



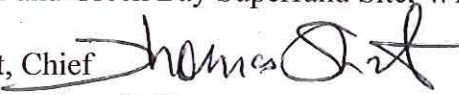
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590



JUN 14 2012

REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: Minor Change to Selected Remedy
Lower Fox River and Green Bay Superfund Site, WI

FROM: Thomas R. Short, Chief 
Remedial Response Branch #3

THROUGH:  Richard C. Karl, Director 
Superfund Division

TO: File

The purpose of this Memorandum to File is to explain and document a minor change to the remedy selected by EPA and the Wisconsin Department of Natural Resources ("Response Agencies") for the Lower Fox River and Green Bay Superfund Site ("Site") as a result of refinements made during the remedial design process.

The 2007 Record of Decision Amendment for Operable Units 2-5 at the Site recognizes that capping may be more feasible than dredging in areas where "deeply buried" contamination is covered by "relatively clean" sediment. In a set of January 23, 2012, comments on a draft submission made on behalf of NCR Corporation, the Agencies/Oversight Team ("A/OT") assembled by the Response Agencies indicated that: (1) contamination in Operable Unit 4 should be classified as "deeply buried" if it is covered by more than six feet of "relatively clean" sediment; and (2) the overlying sediment can qualify as "relatively clean" if its average PCB concentration does not exceed 10 parts per million. The Response Agencies have stated that any final decision on that proposed "6/10 Rule" would be made and documented in writing and placed in the Administrative Record for the Site.

The attached Technical Memorandum explains the Response Agencies' decision to depart from the remedial design concept known as the "6/10 Rule" and adopt an optimized remedial design approach for making decisions concerning dredging and/or capping of PCB-contaminated sediment at the Site. CERCLA guidance makes clear that "non-significant or minor changes" to a remedy that are made during remedial design process can and should be

documented by a “memo or note to the post-ROD file,” rather than by a more formal Explanation of Significant Differences or ROD Amendment. EPA, *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*, p. 7-2 (July 1999). In an example presented in that EPA guidance document, a 25% increase in the remediation volume with a “small percentage” cost increase is classified as a “minor change” that can be documented by a Memorandum to File. See p. 7-3. As explained in the accompanying Technical Memorandum, the application of the Response Agencies’ optimized remedial design approach is expected to make no material change in the estimated dredging remediation volume (a less than 1% increase as compared to the ROD Amendment estimate) and may yield an appreciable reduction in the estimated total cost of the OU 2-5 remedy (an estimated \$54 million cost decrease as compared to the ESD estimate). Consequently, it is appropriate to document this minor change to the selected remedy by a Memorandum to File.

This Memorandum to File and the associated Technical Memorandum are being placed in the Administrative Record for the Site.

Technical Memorandum to Support Review of Draft 100% Design

INTRODUCTION AND PURPOSE

This technical memorandum explains the direction taken by the Agencies/Oversight Team (A/OT) in developing additional and revised comments on the draft 100% Design for the remedial action (RA) for OU4 and the river mouth¹ area of OU5 (OU4/5) of the Lower Fox River. The A/OT was directed by the Agencies to produce design comments and modifications to optimize the existing draft design for the RA. These design comments and modifications were needed to assure that the final design was finalized and complied with the requirements spelled out in the 2007 Amended Record of Decision (ROD) and the subsequent 2010 Explanation of Significant Difference (ESD). The resulting modifications to the draft design will result in a more effective and efficient remedial action to reach the risk reduction goals within the requirements of the Amended ROD. For the remainder of this document, the term "ROD" includes the relevant portions of both of the previously issued RODs and ESD.

The ROD specifies Remedial Action Objectives (RAOs) for the remedy. The RAOs include:

- RAO 1: Achieve, to the extent practicable, surface water quality criteria throughout the Lower Fox River and Green Bay
- RAO 2: Protect humans who consume fish from exposure to Contaminants of Concern (COCs) that exceed protective levels
- RAO 3: Protect ecological receptors from exposure to COCs above protective levels
- RAO 4: Reduce transport of PCBs from the Lower Fox River into Green Bay and Lake Michigan
- RAO 5: Minimize the downstream movement of PCBs during implementation of the remedy

The ROD remedy specifies a Remedial Action Level (RAL) of 1.0 part per million (ppm) for PCBs and a remediation goal that attains a Surface Weighted Average Concentration (SWAC) of approximately 0.25 ppm PCBs for OU4/5.

The A/OT was directed to complete remedial design comments and modifications to ensure the completion of the 100% design. The A/OT considered a number of interpretations of the ROD wording relating to capping eligibility. One of significance was the so called "6/10 Rule", which is no longer being considered. Under that interpretation sediment would be dredged unless it was covered by at least 6-feet of sediment with less than 10 ppm. The 6/10 Rule was shared with the design team before it was fully analyzed. This approach was rejected after further analysis by the A/OT. The design approach described in this memo relies on an integrated, multi-factor set of analyses that are generated using an evaluation process developed by the A/OT that

¹ defined as a 1,500-foot radial distance from the mouth of the river (covering approximately 75 acres).

targeted dredging of sediment with higher concentrations of PCBs and capping lower concentrations of PCBs or deeply buried sediment. This design approach also allows for input from Annual Work Plans and the incorporation of Adaptive Management principles that take advantage of lessons learned as the remedial action progresses. The key ROD metrics used to evaluate the design are detailed in Attachment A.

HISTORY OF DESIGN APPROACH

The A/OT has been working closely with the RP's Design Team since 2007 through a collaborative workgroup process. The Design Team submitted the first draft of the 100% Design Report in late 2009. This collaborative effort prevailed until late 2011 when efforts to reach agreement on the comments were unsuccessful. The Agencies determined it was necessary for the A/OT to complete the 100% Design review and optimize the design. Below is a brief history of the design process to date.

The preliminary design concept for the project was included in the 2006 Basis of Design Report (BODR). The BODR proposed area-specific remedies using a core-by-core analysis and presented design mosaic plans (figures) that showed the projected remedial techniques. These figures were replicated in the ROD and were carried into remedial polygons in the 30% Design. The Responsible Parties' (RPs') Design Team (DT) used these remedial polygons to create dredge-only polygons, dredge and cap polygons, cap polygons, and sand cover polygons for OU2-5. For dredge-only areas the remediation volumes were based on dredge prisms with flat bottoms.

The A/OT repeatedly encouraged the DT to utilize a neat line dredging approach instead of flat bottomed dredge prisms, because neat line dredging had proven to be cost effective in the Operable Unit 1 (OU1) remedial action (RA). The neat line approach more accurately targets RAL sediment because it follows an undulating modeled cut line, rather than the flat bottom dredge prism approach. The prism approach requires over-dredging of non-RAL sediment to meet the same RAL sediment removal goal, and therefore results in a bias toward capping because it makes dredging less cost effective.

The 60% Design continued the prism dredging approach. In accordance with the ROD, the Agencies do not "approve" interim design documents. Therefore, the A/OT continued to submit comments recommending the use of neat line dredging as part of the 100% design completion.

The 2007 Unilateral Administrative Order (UAO) ordered commencement of the remedial action and development of Annual Work Plans concurrent with completion of the 100% Design. Annual Work Plans incorporated use of neat line dredging. As a result, the annual work plan development and review work was prioritized, and completion of the 100% Design was delayed. The use of neat line dredging also modified the assumptions regarding the cost of dredging versus the cost of capping.

Outstanding issues with the draft design submittals could not be collaboratively resolved. Despite this, the A/OT continued to work with the DT to keep the Remedial Action portion of the project on schedule through conditional approvals of Annual Work Plans without a final decision on the 100% Design. This collaborative effort was possible until 2011 because RA efforts were primarily focused on dredging.

To complete the review, the A/OT developed a Design Review Tool (DRT) to identify the appropriate modifications to the 100% Design. These modifications optimized the ROD metrics to be consistent with the criteria discussed below.

ROD CAPPING REQUIREMENTS

The A/OT modifications meet the intent and requirements of the ROD. The ROD states that the primary remedial approach (i.e., dredging) **“shall be used to remediate sediment with a PCB concentration exceeding the 1.0 ppm PCB RAL, unless the eligibility criteria for employing an alternate remedial approach in the specific area can be met and the alternate remedial approach is more feasible and more cost effective in that area.”** (Section XI. A. Page 34)

The ROD also states that it **“allows alternate remedial approaches such as capping in certain areas at the Site where those alternative approaches can help achieve the overall remedial objectives more quickly, more effectively, more feasibly, and at a lower cost.”** (Section XI, Page 29)

The ROD discusses capping requirements and eligibility criteria in several places. In summary, capping is allowed:

- In deeply buried navigation channel sediment where removal of non-RAL sediment is required to maintain stable side slopes
- At man-made structure areas that cannot be dredged (e.g., submerged utilities, bridges)
- Along shorelines that may be destabilized by dredging

As specified in the ROD, the A/OT modifications focus capping in the areas listed above as well as areas with thin deposits, low PCB concentration sediments, and other exception areas.

One key element of the A/OT modifications is increased use of the dredge and cap remedy. Shoaling of clean sediment on top of the caps will improve the long-term stability of the caps and reduce long-term risk.

BASIS FOR A/OT REMEDIAL DESIGN COMMENTS AND MODIFICATIONS

The ROD specifies that the “Amended Remedy adopt sediment removal dredging as the primary remedial approach for sediment exceeding the 1.0 ppm PCB RAL” (Section XI, P3ge 28). The ROD also allows capping and sand covering under certain circumstances. These design comments use the authorized and appropriate alternate remedies (i.e., capping, dredging/capping, and sand covering) provided in the ROD (2007 Amended ROD Section XIII, p. 47). Specific to dredging and capping the ROD states:

- “Dredging and off-site disposal of PCB-contaminated sediment. Dredging will be focused on sediments with higher PCB concentrations, particularly in areas subject to disruptive forces, having greater potential exposure to biota.”
- “In-place containment of PCB-contaminated sediments under engineered caps designed to provide long-term stability. Capping will generally be done where PCB concentrations are generally lower or where PCBs are less subject to erosive forces and/or deeply buried.”

The goals for this design review effort are to:

1. Ensure the design is consistent with the ROD and ESD (as stated above)
2. Attain the short-term risk goal of approximately 0.25 ppm SWAC by remediating PCB sediments \geq 1.0 ppm
3. Attain the long-term risk goal by capping sediments that are thin, deeply buried and/or lower PCB concentration
4. Ensure the cost is consistent with the 2010 ESD estimate of \$700.5 M (2009 US Dollars - USD)
5. Ensure the dredge volume is consistent with the ROD estimated dredge volume of 3.7 million cubic yards²

For purposes of this document:

- Short term risk to humans and biota are due to exposure to PCB contaminants
 - The RAL remains at 1.0 ppm PCB
 - The calculated post remediation SWAC must be approximately 0.25 ppm

² Total sediment removed from the river including RAL and overcut sediment (see Table 7 footnotes 2 and 5)

- Long term risk to humans and biota are due to exposure to PCB contaminants resulting from engineered cap failure(s)
 - Caps are conservatively designed to be permanent under anticipated conditions
 - Some cap areas may be subject to erosive forces from propeller wash and/or lower future lake elevations (i.e., lower than recorded elevations)
 - OU4 has the same hydraulic elevation as Lake Michigan. The future elevation of Lake Michigan cannot be adequately predicted

Subsequent to the release of the 2003 ROD, significant new data and information has been collected and gained through Infill Sampling and in-field practical experience with both capping and dredging during remedial action. Infill sampling has quadrupled the density of design data which provides better definition of the PCB deposits and better resolution of PCB gradients in the sediment column. Infill sampling is expected to be completed in 2012.

Experience with capping in OU1-3 has shown that caps can be placed in a variety of conditions in OU4/5. Dredging experience has shown the ability to effectively dredge PCB inventory while minimizing overcut volumes. Further, dredging experience has provided the Agencies with data on the characteristics of generated residuals. Generated residuals are the redistributed PCB contaminated sediments that result from the dredging process. This design review incorporated this information to comply with the ROD goals.

This design approach focuses on risk reduction by dredging sediments containing higher PCB concentrations (higher risk), and capping sediments with lower PCB concentrations (lower risk) or where higher PCB concentrations are deeply buried under lower PCB concentrations. This design approach fits directly with the requirements of the Amended ROD, which provides a balance of dredging and capping such that capping occurs in sediments that are less likely to pose a long-term risk from cap failure.

DESIGN REVIEW PROCESS OVERVIEW

This section describes the general process the A/OT followed to evaluate modifications to the 100% Design. Short and long-term risks have been balanced through analysis of a larger data set (than the BODR) that resulted from infill sampling and the modeling of sediment concentrations on a closer spaced grid. The intent of this review was to find the best compromise among the array of various ROD design criteria (i.e., design optimization).

An iterative analysis utilizing the DRT allowed the A/OT to analyze numerous remedy scenarios (125+). Several scenarios were selected that satisfied the requirements of the ROD.

The A/OT constructed the DRT using the following baseline source data from the DT:

1. 2008 and 2011 bathymetric surveys
2. 2008 and 2011 FIK models
3. Chemical core PCB data (2004 through 2011)
4. Dredge v. cap break points
5. Unit rates

Individual scenarios were generated by varying undercut dimension and average concentration breakpoint (ACB). These variables directly affect the design goal to preferentially dredge higher concentration sediment and cap lower concentration sediment. Undercut dimension is the thickness of RAL sediment remaining in a dredge and cap remedy. ACB is the sediment column average concentration below which a capping only remedy is designated. If the average concentration breakpoint is exceeded for a given location dredging to the undercut dimension followed by capping is designated. For example if the ACB is 6.0 ppm and the sediment column average concentration is 4.2 ppm, a cap remedy is designated. If the sediment column average concentration is 6.5 ppm the remedy designated is dredge and cap.

The A/OT then performed an engineering analysis of the selected scenarios. The analysis resulted in adjustments to areas where field conditions warranted a change to the selected remedy. This included integration of remedy alternatives based on neighboring remedies, and adjustments for constructability. This was done to ensure that adjacent alternatives are compatible. The outcome was the optimized design.

Table 1 compares the ROD performance metrics to the LLC's proposed design and the A/OT's optimized design. Table 2 provides optimized design selected input variables used to calculate the values in the optimized design in Table 1.

REMEDY DESIGNATION REFINEMENTS

The following paragraphs describe remedy refinements to meet the goals of the ROD. These remedy refinements provide options to dredge less non-RAL sediments, dredge sediments with higher PCB concentrations, and cap sediments with lower PCB concentrations. Further, there is more emphasis on sand covering and capping to manage residuals because residual dredging increases removal of non-RAL sediments.

Remedy sand cover: Remedy sand covers are allowed in circumstances where up to two intervals each greater than 1.0 ppm but less than 2.0 ppm (more than two intervals may be considered on a case by case basis). Remedy sand covers were previously designated for cores with only a single interval less than 2 ppm.

Lower Fox River RD/RA Oversight Support Services Project 87500
Agencies/Boldt Oversight Team
June 13, 2012

Confirm: In areas where production dredging has been performed use results of confirmation sampling to determine whether the area is acceptable or subject to residuals management using dredging, sand covering and/or capping.

Dredge Low Risk: In areas with low PCBs and thin deposits dredge to the neat line with zero-inches of overcut. Use results of confirmation sampling to determine whether the area is acceptable or subject to residuals management using dredging, sand covering and/or capping.

Use of B2 Caps in OU4A Navigation Channel: B2 caps are allowed in the OU4A Navigation Channel except when any core intervals contain greater than 50 ppm. This is allowed because the OU4A Navigation Channel is now designated as "caretaker status", routine navigation dredging is not expected, and large vessels (e.g., cargo) will not subject these areas to erosive forces.

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 June 13, 2012

Table 1 Comparison of ROD Metrics to LLC and Optimized Designs (Scenario 130)

ROD Metrics		Amended ROD	LLC Design	Difference between LLC and Amended ROD	Optimized Design	Difference between Optimized and Amended ROD
1	All RAL sediment remediated	Yes	Yes	None	Yes	None
2	SWAC approximately 0.25 ppm or less in OU4/5	0.25 ppm	0.26 ppm	0.01 ppm	0.26 ppm	0.01 ppm
3a	Volume of RAL sediment removed 3.16 million cy	3.160 million cy	3.361 million cy	0.201 million cy	3.314 million cy	0.154 million cy
3b	Volume of total sediment removed 3.70 million cy	3.700 million cy	4.200 million cy	0.500 million cy	3.721 million cy	0.021 million cy
3c	Volume of Non-RAL sediment	0.540 million cy	0.839 million cy	0.299 million cy	0.407 million cy	(0.133) million cy
4	64% of RAL PCB mass removed (Estimate based on constant RAL PCB concentration of 16 ppm)	64.0%	65.4%	1.4%	66.8%	2.8%
5	Estimated 450 acres or less of area capped	335 acres	296 acres	(39) acres	262 acres	(73) acres
6	Estimated 250 acres or less of remedy sand covered area	210 acres	130 acres	(80) acres	159 acres	(51) acres
7	Residual sand covering of dredged area to satisfy SWAC	306 acres	356 acres	50 acres	340 acres	34 acres
8	Time to remediate is nine (9) years	9.0 years	9.0 years	0.0 years	9.0 years	0.0 years
9	Total cost approximately \$700.5 million (2009 USD)	\$ 700.5 million	\$ 700.6 million	\$ 0.1 million	\$ 646.4 million	\$ (54.1)million

BOLDT.

Table 2 Optimized Design Input Variables (Scenario 130)	
Overcut Dimension below 0.5 LOS	0.5 ft
Percent of RAL Area to Residual Dredge	20%
Percent of RAL Area to Residual Sand Cover	60%
Depth of Residual Dredge	1.0 ft
L = Undercut Dimension above 0.5 LOS	1.8 ft
L' = L + 0.7 * (Mudline - "L"elevation)	70%
Average Concentration Break Point	6.00 ppm
When (Mudline elevation - "L"elevation) < 1.0 ft then: Final Mudline Elevation = EOC + L	
When (Mudline elevation - "L"elevation) ≥ 1.0 ft then: Final Mudline Elevation = EOC + L'	



CONCLUSION

By incorporation of the A/OT design review comments, the goals of the ROD will be met. These include:

1. a design consistent with the ROD
2. a short-term risk reduction goal of an approximate 0.25 ppm SWAC by remediating PCB sediments ≥ 1.0 ppm (estimated 0.26 ppm based on the ROD methodology)
3. a long-term risk reduction goal by capping sediments that are thin, deeply buried and/or lower PCB concentration
4. a lower cost of \$646.4 million (2012 USD) as compared to the 2010 ESD estimate of \$700.5 million (2009 USD) or \$725.2 million (2012 USD)
5. removal of 3.721 million total cubic yards of sediment

Table 3 (attached) lists the optimized design polygons in OU4/5.

Figures (attached)

Figures 100 Series – A/OT 100% Design Review Scenario 130
Polygons

Figures 200 Series – A/OT 100% Design Review Scenario 130
Mosaic Remedial Design Forecast

Figures 300 Series – A/OT 100% Design Review Scenario 130
Production Dredge Areas

Attachment A

KEY ROD METRICS

The remedial action required by the 2003 ROD, 2007 Amended ROD and 2010 ESD (collectively referred to as the ROD) specifies that it is primarily a removal action that preferentially targets removing sediment containing higher concentrations of PCBs (dredging), while allowing alternate remedial actions (capping and covering) to be used to address lower concentrations of PCB sediments and or deeply buried contaminated sediments.

The following presents the key ROD metrics (Table 6 "Summary of Changes to 2003 ROD," page 45 of the Amended ROD) used by the A/OT for reviewing the Draft 100% Remedial Design (RD) document to ensure that the 100% Design satisfies the requirements and intent of the ROD.

1. Remedial Action Level (RAL)
 - is defined as sediment containing PCB levels of 1.0 ppm or more
 - All RAL sediment is required to be remediated, i.e., dredged, capped and or covered
2. Surface Weighted Average Concentration (SWAC)
 - approximately 0.25 ppm or less for OU4/5
 - approximately 0.28 ppm or less for OU2/3
3. Volume of sediment removed
 - RAL sediment 3.16 million cy
 - Total sediment 3.70 million cy
4. 64% of total RAL PCB mass removed
5. Estimated 450 acres or less of area capped
6. Estimated 210 acres or less of remedy sand covered area
7. Residual sand covering of dredged areas will be required as necessary to meet the SWAC
8. Time to remediate is no more than nine (9) years
9. Total cost approximately \$700.5 million (2009 USD)

Table 3
Scenario 130 Polygon Summary

Polygon_ID	RevRem_ABB	FRAC	In-situ dry density of Solids from 2007 Amended ROD	OverDredgeDepth	ResidDredgePct	ResidSandPct	ResidDredgeDepth	UcDimension	z_cilt	meanNonZeroDoC2011	meanFinalMudLine	VolumeRemoved	VolumeRemaining	RaiArea_ac	P95_FinalMudLine	Over CuL Volume	Residual Dredge Volume	Residual Dredge Area	Mean L' Dimension	
4000.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	5.39 ft	562.87 ft	95.156 cy	- cy	11.0 acres	574.2 ft	8.834 cy	3.534 cy	6.6 acres		
4000.002	C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.67 ft	560.30 ft	- cy	9.633 cy	1.6 acres	575.7 ft	- cy	- cy	- acres		
4000.003	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.52 ft	574.08 ft	- cy	757 cy	0.6 acres	576.2 ft	- cy	450 cy	0.8 acres		
4000.004	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.65 ft	574.09 ft	- cy	0.65 ft	0.7 acres	577.5 ft	- cy	- cy	- acres		
4001.001	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.25 ft	573.77 ft	- cy	400 cy	0.7 acres	577.4 ft	- cy	- cy	- acres		
4003.001	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.36 ft	574.76 ft	899 cy	- cy	1.5 acres	575.4 ft	- cy	469 cy	0.9 acres		
4003.002	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.24 ft	574.68 ft	- cy	2,514 cy	0.5 acres	575.5 ft	- cy	2,064 cy	3.0 acres		
4003.003	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	5.84 ft	565.92 ft	7,788 cy	33,180 cy	4.4 acres	569.3 ft	- cy	- cy	- acres	4.7 ft	
4003.004	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.69 ft	566.43 ft	- cy	426 cy	0.4 acres	570.4 ft	- cy	174 cy	0.2 acres		
4003.005	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.51 ft	556.16 ft	- cy	2,103 cy	2.5 acres	558.1 ft	- cy	821 cy	0.2 acres		
4003.006	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.36 ft	567.01 ft	- cy	1,869 cy	3.2 acres	574.3 ft	- cy	1,046 cy	1.9 acres		
4004.001	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.65 ft	566.53 ft	- cy	1,697 cy	1.6 acres	558.8 ft	- cy	521 cy	1.0 acres		
4005.001	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.97 ft	573.62 ft	9,295 cy	- cy	9.9 acres	576.7 ft	- cy	1,912 cy	3.0 acres		
4007.001	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.48 ft	572.00 ft	5,919 cy	- cy	7.7 acres	574.0 ft	- cy	2,470 cy	4.0 acres		
4007.002	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.84 ft	572.00 ft	- cy	1,721 cy	1.7 acres	573.4 ft	- cy	- cy	- acres		
4007.003	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.38 ft	573.04 ft	- cy	4,608 cy	7.9 acres	575.9 ft	- cy	2,451 cy	4.6 acres		
4007.004	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	1.82 ft	534.46 ft	608 cy	- cy	0.4 acres	525.7 ft	- cy	343 cy	0.3 acres		
4007.005	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.33 ft	572.57 ft	- cy	1,728 cy	3.2 acres	575.1 ft	- cy	921 cy	0.3 acres		
4007.006	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	1.22 ft	571.94 ft	5,799 cy	- cy	2.9 acres	573.4 ft	- cy	157 cy	1.8 acres		
4007.007	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	1.52 ft	561.70 ft	758 cy	- cy	1.0 acres	569.3 ft	- cy	- cy	- acres	1.1 ft	
4007.008	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	2.24 ft	557.19 ft	367 cy	- cy	1.0 acres	561.9 ft	- cy	- cy	- acres	1.8 ft	
4008.001	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.63 ft	570.92 ft	1,531 cy	- cy	1.5 acres	572.2 ft	- cy	487 cy	0.9 acres		
4008.002	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.90 ft	554.82 ft	- cy	1 cy	0.0 acres	555.4 ft	- cy	2 cy	0.0 acres		
4008.003	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	2.50 ft	564.80 ft	1,756 cy	- cy	3.800 cy	1.4 acres	569.9 ft	- cy	- cy	- acres	1.7 ft
4008.004	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.25 ft	556.11 ft	- cy	8,094 cy	1.7 acres	557.9 ft	- cy	- cy	- acres		
4008.005	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.83 ft	550.10 ft	- cy	391 cy	0.1 acres	562.9 ft	- cy	- cy	- acres		
4008.006	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.54 ft	556.53 ft	- cy	2,693 cy	0.7 acres	563.2 ft	- cy	- cy	- acres		
4010.001	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.63 ft	558.70 ft	2,102 cy	- cy	2.1 acres	572.5 ft	- cy	672 cy	1.2 acres		
4010.002	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.56 ft	562.30 ft	- cy	2,045 cy	0.5 acres	568.4 ft	- cy	- cy	- acres		
4011.001	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.52 ft	557.90 ft	- cy	2,218 cy	0.4 acres	558.1 ft	- cy	- cy	- acres		
4011.002	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.49 ft	565.77 ft	- cy	2,884 cy	0.5 acres	569.3 ft	- cy	- cy	- acres		
4011.003	C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	4.08 ft	559.11 ft	- cy	23,865 cy	3.6 acres	561.6 ft	- cy	- cy	- acres		
4011.004	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.97 ft	558.58 ft	- cy	1,411 cy	0.2 acres	562.4 ft	- cy	- cy	- acres		
4011.005	D2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.54 ft	560.67 ft	- cy	1,549 cy	0.4 acres	564.9 ft	- cy	- cy	- acres		
4011.006	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	2.19 ft	562.00 ft	1,093 cy	- cy	594 cy	0.5 acres	566.7 ft	- cy	- cy	- acres	0.8 ft
4011.007	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	1.97 ft	560.33 ft	256 cy	- cy	1,216 cy	0.5 acres	564.3 ft	- cy	- cy	- acres	1.5 ft
4011.008	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	3.69 ft	564.12 ft	549 cy	- cy	1,545 cy	0.4 acres	560.1 ft	- cy	- cy	- acres	2.7 ft
4011.009	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.98 ft	563.72 ft	1,098 cy	- cy	2,158 cy	0.5 acres	566.1 ft	- cy	- cy	- acres	2.4 ft
4011.011	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.65 ft	559.17 ft	- cy	2,303 cy	0.5 acres	561.4 ft	- cy	- cy	- acres		
4011.012	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.55 ft	558.57 ft	- cy	1,289 cy	0.5 acres	559.3 ft	- cy	- cy	- acres		
4011.013	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.78 ft	558.86 ft	- cy	1,385 cy	0.3 acres	562.9 ft	- cy	- cy	- acres		
4012.001	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.94 ft	571.99 ft	- cy	1,583 cy	1.0 acres	575.2 ft	- cy	- cy	- acres		
4012.002	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	4.74 ft	566.41 ft	913 cy	- cy	3,074 cy	0.5 acres	569.3 ft	- cy	- cy	- acres	3.7 ft
4013.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.34 ft	569.64 ft	215 cy	- cy	0.4 acres	571.9 ft	314 cy	126 cy	0.2 acres		
4013.002	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.21 ft	574.86 ft	- cy	281 cy	0.8 acres	576.7 ft	- cy	- cy	- acres		
4013.003	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.51 ft	569.89 ft	- cy	6,937 cy	10.9 acres	573.2 ft	- cy	3,523 cy	6.6 acres		
4013.005	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	1.49 ft	569.18 ft	- cy	1,021 cy	0.4 acres	561.7 ft	- cy	137 cy	0.3 acres		
4013.006	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	2.33 ft	558.96 ft	1,465 cy	- cy	4,585 cy	1.6 acres	560.3 ft	- cy	- cy	- acres	1.8 ft
4013.007	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	2.09 ft	557.71 ft	738 cy	- cy	2,346 cy	0.9 acres	558.2 ft	- cy	- cy	- acres	1.6 ft
4013.008	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	1.78 ft	557.81 ft	353 cy	- cy	1,374 cy	0.6 acres	558.4 ft	- cy	- cy	- acres	1.4 ft
4013.009	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	2.23 ft	558.45 ft	- cy	2,800 cy	1.4 acres	560.3 ft	- cy	- cy	- acres		
4013.011	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	4.59 ft	569.78 ft	1,149 cy	- cy	3,784 cy	0.4 acres	560.3 ft	- cy	- cy	- acres	
4013.012	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.97 ft	555.85 ft	- cy	614 cy	0.4 acres	562.9 ft	- cy	120 cy	0.2 acres		
4013.013	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	1.75 ft	560.07 ft	- cy	657 cy	0.2 acres	564.4 ft	- cy	75 cy	0.1 acres		
4016.001	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.07 ft	576.40 ft	- cy	12 cy	0.1 acres	578.8 ft	- cy	- cy	- acres		
4017.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.22 ft	555.55 ft	3,101 cy	- cy	0.8 acres	556.3 ft	482 cy	193 cy	0.4 acres		
4018.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.09 ft	555.95 ft	2,630 cy	- cy	0.8 acres	556.8 ft	630 cy	252 cy	0.5 acres		
4018.002	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.20 ft	570.26 ft	- cy	2,079 cy	4.4 acres	576.9 ft	- cy	- cy	- acres		
4018.003	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.26 ft	558.80 ft	- cy	256 cy	0.4 acres	562.7 ft	- cy	142 cy	0.3 acres		
4019.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.17 ft	576.68 ft	214 cy	- cy	0.8 acres	577.3 ft	649 cy	250 cy	0.5 acres		
4020.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.95 ft	556.37 ft	200 cy	- cy	0.1 acres	557.0 ft	100 cy	42 cy	0.1 acres		
4020.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.25 ft	555.64 ft	7,872 cy	- cy	1.5 acres	550.3 ft	1,211 cy	484 cy	0.9 acres		
4020.003	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.49 ft	557.51 ft	1,495 cy	- cy	0.3 acres	576.1 ft	- cy	- cy	- acres		
4020.004	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.15 ft	556.43 ft	2,109 cy	- cy	0.0 acres	560.4 ft	- cy	149 cy	0.3 acres		
4021.001	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.44 ft	575.53 ft	- cy	4 cy	0.2 acres	566.4 ft	223 cy	89 cy	0.2 acres		
4021.002	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	3.31 ft	559.11 ft	1,716 cy	- cy	4,789 cy	1.2 acres	560.4 ft	- cy	979 cy	1.8 acres	
4022.001	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.30 ft	571.18 ft	- cy	3,895 cy	1.8 acres	576.8 ft	- cy	- cy	- acres	2.4 ft	
4022.002	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.68 ft	559.84 ft	- cy	781 cy	0.2 acres	559.3 ft	- cy	- cy	- acres		
4022.003	B2	0.7	0.45																	

Table 3
Scenario 130 Polygon Summary

Polygon_ID	Rev/Rem_ABB	FRAC	In situ dry density of Solids from 2007 Amended ROD	OverDredgeDepth	ResidDredgePct	ResidSandPct	ResidDredgeDepth	UcDimension	z_crit	meanNonZeroDoC2011	meanFinalMudLine	VolumeRemoved	VolumeRemaining	RstArea_ac	P95_FinalMudLine	Over Cut Volume	Residual Dredge Volume	Residual Dredge Area	Mean L' Dimension	
4022.006	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.28 ft	559.97 ft	- cy	35 cy	0.1 acres	562.3 ft	- cy	20 cy	0.0 acres		
4023.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.95 ft	553.53 ft	20,895 cy	- cy	1.8 acres	555.6 ft	1,445 cy	576 cy	1.1 acres		
4023.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	1.70 ft	550.92 ft	1,457 cy	- cy	0.5 acres	567.1 ft	428 cy	171 cy	0.3 acres		
4023.003	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.27 ft	572.68 ft	- cy	2,074 cy	0.9 acres	575.5 ft	- cy	2,226 cy	4.1 acres		
4023.004	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.50 ft	0.00 ft	NA	2.95 ft	556.11 ft	14,890 cy	- cy	3.1 acres	561.7 ft	2,520 cy	1,010 cy	1.9 acres		
4023.005	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	4.89 ft	557.50 ft	- cy	0.042 cy	1.1 acres	556.4 ft	- cy	- cy	- acres		
4023.006	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	3.27 ft	557.61 ft	1,738 cy	- cy	0.156 cy	1.3 acres	562.2 ft	- cy	- cy	3.0 ft	
4023.007	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	2.39 ft	561.07 ft	- cy	864 cy	0.2 acres	566.0 ft	- cy	72 cy	0.1 acres		
4023.008	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	1.68 ft	566.90 ft	192 cy	- cy	497 cy	0.2 acres	568.6 ft	- cy	- cy	1.3 ft	
4023.009	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.97 ft	567.15 ft	- cy	8,090 cy	1.4 acres	569.8 ft	- cy	- cy	- acres		
4023.010	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	9.31 ft	563.82 ft	1,368 cy	- cy	3,884 cy	0.3 acres	565.1 ft	- cy	- cy	6.9 ft	
4023.011	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	2.74 ft	562.47 ft	885 cy	- cy	3,075 cy	1.1 acres	560.5 ft	- cy	- acres	2.2 ft	
4023.012	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	4.68 ft	557.23 ft	3,282 cy	- cy	10,664 cy	1.6 acres	550.8 ft	- cy	- cy	3.0 ft	
4023.013	A2	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.00 ft	565.03 ft	- cy	4,149 cy	1.1 acres	570.0 ft	- cy	- cy	- acres		
4023.001	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.28 ft	568.31 ft	- cy	782 cy	1.7 acres	574.6 ft	- cy	593 cy	1.0 acres		
4023.001	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.12 ft	575.42 ft	- cy	198 cy	1.0 acres	576.4 ft	- cy	- cy	- acres		
4023.001	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.30 ft	576.55 ft	- cy	225 cy	0.8 acres	568.9 ft	- cy	- cy	- acres		
4023.002	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.12 ft	571.58 ft	- cy	434 cy	2.2 acres	573.8 ft	- cy	711 cy	1.3 acres		
4023.008	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.87 ft	570.95 ft	- cy	2,402 cy	1.7 acres	574.1 ft	- cy	- cy	- acres		
4028.001	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	1.01 ft	570.69 ft	- cy	30,064 cy	- cy	22.5 acres	571.9 ft	- cy	7,263 cy	13.5 acres	
4028.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	10.73 ft	568.21 ft	18,140 cy	- cy	1.0 acres	569.5 ft	845 cy	338 cy	0.0 acres		
4028.003	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	10.61 ft	556.04 ft	19,337 cy	- cy	1.1 acres	556.3 ft	912 cy	365 cy	0.7 acres		
4028.004	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	6.64 ft	559.87 ft	1,067 cy	- cy	0.2 acres	562.5 ft	148 cy	59 cy	0.1 acres		
4028.005	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	1.76 ft	571.65 ft	64,067 cy	- cy	22.5 acres	576.2 ft	10,169 cy	7,276 cy	13.5 acres		
4028.006	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.33 ft	571.12 ft	- cy	1,328 cy	2.5 acres	572.3 ft	- cy	- cy	- acres		
4028.007	SC1	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.90 ft	575.00 ft	- cy	2,336 cy	1.8 acres	570.5 ft	- cy	- cy	- acres		
4028.008	CONFIRM	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	1.88 ft	562.19 ft	- cy	6,352 cy	2.2 acres	565.7 ft	- cy	705 cy	1.3 acres		
4028.009	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.69 ft	571.19 ft	- cy	1,426 cy	1.3 acres	572.7 ft	- cy	- cy	- acres		
4028.010	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	7.43 ft	571.19 ft	- cy	0.4 acres	559.2 ft	309 cy	124 cy	0.2 acres			
4028.011	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2,096 ft	567.48 ft	4,591 cy	- cy	0.7 acres	572.2 ft	- cy	925 cy	210 cy	0.4 acres	
4028.012	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.12 ft	570.19 ft	- cy	2,096 cy	- cy	274.0 ft	- cy	- cy	- acres		
4028.013	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.55 ft	572.91 ft	- cy	980 cy	1.1 acres	576.2 ft	- cy	3,450 cy	1,382 cy	2.6 acres	
4028.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	1.88 ft	572.10 ft	2,267 cy	- cy	0.7 acres	574.9 ft	604 cy	242 cy	0.4 acres		
4028.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.47 ft	572.13 ft	1,201 cy	- cy	1.6 acres	572.8 ft	1,268 cy	515 cy	1.0 acres		
4030.001	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	14.02 ft	566.51 ft	15,039 cy	- cy	73,007 cy	3.9 acres	569.3 ft	- cy	- cy	- acres	11.6 ft
4030.002	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	12.64 ft	567.88 ft	12,226 cy	- cy	85,192 cy	4.4 acres	568.3 ft	- cy	- cy	- acres	11.9 ft
4030.003	D_B2	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	7.94 ft	567.88 ft	11,573 cy	- cy	55,944 cy	5.3 acres	560.3 ft	- cy	- cy	- acres	6.0 ft
4030.004	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.00 ft	575.90 ft	- cy	3,061 cy	2.8 acres	576.7 ft	- cy	900 cy	1.7 acres		
4030.005	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.96 ft	571.52 ft	- cy	10,302 cy	0.7 acres	570.7 ft	- cy	- cy	- acres		
4030.006	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.51 ft	576.30 ft	- cy	3,157 cy	3.8 acres	577.1 ft	- cy	- cy	- acres		
4030.007	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.75 ft	569.25 ft	- cy	23,262 cy	- cy	0.0 acres	577.2 ft	- cy	3 cy	0.0 acres	
4032.001	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.28 ft	569.82 ft	- cy	750 cy	19.4 acres	571.9 ft	- cy	6,267 cy	11.7 acres		
4032.002	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.38 ft	569.82 ft	- cy	3,548 cy	7.2 acres	577.0 ft	- cy	- cy	- acres		
4032.003	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.39 ft	570.95 ft	- cy	852 cy	1.3 acres	571.5 ft	- cy	- cy	- acres		
4032.004	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	4.73 ft	568.88 ft	12,057 cy	- cy	40,855 cy	6.0 acres	569.3 ft	- cy	- cy	- acres	3.7 ft
4038.001	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	15.23 ft	567.87 ft	2,811 cy	- cy	41,018 cy	1.8 acres	568.3 ft	- cy	- cy	- acres	14.2 ft
4038.002	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	13.58 ft	564.43 ft	6,667 cy	- cy	23,662 cy	1.5 acres	567.0 ft	- cy	- cy	- acres	9.9 ft
4038.003	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.00 ft	567.39 ft	51,941 cy	- cy	26.0 acres	570.4 ft	- cy	8,375 cy	15.6 acres		
4038.004	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.66 ft	568.55 ft	- cy	420 cy	0.4 acres	560.1 ft	- cy	- cy	- acres		
4038.005	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.59 ft	567.82 ft	- cy	1,284 cy	1.4 acres	566.7 ft	- cy	- cy	- acres		
4038.006	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.58 ft	568.33 ft	- cy	276 cy	0.3 acres	568.8 ft	- cy	- cy	- acres		
4038.009	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.68 ft	568.49 ft	- cy	340 cy	0.4 acres	569.2 ft	- cy	1,000 cy	2.0 acres		
4038.011	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	11.20 ft	566.30 ft	3,825 cy	- cy	15,731 cy	- cy	568.8 ft	- cy	- cy	- acres	9.0 ft
4037.001	D_LR	0.7	0.45 g/cc	0.00 ft	20%	60%	1.00 ft	0.00 ft	NA	0.32 ft	571.07 ft	42 cy	- cy	0.1 acres	571.4 ft	- cy	20 cy	0.0 acres		
4037.002	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.52 ft	568.24 ft	- cy	1,498 cy	0.8 acres	569.0 ft	- cy	- cy	- acres		
4037.003	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.46 ft	570.05 ft	- cy	1,789 cy	2.4 acres	570.9 ft	- cy	- cy	- acres		
4037.004	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.33 ft	567.59 ft	- cy	1,302 cy	0.6 acres	568.4 ft	- cy	- cy	- acres		
4037.005	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.25 ft	576.40 ft	- cy	24 cy	0.1 acres	576.5 ft	- cy	- cy	- acres		
4037.006	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.38 ft	573.95 ft	- cy	11,041 cy	5.0 acres	576.2 ft	- cy	- cy	- acres		
4038.001	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	14.83 ft	571.49 ft	43,454 cy	- cy	14.7 acres	574.6 ft	- cy	4,741 cy	8.8 acres		
4038.002	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	8.95 ft	566.04 ft	4,855 cy	- cy	10,990 cy	1.8 acres	568.3 ft	- cy	- cy	- acres	6.7 ft
4039.001	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	7.87 ft	565.84 ft	3,688 cy	- cy	12,273 cy	1.3 acres	567.0 ft	- cy	- cy	- acres	6.1 ft
4039.002	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.41 ft	571.80 ft	- cy	974 cy	1.5 acres	574.6 ft	- cy	- cy	- acres		
4039.003	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	0.72 ft	568.09 ft	2,267 cy	- cy	1,950 cy	3.6 acres	569.4 ft	- cy	- cy	- acres	0.3 ft
4040.001	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	0.39 ft	570.34 ft	945 cy	- cy	12 cy	1.5 acres	572.8 ft	- cy	- cy	- acres	0.0 ft
4040.002	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	6.36 ft	569.33 ft	11,823 cy	- cy	7,820 cy	1.3 acres	565.5 ft	- cy	- cy	- acres	3.7 ft
4040.003	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.59 ft	567.55 ft	- cy	5,199 cy	5.5 acres	569.9 ft	- cy	- cy	- acres		
4040.004	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	9.42 ft	558.06 ft</									

Table 3
Scenario 130 Polygon Summary

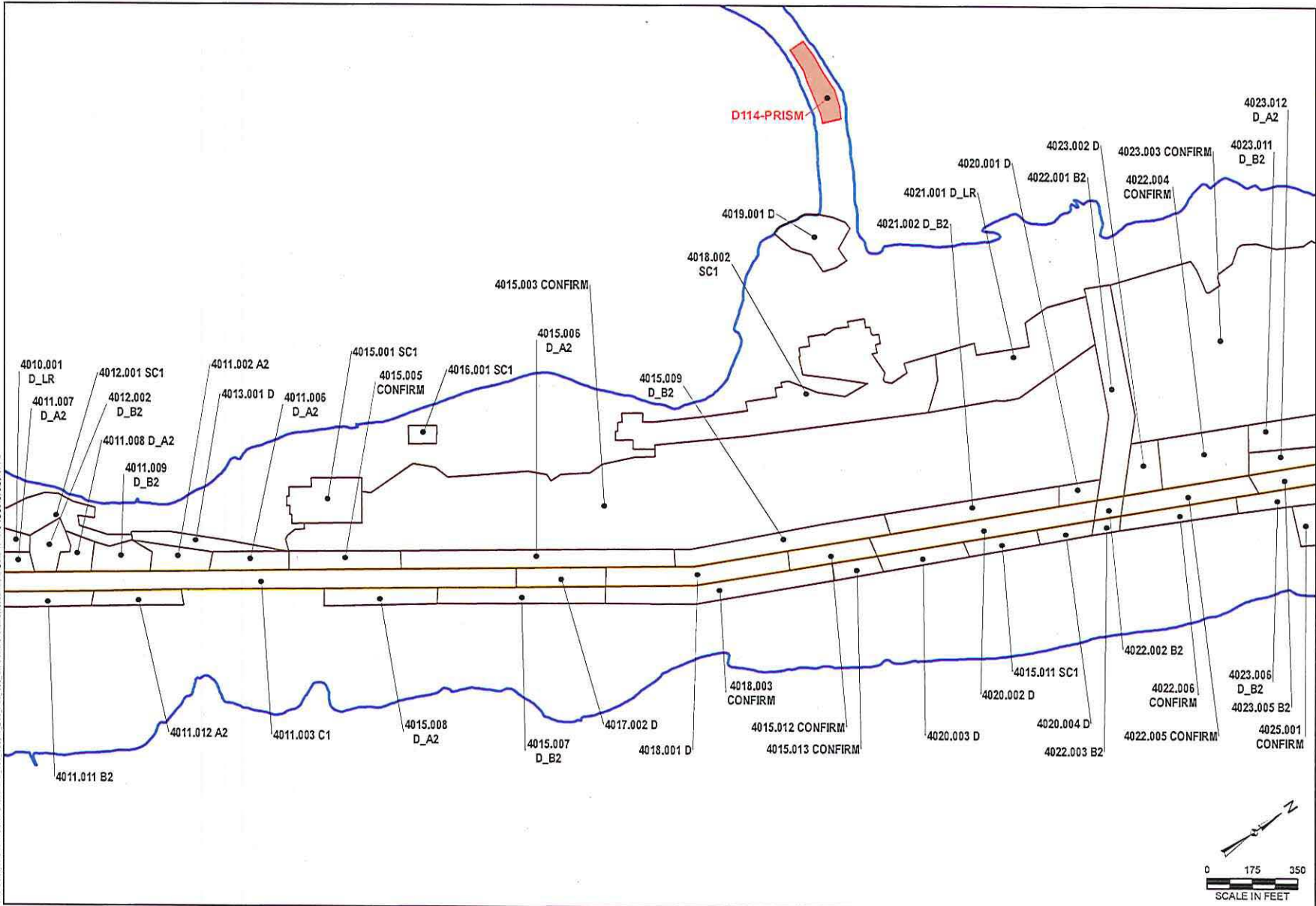
Polygon_ID	RevRem_ABB	FRAC	in-situ dry density of Solids from 2007 Amended ROD	OverDredgeDepth	ResidDredgePot	ResidSandPot	ResidDredgeDepth	UoDimension	z_crit	meanNonZoroDeC2011	meanFinalMudLine	VolumeRemoved	VolumeRemaining	RaArea_ac	P95_FinalMudLine	Over Cut Volume	Residual Dredge Volume	Residual Dredge Area	Mean L' Dimension
4042.006	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	2.69 ft	508.20 ft	8,507 cy	1,184 cy	2.2 acres	508.4 ft	- cy	- cy	- acres	0.3 ft
4041.001	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	5.57 ft	558.09 ft	- cy	25,074 cy	2.6 acres	561.5 ft	- cy	- cy	- acres	-
4041.002	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.42 ft	506.20 ft	- cy	1,440 cy	2.1 acres	507.2 ft	- cy	- cy	- acres	-
4042.001	SHC	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	4.12 ft	503.55 ft	- cy	973.52 cy	2.1 acres	575.6 ft	- cy	- cy	- acres	-
4044.001	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	4.22 ft	503.55 ft	42,981 cy	79,897 cy	18.1 acres	509.3 ft	- cy	- cy	- acres	2.7 ft
4044.002	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	5.26 ft	506.85 ft	4,121 cy	14,383 cy	1.8 acres	563.5 ft	- cy	- cy	- acres	4.9 ft
4044.003	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.96 ft	507.82 ft	- cy	4,654 cy	1.0 acres	571.9 ft	- cy	- cy	- acres	-
4044.004	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	4.65 ft	505.51 ft	- cy	22,300 cy	3.0 acres	571.6 ft	- cy	- cy	- acres	-
4045.001	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	12.57 ft	507.90 ft	915 cy	5,835 cy	0.3 acres	507.9 ft	- cy	- cy	- acres	11.2 ft
4045.002	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	11.72 ft	509.94 ft	3,344 cy	1,854 cy	0.3 acres	507.9 ft	- cy	- cy	- acres	4.2 ft
4045.003	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	7.22 ft	508.59 ft	- cy	- cy	- acres	509.3 ft	- cy	- cy	- acres	-
4045.004	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	8.75 ft	505.95 ft	- cy	8,838 cy	0.6 acres	506.4 ft	- cy	- cy	- acres	-
4047.001	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	8.74 ft	505.82 ft	8,080 cy	2,046 cy	0.7 acres	505.5 ft	- cy	- cy	- acres	1.8 ft
4047.002	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	7.76 ft	506.56 ft	18,592 cy	5,240 cy	2.0 acres	507.9 ft	- cy	- cy	- acres	1.9 ft
4047.003	SHC	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	7.11 ft	573.95 ft	- cy	3,075 cy	0.3 acres	576.0 ft	- cy	- cy	- acres	-
4047.004	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	6.50 ft	507.33 ft	- cy	492 cy	0.1 acres	509.3 ft	- cy	- cy	- acres	4.4 ft
4047.005	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	7.11 ft	573.95 ft	- cy	3,075 cy	0.3 acres	576.0 ft	- cy	- cy	- acres	-
4047.006	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.59 ft	509.20 ft	12,360 cy	5,120 cy	0.5 acres	506.7 ft	- cy	- cy	- acres	-
4047.007	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.23 ft	579.88 ft	- cy	2,071 cy	1.3 acres	577.3 ft	1,721 cy	689 cy	1.3 acres	-
4047.008	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	2.64 ft	502.28 ft	1,802 cy	1,901 cy	0.8 acres	523.6 ft	- cy	- cy	- acres	-
4048.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.29 ft	502.93 ft	15,872 cy	- cy	4.3 acres	573.4 ft	3,450 cy	1,354 cy	2.8 acres	1.3 ft
4048.002	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.03 ft	576.81 ft	- cy	6,218 cy	3.7 acres	576.6 ft	- cy	- cy	- acres	-
4048.003	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	5.05 ft	551.43 ft	41,776 cy	64,470 cy	13.0 acres	552.9 ft	- cy	- cy	- acres	3.1 ft
4048.004	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	5.28 ft	555.57 ft	- cy	3,911 cy	3.9 acres	571.3 ft	1,250 cy	2.2 acres	-	
4049.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.35 ft	573.17 ft	2,022 cy	- cy	0.4 acres	576.3 ft	300 cy	120 cy	0.3 acres	-
4049.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.94 ft	559.07 ft	4,888 cy	- cy	0.7 acres	503.0 ft	595 cy	238 cy	0.4 acres	-
4049.003	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	1.55 ft	506.09 ft	134,840 cy	- cy	12.9 acres	564.3 ft	10,419 cy	4,168 cy	7.8 acres	-
4049.004	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	6.47 ft	500.97 ft	- cy	5,800 cy	2.3 acres	575.6 ft	- cy	- cy	- acres	-
4050.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	10.71 ft	500.57 ft	1,161 cy	72,450 cy	15.3 acres	548.9 ft	54 cy	22 cy	0.0 acres	2.9 ft
4050.002	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	5.19 ft	548.72 ft	35,088 cy	- cy	1.2 acres	573.2 ft	88 cy	394 cy	0.7 acres	-
4051.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	8.51 ft	501.72 ft	16,785 cy	- cy	1.1 acres	577.1 ft	- cy	- cy	- acres	-
4053.001	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.17 ft	579.88 ft	- cy	1,151 cy	0.6 acres	577.1 ft	- cy	- cy	- acres	-
4053.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	1.62 ft	501.28 ft	15,320 cy	- cy	5.8 acres	573.3 ft	4,732 cy	1,893 cy	3.5 acres	-
4053.003	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.33 ft	507.20 ft	- cy	870 cy	0.4 acres	507.5 ft	- cy	- cy	- acres	-
4054.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.39 ft	555.99 ft	10,893 cy	- cy	2.0 acres	569.9 ft	1,807 cy	643 cy	1.2 acres	-
4054.002	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.22 ft	506.43 ft	- cy	3,542 cy	1.0 acres	576.5 ft	- cy	- cy	- acres	-
4054.003	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	7.13 ft	551.04 ft	- cy	8,896 cy	0.8 acres	552.1 ft	- cy	- cy	- acres	-
4054.004	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.85 ft	556.28 ft	- cy	3,050 cy	0.5 acres	567.3 ft	- cy	- cy	- acres	-
4054.005	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.23 ft	571.58 ft	- cy	1,434 cy	0.3 acres	573.5 ft	- cy	- cy	- acres	-
4055.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.26 ft	572.84 ft	26,155 cy	- cy	7.2 acres	574.8 ft	5,782 cy	2,313 cy	4.3 acres	-
4055.002	D_C1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	0.08 ft	549.98 ft	45,344 cy	- cy	8.0 acres	500.3 ft	- cy	- cy	- acres	2.8 ft
4055.003	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	4.19 ft	559.18 ft	37,158 cy	- cy	5.5 acres	596.5 ft	4,436 cy	1,778 cy	3.3 acres	-
4055.004	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.37 ft	571.45 ft	- cy	6,719 cy	3.0 acres	573.2 ft	- cy	- cy	- acres	-
4055.005	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.88 ft	560.07 ft	7,203 cy	- cy	1.2 acres	568.7 ft	821 cy	371 cy	0.7 acres	-
4057.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.61 ft	560.80 ft	9,917 cy	- cy	2.4 acres	568.9 ft	1,899 cy	759 cy	1.4 acres	-
4057.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.34 ft	546.09 ft	1,981 cy	- cy	0.5 acres	546.5 ft	423 cy	169 cy	0.3 acres	-
4057.003	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	8.31 ft	539.91 ft	19,116 cy	- cy	1.4 acres	547.5 ft	1,150 cy	460 cy	0.9 acres	-
4057.004	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.49 ft	545.33 ft	485 cy	- cy	0.1 acres	550.3 ft	69 cy	28 cy	0.1 acres	-
4058.001	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	3.77 ft	507.91 ft	4,618 cy	13,787 cy	3.0 acres	505.5 ft	- cy	- cy	- acres	2.8 ft
4058.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.94 ft	546.43 ft	44,907 cy	- cy	0.5 acres	551.7 ft	7,632 cy	3,053 cy	5.7 acres	-
4059.001	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.00 ft	554.94 ft	2,776 cy	- cy	1.1 acres	557.4 ft	860 cy	340 cy	0.6 acres	-
4060.001	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.01 ft	553.01 ft	- cy	7,440 cy	1.5 acres	557.3 ft	- cy	- cy	- acres	-
4060.002	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.91 ft	552.72 ft	- cy	8,357 cy	1.2 acres	554.4 ft	- cy	- cy	- acres	-
4060.003	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.34 ft	559.26 ft	- cy	13,128 cy	1.3 acres	562.0 ft	- cy	- cy	- acres	-
4060.004	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	4.87 ft	563.10 ft	- cy	26,081 cy	2.4 acres	574.1 ft	- cy	- cy	- acres	-
4060.005	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.73 ft	571.70 ft	4,602 cy	- cy	1.0 acres	575.7 ft	843 cy	337 cy	0.8 acres	-
4061.001	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.01 ft	554.53 ft	- cy	644 cy	0.2 acres	559.7 ft	- cy	- cy	- acres	-
4061.002	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.99 ft	548.77 ft	- cy	1,906 cy	0.4 acres	553.4 ft	- cy	- cy	- acres	-
4061.003	B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.05 ft	558.13 ft	- cy	2,801 cy	0.6 acres	563.2 ft	- cy	- cy	- acres	-
4062.001	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.84 ft	554.11 ft	- cy	2,642 cy	0.9 acres	558.2 ft	- cy	- cy	- acres	-
4062.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.96 ft	558.93 ft	122 cy	- cy	0.1 acres	560.4 ft	63 cy	25 cy	0.0 acres	-
4063.001	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.57 ft	557.59 ft	- cy	886 cy	1.0 acres	563.3 ft	- cy	- cy	- acres	-
4063.002	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	6.0 ppm	1.89 ft	548.04 ft	23,151 cy	- cy	7.6 acres	554.0 ft	0,120 cy	2,448 cy	4.0 acres	-
4063.003	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.15 ft	550.26 ft	862 cy	- cy	0.7 acres	552.2 ft	- cy	- cy	- acres	1.6 ft
4063.004	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.86 ft	560.24 ft	123 cy	- cy	0.1 acres	560.6 ft	71 cy	29 cy	0.1 acres	-
4063.005	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.73 ft	556.40 ft	- cy	6,154 cy	2.2 acres	575.8 ft	- cy	- cy	- acres	-
4063.006	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.46 ft	555.61 ft	- cy	114 cy	0.2 acres	568.7 ft	- cy	- cy	- acres	-
4063.007	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.56 ft	548.34 ft	429 cy	- cy	0.5 acres	559.2 ft	385 cy	154 cy	0.3 acres	-
4065.001	C1	0.7																	

Table 3
Scenario 130 Polygon Summary

Polygon_ID	RevRem_ABB	FRAC	In-situ dry density of Solids from 2007 Amended ROD	OverDredgeDepth	ResidDredgePct	ResidSandPct	ResidDredgeDepth	UcDimension	Z_0ft	meanNonZeroDeCo2011	meanFinalMudLine	VolumeRemoved	VolumeRemaining	RatArea_ac	P05_FinalMudLine	Over Cut Volume	Residual Dredge Volume	Residual Dredge Area	Mean L' Dimension
4050.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	1.20 ft	550.21 ft	0.602 cy	- cy	4.5 acres	552.2 ft	3.632 cy	1.453 cy	2.7 acres	
4050.003	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	1.12 ft	555.76 ft	826 cy	- cy	0.5 acres	558.5 ft	415 cy	160 cy	0.3 acres	
4050.004	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.62 ft	562.48 ft	- cy	- cy	0.5 acres	572.4 ft	- cy	- cy	- acres	
4050.002	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.80 ft	561.20 ft	- cy	7.077 cy	5.1 acres	571.3 ft	- cy	- cy	- acres	
4073.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.02 ft	561.52 ft	19,142 cy	- cy	3.8 acres	568.0 ft	3,171 cy	1,268 cy	2.4 acres	
4074.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.58 ft	553.33 ft	4,122 cy	- cy	1.9 acres	561.0 ft	736 cy	310 cy	0.6 acres	
4074.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.42 ft	553.25 ft	38,954 cy	- cy	10.9 acres	557.7 ft	8,853 cy	3,223 cy	6.0 acres	
4074.003	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	0.0 ppm	5.67 ft	567.02 ft	15,050 cy	18,150 cy	3.7 acres	568.5 ft	- cy	- cy	- acres	3.0 ft
4074.004	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	0.0 ppm	5.83 ft	564.30 ft	12,198 cy	21,600 cy	3.8 acres	569.3 ft	- cy	- cy	- acres	3.7 ft
4081.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.03 ft	556.02 ft	1,710 cy	- cy	0.3 acres	565.8 ft	237 cy	95 cy	0.2 acres	
4082.001	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.89 ft	574.59 ft	- cy	2,589 cy	1.8 acres	576.9 ft	- cy	- cy	- acres	
4084.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.61 ft	572.51 ft	12,084 cy	- cy	2.9 acres	575.7 ft	2,319 cy	827 cy	1.7 acres	
4084.002	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	3.00 ft	567.59 ft	- cy	1,663 cy	0.4 acres	575.1 ft	- cy	- cy	- acres	
4084.004	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	0.0 ppm	2.35 ft	559.53 ft	4,775 cy	12,540 cy	4.0 acres	560.3 ft	- cy	- cy	- acres	1.7 ft
4085.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.76 ft	565.34 ft	5,425 cy	- cy	0.9 acres	574.8 ft	718 cy	287 cy	0.5 acres	
4085.002	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.50 ft	566.04 ft	- cy	6,951 cy	1.6 acres	576.2 ft	- cy	- cy	- acres	
4087.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	0.75 ft	552.14 ft	4,847 cy	- cy	0.1 acres	568.5 ft	- cy	1,960 cy	3.7 acres	
4087.002	D_LR	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.48 ft	555.72 ft	24,400 cy	- cy	15.9 acres	562.7 ft	12,802 cy	5,121 cy	9.9 acres	
4087.003	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.33 ft	549.44 ft	59,539 cy	- cy	17.9 acres	567.3 ft	12,802 cy	5,121 cy	9.9 acres	
4087.004	D_A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	0.0 ppm	5.24 ft	566.26 ft	19,189 cy	47,540 cy	7.0 acres	569.3 ft	- cy	- cy	- acres	3.7 ft
4087.005	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	5.51 ft	551.33 ft	22,964 cy	- cy	2.8 acres	561.9 ft	2,082 cy	833 cy	1.5 acres	
4087.006	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.49 ft	568.54 ft	10,021 cy	- cy	1.8 acres	574.0 ft	1,436 cy	574 cy	1.1 acres	
4089.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	4.69 ft	567.07 ft	19,173 cy	- cy	2.6 acres	575.0 ft	2,958 cy	823 cy	1.5 acres	
4089.002	A2	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.03 ft	570.04 ft	20,176 cy	- cy	3.2 acres	573.4 ft	2,568 cy	1,027 cy	1.9 acres	
4089.003	A2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.52 ft	562.81 ft	- cy	87,200 cy	8.3 acres	567.0 ft	- cy	- cy	- acres	
4091.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	2.41 ft	570.08 ft	12,236 cy	- cy	3.1 acres	572.5 ft	2,529 cy	1,010 cy	1.9 acres	
5001.001	DC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	0.74 ft	573.37 ft	- cy	9,502 cy	0.0 acres	574.1 ft	- cy	- cy	- acres	
5001.002	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	6.17 ft	548.15 ft	87,757 cy	- cy	0.8 acres	552.3 ft	7,922 cy	3,160 cy	5.9 acres	
5001.003	D_B2	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	1.75 ft	0.0 ppm	5.32 ft	563.27 ft	4,344 cy	17,154 cy	2.5 acres	560.3 ft	- cy	- cy	- acres	4.2 ft
5002.001	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA	3.90 ft	560.36 ft	32,612 cy	- cy	5.1 acres	571.4 ft	4,118 cy	1,647 cy	3.1 acres	
5002.002	SC1	0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	1.32 ft	568.47 ft	- cy	14,437 cy	6.8 acres	570.4 ft	- cy	- cy	- acres	
blank		0.7	0.45 g/cc	0.00 ft	NA	NA	NA	0.00 ft	NA	2.22 ft	567.69 ft	- cy	54,293 cy	15.1 acres	577.4 ft	- cy	- cy	- acres	
Polygon Total within 2011 FIK Model												1,733,431 cy	1,480,311 cy	686.7 acres		162,341 cy	118,557 cy	280,897 ft acres	
Phase 1	A2			0.00 ft	NA	NA	NA	0.00 ft	NA			- cy	33,959 cy	21.0 acres		- cy	- cy	- acres	
D114-PRISM	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			1,200 cy	- cy	0.5 acres		403 cy	161 cy	0.3 acres	
D35M	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			1,737 cy	- cy	0.8 acres		720 cy	290 cy	0.5 acres	
D66C	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			- cy	- cy	0.1 acres		40 cy	16 cy	0.0 acres	
D66D	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			- cy	- cy	0.1 acres		81 cy	32 cy	0.1 acres	
D75	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			- cy	- cy	0.2 acres		161 cy	65 cy	0.1 acres	
D130C	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			- cy	- cy	0.2 acres		161 cy	65 cy	0.1 acres	
D136D	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			- cy	- cy	0.1 acres		40 cy	16 cy	0.0 acres	
D140A-PRISM	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			- cy	- cy	0.1 acres		81 cy	32 cy	0.1 acres	
D145D-PRISM	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			- cy	- cy	0.8 acres		720 cy	290 cy	0.5 acres	
D90	D	0.7	0.45 g/cc	0.50 ft	20%	60%	1.00 ft	0.00 ft	NA			- cy	- cy	1.1 acres		887 cy	355 cy	0.7 acres	
Production Dredge Area Outside of 2011 FIK	CONFIRM			0.00 ft	20%	60%	1.00 ft	0.00 ft	NA			- cy	- cy	0.1 acres		40 cy	16 cy	0.0 acres	
												1,736,461 cy	1,514,270 cy	827.6 acres		165,688 cy	157,229 cy	322,917 ft acres	

List of Polygons OUTSIDE of the 2011 FIK MODEL:
D-402-A, D-402-Q, D-402-R, D-402-S,
D-406-F,
D-407-N, D-407-Q,
D-409-C, D-409-D, D-409-E,
D-409-C, D-409-D, D-409-E,
Phase 1
115.7 Acres of Production Dredging (2008 FIK RAL Area Minus 2011 FIK RAL Area)

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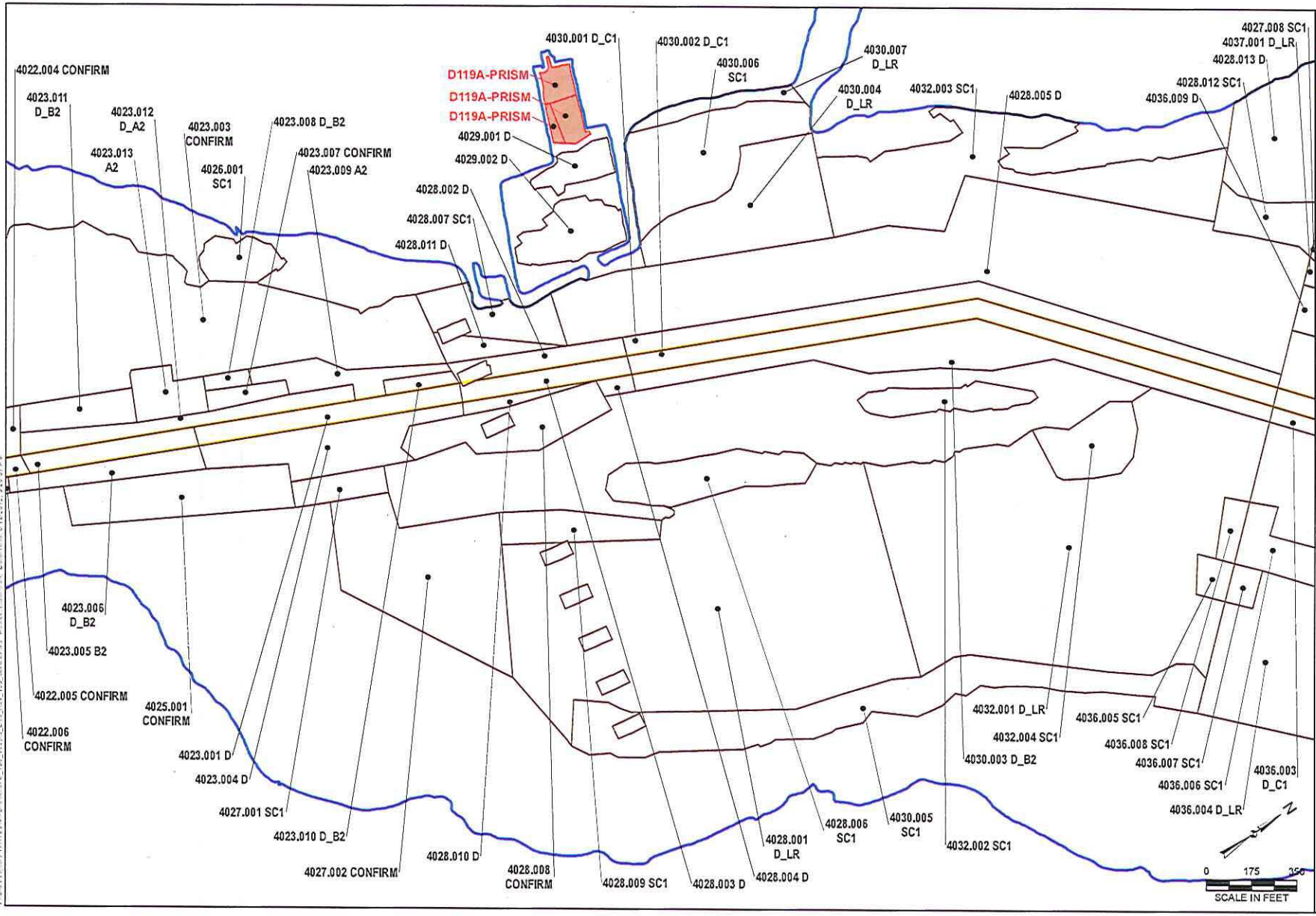


- REMEDY AREA
- LLC POLYGONS
- OUTSIDE FIK FOOTPRINT
- NAV. CHANNEL
- WATERLINE

**A/OT 100% DESIGN REVIEW
SCENARIO 130**
LOWER FOX RIVER, GREEN BAY, WISCONSIN

FIGURE NO. 102
DATE: 6/11/12

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- REMEDY AREA
- LLC POLYGONS
- OUTSIDE FIK FOOTPRINT
- NAV. CHANNEL
- WATERLINE

A/OT 100% DESIGN REVIEW
SCENARIO 130
LOWER FOX RIVER, GREEN BAY, WISCONSIN

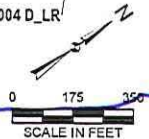
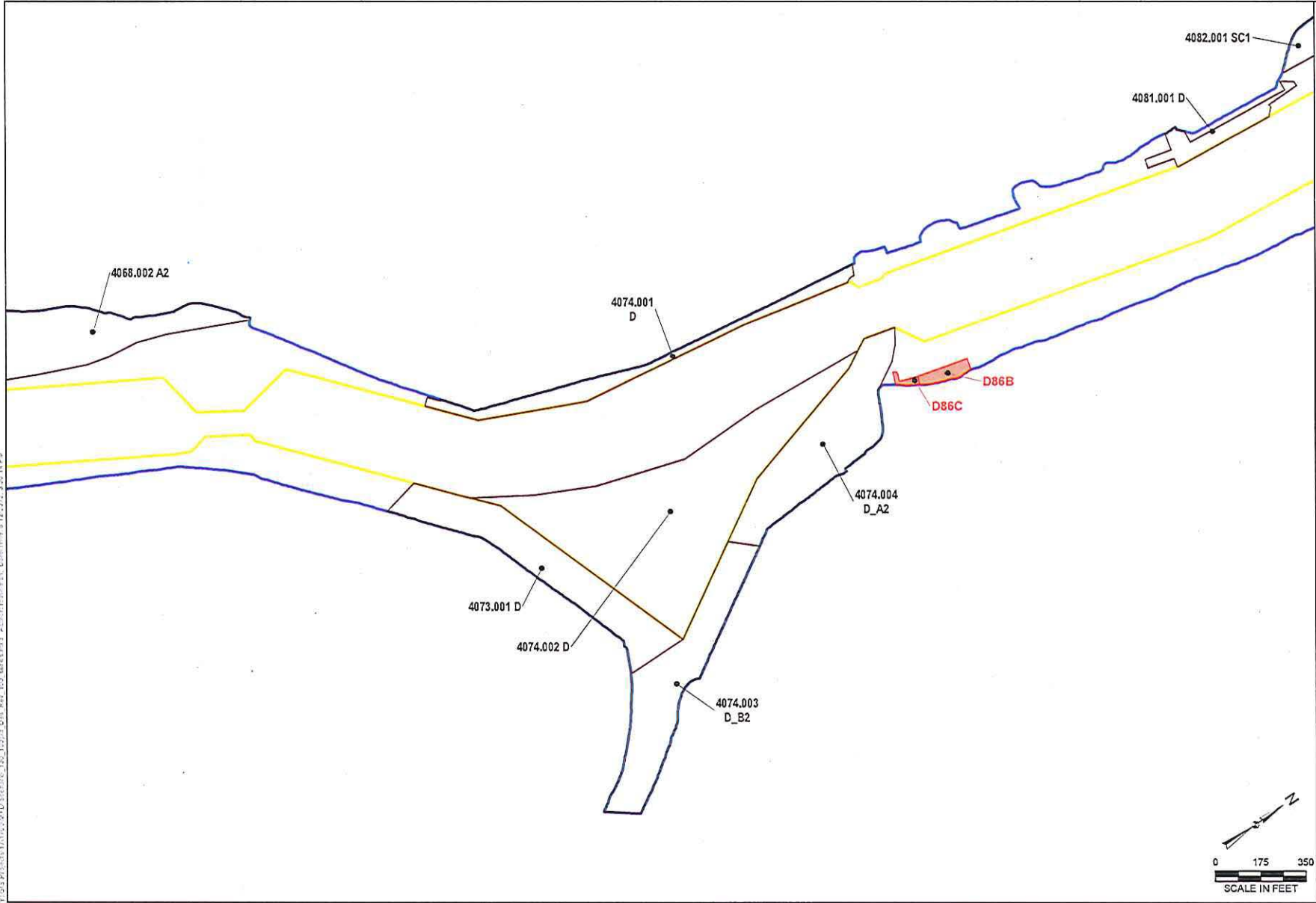


FIGURE NO. 103
DATE: 6/11/12

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- REMEDY AREA
- LLC POLYGONS
- OUTSIDE FIK FOOTPRINT
- NAV. CHANNEL
- WATERLINE

A/OT 100% DESIGN REVIEW
SCENARIO 130
LOWER FOX RIVER, GREEN BAY, WISCONSIN

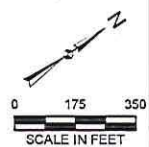
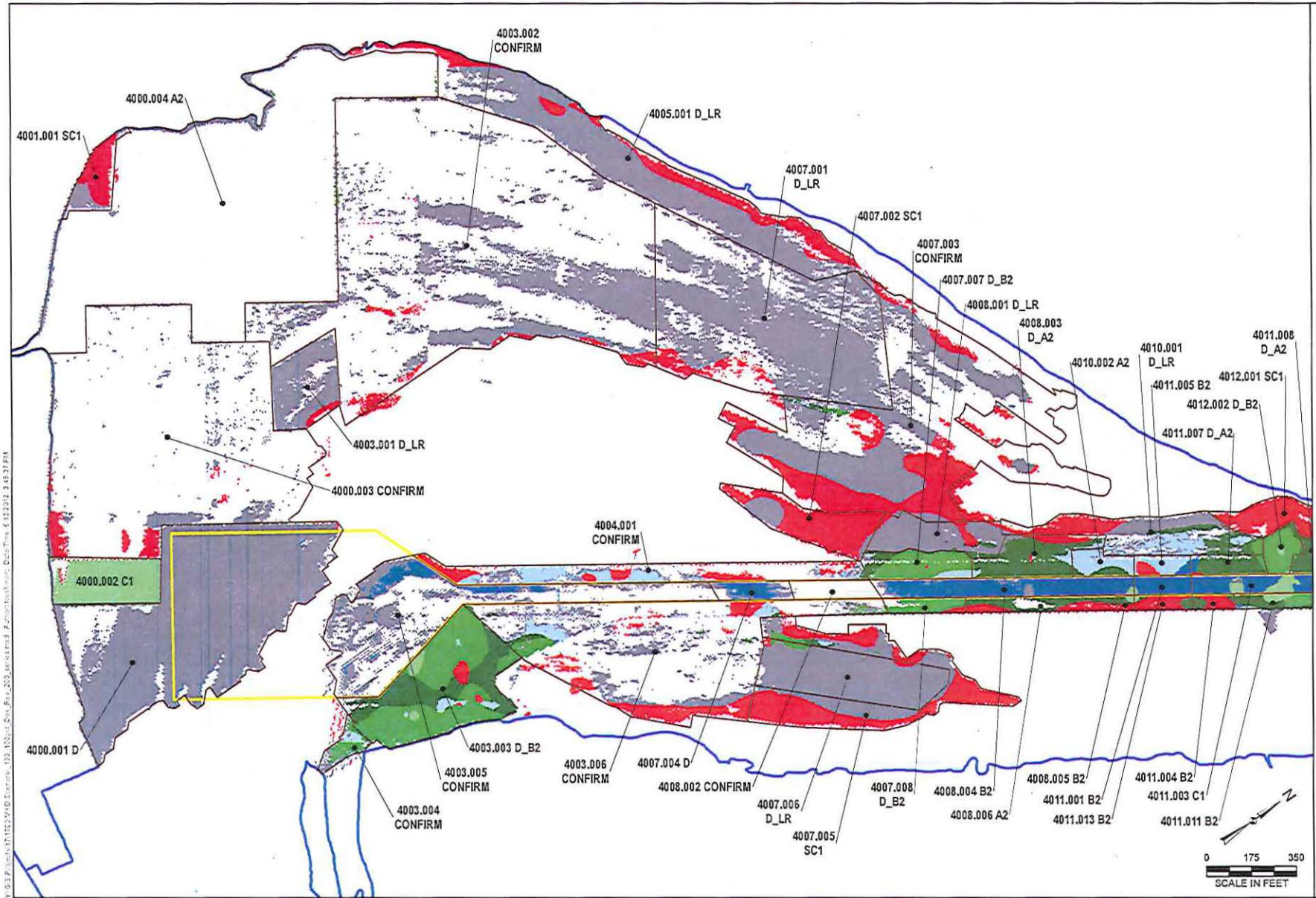


FIGURE NO. 107
DATE: 6/11/12



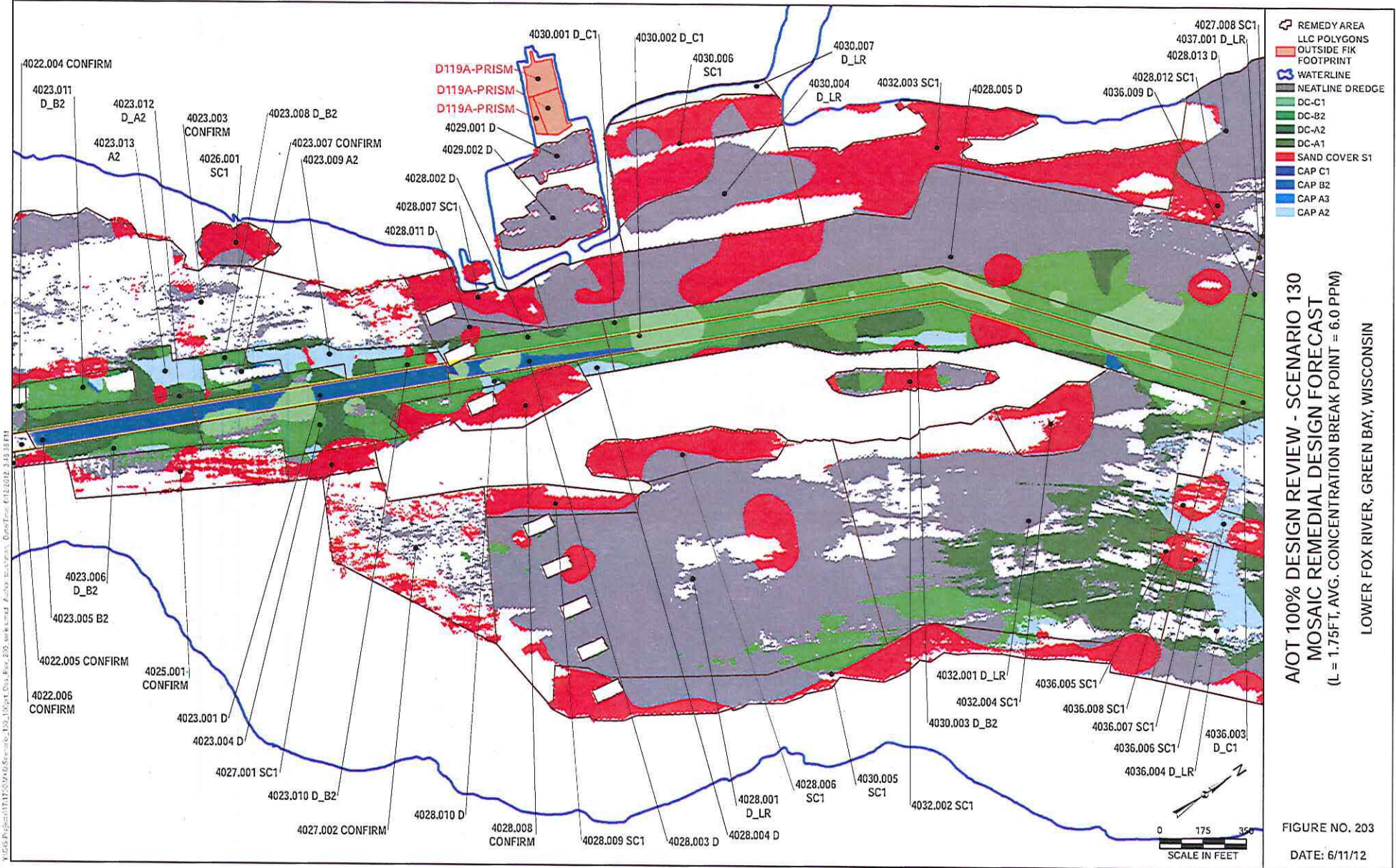
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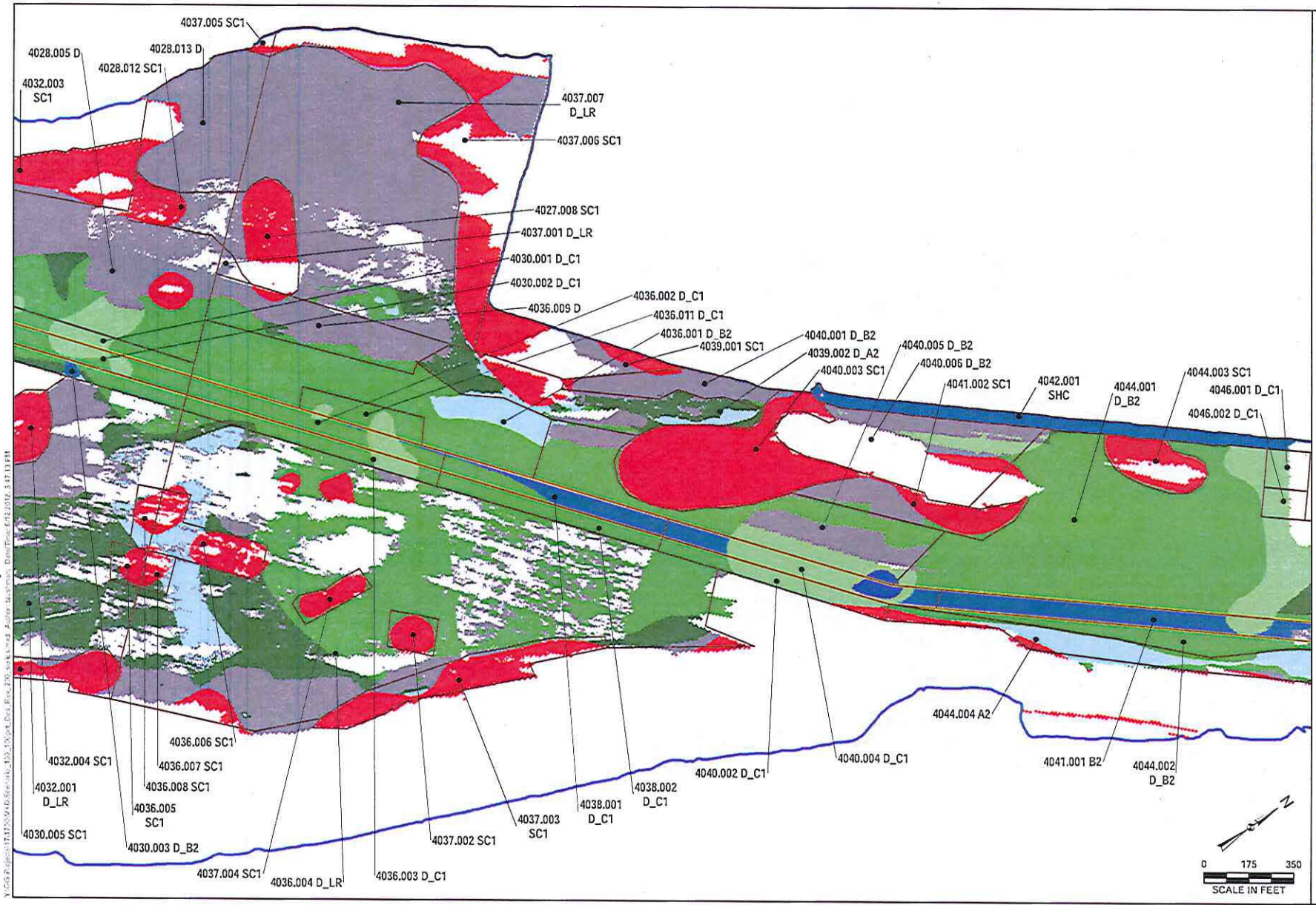
- REMEDY AREA
- LLC POLYGONS
- OUTSIDE FIK FOOTPRINT
- WATERLINE
- NEATLINE DREDGE
- DC-C1
- DC-B2
- DC-A2
- DC-A1
- SAND COVER S1
- CAP C1
- CAP B2
- CAP A3
- CAP A2

AVOT 100% DESIGN REVIEW - SCENARIO 130
MOSAIC REMEDIAL DESIGN FORECAST
 (L = 1.75FT, AVG. CONCENTRATION BREAK POINT = 6.0 PPM)

LOWER FOX RIVER, GREEN BAY, WISCONSIN

FIGURE NO. 201
 DATE: 6/11/12





- REMEDY AREA
- LLC POLYGONS
- OUTSIDE FIK FOOTPRINT
- WATERLINE
- NEATLINE DREDGE
- DC-C1
- DC-B2
- DC-A2
- DC-A1
- SAND COVER S1
- CAP C1
- CAP B2
- CAP A3
- CAP A2

A/OT 100% DESIGN REVIEW - SCENARIO 130
MOSAIC REMEDIAL DESIGN FORECAST
 (L = 1.75FT, AVG. CONCENTRATION BREAK POINT = 6.0 PPM)

LOWER FOX RIVER, GREEN BAY, WISCONSIN

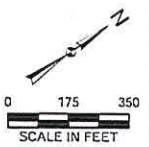
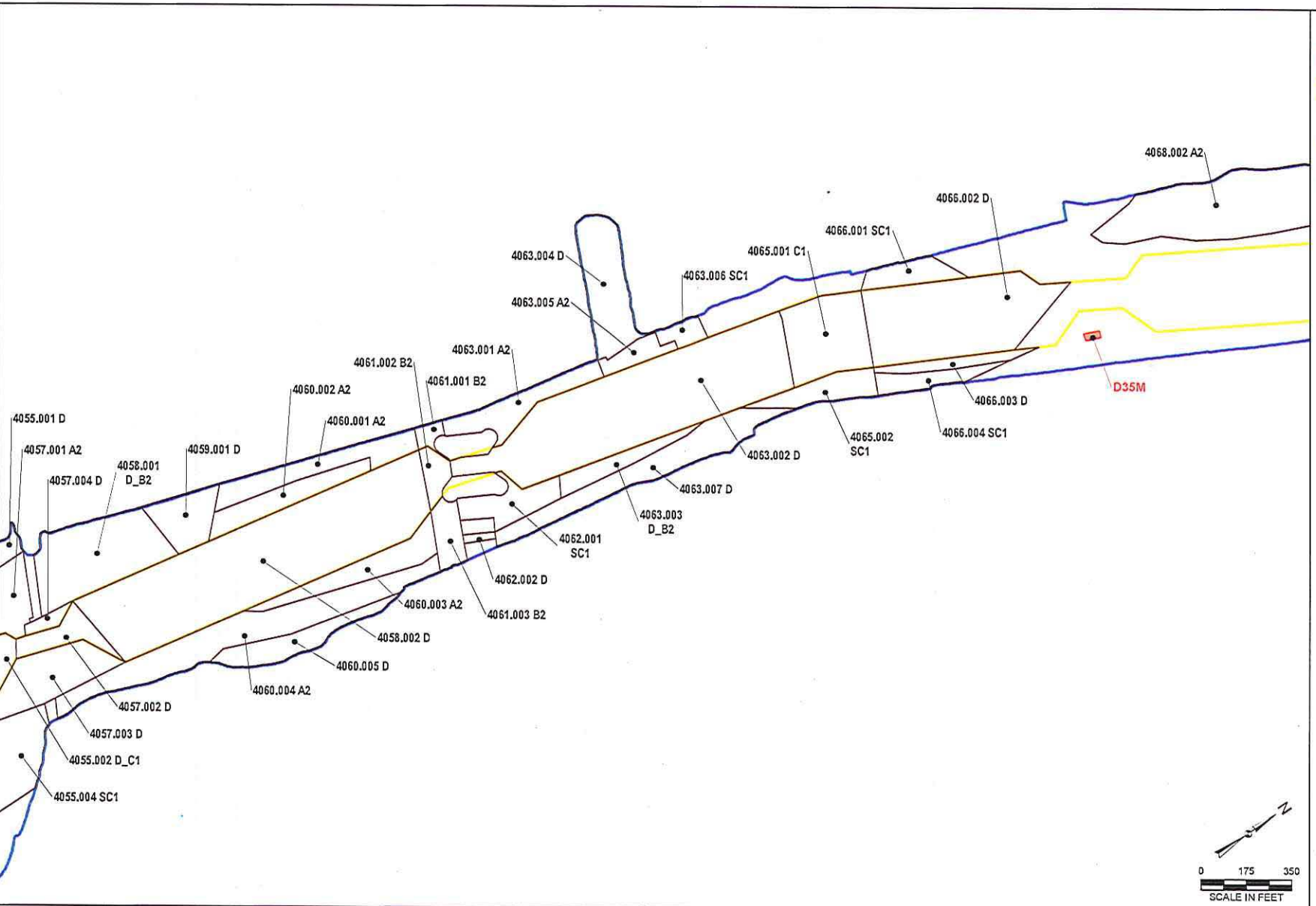


FIGURE NO. 204
 DATE: 6/11/12

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- REMEDY AREA
- LLC POLYGONS OUTSIDE FIK FOOTPRINT
- NAV. CHANNEL
- WATERLINE
- PROD. DREDGED IN:
- 2009
- 2010
- 2011

AVOT 100% DESIGN REVIEW - SCENARIO 130
 PRODUCTION DREDGE AREAS
 (2009-2011)

LOWER FOX RIVER, GREEN BAY, WISCONSIN

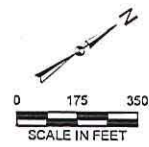
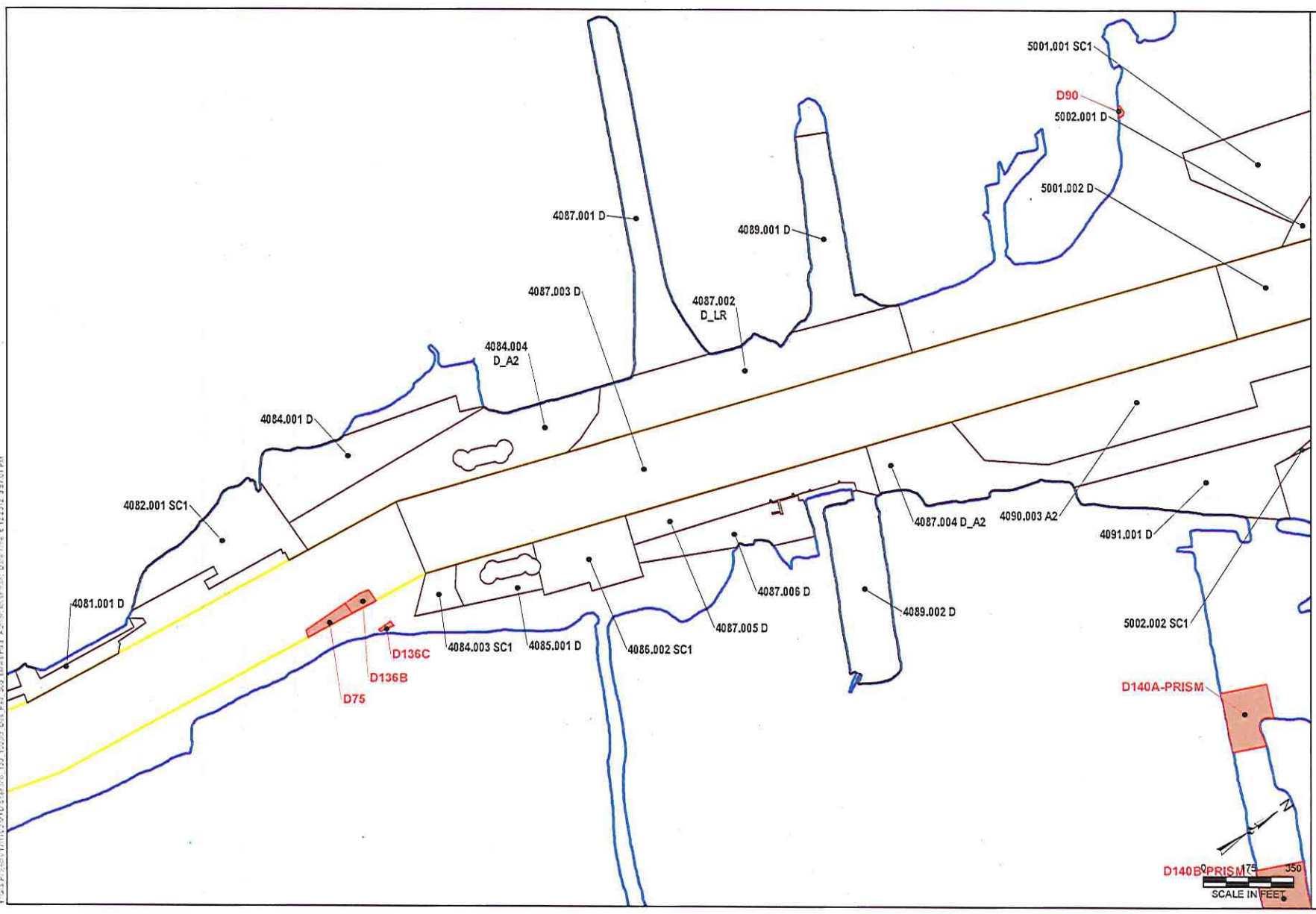


FIGURE NO. 306

DATE: 6/11/12

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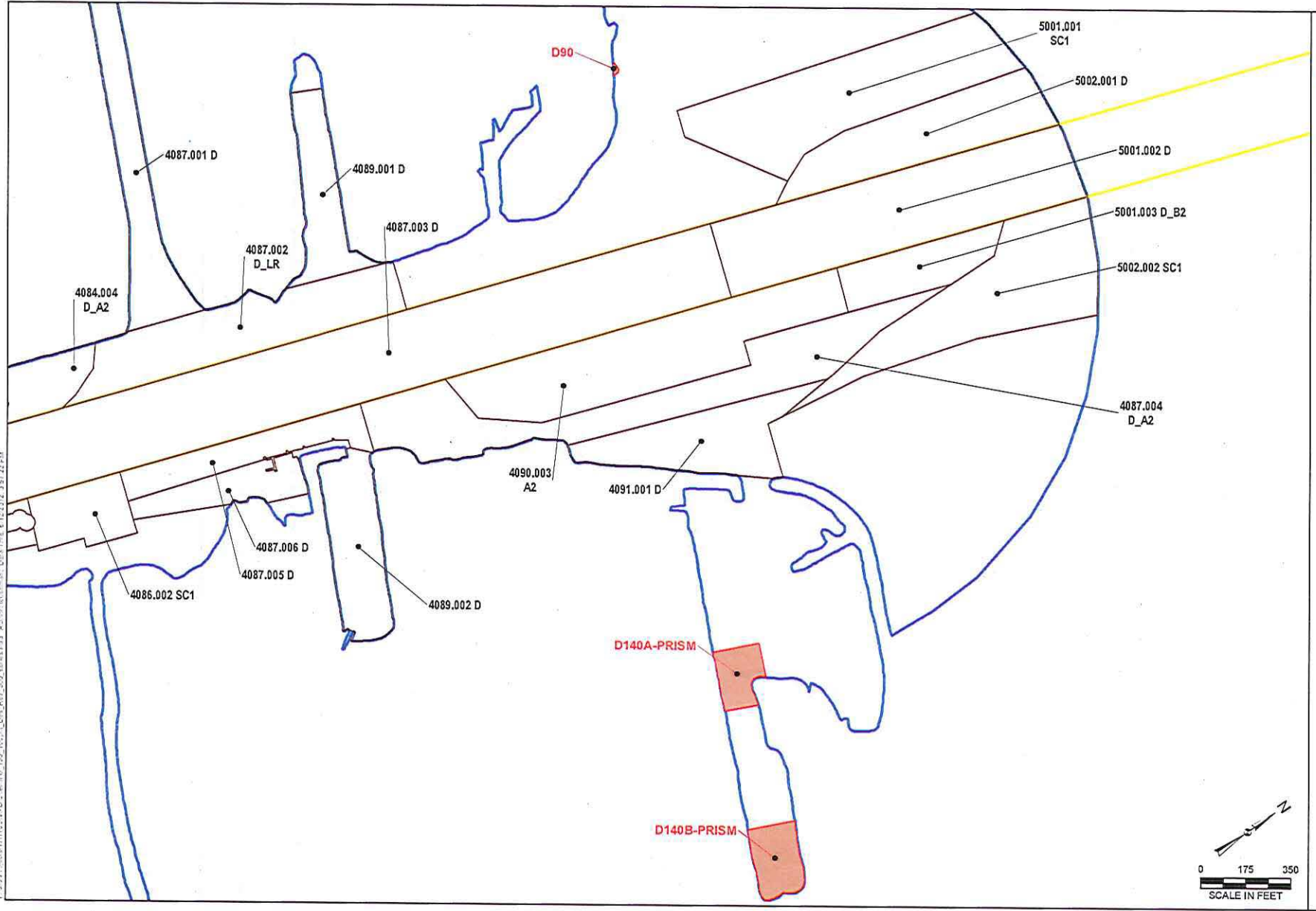
- ☒ REMEDY AREA
- LLC POLYGONS OUTSIDE FIK FOOTPRINT
- NAV. CHANNEL
- WATERLINE
- PROD. DREDGED IN:
- 2009
- 2010
- 2011

AVOT 100% DESIGN REVIEW - SCENARIO 130
 PRODUCTION DREDGE AREAS
 (2009-2011)

LOWER FOX RIVER, GREEN BAY, WISCONSIN

FIGURE NO. 308
 DATE: 6/11/12

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- ☒ REMEDY AREA
- LLC POLYGONS OUTSIDE FIK FOOTPRINT
- NAV. CHANNEL
- WATERLINE
- PROD. DREDGED IN:
- 2009
- 2010
- 2011

**AVOT 100% DESIGN REVIEW - SCENARIO 130
PRODUCTION DREDGE AREAS
(2009-2011)**

LOWER FOX RIVER, GREEN BAY, WISCONSIN

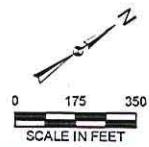


FIGURE NO. 309
DATE: 6/11/12