

Appendix:

Tab No. 1: Proctors

Tab No. 2: Densities

Tab No. 3: Coarse Aggregate

Tab No. 4: Soil Classification

Tab No. 5: Fine Aggregate Sieves

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DEC 22 2010
SOUTHWEST DISTRICT
TAMPA



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November 23, 2010

CDM
1715 North Westshore Blvd.
Suite 875
Tampa, FL 33607

Attention: Aamod Sonawane, P.E., BCEE
Reference: Pasco County Ash Cell A-4
14230 Hay Rd., Shady Hill, FL
UES Project No. 0810.1000004.0000

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
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Dear Mr. Sonawane:

Pursuant to your request please find attached a complete summarization of the testing reports to date for this project. All of the attached test reports have been through our standard in-house Quality Control/ Quality Acceptance review process. This letter certifies reports PR# 1-7, DR# 1-14, FR# 1, RR# 1-6, SC# 1-5, and SA# 1-46, bound herein.

We trust this test report package is acceptable to your current needs. However, if you should require additional information please contact us.

Respectfully submitted
UNIVERSAL ENGINEERING SCIENCES, INC.
Certificate of Authorization No. 549/GB33

Mark R. Hardy, P.E. 11/23/2010
Tampa Branch Manager
Professional Engineer No. 57233



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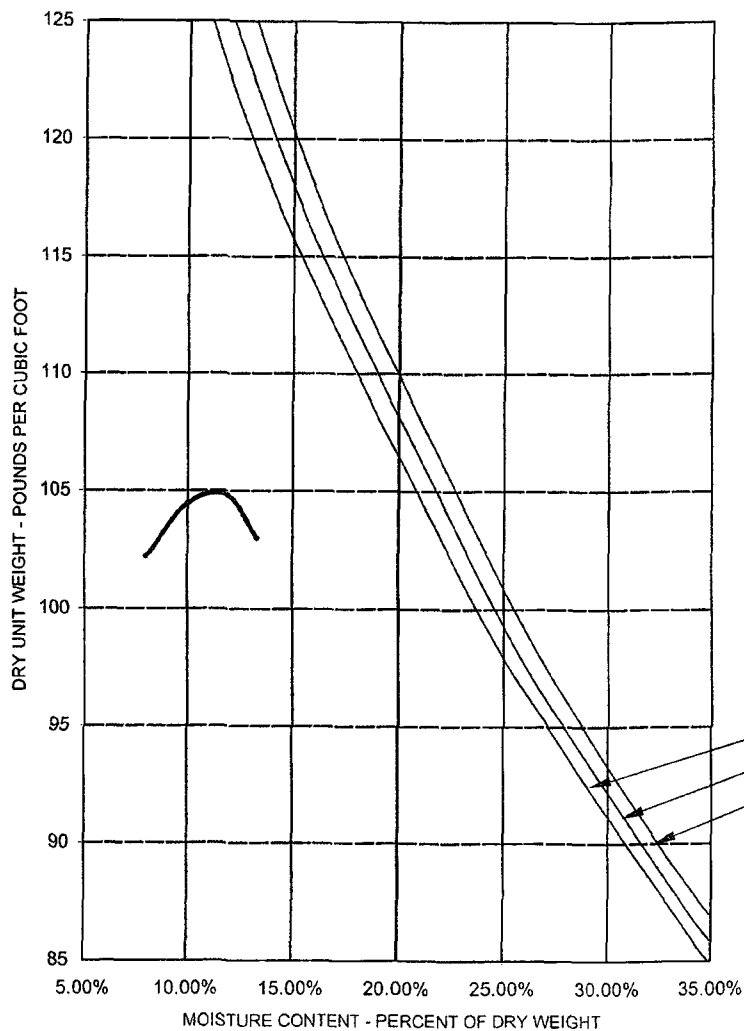
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Client : Ripa And Associates
Project: Pasco County Ash Cell A-4
Sample
Date: 1/28/2010
Location: North Berm

Project No.: 0810.100004
Report No.: PR#1
Report Date: 2/3/2010
Lab #: 3306
Test Method : D 1557 (B)
Rammer Type: Mechanical
Soil Description:
Brown sand
Sampled to: AASHTO T-002



Date Tested :	2/1/2010
Maximum Dry Density(pcf)	105
Optimum Moisture Content (%)	11
Wash 200%	N/A



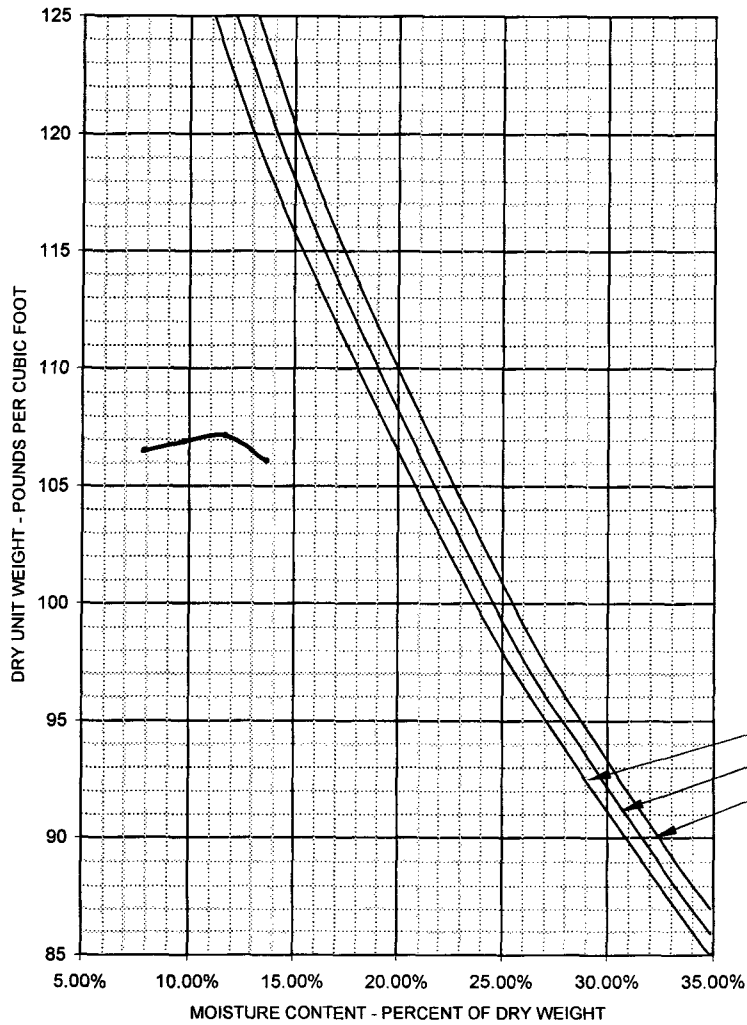
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Client : Ripa And Associates
Project: Pasco County Ash Cell A-4
Sample
Date: 2/5/2010
Location: Northeast corner of property

Project No.: 0810.100004
Report No.: PR#2
Report Date: 2/10/2010
Lab # : 3321
Test Method : D 1557 (B)
Rammer Type: Mechanical
Soil Description:
Tan sand
Sampled to: AASHTO T-002



Date Tested :	2/8/2010
Maximum Dry Density(pcf)	107
Optimum Moisture Content (%)	11
Wash 200%	N/A

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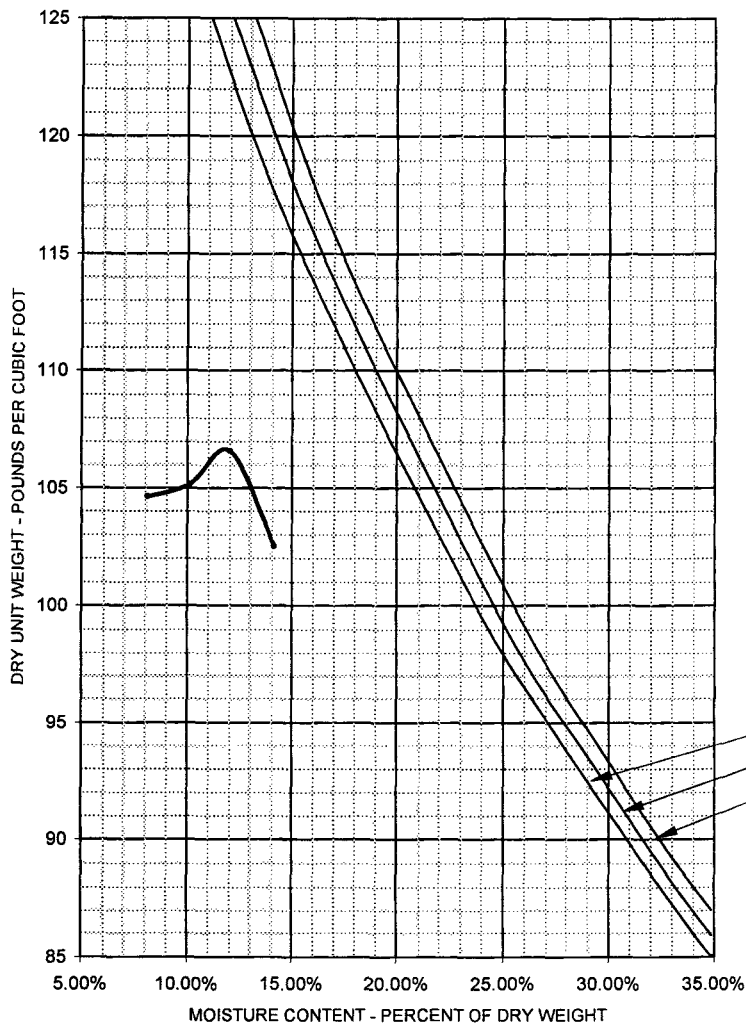
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Client : Ripa Ans Associates
Project: Pasco County Ash Cell A-4
Sample
Date: 2/15/2010
Location: Stockpile

Project No.: 0810.100004
Report No.: PR#3
Report Date: 2/18/2010
Lab # : 3334
Test Method : D 1557 (B)
Rammer Type: Mechanical
Soil Description:
Light gray sand
Sampled to: AASHTO T-002



Date Tested :	2/17/2010
Max imum Dry Density(pcf)	107
Optimum Moisture Content (%)	12
Wash 200%	N/A

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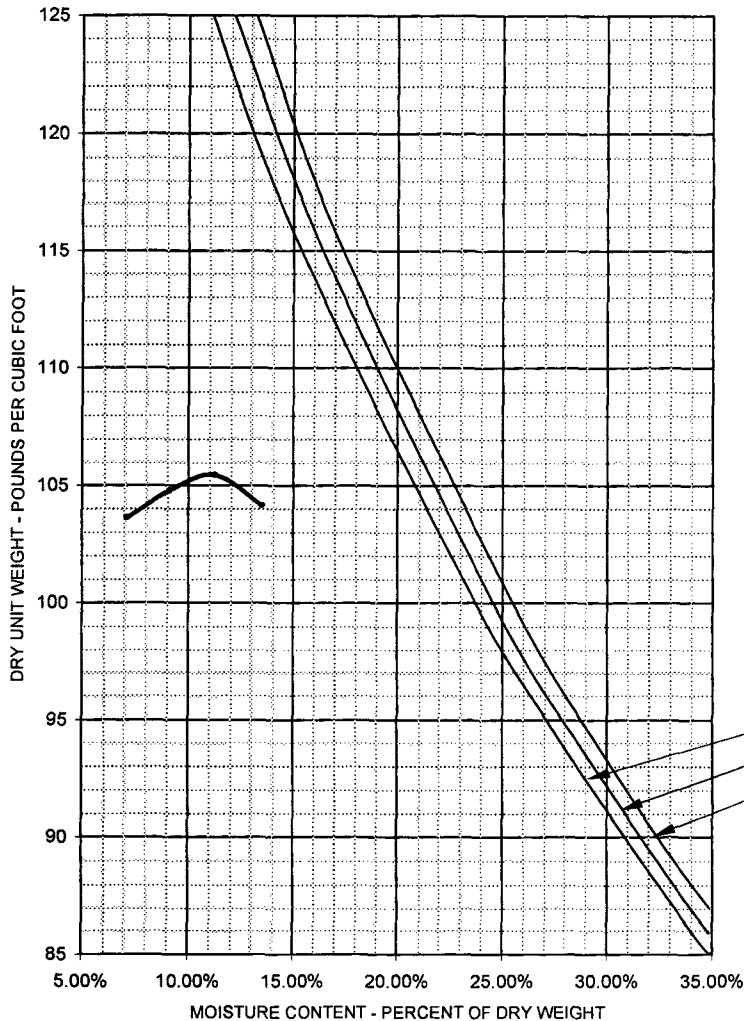
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Client : Ripa And Associates
Project: Pasco County Ash Cell A-4
Sample
Date: 2/8/2010
Location: Stockpile #2

Project No.: 0810.100004
Report No.: PR#4
Report Date: 2/23/2010
Lab # : 3326
Test Method : D 1557 (B)
Rammer Type: Mechanical
Soil Description:
Dark gray sand

Sampled to: AASHTO T-002



Date Tested :	2/11/2010
Maximum Dry Density(pcf)	105
Optimum Moisture Content (%)	11
Wash 200%	4.8



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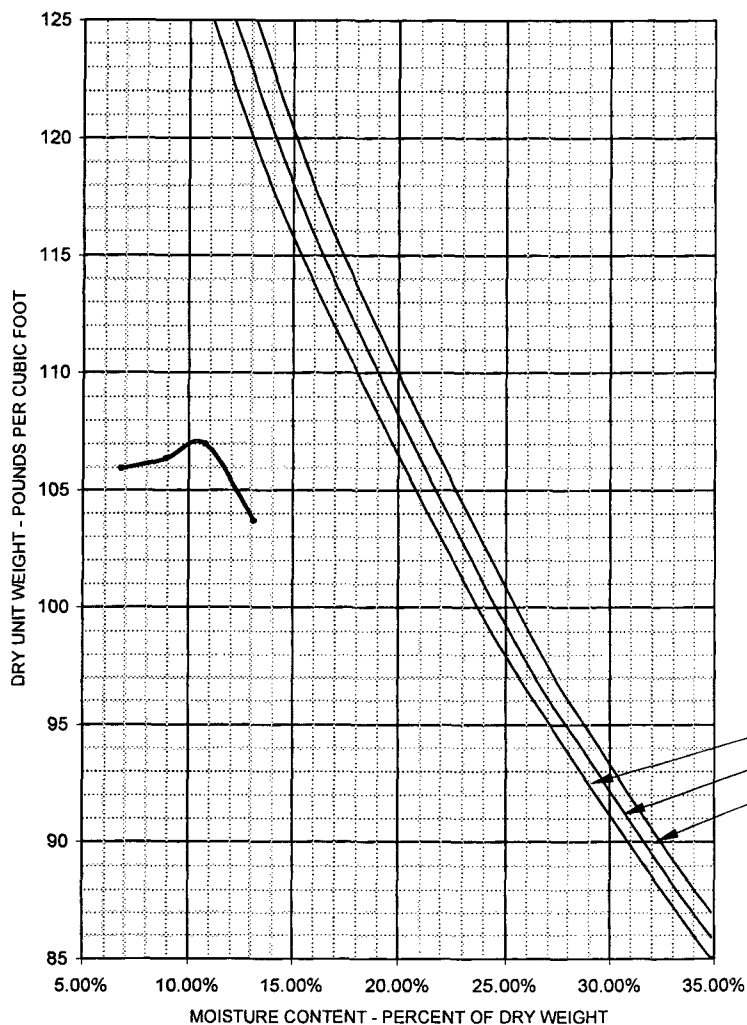
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Client : Ripa And Associates
Project: Pasco County Ash Cell A-4
Sample
Date: 2/18/2010
Location: Consolidated Pile #1

Project No.: 0810.100004
Report No.: PR#5
Report Date: 2/23/2010
Lab # : 3345
Test Method : D 1557 (B)
Rammer Type: Mechanical
Soil Description:
Light brown sand
Sampled to: AASHTO T-002



Date Tested :	2/19/2010
Max imum Dry Density(pcf)	107
Optimum Moisture Content (%)	10
Organic Content	0.56%

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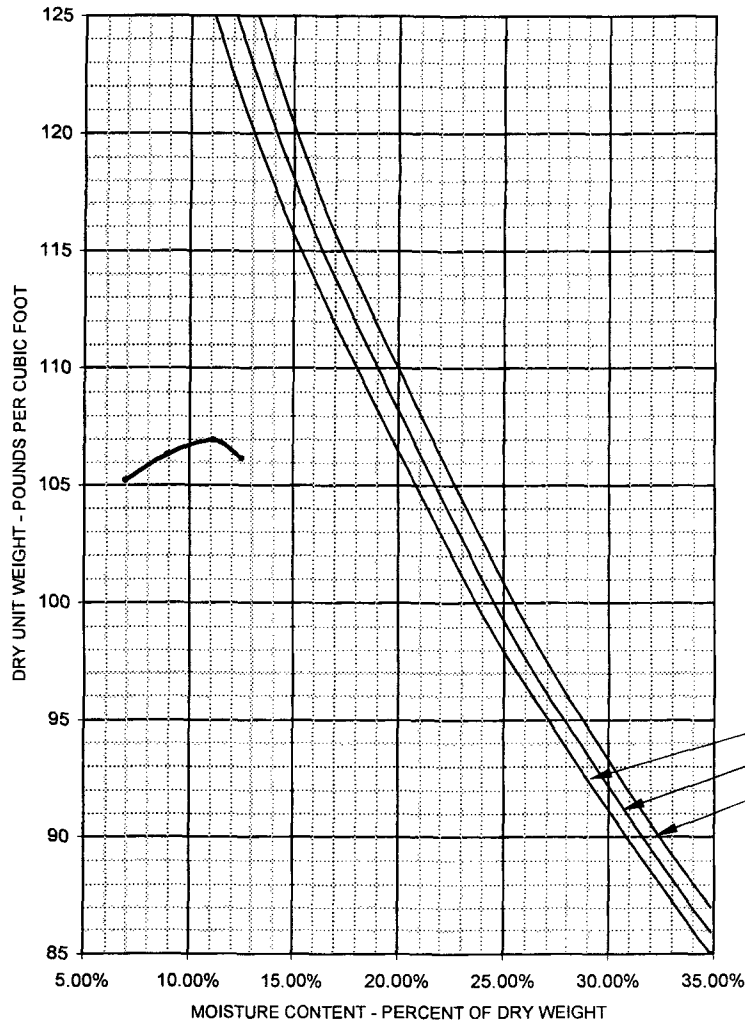
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Client : Ripa And Associates
Project: Pasco County Ash Cell A-4
Sample
Date: 4/19/2010
Location: Stockpile #1

Project No.: 0810.100004
Report No.: PR#6
Report Date: 4/26/2010
Lab # : 3430
Test Method : D 698
Rammer Type: Manual
Soil Description:
Light brown sand
Sampled to: AASHTO T-002



Date Tested :	4/20/2010
Maximum Dry Density(pcf)	107
Optimum Moisture Content (%)	11
Organic Content	0.70%

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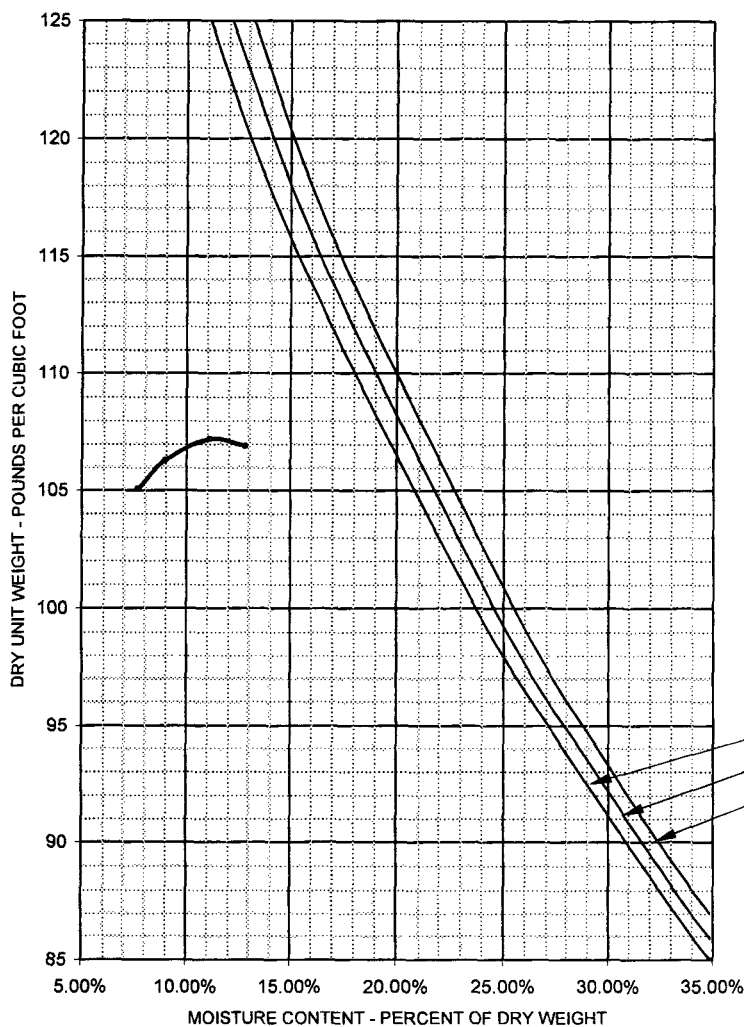
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Client : Ripa And Associates
Project: Pasco County Ash Cell A-4
Sample
Date: 4/19/2010
Location: Stockpile #2

Project No.: 0810.100004
Report No.: PR#7
Report Date: 4/26/2010
Lab # : 3431
Test Method : D 698
Rammer Type: Manual
Soil Description:
Light brown sand
Sampled to: AASHTO T-002



Date Tested :	4/20/2010
Maximum Dry Density(pcf)	107
Optimum Moisture Content (%)	11
Organic Content	0.70%

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Project No.: 0810.1000004.0000
Report No.: DR # 1
Date: February 17, 2010

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IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Berm

**Reference
Datum:** Top of Native

Type of Test- Field: ASTM D-2937 Drive Sleeve Method
Laboratory: ASTM D1557 - Modified Proctor

Date Tested: February 5, 2010

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

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TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
1	250' from East End	+2	108.0	11.0	104.1	9.9	96
2	500' from East End	+2	108.0	11.0	103.5	9.2	96
3	750' from East End	+2	108.0	11.0	104.2	10.2	97

Technician: B. Long
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 2
Date: March 19, 2010

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IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Berm

Reference Datum: Top of Native

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** January 28, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
4	110' from E End of Berm N Side	+1	105.0	11.0	102.3	5.2	97
5	50' from E End of Berm N Side	+1	105.0	11.0	100.8	4.0	96
6	100' from E End of Berm N Side	+1	105.0	11.0	101.6	3.4	97
7	50' from W End of Berm N Side	+1	105.0	11.0	103.1	7.0	98
8	75' from W End of Berm N Side	+1	105.0	11.0	103.0	6.6	98
9	15' from W End of Berm S Side	+1	105.0	11.0	101.5	3.3	97
10	75' from W End of Berm S Side	+1	105.0	11.0	102.3	3.2	97
11	50' from E End of Berm S Side	+1	105.0	11.0	100.0	2.9	95

Technician: M. Arroyo
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 3
Date: March 19, 2010

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IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Landfill Backfill

Reference Datum: Top of Native

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** February 8, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
12	50' W x 28' S from NE Corner of Large Lot	+2	105.0	11.0	103.1	8.0	98
13	31' W x 85' S from NE Corner of Large Lot	+2	105.1	11.0	105.2	5.1	100
14	69' W x 291' S from NE Corner of Large Lot	+2	106.6	11.0	106.7	7.1	100
15	110' W x 77' S from NE Corner of Lot	+2	106.0	11.0	106.0	6.9	100
16	181' W x 152' S from Ne Corner of Large Lot	+2	107.1	11.0	107.1	6.4	100
17	146' W x 213' S from NE Corner of Large Lot	+2	106.4	11.0	106.4	5.6	100
18	220' W x 48' S from NE Corner of Large Lot	+2	108.2	11.0	108.2	7.3	100
19	288' W x 135' S from NE Corner of Large Lot	+2	105.9	11.0	105.9	6.4	100
20	259' W x 280' S from NE Corner of Large Lot	+2	107.1	11.0	107.3	6.0	100
21	91' W x 68' S from NE Corner of Large Lot	+1	106.3	11.0	106.3	6.4	100
22	33' W x 172 S from NE Corner of Large Lot	+1	106.3	11.0	106.8	5.6	100
23	58' W x 231' S from NE Corner of Large Lot	+1	106.3	11.0	105.9	7.2	100
24	105' W x 80' S from NE Corner of Large Lot	+1	107.4	11.0	107.5	6.6	100

Technician: R. Roome
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000

Report No.: DR # 3

Date: March 19, 2010

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TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
25	192' W x 179' S from NE Corner of Large Lot	+1	107.4	11.0	107.1	6.2	100
26	125' W x 213' S from NE Corner of Large Lot	+1	108.0	11.0	108.0	4.8	100
27	282' W x 78' S from NE Corner of Large Lot	+1	104.9	11.0	104.9	9.3	100
28	202' W x 158' S from NE Corner of Large Lot	+1	106.8	11.0	106.8	5.4	100
29	266' W x 289' S from NE Corner of Large Lot	+1	109.5	11.0	109.6	5.6	100
30	23' W x 10' N from SE Corner of Small Lot	+1	105.9	11.0	106.0	5.4	100
31	20' W x 63' N from SE Corner of Small Lot	+1	107.9	11.0	107.9	5.7	100
32	23' W x 19' N from SE Corner of Small Lot	+2	106.9	11.0	106.9	5.2	100
33	82' W x 77' N from SE Corner of Small Lot	+2	105.6	11.0	105.7	5.6	100

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Technician:

R. Roome

Field CC:

Dan

CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 4
Date: March 19, 2010

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IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Berm Cell A-4

Reference Datum: Top of Native

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** February 15, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
34	NE Corner of Berm N Berm	+2	108.0	11.0	103.2	7.9	96
35	200' from NE Corner on N Berm	+2	108.0	11.0	102.6	6.6	95
36	400' from NE Corner on N Berm	+2	108.0	11.0	104.7	6.7	97
37	400' from NW Corner on N Berm	+2	108.0	11.0	103.3	7.0	96
38	NW Corner of Berm N Berm	+2	108.0	11.0	102.1	9.5	95
39	150' from NW Corner of Berm on W Berm	+2	108.0	11.0	103.0	8.2	95
40	300' from NW Corner of Berm on W Berm	+2	108.0	11.0	104.0	9.1	96
41	150' from SW Corner of Berm on W Berm	+2	108.0	11.0	104.7	7.0	97
42	SW Corner of Berm on W Berm	+2	108.0	11.0	103.2	6.4	96
43	200' from NE Corner of N Berm	+1	108.0	11.0	102.7	13.0	95
44	400' from NE Corner of N Berm	+1	108.0	11.0	107.0	7.9	99
45	600' from NE Corner of N Berm	+1	108.0	11.0	106.0	5.8	98
46	400' from NW Corner of N Berm	+1	108.0	11.0	105.2	7.7	97

Technician: M. Arroyo
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 4
Date: March 19, 2010
Page 2 of 2

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TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
47	200' from NW Corner of N Berm	+1	108.0	11.0	105.0	6.9	97
48	NW Corner on W Berm	+1	108.0	11.0	105.4	6.6	98
49	150' from NW Corner of W Berm	+1	108.0	11.0	104.2	7.1	96
50	150' from SW Corner on W Berm	+1	108.0	11.0	105.5	5.6	98
51	SW Corner on W Berm	+1	108.0	11.0	106.5	12.3	99
52	150' from SW Corner of Berm on S Berm	+2	108.0	11.0	107.2	6.6	99
53	300' from SW Corner of Berm on S Berm	+2	108.0	11.0	108.7	6.4	101

Technician: M. Arroyo
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 5
Date: March 19, 2010

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IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Embankment

Reference Datum: Top of Native

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** March 16, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
54	125' W of NE Corner	+2	108.0	11.0	104.5	7.1	97
55	375' W of NE Corner	+2	108.0	11.0	105.5	6.7	98
56	625' W of NE Corner	+2	108.0	11.0	104.8	6.9	97
57	125' E of NW Corner	+2	108.0	11.0	104.5	8.5	97

Technician: B. Long
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 6
Date: March 19, 2010

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IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Berm

Reference Datum: Top of Berm

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** March 16, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
58	125' E of NW Corner	+0	108.0	11.0	105.2	6.9	97
59	125' E of NW Corner	-1	108.0	11.0	105.4	7.4	98
60	125' S of NW Corner	+0	108.0	11.0	104.8	6.3	97
61	125' S of NW Corner	-1	108.0	11.0	105.4	6.5	98
62	375' S of NW Corner	+0	108.0	11.0	105.2	6.4	97
63	375' S of NW Corner	-1	108.0	11.0	105.0	8.3	97
64	525' S of NW Corner	+0	108.0	11.0	104.9	7.5	97
65	525' S of NW Corner	-1	108.0	11.0	104.2	8.4	97
66	125' E of SE Corner	+0	108.0	11.0	104.7	6.6	97
67	125' E of SW Corner	-1	108.0	11.0	105.1	6.7	97

Technician: B. Long
Field CC: Dan
CC:

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Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.0000
Report No.: DR # 7
Date: April 15, 2010

9802 Palm River Road • Tampa FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Ash Cell A-4

Reference Datum: Top of Native

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** April 5, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
68	615' S,275' W from NE Corner	0	107.0	12.0	103.4	5.5	97
69	550' S,275' W from NE Corner	0	107.0	12.0	102.9	4.7	96
70	450' S,275' W from NE Corner	0	107.0	12.0	102.9	4.1	96
71	350' S,275' W from NE Corner	0	107.0	12.0	104.5	2.5	98
72	250' S,275' W from NE Corner	0	107.0	12.0	105.3	1.6	98
73	150' S,275' W from NE Corner	0	107.0	12.0	104.6	4.3	98
74	50' S,275' W from NE Corner	0	107.0	12.0	103.5	4.0	97
75	50' S,325' W from NE Corner	0	107.0	12.0	103.7	4.2	97
76	150' S,325' W from NE Corner	0	107.0	12.0	103.9	5.3	97
77	150' S,175' W from NE Corner	0	107.0	12.0	101.8	5.5	95
78	50' S,175' W from NE Corner	0	107.0	12.0	102.8	4.1	96
79	50' S,225' W from NE Corner	0	107.0	12.0	103.1	3.6	96
80	150' S,225' W from NE Corner	0	107.0	12.0	105.5	3.6	99

Technician: R. Roome
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 7
Date: April 15, 2010
Page 2 of 2

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TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
81	250' S, 225' W from NE Corner	0	107.0	12.0	103.6	4.8	97
82	350' S, 225' W from NE Corner	0	107.0	12.0	103.7	3.9	97
83	450' S, 225' W from NE Corner	0	107.0	12.0	102.8	5.7	96
84	550' S, 225' W from NE Corner	0	107.0	12.0	105.5	3.4	99
85	615' S, 225' W from NE Corner	0	107.0	12.0	102.8	4.6	96

Technician: R. Roome
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 8
Date: April 15, 2010

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IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Ash Cell A-4

Reference Datum: Top of Native

Type of Test- Field: ASTM D-2922 Nuclear Method **Date Tested:** April 5, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
86	50' S, 25' W from NE Corner	0	107.0	12.0	102.5	3.6	96
87	150' S, 35' W from NE Corner	0	107.0	12.0	102.6	5.2	96
88	200' S, 15' W from NE Corner	0	107.0	12.0	103.8	5.0	97
89	250' S, 20' W from NE Corner	0	107.0	12.0	101.9	6.0	95
90	300' S, 10' W from NE Corner	0	107.0	12.0	105.1	3.7	98
91	350' S, 15' W from NE Corner	0	107.0	12.0	103.1	4.0	96
92	400' S, 40' W from NE Corner	0	107.0	12.0	106.7	3.1	100
93	450' S, 45' W from NE Corner	0	107.0	12.0	102.5	5.0	96
94	500' S, 35' W from NE Corner	0	107.0	12.0	105.3	3.3	98
95	500' S, 20' W from NE Corner	0	107.0	12.0	103.6	4.4	97
96	550' S, 10' W from NE Corner	0	107.0	12.0	105.3	3.8	98
97	600' S, 5' W from NE Corner	0	107.0	12.0	102.7	3.9	96
98	610' S, 8' W from NE Corner	0	107.0	12.0	103.5	1.7	97

Technician: M. Arroyo
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000

Report No.: DR # 8

Date: April 15, 2010

Page 2 of 2

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TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
99	50' N,75'W from SE Corner	0	107.0	12.0	102.5	3.1	96
100	100' N,65' W from SE Corner	0	107.0	12.0	103.5	2.4	97
101	150' N,60' W from SE Corner	0	107.0	12.0	102.3	2.9	96
102	200' N,70' W from SE Corner	0	107.0	12.0	103.3	4.3	97
103	250' N,80' W from SE Corner	0	107.0	12.0	102.4	4.0	96
104	300' N,55' W from SE Corner	0	107.0	12.0	104.1	4.2	97
105	350' N,63' W from SE Corner	0	107.0	12.0	104.2	2.5	97
106	400' N,78' W from SE Corner	0	107.0	12.0	103.3	2.0	97
107	450' N,90' W from SE Corner	0	107.0	12.0	102.6	3.3	96
108	500' N,95' W from SE Corner	0	107.0	12.0	105.0	1.9	98
109	550' W,88' W from SE Corner	0	107.0	12.0	102.2	2.3	96
110	600' N,77' W from SE Corner	0	107.0	12.0	104.7	3.2	98
111	630' N,95' W from SE Corner	0	107.0	12.0	102.2	2.4	96

Technician:

M. Arroyo

Field CC:

Dan

CC:

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Consultants in: Geotechnical Engineering • Environmental Sciences
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Project No.: 0810.1000004.0000
Report No.: DR # 9
Date: April 15, 2010

9802 Palm River Road • Tampa FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Ash Cell A-4

Reference Datum: Top of Native

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** April 6, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
112	50' S, 700' W from NE Corner	0	107.0	12.0	104.1	1.7	97
113	100' S, 775' W from NE Corner	0	107.0	12.0	105.5	5.4	99
114	300' S, 775' W from NE Corner	0	107.0	12.0	104.6	3.8	98
115	500' S, 775' W from NE Corner	0	107.0	12.0	103.9	6.2	97
116	615' S, 775' W from NE Corner	0	107.0	12.0	103.1	3.3	96
117	450' S, 600' W from NE Corner	0	107.0	12.0	101.2	4.4	95
118	550' S, 600' W from NE Corner	0	107.0	12.0	101.2	5.5	95
119	615' S, 600' W from NE Corner	0	107.0	12.0	102.4	4.9	96
120	615' S, 700' W from NE Corner	0	107.0	12.0	103.0	3.6	96
121	550' S, 700' W from NE Corner	0	107.0	12.0	104.4	4.1	98
122	450' S, 700' W from NE Corner	0	107.0	12.0	103.1	3.9	96
123	350' S, 700' W from NE Corner	0	107.0	12.0	105.7	5.4	99
124	250' S, 700' W from NE Corner	0	107.0	12.0	101.9	3.3	95

Technician: R. Roome
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000

Report No.: DR # 9

Date: April 15, 2010

Page 2 of 2

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TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
125	150' S, 700' W from NE Corner	0	107.0	12.0	103.6	3.9	97
126	450' S, 500' W from NE Corner	0	107.0	12.0	105.2	3.5	98
127	350' S, 500' W from NE Corner	0	107.0	12.0	106.3	5.1	99
128	250' S, 500' W from NE Corner	0	107.0	12.0	106.0	3.0	99
129	150' S, 500' W from NE Corner	0	107.0	12.0	105.5	2.9	99
130	50' S, 500' W from NE Corner	0	107.0	12.0	105.9	2.7	99
131	50' S, 600' W from NE Corner	0	107.0	12.0	105.6	3.4	99
132	150' S, 600' W from NE Corner	0	107.0	12.0	104.3	4.3	97
133	250' S, 600' W from NE Corner	0	107.0	12.0	101.2	4.2	95
134	350' S, 600' W from NE Corner	0	107.0	12.0	103.3	3.0	97
135	50' S, 400' W from NE Corner	0	107.0	12.0	103.2	4.2	96
136	150' S, 400' W from NE Corner	0	107.0	12.0	105.5	2.5	99
137	250' S, 400' W from NE Corner	0	107.0	12.0	105.2	1.7	98
138	350' S, 400' W from NE Corner	0	107.0	12.0	101.9	3.1	95
139	450' S, 400' W from NE Corner	0	107.0	12.0	101.5	4.3	95
140	550' S, 400' W from NE Corner	0	107.0	12.0	104.4	3.4	98
141	615' S, 400' W from NE Corner	0	107.0	12.0	107.4	1.6	100
142	615' S, 500' W from NE Corner	0	107.0	12.0	104.9	2.8	98
143	550' S, 500' W from NE Corner	0	107.0	12.0	105.4	3.3	99
144	250' S, 325' W from NE Corner	0	107.0	12.0	103.6	4.8	97
145	350' S, 325' W from NE Corner	0	107.0	12.0	102.4	2.9	96
146	450' S, 325' W from NE Corner	0	107.0	12.0	104.2	1.8	97
147	550' S, 325' W from NE Corner	0	107.0	12.0	105.3	1.9	98
148	615' S, 325' W from NE Corner	0	107.0	12.0	102.9	3.1	96

Technician:

R. Roome

Field CC:

Dan

CC:

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Consultants in: Geotechnical Engineering • Environmental Sciences
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Project No.: 0810.1000004.0000
Report No.: DR # 10
Date: April 15, 2010

9802 Palm River Road • Tampa FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Ash Cell A-4; Berm

Reference Datum: Top of Import

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** April 14, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
149	35' E from SW Corner	0	107.0	12.0	102.6	6.8	96
150	243' E from SW Corner	0	107.0	12.0	101.9	4.3	95
151	260' N from SW Corner	0	107.0	12.0	101.8	5.7	95
152	112' S from NW Corner	0	107.0	12.0	101.8	4.0	95
153	98' E from NW Corner	0	107.0	12.0	101.5	4.2	95
154	401' E from NW Corner	0	107.0	12.0	104.0	3.0	97

Technician: R. Roome
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 11
Date: April 16, 2010

9802 Palm River Road • Tampa FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Ash Cell A-4; Liner

Reference
Datum: Top of Import

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** April 14, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
155	850' W, 50' S from NE Corner	0	107.0	12.0	104.7	2.0	98
156	850' W, 150' S from NE Corner	0	107.0	12.0	110.6	4.1	103
157	850' W, 250' S from NE Corner	0	107.0	12.0	108.2	5.2	101
158	850' W, 350' S from NE Corner	0	107.0	12.0	107.5	2.7	100
159	850' W, 450' S from NE Corner	0	107.0	12.0	106.1	5.0	99
160	850' W, 550' S from NE Corner	0	107.0	12.0	106.3	4.9	99
161	900' W, 615' S from NE Corner	0	107.0	12.0	103.4	4.3	97
162	950' W, 550' S from NE Corner	0	107.0	12.0	104.9	3.4	98
163	950' W, 450' S from NE Corner	0	107.0	12.0	104.0	4.0	97
164	950' W, 350' S from NE Corner	0	107.0	12.0	103.4	2.4	97
165	950' W, 250' S from NE Corner	0	107.0	12.0	105.0	4.0	98
166	950' W, 150' S from NE Corner	0	107.0	12.0	105.5	3.7	99
167	950' W, 50' S from NE Corner	0	107.0	12.0	105.1	2.7	98

Technician: R. Roome
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000

Report No.: DR # 11

Date: April 16, 2010

Page 2 of 2

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TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
168	1050' W, 50' S from NE Corner	0	107.0	12.0	101.5	7.4	95
169	1050' W, 150' S from NE Corner	0	107.0	12.0	106.5	4.6	100
170	1050' W, 250' S from NE Corner	0	107.0	12.0	109.6	3.1	102
171	1050' W, 350' S from NE Corner	0	107.0	12.0	104.3	1.4	98
172	1050' W, 450' S from NE Corner	0	107.0	12.0	105.3	6.4	98
173	1050' W, 550' S from NE Corner	0	107.0	12.0	101.2	2.5	95
174	1100' W, 615' S from NE Corner	0	107.0	12.0	101.6	2.4	95
175	1150' W, 550' S from NE Corner	0	107.0	12.0	101.3	2.1	95
176	1150' W, 450' S from NE Corner	0	107.0	12.0	105.0	2.3	98
177	1150' W, 350' S from NE Corner	0	107.0	12.0	104.3	2.8	97
178	1150' W, 250' S from NE Corner	0	107.0	12.0	103.5	2.9	97
179	1150' W, 150' S from NE Corner	0	107.0	12.0	105.6	3.3	99
180	1150' W, 50' S from NE Corner	0	107.0	12.0	106.0	3.0	99

Technician:

R. Roome

Field CC:

Dan

CC:

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Consultants in: Geotechnical Engineering • Environmental Sciences
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Project No.: 0810.1000004.0000
Report No.: DR # 12
Date: June 3, 2010

9802 Palm River Road • Tampa FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Pipe Backfill

Reference Datum: Top of Pipe

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** May 10, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: Some of the tests below DID NOT meet the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density. These tests are marked with an *.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
181	50' W from Center of W Wall in Cell A4	+1	107.0	12.0	97.5	4.1	91 *
182	RETEST - 50' W from Center of W Wall in Cell A-4	+1	107.0	12.0	101.7	4.6	95

Technician: M. Arroyo
Field CC: Dan
CC:

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Consultants in: Geotechnical Engineering • Environmental Sciences
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Project No.: 0810.1000004.0000
Report No.: DR # 13
Date: June 3, 2010

9802 Palm River Road • Tampa FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Pipe Backfill

Reference Datum: Top of Native

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** May 11, 2010
Laboratory: ASTM D1557 - Modified Proctor

Remarks: The tests below met the minimum 95% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
183	Center of N Pipe	+6	107.0	12.0	102.5	9.2	96
184	Center of S Pipe	+6	107.0	12.0	103.4	9.6	97
185	Center of N Pipe	+7	107.0	12.0	101.8	11.8	95
186	Center of S Pipe	+7	107.0	12.0	102.1	11.5	95
187	Center of N Pipe	+8	107.0	12.0	104.0	8.1	97
188	Center of S Pipe	+8	107.0	12.0	103.6	5.9	97
189	Center of N Pipe	+2	107.0	12.0	106.8	7.7	100
190	Center of S Pipe	+2	107.0	12.0	102.5	9.6	96
191	Center of N Pipe	+3	107.0	12.0	106.4	7.4	99
192	Center of S Pipe	+3	107.0	12.0	103.0	8.8	96
193	Center of N Pipe	+4	107.0	12.0	102.2	11.2	95
194	Center of S Pipe	+4	107.0	12.0	101.5	9.3	95
195	Center of N Pipe	+5	107.0	12.0	105.2	8.8	98

Technician: M. Sanders
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 13
Date: June 3, 2010
Page 2 of 2

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TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
196	Center of S Pipe	+5	107.0	12.0	102.3	11.6	96

Technician: M. Sanders
Field CC: Dan
CC:

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Project No.: 0810.1000004.0000
Report No.: DR # 14
Date: September 10, 2010

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IN-PLACE DENSITY REPORT

Client: RIPA & Associates
1409 Tech Blvd., Suite 1
Tampa, FL 33619

Project: Pasco County Resource - Ash cell A-4
14230 Hay Road
Shady Hill, FL

Area Tested: Liner Fill IPDs

**Reference
Datum:** Liner

Type of Test- **Field:** ASTM D-2922 Nuclear Method **Date Tested:** September 7, 2010
Laboratory: ASTM D1557 - Modified Proctor

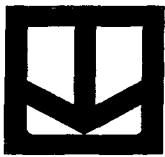
Remarks: The tests below met the minimum 90% relative soil compaction requirement of a Laboratory Proctor Maximum Dry Density.

TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
197	200' E; 75' S of the NW Corner of the NE Partial	+2	108.0	12.0	110.8	5.4	103
198	200' E; 200' S of the NW Corner of the NE Partial	+2	108.0	12.0	109.1	5.9	101
199	100' E; 75' S of the NW Corner of the SE Partial	+2	108.0	12.0	107.8	8.3	100
200	100' E; 200' S of the NW Corner of the SE Partial	+2	108.0	12.0	109.8	6.0	102
201	200' E; 75' S of the NW Crner of the N Center Partial	+2	108.0	12.0	109.6	5.9	102
202	200' E; 200' S of the NW Corner of the N Center Partial	+2	108.0	12.0	107.5	5.8	100
203	100' E; 75' S of the NW Crner of the S Center Partial	+2	108.0	12.0	106.8	6.2	99
204	100' E; 200' S of the NW Corner of the S Center Partial	+2	108.0	12.0	108.0	7.1	100
205	200' E; 225' N of the SW Corner of the NW Partial	+2	108.0	12.0	105.1	6.2	97
206	150' E; 175' N of the SW Corner of the NW Partial	+2	108.0	12.0	108.1	5.3	100
207	100' E; 100' N of the SW Corner of the NW Partial	+2	108.0	12.0	103.6	6.1	96
208	200' E; 50' S of the NW Corner of the SW Partial	+2	108.0	12.0	109.2	5.6	101
209	150' E; 100' S of the NW Corner of the SW Partial	+2	108.0	12.0	105.6	6.2	98

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Technician: J. VanDyke
Field CC:
CC:

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Project No.: 0810.1000004.0000

Report No.: DR # 14

Date: September 10, 2010

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TEST LOCATION			LAB RESULTS		FIELD TEST RESULTS		
Test No.	Description of Test Location	Depth (ft.)	Maximum Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)
210	200' E; 150' S of the NW Corner of the SW Partial	+2	108.0	12.0	106.7	6.4	99

Technician:

J. VanDyke

Field CC:

CC:

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Project #: 0810.1000004

Report #: FR #1

Date: September 10, 2010

REPORT ON SITE OBSERVATION

Client: RIPA & Associates, 1409 Tech Blvd., #1
Tampa, FL 33619

Project: Pasco County Resource-Ash Cell A-4
14230 Hays Road, Shady Hills, FL

Scope of

Field Work: Thickness and Unit Weight Test

Date Observed: September 3, 2010

Observed By: J. Vandyke

Field Contact:

OBSERVATIONS:

J. Vandyke, a representative of Universal Engineering Sciences (UES) was on-site to observe the above listed work located in Shady Hill, FL.

<u>Location</u>	<u>Thickness (in)</u>	<u>Unit Weight (pcf)</u> <u>ASTM D4254-C</u>
197	25	91.8
198	25	91.8
199	25	89.3
200	25	89.3
201	26	89.3
202	27	91.8
203	24	91.8
204	25	89.3
205	25	91.8
206	24	91.8
207	26	91.8
208	25	91.8
209	26	91.8
210	25	91.8

For Location Descriptions, See DR# 14

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Project No.: 0810.1000004.000

Report No.: RR#1

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA & Associates

Project: Pasco County Resource

Sample #: RR#1

Date Sampled: Sample Delivered to Office

Date Tested: 1/8/2010

Tested By: P. Roach

Soil Description: River Rock

Sample Location: Conrad Yelvington

Dry Weight of total sample:

133.47

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	TARGET
2"	0	0.00	100.00	100
1 1/2"	8.6	6.44	93.56	90 - 100
1"	68.1	51.02	48.98	20 - 55
3/4"	125.8	94.25	5.75	0 - 15

Material Passing 3/4": 7.67lbs

Carbonate Content : 0

ASTM D4373

Sieve Analysis: Results Above

ASTM D422

Classification: Coarse

ASTM D2488

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Project No.: 0810.1000004.000

Report No.: RR#2

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA & Associates

Project: Pasco County Resource

Sample #: RR#2 **Date Sampled:** 2/24/2010

Date Tested: 3/3/2010 **Tested By:** P. Roach

Soil Description: River Rock **Sample Location:** Bottom Pile

Dry Weight of total sample: 68.45

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	TARGET
2"	0	0.00	100.00	100
1 1/2"	2.25	3.29	96.71	90 - 100
1"	36.25	52.96	47.04	20 - 55
3/4"	59.75	87.29	12.71	0 - 15

Material Passing 3/4": 8.7 lbs

Carbonate Content : 0 **ASTM D4373**

Sieve Analysis: Results Above **ASTM D422**

Classification: Coarse **ASTM D2488**



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Project No.: 0810.1000004.000

Report No.: RR#3

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA & Associates

Project: Pasco County Resource

Sample #: RR#3 **Date Sampled:** 2/24/2010

Date Tested: 3/3/2010 **Tested By:** P. Roach

Soil Description: River Rock **Sample Location:** Top Pile

Dry Weight of total sample:

65

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	TARGET
2"	0	0.00	100.00	100
1 1/2"	4.9	7.54	92.46	90 - 100
1"	41.4	63.69	36.31	20 - 55
3/4"	55.8	85.85	14.15	0 - 15

Material Passing 3/4": 9.2 lbs

Carbonate Content : 0 ASTM D4373

Sieve Analysis: Results Above ASTM D422

Classification: Coarse ASTM D2488



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Project No.: 0810.1000004.000

Report No.: RR#4

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA & Associates
Project: Pasco County Resource - Ash Cell - A-4
Sample #: RR#4 **Date Sampled:** 4/1/2010
Date Tested: 4/7/2010 **Tested By:** P. Roach
Soil Description: River Rock **Sample Location:** Top Pile

Dry Weight of total sample: 67.15

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	TARGET
2"	0	0.0%	100.0%	100
1 1/2"	2.05	3.1%	96.9%	90 - 100
1"	24.2	36.0%	64.0%	20 - 55
3/4"	45.85	68.3%	31.7%	0 - 15

Material Passing 3/4" Sieve = 21.30 lbs.

Carbonate Content : 0 ASTM D4373

Sieve Analysis: Results Above ASTM D422

Classification: Coarse ASTM D2488



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Project No.: 0810.1000004.000

Report No.: RR#5

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA & Associates
Project: Pasco County Resource - Ash Cell - A-4
Sample #: RR#5 **Date Sampled:** 5/6/2010
Date Tested: 5/14/2010 **Tested By:** P. Roach
Soil Description: River Rock **Sample Location:** Stockpile

Dry Weight of total sample: 125

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	TARGET
2"	0	0.0%	100.0%	100
1 1/2"	5.18	4.1%	95.9%	90 - 100
1"	68.72	55.0%	45.0%	20 - 55
3/4"	111.78	89.4%	10.6%	0 - 15

Material Passing 3/4" Sieve = 13.22 lbs.

Carbonate Content : 0 **ASTM D4373**
Sieve Analysis: Results Above **ASTM D422**
Classification: Coarse **ASTM D2488**



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Project No.: 0810.1000004.000

Report No.: RR#6

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA & Associates

Project: Pasco County Resource - Ash Cell - A-4

Sample #: RR#6 **Date Sampled:** 6/7/2010

Date Tested: 6/16/2010 **Tested By:** P. Roach

Soil Description: River Rock **Sample Location:** Stockpile

Dry Weight of total sample: 66.98

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	TARGET
2"	0	0.0%	100.0%	100
1 1/2"	9.44	14.1%	85.9%	90 - 100
1"	54.74	81.7%	18.3%	20 - 55
3/4"	65.34	97.6%	2.4%	0 - 15

Material Passing 3/4" Sieve = 1.64 lbs.

Carbonate Content : 0 ASTM D4373

Sieve Analysis: Results Above ASTM D422

Classification: Coarse ASTM D2488



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Project No.: 0810.1000004.000

Report No.: RR#7

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA & Associates

Project: Pasco County Resource - Ash Cell - A-4

Sample #: RR#7 **Date Sampled:** 8/31/2010

Date Tested: 9/1/2010 **Tested By:** P. Roach

Soil Description: River Rock **Sample Location:** Stockpile

Dry Weight of total sample: 140.52

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	TARGET
2"	0	0.0%	100.0%	100
1 1/2"	6.44	4.6%	95.4%	90 - 100
1"	74.56	53.1%	46.9%	20 - 55
3/4"	116.86	83.2%	16.8%	0 - 15

Material Passing 3/4" Sieve = 23.66 lbs.

Carbonate Content : 0 ASTM D4373

Sieve Analysis: Results Above ASTM D422

Classification: Coarse ASTM D2488



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Client : RIPA & Associates
Project: Pasco County Resource
Sample Date: 2/3/2010
Location: East Stockpile

Project No.: 0810.1000004.0000
Report No.: SC#1
Report Date: 2/9/2010
Lab # : 3315
Soil Description:
Light Brown Sand

Date Tested	2/5/2010
Organic Content (ASTM D2974)	1.2
Liquid Limit (ASTM D4318)	NP
Plasticity Index (ASTM D 4318)	NP
Soil Classification (ASTM D2488)	SP

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Client : RIPA & Associates

Project: Pasco County Resource

Sample Date: 2/3/2010

Location: West Stockpile

Project No.: 0810.1000004.0000

Report No.: SC#2

Report Date: 2/9/2010

Lab # : 3316

Soil Description:

Light Brown Sand

Date Tested	2/5/2010
Organic Content (ASTM D2974)	1.1
Liquid Limit (ASTM D4318)	NP
Plasticity Index (ASTM D 4318)	NP
Soil Classification (ASTM D2488)	SP



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Client : RIPA & Associates
Project: Pasco County Resource
Sample Date: 2/8/2010
Location: Stockpile #2

Project No.: 0810.1000004.0000
Report No.: SC#3
Report Date: 2/23/2010
Lab # : 3326
Soil Description:
Dark Gray sand

Date Tested	2/11/2010
Organic Content (ASTM D2974)	2.17
Liquid Limit (ASTM D4318)	NP
Plasticity Index (ASTM D 4318)	NP
Soil Classification (ASTM D2488)	SP



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Client : RIPA & Associates

Project: Pasco County Resource

Sample Date: 2/24/2010

Location: Consolidated Screen Pile #4

Project No.: 0810.1000004.0000

Report No.: SC#4

Report Date: 3/3/2010

Lab # : 3357

Soil Description:

Brown sand w/t of organics

Date Tested	3/2/2010
Organic Content (ASTM D2974)	1.8
Liquid Limit (ASTM D4318)	NP
Plasticity Index (ASTM D 4318)	NP
Soil Classification (ASTM D2488)	SP



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Client : RIPA & Associates

Project: Pasco County Resource

Sample Date: 2/24/2010

Location: Consolidated Screen Pile #2

Project No.: 0810.1000004.0000

Report No.: SC#5

Report Date: 3/3/2010

Lab # : 3356

Soil Description:

Brown sand w/t of organics

Date Tested	3/2/2010
Organic Content (ASTM D2974)	1.6
Liquid Limit (ASTM D4318)	NP
Plasticity Index (ASTM D 4318)	NP
Soil Classification (ASTM D2488)	SP



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Project No.: 0810.1000004.000

Report No.: SA#1

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: West Pasco Landfill

Sample #: North Center

Date Sampled: 1/8/2010

Date Tested: 1/20/2010

Tested By: RB

Description: Light Brown sand

Dry Weight of total sample:

323.9

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.06%	99.94%	80 - 95
40	9.7	2.99%	97.01%	60 - 80
60	75.9	23.43%	76.57%	30 - 55
100	239.3	73.88%	26.12%	0 - 15
200	322.2	99.48%	0.52%	5 MAX
pan	323.9	100.00%	0.00%	

Specific Gravity :	2.61	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	0.42%	ASTM D2974
Permeability :	1.23E-03	
Soil Classification :	SP	ASTM D2488
200 Wash :	2.60%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422

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Project No.: 0810.1000004.000

Report No.: SA#2

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: West Pasco Landfill

Sample #: Ser. Kimba Ct.

Date Sampled: 1/8/2010

Date Tested: 1/20/2010

Tested By: RB

Description: Brown sand

Dry Weight of total sample:

285.3

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.5	0.18%	99.82%	85 - 100
20	0.6	0.21%	99.79%	80 - 95
40	6.7	2.35%	97.65%	60 - 80
60	49.2	17.25%	82.75%	30 - 55
100	197	69.05%	30.95%	0 - 15
200	284.4	99.68%	0.32%	5 MAX
pan	285.3	100.00%	0.00%	

Specific Gravity:	2.61	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	0.56%	ASTM D2974
Permeability :	5.49E-03	
Soil Classification :	SP	ASTM D2488
200 Wash :	1.30%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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Project No.: 0810.1000004.000

Report No.: SA#3

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: West Pasco Landfill
Sample #: Northeast
Date Tested: 1/20/2010
Description: Light Brown Sand

Date Sampled: 1/8/2010
Tested By: RB

Dry Weight of total sample:

278.2

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	2.4	0.86%	99.14%	100
10	3.5	1.26%	98.74%	85 - 100
20	3.8	1.37%	98.63%	80 - 95
40	11.6	4.17%	95.83%	60 - 80
60	72.6	26.10%	73.90%	30 - 55
100	215.2	77.35%	22.65%	0 - 15
200	277.4	99.71%	0.29%	5 MAX
pan	278.2	100.00%	0.00%	

Specific Gravity:	2.62	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	0.34%	ASTM D2974
Permeability :	5.54E-03	
Soil Classification :	SP	ASTM D2488
200 Wash :	2.20%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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Project No.: 0810.1000004.000

Report No.: SA#4

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: West Pasco Landfill
Sample #: Northwest
Date Tested: 1/20/2010
Description: Light Brown Sand
Date Sampled: 1/8/2010
Tested By: RB

Dry Weight of total sample:

313.4

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.06%	99.94%	80 - 95
40	9.5	3.03%	96.97%	60 - 80
60	68	21.70%	78.30%	30 - 55
100	214.8	68.54%	31.46%	0 - 15
200	310.3	99.01%	0.99%	5 MAX
pan	313.4	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : 0.18% **ASTM D2974**
Permeability : 1.31E-02
Soil Classification : SP **ASTM D2488**
200 Wash : 2.70% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#5

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: West Pasco Landfill
Sample #: South Center
Date Tested: 1/20/2010
Description: Light Brown Sand
Date Sampled: 1/8/2010
Tested By: RB

Dry Weight of total sample:

313.8

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.1	0.03%	99.97%	80 - 95
40	10.2	3.25%	96.75%	60 - 80
60	74.4	23.71%	76.29%	30 - 55
100	227	72.34%	27.66%	0 - 15
200	312.3	99.52%	0.48%	5 MAX
pan	313.8	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : 0.28% **ASTM D2974**
Permeability : 7.38E-03
Soil Classification : SP **ASTM D2488**
200 Wash : 2.80% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#6

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: West Pasco Landfill
Sample #: Southeast
Date Tested: 1/20/2010
Description: Light Brown Sand

Date Sampled: 1/8/2010

Tested By: RB

Dry Weight of total sample:

308.8

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.06%	99.94%	80 - 95
40	11.8	3.82%	96.18%	60 - 80
60	82	26.55%	73.45%	30 - 55
100	226.7	73.41%	26.59%	0 - 15
200	306.7	99.32%	0.68%	5 MAX
pan	308.8	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : 0.43% **ASTM D2974**
Permeability : 2.05E-02
Soil Classification : SP **ASTM D2488**
200 Wash : 1.80% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#7

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: West Pasco Landfill

Sample #: Southwest

Date Sampled: 1/8/2010

Date Tested: 1/20/2010

Tested By: RB

Description Light Brown Sand

Dry Weight of total sample:

290.3

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.3	0.10%	99.90%	80 - 95
40	11.2	3.86%	96.14%	60 - 80
60	77.3	26.63%	73.37%	30 - 55
100	220.5	75.96%	24.04%	0 - 15
200	289.1	99.59%	0.41%	5 MAX
pan	290.3	100.00%	0.00%	

Specific Gravity:	2.61	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	0.30%	ASTM D2974
Permeability :	7.38E-03	
Soil Classification :	SP	ASTM D2488
200 Wash :	2.70%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#8

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: West Pasco Landfill
Sample #: Ivory Tusk
Date Tested: 1/20/2010
Description: Light Brown Sand

Date Sampled: 1/8/2010

Tested By: RB

Dry Weight of total sample:

297.3

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.3	0.10%	99.90%	85 - 100
20	0.4	0.13%	99.87%	80 - 95
40	4.5	1.51%	98.49%	60 - 80
60	38.4	12.92%	87.08%	30 - 55
100	192.3	64.68%	35.32%	0 - 15
200	295.8	99.50%	0.50%	5 MAX
pan	297.3	100.00%	0.00%	

Specific Gravity:	2.62	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	0.23%	ASTM D2974
Permeability :	1.23E-03	
Soil Classification :	SP	ASTM D2488
200 Wash :	1.20%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#9

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: West Pasco Landfill

Sample #: Stockpile #2

Date Sampled: 2/8/2010

Date Tested: 2/11/2010

Tested By: RB

Description: Dark grey sand

Dry Weight of total sample:

297.3

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.3	0.10%	99.90%	85 - 100
20	0.4	0.13%	99.87%	80 - 95
40	4.5	1.51%	98.49%	60 - 80
60	38.4	12.92%	87.08%	30 - 55
100	192.3	64.68%	35.32%	0 - 15
200	295.8	99.50%	0.50%	5 MAX
pan	297.3	100.00%	0.00%	

Specific Gravity:	2.64	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	2.17%	ASTM D2974
Permeability : cm/sec	3.03E-03	
Soil Classification :	SP	ASTM D2488
200 Wash :	4.80%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#10

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: West Pasco Landfill

Sample #: Stockpile #3

Date Sampled: 2/18/2010

Date Tested: 2/19/2010

Tested By: RB

Description: Light brown sand

Dry Weight of total sample:

329.27

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.6	0.18%	99.82%	85 - 100
20	2.7	0.82%	99.18%	80 - 95
40	15.1	4.59%	95.41%	60 - 80
60	85.1	25.85%	74.15%	30 - 55
100	231.4	70.28%	29.72%	0 - 15
200	312.6	94.94%	5.06%	5 MAX
pan	329.27	100.00%	0.00%	

Specific Gravity;	2.63	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	0.75%	ASTM D2974
Permeability:	1.58E-02	
Soil Classification :	SP	ASTM D2488
200 Wash :	4.90%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#11

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: West Pasco Landfill
Sample #: Stockpile# 1
Date Tested: 4/21/2010
Description: Light Brown Sand
Proctor #: PR#6
Dry Weight of total sample:

Date Sampled: 4/19/2010

Tested By: RB

270.3

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.4	0.15%	99.85%	80 - 95
40	9.2	3.40%	96.60%	60 - 80
60	66.2	24.49%	75.51%	30 - 55
100	197.7	73.14%	26.86%	0 - 15
200	269.2	99.59%	0.41%	5 MAX
pan	270.3	100.00%	0.00%	

Specific Gravity:	2.63	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	0.70%	ASTM D2974
Permeability :	1.2E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	3.50%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#12

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: West Pasco Landfill

Sample #: Stockpile# 2

Date Sampled: 4/19/2010

Date Tested: 4/21/2010

Tested By: RB

Description: Light Brown Sand

Proctor #: PR#7

Dry Weight of total sample:

289.5

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.1	0.03%	99.97%	80 - 95
40	1.1	3.80%	96.20%	60 - 80
60	73.2	25.28%	74.72%	30 - 55
100	214.1	73.96%	26.04%	0 - 15
200	288.2	99.55%	0.45%	5 MAX
pan	289.5	100.00%	0.00%	

Specific Gravity:	2.63	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	0.70%	ASTM D2974
Permeability :	1.27E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	2.90%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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Project No.: 0810.1000004.000

Report No.: SA#13

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: West Pasco Landfill
Sample #: Serengeti Screened Pile 1
Date Tested: 5/13/2010
Description: Tan Sand
Date Sampled: 5/10/2010
Tested By: RB

Dry Weight of total sample:

271.5

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.1	0.04%	99.96%	80 - 95
40	5.6	2.06%	97.94%	60 - 80
60	43.4	15.99%	84.01%	30 - 55
100	183.2	67.48%	32.52%	0 - 15
200	270.7	99.71%	0.29%	5 MAX
pan	271.5	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : 0.3% **ASTM D2974**
Permeability : 1.51E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 2.10% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#14

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: West Pasco Landfill

Sample #: Screened Pile 3

Date Sampled: 5/10/2010

Date Tested: 5/13/2010

Tested By: RB

Description: Tan Sand

Dry Weight of total sample:

302

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.1	0.03%	99.97%	80 - 95
40	9.6	3.18%	96.82%	60 - 80
60	71.2	23.58%	76.42%	30 - 55
100	221.3	73.28%	26.72%	0 - 15
200	300.9	99.64%	0.36%	5 MAX
pan	302	100.00%	0.00%	

Specific Gravity:	2.63	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	.4%	ASTM D2974
Permeability :	1.49E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	3.00%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

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Project No.: 0810.1000004.000

Report No.: SA#15

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: West Pasco Landfill

Sample #: Stockpile #2

Date Sampled: 5/20/2010

Date Tested: 5/28/2010

Tested By: RB

Description Tan Sand

Dry Weight of total sample:

276.3

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.3	0.11%	99.89%	80 - 95
40	9.7	3.51%	96.49%	60 - 80
60	69.9	25.30%	74.70%	30 - 55
100	209.8	75.93%	24.07%	0 - 15
200	275.6	99.75%	0.25%	5 MAX
pan	276.3	100.00%	0.00%	

Specific Gravity:	2.64	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	.4%	ASTM D2974
Permeability :	1.58E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	3.20%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences

Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#16

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: West Pasco Landfill

Sample #: Stockpile #1

Date Sampled: 5/20/2010

Date Tested: 5/28/2010

Tested By: RB

Description: Tan Sand

Dry Weight of total sample:

267.4

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.3	0.11%	99.89%	80 - 95
40	9.6	3.59%	96.41%	60 - 80
60	69.3	25.92%	74.08%	30 - 55
100	201.6	75.39%	24.61%	0 - 15
200	266.7	99.74%	0.26%	5 MAX
pan	267.4	100.00%	0.00%	

Specific Gravity:	2.63	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	.6%	ASTM D2974
Permeability :	1.46E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	3.30%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#17

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

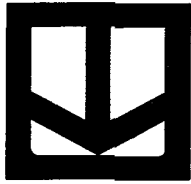
Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Serengeti Pile 3
Date Tested: 6/2/2010
Description: Light brown sand

Date Sampled: 5/25/2010
Tested By: RB

Dry Weight of total sample: 308.6

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.06%	99.94%	80 - 95
40	7	2.27%	97.73%	60 - 80
60	50.8	16.46%	83.54%	30 - 55
100	217.7	70.54%	29.46%	0 - 15
200	307.6	99.68%	0.32%	5 MAX
pan	308.6	100.00%	0.00%	

Specific Gravity: 2.61 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .5% **ASTM D2974**
Permeability : 8.47E-03 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.9% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#18

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Serengeti Pile 2
Date Tested: 6/2/2010
Description: Light brown sand

Date Sampled: 5/25/2010
Tested By: RB

Dry Weight of total sample:

305.1

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.1	0.03%	99.97%	85 - 100
20	0.3	0.10%	99.90%	80 - 95
40	7.8	2.56%	97.44%	60 - 80
60	51.6	16.91%	83.09%	30 - 55
100	214.7	70.37%	29.63%	0 - 15
200	304.3	99.74%	0.26%	5 MAX
pan	305.1	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.08E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.9% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#19

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: On-site Pile 3
Date Tested: 6/2/2010
Description: Light brown sand

Project #: 0810.1000004.0000
Report #: SA#19
Date Sampled: 5/25/2010
Tested By: RB

Dry Weight of total sample:

292.1

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.3	0.10%	99.90%	85 - 100
20	0.4	0.14%	99.86%	80 - 95
40	9.8	3.36%	96.64%	60 - 80
60	69.1	23.66%	76.34%	30 - 55
100	213.4	73.06%	26.94%	0 - 15
200	290.8	99.55%	0.45%	5 MAX
pan	292.1	100.00%	0.00%	

Specific Gravity: 2.62 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .5% **ASTM D2974**
Permeability : 8.08E-03 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 3.2% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#20

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: Pasco Co. Res. - Ash Cell A-4

Sample #: Serengeti Pile 1

Date Sampled: 5/25/2010

Date Tested: 6/2/2010

Tested By: RB

Description Light brown sand

Dry Weight of total sample:

289.4

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.2	0.07%	99.93%	85 - 100
20	0.3	0.10%	99.90%	80 - 95
40	5.9	2.04%	97.96%	60 - 80
60	44.5	15.38%	84.62%	30 - 55
100	196.4	67.86%	32.14%	0 - 15
200	288.6	99.72%	0.28%	5 MAX
pan	289.4	100.00%	0.00%	

Specific Gravity:	2.63	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	.5%	ASTM D2974
Permeability :	1.16E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	2.2%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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Consultants in: Geotechnical Engineering • Environmental Sciences

Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#21

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: Pasco Co. Res. - Ash Cell A-4

Sample #: Pile #4

Date Sampled: 6/8/2010

Date Tested: 6/15/2010

Tested By: RB

Description Light brown sand

Dry Weight of total sample:

304.6

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.1	0.03%	99.97%	80 - 95
40	7.3	2.40%	97.60%	60 - 80
60	53	17.40%	82.60%	30 - 55
100	204.9	67.27%	32.73%	0 - 15
200	298.7	98.06%	1.94%	5 MAX
pan	304.6	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .2% **ASTM D2974**
Permeability : 1.44E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.6% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#22

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: Pasco Co. Res. - Ash Cell A-4

Sample #: Pile #6

Date Sampled: 6/8/2010

Date Tested: 6/15/2010

Tested By: RB

Description Light brown sand

Dry Weight of total sample:

306.09

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.4	0.13%	99.87%	85 - 100
20	0.5	0.16%	99.84%	80 - 95
40	7.2	2.35%	97.65%	60 - 80
60	52.3	17.09%	82.91%	30 - 55
100	204.4	66.78%	33.22%	0 - 15
200	300.5	98.17%	1.83%	5 MAX
pan	306.09	100.00%	0.00%	

Specific Gravity:	2.63	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	.2%	ASTM D2974
Permeability :	1.12E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	1.6%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#23

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: Pasco Co. Res. - Ash Cell A-4

Sample #: Pile #5

Date Sampled: 6/8/2010

Date Tested: 6/15/2010

Tested By: RB

Description Light brown sand

Dry Weight of total sample:

314.07

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.2	0.06%	99.94%	85 - 100
20	0.3	0.10%	99.90%	80 - 95
40	6.6	2.10%	97.90%	60 - 80
60	52.8	16.81%	83.19%	30 - 55
100	212.6	67.69%	32.31%	0 - 15
200	306.9	97.72%	2.28%	5 MAX
pan	314.07	100.00%	0.00%	

Specific Gravity:	2.63	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	.2%	ASTM D2974
Permeability :	1.24E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	1.8%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#24

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #7
Date Tested: 6/22/2010
Description: Light brown sand
Date Sampled: 6/18/2010
Tested By: RB

Dry Weight of total sample:

309.37

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.3	0.10%	99.90%	80 - 95
40	6.9	2.23%	97.77%	60 - 80
60	52.2	16.87%	83.13%	30 - 55
100	207	66.91%	33.09%	0 - 15
200	305	98.59%	1.41%	5 MAX
pan	309.37	100.00%	0.00%	

Specific Gravity: 2.62 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .3% **ASTM D2974**
Permeability : 9.74E-03 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 0.8% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#25

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #8
Date Tested: 6/22/2010
Description: Light brown sand
Date Sampled: 6/18/2010
Tested By: RB

Dry Weight of total sample:

302.62

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.07%	99.93%	80 - 95
40	6.6	2.18%	97.82%	60 - 80
60	49.9	16.49%	83.51%	30 - 55
100	198.7	65.66%	34.34%	0 - 15
200	298	98.47%	1.53%	5 MAX
pan	302.62	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.04E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.0% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#26

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #9
Date Tested: 6/25/2010
Description: Light brown sand
Date Sampled: 6/23/2010
Tested By: RB

Dry Weight of total sample:

311.91

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	1.3	0.42%	99.58%	85 - 100
20	3.1	0.99%	99.01%	80 - 95
40	11.1	3.56%	96.44%	60 - 80
60	57.9	18.56%	81.44%	30 - 55
100	209.8	67.26%	32.74%	0 - 15
200	307	98.43%	1.57%	5 MAX
pan	311.91	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.10E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.0% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#27

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #10
Date Tested: 6/30/2010
Description: Light brown sand
Date Sampled: 6/28/2010
Tested By: RB

Dry Weight of total sample:

295.6

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.3	0.10%	99.90%	80 - 95
40	7	2.37%	97.63%	60 - 80
60	51.1	17.29%	82.71%	30 - 55
100	201.5	68.17%	31.83%	0 - 15
200	294.4	99.59%	0.41%	5 MAX
pan	295.6	100.00%	0.00%	

Specific Gravity: 2.61 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .5% **ASTM D2974**
Permeability : 1.22E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 3.0% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#28

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #11
Date Tested: 7/8/2010
Description: Light brown sand
Date Sampled: 7/2/2010
Tested By: RB

Dry Weight of total sample:

304.2

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.1	0.03%	99.97%	80 - 95
40	5.3	1.74%	98.26%	60 - 80
60	43.5	14.30%	85.70%	30 - 55
100	187.5	61.64%	38.36%	0 - 15
200	297.1	97.67%	2.33%	5 MAX
pan	304.2	100.00%	0.00%	

Specific Gravity: 2.63
Carbonate Content : 0%
Organic Content : .4%
Permeability : 1.26E-02 cm/sec
Soil Classification : SP
200 Wash : 2.1%
Sieve Analysis: Results Above

ASTM D854
ASTM D4373
ASTM D2974
ASTM D2488
ASTM D1140
ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#29

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #12
Date Tested: 7/13/2010
Description: Light brown sand
Date Sampled: 7/9/2010
Tested By: RB

Dry Weight of total sample:

317.95

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.1	0.03%	99.97%	85 - 100
20	0.2	0.06%	99.94%	80 - 95
40	6.5	2.04%	97.96%	60 - 80
60	46.7	14.69%	85.31%	30 - 55
100	203.5	64.00%	36.00%	0 - 15
200	311.4	97.94%	2.06%	5 MAX
pan	317.95	100.00%	0.00%	

Specific Gravity: 2.64 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.44E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.8% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#30

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #13
Date Tested: 7/14/2010
Description: Light brown sand
Date Sampled: 7/13/2010
Tested By: RB

Dry Weight of total sample:

306.51

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.07%	99.93%	80 - 95
40	6.1	1.99%	98.01%	60 - 80
60	44.7	14.58%	85.42%	30 - 55
100	188.6	61.53%	38.47%	0 - 15
200	299.6	97.75%	2.25%	5 MAX
pan	306.51	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .5% **ASTM D2974**
Permeability : 1.39E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.9% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



UNIVERSAL ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#31

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #14
Date Tested: 7/19/2010
Description: Light brown sand
Date Sampled: 7/16/2010
Tested By: RB

Dry Weight of total sample:

302.2

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.9	0.30%	99.70%	85 - 100
20	1.1	0.36%	99.64%	80 - 95
40	7.8	2.58%	97.42%	60 - 80
60	46.2	15.29%	84.71%	30 - 55
100	187.1	61.91%	38.09%	0 - 15
200	295.8	97.88%	2.12%	5 MAX
pan	302.2	100.00%	0.00%	

Specific Gravity: 2.61 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.51E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.8% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#32

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #15
Date Tested: 7/22/2010
Description: Light brown sand

Date Sampled: 7/21/2010
Tested By: RB

Dry Weight of total sample:

319.32

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.5	0.16%	99.84%	85 - 100
20	0.7	0.22%	99.78%	80 - 95
40	7.8	2.44%	97.56%	60 - 80
60	53.5	16.75%	83.25%	30 - 55
100	204.4	64.01%	35.99%	0 - 15
200	314.9	98.62%	1.38%	5 MAX
pan	319.32	100.00%	0.00%	

Specific Gravity: 2.62 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.51E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.3% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#33

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #15
Date Tested: 7/22/2010
Description: Light brown sand
Date Sampled: 7/21/2010
Tested By: RB

Dry Weight of total sample:

319.32

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.5	0.16%	99.84%	85 - 100
20	0.7	0.22%	99.78%	80 - 95
40	7.8	2.44%	97.56%	60 - 80
60	53.5	16.75%	83.25%	30 - 55
100	204.4	64.01%	35.99%	0 - 15
200	314.9	98.62%	1.38%	5 MAX
pan	319.32	100.00%	0.00%	

Specific Gravity: 2.62 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.51E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.3% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#34

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #16
Date Tested: 7/27/2010
Description: Light brown sand
Date Sampled: 7/26/2010
Tested By: RB

Dry Weight of total sample:

298.18

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.07%	99.93%	80 - 95
40	5.5	1.84%	98.16%	60 - 80
60	41.5	13.92%	86.08%	30 - 55
100	180.7	60.60%	39.40%	0 - 15
200	292.3	98.03%	1.97%	5 MAX
pan	298.18	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.51E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.6% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#35

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #17
Date Tested: 7/29/2010
Description: Light brown sand

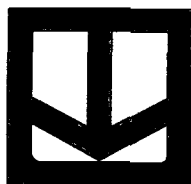
Date Sampled: 7/28/2010
Tested By: RB

Dry Weight of total sample:

297.8

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.07%	99.93%	80 - 95
40	6.1	2.05%	97.95%	60 - 80
60	41.5	13.94%	86.06%	30 - 55
100	188.7	63.36%	36.64%	0 - 15
200	289.4	97.18%	2.82%	5 MAX
pan	297.8	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.44E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 2.6% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#36

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #18
Date Tested: 8/3/2010
Description: Light brown sand
Date Sampled: 8/2/2010
Tested By: RB

Dry Weight of total sample:

294.6

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.3	0.10%	99.90%	80 - 95
40	7.4	2.51%	97.49%	60 - 80
60	56.4	19.14%	80.86%	30 - 55
100	211.5	71.79%	28.21%	0 - 15
200	288.1	97.79%	2.21%	5 MAX
pan	294.6	100.00%	0.00%	

Specific Gravity: 2.54 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .6% **ASTM D2974**
Permeability : 1.51E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 2.0% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#37

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Pile #19
Date Tested: 8/12/2010
Description: Light brown sand

Date Sampled: 8/9/2010
Tested By: RB

Dry Weight of total sample:

303.6

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.1	0.03%	99.97%	80 - 95
40	7.6	2.50%	97.50%	60 - 80
60	53.3	17.56%	82.44%	30 - 55
100	203.6	67.06%	32.94%	0 - 15
200	295.1	97.20%	2.80%	5 MAX
pan	303.6	100.00%	0.00%	

Specific Gravity: 2.62 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .5% **ASTM D2974**
Permeability : 1.51E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 2.4% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#38

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: Pasco Co. Res. - Ash Cell A-4

Sample #: Screened Pile A

Date Sampled: 8/12/2010

Date Tested: 8/6/2010

Tested By: RB

Description Brown sand

Dry Weight of total sample:

303.9

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.2	0.07%	99.93%	85 - 100
20	0.6	0.20%	99.80%	80 - 95
40	1.3	0.43%	99.57%	60 - 80
60	4.8	1.58%	98.42%	30 - 55
100	57	18.76%	81.24%	0 - 15
200	263.5	86.71%	13.29%	5 MAX
pan	303.9	100.00%	0.00%	

Specific Gravity:	2.57	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	.5%	ASTM D2974
Permeability :	7.39E-03 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	10.6%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#39

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Screened Pile B
Date Tested: 8/18/2010
Description: Tan sand
Date Sampled: 8/17/2010
Tested By: RB

Dry Weight of total sample:

280.66

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.5	0.18%	99.82%	80 - 95
40	9.1	3.24%	96.76%	60 - 80
60	44.8	15.96%	84.04%	30 - 55
100	173.5	61.82%	38.18%	0 - 15
200	273.4	97.41%	2.59%	5 MAX
pan	280.66	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .5% **ASTM D2974**
Permeability : 2.04E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 0.7% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#40

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: Pasco Co. Res. - Ash Cell A-4

Sample #: Screened Pile C

Date Sampled: 8/17/2010

Date Tested: 8/18/2010

Tested By: RB

Description Tan Sand

Dry Weight of total sample:

262.09

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.4	0.15%	99.85%	85 - 100
20	0.7	0.27%	99.73%	80 - 95
40	4.9	1.87%	98.13%	60 - 80
60	46.2	17.63%	82.37%	30 - 55
100	170.2	64.94%	35.06%	0 - 15
200	254.8	97.22%	2.78%	5 MAX
pan	262.09	100.00%	0.00%	

Specific Gravity: 2.64 ASTM D854
Carbonate Content : 0% ASTM D4373
Organic Content : .5% ASTM D2974
Permeability : 7.83E-03 cm/sec
Soil Classification : SP ASTM D2488
200 Wash : 0.6% ASTM D1140
Sieve Analysis: Results Above ASTM D422



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#41

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Screened Pile 20
Date Tested: 8/16/2010
Description: Brown sand
Date Sampled: 8/12/2010
Tested By: RB

Dry Weight of total sample: 220.5

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.09%	99.91%	80 - 95
40	7.6	3.45%	96.55%	60 - 80
60	42.5	19.27%	80.73%	30 - 55
100	144.9	65.71%	34.29%	0 - 15
200	210.6	95.51%	4.49%	5 MAX
pan	220.5	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .6% **ASTM D2974**
Permeability : 1.51E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 3.2% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences

Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#42

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: Pasco Co. Res. - Ash Cell A-4

Sample #: Screened Pile 21

Date Sampled: 8/16/2010

Date Tested: 8/17/2010

Tested By: CH

Description Brown sand

Dry Weight of total sample:

259.4

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0.3	0.12%	99.88%	85 - 100
20	0.8	0.31%	99.69%	80 - 95
40	7.9	3.05%	96.95%	60 - 80
60	46.8	18.04%	81.96%	30 - 55
100	172.1	66.35%	33.65%	0 - 15
200	255.3	98.42%	1.58%	5 MAX
pan	259.4	100.00%	0.00%	

Specific Gravity:	2.62	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	.7%	ASTM D2974
Permeability :	1.42E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	1.6%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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Consultants in: Geotechnical Engineering • Environmental Sciences

Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#43

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: Pasco Co. Res. - Ash Cell A-4

Sample #: Source B / Pile 1

Date Sampled: 8/23/2010

Date Tested: 8/24/2010

Tested By: CH

Description: Light Brown sand

Dry Weight of total sample:

245.9

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.08%	99.92%	80 - 95
40	7.8	3.17%	96.83%	60 - 80
60	40.6	16.51%	83.49%	30 - 55
100	149.9	60.96%	39.04%	0 - 15
200	239.2	97.28%	2.72%	5 MAX
pan	245.9	100.00%	0.00%	

Specific Gravity: 2.61 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .3% **ASTM D2974**
Permeability : 1.12E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 2.4% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0810.1000004.000

Report No.: SA#44

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA

Project: Pasco Co. Res. - Ash Cell A-4

Sample #: Source B / Pile 2

Date Sampled: 8/23/2010

Date Tested: 8/24/2010

Tested By: CH

Description: Light Brown sand

Dry Weight of total sample:

245.9

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.08%	99.92%	80 - 95
40	7.8	3.17%	96.83%	60 - 80
60	40.6	16.51%	83.49%	30 - 55
100	149.9	60.96%	39.04%	0 - 15
200	239.2	97.28%	2.72%	5 MAX
pan	245.9	100.00%	0.00%	

Specific Gravity:	2.63	ASTM D854
Carbonate Content :	0%	ASTM D4373
Organic Content :	.3%	ASTM D2974
Permeability :	1.24E-02 cm/sec	
Soil Classification :	SP	ASTM D2488
200 Wash :	2.4%	ASTM D1140
Sieve Analysis:	Results Above	ASTM D422



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Project No.: 0810.1000004.000

Report No.: SA#45

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Source B / Pile 3
Date Tested: 8/26/2010
Description: Light Brown sand
Date Sampled: 8/26/2010
Tested By: CH

Dry Weight of total sample:

278

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.4	0.14%	99.86%	80 - 95
40	5	1.80%	98.20%	60 - 80
60	29.4	10.58%	89.42%	30 - 55
100	155.9	56.08%	43.92%	0 - 15
200	273.3	98.31%	1.69%	5 MAX
pan	278	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .3% **ASTM D2974**
Permeability : 1.24E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.7% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**



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ENGINEERING SCIENCES

Consultants in: Geotechnical Engineering • Environmental Sciences
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Project No.: 0810.1000004.000

Report No.: SA#46

Date: 11/15/2010

9802 Palm River Road • Tampa, FL 33619-4438 • (813) 740-8506 • Fax(813) 740-8706

Client: RIPA
Project: Pasco Co. Res. - Ash Cell A-4
Sample #: Source B / Pile 4
Date Tested: 8/31/2010
Description: Light Brown sand
Date Sampled: 8/30/2010
Tested By: CH

Dry Weight of total sample:

301.7

SIEVE SIZE	ACCUM. WEIGHT	PERCENT RETAINED	PERCENT PASSING	Range
4	0	0.00%	100.00%	100
10	0	0.00%	100.00%	85 - 100
20	0.2	0.07%	99.93%	80 - 95
40	6	1.99%	98.01%	60 - 80
60	34.4	11.40%	88.60%	30 - 55
100	170.3	56.45%	43.55%	0 - 15
200	297	98.44%	1.56%	5 MAX
pan	301.7	100.00%	0.00%	

Specific Gravity: 2.63 **ASTM D854**
Carbonate Content : 0% **ASTM D4373**
Organic Content : .4% **ASTM D2974**
Permeability : 1.02E-02 cm/sec
Soil Classification : SP **ASTM D2488**
200 Wash : 1.4% **ASTM D1140**
Sieve Analysis: Results Above **ASTM D422**