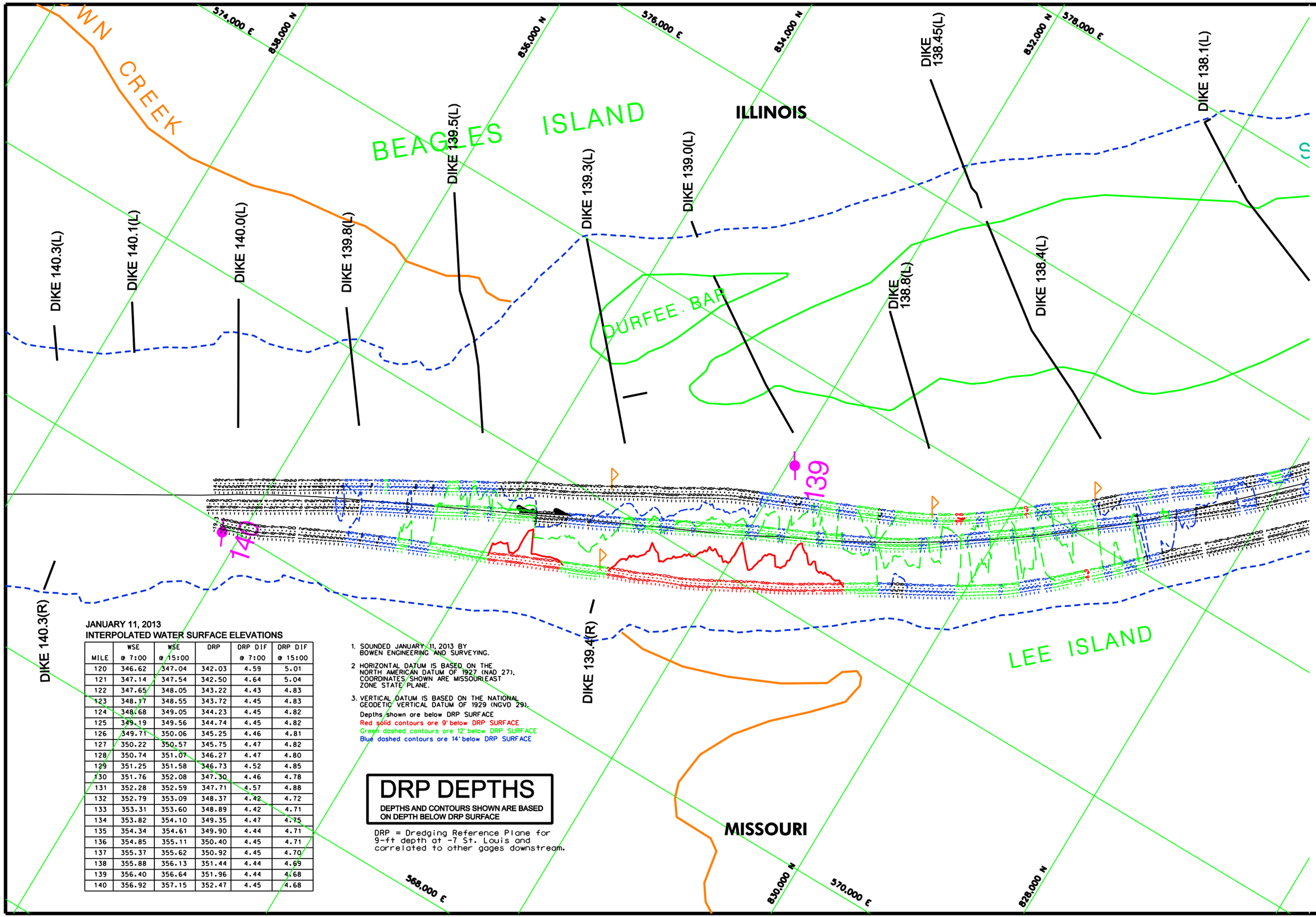


JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82
126	349.71	350.06	345.25	4.46	4.81
127	350.22	350.57	345.75	4.47	4.82
128	350.74	351.07	346.27	4.47	4.80
129	351.25	351.58	346.73	4.52	4.85
130	351.76	352.08	347.30	4.46	4.78
131	352.28	352.59	347.71	4.57	4.88
132	352.79	353.09	348.37	4.42	4.72
133	353.31	353.60	348.89	4.42	4.71
134	353.82	354.10	349.35	4.47	4.75
135	354.34	354.61	349.90	4.44	4.71
136	354.85	355.11	350.40	4.45	4.71
137	355.37	355.62	350.92	4.45	4.70
138	355.88	356.13	351.44	4.44	4.69
139	356.40	356.64	351.96	4.44	4.68
140	356.92	357.15	352.47	4.45	4.68

1. SOUNDED JANUARY 11, 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
MLE	109.9	136.0	179.6
L. W. R. P.	340.4	356.2	376.4
11 JAN 2013	0.387-7:00 0.889-15:00	-2.937-7:00 -2.671-15:00	-2.541-7:00 -2.551-15:00

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 11, 2013
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MMDDYYYY/HHMMMM
File name: MMDDSSCHNFIELDPRFICATION.MMM

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

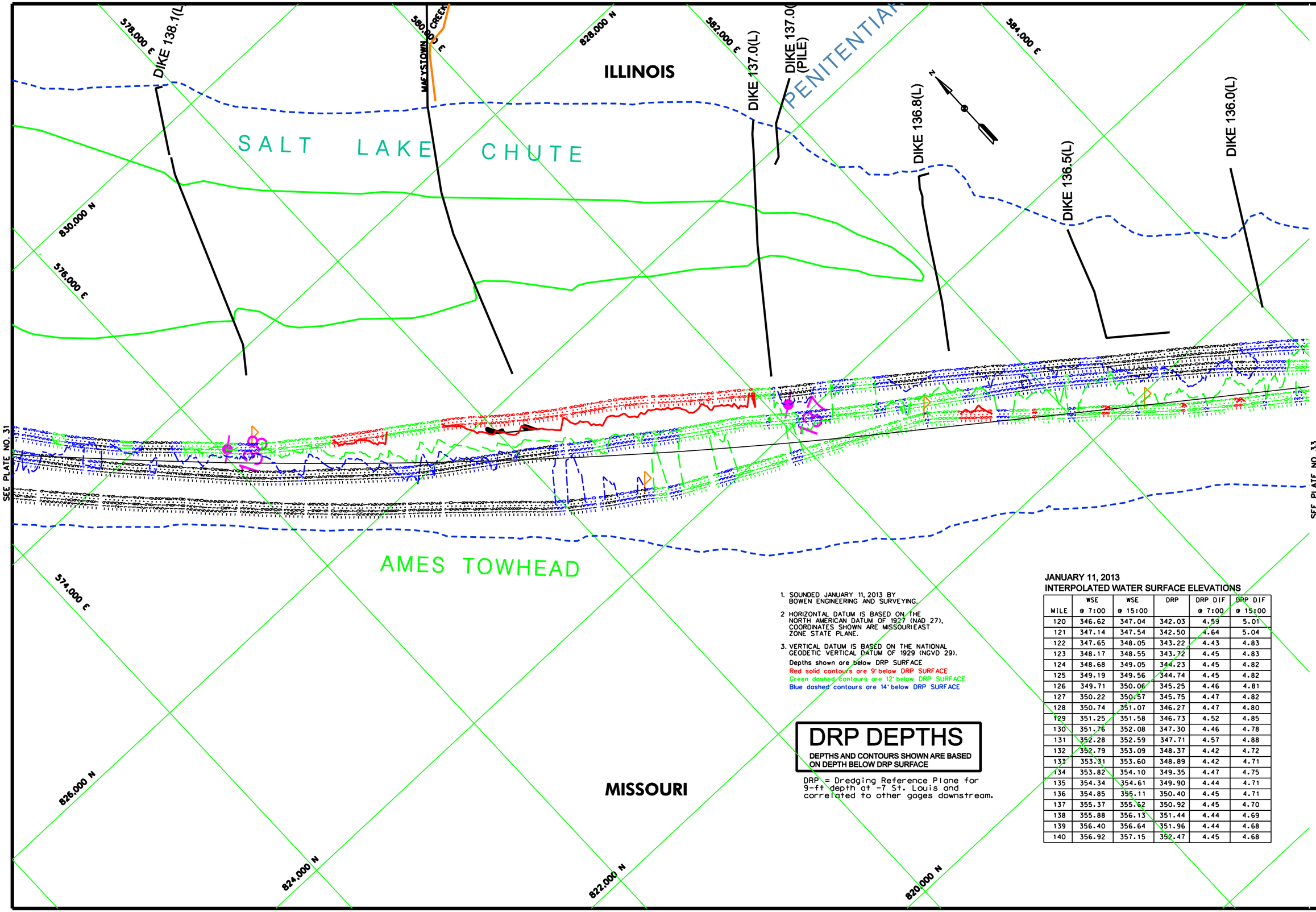
120 0 120 240 METERS
400 0 400 800 FEET

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF DATA COLLECTED ON THE DATE SHOWN. THE DATA IS PRESENTED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

CHANNEL PATROL

RIVER MILES 138.2 - 140.2

PLATE NUMBER
31



1. SOUNDED JANUARY 11, 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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82
126	349.71	350.06	345.25	4.46	4.81
127	350.22	350.57	345.75	4.47	4.82
128	350.74	351.07	346.27	4.47	4.80
129	351.25	351.58	346.73	4.52	4.85
130	351.76	352.08	347.30	4.46	4.78
131	352.28	352.59	347.71	4.57	4.88
132	352.79	353.09	348.37	4.42	4.72
133	353.31	353.60	348.89	4.42	4.71
134	353.82	354.10	349.35	4.47	4.75
135	354.34	354.61	349.90	4.44	4.71
136	354.85	355.11	350.40	4.45	4.71
137	355.37	355.62	350.92	4.45	4.70
138	355.88	356.13	351.44	4.44	4.69
139	356.40	356.64	351.96	4.44	4.68
140	356.92	357.15	352.47	4.45	4.68

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	CHESTER, IL	BROKEYS 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
11 JAN 2013	0.387:00 0.88:15:00	-2.93:7:00 -2.67:15:00	-2.54:17:00 -2.55:15:00

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1934-93 LOW WATER REFERENCE PLANE (L.W.R.P.) (34.000 C.F.S.)

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

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Ckd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MM/DD/YYYY
File name: MM/DD/YYYY/FILENAME

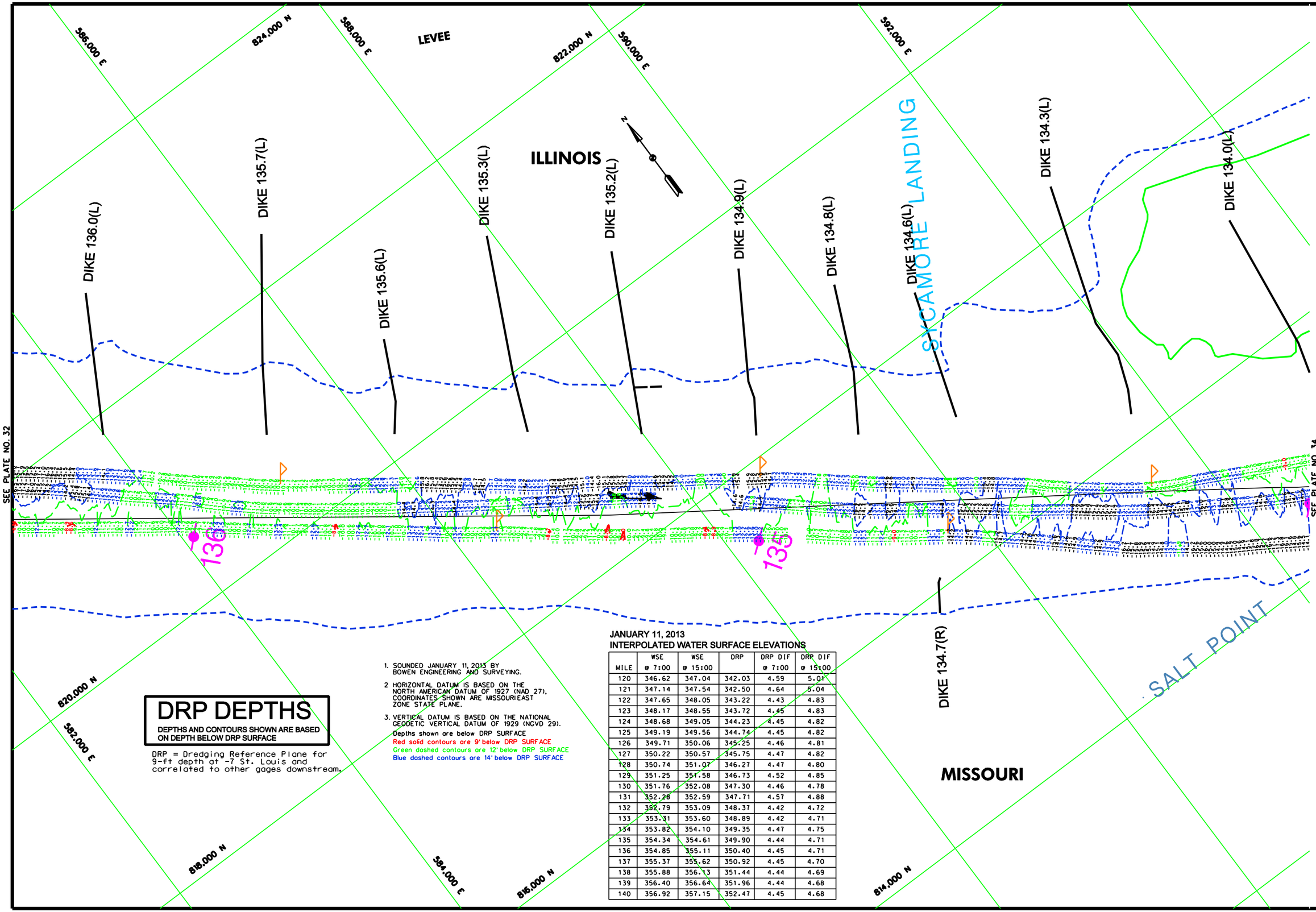
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS 120 0 120 240
800 FEET 400 0 400 800

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYING CONDUCTED ON THE DATE INDICATED AND IS INTENDED TO REPRESENT THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL
RIVER MILES 136.2 - 138.2

PLATE NUMBER
32



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 11, 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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82
126	349.71	350.06	345.25	4.46	4.81
127	350.22	350.57	345.75	4.47	4.82
128	350.74	351.07	346.27	4.47	4.80
129	351.25	351.58	346.73	4.52	4.85
130	351.76	352.08	347.30	4.46	4.78
131	352.28	352.59	347.71	4.57	4.88
132	352.79	353.09	348.37	4.42	4.72
133	353.31	353.60	348.89	4.42	4.71
134	353.82	354.10	349.35	4.47	4.75
135	354.34	354.61	349.90	4.44	4.71
136	354.85	355.11	350.40	4.45	4.71
137	355.37	355.62	350.92	4.45	4.70
138	355.88	356.13	351.44	4.44	4.69
139	356.40	356.64	351.96	4.44	4.68
140	356.92	357.15	352.47	4.45	4.68

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	CHESTER, IL	BROKEYS 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
11 JAN 2013	0.387-001 0.891-5-001	-2.937-001 -2.671-5-001	-2.541-7-001 -2.351-5-001

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. ELIMERJ-134-000 C.F.S.

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Ckd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: ##MONTH/YR##
File name: ##DESIGN/FILENAME/FORCATION##

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

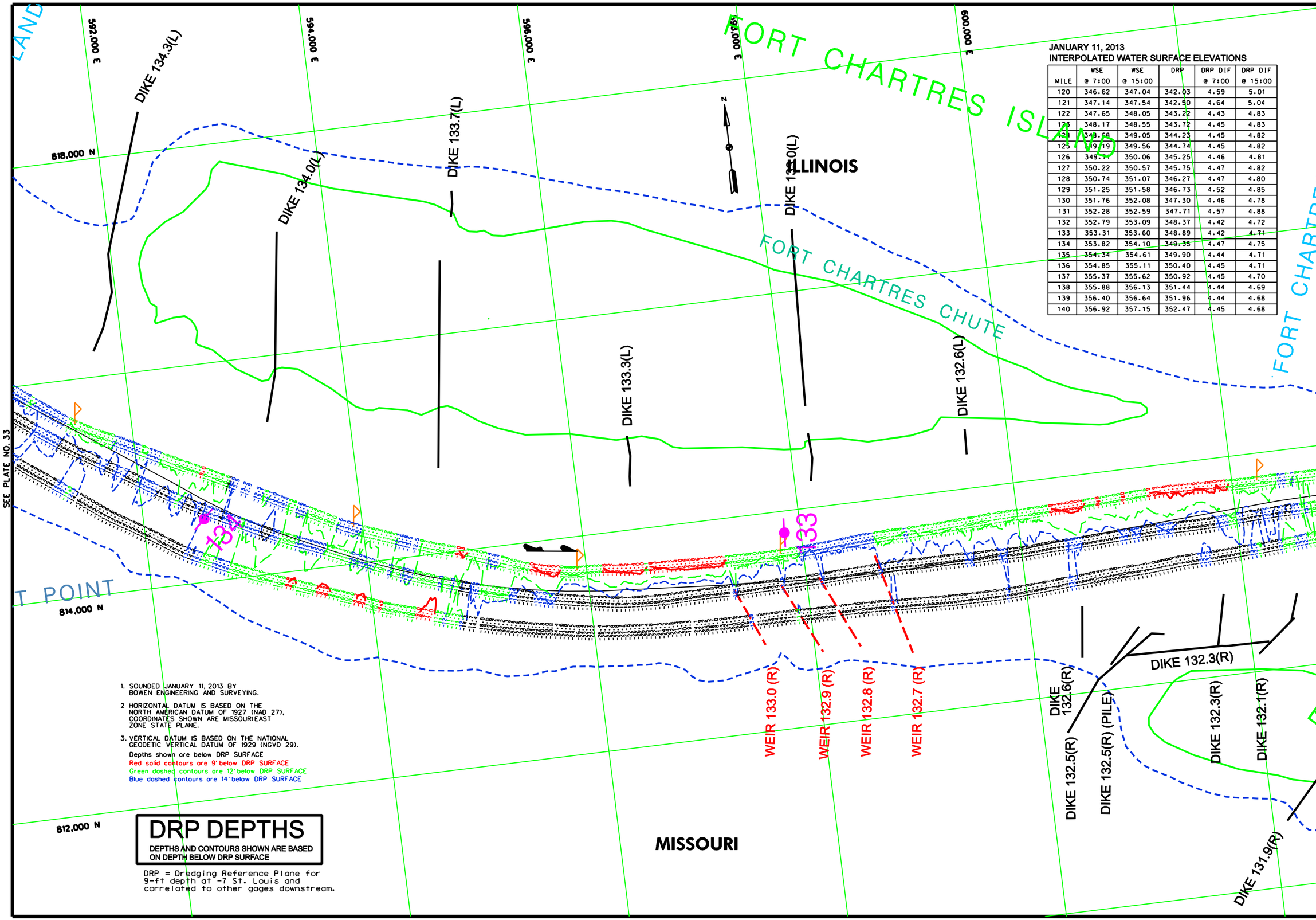
120 0 120 240 METERS
400 0 400 800 FEET

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

CHANNEL PATROL

RIVER MILES 134.2 – 136.2

PLATE NUMBER
33



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82
126	349.71	350.06	345.25	4.46	4.81
127	350.22	350.57	345.75	4.47	4.82
128	350.74	351.07	346.27	4.47	4.80
129	351.25	351.58	346.73	4.52	4.85
130	351.76	352.08	347.30	4.46	4.78
131	352.28	352.59	347.71	4.57	4.88
132	352.79	353.09	348.37	4.42	4.72
133	353.31	353.60	348.89	4.42	4.71
134	353.82	354.10	349.35	4.47	4.75
135	354.34	354.61	349.90	4.44	4.71
136	354.85	355.11	350.40	4.45	4.71
137	355.37	355.62	350.92	4.45	4.70
138	355.88	356.13	351.44	4.44	4.69
139	356.40	356.64	351.96	4.44	4.68
140	356.92	357.15	352.47	4.45	4.68

1. SOUNDED JANUARY 11, 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
11 JAN 2013	0.387:001 0.89:15:001	1:2.937:001 -2.67:15:001	1:2.541:001 -2.55:15:001

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1958-59 LOW WATER REFERENCE PLANE (L.W.R.P.) (54,000 C.F.S.)

Survey Date: JANUARY 11, 2013
Surveyed by: BOWEN ENGINEERING
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: 09/03/2013 7:45:28 AM
File name: M:\MISSISSIPPI\LEBER\FCS\FCS1\CHANNEL PATROL\FCS1 CHANNEL PATROL.DGN

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

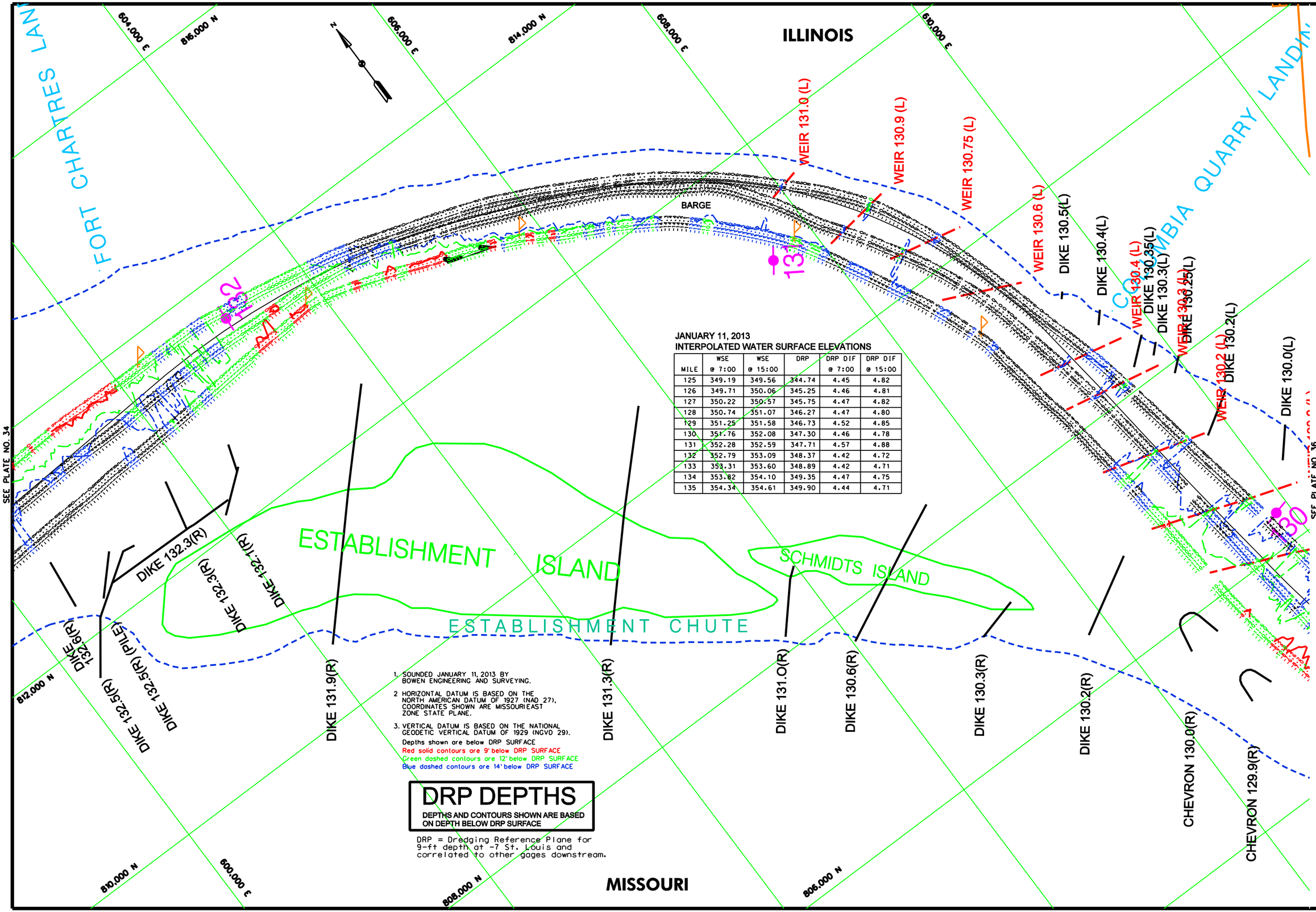
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE BY THE ST. LOUIS DISTRICT, CORPS OF ENGINEERS AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

120 400 0 0 120 240 METERS
400 800 FEET

CHANNEL PATROL
RIVER MILES 132.2 – 134.2

PLATE NUMBER
34



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
125	349.19	349.56	344.74	4.45	4.82
126	349.71	350.06	345.25	4.46	4.81
127	350.22	350.57	345.75	4.47	4.82
128	350.74	351.07	346.27	4.47	4.80
129	351.25	351.58	346.73	4.52	4.85
130	351.76	352.08	347.30	4.46	4.78
131	352.28	352.59	347.71	4.57	4.88
132	352.79	353.09	348.37	4.42	4.72
133	353.31	353.60	348.89	4.42	4.71
134	353.82	354.10	349.35	4.47	4.75
135	354.34	354.61	349.90	4.44	4.71

1. SOUNDED JANUARY 11, 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

CAGE RECORD			
	CHESTER, IL	BROKEYS 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
11 JAN 2013	0.387-001 0.891-5-001	1.933-7-001 -2.671-5-001	-2.541-7-001 -2.551-5-001

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

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Chkd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: ######
File name: ##########

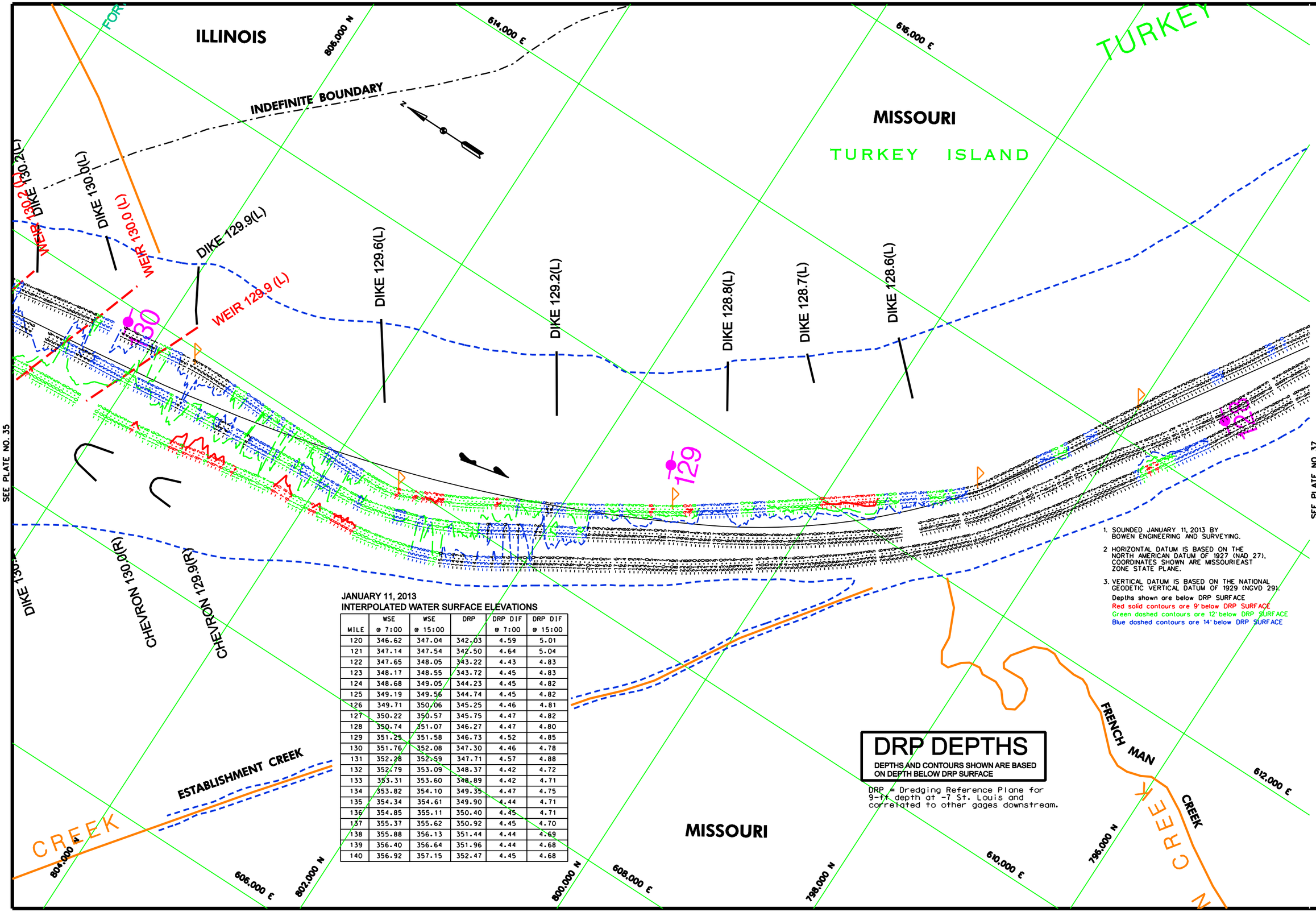
240 METERS
800 FEET

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 130.0 – 132.2

PLATE NUMBER
35



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82
126	349.71	350.06	345.25	4.46	4.81
127	350.22	350.57	345.75	4.47	4.82
128	350.74	351.07	346.27	4.47	4.80
129	351.25	351.58	346.73	4.52	4.85
130	351.76	352.08	347.30	4.46	4.78
131	352.28	352.59	347.71	4.57	4.88
132	352.79	353.09	348.37	4.42	4.72
133	353.31	353.60	348.89	4.42	4.71
134	353.82	354.10	349.35	4.47	4.75
135	354.34	354.61	349.90	4.44	4.71
136	354.85	355.11	350.40	4.45	4.71
137	355.37	355.62	350.92	4.45	4.70
138	355.88	356.13	351.44	4.44	4.69
139	356.40	356.64	351.96	4.44	4.68
140	356.92	357.15	352.47	4.45	4.68

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 11, 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 doshed contours are 12' below DRP SURFACE
Blue doshed contours are 14' below DRP SURFACE

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	CHESTER, IL	BROKEYS 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
11 JAN 2013	0.367-001 0.899-005	1.933-001 -2.671-005	2.541-001 -2.351-5-001

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

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: 08/06/2013 7:46:39AM
File name: IMPROVEMENTS/CAD/TOWER

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

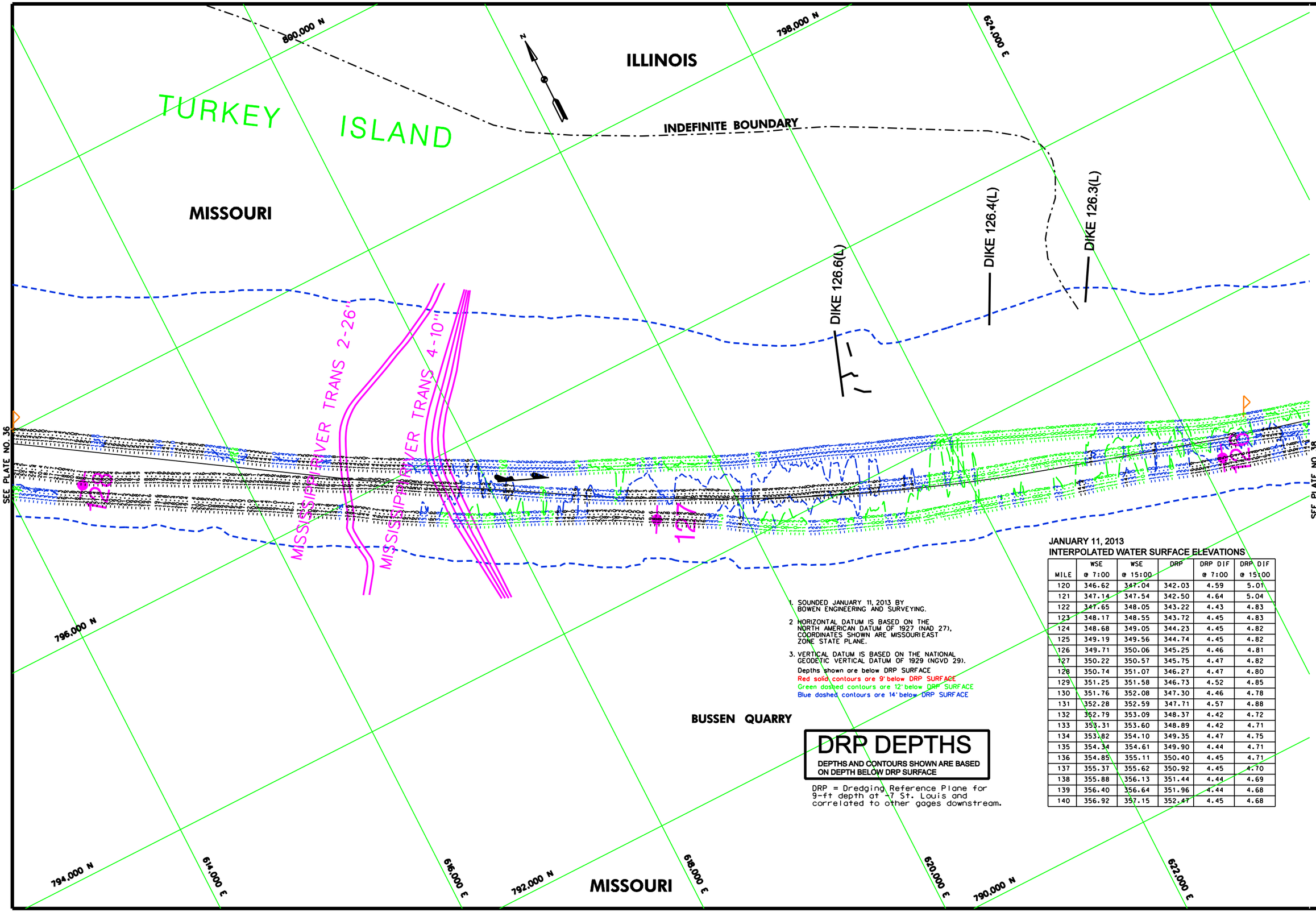
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS 120 0 120
800 FEET 400 0 400

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

CHANNEL PATROL
RIVER MILES 128.0 - 130.0

PLATE NUMBER
36



1. SOUNDED JANUARY 11, 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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82
126	349.71	350.06	345.25	4.46	4.81
127	350.22	350.57	345.75	4.47	4.82
128	350.74	351.07	346.27	4.47	4.80
129	351.25	351.58	346.73	4.52	4.85
130	351.76	352.08	347.30	4.46	4.78
131	352.28	352.59	347.71	4.57	4.88
132	352.79	353.09	348.37	4.42	4.72
133	353.31	353.60	348.89	4.42	4.71
134	353.82	354.10	349.35	4.47	4.75
135	354.34	354.61	349.90	4.44	4.71
136	354.85	355.11	350.40	4.45	4.71
137	355.37	355.62	350.92	4.45	4.70
138	355.88	356.13	351.44	4.44	4.69
139	356.40	356.64	351.96	4.44	4.68
140	356.92	357.15	352.47	4.45	4.68

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
MLE	109.9	136.0	179.6
L. W. R. P.	340.4	356.2	376.4
11 JAN 2013	0.387-7:00 0.895-15:00	-2.937-7:00 -2.671-15:00	-2.541-7:00 -2.351-15:00

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE ELWRP.(1.0-0.000 C.F.S.)

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: ##/##/YR-THU##:##
File name: ##DESIGN\FILE\SPECIFIC\TOWER

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 REPORTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE INDICATED AND IS INTENDED TO REPRESENT AS NEARLY AS POSSIBLE THE GENERAL CONDITIONS EXISTING AT THAT TIME

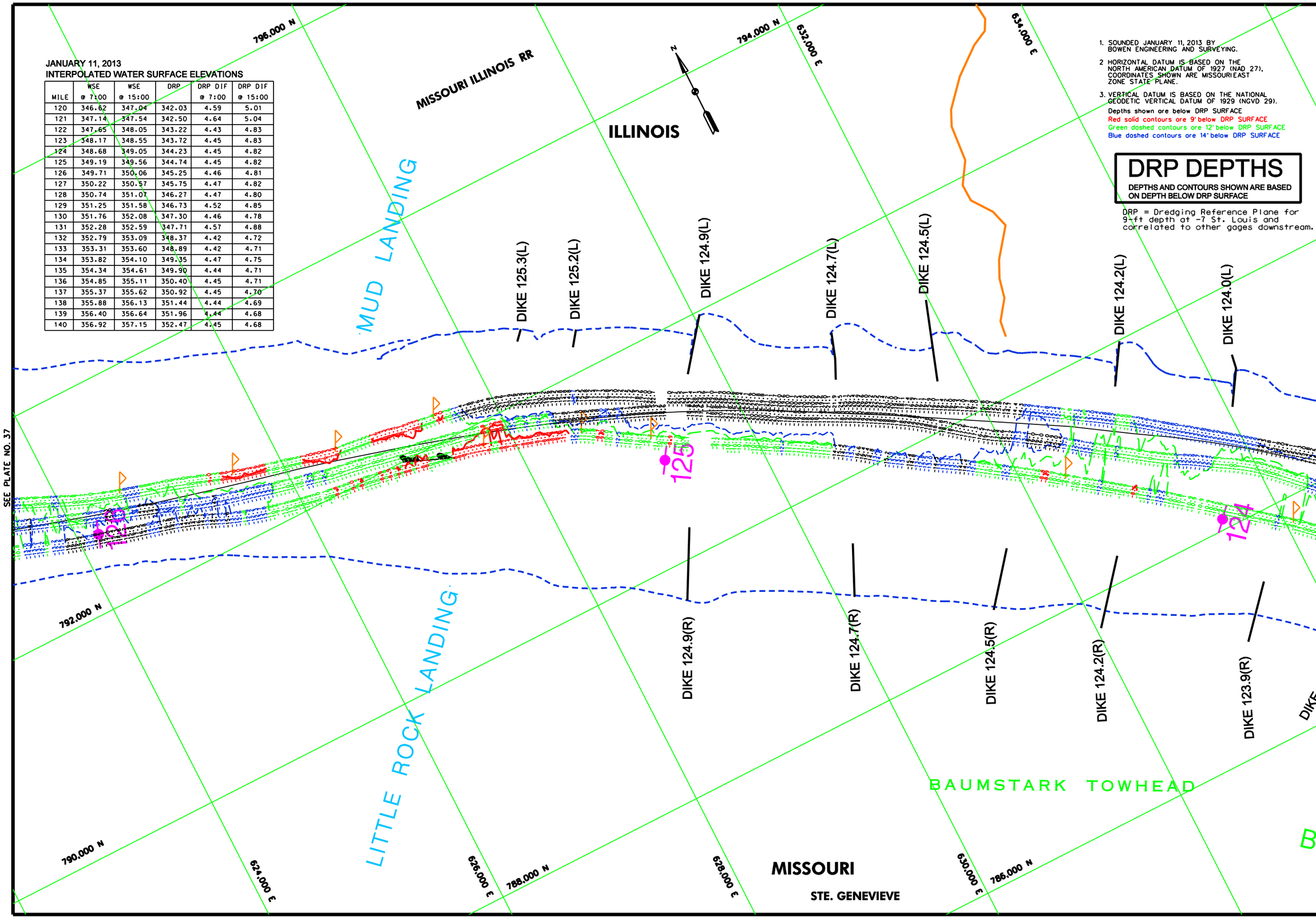
CHANNEL PATROL

RIVER MILES 128.0 – 128.0

PLATE NUMBER
37

JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82
126	349.71	350.06	345.25	4.46	4.81
127	350.22	350.57	345.75	4.47	4.82
128	350.74	351.07	346.27	4.47	4.80
129	351.25	351.58	346.73	4.52	4.85
130	351.76	352.08	347.30	4.46	4.78
131	352.28	352.59	347.71	4.57	4.88
132	352.79	353.09	348.37	4.42	4.72
133	353.31	353.60	348.89	4.42	4.71
134	353.82	354.10	349.35	4.47	4.75
135	354.34	354.61	349.90	4.44	4.71
136	354.85	355.11	350.40	4.45	4.71
137	355.37	355.62	350.92	4.45	4.70
138	355.88	356.13	351.44	4.44	4.69
139	356.40	356.64	351.96	4.44	4.68
140	356.92	357.15	352.47	4.45	4.68



1. SOUNDED JANUARY 11, 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
11 JAN 2013	0.387-7.00 0.8915-0.00	12.937-7.00 -2.6715-0.00	12.541-7.00 -2.55(15-0.00)

ELEVATIONS ARE REFERRED 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 11, 2013
Drawn by: x
Chkd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: 08/05/2013
File name: 08050300FLBRPDEPTHS

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

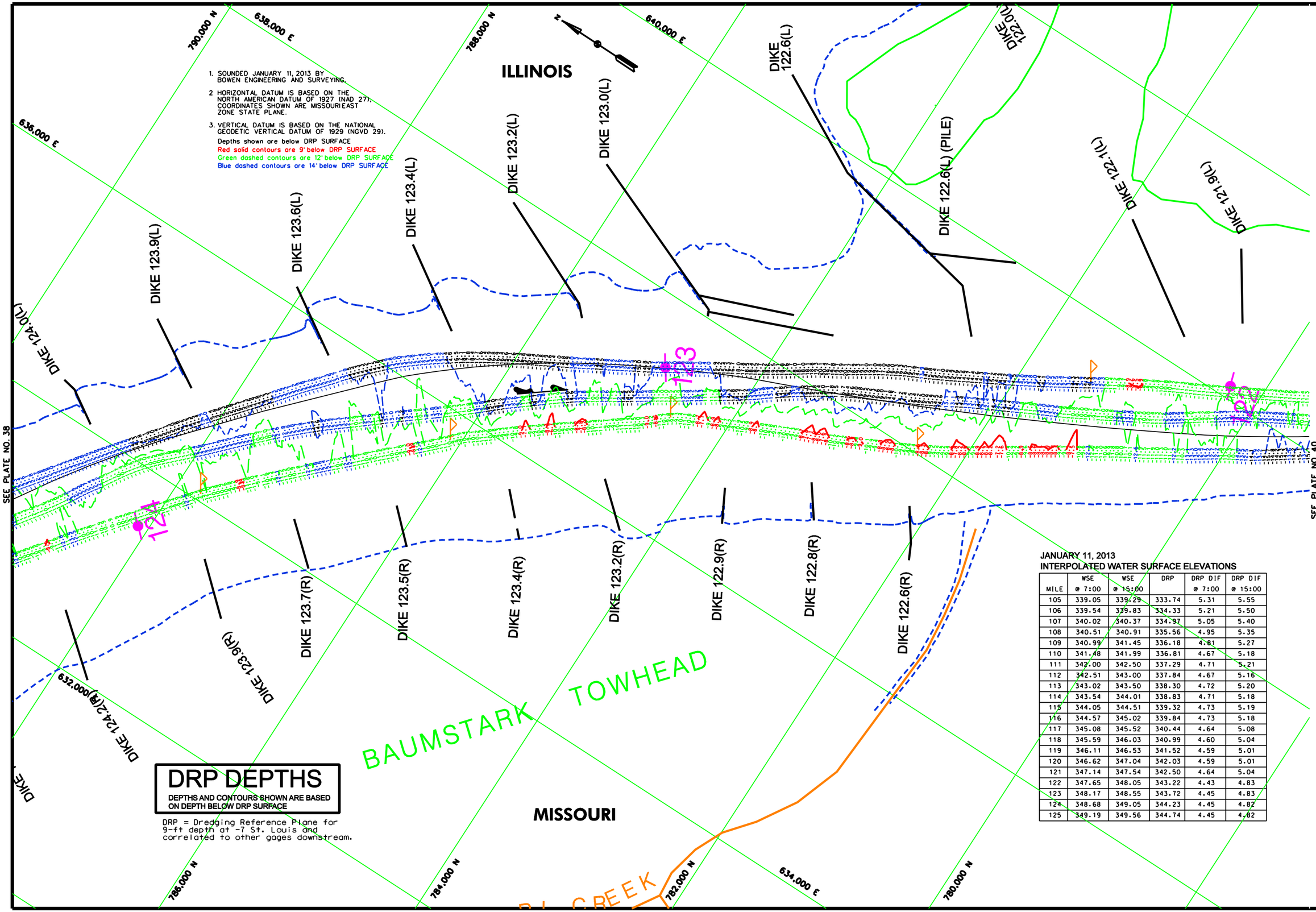
120 0 120 240 METERS
400 0 400 800 FEET

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF A SOUNDING SURVEY TAKEN ON THE DATE SHOWN AND IS INTENDED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL

RIVER MILES 124.0 – 126.0

PLATE NUMBER
38



1. SOUNDED JANUARY 11, 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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18
111	342.00	342.50	337.29	4.71	5.21
112	342.51	343.00	337.84	4.67	5.16
113	343.02	343.50	338.30	4.72	5.20
114	343.54	344.01	338.83	4.71	5.18
115	344.05	344.51	339.32	4.73	5.19
116	344.57	345.02	339.84	4.73	5.18
117	345.08	345.52	340.44	4.64	5.08
118	345.59	346.03	340.99	4.60	5.04
119	346.11	346.53	341.52	4.59	5.01
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	CHESTER, IL	BRICKEY'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
11 JAN 2013	0.38(7:00) 0.89(15:00)	-2.93(7:00) -2.67(15:00)	-2.54(7:00) -2.55(15:00)

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.)

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: X
Ckd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: 0000DATE:TIME0000
File name: 0000DESIGN\FILES\PECTICATION000

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

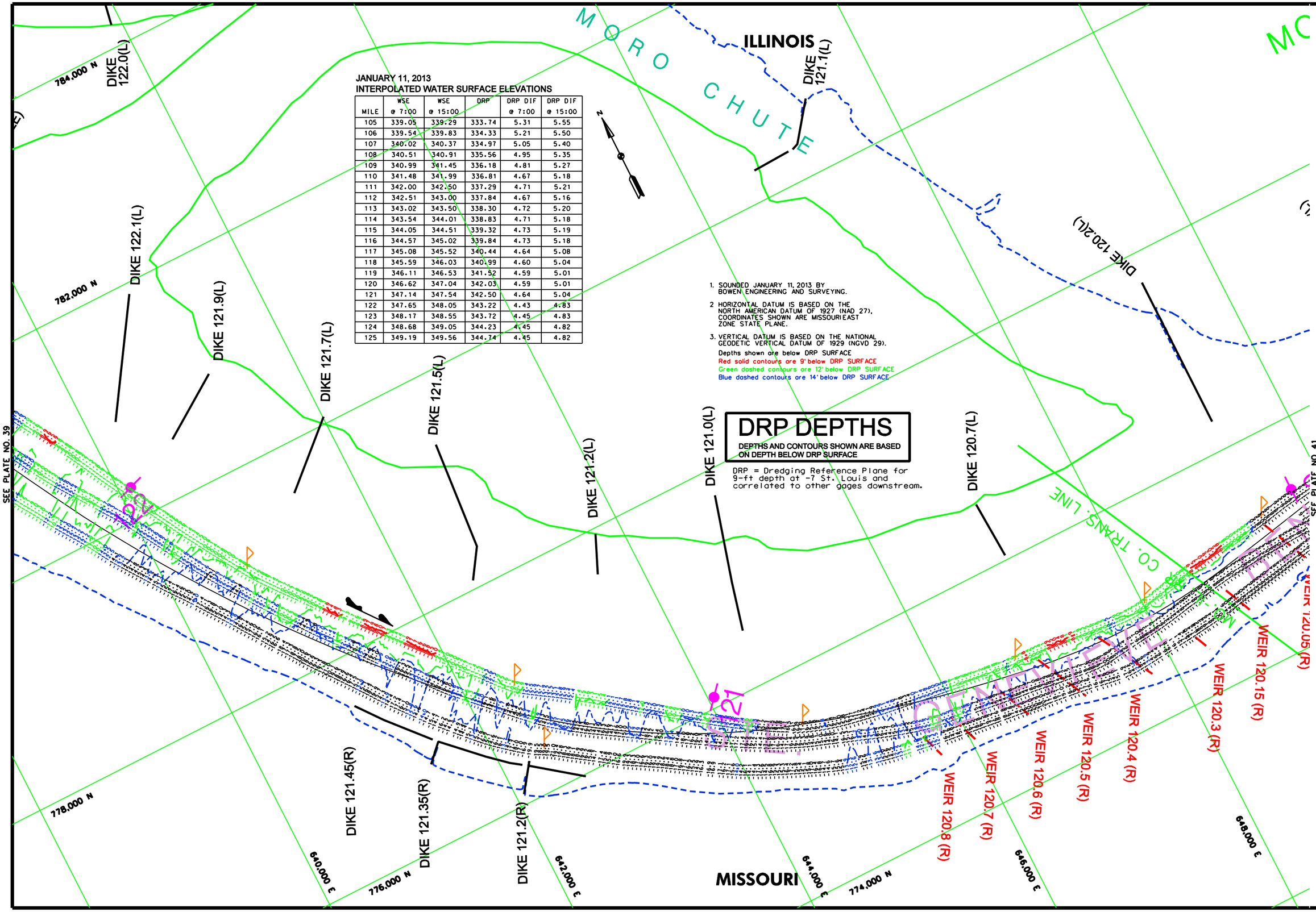
120 0 120 240 METERS
400 0 400 800 FEET

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

CHANNEL PATROL

RIVER MILES 122.0 – 124.0

PLATE NUMBER
39



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18
111	342.00	342.50	337.29	4.71	5.21
112	342.51	343.00	337.84	4.67	5.16
113	343.02	343.50	338.30	4.72	5.20
114	343.54	344.01	338.83	4.71	5.18
115	344.05	344.51	339.32	4.73	5.19
116	344.57	345.02	339.84	4.73	5.18
117	345.08	345.52	340.44	4.64	5.08
118	345.59	346.03	340.99	4.60	5.04
119	346.11	346.53	341.52	4.59	5.01
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82

1. SOUNDED JANUARY 11, 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	BROKEYS 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
11 JAN 2013	0.387-7.00 0.891-9.00	-2.937-7.00 -2.671-9.00	-2.541-7.00 -2.351-9.00

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. ILLINOIS (14.000 C.F.S.)

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Chkd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: 09/09/2013
File name: IMPROVEMENTS/CONTOUR

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

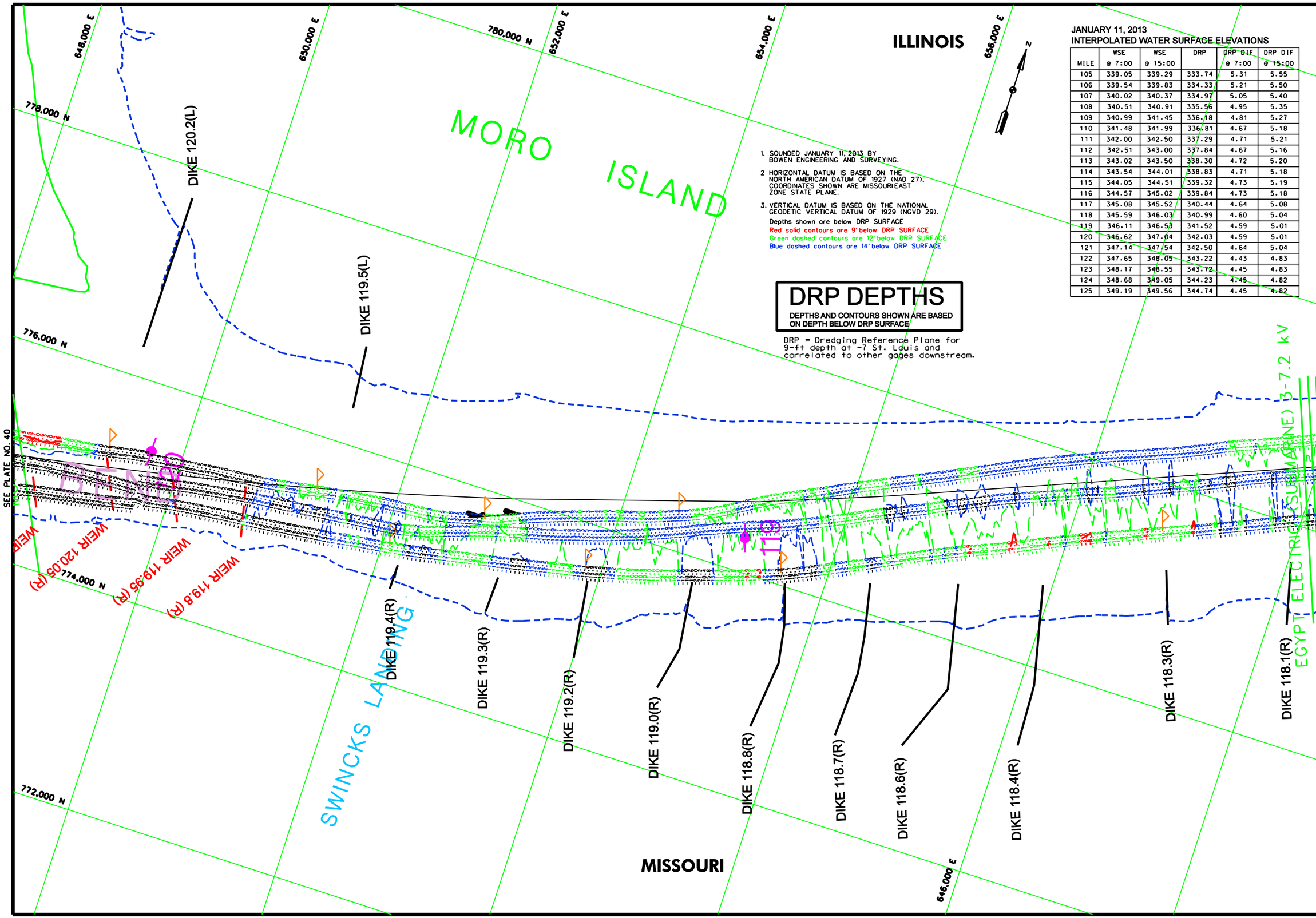
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

CHANNEL PATROL
RIVER MILES 120.1 – 122.0

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 AND DATE INDICATED AND IS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

PLATE NUMBER
40



1. SOUNDED JANUARY 11, 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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18
111	342.00	342.50	337.29	4.71	5.21
112	342.51	343.00	337.84	4.67	5.16
113	343.02	343.50	338.30	4.72	5.20
114	343.54	344.01	338.83	4.71	5.18
115	344.05	344.51	339.32	4.73	5.19
116	344.57	345.02	339.84	4.73	5.18
117	345.08	345.52	340.44	4.64	5.08
118	345.59	346.03	340.99	4.60	5.04
119	346.11	346.53	341.52	4.59	5.01
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82

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
11 JAN 2013	0.387:001 0.895:001	-2.337:001 -2.671:001	-2.541:001 -2.351:001

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

Survey Date: JANUARY 11, 2013
Surveyed by: BOWEN ENGINEERING
Drawn by: x
Chkd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MMMDDYR:TIME###
File name: MISSISSIPPIRIVERSPECIFICATIONS###

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

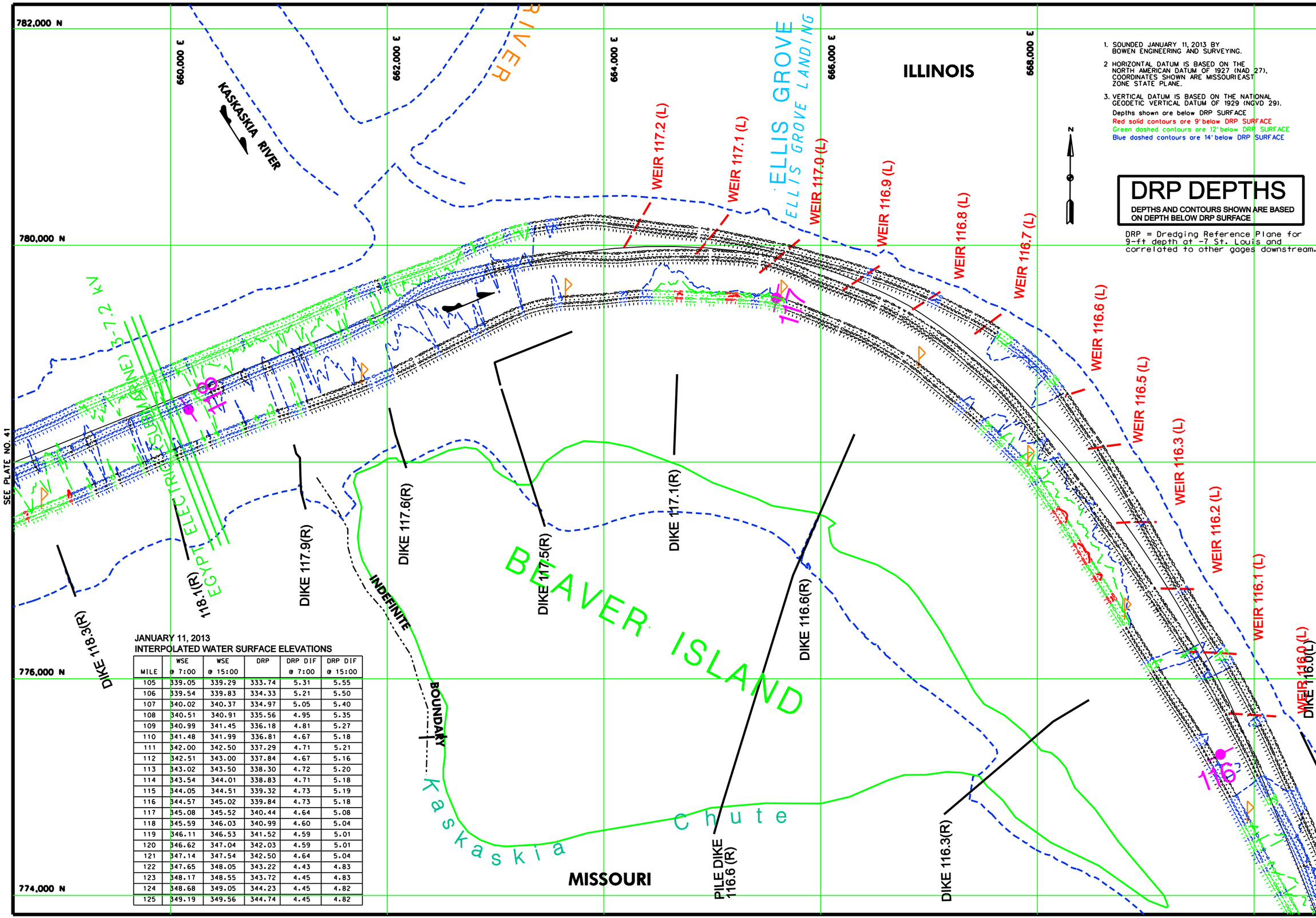
120 0 120 240 METERS
400 0 400 800 FEET

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

CHANNEL PATROL

RIVER MILES 118.3 – 120.1

PLATE NUMBER
41



1. SOUNDED JANUARY 11, 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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18
111	342.00	342.50	337.29	4.71	5.21
112	342.51	343.00	337.84	4.67	5.16
113	343.02	343.50	338.30	4.72	5.20
114	343.54	344.01	338.83	4.71	5.18
115	344.05	344.51	339.32	4.73	5.19
116	344.57	345.02	339.84	4.73	5.18
117	345.08	345.52	340.44	4.64	5.08
118	345.59	346.03	340.99	4.60	5.04
119	346.11	346.53	341.52	4.59	5.01
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82

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
11 JAN 2013	0.387-001 0.89E15-001	1.2.937-001 -2.87E15-001	1.2.5417-001 -2.55E15-001

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

PLATE NO. 43

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Chkd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: ########
File name: ########

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

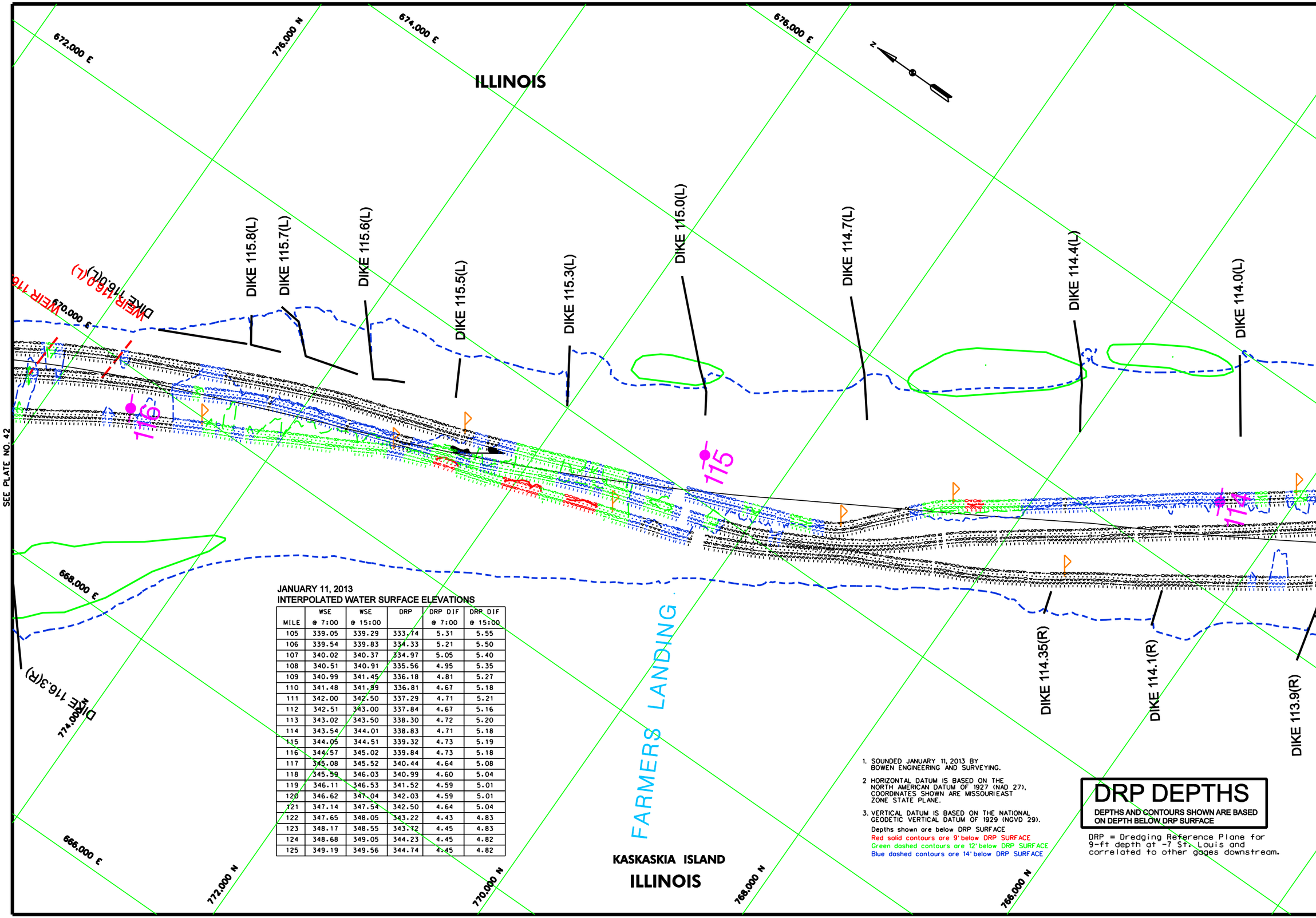
120 0 120 240 METERS
400 0 400 800 FEET

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

CHANNEL PATROL

RIVER MILES 116.0 – 118.2

PLATE NUMBER
42



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18
111	342.00	342.50	337.29	4.71	5.21
112	342.51	343.00	337.84	4.67	5.16
113	343.02	343.50	338.30	4.72	5.20
114	343.54	344.01	338.83	4.71	5.18
115	344.05	344.51	339.32	4.73	5.19
116	344.57	345.02	339.84	4.73	5.18
117	345.08	345.52	340.44	4.64	5.08
118	345.59	346.03	340.99	4.60	5.04
119	346.11	346.53	341.52	4.59	5.01
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82

1. SOUNDED JANUARY 11, 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	BROKEYS 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
11 JAN 2013	0.387-001 0.889-005	-2.937-001 -2.671-005	-2.541-001 -2.551-5-001

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. ELIMINATION 0.000 C.F.S.

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

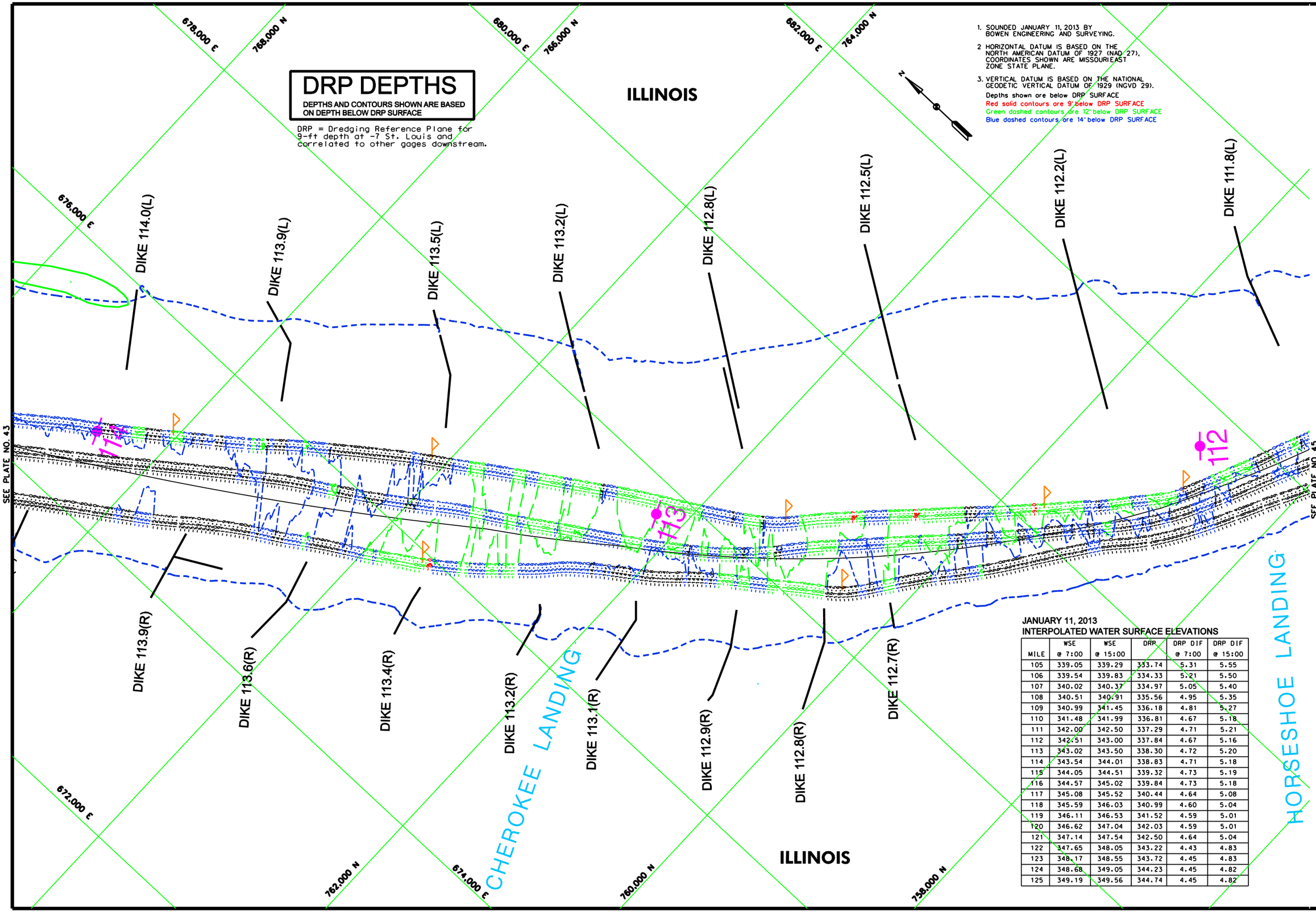
Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Chkd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: ####DATE:/%d%M%Y
File name: ##DESIGN\PLEBPT\CH\CATCH####

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

240 METERS 120 0 120
800 FEET 400 0 400

CHANNEL PATROL
RIVER MILES 114.0 – 116.0

PLATE NUMBER
43



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18
111	342.00	342.50	337.29	4.71	5.21
112	342.51	343.00	337.84	4.67	5.16
113	343.02	343.50	338.30	4.72	5.20
114	343.54	344.01	338.83	4.71	5.18
115	344.05	344.51	339.32	4.73	5.19
116	344.57	345.02	339.84	4.73	5.18
117	345.08	345.52	340.44	4.64	5.08
118	345.59	346.03	340.99	4.60	5.04
119	346.11	346.53	341.52	4.59	5.01
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82

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
11 JAN 2013	0.387-001 0.895-001	-2.937-001 -2.671-001	-2.541-001 -2.351-001

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. ILLINOIS (14-000 C.F.S.)

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Ckd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: ##MONTH-THUSSSS
File name: ##DESIGNFILEDEPTHCONTOURS

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 REPORTED ON THIS MAP REPRESENTS THE ICE-FREE CHANNEL AS OBSERVED BY THE ST. LOUIS DISTRICT PERSONNEL AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL

RIVER MILES 112.0 – 114.0

PLATE NUMBER
44

1. SOUNDED JANUARY 11, 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

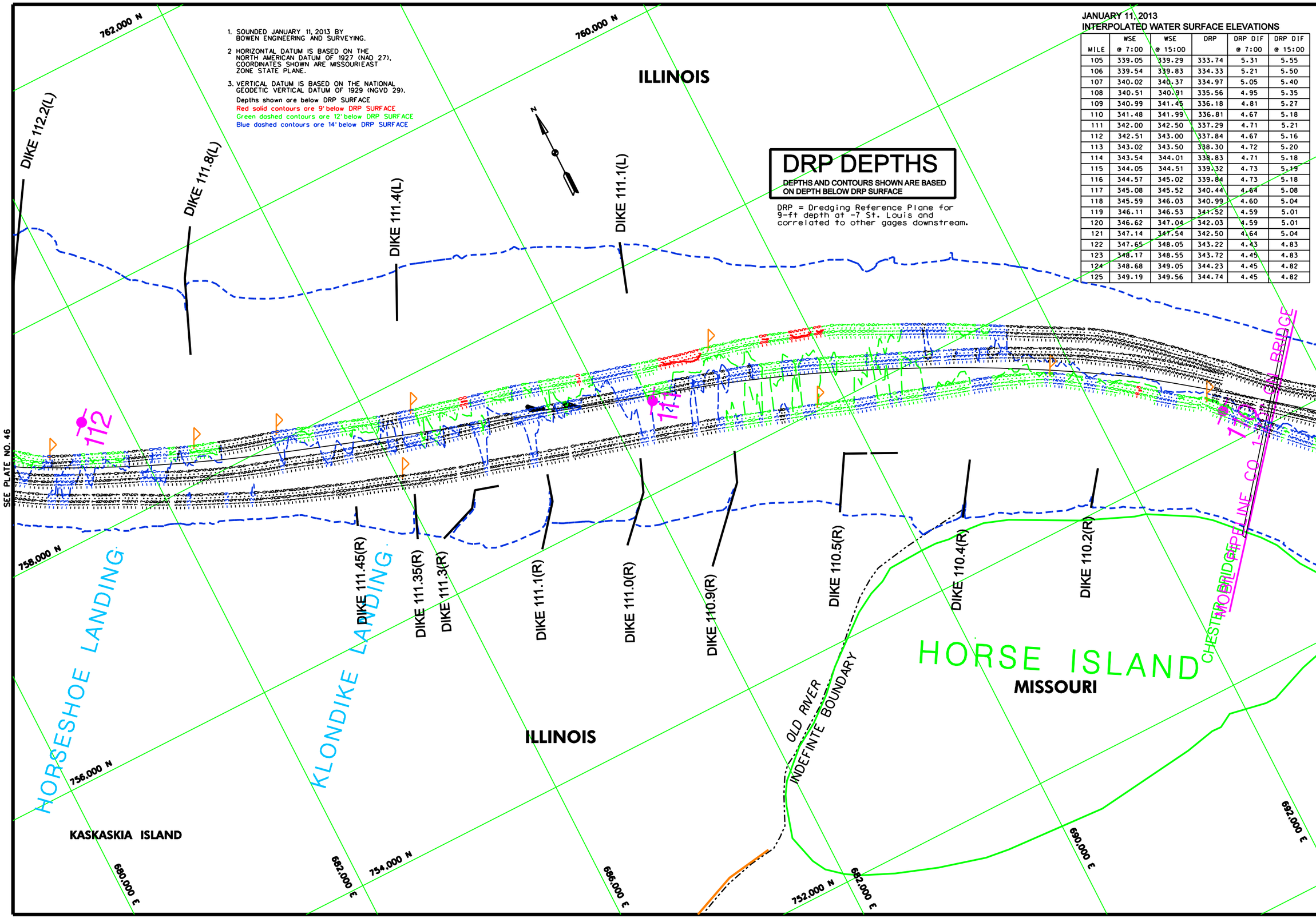
DRP DEPTHS

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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18
111	342.00	342.50	337.29	4.71	5.21
112	342.51	343.00	337.84	4.67	5.16
113	343.02	343.50	338.30	4.72	5.20
114	343.54	344.01	338.83	4.71	5.18
115	344.05	344.51	339.32	4.73	5.19
116	344.57	345.02	339.84	4.73	5.18
117	345.08	345.52	340.44	4.64	5.08
118	345.59	346.03	340.99	4.60	5.04
119	346.11	346.53	341.52	4.59	5.01
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82



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
11 JAN 2013	0.387:001 0.889:5-001	-2.937:001 -2.876:5-001	-2.541:001 -2.551:5-001

ELEVATIONS ARE REFERRED 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 11, 2013
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MMMDDYYYY:HHMMSS
File name: MMMDDYYYYHHMMSSREPORTSCATCHMMM

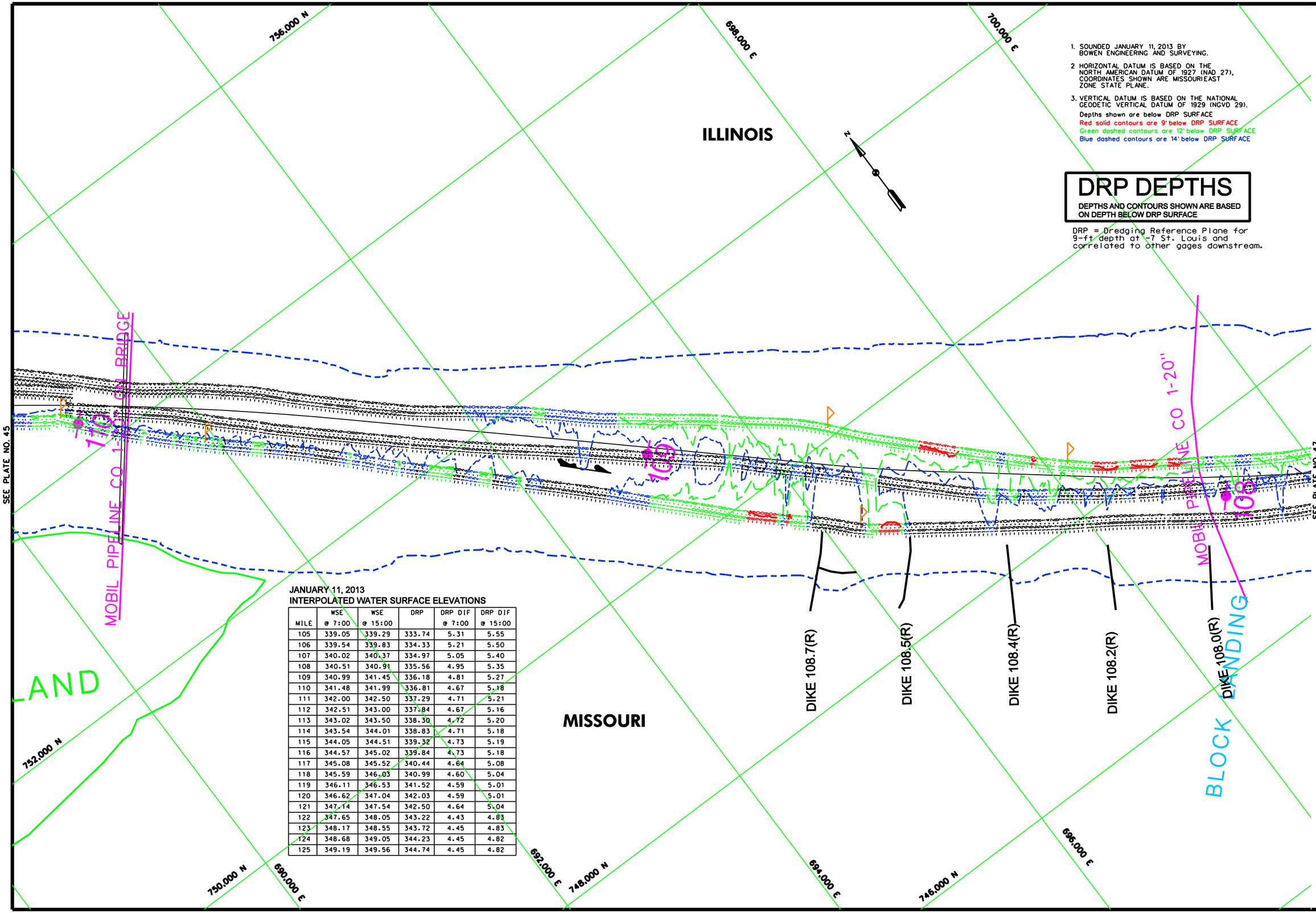
120 0 120 240 METERS
400 0 400 800 FEET

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

CHANNEL PATROL

RIVER MILES 110.0 - 112.0

PLATE NUMBER
45



1. SOUNDED JANUARY 11, 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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18
111	342.00	342.50	337.29	4.71	5.21
112	342.51	343.00	337.84	4.67	5.16
113	343.02	343.50	338.30	4.72	5.20
114	343.54	344.01	338.83	4.71	5.18
115	344.05	344.51	339.32	4.73	5.19
116	344.57	345.02	339.84	4.73	5.18
117	345.08	345.52	340.44	4.64	5.08
118	345.59	346.03	340.99	4.60	5.04
119	346.11	346.53	341.52	4.59	5.01
120	346.62	347.04	342.03	4.59	5.01
121	347.14	347.54	342.50	4.64	5.04
122	347.65	348.05	343.22	4.43	4.83
123	348.17	348.55	343.72	4.45	4.83
124	348.68	349.05	344.23	4.45	4.82
125	349.19	349.56	344.74	4.45	4.82

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
11 JAN 2013	2.861'-0.00 3.371'-15:00	2.91'-0.00	0.38'-7:00 0.89'-15:00	-2.93'-7:00 -2.67'-15:00

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

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: 09/09/2013 - 7:46:28AM
File name: MISSISSIPPI_RIVER\PLATE\PLATE-46.DGN

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

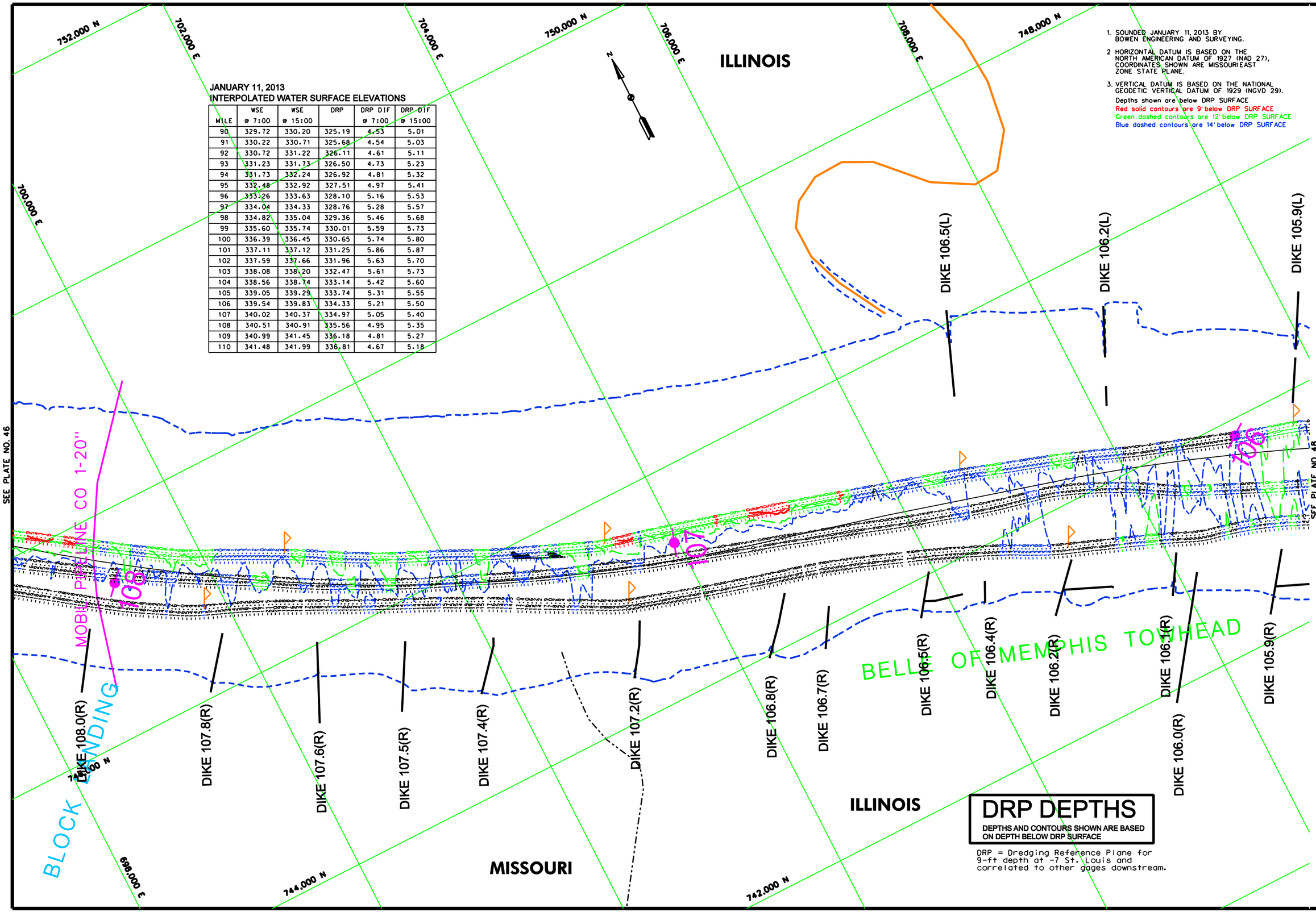
120 0 120 240 METERS
400 0 400 800 FEET

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

CHANNEL PATROL

RIVER MILES 108.0 – 110.0

PLATE NUMBER
46



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
90	329.72	330.20	325.19	4.53	5.01
91	330.22	330.71	325.68	4.54	5.03
92	330.72	331.22	326.11	4.61	5.11
93	331.23	331.73	326.50	4.73	5.23
94	331.73	332.24	326.92	4.81	5.32
95	332.48	332.92	327.51	4.97	5.41
96	333.26	333.63	328.10	5.16	5.53
97	334.04	334.33	328.76	5.28	5.57
98	334.82	335.04	329.36	5.46	5.68
99	335.60	335.74	330.01	5.59	5.73
100	336.39	336.45	330.65	5.74	5.80
101	337.11	337.12	331.25	5.86	5.87
102	337.59	337.66	331.96	5.63	5.70
103	338.08	338.20	332.47	5.61	5.73
104	338.56	338.74	333.14	5.42	5.60
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18

1. SOUNDED JANUARY 11, 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
11 JAN 2013	2.86'/7:00 3.37/15:00	2.91'/7:00	0.38'/7:00 0.89'/15:00	-2.93'/7:00 -2.67'/15:00

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.)

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Chkd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MMMDDYYYHHMMMM
File name: MISSISSIPPIEBRPCFCATCHMMM

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 0 120 400 240 METERS 800 FEET

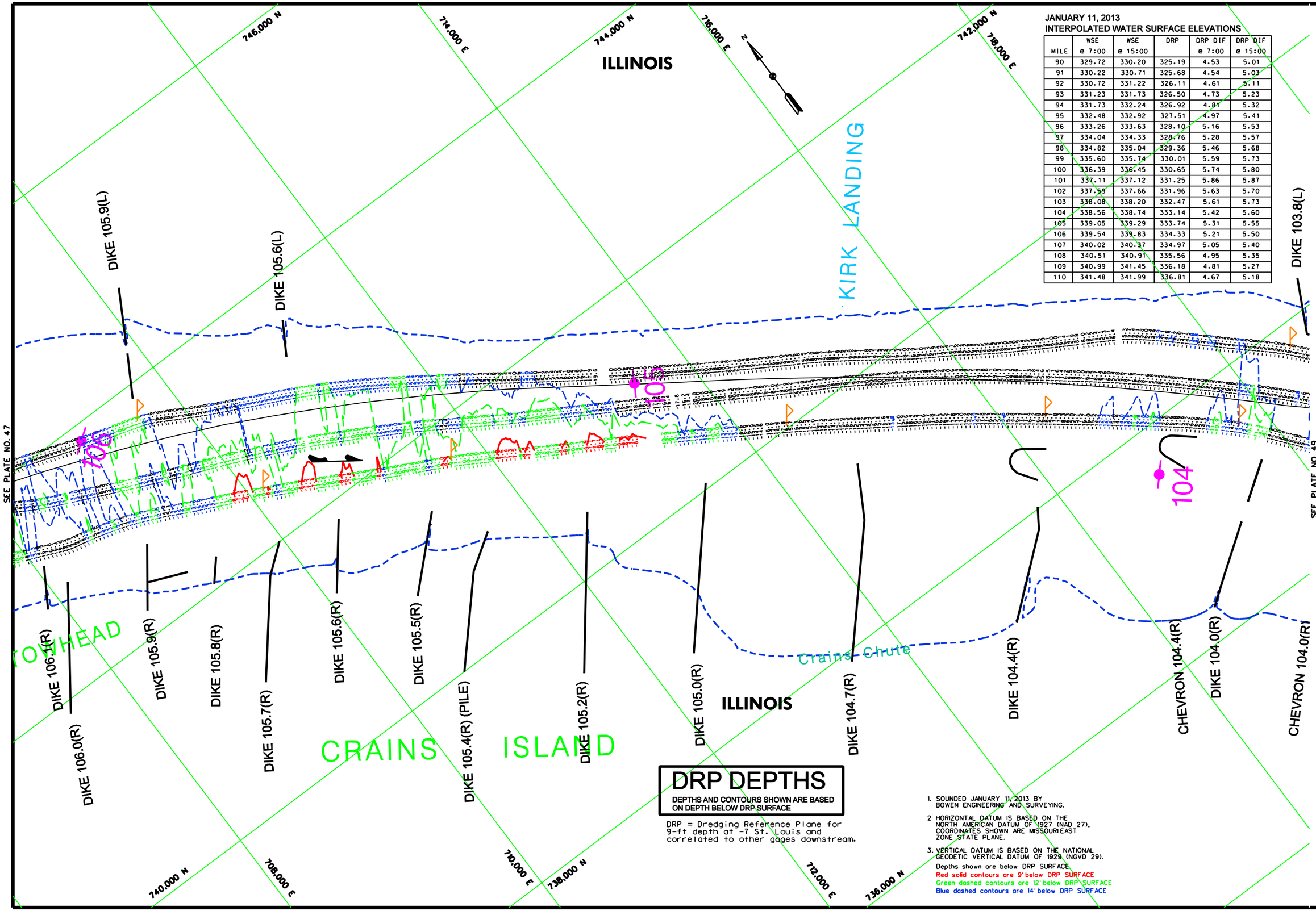
THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE BY THE ST. LOUIS DISTRICT, CORPS OF ENGINEERS AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
90	329.72	330.20	325.19	4.53	5.01
91	330.22	330.71	325.68	4.54	5.03
92	330.72	331.22	326.11	4.61	5.11
93	331.23	331.73	326.50	4.73	5.23
94	331.73	332.24	326.92	4.81	5.32
95	332.48	332.92	327.51	4.97	5.41
96	333.26	333.63	328.10	5.16	5.53
97	334.04	334.33	328.76	5.28	5.57
98	334.82	335.04	329.36	5.46	5.68
99	335.60	335.74	330.01	5.59	5.73
100	336.39	336.45	330.65	5.74	5.80
101	337.11	337.12	331.25	5.86	5.87
102	337.59	337.66	331.96	5.63	5.70
103	338.08	338.20	332.47	5.61	5.73
104	338.56	338.74	333.14	5.42	5.60
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18

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
11 JAN 2013	2.861'/00 3.371'/100'	2.91'/00'	0.38'/100 0.89'/100'	2.93'/100' - 2.67'/100'

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (+4.00 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 11, 2013
Drawn by: x
Chd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MM/DD/YYYY/HH:MM
File name: MMDDSSCHNFLBWPCFSCATCHWW

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

CHANNEL PATROL

RIVER MILES 103.9 – 106.0

PLATE NUMBER
48

DRP DEPTHS

DEPTHS AND CONTOURS SHOWN ARE BASED ON DEPTH BELOW DRP SURFACE

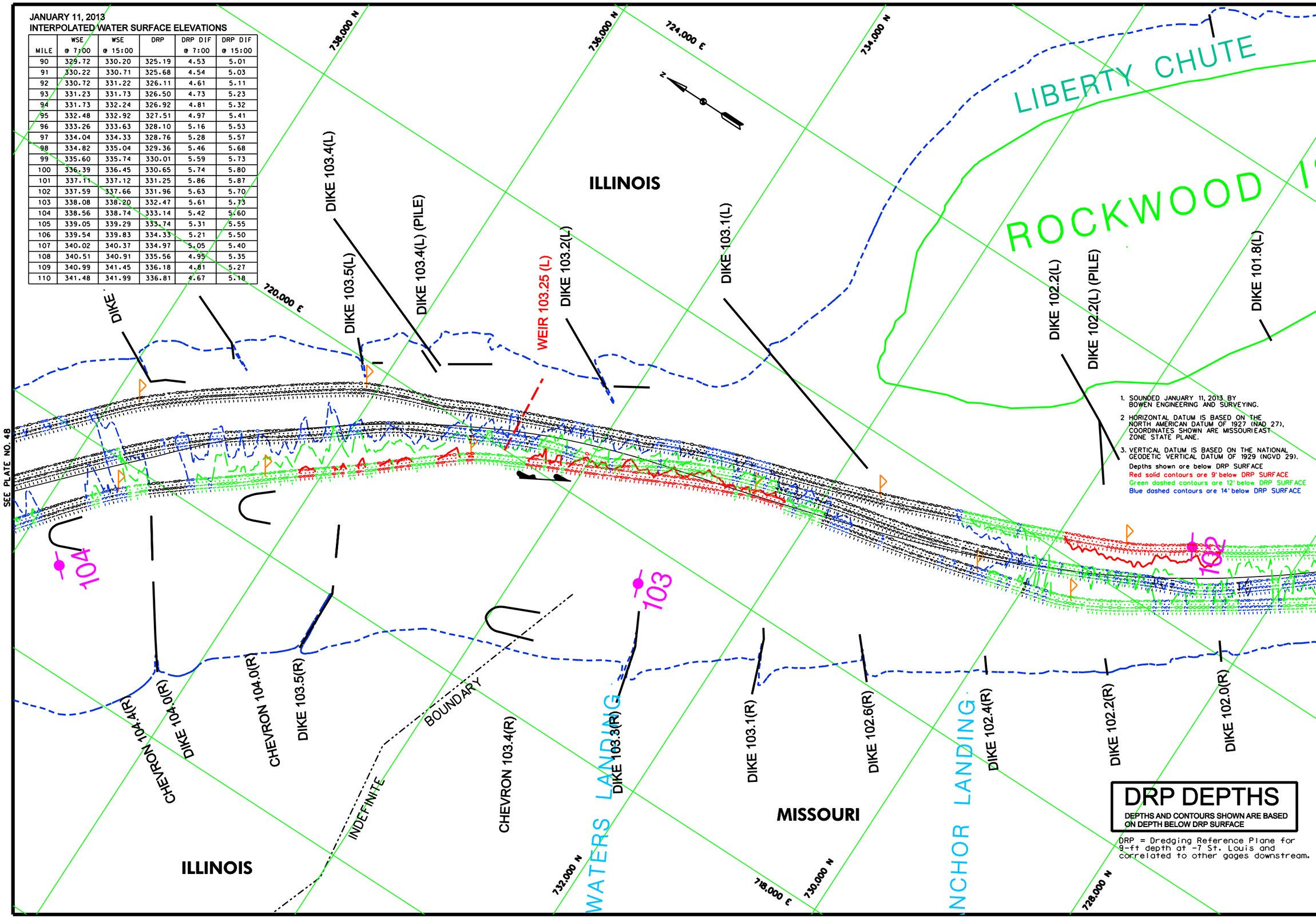
DRP = Dredging Reference Plane for 9-ft depth at -7 St. Louis and correlated to other gages downstream.

1. SOUNDED JANUARY 11, 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

JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
90	329.72	330.20	325.19	4.53	5.01
91	330.22	330.71	325.68	4.54	5.03
92	330.72	331.22	326.11	4.61	5.11
93	331.23	331.73	326.50	4.73	5.23
94	331.73	332.24	326.92	4.81	5.32
95	332.48	332.92	327.51	4.97	5.41
96	333.26	333.63	328.10	5.16	5.53
97	334.04	334.33	328.76	5.28	5.57
98	334.82	335.04	329.36	5.46	5.68
99	335.60	335.74	330.01	5.59	5.73
100	336.39	336.45	330.65	5.74	5.80
101	337.11	337.12	331.25	5.86	5.87
102	337.59	337.66	331.96	5.63	5.70
103	338.08	338.20	332.47	5.61	5.73
104	338.56	338.74	333.14	5.42	5.60
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18



1. SOUNDED JANUARY 11, 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
11 JAN 2013	2.86?:00 3.37?:00	2.97?:00	0.38?:00 0.89?:00	-2.93?:00 -2.67?:00

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 11, 2013
Drawn by: x
Ckd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: MMMDDYYYY/HH:MMAM
File name: MMDDSSCHNPLBRPFIGATIONMM

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

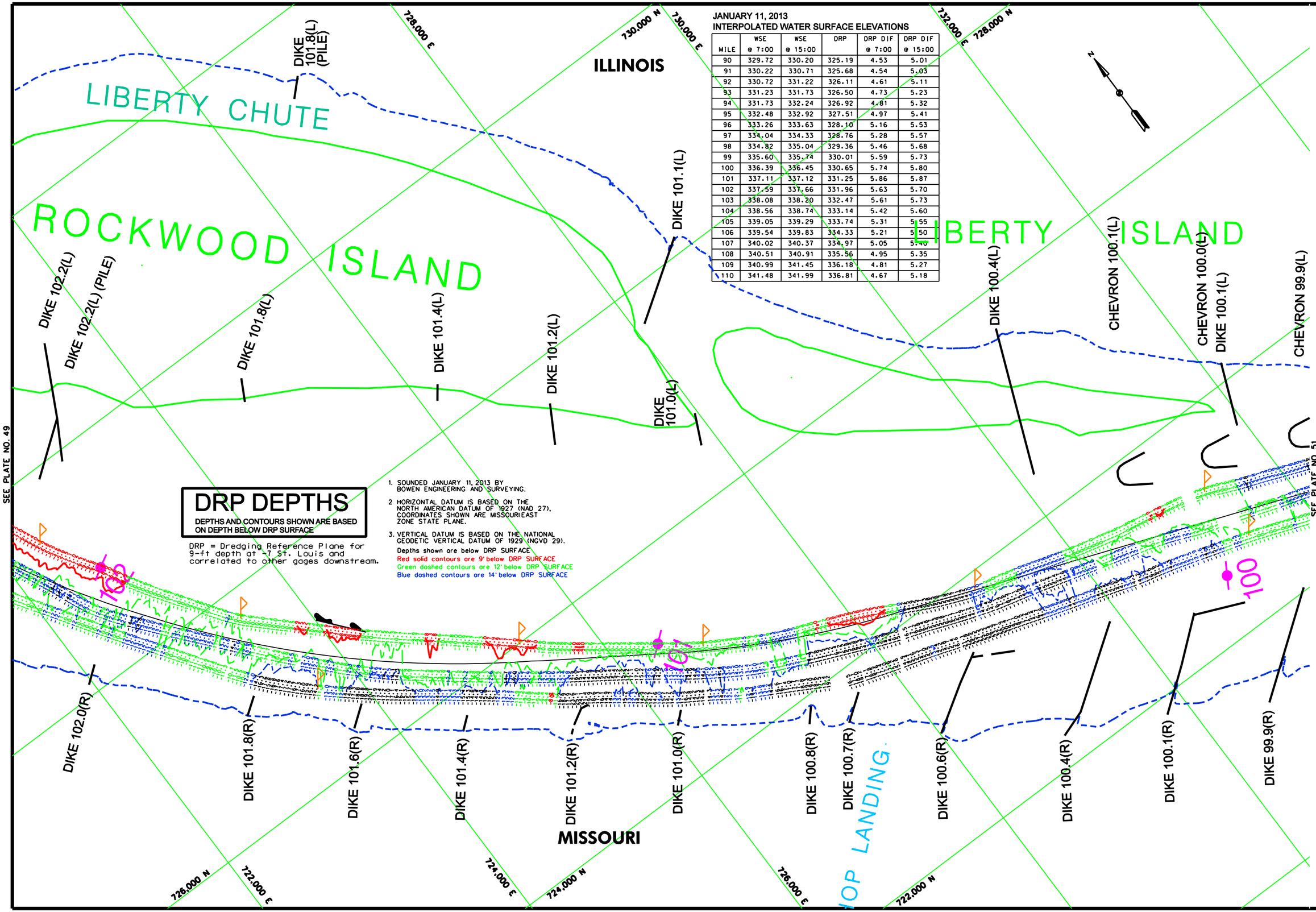
240 METERS 0 120
800 FEET 0 400

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE BY THE ST. LOUIS DISTRICT, CORPS OF ENGINEERS AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL

RIVER MILES 102.0 – 103.9

PLATE NUMBER
49

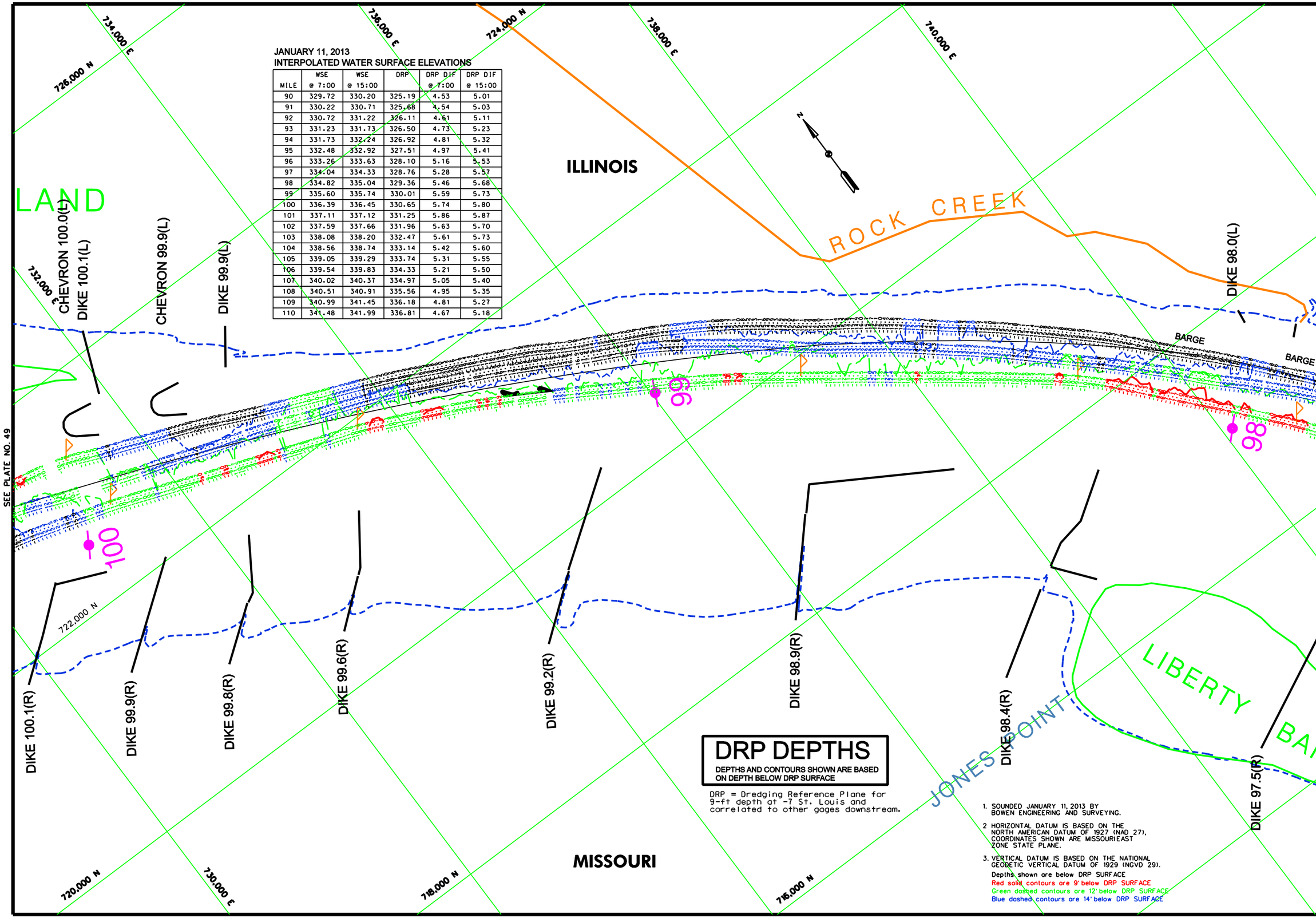


JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
90	329.72	330.20	325.19	4.53	5.01
91	330.22	330.71	325.68	4.54	5.03
92	330.72	331.22	326.11	4.61	5.11
93	331.23	331.73	326.50	4.73	5.23
94	331.73	332.24	326.92	4.81	5.32
95	332.48	332.92	327.51	4.97	5.41
96	333.26	333.63	328.10	5.16	5.53
97	334.04	334.33	328.76	5.28	5.57
98	334.82	335.04	329.36	5.46	5.68
99	335.60	335.74	330.01	5.59	5.73
100	336.39	336.45	330.65	5.74	5.80
101	337.11	337.12	331.25	5.86	5.87
102	337.59	337.66	331.96	5.63	5.70
103	338.08	338.20	332.47	5.61	5.73
104	338.56	338.74	333.14	5.42	5.60
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18

JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
90	329.72	330.20	325.19	4.53	5.01
91	330.22	330.71	325.68	4.54	5.03
92	330.72	331.22	326.11	4.61	5.11
93	331.23	331.73	326.50	4.73	5.23
94	331.73	332.24	326.92	4.81	5.32
95	332.48	332.92	327.51	4.97	5.41
96	333.26	333.63	328.10	5.16	5.53
97	334.04	334.33	328.76	5.28	5.57
98	334.82	335.04	329.36	5.46	5.68
99	335.60	335.74	330.01	5.59	5.73
100	336.39	336.45	330.65	5.74	5.80
101	337.11	337.12	331.25	5.86	5.87
102	337.59	337.66	331.96	5.63	5.70
103	338.08	338.20	332.47	5.61	5.73
104	338.56	338.74	333.14	5.42	5.60
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18



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 11, 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
11 JAN 2013	2.86'-7:00 3.71'15:00'	2.97'-7:00	0.38'-7:00 0.89'15:00'	2.93'-7:00 - 2.61'15:00'

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.)

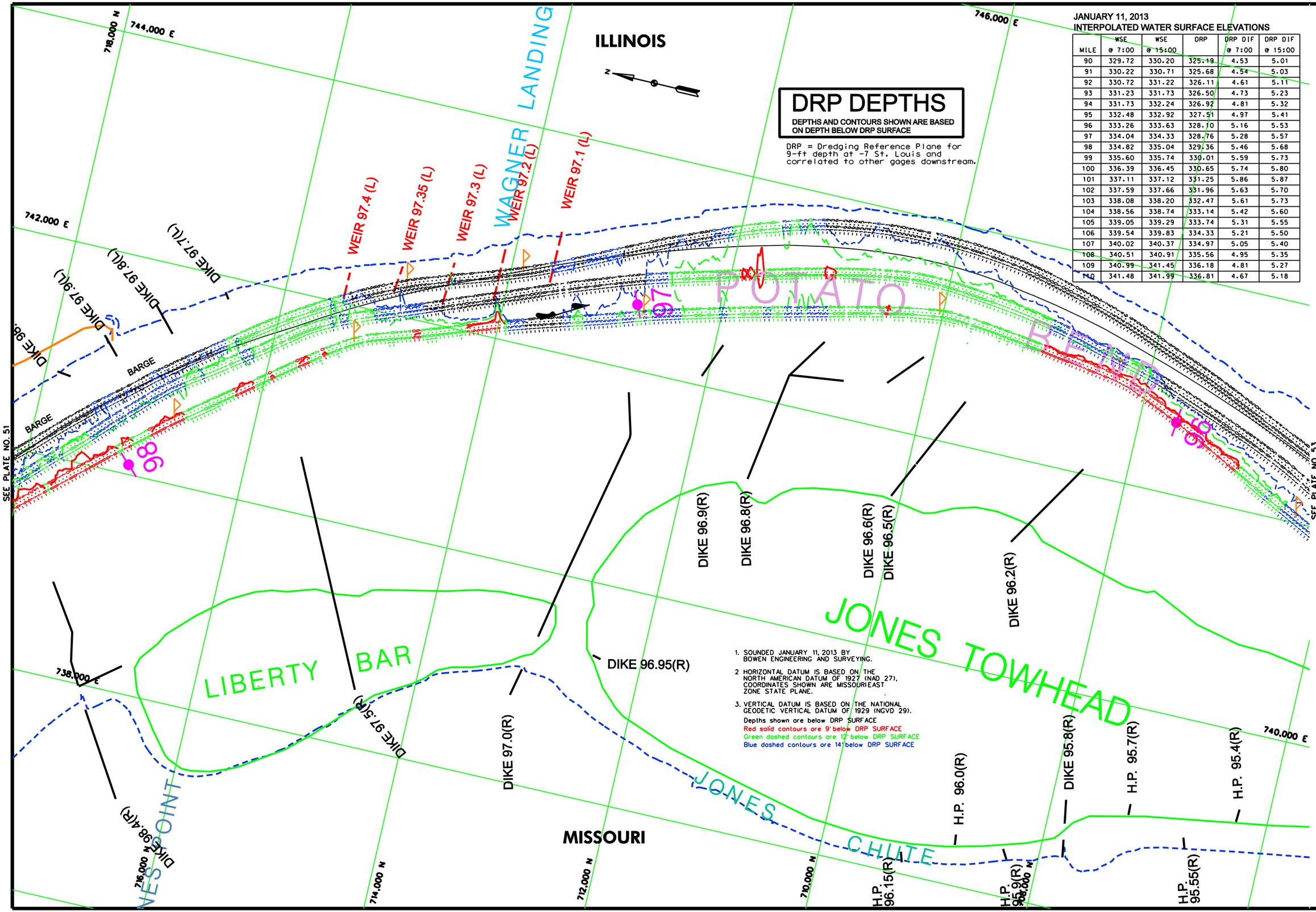
U.S. ARMY ENGINEER DIVISION CORPS OF ENGINEERS ST. LOUIS, MISSOURI	Surveyed by: BOWEN ENGINEERING Survey Date: JANUARY 11, 2013 Drawn by: x Chd by: x Reviewed by: x SUBMITTED: x APPROVED: x Plot date: 00000DATE/TIME00000 File name: 00FIDSIGNFILE00FIDCATCH00
UPPER MISSISSIPPI RIVER BASIN MISSISSIPPI RIVER RIVER MILES 98.0 – 100.0	

240 METERS 0 120 — 800 FEET 0 400

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

CHANNEL PATROL
RIVER MILES 98.0 – 100.0

PLATE NUMBER
51



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
90	329.72	330.20	325.19	4.53	5.01
91	330.22	330.71	325.68	4.54	5.03
92	330.72	331.22	326.11	4.61	5.11
93	331.23	331.73	326.50	4.73	5.23
94	331.73	332.24	326.92	4.81	5.32
95	332.48	332.92	327.51	4.97	5.41
96	333.26	333.63	328.10	5.16	5.53
97	334.04	334.33	328.76	5.28	5.57
98	334.82	335.04	329.36	5.46	5.68
99	335.60	335.74	330.01	5.59	5.73
100	336.39	336.45	330.65	5.74	5.80
101	337.11	337.12	331.25	5.86	5.87
102	337.59	337.66	331.96	5.63	5.70
103	338.08	338.20	332.47	5.61	5.73
104	338.56	338.74	333.14	5.42	5.60
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18

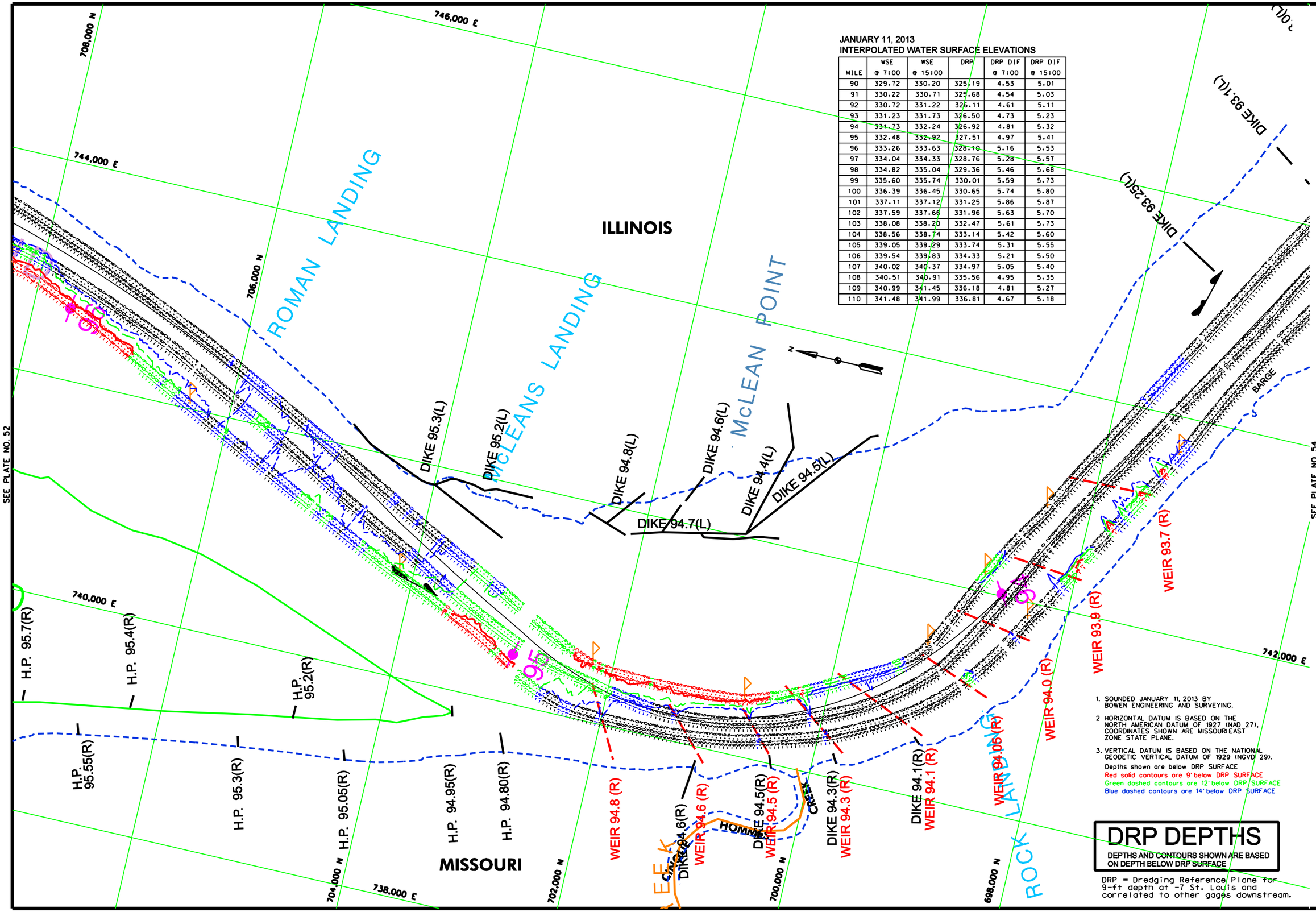
GAGE RECORD

	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
11 JAN 2013	2.86'/-7.00	3.71'/5.00'	2.97/-7.00	0.38'/-7.00 0.89'/5.00' 2.93'/-7.00 -2.67'/15.00'

ELEVATIONS ARE REFERED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE, ELAREA 154,000 C.F.S.

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: X
Chkd by: X
Reviewed by: X
SUBMITTED: X
APPROVED: X
Plot date: 00000TE/TM/00000
File name: 00000SONAR\LEBRTCCATCH\000

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



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
90	329.72	330.20	325.19	4.53	5.01
91	330.22	330.71	325.68	4.54	5.03
92	330.72	331.22	326.11	4.61	5.11
93	331.23	331.73	326.50	4.73	5.23
94	331.73	332.24	326.92	4.81	5.32
95	332.48	332.92	327.51	4.97	5.41
96	333.26	333.63	328.10	5.16	5.53
97	334.04	334.33	328.76	5.28	5.57
98	334.82	335.04	329.36	5.46	5.68
99	335.60	335.74	330.01	5.59	5.73
100	336.39	336.45	330.65	5.74	5.80
101	337.11	337.12	331.25	5.86	5.87
102	337.59	337.66	331.96	5.63	5.70
103	338.08	338.20	332.47	5.61	5.73
104	338.56	338.74	333.14	5.42	5.60
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18

1. SOUNDED JANUARY 11, 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	MOCCASIN SPRINGS, MO	GRAND TOWER, IL	RED ROCK LANDING, MO	BISHOPS LANDING, MO
ZERO N.G.V.D.	313.89	321.93	328.92	334.11
MILE	66.3	81.9	94.1	100.8
L. W. R. P.	317.8	325.3	330.7	335.4
11 JAN 2013	3.90'7:00 4.22'15:00	NOT WORKING	2.88'7:00 3.37'15:00	2.97'7:00

ELEVATIONS ARE REFERRED 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 11, 2013
Drawn by: x
Ckd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: ######/#/#####
File name: ##########\##########\##########

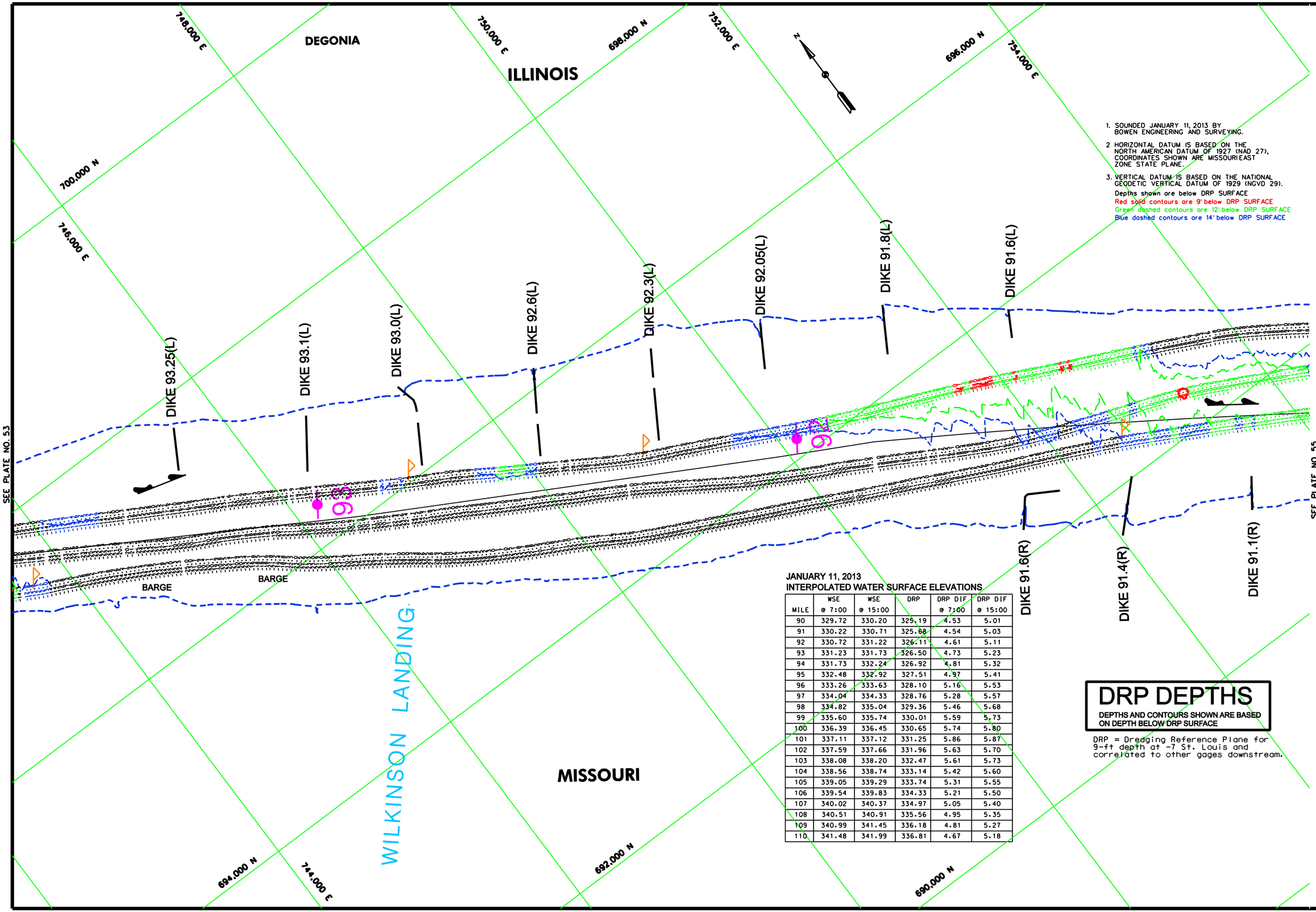
U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

CHANNEL PATROL
RIVER MILES 93.5 - 95.8

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYING AND MAPPING ACCOMPLISHED ON THE DATE SHOWN AND AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

PLATE NUMBER
53



1. SOUNDED JANUARY 11, 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 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
90	329.72	330.20	325.19	4.53	5.01
91	330.22	330.71	325.68	4.54	5.03
92	330.72	331.22	326.11	4.61	5.11
93	331.23	331.73	326.50	4.73	5.23
94	331.73	332.24	326.92	4.81	5.32
95	332.48	332.92	327.51	4.97	5.41
96	333.26	333.63	328.10	5.16	5.53
97	334.04	334.33	328.76	5.28	5.57
98	334.82	335.04	329.36	5.46	5.68
99	335.60	335.74	330.01	5.59	5.73
100	336.39	336.45	330.65	5.74	5.80
101	337.11	337.12	331.25	5.86	5.87
102	337.59	337.66	331.96	5.63	5.70
103	338.08	338.20	332.47	5.61	5.73
104	338.56	338.74	333.14	5.42	5.60
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18

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

	MOCCASIN SPRINGS, MO	GRAND TOWER, IL	RED ROCK LANDING, MO	BISHOPS LANDING, MO
ZERO N.G.V.D.	313.89	321.93	328.92	334.11
MILE	66.3	81.9	94.1	100.8
L. W. R. P.	317.8	325.3	330.7	335.4
11 JAN 2013	3.90?:00 4.21?:00	NOT WORKING	2.88?:00 3.31?:00	2.97?:00

ELEVATIONS ARE REFERED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. ILWRP:315.00 C.F.S.

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

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 11, 2013
Drawn by: x
Ckd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: ##MONTH-THUMB##
File name: ##DESIGNFILEBRIFICATION##

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

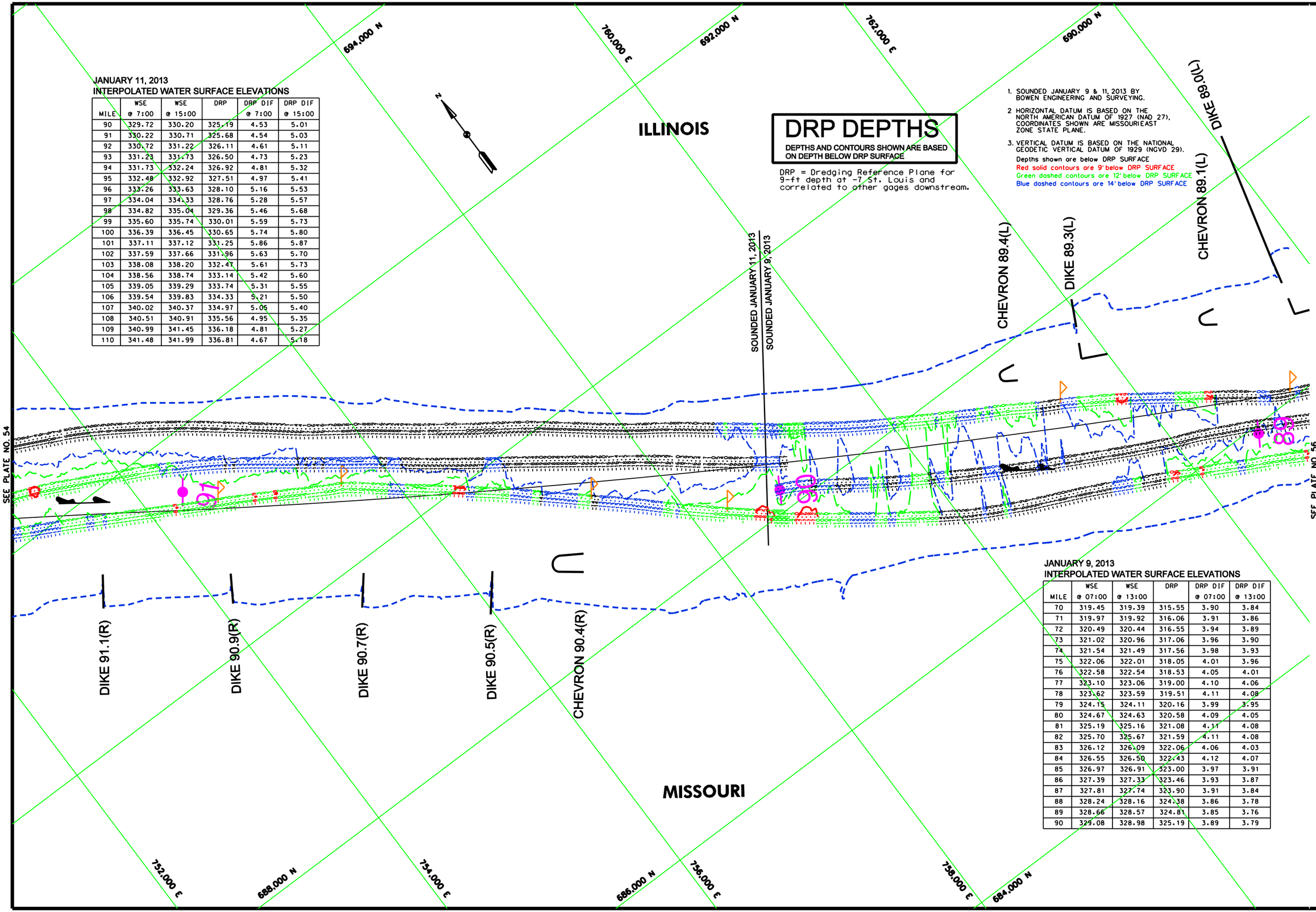
240 METERS 120 0 120 240
800 FEET 400 0 400 800

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE SHOWN AND IS AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL

RIVER MILES 91.2 - 93.5

PLATE NUMBER
54



JANUARY 11, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 7:00	WSE @ 15:00	DRP	DRP DIF @ 7:00	DRP DIF @ 15:00
90	329.72	330.20	325.19	4.53	5.01
91	330.22	330.71	325.68	4.54	5.03
92	330.72	331.22	326.11	4.61	5.11
93	331.23	331.73	326.50	4.73	5.23
94	331.73	332.24	326.92	4.81	5.32
95	332.48	332.92	327.51	4.97	5.41
96	333.26	333.63	328.10	5.16	5.53
97	334.04	334.33	328.76	5.28	5.57
98	334.82	335.04	329.36	5.46	5.68
99	335.60	335.74	330.01	5.59	5.73
100	336.39	336.45	330.65	5.74	5.80
101	337.11	337.12	331.25	5.86	5.87
102	337.59	337.66	331.96	5.63	5.70
103	338.08	338.20	332.47	5.61	5.73
104	338.56	338.74	333.14	5.42	5.60
105	339.05	339.29	333.74	5.31	5.55
106	339.54	339.83	334.33	5.21	5.50
107	340.02	340.37	334.97	5.05	5.40
108	340.51	340.91	335.56	4.95	5.35
109	340.99	341.45	336.18	4.81	5.27
110	341.48	341.99	336.81	4.67	5.18

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 9 & 11, 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 9, 2013
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 07:00	WSE @ 13:00	DRP	DRP DIF @ 07:00	DRP DIF @ 13:00
70	319.45	319.39	315.55	3.90	3.84
71	319.97	319.92	316.06	3.91	3.86
72	320.49	320.44	316.55	3.94	3.89
73	321.02	320.96	317.06	3.96	3.90
74	321.54	321.49	317.56	3.98	3.93
75	322.06	322.01	318.05	4.01	3.96
76	322.58	322.54	318.53	4.05	4.01
77	323.10	323.06	319.00	4.10	4.06
78	323.62	323.59	319.51	4.11	4.08
79	324.15	324.11	320.16	3.99	3.95
80	324.67	324.63	320.58	4.09	4.05
81	325.19	325.16	321.08	4.11	4.08
82	325.70	325.67	321.59	4.11	4.08
83	326.12	326.09	322.06	4.06	4.03
84	326.55	326.50	322.43	4.12	4.07
85	326.97	326.91	323.00	3.97	3.91
86	327.39	327.33	323.46	3.93	3.87
87	327.81	327.74	323.90	3.91	3.84
88	328.24	328.16	324.38	3.86	3.78
89	328.66	328.57	324.81	3.85	3.76
90	329.08	328.98	325.19	3.89	3.79

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.	304.65	313.89	321.93	328.92
MILE	52.1	66.3	81.9	94.1
L. W. R. P.	309.9	317.8	325.3	330.7
09 JAN 2013	5.467:001 3.361:001	NOT WORKING	3.737:001 3.701:001	1.897:001 1.761:001
11 JAN 2013	x	3.907:001 4.221:001	NOT WORKING	2.867:001 3.171:001

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

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

Surveyed by: BOWEN ENGINEERING
Survey Date: JANUARY 9 & 11, 2013
Drawn by: x
Chk'd by: x
Reviewed by: x
SUBMITTED: x
APPROVED: x
Plot date: ##/##/##-TIME##
File name: ##/##/##/##FILENAME##/##/##

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS
120 0 120
400 0 400
800 FEET

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SOUNDINGS TAKEN ON THE DATES INDICATED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL PATROL
RIVER MILES 89.1 - 91.2

PLATE NUMBER
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