

SCS ENGINEERS



Responses to Request for Additional Information No. 1 Hardee County Class I Landfill Wauchula, Florida Phase 1 Closure

Presented to:

Hardee County



Board of County Commissioners
c/o Teresa Carver, Solid Waste Director
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Presented by:

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Certification No. 00004892

File No. 09199033.21

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Dept. of Environmental
Protection
DEC 09 2011
Southwest District



SCS ENGINEERS

December 6, 2011
File No. 09199033.21

Mr. Steven G. Morgan
Florida Department of Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: Response to Request for Additional Information No. 1
Certification of Construction - Phase I Closure
Hardee County Class I Landfill
Permit No. 38414-012-SF/01, Hardee County
WACS No. SWD/25/40612

Dept. of Environmental
Protection
DEC 09 2011
Southwest District

Dear Mr. Morgan:

On behalf of the Hardee County Board of County Commissioners (BOCC), SCS Engineers (SCS) submits the following responses to your Request for Additional Information (RAI) No. 1 from a letter dated September 23, 2011 directed to Ms. Teresa Carver, Director Hardee County Solid Waste Department regarding the previously submitted Certification of Construction of the Phase I Closure and supporting documents dated May 31, 2011 and received by the Department on June 3, 2011. For ease of review, each Florida Department of Environmental Protection (FDEP) comment is reiterated in bold type followed by our response in normal print.

CERTIFICATION OF CONSTRUCTION COMPLETION REPORT

1. Please provide the following additional information and revisions to this Construction Completion Report. Please provide replacement pages with revisions noted (deletions may be struckthrough [~~struckthrough~~] and additions may be underlined [underlined] or a similar method may be used) and each page numbered with the document title and date of revision.

Response: SCS has provided revised submittals, or replacement pages to the submittals, using a strikethrough (~~strikethrough~~), underline (underline) or shaded (shaded) format to facilitate the review process. SCS has included the revision date as part of the footer for all revised submittals, or replacement pages to the submittals, and has provided four copies of all the revised and additional materials.

A list of the submitted documents in response to RAI No. 1 has been provided at the end of this letter.

SECTION 3 - CONSTRUCTION OBSERVATION

Attachment 3-1 - SCS Daily Field Reports

1. **Day 14 - 10/18/10:** This daily report discusses completing the tie-in to MH-6 via manhole cover, as a result of the discrepancy in the reported manhole cover elevation (See Day 10 report). A comparison of the as-built tie-in elevations reported on Sheet 3 of 5 of the Peavey & Associates (Peavey) survey drawings to the rim elevation reported on Sheet 10 of 24 of the SCS Record Drawings appear to indicate that tie-elevations are above the rim elevations at both MH-5 and MH-6. Please verify whether the tie-in at MH-5 is also via the manhole cover. Please provide an as-built drawing of this alternate "Vent Trench Tie-in to Manhole Detail" on Sheet 19 of 24 of the record drawings or another plan sheet, as appropriate.

Response: As opposed to excavating next to existing manholes MH-5 and MH-6 in order to core a hole into the side of the manholes to tie-in the landfill gas (LFG) lines, a hole was cored into the top of these manholes. The LFG lines were then tied-into the holes cored into the top of the manholes as opposed to the sides. The concrete cap as indicated on Sheet 19 of 24 of the SCS Record Drawings was then poured over the top of the manholes which encased the LFG line tie-in to the top of the manholes. The as-built tie-in elevations reported on Sheet 3 of 5 of the Peavey & Associates (Peavey) survey drawings were the elevations of the top of the concrete cap (which the LFG lines penetrated through and into the holes cored into the top of the existing manhole) that were poured on top of the existing manholes. MH-5 rim elevation was indicated as EL 86.47 and MH-6 rim elevation was indicated as EL 86.44 on Sheet 10 of 24 of the SCS Record Drawings. The as-built tie-in elevations reported on Sheet 3 of 5 of the Peavey survey drawings were identified as EL 86.85 and EL 87.84, respectively. The difference in the tie-in elevation for MH-5 from EL 86.85 to the rim elevation of EL 86.47 (0.38 feet or about 5-inches) was the thickness of the concrete cap that was poured on top of the manhole which the LFG line penetrated through.

Two photos identifying the LFG line tie-in to the top of MH-5 as opposed to the side, which were previously provided in the original Certification Report submittal, have been included in the responses to this RAI for ease of reference. Please refer to Attachment A for photos identifying the LFG line tie-in to existing manhole MH-5 and the concrete cap poured over the manhole. From the picture you can estimate that the thickness of the concrete cap that was ready to be placed on top of the rim of the existing manhole was about 5-inches (from the top of the manhole to the elbow in the LFG line) as stated above in the tie-in difference from EL 86.85 to EL 86.47. Sheet 19 of 24 of the SCS Record Drawings has been revised to indicate the LFG line tie-in to MH-5 through the concrete cap poured on top of the manhole as opposed to the side. Please refer to Attachment B for revised Hardee County Landfill Phase I Closure Construction Record Drawings.

MH-6 rim elevation was indicated as EL 86.44 on Sheet 10 of 24 of the SCS Record Drawings. The as-built tie-in elevation reported on Sheet 3 of 5 of the Peavey survey

drawings was identified as EL 87.84. The difference in the tie-in elevation for MH-6 from EL 87.84 to the rim elevation of EL 86.44 (1.4 feet or about 17-inches) was the thickness of the concrete cap that was poured on top of the manhole which the LFG line penetrated through. Sheet 19 of 24 of the SCS Record Drawings has been revised to indicate the LFG line tie-in to MH-6 through the concrete cap poured on top of the manhole as opposed to the side. Please refer to Attachment B for revised Hardee County Landfill Phase I Closure Construction Record Drawings.

The tie-in location of the LFG line into the side of MH-7 was performed as indicated on SCS Record Drawing Sheet 19 of 24 with the exception of the tie-in elevation. The LFG line tie-in into this manhole was conducted at EL 81.53 as opposed to the proposed EL 80.

2. **Day 154 - 3/7/11: This daily report discusses the installation of a "pump station for cell groundwater." This construction does not appear to be part of the proposed Phase I Closure and does not appear to be discussed in the certification report or shown on the record drawings. Please verify and explain this construction activity.**

Response: The pump station for cell groundwater indicated on this daily report was for the groundwater pump station installed in the previous Phase II Section I landfill expansion construction completed per FDEP Permit Number 38414-008-SC/01. When the Phase II Section I landfill expansion was constructed the pumps and control panel for the groundwater pump station placed in the southeast corner of the Phase II Section I cell were not installed at that time. Through correspondence with FDEP it was determined to install the pumps and control panel for the groundwater pump station at a later date when a better understanding of the anticipated groundwater flow was determined. While the Phase I closure project was underway it was determined by the County to install the pumps and control panel for the groundwater pump station at that time while a contractor was onsite.

SECTION 5 - GEOMEMBRANE INSTALLATION REPORT

Attachment 5-1 - As-Built Panel Layout Drawing

3. **Please revise the panel layout drawing, as appropriate, to address the comments provided below regarding the geomembrane repair logs and destructive test logs. Please identify each repair by its repair number on the revised panel layout drawing.**

Response: SCS has revised the as-built panel layout drawing to address the comments provided by the Department regarding the geomembrane repair logs and destructive test logs. Please refer to Attachment C for the revised As-Built Panel Layout Drawing.

Attachment 5-6 - SCS Geomembrane Repair Logs

4. **Based on the description of the repair locations on the repair logs, the following**

repairs do not appear to be shown on the panel layout drawings or may not be shown at the location described on the logs: R34, R68, R96, R97, R103, R112, R117, R120, R122, R145, R149, R152, R161, R169, R174, R194, R201, R202, R230, R231, R249, R250, R251, R257, R259, R269, R278, R280, R292, R320, R333, and R362. Please verify and revise the panel layout drawing and/or the location descriptions on the repair logs, as appropriate, to address these apparent inconsistencies.

Response: SCS has revised the As-Built Panel Layout Drawing to address the repair locations as described in the SCS Geomembrane Repair Logs for the following repairs as requested by the Department. Please refer to Attachment C for the revised As-Built Panel Layout Drawing. In addition, if indicated in the SCS response below, the SCS Geomembrane Repair Log was revised if required to address the repair location. Please refer to Attachment D for the revised SCS Geomembrane Repair Logs.

- R34 - P13/TI, 5' West of P12/P13. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R68 - P42/P43, 71' West of P42/P43/P44. The SCS Geomembrane Repair Log has been revised to indicate R68 - P42/P44, 11' West of P42/P43/P44. Also, the repair location has been added to the revised As-Built Panel Layout Drawing.
- R96 - P10/P12, 103' North of L4. The SCS Geomembrane Repair Log has been revised to indicate R96 - L10/L12, 103' North of L4. Also, the repair location has been added to the revised As-Built Panel Layout Drawing.
- R97 - L10/L12, 88' to 93' North of L4. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R103 - P25/P26/L23/L25. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R112 - P29/P30, AT to 53' North. The SCS Geomembrane Repair Log has been revised to indicate R112 - P29/P32, AT to 53' North. The repair location was previously indicated on the As-Built Panel Layout Drawing; therefore, the Drawing is correct and has not been revised for R112.
- R117 - L3/L4/L12. The SCS Geomembrane Repair Log has been revised to indicate R117 - L3/L4/L10/L11. The repair location was previously indicated on the As-Built Panel Layout Drawing; therefore, the Drawing is correct and has not been revised for R117.
- R120 - P10/P11/TI. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R122 - L6/TI chute, 10' Southeast P5/P6/TI. The SCS Geomembrane Repair Log has been revised to indicate R122 - L6/TI chute, 10' Southeast L5/L6/TI chute. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R145 - P66/P67, 57' West of P65/P66. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R149 - P69/P70, 162' East of P70/P71. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R152 - P62/P63, 5' North of P61. The repair location has been added to the revised As-Built Panel Layout Drawing.

- R161 - P88/P89, 175' East of AT. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R169 - P83/P84 @ TI to 40 mil. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R174 - P62/P63, 20' North of P61. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R194 - P1/P2 @ gas vent. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R201 - P56/P57, 106' East of P57/P58. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R202 - P57/P59, 134' East of P57/P58. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R230 - P87/L30/L31. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R231 - P86/L31/L32. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R249 - P19/L49/L51. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R250 - L20/L21, 90' East of L12/L13/L20/L21. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R251 - P18/P16/L56. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R257 - L59/L60/L61. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R259 - L60/L61/L62. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R269 - L50/L51, 14' West of L50/L51/L54/L55. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R278 - L50/L55/L56. The SCS Geomembrane Repair Log has been revised to indicate R278 - L51/L55/L56. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R280 - L56/L58, 28' West of AT. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R292 - L51/L56/ext. The repair location has been added to the revised As-Built Panel Layout Drawing.
- R320 - L92/L93, 5' West of L91/L92/L93. The Geomembrane Repair Number R320 associated with Destructive Test DT68 was previously indicated on the As-Built Panel Layout Drawing incorrectly. The destructive test location and repair location has been corrected on the revised As-Built Panel Layout Drawing.
- R333 - L82/L84, 10' East of P78. The SCS Geomembrane Repair Log has been revised to indicate R333 - L82/L84, 10' East of P79. The Geomembrane Repair Number R333 associated with Destructive Test DT65 was previously not indicated on the As-Built Panel Layout Drawing. The destructive test location and repair location has been added on the revised As-Built Panel Layout Drawing.

- R362 - L80, 10' North, 144' West of AT. The repair location has been added to the revised As-Built Panel Layout Drawing.

5. The repairs associated with Destructive Tests D22, D46, and D47 do not appear to be identified in this log. Please verify and revise this log accordingly.

Response: Geomembrane Repair Number R122 was associated with Destructive Test DT22 which was repaired on December 2, 2010. This repair was inadvertently left off of the SCS Geomembrane Repair Log (previously provided in Attachment 5-6 SCS Geomembrane Repair Logs). Page 8 of the SCS Geomembrane Repair Log has been revised to indicate Geomembrane Repair Number R122 of Destructive Test DT22 was conducted on December 2, 2010. Please refer to Attachment D for the revised SCS Geomembrane Repair Log.

Geomembrane Repair Number R187 was associated with Destructive Test DT46 which was repaired on December 3, 2010. This repair was inadvertently left off of the SCS Geomembrane Repair Log (previously provided in Attachment 5-6 SCS Geomembrane Repair Logs). Page 12 of the SCS Geomembrane Repair Log has been revised to indicate Geomembrane Repair Number R187 of Destructive Test DT46 was conducted on December 3, 2010 by capping the entire seam for a distance of 125 feet which included Destructive Test DT46. Please refer to Attachment D for the revised SCS Geomembrane Repair Log.

Geomembrane Repair Number R188 was associated with Destructive Test DT47 which was repaired on December 3, 2010. This repair was inadvertently left off of the SCS Geomembrane Repair Log (previously provided in Attachment 5-6 SCS Geomembrane Repair Logs). Page 12 of the SCS Geomembrane Repair Log has been revised to indicate Geomembrane Repair Number R188 of Destructive Test DT47 was conducted on December 3, 2010 by capping the entire seam from for a distance of 125 feet which included Destructive Test DT47. Please refer to Attachment D for the revised SCS Geomembrane Repair Log.

Attachment 5-8 - SCS Destructive Test Logs

6. DT7: Destructive Test DT7 is identified as being on Seam P8/P9 in this log and on the 60 mil destructive test results table in Attachment 5-10. However DT7 is shown on Seam P8/P10 on the Panel Layout Drawing and DT7 and associated Repair R35 are identified to be on Seam P8/P10 in the Repair Logs. Please verify these inconsistencies and revise the appropriate logs and the panel layout drawings.

Response: Destructive Test DT7 was identified on the SCS Destructive Test Log (previously provided in Attachment 5-8 SCS Destructive Test Logs) as taken on seam P8/P9 nr (near) P9/P10 incorrectly. Destructive Test DT7 has been revised on the SCS Destructive Test Log to indicate the Seam ID for DT7 as P8/P10. Please refer to Attachment E for the revised SCS Destructive Test Log.

Destructive Test DT7 was taken on seam P8/P10 as correctly indicated on the SCS Geomembrane Repair Log (previously provided in Attachment 5-6 SCS Geomembrane Repair Logs) for associated Geomembrane Repair Number R35 and has not been revised.

Destructive Test DT7 has been revised on the 60 mil destructive test results table (previously provided in Attachment 5-10 TRI 60 mil Destructive Seam Test Results) as taken on Seam P8/P10 (as opposed to P8/P9 as previously indicated). Please refer to Attachment F for the revised TRI 60 mil Destructive Seam Test Results table.

Please refer to Attachment C for the revised As-Built Panel Layout Drawing which indicates the location for Destructive Test DT7 taken on Seam P8/P10.

7. **DT10: Destructive Test DT10 is identified as being on Seam "P13/TI nr P13/P14" in this log and on Seam P13/TI on the 60 mil destructive test results table in Attachment 5-10. However DT10 is shown on Seam P12/TI on the Panel Layout Drawing and DT10 and associated Repair R37 are identified to be on Seam "P13/TI 5' W of P12/P13" in the Repair Logs. Please verify these inconsistencies and revise the appropriate logs and the panel layout drawing.**

Response: Destructive Test DT10 was taken on Seam P13/TI nr P13/P14 as indicated on the SCS Destructive Test Log (previously provided in Attachment 5-8 SCS Destructive Test Logs) correctly and has not been revised.

Destructive Test DT10 was shown correctly on the 60 mil destructive test results table (previously provided in Attachment 5-10 TRI 60 mil Destructive Seam Test Results) as taken on Seam P13/TI and has not been revised.

The Geomembrane Repair Number R34 associated with Destructive Test DT10 (not R37, as identified by the Departments question) as indicated on the SCS Geomembrane Repair Log (previously provided in Attachment 5-6 SCS Geomembrane Repair Logs) on Seam P13/TI 5' W of P12/P13 was identified correctly and has not been revised.

Destructive Test DT10 was previously indicated on the As-Built Panel Layout Drawing incorrectly. Please refer to Attachment C for a revised As-Built Panel Layout Drawing which indicates the location for Destructive Test DT10 taken on Seam P13/TI nr P13/P14.

8. **DT24: Destructive Test DT24 is identified as being on Seam L5/L6 in this log. However, DT24 is identified on Seam L6/L7 on the 40 mil destructive test results table in Attachment 5-9; is shown on Seam L6/L7 on the Panel Layout Drawing; and DT24 and associated Repair R93 are identified to be on Seam L6/L7 in the Repair Logs. Please verify these inconsistencies and revise the appropriate logs and the panel layout drawing.**

Response: Destructive Test DT24 was taken on Seam L6/L7 as opposed to L5/L6 as indicated on the SCS Destructive Test Log (previously provided in Attachment 5-8 SCS

Destructive Test Logs). The SCS Destructive Test Log for Destructive Test DT24 has been revised to be taken on Seam L6/L7 as opposed to L5/L6. Please refer to Attachment E for the revised SCS Destructive Test Log.

Destructive Test DT24 is shown correctly on the 40 mil destructive test results table (previously provided in Attachment 5-9 TRI 40 mil Destructive Seam Test Results) as taken on Seam L6/L7 and has not been revised.

The Geomembrane Repair Number R93 associated with Destructive Test DT24 as indicated on page 6 of the SCS Geomembrane Repair Log has been revised to indicate the location of the repair as L6/L7, 20' North of T1 (as opposed to the previously indicated L6/L7, 42' North of T1). Please refer to Attachment D for the revised Geomembrane Repair Log.

The location of Destructive Test DT24 provided on the As-Built Panel Layout Drawing was identified correctly and has not been revised.

9. **DT29: Destructive Test DT29 does not appear to be shown on Seam P62/P63 on the Panel Layout Drawing, as identified in this log, the Repair Logs associated with Repair R153, and the 60 mil destructive test results table in Attachment 5-10. Please verify and revise the panel layout drawing, as appropriate.**

Response: Destructive Test DT29 was taken on Seam P62/P63 approximately 5 feet north of P61 as indicated on the SCS Destructive Test Logs (previously provided in Attachment 5-8 SCS Destructive Test Logs) was identified correctly and has not been revised.

The Geomembrane Repair Number R152 associated with Destructive Test DT29 (not R153 as indicated by the Departments question) as indicated on the SCS Geomembrane Repair Log (previously provided in Attachment 5-6 SCS Geomembrane Repair Logs) was identified correctly and has not been revised.

Destructive Test DT29 is shown correctly on the 60 mil destructive test results table (previously provided in Attachment 5-10 TRI 60 mil Destructive Seam Test Results) as taken on Seam P62/P63 and has not been revised.

Destructive Test DT29 has been added to the As-Built Panel Layout Drawing. Please refer to Attachment C for the revised As-Built Panel Layout Drawing which indicates the location for Destructive Test DT29 taken on Seam P62/P63.

10. **DT32: Destructive Test DT32 is identified as being on Seam P67/P69 in this log and on the 60 mil destructive test results table in Attachment 5-10. However DT32 is shown on Seam P69/P70 on the Panel Layout Drawing and DT32 and associated Repair R203 is identified to be on Seam P69/P70 in the Repair Logs. Please verify these inconsistencies and revise the appropriate logs and the panel layout drawing.**

Response: Destructive Test DT32 was taken on Seam P67/P69 as indicated on the SCS Destructive Test Logs (previously provided in Attachment 5-8 SCS Destructive Test Logs) was identified correctly and has not been revised.

Destructive Test DT32 is shown correctly on the 60 mil destructive test results table (previously provided in Attachment 5-10 TRI 60 mil Destructive Seam Test Results) as taken on Seam P67/P69 and has not been revised.

The Geomembrane Repair Number R203 associated with Destructive Test DT32 as indicated on page 13 of the SCS Geomembrane Repair Log (previously provided in Attachment 5-6 SCS Geomembrane Repair Logs) has been revised to indicate the location of the repair as P67/P69, 160' East of P67/P68/P69 (as opposed to the previously indicated P69/P70, 37' E of P70/P71). Please refer to Attachment D for the revised SCS Geomembrane Repair Log.

Destructive Test DT32 was previously indicated on the As-Built Panel Layout Drawing incorrectly. Please refer to Attachment C for the revised As-Built Panel Layout Drawing which indicates the location for Destructive Test DT32 taken on Seam P67/P69.

11. **DT46: Destructive Test DT46 does not appear to be shown on Seam P65/P67 on the Panel Layout Drawing, as identified this log and the 60 mil destructive test results table in Attachment 5-10. Please verify and revise the panel layout drawing, as appropriate.**

Response: Destructive Test DT46 was taken on Seam P65/P67 as indicated on the SCS Destructive Test Logs (previously provided in Attachment 5-8 SCS Destructive Test Logs) was identified correctly and has not been revised.

Destructive Test DT46 is shown correctly on the 60 mil destructive test results table (previously provided in Attachment 5-10 TRI 60 mil Destructive Seam Test Results) as taken on Seam P65/P67 and has not been revised.

Destructive Test DT46 has been added to the As-Built Panel Layout Drawing. Please refer to Attachment C for the revised As-Built Panel Layout Drawing which indicates the location for Destructive Test DT46 taken on Seam P65/P67.

12. **DT48: Destructive Test DT48 is identified as being on Seam L50/L51 in this log, in the Repair logs associated with Repair R269, and on the 40 mil destructive test results table in Attachment 5-9. However, DT48 is shown on Seam L48/L50 on the Panel Layout Drawing. Please verify this inconsistency and revise the appropriate logs and the panel layout drawing.**

Response: Destructive Test DT48 was taken on Seam L50/L51 as indicated on the SCS Destructive Test Logs (previously provided in Attachment 5-8 SCS Destructive Test Logs) was identified correctly and has not been revised.

The Geomembrane Repair Number R269 associated with Destructive Test DT48 as indicated on the SCS Geomembrane Repair Log (previously provided in Attachment 5-6 SCS Geomembrane Repair Logs) was identified correctly and has not been revised.

Destructive Test DT48 is shown correctly on the 40 mil destructive test results table (previously provided in Attachment 5-9 TRI 40 mil Destructive Seam Test Results) and has not been revised.

Destructive Test DT48 was previously indicated on the As-Built Panel Layout Drawing incorrectly. Please refer to Attachment C for the revised As-Built Panel Layout Drawing which indicates the location for Destructive Test DT48 taken on Seam L50/L51.

13. **DT65: Destructive Test DT65 does not appear to be shown on Seam L82/L84 on the Panel Layout Drawing, as identified in this log, the Repair Logs associated with Repair R333, and the 40 mil destructive test results table in Attachment 5-9. Please verify and revise the panel layout drawing, as appropriate.**

Response: Destructive Test DT65 was taken on Seam L82/L84 as indicated on the SCS Destructive Test Logs (previously provided in Attachment 5-8 SCS Destructive Test Logs) was identified correctly and has not been revised.

The Geomembrane Repair Number R333 associated with Destructive Test DT65 as indicated on the SCS Geomembrane Repair Log (previously provided in Attachment 5-6 SCS Geomembrane Repair Logs) was identified correctly and has not been revised.

Destructive Test DT65 is shown correctly on the 40 mil destructive test results table (previously provided in Attachment 5-9 TRI 40 mil Destructive Seam Test Results) and has not been revised.

Destructive Test DT65 associated with Repair R333 was inadvertently not placed on the As-Built Panel Layout Drawing. Please refer to Attachment C for the revised As-Built Panel Layout Drawing which indicates the location for Destructive Test DT65 taken on Seam L82/L84, 10' East of P79.

14. **DT68: Destructive Test DT68 is identified as being on Seam L92/L93 in this log, in the Repair logs associated with Repair R320, and on the 40 mil destructive test results table in Attachment 5-9. However, DT68 is shown on Seam L94/L95 on the Panel Layout Drawing. Please verify this inconsistency and revise the appropriate logs and the panel layout drawing.**

Response: Destructive Test DT68 was taken on Seam L92/L93 as indicated on the SCS Destructive Test Logs (previously provided in Attachment 5-8 SCS Destructive Test Logs) was identified correctly and has not been revised.

The Geomembrane Repair Number R320 associated with Destructive Test DT68 as indicated on the SCS Geomembrane Repair Log (previously provided in Attachment 5-6

SCS Geomembrane Repair Logs) was identified correctly and has not been revised.

Destructive Test DT68 is shown correctly on the 40 mil destructive test results table (previously provided in Attachment 5-9 TRI 40 mil Destructive Seam Test Results) and has not been revised.

Destructive Test DT68 was previously indicated on the As-Built Panel Layout Drawing incorrectly. Please refer to Attachment C for the revised As-Built Panel Layout Drawing which indicates the correct location for Destructive Test DT68 taken on Seam L92/L93, 5' West of L91/L92/L93.

Attachment 5-10 - TRI 60 mil Destructive Seam Test Results

15. **Destructive Test DT-14 appears to be omitted from the table and the results of destructive test DS-14 are not included in this section. Please verify this omission and revise the table and provide a copy of the results, as appropriate.**

Response: Destructive Test DT14 was a fusion weld that failed during a field trial weld as indicated on the SCS Trial Weld Log previously provided in Attachment 5-4 and on the revised SCS Destructive Test Logs provided with these responses in Attachment E; therefore, the Destructive Test DT14 sample was not forwarded to TRI for CQA testing. Destructive Test DT14 has been added to the revised 60 mil destructive test results table as taken on Seam P29/P32 with the notation "Not submitted for CQA testing" added. Please refer to Attachment F for the revised TRI 60 mil Destructive Seam Test Results table.

The Geomembrane Repair Number R14 associated with Destructive Test DT14 as indicated on the revised SCS Geomembrane Repair Log provided in Attachment D was identified correctly and has not been revised. The location of Destructive Test DT14 provided on the As-Built Panel Layout Drawing was identified correctly and has not been revised.

Destructive Tests DT14A and DT14B were then collected and passed the field trial welds and were forwarded to TRI for CQA testing. Test results from Destructive Tests DT14A and DT14B were previously provided in Attachment 5-10 TRI 60 mil Destructive Seam Test Results and were indicated as passing on the 60 mil destructive test results table.

Attachment 5-12 - Agru America 60 mil Geomembrane MQC Certificates

16. **Test results for Agru MQC tests for Roll Nos. 445225-445231 and Roll No. 445332 appear to have been provided in Attachment 5-12 and TRI QA Test No. E-2348-75-06 appears to have been provided in Attachment 5-14. However these tests appear to have been omitted from the table in Attachment 5-12. Please verify and revise the table, as appropriate.**

Response: Test results for Agru MQC tests for Roll Nos. 445225 - 445231 and Roll No. 445332 were inadvertently left off of the AGRU CQA Test Results 60 mil HDPE Hardee County Class I Landfill Phase I Closure table previously provided in Attachment 5-12. Please refer to Attachment G for a revised AGRU CQA Test Results 60 mil HDPE Hardee County Class I Landfill Phase I Closure table with the results from Roll Nos. 445225 - 445231 and Roll No. 445332 added to the table.

SECTION 6 GAS COLLECTION SYSTEM

17. **Section 6.3: The information provided in the Horizontal LFG Trench Vent Schedule on Sheet 17 of 24 of the SCS Record Drawings appears inconsistent with the location and elevations provided on Sheet 3 of 5 of the Peavey survey drawings. Please verify and revise the Horizontal LFG Trench Vent Schedule on Sheet 17 of 24, as appropriate.**

Response: Please refer to Attachment B for revised SCS Record Drawing Sheet 17 of 24 where the Horizontal LFG Trench Vent Schedule and Vertical LFG Vent Schedule have been revised to be consistent with the locations and elevations provided on Sheet 3 of 5 of the Peavey survey drawings previously provided.

18. **Section 6.4: The information provided in the Vertical LFG Trench Vent Schedule on Sheet 17 of 24 of the SCS Record Drawings appears inconsistent with the location, elevations, and depths provided on the vent logs in Attachment 6-1. Please verify and revise the Vertical LFG Trench Vent Schedule on Sheet 17 of 24, as appropriate. Please revise this section to explain why Wells V-1, V-3, V-4 were installed shallower than proposed.**

Response: Please refer to Attachment B for revised SCS Record Drawing Sheet 17 of 24 where the Horizontal LFG Trench Vent Schedule and Vertical LFG Vent Schedule have been revised to be consistent with the locations, elevations and depths provided on Sheet 3 of 5 of the Peavey survey drawings previously provided.

V-1 was proposed on the Vertical LFG Trench Vent Schedule on Sheet 17 of 24 to be 50 feet deep with a corresponding ground surface at the LFG well location of EL 150 feet. The location of V-1 was shifted slightly during construction to a location where the ground surface elevation was EL 145.44 feet; approximately 4.56 feet lower than originally indicated in the Vertical LFG Trench Vent Schedule (EL 150 feet). Therefore, during installation the depth of the well had to be shorted by approximately 5 feet to account for the difference in the ground surface elevation. For that reason V-1 was installed 45 feet deep as opposed to the 50 feet as originally indicated. The installed solid pipe length was reduced from 20 feet to 15 feet and the perforated pipe length was installed 30 feet in length as originally indicated. Please refer to Attachment B for revised SCS Record Drawings.

V-3 was proposed on the Vertical LFG Trench Vent Schedule on Sheet 17 of 24 to be 52 feet deep with a corresponding ground surface at the LFG well location of EL 152 feet.

The location of V-3 was shifted slightly during construction to a location where the ground surface elevation was EL 145.95 feet; approximately 6.05 feet lower than originally indicated in the Vertical LFG Trench Vent Schedule (EL 152 feet). Therefore, during installation the depth of the well had to be shorted by approximately 6 feet to account for the difference in the ground surface elevation. For that reason V-3 was installed 50 feet deep as opposed to the 52 feet as originally indicated. The installed solid pipe length was reduced from 20 feet to 15 feet and the perforated pipe length was installed 35 feet in length as opposed to the originally indicated 32 feet in length. Please refer to Attachment B for revised SCS Record Drawings.

V-4 was proposed on the Vertical LFG Trench Vent Schedule on Sheet 17 of 24 to be 40 feet deep with a corresponding ground surface at the LFG well location of EL 140 feet. The location of V-4 was shifted slightly during construction to a location where the ground surface elevation was EL 135.81 feet; approximately 4.19 feet lower than originally indicated in the Vertical LFG Trench Vent Schedule (EL 140 feet). Therefore, during installation the depth of the well had to be shorted by approximately 4 feet to account for the difference in the ground surface elevation. For that reason V-4 was installed 35 feet deep as opposed to the 40 feet as originally indicated. The installed solid pipe length was reduced from 20 feet to 15 feet and the perforated pipe length was installed 20 feet in length as originally indicated. Please refer to Attachment B for revised SCS Record Drawings.

Attachment 6-1 - Vent Logs

19. **Please provide revised well completion logs that identify the installed solid and perforated pipe elevations and lengths for each well.**

Response: Please refer to Attachment H for revised Quality Drilling Service Drilling and Completion Logs that identify the installed solid and perforated pipe elevations and lengths for each well.

20. **Gas Vent HC-7.1 appears to have been omitted from the Job Summary Table in this section and the Drilling and Completion Log for HC-7.1 does not appear to have been provided. Please verify and revise the table and provide the well completion log for HC-7.1 accordingly.**

Response: Information for Gas Vent HC-7.1 was inadvertently listed on the Quality Drilling Service Job Summary Table as HC-1.B.1. One of the two Quality Drilling Service Drilling and Completion Logs previously provided as HC-1.B.1 was incorrectly labeled and should have been identified as HC-7.1 (two Gas Vents were identified as HC-1.B.1). Please refer to Attachment H for a revised Quality Drilling Service Job Summary Table which includes Gas Vent HC-7.1 (the incorrect well ID of HC-1.B.1 has been struckthrough and labeled HC-7.1). Also, please refer to Attachment H for the revised Quality Drilling Service Drilling and Completion Logs for Gas Vent HC-7.1 (the incorrect well ID of HC-1.B.1 has been struckthrough and labeled HC-7.1).

21. **HC-1B.1: There are two well Drilling and Completion Logs identified as HC-1.B.1. Please verify and revise these logs, including the narrative information provided, as appropriate.**

Response: Information for Gas Vent HC-7.1 was inadvertently listed on the Quality Drilling Service Job Summary Table as HC-1.B.1. One of the two Quality Drilling Service Drilling and Completion Logs previously provided as HC-1.B.1 was incorrectly labeled and should have been identified as HC-7.1 (two Gas Vents were identified as HC-1.B.1). Please refer to Attachment H for a revised Quality Drilling Service Job Summary Table which includes Gas Vent HC-7.1 (the incorrect well ID of HC-1.B.1 has been struckthrough and labeled HC-7.1). Also, please refer to Attachment H for the revised Quality Drilling Service Drilling and Completion Logs for Gas Vent HC-7.1 (the incorrect well ID of HC-1.B.1 has been struckthrough and labeled HC-7.1).

22. **HC-A.1: Please verify that the log identified as "HC-A.1" is for Gas Vent HC-1A.1 and revise the log, as appropriate.**

Response: The Quality Drilling Service Drilling and Completion Log previously identified as "HC-A.1" was incorrectly labeled and should have been identified as Gas Vent HC-1A.1. Please refer to Attachment H for a revised Quality Drilling Service Drilling and Completion Logs which identifies Gas Vent HC-1A.1 (the incorrect well ID of HC-A.1 has been struckthrough and labeled HC-1A.1). In addition, please refer to Attachment H for a revised Quality Drilling Service Job Summary Table which includes Gas Vent HC-1A.1 (the incorrect well ID of HC-A.1 has been struckthrough and labeled HC-1A.1).

SECTION 9 DRAINAGE SAND

23. **Section 9.1 & Attachment 9.1: The permeability and sieve analysis results provided in Attachment 9.1 appear to be the results of the borrow source testing specified by Technical Specification Section 02220-1.05.E. CQA testing of drainage sand during placement, at a frequency of 1/5,000 CY, was specified in Technical Specification Section 02220-3.09.H and Table 02220-1. Please verify whether CQA testing of the installed protective soil layer (drainage sand) was conducted and provide copies of the testing results and/or revise this section, as appropriate.**

Response: Technical Specification Section 02220-3.09.H required the protective cover soil (drainage sand) material placed within the closure area top/sideslopes footprint where the 40 mil textured LLDPE geomembrane was placed to be a sand with a maximum permeability of 1×10^{-4} cm/sec when a laboratory sample was compacted to 95 percent of the Standard Proctor in accordance with ASTM D2434; conform to the provided Sieve Analysis in accordance with ASTM D422; and be verified by laboratory testing at a frequency of one test per every 5,000 cubic yards of material installed. Also, the protective cover soil (drainage sand) material was to be tested in the field during placement by conducting one field density test according to ASTM D2922 Nuclear Method per acre per lift to ensure the placement achieved a 95 percent Standard Proctor.

In addition, the protective cover soil (drainage sand) material placed within the closure area sideslopes footprint where the 60 mil textured HDPE geomembrane was placed was to be a sand with a minimum permeability of 1×10^{-3} cm/sec when a laboratory sample was compacted to 95 percent of the Standard Proctor in accordance with ASTM D2434; conform to the provided Sieve Analysis in accordance with ASTM D422; and be verified by laboratory testing at a frequency of one test per every 5,000 cubic yards of material installed. In addition, the protective cover soil (drainage sand) material was to be tested in the field during placement by conducting one field density test according to ASTM D2922 Nuclear Method per acre per lift to ensure the placement achieved a 95 percent Standard Proctor. Please refer to Attachment I for Universal Engineering Sciences test results of the protective cover soil (drainage sand) material.

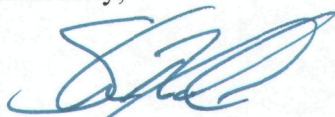
CQA testing of the in-place density of the protective cover soil (drainage sand) material was conducted at a frequency of one field density test according to ASTM D2922 Nuclear Method per acre per lift as required by the technical specifications. Please refer to Attachment I for Universal Engineering Sciences In-place Density Test Results for the installed protective cover layer.

Please be advised that under the provisions of Specific Condition #C.1.a of the above referenced permit and Specific Condition #A.3.a of Operation Permit No. 38414-011-SO/01, operation/acceptance of waste on the south slope of Phase I is not authorized at this time.

Response: Comment noted.

Attached are two copies of our response to RAI No. 1 as requested. Please do not hesitate to contact us if you need anything further.

Sincerely,



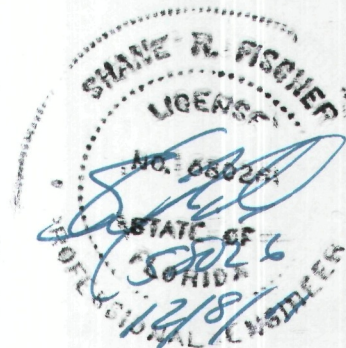
Shane R. Fischer, P.E.
Project Manager
SCS ENGINEERS

SRF/CEH:srf
Attachments



C. Ed Hilton, P.E.
Vice President/Solid Waste Division Director
SCS ENGINEERS

cc: Teresa Carver, Hardee County Solid Waste Director, w/ attachments



LIST OF ATTACHMENTS

- A - Photos Identifying The LFG Line Tie-In To Existing Manhole MH-5
- B - Revised Hardee County Landfill Phase I Closure Construction Record Drawings (Drawings 1, 17 and 19)
- C - Revised As-Built Panel Layout Drawing
- D - Revised SCS Geomembrane Repair Logs
- E - Revised SCS Destructive Test Logs
- F - Revised TRI 60 mil Destructive Seam Test Results Table
- G - Revised AGRU CQA Test Results 60 mil HDPE Hardee County Class I Landfill Phase I Closure Table
- H - Revised Quality Drilling Service Drilling and Completion Logs and Revised Quality Drilling Service Job Summary Table
- I - Universal Engineering Sciences Test Results of the Protective Cover Soil and In-place Density Tests

ATTACHMENT A

Photos Identifying The LFG Line Tie-In
To Existing Manholes MH-5 and MH-6

Photo 1



Photo 2



ATTACHMENT B

Revised Hardee County Landfill
Phase I Closure Construction Record Drawings
(Drawings 1, 17 and 19)
(Bound Separately)

ATTACHMENT C

Revised As-Built Panel Layout Drawing
(Bound Separately)

ATTACHMENT D

Revised SCS Geomembrane Repair Logs

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Hardee County Landfill - Phase I Closure

PROJECT NO.

09199033.21

DATE

11-23-10 To 11-30-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-23-10	R 1	P9/P10 @ berm pipe		WC	2X9	MS	5	11/30/10	SP	
11-23-10	2	P9/P10/berm pipe		BS	5X8					
11-23-10	3	P13/P14/P35		T	4X5					
11-25-10	4	P14/P33/P35		T	2X2					
11-25-10	5	P33/P34/P35		T	2X2					
11-23-10	6	P34/P35 @ berm		WC	2X19					
11-23-10	7	P33/P34/TI		T	2X8					
11-23-10	8	P35/P36/berm		WC	2X5					
11-23-10	9	P35/P36/berm		WC	2X3					
11-22-10	10	P9/P10/P11		T	2X2					
11-23-10	11	P8/P9/berm pipe		BS	6X8					
11-22-10	12	P8/P9/P10		T	2X3					
11-24-10	13	P25/P27,18' N of TI		DS	2X4					DS 13
11-24-10	14	P29/P32,13' N of TI		DS	2X4					DS 14
11-24-10	15	P29/P31/P32		ext	23'					
11-24-10	16	P29/P31/P32		T	2X3	MS	5	11-30-10	SP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

AT = anchor Trench
TI = Tie in

PRINT NAME:

Dennis G. DuPont

SIGNATURE:

Dennis G. DuPont

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DATE

2 of
Hardee County Landfill - Phase I Closure
09199033.21

11-24-10 TO 11-30-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-24-10	R 17	P31/P32/L1		T	8X8	MS	5	11-30-10	SP	
11-29-10	18	P22/TI and 10' E of P21/P22	DS	2X4						DT 12
11-29-10	19	P21/P22 and 12' S of P21/P22	DS	2X4						DT 9
11-29-10	20	P20/P21/P22		T	2X2					
11-29-10	21	P19/P20/P21		T	2X2					
11-29-10	22	P16/P17/P18		T	2X2					
11-29-10	23	P16/P17 and 10' N.W. of P16/P17/P18	DS	2X4						DT 8
11-29-10	24	P15/P16/P17		T	2X2					
11-29-10	25	P1/P2, 16' N of P1/P2/P3	DS	2X4						PT 1
11-29-10	26	P1/P2/P3		T	2X2					
11-29-10	27	P2/P3/P4		T	2X2					
11-29-10	28	P3/TI, 10' W of P1	DS	2X4						PT 11
11-29-10	29	P3/P4, 18' N of TI	DS	2X4						DT 2
11-29-10	30	P4/P5, 23' N of TI	DS	2X4						PT 3
11-29-10	31	P5/P6, 27' N of TI	DS	2X4						DT 4
11-29-10	32	P6/P7, 40' N of TI	DS	2X4		MS	5	11-30-10	SP	DT 5

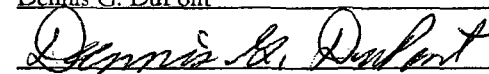
DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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3

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PROJECT TITLE

Hardee County Landfill - Phase I Closure

PROJECT NO.

09199033.21

DATE

11-29-10 to 11-30-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-29-10	R 33	P7/P8, 20' N of TI		DS	2X4	MS	5	11-30-10	SP	DT 6
11-29-10	34	P13/TI, 5' W of P12/P13		DS	2X4	MS	1			DT 10
11-29-10	35	P8/P10, 18' N of TI		DS	2X4	MS	5			DT 7
11-29-10	36	P36/P43/P45		T	2X2	TAN	8			
11-29-10	37	P36/P42/P43		T	2X2					
11-29-10	38	P36/P42, 21' NE P36/P41/P42		DS	2X4					DT 17
11-29-10	39	P36/P42, 11' NE P36/P41/P42		BO	2X2					
11-29-10	40	P36/P41/P42		T	2X6					
11-29-10	41	P36/P37/P41		T	2X3					
11-29-10	42	P36/P37/P38		T	2X2					
11-29-10	43	P36/P38/P39		T	2X2					
11-29-10	44	P36/P39/P40		T	2X2					
11-29-10	45	P13/35, 20' NE of P35/P13/P14		DS	2X4					DT 16
11-29-10	46	P12/P13/P35		T	2X2					
11-29-10	47	P11/P12/P35		T	2X2					
11-29-10	48	P11/P35, 14' NE of P11/P12/P35		BO	2X3	TAN	8	11-30-10	SP	

DEFECT CODES:

AD - ANIMAL RELATED DAMAGE	DS - DESTRUCTIVE SAMPLE	IO - INSUFFICIENT OVERLAP	SS - START/STOP
B - UNDISPERSED RESIN BEAD	EE - EARTHWORK EQUIP DAMAGE	LB - LEISTER BURN	SSI - SOIL SURFACE IRREGULARITY
BO - BURN OUT	EXT - EXTENSION	MOT - MACHINE OFF TRACK	T - MULTIPLE PANEL INTERSECTION
BS - BOOT SKIRT	FB - FUSION WELDER BURN	N - NODULE	VL - VACUUM TEST LEAK
C - COUPON	FD - FACTORY DAMAGE	PTC - PRESSURE TEST CUT	WC - WRINKLE CUT
CO - CHANGE OF OVERLAP	FM - FISH MOUTH	SI - SUBGRADE IRREGULARITY	WR - WRINKLE
CR - CREASE	FS - FAILED SEAM	SL - SLAG ON TEXTURED SHEET	WS - WELDER RESTART
D - INSTALLATION DAMAGE	HT - HEAT TACK BURN	SO - SHARP OBJECT	

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Hardee County Landfill - Phase I Closure

PROJECT NO.

09199033.21

DATE

11-29-10 to 11-30-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-29-10	R 49	P9/P11/P35		T	2X2	TAN	8	11-30-10	SP	
	50	P8/P9/P35		T	2X2	TAN	8			
	51	P7/P8/P35		T	2X2	MS	5			
	52	P6/P7/P35		T	2X2					
	53	P5/P6/P35		T	6X8					
	54	P4/P5/P35		T	2X3					
	55	P4/P5, berm pipe		BS	3X8					
	56	P2/P4 at berm		WC	2X3					
	57	P2/P4 at berm		WC	3X5					
	58	P2/P4 at berm pipe		BS	5X8					
	59	P2/P4/P35		T	2X3					
	60	P36/P52 P36/P52, 8' NE P4/P54/P52 BO			2X3					
	61	P36/P50/P52		T	2X2					
	62	P36/P49/P50		T	2X2					
	63	P36/P47/P49		T	2X2	MS	5			
11-29-10	64	P36/P46/P47		T	2X2	TAN	5B	11-30-10	SP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME:

Dennis G. DuPont

SIGNATURE:

Dennis G. DuPont

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Hardee County Landfill - Phase I Closure

PROJECT NO.

09199033.21

DATE

11-26-10 to 11-30-10 12-2-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-29-10	R 65	P36/P45/P46		T	2X2	TAN	8	12-2-10	NP	
11-29-10	66	P37/P41, 16' E of AT		DS	2X4					DT 18
	67	P42/P43/P44		T	5X6					
11-29-10	68	P42/P44, 11' West of T1 P42/P43/P44		BO	2X2					
11-29-10	69	P43/P44/P45		T	2X2	TAN	8			
12-2-10	70	P46/P48, 23' E of AT		DS	4X4	TAN	10			DTM
11-29-10	71	P46/P47/P48		T	2X2	TAN	8			
	72	P47/P48/P49		T	2X2					
	73	P49/P50/P51		T	2X5					
	74	P50/P51/P52		T	2X2					
	75	P52/P54, 10' W of P53/P53/P54		DS	2X4					DT 20
11-29-10	76	P52/P53/P54		T	2X4	TAN	8	12-2-10	NP	
11-26-10	77	P28/P29/P30		T	2X2	MS	5	11-30-10	SP	
11-26-10	78	P29/P30, 12' E of P28/P29/P30		DS	2X4					DT 15
11-26-10	79	P29/P30/P32		T	2X2					
11-27-10	80	P26/P27/P28		T	2X2	MS	5	11-30-10	SP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME:

Dennis G. DuPont

SIGNATURE:

Dennis G. DuPont

Revised December 5, 2011

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Hardee County Landfill - Phase I Closure
09199033.21

11-26-10 11-24-10 To 12-8-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-27-10	R 81	P25/P26/P27		T	2X2	MS	5	11-30-10	SP	
11-27-10	82	P23/P24/P25		T	2X2					
11-27-10	83	P22/P23/P24		T	2X2					
11-30-10	84	P22/P24/P23, 67' N of P22/P23/P24 BO/PTC			2X2					
11-30-10	85	P22/P24/P23, 61' N of P22/P23/P24 BS			5XB					
11-24-10	86	P32/L1/L2		T	2X2					
	87	P32/L1/L2		extension	172'			11-30-10	SP	
	88	L2/L3, 32' N of AT		PTC/BO	2X2			12-8-10	JW	
	89	L3/L4, 30' N of AT		PTC	2X2					
11-24-10	90	L5/L6, AT to 16' N		PTC/BO	2X16					
11-30-10	91	L5/L6, 31' to 41' N of AT		PTC/BO	2X10					
11-24-10	92	L5/L6, 51' to 61' N of AT		PTC/BO	2X10					
11-30-10	93	L6/L7, 20' North of TI		D324	2X4	MS	5T			DT 24
12-2-10	94	L6/L7/L8, 10' N of TI		PTC/BO	2X2	PKAS	58	12-8-10	JW	
11-30-10	95	P32/L1, 90' N of TI/AT		DS	2X4	MS	5	11-30-10	SP	DT 21
11-30-10	96	L10/L12, 103' North of L4		PTC/BO	2X2	PK	5	12-8-10	JW	

DEFECT CODES:

AD -ANIMAL RELATED DAMAGE	DS -DESTRUCTIVE SAMPLE	IO -INSUFFICIENT OVERLAP	SS -START/STOP
B -UNDISPERSED RESIN BEAD	EE -EARTHWORK EQUIP DAMAGE	LB -LEISTER BURN	SSI -SOIL SURFACE IRREGULARITY
BO -BURN OUT	EXT -EXTENSION	MOT -MACHINE OFF TRACK	T -MULTIPLE PANEL INTERSECTION
BS -BOOT SKIRT	FB -FUSION WELDER BURN	N -NODULE	VL -VACUUM TEST LEAK
C -COUPON	FD -FACTORY DAMAGE	PTC -PRESSURE TEST CUT	WC -WRINKLE CUT
CO -CHANGE OF OVERLAP	FM -FISH MOUTH	SI -SUBGRADE IRREGULARITY	WR -WRINKLE
CR -CREASE	FS -FAILED SEAM	SL -SLAG ON TEXTURED SHEET	WS -WELDER RESTART
D -INSTALLATION DAMAGE	HT -HEAT TACK BURN	SO -SHARP OBJECT	

PRINT NAME:

Dennis G. DuPont

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Dennis G. DuPont

Revised December 5, 2011

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET

PROJECT TITLE

PROJECT NO.

DATE

Hardee County Landfill - Phase I Closure

09199033.21

11-30-10 To 12-8-10

DATE REPAIRED	REPAIR NO.	SEAM /PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-30-10	R 97	L10/L12	88' to 93' N of LA	BO/PTC	2X5	PK	8	12-8-10	JW	
11-30-10	98	24/L10/L12		T	2X2	PK	8			
	99	L13/L14/L19		T	2X2	PK	8			
	100	L14/L19	117' W of AT	BO	2X2	PK	8			
	101	L13/L19/L20		T	2X3	PK	8			
	102	P25/L25, 15' N, 912' E of P23/P25		DS	5X12	MS	5			
	103	P25/P26/L23/L25		T	3X4	MS	5			
	104	L10/L23/L12/TI/GFFR		T	1X2	MS	8			
	105	L13/L14/TI-GFFR		T	2X2	PK	8	12-8-10	JW	
	106	P32/L10/L11		T	2X2	MS	5	11-30-10	SP	
	107	P32/L11, 6' S of L11, 27' SW P32/P10		BS	6X8	MS	5	11-30-10	SP	
	108	L14/L15/TI chute		T	2X4	PK	8	12-8-10	JW	
	109	L14/L15	90' W of AT	BO/PTC	2X2	PK	8			
	110	L16/TI chute, 16' S E of L15/L16		DS	2X4	PK	8	12-8-10	JW	DT 23
	111	P29/P32, 53' N of AT		DS	2X4	MS	5	11-30-10	SP	DT 14B
11-30-10	112	P29/P32, AT to 53' North		FS	2X53	MS	5	11-30-10	SP	Cap

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET

PROJECT TITLE

PROJECT NO.

DATE

8 of
Hardee County Landfill - Phase I Closure

09199033.21

11-23-10 TO 12-8-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-30-10	R 113	P30/P32, 24' N of P29/P30		DS	2X4	MS	5	11-30-10	SP	DT 14A
11-30-10	114	P30/P32, 9' W and 9' N of P29/P30		BS	5X9	MS	5	11-30-10	SP	
11-30-10	115	L2/L3/L11		T	8X2	MS	5	12-8-10	JW	
11-30-10	116	L3/L10/L11		T	2X2	MS	5		I	
11-30-10	117	L3/L4/L10/L11		T	2X2	MS	5	11-8-10	JW	
11-24-10	118	L1/L2, 16' to 32' N of AT		PTC/cap	2X16	MS	5	11-30-10	SP	cap
11-30-10	119	L15/L16, 15' N + 26-36' W of AT		BS	10X15	PK	8	12-8-10	JW	man hole T
11-23-10	120	P10/P11/TI		T	3X4	MS	5	11-30-10	SP	
12-2-10	121	L5/L6/TI		T	2X3	PK	8	12-8-10	JW	
12-2-10	122	L6/TI chate, 10' SE P51/P6/TI		DS	2X4	PK	8			DT22
12-2-10	123	L6/L7/TI chate		T	2X3	PK	8			
12-2-10	124	L7/L8/TI chate		T	2X2	PK	8	12-8-10	JW	
12-2-10	125	P36/P52/P53		T	2X6	MS	5	12-2-10	NP	
	126	P36/P53, 10' N P36/P52/P53		PTC	2X2					
	127	P36/P53/P55		T	2X3					
12-2-10	128	P36/P55/P56		T	2X5	MS	5	12-2-10	NP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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9 of
Hardee County Landfill - Phase I Closure

09199033.21

11-24-10 To 12-2-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
11-29-10	R 129	P53/P55, 81'E of P53/P54		BO	2X6	MS	5	12-2-10	NP	
11-29-10	130	P53/P55, 49'E of P53/P54		PTC	2X2	MS	5			
12-2-10	131	P53/P54/P55		T	2X3	TAN	10			
	132	P54/P55, 82'E of AT		PTC	2X2					
	133	P52/P54, 39'E of AT		PTC	2X2					
	134	P54/P55, 20'E of AT		DS	2X4					DT 26
	135	P53/P56, 20'E of AT		DS	2X4					DT 27
	136	P56/P58, 20'E of AT		DS	2X4					DT 28
	137	P56/P57/P58		T	2X2					
	138	P57/P58/P59		T	2X2					
	139	P59/P60/P61		T	2X2					
	140	P60/P61/P62		T	2X2					
	141	P61/P62/P63		T	2X2					
	142	P62/P63/P64		T	2X2					
	143	P64/P65/P66		T	2X2					
12-2-10	144	P65/P66/P67		T	2X2	TAN	10	12-2-10	NP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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GEOMEMBRANE REPAIR LOG

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PROJECT TITLE

PROJECT NO.

DATE

10 of
Hardee County Landfill - Phase I Closure

09199033.21

12-2-10 To 12-4-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-2-10	R145	P66/P67, 57' W of P65/P66		SS	2X2	TAN	10	12-2-10	NP	
	146	P66/P67/P68		T	2X2					
	147	P67/P68/P69		T	2X2					
	148	P67/P69, 164' E of P67/P68		PTC	2X2					
	149	P69/P70, 162' E of P69/P71		PTC	2X2					
	150	P69/P70/P71		T	2X2					
	151	P69/P71, 26' E of AT		PTC	2X2					
	152	P62/P63, 5' N of P61		DS	2X4			12-2-10		DT 29
	153	P70/P71/P72		T	2X2			12-4-10		
	154	P72/P73/P74		T	2X2					
	155	P73/P75, 50' E of P73/P74		PTC	2X2					
12-2-10	156	P73/P75, 20' E of P73/P74		PTC	2X2	TAN	10			
12-3-10	157	P77/P78, 73' E of AT		PTC	2X2	MS	5	12-4-10	NP	
12-4-10	158	P86/P87, 151' E of AT		PTC	2X2	TAN	10	12-4-10	NP	
12-4-10	159	P86/P87, 61' E of AT		PTC	2X2	PK	5	12-4-10	NP	
12-4-10	160	P87/P88, 153' E of AT		PTC	10X2					

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	BE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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GEOMEMBRANE REPAIR LOG

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of

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Hardee County Landfill - Phase I Closure

PROJECT NO.

09199033.21

DATE

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-4-10	R161	P88/P89, 175' E of AT		CR	12' x 5'	TAN	10	12-4-10	NP	
12-4-10	162	P88/P89, 92' to 102' E of P89/P90		PTC/BO	2' x 20'	TAN	10	12-4-10	NP	
12-4-10	163	P88/P89/P90		T	2' x 2'	PK	8	12-4-10	NP	
	164	P89/P91/P92		T	2' x 2'					
	165	P89/P90/P91		T	2' x 2'					
	166	P91/P92/P93		T	2' x 2'					
	167	P91/P93, 20' E of AT		BS	10' x 10'					
	168	P91/P93, 10' E of AT		SI	12' x 10'	PK	8			
	169	P83/P84, @ TI to 40 mil		SI	8' x 10'	MS	5			
	170	P86/P87, 136' E of AT		DS	2' x 4'					DT 38
	171	P88/P90, 38' E of AT		DS	2' x 4'					DT 39
12-4-10	172	P89/P92, 10' E of P91/P92		DS	2' x 4'	MS	5	12-4-10	NP	DT 40
12-7-10	173	P58/P59, 20' N of AT		DS	2' x 4'	BV	8	12-7-10	NP	DT 29C
12-3-10	174	P62/P63, 20' N of P61		DS	2' x 4'	MS	5	12-4-10	NP	DT 29A } under Cap
12-3-10	175	P58/P59, 10' E of AT		DS	2' x 4'	MS	5	12-4-10	NP	DT 29B }
12-7-10	176	P58/P59, AT to 20' N of AT		Cap	2' x 10'	BV	8	12-7-10	NP	

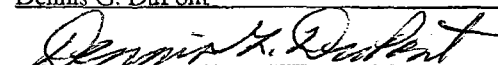
DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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DATE

12 of
Hardee County Landfill - Phase I Closure

09199033.21

11-23-10 to 12-4-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-2-10	R 177	P73/P74/P75		T	2X2	TAN	10	12-4-10	NP	
12-3-10	178	P75/P76/P77		T	2X2	MS	5			
	179	P76/P77/P78		T	2X2					
	180	P78/P79/P80		T	2X2					
	181	P79/P80/P81		T	2X2					
	182	P84/P85, 210' E of AT		PTC	2X2					
	183	P84/P85, 120' E of AT		PTC	2X2					
	184	P84/P85, 25' E of AT		PTC	2X2					
	185	P85/P86, 185' E of AT		PTC	2X2					
	186	P65/P66, from P64 to P67		FS	2X23					cap
	187	P66/P67, from 17' E of AT to P65/P66		FS	2X57					cap DT46
12-3-10	188	P65/P67, from P65/P67 to 210' E of P65/P67		FS	2X68	MS	5	12-4-10	NP	cap DT47
12-2-10	189	P1/P2, 116 to 134' N of P2/P3		FS	3X18	MS	5	12-2-10	SP	
11-29-10	190	P1/P2, 44' N of P2/P3		PTC	3X4	MS	5	11-30-10	SP	
11-23-10	191	P14/P33, 17' N of AT		PTC	2X2	MS	5	11-30-10	SP	
11-29-10	192	P4/P5, 117' N of AT		PTC	2X2	MS	5	11-30-10	SP	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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13 of
Hardee County Landfill - Phase I Closure

09199033.21

12-2-10 to 12-4-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-2-10	R 193	P2/P35, 24' to 30' NE of P1/P41	PTC	2X6	MS	5	12-2-10	SP		
12-2-10	194	P1/P2 @ gas vent	BS	3X5	MS	5	12-2-10	SP		
12-2-10	195	P14/P66, 98' E of AT	DS	2X4	TAN	10	12-2-10	SP	DT 30	
12-2-10	196	P69/P70, 37' E of P70/P71	DS	2X4	TAN	10	12-2-10	NP	DT 33	
12-2-10	197	P72/P74, 72' W of P73/P74	DS	2X4	TAN	10	12-4-10	NP	DT 34	
12-3-10	198	P78/P79, 61' E of P77/P80	DS	2X4	MS	5	12-4-10	NP	DT 35	
12-3-10	199	P79/P81, 36' E of P77/P80	DS	2X4	MS	5	12-4-10	NP	DT 36	
12-3-10	200	P83/P84, 103' E of AT	DS	2X4	MS	5	12-4-10	NP	DT 37	
12-2-10	201	P56/P57, 106' E of P57/P58	PTC	2X6	MS	5	12-2-10	NP		
12-2-10	202	P57/P59, 134' E of P57/P58	PTC	2X3	MS	5	12-2-10	NP		
12-2-10	203	P67/P69, 160' East of P67/P68/P69	DS	2X4	MS	5	12-4-10	NP	DT 32	
12-3-10	204	P66/P67, 78' E of P67/P68	DS	2X4	MS	5	12-4-10	NP	DT 31	
12-3-10	205	P62/P63, between P61 + P64	Cap/FS	2X23	MS	5	12-4-10	NP		
12-3-10	206	P61/P63, 10' W of DT 29	Cap/FS	2X10	MS	5	12-4-10	NP	cap for DT 29 to DT 29A	
12-3-10	207	P58/P59, AT to 10' E	Cap/FS	2X10	MS	5	12-4-10	NP	cap for DT 29B	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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14 of
Hardee County Landfill - Phase I Closure

09199033.21

12-4-10 to 12-10-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-4-10	R 208	L32/L33/L34		T	2X2	MS	5	12-4-10	NP	
	209	L32/L34, 31'S of AT		PTC	2X2	TAN	10	12-10-10	NP	
	210	L36/L37/L38		T	2X2	TAN	10			
	211	L37/L39, 64'S of L37/L38		PTC	2X2	TAN	10			
	212	L37/L38/L39		T	2X2	TAN	10			
	213	L37/L39, 165'S of L37/L38		BS	6X8	PK	8			
	214	L39/L46, 22'SW from L39/L40/L46		BS	8X13	PK	8			
	215	L39/L40/L46		T	2X2	PK	8			
	216	L40/L41/L46		T	2X2	PK	8			
	217	L40/L41/L42		T	2X2	TAN	10			
	218	L41/L42/L46		T	2X2	TAN	10			
	219	L42/L43/L46		T	2X2	TAN	10			
	220	L43/L44/L46		T	2X2	TAN	10			
	221	L44/L45/L46		T	2X2	TAN	10			
	222	L3/L32, 120'S of AT		DS	2X4	TAN	10			DT 41
12-4-10	223	L35/L36, 148'S of AT		DS	2X4	MS	5	12-10-10	NP	DT 42

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	BE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME:

Dennis G. DuPont

SIGNATURE:

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SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET

PROJECT TITLE

PROJECT NO.

DATE

15 of
Hardee County Landfill - Phase I Closure

09199033.21

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-4-10	R224	L37/L39		DS	2X4	PK	8	12-10-10	NP	DT43
	225	L42/L43		DS	2X4	PK	8	12-10-10	NP	DT44
	226	P87/L30, 10' W of L31		DS	2X4	MS	5	12-4-10	NP	DT45
	227	P92/L28/L29		T	2X2	PK	8	12-4-10	NP	
	228	P92/L27/L28		T	2X2	PK	8			
	229	P89/L26/L27		T	2X2	TAN	10			
	230	P87/L30/L31		T	2X2	TAN	10			
	231	P86/L31/L32		T	2X2	MS	5			
12-4-10	232	L33/L34/L35		T	2X2	MS	5	12-4-10	NP	
12-10-10	233	L45/L46, 13' SW AT and 10' E of L45		DS	10X15	PK	8	12-10-10	NP	man hole
	234	P23/L25/L47, "		DS	5X6	MS	5	12-11-10	JW	gas pipe
	235	L47, 6' E of P23/L25/L47, 5' N of L25		DS	6X8	MS	5	12-11-10	JW	
	236	L47/L48, 88' E of P22/L47/L48		PTC	5	MS	5	12-11-10	JW	
12-10-10	237	L48/L49/L50		T	2X2	MS	5	12-11-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET

PROJECT TITLE

PROJECT NO.

DATE

16 of
Hardee County Landfill - Phase I Closure

09199033.21

12-9-10 To 12-16-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-8-10	R 238	L10/L22/L23		T	2X3	PK	8	12-8-10	JW	
	239	L10/L12/L22		T	2X3					
	240	L12/L21/L22		T	2X2					
	241	L23/L24/L25		T	2X2					
	242	L22/L23/L24		T	2X2					
	243	L21/L22, 80' E of L12/L21/L22		DS	2X4					DT 25
	244	L12/L13/L20/L21 to 12' E		T	2X12					
	245	L20/L21, 50' E of L12/L13/L20/L21		PTC	2X2					
	246	L20/L21, 75' E of L12/L13/L20/L21		PTC	2X2					
12-8-10	247	L19/L20, 44' E of L13/L19/L20		PTC	2X2	PK	8	12-8-10	JW	
12-10-10	248	L49/L50/L51		T	2X2	MS	5	12-11-10		
12-10-10	249	P19/L49/L51		T	2X2	MS	5	12-11-10	JW	
12-8-10	250	L20/L21, 90' E of L12/L13/L20/L21		PTC	2X2	PK	8	12-8-10	JW	
12-14-10	251	P18/P16/L50		EXT	12X4	PV	5	12-16-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-MODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

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17

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PROJECT TITLE

Hardee County Landfill - Phase I Closure

PROJECT NO.

09199033.21

DATE

12-14-10 To 12-16-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-14-10	R 252	L57/L59, 65'E of P35/L57/L59		PTC	2X2	PV	5	12-16-10	JW	
12-16-10	253	L57/L59, 105'E of P35/L57/L59		PTC	2X2	PV	5	12-17-10		
12-16-10	254	L57/L59, 119'E of P35/L57/L59		PTC	2X2	PV	5	12-17-10		
12-14-10	255	L56/L57, 50'E of P35/L56/L57		PTC	2X2	PV	5	12-16-10		
	256	L56/L57, 85'E to 95'E of P35/L56/L57		PTC	2X10	PV	5			
	257	L59/L60/L61		T	2X2	PV	5			
	258	L60/L62, 70'E of P56/L60/L62		PTC	2X2					
	259	L60/L61/L62		T	2X2					
	260	L64/L65, 6'E + 7 1/2' of P59/L64/L65		BS	6X8					gas well vent
	261	L64/L65, 8'E of P59/L64/L65		BS	5X8					gas well vent
	262	L65/L67, 30'E of P60/L65/L67		PTC	2X2					
	263	L65/L67, 65'E of P60/L65/L67		PTC	2X2					
	264	L67/L68, 40'E of P62/L67/L68		PTC	2X2					
12-14-10	265	L61/L62, 88 to 96'E of L60/L61/L62		PTC	6X8	PV	5			
12-15-10	266	L79/L80, 5'E, 5'S of P73/P75/L79/L80		BS	5X5	TAN	10			gas well vent
12-15-10	267	L79/L80, 5'E, 13'S of P73/P75/L79/L80		BS	6X7	TAN	10	12-16-10	JW	gas vent

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET

PROJECT TITLE

PROJECT NO.

DATE

13

of

Hardee County Landfill - Phase I Closure

09199033.21

12-15-10 To 12-16-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-15-10	R 268	L85/L86, 7'E, 3'W of L81/L85/L86		BS	5X6	TAN	10	12-16-10	JW	gas vent
12-16-10	269	L60/L51, 14'W of L50/L51/L54/L55		DS	2X4	UV	5			DT48
	270	L75/L47/L52		T	2X2					
	271	L25/L52, 25'W of AT		PTC	2X2					
	272	L52/L53, 70'W of AT		PTC	2X2					
	273	L47/L52/L53		T	2X2					
	274	L47/L48/L53		T	2X2					
	275	L48/L50/L54		T	2X2					
	276	L48/L53/L54		T	2X2					
	277	L50/L51/L54/L55		T	2X3					
	278	L51/L55/L56		T	2X2					
	279	L55/L56, 4'E of L51/L55/L56		DS	2X4					DT49
	280	L56/L58, 28'W of AT		PTC	2X2					
	281	L58/L59, 124'W of AT		PTC	2X2					
	282	L58/L59, 39'W of AT		PTC	2X2					
12-16-10	283	L59/L61, 56'W of AT		PTC	2X2	UV	5	12-16-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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Revised December 5, 2011

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET

19

of

PROJECT TITLE

Hardee County Landfill - Phase I Closure

PROJECT NO.

09199033.21

DATE

12-14-10 To 12-17-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R284	L57/L59, 13'W of L57/L58/L59		DS	2X4	VV	5	12-17-10	JW	DT 50
	285	L57/L58/L59		T	2X2			12-17-10		
	286	L54/L57, 50'W of L54/L57/L58		PTC	2X2					
	287	L56/L57, 20'W of L56/L57/L58		PTC	2X2					
	288	L56/L57, 110'W of L56/L57/L58		PTC	2X2			12-17-10		
	289	L61/L62/L63		T	2X2			12-16-10		
	290	L56/L57/L58		T	2X2			12-17-10		
12-16-10	291	L62/L63, 12'N of L61/L62/L63		DS	2X4	VV	5	12-16-10		DT 52
12-14-10	292	L51/L56/EXT.		T	2X2	PV	5	12-16-10		
12-16-10	293	L51/L56, 190'W of L51/L55/L56		PTC	2X2	VV	5	12-17-10		
	294	L59, 52'E of L57/L58/L59, 7'N of BS		BS	5X8	VV	5	12-17-10		
	295	L61, 152'E of L60/L61, 6'N of L59		BS	6X7			12-17-10		
	296	L70, 37'W of L68/L69/L70, 7'N of L68		BS	7X8			12-17-10		
	297	L62/L63/L64		T	2X6			12-16-10		
	298	L64/L65/L66		T	2X2			12-16-10		
12-16-10	299	L65/L66/L67, 4'10'W		T	2X10	VV	5	12-16-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME:

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SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET

PROJECT TITLE

PROJECT NO.

DATE

20 of
Hardee County Landfill - Phase I Closure
09199033.21

12-16-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R300	L66/L67, 24' E of L65/L66/L67		DS	2X4	VW	5	12-16-10	JW	DT 55
	301	L67/L69, 16' E of L67/L68/L69		PTC	2X2					
	302	L67/L68/L69		T	2X2					
	303	L68/L69, 10' N of L67/L68/L69		DS	2X4					DT 56
	304	L69/L69/L70		T	2X2					
	305	L69/L70, 32' E of L68/L69/L70		PTC	2X2					
	306	L70/L72, 19' W of AT		PTC	2X2					
	307	L70/L72, 54' 10" W of AT		PTC	2X2					
	308	L72/L73, 47' W of AT		PTC	2X2					
	309	L73/L74/L75		T	2X2					
	310	L74/L75, 12' N of L73/L74/L75		DS	2X4					DT 60
	311	L74/L76, AT to 12' W		PTC	2X12					
	312	L74/L75/L76		T	2X2					
	313	L80/L81/L83		T	2X2					
	314	L81/L82/L83		T	2X2					
12-16-10	315	L82/L84/L90		T	2X2	VV	5	12-16-10	JW	

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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GEOMEMBRANE REPAIR LOG

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PROJECT TITLE

PROJECT NO.

DATE

21

of

Hardee County Landfill - Phase I Closure

09199033.21

12-16-10 To 12-17-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R316	L89/L89/L90		T	2X3	VH	5	12-16-10	JW	
	317	L89/L92, 20' E of L86/L89/L92		PTC	2X2					
	318	L89/L91/L92		T	2X2					
	319	L89/L91, 3' E of L89/L91/L92		DS	2X4					DT67
	320	L92/L93, 5' W of L91/L92/L93		DS	2X4					DT68
	321	L91/L92/L93		T	2X2					
	322	L46/L84/L85/L89		T	4X6					
	323	L46/L89/L92		T	2X2					
	324	L46/L92/L93		T	2X2					
	325	L46/L93/L94		T	2X2					
	326	L46/L94, 10' NE of L46/L93/L94		DS	2X4					DT69
	327	L46/L94/L95		T	2X2					
	328	L46/L95/L96		T	2X2					
	329	L46/L96/L97		T	2X2			12-16-10		
	330	L81/L82, 14' E of P76		PTC	2X2			12-17-10		
12-16-10	331	L80/L81, 75' E of P75		DS	2X4	VV	5	12-17-10	JW	DT63

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	PB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

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GEOMEMBRANE REPAIR LOG

SHEET

22

of

PROJECT TITLE

Hardee County Landfill - Phase I Closure

PROJECT NO.

09199033.21

DATE

12-16-10 To 12-17-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R 332	L79/L80, 20' E of P75/P75/L79/L80		DS	2X4	VV	5	12-17-10	JW	DT62
	333	L82/L84, 10' East of P79		DS	2X4					DT65
	334	P76/L81, 5' S of P76/L81/L82		DS	2X4					DT64
	335	L84/L85, 25' E of P79		DS	2X4					DT66
	336	L77/L78, 12' N of L76/L77/L78		DS	2X4					DT61
	337	L76/L78, 142' W of AT		PTC	2X2					
	338	L76/L78, 180' W of AT		PTC	2X2					
	339	L77/L78/L79		T	2X2					
	340	L76/L77/L78		T	2X2					
	341	L75/L76, 124' N of L44/L75/L76		PTC	2X2					
	342	L71/L73, 31' N of L71/L72/L73		PTC	2X2					
	343	L71/L73, 6' N of L71/L72/L73		DS	2X4					DT59
	344	L71/L72/L73		T	2X2					
	345	L70/L71, 8' W of L70/L71/L72		DS	2X4					DT58
	346	L70/L71/L72, 4 1/2' E		T	2X12					
12-16-10	347	L70/L72, 20' E of L70/L71/L72		PTC	2X2	VV	5	12-17-10	JW	

DEFECT CODES:

AD -ANIMAL RELATED DAMAGE	DS -DESTRUCTIVE SAMPLE	IO -INSUFFICIENT OVERLAP	SS -START/STOP
B -UNDISPERSED RESIN BEAD	EE -EARTHWORK EQUIP DAMAGE	LB -LEISTER BURN	SSI -SOIL SURFACE IRREGULARITY
BO -BURN OUT	EXT -EXTENSION	MOT -MACHINE OFF TRACK	T -MULTIPLE PANEL INTERSECTION
BS -BOOT SKIRT	FB -FUSION WELDER BURN	N -NODULE	VL -VACUUM TEST LEAK
C -COUPON	FD -FACTORY DAMAGE	PTC -PRESSURE TEST CUT	WC -WRINKLE CUT
CO -CHANGE OF OVERLAP	FM -FISH MOUTH	SI -SUBGRADE IRREGULARITY	WR -WRINKLE
CR -CREASE	FS -FAILED SEAM	SL -SLAG ON TEXTURED SHEET	WS -WELDER RESTART
D -INSTALLATION DAMAGE	HT -HEAT TACK BURN	SO -SHARP OBJECT	

PRINT NAME:

Dennis G. DuPont

SIGNATURE:

Dennis G. DuPont

Revised December 5, 2011

SCS ENGINEERS

GEOMEMBRANE REPAIR LOG

SHEET

23

of

PROJECT TITLE

Hardee County Landfill - Phase I Closure

PROJECT NO.

09199033.21

DATE

12-16-10

DATE REPAIRED	REPAIR NO.	SEAM / PANEL ID	LOCATION	DEFECT CODE	SIZE OF REPAIR	TECH ID	MACHINE NO.	DATE TESTED	TESTED BY	COMMENTS
12-16-10	R348	L66/L70, 86'E of P64		PTC	2X2	VV	5	12-17-10	JW	
	349	L64/L65, 25'E of P59		DS	2X4					DT54
	350	L64/L65, 140'E of P59		PTC	2X2					
	351	L62/L64, 125'E of P57		PTC	2X2					
	352	L59/L61, 45' to 55'E of L59/L60/L61		PTC	2X10					
	353	L59/L61, 75'E of L59/L60/L61		PTC	2X2					
	354	L59/L61, 95'E of L59/L60/L61		PTC	2X2					
	355	L59/L61, 120'E of L59/L60/L61		PTC	2X2					
	356	L61/L62, 10'E of L61/L62/L63		DS	2X4					PT53
	357	P36/L60, 5' N of P36/L59/L60		DS	2X4			12-17-10		DT57
	358	L59/L60, 10' W of L60/L61		DS	2X4	VV	5	12-17-10		DT57
	359	P83/P84/L88 at seam 45's		BS	5X6	TAN	10	12-16-10	JW	
	360	L86/L87/L88		T	2X2	TAN	10	12-17-10	JW	
	361	L79, 3' N, 100'E of L77/L78/L79		BS	6X8	TAN	10			gas vent
	362	L80, 10' N, 144' W of AT		BS	5X6	TAN	10			gas vent
12-16-10	363	L69, 13'S of L69/L70, 19' to 29' W of AT		BS	8X10	TAN	10	12-17-10	JW	manhole

DEFECT CODES:

AD	-ANIMAL RELATED DAMAGE	DS	-DESTRUCTIVE SAMPLE	IO	-INSUFFICIENT OVERLAP	SS	-START/STOP
B	-UNDISPERSED RESIN BEAD	EE	-EARTHWORK EQUIP DAMAGE	LB	-LEISTER BURN	SSI	-SOIL SURFACE IRREGULARITY
BO	-BURN OUT	EXT	-EXTENSION	MOT	-MACHINE OFF TRACK	T	-MULTIPLE PANEL INTERSECTION
BS	-BOOT SKIRT	FB	-FUSION WELDER BURN	N	-NODULE	VL	-VACUUM TEST LEAK
C	-COUPON	FD	-FACTORY DAMAGE	PTC	-PRESSURE TEST CUT	WC	-WRINKLE CUT
CO	-CHANGE OF OVERLAP	FM	-FISH MOUTH	SI	-SUBGRADE IRREGULARITY	WR	-WRINKLE
CR	-CREASE	FS	-FAILED SEAM	SL	-SLAG ON TEXTURED SHEET	WS	-WELDER RESTART
D	-INSTALLATION DAMAGE	HT	-HEAT TACK BURN	SO	-SHARP OBJECT		

PRINT NAME:

Dennis G. DuPont

SIGNATURE:

Dennis G. DuPont

ATTACHMENT E

Revised SCS Destructive Test Logs

SCS ENGINEERS

SHEET:

1

of

4

PROJECT TITLE:

Hardee County Landfill - Phase I Closure

PROJECT NO:

09199033.21

DATE:

11-23-10

DESTRUCTIVE TEST LOG

SAMPLE NO.	SEAM I.D.	MACHINE NO.	WELD TYPE	DATE SEAMED	DATE SAMPLED	TEST STATUS			COMMENTS
						PASS/FAIL			
						INSTALLER	SCS	ARCH	
DT 1	P1/P2 nr. P2/P3	9	F	11-27-10	11-27-10	pass	pass		shipped 1-9 on 11-27-10
DT 2	P3/P4 nr. TI	8							
DT 3	P4/P5 nr. TI	1							
DT 4	P5/P6 nr. TI	1							
DT 5	P6/P 7 nr. TI	102							
DT 6	P7/P8 nr. TI	8							
DT 7	P8/P10	9							
DT 8	P6/P17 nr. P16/P18	1							
DT 9	P21/P22 nr. P20/P21	8	F	11-22-10	11-27-10	Pass			
DT 10	P13/TI nr. P13/PA	5	E	11-27-10	11-27-10	Pass	pass		
DT 11	P3/TI nr. P3/P4	5	E	11-22-10	11-27-10	Pass			
DT 12	P24/TI nr. P24/P25	5	E	11-24-10	1	Pass			
DT 13	P25/P27 nr. TI	1	F	11-23-10		Pass	Pass		
DT 14	P29/P32 nr. TI	3	F	11-23-10		Fail	—		
DT 15	P29/P30 nr. P28/P30	9		11-23-10		Pass	Pass		
DT 16	P35/P13 nr. P13/PA	9		11-23-10		Pass			
DT 17	P36/PA2 nr. P42/P43	1		11-23-10		Pass			
DT 18	P37/PA1 nr. AT	1		11-23-10	11-27-10	Pass			
DT 19	P46/P48 nr. AT	3		11-23-10	11-20-10	Pass			
DT 20	P52/P54 nr. P53/P54	1	F	11-23-10	11-30-10	Pass	Pass		
	P22/TI nr. P22/P24		F						
DT 14 A	P30/P32, 24' N/P23/P30	3	F	11-23-10	11-27-10	Pass	pass		
DT 14 B	P29/P32, 53' N/AT	3	F	11-23-10	11-27-10	Pass	pass		

PRINT NAME: Dennis G. DuPont

SIGNATURE:

Dennis G. DuPont

SCS ENGINEERS

SHEET:

2

of

4

PROJECT TITLE:

Hardee County Landfill - Phase I Closure

PROJECT NO:

09199033.21

DATE:

11-24-10 TO 12-

DESTRUCTIVE TEST LOG

SAMPLE NO.	SEAM I.D.	MACHINE NO.	WELD TYPE	DATE SEAMED	DATE SAMPLED	TEST STATUS			COMMENTS
						PASS/FAIL			
						INSTALLER	SCS	ARCH	
DT 21	P32/L1	83	E	11-24-10	11-30-10	Pass	Pass		
DT 22	L6/TI	8	E	12-2-10	12-3-10	Pass	Pass		
DT 23	L16/TI	8	E	11-30-10	11-30-10	Pass	Pass		
DT 24	L6/L7	1	F	11-24-10					
DT 25	L21/L22	1	F	11-24-10					
DT 26	P54/P55	83	E	11-27-10					
DT 27	P55/P56	9	F	11-27-10					
DT 28	P56/P58	8	F	11-27-10			Pass		
DT 29	P62/P63	9	F	11-27-10	11-30-10	Pass	Fail		
DT 30	P64/P66	3	F	11-29-10	12-3-10	Pass	Pass		
DT 31	P65/P67	2	F	11-29-10	12-3-10	Pass			
DT 32	P67/P69	3	E F	11-29-10					
DT 33	P69/P70	3	F	11-29-10					
DT 34	P72/P73	2							
DT 35	P78/P79	9							
DT 36	P79/P81	3							
DT 37	P83/P84	9	F	11-29-10	12-3-10		Pass		
DT 29A	P61/P63	9	E F	11-27-10	12-3-10		Pass		
DT 29B	P58/P59	9	E F	11-27-10	12-3-10	Pass	Fail		
DT 29C	P58/P59	9	E F	11-27-10	12-7-10	Pass	Pass		

PRINT NAME: Dennis G. DuPont

SIGNATURE:

Dennis G. DuPont

Revised December 5, 2011

SCS ENGINEERS					SHEET: <u>3</u> of <u>4</u>				
DESTRUCTIVE TEST LOG					PROJECT TITLE: <u>Hardee County Landfill - Phase I Closure</u>				
					PROJECT NO: <u>09199033.21</u>				
					DATE: <u>12-3-10</u>				
SAMPLE NO.	SEAM I.D.	MACHINE NO.	WELD TYPE	DATE SEAMED	DATE SAMPLED	TEST STATUS			COMMENTS
						PASS/FAIL			
						INSTALLER	SCS	ARCH	
DT 38	P86/P87	9	F	12-3-10	12-6-10	Pass	Pass		
DT 39	P88/P90	3							
DT 40	P89/P92	8							
DT 41	L31/L32	M02							
DT 42	L35/L36	6							
DT 43	L37/L39	6							
DT 44	L42/L43	M02	F						
DT 45	P87/L30	10	E	12-4-10	12-6-10	Pass	Pass		
DT 46	P65/P67	8	F	12-6-10	12-7-10	Pass	Pass		cap
DT 47	P66/P67	8	F	12-6-10	12-7-10	Pass	Pass		cap
DT 48	L50/L51	106	F	12-10-10	12-16-10	Pass	Pass		
DT 49	L55/L56	108		12-14-10	12-16-10				
DT 50	L57/L59	106							
DT 51	L59/L60	108							
DT 52	L62/L63	106							
DT 53	L61/L62	10							
DT 54	L64/L65	108							
DT 55	L66/L67	106							
DT 56	L68/L69	10	F						
DT 57	L60/P36	G5	E	12-14-10	12-16-10	Pass	Pass		

PRINT NAME: Dennis G. DuPont

SIGNATURE: Dennis G. DuPont

DESTRUCTIVE TEST LOG

DATE:

09199033.21

12-15-10

[illegible]

SIGNATURE:

Dennis G. DuPont

Dennis H. DePort

ATTACHMENT F

Revised TRI 60 mil Destructive Seam Test Results Table

TRI/Environmental, Incorporated
CQA 60 mil HDPE Seam Destructive Test Results
Hardee County Class I Landfill Phase I Closure
12/17/2010

Destruct Test Number	Destruct Test Location	CQA Testing TRI Reference	Weld Type	Pass/Fail	Retest Pass/Fail
DS-1	P1/P2	4922	Fusion	Pass	
DS-2	P3/P4	4922	Fusion	Pass	
DS-3	P4/P5	4922	Fusion	Pass	
DS-4	P5/P6	4922	Fusion	Pass	
DS-5	P6/P7	4922	Fusion	Pass	
DS-6	P7/P8	4922	Fusion	Pass	
DS-7	P6/P9 P8/P10	4922	Fusion	Pass	
DS-8	P16/P17	4922	Fusion	Pass	
DS-9	P21/P22	4922	Fusion	Pass	
DS-10	P13/T1	4922	Extrusion	Pass	
DS-11	P3/T1	4926	Extrusion	Pass	
DS-12	P22/T1	4926	Extrusion	Pass	
DS-13	P25/P27	4926	Fusion	Pass	
DS-14	P29/P32	Not submitted for CQA testing	Fusion	Fail	
DS-14A	P30/P32	4926	Fusion	Pass	
DS-14B	P29/P32	4926	Fusion	Pass	
DS-15	P29/P30	4926	Fusion	Pass	
DS-16	P35/P13	4926	Fusion	Pass	
DS-17	P36/P42	4926	Fusion	Pass	
DS-18	P37/P41	4926	Fusion	Pass	
DS-19	P46/P48	4926	Fusion	Pass	
DS-20	P52/P54	4926	Fusion	Pass	
DS-26	P54/P55	4937	Fusion	Pass	
DS-27	P55/P56	4937	Fusion	Pass	
DS-28	P56/P58	4937	Fusion	Pass	
DS-29	P62/P63	4937	Fusion	Fail	
DS-29A	P61/P63	4949	Fusion		Fail
DS-29B	P58/P59	4949	Fusion		Pass
DS-29C	P58/P59	4975	Fusion	Pass	
DS-30	P64/P66	4949	Fusion	Pass	
DS-31	P66/P67	4949	Fusion	Pass	
DS-32	P67/P69	4949	Fusion	Pass	
DS-33	P69/P70	4949	Fusion	Pass	
DS-34	P72/P74	4949	Fusion	Pass	
DS-35	P78/P79	4949	Fusion	Pass	
DS-36	P79/P81	4949	Fusion	Pass	
DS-37	P83/P84	4949	Fusion	Pass	
DS-38	P86/P87	4975	Fusion	Pass	
DS-39	P88/P90	4975	Fusion	Pass	
DS-40	P89/P92	4975	Fusion	Pass	
DS-46	P65/P67	4981	Fusion	Pass	
DS-47	P66/P67	4981	Fusion	Pass	

PROPERTY	TEST METHOD	VALUE
Peel	ASTM D6392	
Wedge Weld (lb/in width)		98
Extrusion Weld (lb/in width)		78
Shear	ASTM D6392	
Wedge Weld (lb/in width)		120
Extrusion Weld (lb/in width)		120

ATTACHMENT G

Revised AGRU CQA Test Results
60 mil HDPE Hardee County Class I Landfill Phase I Closure Table

AGRU
 CQA Test Results 60 mil HDPE
 Hardee County Class I Landfill Phase I Closure

Number	AGRU Roll Number	QA Tested TRI Reference	Pass/Fail
1	445101	E2348-74-02	Pass
2	445102		
3	445103		
4	445104		
5	445105		
6	445106		
7	445107		
8	445109		
9	445110	E2348-74-01	Pass
10	445111		
11	445112		
12	445113		
13	445114		
14	445115		
15	445216		
16	445217		
17	445218		
18	445219	E2348-74-01	Pass
19	445220		
20	445221		
21	445222		
22	445223		
23	445224		
24	445225		
25	445226		
26	445227	E2348-75-06	Pass
27	445228		
28	445229		
29	445230		
30	445231		
31	445332		

 Revised December 5, 2011.

ATTACHMENT H

Revised Quality Drilling Service Drilling and Completion Logs
And
Revised Quality Drilling Service Job Summary Table

QUALITY DRILLING SERVICE

JOB SUMMARY

JOB NAME Hardee County LF JOB NUMBER _____

DATE	WELL ID	DEPTH	Design Depth
10/6/2010	HC-1B.1	12'	10
" "	HC-1A.2	13'	10
" "	HC-1B.1	11'	10
" "	HC-8.1	13'	10
" "	V-1	45'	50
" "	HC-8.1	48'	45
" "	HC-2.1	48'	45
" "	V-8	35'	35
10/7/2010	V-7	40'	40
" "	V-4	35'	40
" "	V-3	49'	52
10/8/2010	V-2	65'	65
" "	V-5	35'	35
" "	V-6	35'	35
" "	HC-6.1	10'	10
" "	HC-5.1	10'	10
" "	HC-4.1	10'	10
" "	HC-3.1	10'	10
" "	HC-2.2	10'	10

COMMENTS:

Total Footage: 534 feet

Vadim L. Kellard

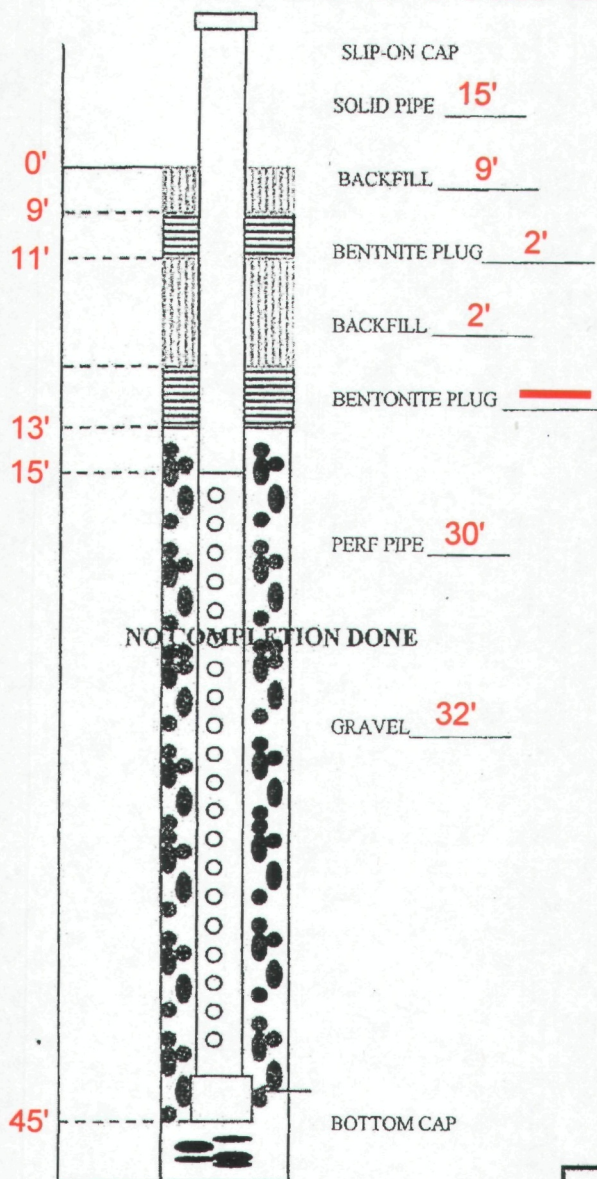
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF.

Well Number: V-1

Date: 10/6/2010



DRILL	45'	WEATHER	Hot
COMP.		START	10:20am
ABAN.		STOP	11:20am
SOLID	15'	PIPE DIA.	
PERF.	30'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Dry
2-20	HHT	Moderate	Damp
21-30			
31-40		Mostly	
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 45'

COMMENTS

Set up on Well # V-1 & drilled 45' & set pipe.

Moved to Well # HC-A-1.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

QUALITY DRILLING SERVICE

DATE

NAME & TITLE

Revised December 5, 2011

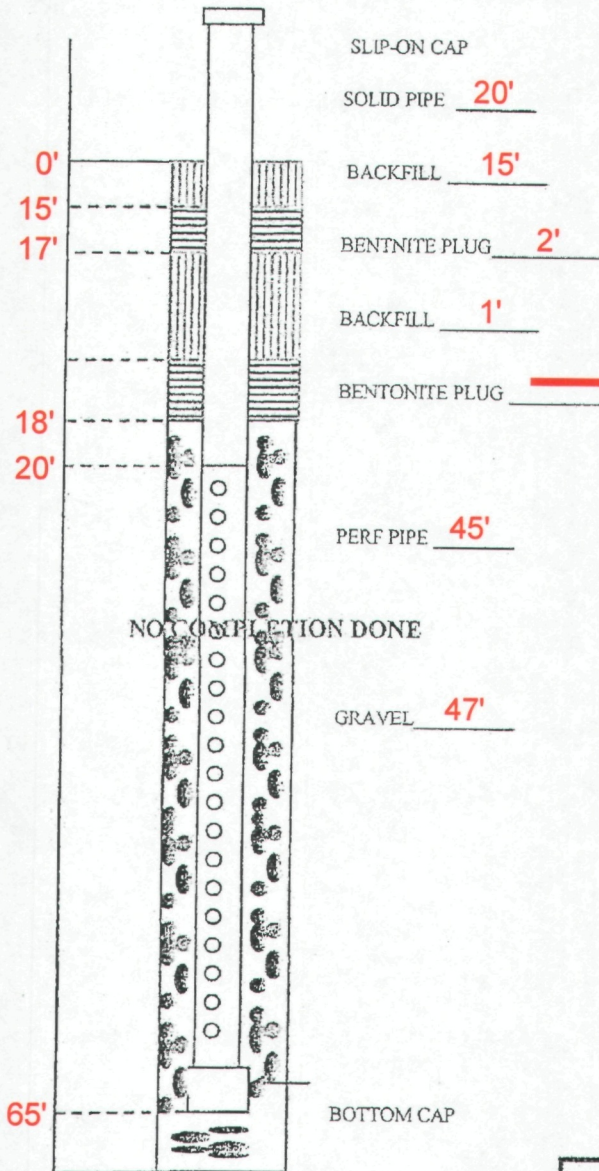
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF

Well Number: V-2

Date: 10/8/2010



DRILL	65'	WEATHER	Hot
COMP.		START	7:45-9:30am
ABAR.		STOP	
SOLID	20'	PIPE DIA.	
PERF.	45'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	HHT	Mostly	Damp
2-20			
21-30			
31-40			
41-50	C+D		
51-60	HHT		
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 65'

COMMENTS

Set up on Well # V-2 + drilled 0-65' + set pipe.

Moved to Well # V-5.

CLIENT REPRESENTATIVE
NAME & TITLE

DATE

QUALITY DRILLING SERVICE

DATE

Revised December 5, 2011

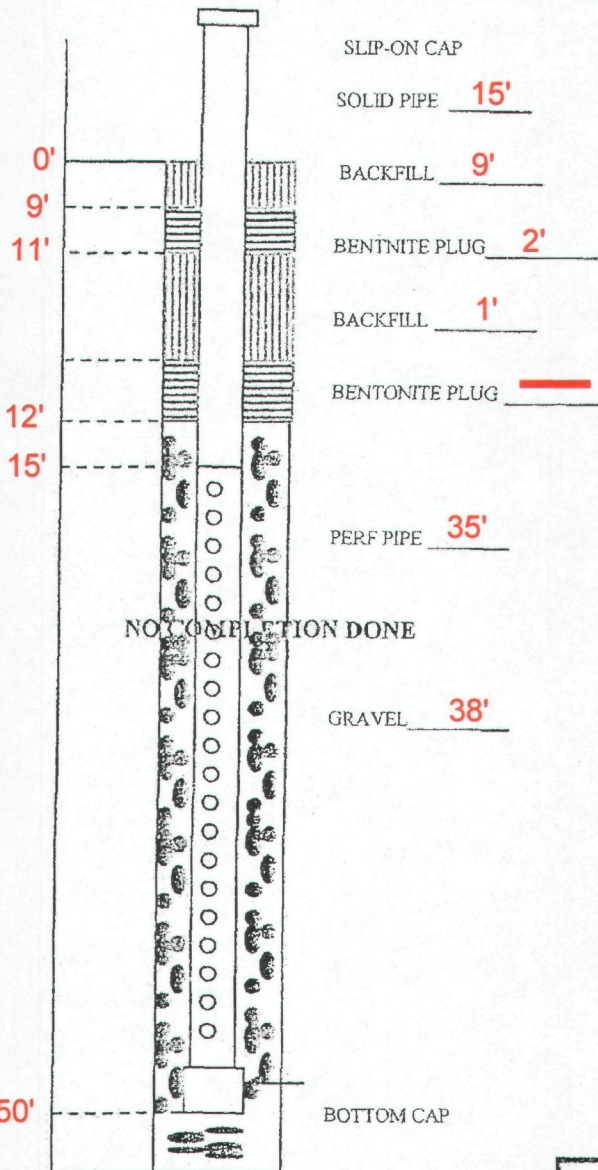
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF

Well Number: V-3

Date: 10/7/2010



DRILL	49' 50'	WEATHER	Hot
COMP.		START	5:15 pm
ABAN.		STOP	7:10 pm
SOLID	15'	PIPE DIA.	
PERF.	35'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Dry
2-20	HHT	Some	Damp
21-30		Moderate	
31-40		Mostly	
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

~~TD 49'~~ TD 50'

COMMENTS

Set up on Well # V-3 + drilled 0 - ~~49'~~ 50' + set pipe.

End of Day.

Total Footage : 124 feet.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

QUALITY DRILLING SERVICE

DATE

DATE HANDLED: 10/7/2010

Revised December 5, 2011

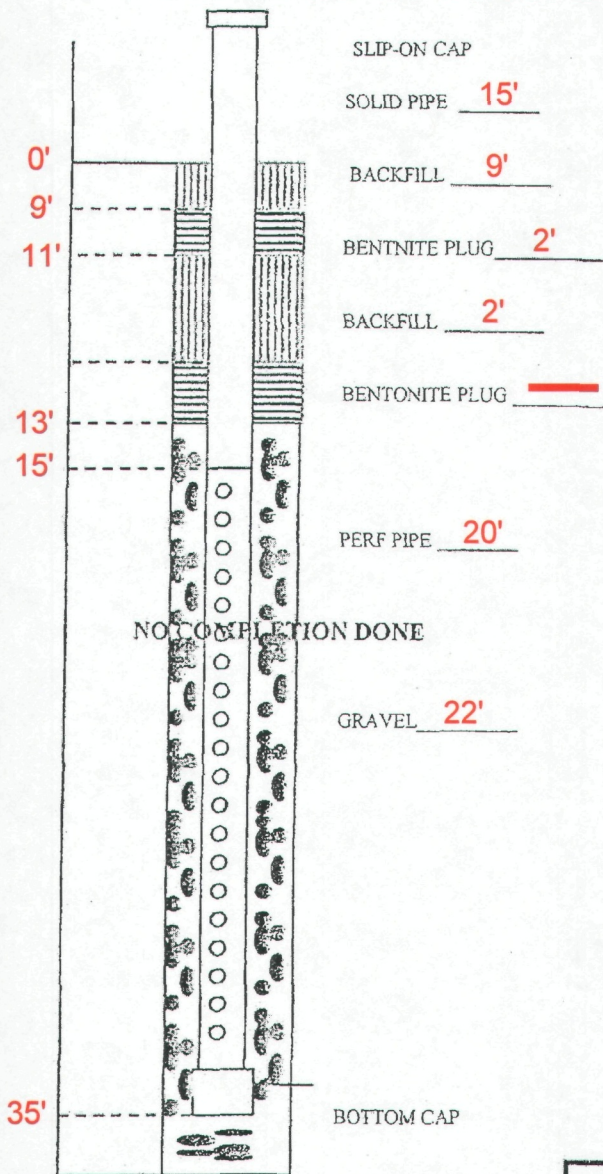
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF

Well Number: V-4

Date: 10/7/2010



DRILL	35'	WEATHER	Hot
COMP.		START	3:40 pm
ABAN.		STOP	5:00 pm
SOLID	15'	PIPE DIA.	
PERF.	20'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Dry
2-20	HHT	Some	Damp
21-30		↓	↓
31-40	↓	Mostly	Wet
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 35'

COMMENTS

Setup on Well # V-4 & drilled 0-35' & set pipe.

Moved to Well # V-3.

CLIENT REPRESENTATIVE
NAME & TITLE

DATE

By Hand 10/7/2010
QUALITY DRILLING SERVICE DATE

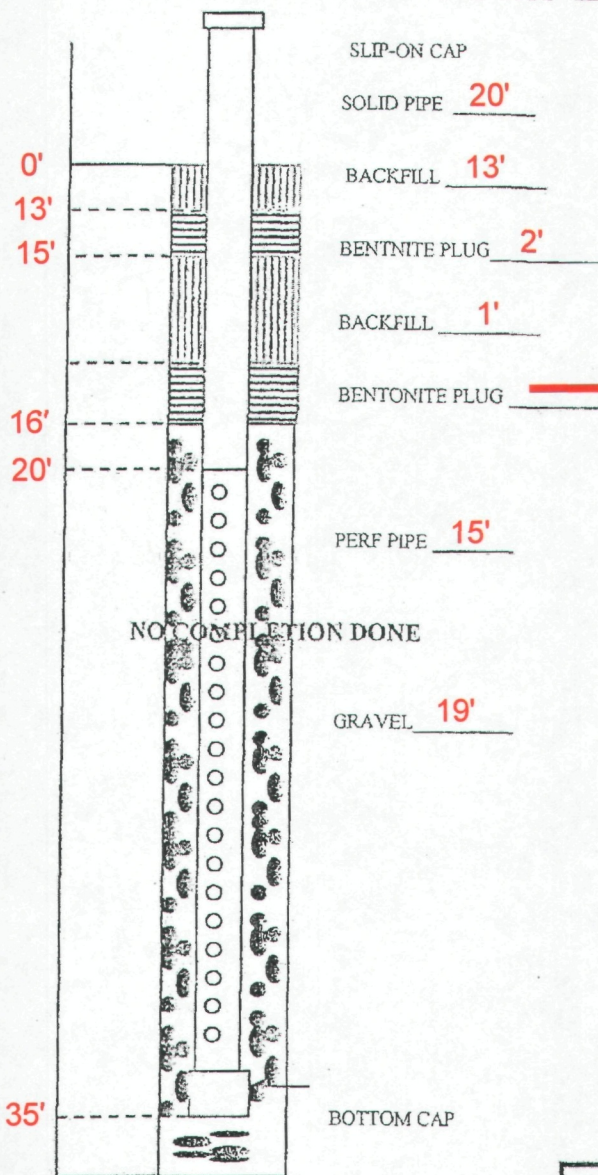
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF

Well Number: V-5

Date: 10/8/2010



DRILL	35'	WEATHER	Hot
COMP.		START	10:05 am
ABAN.		STOP	11:15 am
SOLID	20'	PIPE DIA.	
PERF.	15'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Damp
2-20	HTT	Mostly	
21-30	↓	↓	↓
31-40	↓	↓	Wet
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 35'

COMMENTS

Set up on Well # V-5 & drilled 0-35' & set pipe.

Moved to Well # V-6.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

Gregory Hamby 10/8/2010
QUALITY DRILLING SERVICE DATE

Gregory Hamby, SITE SUPERVISOR

Revised December 5, 2011

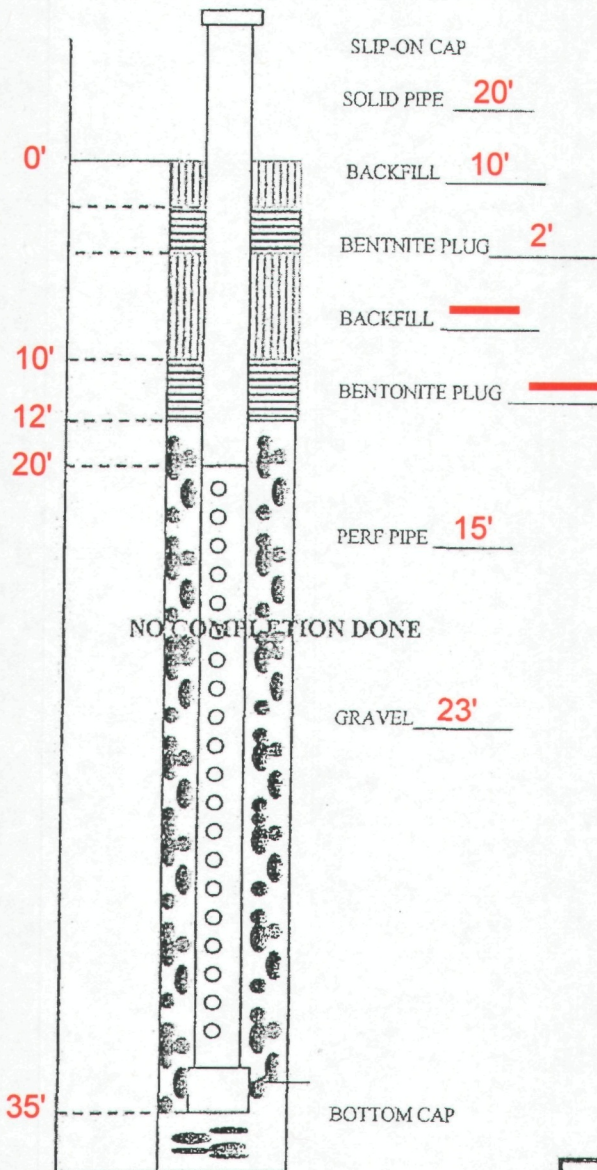
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardce County, LF

Well Number: V-6

Date: 10/8/2010



DRILL	35'	WEATHER	Hot
COMP.		START	11:35 am
ABAN.		STOP	12:05 pm
SOLID	20'	PIPE DIA. & TYPE	
PERF.	15'		

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Damp
2-20	HHT	Moderate	
21-30	↓	↓	↓
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 35 ft

COMMENTS

Set up well # V-6 & drilled Ø - 35' & set pipe

Moved to well # HC-6.1

CLIENT REPRESENTATIVE _____ DATE _____
NAME & TITLE

[Signature] 10/8/2010
QUALITY DRILLING SERVICE DATE _____
CITY _____ STATE _____

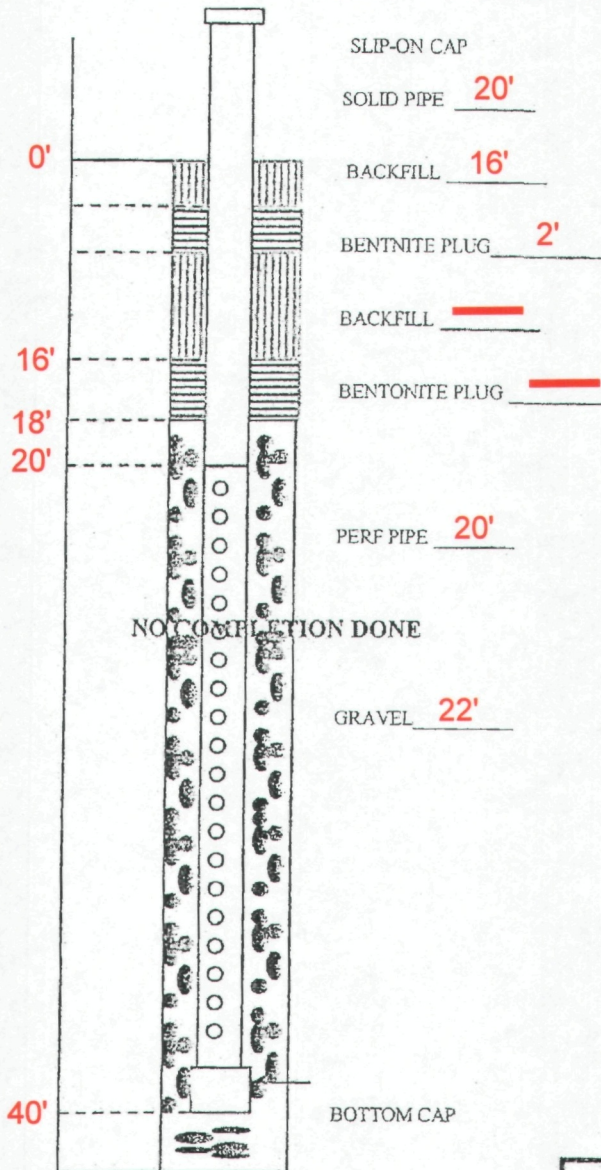
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF

Well Number: 10/7/2010 V-7

Date: 10/7/2010



DRILL	40'	WEATHER	Fair
COMP.		START	2:10 pm
ABAN.		STOP	3:00 pm
SOLID	20'	PIPE DIA.	
PERF.	20'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Dry
2-20	HHT	Slight	
21-30		Some	
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 40'

COMMENTS

Recovered Kelly's, changed cables + setup on Well # V-7 + set pipe.

Moved to Well # V-4.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

By Hamby

QUALITY DRILLING SERVICE

DATE

Revised December 5, 2011

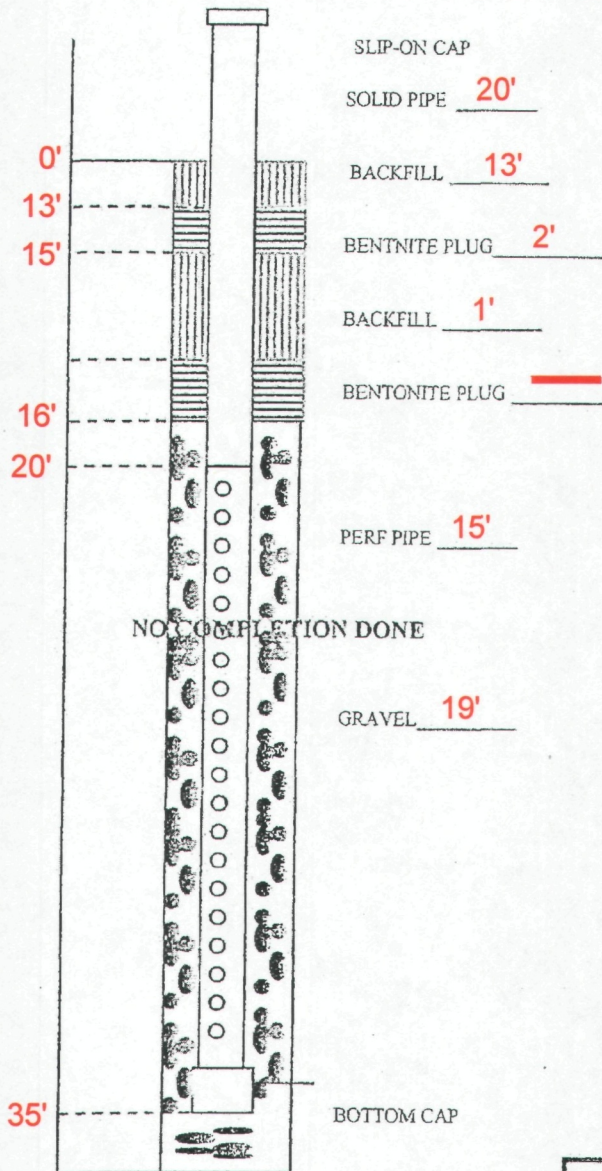
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF

Well Number: V-8

Date: 10/6/2010



DRILL	35'	WEATHER	Hot
COMP.		START	3:55 pm
ABAR.		STOP	4:40 pm
SOLID	20'	PIPE DIA.	
PERF.	15'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Dry
2-20	HHT	Some	Damp
21-30	↓	↓	Dry
31-40	↓	↓	↓
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 35'

COMMENTS

Set up on Well # V-8 + drilled 35' + set pipe.

Moved to Well # V-7 + snapped cable.

End of Day.

Total Footage: 225 feet.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

By Hand 10/6/2010
QUALITY DRILLING SERVICE DATE

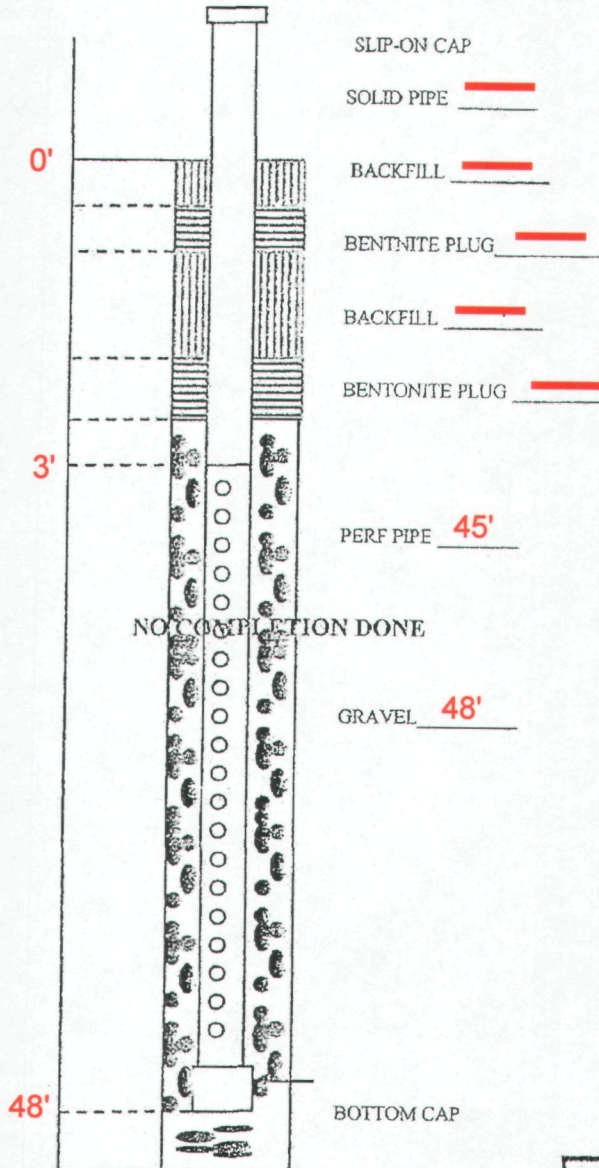
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF

Well Number: ~~HC-1A.1~~ HC-1A.1

Date: 10/6/2010



DRILL	48'	WEATHER	Hot
COMP.		START	11:55am
ABAN.		STOP	12:50pm
SOLID		PIPE DIA.	
PERF.	45'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	Near	Dry
2-20	HHT	Mostly	Damp
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 48'

COMMENTS

HC-1A.1

Setup on Well # ~~HC-1A.1~~ + drilled 48' & set pipe.

Moved to Well # HC-2.1

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

[Signature]

QUALITY DRILLING SERVICE

DATE

DATE

Revised December 5, 2011

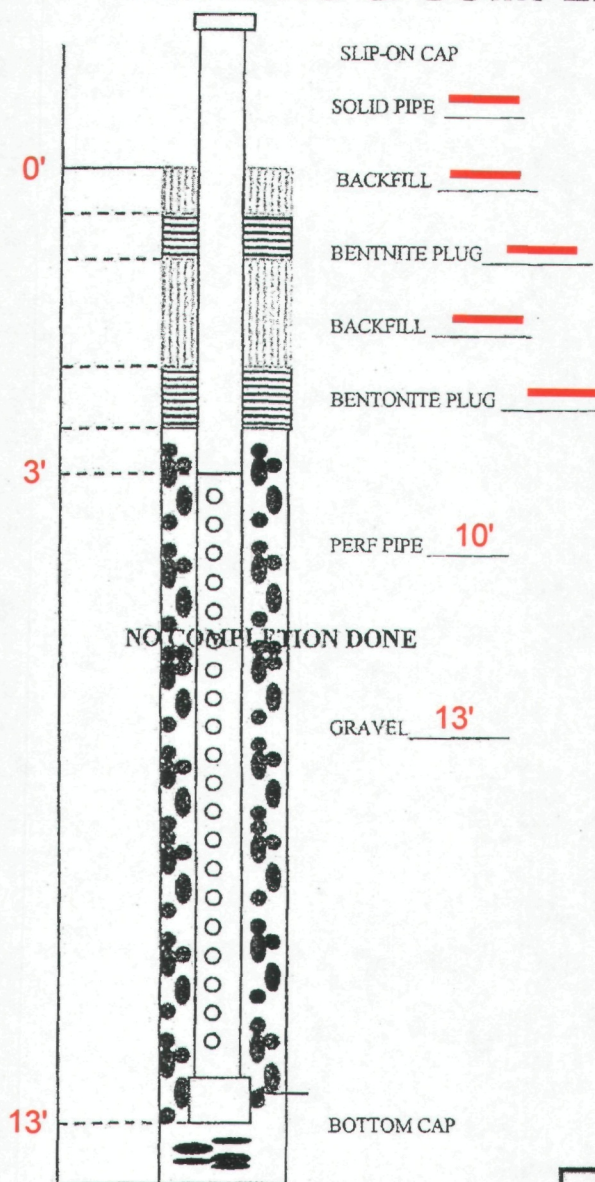
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County HF

Well Number: HC-1A.2

Date: 10/6/2010



DRILL	13'	WEATHER	Hot
COMP.		START	9:00am
ABAN.		STOP	9:12am
SOLID		PIPE DIA.	
PERF.	10'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Dry
2-20	HIT	Mostly	Damp
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 13'

COMMENTS

Set up on well # HC-1A.2 + drilled 0-13' + set pipe.

Moved to well # HC-1B.1

CLIENT REPRESENTATIVE
NAME & TITLE

DATE

[Signature] 10/6/2010
QUALITY DRILLING SERVICE DATE
CITY SUPERVISOR

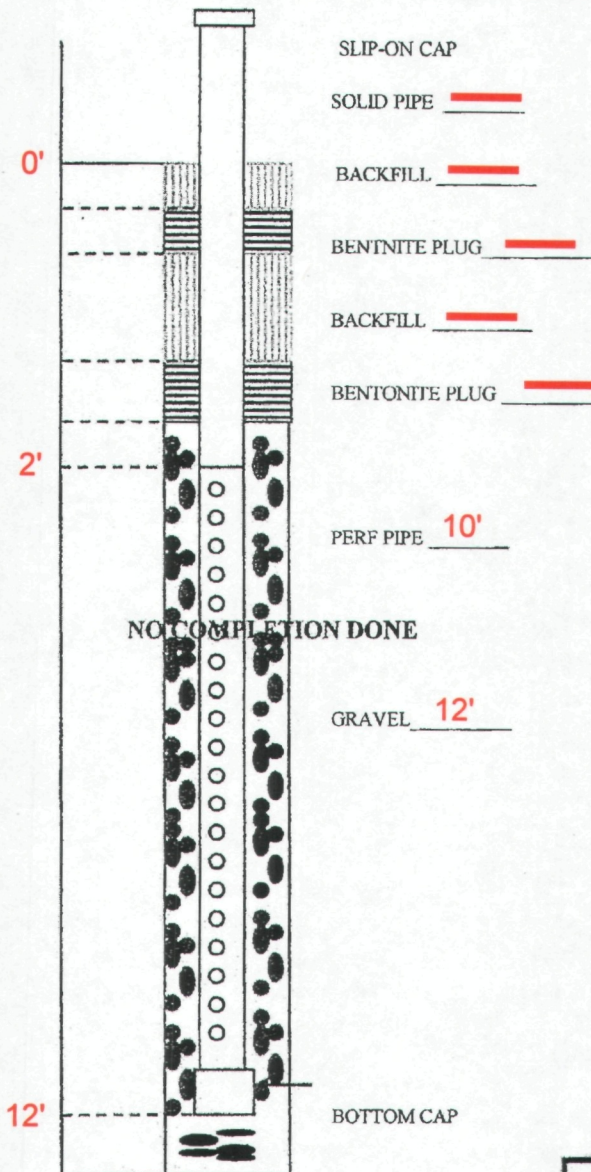
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County HF

Well Number: HC1B.1

Date: 10/6/2010



DRILL	12'	WEATHER	Hot
COMP.		START	8:40am
ABAN.		STOP	8:45am
SOLID		PIPE DIA.	
PERF.	10'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Dry
2-20	HIT	Mostly	Damp
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 12'

COMMENTS

Set up on Well# HC-1B.1 + drilled 8-12' + set pipe.

Moved to Well# HC-1A.2.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

James Hamby

QUALITY DRILLING SERVICE

10-6-2010

DATE

QUALITY DRILLING SERVICE

Revised December 5, 2011

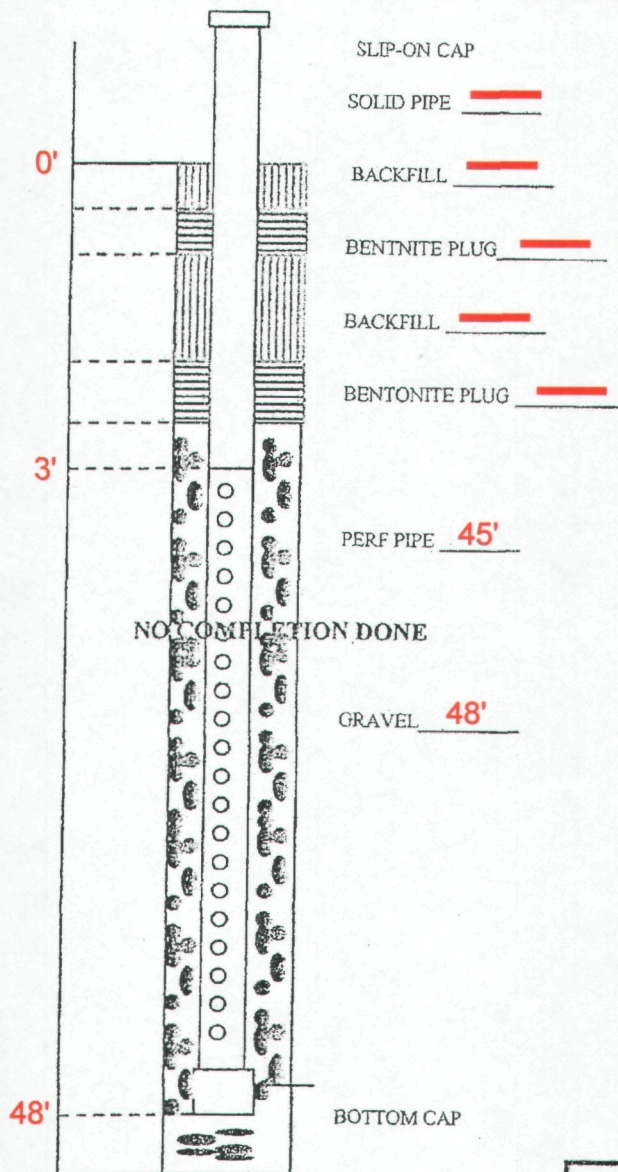
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: HARDEE County LF

Well Number: HC-2-1

Date: 10/6/2010



DRILL	48'	WEATHER	Hot
COMP.		START	2:10 pm
ABAN.		STOP	3:25 pm
SOLID	—	PIPE DIA.	
PERF.	45'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Dry
2-20	HAT	Some	Damp
21-30		Mostly	Moist
31-40			
41-50	↓	↓	↓
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 48'

COMMENTS

Setup on Well # HC-2-1 + drilled 0-48' & set pipe.
 Moved to Well # V-8.
 Moved to Well # V-7 & cable snapped.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

By Hand 10/6/2010

QUALITY DRILLING SERVICE

DATE

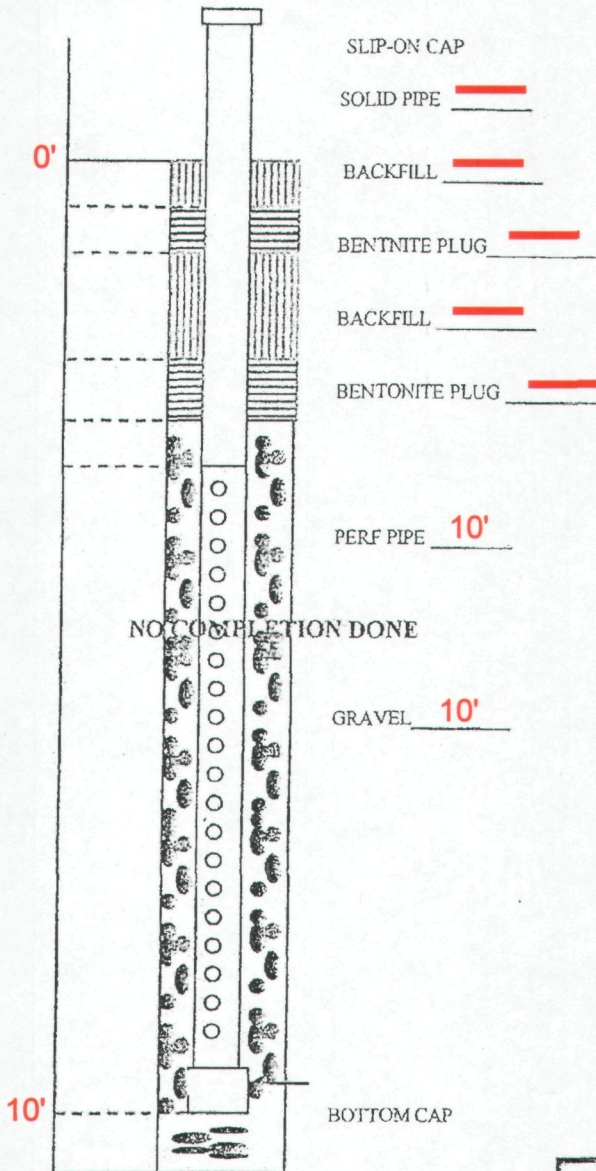
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County

Well Number: HC-2-2

Date: 10/8/2010



DRILL	10'	WEATHER	Hot
COMP.		START	2:48 pm
ABAN.		STOP	2:59 pm
SOLID	—	PIPE DIA.	
PERF.	10'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	HHI	Mostly	Damp
2-20	↓	↓	↓
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 10'

COMMENTS

Set up on Well # HC-2-2 & drilled 0-10'.

End of Day.

Total Footage : 185 feet.

Total Footage for Job : 534 feet.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

By Handly

10/8/2010

QUALITY DRILLING SERVICE

DATE

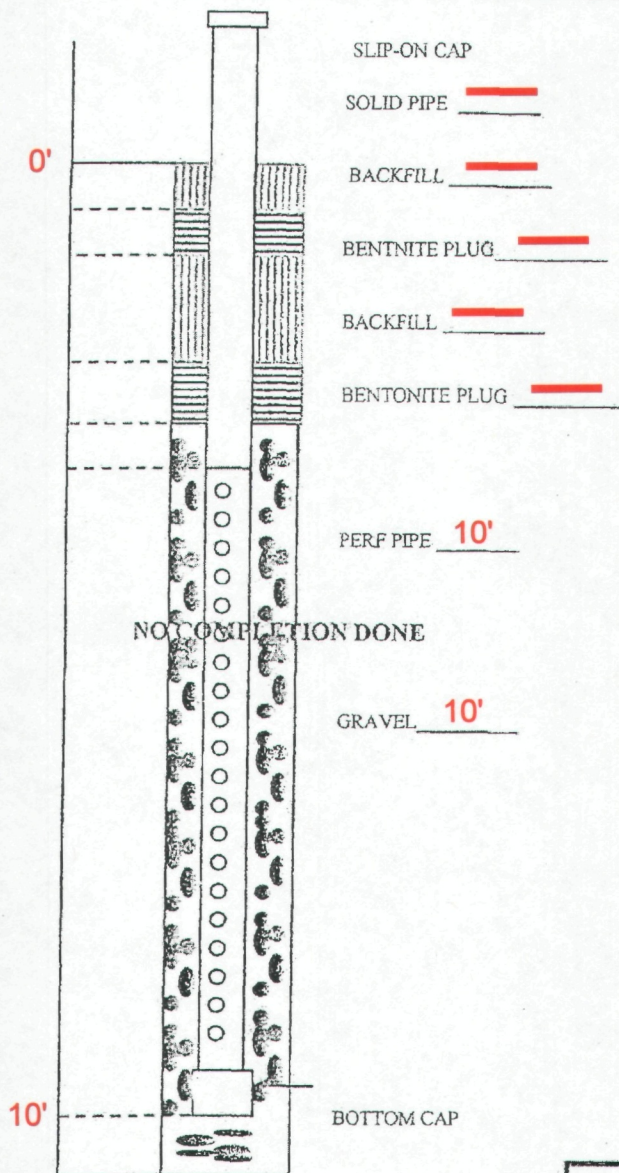
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County

Well Number: HC-3.1

Date: 10/8/2010



DRILL	10'	WEATHER	Hot
COMP.		START	2:28 pm
ABAN.		STOP	2:38 pm
SOLID		PIPE DIA.	
PERF.	10'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	HHT ↓	Mostly ↓	Damp ↓
2-20			
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 10'

COMMENTS

Set up on well # HC-3.1 & drilled 0-10'.

CLIENT REPRESENTATIVE
NAME & TITLE

DATE

QUALITY DRILLING SERVICE

DATE

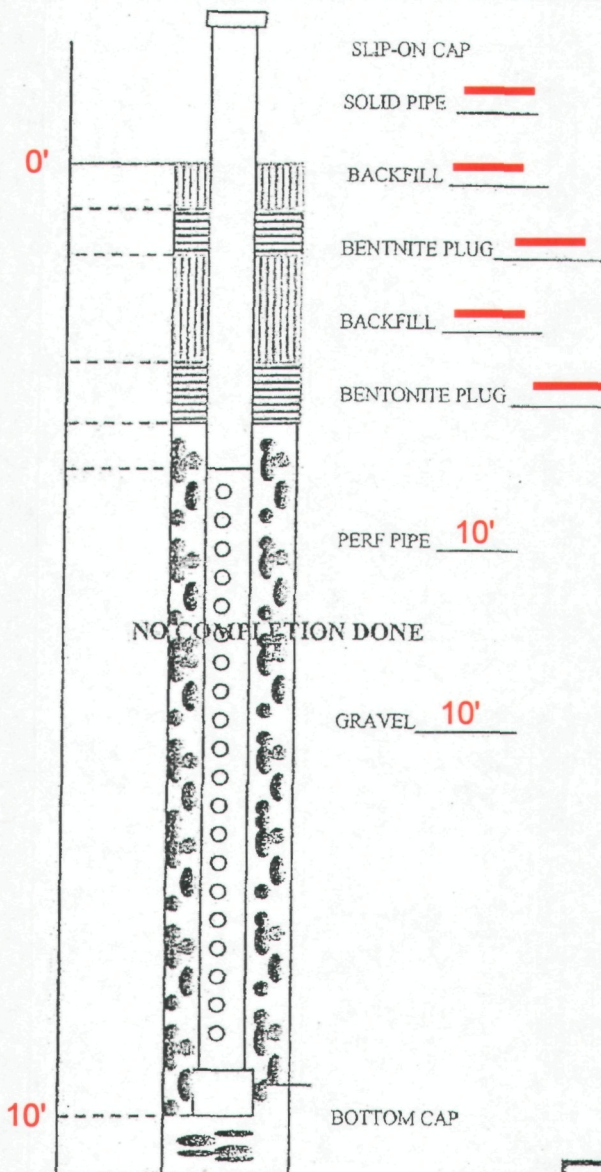
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County F.

Well Number: HC-4.1

Date: 10/8/2010



DRILL	10'	WEATHER	Hot
COMP.		START	2:28pm
ABAN.		STOP	2:38pm
SOLID		PIPE DIA.	
PERF.	10'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	HHT ↓	Mostly ↓	Damp ↓
2-20			
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TO 10'

COMMENTS

Set up on well# HC-4.1 & drilled 10'

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

QUALITY DRILLING SERVICE

DATE

SEE HANDBOOK FOR MORE INFORMATION

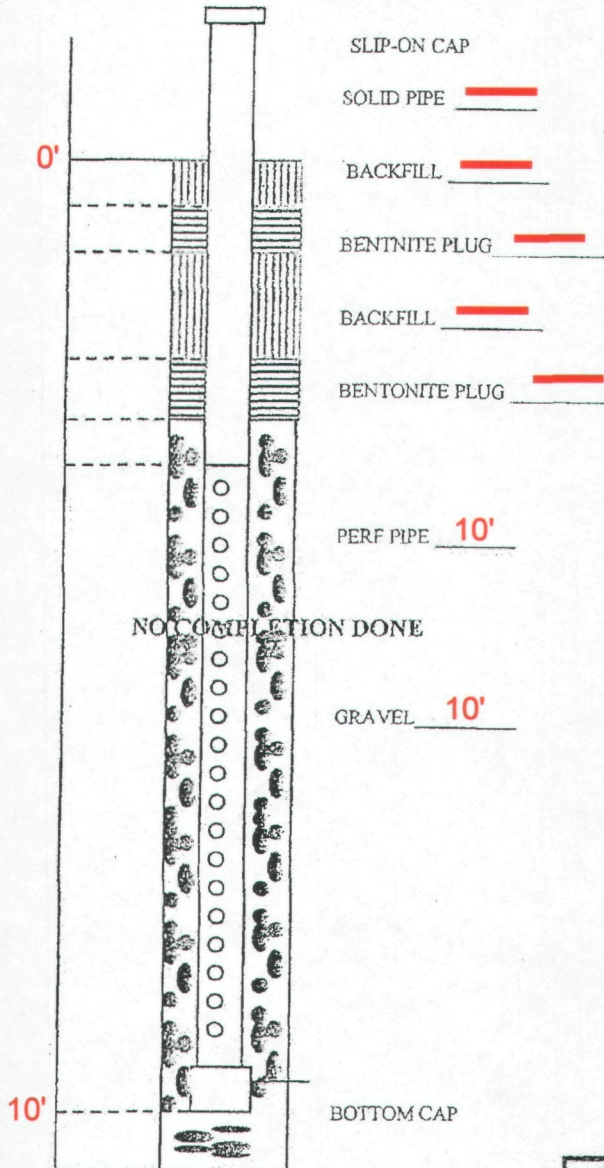
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County, LF

Well Number: HC-5.1

Date: 10/8/2010



DRILL	10'	WEATHER	Hot
COMP.		START	2:08pm
ABAN.		STOP	2:18pm
SOLID		PIPE DIA.	
PERF.	10'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	HHT ↓	Moderate ↓	Damp ↓
2-20			
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 18'

COMMENTS

Set up on Well # HC-5.1 + drilled 0-10'.

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

By [Signature] 10/8/2010

DATE

QUALITY DRILLING SERVICE

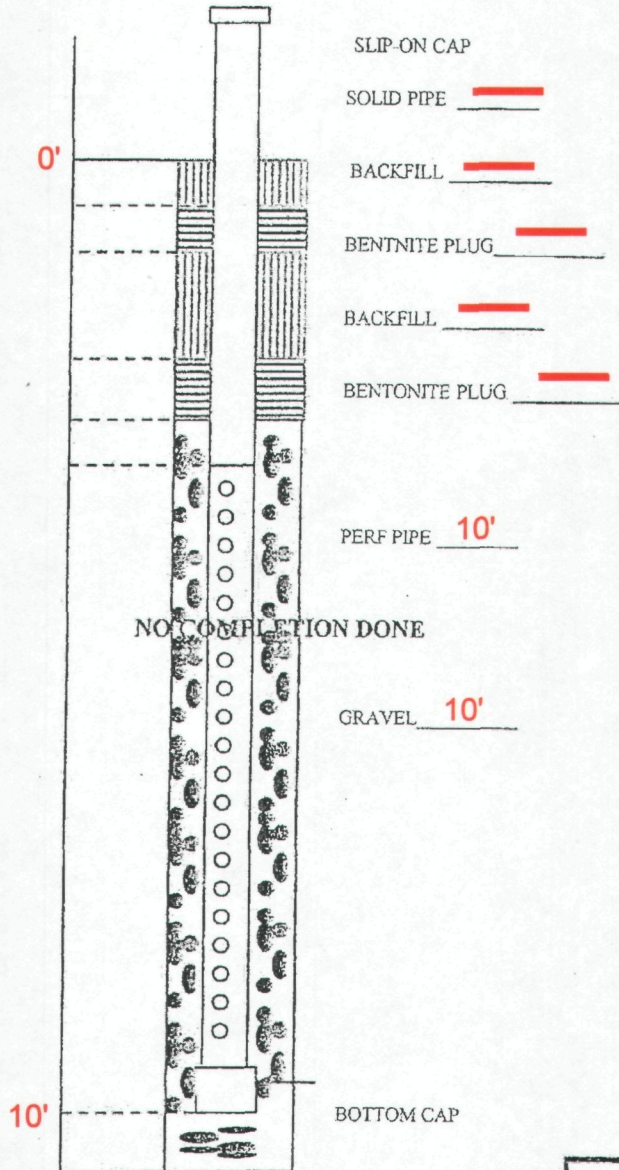
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF

Well Number: HC-6.1

Date: 10/8/2010



DRILL	10'	WEATHER	Hot
COMP.		START	1:52 pm
ABAN.		STOP	1:58 pm
SOLID	10'	PIPE DIA.	
PERF.		& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	HHT	Mostly	Damp
2-20	↓	↓	wet
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 10'

COMMENTS

Set up on well# HC-6.1 & drilled 0-10'.

CLIENT REPRESENTATIVE
NAME & TITLE

DATE

QUALITY DRILLING SERVICE

DATE

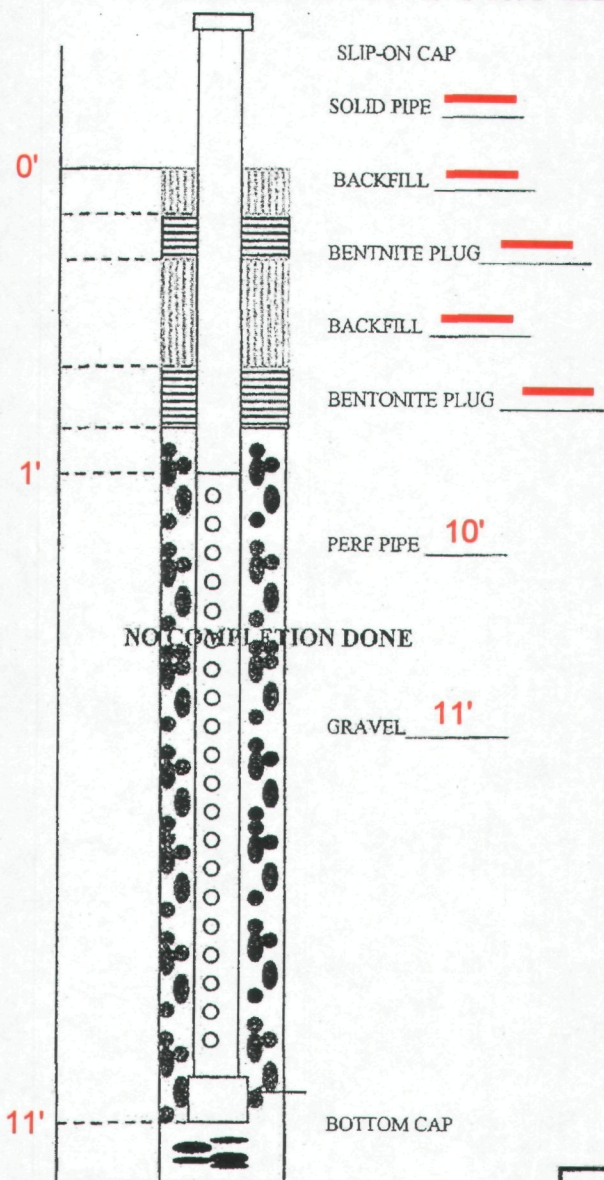
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Harder County LF.

Well Number: ~~HC-18.1~~ HC-7.1

Date: 10/6/2010



DRILL	11'	WEATHER	Hot
COMP.		START	9:15am
ABAN.		STOP	9:25am
SOLID		PIPE DIA.	
PERF.	10'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Coarse	None	Dry
2-20	HIT	Mostly	Damp
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 11'

COMMENTS

Set up on Well # HC-7.1 ~~HC-18.2~~ + drilled 8-11' + set pipe.

Moved to Well # HC-8.1

CLIENT REPRESENTATIVE

DATE

NAME & TITLE

Gregory Hasky

QUALITY DRILLING SERVICE

Greg Hasky, CEE SUPERVISOR

DATE

10/6/2010

Revised December 5, 2011

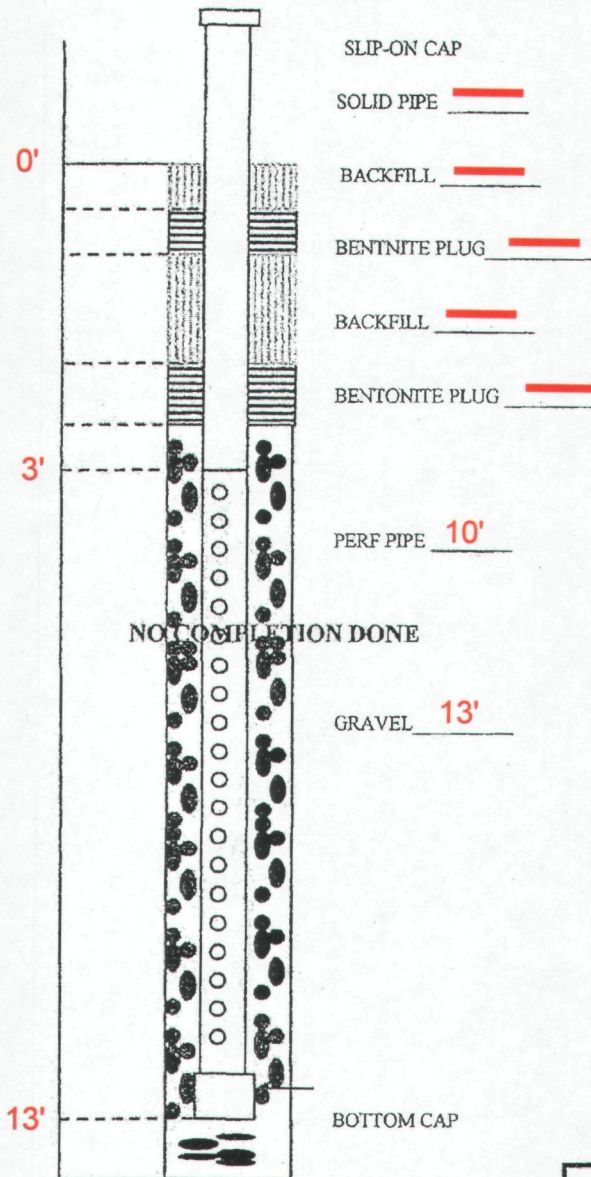
QUALITY DRILLING SERVICE

DRILLING & COMPLETION LOG

Project Name: Hardee County LF.

Well Number: HC-8.1

Date: 10/6/2010



DRILL	13'	WEATHER	Hot
COMP.		START	9:30am
ABAN.		STOP	9:55am
SOLID		PIPE DIA.	
PERF.	10'	& TYPE	

DEPTH	COMPOSITION & TEMPERATURE °	DEGREE OF DECOMPOSITION	AMOUNT OF MOISTURE
0-2	Cover	None	Dry
2-20	HHT	Mostly	Wet
21-30			
31-40			
41-50			
51-60			
61-70			
71-80			
81-90			
91-100			
101-110			
111-120			
121-130			
131-140			

TD 13'

COMMENTS

Set up on Well # HC-8.1 + drilled 0-13' + set pipe.

Moved to Well # V-1.

CLIENT REPRESENTATIVE
NAME & TITLE

DATE

QUALITY DRILLING SERVICE

DATE

Revised December 5, 2011

ATTACHMENT I

Universal Engineering Sciences Test Results of the
Protective Cover Soil and In-place Density Tests



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 161254

Date: March 8, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Base for Access Road

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 2-24-11

Remarks: The tests below DO meet the minimum 98% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Top of access road	122.6	125.0	11.0	11.8	98.0
2	100' from top of road	123.5	125.0	11.0	12.0	98.8
3	200' from top of road	124.8	125.0	11.0	12.2	99.9
4	175' from bottom of road	125.2	125.0	11.0	12.4	100.0
5	100' from bottom of road	126.3	125.0	11.0	12.3	101.0
6	Bottom of access road	124.4	125.0	11.0	11.8	99.5

Technician: S. Scott

Email: Jack Wiggan ercjackw@aol.com

Lindsey N. Weaver, P.E. #41790

254.022411.wpd

Gary D. Marler, Operations Manager
UNIVERSAL ENGINEERING SCIENCES



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 161043

Date: February 24, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Stabilized Subgrade for Access Road

Course: Stabilized Subgrade

Type of Test: ASTM D-6938

Date Tested: 2-16-11

Remarks: The tests below DO meet the minimum 98% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Top of Access Road, 20' from top	111.3	111.0	13.0	9.2	100.2
2	Top of Access Road, 120' from top	109.8	111.0	13.0	9.8	98.9
3	Top of Access Road, 220' from top	114.4	111.0	13.0	9.8	103.1
4	Top of Access Road, 250' from top	112.7	111.0	13.0	10.2	101.5
5	Top of Access Road, 150' from bottom	109.5	111.0	13.0	10.0	98.6
6	Bottom of Access Road, 10' from bottom	111.3	111.0	13.0	12.6	100.3

Technician: S. Scott

Email: Jack Wiggins - ercjackw@aol.com

Lindsey N. Weaver, P.E. #41790

Gary D. Marler, Operations Manager
UNIVERSAL ENGINEERING SCIENCES



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01
Report No.: 160316
Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm Cover

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 1-14-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

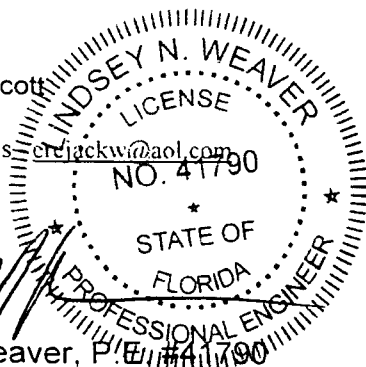
Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Southeast lower terrace, bottom center	105.8	111.0	14.0	14.4	95.3
2	Southeast lower terrace, top center	106.2	111.0	14.0	14.8	95.6
3	Southeast upper terrace, bottom center	108.6	111.0	14.0	15.2	97.9
4	Southeast upper terrace, top center	108.0	111.0	14.0	15.8	97.2
5	East side top, north end	109.3	111.0	14.0	14.2	98.4
6	East side top, middle	108.8	111.0	14.0	15.2	98.0

Technician: S. Scott

Email: Jack Wiggins, ercjackw@aol.com

Lindsey N. Weaver, P.E. #11790

316.011411.wpd



Gary D. Marler, Operations Manager
UNIVERSAL ENGINEERING SCIENCES



UNIVERSAL

ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 160316

Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm Cover

Course: Final Grade

Type of Test: ASTM D-6938

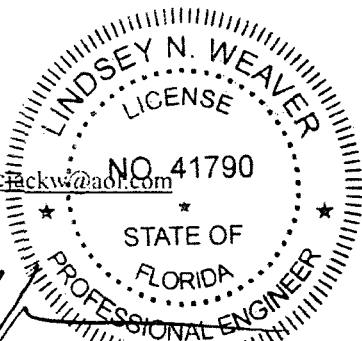
Date Tested: 1-14-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	East side top, south end	109.6	111.0	14.0	14.8	98.7
8	East side middle terrace, south end	107.2	111.0	14.0	15.2	96.5
9	East side middle terrace, north end	107.8	111.0	14.0	16.0	97.1
10	East side lower terrace, north end	108.8	111.0	14.0	15.6	98.0
11	East side lower terrace, center	107.8	111.0	14.0	14.8	97.1
12	East side lower terrace, south end	108.2	111.0	14.0	15.6	97.4

Technician: S. Scott

Email: Jack Wiggins - ercjackw@aor.com



Lindsey N. Weaver, P.E. #41790

Gary D. Marler, Operations Manager
UNIVERSAL ENGINEERING SCIENCES



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01
Report No.: 160314
Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 1-12-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

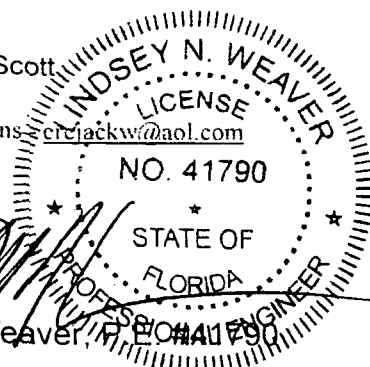
Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Northeast lower terrace, south end	106.2	111.0	13.0	12.2	95.6
2	Northeast lower terrace, center	107.0	111.0	13.0	13.0	96.3
3	Northeast lower terrace, north end	106.5	111.0	13.0	13.6	95.9
4	Lower terrace, northeast corner	105.9	111.0	13.0	12.8	95.4
5	Center of lower terrace, northeast terrace	106.1	111.0	13.0	13.0	95.5
6	Northeast upper terrace, northeast corner	106.4	111.0	13.0	13.6	95.8

Technician: S. Scott

Email: Jack Wiggins werjackw@aol.com

Lindsey N. Weaver, P.E. #41790

314.011211.wpd



Gary D. Marler, Operations Manager
UNIVERSAL ENGINEERING SCIENCES



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections.

Project No.: 51934-002-01

Report No.: 160314

Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm

Course: Final Grade

Type of Test: ASTM D-6938

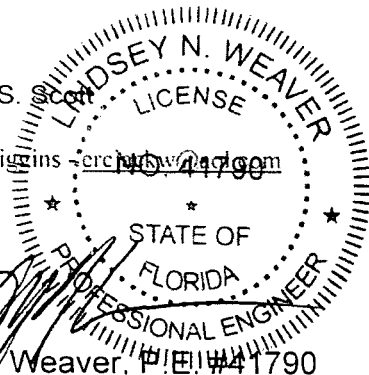
Date Tested: 1-12-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	Northeast upper terrace, north end	105.5	111.0	13.0	13.5	95.0
8	Northeast upper terrace, middle	106.2	111.0	13.0	12.3	95.6
9	Northeast upper terrace, south end	106.8	111.0	13.0	13.0	95.9
10	Northeast upper terrace, southeast corner	105.8	111.0	13.0	13.6	95.3

Technician: S. W. C. C.

Email: Jack Wiggins - erch@universaleng.com



Lindsey N. Weaver, P.E. #41790

314.011211.wpd


Gary D. Marler, Operations Manager
UNIVERSAL ENGINEERING SCIENCES



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences,
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 160312

Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Protective Cover

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 1-07-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

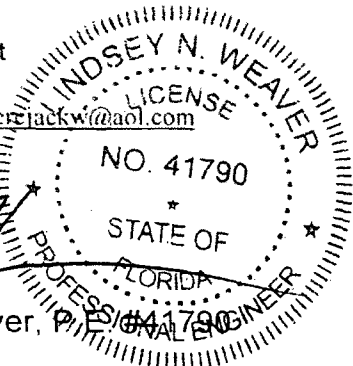
Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Southwest top tier	102.7	105.0	11.0	8.8	97.8
2	Center top tier	100.6	105.0	11.0	9.6	95.8
3	Northwest top tier	101.2	105.0	11.0	9.8	96.3
4	Center level, top, northwest corner	102.4	105.0	11.0	7.3	97.6
5	Center level, top, center	101.7	105.0	11.0	8.9	96.9
6	Center level, top, southwest corner	102.8	105.0	11.0	8.8	97.9

Technician: S. Scott

Email: Jack Wiggins - ercjackw@aol.com

Lindsey N. Weaver, P.E.

312.010711.wpd



Gary D. Marler, Operations Manager
UNIVERSAL ENGINEERING SCIENCES



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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 160312

Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Protective Cover

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 1-07-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	Center level, middle, northwest corner	103.5	105.0	11.0	8.2	98.6
8	Center level, middle, center	100.4	105.0	11.0	9.8	95.7
9	Center level, middle, southwest corner	101.0	105.0	11.0	8.2	96.2
10	Lower level, top, southwest corner	102.4	105.0	11.0	8.8	97.5
11	Lower level, top, center	102.6	105.0	11.0	9.0	97.8
12	Lower level, top, northwest corner	103.1	105.0	11.0	9.6	98.2

Technician: S. Scott

Email: Jack Wiggins - ercjackw@aol.com

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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01
Report No.: 160312
Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Protective Cover

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 1-07-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

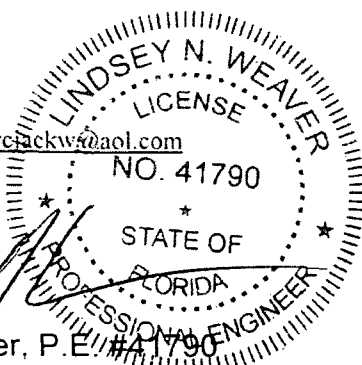
Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
13	Lower level, bottom, center	104.1	105.0	11.0	9.2	99.1
14	Lower level, bottom, northwest corner	100.5	105.0	11.0	8.8	95.7
15	Lower level, bottom, southwest corner	103.6	105.0	11.0	10.2	98.7

Technician: S. Scott

Email: Jack Wiggins - ercjackw@aol.com

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Gary D. Marler, Operations Manager
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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 160310

Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm (North Side)

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 1-10-11

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

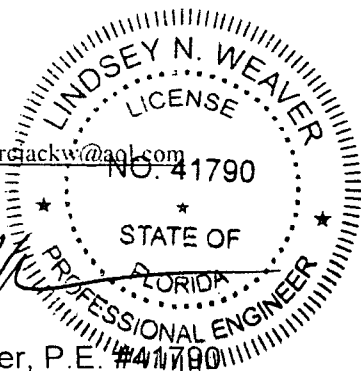
Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Northwest corner, lower tier	105.9	105.0	11.0	14.2	100.9
2	North side center, lower tier	103.7	105.0	11.0	15.9	98.7
3	Northeast corner, lower tier	104.8	105.0	11.0	13.4	99.8
4	Top lower tier, northwest corner	102.6	105.0	11.0	14.2	97.7
5	Top lower tier, center	101.5	105.0	11.0	12.4	96.7
6	Top lower tier, northeast corner	101.4	105.0	11.0	16.9	96.6

Technician: S. Scott

Email: Jack Wiggins - engjackw@aol.com

Lindsey N. Weaver, P.E. #41790

310.011011.wpd



Gary D. Marler, Operations Manager
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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 160310

Date: January 21, 2011

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm (North Side)

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 1-10-11

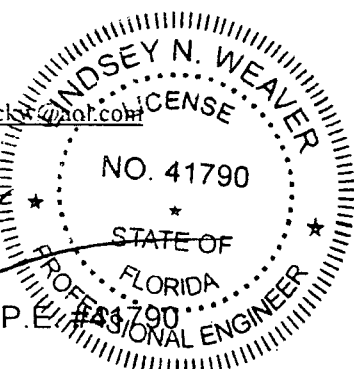
Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	Top tier, northwest corner	103.9	105.0	11.0	15.4	99.0
8	Top tier, center	106.4	105.0	11.0	15.7	101.4
9	Top tier, northeast corner	104.3	105.0	11.0	16.0	99.4
10	Middle of lower tier, center, 20' from top	103.7	105.0	11.0	13.2	98.7

Technician: S. Scott

Email: Jack Wiggins - ercjackw@uof.com

Lindsey N. Weaver, P.E.



Gary D. Marler, Operations Manager
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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159809

Date: December 20, 2010

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 12-13-10

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

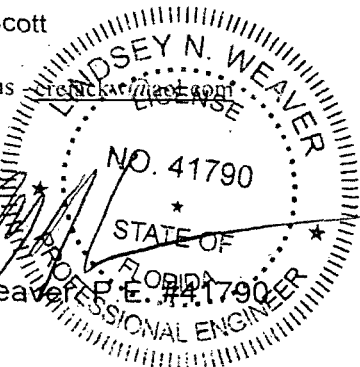
Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	South end road final, southeast corner	108.2	111.0	13.0	11.2	97.4
2	South end road final, center	109.8	111.0	13.0	11.2	98.9
3	South end road final, southwest corner	108.6	111.0	13.0	11.8	97.8
4	South bottom slope, southeast corner	109.0	111.0	13.0	12.2	98.1
5	South bottom slope, center	110.2	111.0	13.0	12.0	99.2
6	South bottom slope, southwest corner	109.6	111.0	13.0	12.6	98.7

Technician: S. Scott

Email: Jack Wiggins

Lindsey N. Weaver

809.121310.wpd





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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159808

Date: December 20, 2010

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Berm

Course: Final Grade (Cover Grade)

Type of Test: ASTM D-6938

Date Tested: 12-13-10

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

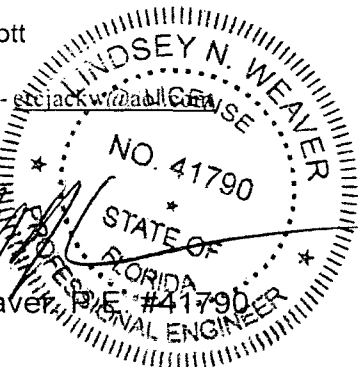
Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	Top of road, west side	107.2	111.0	13.0	11.0	96.5
2	50' north of top, west side	107.8	111.0	13.0	11.2	97.1
3	Turn on west side, middle	108.6	111.0	13.0	10.8	97.8
4	West side road, 40' south of turn in road	109.0	111.0	13.0	11.8	98.1
5	West side road, 100' north of south end	108.4	111.0	13.0	12.0	97.6
6	West side road, 10' north of south end	109.2	111.0	13.0	12.2	98.3

Technician: S. Scott

Email: Jack Wiggins - jackw@universaleng.com

Lindsey N. Weaver, P.E. #41790

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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159118

Date: November 10, 2010

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Fill for Trash Mound

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 11-01-10

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

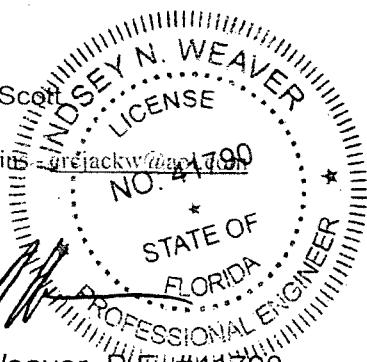
Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	South splice 6 to 1 area, west end	104.6	105.0	13.0	14.3	99.6
2	South slope 6 to 1 area, center	106.3	105.0	13.0	12.9	101.3
3	South slope 6 to 1, east end	104.8	105.0	13.0	13.2	99.8
4	South slope bottom terrace, east end	105.3	105.0	13.0	10.6	100.2
5	South slope bottom terrace, center	108.2	105.0	13.0	10.8	103.0
6	South slope top terrace, west end	108.4	105.0	13.0	11.2	103.3

Technician: S. Scott

Email: Jack Wiggins - jackw@universaleng.com

Lindsey N. Weaver, P.E. #41790

118.110110.wpd



Gary D. Marler, Operations Manager
UNIVERSAL ENGINEERING SCIENCES



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159118

Date: November 10, 2010

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Fill for Trash Mound

Course: Final Grade

Type of Test: ASTM D-6938

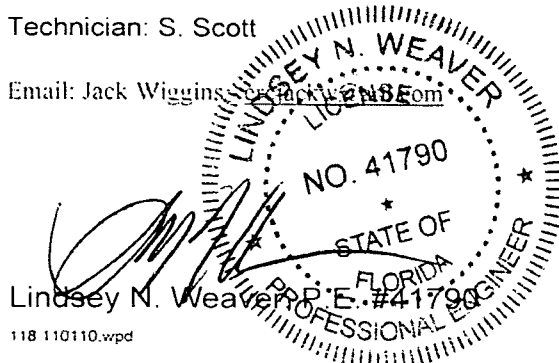
Date Tested: 11-01-10

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	South slope, top terrace, east end	107.5	105.0	13.0	11.8	99.5

Technician: S. Scott

Email: Jack Wiggins jack@universal-engineering.com



Lindsey N. Weaver, P.E. #41790

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Gary D. Marler, Operations Manager
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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159118

Date: November 10, 2010

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REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Fill for Trash Mound

Course: Final Grade

Type of Test: ASTM D-6938

Date Tested: 11-01-10

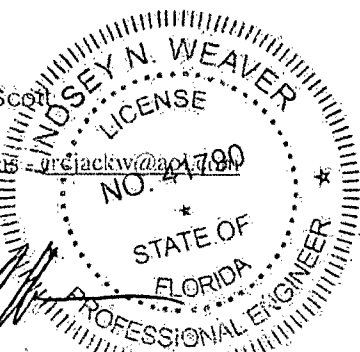
Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
1	South splice 6 to 1 area, west end	104.6	105.0	13.0	14.3	99.6
2	South slope 6 to 1 area, center	106.3	105.0	13.0	12.9	101.3
3	South slope 6 to 1, east end	104.8	105.0	13.0	13.2	99.8
4	South slope bottom terrace, east end	105.3	105.0	13.0	10.6	100.2
5	South slope bottom terrace, center	108.2	105.0	13.0	10.8	103.0
6	South slope top terrace, west end	108.4	105.0	13.0	11.2	103.3

Technician: S. Scott

Email: Jack Wiggins - orcjackw@aol.com

Lindsey N. Weaver, P.E. #411790



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Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159118

Date: November 10, 2010

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT ON IN-PLACE DENSITY TESTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Area Tested: Fill for Trash Mound

Course: Final Grade

Type of Test: ASTM D-6938

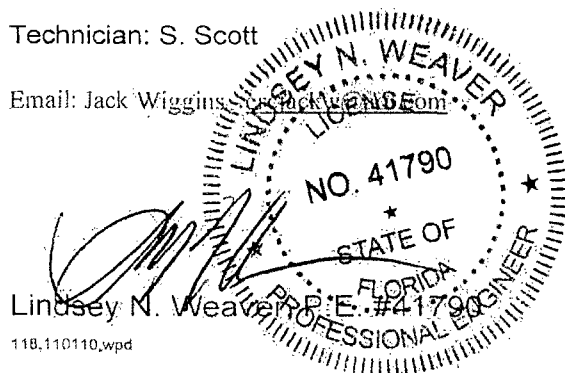
Date Tested: 11-01-10

Remarks: The tests below DO meet the minimum 95% compaction requirements of maximum dry density.

Test No.	Description of Test Location	Dry Density (pcf)	Maximum Density (pcf)	Optimum Moisture (%)	Field Moisture (%)	Maximum Density (%)
7	South slope, top terrace, east end	107.5	105.0	13.0	11.8	99.5

Technician: S. Scott

Email: Jack Wiggins, jack@universal-engineering.com



Gary D. Marler, Operations Manager
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Consultants in: Geotechnical Engineering • Environmental Sciences
Construction Materials Testing • Threshold Inspection • Private Provider Inspection

Project No.: 0110.1000517.0000
Report No.: 861705.1
Date: October 1, 2010

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON SIEVE ANALYSIS (ASTM D422)

Client: ERC General Contractors
Attn: Mr. Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, FL 34787

Project: Hardee County Regional Landfill

Location: General Fill, 9 Miles South

Date Tested: 9/16/10

Tested By: Luis Fernandez

Date Sampled: 9/14/10

Sampled By: Client

Material Description: Dark Brown Organic Stained, Medium/Fine Sand

Sample No.: 1

SIEVE ANALYSIS

Sieve No.	Cumulative Weight	% Retained Results	Maximum % Passing	% Passing Results
10	0.01	0.01	100	100
30	0.52	0.4	95	100
50	6.60	5.1	65	95
70	16.80	12.92	20	87
200	114.87	88.31	0-10	11.7
Pan	1.24			

For the mutual protection of Universal's clients, the general public, and ourselves, our reports are submitted as the confidential property of our clients. Accordingly, authorization for reliance upon, or publication of, all or portions of this report is reserved pending our written approval.

dkn (W.O. No. N/S)



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

Project No.: 0110.1000517.0000
Report No.: 861706.1
Date: October 1, 2010

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON SIEVE ANALYSIS (ASTM D422)

Client: ERC General Contractors
Attn: Mr. Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, FL 34787

Project: Hardee County Regional Landfill

Location: Top Elevation, 7 Miles East of Orange Grove

Date Tested: 9/24/10

Tested By: Luis Fernandez

Date Sampled: 9/14/10

Sampled By: Client

Material Description: Tan (White), Very Fine Sand

Sample No.: 2

SIEVE ANALYSIS				
Sieve No.	Cumulative Weight'	% Retained Results	Maximum % Passing	% Passing Results
10	0	0	100	100
30	0.75	0.4	95	100
50	11.26	5.6	65	94
70	30.58	15.3	20	84
100	75.48	37.7		62
200	188.22	94.1	0-10	5.9
Pan	3.75			

For the mutual protection of Universal's clients, the general public, and ourselves, our reports are submitted as the confidential property of our clients. Accordingly, authorization for reliance upon, or publication of, all or portions of this report is reserved pending our written approval.

dkn (W.O. No. N/S)



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

Project No.: 0110.1000517.0000
Report No.: 861707.1
Date: October 1, 2010

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON SIEVE ANALYSIS (ASTM D422)

Client: ERC General Contractors
Attn: Mr. Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, FL 34787

Project: Hardee County Regional Landfill

Location: 7 Miles East of Orange Grove

Date Tested: 9/16/10

Tested By: Luis Fernandez

Date Sampled: 9/14/10

Sampled By: Client

Material Description: Light Brown, Medium/Fine Sand

Sample No.: 3

SIEVE ANALYSIS				
Sieve No.	Cumulative Weight	% Retained Results	Maximum % Passing	% Passing Results
10	0	0	100	100
30	0.56	0.4	95	100
50	6.65	5.1	65	95
70	18.83	14.5	20	86
200	121.69	93.5	0-10	6.5
Pan	1.26			

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

Project No.: 0110.1000517.0000
Report No.: 861708.1
Date: October 1, 2010

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON SIEVE ANALYSIS (ASTM D422)

Client: ERC General Contractors
Attn: Mr. Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, FL 34787

Project: Hardee County Regional Landfill

Location: General Fill, Protective Cover, Nursery Pit

Date Tested: 9/28/10

Tested By: Luis Fernandez

Date Sampled: 9/26/10

Sampled By: Client

Material Description: Dark Brown, Organic Stained

Sample No.: 1

SIEVE ANALYSIS				
Sieve No.	Cumulative Weight	% Retained Results	Maximum % Passing	% Passing Results
10	0	0	100	100
30	1.17	0.4	95	100
50	18.05	6.0	65	94
70	43.58	14.5	20	86
100	109.26	36.2		64
200	272.87	90.5	0-10	9.5
Pan	4.81			

For the mutual protection of Universal's clients, the general public, and ourselves, our reports are submitted as the confidential property of our clients. Accordingly, authorization for reliance upon, or publication of, all or portions of this report is reserved pending our written approval.

dkn (W.O. No. N/S)



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159466

Report Date: 12-02-10

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT OF SUMMARY OF PERMEABILITY TEST RESULTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Test Type: Constant Head Permeability ASTM D2434

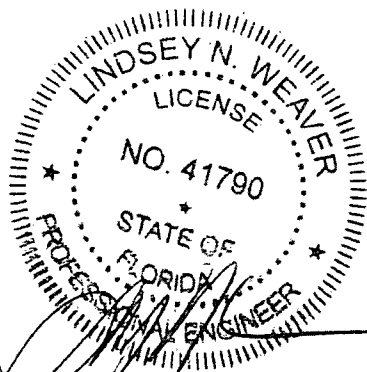
Date: 11-11-10

Location: N/A

SAMPLE	SOIL TYPE	COEFFICIENT OF VERTICAL PERMEABILITY
N/A	Brown fine SAND - drainage sand	4.8×10^{-3} cm/sec*

* Remolded using 95% compaction of proctor.

3cc: Client



Lindsey N. Weaver, P.E. #41790
Regional Manager

Gary D. Marler, Operations Manager



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159490

Report Date: 12-02-10

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT OF SUMMARY OF PERMEABILITY TEST RESULTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Test Type: Constant Head Permeability ASTM D2434

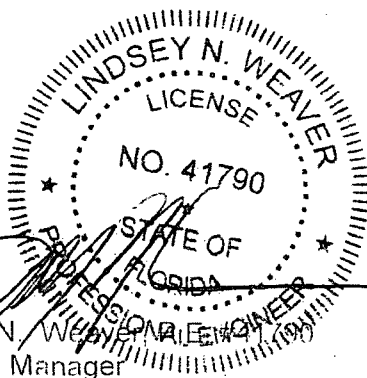
Date: 11-22-10

Location: Sample Delivered by Client

SAMPLE	SOIL TYPE	COEFFICIENT OF VERTICAL PERMEABILITY
Grove Pit 10 ⁻³	Dark brown fine SAND - drainage sand	4.5x10 ⁻³ cm/sec*

* Remolded using 95% compaction of proctor.

3cc: Client



Lindsey N. Weaver
Regional Manager

Gary D. Marler, Operations Manager

Page 2 of UNIVERSAL ENGINEERING SCIENCES, INC.



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159538

Report Date: 12-02-10

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT OF SUMMARY OF PERMEABILITY TEST RESULTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Test Type: Constant Head Permeability ASTM D2434

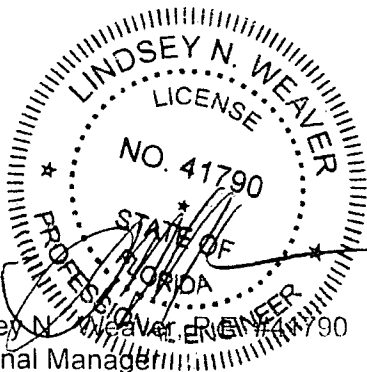
Date: N/A

Location: Sample Delivered by Client

SAMPLE	SOIL TYPE	COEFFICIENT OF VERTICAL PERMEABILITY
2	Brown gray fine SAND with silt	6.3×10^{-3} cm/sec*

* Remolded using 95% compaction of proctor.

3cc: Client



Lindsey N. Weaver, P.E. 41790
Regional Manager

Gary D. Marler, Operations Manager



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
• Construction Materials Testing • Private Provider & Threshold Inspections

Project No.: 51934-002-01

Report No.: 159467

Report Date: 12-02-10

5971 Country Lakes Drive • Fort Myers, FL 33905 • (239) 995-1997 • Fax (239) 313-2347

REPORT OF SUMMARY OF PERMEABILITY TEST RESULTS

Client: ERC General Contractors
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Hardee County Class I Landfill Closure, 685 Airport Road, Wachula, Florida

Test Type: Constant Head Permeability ASTM D2434

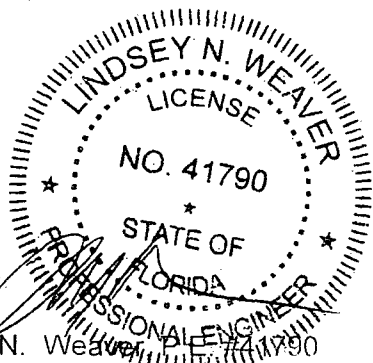
Date: 11-11-10

Location: N/A

SAMPLE	SOIL TYPE	COEFFICIENT OF VERTICAL PERMEABILITY
N/A	White / Brown fine SAND - drainage sand	4.4×10^{-3} cm/sec*

* Remolded using 95% compaction of proctor.

3cc: Client



Lindsey N. Weaver
Regional Manager

Gary D. Marler, Operations Manager



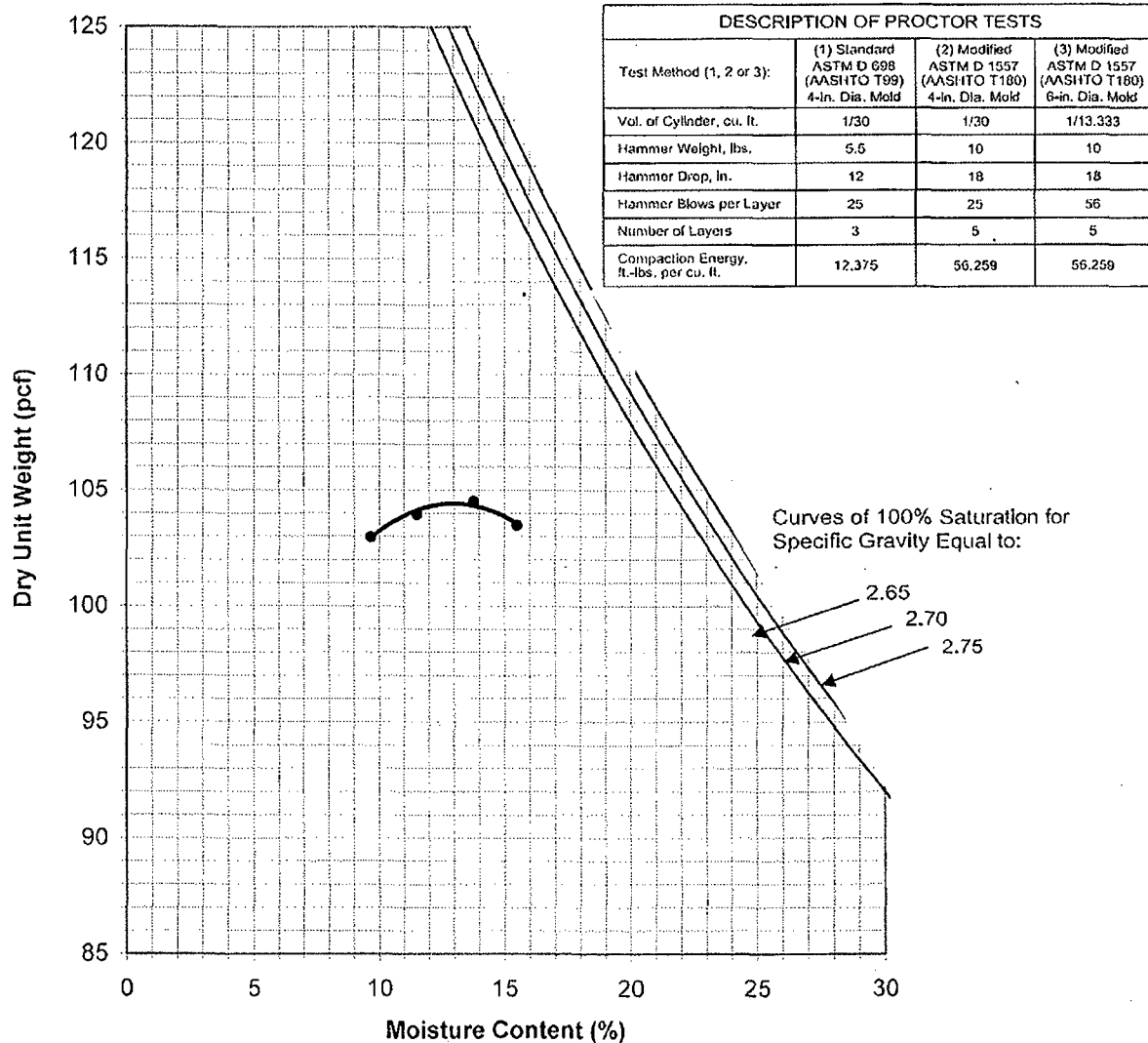
Project No.: 0110.1000517.0000
Work Order No.: NA
Report No.: 861711
Date: October 1, 2010

Client: ERC General Contracting Services
Project: Hardee Co Regional Landfill
Sample Location: 9 Miles South "General Fill"-Sample #1
Intended Use: Native
Sample Description: Dark Brown, Organic Stained, M/F Sand w/ Silt
Sampled By: Client
Date Sampled: September 14, 2010

Tested By: HV
Date Tested: September 17, 2010
Plotted By: Software Package
Date Plotted: October 1, 2010

SUMMARY OF TEST RESULTS

Lab Number: 10-P0806
Test Method: ASTM D698 (1)
Maximum Dry Density, pcf: 104.4
Optimum Moisture, %: 13.0
Passing No. 4 Sieve, %: 100
Passing No. 200 Sieve, %: 11.7



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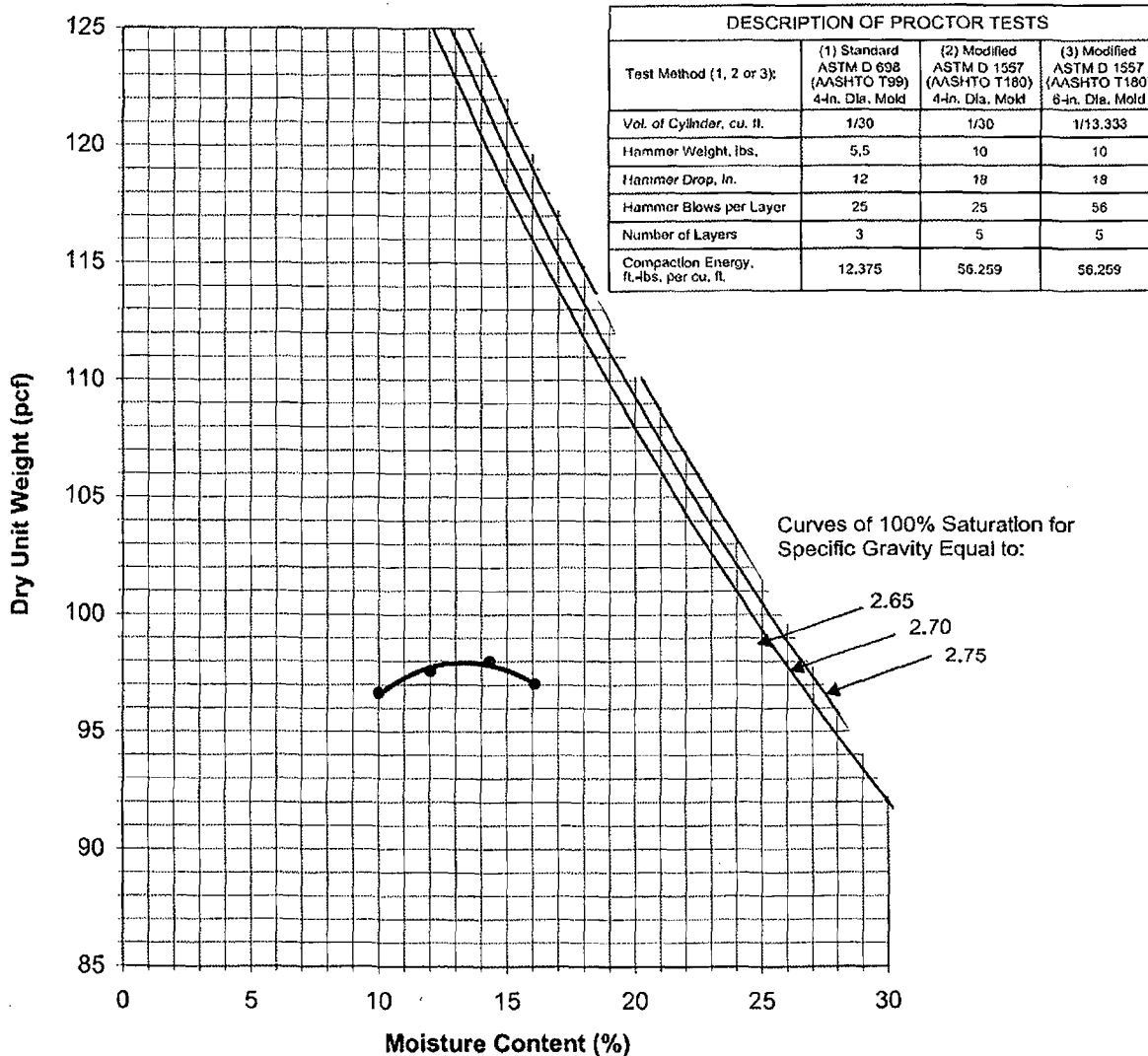


Project No.: 0110.1000517.0000
Work Order No.: 0
Report No.: 861713
Date: October 1, 2010

Client: ERC General Contracting
Project: Hardee Co. Regional Landfill
Sample Location: Top Elevation Orange Grove 7 Miles East-Sample #2
Intended Use: Fill
Sample Description: Tan White Fine Sand W/ Silt
Sampled By: Client
Date Sampled: September 14, 2010
Tested By: HV
Date Tested: September 15, 2010
Plotted By: Software Package
Date Plotted: October 1, 2010

SUMMARY OF TEST RESULTS

Lab Number: 10-P0799
Test Method: ASTM D698 (1)
Maximum Dry Density, pcf: 98.0
Optimum Moisture, %: 13.4
Passing No. 4 Sieve, %: 100
Passing No. 200 Sieve, %: 5.9



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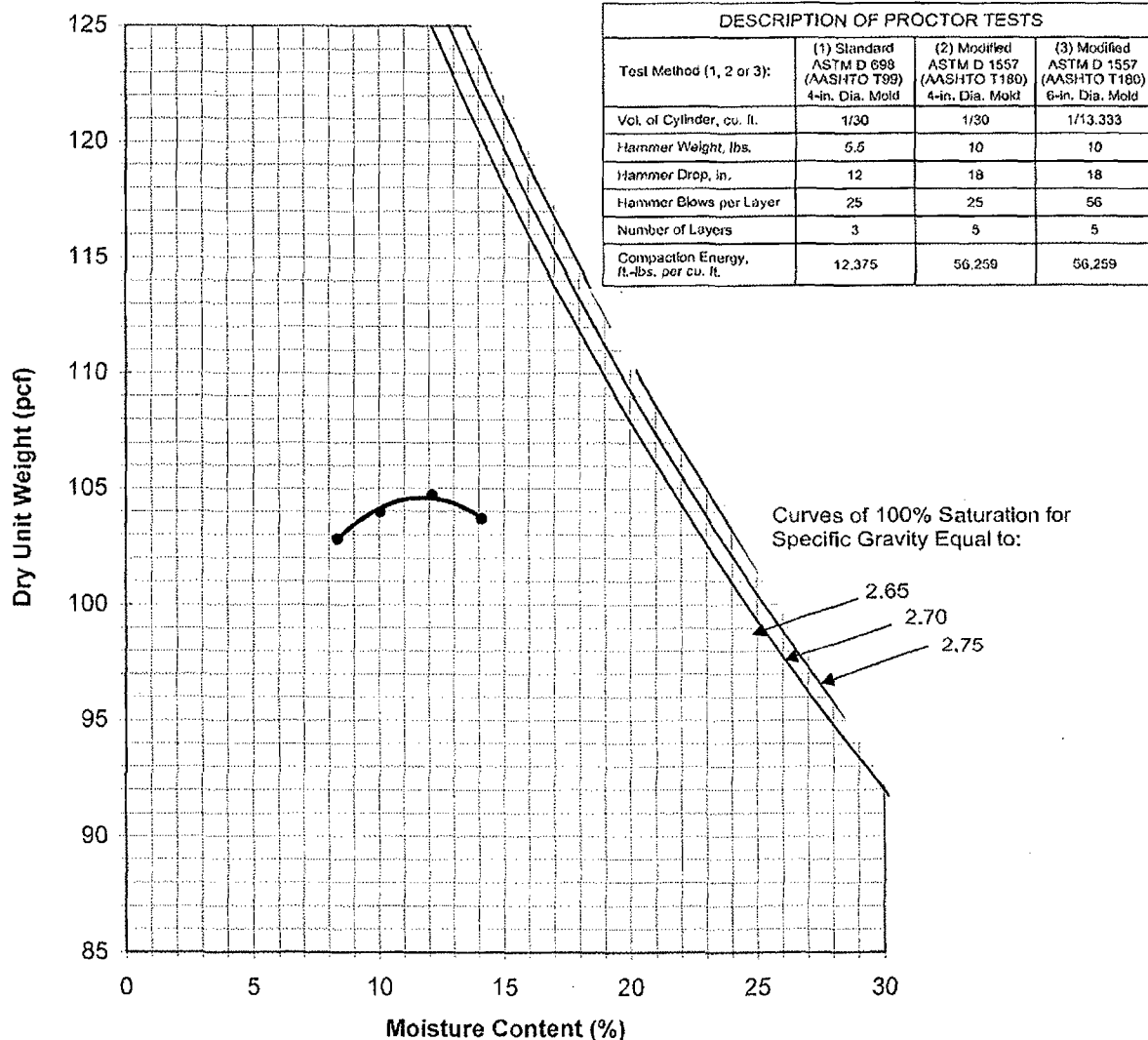
Project No.: 0110.1000517.0000
Work Order No.: 0
Report No.: 861715
Date: October 1, 2010

Client: ERC General Contracting
Project: Hardee Co. Regional Landfill
Sample Location: Orange Grove, 7 Miles East-Sample 3
Intended Use: Fill
Sample Description: Light Brown Medium Fine Sand w/ Silt
Sampled By: Client
Date Sampled: September 14, 2010

Tested By: HV
Date Tested: September 15, 2010
Plotted By: Software Package
Date Plotted: October 1, 2010

SUMMARY OF TEST RESULTS

Lab Number: 10-P0800
Test Method: ASTM D698 (1)
Maximum Dry Density, pcf: 104.6
Optimum Moisture, %: 11.8
Passing No. 4 Sieve, %: 100
Passing No. 200 Sieve, %: 6.5



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UNIVERSAL ENGINEERING SCIENCES

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

Project No.: 0110.1000517.0000
Report No.: 878455.1
Date: January 20, 2011

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON TRIAxIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

Client: ERC General Contractors
Attn: Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Miscellaneous Materials Testing, Hardee County Regional Landfill

Date Tested: Various Dates

Tested By: Rafael Castro

Date Sampled: Various Dates

Technician: Client

TEST RESULTS

Sample Location	Percent Passing No. 200 Sieve	Sample Ran At:		Permeability	
		Moisture Content (%)	Dry Unit Weight (pcf)	K cm/sec	K ft/day
Sample No. 1 (Stockpile)	18.5	15.9	109.6	7.38^{10-6}	2.09^{10-2}
Sample No. 2 (Stockpile)	17.5	12.7	114.9	3.83^{10-5}	1.08^{10-1}
Sample No. 3 (Stockpile)	17.8	13.1	114.0	1.28^{10-5}	3.62^{10-2}
Sample No. 6 (Stockpile)	17.0	15.9	107.7	2.32^{10-5}	6.58^{10-2}
Sample No. 7 (Stockpile)	22.5	17.0	108.2	4.09^{10-7}	1.16^{10-3}



UNIVERSAL ENGINEERING SCIENCES

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

Project No.: 0110.1000517.0000
Report No.: 878454.1
Date: January 20, 2011

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON SIEVE ANALYSIS

Client: ERC General Contractors
Attn: Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Miscellaneous Materials Testing, Hardee County Regional Land Fill

Location: Sample No. 1

Date Tested: 12/17/10

Tested By: Luis Fernandez

Date Sampled: 12/13/10

Sampled By: Client

Material Description: Tan Silty Sand with Clay

Sample Number: 1

SIEVE ANALYSIS

Sieve No.	% Retained Results	% Maximum Passing	% Passing Results
No. 10	.0	100	100
No. 20	.2	99	100
No. 40	1.8	70	98
No. 60	9.5	25	91
No. 200	81.5	0-5	18.5



UNIVERSAL ENGINEERING SCIENCES

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

Project No.: 0110.1000517.0000
Report No.: 878423.1
Date: January 20, 2011

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON SIEVE ANALYSIS

Client: ERC General Contractors
Attn: Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Miscellaneous Materials Testing, Hardee County Regional Land Fill

Location: Sample No. 2

Date Tested: 12/17/10

Tested By: Luis Fernandez

Date Sampled: 12/13/10

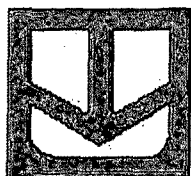
Sampled By: Client

Material Description: Tan Silty Clay

Sample Number: 2

SIEVE ANALYSIS

Sieve No.	% Retained Results	% Maximum Passing	% Passing Results
No. 10	0	100	100
No. 20	.1	99	100
No. 40	1.8	70	98
No. 60	10.2	25	90
No. 200	82.5	0-5	17.5



UNIVERSAL ENGINEERING SCIENCES

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

Project No. 0110.1000517.0000
Report No. 878433.1
Date: January 20, 2011

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON SIEVE ANALYSIS

Client: ERC General Contractors
Attn: Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Miscellaneous Materials Testing, Hardee County Regional Land Fill

Location: Sample No. 3

Date Tested: 12/17/10

Tested By: Luis Fernandez

Date Sampled: 12/13/10

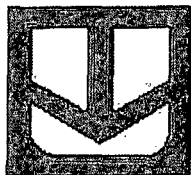
Sampled By: Client

Material Description: Tan Silty Clay

Sample Number: 3

SIEVE ANALYSIS

Sieve No.	% Retained Results	% Maximum Passing	% Passing Results
No. 10	0	100	100
No. 20	.1	99	100
No. 40	1.7	70	98
No. 60	10.2	25	90
No. 200	82.2	0-5	17.8



UNIVERSAL ENGINEERING SCIENCES

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

Project No.: 0110.1000517.0000
Report No.: 878442.1
Date: January 20, 2011

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON SIEVE ANALYSIS

Client: ERC General Contractors
Attn: Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Miscellaneous Materials Testing, Hardee County Regional Land Fill

Location: Sample No. 6

Date Tested: 12/17/10

Tested By: Luis Fernandez

Date Sampled: 12/13/10

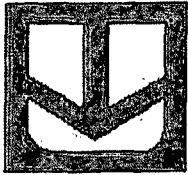
Sampled By: Client

Material Description: Tan Silty Sand with Clay

Sample Number: 6

SIEVE ANALYSIS

Sieve No.	% Retained Results	% Maximum Passing	% Passing Results
No. 10	.1	100	100
No. 20	.3	99	100
No. 40	4.9	70	95
No. 60	19.1	25	80
No. 200	83.0	0-5	17.0



UNIVERSAL ENGINEERING SCIENCES

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

Project No.: 0110.1000517.0000
Report No.: 878450.1
Date: January 20, 2011

3532 Maggie Boulevard • Orlando, FL 32811 • (407) 423-0504 • (407) 423-3106

REPORT ON SIEVE ANALYSIS

Client: ERC General Contractors
Attn: Jerry Pinder
890 Carter Road, Suite 170
Winter Garden, Florida 34787

Project: Miscellaneous Materials Testing, Hardee County Regional Land Fill

Location: Sample No. 7

Date Tested: 12/17/10

Tested By: Luis Fernandez

Date Sampled: 12/13/10

Sampled By: Client

Material Description: Tan Silty Sand with Clay

Sample Number: 7

SIEVE ANALYSIS

Sieve No.	% Retained Results	% Maximum Passing	% Passing Results
No. 10	.0	100	100
No. 20	.3	99	100
No. 40	4.1	70	96
No. 60	16.9	25	83
No. 200	77.5	0-5	22.5



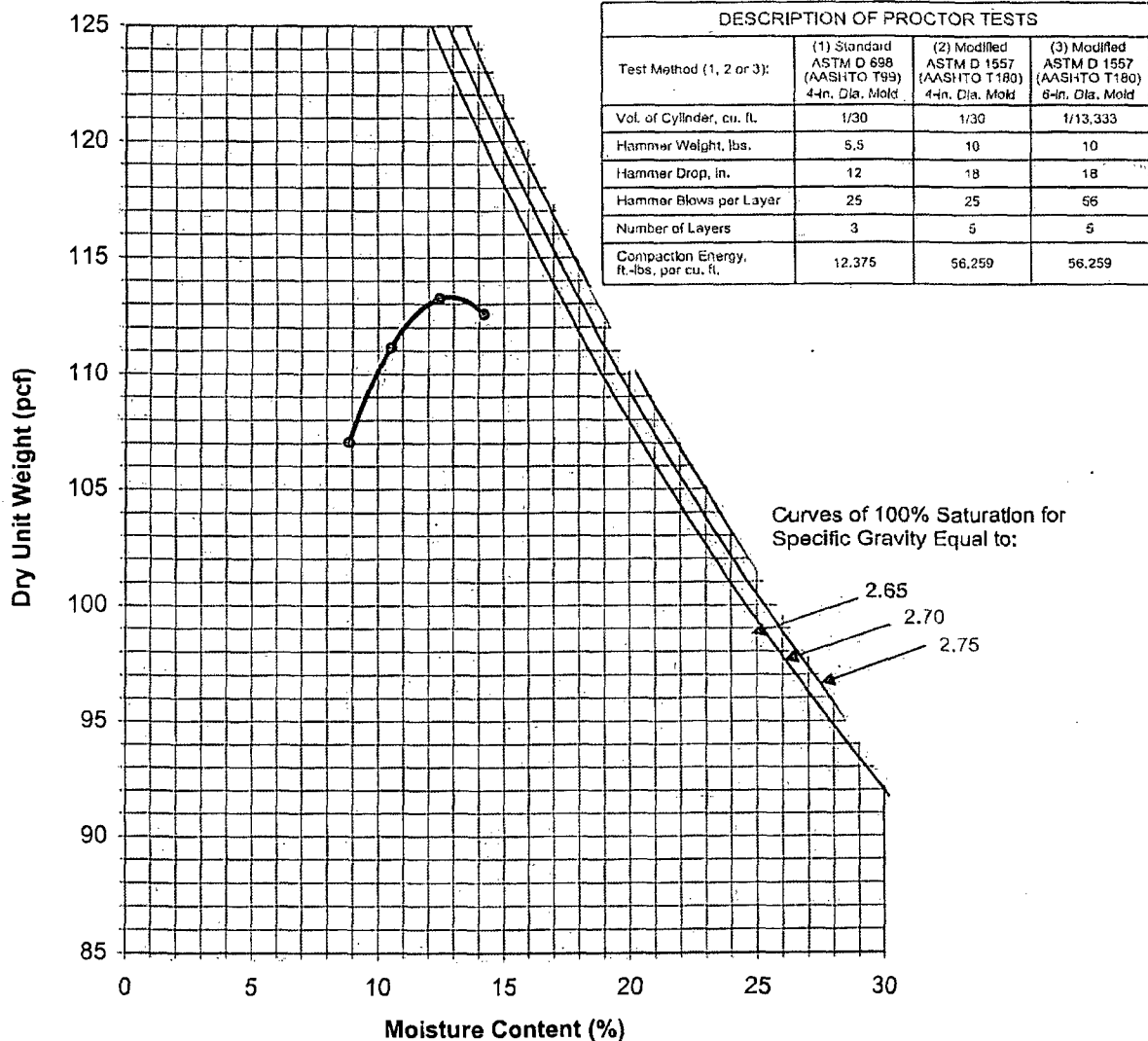
Project No.: 0110.1000517.0000
Work Order No.: NA
Report No.: 878451.1
Date: January 20, 2011

Client: ERC General Contractors
Project: Hardee County Regional Landfill Phase No. 1
Sample Location: Sample # 1
Intended Use: Fill
Sample Description: Tan Silty Sand w/ Clay
Sampled By: Client
Date Sampled: December 13, 2010

Tested By: HV
Date Tested: December 15, 2010
Plotted By: Software Package
Date Plotted: January 20, 2011

SUMMARY OF TEST RESULTS

Lab Number: 10-P1034
Test Method: AASHTO T-99 (2)
Maximum Dry Density, pcf: 113.0
Optimum Moisture, %: 13.0
Passing No. 4 Sieve, %: 100
Passing No. 200 Sieve, %: 18.5



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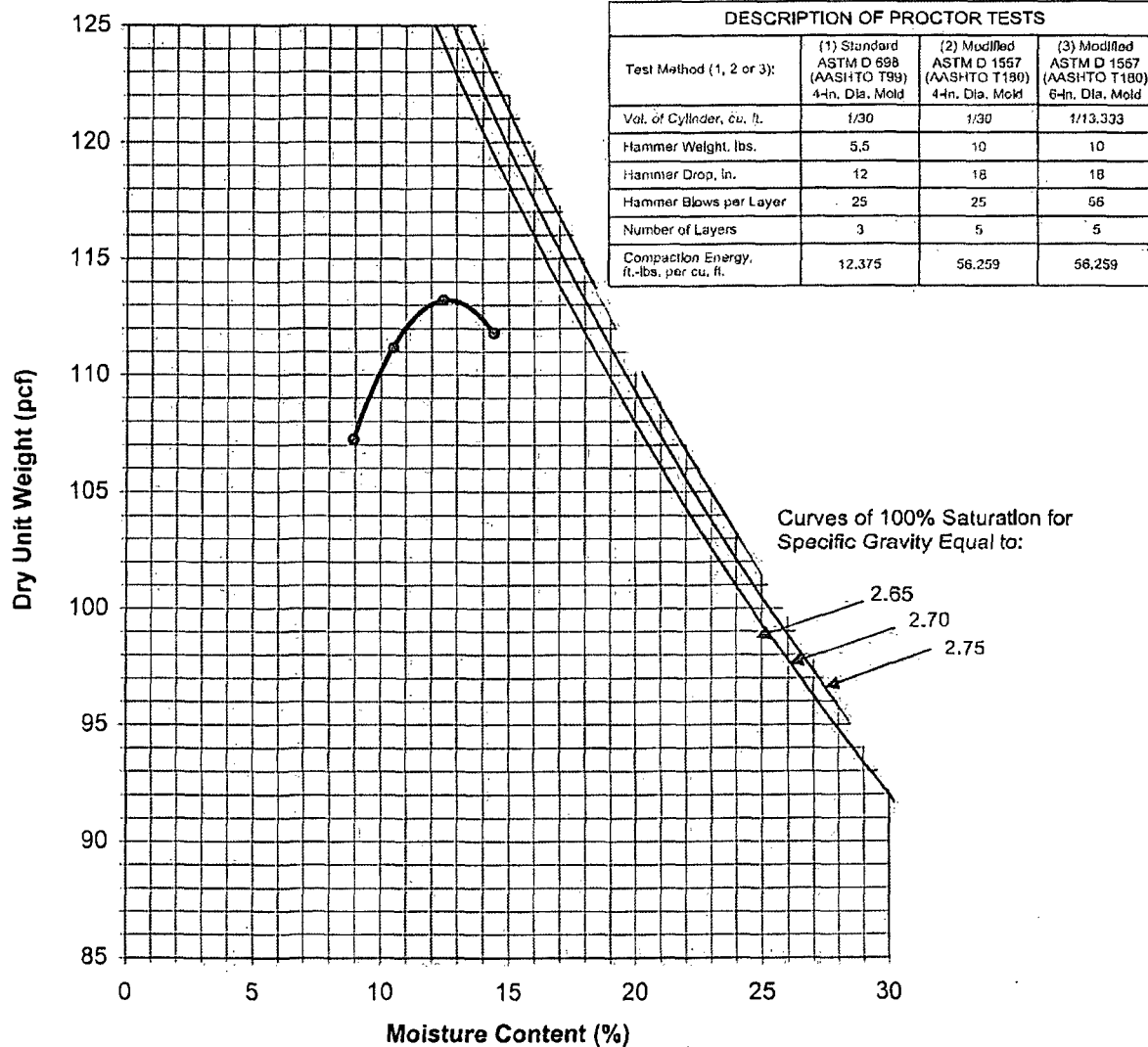
Project No.: 0110.1000517.0000
Work Order No.: NA
Report No.: 878416.1
Date: January 20, 2011

Client: ERC General Contractors
Project: Hardee County Regional Landfill
Sample Location: Sample # 2
Intended Use: Fill
Sample Description: Tan Silty Clay
Sampled By: Client
Date Sampled: December 13, 2010

Tested By: HV
Date Tested: December 15, 2010
Plotted By: Software Package
Date Plotted: January 20, 2011

SUMMARY OF TEST RESULTS

Lab Number: 10-P1033
Test Method: AASHTO T-99 (2)
Maximum Dry Density, pcf: 113.0
Optimum Moisture, %: 13.0
Passing No. 4 Sieve, %: 100
Passing No. 200 Sieve, %: NA



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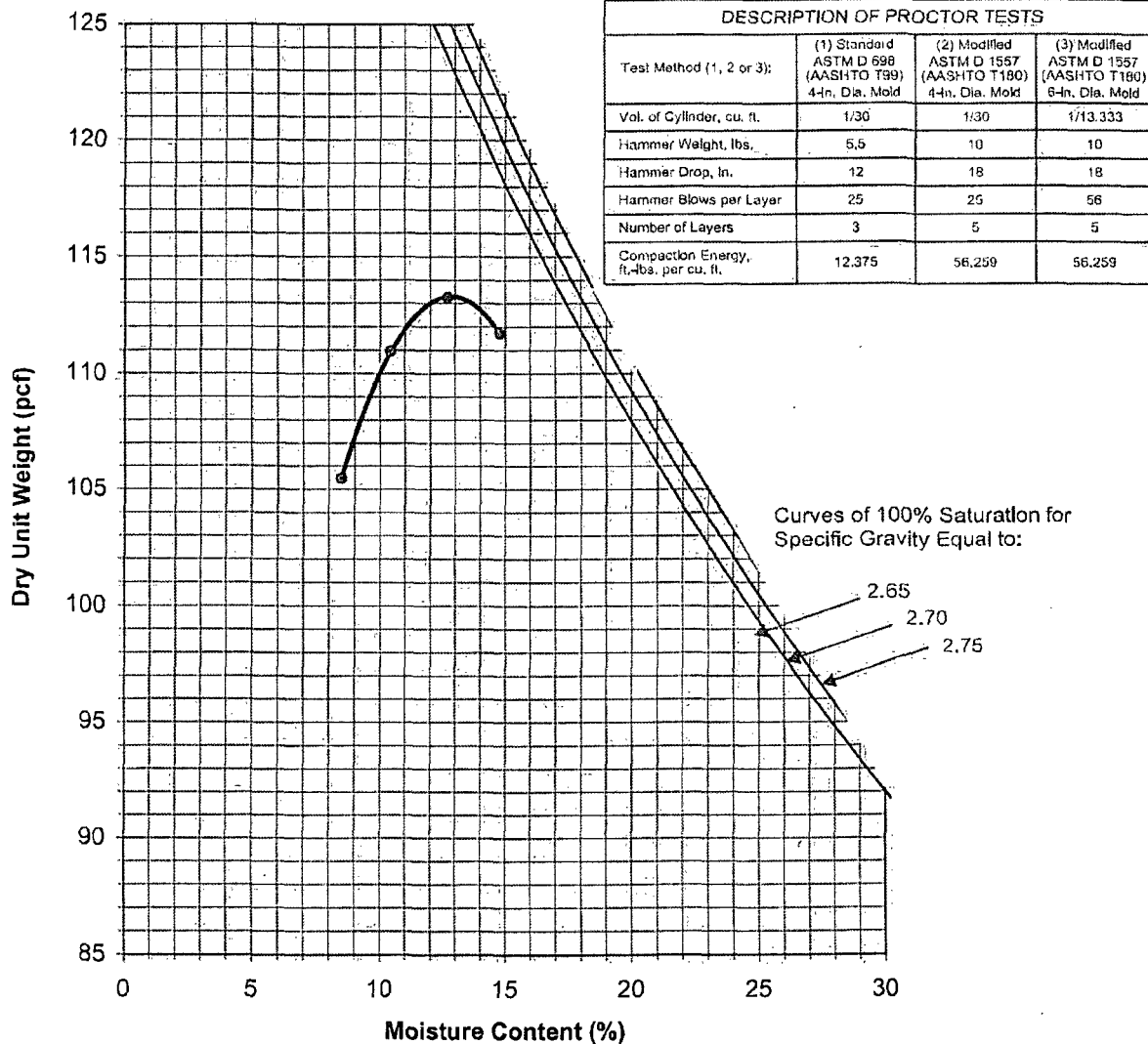
Project No.: 0110.1000517.0000
Work Order No.: NA
Report No.: 878426.1
Date: January 20, 2011

Client: ERC General Contractors
Project: Hardee County Regional Landfill, Phase 1
Sample Location: Sample # 3
Intended Use: Fill
Sample Description: Tan Silty Clay
Sampled By: Client
Date Sampled: December 13, 2010

Tested By: HV
Date Tested: December 15, 2010
Plotted By: Software Package
Date Plotted: January 20, 2011

SUMMARY OF TEST RESULTS

Lab Number: 10-P1032
Test Method: AASHTO T-99 (2)
Maximum Dry Density, pcf: 113.0
Optimum Moisture, %: 13.0
Passing No. 4 Sieve, %: 100
Passing No. 200 Sieve, %: NA



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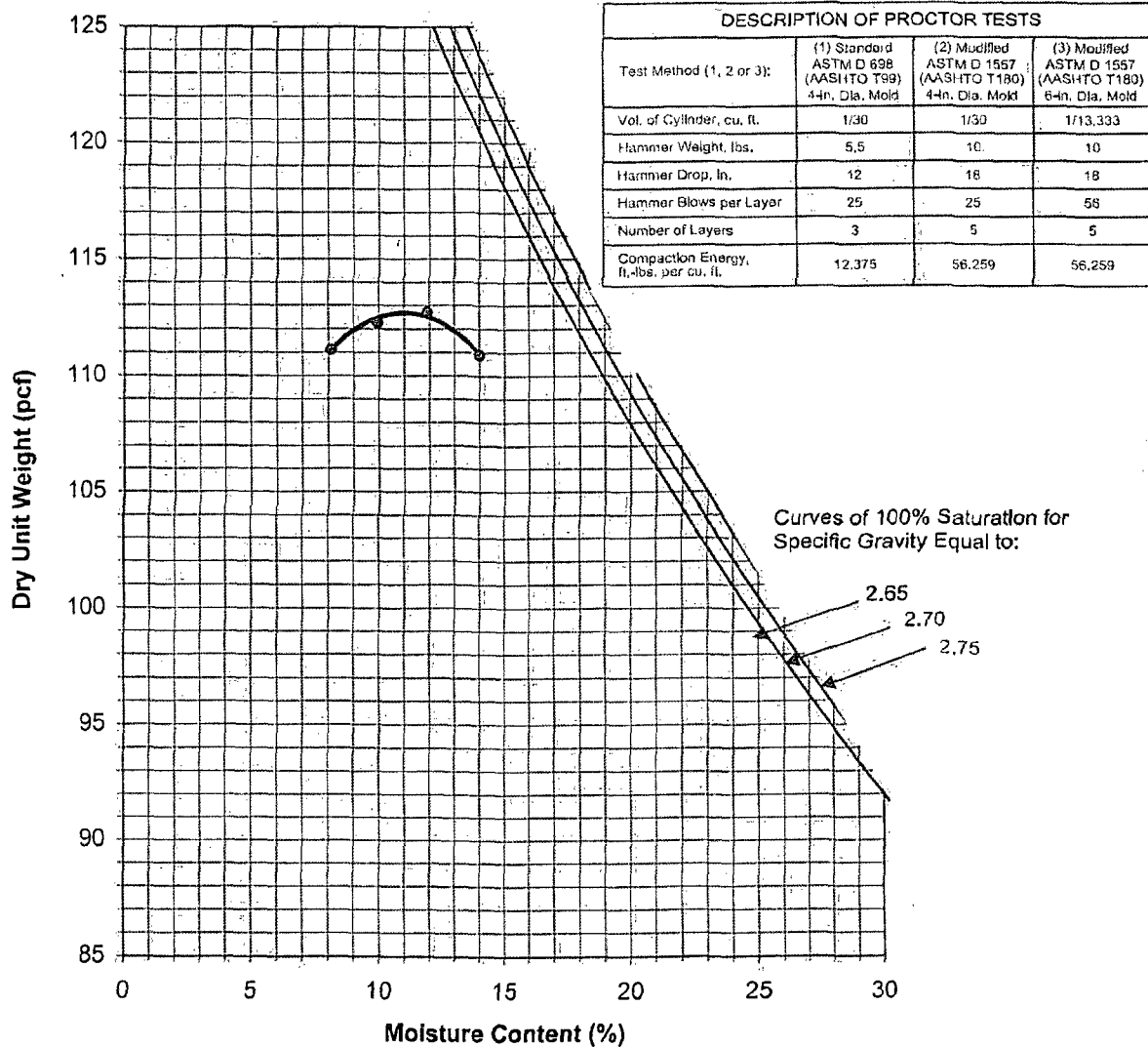
Project No.: 0110.1000517.0000
Work Order No.: NA
Report No.: 878439.1
Date: January 20, 2011

Client: ERC General Contractors
Project: Hardee County Regional Landfill
Sample Location: Sample # 6
Intended Use: Fill
Sample Description: Tan Silty Sand w/ Clay
Sampled By: Client
Date Sampled: December 13, 2010

Tested By: HV
Date Tested: January 6, 2011
Plotted By: Software Package
Date Plotted: January 20, 2011

SUMMARY OF TEST RESULTS

Lab Number: 11-P0011
Test Method: AASHTO T-99 (2)
Maximum Dry Density, pcf: 113.0
Optimum Moisture, %: 11.0
Passing No. 4 Sieve, %: 100
Passing No. 200 Sieve, %: 17



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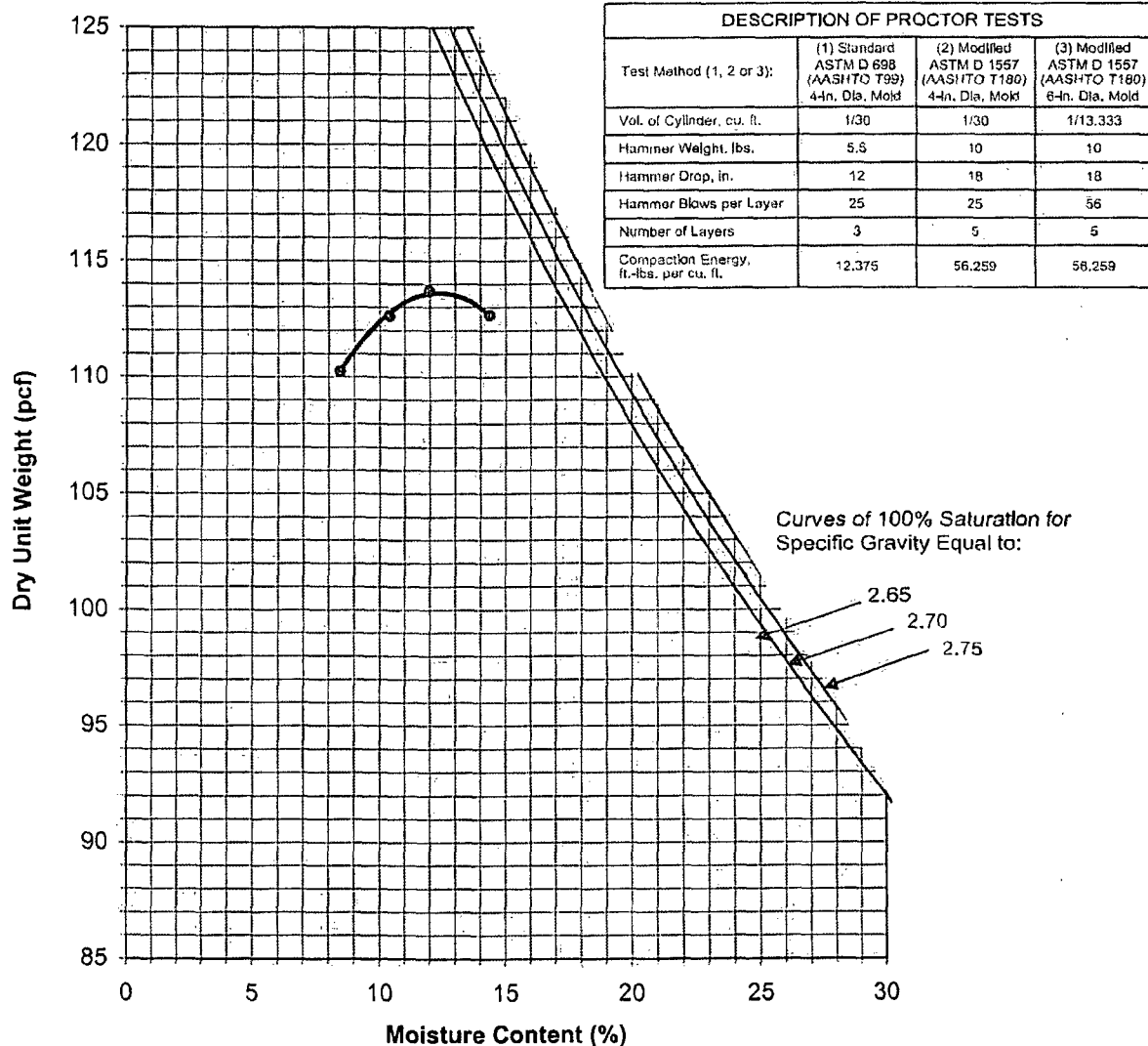


Project No.: 0110.1000517.0000
Work Order No.: NA
Report No.: 878446.1
Date: January 20, 2011

Client: ERC General Contractors
Project: Hardee County Regional Landfill Phase No. 1
Sample Location: Sample # 7
Intended Use: Fill
Sample Description: Tan Silty Sand w/ Clay
Sampled By: Client
Date Sampled: December 13, 2010
Tested By: HV
Date Tested: January 6, 2011
Plotted By: Software Package
Date Plotted: January 20, 2011

SUMMARY OF TEST RESULTS

Lab Number: 11-P0012
Test Method: AASHTO T-99 (2)
Maximum Dry Density, pcf: 114.0
Optimum Moisture, %: 12.0
Passing No. 4 Sieve, %: 100
Passing No. 200 Sieve, %: 22.5



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