



Table 1
Mine Impact Summary

	<u>Total Site - Acres</u>	<u>ACOE Wetlands - Acres</u>	<u>ACOE JD Stream - Feet</u>
Total Mine Area Ac.	3,685	940	32,210
Mined Area - Ac.	3,070	778	24,259
Disturbed (Not Mined) - Ac.	341	59	2,755
Mined or Disturbed Area - Ac.	3,411	719	27,014
Not to be Disturbed Area - Ac.	273	162	5,196
Reclaimed - Ac. (Not all mitigation)	3,411	943	27,913
Total - Post Reclamation	3,411	1,105	33,109
Pre to Post Change	274	165	899
% Increase	7%	18%	3%
Mine Life - Years	28 Years		

Source: Mosaic 2011

Not Including Wingate Extension

Including Wingate Corridor Permit _____



Table 2
ACOE Site Land Use and Vegetation Cover Summary

(FLUCFCS No. Code) Type of Vegetative Cover - 1999 FDOT	Acres Present Onsite Today (Premining)	Acres Proposed to be Left Undisturbed	Acres Proposed to be Disturbed	Acres to be Reclaimed	Acres Upon Completion of Reclamation
(100) Urban and Built-up					
(161) Strip Mine (Phosphate)	50.0	0	50.0	0.0	0.0
Subtotal	50.0	0	50.0	0.0	0.0
(200) Agricultural Uses					
(211) Improved pastures	932.0	23.00	910.0	978.0	1,000.7
(212) Unimproved pastures	59.0	0	59.0	0.0	0.0
(213) Woodland pastures	46.0	2.0	44.0	0.0	2.0
Subtotal	1,037.0	25.0	1,013.0	978.0	1,003.0
(300) Rangeland					
(310) Herbaceous/dry prairie	66.0	1.0	64.0	65.0	66.0
(321) Palmetto prairies	222.0	3.0	219.0	261.0	264.0
(329) Other shrub and brush land	146.0	2.0	145.0	90.0	92.0
(330) Mixed rangeland	230.0	7.0	223.0	314.0	321.0
Subtotal	664.0	13.0	651.0	730.0	743.0
(400) Upland Forests					
(411) Pine flatwoods	212.0	3.0	209.0	218.0	221.0
(419) Other pines	18.0		18.0	0.0	0.0
(421) Xeric oak forests	283.0	2.0	281.0	281.0	283.0
(425) Temperate hardwoods forests	25.0	4.0	21.0	13.0	17.0
(427) Live oak forests	29.0	3.0	26.0	28.0	31.0
(432) Sand live oak	111.0	7.0	104.0	86.0	93.0
(434) Hardwood-conifer mixed	206.0	29.0	176.0	123.0	152.0
Subtotal	884.0	48.0	835.0	749.0	797.0
(500) Water					
(513) Ditched Wetlands	14.0		14.0	0.0	0.0
(514) Upland cut ditches	18.0	3.0	16.0	0.0	3.0
(534) Reservoirs - 10 ac. (cattle ponds)	4.0	-	3.0	0.0	0.0
Subtotal	36.0	3.0	33.0	0.0	3.0
(600) Wetlands					
(611) Bay swamps	22.0	-	21.0	27.0	27.0
(613) Gum swamps	7.0	-	7.0	0.0	0.0
(616) Inland ponds, popash	2.0	2.0	-	0.0	2.0
(617) Mixed wetland hardwoods	208.0	77.0	132.0	312.0	389.0
(617HH) Hydric hammock, laurel oak	168.0	75.0	93.0	0.0	75.0
(620) Wetland coniferous	53.0	-	53.0	76.0	76.0
(630) Wetland mixed hardwood-coniferous	111.0	6.0	105.0	128.0	134.0
Forested Sub total	571.0	160.0	411.0	543.0	703.0
(641) Freshwater marshes	248.0	4.0	243.0	230.0	234.0
(643) Wet prairies	83.0	-	83.0	103.0	103.0
(647) Shrub swamp, mixed	21.0	1.0	20.0	78.0	79.0
(647HR) Hydric rangeland	4.0	-	4.0	0.0	0.0
(647WM) Wax myrtle swamp	28.0	1.0	27.0	0.0	1.0
(648PA) Wet pasture	18.0	-	18.0	0.0	0.0
(649) Wet palmetto prairie	1.0	-	2.0	0.0	0.0
Herbaceous Sub total	403.0	6.0	397.0	411.0	417.0
Subtotal - Wetlands (600's)	974.0	166.0	808.0	954.0	1,120.0
(700) Barren Lands					
(743) Spoil areas	3.0	0.0	3.0	0.0	0.0
Subtotal	3.0	0.0	3.0	0.0	0.0
(800) Transportation Uses					
(814) Roads (and right-of-ways)	30.0	18.0	12.0	0.0	18.0
(832) Utility corridor	7.0	-	7.0	0.0	0.0
Subtotal	37.0	18.0	19.0	0.0	18.0
Mine site Total:	3,685.0	273.0	3,412.0	3,412.0	3,685.0
Mine site Total w/o Corridor	3,635.0	273.0	3,362.0	3,412.0	3,635.0

Note: Numbers may not add to totals due to rounding - all numbers are calculated based upon 0.0000, and rounded to 0.0 for display.

Note: Acres of landuse classifications on site include uplands that are ACOE JD and wetlands that are not ACOE JD.

See Table C-38 for ACOE Jurisdictional Impact Summary

** Undisturbed 617HH and 647WM acreage represented as 617/647 on Post Reclamation Land Uses Maps



Table 10
Mine Plan Summary

Areas:		
Total Mine Area	3,685	acres
Area to be Mined	3,070	acres
Area to be Disturbed (Not Mined)	341	acres
Total Area Mined or Disturbed	3,411	acres
Area not to be Disturbed	273	acres
Average Matrix Thickness	30	Feet
Average Overburden Thickness	42	Feet
Mine Life	28	Years
<u>Mining and Production Rates</u>	<u>Total</u>	<u>Average/year</u>
Mining rate - Acres	3,070	110
Product (short tons -Millions)	36	1.3
Tailing (Millions tons)	169	6
Clay (Millions tons)	29	1
Overburden Volume (Millions Cu. Yds.)	209	7

Source: Mosaic 2011

Not Including Wingate Extension

Including Wingate Corridor Permit _____

Table 3. Soils Descriptions Found Onsite

MAP No.	SOIL NAME	SOIL DESCRIPTION	SEASONAL HIGH WATER		PERMEABILITY		HYDROLOGIC SOIL GROUP	DEGREE AND KIND OF LIMITATIONS FOR PONDS AND EMBANKMENTS
			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
1	Adamsville fine sand	This is a nearly level, somewhat poorly drained soil on low ridges. Typically, the surface layer is very dark gray fine sand 8 inches thick. Below the surface layer, there is a grayish brown fine sand 18 inches thick and very pale brown fine sand 13 inches thick. Below that, to a depth of 80 inches or more there is light gray fine sand.	0.5 - 1.5	June - Nov.	0-8 8-80	6.0 - 20 6.0 - 20	C	Severe: Seepage, Piping, Wetness.
7	Canova, Anclote, and Okeelanta	This map unit consists of nearly level, very poorly drained mineral and organic soils in freshwater swamps and in broad, poorly defined drainageways. In a typical mapped area, Okeelanta soils are in the lowest places; Anclote soils the highest places, generally near the edges; and Canova soils in an intermediate position. Canova soils are dark reddish brown muck 8 inches thick and dark gray fine sand 9 inches thick. The subsurface layer is gray fine sand 7 inches thick. The subsoil is gray sandy clay loam about 39 inches thick. The substratum is gray fine sand loam. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. The surface layer of Anclote soils is black fine sand 16 inches thick. Below that, to a depth of 80 inches or more, there is grayish brown, gray, and light gray fine sand. Permeability is rapid throughout. Okeelanta soils are black muck 20 inches thick. Below the surface layer, there is black sand 7 inches thick, grayish brown sand 4 inches thick, and light brownish gray sand 29 inches thick. Permeability is rapid throughout.	+2 - 0	Jan. - Dec.	0 - 8 8 - 24 24 - 68	6.0 - 20 6.0 - 20 0.6 - 6.0	B/D	Severe: Seepage, Piping
			0 - 1.0	Jun. - Dec.	0 - 16 16 - 80	6.0 - 20 6.0 - 20	D	Severe: Seepage, Piping, Ponding
			+1 - 0	Jun. - Jan.	0 - 20 20 - 54	6.0 - 20 6.0 - 20	A/D	Severe: Seepage, Piping, Ponding
11	Cassia fine sand	This is a nearly level, somewhat poorly drained soil on low ridges and knolls that are slightly higher than the adjacent flatwoods. Typically, the surface layer is gray fine sand about 3 inches thick. The subsurface layer is light gray to white fine sand about 21 inches thick. The subsoil is black to dark reddish brown fine sand coated with organic material and is about 9 inches thick. The substratum to a depth of 80 inches or more is very pale brown and light gray fine sand.	1.5 - 3.5	Jul. - Jan.	0 - 24 24 - 33 33 - 80	6.0 - 20 0.6 - 6.0 6 - 20	C	Severe: Seepage, Piping, Wetness
12	Cassia fine sand, moderately well drained	This is a moderately well drained, nearly level soil on low ridges and knolls in the uplands. Typically, the surface layer is grayish brown fine sand about 5 inches thick. The subsurface layer is light gray to white fine sand. It extends to a depth of 29 inches. The subsoil is dark brown fine sand. It extends to a depth of 41 inches. Below the subsoil there is a layer of pale brown to white fine sand.	3.5- 5.0	Jul. - Jan.	0 - 29 29 - 41 41 - 80	>20 2.0 - 6.0 >20	B	Severe: Seepage, Piping.
16	Delray complex	This complex consists of several nearly level, very poorly drained soils on flats and in sloughs that are moderately broad, low, and grassy. Typically, the surface layer is black fine sand 15 inches thick. The	0 - 1.0	Jun. - Mar.	0-15 15-55	6.0-20 6.0 - 20	A	Severe: Seepage, Wetness.

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
		subsurface layer is grayish brown and light brownish gray fine sand to a depth of about 55 inches. The subsoil is grayish brown and greenish gray fine sandy loam and sandy clay loam to a depth of 80 inches or more.			55-80	0.6-6.0		
18	Delray-Pomona complex	<p>This complex consists of soils in nearly level, broad grassy sloughs. Delray soils make up about 50% of this complex, Pomona soils make up 40%, and scattered areas of Myakka, Wauchula, Waveland, and Palmetto soils make up 10%.</p> <p>Typically, the surface layer of Delray soils is black fine sand about 15 inches thick. The subsurface layer is grayish brown and light brownish gray fine sand 40 inches thick. The subsoil is grayish brown and greenish gray fine sandy loam and sandy clay loam to a depth of 80 inches or more. Permeability is rapid in the surface and subsurface layers and moderate to moderately rapid in the subsoil.</p> <p>Typically, the surface layer of Pomona soils is black fine sand about 6 inches thick. The subsurface layer is gray and light gray fine sand 16 inches thick. The subsoil in the upper part is dark reddish brown and dark brown fine sand 14 inches thick. Below that, there is pale brown fine sand 15 inches thick. The subsoil in the lower part is olive gray fine sandy loam 9 inches thick. The substratum is gray loamy fine sand to a depth of 80 inches. Permeability is moderately slow in the lower part of the subsoil, moderate in the upper part of the subsoil, and rapid in the other layers.</p>	0 - 1.0	Jun. - Mar.	0 - 15 15 - 55 55 - 80	6.0-20 6.0-20 0.6-6.0	B/D	Severe: Seepage, Wetness.
19	Duette fine sand, 0 to 5% slopes	This is a moderately well drained soil on low ridges and knolls in flatwoods. Typically, the surface layer is very dark gray fine sand about 4 inches thick. The subsurface layer, to a depth of 58 inches, is fine sand. In the upper 8 inches it is light gray, and below that it is white. The subsoil is fine sand that is coated with organic material to a depth of 80 inches or more. To a depth of 64 inches, it is dark brown, and below that, it is black. Permeability is very rapid in the surface layer and moderately rapid in the subsoil.	4.0 - 6.0	Jun. - Oct.	0 - 4 4 - 58 58 - 80	>20 >20 2.0 - 6.0	A	Severe: Seepage, Piping.
23	Felda-Palmetto complex	<p>This complex consists of soils in broad sloughs where stream channels are poorly defined. Felda soils make up about 40% of the complex, Palmetto soils and some similar soils make up 35%, and minor soils make up 25%.</p> <p>Typically, the surface layer of Felda soils is very dark gray fine sand about 3 inches thick. The subsurface layer is grayish brown fine sand 21 inches thick. The subsoil in the upper part is grayish brown fine sandy loam 3 inches thick, in the middle part it is gray sandy clay loam 6 inches thick, and in the lower part it is light gray sandy clay loam 29</p>	0 - 1.0	Jul. - Mar.	0 - 25 25 - 80	6.0 - 20 0.6 - 6.0	B/D	Severe: Seepage, Piping, Wetness.

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
		<p>inches thick. The substratum is at a depth of about 62 inches and is light gray sandy loam. Permeability is rapid in the surface and subsurface layers and moderately rapid in the subsoil.</p> <p>Typically, the surface layer of Palmetto soils is black sand about 8 inches thick. The subsurface layer is dark gray or gray sand to a depth of 25 inches. The subsoil is dark grayish brown and very dark grayish brown sand to a depth of 45 inches. It is grayish brown and dark grayish brown sandy clay loam and sandy loam to a depth of 64 inches and dark grayish brown loamy sand to a depth of 68 inches. Permeability is rapid in the surface and subsurface layers and moderately slow in the subsoil.</p>	0-1.0	Jun. - Nov.	0 - 25 25 - 45 46 - 64 64 - 68	6.0 - 20 6.0 - 20 0.2 - 0.6 2.0 - 6.0	B/D	Severe: Seepage, Piping, Wetness.
24	Felda-Wabasso association, frequently flooded	<p>This association consists of nearly level, poorly drained Felda soils and Wabasso soils and soils that are closely similar to them. The soils are in regular and repeating pattern on the flood plains along the larger streams in the county.</p> <p>Typically, the surface layer of Felda soils is very dark gray fine sand about 3 inches thick. The subsurface layer is grayish brown fine sand 21 inches thick. The subsoil between depths of 24 and 64 inches. In the upper part it is grayish brown fine sandy loam 3 inches thick. In the middle part it is gray sandy clay loam 6 inches thick. In the lower part it is light gray sandy clay loam 29 inches thick. The substratum to a depth of 80 inches or more is light gray sandy loam. Permeability is rapid in the surface and subsurface layers and moderate to moderately rapid in the subsoil.</p> <p>Typically, Wabasso soils have a surface layer of very dark gray fine sand 7 inches thick. The subsurface layer is gray and light gray fine sand 14 inches thick. The subsoil in the upper part is black, dark reddish brown, and brown fine sand 10 inches thick. In the lower part it is grayish brown sandy loam and gray sandy clay loam 28 inches thick. A 6-inch layer of pale brown fine sand separates the two parts. The substratum to a depth of 80 inches or more is gray sand mixed with shell fragments. Permeability is rapid in the surface and subsurface layers, in the layer between the two parts of the subsoil and in the stratum. It is moderate to moderately rapid in the upper part of the subsoil and slow to very slow in the lower part.</p>	0 - 1.0	Jul. - Mar.	0 - 22 22 - 32 32 - 60	6.0 - 20 0.6 - 6.0 6.0 - 20	B/D	Severe: Seepage, Piping, Wetness.
		<p>Typically, Wabasso soils have a surface layer of very dark gray fine sand 7 inches thick. The subsurface layer is gray and light gray fine sand 14 inches thick. The subsoil in the upper part is black, dark reddish brown, and brown fine sand 10 inches thick. In the lower part it is grayish brown sandy loam and gray sandy clay loam 28 inches thick. A 6-inch layer of pale brown fine sand separates the two parts. The substratum to a depth of 80 inches or more is gray sand mixed with shell fragments. Permeability is rapid in the surface and subsurface layers, in the layer between the two parts of the subsoil and in the stratum. It is moderate to moderately rapid in the upper part of the subsoil and slow to very slow in the lower part.</p>	0 - 1.0	Jun. - Nov.	0 - 21 21 - 31 31 - 37 37 - 65 65 - 80	6.0 - 20 0.6 - 6.0 6.0 - 20 <0.2 6.0 - 20	B/D	Severe: Seepage & Wetness.
26	Floridana-Immokalee-Okeelanta association	This map unit consists of nearly level, very poorly drained Floridana soils, poorly drained Immokalee soils, and very poorly drained Okeelanta soils. It is about 35% Floridana soils, 30% Immokalee soils, 20% Okeelanta soils, and 15% minor soils. These soils are in small to large shallow grassy ponds.						

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
		Typically, the surface layer of Floridana soils is black and very dark gray fine sand about 19 inches thick. The subsurface layer is gray fine sand about 17 inches thick. The subsoil is dark gray sandy clay loam 17 inches thick. The substratum is light gray fine sand that extends to a depth of 80 inches or more. Permeability is rapid in the surface layer, subsurface layer, and substratum; it is slow in the subsoil.	+2 - 1.0	Jun. - Feb.	0 - 19 19 - 36 36 - 63	6.0 - 20 6.0 - 20 <0.2	B/D	Severe: Seepage & Ponding.
		Typically, the surface layer of Immokalee soils is black fine sand about 5 inches thick. The subsurface layer is dark gray, gray, and light gray fine sand 29 inches thick. The subsoil is dark reddish brown and dark brown fine sand 9 inches thick. The substratum to a depth of 80 inches or more is grayish brown fine sand. Permeability is moderate in the subsoil and rapid in all other layers.	+2 - 1.0	Jun. - Feb.	0 - 10 10 - 34 34 - 43 43 - 80	6.0 - 20 6.0 - 20 0.6 - 2.0 6.0 - 20	D	Severe: Seepage, Piping, Wetness.
		Typically, Okeelanta soils in the uppermost 20 inches are black muck. Below that, to a depth of 54 inches or more, there is black and light brownish gray sand. Permeability is rapid throughout the soil.	+1 - 0	Jun. - Feb.	0 - 20 20 - 54	6.0 - 20 6.0 - 20	A/D	Severe: Seepage, Piping, Ponding.
30	Myakka fine sand, 0 to 2% slopes	Nearly level, poorly drained soils in areas of broad flatwoods. Typically, the surface layer is dark gray fine sand about 5 inches thick. The subsurface layer is fine sand. In the upper 8 inches it is gray, and below that, it is light gray. The subsoil is fine sand 22 inches thick. In the upper 6 inches it is black, in the next 8 inches it is dark reddish brown, and in the lower 8 inches it is dark brown. Below the subsoil there is brown fine sand to a depth of 61 inches, and below that, there is very dark brown fine sand to a depth of 75 inches or more. Permeability is rapid in the surface and subsurface layers and substratum and moderate or moderately rapid in the subsoil.	0 - 1.0	Jun. - Nov.	0 - 23 23 - 37 37 - 80	6.0 - 20 0.6 - 6.0 6.0 - 20	B/D	Severe: Seepage, Piping, Wetness.
35	Ona fine sand, orstein substratum	This is a nearly level, poorly drained soil that is in areas of broad flatwoods. Typically, the surface layer is black fine sand about 5 inches thick. The subsoil in the upper part is very dark brown and dark reddish brown fine sand 11 inches thick. The next layer is brown and light brownish gray fine sand 36 inches thick. The subsoil in the lower part is black fine sand that is weakly cemented to a depth of 68 inches and black friable fine sand to a depth of 80 inches or more. Permeability is moderate in the upper part of the subsoil, slow or very slow in the lower part of the subsoil, and rapid in the other layers.	0 - 1.0	Jun. - Nov.	0 - 5 5 - 16 16 - 52 52 - 68 68 - 80	6.0 - 20 0.6 - 2.0 6.0 - 20 <0.2 0.06 - 0.6	B/D	Severe: Seepage, Piping, Wetness.
38	Palmetto sand	This is a nearly level, poorly drained soil in flatwoods. The soil is in sloughs, in poorly defined drainage ways, and in narrow bands around some ponds. Typically, the surface layer is black sand about 8 inches thick. The subsurface layer is dark gray or gray sand to a depth of 25 inches. The upper part of the subsoil is dark grayish brown and very dark grayish brown sand to a depth of about 45 inches. The lower part	0 - 1.0	Jun. - Nov.	0 - 25 25 - 45 45 - 64 64 - 68	6.0 - 20 6.0 - 20 0.2 - 0.6 2.0 - 6.0	B/D	Severe: Seepage, Piping, Wetness,

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
		of the subsoil is grayish brown and dark grayish brown sandy clay loam and sandy loam to a depth of about 64 inches and dark grayish brown loamy sand to a depth of 68 inches. Permeability is rapid in the surface and subsurface layers and moderately slow in the subsoil.						
42	Pomello fine sand, 0 to 2% slopes	Nearly level, moderately well drained soil on low ridges in flawoods. Typically, the surface layer is gray fine sand 2 inches thick. The subsurface layer is white fine sand to a depth of 46 inches. The subsoil is fine sand. In the upper 5 inches it is black. Below that, to a depth of 80 inches or more it is dark reddish brown. Permeability is very rapid in the surface and subsurface layers and moderately rapid in the subsoil.	2.0 – 3.5	Jul. - Nov.	0 - 46 46 - 80	>20 2.0 – 6.0	C	Severe: Seepage, Piping, Wetness.
44	St. Johns-Myakka complex	This complex consists of nearly level soils in broad areas of latwoods. St. Johns soils make up about 45% of the complex; Myakka soils make up 40%; and Immokalee, Ona, Palmetto, and Wauchula soils make up 15%. Typically, the surface layer of St. Johns soils is black fine sand about 11 inches thick. The subsurface layer is light gray fine sand 15 inches thick. The subsoil is black and dark reddish brown fine sand. It extends to a depth of 43 inches. Below that, to a depth of 80 inches or more, there is brown, pale brown, and light brownish gray fine sand. Permeability is moderate in the subsoil and rapid in the other layers.	0 - 1.0	Jun. - Apr.	0 - 11 11 - 26 26 - 43 43 - 80	6.0 - 20 6.0 - 20 0.6 - 2.0 6.0 - 20	B/D	Severe: Seepage, Piping, Wetness.
		Typically, the surface layer of Myakka soils is very dark gray fine sand about 5 inches thick. The subsurface layer is gray and light gray fine sand about 19 inches thick. The subsoil, to a depth of about 46 inches, is black, dark reddish brown, and dark brown fine sand. Below that, to a depth of 80 inches or more, there is brown, pale brown, and light brownish gray fine sand. Permeability is rapid in the surface layer, subsurface layer, and substratum and moderate or moderately rapid in the subsoil.	0 - 1.0	Jun. – Nov.	0 - 24 24 - 46 46 - 80	6.0 - 20 0.6 - 6.0 6.0 - 20	B/D	Severe: Seepage, Piping, Wetness.

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
52	Waveland fine sand	This is a poorly drained, nearly level soil in broad areas of flatwoods. Typically, the surface layer is fine sand about 8 inches thick. In the upper 5 inches it is black, and below that, it is dark gray. The subsurface layer is 24 inches thick. In the uppermost 13 inches it is grayish brown sand, and below that, it is light gray fine sand. The subsoil, to a depth of 51 inches, is black sand. The substratum to a depth of 80 inches or more is sand that has pockets of sandy loam. In the upper 6 inches it is dark grayish brown, in the next 9 inches it is grayish brown, and in the lower part it is olive. Included with this soil mapping are small areas of Myakka, Ona, and Pomona soils. Permeability is rapid in the surface and subsurface layers, very slow to slow in the subsoil, and moderate to rapid in the substratum.	0 - 1.0	Jun. - Oct.	0 - 5 5 - 32 32 - 40 40 - 51 51 - 80	>6.0 >6.0 <0.2 <0.2 2.0 -20	B/D	Severe: Seeping, Piping, Wetness.

Source: USDA SCS 1983 Soil Survey, Manatee County.



Table 4
List of Adjoining Property Owners*
Wingate East

ECT ID No.	Property Owner/Address
1	Ruth Ann Braddock Johns 146 Roosevelt Place Maitland, Florida 32751-3361
2	James Alton Braddock 112 Inglis Way Wauchula, Florida 33873-2404
3, 4, 5, 6	Manatee County Post Office Box 1000 Bradenton, Florida 34206
7	Darrell and Shannon Hardee 208 111 th Street East Bradenton, Florida 34212-1621
8	Steven John 41146 18 th Terrace, East Myakka City, Florida 34251-2220
9	Clarke Bronk 41140 18 th Terrace, East Myakka City, Florida 34251
10	Larry Williams 7801 63 rd Way, North Pinellas Park, Florida 33781-2128
11	Christina Williams 41134 18 th Terrace, East Myakka City, Florida 34251
12	Syed Arif 1705 Astor Avenue Villa Park, Illinois 60181-5234
13, 14	Jack M. Bauknight 43005 State Road 64, East Myakka City, Florida 34251-3900
15	Anthony Charles Lee 3680 Payne Road Myakka City, Florida 34251-3934
16	Anthony B. Wingate Post Office Box 517 Myakka City, Florida 34251
17	Melvin H. Taylor Post Office Box 397 Myakka City, Florida 34251
18, 19, 20	Farr Groves, L.L.C. Post Office Box 995 Wauchula, Florida 33873
21	Jose Robayo 810 South Duette Road Myakka City, Florida 34251



ECT ID No.	Property Owner/Address
22	Drew E. Loeffler 7282 55 th Avenue, East Bradenton, Florida 34203
23, 24, 25	Howard a. Dobbins 7940 Oak Grove Circle Sarasota, Florida 34243-2801
26	Francis A. Licordare 1100 68 th Street, North St. Petersburg, Florida 33710
27	Cyril Munaj 45903 McLeod Road Myakka City, Florida 34251
28	John Hatch 45917 McLeod Road Myakka City, Florida 34251
29	Melissa Herriman 46605 McLeod Road Myakka City, Florida 34251
30	Paul Smith 354 6 th Avenue, North Tierra Verde, Florida 33715
31	FTG Investments, Inc. 3325 Griffin Road, Suite 127 Ft. Lauderdale, Florida 33312
32	Bradley Webb 1475 Kazen Road Wauchula, Florida 33873
33	Ronald W. Harris, Jr. 46225 McLeod Road Myakka City, Florida 34251
34	Timothy Mercer 46345 McLeod Road Myakka City, Florida 34251
35	Zula McLeod Willis Post Office Box 385 Ona, Florida 33865
36	Eric Mercer Post Office Box 394 Ona, Florida 33865
37	Michael Dubois 46715 McLeod Road Myakka City, Florida 34251
38	David G. Chapman 46805 McLeod Road Myakka City, Florida 34251
39	Kurt Deason 260 River Drive Jupiter, Florida 33469
40	John Shallo 6906 Chelsea Cove Drive, North Hopewell Junction, New York 125333-7120



ECT ID No.	Property Owner/Address
41	Roberto Jimenez 3509 55 th Place, East Bradenton, Florida 34203
42	Ricky Mafera Post Office Box 157 Myakka City, Florida 34251
43	Ricky D. Mafera 1155 Taylor Road Myakka City, Florida 34251

Note:

* = Names and addresses derived from Manatee County Property Appraiser Geographical Information System data that requires verification prior to issuance of the Public Notice.



Table 11
Mine - Reclamation Schedule
acres:

<u>Mine Year</u>	<u>Disturbed</u>	<u>Mined</u>	<u>Cumulative Mined & Disturbed</u>	<u>Reclaimed</u>	<u>Cumulative Reclaimed</u>	<u>Disturbed and Unreclaimed</u>
Pre 2011	53		53			53
1			53			53
2			53			53
3			53			53
4			53			53
5			53			53
6			53			53
7			53		0	53
8	58		111		0	111
9		63	174		0	174
10		94	268		0	268
11	34	109	411		0	411
12	13	167	591	26	26	565
13	7	101	699	34	60	639
14	1	90	790	38	98	692
15		100	890	58	156	734
16	3	95	988	43	199	789
17		102	1,090	30	229	861
18		83	1,173	31	260	913
19	3	127	1,302	27	287	1,015
20	4	119	1,426	32	319	1,107
21	1	190	1,617	14	333	1,284
22	20	174	1,811	25	358	1,453
23	13	113	1,937	46	404	1,533
24	9	109	2,055	103	507	1,548
25	24	153	2,232	72	579	1,653
26	8	126	2,365	139	718	1,647
27	20	90	2,475	216	934	1,541
28	8	85	2,568	159	1,093	1,475
29	2	93	2,663	152	1,245	1,418
30	9	52	2,724	103	1,348	1,376
31	5	51	2,780	93	1,441	1,339
32	2	57	2,839	72	1,513	1,326
33	2	59	2,900	118	1,631	1,269
34	14	57	2,971	51	1,682	1,289
35	8	89	3,068	88	1,770	1,298
36	20	77	3,165	59	1,829	1,336
37		89	3,254	61	1,890	1,364
38		49	3,303	77	1,967	1,336
39		59	3,363	91	2,058	1,305
40		48	3,411	73	2,131	1,280
41			3,411	74	2,205	1,206
42			3,411	68	2,273	1,138
43			3,411	1,138	3,411	0
45						
<i>Undisturbed</i>	273					
Total:	614	3,070	3,411	3,411		

Source: Mosaic 2011

Not Including Wingate Extension

Including Wingate Corridor Permit SAJ-2006-06503 (IP-MGH)



Table 12
Clay Settling Area Summary

Characteristics	Clay Settling Areas			
	FM-1*	FM-2*	WE-1	WE-2
Total Footprint (Acres)	352	514	596	652
Effective Area (Acres)	275	400	464	509
Dam Height (Feet)	40	40	50	50
Approximate Dam Elevation (feet, NGVD)	NA	NA	165	162
Effective Depth (Feet)	64.8	60	88.6	81
Approximate Natural Ground Elevation (Ft.)	NA	NA	111.5	111.3
Approximate Final Height Above Grade (Ft.)	23	25	16	22
Effective Volume (Acre-Feet)	17,750	23,974	41,154	41,212



Table 13
Clay Settling Area Filling Schedule (Page 1 of 2)

Clay Production		FM-1 In Service Pre 2008			FM-2 In Service 1		
		Total Area (acres) = 352 Effective Area (acres) = 275 Ft above NG 40 Ft below NG 29.8 Feet to Fill = 64.8 Available Volume (ac-ft) = 17,750			Total Area (acres) = 514 Effective Area (acres) = 400 Ft above NG 40 Ft below NG 25 Feet to Fill = 60 Available Volume (ac-ft) = 23,974		
Sequential Year	Dry Tons/Year	Loading Rate (Tons/Ac-ft)	Years of Filling	Dry Tons Stored	Loading Rate (Tons/Ac-ft)	Years of Filling	Dry Tons Stored
-2	2,673,000	151	1.00	2,673,000			
-1	877,000	49	1.00	877,000			
0	1,290,000	73	1.00	1,290,000			
1	1,223,253	57	1.00	1,015,300	9	1.00	207,953
2	1,322,848	29	1.00	515,911	34	1.00	806,937
3	1,359,526	21	1.00	380,667	41	1.00	978,859
4	907,124				38	1.00	907,124
5	922,552				38	1.00	922,552
6	677,004	21	1.00	365,582	13	1.00	311,422
7	754,790	6	1.00	105,671	27	1.00	649,120
8	1,010,561	10	1.00	171,795	35	1.00	838,766
9	816,316				34	1.00	816,316
10	795,001				33	1.00	795,001
11	1,113,278	31	1.00	556,639	23	1.00	556,639
12	793,351	5	1.00	87,269	29	1.00	706,083
13	644,844				27	1.00	644,844
14	848,455				35	1.00	848,455
15	1,166,968				49	1.00	1,166,968
16	1,344,381						
17	1,606,394						
18	3,279,469						
19	3,196,353						
20	2,977,389						
21	2,693,744						
22	2,525,824						
23	1,108,440						
24	1,086,742						
25	1,957,582						
26	2,074,950						
27	1,692,636						
28	1,703,169						
29	1,057,318						
30	1,442,486						
31	1,133,459						
32	917,845						
33	1,400,459						
34	1,377,622						
35	1,124,712						
36	1,276,216						
38	1,617,225						
39	406,113						
TOTALS	59,747,595			8,038,834			11,157,039
		Total Column Height		64.6	Total Column Height		60.0
		Tons/ac-ft		453	Tons/ac-ft		465
		Available Volume (ac-ft) =		0	Available Volume (ac-ft) =		0

Year 1 thru Year 39 clay tons based on 2011 Mine Planning modeling
Except Where Noted

Pre-2011 clay inventory obtained from 2009 Mine Planning modeling

Clay Split %s calculated from Ardaman Associates 2010

Ona Clay Tons Included in Total Clay Tons:

- Year 17 - 200,000
- Year 18 - 1,750,000
- Year 19 - 1,750,000
- Year 20 - 1,750,000
- Year 21 - 1,750,000
- Year 22 - 1,493,000
- Year 23 - 191,000

These tons obtained from Mine Planning modeling 2010

Years 25 and 26 each include 1,200,000 Clay Tons dredged from initial Wingate Mine CSA



Table 13
Clay Settling Area Filling Schedule (Page 2 of 2)

Clay Production Sequential Year Dry Tons/Year		WE-1 In Service 16 Total Area (acres) = 596 Effective Area (acres) = 464 Ft above NG 50 Ft below NG 43.6 Feet to Fill = 88.6 Available Volume (ac-ft) = 41,154			WE-2 In Service 17 Total Area (acres) = 652 Effective Area (acres) = 509 Ft above NG 50 Ft below NG 36 Feet to Fill = 81 Available Volume (ac-ft) = 41,212			Total Area Effective Area 2,114 1,648 Total 124,090
		Loading Rate (Tons/Ac-ft)	Years of Filling	Dry Tons Stored	Loading Rate (Tons/Ac-ft)	Years of Filling	Dry Tons Stored	
-2	2,673,000						2,673,000	
-1	877,000						877,000	
0	1,290,000						1,290,000	
1	1,223,253						1,223,253	
2	1,322,848						1,322,848	
3	1,359,526						1,359,526	
4	907,124						907,124	
5	922,552						922,552	
6	677,004						677,004	
7	754,790						754,790	
8	1,010,561						1,010,561	
9	816,316						816,316	
10	795,001						795,001	
11	1,113,278						1,113,278	
12	793,351						793,351	
13	644,844						644,844	
14	848,455						848,455	
15	1,166,968						1,166,968	
16	1,344,381	33	1.00	1,344,381			1,344,381	
17	1,606,394	34	1.00	1,406,394	5	1.00	200,000	1,606,394
18	3,279,469	37	1.00	1,529,469	42	1.00	1,750,000	3,279,469
19	3,196,353	35	1.00	1,446,353	42	1.00	1,750,000	3,196,353
20	2,977,389	30	1.00	1,227,389	42	1.00	1,750,000	2,977,389
21	2,693,744	23	1.00	943,744	42	1.00	1,750,000	2,693,744
22	2,525,824	25	1.00	1,032,824	36	1.00	1,493,000	2,525,824
23	1,108,440	22	1.00	917,440	5	1.00	191,000	1,108,440
24	1,086,742	13	1.00	543,371	13	1.00	543,371	1,086,742
25	1,957,582	24	1.00	978,791	24	1.00	978,791	1,957,582
26	2,074,950	25	1.00	1,037,475	25	1.00	1,037,475	2,074,950
27	1,692,636	21	1.00	846,318	21	1.00	846,318	1,692,636
28	1,703,169	21	1.00	851,585	21	1.00	851,585	1,703,169
29	1,057,318	13	1.00	528,659	13	1.00	528,659	1,057,318
30	1,442,486	18	1.00	721,243	18	1.00	721,243	1,442,486
31	1,133,459	14	1.00	566,730	14	1.00	566,730	1,133,459
32	917,845	11	1.00	458,923	11	1.00	458,923	917,845
33	1,400,459	17	1.00	700,230	17	1.00	700,230	1,400,459
34	1,377,622	17	1.00	688,811	17	1.00	688,811	1,377,622
35	1,124,712	14	1.00	562,356	14	1.00	562,356	1,124,712
36	1,276,216	16	1.00	638,108	15	1.00	638,108	1,276,216
38	1,617,225	10	1.00	404,306	29	1.00	1,212,919	1,617,225
39	406,113	2	1.00	101,528	7	1.00	304,585	406,113
TOTALS	59,747,595			20,252,023			20,299,699	59,747,595
		Total Column Height	88.6		Total Column Height	81.0		
		Tons/ac-ft	492		Tons/ac-ft	493		
		Available Volume (ac-ft) =	0		Available Volume (ac-ft) =	0		

Year 1 thru Year 39 clay tons based on 2
Except Where Noted

Pre-2011 clay inventory obtained from :

Clay Split %s calculated from Ardaman /

Ona Clay Tons Included in Total Clay Ton

- Year 17 - 200,000
- Year 18 - 1,750,000
- Year 19 - 1,750,000
- Year 20 - 1,750,000
- Year 21 - 1,750,000
- Year 22 - 1,493,000
- Year 23 - 191,000

These tons obtained from Mine Plannin

Years 25 and 26 each include 1.200,000



Table 16
Minimum Reclamation Schedule
Wingate East
Manatee County

Reclamation Type	Reclamation Activity	Time-Years*
Graded Overburden	End of Mine Use	
	1. Contour-Earthwork	18 months
	2. Re-vegetation	8 months
	Total Time	2 years
Tailings Fill	End of Tailing Fill (mine use)	
	1. Contour – Earthwork	18 months
	2. Revegetation	6 months
	Total Time	2 years
Clay Settling Area	Ditch and Drain Surface	4 years
	Settling Area Abandonment (end of mine use)	
	1. Contour – Earthwork	18 months
	2. Plant grasses	6 months
	Total Time	2 years

* = Times are based on completion of all mining activities within a program area that allows for reclamation of a sub-basin system rather than partial system.

Source: Mosaic, 2006.



Table 30
Wetland Impacts Summary
ACOE Jurisdictional Areas

(FLUCFCS No. Code) Type of Vegetative Cover (1999 FDOT)	Current Total Jurisdiction	Acres Proposed to be Left Undisturbed	Acres to be Mined or Disturbed	Reclamation	Total Post-Reclamation
OPEN WATER					
(513) Ditched Wetlands	13.0	-	13.0	0.0	0.0
(514) Upland cut ditches	9.0	1.0	8.0	0.0	1.0
(534) Reservoirs - 10 ac. (cattle ponds)	1.0	-	1.0	0.0	0.0
Total Open Water	23.0	1.0	22.0	0.0	1.0
HERBACEOUS WETLANDS					
(211) Improved pasture	1.0	-	1.0		0.0
(321) Palmetto prairies	1.0	-	1.0		0.0
(329) Other shrub and brush	0.0	-	-		0.0
(641) Freshwater marshes	214.0	3.0	211.0	229.0	232.0
(643) Wet prairies	68.0	-	68.0	93.0	93.0
(647) Shrub swamp, mixed	20.0	1.0	19.0	78.0	79.0
(647HR) Hydric rangeland	4.0	-	4.0		0.0
(647WM) Wax myrtle swamp	25.0	1.0	24.0		1.0
(648PA) Wet pasture	15.0	-	15.0		0.0
(649) Wet palmetto prairie	1.0	-	1.0		0.0
Total Herbaceous	349.0	5.0	344.0	400.0	405.0
FORESTED WETLANDS					
(213) Woodland pasture	0.0	-	-	-	0.0
(411) Pine flatwoods	0.0	-	-	-	0.0
(434) Hardwood-conifer mixed	3.0	-	3.0	-	0.0
(611) Bay swamps	22.0	-	22.0	27.0	27.0
(613) Gum swamps	7.0	-	7.0	-	0.0
(616) Inland ponds, popash	2.0	2.0	-	-	2.0
(617) Mixed wetland hardwoods	208.0	76.0	132.0	312.0	388.0
(617HH) Hydric hammock, laruel oak	168.0	75.0	93.0	-	75.0
(620) Wetland coniferous	50.0	-	50.0	76.0	76.0
(630) Wetland mixed hardwood-coniferous	108.0	3.0	105.0	128.0	131.0
Total Forested	568.0	156.0	412.0	543.0	699.0
Site Total	940.0	162.0	778.0	943.0	1105.0

Note: Total onsite land cover acres are shown on Table 2.

** Undisturbed 617HH and 647WM acreage represented as 617/647 on Post Reclamation Land Cover Maps



Table 31
Wetland Impact Details

Forested Wetlands			
Wetland	Land Use	Year Disturbed	Acres
26-4	620	1	0.35
27-8	630	1	3.63
27-8	617	1	1.80
22-11	620	2	6.85
22-12	620	2	0.20
22-13	620	2	1.39
26-15	630	2	0.20
26-17	611	2	1.78
27-10	613	2	0.71
27-10	620	2	1.56
27-9	630	2	2.01
27-9	613	2	3.85
26-2	620	3	2.64
27-15	617	3	0.25
27-9	620	3	1.32
34-3	617	3	5.91
34-4	613	3	0.24
34-5	617	3	4.50
34-6	630	3	1.65
34-16	613	4	0.65
34-7	617	4	18.14
26-1	611	5	0.39
34-1	630	5	2.99
34-1	613	5	0.93
23-3	620	6	2.40
27-12	617	6	0.49
27-7	617	6	14.49
34-19	630	8	1.32
34-31	617	8	0.08
34-6	630	8	0.88
26-13	611	9	14.26
26-2	617	9	1.63
26-6	620	10	0.22
26-8	620	10	0.75
26-4	620	11	0.01
27-2	630	11	0.90
27-3	630	11	0.02
24-7	617	12	1.11
26-10	617	12	1.40
26-10	630	12	0.52
26-15	630	12	12.36
26-17	611	12	3.93
26-17	630	12	0.32
26-19	630	12	0.86

Herbaceous Wetlands			
Wetland	Land Use	Year Disturbed	Acres
22-1	513	1	0.04
22-1	643	1	0.18
22-2	643	1	2.16
22-3	513	1	0.13
22-3	641	1	3.35
22-2	643	1	0.04
22-3	513	1	0.18
22-3	641	1	3.94
22-4	513	1	0.85
22-4	641	1	3.10
22-8	641	1	14.82
22-8	513	1	0.19
22-9	513	1	0.13
22-9	641	1	11.48
26-4	513	1	0.18
26-4	641	1	0.68
22-11	513	2	0.60
22-15	513	2	0.35
23-5	513	2	1.58
23-5	643	2	27.66
27-8	329	2	0.01
22-7	649	3	0.48
22-7	641	3	16.25
22-7	513	3	0.39
26-4	641	3	0.15
27-11	513	3	0.41
26-1	641	4	29.40
23-3	643	5	33.76
26-1	513	5	0.65
27-14	641	5	4.22
27-14	513	5	0.14
23-3	513	6	1.19
23-8	513	6	0.05
27-12	641	6	0.60
27-13	649	6	0.53
27-13	641	6	3.21
23-3	641	7	3.00
23-2	513	10	2.95
23-2	641	10	66.51
26-13	649	10	0.57
26-6	643	10	0.33
26-7	643	10	0.42
26-8	643	10	0.11
26-4	513	11	0.00

Table 31
Wetland Impact Details

Forested Wetlands			
Wetland	Land Use	Year Disturbed	Acres
34-17	630	12	3.13
34-22	617	12	0.47
34-30	630	12	0.30
34-32	617	12	0.05
34-33	617	12	0.01
26-13	617	13	3.56
26-5	630	13	1.46
26-9	613	13	0.53
26-9	620	13	1.03
24-2	630	14	5.44
26-16	617	14	1.37
26-20	630	14	1.33
34-13	617	14	3.71
34-7	617	14	1.66
34-31	617	15	0.87
24-6	620	16	4.99
24-7	617	16	9.01
34-17	434	16	0.10
34-17	630	16	11.75
34-17	620	16	15.24
34-18	434	16	0.07
34-19	630	16	0.45
25-11	630	17	1.13
34-28	617	17	0.85
34-30	630	17	0.00
34-32	617	17	1.72
34-33	617	17	1.36
34-34	617	17	0.70
34-35	617	17	1.37
34-13	617	18	0.65
24-10	630	20	34.42
24-10	620	20	11.51
34-8	611	20	0.84
25-1	617	22	9.56
25-2	617	22	32.28
25-1	630	24	1.67
25-11	630	26	6.24
25-7	630	26	9.75
25-8	617	26	12.67

Herbaceous Wetlands			
Wetland	Land Use	Year Disturbed	Acres
26-10	641	12	1.09
26-11	643	12	0.44
26-12	641	12	0.47
34-27	643	12	0.06
34-29	641	12	0.32
26-13	513	13	0.11
26-15	641	13	0.25
26-18	643	13	0.34
26-18	641	13	0.68
26-9	641	13	0.41
34-17	513	16	0.04
34-17	643	16	1.94
34-18	329	16	0.03
25-10	647	17	2.96
25-12	513	17	0.05
25-12	641	17	2.63
34-26	641	17	1.46
34-27	643	17	0.20
34-28	641	17	0.11
34-29	641	17	0.08
24-8	321	19	0.64
24-10	647	21	0.39
25-1	641	23	34.41
25-1	513	23	2.98
25-3	647	23	0.92
25-10	647	26	14.62
25-12	641	26	1.71
25-12	513	26	0.06
25-9	641	26	6.71
24-10	513	29	0.06



Table 33
Summary of WRAP Values

DESCRIPTION	FLUCFCS ⁽¹⁾ CATEGORY NUMBER	MINIMUM	MAXIMUM	AVERAGE	MEDIAN
Palmetto Prairies	321	0.72	0.72	0.72	0.72
Other Shrub & Brush	329	0.75	0.89	0.82	0.82
Hardwood-Conifer Forests	434	0.75	0.81	0.78	0.78
Ditched Wetlands	513	0.37	0.81	0.60	0.60
Reservoirs < 10 acres	534	0.43	0.63	0.55	0.57
Bay Swamps	611	0.63	0.75	0.68	0.67
Gum Swamps	613	0.58	0.83	0.74	0.75
Inland Ponds and Sloughs	616	0.69	0.69	0.69	0.69
Mixed Wetland Hardwoods	617	0.50	0.89	0.72	0.72
Wetland Coniferous Forests	620	0.43	0.86	0.72	0.76
Wetland Forested Mixed	630	0.42	0.89	0.63	0.63
Freshwater Marshes	641	0.37	0.83	0.64	0.65
Wet Prairies	643	0.40	0.81	0.65	0.65
Shrub Marshes	647	0.44	0.81	0.66	0.69
Wet Pastures	648	0.40	0.70	0.50	0.47
Wet Rangeland	649	0.60	0.75	0.69	0.73
	Sub-Total: Herbaceous	0.37	0.89	0.64	0.65
	Sub-Total: Forested	0.42	0.89	0.70	0.69
	Site Total:	0.37	0.89	0.67	0.67

⁽¹⁾ Florida Land Use, Cover, and Forms Classification System (FDOT, 1999).

Source: ECT, 2011.



TABLE 40

STREAM MINING IMPACT SUMMARY				
Stream Segment	First Order?	FLUCFCS	LENGTH (feet)	Use ¹
SUBTOTAL 511 Channel Type				
100a-1	No	511	1,580	Mining
100a-2	No	511	1,046	Mining
100b	No	511	1,631	Mining
100c	No	511	1,693	Mining
100d	No	511	415	Mining
103a	Yes	511	490	Mining
103c	Yes	511	257	Mining
104a	Yes	511	560	Mining
104b	Yes	511	214	Mining
105a	No	511	124	Mining
105c	Yes	511	162	Mining
105d	Yes	511	188	Mining
105e	Yes	511	921	Mining
105f	Yes	511	146	Mining
105g	Yes	511	247	Mining
105h	Yes	511	632	Mining
106a	Yes	511	1,168	Mining
106b	Yes	511	354	Mining
106d	Yes	511	489	Mining
106e	Yes	511	1,436	Mining
106f	Yes	511	100	Mining
106g	Yes	511	1,463	Mining
107a	Yes	511	1,686	Mining
107b	Yes	511	509	Mining
107c	Yes	511	2,255	Mining
107e	Yes	511	1,861	Mining
107g	Yes	511	1,076	Mining
201c	Yes	511	231	Mining
201d	Yes	511	1,083	Mining
SUBTOTAL 511 Channel Type			24,021	
103b	Yes	512	1,033	Mining
105b	No	512	171	Mining
106h	Yes	512	1,127	Mining
106i	Yes	512	528	Mining
107d	Yes	512	58	Mining
107f	Yes	512	77	Mining
SUBTOTAL 512 Channel Type			2,993	
Total Channel Types			27,014	
100z	Yes	511	468	Undisturbed
100a-1	Yes	511	1,290	Undisturbed
101a	Yes	511	220	Undisturbed
106d	Yes	511	25	Undisturbed
107a	Yes	511	52	Undisturbed
107b	Yes	511	106	Undisturbed
200a	No	511	514	Undisturbed
201a	Yes	511	208	Undisturbed
201b	Yes	511	204	Undisturbed
201c	Yes	511	116	Undisturbed
201d	Yes	511	62	Undisturbed
300a	Yes	511	1,686	Undisturbed
SUBTOTAL 511 Channel Type			4,952	
106d	Yes	512	28	Undisturbed
300b	Yes	512	216	Undisturbed
SUBTOTAL 512 Channel Type			244	
Total Channel Types			5,196	
TOTAL STREAM LENGTH			32,210	

1 Mining includes mining related disturbances including the ditch-and-berm system and ore extraction.



**TABLE 41
STREAM ASSESSMENT SUMMARY**

Stream Segment ID	Reach Length (feet)	FLUCFCS	Habitat Assessment Score	Rosgen Classification	Stream Condition Index Stations (SCI)	Stream Condition Index Scores (SCI)	Proposed Status ¹
100z	468	511			SWQ-4	28.32	No Disturbance
100a-1	2,871	511	122	C	SWQ-4	28.32	Impacted
100a-2	1,046	511	122	C			Impacted
100b	1,631	511	121	G	SCI ALT3	26.97	Impacted
100c	1,693	511	112	E	SCI-ALT2	28.27	Impacted
100d	415	511	124	E			Impacted
101a	220	511	123	C			No Disturbance
103a	490	511	126	E			Impacted
103b	1,033	512	63	F			Impacted
103c	257	511	124	C			Impacted
104a	560	511	119	E			Impacted
104b	214	511	124	F			Impacted
105a	124	511	107	C			Impacted
105b	171	512	103	C			Impacted
105c	162	511	105	F			Impacted
105d	423	511	114	C			Impacted
105e	921	511	127	E			Impacted
105f	146	511	111	E			Impacted
105g	824	511	127	C			Impacted
105h	632	511	125	C			Impacted
106a	1,168	511	124	E			Impacted
106b	354	511	116	C			Impacted
106d	545	511	119	C			Impacted
106e	1,436	511	116	C			Impacted
106f	100	511	106	E			Impacted
106g	1,463	511	120	C	SW-3	26.25	Impacted
106h	1,127	512	101	C			Impacted
106i	528	512	99	F			Impacted
107a	1,738	511	134	C			Impacted
107b	616	511	123	C			Impacted
107c	2,255	511	118	C			Impacted
107d	58	512	50				Impacted

**TABLE 41
STREAM ASSESSMENT SUMMARY**

Stream Segment ID	Reach Length (feet)	FLUCFCS	Habitat Assessment Score	Rosgen Classification	Stream Condition Index Stations (SCI)	Stream Condition Index Scores (SCI)	Proposed Status ¹
107e	1,861	511	59	C			Impacted
107f	77	512	67				Impacted
107g	1,076	511	94	C			Impacted
200a	514	511	132	C			No Disturbance
201a	208	511	122	C			No Disturbance
201b	204	511	126	C			No Disturbance
201c	361	511	128	B			Impacted
201d	1,157	511	128	B			Impacted
300a	1,689	511	160	C			No Disturbance
300b	216	512	140	C			Impacted

Note:

1 = See Table 40 for a summary of impacts to streams.



TABLE 43
STREAM DESIGN REFERENCE REACH MORPHOLOGY

Morphological Parameter	Parameter Name	Reference Reach		
		103C	106A	107A
Rosgen Classification		E5	C5	C5
Drainage Area (mi ²)	DA	0.12	2.52	1.34
Mean Chanel Slope (ft/ft)	S_{ave}	0.0063	0.0022	0.0005
Riffle Bankfull Area (ft ²)	RA_{bkf}	3.5	9.5	7.5
Riffle Bankfull Width	RW_{bkf}	5.4	12.5	10.8
Riffle Bankfull Depth	RD_{bkf}	0.64	0.76	0.69
Riffle Max Depth	RD_{max}	1	1.3	1.1
Pool Bankfull Area (ft ²)	PA_{bkf}	13.3	13.5	14.3
Pool Bankfull Width	PW_{bkf}	12.2	12.4	14
Pool Bankfull Depth	PD_{bkf}	1.1	1.1	1
Pool Max Depth	PD_{max}	1.9	1.7	1.5
Meander Radius	R_m	8	20	16
Meander Length	L_m	28	47	43
Meander Beltwidth	BW_m	19	36	47
Sinuosity	K	1.4	1.2	1.4
Entrenchment Ratio				
Riffle Width:Depth Ratio	$[W_{bkf}/D_{bkf}]$	8.4	16.5	15.7
Riffle Max Depth Ratio	$[RD_{max}/RD_{bkf}]$	1.56	1.71	1.59
Pool Width Ratio	$[PW_{bkf}/RW_{bkf}]$	2.26	0.99	1.30
Pool Max Depth Ratio	$[PD_{max}/RD_{bkf}]$	2.97	2.24	2.17
Meander Radius Ratio	$[R_m/RW_{bkf}]$	1.48	1.60	1.48
Meander Length Ratio	$[L_m/RW_{bkf}]$	5.19	3.76	3.98
Meander Beltwidth Ratio	$[BW_m/RW_{bkf}]$	3.52	2.88	4.35
Bankfull Discharge (cfs)		5.99	10.83	3.83
Bankfull Velocity (ft/s)		1.71	1.14	0.51
Unit Stream Power (lb/s/ft)		0.44	0.12	0.01
Shear Stress (lb/ft ²)		0.24	0.10	0.02



TABLE 44
STREAM WATER QUALITY SAMPLING RESULTS

Water Quality Station	Mapped Stream Reach ID ¹	Water Quality Parameter																			
		pH				Dissolved Oxygen (mg/L)				Specific Conductivity (umhos/cm)				Total Phosphorus (mg/L)				Total Nitrogen (mg/L)			
		Mean	Max	Min	Count	Mean	Max	Min	Count	Mean	Max	Min	Count	Mean	Max	Min	Count	Mean	Max	Min	Count
MR-1	NM	6.8	7.8	5.0	72	5.7	10.0	1.3	69	180	464	43	69	0.6	3.8	0.2	65	1.4	3.3	0.1	42

1 NM = not mapped at this location; 513 = Florida Land Use, Cover and Forms Classification System code for ditched wetland



Table 49
Land Cover Within 60 Feet of Streams

Stream Segment	211	213	321	329	330	411	419	425	427	434	513	514	534	611	613	617	617HH	620	630	641	647WM	648PA	649	743	832	Sum of Acres	
100z																1.43	1.43									2.86	
100a-1	0.03							0.65	0.52							13.23	0.72				0.03					15.18	
100a-2	0.81		0.03					0.67	0.64	0.01				0.18		3.35										5.69	
100b	1.69					0.15			2.34	0.76						4.97										9.91	
100c	1.60					2.59			0.51	0.12		0.02				4.95										9.79	
100d	0.17					0.65			0.11	0.02						2.22										3.17	
101a										0.03						1.94										1.97	
103a	0.38		0.23	0.25					0.33							2.24										3.43	
103b	4.56		0.19	0.24		0.33			0.02	0.20					0.19	0.36			1.65							7.74	
103c						0.19				0.37					0.52	0.17			1.07							2.32	
104a	0.69					1.19			0.10	0.22						1.69										3.89	
104b						0.75	0.22									0.78		0.39								2.14	
105a						0.25			0.07	0.04						1.21			0.05							1.62	
105b						0.69										1.27										1.96	
105c						0.50	0.05								0.15	0.64					0.59					1.93	
105d	0.44					0.80	1.40					0.02						1.04			0.35					4.13	
105e						3.84				1.03	0.41	0.52					0.80				0.13			0.06		6.79	
105f	0.65									0.64		0.18													0.32	1.79	
105g										2.12						0.24			0.04							2.40	
105h										4.45						0.96											5.41
106a						3.44			0.08	0.24						0.89			1.79		0.05					6.49	
106b						0.81						0.01							1.61							2.43	
106d						1.28				1.06		0.08							1.15					0.51		4.08	
106e						1.78				6.72									1.26							9.76	
106f										0.12				0.62		0.27	0.10			0.46						1.57	
106g	0.13			0.25	0.01	0.88				5.91	0.10			1.01										0.26		8.55	
106h	0.39			0.61		0.19				1.93	0.10	0.19							0.92		0.34			0.22		4.89	
106i	0.03		1.23	0.12							0.05									0.88		1.54	0.08			3.93	
107a						1.79	0.75		3.55	0.53						2.86			0.12							9.60	
107b						0.73				1.08		0.22							1.62	0.11						3.76	
107c	0.41	0.51				1.72				2.48		0.06							7.29							12.47	
107d	0.52	0.04								0.38		0.06							0.34							1.34	
107e	12.73	0.10								0.29		0.28							0.18							13.58	
107f	2.60	0.37										0.56														3.53	
107g	1.01	4.82										0.64														6.64	
200a																3.04										3.04	
201a																2.03										2.03	
201b																2.04										2.04	
201c										0.34						0.05	1.93									2.32	
201d	0.12									3.01							1.36		1.79							6.28	
300a								0.15									7.72									7.87	
300b																1.12										1.12	
Grand Total:	28.96	5.84	1.68	1.47	0.01	24.55	2.42	1.47	7.75	34.62	0.46	2.85	0.19	1.81	0.94	52.83	15.18	1.43	21.05	1.45	1.49	1.54	0.08	0.06	1.31	211.44	
%	13.70%	2.76%	0.79%	0.70%	0.00%	11.61%	1.14%	0.70%	3.67%	16.37%	0.22%	1.35%	0.09%	0.86%	0.44%	24.99%	7.18%	0.68%	9.96%	0.69%	0.70%	0.73%	0.04%	0.03%	0.62%	100%	



TABLE 50
STREAM BED SLOPE AND CHANNEL SINUOSITY

Reach ID	Rosgen Stream Type	Slope (ft/ft)	Slope (%)	Upstream Elevation	Downstream Elevation	Elevation Change (feet)	Surveyed Stream Length (feet)	Valley Length (feet)	Sinuosity (SL/VL)
106g	C	0.0013	0.13	104.2	99.6	4.6	1693		
105h	C	0.0028	0.28	103.1	101.5	1.6	574	496	1.2
105g	C	0.0022	0.22	100.8	99.2	1.6	719	557	1.3
106e	C	0.0006	0.06	100.4	99.5	0.9	1437	1202	1.2
107e	C	0.0003	0.03	104.4	103.8	0.6	1793	1659	1.1
107c	C	0.0006	0.06	103.8	102.4	1.4	2255	1801	1.3
107b	C	0.0045	0.45	101.2	98.4	2.8	616	519	1.2
106d	C	0.0031	0.31	98.8	97.1	1.7	543	485	1.1
105c	F	0.0046	0.46	95.4	94.3	1.1	240	235	1.0
104b	C	0.0057	0.57	96.6	95	1.6	282	255	1.1
104a	E	0.0136	1.36	93.1	85.5	7.6	560	477	1.2
107a	C	0.0027	0.27	95.3	91.4	3.9	1456	992	1.5
106a	C	0.0033	0.33	96.3	91.4	4.9	1483	1150	1.3
100d	C	0.0019	0.19	91.4	90.5	0.9	476	419	1.1



Table 80
Listed Wildlife Species Observed on the Wingate East Mine Site
(2006 and 2011)

Common Name	Scientific Name	Current Designated Status USFWS
<u>Reptiles</u>		
American alligator	<i>Alligator mississippiensis</i>	T(S/A)
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T
<u>Birds</u>		
Wood stork	<i>Mycteria americana</i>	E
Scrub jay	<i>Aphelucoma coerulescens</i>	T
Bald eagle	<i>Haliaeetus leucocephalus</i>	§
Crested caracara	<i>Caracara cheriway</i>	T

Notes:

- USFWS = U.S. Fish & Wildlife Service
- E = endangered
- T = threatened
- T(S/A) = threatened due to similarity of appearance
- §Bald eagle was delisted; however, because of various state and federal laws protecting it, it is included

Source: ECT, 2011.



**Table 81
Likelihood of Occurrence of Listed Wildlife Species
on Wingate East**

Common Name	Scientific Name	Current Designated Status	Likelihood of Occurrence†
		USFWS	
Birds			
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T	L Existing families have been translocated to the Mosaic Wellfield under Permit No. TE236128-0
Northern Crested Caracara	<i>Caracara cheriway</i>	T	P No known nests within 1.2 miles
Piping Plover	<i>Charadrius melodus</i>	T	U No clans documented nearby
Wood Stork	<i>Mycteria americana</i>	E	P But no nesting
Red-cockaded Woodpecker	<i>Picoides borealis</i>	E	U No known colonies within 60 miles
Fish			
Gulf Sturgeon	<i>Acipenser oxyrinchus desotoi</i>	T	U No appropriate habitat occurs on-site
Smalltooth Sawfish	<i>Pristis pectinata</i>	E	U No appropriate habitat occurs on-site
Mammals			
Florida panther	<i>Felis concolor coryi</i>	E	U Site not within Panther consultation area
West Indian Manatee	<i>Trichechus manatus</i>	E	U No appropriate habitat occurs on-site
Reptiles			
Loggerhead	<i>Caretta caretta</i>	T	U No appropriate habitat occurs on-site
Green Turtle	<i>Chelonia mydas</i>	E	U No appropriate habitat occurs on-site
Leatherback	<i>Dermochelys coriacea</i>	E	U No appropriate habitat occurs on-site
Eastern Indigo Snake	<i>Drymarchon couperi</i>	T	P One individual captured during 2005 funnel trapping
Kemp's Ridley	<i>Lepidochelys kempii</i>	E	U No appropriate habitat occurs on-site

Notes:
USFWS =U.S. Fish & Wildlife Service.
E = endangered.
T = threatened.
†Status: P = present. L = low. U = unlikely

Source: Cardno ENTRIX, 2011.



**TABLE LU-1
2009 LAND USE/LAND COVER
In Acres (% of Total)**

Use/Cover Type	Urban	Mining ⁽¹⁾	Agriculture ⁽²⁾	Rangeland	Upland Forests	Open Water	Wetlands	Barren	Transportation/ Utilities
DeSoto	23,541 (5.8)	250 (0.0)	228,886 (55.9)	41,127 (10.0)	22,338 (5.5)	3,237 (0.8)	86,799 (21.2)	1,633 (0.4) ⁽³⁾	1,434 (0.4)
Hardee	17,453 (4.3)	25,474 (6.2) ⁽⁴⁾	212,126 (51.9)	23,440 (5.7)	24,291 (5.9)	3,083 (0.8)	101,236 (24.8)	96 (0.0)	1,279 (0.3)
Manatee	11,420 (4.9)	12,818 (5.6) ⁽⁴⁾	95,336 (41.3)	41,810 (18.1)	27,212 (11.8)	813 (0.4)	41,163 (17.8)	71 (0.0)	245 (0.1)
Sub-Region	52,414 (5.0)	38,542 (3.0) ⁽⁴⁾	536,348 (51.1)	106,377 (10.1)	73,841 (7.0)	7,133 (0.7)	229,128 (21.9)	1,800 (0.2)	2,958 (0.3)

Notes:

- (1) While the predominant mining use is to extract phosphate, sand, gravel, shell and peat mines account for a minor percentage.
- (2) Lands physically converted from native cover to pasture or crop land, grazing also occurs on rangeland and in upland forests and wetlands.
- (3) Consists predominately of PRMRWSA reservoir site under construction in 2009, now classified as 530 Reservoir.
- (4) Includes some land reclaimed following mining. Some reclaimed land is mapped based on cover types.

Source: SWFWMD, 2009.