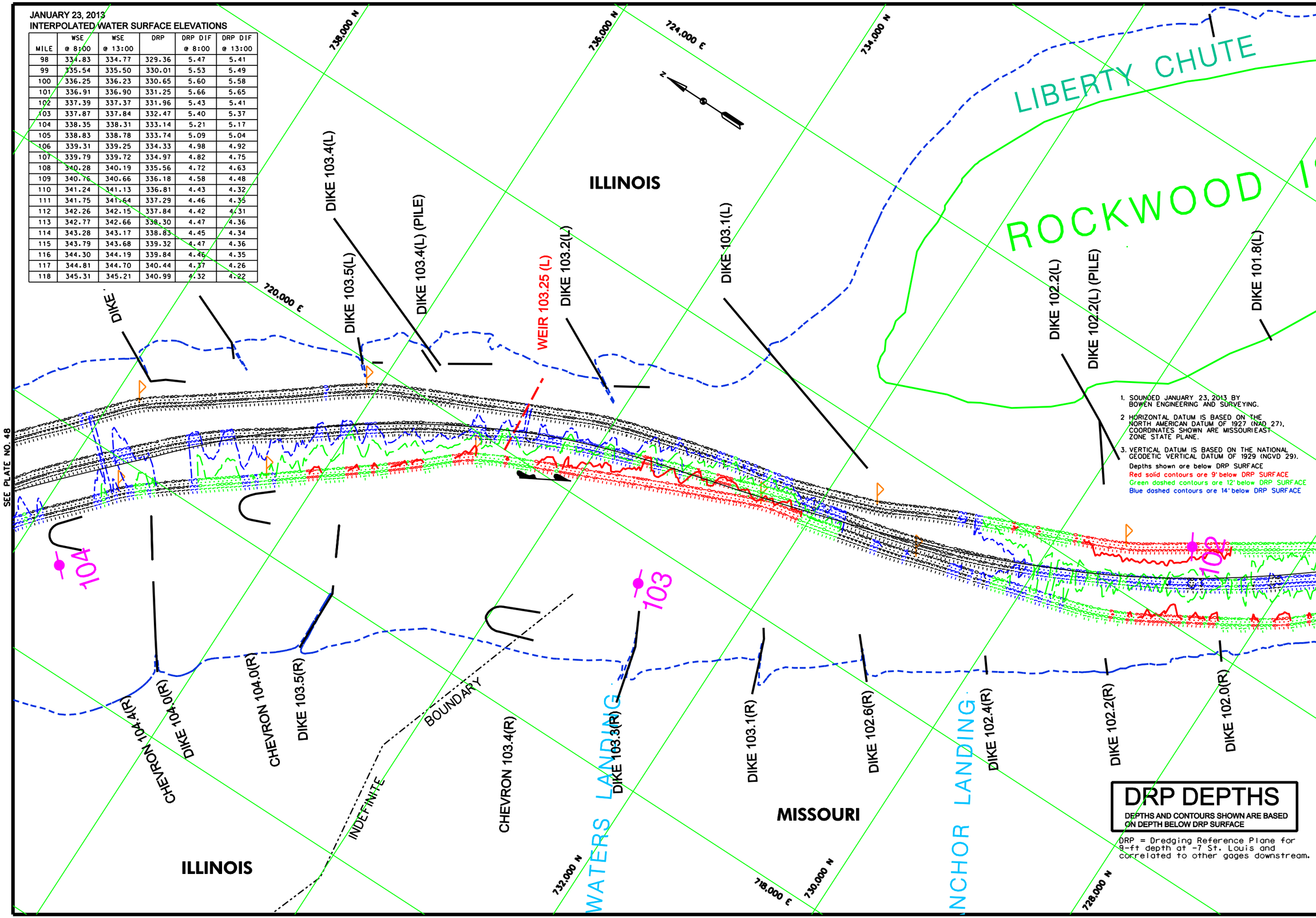
CHANNEL PATROL

RIVER MILES 103.9 – 106.0

PLATE NUMBER
48

JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34
115	343.79	343.68	339.32	4.47	4.36
116	344.30	344.19	339.84	4.46	4.35
117	344.81	344.70	340.44	4.37	4.26
118	345.31	345.21	340.99	4.32	4.22



1. SOUNDED JANUARY 23, 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).

Depths shown are below DRP SURFACE
Red solid contours are 9' below DRP SURFACE
Green dashed contours are 12' below DRP SURFACE
Blue dashed contours are 14' below DRP SURFACE

DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

DRP = Dredging Reference Plane for 9-ft depth at -7 St. Louis and correlated to other gages downstream.

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BROCKEYS 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
23 JAN 2013	3.1808-001	3.0113-001	2.7008-001	2.7014-001	0.1418-001	0.0313-001	-3.3018-001	-3.3813-001

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. (L.W.R.P.) (14.000 C.F.S.)

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 23, 2013
Drawn by: x
Chkd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: 00000DATE/MLD0000
File name: 00000DRAWING/DRP/DRP2CATCH0000

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

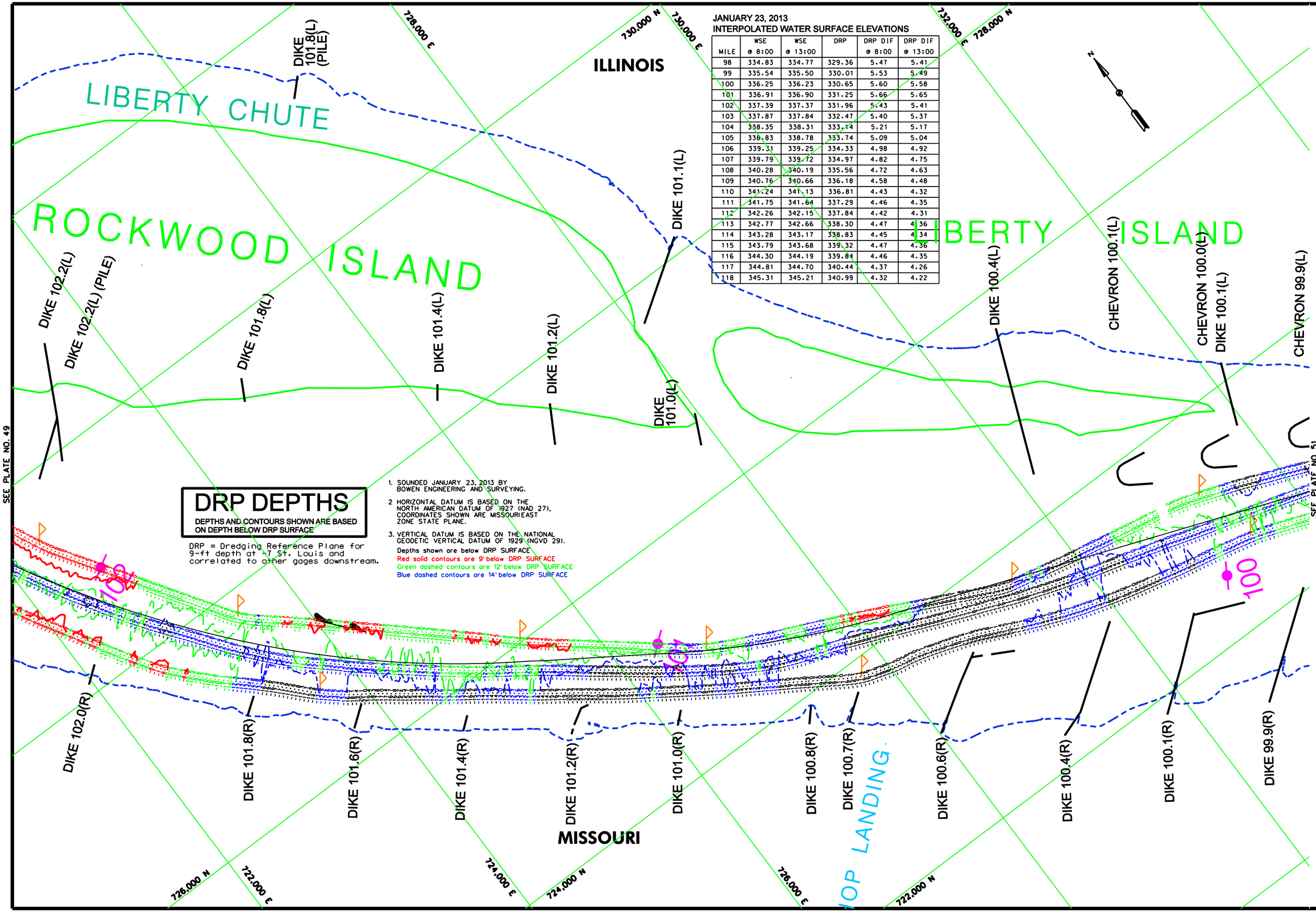
240 METERS 120 0 120 400 0 400 800 FEET

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED. THE DEPTHS SHOWN ARE AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL

RIVER MILES 102.0 – 103.9

PLATE NUMBER
49



JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34
115	343.79	343.68	339.32	4.47	4.36
116	344.30	344.19	339.84	4.46	4.35
117	344.81	344.70	340.44	4.37	4.26
118	345.31	345.21	340.99	4.32	4.22

DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

DRP = Dredging Reference Plane for 9-ft depth at ~7 St. Louis and correlated to other gages downstream.

1. SOUNDED JANUARY 23, 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).

Depths shown are below DRP SURFACE
Red solid contours are 9' below DRP SURFACE
Green dashed contours are 12' below DRP SURFACE
Blue dashed contours are 14' below DRP SURFACE

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BROKEYS 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
23 JAN 2013	3.908(00) 3.0013(00)	2.700(00) 2.704(-00)	0.148(00) 0.031(00)	-3.308(00) -3.381(00)

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (0.4,000 C.F.S.)

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 23, 2013
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MMDDYYYY/HHMMMM
File name: MMDDSSCHNPLBRPFCATCHNNN

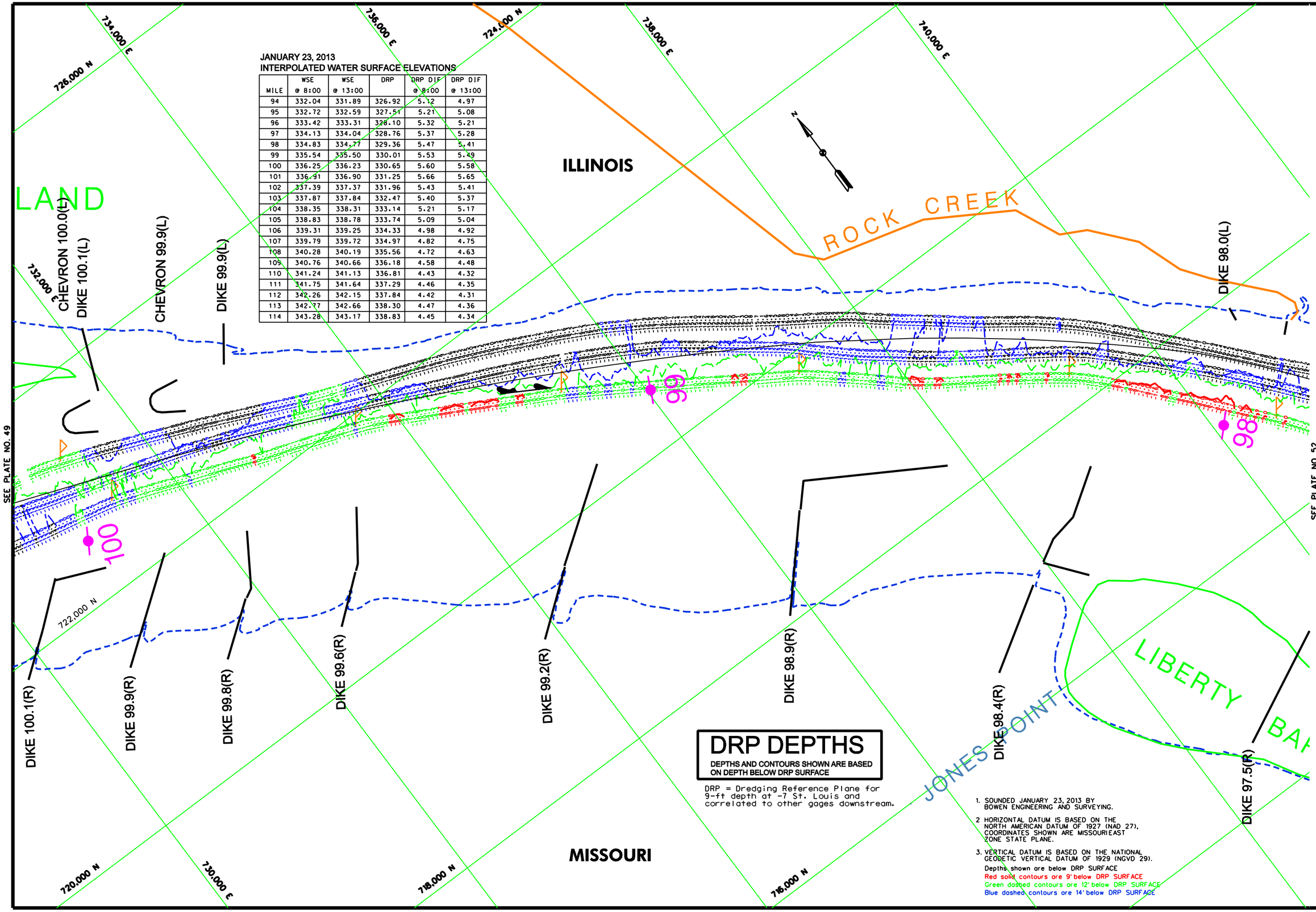
U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

0 120 240 METERS
0 400 800 FEET
THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE SHOWN AND IS INTENDED TO REPRESENT AS NEARLY AS POSSIBLE THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL
RIVER MILES 100.0 – 102.0

PLATE NUMBER
50



JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
94	332.04	331.89	326.92	5.12	4.97
95	332.72	332.59	327.51	5.21	5.08
96	333.42	333.31	328.10	5.32	5.21
97	334.13	334.04	328.76	5.37	5.28
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34

DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

DRP = Dredging Reference Plane for 9-ft depth at -7 St. Louis and correlated to other gages downstream.

1. SOUNDED JANUARY 23, 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).

Depths shown are below DRP SURFACE
Red solid contours are 9' below DRP SURFACE
Green dashed contours are 12' below DRP SURFACE
Blue dashed contours are 14' below DRP SURFACE

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BROKEYS 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
23 JAN 2013	3.808(-00) 3.0013(-00)	2.700(8-00) 2.704(-00)	0.148(-00) 0.031(-00)	-3.308(-00) -3.381(-00)

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

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

Surveyed by: BOWEN ENGINEERING
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Survey Date: JANUARY 23, 2013
Plot date: MM/DD/YY/HH:MMAM
File name: MISSISSIPPI.DRPSPECIFICATIONMM

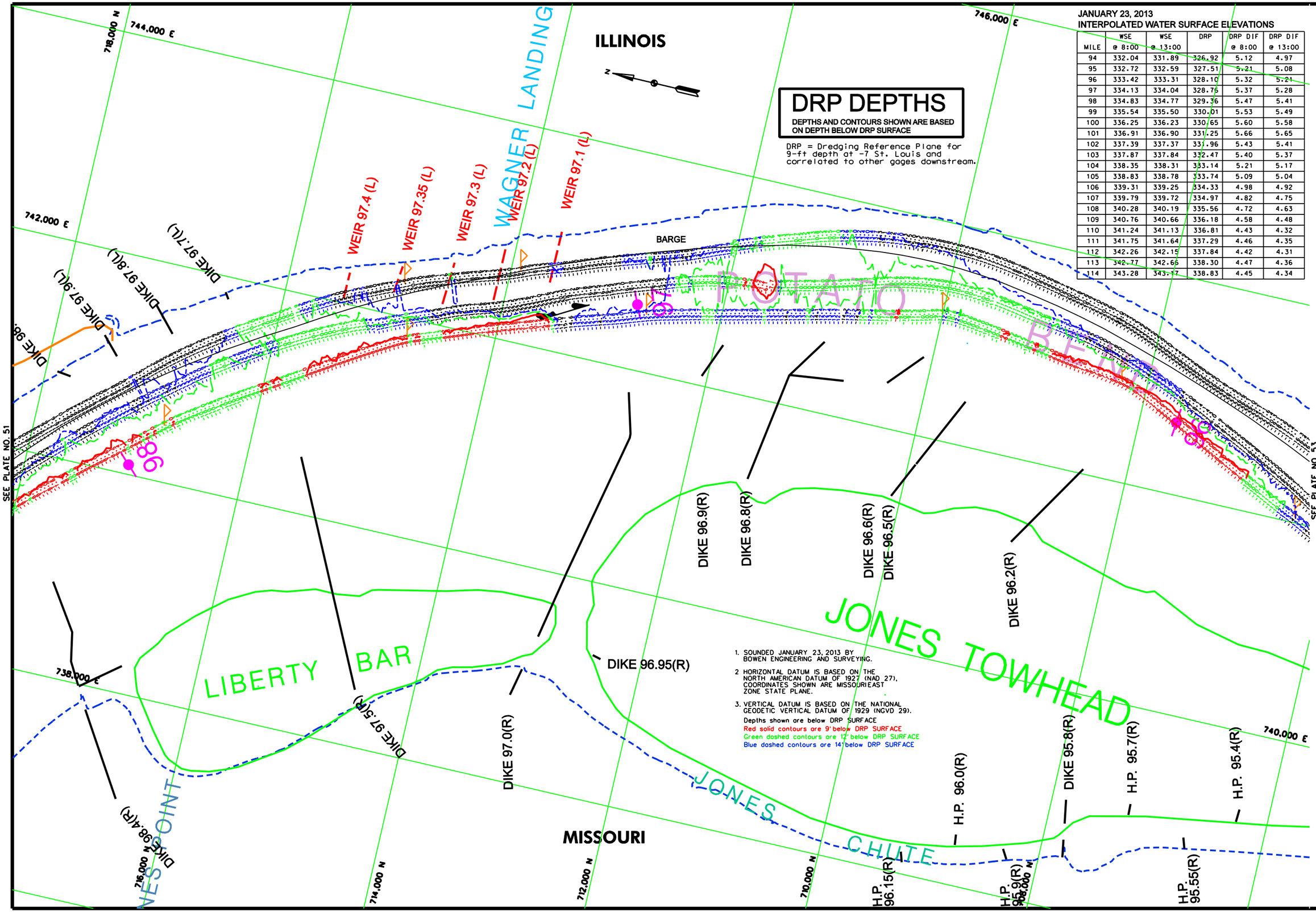
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
RIVER MILES 98.0 – 100.0

240 METERS 120 0 120 400 0 400 800 FEET

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE INDICATED. THE DATA SHOWN IS INTENDED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

CHANNEL PATROL
RIVER MILES 98.0 – 100.0

PLATE NUMBER
51



DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

DRP = Dredging Reference Plane for 9-ft depth at -7 St. Louis and correlated to other gages downstream.

1. SOUNDED JANUARY 23, 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).

Depths shown are below DRP SURFACE
Red solid contours are 9' below DRP SURFACE
Green dashed contours are 12' below DRP SURFACE
Blue dashed contours are 14' below DRP SURFACE

JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
94	332.04	331.89	326.92	5.12	4.97
95	332.72	332.59	327.51	5.21	5.08
96	333.42	333.31	328.10	5.32	5.21
97	334.13	334.04	328.76	5.37	5.28
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	RED ROCK LANDING, MO	BISHOPS LANDING, MO	CHESTER, IL	BROCKEYS 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
23 JAN 2013	3.3808-001	1.0013-001	2.7008-001 2.7014-001	0.1418-001 0.0313-001 -3.3008-001 -3.3013-001

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. ELIMINATION CRS.

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

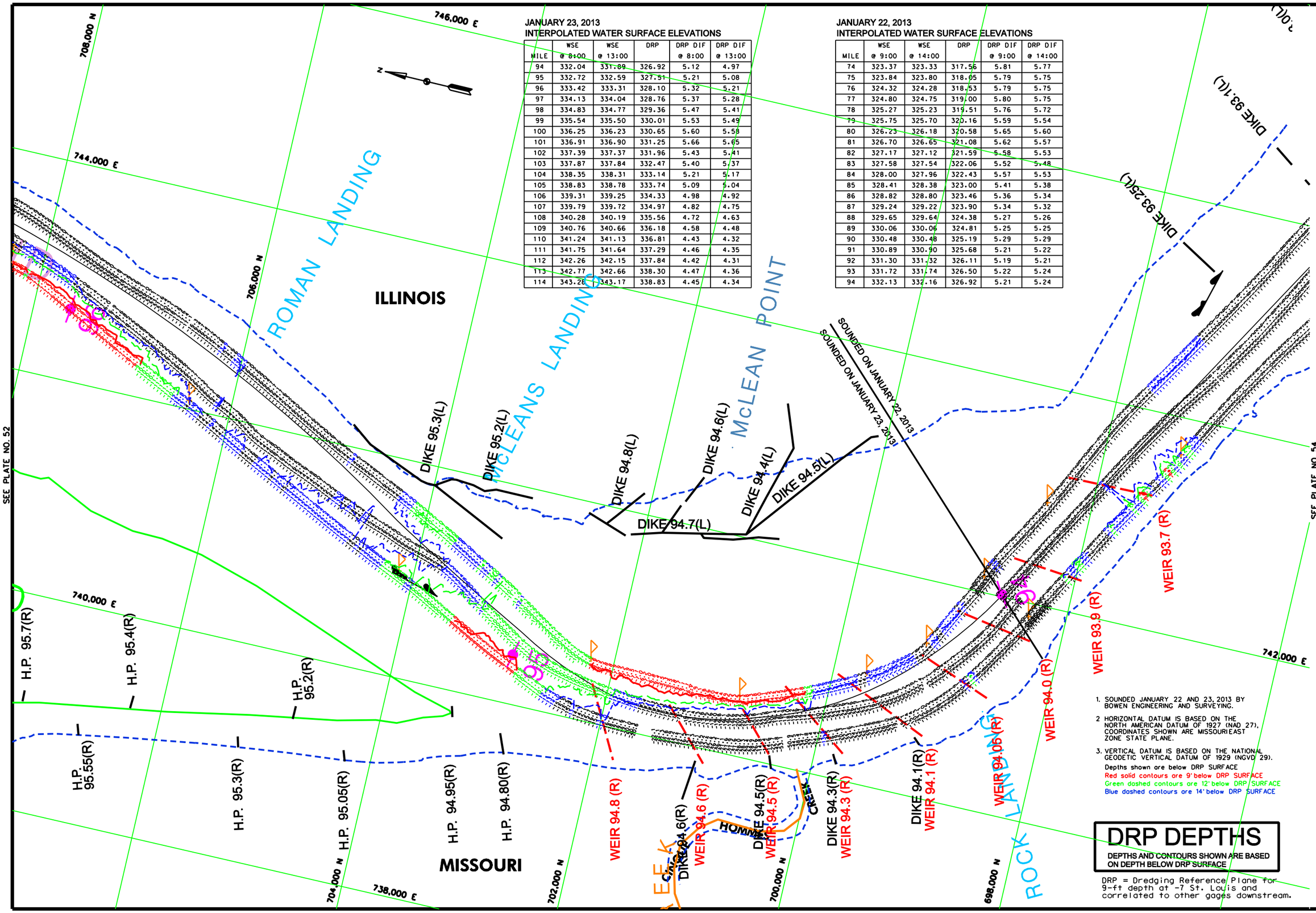
Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 23, 2013
Drawn by: x
Ckd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MMMDDYYYY@HHMM
File name: MMDDSCHNPLBMPDCATCHWBB

240 METERS 120 0 120
800 FEET 400 0 400

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE INDICATED. THE DEPTHS SHOWN ARE AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL
RIVER MILES 95.8 - 98.0

PLATE NUMBER
52



JANUARY 23, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 8:00	WSE @ 13:00	DRP	DRP DIF @ 8:00	DRP DIF @ 13:00
94	332.04	331.89	326.92	5.12	4.97
95	332.72	332.59	327.51	5.21	5.08
96	333.42	333.31	328.10	5.32	5.21
97	334.13	334.04	328.76	5.37	5.28
98	334.83	334.77	329.36	5.47	5.41
99	335.54	335.50	330.01	5.53	5.49
100	336.25	336.23	330.65	5.60	5.58
101	336.91	336.90	331.25	5.66	5.65
102	337.39	337.37	331.96	5.43	5.41
103	337.87	337.84	332.47	5.40	5.37
104	338.35	338.31	333.14	5.21	5.17
105	338.83	338.78	333.74	5.09	5.04
106	339.31	339.25	334.33	4.98	4.92
107	339.79	339.72	334.97	4.82	4.75
108	340.28	340.19	335.56	4.72	4.63
109	340.76	340.66	336.18	4.58	4.48
110	341.24	341.13	336.81	4.43	4.32
111	341.75	341.64	337.29	4.46	4.35
112	342.26	342.15	337.84	4.42	4.31
113	342.77	342.66	338.30	4.47	4.36
114	343.28	343.17	338.83	4.45	4.34

JANUARY 22, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 14:00	DRP	DRP DIF @ 9:00	DRP DIF @ 14:00
74	323.37	323.33	317.56	5.81	5.77
75	323.84	323.80	318.05	5.79	5.75
76	324.32	324.28	318.53	5.79	5.75
77	324.80	324.75	319.00	5.80	5.75
78	325.27	325.23	319.51	5.76	5.72
79	325.75	325.70	320.16	5.59	5.54
80	326.23	326.18	320.58	5.65	5.60
81	326.70	326.65	321.08	5.62	5.57
82	327.17	327.12	321.59	5.58	5.53
83	327.58	327.54	322.06	5.52	5.48
84	328.00	327.96	322.43	5.57	5.53
85	328.41	328.38	323.00	5.41	5.38
86	328.82	328.80	323.46	5.36	5.34
87	329.24	329.22	323.90	5.34	5.32
88	329.65	329.64	324.38	5.27	5.26
89	330.06	330.06	324.81	5.25	5.25
90	330.48	330.48	325.19	5.29	5.29
91	330.89	330.90	325.68	5.21	5.22
92	331.30	331.32	326.11	5.19	5.21
93	331.72	331.74	326.50	5.22	5.24
94	332.13	332.16	326.92	5.21	5.24