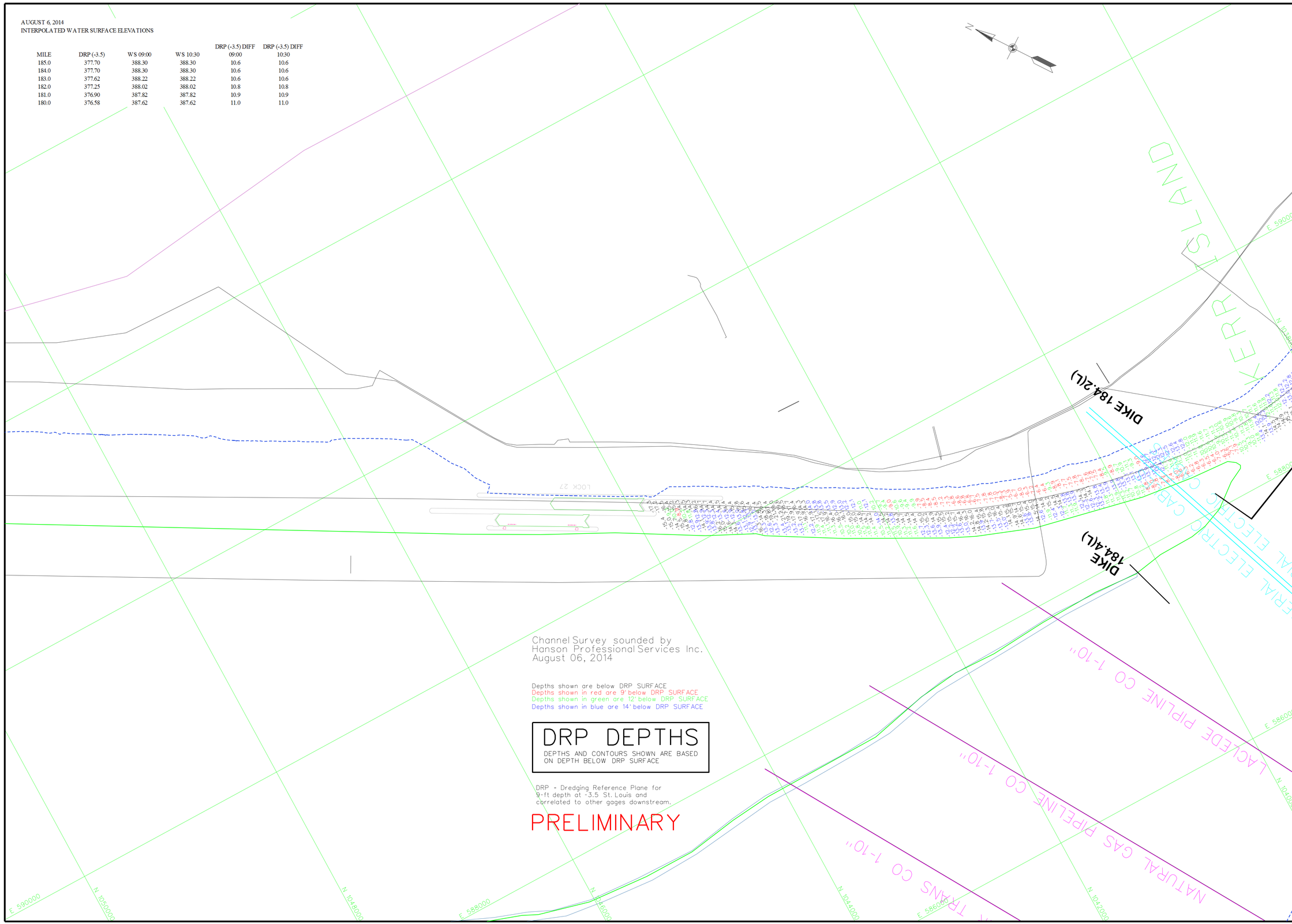
AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 10:30	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 10:30
185.0	377.70	388.30	388.30	10.6	10.6
184.0	377.70	388.30	388.30	10.6	10.6
183.0	377.62	388.22	388.22	10.6	10.6
182.0	377.25	388.02	388.02	10.8	10.8
181.0	376.90	387.82	387.82	10.9	10.9
180.0	376.58	387.62	387.62	11.0	11.0



Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

Depths shown are below DRP SURFACE
Depths shown in red are 9' below DRP SURFACE
Depths shown in green are 12' below DRP SURFACE
Depths shown in blue 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 -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD			
	CHAIN ROCKS (TW)	L&D 27 (TW)	ST. LOUIS
ZERO N.G.V.D.	409.63	350.00	379.94
MILE	190.3	185.1	179.6
L. W. R. P.	388.5	380.50	376.4
06 AUGUST, 2014		388.3 (09:00)	387.5 (09:00)
		388.3 (10:30)	387.5 (10:30)

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (34.000 C.F.S.)

Survey Date: August 06, 2014

SUBMITTED:

Chief, Engr. Data Mngt. Sect.

File name: 194_148HD514_drp.dgn

Plot date: August 08, 2014

Plot scale: 1"=400'

Surveyed by: HANSON

Drawn by: TCJ

Ckd by: RCA

Reviewed by:

APPROVED:

Chief, Geospatial Branch

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

UPPER MISSISSIPPI RIVER BASIN

MISSISSIPPI RIVER

240 METERS
120 0 400 800 FEET
120 0 400

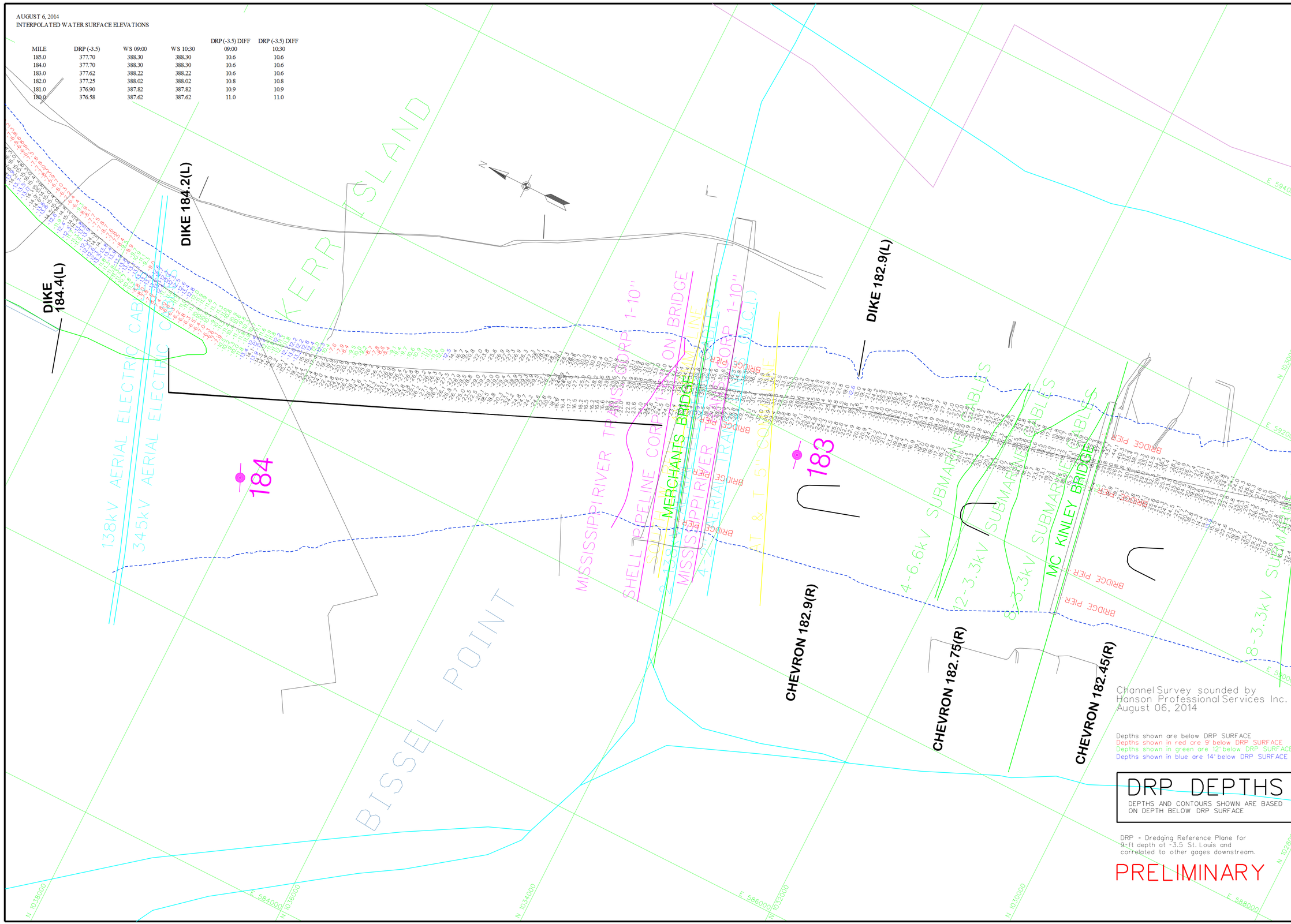
THIS INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF A SINGLE SURVEY OF THE RIVER BED AND SHOULD BE REGARDED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2 - 145.8

PLATE NUMBER

AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 10:30	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 10:30
185.0	377.70	388.30	388.30	10.6	10.6
184.0	377.70	388.30	388.30	10.6	10.6
183.0	377.62	388.22	388.22	10.6	10.6
182.0	377.25	388.02	388.02	10.8	10.8
181.0	376.90	387.82	387.82	10.9	10.9
180.0	376.58	387.62	387.62	11.0	11.0



Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

Depths shown are below DRP SURFACE
Depths shown in red are 9' below DRP SURFACE
Depths shown in green are 12' below DRP SURFACE
Depths shown in blue 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 -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD			ST. LOUIS
	WATER SURFACE	L&D 27 (TW)	379.94
ZERO N.G.V.D.	350.00		179.6
MILE	185.1		376.4
L. W. R. P.	380.5		
	06 AUGUST, 2014	388.3 (09:00)	387.5 (09:00)
		388.3 (10:30)	387.5 (10:30)

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE U.S.W.R.P.(154.000 C.F.S.)

Surveyed by: HANSON
Drawn by: TCJ
Ckd by: RCA
Reviewed by:
APPROVED: Chief, Geospatial Branch
Survey Date: August 06, 2014
SUBMITTED: Chief, Engr. Data Mngt. Sect.
File name: 194_148HS014_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS
800 FEET
120 0 120 400
0 400

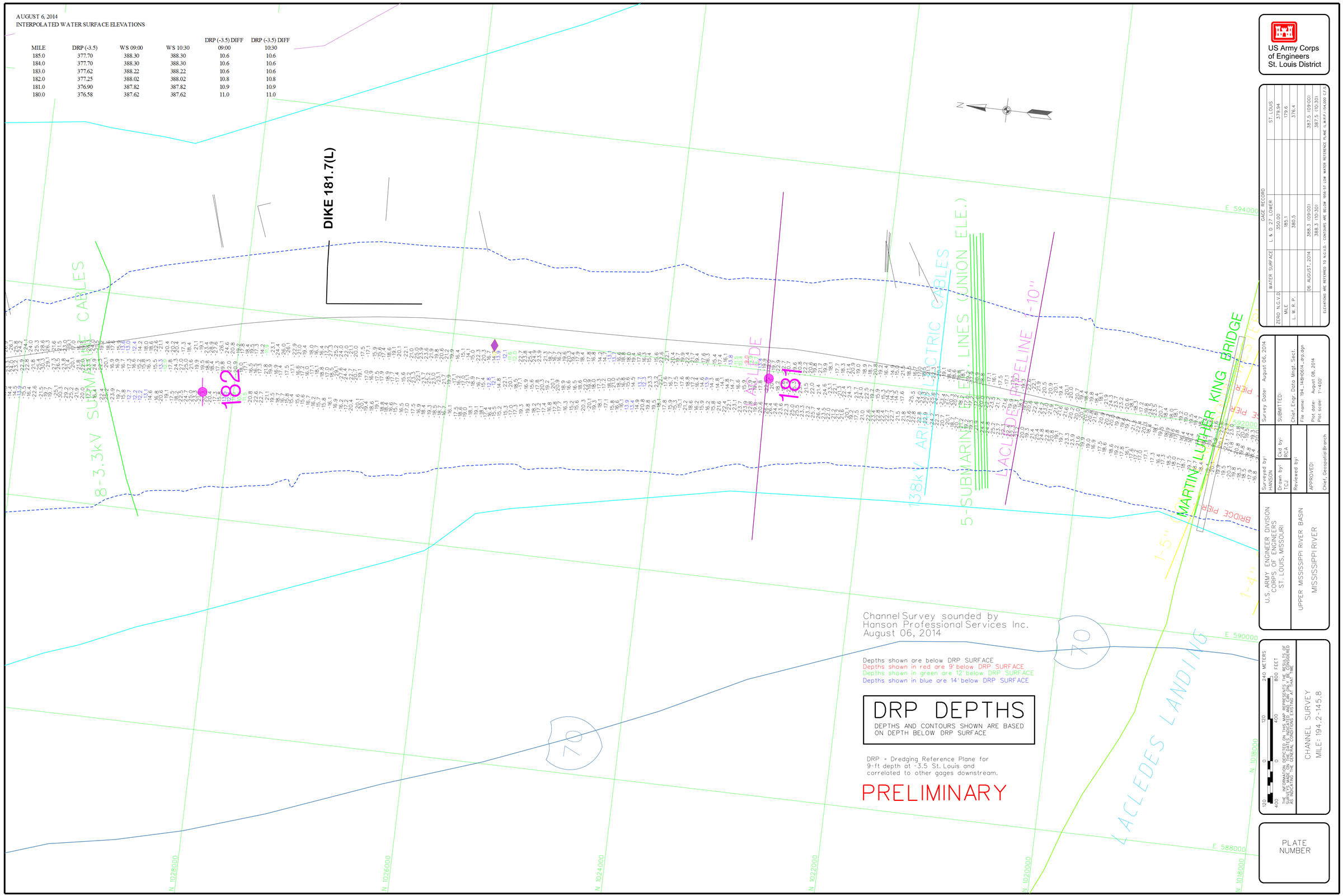
THE INFORMATION REPRESENTED IN THIS MAP REPRESENTS THE RESULTS OF A SURVEY OF THE RIVER BOTTOM AS MEASURED AT THE TIME AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER

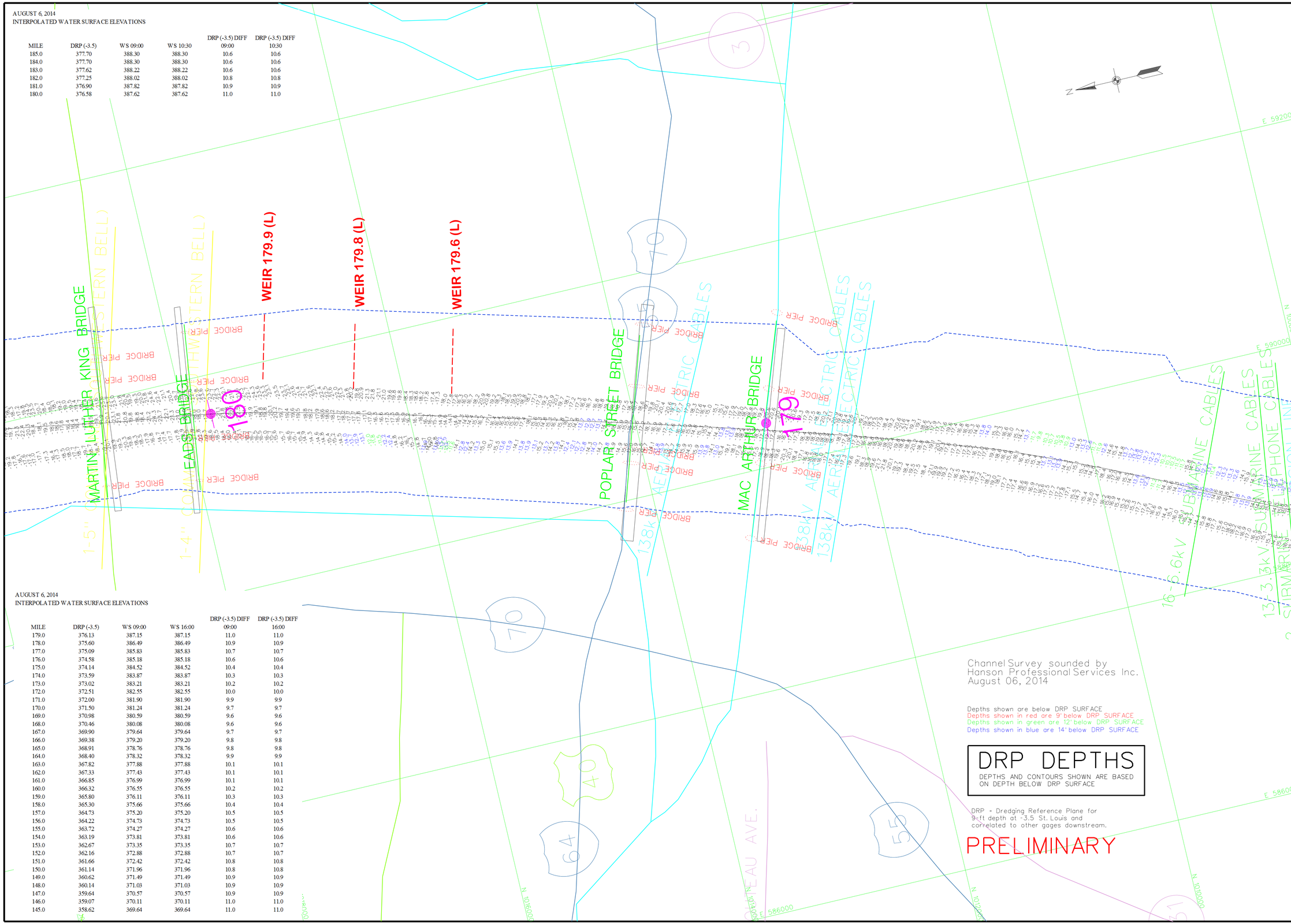
AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 10:30	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 10:30
185.0	377.70	388.30	388.30	10.6	10.6
184.0	377.70	388.30	388.30	10.6	10.6
183.0	377.62	388.22	388.22	10.6	10.6
182.0	377.25	388.02	388.02	10.8	10.8
181.0	376.90	387.82	387.82	10.9	10.9
180.0	376.58	387.62	387.62	11.0	11.0



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 10:30	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 10:30
185.0	377.70	388.30	388.30	10.6	10.6
184.0	377.70	388.30	388.30	10.6	10.6
183.0	377.62	388.22	388.22	10.6	10.6
182.0	377.25	388.02	388.02	10.8	10.8
181.0	376.90	387.82	387.82	10.9	10.9
180.0	376.58	387.62	387.62	11.0	11.0



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	JEFFERSON BARRACKS	ENGINEERS DEPOT	ST. LOUIS
ZERO N.G.V.D.	377.69	379.58	379.94	
MILE	168.7	176.8	179.6	
L. W. R. P.		375.7	376.4	
06 AUGUST, 2014	380.4 (09:00)		387.5 (09:00)	
	380.4 (09:00)		387.5 (16:00)	

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (-3.5 CIS)

Surveyed by: HANSON
Drawn by: TCJ
Ckd by: RCA
Reviewed by:
APPROVED:
Chief, Geospatial Branch

Survey Date: August 06, 2014
SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name: 194_140806f4_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

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

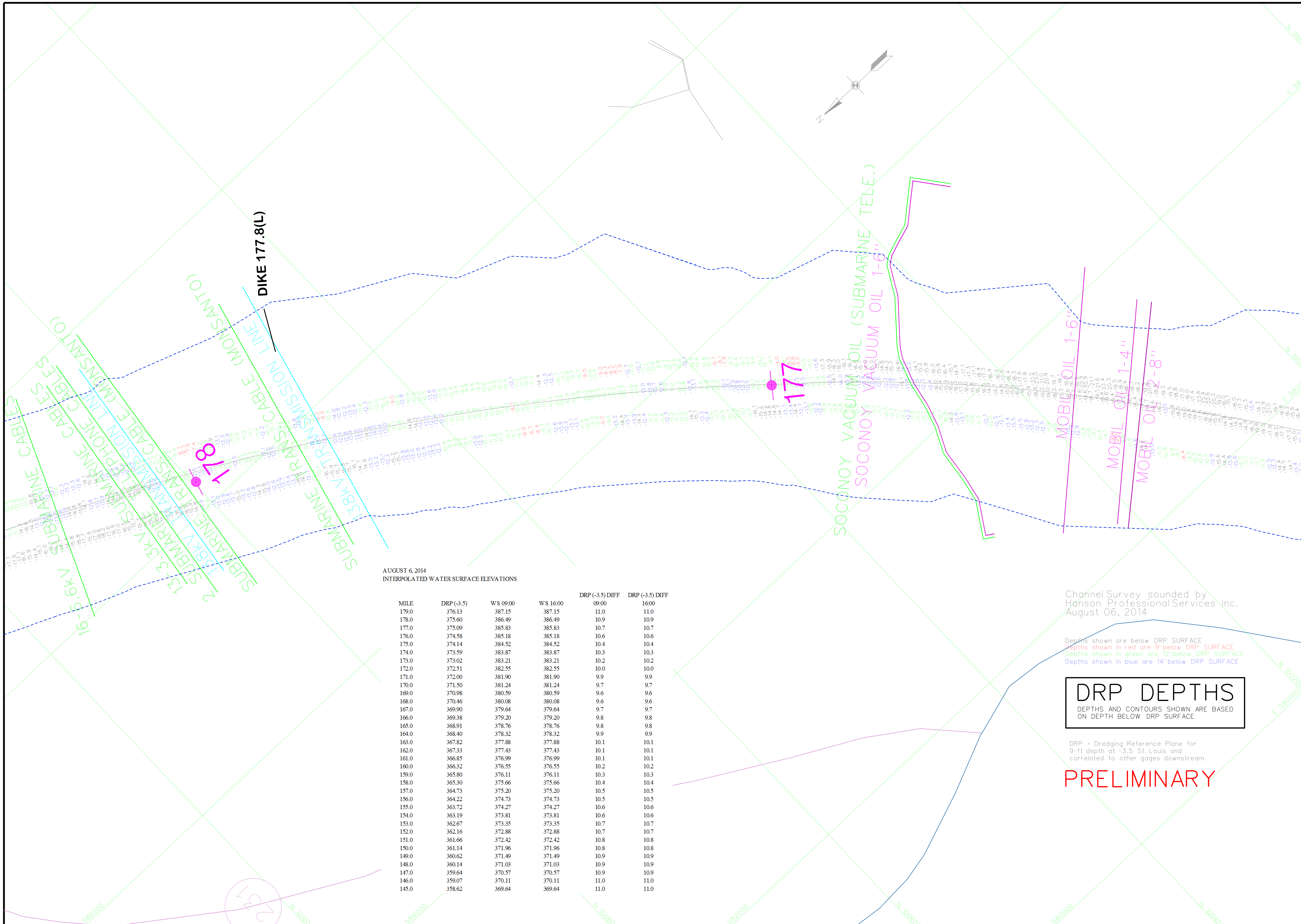
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS 120 0 120
800 FEET 400 0 400

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEY DATA COLLECTED ON THE DATE INDICATED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2 - 145.8

PLATE NUMBER



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

Depths shown are below DRP SURFACE
Depths shown in red are 9' below DRP SURFACE
Depths shown in green are 12' below DRP SURFACE
Depths shown in blue 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 -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	ENGINEERS DEPOT	JEFFERSON BARRACKS	ST. LOUIS
ZERO N.G.V.D.		379.58	377.69	379.94
MILE		176.8	168.7	179.6
L. W. R. P.		375.7	372.8	376.4
	06 AUGUST, 2014		380.4 (09:00) 380.4 (16:00)	387.5 (09:00) 387.5 (16:00)

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.)

Survey Date: August 06, 2014
SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name: 194_148H0614_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

Surveyed by: HANSON
Drawn by: TCJ
Ckd by: RCA
Reviewed by:
APPROVED:
Chief, Geospatial Branch

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

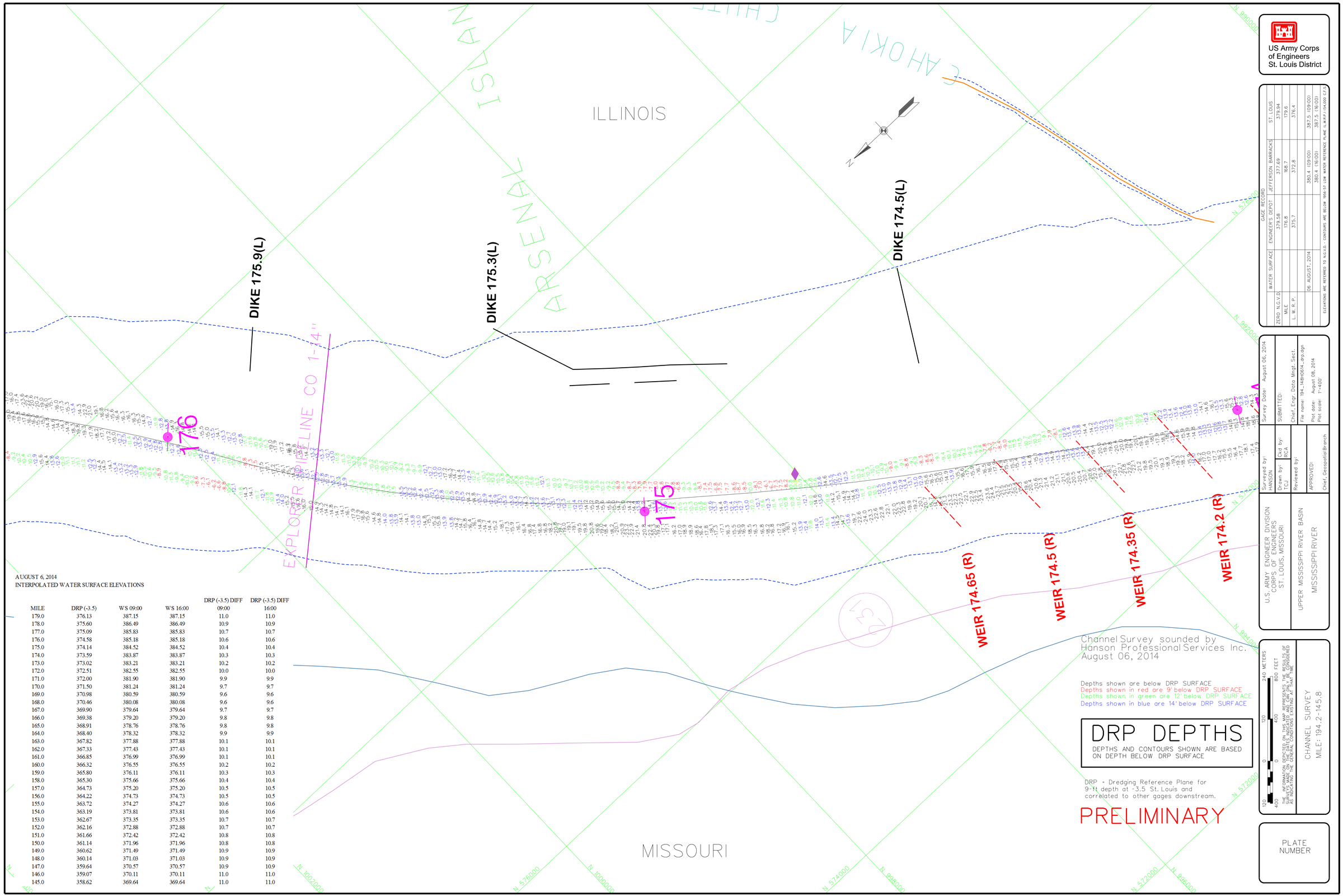
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS 120 0 120
800 FEET 400 0 400

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

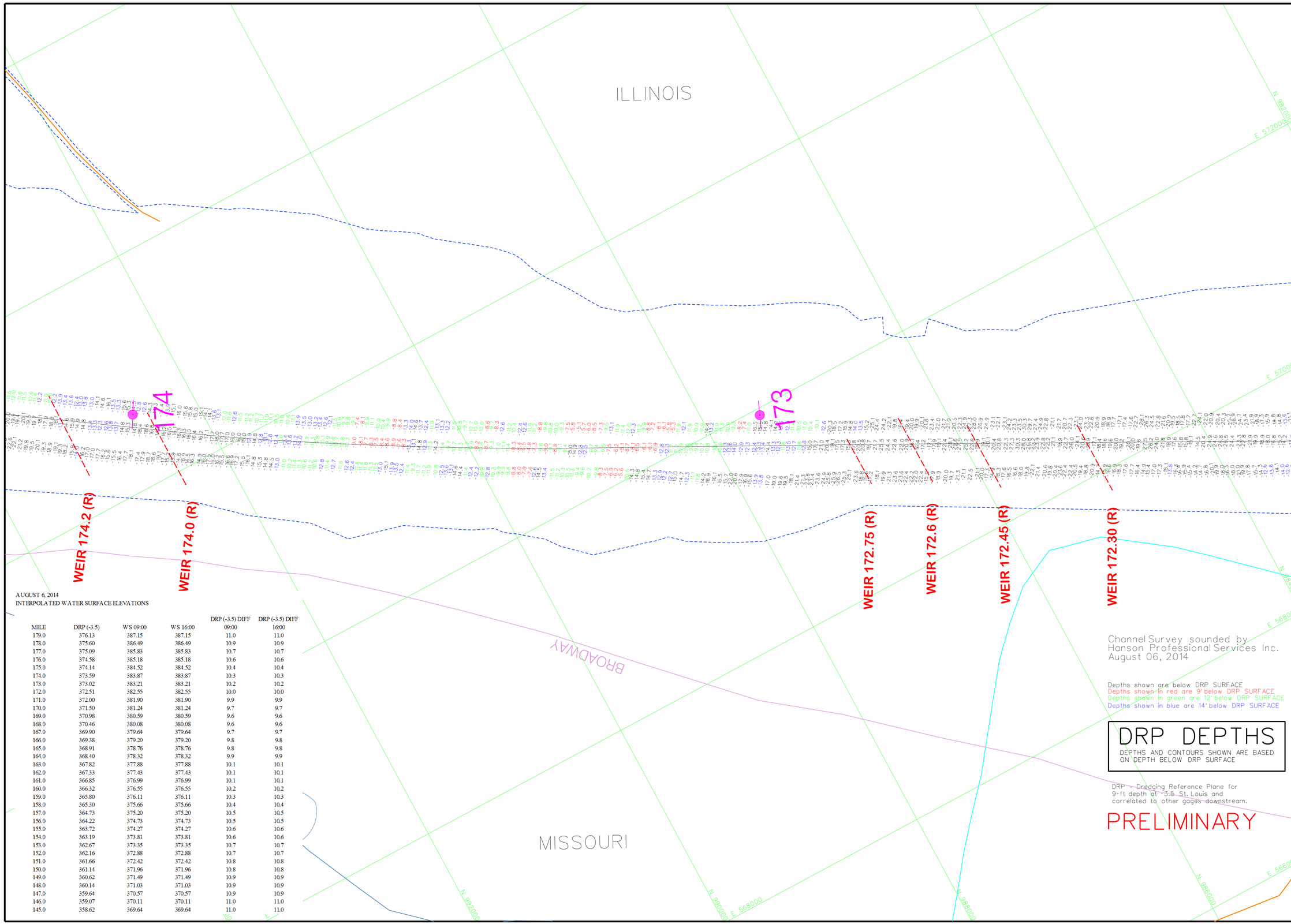
CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

Depths shown are below DRP SURFACE
Depths shown in red are 9' below DRP SURFACE
Depths shown in green are 12' below DRP SURFACE
Depths shown in blue 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 -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	ENGINEER'S DEPOT	JEFFERSON BARRACKS	ST. LOUIS
ZERO N.G.V.D.	379.58	377.69	379.94	
MILE	176.8	168.7	179.6	
L. W. R. P.	375.7	372.8	376.4	
06 AUGUST, 2014		380.4 (09:00)	387.5 (09:00)	
		380.4 (16:00)	387.5 (16:00)	

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) 134.000 C.F.S.

Surveyed by: HANSON
Drawn by: TCJ
Ckd by: RCA
Reviewed by:
APPROVED:
Chief, Geospatial Branch

Survey Date: August 06, 2014
SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name: 194_14BH0514_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS
800 FEET
120 0 120 400
0 400

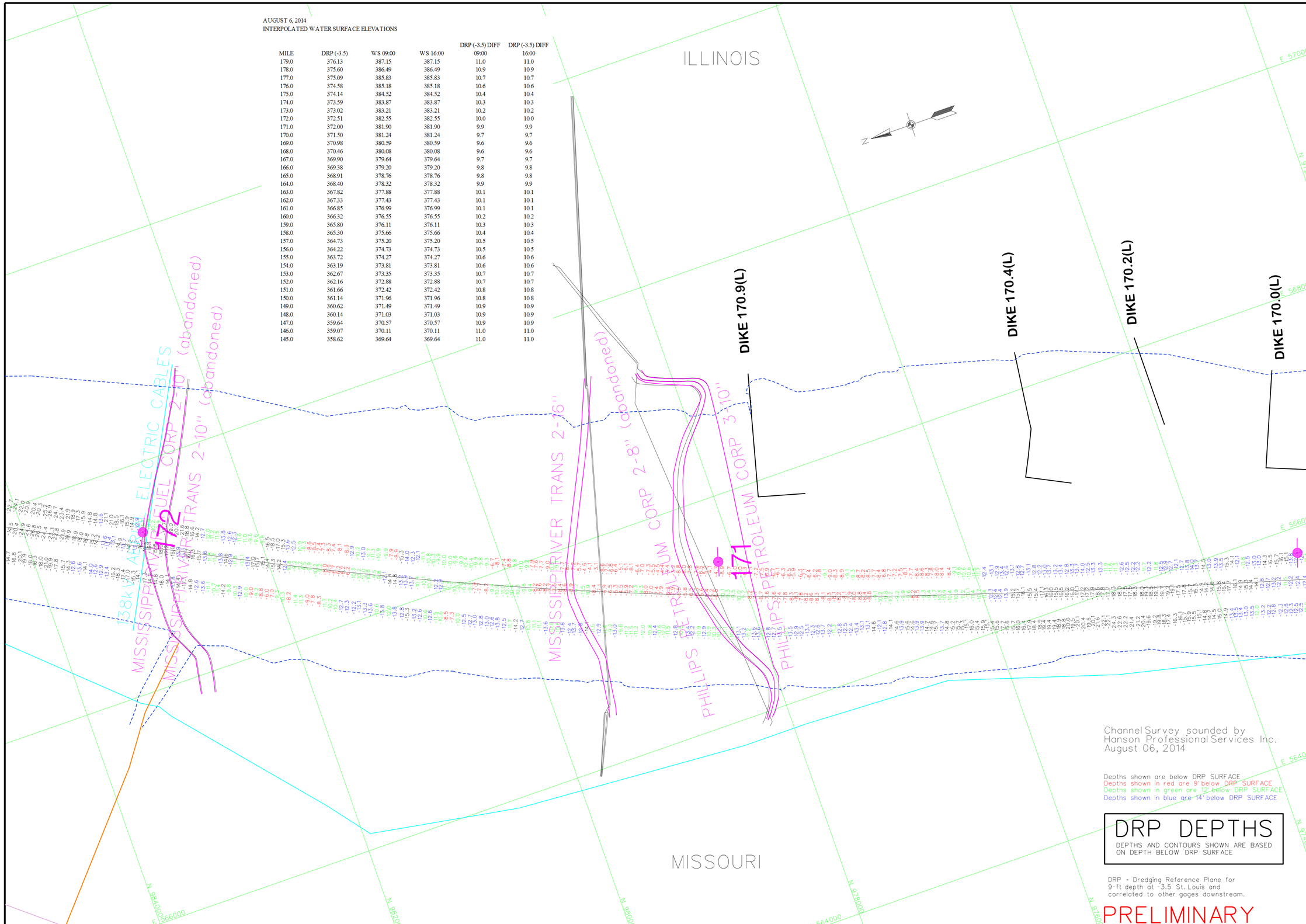
THE INFORMATION REPRESENTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY OF RIVER DEPTHS. THE RESULTS ARE AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER

AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0



Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

Depths shown are below DRP SURFACE
Depths shown in red are 9' below DRP SURFACE
Depths shown in green are 12' below DRP SURFACE
Depths shown in blue 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 -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	ENGINEER'S DEPOT	JEFFERSON BARRACKS	ST. LOUIS
ZERO N.G.V.D.		379.58	377.69	379.94
MILE		176.8	168.7	179.6
L. W. R. P.		375.7	372.8	376.4
	06 AUGUST, 2014		380.4 (09:00)	387.5 (09:00)
			380.4 (16:00)	387.5 (16:00)

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. G:\MRP\154.DGN C:\S

Survey Date: August 06, 2014
SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name: 194_14BH0514_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

Surveyed by: HANSON
Drawn by: TCJ
Cked by: RCA
Reviewed by:
APPROVED: Chief, Geospatial Branch

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

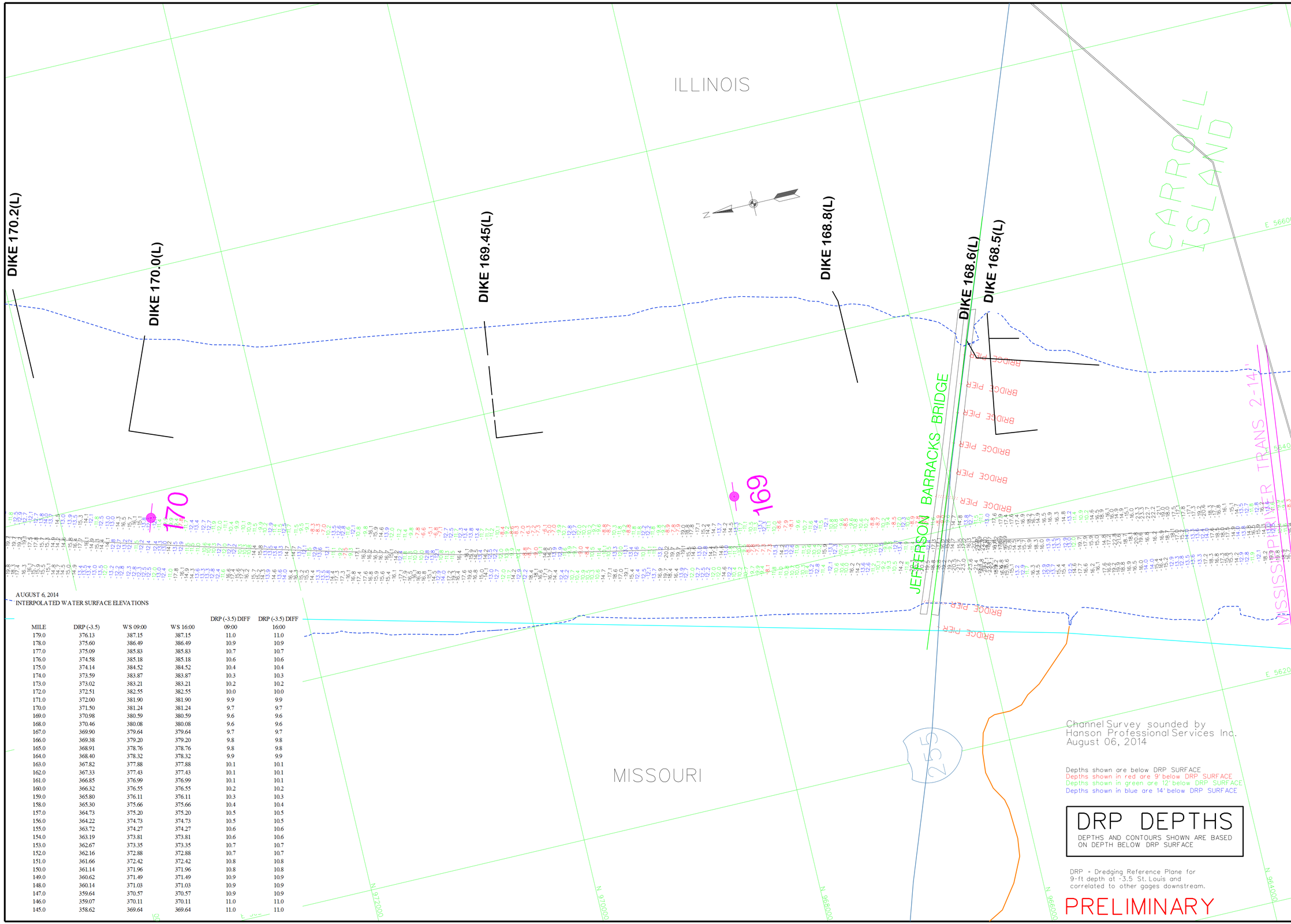
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS
800 FEET
120 0 120 400
0 400

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESOLUTION OF SURVEY DATA COLLECTED ON THE DATE INDICATED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
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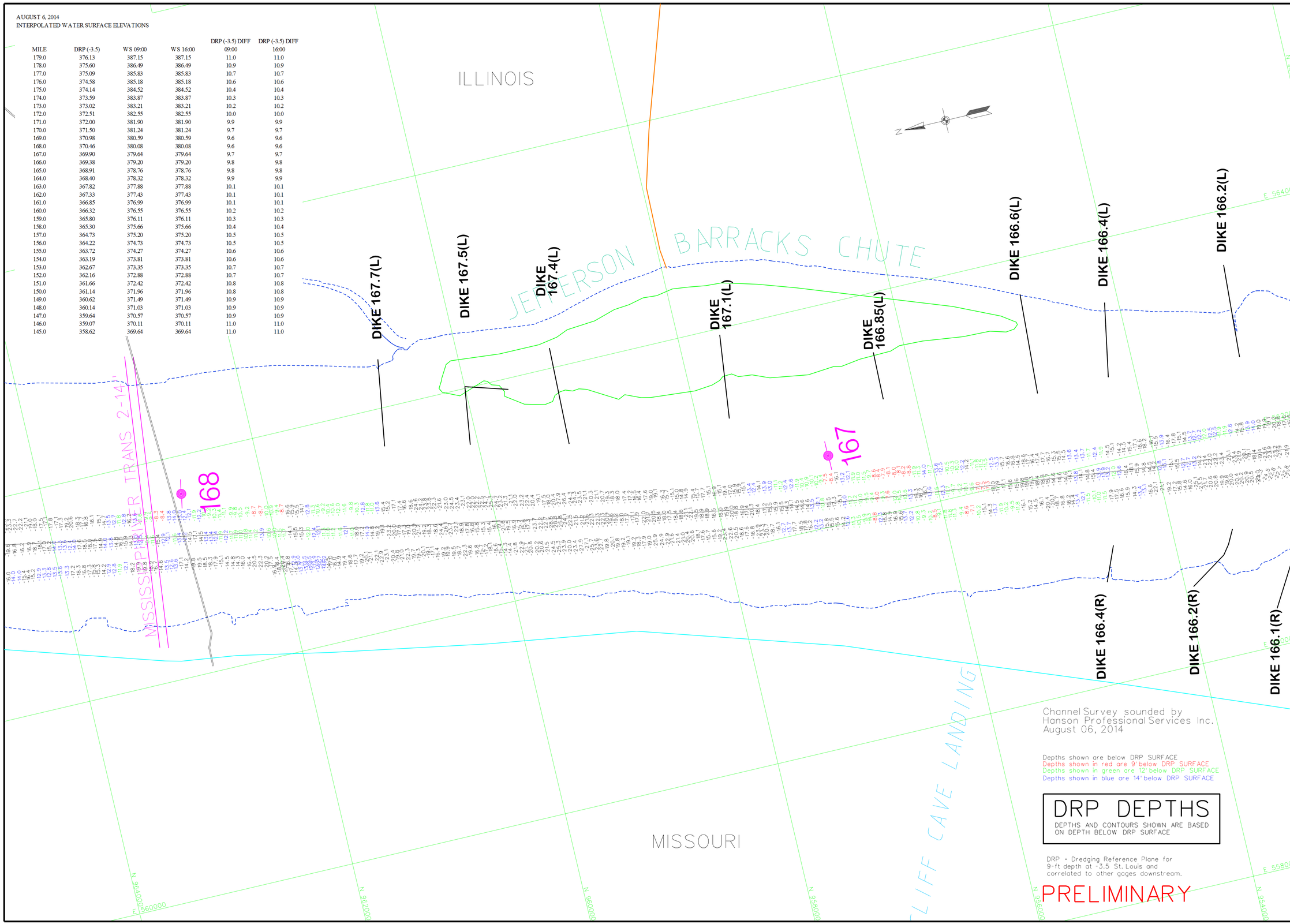
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0



US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	JEFFERSON BARRACKS	WATER'S POINT	ST. LOUIS
ZERO N.G.V.D.		377.69	370.39	379.94
MILE		168.7	158.5	179.6
L. W. R. P.		372.8	367.4	376.4
	06 AUGUST, 2014	380.4 (09:00)	375.9 (09:00)	387.5 (09:00)
		380.4 (16:00)	375.9 (16:00)	387.5 (16:00)

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (34.000 C.F.S.)

Survey Date: August 06, 2014
SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name: 194_14HH0514_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

Surveyed by: HANSON
Drawn by: TCJ
Ckd by: RCA
Reviewed by:
APPROVED:
Chief, Geospatial Branch

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

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

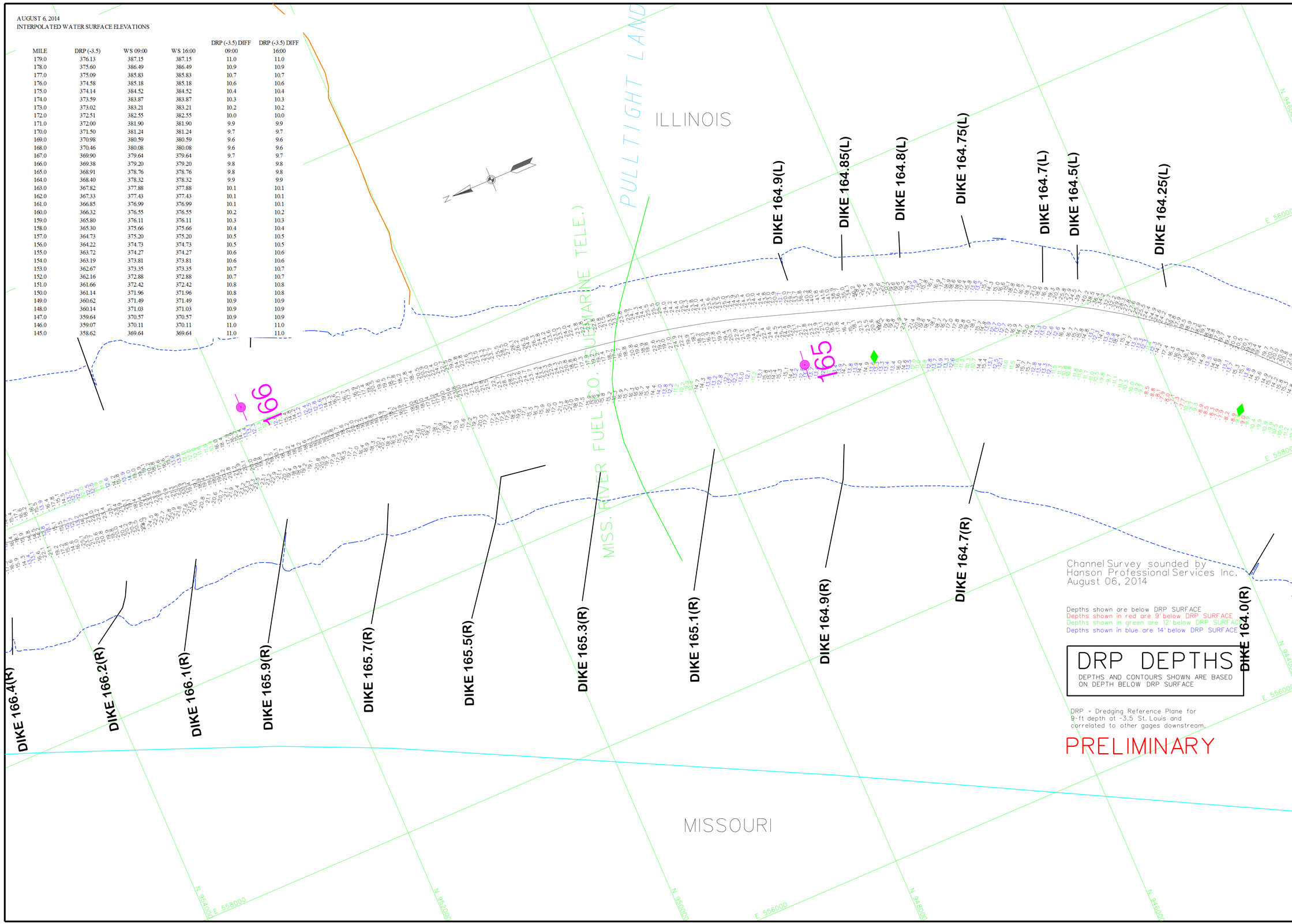
249 METERS
800 FEET
120 0 120 400
400 0 400
THE INFORMATION REPRESENTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE INDICATED AND IS ACCURATE AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER

AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0



US Army Corps of Engineers
St. Louis District

GAGE RECORD			
WATER SURFACE	JEFFERSON BARRACKS	WATER'S POINT	ST. LOUIS
ZERO N.G.V.D.	377.69	370.39	379.94
MILE	168.7	158.5	179.6
L. W. R. P.	372.8	367.4	376.4
06 AUGUST, 2014	380.4 (09:00)	375.9 (09:00)	387.5 (09:00)
	380.4 (16:00)	375.9 (16:00)	387.5 (16:00)

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1996-97 LOW WATER REFERENCE PLANE (L.W.R.P.) (34.000 C.F.S.)

Survey Date: August 06, 2014

SUBMITTED:

Chief, Engr. Data Mngt. Sect.

File name: 194_14BH0514_drp.dgn

Plot date: August 08, 2014

Plot scale: 1"=400'

Surveyed by: HANSON

Drawn by: TCJ

Ckd by: RCA

Reviewed by:

APPROVED:

Chief, Geospatial Branch

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

UPPER MISSISSIPPI RIVER BASIN

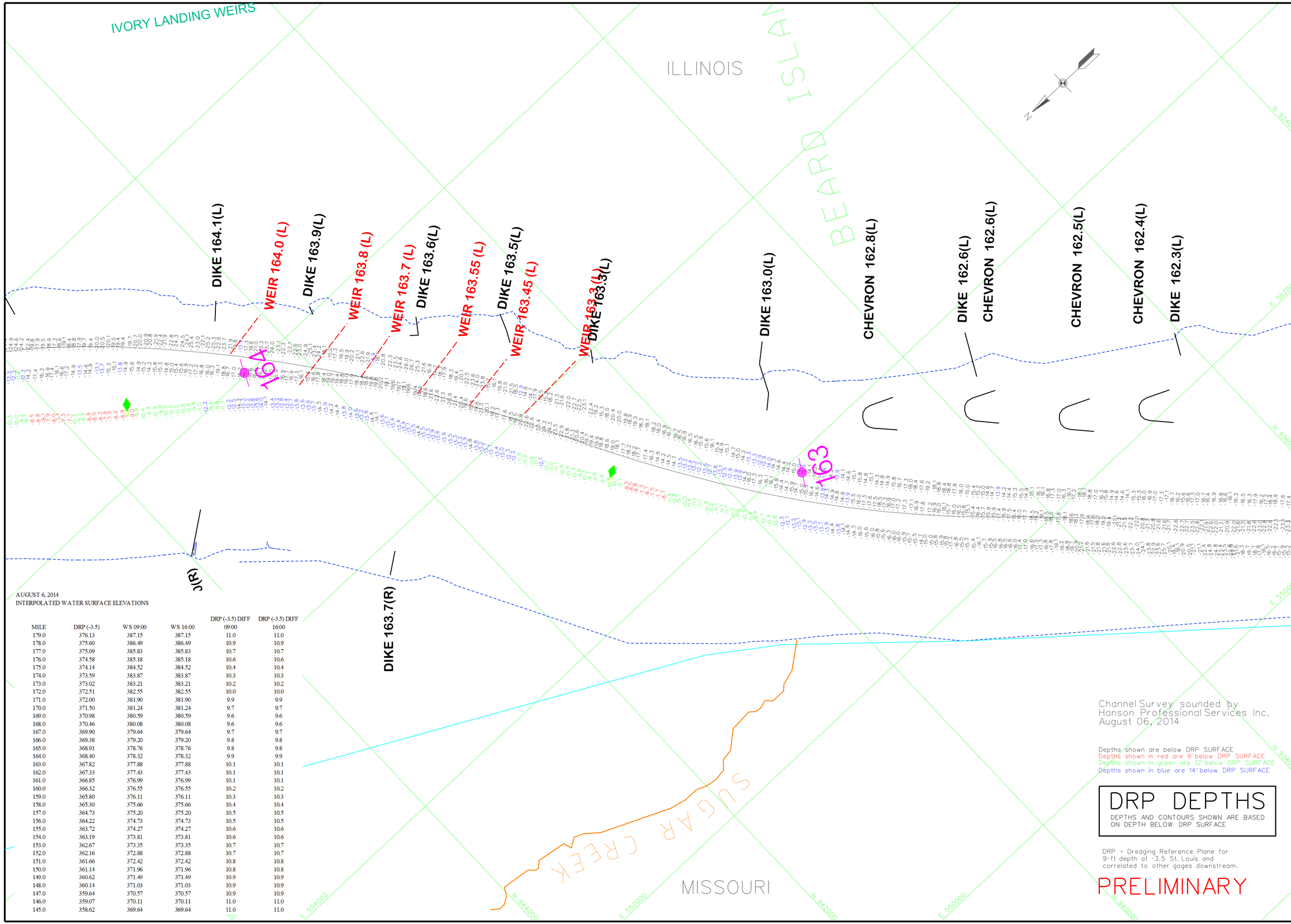
MISSISSIPPI RIVER

120 0 240 METERS
400 0 800 FEET

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE(S) SHOWN. THE RESULTS ARE AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

CHANNEL SURVEY
MILE: 194.2 - 145.8

PLATE NUMBER



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

Depths shown are below DRP SURFACE
Depths shown in red are 9' below DRP SURFACE
Depths shown in green are 12' below DRP SURFACE
Depths shown in blue 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 -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	JEFFERSON BARRACKS	WATER'S POINT	ST. LOUIS
ZERO N.G.V.D.		377.69	370.39	379.94
MILE		168.7	158.5	179.6
L. W. R. P.		372.8	367.4	376.4
		380.4 (09:00)	375.9 (09:00)	387.5 (09:00)
		380.4 (16:00)	375.9 (16:00)	387.5 (16:00)

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. ILWRP=154.000 C.F.S.

Survey Date:
SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name:
Plot date:
Plot scale: 1"=400'

Surveyed by: HANSON
Drawn by:
Ckd by:
Reviewed by:
APPROVED:
Chief, Geospatial Branch

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

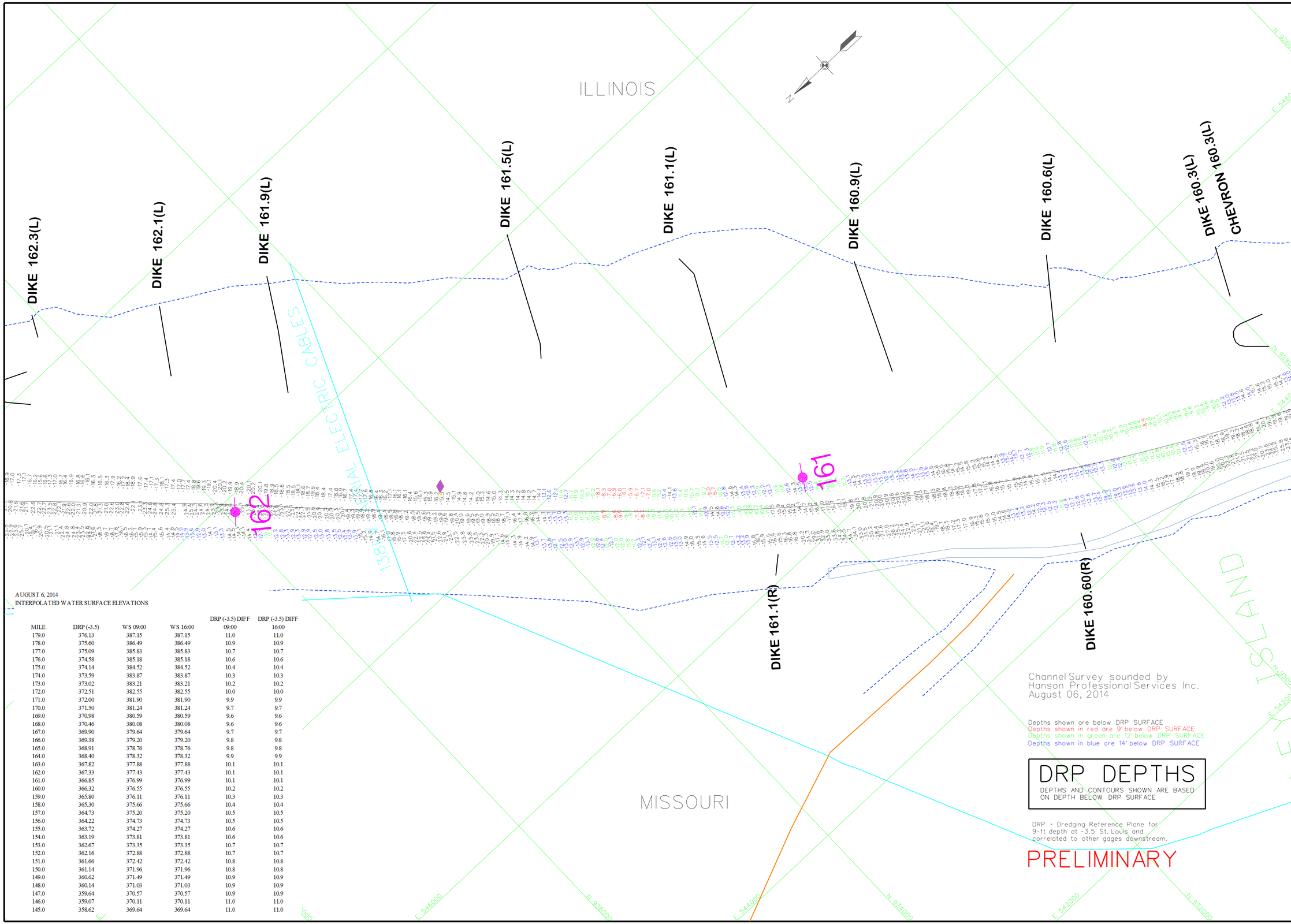
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

120 0 120 240 METERS
400 0 400 800 FEET

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE BY HANSON PROFESSIONAL SERVICES INC. AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER

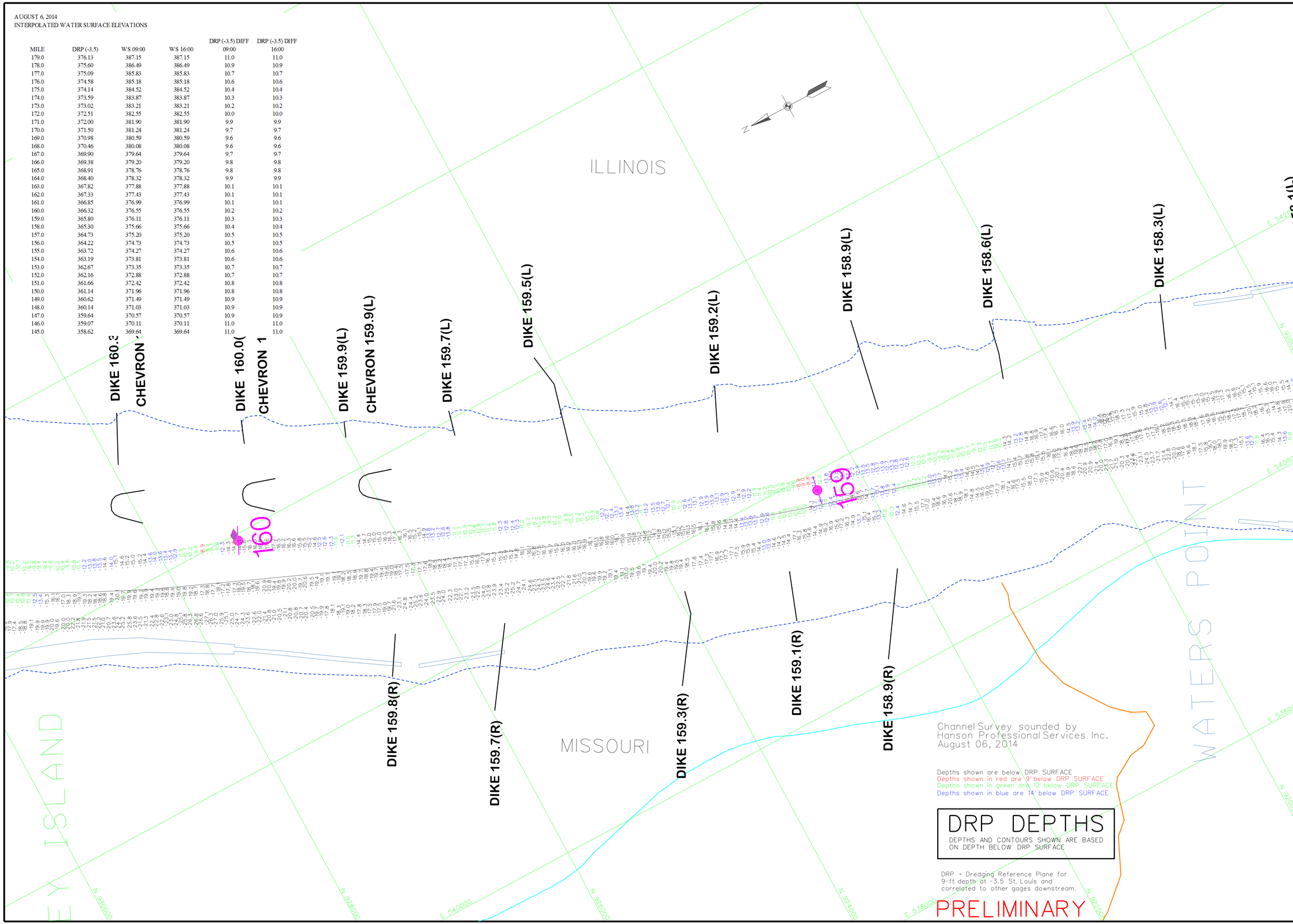


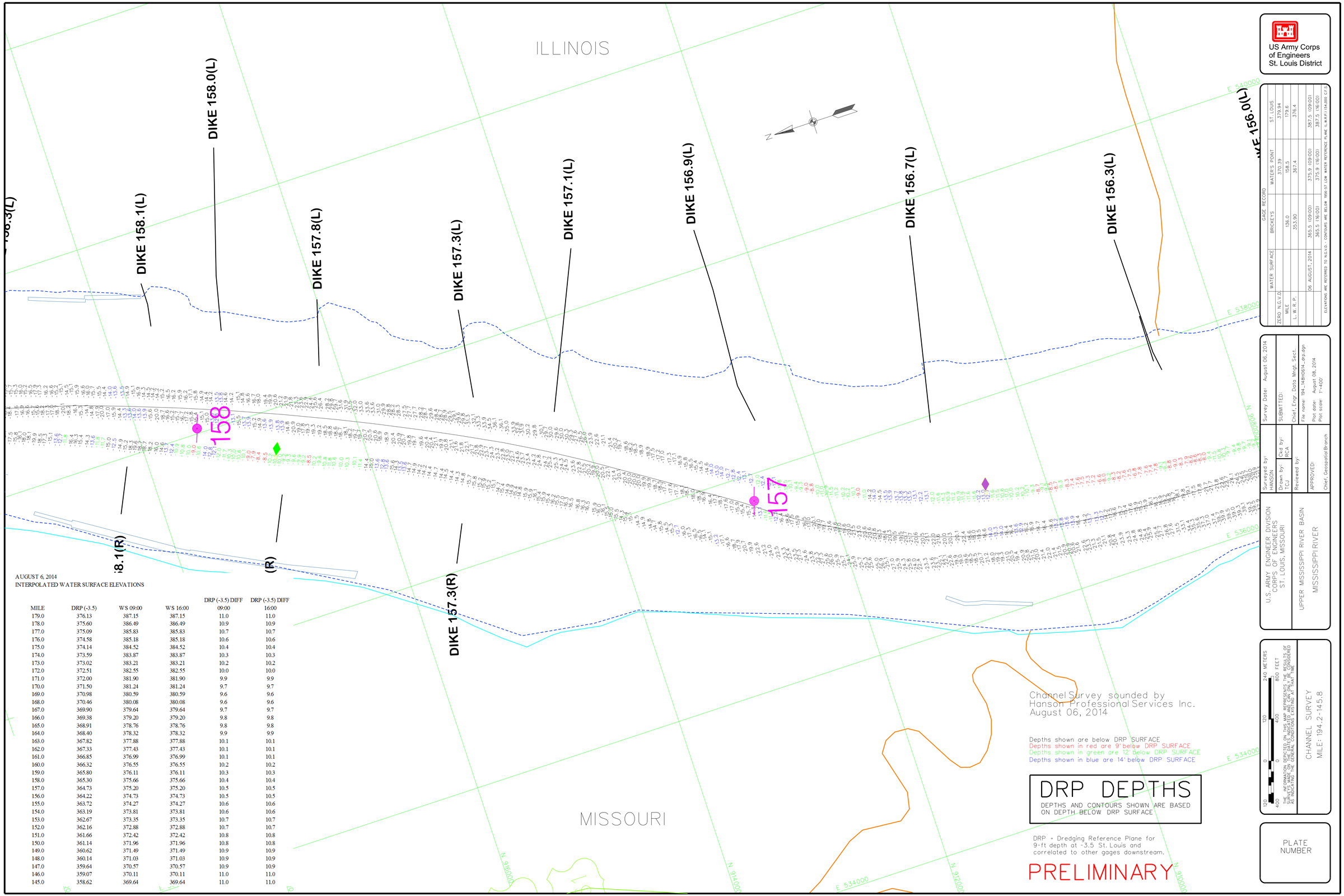
AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

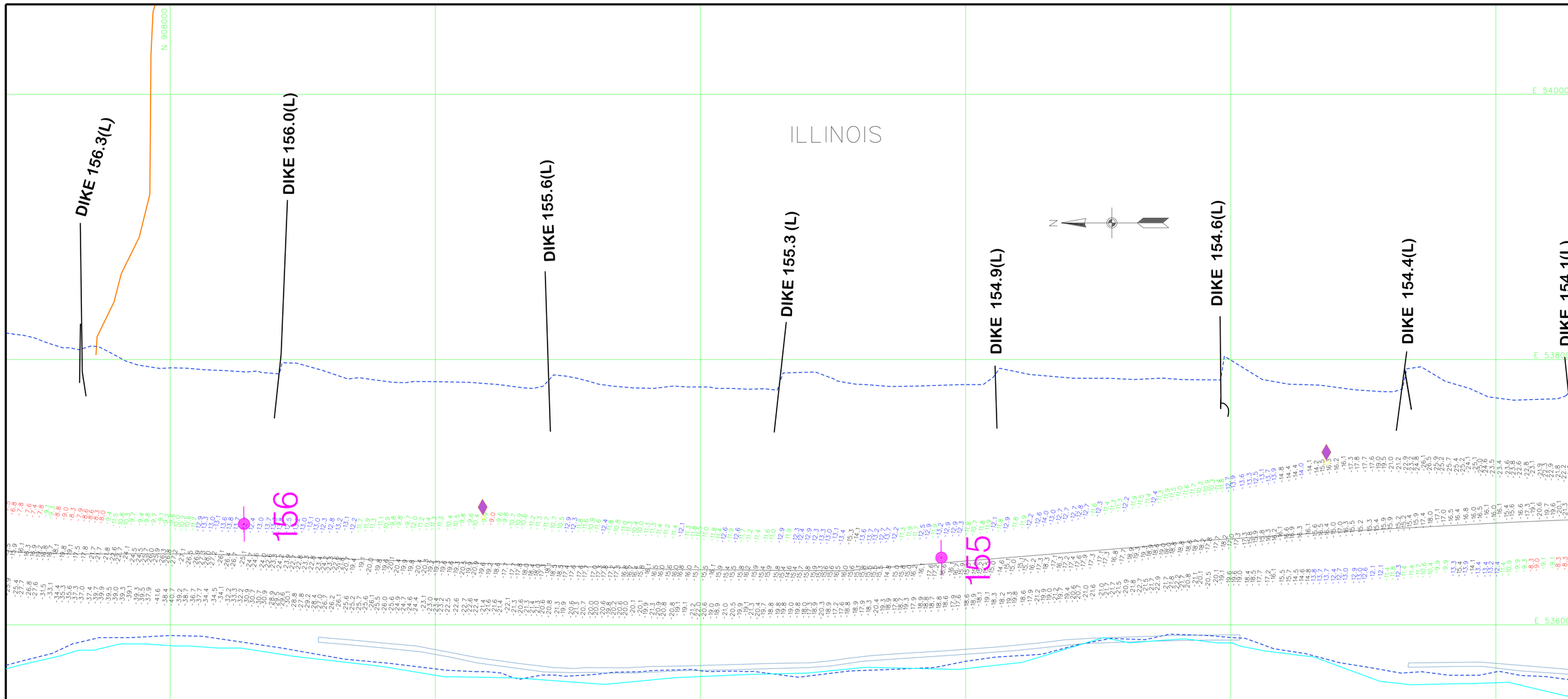
MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0





AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

Depths shown are below DRP SURFACE
Depths shown in red are 9' below DRP SURFACE
Depths shown in green are 12' below DRP SURFACE
Depths shown in blue 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 -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	BRICKEY'S	WATER'S POINT	ST. LOUIS
ZERO N.G.V.D.			370.39	379.94
MILE		136.0	158.5	179.6
L. W. R. P.		353.90	367.4	376.4
	06 AUGUST, 2014	365.5 (09:00)	375.9 (09:00)	387.5 (09:00)
		365.5 (16:00)	375.9 (16:00)	387.5 (16:00)

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) (34.00) C.F.S.

Survey Date: August 06, 2014

SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name: 194_14BH0514_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

Surveyed by: HANSON
Drawn by: TCJ
Cad by: RCA
Reviewed by:
APPROVED: Chief, Geospatial Branch

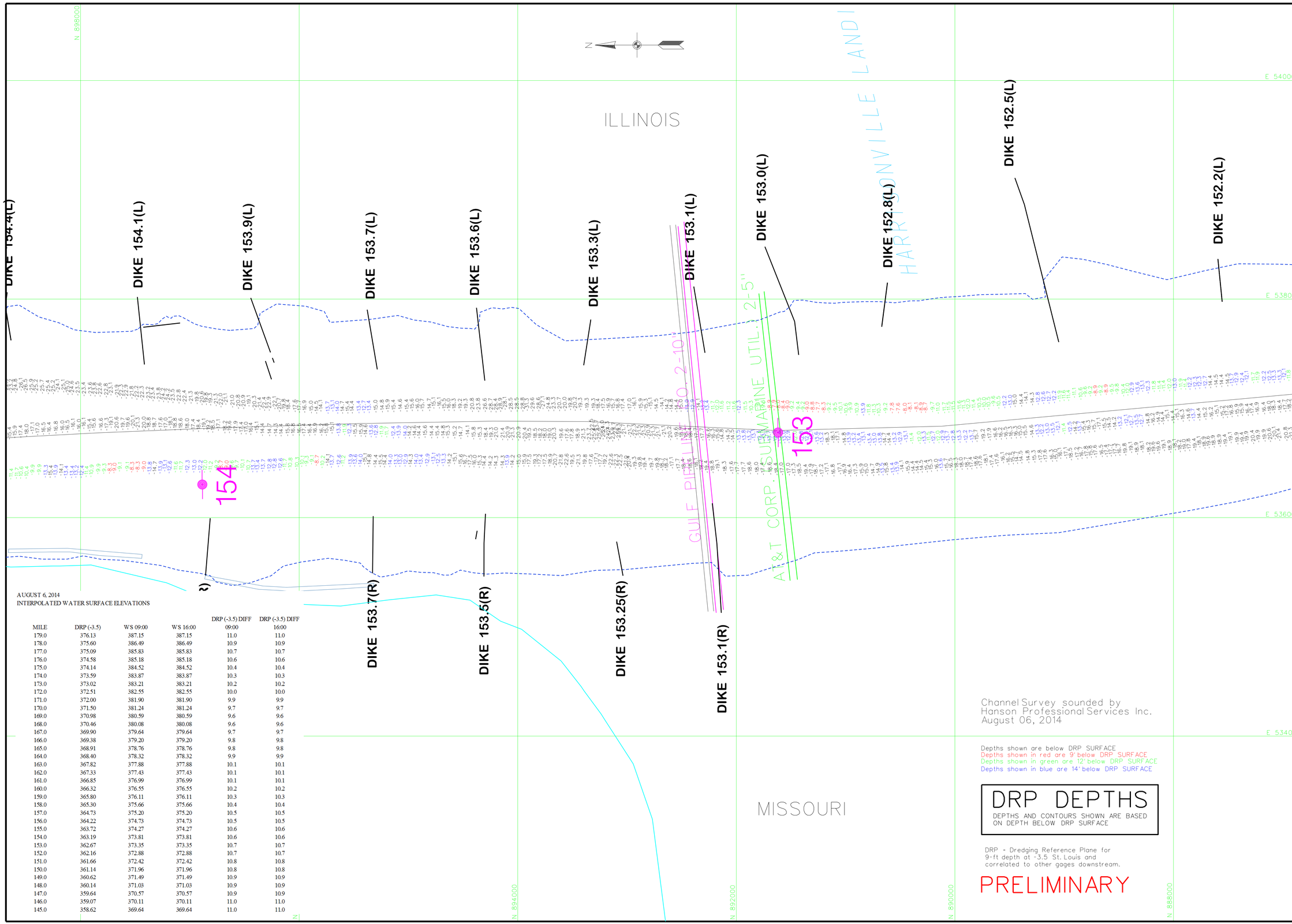
U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

249 METERS
800 FEET
THE INFORMATION REPRESENTS THE RESULTS OF SURVEYS MADE ON THIS MAP REPRESENTS AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

Depths shown are below DRP SURFACE
Depths shown in red are 9' below DRP SURFACE
Depths shown in green are 12' below DRP SURFACE
Depths shown in blue 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 -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	BROCKEYS	WATER'S POINT	ST. LOUIS
ZERO N.G.V.D.			370.39	379.94
MILE		136.0	158.5	179.6
L. W. R. P.		353.90	367.4	376.4
	06 AUGUST, 2014	365.5 (09:00)	375.9 (09:00)	387.5 (09:00)
		365.5 (16:00)	375.9 (16:00)	387.5 (16:00)

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. G:\MJR\154-000.C.D

Surveyed by: HANSON
Drawn by: TCJ
Cad by: RCA
Reviewed by:
APPROVED: Chief, Geospatial Branch
Survey Date: August 06, 2014
SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name: 194_14BH0514_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

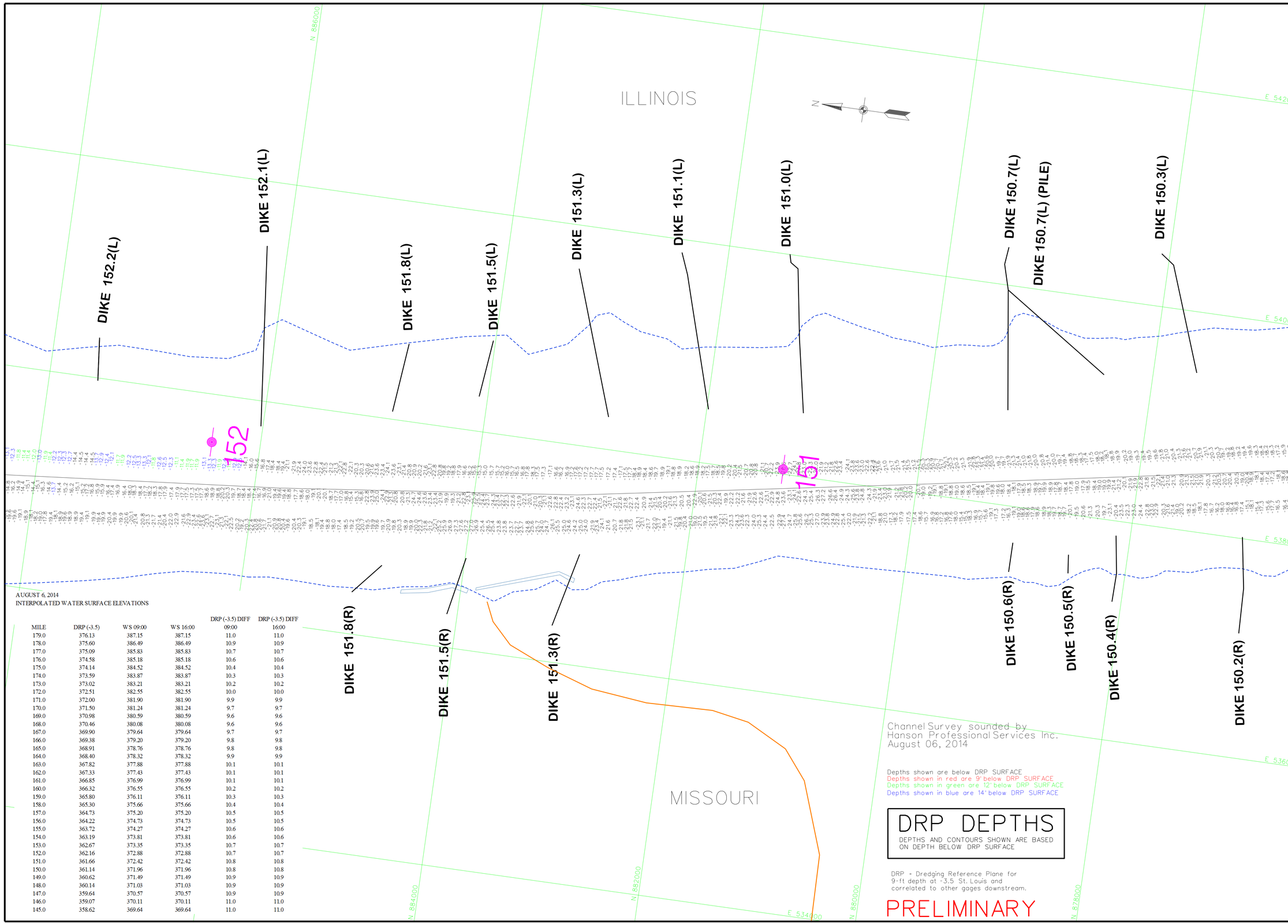
U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
ST. LOUIS, MISSOURI

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

120 0 120 240 METERS
400 0 400 800 FEET
THE INFORMATION REPRESENTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE AT THE TIME SHOWN AND MAY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	BROOKEYS	WATER'S POINT	ST. LOUIS
ZERO N.G.V.D.			370.39	379.94
MILE		136.0	158.5	179.6
L. W. R. P.		353.90	367.4	376.4
	06 AUGUST, 2014	365.5 (09:00)	375.9 (09:00)	387.5 (09:00)
		365.5 (16:00)	375.9 (16:00)	387.5 (16:00)

ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. U.S.W.R.P.: 134.000 C.F.S.

Survey Date: August 06, 2014
SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name: 194_148HD514_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

Surveyed by: HANSON
Drawn by: TCJ
Edit by: RCA
Reviewed by:
APPROVED: Chief, Geospatial Branch

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

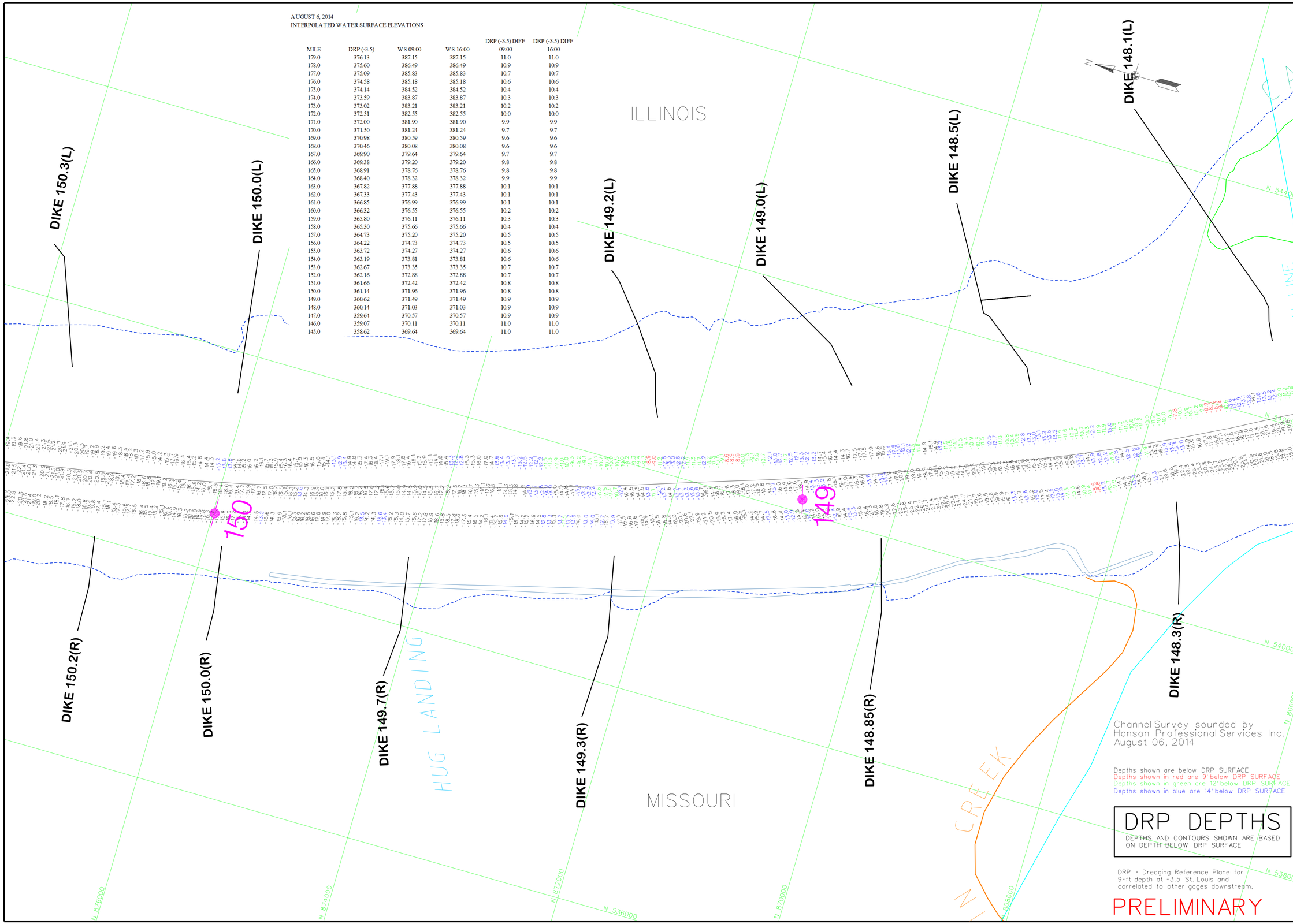
THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE ON THE DATE INDICATED AND IS INTENDED TO BE REGARDED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER

AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
162.0	367.33	377.43	377.43	10.1	10.1
161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
153.0	362.67	373.35	373.35	10.7	10.7
152.0	362.16	372.88	372.88	10.7	10.7
151.0	361.66	372.42	372.42	10.8	10.8
150.0	361.14	371.96	371.96	10.8	10.8
149.0	360.62	371.49	371.49	10.9	10.9
148.0	360.14	371.03	371.03	10.9	10.9
147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0



Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

Depths shown are below DRP SURFACE
Depths shown in red are 9' below DRP SURFACE
Depths shown in green are 12' below DRP SURFACE
Depths shown in blue 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 -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD			
	WATER SURFACE	BRICKEY'S	WATER'S POINT	ST. LOUIS
ZERO N.G.V.D.			370.39	379.94
MILE		136.0	158.5	179.6
L. W. R. P.		353.90	367.4	376.4
	06 AUGUST, 2014	365.5 (09:00)	375.9 (09:00)	387.5 (09:00)
		365.5 (16:00)	375.9 (16:00)	387.5 (16:00)

ELEVATIONS ARE REFERRED TO N.G.V.D. - CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE (L.W.R.P.) 134,000 C.F.S.

Survey Date: August 06, 2014

SUBMITTED:

Chief, Engr. Data Mngt. Sect.

File name: 194_148HD514_drp.dgn

Plot date: August 08, 2014
Plot scale: 1"=400'

Surveyed by: HANSON
Drawn by: TCJ
Edit by: RCA
Reviewed by:
APPROVED: Chief, Geospatial Branch

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

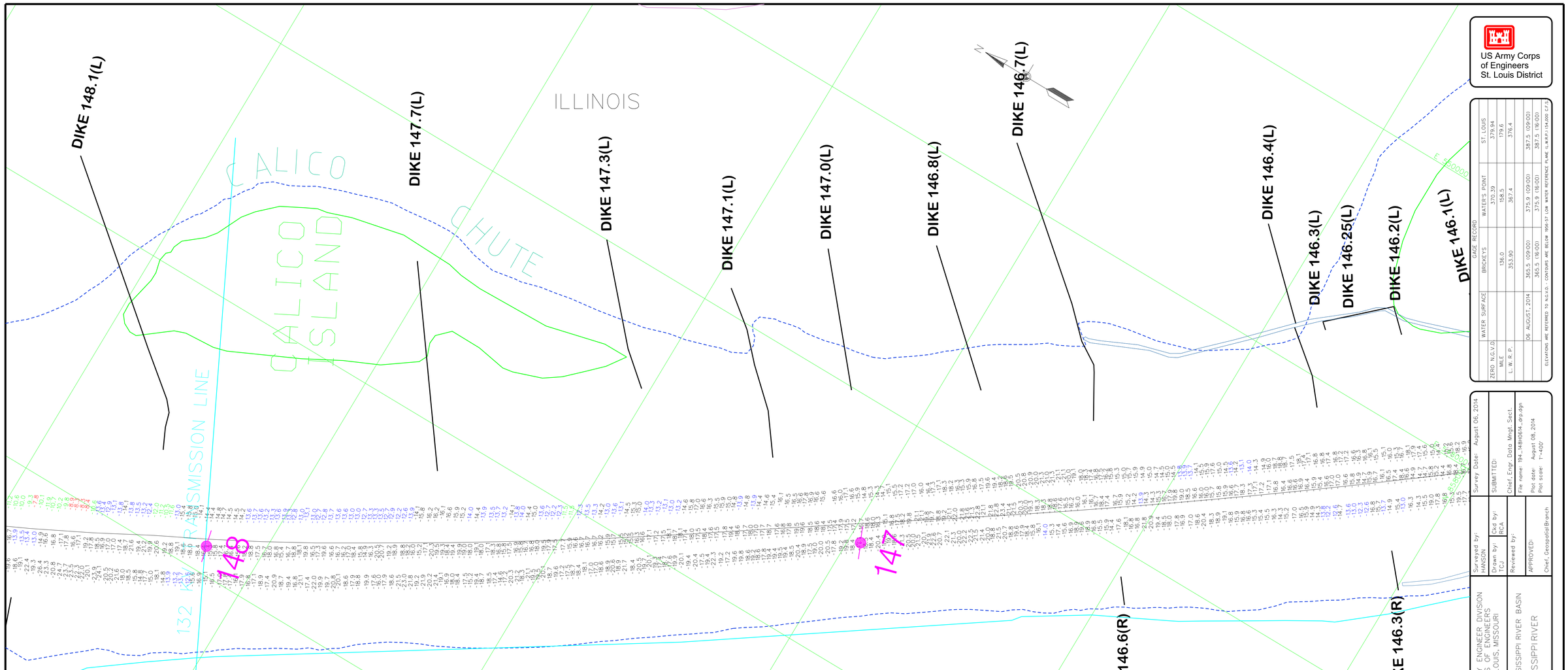
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS 120 0 120
800 FEET 400 0 400

THE INFORMATION REPORTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE AT THE TIME INDICATED AND MAY NOT BE REPRESENTATIVE OF GENERAL CONDITIONS EXISTING AT THAT TIME

CHANNEL SURVEY
MILE: 194.2-145.8

PLATE NUMBER



AUGUST 6, 2014
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	DRP (-3.5)	WS 09:00	WS 16:00	DRP (-3.5) DIFF 09:00	DRP (-3.5) DIFF 16:00
179.0	376.13	387.15	387.15	11.0	11.0
178.0	375.60	386.49	386.49	10.9	10.9
177.0	375.09	385.83	385.83	10.7	10.7
176.0	374.58	385.18	385.18	10.6	10.6
175.0	374.14	384.52	384.52	10.4	10.4
174.0	373.59	383.87	383.87	10.3	10.3
173.0	373.02	383.21	383.21	10.2	10.2
172.0	372.51	382.55	382.55	10.0	10.0
171.0	372.00	381.90	381.90	9.9	9.9
170.0	371.50	381.24	381.24	9.7	9.7
169.0	370.98	380.59	380.59	9.6	9.6
168.0	370.46	380.08	380.08	9.6	9.6
167.0	369.90	379.64	379.64	9.7	9.7
166.0	369.38	379.20	379.20	9.8	9.8
165.0	368.91	378.76	378.76	9.8	9.8
164.0	368.40	378.32	378.32	9.9	9.9
163.0	367.82	377.88	377.88	10.1	10.1
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161.0	366.85	376.99	376.99	10.1	10.1
160.0	366.32	376.55	376.55	10.2	10.2
159.0	365.80	376.11	376.11	10.3	10.3
158.0	365.30	375.66	375.66	10.4	10.4
157.0	364.73	375.20	375.20	10.5	10.5
156.0	364.22	374.73	374.73	10.5	10.5
155.0	363.72	374.27	374.27	10.6	10.6
154.0	363.19	373.81	373.81	10.6	10.6
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147.0	359.64	370.57	370.57	10.9	10.9
146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0

Channel Survey sounded by
Hanson Professional Services Inc.
August 06, 2014

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DRP = Dredging Reference Plane for 9-ft depth at -3.5 St. Louis and correlated to other gages downstream.

PRELIMINARY

US Army Corps of Engineers
St. Louis District

GAGE RECORD

	WATER SURFACE	BROOKEYS	WATER'S POINT	ST. LOUIS
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ELEVATIONS ARE REFERRED TO N.G.V.D. CONTOURS ARE BELOW 1956-57 LOW WATER REFERENCE PLANE. G:\APP\134.000 C.S.

Surveyed by: HANSON
Drawn by: TCJ
Ckd by: RCA
Reviewed by:
APPROVED:
Chief, Geospatial Branch

Survey Date: August 06, 2014
SUBMITTED:
Chief, Engr. Data Mngt. Sect.
File name: 194_148HD514_drp.dgn
Plot date: August 08, 2014
Plot scale: 1"=400'

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

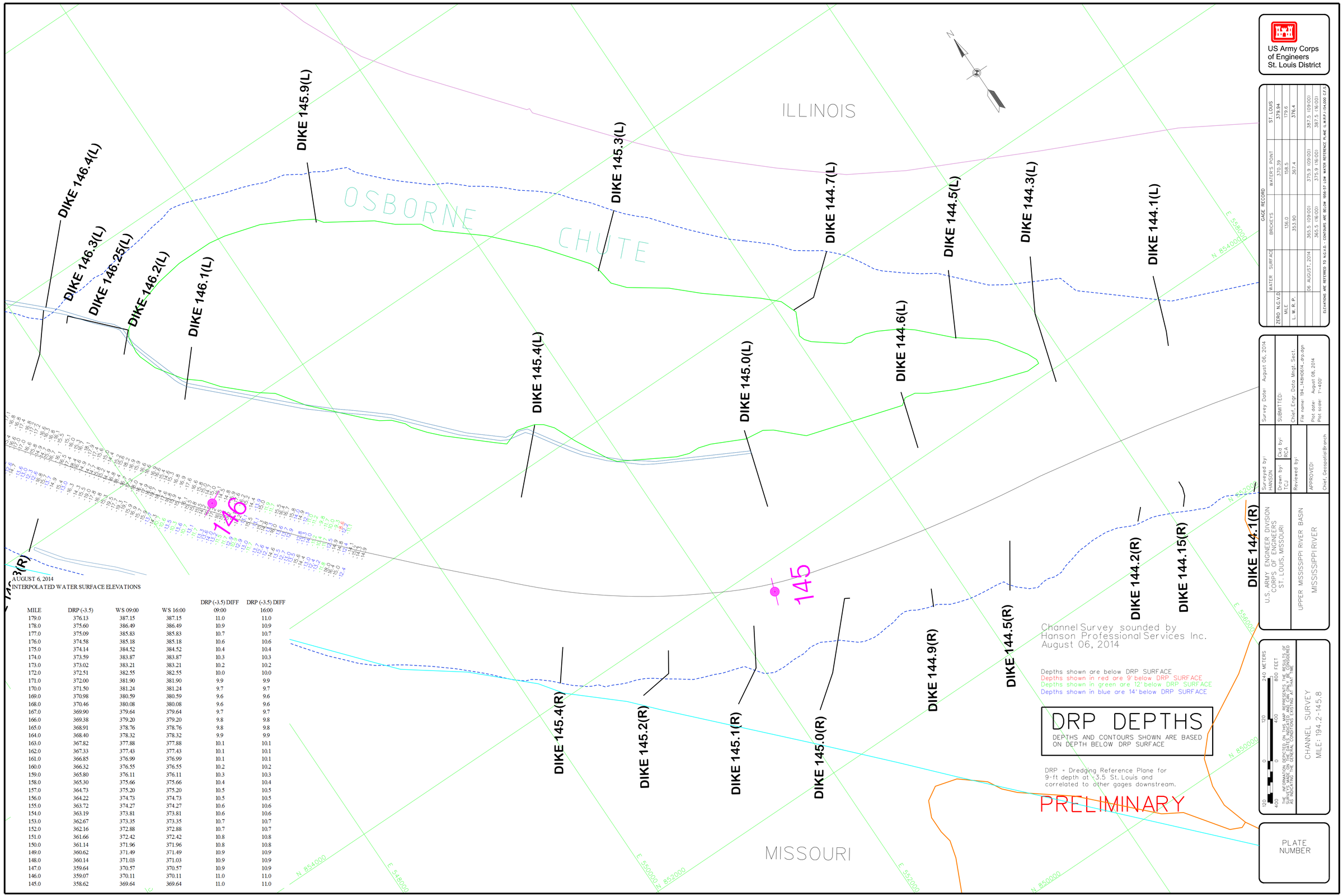
UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

240 METERS 120 0 120 400
800 FEET 400 0 400 1200

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

CHANNEL SURVEY
MILE: 194.2 - 145.8

PLATE NUMBER



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165.0	368.91	378.76	378.76	9.8	9.8
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146.0	359.07	370.11	370.11	11.0	11.0
145.0	358.62	369.64	369.64	11.0	11.0