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CONSTRUCTION QUALITY ASSURANCE FINAL REPORT

ON-SITE DISPOSAL FACILITY PHASE II CELL 3

REVISION 0
NOVEMBER 1999
VOLUME II

United States Department of Energy
Fernald Environmental Management Project
Fernald, Ohio

prepared by

GEOSYNTEC CONSULTANTS
Fernald Field Office
7400 Willey Road, Mail Stop 38
Hamilton, Ohio 45013

under

Fluor Daniel Fernald
Subcontract 95PS005028

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APPENDIX C

WEEKLY FIELD REPORTS

Transmittal Date: 11-12-1999 KBT

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 07 November 1999

2737

ENGINEER'S WEEKLY REPORT NO. 126

The report period covered by Weekly Report No.126 is from Monday, 01 November 1999 through Sunday, 07 November 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 1.0 inch of precipitation recorded.

Construction Progress

During the report period, Petro completed the placement of the 1-ft thick protective layer, consisting of impacted fly ash, in Cell 3. Placement of the protective layer was completed on 05 November 1999.

Impacted material placement in Cells 1 and 2 continued during the report period. A total of 188 truckloads were hauled into Cell 1 including 164 loads of Category 1, 1 load of Category 2 and 23 loads of Category 4. There were 128 additional loads hauled into Cell 2 including 104 loads of Category 1 and 24 loads of Category 2. There were also 668 loads of Category 1 material (fly ash) hauled into Cell 3 for the 1-ft thick protective layer.

Construction Submittal Review

There were no construction submittals reviewed during the report period.

GeoSyntec received and checked survey certification points for the top of the 1-ft thick protective layer in Cell 3.

Design Clarifications and Modifications

DCN No. 20402-095 was for the SWU project and approved y Parsons.

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Transmittal Date: 11-12-1999 KBT

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 07 November 1999

2737

ENGINEER'S WEEKLY REPORT NO. 126 (cont'd)

Design Clarifications and Modifications (cont'd)

DCN No. 20102-096 was prepared by GeoSyntec on 25 October 1999 to allow the use of a mixture of Conwed Fiber's Enviroblend hydraulic mulch and Finn Corporation's A-500 Hydro-Stik tacking agent (mulch binder) as an alternative to the pine sap emulsion product as a dust suppressant/crusting agent. Section 13010 of the Technical Specification was affected. This DCN is pending approval from the regulatory agencies (Ohio and US EPA).

On 29 October 1999, GeoSyntec prepared a response to RCI No. 20102-057R, initiated by FDF, to allow the placement of pieces of "deck plate" material as Category 2 impacted material. Concurrence from the Ohio EPA was received during the report period.

RCI No. 20102-058R, initiated by GeoSyntec, provided clarifications to the 100-ft separation distance between placed Category 3 materials and more compressible materials (i.e., Category 4 materials, and sludges and double-bagged asbestos of Category 5 materials) as stated in Section 8.4.1 of the Impacted Material Placement Plan, Revision 1. Concurrence from the Ohio EPA was received during the report period.

GeoSyntec participated in an FDF-initiated meeting on "Lessons Learned from Phase I and Phase II Construction" on the 03 and 04 November 1999. The purpose of this meeting was to compile and incorporate any lessons learned in the Phase III CFC package which was being prepared by GeoSyntec's Atlanta office. Dave Phillips and Dennis Vander Linde of GeoSyntec, Atlanta office attended the two-day meeting.

Construction Quality Control (CQC)

CQC monitored the placement of impacted materials into Cell 1, Cell 2, and Cell 3. CQC also checked signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

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Transmittal Date: 11-12-1999 KBT

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 07 November 1999

2737

ENGINEER'S WEEKLY REPORT NO. 126 (cont'd)

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec also holds its own daily safety tailgate meetings.

The 01 November 1999 GeoSyntec weekly safety meeting covered the need for each GeoSyntec employee to be continually familiar with the Impacted Materials Placement Plan, Project Specifications and appropriate documentation. Completion of vehicle inspection checklist was also re-emphasized.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. B. York,
4. D. Evans (part time),
5. R. Erisman (part time),
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman,
9. R. Peddicord (part time),
10. D. Phillips (part time), and
11. D. Vander Linde (part time).

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Transmittal Date: 11-12-1999 KB

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 07 November 1999

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Construction Progress

During the report period, Petro completed the placement of the 1-ft thick protective layer, consisting of impacted fly ash, in Cell 3. Placement of the protective layer was completed on 05 November 1999.

Impacted material placement in Cells 1 and 2 continued during the report period. A total of 188 truckloads were hauled into Cell 1 including 164 loads of Category 1, 1 load of Category 2 and 23 loads of Category 4. There were 128 additional loads hauled into Cell 2 including 104 loads of Category 1 and 24 loads of Category 2. There were also 668 loads of Category 1 material (fly ash) hauled into Cell 3 for the 1-ft thick protective layer.

Construction Submittal Review

There were no construction submittals reviewed during the report period.

GeoSyntec received and checked survey certification points for the top of the 1-ft thick protective layer in Cell 3.

Design Clarifications and Modifications

DCN No. 20402-095 was for the SWU project and approved y Parsons.

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Transmittal Date: 11-12-1999 KB

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 07 November 1999

--2737

ENGINEER'S WEEKLY REPORT NO. 126 (cont'd)

Design Clarifications and Modifications (cont'd)

DCN No. 20102-096 was prepared by GeoSyntec on 25 October 1999 to allow the use of a mixture of Conwed Fiber's Enviroblend hydraulic mulch and Finn Corporation's A-500 Hydro-Stik tacking agent (mulch binder) as an alternative to the pine sap emulsion product as a dust suppressant/crusting agent. Section 13010 of the Technical Specification was affected. This DCN is pending approval from the regulatory agencies (Ohio and US EPA).

On 29 October 1999, GeoSyntec prepared a response to RCI No. 20102-057R, initiated by FDF, to allow the placement of pieces of "deck plate" material as Category 2 impacted material. Concurrence from the Ohio EPA was received during the report period.

RCI No. 20102-058R, initiated by GeoSyntec, provided clarifications to the 100-ft separation distance between placed Category 3 materials and more compressible materials (i.e., Category 4 materials, and sludges and double-bagged asbestos of Category 5 materials) as stated in Section 8.4.1 of the Impacted Material Placement Plan, Revision 1. Concurrence from the Ohio EPA was received during the report period.

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Construction Quality Control (CQC)

CQC monitored the placement of impacted materials into Cell 1, Cell 2, and Cell 3. CQC also checked signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

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Transmittal Date: 11-12-1999 KB

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 07 November 1999

ENGINEER'S WEEKLY REPORT NO. 126 (cont'd)

2737

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec also holds its own daily safety tailgate meetings.

The 01 November 1999 GeoSyntec weekly safety meeting covered the need for each GeoSyntec employee to be continually familiar with the Impacted Materials Placement Plan, Project Specifications and appropriate documentation. Completion of vehicle inspection checklist was also re-emphasized.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. B. York,
4. D. Evans (part time),
5. R. Erisman (part time),
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman,
9. R. Peddicord (part time),
10. D. Phillips (part time), and
11. D. Vander Linde (part time).

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Transmittal Date 11-05-99

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 31 October 1999

F-2737

ENGINEER'S WEEKLY REPORT NO. 125

The report period covered by Weekly Report No.125 is from Monday, 25 October 1999 through Sunday, 31 October 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was no precipitation recorded.

Construction Progress

During the report period, Petro completed the fine grading of the Cell 3 west berm protective clay layer (clay wedge) and installed the sacrificial geomembrane over the east and west side slopes of Cell 3. The east berm sacrificial geomembrane was installed on the 25 October 1999 and the west berm sacrificial geomembrane was installed on the 26 October 1999. Petro also began placing the 1-ft thick protective layer, consisting of impacted fly ash, in Cell 3 on 26 October 1999. The protective layer in Cell 3 was approximately 40 percent complete at the end of the report period.

Impacted material placement in Cells 1 and 2 continued during the report period. A total of 383 truckloads were hauled into Cell 1 including 350 loads of Category 1 and 33 loads of Category 2. There were 425 additional loads hauled into Cell 2 including 301 loads of Category 1 and 124 loads of Category 2. There were also 358 loads of Category 1 material (fly ash) hauled into Cell 3 for the 1-ft thick protective layer.

Construction Submittal Review

There were no construction submittals reviewed during the report period.

Design Clarifications and Modifications

000009

DCN No. 20102-096 was prepared by GeoSyntec to allow the use of a mixture of Conwed Fiber's Enviroblend hydraulic mulch and Finn Corporation's A-500 Hydro-Stik tacking agent (mulch binder) as an alternative to the pine sap emulsion product as a dust suppressant/crusting agent. Section 13010 of the Technical Specification was affected.

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Transmittal Date

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 31 October 1999

ENGINEER'S WEEKLY REPORT NO. 125 (cont'd)

-2737

Design Clarifications and Modifications (*Cont.*)

GeoSyntec prepared a response to RCI No. 20102-056R, initiated by FDF, on the clarification on placement of Category 3 material toward the center of the cell.

GeoSyntec also prepared a response to RCI No. 20102-057R, initiated by FDF, to allow the placement of pieces of "deck plate" material as Category 2 impacted material.

Construction Quality Control (CQC)

CQC monitored the fine grading of the Cell 3 west and east berm clay wedges and the installation of the sacrificial geomembrane on the east and west side slopes of Cell 3. The fine grading was monitored to ensure that the geotextile on the west and east side slopes of Cell 3 was not damaged. In a few cases, the LCS geotextile filter was damaged and repaired in accordance with the specifications.

CQC monitored the placement of impacted materials into Cell 1, Cell 2, and Cell 3. CQC also checked signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec also holds its own daily safety tailgate meetings.

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Transmittal Date

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 31 October 1999

2737

ENGINEER'S WEEKLY REPORT NO. 125 (cont'd)

Health and Safety *(Cont.)*

The 25 October 1999 GeoSyntec weekly safety meeting covered holiday safety for Halloween. Vehicle inspection checklist completion was also emphasized. The upcoming daylight savings time and the need to check your home smoke alarm batteries were also discussed.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. B. York,
4. D. Evans
5. R. Erisman (part time),
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman, and
9. R. Peddicord.

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Transmittal Date

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 31 October 1999

2737

ENGINEER'S WEEKLY REPORT NO. 125

The report period covered by Weekly Report No.125 is from Monday, 25 October 1999 through Sunday, 31 October 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was no precipitation recorded.

Construction Progress

During the report period, Petro completed the fine grading of the Cell 3 west berm protective clay layer (clay wedge) and installed the sacrificial geomembrane over the east and west side slopes of Cell 3. The east berm sacrificial geomembrane was installed on the 25 October 1999 and the west berm sacrificial geomembrane was installed on the 26 October 1999. Petro also began placing the 1-ft thick protective layer, consisting of impacted fly ash, in Cell 3 on 26 October 1999. The protective layer in Cell 3 was approximately 40 percent complete at the end of the report period.

Impacted material placement in Cells 1 and 2 continued during the report period. A total of 383 truckloads were hauled into Cell 1 including 350 loads of Category 1 and 33 loads of Category 2. There were 425 additional loads hauled into Cell 2 including 301 loads of Category 1 and 124 loads of Category 2. There were also 358 loads of Category 1 material (fly ash) hauled into Cell 3 for the 1-ft thick protective layer.

Construction Submittal Review

There were no construction submittals reviewed during the report period.

Design Clarifications and Modifications

000612

DCN No. 20102-096 was prepared by GeoSyntec to allow the use of a mixture of Conwed Fiber's Enviroblend hydraulic mulch and Finn Corporation's A-500 Hydro-Stik tacking agent (mulch binder) as an alternative to the pine sap emulsion product as a dust suppressant/crusting agent. Section 13010 of the Technical Specification was affected.

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Transmittal Date

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 31 October 1999

-2737

ENGINEER'S WEEKLY REPORT NO. 125 (cont'd)

Design Clarifications and Modifications *(Cont.)*

GeoSyntec prepared a response to RCI No. 20102-056R, initiated by FDF, on the clarification on placement of Category 3 material toward the center of the cell.

GeoSyntec also prepared a response to RCI No. 20102-057R, initiated by FDF, to allow the placement of pieces of "deck plate" material as Category 2 impacted material.

Construction Quality Control (CQC)

CQC monitored the fine grading of the Cell 3 west and east berm clay wedges and the installation of the sacrificial geomembrane on the east and west side slopes of Cell 3. The fine grading was monitored to ensure that the geotextile on the west and east side slopes of Cell 3 was not damaged. In a few cases, the LCS geotextile filter was damaged and repaired in accordance with the specifications.

CQC monitored the placement of impacted materials into Cell 1, Cell 2, and Cell 3. CQC also checked signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec also holds its own daily safety tailgate meetings.

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Transmittal Date

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 31 October 1999

2737

ENGINEER'S WEEKLY REPORT NO. 125 (cont'd)

Health and Safety *(Cont.)*

The 25 October 1999 GeoSyntec weekly safety meeting covered holiday safety for Halloween. Vehicle inspection checklist completion was also emphasized. The upcoming daylight savings time and the need to check your home smoke alarm batteries were also discussed.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
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7. S. Quammen,
8. T. Dickman, and
9. R. Peddicord.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 24 October 1999

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ENGINEER'S WEEKLY REPORT NO. 124

The report period covered by Weekly Report No.124 is from Monday, 18 October 1999 through Sunday, 24 October 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.2 inches of precipitation recorded.

Construction Progress

During the report period, Petro completed placement of the 1-ft thick protective layer ("clean" soil on the Cell 3/Cell 4 intercell berm) for Cell 3 on 18 October 1999. Also, Petro began placement of the protective clay layer (i.e., clay wedge) on the east and west berms of Cell 3. The placement of clay wedge on the east berm began on 18 October 1999 and was completed, except for fine grading, on 21 October 1999. The placement of the clay wedge on the west berm began on 20 October 1999 and was completed, except for fine grading, on 22 October 1999.

The Istre Company, the Geosynthetics Installer, completed the installation of the 7-oz/yd^2 sacrificial geotextile filter on the granular protective layer in the impacted runoff catchment area for the Cell 3 on 18 October 1999.

Impacted material placement continued during the report period. A total of 393 truckloads were hauled into Cell 2 including 362 loads of Category 1, 28 loads of Category 2, 1 load of Category 4 and 2 loads of Category 5. There were 447 additional loads hauled into Cell 1 including 368 loads of Category 1, 54 loads of Category 2, and 25 loads of Category 4.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 24 October 1999

F-2737

ENGINEER'S WEEKLY REPORT NO. 124 (cont'd)

Construction Submittal Review

The following construction submittals were reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
P9-1, Rev. 1	Quality Assurance Plan for Opt. A and STP Work	21 Oct. '99	A/with Comments
13005-3, Rev. 0	Name/Qual. Of Fabricator	21 Oct '99	A
13005-3, Rev. 0	List of 10 Comp. Facilities	21 Oct '99	A
13005-3, Rev. 0	Handling/Storage Instructions	21 Oct '99	A
13005-3, Rev. 0	Name/Qual. of Flat Stock Mfg. and Origin/Iden. of PE Resin	21 Oct '99	B/ with Comments
13005-4, Rev. 0	Resin/Pipe Supplier's QC Certs./ Cert. of Reclaimed Polymer	21 Oct '99	A
13005-4, Rev. 0	Mfg's Test Results on Flat Stock	21 Oct '99	B/ with Comments
13005-4, Rev. 0	Fabricator's QC Test Results	21 Oct '99	A
13005-4, Rev. 0	Fabricator's Spark Test Reslts	21 Oct '99	A
13005-4, Rev. 0	Fabricator's Mtls/LPB Cert.	21 Oct'99	A
13005-5, Rev. 0	Recom. Installation Proc.	21 Oct '99	A

GeoSyntec completed review of the Cell 3 impacted runoff catchment area granular protective layer survey certification points for completed sections to allow the Installer complete the installation of the overlying sacrificial geotextile filter. GeoSyntec also reviewed survey certification points of completed sections of the protective layer placement on the Cell 3/Cell 4 intercell berm.

GeoSyntec provided FDF with an interim construction certification letter for Phase II Cell 3 lining system construction on 21 October 1999.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 24 October 1999

2737

ENGINEER'S WEEKLY REPORT NO. 124 (cont'd)

Design Clarifications and Modifications

GeoSyntec participated in several meetings with FDF Construction, QA and Engineering to discuss resolution of outstanding nonconformance reports (NCRs) on the Phase II Cell 3 lining system construction.

GeoSyntec prepared corrective action response to FDF-initiated NCR Nos. FY2000-0024 and FY2000-0025. These NCRs, which were written on GeoSyntec CQC, relate to an undocumented repair of the Cell 3 primary geomembrane and geomembrane trial welds exceeding 5 hours, respectively.

GeoSyntec also assisted FDF Construction and Engineering in the disposition of GeoSyntec-initiated NCR Nos. 20102-022, 20102-023, and 20102-024 on the Cell 3 LCS geotextile filter exposure and gradation of the LCS drainage layer material. These NCRs were completely dispositioned prior to issuance of the Phase II Cell 3 interim construction certification letter by the Certifying Engineer.

Construction Quality Control (CQC)

CQC monitored the installation of the Cell 3 sacrificial geotextile filter over the granular protective layer in the impacted runoff catchment area. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of the protective layer. The clean protective layer material placed over the Cell 3/Cell 4 intercell berm was monitored for over-sized rocks and roots; these were removed by Petro's laborers. CQC also monitored the placement and compaction of the clay wedges to ensure that it met the technical specification requirements of Section 02225. Nuclear moisture/density and drive cylinder tests were performed as required.

CQC performed sieve analysis on No. 78 stone sample number LCS III-9 obtained from the Cell 3 impacted runoff catchment area granular protective layer. A sample was also shipped

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ENGINEER'S WEEKLY REPORT NO. 124 (cont'd)

to the GeoSyntec GEM Testing Laboratory for hydraulic conductivity and carbonate content testing. The results of the tests indicate that the material passed hydraulic conductivity and carbonate content but failed to meet the gradation requirements of the specifications (see NCR No. 20102-024).

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec also holds its own daily safety tailgate meetings.

The 19 October 1999 GeoSyntec weekly safety meeting covered the need for each employee to review GeoSyntec's Safe Work Plan for the OSDF/FEMP.

Jim Burnett and Byran York of GeoSyntec also completed 30-hour OSHA Construction Outreach Training Program on 18 October 1999.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. B. York,
4. D. Evans
5. R. Erisman,
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman,
9. R. Peddicord, and
10. D. Bodine (part time).

000018

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 24 October 1999

2737

ENGINEER'S WEEKLY REPORT NO. 124

The report period covered by Weekly Report No.124 is from Monday, 18 October 1999 through Sunday, 24 October 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.2 inches of precipitation recorded.

Construction Progress

During the report period, Petro completed placement of the 1-ft thick protective layer ("clean" soil on the Cell 3/Cell 4 intercell berm) for Cell 3 on 18 October 1999. Also, Petro began placement of the protective clay layer (i.e., clay wedge) on the east and west berms of Cell 3. The placement of clay wedge on the east berm began on 18 October 1999 and was completed, except for fine grading, on 21 October 1999. The placement of the clay wedge on the west berm began on 20 October 1999 and was completed, except for fine grading, on 22 October 1999.

The Istre Company, the Geosynthetics Installer, completed the installation of the 7-oz/yd^2 sacrificial geotextile filter on the granular protective layer in the impacted runoff catchment area for the Cell 3 on 18 October 1999.

Impacted material placement continued during the report period. A total of 393 truckloads were hauled into Cell 2 including 362 loads of Category 1, 28 loads of Category 2, 1 load of Category 4 and 2 loads of Category 5. There were 447 additional loads hauled into Cell 1 including 368 loads of Category 1, 54 loads of Category 2, and 25 loads of Category 4.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 24 October 1999

2737

ENGINEER'S WEEKLY REPORT NO. 124 (cont'd)

Construction Submittal Review

The following construction submittals were reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
P9-1, Rev. 1	Quality Assurance Plan for Opt. A and STP Work	21 Oct. '99	A/with Comments
13005-3, Rev. 0	Name/Qual. Of Fabricator	21 Oct '99	A
13005-3, Rev. 0	List of 10 Comp. Facilities	21 Oct '99	A
13005-3, Rev. 0	Handling/Storage Instructions	21 Oct '99	A
13005-3, Rev. 0	Name/Qual. of Flat Stock Mfg. and Origin/Iden. of PE Resin	21 Oct '99	B/ with Comments
13005-4, Rev. 0	Resin/Pipe Supplier's QC Certs./ Cert. of Reclaimed Polymer	21 Oct '99	A
13005-4, Rev. 0	Mfg's Test Results on Flat Stock	21 Oct '99	B/ with Comments
13005-4, Rev. 0	Fabricator's QC Test Results	21 Oct '99	A
13005-4, Rev. 0	Fabricator's Spark Test Reslts	21 Oct '99	A
13005-4, Rev. 0	Fabricator's Mtls/LPB Cert.	21 Oct'99	A
13005-5, Rev. 0	Recom. Installation Proc.	21 Oct '99	A

GeoSyntec completed review of the Cell 3 impacted runoff catchment area granular protective layer survey certification points for completed sections to allow the Installer complete the installation of the overlying sacrificial geotextile filter. GeoSyntec also reviewed survey certification points of completed sections of the protective layer placement on the Cell 3/Cell 4 intercell berm.

GeoSyntec provided FDF with an interim construction certification letter for Phase II Cell 3 lining system construction on 21 October 1999.

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ENGINEER'S WEEKLY REPORT NO. 124 (cont'd)

Design Clarifications and Modifications

GeoSyntec participated in several meetings with FDF Construction, QA and Engineering to discuss resolution of outstanding nonconformance reports (NCRs) on the Phase II Cell 3 lining system construction.

GeoSyntec prepared corrective action response to FDF-initiated NCR Nos. FY2000-0024 and FY2000-0025. These NCRs, which were written on GeoSyntec CQC, relate to an undocumented repair of the Cell 3 primary geomembrane and geomembrane trial welds exceeding 5 hours, respectively.

GeoSyntec also assisted FDF Construction and Engineering in the disposition of GeoSyntec-initiated NCR Nos. 20102-022, 20102-023, and 20102-024 on the Cell 3 LCS geotextile filter exposure and gradation of the LCS drainage layer material. These NCRs were completely dispositioned prior to issuance of the Phase II Cell 3 interim construction certification letter by the Certifying Engineer.

Construction Quality Control (CQC)

CQC monitored the installation of the Cell 3 sacrificial geotextile filter over the granular protective layer in the impacted runoff catchment area. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of the protective layer. The clean protective layer material placed over the Cell 3/Cell 4 intercell berm was monitored for over-sized rocks and roots; these were removed by Petro's laborers. CQC also monitored the placement and compaction of the clay wedges to ensure that it met the technical specification requirements of Section 02225. Nuclear moisture/density and drive cylinder tests were performed as required.

CQC performed sieve analysis on No. 78 stone sample number LCS III-9 obtained from the Cell 3 impacted runoff catchment area granular protective layer. A sample was also shipped

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ENGINEER'S WEEKLY REPORT NO. 124 (cont'd)

to the GeoSyntec GEM Testing Laboratory for hydraulic conductivity and carbonate content testing. The results of the tests indicate that the material passed hydraulic conductivity and carbonate content but failed to meet the gradation requirements of the specifications (see NCR No. 20102-024).

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec also holds its own daily safety tailgate meetings.

The 19 October 1999 GeoSyntec weekly safety meeting covered the need for each employee to review GeoSyntec's Safe Work Plan for the OSDF/FEMP.

Jim Burnett and Byran York of GeoSyntec also completed 30-hour OSHA Construction Outreach Training Program on 18 October 1999.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. B. York,
4. D. Evans
5. R. Erisman,
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman,
9. R. Peddicord, and
10. D. Bodine (part time).

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Transmittal Date Krusman 10-22-99 2P

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 17 October 1999

2737

ENGINEER'S WEEKLY REPORT NO. 123

The report period covered by Weekly Report No.123 is from Monday, 11 October 1999 through Sunday, 17 October 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 1.9 inches of precipitation recorded.

Construction Progress

During the report period, Petro began placing the protective layer ("clean" soil on the Cell 3/Cell 4 intercell berm and No. 78 stone for the impacted runoff catchment area) for Cell 3. Placement of the "clean" portion of the protective layer on the Cell 3/Cell 4 intercell berm began on 12 October 1999. Approximately 70 percent of the protective layer placed on the Cell 3/Cell 4 intercell berm was complete at the end of the report period. Placement of the granular protective layer on the impacted runoff catchment area began on 13 October and was completed on 15 October.

The Istre Company, the Geosynthetics Installer, completed the installation of the 7-oz/yd^2 geotextile filter on top of the LCS drainage layer on 15 October, and began the installation of the sacrificial geotextile filter on the granular protective layer for the Cell 3 impacted runoff catchment area. Installation of the sacrificial geotextile filter was approximately 70 percent complete at the end of the report period.

Impacted material placement continued during the report period. A total of 325 truckloads were hauled into Cell 2 including 275 loads of Category 1, 46 loads of Category 2, 3 loads of Category 3 and 1 load of Category 4. There were 429 additional loads hauled into Cell 1 including 368 loads of Category 1, 45 loads of Category 2, and 16 loads of Category 4.

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Transmittal Date _____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 17 October 1999

ENGINEER'S WEEKLY REPORT NO. 123 (cont'd) F-2737

Construction Submittal Review

The following construction submittals were reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
02770-7, Rev. 1	Subgrade Cert. (Prim. Liner)	11 Oct. '99	A
02770-8, Rev. 0	Letter of Acceptance for GML	11 Oct '99	A
02772-1, Rev. 0	Letter of Acceptance for GCL	11 Oct '99	A
02714-1, Rev. 0	Letter of Acceptance for GTX	12 Oct '99	A
02605-4, Rev. 1	Doc. of Training/Certification	12 Oct '99	A
02100-2, Rev. 0	As-Built Select Layer Drawing (Cell 2)	13 Oct '99	B/ with Comments
02100-2, Rev. 0	As-Built Top of Subgrade Drawings (Cell 3)	13 Oct '99	B/ with Comments

GeoSyntec completed review of Cell 3 LCS drainage layer and LCS drainage corridor survey certification points for completed sections to allow the Geosynthetics Installer to complete the LCS geotextile filter installation. GeoSyntec also reviewed the impacted runoff catchment area granular protective layer survey certification points for completed sections to allow installation of the overlying sacrificial geotextile filter.

Design Clarifications and Modifications

GeoSyntec provided with FDF QA and FDF Engineering draft copies of nonconformance reports (NCR) Nos. 20102-022, 20102-023, and 20102-024 on the LCS geotextile filter exposure and gradation of the LCS drainage layer material. GeoSyntec requested (verbally) quick response from FDF to disposition these NCRs.

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Transmittal Date _____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 17 October 1999

ENGINEER'S WEEKLY REPORT NO. 123 (cont'd) 2737

Construction Quality Control (CQC)

CQC monitored the installation of the Cell 3 LCS geotextile filter, sacrificial geotextile filter and the placement of the protective layer. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of the protective layer. The clean protective layer material placed over the Cell 3/Cell 4 intercell berm was monitored for over-sized rocks and roots; these were removed by Petro's laborers.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec also holds its own daily safety tailgate meetings.

The 11 October 1999 GeoSyntec weekly safety meeting covered the fact that flu season is approaching and everyone was informed of the availability of a free flu shot at the on-site medical facility.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow (part time),
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman,
9. R. Erisman, and
10. R. Peddicord.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 10 October 1999

ENGINEER'S WEEKLY REPORT NO. 122 -- 2737

The report period covered by Weekly Report No.122 is from Monday, 04 October 1999 through Sunday, 10 October 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.35 inches of precipitation recorded.

Construction Progress

During the report period, Petro completed backfilling the Cell 3 west anchor trench to secure the primary liner system. The Istre Company, the Geosynthetics Installer, demobilized with the exception of two technicians who remained to continue the installation of the 7-oz/yd^2 geotextile filter on top of the LCS drainage layer.

LCS drainage layer stone placement, LCS drainage corridor stone placement, and the LCS geotextile filter installation continued during the week. The LCS drainage layer and the LCS drainage corridor were 100 percent complete on 08 October 1999. Approximately 50 percent of the geotextile filter had been installed at the end of the report period.

Petro completed joining, via electro-fusion couplings, the LCS and LCS-R perforated HDPE pipes to the respective solid wall HDPE pipes of the primary liner penetration boxes in Cell 3.

Impacted material placement continued during the report period. A total of 387 truckloads were hauled into Cell 2 including 366 loads of Category 1, 16 loads of Category 2 and 5 loads of Category 5. There were 317 additional loads hauled into Cell 1 including 242 loads of Category 1, 63 loads of Category 2, and 12 loads of Category 4.

Construction Submittal Review

There were no construction submittals reviewed during the report period.

GeoSyntec continued to review Cell 3 LCS drainage layer and LCS drainage corridor survey certification points for completed sections to allow the Geosynthetics Installer to proceed with the LCS geotextile filter deployment.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 10 October 1999

ENGINEER'S WEEKLY REPORT NO. 122 (cont'd) 2737

Design Clarifications and Modifications

GeoSyntec participated in an FDF meeting on placement of transite debris in the OSDF cells on 04 October 1999. Safety issues associated with the potential friability of the non-regulated ACM transite debris during placement and compaction were discussed.

GeoSyntec also attended an FDF meeting on the restoration of the borrow area on 04 October 1999.

GeoSyntec attended an FDF/Petro preparatory meeting on placement of thorium-impacted debris in the OSDF cells on 07 October 1999.

During the 05 October 1999 weekly OSDF construction meeting, GeoSyntec raised the issue of the installed Cell 3 LCS geotextile filter being exposed more than 10 days prior to placement of the overlying protective layer.

Construction Quality Control (CQC)

CQC documented all relevant data involved with the installation of the Cell 3 primary liner system geosynthetics layers.

CQC monitored the installation of the Cell 3 LCS geotextile filter, the placement of LCS drainage layer stone and the placement of LCS drainage corridor stone. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of stone. As stone placement progressed, CQC monitored to ensure excessive wrinkles in the underlying GML did not occur and that the 3-ft minimum stone thickness was maintained for construction equipment traffic.

CQC personnel monitored the joining, using electro-fusion couplings, of the LCS and LCS-R perforated HDPE pipes to the solid-wall HDPE pipes of the primary liner penetration boxes of Cell 3.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 10 October 1999

ENGINEER'S WEEKLY REPORT NO. 122 (cont'd)

2737

CQC performed pertinent laboratory tests on two conformance samples (Nos. LCS III-6 &7) obtained from the No. 78 stone stockpile for the Cell 3 LCS drainage layer. The results of the particle-size analysis for sample No. LCS III-7 failed to meet the project specifications. A non-conformance report (NCR) will be written on the gradation test results.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec also holds its own daily safety tailgate meetings.

The 05 October 1999 GeoSyntec weekly safety meeting covered the OSHA Employee Workplace Rights and Responsibilities.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman,
9. R. Erisman, and
10. R. Peddicord.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 10 October 1999

ENGINEER'S WEEKLY REPORT NO. 122

2737

The report period covered by Weekly Report No.122 is from Monday, 04 October 1999 through Sunday, 10 October 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.35 inches of precipitation recorded.

Construction Progress

During the report period, Petro completed backfilling the Cell 3 west anchor trench to secure the primary liner system. The Istre Company, the Geosynthetics Installer, demobilized with the exception of two technicians who remained to continue the installation of the 7-oz/yd^2 geotextile filter on top of the LCS drainage layer.

LCS drainage layer stone placement, LCS drainage corridor stone placement, and the LCS geotextile filter installation continued during the week. The LCS drainage layer and the LCS drainage corridor were 100 percent complete on 08 October 1999. Approximately 50 percent of the geotextile filter had been installed at the end of the report period.

Petro completed joining, via electro-fusion couplings, the LCS and LCS-R perforated HDPE pipes to the respective solid wall HDPE pipes of the primary liner penetration boxes in Cell 3.

Impacted material placement continued during the report period. A total of 387 truckloads were hauled into Cell 2 including 366 loads of Category 1, 16 loads of Category 2 and 5 loads of Category 5. There were 317 additional loads hauled into Cell 1 including 242 loads of Category 1, 63 loads of Category 2, and 12 loads of Category 4.

Construction Submittal Review

There were no construction submittals reviewed during the report period.

GeoSyntec continued to review Cell 3 LCS drainage layer and LCS drainage corridor survey certification points for completed sections to allow the Geosynthetics Installer to proceed with the LCS geotextile filter deployment.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 10 October 1999

ENGINEER'S WEEKLY REPORT NO. 122 (cont'd)

F-2737

Design Clarifications and Modifications

GeoSyntec participated in an FDF meeting on placement of transite debris in the OSDF cells on 04 October 1999. Safety issues associated with the potential friability of the non-regulated ACM transite debris during placement and compaction were discussed.

GeoSyntec also attended an FDF meeting on the restoration of the borrow area on 04 October 1999.

GeoSyntec attended an FDF/Petro preparatory meeting on placement of thorium-impacted debris in the OSDF cells on 07 October 1999.

During the 05 October 1999 weekly OSDF construction meeting, GeoSyntec raised the issue of the installed Cell 3 LCS geotextile filter being exposed more than 10 days prior to placement of the overlying protective layer.

Construction Quality Control (CQC)

CQC documented all relevant data involved with the installation of the Cell 3 primary liner system geosynthetics layers.

CQC monitored the installation of the Cell 3 LCS geotextile filter, the placement of LCS drainage layer stone and the placement of LCS drainage corridor stone. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of stone. As stone placement progressed, CQC monitored to ensure excessive wrinkles in the underlying GML did not occur and that the 3-ft minimum stone thickness was maintained for construction equipment traffic.

CQC personnel monitored the joining, using electro-fusion couplings, of the LCS and LCS-R perforated HDPE pipes to the solid-wall HDPE pipes of the primary liner penetration boxes of Cell 3.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 10 October 1999

F-2737

ENGINEER'S WEEKLY REPORT NO. 122 (cont'd)

CQC performed pertinent laboratory tests on two conformance samples (Nos. LCS III-6 &7) obtained from the No. 78 stone stockpile for the Cell 3 LCS drainage layer. The results of the particle-size analysis for sample No. LCS III-7 failed to meet the project specifications. A non-conformance report (NCR) will be written on the gradation test results.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec also holds its own daily safety tailgate meetings.

The 05 October 1999 GeoSyntec weekly safety meeting covered the OSHA Employee Workplace Rights and Responsibilities.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman,
9. R. Erisman, and
10. R. Peddicord.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 03 October 1999

ENGINEER'S WEEKLY REPORT NO. 121

F-2737

The report period covered by Weekly Report No. 121 is from Monday, 27 September 1999 through Sunday, 03 October 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.85 inches of precipitation recorded.

Construction Progress

During the report period, Petro completed backfilling the Cell 3 east anchor trench to secure the primary liner system. The Istre Company completed necessary repairs and non-destructive testing for completion of the primary liner system geomembrane installation. The Istre Company also installed the geomembrane rain flap on the western end of the intercell berm that divides Cells 3 and 4. The LCS and LCS-R liner penetration boxes for the Cell 3 primary liner system were also filled with granular bentonite.

Primary liner system geotextile cushion installation was completed; and LCS drainage layer stone and LCS drainage corridor layer stone placement continued during the report period. Placement of the LCS drainage layer was approximately 75 percent complete at the end of the report period. The installation of the 7-oz/yd^2 geotextile filter layer across the intercell berm in the southeast corner of Cell 3 began on 01 October 1999.

Leak detection testing was conducted on the Cell 3 primary liner geomembrane at the western half of the drainage corridor as well as the impacted runoff catchment area on 28 and 29 September 1999. No leaks were found during the test.

Impacted material placement continued during the report period. A total of 462 truckloads were hauled into Cell 2 including 410 loads of Category 1 and 52 loads of Category 2. There were 402 additional loads hauled into Cell 1 including 331 loads of Category 1, 35 loads of Category 2, and 36 loads of Category 4.

Construction Submittal Review

There were no construction submittals reviewed during the report period.

GeoSyntec continued to review Cell 3 LCS drainage layer and LCS drainage corridor survey certification points for completed sections to allow the Geosynthetics Installer to proceed with the LCS geotextile filter deployment.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 03 October 1999

ENGINEER'S WEEKLY REPORT NO. 121 (cont'd)

2737

Design Clarifications and Modifications

None.

Construction Quality Control (CQC)

CQC documented all relevant data involved with the installation of the Cell 3 primary liner system geosynthetics layers.

CQC monitored the installation of Cell 3 primary liner system geotextile cushion and the placement of LCS drainage layer stone and the LCS drainage corridor stone. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of stone. As stone placement progressed, CQC monitored to ensure excessive wrinkles in the underlying GML did not occur and that the 3-ft minimum stone thickness was maintained for construction equipment traffic.

CQC monitored the electrical leak detection testing of the primary GML, which was performed by Solmers International Consultants Inc. on 28 and 29 September 1999. The areas tested include the western half of the drainage corridor and the catchment area on the western end of Cell 3.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec holds its own daily safety tailgate meetings.

The 27 September 1999 GeoSyntec weekly safety meeting covered fire safety and a reminder to check home fire alarms. Driving safely and the need to be aware of deer crossing the roads due to the time of the year were also discussed.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 03 October 1999

~~ENGINEER'S WEEKLY REPORT NO. 121 (cont'd)~~

=-2737

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. C. Sukow,
3. S. Quammen,
4. B. York,
5. D. Evans,
6. M. Humpreys,
7. T. Dickman,
8. R. Peddicord,
9. R. Erisman,
10. K. Badu-Tweneboah (part time), and
11. D. Phillips (part time).

000034

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 03 October 1999

ENGINEER'S WEEKLY REPORT NO. 121

F-2737

The report period covered by Weekly Report No. 121 is from Monday, 27 September 1999 through Sunday, 03 October 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.85 inches of precipitation recorded.

Construction Progress

During the report period, Petro completed backfilling the Cell 3 east anchor trench to secure the primary liner system. The Istre Company completed necessary repairs and non-destructive testing for completion of the primary liner system geomembrane installation. The Istre Company also installed the geomembrane rain flap on the western end of the intercell berm that divides Cells 3 and 4. The LCS and LCS-R liner penetration boxes for the Cell 3 primary liner system were also filled with granular bentonite.

Primary liner system geotextile cushion installation was completed; and LCS drainage layer stone and LCS drainage corridor layer stone placement continued during the report period. Placement of the LCS drainage layer was approximately 75 percent complete at the end of the report period. The installation of the 7-oz/yd^2 geotextile filter layer across the intercell berm in the southeast corner of Cell 3 began on 01 October 1999.

Leak detection testing was conducted on the Cell 3 primary liner geomembrane at the western half of the drainage corridor as well as the impacted runoff catchment area on 28 and 29 September 1999. No leaks were found during the test.

Impacted material placement continued during the report period. A total of 462 truckloads were hauled into Cell 2 including 410 loads of Category 1 and 52 loads of Category 2. There were 402 additional loads hauled into Cell 1 including 331 loads of Category 1, 35 loads of Category 2, and 36 loads of Category 4.

Construction Submittal Review

There were no construction submittals reviewed during the report period.

GeoSyntec continued to review Cell 3 LCS drainage layer and LCS drainage corridor survey certification points for completed sections to allow the Geosynthetics Installer to proceed with the LCS geotextile filter deployment.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 03 October 1999

ENGINEER'S WEEKLY REPORT NO. 121 (cont'd) F-2737

Design Clarifications and Modifications

None.

Construction Quality Control (CQC)

CQC documented all relevant data involved with the installation of the Cell 3 primary liner system geosynthetics layers.

CQC monitored the installation of Cell 3 primary liner system geotextile cushion and the placement of LCS drainage layer stone and the LCS drainage corridor stone. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of stone. As stone placement progressed, CQC monitored to ensure excessive wrinkles in the underlying GML did not occur and that the 3-ft minimum stone thickness was maintained for construction equipment traffic.

CQC monitored the electrical leak detection testing of the primary GML, which was performed by Solmers International Consultants Inc. on 28 and 29 September 1999. The areas tested include the western half of the drainage corridor and the catchment area on the western end of Cell 3.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2; checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec holds its own daily safety tailgate meetings.

The 27 September 1999 GeoSyntec weekly safety meeting covered fire safety and a reminder to check home fire alarms. Driving safely and the need to be aware of deer crossing the roads due to the time of the year were also discussed.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 03 October 1999

~~ENGINEER'S WEEKLY REPORT NO. 121 (cont'd)~~

F-2737

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. C. Sukow,
3. S. Quammen,
4. B. York,
5. D. Evans,
6. M. Humpreys,
7. T. Dickman,
8. R. Peddicord,
9. R. Erisman,
10. K. Badu-Tweneboah (part time), and
11. D. Phillips (part time).

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 26 September 1999

ENGINEER'S WEEKLY REPORT NO. 120

2737

The report period covered by Weekly Report No.120 is from Monday, 20 September 1999 through Sunday, 26 September 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.1 inch precipitation recorded.

Construction Progress

During the report period, Petro completed backfilling the Cell 3 west anchor trench to secure the secondary liner system. The Istre Company completed deployment of Cell 3 primary liner geosynthetic clay liner (GCL) HDPE geomembrane liner (GML) on 25 September 1999. Approximately 145,028 ft^2 of GCL and 142,393 ft^2 of GML were deployed for the primary liner system during the week. An approximate total of 304,502 ft^2 of GCL and 285,902 ft^2 of GML had been installed for the completion of the Cell 3 primary liner system.

Cell 3 LDS drainage layer stone placement was completed during the report period. Primary liner system geotextile cushion installation continued and LCS drainage layer stone placement began on 20 September. The LCS drainage layer was approximately 20 percent complete at the end of the report period.

Impacted material placement continued during the report period. A total of 839 truckloads were hauled into Cell 2 including 670 loads of Category 1, 148 loads of Category 2, and 21 loads of Category 4. There were 772 additional loads hauled into Cell 1 including 565 loads of Category 1, 174 loads of Category 2, and 33 loads of Category 4.

Construction Submittal Review

The following construction submittal was reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
P9-1, Rev. 0	QA Plan for Option A Work	22 Sep '99	B/ with Comments

GeoSyntec continued to review LDS drainage layer survey certification points for completed sections of Cell 3 to allow the Geosynthetics Installer to proceed with primary GCL and GML deployment.

000038

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 26 September 1999

ENGINEER'S WEEKLY REPORT NO. 120 (cont'd) 2737

Design Clarifications and Modifications

GeoSyntec participated in several meetings on FDF's proposed plan to resume leak detection testing on the Cell 3 primary liner geomembrane.

GeoSyntec completed the corrective action response and disposition for FDF's NCR No. FY99-1130 on the particle-size distribution test results for the No. 57 stone used for the LCS and LDS drainage corridors. The disposition was accept-as-is.

Construction Quality Control (CQC)

CQC monitored the deployment of Cell 3 primary liner GML and GCL. CQC documented all relevant data involved with the installation of the geosynthetics layers.

CQC monitored the installation of Cell 3 primary liner system geotextile cushion and the placement of LDS and LCS drainage layer stone. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of stone. As stone placement progressed, CQC monitored to ensure excessive wrinkles in the underlying GML did not occur and that the 3-ft minimum stone thickness was maintained for construction equipment traffic.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 26 September 1999

ENGINEER'S WEEKLY REPORT NO. 120 (cont'd) F-2737

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec holds its own daily safety tailgate meetings.

The 20September 1999 GeoSyntec weekly safety meeting covered friable versus non-friable asbestos pertaining to placement of transite and ACM debris in the OSDF cells.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman,
9. R. Erisman, and
10. R. Peddicord.

000040

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 19 September 1999

ENGINEER'S WEEKLY REPORT NO. 119

-2737

The report period covered by Weekly Report No.119 is from Monday, 13 September 1999 through Sunday, 19 September 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.1 inch of precipitation recorded.

Construction Progress

During the report period, Petro began backfilling the Cell 3 west anchor trench to secure the secondary liner system. The Istre Company continued deployment of Cell 3 primary liner geosynthetics during the report period. Approximately 65,076 ft^2 of geosynthetic clay liner (GCL) and 88,712 ft^2 of HDPE geomembrane liner (GML) were deployed for the primary liner system during the week. An approximate total of 126,164 ft^2 of primary GCL and 145,076 ft^2 of primary GML had been installed by the end of the report period.

Cell 3 secondary liner system geotextile cushion and LDS drainage layer stone placement continued during the report period. The secondary liner system geotextile cushion was completed during the report period. Approximately 80% of the LDS drainage layer stone was completed by the end of the report period and placement is ongoing. Installation of the Cell 3 primary liner system geotextile cushion began on 17 September 1999.

Petro completed pneumatic testing of the LCS, LCS-R, and LCS 10 inch diameter containment pipes from the Cell 3 secondary system to Manhole 3 (MH-3).

Impacted material placement continued during the report period. A total of 149 truckloads were hauled into Cell 2 including 119 loads of Category 1, 29 loads of Category 2, and 1 of Category 5. There were 734 additional loads hauled into Cell 1 including 667 loads of Category 1, 63 loads of Category 2, and 4 loads of Category 4.

Construction Submittal Review

There were no construction submittals reviewed during the report period. GeoSyntec continued to review LDS drainage layer survey certification points for completed sections of the Cell 3 LDS drainage layer to allow the Geosynthetics Installer to proceed with primary GCL and GML deployment.

000041

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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 19 September 1999

F-2737

ENGINEER'S WEEKLY REPORT NO. 119 (cont'd)

Design Clarifications and Modifications

GeoSyntec participated in several meetings on FDF's proposed plan to conduct leak detection testing on the Cell 3 primary liner geomembrane. Leak detection testing was conducted on a test section and portions of the Cell 3 primary liner GML during the week.

Construction Quality Control (CQC)

CQC monitored the placement and compaction of the secondary anchor trench fill on the west end of Cell 3. Nuclear density tests were performed on the anchor trench fill as needed.

CQC monitored the deployment of Cell 3 primary liner GML and GCL. CQC documented all relevant data involved with the installation of the geosynthetics layers. Also monitored, were the pneumatic pressure tests on the 10 inch containment pipe from the Cell 3 secondary system to MH-3.

CQC monitored the installation of Cell 3 secondary liner system geotextile cushion, and the placement of LDS drainage layer stone, and installation of the primary liner system geotextile cushion. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of stone. As stone placement progressed, CQC monitored to ensure excessive wrinkles in the underlying GML did not occur and that the 3-ft minimum stone thickness was maintained for construction equipment traffic.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meetings. GeoSyntec holds its own daily safety tailgate meetings.

The 13 September 1999 GeoSyntec weekly safety meeting covered information on new site entry procedures at the FEMP. Also, reiterated at the meeting, smoking in site vehicles is prohibited.

GeoSyntec Personnel Schedule

000042

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 19 September 1999

F-2737

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. T. Dickman,
9. R. Erisman,
10. D. Phillips (part time), and
11. D. Bodine (part time).

QC0043

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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 12 September 1999

ENGINEER'S WEEKLY REPORT NO. 118

F-2737

The report period covered by Weekly Report No. 118 is from Monday, 6 September 1999 through Sunday, 12 September 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.1 inch of precipitation recorded.

Construction Progress

Correction from weekly report #117: Martin Marrieta No. 57 stone was removed on 4 September 1999.

During the report period, Petro filled around the secondary liner pipe penetration boxes with low permeability clay liner. The Istre Company completed deployment of Cell 3 secondary liner geosynthetics. Approximately 6,900 ft^2 of geosynthetic clay liner (GCL) and 5,900 ft^2 of HDPE geomembrane liner (GML) were deployed during the week. An approximate total of 310,144 ft^2 of GCL and 290,048 ft^2 of GML was been installed for the secondary liner system completion. Deployment of the Cell 3 primary geosynthetics began on 9 September 1999. An approximate total of 66,033 ft^2 of GCL and 56,994 ft^2 of GML had been installed by the end of the report period.

Cell 3 secondary liner geotextile cushion and LDS drainage layer stone placement continued during the report period. Approximately 50% of the secondary liner system has been covered.

Impacted material placement continued during the report period. A total of 467 truckloads were hauled into Cell 2 including 404 loads of Category 1, 40 loads of Category 2, 21 loads of Category 4, and 2 loads of Category 5. There were 490 additional loads hauled into Cell 1 including 414 loads of Category 1, 53 loads of Category 2, and 23 load of Category 4.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 12 September 1999

-2737

ENGINEER'S WEEKLY REPORT NO. 118 (cont'd)

Construction Submittal Review

There were no submittals reviewed during the report period.

Design Clarifications and Modifications

DCN No. 20102-091, initiated by FDF Engineering and approved as noted by GeoSyntec, required relocating the Cell 3 primary liner penetration boxes so as to allow the use of thermal butt-fusion joints in lieu of electro-fusion couplings for connecting the boxes to the solid-wall pipes on the west side of the boxes.

DCN No. 20102-092, initiated and approved by GeoSyntec, provided test pressures and procedures for testing of HDPE pipes and fittings between the Cell and LCS/LDS manholes. This DCN supersedes DCN No. 20102-010. FDF's final acceptance is in progress.

Construction Quality Control (CQC)

FDF QA and GeoSyntec CQC personnel inspected the Cell 3 compacted clay liner surface and delineated all areas of the clay liner surface requiring repair for desiccation cracks or vehicle ruts prior to deployment of secondary liner GCL. CQC monitored and documented all relevant data involved with the installation of the geosynthetics layers.

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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 12 September 1999

2737

ENGINEER'S WEEKLY REPORT NO. 118 (cont'd)

CQC monitored the installation of Cell 3 secondary liner system geotextile cushion and the placement of the LDS drainage layer stone. Geotextile sewn seams were walked down and marked for skips to be repaired prior to the placement of stone. As stone placement progressed, CQC monitored to ensure excessive wrinkles in the underlying GML did not occur and the 3-ft minimum stone thickness was maintained for construction equipment traffic

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 7 September 1999 GeoSyntec weekly safety meeting was a viewing of an FDF safety video entitled, "Integrated Safety Management".

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman, and
10. T. Dickman.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 05 September 1999

ENGINEER'S WEEKLY REPORT NO. 117

-2737

The report period covered by Weekly Report No. 117 is from Monday, 30 August 1999 through Sunday, 05 September 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was no precipitation recorded.

Construction Progress

DeBra Construction (DeBra), Petro's subcontractor for pipe installation, performed air pressure testing of the repaired LDS liner penetration box on Tuesday, 31 August 1999. (The box was damaged on Friday, 27 August 1999 during air pressure testing of the installed box in Cell. A representative from Plastek Werks, Inc. (the liner penetration box fabricator) repaired the box on-site on Saturday, 28 August 1999.) The repaired box initially failed the air pressure testing, and leaks/cracks were found on the inside weld between the top plate and bottom part of the box. Jerry Istre of the Istre Company (The geosynthetics Installer) repaired the leak by extrusion welding over the cracked area. The repaired box finally passed subsequent pressure testing. The repaired box was placed in Cell 3 and welded to the 6-in. and 10-in. diameter pipes. DeBra completed air pressure testing of the installed LDS liner penetration box, and final hydrostatic pressure testing, at 120-psi. test pressure, of the 6-in. diameter carrier pipe during the week.

During the report period, Petro backfilled the secondary liner east anchor trench securing the secondary liner geosynthetics deployed for Cell 3. The Istre Company continued deployment of Cell 3 secondary liner geosynthetics. Approximately 115,263 ft^2 of geosynthetic clay liner (GCL) and 110,433 ft^2 of HDPE geomembrane liner (GML) were deployed during the week. An approximate total of 298,538 ft^2 of GCL and 266,208 ft^2 of GML had been installed as of 5 September 1999.

No. 57 stone from the Martin Marietta quarry, placed as a bridge across the Cell 3 LDS drainage corridor, was removed on $ September 1999. The material was removed because it failed conformance testing (See NCR 20102-21 for details).

Impacted material placement continued during the report period. A total of 687 truckloads were hauled into Cell 2 including 597 loads of Category 1, 84 loads of Category 2, 5 loads of Category 3, and 1 load of Category 5. There were 414 additional loads hauled into Cell 1 including 385 loads of Category 1, 28 loads of Category 2, and 1 load of Category 5.

000047

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 05 September 1999

ENGINEER'S WEEKLY REPORT NO. 117 (cont'd)

F-2737

Construction Submittal Review

There were no submittals reviewed during the report period.

Design Clarifications and Modifications

DCN No. 20102-091, initiated by FDF Engineering and approved as noted by GeoSyntec, required relocating the Cell 3 primary liner penetration boxes so as to allow the use of thermal butt-fusion joints in lieu of electro-fusion couplings for connecting the boxes to the solid-wall pipes on the west side of the boxes.

DCN No. 20102-092, initiated and approved by GeoSyntec, provided test pressures and procedures for testing of HDPE pipes and fittings between the Cell and LCS/LDS manholes. This DCN supersedes DCN No. 20102-010. FDF's final acceptance is in progress.

Construction Quality Control (CQC)

CQC monitored the re-installation of the Cell 3 LDS liner penetration box. The pneumatic pressure testing of the liner penetration box for the LDS system was also monitored and passed project specifications, holding over 11 psi for 30 minutes.

FDF QA and GeoSyntec CQC personnel inspected the Cell 3 compacted clay liner surface and delineated all areas of the clay liner surface requiring repair for desiccation cracks or vehicle ruts prior to deployment of primary liner GCL. CQC monitored and documented all relevant data involved with the installation of the geosynthetics layers.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 05 September 1999

E-2737

ENGINEER'S WEEKLY REPORT NO. 117 (cont'd)

Another split-sample of the No. 57 stone from the Watson quarry was collected for conformance testing on 31 August 1999. The sample sent to GeoSyntec's GEM Testing Laboratory passed both sieve analysis and hydraulic conductivity testing. Petro began hauling and stockpiling the No. 57 stone from the Watson quarry on 4 September 1999. The No. 57 stone is for the Cell 3 LDS and LCS drainage corridors.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 30 August 1999 GeoSyntec weekly safety meeting was a viewing of FDF safety videos titled Lessons Learned No. 1 and No. 2".

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman, and
10. T. Dickman.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 05 September 1999

ENGINEER'S WEEKLY REPORT NO. 117

F-2737

The report period covered by Weekly Report No. 117 is from Monday, 30 August 1999 through Sunday, 05 September 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was no precipitation recorded.

Construction Progress

DeBra Construction (DeBra), Petro's subcontractor for pipe installation, performed air pressure testing of the repaired LDS liner penetration box on Tuesday, 31 August 1999. (The box was damaged on Friday, 27 August 1999 during air pressure testing of the installed box in Cell. A representative from Plastek Werks, Inc. (the liner penetration box fabricator) repaired the box on-site on Saturday, 28 August 1999.) The repaired box initially failed the air pressure testing, and leaks/cracks were found on the inside weld between the top plate and bottom part of the box. Jerry Istre of the Istre Company (The geosynthetics Installer) repaired the leak by extrusion welding over the cracked area. The repaired box finally passed subsequent pressure testing. The repaired box was placed in Cell 3 and welded to the 6-in. and 10-in. diameter pipes. DeBra completed air pressure testing of the installed LDS liner penetration box, and final hydrostatic pressure testing, at 120-psi. test pressure, of the 6-in. diameter carrier pipe during the week.

During the report period, Petro backfilled the secondary liner east anchor trench securing the secondary liner geosynthetics deployed for Cell 3. The Istre Company continued deployment of Cell 3 secondary liner geosynthetics. Approximately 115,263 ft^2 of geosynthetic clay liner (GCL) and 110,433 ft^2 of HDPE geomembrane liner (GML) were deployed during the week. An approximate total of 298,538 ft^2 of GCL and 266,208 ft^2 of GML had been installed as of 5 September 1999.

No. 57 stone from the Martin Marietta quarry, placed as a bridge across the Cell 3 LDS drainage corridor, was removed on $ September 1999. The material was removed because it failed conformance testing (See NCR 20102-21 for details).

Impacted material placement continued during the report period. A total of 687 truckloads were hauled into Cell 2 including 597 loads of Category 1, 84 loads of Category 2, 5 loads of Category 3, and 1 load of Category 5. There were 414 additional loads hauled into Cell 1 including 385 loads of Category 1, 28 loads of Category 2, and 1 load of Category 5.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 05 September 1999

2737

ENGINEER'S WEEKLY REPORT NO. 117 (cont'd)

Construction Submittal Review

There were no submittals reviewed during the report period.

Design Clarifications and Modifications

DCN No. 20102-091, initiated by FDF Engineering and approved as noted by GeoSyntec, required relocating the Cell 3 primary liner penetration boxes so as to allow the use of thermal butt-fusion joints in lieu of electro-fusion couplings for connecting the boxes to the solid-wall pipes on the west side of the boxes.

DCN No. 20102-092, initiated and approved by GeoSyntec, provided test pressures and procedures for testing of HDPE pipes and fittings between the Cell and LCS/LDS manholes. This DCN supersedes DCN No. 20102-010. FDF's final acceptance is in progress.

Construction Quality Control (CQC)

CQC monitored the re-installation of the Cell 3 LDS liner penetration box. The pneumatic pressure testing of the liner penetration box for the LDS system was also monitored and passed project specifications, holding over 11 psi for 30 minutes.

FDF QA and GeoSyntec CQC personnel inspected the Cell 3 compacted clay liner surface and delineated all areas of the clay liner surface requiring repair for desiccation cracks or vehicle ruts prior to deployment of primary liner GCL. CQC monitored and documented all relevant data involved with the installation of the geosynthetics layers.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 05 September 1999

2737

ENGINEER'S WEEKLY REPORT NO. 117 (cont'd)

Another split-sample of the No. 57 stone from the Watson quarry was collected for conformance testing on 31 August 1999. The sample sent to GeoSyntec's GEM Testing Laboratory passed both sieve analysis and hydraulic conductivity testing. Petro began hauling and stockpiling the No. 57 stone from the Watson quarry on 4 September 1999. The No. 57 stone is for the Cell 3 LDS and LCS drainage corridors.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 30 August 1999 GeoSyntec weekly safety meeting was a viewing of FDF safety videos titled Lessons Learned No. 1 and No. 2".

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman, and
10. T. Dickman.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 29 August 1999

ENGINEER'S WEEKLY REPORT NO. 116 -- 2737

The report period covered by Weekly Report No. 116 is from Monday, 23 August 1999 through Sunday, 29 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 1.3 inches of precipitation recorded.

Construction Progress

Wise Construction continued work on placing and compacting backfill material (embedment fill and trench backfill) around the pipes and manhole MH-3 during the report period. During the period, DeBra Construction, Petro's subcontractor for pipe installation, welded the pipes to the three secondary liner penetration boxes in Cell 3. Air pressure testing of the liner penetration boxes was performed by DeBra on Friday, 27 August. During the testing, the LDS liner penetration box (Type I) failed the test. Subsequent investigation revealed that the box had cracked along the top corner of the left back-end of the box. The cracks were apparently due to over-pressurizing the box even though DeBra technicians claim that they applied about 1 to 2 psi air pressure to the box. A representative from Plastek Werks, Inc. of Gainesville, Georgia, was on site on Saturday, 28 August 1999 to repair the box. Final pressure testing was scheduled for Monday, 30 August.

During the report period, Petro excavated the west anchor trench for Cell 3 geosynthetics deployment. The Istre Company (The Geosynthetics Installer) continued deployment of geosynthetics. Approximately 59,775 ft^2 of geosynthetic clay liner (GCL) and 45,250 ft^2 of HDPE geomembrane liner (GML) were deployed during the week. An approximate total of 183,275 ft^2 of GCL and 155,775 ft^2 of GML had been installed as of 29 August 1999. Inclement weather, on the morning of 24 August 1999, resulted in flooding the west half of Cell 3, slowing down geosynthetics installation.

Petro began placement of No. 78 stone over the 10-oz/yd^2 geotextile cushion for the Cell 3 LDS drainage layer. The east half of Cell 3 was covered by No. 78 stone during the report period. No. 57 stone from the Martin Marietta quarry was placed as a bridge across the LDS drainage corridor. The material did not meet the specifications and will be removed (See NCR 20102-21 for details).

Impacted material placement continued during the report period. A total of 416 truckloads were hauled into Cell 2 including 398 loads of Category 1 and 18 loads of Category 2. There were 69 additional loads hauled into Cell 1 including 42 loads of Category 1 and 27 loads of Category 2.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 29 August 1999

ENGINEER'S WEEKLY REPORT NO. 116 (cont'd) -- 2737

Construction Submittal Review

The following submittal was reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
001, Rev. 2	Submittal Register	26 Aug '99	FDF to Comment
02710-1, Rev. 0	Source of No. 57 Stone (Source: Hilltop)	26 Aug '99	A
02710-1, Rev. 0	50-lb Rep. Sample of No. 57 Stone (Source:Hilltop)	26 Aug '99	A
02710-2, Rev. 1	Cert. of No. 57 Stone (Source: Martin Marietta)	26 Aug '99	C/ with Comment

Design Clarifications and Modifications

DCN No. 20402-089 was for the SWU project and approved by Parsons.

FDF and GeoSyntec completed final disposition of NCR NO. 20102-18, initiated by GeoSyntec on 8 June 1999 on the fill material used for the Cell 2 temporary access road, on 26 August 1999.

GeoSyntec CQC wrote NCR No. 20102-021 against Petro for placing No. 57 stones from the Martin Marietta quarry into the Cell 3 drainage corridor without passing conformance test results and certification from the source.

The Construction Manager prepared a 26 August 1999 letter authorizing Petro to place the LCS/LDS granular drainage material on the sideslopes of Cell 3 before backfilling the anchor trenches in accordance with Section 02714, Part 3.04 E of the Technical Specifications. FDF Engineering and the GeoSyntec Resident Engineer signed concurrence to this authorization.

000054

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 29 August 1999

2737

ENGINEER'S WEEKLY REPORT NO. 116 (cont'd)

Construction Quality Control (CQC)

CQC monitored the pneumatic pressure testing of the liner penetration boxes for the Cell 3 secondary liner system. The LCS and LCS-R penetration boxes passed pressure testing. The LDS penetration box was damaged during pressure testing as previously described.

FDF QA and GeoSyntec CQC personnel inspected the Cell 3 compacted clay liner surface and delineated all areas of the clay liner surface requiring repair for desiccation cracks or vehicle ruts prior to deployment of GCL. CQC monitored and documented all relevant data involved with the installation of the geosynthetic layers.

The No. 57 stone sample collected from the Hill Top quarry was sent to GeoSyntec's GEM Testing Laboratory for conformance testing on 20 August 1999. The sample failed to meet the specified hydraulic conductivity value of 10 cm/s for the Cell 3 LDS and LCS drainage corridors. Another sample was collected and split for comparison testing between GEM and Petro's contracted laboratory, H. C. Nutting. The sample passed H. C. Nutting's hydraulic conductivity test but failed GEM's hydraulic conductivity test. It was decided to collect another split sample from the Watson quarry early next week. Previous testing of a sample from the Watson quarry passed hydraulic conductivity testing but the particle-size analyses indicated that the material was slightly coarser than the No. 57 stones.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 23 August 1999 GeoSyntec weekly safety meeting covered watching out for school children near school bus stops or when following school buses and being aware of drunk drivers during the upcoming Labor Day holiday celebrations.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 29 August 1999

ENGINEER'S WEEKLY REPORT NO. 116 (cont'd) 2737

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman, and
10. T. Dickman.

000056

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 29 August 1999

ENGINEER'S WEEKLY REPORT NO. 116

2737

The report period covered by Weekly Report No. 116 is from Monday, 23 August 1999 through Sunday, 29 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 1.3 inches of precipitation recorded.

Construction Progress

Wise Construction continued work on placing and compacting backfill material (embedment fill and trench backfill) around the pipes and manhole MH-3 during the report period. During the period, DeBra Construction, Petro's subcontractor for pipe installation, welded the pipes to the three secondary liner penetration boxes in Cell 3. Air pressure testing of the liner penetration boxes was performed by DeBra on Friday, 27 August. During the testing, the LDS liner penetration box (Type I) failed the test. Subsequent investigation revealed that the box had cracked along the top corner of the left back-end of the box. The cracks were apparently due to over-pressurizing the box even though DeBra technicians claim that they applied about 1 to 2 psi air pressure to the box. A representative from Plastek Werks, Inc. of Gainesville, Georgia, was on site on Saturday, 28 August 1999 to repair the box. Final pressure testing was scheduled for Monday, 30 August.

During the report period, Petro excavated the west anchor trench for Cell 3 geosynthetics deployment. The Istre Company (The Geosynthetics Installer) continued deployment of geosynthetics. Approximately 59,775 ft^2 of geosynthetic clay liner (GCL) and 45,250 ft^2 of HDPE geomembrane liner (GML) were deployed during the week. An approximate total of 183,275 ft^2 of GCL and 155,775 ft^2 of GML had been installed as of 29 August 1999. Inclement weather, on the morning of 24 August 1999, resulted in flooding the west half of Cell 3, slowing down geosynthetics installation.

Petro began placement of No. 78 stone over the 10-oz/yd^2 geotextile cushion for the Cell 3 LDS drainage layer. The east half of Cell 3 was covered by No. 78 stone during the report period. No. 57 stone from the Martin Marietta quarry was placed as a bridge across the LDS drainage corridor. The material did not meet the specifications and will be removed (See NCR 20102-21 for details).

Impacted material placement continued during the report period. A total of 416 truckloads were hauled into Cell 2 including 398 loads of Category 1 and 18 loads of Category 2. There were 69 additional loads hauled into Cell 1 including 42 loads of Category 1 and 27 loads of Category 2.

000057

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 29 August 1999

2737

ENGINEER'S WEEKLY REPORT NO. 116 (cont'd)

Construction Submittal Review

The following submittal was reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
001, Rev. 2	Submittal Register	26 Aug '99	FDF to Comment
02710-1, Rev. 0	Source of No. 57 Stone (Source: Hilltop)	26 Aug '99	A
02710-1, Rev. 0	50-lb Rep. Sample of No. 57 Stone (Source:Hilltop)	26 Aug '99	A
02710-2, Rev. 1	Cert. of No. 57 Stone (Source: Martin Marietta)	26 Aug '99	C/ with Comment

Design Clarifications and Modifications

DCN No. 20402-089 was for the SWU project and approved by Parsons.

FDF and GeoSyntec completed final disposition of NCR NO. 20102-18, initiated by GeoSyntec on 8 June 1999 on the fill material used for the Cell 2 temporary access road, on 26 August 1999.

GeoSyntec CQC wrote NCR No. 20102-021 against Petro for placing No. 57 stones from the Martin Marietta quarry into the Cell 3 drainage corridor without passing conformance test results and certification from the source.

The Construction Manager prepared a 26 August 1999 letter authorizing Petro to place the LCS/LDS granular drainage material on the sideslopes of Cell 3 before backfilling the anchor trenches in accordance with Section 02714, Part 3.04 E of the Technical Specifications. FDF Engineering and the GeoSyntec Resident Engineer signed concurrence to this authorization.

000058

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 29 August 1999

ENGINEER'S WEEKLY REPORT NO. 116 (cont'd) 2737

Construction Quality Control (CQC)

CQC monitored the pneumatic pressure testing of the liner penetration boxes for the Cell 3 secondary liner system. The LCS and LCS-R penetration boxes passed pressure testing. The LDS penetration box was damaged during pressure testing as previously described.

FDF QA and GeoSyntec CQC personnel inspected the Cell 3 compacted clay liner surface and delineated all areas of the clay liner surface requiring repair for desiccation cracks or vehicle ruts prior to deployment of GCL. CQC monitored and documented all relevant data involved with the installation of the geosynthetic layers.

The No. 57 stone sample collected from the Hill Top quarry was sent to GeoSyntec's GEM Testing Laboratory for conformance testing on 20 August 1999. The sample failed to meet the specified hydraulic conductivity value of 10 cm/s for the Cell 3 LDS and LCS drainage corridors. Another sample was collected and split for comparison testing between GEM and Petro's contracted laboratory, H. C. Nutting. The sample passed H. C. Nutting's hydraulic conductivity test but failed GEM's hydraulic conductivity test. It was decided to collect another split sample from the Watson quarry early next week. Previous testing of a sample from the Watson quarry passed hydraulic conductivity testing but the particle-size analyses indicated that the material was slightly coarser than the No. 57 stones.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 23 August 1999 GeoSyntec weekly safety meeting covered watching out for school children near school bus stops or when following school buses and being aware of drunk drivers during the upcoming Labor Day holiday celebrations.

OC0059

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 29 August 1999

ENGINEER'S WEEKLY REPORT NO. 116 (cont'd) 2737

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman, and
10. T. Dickman.

000060

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 22 August 1999

ENGINEER'S WEEKLY REPORT NO. 115 -2737

The report period covered by Weekly Report No. 115 is from Monday, 16 August 1999 through Sunday, 22 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.3 inch of precipitation recorded.

Construction Progress

Wise Construction continued work on the pipe replacement between manhole MH-3 and Cell 3. All three of the dual-pipe sections (i.e., 6-in. diameter carrier and 10-in. diameter containment LDS, LCS, and LCS-R pipes) passed hydrostatic pressure testing during the report period. The overflow 3-in. diameter SDR-11 HDPE pipe was installed between the LDS and LCS structures for manhole MH-3. The 8-in. diameter containment for the 3-in. diameter pipe was also installed. Both the 3-in. and 8-in. diameter pipes passed hydrostatic pressure testing.

Petro excavated the east anchor trench for Cell 3 geosynthetics deployment on 16 and 17 August 1999. The Istre Company (The Geosynthetics Installer) began deployment of geosynthetics on 17 August 1999. Approximately 136,500 ft^2 of geosynthetic clay liner (GCL) and 110,500 ft^2 of HDPE geomembrane liner (GML) were deployed during the week. Inclement weather, on the morning of 19 August 1999, resulted in the hydration of approximately 13,000 ft^2 of GCL. The hydrated GCL was removed and replaced with new GCL material on 20 August 1999.

Impacted material placement continued during the report period. A total of 676 truckloads were hauled into Cell 2 including 594 loads of Category 1, 81 loads of Category 2, and 1 load of Category 4 material. There were 230 additional loads hauled into Cell 1 including 162 loads of Category 1, 43 loads of Category 2, 23 loads of Category 4, and 2 loads of Category 5 material.

Construction Submittal Review

The following submittal was reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
006, Rev. 8	GCL Shear Strength Test Results	17 Aug '99	B/ with Comment

000061

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 22 August 1999

2737

ENGINEER'S WEEKLY REPORT NO. 115 (cont'd)

GeoSyntec transmitted to FDF Engineering and FDF QA the Mullen Burst strength re-test results on geotextile conformance sample GTX-7 99-6.

Design Clarifications and Modifications

DCN No. 1700-096, initiated by FDF, was approved as noted by GeoSyntec. This DCN addressed the use of a victaulic fitting on the 6-in. diameter LDS pipe inside the primary containment vessel of LDS manhole MH-3. FDF Drawing No. 90-X-6000-M-00065 was affected.

GeoSyntec attended a Petro's preparatory meeting on geosynthetics installation on Monday 16 August 1999. GeoSyntec also attended a meeting with FDF Engineering and FDF QA on the same day to finalize review of geosynthetics installation submittals.

GeoSyntec participated in a 17 August 1999 SDFP Technical Information Exchange meeting which was attended by representatives from USEPA, OEPA, DOE, and FDF. Dr. Jay Beech of GeoSyntec made a presentation on the technical evaluation of the minimum required thickness of Category 1 soil intervening layer between horizons of Category 2 and/or Category 3 impacted materials.

Construction Quality Control (CQC)

CQC monitored the hydrostatic pressure testing of the SDR-11 HDPE pipes between manhole MH-3 and Cell 3. The hydrostatic pressure testing performed on the replacement SDR-11 HDPE pipes passed project specification.

FDF QA and GeoSyntec CQC personnel inspected the Cell 3 compacted clay liner surface and delineated all areas of the clay liner surface requiring repair for desiccation cracks or vehicle ruts prior to deployment of GCL. CQC monitored and documented all relevant data involved with the installation of the geosynthetic layers.

000062

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 22 August 1999

2737

ENGINEER'S WEEKLY REPORT NO. 115 (cont'd)

Construction Quality Control (CQC)

CQC collected a sample of No. 57 stone from the Martin Marietta quarry and sent the sample to GeoSyntec's GEM Testing Laboratory for conformance testing. The sample failed to meet the specified hydraulic conductivity value of 10 cm/s. Petro changed suppliers and brought in No. 57 stone from the Hill Top quarry. Samples were sent to the GEM Testing Laboratory on Friday, 20 August 1999, and results are pending.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 16 August 1999 GeoSyntec weekly safety meeting covered geosynthetics installation safety issues.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman,
10. T. Dickman, and
11. J. Beech (part time).

000063

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 22 August 1999

ENGINEER'S WEEKLY REPORT NO. 115

F-2737

The report period covered by Weekly Report No. 115 is from Monday, 16 August 1999 through Sunday, 22 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.3 inch of precipitation recorded.

Construction Progress

Wise Construction continued work on the pipe replacement between manhole MH-3 and Cell 3. All three of the dual-pipe sections (i.e., 6-in. diameter carrier and 10-in. diameter containment LDS, LCS, and LCS-R pipes) passed hydrostatic pressure testing during the report period. The overflow 3-in. diameter SDR-11 HDPE pipe was installed between the LDS and LCS structures for manhole MH-3. The 8-in. diameter containment for the 3-in. diameter pipe was also installed. Both the 3-in. and 8-in. diameter pipes passed hydrostatic pressure testing.

Petro excavated the east anchor trench for Cell 3 geosynthetics deployment on 16 and 17 August 1999. The Istre Company (The Geosynthetics Installer) began deployment of geosynthetics on 17 August 1999. Approximately 136,500 ft^2 of geosynthetic clay liner (GCL) and 110,500 ft^2 of HDPE geomembrane liner (GML) were deployed during the week. Inclement weather, on the morning of 19 August 1999, resulted in the hydration of approximately 13,000 ft^2 of GCL. The hydrated GCL was removed and replaced with new GCL material on 20 August 1999.

Impacted material placement continued during the report period. A total of 676 truckloads were hauled into Cell 2 including 594 loads of Category 1, 81 loads of Category 2, and 1 load of Category 4 material. There were 230 additional loads hauled into Cell 1 including 162 loads of Category 1, 43 loads of Category 2, 23 loads of Category 4, and 2 loads of Category 5 material.

Construction Submittal Review

The following submittal was reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
006, Rev. 8	GCL Shear Strength Test Results	17 Aug '99	B/ with Comment

000064

COPY TO: JDC, RAH, UAK, WAZ, BAS, MWG, GKJ, LRW, CPS, JFB, JLB, KSH, DKP, DGB, DBG, FILE PER: C. SUKOW/K. BADU-TWENEBOAH

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 22 August 1999

-2737

ENGINEER'S WEEKLY REPORT NO. 115 (cont'd)

GeoSyntec transmitted to FDF Engineering and FDF QA the Mullen Burst strength re-test results on geotextile conformance sample GTX-7 99-6.

Design Clarifications and Modifications

DCN No. 1700-096, initiated by FDF, was approved as noted by GeoSyntec. This DCN addressed the use of a victaulic fitting on the 6-in. diameter LDS pipe inside the primary containment vessel of LDS manhole MH-3. FDF Drawing No. 90-X-6000-M-00065 was affected.

GeoSyntec attended a Petro's preparatory meeting on geosynthetics installation on Monday 16 August 1999. GeoSyntec also attended a meeting with FDF Engineering and FDF QA on the same day to finalize review of geosynthetics installation submittals.

GeoSyntec participated in a 17 August 1999 SDFP Technical Information Exchange meeting which was attended by representatives from USEPA, OEPA, DOE, and FDF. Dr. Jay Beech of GeoSyntec made a presentation on the technical evaluation of the minimum required thickness of Category 1 soil intervening layer between horizons of Category 2 and/or Category 3 impacted materials.

Construction Quality Control (CQC)

CQC monitored the hydrostatic pressure testing of the SDR-11 HDPE pipes between manhole MH-3 and Cell 3. The hydrostatic pressure testing performed on the replacement SDR-11 HDPE pipes passed project specification.

FDF QA and GeoSyntec CQC personnel inspected the Cell 3 compacted clay liner surface and delineated all areas of the clay liner surface requiring repair for desiccation cracks or vehicle ruts prior to deployment of GCL. CQC monitored and documented all relevant data involved with the installation of the geosynthetic layers.

000065

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 22 August 1999

--2737

ENGINEER'S WEEKLY REPORT NO. 115 (cont'd)

Construction Quality Control (CQC)

CQC collected a sample of No. 57 stone from the Martin Marietta quarry and sent the sample to GeoSyntec's GEM Testing Laboratory for conformance testing. The sample failed to meet the specified hydraulic conductivity value of 10 cm/s. Petro changed suppliers and brought in No. 57 stone from the Hill Top quarry. Samples were sent to the GEM Testing Laboratory on Friday, 20 August 1999, and results are pending.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 16 August 1999 GeoSyntec weekly safety meeting covered geosynthetics installation safety issues.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman,
10. T. Dickman, and
11. J. Beech (part time).

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 15 August 1999

ENGINEER'S WEEKLY REPORT NO. 114 -2737

The report period covered by Weekly Report No. 114 is from Monday, 9 August 1999 through Sunday, 15 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was a trace of precipitation recorded.

Construction Progress

All compacted clay liner material had been placed by 7 August 1999 on the cell floor and sideslopes, and had passed project specifications. Petro completed fine grading and survey certification of the compacted clay liner during the report period. Final evaluation/certification was issued on 12 August 1999.

Wise Construction continued work on the pipe replacement between manhole MH-3 and Cell 3. Preliminary pneumatic testing on the SDR-11 HDPE 6-in. and 10-in. diameter pipes held test pressures of 5 psi for 10 minutes indicating the thermal butt-fusion and extrusion-sleeve welds were satisfactory. All three of the pipe sections (the LDS, LCS, and LCS-R) were trimmed to fit and welded into place. One hydrostatic pressure test was run on the LDS 6-in. and 10-in. diameter pipes on 13 August 1999. The 6-in. diameter carrier pipe passed the hydrostatic pressure testing holding 120-psi test pressure for 3 hours. The 10-in. diameter containment pipe was unable to hold pressure due to a visible leak in one of the replacement sleeves. The pipe was drained and the sleeve will be repaired and retested next week.

Impacted material placement continued during the report period. A total of 767 truckloads were hauled into Cell 2 including 597 Category 1, 166 Category 2, and 4 loads of Category 4. There were 55 additional loads hauled into Cell 1 including 53 loads of Category 1 and 2 loads of Category 5.

Construction Submittal Review

GeoSyntec completed review of compacted clay liner survey certification points for Cell 3, and provided FDF with a compacted clay liner evaluation/certification on 12 August 1999.

000067

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 15 August 1999

ENGINEER'S WEEKLY REPORT NO. 114 (cont'd) F-2737

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
P6-1, Rev. 1	Submittal Register	12 Aug '99	FDF to Comment
02605-1, Rev. 0	Resin QC Certificates	09 Aug '99	A/ with Comments
02605-4, Rev. 0	Documentation of Training	09 Aug '99	B/ with Comments
02770-1, Rev. 1	Resumes of Seaming Crew	11 Aug '99	B/ with Comments
02770-4, Rev. 0	Installation Layout Dwg.	09 Aug '99	A/ with Comments
02770-5, Rev. 0	Tensiometer Calibration	10 Aug '99	A/ with Comments
001, Rev. 2	Certification of MARV	12 Aug '99	A
003, Rev. 2	MQC Certificates	10 Aug '99	A
007, Rev. 5 (Phase I Construction Project)	Final Submittal Register	12 Aug '99	FDF to Provide Final Comments

Design Clarifications and Modifications

DCN No. 1700-095, initiated by FDF, was approved by GeoSyntec. This DCN addressed the repair of the piping system from manhole MH-3 to the Cell 3 lining system, and included replacement of the existing SDR-26 HDPE pipe and electro-fusion couplings with SDR-11 HDPE pipe and thermal butt-fusion joints, respectively.

RCI No. 20102-052R, initiated by Petro, was finally addressed by GeoSyntec. This RCI addressed Petro's request to use a Caterpillar CP-563C padded drum vibratory compactor for clay liner construction on the Cell 3 sideslopes. As discussed in Weekly Report No. 106, a proposed plan to demonstrate the equivalency of the CP-563 to the project-specified Caterpillar 815 soil compactor was cancelled on 18 June 1999.

GeoSyntec prepared the corrective action and disposition of NCR No. FY99-0923 initiated by FDF QA. This NCR relates to the use of test method ASTM D 6243 for GCL interface shear strength testing by the supplier's laboratory instead of the project specified test method ASTM D 5321.

COPY TO: JDC, RAH, UAK, WAZ, BAS, MWG, GKJ, LRW, CPS, JFB, JLB, KSH, DKP, DGB, DBG, FILE PER: C. SUKOW/K. BADU-TWENEBOAH

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 15 August 1999

2737

ENGINEER'S WEEKLY REPORT NO. 114 (cont'd)

Construction Quality Control (CQC)

The Resident Engineer reviewed the final certification survey points on clay liner and provided an evaluation/certification letter. CQC walked the Cell 3 surface and notified Petro of needed detail work along the Cell 2/Cell 3 boundary prior to installation of Cell 3 secondary liner GCL.

CQC monitored the placement and welding of the replacement SDR-11 HDPE pipes between manhole MH-3 and Cell 3. The welding and hydrostatic pressure testing performed on the replacement SDR-11 HDPE pipes were also monitored and recorded.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 9 August 1999 GeoSyntec weekly safety meeting covered vehicle maintenance, refueling, etc. of company vehicles.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord, (part time)
9. R. Erisman, and
10. T. Dickman.

000069

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 15 August 1999

ENGINEER'S WEEKLY REPORT NO. 114 -2737

The report period covered by Weekly Report No. 114 is from Monday, 9 August 1999 through Sunday, 15 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was a trace of precipitation recorded.

Construction Progress

All compacted clay liner material had been placed by 7 August 1999 on the cell floor and sideslopes, and had passed project specifications. Petro completed fine grading and survey certification of the compacted clay liner during the report period. Final evaluation/certification was issued on 12 August 1999.

Wise Construction continued work on the pipe replacement between manhole MH-3 and Cell 3. Preliminary pneumatic testing on the SDR-11 HDPE 6-in. and 10-in. diameter pipes held test pressures of 5 psi for 10 minutes indicating the thermal butt-fusion and extrusion-sleeve welds were satisfactory. All three of the pipe sections (the LDS, LCS, and LCS-R) were trimmed to fit and welded into place. One hydrostatic pressure test was run on the LDS 6-in. and 10-in. diameter pipes on 13 August 1999. The 6-in. diameter carrier pipe passed the hydrostatic pressure testing holding 120-psi test pressure for 3 hours. The 10-in. diameter containment pipe was unable to hold pressure due to a visible leak in one of the replacement sleeves. The pipe was drained and the sleeve will be repaired and retested next week.

Impacted material placement continued during the report period. A total of 767 truckloads were hauled into Cell 2 including 597 Category 1, 166 Category 2, and 4 loads of Category 4. There were 55 additional loads hauled into Cell 1 including 53 loads of Category 1 and 2 loads of Category 5.

Construction Submittal Review

GeoSyntec completed review of compacted clay liner survey certification points for Cell 3, and provided FDF with a compacted clay liner evaluation/certification on 12 August 1999.

COPY TO: JDC, RAH, UAK, WAZ, BAS, MWG, GKJ, LRW, ~~CPS, JFB, JLB, KSH, DKP, DGB, DBG, FILE~~ PER: C. SUKOW/K. BADU-TWENEBOAH

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 15 August 1999

E-2737

ENGINEER'S WEEKLY REPORT NO. 114 (cont'd)

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
P6-1, Rev. 1	Submittal Register	12 Aug '99	FDF to Comment
02605-1, Rev. 0	Resin QC Certificates	09 Aug '99	A/ with Comments
02605-4, Rev. 0	Documentation of Training	09 Aug '99	B/ with Comments
02770-1, Rev. 1	Resumes of Seaming Crew	11 Aug '99	B/ with Comments
02770-4, Rev. 0	Installation Layout Dwg.	09 Aug '99	A/ with Comments
02770-5, Rev. 0	Tensiometer Calibration	10 Aug '99	A/ with Comments
001, Rev. 2	Certification of MARV	12 Aug '99	A
003, Rev. 2	MQC Certificates	10 Aug '99	A
007, Rev. 5 (Phase I Construction Project)	Final Submittal Register	12 Aug '99	FDF to Provide Final Comments

Design Clarifications and Modifications

DCN No. 1700-095, initiated by FDF, was approved by GeoSyntec. This DCN addressed the repair of the piping system from manhole MH-3 to the Cell 3 lining system, and included replacement of the existing SDR-26 HDPE pipe and electro-fusion couplings with SDR-11 HDPE pipe and thermal butt-fusion joints, respectively.

RCI No. 20102-052R, initiated by Petro, was finally addressed by GeoSyntec. This RCI addressed Petro's request to use a Caterpillar CP-563C padded drum vibratory compactor for clay liner construction on the Cell 3 sideslopes. As discussed in Weekly Report No. 106, a proposed plan to demonstrate the equivalency of the CP-563 to the project-specified Caterpillar 815 soil compactor was cancelled on 18 June 1999.

GeoSyntec prepared the corrective action and disposition of NCR No. FY99-0923 initiated by FDF QA. This NCR relates to the use of test method ASTM D 6243 for GCL interface shear strength testing by the supplier's laboratory instead of the project specified test method ASTM D 5321.

COPY TO: JDC, RAH, UAK, WAZ, BAS, MWG, GKJ, LRW, CPS, JFB, JLB, KSH, DKP, DGB, DBC, FILE PER: C. SUKOW/K. BADU-TWENEBOAH

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 15 August 1999

ENGINEER'S WEEKLY REPORT NO. 114 (cont'd) E-2737

Construction Quality Control (CQC)

The Resident Engineer reviewed the final certification survey points on clay liner and provided an evaluation/certification letter. CQC walked the Cell 3 surface and notified Petro of needed detail work along the Cell 2/Cell 3 boundary prior to installation of Cell 3 secondary liner GCL.

CQC monitored the placement and welding of the replacement SDR-11 HDPE pipes between manhole MH-3 and Cell 3. The welding and hydrostatic pressure testing performed on the replacement SDR-11 HDPE pipes were also monitored and recorded.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 9 August 1999 GeoSyntec weekly safety meeting covered vehicle maintenance, refueling, etc. of company vehicles.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord, (part time)
9. R. Erisman, and
10. T. Dickman.

COPY TO: JDC, RAH, UAK, WAZ, BAS, MWG, GKJ, LRW, ~~CPS, JFB, JLB, KSH, DKP, DGB, DBG, FILE~~ PER: C. SUKOW/K. BADU-TWENEBOAH

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 08 August 1999

ENGINEER'S WEEKLY REPORT NO. 113

2737

The report period covered by Weekly Report No. 113 is from Monday, 2 August 1999 through Sunday, 8 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.5 inches of precipitation recorded.

Construction Progress

Petro completed placement of low permeability clay liner for Cell 3 on 7 August 1999. The low permeability material was stabilized with the RACO 250 and oversized rocks were removed from the surface. The material was then compacted with a CAT 825 pad-foot compactor. All compacted clay material has been placed on the cell floor and sideslopes, and passed project specifications. Petro started fine grading for final completion and survey certification of the compacted clay liner construction.

Wise construction excavated and removed the SDR-26 HDPE pipes between manhole No. MH-3 and Cell 3. The replacement SDR-11 HDPE pipes were fabricated, via thermal butt-fusion joints, outside the excavation in a work area located north of MH-1. Fabrication of the replacement pipes was completed during the report period. Preliminary testing on the LCS-R 6-in. and 10-in. diameter pipes held the preliminary pneumatic test pressure of 5 psi for 10 minutes indicating the fabricated joints were satisfactory. The LDS and LCS pipe sections will be tested next week. Placement of the SDR-11 HDPE pipe will occur after successful preliminary pneumatic testing has been completed.

Impacted material placement continued during the report period. A total of 719 truckloads were hauled into Cell 2 including 590 Category 1, 88 Category 2, and 41 loads of Category 4. A total of 38 truckloads, including 37 loads of Category 1 and 1 load of Category 5, were placed in Cell 1.

Construction Submittal Review

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
024, Rev. 17 (Phase I Construction)	GML Installation Warranty	04 Aug '99	FDF to Comment
02770-3, Rev. 0	Installer's Letter of Approval	04 Aug '99	A

000073

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 08 August 1999

2737

ENGINEER'S WEEKLY REPORT NO. 113 (cont'd)

GeoSyntec transmitted to FDF Engineering and FDF QA the GCL hydraulic conductivity and direct shear strength test results on conformance samples 99-2, 99-3, and 99-4 from GeoSyntec's Geotechnical, Environmental and Materials (GEM) and Soil-Geosynthetic Interaction (SGI) Testing Laboratories, respectively. Also transmitted during the week was hydraulic conductivity test results on a third specimen run on GCL 99-6. The reported test results for the three specimens were 5.9×10^{-9} cm/s, 2.3×10^{-9} cm/s, and 2.9×10^{-9} cm/s. The project specifications value is maximum 5×10^{-9} cm/s.

GeoSyntec transmitted to FDF Engineering and FDF QA test results on geotextile conformance sample GT-07-99-6 from GeoTesting Express Testing Laboratory.

Design Clarifications and Modifications

RCI No. 20102-054R, initiated by GeoSyntec, was finalized and submitted to FDF for review during the week. This RCI establishes a restricted acceptable permeability zone (APZ) for clay stockpile 99-4.

GeoSyntec attended a Department of Energy (DOE) sponsored technical exchange workshop on Caps and Covers on 4 August 1999.

Construction Quality Control (CQC)

CQC monitored the clay liner stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. The clay material was stabilized using a RACO 250 soil stabilizer. Petro's laborers walked the stabilized soil and picked out oversized rocks from the clay material. Water was added as needed and compacted with a CAT 825 pad-foot compactor. GeoSyntec CQC performed nuclear density tests and compared the results with the project specifications as well as the stockpile-specific APZ. All deficient areas were brought to Petro's attention and the areas were reworked during the week. All material for Cell 3 clay liner had been placed and tested by the end of the week. Petro started working on fine grading the floor to final grade.

000074

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 08 August 1999

ENGINEER'S WEEKLY REPORT NO. 113 (cont'd) 2737

CQC monitored the excavation and removal of the SDR-26 HDPE pipes between MH-3 and Cell 3. The welding and preliminary pressure testing performed on the replacement SDR-11 HDPE pipes was also monitored and recorded.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 2 August 1999 GeoSyntec weekly safety meeting covered general housekeeping of company vehicles and field trailers.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman, and
10. T. Dickman.

000075

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 08 August 1999

ENGINEER'S WEEKLY REPORT NO. 113

-2737

The report period covered by Weekly Report No. 113 is from Monday, 2 August 1999 through Sunday, 8 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.5 inches of precipitation recorded.

Construction Progress

Petro completed placement of low permeability clay liner for Cell 3 on 7 August 1999. The low permeability material was stabilized with the RACO 250 and oversized rocks were removed from the surface. The material was then compacted with a CAT 825 pad-foot compactor. All compacted clay material has been placed on the cell floor and sideslopes, and passed project specifications. Petro started fine grading for final completion and survey certification of the compacted clay liner construction.

Wise construction excavated and removed the SDR-26 HDPE pipes between manhole No. MH-3 and Cell 3. The replacement SDR-11 HDPE pipes were fabricated, via thermal butt-fusion joints, outside the excavation in a work area located north of MH-1. Fabrication of the replacement pipes was completed during the report period. Preliminary testing on the LCS-R 6-in. and 10-in. diameter pipes held the preliminary pneumatic test pressure of 5 psi for 10 minutes indicating the fabricated joints were satisfactory. The LDS and LCS pipe sections will be tested next week. Placement of the SDR-11 HDPE pipe will occur after successful preliminary pneumatic testing has been completed.

Impacted material placement continued during the report period. A total of 719 truckloads were hauled into Cell 2 including 590 Category 1, 88 Category 2, and 41 loads of Category 4. A total of 38 truckloads, including 37 loads of Category 1 and 1 load of Category 5, were placed in Cell 1.

Construction Submittal Review

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
024, Rev. 17 (Phase I Construction)	GML Installation Warranty	04 Aug '99	FDF to Comment
02770-3, Rev. 0	Installer's Letter of Approval	04 Aug '99	A

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 08 August 1999

-2737

ENGINEER'S WEEKLY REPORT NO. 113 (cont'd)

GeoSyntec transmitted to FDF Engineering and FDF QA the GCL hydraulic conductivity and direct shear strength test results on conformance samples 99-2, 99-3, and 99-4 from GeoSyntec's Geotechnical, Environmental and Materials (GEM) and Soil-Geosynthetic Interaction (SGI) Testing Laboratories, respectively. Also transmitted during the week was hydraulic conductivity test results on a third specimen run on GCL 99-6. The reported test results for the three specimens were 5.9×10^{-9} cm/s, 2.3×10^{-9} cm/s, and 2.9×10^{-9} cm/s. The project specifications value is maximum 5×10^{-9} cm/s.

GeoSyntec transmitted to FDF Engineering and FDF QA test results on geotextile conformance sample GT-07-99-6 from GeoTesting Express Testing Laboratory.

Design Clarifications and Modifications

RCI No. 20102-054R, initiated by GeoSyntec, was finalized and submitted to FDF for review during the week. This RCI establishes a restricted acceptable permeability zone (APZ) for clay stockpile 99-4.

GeoSyntec attended a Department of Energy (DOE) sponsored technical exchange workshop on Caps and Covers on 4 August 1999.

Construction Quality Control (CQC)

CQC monitored the clay liner stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. The clay material was stabilized using a RACO 250 soil stabilizer. Petro's laborers walked the stabilized soil and picked out oversized rocks from the clay material. Water was added as needed and compacted with a CAT 825 pad-foot compactor. GeoSyntec CQC performed nuclear density tests and compared the results with the project specifications as well as the stockpile-specific APZ. All deficient areas were brought to Petro's attention and the areas were reworked during the week. All material for Cell 3 clay liner had been placed and tested by the end of the week. Petro started working on fine grading the floor to final grade.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 08 August 1999

ENGINEER'S WEEKLY REPORT NO. 113 (cont'd) F-2737

CQC monitored the excavation and removal of the SDR-26 HDPE pipes between MH-3 and Cell 3. The welding and preliminary pressure testing performed on the replacement SDR-11 HDPE pipes was also monitored and recorded.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 2 August 1999 GeoSyntec weekly safety meeting covered general housekeeping of company vehicles and field trailers.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman, and
10. T. Dickman.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 01 August 1999

-2737

ENGINEER'S WEEKLY REPORT NO. 112

The report period covered by Weekly Report No. 112 is from Monday, 26 July 1999 through Sunday, 01 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 1.1 inches of precipitation recorded.

Construction Progress

Petro continued placement of low permeability clay liner for Cell 3 during the report period. The low permeability material was stabilized with the RACO 250 and oversized rocks were removed from the surface. The material was then compacted with a CAT 825 pad-foot compactor. Six lifts have been placed on most of the cell floor with one lift to be placed within the drainage corridor. Between three to five lifts have been placed on the benches and slopes. The intercell berm is under construction.

Impacted material placement continued during the report period. A total of 537 truckloads were hauled into Cell 2 including 466 Category 1, 62 Category 2, and 9 loads of Category 4.

Construction Submittal Review

There were no submittals received for review during the report period.

GeoSyntec transmitted to FDF Engineering and FDF QA the geotextile (7 oz/yd^2, 10 oz/yd^2, and 16 oz/yd^2) conformance test results from GeoTesting Express Testing Laboratory. GeoSyntec also continued to participate in meetings with FDF Engineering and FDF QA to discuss MQC data and test results for Cell 3 geosynthetics.

Design Clarifications and Modifications

RCI No. 20102-054R, initiated by GeoSyntec, established a restricted acceptable permeability zone (APZ) for clay stockpile 99-4. The restricted APZ consisted of moving the left boundary of the APZ to the 90% degree of saturation line, which was the approved boundary used for Cells 1 and 2 construction.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 01 August 1999

2737

ENGINEER'S WEEKLY REPORT NO. 112 (cont'd)

GeoSyntec attended a meeting with FDF Construction, FDF QA and FDF Engineering on 26 July 1999 to discuss laboratory hydraulic conductivity test results on the composite samples from clay stockpile 99-4. It was decided during the meeting to establish a separate APZ for stockpile 99-4; therefore, RCI 20102-054R was prepared.

Construction Quality Control (CQC)

Two additional Composite #4 specimens (from stockpile 99-4) were remolded at moisture and density conforming to the 90% saturation curve, which was used as the acceptable permeability zone (APZ) in previous cell construction. Both specimens passed project specifications at 2.3×10^{-8} and 2.8×10^{-8} cm/s (See RCI No. 20102-054R). Stockpile 99-4 was re-sampled with a geoprobe core drilling rig and four (4) separate core composites (LP III-111, 112, 113, and 114) were collected on 20 July. These samples were sent to GeoSyntec's Geotechnical, Environmental and Materials (GEM) Testing Laboratory in Alpharetta, Georgia for soil index properties and remolded hydraulic conductivity testing to the stockpile-specific APZ. Test results showed the material to have a hydraulic conductivity in the low 10^{-6} cm/s range when tested to the stockpile-specific APZ (i.e., with line of optimums as the left boundary). The results of permeability testing on LP III-81 and Composite #5, both from stockpile 99-5, passed project specifications with a laboratory reported hydraulic conductivity of 7.8×10^{-8} and 3.8×10^{-8} cm/s, respectively.

CQC monitored the clay liner stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. The clay material was stabilized using a RACO 250 soil stabilizer. Petro's laborers walked the stabilized soil and picked out oversized rocks from the clay material. Water was added as needed and compacted with a CAT 825 pad-foot compactor. GeoSyntec CQC performed nuclear density tests and compared the results with the project specifications as well as the stockpile-specific APZ. All deficient areas were brought to Petro's attention and the areas were reworked during the week or will be reworked later. Approximately 95 percent of the cell floor had been placed by the end of the week. Petro continued placing material on the benches, slopes, and intercell berm.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 01 August 1999

ENGINEER'S WEEKLY REPORT NO. 112 (cont'd) 2737

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 26 July 1999 GeoSyntec weekly safety meeting covered heat stress and baseline monitoring.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. D. Bodine,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman, and
10. T. Dickman.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 01 August 1999

F-2737

ENGINEER'S WEEKLY REPORT NO. 112

The report period covered by Weekly Report No. 112 is from Monday, 26 July 1999 through Sunday, 01 August 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 1.1 inches of precipitation recorded.

Construction Progress

Petro continued placement of low permeability clay liner for Cell 3 during the report period. The low permeability material was stabilized with the RACO 250 and oversized rocks were removed from the surface. The material was then compacted with a CAT 825 pad-foot compactor. Six lifts have been placed on most of the cell floor with one lift to be placed within the drainage corridor. Between three to five lifts have been placed on the benches and slopes. The intercell berm is under construction.

Impacted material placement continued during the report period. A total of 537 truckloads were hauled into Cell 2 including 466 Category 1, 62 Category 2, and 9 loads of Category 4.

Construction Submittal Review

There were no submittals received for review during the report period.

GeoSyntec transmitted to FDF Engineering and FDF QA the geotextile (7 oz/yd^2, 10 oz/yd^2, and 16 oz/yd^2) conformance test results from GeoTesting Express Testing Laboratory. GeoSyntec also continued to participate in meetings with FDF Engineering and FDF QA to discuss MQC data and test results for Cell 3 geosynthetics.

Design Clarifications and Modifications

RCI No. 20102-054R, initiated by GeoSyntec, established a restricted acceptable permeability zone (APZ) for clay stockpile 99-4. The restricted APZ consisted of moving the left boundary of the APZ to the 90% degree of saturation line, which was the approved boundary used for Cells 1 and 2 construction.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 01 August 1999

ENGINEER'S WEEKLY REPORT NO. 112 (cont'd) F-2737

GeoSyntec attended a meeting with FDF Construction, FDF QA and FDF Engineering on 26 July 1999 to discuss laboratory hydraulic conductivity test results on the composite samples from clay stockpile 99-4. It was decided during the meeting to establish a separate APZ for stockpile 99-4; therefore, RCI 20102-054R was prepared.

Construction Quality Control (CQC)

Two additional Composite #4 specimens (from stockpile 99-4) were remolded at moisture and density conforming to the 90% saturation curve, which was used as the acceptable permeability zone (APZ) in previous cell construction. Both specimens passed project specifications at 2.3×10^{-8} and 2.8×10^{-8} cm/s (See RCI No. 20102-054R). Stockpile 99-4 was re-sampled with a geoprobe core drilling rig and four (4) separate core composites (LP III-111, 112, 113, and 114) were collected on 20 July. These samples were sent to GeoSyntec's Geotechnical, Environmental and Materials (GEM) Testing Laboratory in Alpharetta, Georgia for soil index properties and remolded hydraulic conductivity testing to the stockpile-specific APZ. Test results showed the material to have a hydraulic conductivity in the low 10^{-6} cm/s range when tested to the stockpile-specific APZ (i.e., with line of optimums as the left boundary). The results of permeability testing on LP III-81 and Composite #5, both from stockpile 99-5, passed project specifications with a laboratory reported hydraulic conductivity of 7.8×10^{-8} and 3.8×10^{-8} cm/s, respectively.

CQC monitored the clay liner stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. The clay material was stabilized using a RACO 250 soil stabilizer. Petro's laborers walked the stabilized soil and picked out oversized rocks from the clay material. Water was added as needed and compacted with a CAT 825 pad-foot compactor. GeoSyntec CQC performed nuclear density tests and compared the results with the project specifications as well as the stockpile-specific APZ. All deficient areas were brought to Petro's attention and the areas were reworked during the week or will be reworked later. Approximately 95 percent of the cell floor had been placed by the end of the week. Petro continued placing material on the benches, slopes, and intercell berm.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 01 August 1999

ENGINEER'S WEEKLY REPORT NO. 112 (cont'd) 2737

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 26 July 1999 GeoSyntec weekly safety meeting covered heat stress and baseline monitoring.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. D. Bodine,
3. C. Sukow,
4. B. York,
5. D. Evans,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. R. Erisman, and
10. T. Dickman.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 July 1999

ENGINEER'S WEEKLY REPORT NO. 111

F-2737

The report period covered by Weekly Report No. 111 is from Monday, 19 July 1999 through Sunday, 25 July 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was less than a tenth of an inch of precipitation recorded.

Construction Progress

Approximately 42,700 cubic yards of low permeability clay liner material was produced for the Cell 3 floor and wedge. CQC continued laboratory conformance testing of the material produced. A total of 33 samples have been collected and completed for conformance testing.

Petro continued placement of low permeability clay liner for Cell 3 during the report period. The low permeability material was stabilized with the RACO 250 and oversized rocks were removed from the surface. The material was then compacted with a CAT 825 pad-foot compactor. Five lifts have been placed on the cell floor with one lift to be placed. Three lifts have been placed on the east bench. Two lifts have been placed on the east slope, west bench, and intercell berm. No material has been placed on the west slope.

Impacted material placement continued during the report period. A total of 514 truckloads were hauled into Cell 2 including 393 Category 1, 85 Category 2, and 36 loads of Category 4.

Construction Submittal Review

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
001, Rev. 1	GTX MARV Certifications	22 July '99	B/ with Comments
001, Rev. 1	GTX Long-Term Storage Reqs.	22 July '99	A
002, Rev. 0	GTX MQC Test Results	22 July '99	A/ with Comments
002, Rev. 1	GTX Quality Control Certificates	22 July '99	B/ with Comments

000085

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 July 1999

ENGINEER'S WEEKLY REPORT NO. 111 (cont'd) 2737

GeoSyntec transmitted to FDF Engineering and QA geotextile (7 oz/yd^2, 10 oz/yd^2, and 16 oz/yd^2) conformance test results from GeoTesting Express Testing Laboratory. GeoSyntec also continued to participate in meetings with FDF Engineering and QA to discuss MQC data and test results for Cell 3 geosynthetics.

Design Clarifications and Modifications

DCN No. 20402-089 was for the SWU project and approved by Parsons.

GeoSyntec attended a meeting with FDF Construction, QA and Engineering on 20 July 1999 to discuss laboratory hydraulic conductivity test results on a composite sample of clay stockpile 99-4. It was decided during the meeting to resample the clay stockpile using a geoprobe to obtain additional samples for testing.

Construction Quality Control (CQC)

A total of 33 samples have been collected to complete conformance testing of clay liner. Testing has been completed for all 33 of the samples taken, and they all passed project specifications. However, the composite permeability sample (Composite #4), which comprised of equal portions from each of the seven samples collected from Stockpile 99-4, failed project specifications. The laboratory-reported hydraulic conductivity values were 3×10^{-7} cm/s and 2×10^{-7} cm/s on two remolded specimens. Two additional Composite #4 specimens have been remolded at moisture and density conforming to the 90% saturation curve, which was used as the acceptable permeability zone (APZ) in previous cell construction. Stockpile 99-4 was re-sampled with a geoprobe core drilling rig and four (4) separate core composites (LP III-111, 112, 113, and 114) were collected on 20 July and sent to GeoSyntec's GEM Testing Laboratory in Alpharetta, Georgia for soil index properties and remolded hydraulic conductivity testing to the stockpile specific APZ. Results will be available early in the next report period. Stockpile 99-5 was also sampled in the same manner on 20 July; and two (2) core composite samples (LP III-109 and 110) are on hold pending the results of permeability testing on Composite #5.

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SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 July 1999

F-2737

ENGINEER'S WEEKLY REPORT NO. 111 (cont'd)

CQC monitored the clay liner stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. The clay material was stabilized using a RACO 250 soil stabilizer. Petro's laborers walked the stabilized soil and picked out oversized rocks from the clay material. Water was added as needed and compacted with a CAT 825 pad-foot compactor. GeoSyntec CQC performed nuclear density tests and compared the results with the project specifications as well as the stockpile-specific APZ. All deficient areas were brought to Petro's attention and the areas were reworked during the week or will be reworked later. Approximately 80 percent of the cell floor had been placed by the end of the week. Petro is in the process of placing material on the benches and slopes.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 19 July 1999 GeoSyntec weekly safety meeting covered vehicle safety, seat belts, the new north access road 4-way stop signs, and Troxler gauge storage.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. C. Sukow,
3. B. York,
4. D. Evans,
5. M. Humphreys,
6. S. Quammen,
7. R. Peddicord,
8. R. Erisman, and
9. T. Dickman.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 July 1999

ENGINEER'S WEEKLY REPORT NO. 111

-2737

The report period covered by Weekly Report No. 111 is from Monday, 19 July 1999 through Sunday, 25 July 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was less than a tenth of an inch of precipitation recorded.

Construction Progress

Approximately 42,700 cubic yards of low permeability clay liner material was produced for the Cell 3 floor and wedge. CQC continued laboratory conformance testing of the material produced. A total of 33 samples have been collected and completed for conformance testing.

Petro continued placement of low permeability clay liner for Cell 3 during the report period. The low permeability material was stabilized with the RACO 250 and oversized rocks were removed from the surface. The material was then compacted with a CAT 825 pad-foot compactor. Five lifts have been placed on the cell floor with one lift to be placed. Three lifts have been placed on the east bench. Two lifts have been placed on the east slope, west bench, and intercell berm. No material has been placed on the west slope.

Impacted material placement continued during the report period. A total of 514 truckloads were hauled into Cell 2 including 393 Category 1, 85 Category 2, and 36 loads of Category 4.

Construction Submittal Review

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
001, Rev. 1	GTX MARV Certifications	22 July '99	B/ with Comments
001, Rev. 1	GTX Long-Term Storage Reqs.	22 July '99	A
002, Rev. 0	GTX MQC Test Results	22 July '99	A/ with Comments
002, Rev. 1	GTX Quality Control Certificates	22 July '99	B/ with Comments

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 July 1999

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ENGINEER'S WEEKLY REPORT NO. 111 (cont'd)

GeoSyntec transmitted to FDF Engineering and QA geotextile (7 oz/yd^2, 10 oz/yd^2, and 16 oz/yd^2) conformance test results from GeoTesting Express Testing Laboratory. GeoSyntec also continued to participate in meetings with FDF Engineering and QA to discuss MQC data and test results for Cell 3 geosynthetics.

Design Clarifications and Modifications

DCN No. 20402-089 was for the SWU project and approved by Parsons.

GeoSyntec attended a meeting with FDF Construction, QA and Engineering on 20 July 1999 to discuss laboratory hydraulic conductivity test results on a composite sample of clay stockpile 99-4. It was decided during the meeting to resample the clay stockpile using a geoprobe to obtain additional samples for testing.

Construction Quality Control (CQC)

A total of 33 samples have been collected to complete conformance testing of clay liner. Testing has been completed for all 33 of the samples taken, and they all passed project specifications. However, the composite permeability sample (Composite #4), which comprised of equal portions from each of the seven samples collected from Stockpile 99-4, failed project specifications. The laboratory-reported hydraulic conductivity values were 3×10^{-7} cm/s and 2×10^{-7} cm/s on two remolded specimens. Two additional Composite #4 specimens have been remolded at moisture and density conforming to the 90% saturation curve, which was used as the acceptable permeability zone (APZ) in previous cell construction. Stockpile 99-4 was re-sampled with a geoprobe core drilling rig and four (4) separate core composites (LP III-111, 112, 113, and 114) were collected on 20 July and sent to GeoSyntec's GEM Testing Laboratory in Alpharetta, Georgia for soil index properties and remolded hydraulic conductivity testing to the stockpile specific APZ. Results will be available early in the next report period. Stockpile 99-5 was also sampled in the same manner on 20 July; and two (2) core composite samples (LP III-109 and 110) are on hold pending the results of permeability testing on Composite #5.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 July 1999

--2737

ENGINEER'S WEEKLY REPORT NO. 111 (cont'd)

CQC monitored the clay liner stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. The clay material was stabilized using a RACO 250 soil stabilizer. Petro's laborers walked the stabilized soil and picked out oversized rocks from the clay material. Water was added as needed and compacted with a CAT 825 pad-foot compactor. GeoSyntec CQC performed nuclear density tests and compared the results with the project specifications as well as the stockpile-specific APZ. All deficient areas were brought to Petro's attention and the areas were reworked during the week or will be reworked later. Approximately 80 percent of the cell floor had been placed by the end of the week. Petro is in the process of placing material on the benches and slopes.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 19 July 1999 GeoSyntec weekly safety meeting covered vehicle safety, seat belts, the new north access road 4-way stop signs, and Troxler gauge storage.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. C. Sukow,
3. B. York,
4. D. Evans,
5. M. Humphreys,
6. S. Quammen,
7. R. Peddicord,
8. R. Erisman, and
9. T. Dickman.

000090

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 18 July 1999

ENGINEER'S WEEKLY REPORT NO. 110

=-2737

The report period covered by Weekly Report No. 110 is from Monday, 12 July 1999 through Sunday, 18 July 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was no precipitation recorded.

Construction Progress

Petro completed screening low permeability clay, producing approximately 42,700 cubic yards of material. CQC collected two samples for laboratory conformance testing of the material produced. A total of 33 samples have been collected for conformance testing.

Petro continued with placement of low permeability clay liner for Cell 3 during the report period. The low permeability material was stabilized with the RACO 250 and oversized rocks were removed from the surface. The material was then compacted with a CAT 825 pad-foot compactor. Three lifts have been placed on the cell floor completing one-half of the floor. Material still needs to be placed on the benches and slopes.

Impacted material placement continued during the report period. A total of 572 truckloads were hauled into Cell 2 including 512 Category 1, and 60 Category 2. One load of Category 2 and one load of Category 5 were placed in Cell 1.

Construction Submittal Review

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
001, Rev. 0	GTX Material Certifications	15 July '99	B/ with Comments
001, Rev. 0	GTX QC Manual	15 July '99	B/ with Comments
001, Rev. 0	GTX Product Name	15 July '99	B/ with Comments
001, Rev. 0	GTX Completed Forms	15 July '99	A
006, Rev. 6	GCL Quality Control Certificates	15 July '99	A
006, Rev. 7	GCL Quality Control Certificates	15 July '99	A

000091

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 18 July 1999

ENGINEER'S WEEKLY REPORT NO. 110 (cont'd) — 2737

GeoSyntec transmitted to FDF Engineering and QA GCL hydraulic conductivity and direct shear strength conformance test results from GeoSyntec's GEM and SGI Testing Laboratories, respectively. GeoSyntec also continued to participate in meetings with FDF Engineering and QA to discuss MQC data and test results for Cell 3 geosynthetics.

Design Clarifications and Modifications

DCN No. 20402-089 was for the SWU project and approved by Parsons.

GeoSyntec attended a meeting with Ohio EPA, FDF Construction and Engineering on Wednesday, July 14, 1999 to review clay liner stockpile test results and the respective APZs. The group later met at the east borrow area to observe the clay liner stockpiles.

GeoSyntec continued re-writing the draft Task 4 report, Revision C, "Evaluation of Required Minimum Thickness of Intervening Horizon of Category 1 Impacted Material." This report proposes revising the minimum thickness of the Category 1 intervening horizon between horizons of Category 2 or Category 3 material from 4 feet to 2 feet. A final draft that incorporated FDF and DOE comments was submitted to FDF on 14 July 1999.

Construction Quality Control (CQC)

CQC collected 2 low permeability clay samples from stockpile 99-5 at the east field borrow area for conformance testing. A total of 33 samples have been collected to complete conformance testing of clay liner. Testing has been completed for 31 of the samples taken, and they all passed project specifications. Testing of the other two samples is ongoing. Permeability test results from composite #4 (for stockpile 99-4) failed project specifications with laboratory-reported hydraulic conductivity value of 3×10^{-7} cm/s. A second specimen from the composite sample has been remolded and results will be available early in the next report period.

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SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 18 July 1999

2737

ENGINEER'S WEEKLY REPORT NO. 110 (cont'd)

CQC monitored the subgrade stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. Placement of compacted clay liner began on 6 July 1999. The clay material was stabilized using a RACO 250 soil stabilizer. Petro's laborers walked the stabilized soil and picked out oversized rocks from the clay material. Water was added as needed and compacted with a CAT 825 pad-foot compactor. GeoSyntec CQC performed nuclear density tests and compared the results with the project specifications as well as the stockpile-specific acceptable permeability zone (APZ). All deficient areas were brought to Petro's attention and the areas were reworked during the week or will be reworked later. Approximately 50 percent of compacted clay placement for the cell floor volume was completed by the end of the week. Petro had not placed any material on the benches or slopes by the end of the report period.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2; and checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 12 July 1999 GeoSyntec weekly safety meeting covered a review and discussion of the FDF Integrated Safety Management System.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. M. Humphreys,
6. S. Quammen,
7. R. Peddicord,
8. R. Erisman, and
9. D. Evans (part time).

000093

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 18 July 1999

=-2737

ENGINEER'S WEEKLY REPORT NO. 110

The report period covered by Weekly Report No. 110 is from Monday, 12 July 1999 through Sunday, 18 July 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was no precipitation recorded.

Construction Progress

Petro completed screening low permeability clay, producing approximately 42,700 cubic yards of material. CQC collected two samples for laboratory conformance testing of the material produced. A total of 33 samples have been collected for conformance testing.

Petro continued with placement of low permeability clay liner for Cell 3 during the report period. The low permeability material was stabilized with the RACO 250 and oversized rocks were removed from the surface. The material was then compacted with a CAT 825 pad-foot compactor. Three lifts have been placed on the cell floor completing one-half of the floor. Material still needs to be placed on the benches and slopes.

Impacted material placement continued during the report period. A total of 572 truckloads were hauled into Cell 2 including 512 Category 1, and 60 Category 2. One load of Category 2 and one load of Category 5 were placed in Cell 1.

Construction Submittal Review

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
001, Rev. 0	GTX Material Certifications	15 July '99	B/ with Comments
001, Rev. 0	GTX QC Manual	15 July '99	B/ with Comments
001, Rev. 0	GTX Product Name	15 July '99	B/ with Comments
001, Rev. 0	GTX Completed Forms	15 July '99	A
006, Rev. 6	GCL Quality Control Certificates	15 July '99	A
006, Rev. 7	GCL Quality Control Certificates	15 July '99	A

000094

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 18 July 1999

--2737

ENGINEER'S WEEKLY REPORT NO. 110 (cont'd)

GeoSyntec transmitted to FDF Engineering and QA GCL hydraulic conductivity and direct shear strength conformance test results from GeoSyntec's GEM and SGI Testing Laboratories, respectively. GeoSyntec also continued to participate in meetings with FDF Engineering and QA to discuss MQC data and test results for Cell 3 geosynthetics.

Design Clarifications and Modifications

DCN No. 20402-089 was for the SWU project and approved by Parsons.

GeoSyntec attended a meeting with Ohio EPA, FDF Construction and Engineering on Wednesday, July 14, 1999 to review clay liner stockpile test results and the respective APZs. The group later met at the east borrow area to observe the clay liner stockpiles.

GeoSyntec continued re-writing the draft Task 4 report, Revision C, "Evaluation of Required Minimum Thickness of Intervening Horizon of Category 1 Impacted Material." This report proposes revising the minimum thickness of the Category 1 intervening horizon between horizons of Category 2 or Category 3 material from 4 feet to 2 feet. A final draft that incorporated FDF and DOE comments was submitted to FDF on 14 July 1999.

Construction Quality Control (CQC)

CQC collected 2 low permeability clay samples from stockpile 99-5 at the east field borrow area for conformance testing. A total of 33 samples have been collected to complete conformance testing of clay liner. Testing has been completed for 31 of the samples taken, and they all passed project specifications. Testing of the other two samples is ongoing. Permeability test results from composite #4 (for stockpile 99-4) failed project specifications with laboratory-reported hydraulic conductivity value of 3×10^{-7} cm/s. A second specimen from the composite sample has been remolded and results will be available early in the next report period.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 18 July 1999

ENGINEER'S WEEKLY REPORT NO. 110 (cont'd) -- 2737

CQC monitored the subgrade stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. Placement of compacted clay liner began on 6 July 1999. The clay material was stabilized using a RACO 250 soil stabilizer. Petro's laborers walked the stabilized soil and picked out oversized rocks from the clay material. Water was added as needed and compacted with a CAT 825 pad-foot compactor. GeoSyntec CQC performed nuclear density tests and compared the results with the project specifications as well as the stockpile-specific acceptable permeability zone (APZ). All deficient areas were brought to Petro's attention and the areas were reworked during the week or will be reworked later. Approximately 50 percent of compacted clay placement for the cell floor volume was completed by the end of the week. Petro had not placed any material on the benches or slopes by the end of the report period.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2; and checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 12 July 1999 GeoSyntec weekly safety meeting covered a review and discussion of the FDF Integrated Safety Management System.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. M. Humphreys,
6. S. Quammen,
7. R. Peddicord,
8. R. Erisman, and
9. D. Evans (part time).

000096

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 11 July 1999

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ENGINEER'S WEEKLY REPORT NO. 109

The report period covered by Weekly Report No. 109 is from Monday, 05 July 1999 through Sunday, 11 July 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), maintained project drainage and runoff areas. During the period there was 0.7 inch of precipitation recorded.

Construction Progress

Petro completed screening low permeability clay last week with approximately 42,700 cubic yards of material. CQC continued to collect samples for laboratory conformance testing of the material produced. A total of 31 samples have been collected to date.

Five samples of No. 78 stone have been collected for sieve analysis, carbonate content, and permeability testing. Sieve analysis of the five samples passed the project specifications. Laboratory testing for permeability and carbonate content were also completed during the week, and they passed the project specifications.

Petro began low permeability clay placement of the Cell 3 floor and benches on 6 July 1999. The low permeability material was stabilized with the RACO 250 and oversized rocks were removed from the surface. The material was then compacted with a CAT 825 pad-foot compactor. Approximately 95 percent of the first lift was placed during the report period.

Impacted material placement continued during the report period. A total of 387 truckloads were hauled into Cell 2 including 276 Category 1, and 111 Category 2. A total of 10 Category 1 loads were placed in Cell 1.

Wise Construction (Wise) completed backfilling of the repaired leachate transmission system (LTS) excavations between manholes MH-1 and MH-2 during the report period.

000097

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 11 July 1999

--2737

ENGINEER'S WEEKLY REPORT NO. 109 (cont'd)

Construction Submittal Review

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
P6-2, Rev. 0	Verification of Est. Quantities	07 July '99	B/ with Comments
P6-10, Rev. 0	Notification of Geosynthetic Inst.	06 July '99	No Comments
02605-2, R. 0	Test Gauge Calibration Data	06 July '99	A
02770-1, R. 0	Installer's Proposed Equipment	06 July '99	A/ with Comments
02770-1, R. 0	Installer's Avg. Daily Production	06 July '99	B/with Comments
02770-1, R. 0	Installer's QC Procedures	06 July '99	A
02770-1, R. 0	Resume of Superintendent	06 July '99	B/ with Comments
02770-1, R. 0	Resume of QC Chief	06 July '99	B/ with Comments
02770-1, R. 0	Resumes of Seaming Crew	06 July '99	B/ with Comments
02770-1, R. 0	Cold Weather Seaming Procedures	06 July '99	A
02770-2, R. 0	Installation Schedule	08 July '99	A
02770-2, R. 0	List of 10 Completed Facilities	08 July '99	B/ with Comments
006, Rev. 4	GCL Shear Strength Test Results	07 July '99	B/ with Comments
006, Rev. 5	GCL MQC Test Results	09 July '99	B/ with Comments

GeoSyntec transmitted to FDF Engineering and QA GCL hydraulic conductivity and direct shear strength conformance test results from GeoSyntec's GEM and SGI Testing Laboratories, respectively. GeoSyntec also participated in meetings with FDF Engineering and QA to discuss MQC data and test results for Cell 3 geosynthetics.

GeoSyntec completed review of survey certification points for Cell 3, and provided FDF with a subgrade approval certification to allow placement of compacted clay liner. Clay liner placement, compaction and testing started during the week.

000098

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 11 July 1999

2737

ENGINEER'S WEEKLY REPORT NO. 109 (cont'd)

Design Clarifications and Modifications

DCN Nos. 20402-086 and 20402-087 for the SWU project and were approved by Parsons.

GeoSyntec addressed RCI No. 20102-045R, initiated by Petro.

NCR No. 20102-020 was dispositioned during the report period.

GeoSyntec attended a meeting with FDF Construction and WAO at the STP area on Friday, July 9, 1999 to review and resolve the surface soil preparation operations and categorization of the material as Category 1.

GeoSyntec continued re-writing the draft Task 4 report, Revision C, "Evaluation of Required Minimum Thickness of Intervening Horizon of Category 1 Impacted Material." This report proposes revising the minimum thickness of the Category 1 intervening horizon between horizons of Category 2 or Category 3 material from 4 feet to 2 feet.

Construction Quality Control (CQC)

CQC collected 2 low permeability clay samples from stockpile 99-5 at the east field borrow area for conformance testing. A total of 31 samples have been collected to date. Testing has been completed for 29 of the samples taken, and they all passed project specifications. Testing of the other two samples is ongoing. Permeability test results from samples LP III-45 and LP III-46 passed project specifications with laboratory-reported hydraulic conductivity values of 2.8×10^{-8} cm/s and 2.1×10^{-8} cm/s, respectively.

CQC monitored the subgrade stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. Placement of compacted clay liner began on 6 July 1999. The clay material was stabilized using a RACO 250 soil stabilizer. Petro's laborers walked the stabilized soil and picked out oversized rocks from the clay material. Water was added as needed and compacted with a CAT 825 pad-foot compactor. GeoSyntec CQC performed nuclear density tests and compared the results with the project specifications as well as the stockpile-specific acceptable permeability zone (APZ). All deficient areas were brought to Petro's attention and the areas were reworked during the week or will be reworked later. Approximately 95 percent of the first lift was placed during the week.

000099

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 11 July 1999

ENGINEER'S WEEKLY REPORT NO. 109 (cont'd) 2737

CQC monitored the backfilling of the LTS pipeline between manholes MH-1 and MH-2. CQC ran density tests on the material as it was placed and compacted. Work on the LTS manholes was completed during the report period.

CQC monitored the placement of impacted materials into Cell 1 and Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as required.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 7 July 1999 GeoSyntec weekly safety meeting covered safe working around heavy equipment by exercising awareness, watching out for alarms, horns, etc. Also, the recent collision in the east borrow field was discussed.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. B. York,
5. M. Humphreys,
6. S. Quammen,
7. R. Peddicord, and
8. R. Erisman.

000100

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 04 July 1999

--2737

ENGINEER'S WEEKLY REPORT NO. 108

The report period covered by Weekly Report No. 108 is from Monday, 28 June 1999 through Sunday, 4 July 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 1.9 inch of precipitation recorded.

Construction Progress

Petro continued screening low permeability clay material. Approximately 42,700 cubic yards have been screened as of 4 July 1999. CQC continues to collect samples for laboratory conformance testing as the material is produced. A total of 29 samples have been collected to date.

Five samples of No. 78 stone have been collected for sieve analysis, carbonate content, and permeability testing. Sieve analysis of the 5 samples passed project specifications. Laboratory testing for permeability and carbonate content is ongoing.

Petro began subgrade stabilization of the Cell 3 floor and benches on 1 July 1999. The subgrade was stabilized with the RACO 250 and oversized rocks were picked off the surface. The floor was then sealed with a smooth drum roller. Petro will begin clay liner placement next week. GeoSyntec attended Petro's compacted clay liner preparation meeting on 28 June 1999.

Impacted material placement continued during the report period. A total of 429 trucks were hauled into Cell 2 including 364 Category 1, and 65 Category 2.

Wise Construction (Wise) began to backfill the repaired leachate transmission system (LTS) between manholes MH-1 and MH-2. Both excavations are approximately half backfilled and should be completed next week.

000101

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 04 July 1999

2737

ENGINEER'S WEEKLY REPORT NO. 108 (cont'd)

Construction Submittal Review

The following submittals were reviewed during the report period:

Submittal No.	Item Description	RE Disposition	Recommended Status
001, Rev. 2	Submittal Register	28 June '99	No Comments
002, Rev. 0	GML QC Certificates/Resin	28 June '99	A
002, Rev. 0	GML Test Reports of Resin	28 June '99	B/ with Comments
002, Rev. 0	GML Cert. of Resin Polymer	28 June '99	C/ with Comments
003, Rev. 0	GML MQC Test Results	28 June '99	C/ with Comments
005, Rev. 0	GCL Cert. of GTX Component	28 June '99	A
006, Rev. 0	GCL MQC Test Results	28 June '99	C/ with Comments

GeoSyntec transmitted to FDF Engineering and QA GCL hydraulic conductivity conformance test results from GeoSyntec's GEM Testing Laboratory. GeoSyntec also participated in meetings with FDF Engineering and QA to discuss MQC data and test results for Cell 3 geosynthetics.

Subgrade survey certification points for a portion of the Cell 3 floor were received and reviewed during the report period.

Design Clarifications and Modifications

DCN No. 20102-088, initiated and approved as noted by GeoSyntec, incorporated current changes to GCL test methods to Sections 02772 and 02772P of the Technical Specifications.

GeoSyntec participated in meetings with FDF to discuss disposition of NCR No. 20102-020. GeoSyntec also attended a meeting with FDF Engineering, Construction and QA to review all clay liner test results and corresponding acceptable permeability zone (APZ) for each stockpile.

000102

GeoSyntec continued re-writing the draft Task 4 report, Revision C, "Evaluation of Required Minimum Thickness of Intervening Horizon of Category 1 Impacted Material." This report proposes revising the minimum thickness of the Category 1 intervening horizon between horizons of Category 2 or Category 3 material from 4 feet to 2 feet.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 04 July 1999

ENGINEER'S WEEKLY REPORT NO. 108 (cont'd) -2737

Construction Quality Control (CQC)

CQC collected 1 low permeability clay sample from stockpile 98-13 at the east field borrow area for conformance testing. A total of 29 samples have been collected to date. Testing has been completed for 27 of the samples taken, and they all passed project specifications. Testing of the other two samples is ongoing. Permeability test results from samples LP III-43 and Composite #3 passed project specifications with a laboratory-reported hydraulic conductivity value of 7.6×10^{-8} cm/s and 6.1×10^{-8} cm/s, respectively.

CQC monitored the subgrade stabilization and removal of oversized rocks from the Cell 3 and Cell 4 construction area. Placement of compacted clay liner is scheduled for next week.

CQC monitored the backfilling of the LTS pipeline between manholes MH-1 and MH-2. CQC ran density tests on the material as it was placed and compacted.

CQC monitored the placement of impacted materials into Cell 2, checked, signed and collected manifests. Nuclear density tests were performed on Category 1 material as needed.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 28 June 1999 GeoSyntec weekly safety meeting covered heat stress and the present hot and humid conditions.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. D. Evans,
5. M. Humphreys,
6. S. Quammen,
7. R. Peddicord,
8. R. Erisman

000103

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 27 June 1999

ENGINEER'S WEEKLY REPORT NO. 107

-2737

The report period covered by Weekly Report No. 107 is from Monday, 21 June 1999 through Sunday, 27 June 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 1.9 inch of precipitation recorded.

Construction Progress

Petro continued screening low permeability clay material. Approximately 41,300 cubic yards have been screened as of 27 June 1999. CQC continues to collect samples for laboratory conformance testing as the material is produced. A total of 28 samples have been collected to date.

A total of approximately 17,640 tons of No. 78 stone was delivered and stockpiled in the Cell 4 area. Additional No. 78 stone will be imported after the completion of the Cell 3 secondary lining system. Five samples have been collected for sieve analysis, carbonate content, and permeability testing. Laboratory testing is ongoing.

Petro used a loaded Volvo haul truck to proof roll the Cell 4 subgrade. No soft areas were noted. Subgrade proof rolling of the Cell 3 construction area is now complete.

Impacted material placement continued during the report period. A total of 247 trucks were hauled into Cell 2 including 187 Category 1, and 60 Category 2.

Wise Construction (Wise) continued repair work on the leachate transmission system (LTS) between manholes MH-1 and MH-2. During final hydrostatic pressure testing of the 10-in. diameter containment piping system, it was detected that the slip-liner inside the 6-in. diameter carrier pipe north of manhole MH-2 had been violated when the electro-fusion couplings were replaced last week. Wise, in conjunction with FDF Construction repaired the LTS dual containment piping system north of manhole MH-2 during the report period. This section, approximately 30 ft long north of manhole MH-2, was repaired by butt welding SDR-11 HDPE pipes to: (i) the south end of the existing LTS retrofit system; and (ii) north end of manhole MH-2 stub-outs. Upon completion of repairs, two passing preliminary pneumatic tests on both the 6-in. and 10-in. diameter LTS pipeline between manholes MH-1 and MH-2 were performed. Passing hydrostatic pressure tests were completed on both the 6-in. and 10-in. LTS pipeline on 25 June 1999. GeoSyntec submitted an interim construction certification letter to FDF on 25 June 1999. Wise will work on backfilling the manhole excavations next week.

000104

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 27 June 1999

--2737

ENGINEER'S WEEKLY REPORT NO. 107 (cont'd)

Construction Submittal Review

Subgrade survey certification points for a portion of the Cell 3 floor were received and reviewed during the report period.

GeoSyntec participated in meetings with FDF Engineering and QA to discuss geosynthetics procurement submittals, particularly manufacturer's quality control documentation and test results.

Design Clarifications and Modifications

DCN No. 1700-094, initiated by FDF and approved as noted by GeoSyntec, addressed the repair and testing of the LTS dual containment pipes north of manhole MH-2.

GeoSyntec provided FDF with an interim construction certification letter for the repairs to the LTS dual-containment piping system north of manhole MH-2.

GeoSyntec participated in meetings with FDF Engineering to finalize the Task 3 report on the evaluation of the minimum thickness of the intervening horizon of Category 1 material between lifts of Category 2 and/or 3 materials. GeoSyntec was informed that FDF and DOE planned to submit the final draft report to the OEPA on 2 July 1999.

Construction Quality Control (CQC)

CQC collected a total of 4 low permeability clay samples for conformance testing from stockpile 99-4 at the east field borrow area. A total of 28 samples have been collected. Testing has been completed for 22 of the samples taken, and they all passed project specifications. Testing of the other 6 samples is ongoing. Permeability test results from sample LP III-39 passed project specifications with a laboratory-reported hydraulic conductivity value of 1.5×10^{-8} cm/s.

CQC monitored the proof rolling of the Cell 4 area included as part of the Cell 3 liner construction.

000105

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 27 June 1999

ENGINEER'S WEEKLY REPORT NO. 107 (cont'd) F-2737

CQC monitored the repairs to the LTS pipeline between manholes MH-1 and MH-2. CQC was also present during the pneumatic and hydrostatic pressure tests conducted on the repaired LTS.

CQC monitored the placement of impacted materials into Cell 2, signed and collected manifests. Nuclear density tests were performed on Category 1 material as needed.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The 21 June 1999 GeoSyntec weekly safety meeting covered office safety, fire hazards, and working smart.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. D. Evans,
5. M. Humphreys,
6. S. Quammen,
7. R. Peddicord,
8. R. Erisman

000106

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 20 June 1999

ENGINEER'S WEEKLY REPORT NO. 106

2737

The report period covered by Weekly Report No. 106 is from Monday, 14 June 1999 through Sunday, 20 June 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 1.2 inch of precipitation recorded.

Construction Progress

Petro continued screening low permeability clay material. Approximately 35,500 cubic yards have been screened as of 20 June 1999. CQC continues to collect samples for laboratory conformance testing as the material is produced. A total of 24 samples have been collected to date.

Delivery of No. 78 stone for the Cell 3 leak detection layer continued during the week. Approximately 17,640 tons of material was delivered and stockpiled in the Cell 4 area. Additional No. 78 stone will be imported after the completion of the Cell 3 secondary lining system.

Petro over excavated three decommissioned wells located in Cell 3. The areas were over excavated 3 ft and backfilled and compacted with clean soil material to the original grades.

Impacted material placement continued during the report period. A total of 306 trucks were hauled into Cell 2 including 235 Category 1, 52 Category 2, and 19 Category 4 loads.

Wise Construction (Wise) continued excavating trench backfill to uncover the leachate transmission system (LTS) pipeline between manholes MH-1 and MH-2 as part of efforts to repair and/or replace the electro-fusion couplings on the containment pipe between manholes MH-1 and MH-2. The clean-out north of manhole MH-2 was damaged during excavation. Under direction from FDF Construction, Wise capped the clean-out below final grade and did not fully restore the clean-out to design grade. This was considered acceptable since the clean-out was rendered redundant following slip-lining of the carrier pipe as part of the LTS retrofit system. A preliminary pneumatic test was conducted on the containment pipe between the two manholes. Leaks were found on one of the exposed electro-fusion couplings. All three electro-fusion couplings were back-welded and another pneumatic test conducted with the test pressure held at 5.1 psi for 2 hours. Plans are to remove all three couplings and replace them with thermal butt-fusion joints during the following week.

000107

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB, KSH, DKP, LRW, DGB, DBG, FILE PER: C.P. SUKOW/K. BADU-TWENEBOAH

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 20 June 1999

2737

ENGINEER'S WEEKLY REPORT NO. 106 (con'td)

Construction Submittal Review

Subgrade survey certification points for a portion of the Cell 3 floor were received and reviewed during the report period.

Design Clarifications and Modifications

DCN No. 1700-093, initiated by FDF and approved as noted by GeoSyntec, addressed the repair and replacement of the three electro-fusion couplings in the LCS containment pipe between manholes MH-1 and MH-2.

GeoSyntec continued to participate in meetings with FDF Construction, Engineering and QA concerning draft plans to evaluate use of a Caterpillar CP-563C padded drum vibratory compactor for clay liner construction on the Cell 3 side slopes. This evaluation project was cancelled on 18 June 1999.

GeoSyntec attended and participated in an "Opportunity Analysis" meeting initiated by FDF. The purpose of the meeting was to brainstorm on ways to improve the overall protectiveness of the OSDF. Jay Beech, GeoSyntec's Program Manager for the OSDF project, was present and led some of the discussions.

Construction Quality Control (CQC)

CQC collected one low permeability clay sample for conformance testing from stockpile 99-4 at the east field borrow area. A total of 24 samples have been collected. Testing has been completed for 19 of the samples taken, and they all passed project specifications. Testing of the other 5 samples is ongoing. Permeability test results from stockpiles 99-1 and 99-2 composite samples passed project specifications with a laboratory-reported hydraulic conductivity value of 4.0×10^{-8} cm/s and 4.2×10^{-8} cm/s, respectively.

CQC monitored the backfilling of soil for the over-excavated well locations in Cell 3. Density tests were performed as per Section 02200 of the Phase II Specifications.

000108

CQC monitored the placement of impacted materials into Cell 2, signed and collected manifests, and performed nuclear density tests on Category 1 material as needed.

MJH, KAH, UAK, JCJ, WAZ, GAS, MWG, GKS,

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 20 June 1999

ENGINEER'S WEEKLY REPORT NO. 106(con'td) -- 2737

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 14 June 1999 GeoSyntec weekly safety meeting was on the GeoSyntec corporate safe work plan.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. D. Evans,
5. R. Erisman,
6. M. Humphreys,
7. S. Quammen,
8. R. Peddicord,
9. J. Beech (part time),
10. D. Vander Linde (part time), and
11. D. Bodine (part time)

000109

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 13 June 1999

2737

ENGINEER'S WEEKLY REPORT NO. 105

The report period covered by Weekly Report No. 105 is from Monday, 7 June 1999 through Sunday, 13 June 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.8 inch of precipitation recorded.

Construction Progress

Construction of the sewage treatment plant (STP) access ramp on the eastside of Cell 2 was completed during the report period with the addition of No. 304 stone over the ramp surface.

Petro continued screening low permeability clay material. Approximately 32,600 cubic yards have been screened as of 13 June 1999. CQC continued to collect samples for laboratory conformance testing as the material is produced. A total of 23 samples have been collected to date.

Delivery of No. 78 stone for the Cell 3 leak detection layer began on 7 June 1999. Approximately 8,500 tons of material was delivered and stockpiled in the Cell 4 area. The rest of the material is expected to arrive next week.

Petro prepared the Cell 2 floor for impacted materials placement by tracking the surface of the select impacted material and filling in ruts created by surface runoff over the winter and spring months. Impacted material placement commenced on 8 June 1999 for the 1999 season. A total of 103 trucks were hauled into Cell 2 including 89 Category 1 and 14 Category 2 loads.

Wise Construction began cutting the concrete slab at manholes MH-1 and MH-2 and excavating trench backfill to uncover the leachate transmission system (LTS) pipeline between the two manholes. Pressure testing of the piping system for the integrity of the pipe joints and repair of the suspect joints are anticipated to continue during the next week.

Construction Submittal Review

Subgrade survey certification points for a portion of the Cell 3 floor were received and reviewed during the report period.

000110

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 13 June 1999

2737

ENGINEER'S WEEKLY REPORT NO. 105 (con'td)

Design Clarifications and Modifications

DCN No. 1700-092 was initiated and approved by FDF. This DCN modified the existing manhole (COMH 11) cover to divert surface-water runoff away from the manhole.

GeoSyntec participated in several meetings during the week with FDF to discuss plans to repair and/or replace the existing electro-fusion couplings in the Leachate Conveyance System (LCS) containment pipe between manhole MH-1 and manhole MH-2.

GeoSyntec also participated in meetings with FDF Construction, Engineering and QA to discuss Petro's tentative plans to use a Caterpillar CP-563C padded drum vibratory soil compactor for compaction of the Cell 3 clay liner on the side slopes. (The use of the CP-563C vibratory compactor for clay liner compaction was previously addressed in RCI No. 20102-046R.) As a result of these meetings, GeoSyntec prepared a draft plan for evaluating the performance of the CP-563C soil compactor relative to the project specifications for the compacted clay liner.

Construction Quality Control (CQC)

CQC collected four low permeability clay samples for conformance testing from stockpiles 99-3 and 99-4 at the east field borrow area. A total of 23 samples have been collected to date. Testing has been completed for 17 of the samples taken, and they all passed the project specifications. Testing of the other six samples is ongoing. The fourth permeability test from LP-III-35 passed project specifications with a laboratory-reported hydraulic conductivity value of 4.5×10^{-8} cm/s.

CQC monitored the placement of soil for the STP access ramp construction. Density tests were taken as per Section 02200 of the Phase II Specifications.

CQC monitored the placement of impacted materials in Cell 2, collected manifests, and performed nuclear density tests on Category 1 material as needed.

000111

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 13 June 1999

ENGINEER'S WEEKLY REPORT NO. 105(con'td) -- 2737

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topics of the 7 June 1999 GeoSyntec weekly safety meeting were procedures for heat stress monitoring and caution due to construction traffic.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. D. Evans,
5. R. Erisman,
6. M. Humphreys,
7. S. Quammen, and
8. R. Peddicord.

000112

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 06 June 1999

2737

ENGINEER'S WEEKLY REPORT NO. 104

The report period covered by Weekly Report No. 104 is from Monday, 31 May 1999 through Sunday, 6 June 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.4 inch of precipitation recorded.

Construction Progress

Petro continued to fine grade the Cell 3 floor during the report period. Further grading along the Cell 2/Cell 3 construction boundary is required. Proof rolling of the Cell 3 floor was approximately 80% completed during the report period.

Construction of the sewage treatment plant (STP) access ramp on the eastside of Cell 2 continued during the report period. An HDPE culvert was placed under the STP ramp during construction for future Cell 2 drainage.

Petro continued screening low permeability clay material. Approximately 28,250 cubic yards have been screened as of 6 June 1999. CQC continues to collect samples for laboratory testing as the material is produced. A total of 19 samples have been collected to date.

Wise Construction continued placing cover soil over the above-grade section of the Interim Leachate Conveyance System. Final backfilling of the PLS, using flowable fill, was completed during the report period.

Construction Submittal Review

Subgrade survey certification points for a portion of the Cell 3 floor were received and reviewed during the report period.

Design Clarifications and Modifications

GeoSyntec's response to DCN No. 20102-085, initiated by FDF, for replacement of five electro-fusion couplers with thermal butt-fusion joints for welding pipes at the liner penetration boxes for the Cell 3 project was revised during this report period.

DCN No. 20402-086 was for the SWU project and approved by Parsons.

000113

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB, KSH, DKP, LRW, DGB, DBG, FILE PER: C.P. SUKOW/K. BADU-TWENEBOAH

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 06 June 1999

ENGINEER'S WEEKLY REPORT NO. 104 (con'td) — 2737

Construction Quality Control (CQC)

CQC collected a total of four low permeability clay samples for conformance testing from stockpiles 99-3 at the east field borrow area. A total of 19 samples have been collected. Testing of 15 of the samples taken have been completed and passed project specifications. Testing of the other four samples is ongoing. The third permeability test from LP-III-31 passed project specifications with a laboratory-reported hydraulic conductivity value of 2.6×10^{-8} cm/s.

CQC monitored the placement of soil for the STP access ramp. Density tests were taken as per Section 02200 of the Phase II Specifications.

CQC monitored the placement of protective soil over the above-grade portion of the interim leachate conveyance system pipeline. Wise employed a track-hoe and laborers to sift through and remove large rocks, organic debris, and other deleterious material from the fill material prior to being placed over the pipeline. Two samples were taken from the fill material for sieve analysis and classification. Some of the material had a noticeably higher organic content. An LOI (loss on ignition) sample was collected for organic content testing. Results from the LOI indicated the sample had 4% organic material. NCR 20102-18 was written on the cover soil for high organic content, use as is. See NCR 20102-18 for details.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 1 June 1999 GeoSyntec weekly safety meeting Lockout/Tagout procedures. GeoSyntec's Director of Environmental, Health and Safety, Dr. Jack Peng, was on-site to complete the yearly health and safety audit.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. D Bodine, (part time)
3. C. Sukow,
4. S. Quammen,
5. D. Evans,
6. R. Erisman,
7. R. Peddicord,
8. M. Humphreys,
9. R. Hummel, and
10. J. Peng (part time).

000114

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 30 May 1999

ENGINEER'S WEEKLY REPORT NO. 103 -2737

The report period covered by Weekly Report No. 103 is from Monday, 24 May 1999 through Sunday, 30 May 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.4 inch of precipitation recorded.

Construction Progress

Petro worked on the clay wedge at the SW corner of Cell 1 on 4 and 5 May. Hand level readings from existing hubs set prior to the clay wedge work showed the wedge to be at or above grade in the Cell 1 ramp area. However, the wedge north of the ramp entrance is below grade and needs the addition of up to 6-in of compacted fill.

Petro began repair work on the equipment wash facility on 24 May 1999. After the HDPE geomembrane was repaired, a destructive sample was removed and sent to GeoTesting Express for testing. Passing test results per the project specifications were received.

Petro continued to fine grade the Cell 3 floor during the report period. Construction of the sewage treatment plant (STP) access ramp on the eastside of Cell 2 continued during the report period.

Petro continued screening low permeability clay material. Approximately 22,300 cubic yards have been screened as of 30 May 1999. CQC continues to collect samples for laboratory testing as the material is produced. A total of 15 samples have been collected to date.

Wise Construction began placing cover soil over the above-grade section of the Interim Leachate Conveyance System. Wise also finalized backfilling and compaction of the buried pipe section of the interim pipeline. Final backfilling of the PLS, using a grout or flowable fill is scheduled to be completed next week.

CSR completed post-installation videotaping of the slip-liner during this report period. Due to the reduction in the cross-sectional area of the slip-liner at the manhole stub-outs, the video taping had to be run from MH-2 to MH-1, retracted, and then from MH-2 to MH-3.

000115

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB

C.P. Sukow/K. Badu-Tweneboah KBT

KSH, DKP, LRW, DBG, File

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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 30 May 1999

ENGINEER'S WEEKLY REPORT NO. 103 (con'td) -- 2737

Construction Submittal Review

The following submittal was reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
P8-9, Rev. 4	Operator Verification Form	28 May '99	FDF to Comment

Design Clarifications and Modifications

DCN 1700-091, initiated and approved as noted by FDF, addressed revisions to the tie-in of the Interim Leachate Conveyance System to the PLS. The butterfly valve and the clean-out north of the PLS were eliminated.

DCN No. 20102-084, initiated by FDF and approved by GeoSyntec, abandoned survey monument OSDF-4 and replaced with monument OSDF-4a approximately 20 ft to west of the OSDF-4.

DCN No. 20102-085, initiated by FDF and approved as noted by GeoSyntec, called for replacement of specified number of electro-fusion couplers with thermal butt-fusion joints for welding pipes at the liner penetration boxes for the Cell 3 project.

GeoSyntec provided FDF with an interim construction certification letter for the Interim Leachate Conveyance System construction project. Final CQA report is tentatively scheduled to be completed by the end of June 1999.

Construction Quality Control (CQC)

CQC did not collect low permeability clay samples for conformance testing this week. CQC however concentrated on samples already collected from stockpile No. 99-3 in the east borrow area. Testing of

000116

C.P. Sukow/K. Badu-Tweneboah

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB KSH, DKP, LRW, DBC, FIR PER: 2 3

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~30 May 1999~~

ENGINEER'S WEEKLY REPORT NO. 103(con'td) -- 2737

13 of the samples have been completed and all passed project specifications. Testing of the other two samples is ongoing.

A destructive sample from the equipment wash repair efforts was removed and shipped to GeoTesting Express for testing. Petro did not have a tensiometer on site when the repairs were made, therefore, a trial weld was sent to GeoSyntec's GEM Testing Laboratory for peel and shear tests. Results were positive for both samples.

CQC monitored the placement of protective soil over the above-grade portion of the interim leachate transmission pipeline. Wise employed a track-hoe and laborers to sift through and remove large rocks, organic debris, and other deleterious material from the fill material prior to being placed over the pipeline. Two samples were taken from the fill material for sieve analysis and classification. Some of the material had a noticeably higher organic content and an LOI (loss on ignition) was collected for organic content testing.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 24 May 1999 GeoSyntec weekly safety meeting was the 8-hour refresher and supervisor training. GeoSyntec's Director of Environmental, Health and Safety, Dr. Jack Peng, was on-site to conduct the training and an audit.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. S. Quammen,
5. D. Evans,
6. R. Erisman,
7. R. Peddicord,
8. M. Humphreys,
9. R. Hummel, and
10. J. Peng.

000117

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB, KSH, DKP, LRW, DBG, File PER: C.P. Sukow/K. Badu-Tweneboah

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 30 May 1999

-- 2737

ENGINEER'S WEEKLY REPORT NO. 103

The report period covered by Weekly Report No. 103 is from Monday, 24 May 1999 through Sunday, 30 May 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.4 inch of precipitation recorded.

Construction Progress

Petro worked on the clay wedge at the SW corner of Cell 1 on 4 and 5 May. Hand level readings from existing hubs set prior to the clay wedge work showed the wedge to be at or above grade in the Cell 1 ramp area. However, the wedge north of the ramp entrance is below grade and needs the addition of up to 6-in of compacted fill.

Petro began repair work on the equipment wash facility on 24 May 1999. After the HDPE geomembrane was repaired, a destructive sample was removed and sent to GeoTesting Express for testing. Passing test results per the project specifications were received.

Petro continued to fine grade the Cell 3 floor during the report period. Construction of the sewage treatment plant (STP) access ramp on the eastside of Cell 2 continued during the report period.

Petro continued screening low permeability clay material. Approximately 22,300 cubic yards have been screened as of 30 May 1999. CQC continues to collect samples for laboratory testing as the material is produced. A total of 15 samples have been collected to date.

Wise Construction began placing cover soil over the above-grade section of the Interim Leachate Conveyance System. Wise also finalized backfilling and compaction of the buried pipe section of the interim pipeline. Final backfilling of the PLS, using a grout or flowable fill is scheduled to be completed next week.

CSR completed post-installation videotaping of the slip-liner during this report period. Due to the reduction in the cross-sectional area of the slip-liner at the manhole stub-outs, the video taping had to be run from MH-2 to MH-1, retracted, and then from MH-2 to MH-3.

000118

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB

KBT

C.P. Sukow/K. Badu-Tweneboah

KSH, DKP, LRW, DBG, File

COPY TO: PER:

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SHEET NO. OF

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 30 May 1999

ENGINEER'S WEEKLY REPORT NO. 103 (con'td) 2737

Construction Submittal Review

The following submittal was reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
P8-9, Rev. 4	Operator Verification Form	28 May '99	FDF to Comment

Design Clarifications and Modifications

DCN 1700-091, initiated and approved as noted by FDF, addressed revisions to the tie-in of the Interim Leachate Conveyance System to the PLS. The butterfly valve and the clean-out north of the PLS were eliminated.

DCN No. 20102-084, initiated by FDF and approved by GeoSyntec, abandoned survey monument OSDF-4 and replaced with monument OSDF-4a approximately 20 ft to west of the OSDF-4.

DCN No. 20102-085, initiated by FDF and approved as noted by GeoSyntec, called for replacement of specified number of electro-fusion couplers with thermal butt-fusion joints for welding pipes at the liner penetration boxes for the Cell 3 project.

GeoSyntec provided FDF with an interim construction certification letter for the Interim Leachate Conveyance System construction project. Final CQA report is tentatively scheduled to be completed by the end of June 1999.

Construction Quality Control (CQC)

CQC did not collect low permeability clay samples for conformance testing this week. CQC however concentrated on samples already collected from stockpile No. 99-3 in the east borrow area. Testing of

000119

C.P. Sukow/K. Badu-Tweneboah

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB

COPY TO: KSH, DKP, LRW, DBC FILE: 2 3

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~30 May 1999~~

ENGINEER'S WEEKLY REPORT NO. 103(con'td) — 2737

13 of the samples have been completed and all passed project specifications. Testing of the other two samples is ongoing.

A destructive sample from the equipment wash repair efforts was removed and shipped to GeoTesting Express for testing. Petro did not have a tensiometer on site when the repairs were made, therefore, a trial weld was sent to GeoSyntec's GEM Testing Laboratory for peel and shear tests. Results were positive for both samples.

CQC monitored the placement of protective soil over the above-grade portion of the interim leachate transmission pipeline. Wise employed a track-hoe and laborers to sift through and remove large rocks, organic debris, and other deleterious material from the fill material prior to being placed over the pipeline. Two samples were taken from the fill material for sieve analysis and classification. Some of the material had a noticeably higher organic content and an LOI (loss on ignition) was collected for organic content testing.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 24 May 1999 GeoSyntec weekly safety meeting was the 8-hour refresher and supervisor training. GeoSyntec's Director of Environmental, Health and Safety, Dr. Jack Peng, was on-site to conduct the training and an audit.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. S. Quammen,
5. D. Evans,
6. R. Erisman,
7. R. Peddicord,
8. M. Humphreys,
9. R. Hummel, and
10. J. Peng.

000120

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB, KSH, DKP, LRW, DBG, File PER: C.P. Sukow/K. Badu-Tweneboah

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 23 May 1999

-2737

ENGINEER'S WEEKLY REPORT NO. 102

The report period covered by Weekly Report No. 102 is from Monday, 17 May 1999 through Sunday, 23 May 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.2 inch of precipitation recorded.

Construction Progress

Petro worked on the clay wedge at the SW corner of Cell 1 on 4 and 5 May. The material passed project specifications. This material was from a leftover stockpile from Cell 2 construction. Therefore, the original APZ curve was used for the pass/fail criteria during placement and compaction of the clay wedge. The wedge is approximately 1 ft from final grade. Survey has not been received.

Petro continued to fine grade the Cell 3 floor during the report period. Construction of the sewage treatment plant (STP) access ramp on the east side of Cell 2 began on 20 May 1999.

Petro continued screening low permeability clay material. Approximately 21,000 cubic yards have been screened as of 23 May 1999. CQC continues to collect samples for laboratory testing as the material is produced. A total of 15 samples have been collected to date.

Wise Construction completed backfill of the below ground portion of the interim leachate transmission pipeline on 19 May 1999. Four bentonite plugs were also installed at varying locations along the leachate conveyance system pipeline.

Final hydrostatic pressure testing, at 50-psi test pressure for the carrier pipe and 15 psi for the containment pipe, of the interim pipelines was conducted during the period with passing results. Tie-in of the interim leachate line to the PLS was modified during construction. The butterfly valve and cleanout north of the PLS were eliminated and the 6-in. carrier and 10-in. containment pipes for the interim line were welded, using butt-fusion joints, to the PLS stub-out. A design change (DCN No. 1700-091) on the elimination of the butterfly valve and cleanout was initiated by FDF Engineering and will be addressed in the next report.

000121

KBT

PER: ~~C.P. Sukow/K. Badu-Tweneboah~~

COPY TO: ~~MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB~~ KSH, DKP, LRW, DBG, File

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: 23 May 1999

ENGINEER'S WEEKLY REPORT NO. 102 (con'td)

F-2737

CSR, the slip-lining subcontractor, performed the slip-lining of the 6-in. diameter HDPE SDR 26 carrier pipe from MH-1 to MH-3. The slip-lining work included washing the existing pipeline, video-taping of the existing line prior to slip-lining, installing the slip-liner through the existing line, and reforming the pipe lining to the walls of the existing pipe through the use of steam and pressure. Hydrostatic pressure testing, at 15-psi test pressure of the slip-lined pipe between MH-1 and MH-2 and between MH-2 and Mh-3 were completed during this report period. Post-installation videotaping of the slip-lining was postponed to the following week due to problems that were encountered during the reforming process.

Construction Submittal Review

The following submittals were reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
P6-11, Rev. 0	Sketch of Temporary Facilities Layout	21 May '99	FDF to Comment
02200-1, Rev. 1	Earthwork Work Plan	22 May '99	A with Comments

Design Clarifications and Modifications

DCN No. 20102-080, for the compacted clay liner hydraulic conductivity test frequency was, voided by FDF and replaced with a 18 May 1999 letter from the Construction Manager to Petro. It is presently understood that a DCN cannot be written against an approved plan. (The test frequency is presented in the OSDF CQA Plan.) GeoSyntec also finalized two memorandums to FDF Engineering and Construction on the: (i) sampling and testing plan; and (ii) preliminary test results on the evaluation of the East Field Borrow Area for use as compacted clay liner.

RCI No. 20102-051R was initiated by FDF QA and responded to by GeoSyntec. This RCI provided clarifications to the manufacturer quality control test frequency as presented in the geosynthetics (GML, GCL, GTX) specifications.

000122

C.P. Sukow/K. Badu-Tweneboah KBT

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB KSH, DKP, LRW, DBG, FILE

PREPARED BY: 2 4

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 23 May 1999

ENGINEER'S WEEKLY REPORT NO. 102(con'td) 2737

GeoSyntec also assisted FDF in assembling and reviewing contractor's submittals for the pipe lining, as required by Section 02955 of the specifications. Deviations from the approved specifications for installation of the pipe lining were resolved through non-conformance reports (NCRs), which were initiated by FDF QA.

Construction Quality Control (CQC)

CQC collected a total of 5 low permeability clay samples for conformance testing from stockpiles 99-2 and 99-3 at the east field borrow area. A total of 15 samples have been collected. Testing of seven of the samples taken from stockpile 99-1 have been completed and passed project specifications. Testing of the other 8 samples is ongoing. The second permeability test from LP-III-27 passed project specifications with a hydraulic conductivity measured to 1.7×10^{-8} cm/s.

Joining of the pre-welded interim leachate transmission pipeline SDR-11 3-in., 6-in, and 10-in. diamter HDPE pipes was completed during the report period. Preliminary pneumatic pressure testing was completed and monitored passing project specifications. Final hydrostatic pressure testing of the interim leachate conveyance system pipeline was also completed on 21 May 1999. All pressure testing was monitored and documented by CQC.

CQC monitored the backfill and installation of the bentonite plugs for the interim leachate transmission pipeline. Nuclear density tests were taken on each lift and the material passed project specifications. The bentonite plugs consisted of mixing 1 part bentonite to 5 parts sand to ensure a minimum of 10% bentonite by weight.

CQC monitored the slip-lining of the 6-in. diameter HDPE SDR-26 carrier pipe from MH-1 to MH-3. The slip-lining work included washing the existing pipeline, video-taping of the existing line prior to slip-lining, installing the slip-liner through the existing line, and reforming the pipe lining to the walls of the existing pipe through the use of steam and pressure. Hydrostatic pressure testing, at 15-psi test pressure of the slip-lined pipe between MH-1 and MH-2 and between MH-2 and Mh-3 were completed during this report period. Post-installation videotaping of the slip-lining is scheduled for the following week.

000123

KBT

C.P. Sukow/K. Badu-Tweneboah

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB KSH, DKP, LRW, DBG, PER: 3 4

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~23 May 1999~~

2737

ENGINEER'S WEEKLY REPORT NO. 102(con'td)

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 17 May 1999 GeoSyntec weekly safety meeting covered carbon monoxide poisoning and hand held gas power tools.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. S. Quammen,
5. D. Evans,
6. R. Erisman,
7. R. Peddicord,
8. M. Humphreys,
9. R. Hummel, and
10. D. Bodine (part time).

000124

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB

C.P. Sukow/K. Badu-Tweneboah

KSH, DKP, LRW, DBG, File

COPY TO: PER: 4 4

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 23 May 1999

ENGINEER'S WEEKLY REPORT NO. 102

2737

The report period covered by Weekly Report No. 102 is from Monday, 17 May 1999 through Sunday, 23 May 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.2 inch of precipitation recorded.

Construction Progress

Petro worked on the clay wedge at the SW corner of Cell 1 on 4 and 5 May. The material passed project specifications. This material was from a leftover stockpile from Cell 2 construction. Therefore, the original APZ curve was used for the pass/fail criteria during placement and compaction of the clay wedge. The wedge is approximately 1 ft from final grade. Survey has not been received.

Petro continued to fine grade the Cell 3 floor during the report period. Construction of the sewage treatment plant (STP) access ramp on the east side of Cell 2 began on 20 May 1999.

Petro continued screening low permeability clay material. Approximately 21,000 cubic yards have been screened as of 23 May 1999. CQC continues to collect samples for laboratory testing as the material is produced. A total of 15 samples have been collected to date.

Wise Construction completed backfill of the below ground portion of the interim leachate transmission pipeline on 19 May 1999. Four bentonite plugs were also installed at varying locations along the leachate conveyance system pipeline.

Final hydrostatic pressure testing, at 50-psi test pressure for the carrier pipe and 15 psi for the containment pipe, of the interim pipelines was conducted during the period with passing results. Tie-in of the interim leachate line to the PLS was modified during construction. The butterfly valve and cleanout north of the PLS were eliminated and the 6-in. carrier and 10-in. containment pipes for the interim line were welded, using butt-fusion joints, to the PLS stub-out. A design change (DCN No. 1700-091) on the elimination of the butterfly valve and cleanout was initiated by FDF Engineering and will be addressed in the next report.

000125

KBT

COPY TO: MDH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JPB, JLB KSH, DKP, LRW, DBG, File

PER: ~~C.P. Sukow/K. Badu-Tweneboah~~

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: 23 May 1999

ENGINEER'S WEEKLY REPORT NO. 102 (con'td) 2737

CSR, the slip-lining subcontractor, performed the slip-lining of the 6-in. diameter HDPE SDR 26 carrier pipe from MH-1 to MH-3. The slip-lining work included washing the existing pipeline, video-taping of the existing line prior to slip-lining, installing the slip-liner through the existing line, and reforming the pipe lining to the walls of the existing pipe through the use of steam and pressure. Hydrostatic pressure testing, at 15-psi test pressure of the slip-lined pipe between MH-1 and MH-2 and between MH-2 and Mh-3 were completed during this report period. Post-installation videotaping of the slip-lining was postponed to the following week due to problems that were encountered during the reforming process.

Construction Submittal Review

The following submittals were reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
P6-11, Rev. 0	Sketch of Temporary Facilities Layout	21 May '99	FDF to Comment
02200-1, Rev. 1	Earthwork Work Plan	22 May '99	A with Comments

Design Clarifications and Modifications

DCN No. 20102-080, for the compacted clay liner hydraulic conductivity test frequency was, voided by FDF and replaced with a 18 May 1999 letter from the Construction Manager to Petro. It is presently understood that a DCN cannot be written against an approved plan. (The test frequency is presented in the OSDF CQA Plan.) GeoSyntec also finalized two memorandums to FDF Engineering and Construction on the: (i) sampling and testing plan; and (ii) preliminary test results on the evaluation of the East Field Borrow Area for use as compacted clay liner.

RCI No. 20102-051R was initiated by FDF QA and responded to by GeoSyntec. This RCI provided clarifications to the manufacturer quality control test frequency as presented in the geosynthetics (GML, GCL, GTX) specifications.

000126

KBT

~~C.P. Sukow/K. Badu-Tweneboah~~

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB KSH, DKP, LRW, DBG, File PER: 2 4

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 23 May 1999

ENGINEER'S WEEKLY REPORT NO. 102(con'td) -- 2737

GeoSyntec also assisted FDF in assembling and reviewing contractor's submittals for the pipe lining, as required by Section 02955 of the specifications. Deviations from the approved specifications for installation of the pipe lining were resolved through non-conformance reports (NCRs), which were initiated by FDF QA.

Construction Quality Control (CQC)

CQC collected a total of 5 low permeability clay samples for conformance testing from stockpiles 99-2 and 99-3 at the east field borrow area. A total of 15 samples have been collected. Testing of seven of the samples taken from stockpile 99-1 have been completed and passed project specifications. Testing of the other 8 samples is ongoing. The second permeability test from LP-III-27 passed project specifications with a hydraulic conductivity measured to 1.7×10^{-8} cm/s.

Joining of the pre-welded interim leachate transmission pipeline SDR-11 3-in., 6-in, and 10-in. diamter HDPE pipes was completed during the report period. Preliminary pneumatic pressure testing was completed and monitored passing project specifications. Final hydrostatic pressure testing of the interim leachate conveyance system pipeline was also completed on 21 May 1999. All pressure testing was monitored and documented by CQC.

CQC monitored the backfill and installation of the bentonite plugs for the interim leachate transmission pipeline. Nuclear density tests were taken on each lift and the material passed project specifications. The bentonite plugs consisted of mixing 1 part bentonite to 5 parts sand to ensure a minimum of 10% bentonite by weight.

CQC monitored the slip-lining of the 6-in. diameter HDPE SDR-26 carrier pipe from MH-1 to MH-3. The slip-lining work included washing the existing pipeline, video-taping of the existing line prior to slip-lining, installing the slip-liner through the existing line, and reforming the pipe lining to the walls of the existing pipe through the use of steam and pressure. Hydrostatic pressure testing, at 15-psi test pressure of the slip-lined pipe between MH-1 and MH-2 and between MH-2 and Mh-3 were completed during this report period. Post-installation videotaping of the slip-lining is scheduled for the following week.

000127

KBT

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB C.P. Sukow/K. Badu-Tweneboah

COPY TO: KSH, DKP, LRW, DBG, HRE PER: 3 4

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~23 May 1999~~

ENGINEER'S WEEKLY REPORT NO. 102(con'td) -- 2737

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 17 May 1999 GeoSyntec weekly safety meeting covered carbon monoxide poisoning and hand held gas power tools.

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3. C. Sukow,
4. S. Quammen,
5. D. Evans,
6. R. Erisman,
7. R. Peddicord,
8. M. Humphreys,
9. R. Hummel, and
10. D. Bodine (part time).

000128

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, JLB

KBT

C.P. Sukow/K. Badu-Tweneboah

COPY TO: KSH, DKP, LRW, DBG, File PER: 4 4

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 16 May 1999

2737

ENGINEER'S WEEKLY REPORT NO. 101

The report period covered by Weekly Report No. 101 is from Monday, 10 May 1999 through Sunday, 16 May 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.1 inch of precipitation recorded.

Construction Progress

Petro worked on the clay wedge at the SW corner of Cell 1 on 4 and 5 May. The material passed project specifications. This material was from a leftover stockpile from Cell 2 construction. Therefore, the original APZ curve was used for the pass/fail criteria during placement and compaction of the clay wedge. The wedge is approximately 1 ft from final grade. Survey has not been received.

Petro continued to fine grade the Cell 3 floor during the report period.

Petro continued screening low permeability clay material. Approximately 15,500 cubic yards have been screened as of 16 May 1999. CQC continues to collect samples for laboratory testing as the material is produced. A total of 10 samples have been collected to date.

Wise Construction continued welding 3-in, 6-in, and 10-in diameter HDPE SDR-11 pipes for the Interim Leachate Conveyance System during the report period. A total of 40 linear feet of 3-in, 240 linear feet of the 6-in, and 920 linear feet of the 10-in pipe had been welded at the end of this report period. A total of 320 linear feet of 3-in, 3280 linear feet of 6-in, and 2960 linear feet of 10-in have been welded to date. The pipe was welded in various lengths with flanges welded on both ends for pressure testing. Preliminary pneumatic pressure testing continued during the report period with passing results. Both pipe welding and preliminary pressure testing were completed during the report period. The initial welding was completed on 15 May 1999. Deployment of the pre-welded pipe sections began during the report period. The sections were welded together in-place. Preliminary pressure testing of the LTS as the sections were added is ongoing.

000129

~~MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT~~ C.P.Sukow/J. Burnett

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SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 16 May 1999

ENGINEER'S WEEKLY REPORT NO. 101 (con'td)

2737

Construction Submittal Review

The following submittals were reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
P6-6, Rev. 1	Contractor's Project Schedule	12 May '99	FDF to comment
FDF Submittal No. 001, Rev. 0	GML/GCL/GTX Procurement Submittals	12 May '99	see note below
FDF Submittal N. 001, Rev. 1	GCL Procurement Submittals, Rev. 1	12 May '99	see note below

Note: FDF procurement submittals for GML, GCL, GTX were reviewed and discussed with FDF Engineering and QA during the previous report period. Recommended status ranged from A to C with comments. It should be noted that the geosynthetics procurement submittals were in a different format than the format used by Petro. In the future, consistency between the two submittals should be maintained to facilitate the review process.

Design Clarifications and Modifications

DCN No. 20402-082 was for the Southern Waste Units (SWU) project, and was approved by Parsons.

RCI No. 20102-49R, initiated by Petro, was responded to by GeoSyntec. This RCI proposed an alternate ramping scheme for access intro Cell 1 and Cell 2 for placement of impacted material.

GeoSyntec continued to assist FDF with the design of and review of manufacturer/contractor submittals for the Interim Leachate Conveyance System. GeoSyntec provided FDF with memorandums on: (i) suggestions for temporary anchors during construction of the above-grade component of the interim pipeline; (ii) hydrostatic pressure testing procedures for the pipes, including allowance for make-up water; and (iii) suggestions for use of soil-bentonite plugs along the buried section of pipeline.

000130

~~MJH, RAH, UAK, JCJ, WAZ, BAS, MWO, OKI, CPS, JFD, KBT~~ C.P.Sukow/J. Burnett

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 16 May 1999

ENGINEER'S WEEKLY REPORT NO. 101 (con'td) -- 2737

Construction Quality Control (CQC)

CQC collected a total of 3 low permeability clay samples for conformance testing from stockpile 99-2 at the east field borrow area. A total of 10 samples have been collected. Testing of five of the samples taken from stockpile 99-1 have been completed and passed project specifications. Testing of the other 5 samples is ongoing. The second permeability test from LP-III-27 has been sent to Atlanta (GEL), results are pending.

CQC began monitoring the pneumatic pressure testing of the3-in., 6-in. and 10-in. diameter SDR-11 HDPE pipes during the report period. The tests were preliminary and were ran for approximately 20 minutes during which each pipe joint was swabbed with soapy solution and visually inspected for leaks. All of the 3-in., 6-in. and 10-in. pipe have passed preliminary testing.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 10 May 1999 GeoSyntec weekly safety meeting covered GeoSyntec's corporate health and safety policies.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. S. Quammen,
5. D. Evans,
6. R. Erisman,
7. R. Peddicord,
8. M. Humphreys, and
9. D. Bodine (part time).

000131

C.P. Sukow/J. Burnett

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT, KSH, DKP, LRW, DBG, FER:

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 16 May 1999

2737

ENGINEER'S WEEKLY REPORT NO. 101

The report period covered by Weekly Report No. 101 is from Monday, 10 May 1999 through Sunday, 16 May 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.1 inch of precipitation recorded.

Construction Progress

Petro worked on the clay wedge at the SW corner of Cell 1 on 4 and 5 May. The material passed project specifications. This material was from a leftover stockpile from Cell 2 construction. Therefore, the original APZ curve was used for the pass/fail criteria during placement and compaction of the clay wedge. The wedge is approximately 1 ft from final grade. Survey has not been received.

Petro continued to fine grade the Cell 3 floor during the report period.

Petro continued screening low permeability clay material. Approximately 15,500 cubic yards have been screened as of 16 May 1999. CQC continues to collect samples for laboratory testing as the material is produced. A total of 10 samples have been collected to date.

Wise Construction continued welding 3-in, 6-in, and 10-in diameter HDPE SDR-11 pipes for the Interim Leachate Conveyance System during the report period. A total of 40 linear feet of 3-in, 240 linear feet of the 6-in, and 920 linear feet of the 10-in pipe had been welded at the end of this report period. A total of 320 linear feet of 3-in, 3280 linear feet of 6-in, and 2960 linear feet of 10-in have been welded to date. The pipe was welded in various lengths with flanges welded on both ends for pressure testing. Preliminary pneumatic pressure testing continued during the report period with passing results. Both pipe welding and preliminary pressure testing were completed during the report period. The initial welding was completed on 15 May 1999. Deployment of the pre-welded pipe sections began during the report period. The sections were welded together in-place. Preliminary pressure testing of the LTS as the sections were added is ongoing.

000132

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JEB, KBT C.P.Sukow/J. Burnett

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 16 May 1999

ENGINEER'S WEEKLY REPORT NO. 101 (con'td) -- 2737

Construction Submittal Review

The following submittals were reviewed during the report period.

Submittal No.	Item Description	RE Disposition	Recommended Status
P6-6, Rev. 1	Contractor's Project Schedule	12 May '99	FDF to comment
FDF Submittal No. 001, Rev. 0	GML/GCL/GTX Procurement Submittals	12 May '99	see note below
FDF Submittal N. 001, Rev. 1	GCL Procurement Submittals, Rev. 1	12 May '99	see note below

Note: FDF procurement submittals for GML, GCL, GTX were reviewed and discussed with FDF Engineering and QA during the previous report period. Recommended status ranged from A to C with comments. It should be noted that the geosynthetics procurement submittals were in a different format than the format used by Petro. In the future, consistency between the two submittals should be maintained to facilitate the review process.

Design Clarifications and Modifications

DCN No. 20402-082 was for the Southern Waste Units (SWU) project, and was approved by Parsons.

RCI No. 20102-49R, initiated by Petro, was responded to by GeoSyntec. This RCI proposed an alternate ramping scheme for access intro Cell 1 and Cell 2 for placement of impacted material.

GeoSyntec continued to assist FDF with the design of and review of manufacturer/contractor submittals for the Interim Leachate Conveyance System. GeoSyntec provided FDF with memorandums on: (i) suggestions for temporary anchors during construction of the above-grade component of the interim pipeline; (ii) hydrostatic pressure testing procedures for the pipes, including allowance for make-up water; and (iii) suggestions for use of soil-bentonite plugs along the buried section of pipeline.

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~~MJH, RAH, UAK, JCJ, WAZ, BAS, MWO, GKL, CPS, JFB, KBT~~ C.P.Sukow/J. Burnett

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 16 May 1999

ENGINEER'S WEEKLY REPORT NO. 101 (con'td)

2737

Construction Quality Control (CQC)

CQC collected a total of 3 low permeability clay samples for conformance testing from stockpile 99-2 at the east field borrow area. A total of 10 samples have been collected. Testing of five of the samples taken from stockpile 99-1 have been completed and passed project specifications. Testing of the other 5 samples is ongoing. The second permeability test from LP-III-27 has been sent to Atlanta (GEL), results are pending.

CQC began monitoring the pneumatic pressure testing of the3-in., 6-in. and 10-in. diameter SDR-11 HDPE pipes during the report period. The tests were preliminary and were ran for approximately 20 minutes during which each pipe joint was swabbed with soapy solution and visually inspected for leaks. All of the 3-in., 6-in. and 10-in. pipe have passed preliminary testing.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 10 May 1999 GeoSyntec weekly safety meeting covered GeoSyntec's corporate health and safety policies.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. K. Badu-Tweneboah,
3. C. Sukow,
4. S. Quammen,
5. D. Evans,
6. R. Erisman,
7. R. Peddicord,
8. M. Humphreys, and
9. D. Bodine (part time).

000134

C.P. Sukow/J. Burnett

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT KSH, DKP, LRW, DBG, PER:

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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~2 May 1999~~

ENGINEER'S WEEKLY REPORT NO. 99

2737

The report period covered by Weekly Report No. 99 is from Monday, 26 April 1999 through Sunday, 2 May 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 1.0 inch of precipitation recorded.

Construction Progress

In preparation for clay wedge completion, Petro cleared the clay wedge area at the Cell 1 and Cell 2 access ramp of large rocks and debris down to competent material. Construction of the clay wedge and access ramp is scheduled for next week. The radiological technicians are scheduled to certify the surface as clean on Monday, 3 May 1999.

Petro began to fine grade the Cell 3 floor during the report period. The floor is being cut to subgrade elevations, and the soil/mud and soil mixed with No. 8 stone are being hauled to the east stockpile located on future Cells 4 and 5 areas.

Petro continued screening low permeability clay material. Approximately 1,500 cubic yards have been screened as of 2 May 1999. Petro also completed set-up of the second large screener and production should increase.

Wise Construction began welding 6-in and 10-in diameter HDPE SDR-11 pipes on 29 April 1999 for the Interim Leachate Conveyance System. A total of 1760 linear feet of the 6-in. pipe, and 920 linear feet of the 10-in pipe had been welded at the end of this report period. The pipe was welded in various lengths with flanges welded on both ends for pipe testing. Preliminary pneumatic pressure testing began on 2 May 1999 with passing results. Both pipe welding and preliminary pressure testing are ongoing.

Construction Submittal Review

No contractor submittals were received or reviewed during this report period. GeoSyntec however started review of FDF Procurement submittals for the GML and GCL. Review comments will be included in the next report.

000135

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT C.P.Sukow/J. Burnett

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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 2 May 1999

ENGINEER'S WEEKLY REPORT NO. 99 (con'td) 2737

Design Clarifications and Modifications

DCN No. 1700-085, initiated and approved by FDF Engineering, modified the OSDF LCS Construction Drawings to include the construction drawings for the Interim Leachate Conveyance System (FDF Project No. 20110).

RCI No. 20102-048R, initiated by Petro for the Equipment Wash Facility, was disapproved by GeoSyntec. Petro is to revise sketches by incorporating GeoSyntec's review comments and to resubmit plans through a new RCI.

GeoSyntec continued to assist FDF with the design of the Interim Leachate Conveyance System. The design consists of: (i) slip-lining the carrier pipe of the dual-containment system from MH-1 to MH-3; and (ii) replacing the below grade temporary gravity line from MH-3 to the PLS with a primarily above grade piping system. GeoSyntec reviewed draft construction design drawings and pipe specifications (Sections 02605A and 02955) during this report period. During this period, GeoSyntec provided FDF with a pneumatic testing procedure for preliminary testing of the HDPE pipes that were being welded for the Interim Leachate Conveyance System.

Construction Quality Control (CQC)

Hydrostatic testing of the 10-in. containment pipe along the Leachate Transmission System between MH No. 1 and MH No. 3 was cancelled. According to FDF, OEPA stated that pressure testing of the 6-in. carrier pipe after 'slip lining' would be sufficient.

CQC collected a total of 18 low permeability clay samples for preliminary testing, from the east field borrow area. One of these samples was collected from the screened stockpile, the other 17 were from random locations throughout the borrow area. The samples have been completed and range in classification from silty sand (SM) to fat clay (CH). However, the bulk of the material classifies as lean clay with sand (CL). Another sample has been collected from the east field borrow area for conformance testing. On-site testing will be completed with preliminary permeability results on 7 May 1999.

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT C.P.Sukow/J. Burnett

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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 2 May 1999

2737

ENGINEER'S WEEKLY REPORT NO. 99 (con'td)

CQC monitored the removal of soil material from the top of the Phase I, Cell 1 HDPE 80 mil liner at the Cell 1 and Cell 2 access ramp. Soil was removed to the top of clean material free of large rocks and debris. The clay was cut down to approximately 2 to 4 inches above the liner surface to ensure no large particles were in contact with the liner.

CQC began monitoring the pneumatic pressure testing of the 6-in. and 10-in. diameter SDR-11 HDPE pipes on 2 May 1999. The tests were preliminary and were ran for approximately 20 minutes during which each pipe joint was swapped with soapy solution and visually inspected for leaks. Approximately 960 linear feet of the 6-in. pipe and 640 linear feet of the 10-in. pipe were tested.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 2 April 1999 GeoSyntec weekly safety meeting was not taking health and safety issues lightly thereby lending a lackadaisical attitude.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. C. Sukow,
3. D. Evans
4. B. York (Part time),
5. S. Quammen,
6. R. Erisman,
7. R. Hummel,
8. D. Bodine (Part time), and
9. M. Humphreys (Part time).

000137

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT
KSH, DKP, LRW, DBG, File

C.P.Sukow/J. Burnett
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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~2 May 1999~~

2737

ENGINEER'S WEEKLY REPORT NO. 99

The report period covered by Weekly Report No. 99 is from Monday, 26 April 1999 through Sunday, 2 May 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 1.0 inch of precipitation recorded.

Construction Progress

In preparation for clay wedge completion, Petro cleared the clay wedge area at the Cell 1 and Cell 2 access ramp of large rocks and debris down to competent material. Construction of the clay wedge and access ramp is scheduled for next week. The radiological technicians are scheduled to certify the surface as clean on Monday, 3 May 1999.

Petro began to fine grade the Cell 3 floor during the report period. The floor is being cut to subgrade elevations, and the soil/mud and soil mixed with No. 8 stone are being hauled to the east stockpile located on future Cells 4 and 5 areas.

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Construction Submittal Review

No contractor submittals were received or reviewed during this report period. GeoSyntec however started review of FDF Procurement submittals for the GML and GCL. Review comments will be included in the next report.

000138

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT C.P.Sukow/J. Burnett

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 2 May 1999

ENGINEER'S WEEKLY REPORT NO. 99 (con'td) 2737

Design Clarifications and Modifications

DCN No. 1700-085, initiated and approved by FDF Engineering, modified the OSDF LCS Construction Drawings to include the construction drawings for the Interim Leachate Conveyance System (FDF Project No. 20110).

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Construction Quality Control (CQC)

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MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT C.P.Sukow/J. Burnett

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~2 May 1999~~

ENGINEER'S WEEKLY REPORT NO. 99 (con'td) -- 2737

CQC monitored the removal of soil material from the top of the Phase I, Cell 1 HDPE 80 mil liner at the Cell 1 and Cell 2 access ramp. Soil was removed to the top of clean material free of large rocks and debris. The clay was cut down to approximately 2 to 4 inches above the liner surface to ensure no large particles were in contact with the liner.

CQC began monitoring the pneumatic pressure testing of the 6-in. and 10-in. diameter SDR-11 HDPE pipes on 2 May 1999. The tests were preliminary and were ran for approximately 20 minutes during which each pipe joint was swapped with soapy solution and visually inspected for leaks. Approximately 960 linear feet of the 6-in. pipe and 640 linear feet of the 10-in. pipe were tested.

Health and Safety

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The main topic of the 2 April 1999 GeoSyntec weekly safety meeting was not taking health and safety issues lightly thereby lending a lackadaisical attitude.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
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3. D. Evans
4. B. York (Part time),
5. S. Quammen,
6. R. Erisman,
7. R. Hummel,
8. D. Bodine (Part time), and
9. M. Humphreys (Part time).

000140

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT
KSH, DKP, LRW, DBG, File

C.P.Sukow/J. Burnett
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FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 April 1999

ENGINEER'S WEEKLY REPORT NO. 97 and 98

2737

The report period covered by Weekly Report No. 97 and 98 is from Monday, 12 April 1999 through Sunday, 25 April 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), began screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.7 inches of precipitation recorded.

Construction Progress

Petro hydroseeded the east slopes of Cell 2 during the week of 12 April 1999.

Petro began screening low permeability clay material during the report period. Production started off slowly with only one screener in operation. Approximately 300 yards had been screened as of 25 April 1999.

FDF received shipments of 6-in. and 10-in. diameter SDR-11 HDPE pipe for the temporary replacement of the leachate conveyance system. A total of 88 sections of both 6-in. and 10-in. diameter HDPE pipes were received.

Construction Submittal Review

No contractor submittals were received or reviewed during this report period.

Design Clarifications and Modifications

DCN No. 20102-080 was prepared by GeoSyntec on 15 February 1999 to address changes to the maximum hydraulic conductivity test frequency for clay liner material. The DCN has been on HOLD due to confirmation of its potential applicability to clay cap material. Clay liner and clay cap material will likely be loaded from the same stockpile if both liner and cap construction are occurring at the same time. On 14 April, GeoSyntec recommended that FDF approve this DCN to decrease the frequency of laboratory hydraulic conductivity testing for clay liner material, for cell 3 construction, from one test per 1,500 yd^3 to one test per 10,000 yd^3.

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MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT C.P.Sukow/J. Burnett

KSH, DKP, LRW, DBG, File

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 April 1999

ENGINEER'S WEEKLY REPORT NO. 97 and 98 (cont'd) -- 2737

This recommendation was made based on soils test results obtained from Phase I, Cell 1 1997 construction and Phase II, Cell 2 1998 construction (see Note 3 on Table 6-1, " Minimum Conformance Testing Frequencies for OSDF Liner System Components", in the May 1997, Rev. 0, Construction Quality Assurance Plan). GeoSyntec also recommended that any reduction in the frequency of laboratory hydraulic conductivity testing for the OSDF compacted clay cap be addressed through another DCN.

GeoSyntec submitted nineteen copies of the "Evaluation of the Leachate Transmission System" report, Revision B to FDF on 16 April 1999 for review and comment. This report contains revised pipe welding and pressure testing procedures, which will be implemented upon review and approval.

On 29 March 1999, GeoSyntec began assisting FDF with the design of an above grade piping system to replace the below grade leachate conveyance system gravity line from MH-3 to the Permanent Lift Station (PLS). Work continued throughout this report period.

GeoSyntec signed DCN No. 1700-086, Backfill requirements for the temporary leachate repair excavations on 13 April. This DCN describes temporary backfill methods in the repair excavations.

GeoSyntec reviewed RCI No. 20102-048R, Equipment Wash Pad Relocation Plan. Petro proposed to replace the existing gravel pad with a concrete pad.

Construction Quality Control (CQC)

CQC monitored air pressure testing of the Leachate Conveyance System 10-in. diameter containment pipe between MH-1 and MH-3 on 21, 22, and 23 April. The section was divided into two parts and tested from MH-1 to MH-2 and then from MH-2 to MH-3. Neither of these pipe sections passed the preliminary air pressure pipe testing. Hydrostatic testing is scheduled for early May.

CQC collected a total of 18 low permeability clay samples from the east field borrow area. One of these samples was collected from the screened stockpile, the other 17 were from random locations throughout the borrow area. To date, half of the samples have been completed and range in classification from silty sand (SM) to fat clay (CH), with the bulk of the material classifying as lean clay with sand (CL). Testing is ongoing and will be completed by 28 April 1999.

000142

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT C.P.Sukow/J. Burnett

KSH, DKP, LRW, DBG, File

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 April 1999

ENGINEER'S WEEKLY REPORT NO. 97 and 98 (con'td) 2737

CQC, along side with FDF QA, inspected the HDPE SDR 11 pipe received during the report period for factory defects and damage. Each pipe section was numbered in preparation for future welding operations. FDF QA inventoried each pipe section.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 12 April 1999 GeoSyntec weekly safety meeting was vehicle fire and accident safety. The main topic of the 19 April 1999 GeoSyntec weekly safety meeting was latex glove allergies.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. C. Sukow (Part time),
3. D. Evans
4. B. York (Part time),
5. S. Quammen,
6. R. Erisman,
7. R. Hummel,
8. K. Badu-Tweneboah (Part time), and
9. R. Bonaparte (Part time).

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT KSH, DKP, LRW, DBG, File

C.P.Sukow/J. Burnett

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 April 1999

ENGINEER'S WEEKLY REPORT NO. 97 and 98 2737

The report period covered by Weekly Report No. 97 and 98 is from Monday, 12 April 1999 through Sunday, 25 April 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), began screening low permeability clay material in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 0.7 inches of precipitation recorded.

Construction Progress

Petro hydroseeded the east slopes of Cell 2 during the week of 12 April 1999.

Petro began screening low permeability clay material during the report period. Production started off slowly with only one screener in operation. Approximately 300 yards had been screened as of 25 April 1999.

FDF received shipments of 6-in. and 10-in. diameter SDR-11 HDPE pipe for the temporary replacement of the leachate conveyance system. A total of 88 sections of both 6-in. and 10-in. diameter HDPE pipes were received.

Construction Submittal Review

No contractor submittals were received or reviewed during this report period.

Design Clarifications and Modifications

DCN No. 20102-080 was prepared by GeoSyntec on 15 February 1999 to address changes to the maximum hydraulic conductivity test frequency for clay liner material. The DCN has been on HOLD due to confirmation of its potential applicability to clay cap material. Clay liner and clay cap material will likely be loaded from the same stockpile if both liner and cap construction are occurring at the same time. On 14 April, GeoSyntec recommended that FDF approve this DCN to decrease the frequency of laboratory hydraulic conductivity testing for clay liner material, for cell 3 construction, from one test per 1,500 yd^3 to one test per 10,000 yd^3.

000144

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT C.P.Sukow/J. Burnett

KSH, DKP, LRW, DBG, File

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 April 1999

ENGINEER'S WEEKLY REPORT NO. 97 and 98 (cont'd) 2737

This recommendation was made based on soils test results obtained from Phase I, Cell 1 1997 construction and Phase II, Cell 2 1998 construction (see Note 3 on Table 6-1, " Minimum Conformance Testing Frequencies for OSDF Liner System Components", in the May 1997, Rev. 0, Construction Quality Assurance Plan). GeoSyntec also recommended that any reduction in the frequency of laboratory hydraulic conductivity testing for the OSDF compacted clay cap be addressed through another DCN.

GeoSyntec submitted nineteen copies of the "Evaluation of the Leachate Transmission System" report, Revision B to FDF on 16 April 1999 for review and comment. This report contains revised pipe welding and pressure testing procedures, which will be implemented upon review and approval.

On 29 March 1999, GeoSyntec began assisting FDF with the design of an above grade piping system to replace the below grade leachate conveyance system gravity line from MH-3 to the Permanent Lift Station (PLS). Work continued throughout this report period.

GeoSyntec signed DCN No. 1700-086, Backfill requirements for the temporary leachate repair excavations on 13 April. This DCN describes temporary backfill methods in the repair excavations.

GeoSyntec reviewed RCI No. 20102-048R, Equipment Wash Pad Relocation Plan. Petro proposed to replace the existing gravel pad with a concrete pad.

Construction Quality Control (CQC)

CQC monitored air pressure testing of the Leachate Conveyance System 10-in. diameter containment pipe between MH-1 and MH-3 on 21, 22, and 23 April. The section was divided into two parts and tested from MH-1 to MH-2 and then from MH-2 to MH-3. Neither of these pipe sections passed the preliminary air pressure pipe testing. Hydrostatic testing is scheduled for early May.

CQC collected a total of 18 low permeability clay samples from the east field borrow area. One of these samples was collected from the screened stockpile, the other 17 were from random locations throughout the borrow area. To date, half of the samples have been completed and range in classification from silty sand (SM) to fat clay (CH), with the bulk of the material classifying as lean clay with sand (CL). Testing is ongoing and will be completed by 28 April 1999.

000145

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT C.P.Sukow/J. Burnett

KSH, DKP, LRW, DBG, File

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 25 April 1999

ENGINEER'S WEEKLY REPORT NO. 97 and 98 (con'td) 2737

CQC, along side with FDF QA, inspected the HDPE SDR 11 pipe received during the report period for factory defects and damage. Each pipe section was numbered in preparation for future welding operations. FDF QA inventoried each pipe section.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 12 April 1999 GeoSyntec weekly safety meeting was vehicle fire and accident safety. The main topic of the 19 April 1999 GeoSyntec weekly safety meeting was latex glove allergies.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. C. Sukow (Part time),
3. D. Evans
4. B. York (Part time),
5. S. Quammen,
6. R. Erisman,
7. R. Hummel,
8. K. Badu-Tweneboah (Part time), and
9. R. Bonaparte (Part time).

MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT
KSH, DKP, LRW, DBG, File

C.P.Sukow/J. Burnett

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SHEET NO. OF

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: 11 April 1999

ENGINEER'S WEEKLY REPORT NO. 95 and 96

F-2737

The report period covered by Weekly Report No. 95 and 96 is from Monday, 29 March 1999 through Sunday, 11 April 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), halted activities on the leachate transmission system (LTS) on 18 March 1999 after which field investigation and repair work stopped. Petro also worked on the Cell 1 clay wedge and began setting up screeners in the borrow area. Petro maintained project drainage and runoff areas. During the period there was 1.7 inches of precipitation recorded.

Construction Progress

Petro began to clean off the SW corner crest of Cell 1 at the Cell 1 and Cell 2 access road. This was in preparation of completing the clay wedge left over from Cell 1, Phase 1 construction. Cat 1 material has been removed to approximately 1-ft above the HDPE liner. Work is incomplete.

Construction Submittal Review

Submittal No.	Item Description	RE Disposition	Recommended Status
P6-3, Rev. 2	Pay Item Schedule, Option A Work	1 April 1999	Final Comment by FDF
13005-1, Rev.0	Shop Dwgs for Liner Penet. Boxes	2 April 1999	B/with Comments
13010-1, Rev.1	Contractor's IMPP for Option A Work	8 April 1999	C

Design Clarifications and Modifications

DCN No. 20102-080 was prepared by GeoSyntec to address changes to the maximum hydraulic conductivity test frequency for clay liner material. The DCN is currently on HOLD to confirm it's potential applicability to clay cap material. Clay liner and clay cap material will likely be loaded from the same stockpile if both liner and cap construction are occurring at the same time.

GeoSyntec submitted five copies of the "Evaluation of the Leachate Transmission System" report, Revision A to FDF on 5 April 1999 for review and comment. This report contains revised pipe welding and pressure testing procedures, which will be implemented upon review and approval.

On 29 March, GeoSyntec began assisting FDF with the design of an above grade piping system to replace the below grade leachate transmission system gravity line from Manhole No. 3 to the Permanent Lift Station.

000147

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT ~~KSH, DKP, LRW, DBG, File~~ PER: C.P.Sukow/J. Burnett

GeoSyntec Consultants

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II Construction WEEK ENDING: ~~11 April 1999~~

ENGINEER'S WEEKLY REPORT NO. 95 and 96 (con'td) -- 2737

Construction Quality Control (CQC)

CQC monitored the removal of Cat 1 Material from the SW corner crest of Cell 1. Petro excavated to approximately 1-ft above the HDPE liner. Work has been delayed due to the need of a smooth faced backhoe bucket. The new or modified bucket would allow the contractor to remove the remaining 6 to 12 inches of Cat 1 material to the clean low permeability clay material and minimize the potential for damage to the Cell 1 primary HDPE liner.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 29 March 1999 GeoSyntec weekly safety meeting was insect season and ticks with the need for proper clothing and avoidance of tall grass. The main topic of the 5 April 1999 GeoSyntec weekly safety meeting was task specific sections from the safe work plan, access to construction work areas and nuclear density test safety.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. J. Burnett,
2. C. Sukow (Part time),
3. D. Bodine (Part time),
4. B. York,
5. S. Quammen,
6. R. Erisman,
7. R. Hummel,
8. D. Evans (Part time),
9. K. Badu-Tweneboah (Part time), and
10. R. Bonaparte (Part time).

000148

~~MIH, RAH, UAK, JCI, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT~~ C.P.Sukow/J. Burnett

COPY TO: KSH, DKP, LRW, DBG, FTP PER: 2 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 28 March 1999

ENGINEER'S WEEKLY REPORT NO. 93 and 94

-2737

The report period covered by Weekly Report No. 93 and 94 is from Monday, 15 March 1999 through Sunday, 28 March 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued excavation of potential repair areas for the leachate transmission system (LTS) until 18 March 1999 after which field investigation and repair work stopped. Petro maintained project drainage and runoff areas. During the period there was a trace of precipitation recorded.

Construction Progress

The current LTS excavations and their approximate station location as referenced in this report is listed as follows:

Excavation No. 1, Wye connection to Decon Facility, Approximate Station 13+20.
Excavation No. 2, Temporary Cleanout, Approximate Station 16+00.
Excavation No. 3, Temporary Cleanout, Approximate Station 12+00.
Excavation No. 4, Damaged 10 inch pipe location, Approximate Station 30+60.
Excavation No. 5, Temporary Cleanout, Approximate Station 32+00 and 1997 Test Plug Repair.

The Phase II Contractor assisted FDF in performing excavations and conducting video taping of the gravity carrier pipe through the end of 18 March 1999. Taping was performed from Manhole No. 1 at Station 0+00 to Manhole No. 3, approximate Station 8+00. Die and water were added to the 10-in. diameter gravity containment pipeline, and a test pressure of approximately 3 to 5 psi was applied. Preliminary indications suggest a leak at approximate Station 4+00 just south of Manhole No. 2 LTS Cleanout.

Preliminary hydrostatic pressure pipe tests were performed by FDF on the 6- and 10-in. diameter gravity carrier and containment pipes between Excavation No. 2 and the PLS. The LTS segment was tested three times and was unable to hold pressure. A suspect late 1997 test plug repair area and temporary cleanout at Station 32+00 was identified that prompted Excavation No. 5.

Another preliminary pressure test on the 6-in. diameter carrier and 10-in. diameter containment pipes was performed from Excavation No. 2 to Manhole No. 3 after the removal of three pairs of electrofusion couplings. These couplings were from a late 1997 repair of the LTS immediately south of the temporary cleanout at Station 12+00. One of the 6-inch couplings removed appeared to have been vertically mis-aligned which was believed to be the cause of the leak. Preliminary pressure tests on both the carrier and containment pipes passed.

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COPY TO: MJH, RAH, UAK, JCI, WAZ, BAS, MWG, GKI, CPS, PER, RBT

C.P.Sukow/D.G.Bodine

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 28 March 1999

ENGINEER'S WEEKLY REPORT NO. 93 and 94 (con'td) E-2737

Construction Submittal Review

Submittal No.	Item Description	RE Disposition	Recommended Status

Submittal Nos. P6-3, Pay Item Schedule, and 13005-1, Shop Drawings for Liner Penetration Boxes were received for review on 22 and 23 March 1999. Review comments will be transmitted next week.

Design Clarifications and Modifications

RCI No. 20102-047R was initiated and responded to by GeoSyntec. This RCI addressed the occurrence of up to 20 percent of Category 2 and 4 material, meeting the size and dimension criteria for Category 1 material in a Category 1 material load. This RCI was prepared in response to a 25 February 1999 meeting on "Segregation of Material during Excavation/Impacted Material Placement" (Meeting No. MN:SWP(OSDF):99-0014). FDF's review is in progress.

DCN No. 20102-080 was prepared by GeoSyntec to address changes to the maximum hydraulic conductivity test frequency for clay liner material. The DCN is currently on HOLD to confirm it's potential applicability to clay cap material. Clay liner and clay cap material will likely be loaded from the same stockpile if both liner and cap construction are occurring at the same time.

A draft hydrostatic pressure test procedures for testing the 6-in. diameter gravity carrier pipe was prepared by GeoSyntec and "approved as noted" by FDF for use in testing the pipe repair that is in progress. GeoSyntec is currently completing "formal" hydrostatic and pneumatic test procedures for the dual-containment pipe and will be submitted to FDF for review and approval upon completion.

Construction Quality Control (CQC)

CQC monitored the continued video taping of the LTS piping. CQC continued to monitor the hydrostatic and air pressure testing performed by FDF on the LTS carrier and containment piping, and the electro-fusion and extrusion welding in repair areas.

Samples of the fill removed from the excavations were collected and tested in the onsite CQC soils laboratory. Testing has been completed.

000150

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFE, RBT C.P. Sukow/D.G. Bodine

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 02.1

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~28 March 1999~~

ENGINEER'S WEEKLY REPORT NO. 93 and 94 (con'td) F-2737

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 15 March 1999 GeoSyntec weekly safety meeting was a burn accident video. The main topic of the 22 March 1999 GeoSyntec weekly safety meeting was the gantry crane incident.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. D. Bodine,
2. C. Sukow,
3. J. Burnett,
4. R. Peddicord,
5. B. York,
6. S. Quammen,
7. R. Erisman ,
8. R. Hummel (Part time),
9. K. Badu-Tweneboah (Part time),
10. D. Evans (Part time), and
11. R. Bonaparte (Part time).

000151

C.P. Sukow/D.G. Bodine

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JHE, RBT

KSH, REH, DKP, LRW, DBG, File

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 28 March 1999

ENGINEER'S WEEKLY REPORT NO. 93 and 94

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The report period covered by Weekly Report No. 93 and 94 is from Monday, 15 March 1999 through Sunday, 28 March 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued excavation of potential repair areas for the leachate transmission system (LTS) until 18 March 1999 after which field investigation and repair work stopped. Petro maintained project drainage and runoff areas. During the period there was a trace of precipitation recorded.

Construction Progress

The current LTS excavations and their approximate station location as referenced in this report is listed as follows:

Excavation No. 1, Wye connection to Decon Facility, Approximate Station 13+20.
Excavation No. 2, Temporary Cleanout, Approximate Station 16+00.
Excavation No. 3, Temporary Cleanout, Approximate Station 12+00.
Excavation No. 4, Damaged 10 inch pipe location, Approximate Station 30+60.
Excavation No. 5, Temporary Cleanout, Approximate Station 32+00 and 1997 Test Plug Repair.

The Phase II Contractor assisted FDF in performing excavations and conducting video taping of the gravity carrier pipe through the end of 18 March 1999. Taping was performed from Manhole No. 1 at Station 0+00 to Manhole No. 3, approximate Station 8+00. Die and water were added to the 10-in. diameter gravity containment pipeline, and a test pressure of approximately 3 to 5 psi was applied. Preliminary indications suggest a leak at approximate Station 4+00 just south of Manhole No. 2 LTS Cleanout.

Preliminary hydrostatic pressure pipe tests were performed by FDF on the 6- and 10-in. diameter gravity carrier and containment pipes between Excavation No. 2 and the PLS. The LTS segment was tested three times and was unable to hold pressure. A suspect late 1997 test plug repair area and temporary cleanout at Station 32+00 was identified that prompted Excavation No. 5.

Another preliminary pressure test on the 6-in. diameter carrier and 10-in. diameter containment pipes was performed from Excavation No. 2 to Manhole No. 3 after the removal of three pairs of electrofusion couplings. These couplings were from a late 1997 repair of the LTS immediately south of the temporary cleanout at Station 12+00. One of the 6-inch couplings removed appeared to have been vertically mis-aligned which was believed to be the cause of the leak. Preliminary pressure tests on both the carrier and containment pipes passed.

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COPY TO: MJH, RAH, UAK, JCI, WAZ, BAS, MWG, GKI, CPS, PER, RBT

C.P. Sukow/D.G. Bodine

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 28 March 1999

ENGINEER'S WEEKLY REPORT NO. 93 and 94 (con'td) 2737

Construction Submittal Review

Submittal No.	Item Description	RE Disposition	Recommended Status

Submittal Nos. P6-3, Pay Item Schedule, and 13005-1, Shop Drawings for Liner Penetration Boxes were received for review on 22 and 23 March 1999. Review comments will be transmitted next week.

Design Clarifications and Modifications

RCI No. 20102-047R was initiated and responded to by GeoSyntec. This RCI addressed the occurrence of up to 20 percent of Category 2 and 4 material, meeting the size and dimension criteria for Category 1 material in a Category 1 material load. This RCI was prepared in response to a 25 February 1999 meeting on "Segregation of Material during Excavation/Impacted Material Placement" (Meeting No. MN:SWP(OSDF):99-0014). FDF's review is in progress.

DCN No. 20102-080 was prepared by GeoSyntec to address changes to the maximum hydraulic conductivity test frequency for clay liner material. The DCN is currently on HOLD to confirm it's potential applicability to clay cap material. Clay liner and clay cap material will likely be loaded from the same stockpile if both liner and cap construction are occurring at the same time.

A draft hydrostatic pressure test procedures for testing the 6-in. diameter gravity carrier pipe was prepared by GeoSyntec and "approved as noted" by FDF for use in testing the pipe repair that is in progress. GeoSyntec is currently completing "formal" hydrostatic and pneumatic test procedures for the dual-containment pipe and will be submitted to FDF for review and approval upon completion.

Construction Quality Control (CQC)

CQC monitored the continued video taping of the LTS piping. CQC continued to monitor the hydrostatic and air pressure testing performed by FDF on the LTS carrier and containment piping, and the electro-fusion and extrusion welding in repair areas.

Samples of the fill removed from the excavations were collected and tested in the onsite CQC soils laboratory. Testing has been completed.

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COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFE, RBT C.P. Sukow/D.G. Bodine

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 02.1

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~28 March 1999~~

ENGINEER'S WEEKLY REPORT NO. 93 and 94 (con'td) 2737

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topic of the 15 March 1999 GeoSyntec weekly safety meeting was a burn accident video. The main topic of the 22 March 1999 GeoSyntec weekly safety meeting was the gantry crane incident.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. D. Bodine,
2. C. Sukow,
3. J. Burnett,
4. R. Peddicord,
5. B. York,
6. S. Quammen,
7. R. Erisman ,
8. R. Hummel (Part time),
9. K. Badu-Tweneboah (Part time),
10. D. Evans (Part time), and
11. R. Bonaparte (Part time).

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C.P. Sukow/D.G. Bodine

COPY TO: MJH, RAH, UAK, JCJ, WAZ, BAS, MWG, GKJ, CPS, JFE, RBT

KSH, REH, DKP, LRW, DBG, File

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 14 March 1999

ENGINEER'S WEEKLY REPORT NO. 91 and 92

-2737

The report period covered by Weekly Report No. 91 and 92 is from Monday, 1 March 1999 through Sunday, 14 March 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued excavation of potential repair areas for the leachate transmission system (LTS) and maintaining project drainage and runoff areas. During the period there was approximately 3/4-inch of precipitation.

Construction Progress

The current LTS excavations and their approximate station location as referenced in this report is listed as follows:

Excavation No. 1, Wye connection to Decon Facility, Approximate Station 13+20.
Excavation No. 2, Temporary Cleanout, Approximate Station 16+00.
Excavation No. 3, Temporary Cleanout, Approximate Station 12+00.
Excavation No. 4, Damaged pipe location, Approximate Station 30+60.

The Phase II contractor assisted FDF in performing excavations and conducting continued video taping of the gravity carrier pipe. Taping was performed from Manhole No. 3 at approximate station 8+00 to the temporary clean-out at Excavation No 2, and from Excavation No. 4 to the permanent lift station (PLS) at approximate station 36+20.

Preliminary pneumatic (i.e., low air pressure) containment pipe tests were performed by FDF on the 6/10-in. gravity containment and carrier pipes (pressure in both pipes) between Excavation No. 2 and Excavation No. 4 and Excavation No. 4 to the PLS. No leaks were found during these tests and the 6/10-in pipes in Excavation 4 were welded back together on 11 March 1999. On 14 March 1999 a hydrostatic pressure on the 6-in. carrier pipe between Excavation No.2 and the PLS failed. A suspect late1997 repair area has been identified and more tests are planned for the following week.

Another preliminary pressure test on the 6-in. diameter carrier pipe was performed from Excavation No. 2 to MH No. 3. The test failed. Two suspect areas were identified from the video, one located at the north end of Excavation No. 1 where two 1997 couplings were located and the second south of Excavation No. 3 where a late 1997 repair had been made. It was decided to first remove the couplings at Excavation No. 1. After removal, a preliminary pressure test on the 6-in carrier pipe indicated that the couplings removed were not the problem. The second suspect area located south of Excavation No. 2 was then excavated. A mis-aligned pipe to the 6-in electrofusion coupling was found at this location when removed on 15 March 1999.

000155

COPY TO: MJH, RAH, UAK, JCI, WAZ, BAS, MWG, GKJ, CPS, JFB, KRT C.P.Sukow/D.G.Bodine

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 14 March 1999

ENGINEER'S WEEKLY REPORT NO. 91 and 92 (con'td) 2737

A hydrostatic test on the 6-in. diameter carrier pipe was attempted between Manhole No. 1 and Manhole No. 3 (stations 0+00 and 8+00) on 13 March 1999. The line did not stabilize and another test was attempted between Manhole No. 1 and Manhole No. 2 on 14 March 1999. This test also did not stabilize and the pipe segments will be video taped at a later date.

Construction Submittal Review

Submittal No.	Item Description	RE DispositioN	Recommended Status
P6-1, Rev. 0	Submittal Register	1 Mar 1999	No Comments
024 (1702-Phase I)	Manufacturer's GML Warranty	1 Mar 1999	FDF/DOE for final comment
074 (1702-Phase I)	Manufacturer's GCL Warranty	1 Mar 1999	FDF/DOE for final comment
P6-3, Rev. 0	Pay Item Schedule	1 Mar 1999	No Comments
02270-1, Rev. 0	SWM&EC Plan	1 Mar 1999	No Comments
P6-6, Rev.	Contr.'s Proj, Schedule	11 Mar 1999	FDF to Comment
13010-1, Rev. 0	Contr.'s IMP Plan	11 Mar 1999	"B" with Comments

Design Clarifications and Modifications

RCI No. 20102-047R was initiated and responded to by GeoSyntec. This RCI addressed the occurrence of up to 20 percent of Category 2 and 4 material, meeting the size and dimension criteria for Category 1 material in a Category 1 material load. This RCI was prepared in response to a 25 February 1999 meeting on "Segregation of Material during Excavation/Impacted Material Placement" (Meeting No. MN:SWP(OSDF):99-0014). FDF's review is in progress.

DCN No. 20102-080 was prepared by GeoSyntec to address changes to the maximum hydraulic conductivity test frequency for clay liner material. The DCN is currently on HOLD to confirm it's potential applicability to clay cap material. Clay liner and clay cap material will likely be loaded from the same stockpile if both liner and cap construction are occurring at the same time.

A draft hydrostatic pressure test procedures for testing the 6-in. diameter gravity carrier pipe was prepared by GeoSyntec and "approved as noted" by FDF for use in testing the pipe repair that is in progress. GeoSyntec is currently completing "formal" hydrostatic and pneumatic test procedures for the dual-containment pipe and will be submitted to FDF for review and approval upon completion.

COPY TO: ~~MJH, RAH, UAK, JGJ, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT~~ PER: C.P.Sukow/D.G.Bodine

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 02.1

DESCRIPTION: ~~Phase II Construction~~ WEEK ENDING: ~~14 March 1999~~

ENGINEER'S WEEKLY REPORT NO. 91 and 92 (con'td) 2737

Construction Quality Control (CQC)

CQC monitored the continued video taping of the LTS piping. CQC also monitored and performed density testing on the LTS backfill at approximate station 30+60 as the excavation was filled up to the level of the pipe with pipe embedment fill.

CQC continued to monitor the hydrostatic and air pressure testing performed by FDF on the LTS carrier and containment piping, and the electro-fusion and extrusion welding in repair areas.

Samples of the fill removed from the excavations were collected and tested in the onsite CQC soils laboratory. Testing is ongoing.

Health and Safety

GeoSyntec continues to hold weekly safety meetings for its on-site employees. In addition, representative GeoSyntec CQC field personnel attended the contractor's daily construction/health and safety tailgate meeting. GeoSyntec holds its own daily safety tailgate meetings.

The main topics of the 1 March 1999 GeoSyntec weekly safety meeting were vehicle safety, maintenance, and inspection. The main topic of the 15 March 1999 GeoSyntec weekly safety meeting was lockout tag out procedures.

GeoSyntec Personnel Schedule

GeoSyntec had the following project staff personnel on site for the report period:

1. D. Bodine,
2. C. Sukow,
3. J. Burnett,
4. S. Quammen,
5. R. Peddicord,
6. J. Beech (Part time),
7. R. Erisman ,
8. R. Hummel (Part time),
9. B. York,
10. K. Badu-Tweneboah (Part time),
11. D. Evans (Part time), and
12. R. Bonaparte (Part time).

COPY TO: ~~MTH, RAH, UAK, JCL, WAZ, BAS, MWG, GKJ, CPS, JFB, KBT~~ PER: C.P.Sukow/D.G.Bodine

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 14 March 1999

ENGINEER'S WEEKLY REPORT NO. 91 and 92

2737

The report period covered by Weekly Report No. 91 and 92 is from Monday, 1 March 1999 through Sunday, 14 March 1999. The Phase II Contractor, Petro Environmental Technologies, Inc. (Petro), continued excavation of potential repair areas for the leachate transmission system (LTS) and maintaining project drainage and runoff areas. During the period there was approximately 3/4-inch of precipitation.

Construction Progress

The current LTS excavations and their approximate station location as referenced in this report is listed as follows:

Excavation No. 1, Wye connection to Decon Facility, Approximate Station 13+20.
Excavation No. 2, Temporary Cleanout, Approximate Station 16+00.
Excavation No. 3, Temporary Cleanout, Approximate Station 12+00.
Excavation No. 4, Damaged pipe location, Approximate Station 30+60.

The Phase II contractor assisted FDF in performing excavations and conducting continued video taping of the gravity carrier pipe. Taping was performed from Manhole No. 3 at approximate station 8+00 to the temporary clean-out at Excavation No 2, and from Excavation No. 4 to the permanent lift station (PLS) at approximate station 36+20.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 14 March 1999

ENGINEER'S WEEKLY REPORT NO. 91 and 92 (con'td) 2737

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

WEEKLY FIELD REPORT

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 02.1

DESCRIPTION: Phase II Construction WEEK ENDING: 14 March 1999

ENGINEER'S WEEKLY REPORT NO. 91 and 92 (con'td) 2737

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7. R. Erisman ,
8. R. Hummel (Part time),
9. B. York,
10. K. Badu-Tweneboah (Part time),
11. D. Evans (Part time), and
12. R. Bonaparte (Part time).

COPY TO: MTH, RAH, UAK, JCL, WAZ, BAS, MWG, GKL, CPS, JFB, KBT PER: C.P.Sukow/D.G.Bodine

APPENDIX D

MINUTES OF OSDF WEEKLY CONSTRUCTION MEETINGS

E-2737

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: October 26, 1999

MEETING NUMBER: 56
MN:SWP(OSDF):99-0056

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: October 27, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

Kwasi Badu-Tweneboah MS38
+ # Linda Barlow MS 52-7
+ Jennifer Blankemeyer MS 52-0
+ # Pete Bolig - Petro
Charlie Brown MS 60
Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
+ Tom Crawford MS 52-0
Alex Duarte MS 52-0
Billy Edmondson MS 52-0
Mary Eleton MS 60
Corey Fabricante MS 52-0
+ # Frank Flack MS 60
Reinhard Friske MS 52-9
+ # Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
Debra Grant MS 52-0
+ # Kevin Harbin MS 64
+ Alan Hohnhorst MS 60
# Rick Holbrook MS 64
+ # Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
+ # Carl Ketchem - Petro
# Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
+ # Susan Lorenz MS 52-8
Lee McDaniel MS 60
Rick McGuire MS 60
Jeff Middaugh MS 64
Chris Neumann MS 60
Brenda Perkins MS 67
+ # Don Pfister MS 45
Carlos Pratt MS 64
Perry Richardson MS52-8
+ # Ira Rogers - Petro
Mike Rolfes MS 60
David Russell - MS 52-0
+ # Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
Sharon Spears - MS 52-5
+ # Dan Stempfley MS 64
# Mike Stumbo - Petro
Collin Sukow MS38
Vern Taylor MS 52-0
Charles Van Arsdale MS 64
Christa Walls MS52-8
Lou Wehlitz MS 64
+ Lewis Wiedeman MS 60
Dave Williams - Petro
Fred Wilson MS 60
Sam Wolinsky MS 64
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Turn your clocks back one hour this Saturday night, and check your smoke alarm batteries.

Value Creation Topic – Have the tools available so that employees can do their best work.

2737

Balance Topic – Never underestimate the power of a kind word or deed.

SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the October 16, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable. The results are posted at the control points.

C. Lew Wiedeman noted that there was a minor incident at the SWU. Friable PACM was discovered in an excavation. Petro is reminded to keep the necessary equipment available for this type of occurrence.

D. Lew Wiedeman also pointed out that the top and side rails of the articulating dump trucks are above the level of the spray nozzles at the wheel washes. Petro is attempting to rectify this problem by using laborers to clean the rails. Petro will also try to load the trucks more neatly.

E. Petro has made changes to their equipment inspection and maintenance program to improve documentation and follow-up.

F. Beginning next week, the weekly safety observations will be completed on Monday afternoons at 1 PM. Items can then be covered in the Weekly Contractor Coordination Meeting.

III. SCHEDULE BRIEFING

SWU

A. Petro started excavation at the active flyash pile today.

B. Petro will bee hauling flyash and fine grading it in Cell 3. Petro's surveyor will shoot grades on November 3rd and 4th, 1999 to certify the one-foot protective layer. While equipment is dedicated to hauling flyash on October 28th and 29th, Petro will be pushing material into stockpiles at the South Field.

IV. QUALITY AND INSPECTION

A. No report.

2737

V. DESIGN AND CONSTRUCTION ISSUES

A. Beginning November 1, 1999, Petro will be working five days per week, ten hours per day, from 7:00 AM until 5:30 PM.

B. Approximately 1,000 CY of the material in stockpile AWT-001 is anticipated to be concrete and/or asphalt

C. Tom Crawford asked when Petro intends to submit the as-builts for the STP. Rick Schairbaum noted that Petro planned to submit them within the next two weeks.

D. FDF is working with Petro to complete the testing of the pump at the deep excavation.

E. FDF plans to submit the STP Certification sampling plan to the agencies this week.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. Most of the STP change orders have been settled. Petro and FDF will meet on November 1,1999 and it is expected that STP issues will be resolved by November 5, 1999.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. The first sentence of section XIII, subsection A of the October 15, 1999 meeting should read: "Pre-certification of the area of the former West Impacted Material Stockpile should be complete this week."

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

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Jeff Middaugh had the following report:

A. No occupational injuries since the October 16, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Dan Stempfley noted that air samples and BZ results continue to be well below action levels.

D. The laydown area north of Cell 1 will be turned back over to FDF from Petro. Petro will complete cleanup in that area.

E. The top and side rails of the articulating dump trucks are above the level of the spray nozzles at the wheel washes. Petro is attempting to rectify this problem by using laborers to clean the rails. Petro will also try to load the trucks more neatly.

G. Petro has made changes to their equipment inspection and maintenance program to improve documentation and follow-up.

F. FDF is attempting to survey the CAT 826 out of the contamination area so it can be repaired.

G. Observations:

A Petro employee was observed 3 times this afternoon, before the meeting, not utilizing his seat belt while driving Petro pick-up truck within the haul road between T-96 area and the cells. Petro Safety was notified on all occasions.

A Petro supervisor was observed twice taking pro-active actions to corrected observed deficiencies. The first involved a vendor without the correct PPE while picking up a rental piece of heavy equipment. The second involved the implementation of dust control along the old N. Access Rd. after observing dust created by the vendor's truck and trailer leaving site.

XI. SCHEDULE BRIEFING

A. Petro will complete the west wedge this week. Petro will be placing the one foot protective cover in Cell 3 this week and next.

B. Petro will have a subcontractor on site to videotape the leachate lines in Cells 1, 2 and 3 on November 4.

2737

C. Placement of soil and debris is continuing. The permanent power will be connected to the air monitors this week. Petro will complete the permanent installation of the rad fence around Cell 3 this week.

D. Petro plans to work on Saturday, October 30, 1999 if they do not complete excavation and hauling of stockpile AWT-001 by October 29, 1999.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. The issue of unrestricted release vs. restricted release for the CAT 826 to allow repair was discussed. It was decided that Rad control will survey to allow restricted release and that Holt will perform repairs on site. The area north of Cell 1 will be posted appropriately by Rad. Greg Cantwell will coordinate the lifting requirements.

B. FDF plans to get approval for funding the excavation of the Silo stockpile.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. No report.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, November 2, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: October 27, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 10/26/99 13:32

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	10/17	10/18	10/19	10/20	10/21	10/22	10/23	10/24	10/25	10/26	10/27	10/28	10/29	10/30	10/31	11/1	11/2	11/3	11/4	11/5	11/6	11/7	11/8	11/9	11/10	11/11	11/12	11/13
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Excavate AFP		SCH. BAR																												
			CRAFT QTY.																												
SWU	Excavate Southfields		SCH. BAR										8	11	21				13	13						12	12	12			
			CRAFT QTY.		19	19	19	20	20			18	10	10																	
SWU	Excavate AWT 001		SCH. BAR																6	6	21	21	8			7	7	7	21	21	
			CRAFT QTY																												
OSDF	Sacrificial Geotextile		SCH. BAR													21	21														
			CRAFT QTY.		4																										
OSDF	Construct Clay Wedge		SCH. BAR																												
			CRAFT QTY.		13	13	13	13	13			13	13	3	3	3															
OSDF	Place Protective Cover		SCH. BAR																												
			CRAFT QTY.		12	12	12	12	12			12	12	25	25	25			28	28	6	6	28			28	28	28	28	28	
OSDF	Video Inspect LCS/LDS Pipes		SCH. BAR																												
			CRAFT QTY																			6									
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		14	14	14	14	14			14	14	14	14	14	14		14	14	14	14	14			14	14	14	14	14	
OSDF	Install Air Monitors Cell 3		SCH. BAR																												
			CRAFT QTY										5	5	5	5															
OSDF	Install Rad Fence Cell 3		SCH. BAR																												
			CRAFT QTY.				4	4	4			4	4	4	4	4															
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FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

--2737

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: October 19, 1999

MEETING NUMBER: 55
MN:SWP(OSDF):99-0055

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: October 19, 1999

DISTRIBUTION: File Record Storage Copy 104.25.2.4

+ Attendees for SWU
* Author of Notes
# Attendees for OSDF

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Mary Eleton MS 60
+ # Corey Fabricante MS 52-0
# Kathy Fisher MS 64
+ Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
+ Debra Grant MS 52-0
+ # Kevin Harbin MS 64
+ Alan Hohnhorst MS 60
Rick Holbrook MS 64
+ # Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
+ # Carl Ketchem - Petro
# Tony Klimek - MS 64
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Collin Sukow MS38
Vern Taylor MS 52-0
Charles Van Arsdale MS 64
Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
Dave Williams - Petro
Fred Wilson MS 60
Sam Wolinsky MS 64
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – When driving in fog use your low beam headlights.

Value Creation Topic – A great idea does not have to be a big idea.

Balance Topic – If at first you don't succeed, skydiving is not for you.

SOUTHERN WASTE UNITS

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KGrusman

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I. PREVIOUS MEETING REVIEW

2737

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received. The last meeting was October 5, 1999.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the October 5, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable. The results are posted at the control points.

C. Corey Fabricante pointed out that the Impacted Material Haul Road is still not being kept clean. Petro is to assign a laborer to remove the material build-up.

D. Petro presented information to their employees regarding the modified inspection form for excavation/shoring. Petro will send a copy of the revised form to FDF. This is in response to an NCR pertaining to inspection of excavations.

E. A criticality drill is scheduled to occur on October 21, 1999, tentatively in the morning.

III. SCHEDULE BRIEFING

SWU

A. Petro continues to excavate at the South Field. Petro will be working this Saturday, October 23, 1999 excavating the AWWT-001 stockpile pending approval from USEPA. DOE/ FDF has received approval from Ohio EPA and expects approval from USEPA on Thursday.

B. Petro plans to begin excavation of the Active Flyash pile on October 26, 1999.

Sewage Treatment Plant Excavation

C. Petro is working on punchlist items at the STP. Petro will be testing the pumps for the STP deep excavation on October 20, 1999. The pumps will not be installed in the excavation.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

2737

A. Beginning November 1, 1999, Petro will be working five days per week, ten hours per day, from 7:00 AM until 5:30 PM.

B. Petro has revised their safe work plan relative to AWWT stockpile excavation. Petro will review their traffic control plan for this activity relative to IMHR crossing, and submit a revised traffic control plan accordingly.

C. Lee McDaniel noted that the road from the SWU to the well houses would be closed until October 29, 1999 when flyash excavation is scheduled to be completed on this road closing. FDF will issue a sitewide announcement.

D. The initial layers of material to be placed into Cell 3 are to be as follows:

1st lift 12" +/- flyash; 2nd lift select 2 ft. +/-' fourth foot flyash. FDF and Petro will coordinate to obtain a sufficient quantity of material to allow flyash to be used as planned.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. Modifications to exercise Option B and the remainder of Option A have been issued to Petro for signature.

VIII. GENERAL

A. Petro is to resume submitting the monthly schedule updates with their monthly invoice. This is a requirement of the Contract under Part 6.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. No occupational injuries since the October 5, 1999 meeting. -- 2737

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management. Dan Stempfley, Bruce Schweitzer, Carl Ketchem and Pete Bolig will participate in the weekly, joint job-site safety inspection tomorrow, October 20, 1999. FDF will implement the new procedure for the inspection at that time.

C. A criticality drill is scheduled to occur on October 21, 1999, tentatively in the morning. Dan Stempfley will find out if operators and truck drivers can stay inside their cabs during the drill. All personnel who are out of doors must seek shelter in the nearest trailer until the drill is completed.

D. The corporate assessment is ongoing throughout the work areas. The field portion of the assessment is approximately 85% complete and the first draft of the written segment has been started.

E. Jeff Middaugh asked if the walkway from the Rad Control point to the OMTA would be reestablished. Petro will do this once the ramp at the former West Impacted Material Stockpile is removed.

F. The assessment of the FDF IH Program scheduled to start the week of Nov. 1st has been delayed one week and is now scheduled to start the week of Nov. 8th. The OSDF area is on the assessor's list as an area they will be visiting.

G. Reminder that by Dec. 1, 1999 the initial training and certification for forklift operators is required to be complete per the revised OSHA forklift standard.

H. Observations:

PPE deficiencies are still observed in the field. These include lack of hearing PPE, face shields in the partially lowered or up position while operating the pressure washer at the Haul Rd. Wheel Wash, not using seatbelts in moving vehicles, lack of safety glasses, and hand protection. The deficiencies were observed involving members of different groups within the OSDF Project and are not limited to the subcontractor personnel. Everybody is requested to assist in correcting any safety deficiency when it is observed.

XI. SCHEDULE BRIEFING

A. Petro is constructing the east clay wedge and will be installing the rad rope at/near the intercell berm and air monitors on October 26 (earlier if possible).

B. Petro will have a subcontractor on site on November 2nd and 3rd, 1999 to videotape the leachate lines in Cell 3. The videotaping must follow placement of the one-foot protective layer. FDF will issue a RFP to Petro to also have that

subcontractor perform the annual video inspections on the lines in Cells 1 and 2.

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XII. QUALITY AND INSPECTION

A. FDF QA is working on closing the NCR's related to the Cell Construction.

B. GeoSyntec is to write a letter to FDF to approve the start of placement of the one-foot protective layer in Cell 3. GeoSyntec is to deliver the letter to FDF tomorrow so that FDF can transmit the letter to the DOE who will in turn transmit a letter to the EPA's to obtain approval for placement to begin October 25/26, 1999.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Certification of the area of the former West Impacted Material Stockpile should be complete this week. This will allow removal of the ramp.

B. Petro will be working in Cells 1 and 2 on Saturday, October 23, 1999. There will not be any work taking place in Cell 3.

C. The initial layers of material to be placed into Cell 3 are to be as follows:

1st lift 12" +/- flyash; 2nd lift select 2 ft. +/-' fourth foot flyash. FDF and Petro will coordinate to obtain a sufficient quantity of material to allow flyash to be used as planned.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. Refer to Section VII above.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, October 26, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: October 19, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 10/19/99 10:08

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	10/10	10/11	10/12	10/13	10/14	10/15	10/16	10/17	10/18	10/19	10/20	10/21	10/22	10/23	10/24	10/25	10/26	10/27	10/28	10/29	10/30	10/31	11/1	11/2	11/3	11/4	11/5	11/6
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Excavate AFP		SCH. BAR																												
			CRAFT QTY.																												
SWU	Excavate Southfields		SCH. BAR																												
			CRAFT QTY.		25	25	25	25	25			25	25	25	25	5			25	12	12	12	12			12	12	12	12	12	
SWU	Excavate AWT 001		SCH. BAR																												
			CRAFT QTY.													20	20														
OSDF	Stockpile stone		SCH. BAR																												
			CRAFT QTY.			2		2	2																						
OSDF	Place LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.		4	4	4	4	4																						
OSDF	Sacrificial Geotextile		SCH. BAR																												
			CRAFT QTY.		4	4	4	4	4			4																			
OSDF	Construct Clay Wedge "East"		SCH. BAR																												
			CRAFT QTY.									13	13	13	13	13			13	13											
OSDF	Place Protective Cover		SCH. BAR																												
			CRAFT QTY.			25	25	25	25			12	12	12	12	12			12	12	25	25	25								
OSDF	Video Inspect LCS/LDS Pipes		SCH. BAR																												
			CRAFT QTY.																								4	4			
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.			14	14	14	14			14	14	14	14	14	14		14	14	14	14	14			14	14	14	14	14	
OSDF	Install Air Monitors Cell 3		SCH. BAR																												
			CRAFT QTY.																	5											
OSDF	Install Rad Fence Cell 3		SCH. BAR																												
			CRAFT QTY.																												
			SCH. BAR											4	4	4			4												
			CRAFT QTY.																												
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MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

RECEIVED
OCT 07 1999
RGHusman

MEETING DATE: October 5, 1999

MEETING NUMBER: 54
MN:SWP(OSDF):99-0051

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: October 6, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

+ # Greg Ancona MS 52-8
# Kwasi Badu-Tweneboah MS38
Linda Barlow MS 52-7
+ Jennifer Blankemeyer MS 52-0
+ # Pete Bolig - Petro
+ Charlie Brown MS 60
Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
Tom Crawford MS 52-0
Alex Duarte MS 52-0
Billy Edmondson MS 52-0
Mary Eleton MS 60
+ # Corey Fabricante MS 52-0
+ # Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
+ # Mike Godber MS 64
# Don Goetz MS 64
+ Debra Grant MS 52-0
+ # Kevin Harbin MS 64
Matt Harper MS 64
+ Alan Hohnhorst MS 60
# Rick Holbrook MS 64
Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
Lee McDaniel MS 60
+ Rick McGuire MS 60
# Jeff Middaugh MS 64
Chris Neumann MS 60
+ Scott Osborn MS 52-3
Brenda Perkins MS 67
+ Don Pfister MS 45
Carlos Pratt MS 64
Perry Richardson MS52-8
Ira Rogers - Petro
+ Mike Rolfes MS 60
David Russell - MS 52-0
+ # Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
Sharon Spears - MS 52-5
Dan Stempfley MS 64
Mike Stumbo - Petro
Collin Sukow MS38
+ # Vern Taylor MS 52-0
# Charles Van Arsdale MS 64
Mike Van Swol MS 66
Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+ # Dave Williams - Petro
Fred Wilson MS 60
Sam Wolinsky MS 64
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Wear safety goggles/glasses when using hand or power tools.

Value Creation Topic – Don't wait to the last minute to get projects done. Allow others time to complete their parts.

Balance Topic – Participate in activities that you might not otherwise be interested in - you may find you enjoy something new.

SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received. The last meeting was September 21, 1999.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the September 21, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. Petro will advised the truck drivers and the operators of equipment with enclosed cabs that activities other than washing the windows of their vehicle is not acceptable while wearing only shoe covers and gloves in a contamination area.

D. An FDF Conduct of Operations assessment is under way. Some Petro employees may be interviewed.

III. SCHEDULE BRIEFING

SWU

A. Petro is continuing to excavate at the South Field. Petro expects to start excavation at the Active Flyash Pile on approximately October 21, 1999.

Sewage Treatment Plant Excavation

B. Petro will complete the backfilling of the utility trenches on October 5, 1999 and will finish the tentative punchlist for the STP by October 8, 1999.

C. As soon as the ground dries sufficiently, FDF will run the R-Tracker at the STP in order to allow down posting of the remaining area. Petro will then be able to perform their final as-built survey of the area.

IV. QUALITY AND INSPECTION

A. Mike Godber asked about seeding of the STP area. It was pointed out that seeding of the STP area is no longer in Petro's scope of work. Seeding will be performed by Wise Services.

V. DESIGN AND CONSTRUCTION ISSUES

A. Rick Schairbaum noted that Petro will be submitting the final Submittal Register for the Area 1 Phase II Site Preparation Package.

B. FDF owes Petro a final punchlist for all STP issues as well as on the STP Submittal Register.

C. A DCN may be issued to change the requirement for placing a pump in the STP excavation.

D. Petro will not be working on Saturday, October 9, 1999.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. Petro and FDF will meet this week to discuss outstanding change orders.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. No occupational injuries since the September 21, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management. Jeff Middaugh suggested that Petro management participate in the weekly inspections. Bill Zebick pointed out that a deficiency had been noted in the observation reporting from the weekly job-site safety inspections. Although items are being closed out, the documentation has been inadequate. Petro is asked to take their copy of the observation and sign and date when items are closed out then turn it in to FDF. Also, Petro will discuss deficiencies and corrective actions with their personnel at the daily safety briefings, and document the topic accordingly.

C. The process of Security Guards touching each person's badge upon entering the site has begun. This includes the South entrance to the OSDF area. Work to install a guard post at the old N. Access Rd. entrance to the cell area is scheduled to start October 6, 1999. Use caution when traveling in this area.

D. Observations:

The monthly assessment involving the Contractor's vehicle/heavy equipment inspection, maintenance, and repair program has revealed deficiencies in the daily before usage documented inspection. FDF Safety has met with Petro on key areas and Petro is developing their path forward to address the concerns.

A group meeting was held to discuss the handling and placement of the previously non-ISO packaged asbestos containing material. Completion of the path forward actions is pending.

Beginning Nov. 1st DOE will be conducting an assessment of the FDF IH program. As part of this assessment the OSDF area will be toured.

The FDF "gator" vehicles are now in service. Awareness of this new type of vehicle within the construction area is requested of everybody.

FDF Fire Protection has approved the location of the additional fuel storage tank at the T-545 Petro staging area.

E. Dan Stempfley noted that the air sampling data and BZ data are still well below the action levels.

XI. SCHEDULE BRIEFING

A. LCS stone (# 78) is being delivered today. Petro may need more for the catchment area, in which case more will be delivered on October 7 and 8, 1999.

B. Petro expects to complete stone placement by October 12, 1999.

C. Petro will begin placing the 1 foot protective cover at the intercell berm on October 13, 1999. They then plan to inspect the LCS/LDS piping using a video camera as required by the specifications and then proceed to construction of the wedge.

D. Petro is currently placing Category 2 material from the OMTA and from the STP.

E. Electrofusion coupling at the liner penetration boxes will take place on October 6, 1999.

F. Kevin Harbin will coordinate with Petro to determine an acceptable grid in which to place the thorium contaminated soil. Placement should occur this week.

G. Seeding of the Borrow area is part of Petro's scope of work and should take place this week.

XII. QUALITY AND INSPECTION

A. Petro has not submitted the certifications for the liner penetration boxes. This could become an issue relative to final certification of Cell 3. Mike Godber and Rick Schairbaum have been coordinating this issue.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. FDF, GeoSyntec and Petro will review the placement of geotextile relative to having it covered within ten days of installation.

B. FDF requires one week advance notice from Petro prior to Petro excavating the Active Flyash Pile.

C. FDF and Petro will meet to discuss the latest debris delivery schedule and Cell 3 logic.

D. Lou Wehlitz noted that there will be no electrical power in the OSDF area on Saturday, October 9, 1999 due to a required power outage. This will not affect the area of Petro's administrative trailers.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. FDF has started the process of exercising Option B of the contract, but the action is on hold pending resolution of budget issues at the Congressional level.

B. FDF is working to balance remaining pay items dollars for material placement in Option A.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, October 12, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer. Phone No. 648-5197 Date: October 6, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 10/5/99 13.36

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	9/26	9/27	9/28	9/29	9/30	10/1	10/2	10/3	10/4	10/5	10/6	10/7	10/8	10/9	10/10	10/11	10/12	10/13	10/14	10/15	10/16	10/17	10/18	10/19	10/20	10/21	10/22	10/23
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Excavate AFP		SCH. BAR																												
			CRAFT QTY.																												
SWU	Excavate Southfields		SCH. BAR																										13	13	
			CRAFT QTY.				16	16	16			25	25	25	25	25			25	25	25	25	25			25	25	25	12	12	
OSDF	Stockpile stone		SCH. BAR																												
			CRAFT QTY.			2			2				2		2	2															
OSDF	Place LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.									4	4	4	4	4			4	4											
OSDF	Sacrificial Geotextile		SCH. BAR																												
			CRAFT QTY.									4	4	4	4	4			4	4	4										
OSDF	Construct Clay Wedge		SCH. BAR																												
			CRAFT QTY.																							5	5	5	5	5	
OSDF	Place Protective Cover		SCH. BAR																												
			CRAFT QTY.																		4	4	4						3	3	
OSDF	Video Inspect LCS/LDS Pipes		SCH. BAR																												
			CRAFT QTY.																										3	3	
OSDF	Load & Haul EIDS/WIDS		SCH. BAR																												
			CRAFT QTY.		6	7																									
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		12	12	12	12	12	12		12	12	14	14	14			14	14	14	14	14			14	14	14	14	14	
OSDF	Install Air Monitors Cell 3		SCH. BAR																												
			CRAFT QTY.												3	3			3	3											
OSDF	Install Rad Fence Cell 3		SCH. BAR																												
			CRAFT QTY.																								6	6			
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.		9																										
STP	Excavate Utilities Outside STP		SCH. BAR																												
			CRAFT QTY.		4	4	4																								
STP	OSD 007, NAR 007 & 6-In Strip		SCH. BAR																												
			CRAFT QTY.		4																										
STP	Backfill Utilities		SCH. BAR																												
			CRAFT QTY					4	4				2	2																	
STP	STP Punchlist		SCH. BAR																												
			CRAFT QTY										2	2	2	2															

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MEETING NOTES

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SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: September 21, 1999

RECEIVED
SEP 24 1999
K Grisman

MEETING NUMBER: 53
MN:SWP(OSDF):99-0050

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: September 23, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

Kwasi Badu-Tweneboah MS38
Linda Barlow MS 52-7
Jennifer Blankemeyer MS 52-0
+# Pete Bolig - Petro
+ Charlie Brown MS 60
# Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
+ Tom Crawford MS 52-0
# Marian Curry MS 63
Alex Duarte MS 52-0
Billy Edmondson MS 52-0
Mary Eleton MS 60
+ Corey Fabricante MS 52-0
+# Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
Debra Grant MS 52-0
Kevin Harbin MS 64
Matt Harper MS 64
+Alan Hohnhorst MS 60
Rick Holbrook MS 64
+# Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
+# Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
+# Lee McDaniel MS 60
Rick McGuire MS 60
Jeff Middaugh MS 64
Chris Neumann MS 60
Brenda Perkins MS 67
Don Pfister MS 45
Carlos Pratt MS 64
+# Mike Ramirez MS 52-8
Perry Richardson MS52-8
+# Ira Rogers - Petro
+ Mike Rolfes MS 60
+ David Russell - MS 52-0
Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
Sharon Spears - MS 52-5
Dan Stempfley MS 64
Collin Sukow MS38
+# Vern Taylor MS 52-0
Charles Van Arsdale MS 64
Mike Van Swol MS 66
+ Jenny Vance MS 52-0
Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+# Dave Williams - Petro
Fred Wilson MS 60
+# Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Report unsafe equipment and conditions immediately.

Value Creation Topic – Value is often described as performance divided by cost. If you increase performance or decrease cost, value goes up.

Balance Topic – Compliment three people every day.

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SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. One minor occupational occurred injury since the September 14, 1999 meeting. A worker was stung by a bee before lunch today. It is a first aid case.

B. The results of the BZ data and the air samples continue to be acceptable.

C. The DOE 835 Radiological Work Practices audit was completed on September 18, 1999. The feedback was very positive. Thanks to all who contributed to this success. The challenge will be to continue that level of attention to detail in the absence of an impending audit.

D. Lew Wiedeman noted that Petro needs to review the condition of fencing and barricades throughout the SWU.

E. Lee McDaniel noted that there was a loggable yesterday because Petro pulled a conduit loose during an excavation. Petro equipment operators must be reminded to stay 3 feet or more away from utilities when digging.

III. SCHEDULE BRIEFING

SWU

A. There were no activities at the SWU this week. Work will resume September 23, 1999.

Sewage Treatment Plant Excavation

B. The deep excavation is scheduled to be complete by September 22, 1999. The excavation of utilities outside the area is on schedule to be done by September 27, 1999. Lee McDaniel will coordinate with Petro to assure that excavation is done enough in advance to allow FDF survey of the area.

C. Excavation of the utilities will be complete by September 27, 1999. Excavation of OSD-007 will be complete by September 24, 1999. Backfill of utility

trenches will begin on September 28, 1999. Hauling of the East Impacted Material Stockpile on September 29, 1999.

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IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. Petro expects to receive this week the motorized valve needed to repair the wheel wash.

B. Petro plans to work in the STP and the OSDF on Saturday, September 25, 1999.

C. FDF & Petro will fill out the form to stockpile material from the EIMS in the Cell and FDF will notify EPA as required.

D. Downposting of the STP Deep Excavation will follow R-Tracking. The PCM's at the STP will be moved out on September 23, 1999. The trailer will be moved out on September 24, 1999.

E. Petro's surveyor will be verifying the grades for the various excavations this week.

F. Lee McDaniel will contact Jim Schwing of FDF to find out original elevations of the areas under the stockpiles and lead excavation. Lee and Jim will meet with Dave Williams on September 22, 1999.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. Alan Hohnhorst reminded Petro that the new Project Labor Agreement pay rates go into effect on October 1, 1999.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. See Section II.A above.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. The requirement for Security Guards to touch each person's badge upon entering the site has been postponed indefinitely.

D. With the colder weather approaching, vehicles should not be left unattended with the engine running while waiting for the vehicle to warm up or the windows to defrost.

E. Observations:

Non-compliance with basic PPE issues is still being observed in the field. All personnel, including supervision, are requested to assist in correcting deficiencies when observed in the field. Contractor and FDF Safety Personnel should not be the only people taking corrective actions on these observations. Personnel outside the project (including DOE personnel) have been reporting deficiencies of this nature to FDF Safety during the past couple weeks.

The liner crew has been doing a good job keeping up with housekeeping issues. This has resulted in the limiting of blown debris during the recent higher wind conditions and therefore reducing the potential of personnel injury due to blowing debris.

F. Dan Stempfley noted that the air sampling data and BZ data are still well below the action levels.

G. Dan Stempfley pointed out that the gravel walkway from T-96 to the Cell is working out well. The cooperation is appreciated. Dan also noted that the gravel turnaround road for trucks at the OSDF wheel wash was also working well. Cleanup is needed of mud built-up prior to the turnaround being installed. Dave Williams noted that Petro placed some gravel in the area today.

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XI. SCHEDULE BRIEFING

A. Petro is hydrotesting the last pipe today. Petro is installing the primary liner and placing stone on the east half of Cell 3

B. Petro is placing material in Cells 1 and 2. Placement of bagged thorium will be scheduled after October 1, 1999.

C. Petro should start the ramp and material placement for the Cell 3 protective layer on or about October 4, 1999.

XII. QUALITY AND INSPECTION

A. Petro has not submitted the certifications for the liner penetration boxes. This could become an issue relative to final certification of Cell 3.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. The electronic leak testing of the remaining drainage corridor and the catchment area will begin on September 27, 1999.

B. Petro is bringing in a Kobelco 400 Excavator and a D8 bulldozer to assist with excavation in the EIMS. Petro has 18 trucks available for hauling. The bottleneck has been at the wheel wash. Petro asked if it would be possible to dedicate a contaminated corridor to the Cell from the EIMS to eliminate the requirement for wheel washing. FDF will review this possibility.

C. Petro does not plan to adjust work hours between now and the end of October when the time changes.

D. FDF is waiting on a screen for the construction well. After the screen is installed, the well will be developed. FDF proposes to tie in to Petro's above ground sprinkler line and route water used in development to the Borrow Area Sediment Basin.

E. The 30-mil geomembrane for the protective cover at the wedge is on site.

F. Petro plans to turn in daily reports through September 20, 1999 today.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. No report.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, September 28, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: September 23, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 9/21/99 12:46

2737

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

000187

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	9/12	9/13	9/14	9/15	9/16	9/17	9/18	9/19	9/20	9/21	9/22	9/23	9/24	9/25	9/26	9/27	9/28	9/29	9/30	10/1	10/2	10/3	10/4	10/5	10/6	10/7	10/8	10/9
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Load Stockpiles		SCH BAR																												
			CRAFT QTY																												
SWU	Excavate Southfields		SCH BAR																												
			CRAFT QTY												16	16			16	16	16	16	16			16	16	16	16	16	
OSDF	Penetration Boxes		SCH BAR																												
			CRAFT QTY									3	3																		
OSDF	Secondary Liner System		SCH BAR																												
			CRAFT QTY.																												
OSDF	Place Sec. LCS/LDS Stone		SCH BAR																												
			CRAFT QTY.				4	4	4	4																					
OSDF	Stockpile stone		SCH BAR																												
			CRAFT QTY			2			2						2	2															
OSDF	Primary Liner System		SCH BAR																												
			CRAFT QTY		23	23	23	23	23	23		23	23	23	23	23	23		23	23											
OSDF	Place Prim. LCS/LDS Stone		SCH BAR																												
			CRAFT QTY									4	4	4	4	4	4		4	4	4	4	4								
OSDF	Sacrificial Geotextile		SCH BAR																												
			CRAFT QTY																			4	4								
OSDF	Construct Clay Wedge		SCH BAR																												
			CRAFT QTY																				7			7	7	7	7	7	
OSDF	Load & Haul EIDS		SCH BAR																												
			CRAFT QTY				4		6	6		7	7	7	7	7	7		7	7	7										
OSDF	Cell 1 & Cell 2 Placement		SCH BAR																												
			CRAFT QTY.		12	12	12	12	12	12		12	12	12	12	12	12		12	12	12	12	12			12	12	12	12	12	
STP	Deep Excavation		SCH BAR																												
			CRAFT QTY.		9	9	9	9	9	9		9	9	8																	
STP	Excavate Utilities Outside STP		SCH BAR																												
			CRAFT QTY.		4	4	4	4	4	4		4	4	4	4	4	4		4												
STP	Excavate Lead Soils		SCH BAR																												
			CRAFT QTY		16	16	16	8	8																						
STP	OSD 007, NAR 007 & 6-in Strip		SCH BAR																												
			CRAFT QTY.					8	8			2	8	8		8															
STP	Excavate Additional AWAC		SCH BAR																												
			CRAFT QTY.					3					3																		
STP	SP-7 Mgt.		SCH BAR																												
			CRAFT QTY.									2	2	2																	
STP	Backfill Utilities		SCH BAR																	4	4	4	4			4	4	4	4	4	
			CRAFT QTY.																												

2737

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: September 14, 1999

MEETING NUMBER: 52
MN:SWP(OSDF):99-0048

RECEIVED
SEP 21 1999

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: September 14, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

+ Greg Ancona MS52
# Kwasi Badu-Tweneboah MS38
Linda Barlow MS 52-7
+ Jennifer Blankemeyer MS 52-0
+# Pete Bolig - Petro
Charlie Brown MS 60
Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
+ Tom Crawford MS 52-0
# Marian Curry MS 63
Alex Duarte MS 52-0
Billy Edmondson MS 52-0
Mary Eleton MS 60
Corey Fabricante MS 52-0
+# Frank Flack MS 60
Reinhard Friske MS 52-9
+# Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
+ Debra Grant MS 52-0
+# Kevin Harbin MS 64
Matt Harper MS 64
+Alan Hohnhorst MS 60
Rick Holbrook MS 64
+# Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
Mark Mather – Petro
+# Lee McDaniel MS 60
+Rick McGuire MS 60
Jeff Middaugh MS 64
Chris Neumann MS 60
Scott Osborn MS52-3
Brenda Perkins MS 67
Don Pfister MS 45
Carlos Pratt MS 64
+#Perry Richardson MS52-8
+# Ira Rogers - Petro
+ Mike Rolfes MS 60
David Russell - MS 52-0
Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
Sharon Spears - MS 52-5
Dan Stempfley MS 64
Mike Stumbo - Petro
Collin Sukow MS38
+# Vern Taylor MS 52-0
+# Alan Theyken MS 52-0
Charles Van Arsdale MS 64
Mike Van Swol MS 66
+ Jenny Vance MS 52-0
Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+# Dave Williams - Petro
Fred Wilson MS 60
+# Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – The Security Guards will be required to touch each person's badge upon entering the site beginning Wednesday, September 15, 1999. Be aware and be prepared. Drive slowly as you approach.

Value Creation Topic – The word "communication" is used so often we can forget how important true communication is. The key to communication is to follow up. 2737

Balance Topic – Performing volunteer work is good for those who need help and good for you.

SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the September 7, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. An RDR was written against Petro for a violation relative to obtaining a HEPA vacuum from the DOP Shop. The HEPA vacuum was taken through a control point without the proper rad survey. A lack of understanding and communication was identified as the cause. FDF Construction Management will coordinate the issuance and return of HEPA vacuums for Petro in the future.

D. The DOE 835 Radiological Work Practices audit began on September 13, 1999. Debriefing will occur every day this week at 4 PM. Final debriefing will be September 17, 1999 at 4 PM.

E. The appropriate signs are in place in the STP and new Petro trailer locations.

F. Petro will be holding a heat stress briefing for their new employees on September 16, 1999 at 7 AM in T-183. FDF personnel who need the briefing are invited.

III. SCHEDULE BRIEFING

SWU

A. There were no activities at the SWU this week. Work will resume September 20, 1999.

Sewage Treatment Plant Excavation

B. The deep excavation is scheduled to be complete by September 17, 1999. The excavation of utilities outside the area is on schedule to be done by September

30, 1999. Lee McDaniel will coordinate with Petro to assure that excavation is done enough in advance to allow FDF survey of the area.

C. Excavation of the lead area will be complete by September 14th or 15th, 1999.

D. Excavation of the stockpiles and stripping will be complete by September 22, 1999.

IV. QUALITY AND INSPECTION

A. FDF is reviewing the status of Petro employee's training. FDF will obtain an extension on the NCR pertaining to the required 30 hour OSHA training.

V. DESIGN AND CONSTRUCTION ISSUES

A. The schedule is missing the activity to perform 6" stripping at two triangular areas near the old Petro staging area. Approximate quantity is 200 CY.

B. Petro plans to work in the STP and possibly the OSDF on Saturday, September 18, 1999.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. Jennifer Blankemeyer asked Petro to advise when they would be submitting the Site Preparation project as-builts.

VII. SUBCONTRACT ADMINISTRATION

A. Alan Hohnhorst noted that FDF expected approval from DOE of the AWAC quantity overrun this week.

B. Petro will submit a proposal on the asbestos lined pipe outside of the STP area.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. Tony Klimek noted that in section XI – Schedule Briefing, subparagraph A, the leaks noted as being in the penetration boxes were actually in the end seals of the 10" pipe, not in the penetration boxes themselves.

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X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. No occupational injuries since the September 7, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. The Security Guards will be required to touch each person's badge upon entering the site beginning Wednesday, September 15, 1999. Be aware and be prepared. Drive slowly as you approach. This week and next will be a trial period for troubleshooting. Full-scale implementation will be on September 27, 1999.

D. Observations:

Petro has not submitted the manpower report for August 1999. The report was due on September 3, 1999.

WAO personnel have been observed walking along the old North Access Road in the morning before sunrise without the required reflective vest or flashlight.

Work areas are to be illuminated by a minimum of 5 footcandles of light. This includes work at or near dusk and work prior to sunrise.

Running, jogging is not permitted within the jobsite unless there is an emergency.

E. Dan Stempfley noted that the air sampling data and BZ data are still well below the action levels. Also, the monthly ALARA data will be posted at the jobsite locations and presented to personnel this week.

F. Dan Stempfley pointed out that Petro needed to maintain a path from the automated wheel wash at the OSDF end of the IMHR to the Equipment Wash (release point).

G. Dan Stempfley noted that the corrective action for the NCR, which resulted from the RDR on the HEPA vacuum, is to brief employees on the procedures. Everyone was reminded that only personal hand-held items such as planners, radios, phones etc. can be frisked through radiological control point without a Rad tech present. All other items require the assistance of a Rad tech.

XI. SCHEDULE BRIEFING

A. Petro is placing and stockpiling stone for the secondary and primary layers.

2737

B. Petro is placing Category 2 in Cells 1 and 2 and expects to complete placement of material from the trap range this week. Petro will place Category 5 material on Thursday and Friday. Petro is concentrating placement in the area of the intercell berm and the Cell 1 catchment area.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. The electronic leak testing will begin September 15, 1999 in both the area outside of the cell and an area within Cell 3. On September 16, 1999 it will be determined if further testing on the in-place liner is necessary. Petro may be ready to place geotextile and gravel on the primary liner on September 16, 1999. Electronic testing could delay this work.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report

XV. SUBCONTRACT ADMINISTRATION

A. Petro was given Notice to Proceed on excavation of the East Impacted Material Stockpile. Miscellaneous changes are up to date. FDF and Petro will try to finalize the proposal on placement of bagged thorium this week. Petro will be submitting a claim for delays incurred on September 11, 1999.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, September 14, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: September 14, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 9/14/99 13:01

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	9/5	9/6	9/7	9/8	9/9	9/10	9/11	9/12	9/13	9/14	9/15	9/16	9/17	9/18	9/19	9/20	9/21	9/22	9/23	9/24	9/25	9/26	9/27	9/28	9/29	9/30	10/1	10/2
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Load Stockpiles		SCH. BAR																												
			CRAFT QTY.			8	8																								
SWU	Excavate Southfields		SCH. BAR																												
			CRAFT QTY.			8	8	16	16										16	16	16	16	16			16	16	16	16	16	
OSDF	Penetration Boxes		SCH. BAR																												
			CRAFT QTY.			3	3																								
OSDF	Secondary Liner System		SCH. BAR																												
			CRAFT QTY.			23																									
OSDF	Place Sec. LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.			4	4							4	4	4	4														
OSDF	Stockpile stone		SCH. BAR																												
			CRAFT QTY.			1	1	1					2			2															
OSDF	Primary Liner System		SCH. BAR																												
			CRAFT QTY.				23	23	23	23		23	23	23	23	23	23		23	23	23	23	23	23		23	23				
OSDF	Place Prim. LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.																4	4	4	4	4	4		4	4	4	4	4	
OSDF	Sacrificial Geotextile		SCH. BAR																												
			CRAFT QTY.																										4	4	
OSDF	Construct Clay Wedge		SCH. BAR																												
			CRAFT QTY.																												
OSDF	Load & Haul EIDS		SCH. BAR																												
			CRAFT QTY.												6	6			6	6	6	6	6								
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.			12	12	12	12			12	12	12	12	12	12		12	12	12	12	12	12		12	12	12	12	12	
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.			9	9	9	9	9		9	9	9	9	9															
STP	Excavate Utilities Outside STP		SCH. BAR																												
			CRAFT QTY.			4	4	4	4	4		4	4	4	4	4	4		4	4	4	4	4	4		4	4	4	4		
STP	Excavate Lead Soils		SCH. BAR																												
			CRAFT QTY.						4	13		16	16	16																	
STP	OSD 007, NAR 007 & 6-in Strip		SCH. BAR																												
			CRAFT QTY.												8	8				8	8										
STP	Excavate Additional AWAC		SCH. BAR																												
			CRAFT QTY.			2		2								3															
STP	SP-7 Mgt.		SCH. BAR																												
			CRAFT QTY.			2		2												2	2	2	2	2		2	2				
			SCH. BAR																												
			CRAFT QTY.																												

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MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: September 7, 1999

MEETING NUMBER: 51
MN:SWP(OSDF):99-0047

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: September 8, 1999

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DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

+ Greg Ancona MS52
# Kwasi Badu-Tweneboah MS38
+ # Linda Barlow MS 52-7
Jennifer Blankemeyer MS 52-0
Pete Bolig - Petro
+ Charlie Brown MS 60
#Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
+ Tom Crawford MS 52-0
+ Alex Duarte MS 52-0
+ # Billy Edmondson MS 52-0
Mary Eleton MS 60
+ #Corey Fabricante MS 52-0
+ # Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
+ # Mike Godber MS 64
# Don Goetz MS 64
+ Debra Grant MS 52-0
Kevin Harbin MS 64
Matt Harper MS 64
+ Alan Hohnhorst MS 60
# Rick Holbrook MS 64
+ # Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
+ # Susan Lorenz MS 52-8
Mark Mather – Petro
+ # Lee McDaniel MS 60
+ Rick McGuire MS 60
Jeff Middaugh MS 64
Chris Neumann MS 60
+ # Scott Osborn MS52-3
Brenda Perkins MS 67
+ # Don Pfister MS 45
Carlos Pratt MS 64
Perry Richardson MS52-8
+ # Ira Rogers - Petro
+ Mike Rolfes MS 60
+ David Russell - MS 52-0
+ # Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
+ Sharon Spears - MS 52-5
# Dan Stempfley MS 64
Mike Stumbo - Petro
#Collin Sukow MS38
+ # Vern Taylor MS 52-0
# Charles Van Arsdale MS 64
# Mike Van Swol MS 66
+ Christa Walls MS52-8
# Lou Wehlitz MS 64
+ Lewis Wiedeman MS 60
Dave Williams - Petro
Fred Wilson MS 60
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Ladder Safety - ladders must be extended 3 ft. above the surface you are stepping off to and the stepping off surface must be level; if someone is on above 6 ft on a ladder they must be tied off; inspect ladders daily; face ladder when working.

Value Creation Topic – Prevention Costs – Cost associated with preventing problems before they occur. Examples include training, planning related to quality and quality related audits.

Balance Topic – Develop a career plan, then work toward it.

F-2737

SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the August 31, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. Items that were identified during last week's walkdown were corrected right away. The majority of personnel driving vehicles in the area are still not wearing a seatbelt. It is evident that personnel from FDF and Petro are exceeding posted speed limits in many areas.

D. The DOE 835 Radiological Work Practices audit will begin on September 13, 1999.

III. SCHEDULE BRIEFING

SWU

A. Petro continues to excavate the stockpiles and the South Field. Petro should finish stockpile excavation this week.

Sewage Treatment Plant Excavation

B. The deep excavation should be complete by September 10, 1999. Petro is already working on excavation of utilities outside of the immediate STP area.

C. Petro is completing the excavation and hauling of AWAC pipe to SP-7.

IV. QUALITY AND INSPECTION

A. No report.

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V. DESIGN AND CONSTRUCTION ISSUES

A. Before Petro can remove the existing electrical duct bank, the fire alarm system in the DO Building must be reconnected overhead.

B. FDF & GeoSyntec will determine requirements for placing 12" asbestos pipe in the Cell including whether or not it must be split, double-wrapped, etc.

C. On September 9, 1999 the EPA will select a truck from the SWU to be dumped and sampled.

D. A service interruption for the LCS Lift Station has been scheduled for September 9, 1999.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. FDF received Petro's revised proposals today. These issues should be resolved this week.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Gregg Johnson had the following report:

A. The incident from several weeks ago in which a liner worker received a groin injury has become a recordable. There was a minor injury today from a ladder that was not set properly. Our first priority is safety and attention to detail is required by everyone to maintain a safe workplace.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

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C. Dan Stempfley noted that the air sampling data and BZ data are still well below the action levels.

D. Dan Stempfley also noted that Petro has done a better job keeping the Impacted Material Haul Road clean, but improvement is still needed. Petro noted that the second stage of the wheel wash at the OSDF is currently not working. It should be repaired this week. FDF is also trying to schedule the FAT&LC water truck driver who cleans the haul road, on (4) 10-hour days to match Petro's work schedule.

XI. SCHEDULE BRIEFING

A. Petro is presently fixing leaks in the penetration boxes..

B. Petro should complete secondary liner installation today. Petro is stockpiling stone for the primary collection layer. Petro is preparing for installation of the primary liner and anchor trench.

C. Cell 1 and 2 – material placement is continuing and Petro is reworking the water distribution system for dust control.

D. Petro plans to work this Saturday, September 11, 1999 at the STP and in Cells 1 and 2. Petro will advise FDF if they will be working in the OMTA.

XII. QUALITY AND INSPECTION

A. FDF is still waiting on material certifications for the penetration boxes.

B. A NCR was written last week because Petro placed material in the Cell without a spotter and without the CQC consultant present. FDF will meet with Petro and others to resolve.

C. One more passing sieve analysis is required to permit the use of the #57 stone stockpile. An NCR may be written on the stone that has been delivered.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Petro is moving T-504 on Friday, September 10, 1999. FDF will coordinate the blocking of the first row of parking to allow clear access to remove the trailer.

B. Pipe that is 12" and greater that is to be placed in the Cell must be split. The results on the mastic coating from STP Utility pipe will be back today which will indicate whether the mastic contains asbestos or not. Pending results, FDF will

coordinate a meeting to discuss placement requirements. Lee McDaniel will take the lead on this issue.

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C. There will be a liner leak detection demonstration next on September 14, 1999. A Company from Montreal will be performing the demonstration. Following the demonstration, the company will be performing testing of exposed primary liner for leaks after Petro has installed the liner.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report

XV. SUBCONTRACT ADMINISTRATION

A. No report.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, September 14, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: September 8, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 9/7/99 6:26

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	8/29	8/30	8/31	9/1	9/2	9/3	9/4	9/5	9/6	9/7	9/8	9/9	9/10	9/11	9/12	9/13	9/14	9/15	9/16	9/17	9/18	9/19	9/20	9/21	9/22	9/23	9/24	9/25
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Load Stockpiles		SCH. BAR																												
			CRAFT QTY.		8	8	8	8	8				8	8																	
SWU	Excavate Southfields		SCH. BAR																												
			CRAFT QTY.		8	8	8	8	8				8	8	16	16			16	16	16	16	16			16	16	16	16	16	
OSDF	Penetration Boxes		SCH. BAR																												
			CRAFT QTY.			3	3						3	3																	
OSDF	Secondary Liner System		SCH. BAR																												
			CRAFT QTY.	5	23	23	23	23	23				23																		
OSDF	Place Sec. LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.					4	4				4	4																	
OSDF	Stockpile stone		SCH. BAR																												
			CRAFT QTY.					1	1				1	1	1																
OSDF	Primary Liner System		SCH. BAR																												
			CRAFT QTY.											23	23	23	23		23	23	23	23	23	23		23					
OSDF	Place Prim. LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.																4	4	4	4	4	4		4	4				
OSDF	Sacrificial Geotextile		SCH. BAR																												
			CRAFT QTY.																								4	4	4	4	
OSDF	Construct Clay Wedge		SCH. BAR																												
			CRAFT QTY.																								5	5	5	5	
OSDF	Load & Haul EIDS		SCH. BAR																												
			CRAFT QTY.																6	6	6	6	6	6		6	6	6	6	6	6
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		12	12	12	12	12				12	12	12	12			12	12	12	12	12	12		12	12	12	12	12	12
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.		13	13	9	9	9				9	9	9	9															
STP	Excavate Utilities Outside STP		SCH. BAR																												
			CRAFT QTY.					4	4				4	4	4	4	4		4	4	4	4	4	4		4	4	4	4	4	4
STP	Excavate Lead Soils		SCH. BAR																												
			CRAFT QTY.																		8	8	8	8		8					
STP	OSD 007, NAR 007 & 6-in Strip		SCH. BAR																												
			CRAFT QTY.																								8	8	8	8	
STP	Excavate Additional AWAC		SCH. BAR																												
			CRAFT QTY.										2		2																
STP	SP-7 Mgt.		SCH. BAR																												
			CRAFT QTY.										2		2																

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FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

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MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: August 31, 1999

MEETING NUMBER: 50
MN:SWP(OSDF):99-0046

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: September 2, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

+ Greg Ancona MS52
Kwasi Badu-Tweneboah MS38
+# Linda Barlow MS 52-7
+ Jennifer Blankemeyer MS 52-0
+# Pete Bolig - Petro
Charlie Brown MS 60
#Jim Burnett MS 38
Dennis Carr MS 52-2
+ Tom Carr MS 60
+# J.D. Chiou MS 52-0
Tom Crawford MS 52-0
+ Alex Duarte MS 52-0
Mary Eleton MS 60
+#Corey Fabricante MS 52-0
+# Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
Debra Grant MS 52-0
+# Kevin Harbin MS 64
Matt Harper MS 64
+Alan Hohnhorst MS 60
Rick Holbrook MS 64
Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
+# Mark Mather – Petro
+# Lee McDaniel MS 60
+Rick McGuire MS 60
Jeff Middaugh MS 64
Chris Neumann MS 60
+# Scott Osborn MS52-3
Brenda Perkins MS 67
Don Pfister MS 45
Carlos Pratt MS 64
Perry Richardson MS52-8
+# Ira Rogers - Petro
+ Mike Rolfes MS 60
+ David Russell - MS 52-0
Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
Sharon Spears - MS 52-5
Dan Stempfley MS 64
Mike Stumbo - Petro
Collin Sukow MS38
+# Vern Taylor MS 52-0
Charles Van Arsdale MS 64
Mike Van Swol MS 66
Christa Walls MS52-8
+# Lou Wehlitz MS 64
+Lewis Wiedeman MS 60
+# Dave Williams - Petro
Fred Wilson MS 60
Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Labor Day weekend is historically one of the most dangerous times to be on the highway. Use extra caution this weekend.

Value Creation Topic – If you find a problem in a process or a procedure, be a part of the solution – be proactive.

Balance Topic – Change is inevitable, but growth is an option.

SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the August 25, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. Items that were identified during the walkdown last week were corrected right away. The majority of personnel driving vehicles in the area are not wearing a seatbelt. Housekeeping at the SWU has been good primarily due to an added laborer. Petro added a laborer to the STP last week. Housekeeping at the STP needs improvement.

D. FDF has been receiving more comments from other groups on the site pertaining to haul road cleanliness. Petro needs to increase efforts to keep mud from building up on the IMHR.

E. Tony Renk of FDF Safety performed a walkdown of the South Field Control points. Everything seemed in order except two RWP's with multiple lineouts.

F. Pete Bolig noted that he is working with Rick McGuire and Gregg Johnson on PPE requirements near the STP. The access roads will not require PPE. When the plan is complete, implementation will include signs, a map and personnel briefings.

III. SCHEDULE BRIEFING

SWU

A. Petro continues to excavate the stockpiles and the South Field. R-tracking is continuing.

Sewage Treatment Plant Excavation

B. Petro met the goal of hauling approximately 350 loads from the STP last week, primarily from the deep excavation. Petro estimates that there are

approximately 600 loads remaining and expects to complete by September 10, 1999.

2737

C. Petro will start excavation outside of the STP limits this week, which will require additional RCT assistance.

D. After completing the deep excavation Petro will move that equipment to the East Impacted Material Stockpile. After Petro completes the utility excavation, they will move that equipment to the Lead Area.

IV. QUALITY AND INSPECTION

A. B&J Electric is reviewing the list of electrical deficiencies at the STP and will respond to Petro by COB today (August 31, 1999). Petro will pass the information on to FDF.

V. DESIGN AND CONSTRUCTION ISSUES

A. FDF is working to obtain a service interruption for the STP that will affect the LCS Lift Station pump and will require that the LCS valves at Cells 1 and 2 manholes be closed. The interruption will last for one day shift.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. FDF will meet with Petro tomorrow to resolve outstanding change orders.

B. FDF will get a letter to DEO tomorrow pertaining to the AWAC quantity overrun.

VIII. GENERAL

A. Linda Barlow pointed out that trucks that have material stuck in their beds must be cleaned out in the Cell before returning the point of excavation.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

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Jeff Middaugh had the following report:

A. A liner worker went to FDF Medical after getting a foreign body in his eye while working at Cell 3. An eye wash station located at the work area was utilized to flush the eye. This incident should be used as a reminder that all injuries, no matter how minor, should be reported to the FDF Medical Dept. Early documentation can prevent issues that may occur later. The worker was able to return to work and the incident does not qualify as a first aid case.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

The parking area at the T-96/T-98 complex has been down posted with regards to required PPE. Generally PPE will not be required when traveling from the parking lot to either trailer, between the trailers, or to the port-a-lets located just south of T-96. Reminder, that if work activities occur within this area PPE will be required. A similar scenario is presently being worked on for the roadway and parking areas accessing the STP and new Petro trailer areas.

Petro should consider obtaining noncombustible or flameproof screens to shield arc welding or cutting operations that need to occur in the field adjacent to high traffic areas. This is a requirement of OSHA 1926.351(e).

Lack of hand PPE during liner deployment and lack of hearing PPE around heavy equipment has been observed in the field. Reminder for all personnel that hearing PPE requirement distances can be as great as 75-ft around heavy equipment while the heavy equipment is operating on the stone within Cell 3.

D. Dan Stempfley noted that the air sampling data was .1%, which is well below the 2% action level. BZ data is also well within limits.

E. Dan Stempfley also pointed out that haul road monitoring data was also acceptable, but that material accumulation just outside of the wheel wash continues to be a problem. Petro is attempting to modify the wheel wash to rectify this problem.

XI. SCHEDULE BRIEFING

A. Additional #78 stone is scheduled to be delivered on September 2, 1999. Some of the #57 stone has failed testing, so an alternate source is required.

B. The installation of the secondary liner should be complete on September 3, 1999. Petro is repairing the liner penetration box and plans to have it installed on September 1, 1999 and backfilled this week. -- 2737

C. Placement in Cells 1 and 2 is continuing.

D. Petro will not be working in any areas on September 4, 1999.

XII. QUALITY AND INSPECTION

A. Mike Godber noted that Petro needs to submit the paperwork on the penetration box repair including welder certificates, the repair procedure and the test results. The submittal is to be for information only.

B. Mike Godber noted that there were differing permeability results on the LDS stone, but that the sieve results are passing. FDF, GeoSyntec and PETRO will resolve after this meeting.

C. FDF is planning to write an NCR because Petro placed waste without a spotter and without the CQC Consultant present.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. The US EPA and the Ohio EPA will be on site September 1 and 2, 1999.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. DCN 91 to move the penetration boxes will be done September 1 or 2, 1999.

XV. SUBCONTRACT ADMINISTRATION

A. There are six or seven outstanding change orders being negotiated.

XVI. GENERAL

A. FDF & Petro will meet following this meeting to resolve additional testing of the primary liner.

NEXT MEETING: 2:00 PM, September 7, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: September 2, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 8/31/99 12:58

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	8/22	8/23	8/24	8/25	8/26	8/27	8/28	8/29	8/30	8/31	9/1	9/2	9/3	9/4	9/5	9/6	9/7	9/8	9/9	9/10	9/11	9/12	9/13	9/14	9/15	9/16	9/17	9/18
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Load Stockpiles		SCH. BAR																												
			CRAFT QTY.		8	8		8	8			8	8	8	8	8				8	8	8	8			8	8	8	8	8	
SWU	Excavate Southfields		SCH. BAR																												
			CRAFT QTY.		8	8		8	8			8	8	8	8	8				8	8	8	8			8	8	8	8	8	
OSDF	Penetration Boxes		SCH. BAR																												
			CRAFT QTY.			6	3	6	6				3	3																	
OSDF	Secondary Liner System		SCH. BAR																												
			CRAFT QTY.		23	23	23	23	23	23	5	23	23	23	23	23				23											
OSDF	Place LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.		3		4	4	4	4					4	4				4											
OSDF	Stockpile stone		SCH. BAR																												
			CRAFT QTY.												4	4				4											
OSDF	Primary Liner System		SCH. BAR																												
			CRAFT QTY.																		23	23	23	23		23	23	23	23	23	23
OSDF	Place LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.																							4	4	4	4	4	4
OSDF	Load & Haul EIDS		SCH. BAR																												
			CRAFT QTY.																							6	6	6	6	6	6
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		12	12		12	12	8		12	12	12	12	12				12	12	12	12			12	12	12	12	12	
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.		12			13	13	15		13	13	9	9	9				9	9	9	9								
STP	STP Demolition		SCH. BAR																												
			CRAFT QTY.		1																										
STP	Excavate Utilities Outside STP		SCH. BAR																												
			CRAFT QTY.												4	4				4	4	4	4	4		4	4	4	4	4	4
STP	Excavate Lead Soils		SCH. BAR																												
			CRAFT QTY.																												
STP	OSD 007, NAR 007 & 6-in Strip		SCH. BAR																												
			CRAFT QTY.																												
STP	Excavate Additional AWAC		SCH. BAR																												
			CRAFT QTY.		11	11		11																							
STP	SP-7 Mgt.		SCH. BAR																												
			CRAFT QTY.		2	2		2																							

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MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: August 25, 1999

MEETING NUMBER: 49
MN:SWP(OSDF):99-0045

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: August 30, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

+ Greg Ancona MS52
# Kwasi Badu-Tweneboah MS38
Linda Barlow MS 52-7
Jennifer Blankemeyer MS 52-0
+ # Pete Bolig - Petro
Charlie Brown MS 60
#Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
Tom Crawford MS 52-0
+ Alex Duarte MS 52-0
Mary Eleton MS 60
+ Corey Fabricante MS 52-0
+ # Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
Debra Grant MS 52-0
+ # Kevin Harbin MS 64
Matt Harper MS 64
+ Alan Hohnhorst MS 60
Rick Holbrook MS 64
Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Greg Kephart MS 52-3
+ #Carl Ketchem - Petro
# Tony Klimek - MS 64
# Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
Mark Mather – Petro
+ # Lee McDaniel MS 60
+ Rick McGuire MS 60
# Jeff Middaugh MS 64
Chris Neumann MS 60
Brenda Perkins MS 67
+ # Don Pfister MS 45
Carlos Pratt MS 64
Perry Richardson MS52-8
+ # Ira Rogers - Petro
+ Mike Rolfes MS 60
+ David Russell - MS 52-0
Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
Sharon Spears - MS 52-5
Dan Stempfley MS 64
Mike Stumbo - Petro
Collin Sukow MS38
Vern Taylor MS 52-0
Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+ # Dave Williams - Petro
Fred Wilson MS 60
Charles Van Arsdale MS 64
Mike Van Swol MS 66
Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – The sun rises later each day as fall approaches – pay close attention when driving to work in the morning. Watch for farm equipment and school buses that are out early.

Value Creation Topic – Thanks to Greg Ancona, Pete Bolig, Linda Barlow and Vicky Zimmerman for all of their efforts in completing the paperwork to allow the loading of F-listed waste this past Saturday.

2737

Balance Topic – Labor Day weekend is approaching. Take advantage of the last long weekend of the summer.

SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the August 17, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. Items that were identified during the walkdown last week were corrected right away.

D. Gregg Johnson has reviewed the energy isolation plan for the STP. Bill Burke, Pete Bolig and Gregg will discuss issues relating to the EIP outside of this meeting.

E. The root cause analysis for the August 5, 1999 lock & tag incident should be completed this week.

III. SCHEDULE BRIEFING

SWU

A. Petro continues to excavate the stockpiles and the South Field. R-tracking is continuing.

Sewage Treatment Plant Excavation

B. Petro hauled 402 loads from the STP to the Cell last week. This amount met their target that supports completion of the STP in September.

C. Petro excavated and drummed the F-listed waste on August 21,1999.

D. Petro began excavating AWAC on Monday. Rain since then has slowed work. Petro plans to work this Saturday, which will include hauling to the Cell and

placement. The recent rain has pushed back the excavation of utilities outside of the STP area to September 1, 1999.

—2737

E. Petro is grouting manhole 176B and will advise if it is to be done prior to September 13, 1999.

IV. QUALITY AND INSPECTION

A. Petro will submit a revised Organization Chart for the STP today.

B. Petro will status the list of electrical deficiencies at the STP.

V. DESIGN AND CONSTRUCTION ISSUES

A. FDF has the penetration permit to allow sampling work and utility removal except the electrical duct work.

B. Petro expects to receive the tarps for the A-25's today and to have them installed by August 28, 1999.

C. Hubbard mobilized 3 additional trucks.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. FDF and Petro are up to date on modifications. Approximately ten change orders are in process.

B. FDF is verifying Petro's surveying data on AWAC soil quantities at the STP. After verification, FDF will notify DOE of negotiation position and request to proceed.

VIII. GENERAL

A. Don Pfister noted that Petro did an excellent job after lunch today of following the procedure for work shut down when lightning has been sighted. He also noted that other groups including Wise Services did not respond as promptly.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. Reference Section XI – Schedule Briefing, subparagraph A – delete the last sentence in its entirety. The sentence should read "Moody's plans to begin installation of a vertical monitoring well on the east side of Cell 4 which will extend into the Great Miami Aquifer and monitor the GMA for impact from the OSDF."

2737

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Gregg Johnson had the following report.

A. There was an injury today when a Petro employee apparently pulled a groin muscle while handling geotextile material.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

Early in September the Security Department will be implementing a new procedure at the checkpoint kiosks along the entrances to the FEMP. Each employee must hand his or her badge to the Security Officer for verification. Everyone is requested to watch for extra vehicle traffic in these areas and to observe the posted speed limits. The badge should be removed from any plastic holder before being handed to the Security Officer.

There is a need to pre-plan late activities so that the required PPE for night work is available to workers as required. On Monday Aug. 23rd late work occurred. Workers involved were not equipped with the required flashlights. As a reminder in addition to the normally required PPE,safety vests with reflective striping and flashlights are required for all workers. A minimum of 5 ft.-candles of illumination is also required at the work site.

Rad. Engineering requested that all be reminded of the need to focus on the removal of dirt and mud from the rear tailgate area of the hauling trucks before they exit the work areas.

XI. SCHEDULE BRIEFING

A. Installation of the liner penetration boxes has been delayed due to the delay in testing at Manhole #3.

B. Petro started the LCS drainage layer today. Petro plans to work on Saturday, August 28, 1999.

C. Category 3 material from the STP is to be placed in the Cell this week. The Category 5 placement scheduled for August 26, 1999 has been cancelled due to the need to dump from the west ramp.

2737

XII. QUALITY AND INSPECTION

A. Destruct samples for the geotextiles have all passed.

B. Mike Godber reminded Petro that geotextile cannot be placed in a trench until standing water is removed.

C. Desiccation cracks have been a problem. Placing bentonite in the cracks is not an approved method to fix the cracks. Use of a smooth drum roller or scarifying is acceptable.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. A vertical monitoring well will be installed on the west side of the Cell approximately near Cell 4. FDF will coordinate this installation with Petro.

B. Tony Klimek is writing a DCN to allow moving the liner penetration boxes to allow butt welding of the boxes to the pipe.

C. Dust Control – everyone must pay closer attention to dust control.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. No report.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, August 31, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: August 30, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614

SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A

SUBCONTRACTOR: Petro Environmental Technologies, Inc.

SCHEDULE DATE: 8/25/99 12:44

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	8/15	8/16	8/17	8/18	8/19	8/20	8/21	8/22	8/23	8/24	8/25	8/26	8/27	8/28	8/29	8/30	8/31	9/1	9/2	9/3	9/4	9/5	9/6	9/7	9/8	9/9	9/10	9/11
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Load Stockpiles		SCH. BAR																												
			CRAFT QTY.		7	7	7	7	7			8	8		8	8			8	8	8	8	8				8	8	8	8	
SWU	Excavate Southfields		SCH. BAR																												
			CRAFT QTY.		7	7	7	7	7			8	8		8	8			8	8	8	8	8				8	8	8	8	
OSDF	Penetration Boxes		SCH. BAR																												
			CRAFT QTY.										6	3	6	6															
OSDF	Secondary Liner System		SCH. BAR																												
			CRAFT QTY.		23	23	23	23	23	23		23	23	23	23				23	23	23	23	23								
OSDF	Place LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.									3		4	4	4	4		4	4	4										
OSDF	Primary Liner System		SCH. BAR																												
			CRAFT QTY.																								23	23	23	23	23
OSDF	Place LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.																												4
OSDF	Load & Haul EHDS		SCH. BAR																												
			CRAFT QTY.																												
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		12	12	12	12	12			12	12		12	12	8		12	12	12	12	12				12	12	12	12	
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.		9	9	9	9	9	9		12			13	13	15		13	13	9	9	9				9	9	9	9	
STP	STP Demolition		SCH. BAR																												
			CRAFT QTY.		2	2	2	2	2	2		1																			
STP	Excavate Utilities Outside STP		SCH. BAR																												
			CRAFT QTY.																		4	4	4				4	4	4	4	
STP	Excavate Lead Soils		SCH. BAR																												
			CRAFT QTY.																												
STP	OSD 007, NAR 007 & 6-in Strip		SCH. BAR																												
			CRAFT QTY.																												
STP	Excavate Additional AWAC		SCH. BAR																												
			CRAFT QTY.									11	11		11																
STP	SP-7 Mgt.		SCH. BAR																												
			CRAFT QTY.									2	2		2																

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SWU EXCAVATION/OSDF (PHASE II) PROJECT
Petro Environmental Technologies, Inc.

2737

PREPARATORY PHASE MEETING MINUTES

Date: August 16, 1999

efinable Work Feature: Installation of geotextile, HDPE liner, geosynthetic clay liner, and liner penetration xes in Cell 2.

rsonnel Present:

ll Zebick	Gregg Johnson	Michael Waller	Don Goetz	Tony Klimek	Collin Sukow
uriel Vigus	Ron Scott	Jeff Browning	Pete Bolig	Jerry Istre	Byron York
arles Van Arsdale		J. Richard Schairbaum		Kwasi Badu-Tweneboah	

view of Applicable Sections (list):

714 - Geotextiles
770 - Geomembrane Liner and Cap
772 - Geosynthetic Clay Liner and Cap
005 - Liner Penetration Boxes

view of Contract Plans: ✓ (✓)

aterial and Equipment Submittals Complete and Approved (list):

lation Layout Drawings: Doc. No. 20102-DWG-007A, Rev. 0 Action Code; A
ld Weather Deployment Seaming Methods: Doc. No. PET-058F; Rev. 0 Action Code; A
rtificates of Tensiometer Calibration: Doc. No. - Not Yet Submitted (1999))
rtificates of Calibration for Vacuum/Air Testing Gauges: Doc. No. - Not Yet Submitted (1999)

sting/Inspections/Controls Required (Describe):

)C Testing:

e CQC Consultant (GeoSyntec) shall perform conformance sampling of the geotextile, HDPE liner, and GCL in ordance with contract specifications and their approved CQA Plan. Installation of these geosynthetics shall not nmence until GeoSyntec has completed conformance testing and approved the use of these materials.

ld Testing:

HDPE liner

al seaming must be conducted at the beginning of each seaming period and at least once h five hours for each apparatus used that day prior to seaming. Additionally, each seamer shall make at least trial seam each day the seamer performs work. The trial seams are to be at lest 5-ft. long by 1-ft. wide (after ming) with the seam centered lengthwise for fusion equipment; and at least 3-ft. long by 1-ft. wide for extrusion ipment. Cut 4 specimens, each 1-in. wide from the trial seam sample -- test 2 specimens in shear and 2 in peel ng field tensiometer. All specimens must pass the test; if a specimen fails, repeat the entire operation. Should a ond trial seam fail then two consecutive trial seams must pass prior to allowing the equipment to be used.
ndestructive seam continuity testing will be conducted over the full length of the liner seams. Continuity testing be performed as the seaming work progresses, not at the completion of field seaming. Use vacuum testing for rusion welds and air pressure testing for double-track fusion seams. The vacuum testing equipment must be e to apply a vacuum of 5 ±1 psi for a period of 20 seconds.

ositive pressure testing for fusion seams will be performed at 25 to 30 pounds and is to be sustained for not less nan 5 minutes with a loss of pressure not to exceed 3 pounds. Destructive testing will be performed as well to luate the seam strength and integrity. Destructive test samples shall be collected at a minimum frequency of test location per 500-ft. average of seam length and at additional locations of suspected nonperformance. Geo-yntec will select all test locations.

Cut two strips 1-in. wide by 12-in. long with the seam centered parallel to the width from either side of the sample ocation. Test the 2 sample strips in the peel mode; GeoSyntec may request an additional test in the shear mode. If nese samples pass, prepare a laboratory sample at least 1-ft. wide by 3.5-ft. long and cut into 3 parts: 1-ft. long (In-taller), 1.5-ft. long (GeoSyntec), and 1-ft. long (FDF Construction Manager). After sample has been collected, nmediately repair all holes in the geomembrane. The continuity of the new seams in the repaired area shall then lso be tested.

Liner Penetration Boxes

fter all associated earthwork and compacted clay liner installation is complete prior to geosynthetics installation ver the boxes, each box shall be air pressure tested for 30 minutes at an air pressure of 10.8 psi. Monitor the air ressure and apply soapy solution to all welds to facilitate detection of leaks. Measured air pressure shall remain onstant over the testing period except for changes that can be explained due to material relaxation and expansion. he manufacturer may repair any leaks either in the field or in the shop. Replace any box which a leak cannot be ound and repaired.

ispections/Quality Control:

s the various rolls of geosynthetics are utilized and deployed, the QC Inspector, QA Manager, FDF QA Inspector nd/or GeoSyntec will inspect the materials for damage. Those portions of material that are determined to be dam-ged shall be removed or repaired after placement. Periodic QC inspections will also be routinely conducted to en-compliance with contract specifications and the construction tolerances and level of workmanship as discussed w. Prior to the placement of a subsequent lift of geosynthetics, the QC Inspector, QA Manager, FDF QA In-pector and/or CQC Consultant will jointly participate in the inspection and evaluation of all materials and work eing performed, as well as the results of required field testing, to ensure compliance with contract specifications. ll pertinent parties shall also conduct inspections on the liner penetration boxes as testing of the air chamber is erformed, to confirm proper installation of the boxes, and during welding of the geomembrane liner to the boxes.

ccess onto the deployed geosynthetic material will be controlled by Petro Environmental, The Installer, FDF, and eoSyntec to prevent potential damage to the geosynthetics and to avoid problems during deploy-ent/welding/sewing activities. All personnel will be required to wear soft sole, steel-toed boots without deep gs. Bottoms of shoes will be inspected for small rocks and other sharp objects prior to stepping onto the geo-nthetics to prevent potential damage. No smoking will be permitted on the geosynthetics, however, a designated noking area will be provided away from the geosynthetic area. No glass will be allowed onto the liner.

Vork Area Inspection. Required Preliminary Work Complete and Acceptable? ___✓___ Yes _____ No
No, Describe Deficiency & Corrective Action.

ll Required Materials and Equipment on Hand? _____ Yes ___✓___ No
No, Describe Deficiencies and Corrective Action.

he remaining loads of Geosynthetic Clay Liner is expected to arrive in the next two weeks.

afety Activity Hazard Analysis Reviewed: ✓ (✓) (refer to the Contractor Safe Work Plan)

ussion of Procedures for Completing Work: ✓ (✓)

See Comments)

onstruction Tolerances and Level of Workmanship:

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eotextiles:

nce unwrapped, the geotextiles will not be exposed for a period in excess of 10 calendar days.
Continuously overlap a min. of 6-in. and sew filter (7-oz.), cushion (10oz.) and supplemental cushion (16-oz.) geotextiles using a "single prayer" seam. Overlap separator geotextiles (7-oz.) a min. of 12-in. and spot sew at intervals necessary to ensure the overlap is maintained. Seams shall be along, not across slopes.
Repair any holes or tears in the geotextiles using a patch made from the same material. Extend patches a min. of 1-ft. beyond the damaged area. Sew geotextile patches into place no closer than 1-in. from any panel edge.
Install the geotextile along with the other geosynthetic layers into the anchor trenches at the crest of the slope. Backfill with compacted clay once all geosynthetic layers are installed into the trench.
To the extent possible, do not place granular drainage material for the LDS or LCS on the side slopes until after the anchor trenches are completely backfilled, unless authorized by the CM.
Do not drive directly on the geotextile. Only use equipment that has the approved ground pressure as denoted in the specifications (02714-3.05.D). Place aggregate and /or soil over the geotextile prior to trafficking.

DPE Liner:

Do not deploy geomembrane until the layout drawings are approved by the CM. Additionally, do not deploy liner in an area until the CM has been provided with a Certificate of Subgrade Acceptance for that area. Do not deploy until GeoSyntec has completed a performance evaluation of previous work, including evaluation of survey results for previous work.
Each field panel shall be given an identification code, as agreed upon between GeoSyntec and the Installer.
Place each panel one at a time and seam each panel immediately after its placement. Use temporary rubsheets to prevent displacement or damage to underlying geosynthetics.
o not place any liner during any precipitation, in the presence of heavy fog or dew, in an area of ponded water, or in the presence of high wind. Do not seam at ambient temperatures below 40° F or above 104° F.
Ensure that: No vehicular traffic is permitted directly on the liner; equipment used does not damage the liner; personnel working on the liner do not smoke or engage in any activity that would damage the liner; the method used to unroll the sheets does no scratch or crimp the liner and does not damage the underlying geosynthetics or compacted clay soil; wrinkles are minimized - adjust or repair any area of liner wrinkles where the wrinkle height during the hottest part of the day is more than 4-inches; and the liner is anchored or weighted with sandbags to prevent damage or uplift from wind.
Do not install liner between 1-hr. before sunset and 1-hr. after sunrise unless approved by the CM.
Do not perform seaming unless a "master seamer" and GeoSyntec are on-site. Orient seams parallel to the liner of max. slope. Minimize the number of seams in corners. No horizontal seam shall be less than 10-ft. from the toe of the slope. Do not locate seams at an area of potential stress concentration.
Sufficiently overlap liner panels for welding and to allow peel tests to be performed on each seam. Prior to seaming, clean the seam area to ensure the area to be bonded is free from moisture, dust, dirt, debris, etc. if seam overlap grinding is required, complete the process within 20 minutes of the seaming operation. Do not grind to a depth that exceeds 10% of the liner thickness. Grinding marks shall not appear beyond 0.25-inches of the extrudate after its placed. Align seams with the fewest possible number of wrinkles and "fishmouths".
Extend seams to the outside edge of the panels to be placed in the anchor trench.
Repair any portion of the liner exhibiting a flaw or failing test using the most appropriate method of the available procedures listed in specification section 02770-3.02.K.4.
Temporarily anchor each liner panel in the anchor trench at the crest of the slope as soon as the panel is deployed or positioned. Do not entrap soil, sandbags, etc. between the geosynthetic layers.
o not drive equipment directly on the geomembrane liner except that which has the appropriate ground pressure requirements per specification section 02770-3.04.B.

Install the geomembrane liner penetration boxes and connect the liner to penetrating pipes and boxes per Section 13005. Take extreme care while seaming around appurtenances to minimize the possibility where nondestructive nor destructive testing may be performed.

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osynthetic Clay Liner (GCL):

Prior to installation of the GCL, provide a Certification of Acceptance to the CM for the surface upon which the GCL is to be placed. The surface shall be relatively smooth, firm and not containing ruts greater than 1-inch, not be desiccated, and be free of stones, rocks, etc. which could damage the GCL.

Do not placed the GCL onto an area that has been softened by precipitation or that has cracked due to desiccation.

Excavate the anchor trench prior to GCL placement. The anchor trench beneath the GCL shall be firm, clean and dry. Temporarily anchor the GCL in the anchor trench until all geosynthetic layers are installed in the trench.

Do not initiate placement of the GCL until GeoSyntec completes their performance evaluation of the survey results for previous work. Weight the GCL with sandbags to prevent uplift or movement in the wind. Do not entrap stones or other foreign objects under the GCL.

Cut the GCL using a utility blade. Do not drag equipment across the exposed GCL.

Do not install GCL on a wet subgrade or in standing water. Prevent hydration of the bentonite core prior to completion of the construction of the liner system as appropriate. Do not install the GCL during precipitation or other conditions that may cause hydration of the bentonite.

Install the overlying HDPE liner as soon as possible following GCL installation. cover all GCL that is placed during a work day with liner. Cover and protect the edges of GCL from hydration due to stormwater run-on. Remove and replaced GCL that becomes hydrated (defined by a moisture content of 40% or greater per ASTM 4643).

Place earthen material for the liner system on top of the geomembrane and other geosynthetics overlying the GCL as soon after installation of the GCL as possible.

On slopes steeper than 5H:1V, install GCL continuously down the slope. Allow no horizontal seams on the base of the landfill within 5-ft. of the toe of a slope. Overlap the GCL a minimum of 6-in. along the sides and 24-in. along the ends.

Do not drive equipment directly on the GCL unless approved in writing by the CM. Smoking is absolutely prohibited.

Repair any holes or tears in the GCL by placing a GCL patch over the holes. On slopes greater than 5%, the patch shall overlap the edges of the hole or tear by a min. of 2-ft. in all directions. On slopes less than 5%, the patch shall overlap the edges of the hole or tear by a min. of 1-ft. in all directions. Secure the patch with a water-based adhesive approved by the manufacturer.

Powdered or granular bentonite, as provided by the manufacturer, shall be placed between the overlapped edges of the GCL at a rate recommended by the manufacturer of the GCL.

ner Penetration Boxes:

Excavate the subgrade, compacted fill, and compacted clay liner to the line and grades required for placement of the liner penetration boxes. Hand grade the compacted clay liner surface on which the box is to be installed. Make surface smooth to obtain close contact between compacted clay liner and the liner penetration boxes. Re-compact and re-grade if poor contact occurs between the bottom of the box and compacted clay liner surface.

Apply bentonite granules at a rate of 1 lb/ft^2 to the compacted clay liners over the footprint of the box.

Weld the liner penetration box to the section of the LCS, redundant LCS or LDS pipe using an electrofusion coupling. Backfill around the liner penetration boxes using soil-bentonite mixture and compact. Fill any interface between the compacted clay and liner penetration box with bentonite granules.

Air pressure test the liner penetration boxes. Fill the chamber of each liner penetration box with bentonite granules following the successful completion of the air pressure test. Install GCL over each liner penetration box as soon as air pressure testing, surveying, and bentonite filling are complete.

After completion of the air test, seal test openings with HDPE extrudate. Survey the locations and elevation of the liner penetration boxes prior to covering with GCL.

omments During Preparatory Phase Meeting (DOE/FDF/GeoSyntec):

Parties discussed the panel lay out for the secondary liner system, and where the first panels will be placed.

pplicable Pre-Work Plans Accepted by FDF: ✓ Yes ____ No

No, Is An Interim Plan Being Utilized?: _____ Yes _____ No

Brian ~~Erisman~~, QC Representative
Petro Environmental Technologies, Inc.

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: August 17, 1999

MEETING NUMBER: 48
MN:SWP(OSDF):99-0044

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: August 18, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

Kwasi Badu-Tweneboah MS38
+ # Linda Barlow MS 52-7
+ Jennifer Blankemeyer MS 52-0
+ # Pete Bolig - Petro
+ Charlie Brown MS 60
#Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
Tom Crawford MS 52-0
+ Alex Duarte MS 52-0
Mary Eleton MS 60
+ Corey Fabricante MS 52-0
Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
+ # Mike Godber MS 64
# Don Goetz MS 64
Debra Grant MS 52-0
Kevin Harbin MS 64
Matt Harper MS 64
+ Alan Hohnhorst MS 60
# Rick Holbrook MS 64
+ # Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Greg Kephart MS 52-3
Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
Mark Mather – Petro
+ Lee McDaniel MS 60
+ Rick McGuire MS 60
# Jeff Middaugh MS 64
Chris Neumann MS 60
Brenda Perkins MS 67
Don Pfister MS 45
Carlos Pratt MS 64
+ Ira Rogers - Petro
Perry Richardson MS52-8
+ Mike Rolfes MS 60
+ David Russell - MS 52-0
Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
Sharon Spears - MS 52-5
Dan Stempfley MS 64
Mike Stumbo - Petro
Collin Sukow MS38
Vern Taylor MS 52-0
+ # Christa Walls MS52-8
+ # Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+ # Dave Williams - Petro
Fred Wilson MS 60
Chuck Van Arsdale MS 64
Mike Van Swol MS 66
Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Safe work practices are contagious – people learn by example.

Value Creation Topic – Make your meetings and written communication brief and to the point.

Balance Topic – Now would be a good time to reassess your New Year's resolutions and goals.

SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the August 10, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. Items that were identified during the walkdown last week were corrected right away.

D. Last week a Petro operator tracked too closely to sampling personnel, which violated a Petro procedure relative to safety. Following these procedures is very important, and not following the procedures has severe consequences.

E. FDF is performing a root cause analysis on the August 5, 1999 Lock & Tag incident.

F. Corey Fabricante noted that the clean loading method implemented at the STP is working well and has mostly eliminated mud that was a problem.

G. Petro is already addressing the NCR's pertaining to fire extinguishers and smoking in non-designated areas. FDF delivered a letter to Dave Williams outlining the schedule that Petro must meet to implement the corrective actions.

III. SCHEDULE BRIEFING

SWU

A. Petro is continuing to excavate, segregate and load out the South Field Stockpile and they began excavating the South Field this week. Petro anticipates approximately 2 ½ weeks of excavation, loading and hauling to complete the South Field Stockpile.

Sewage Treatment Plant Excavation

B. Petro will finish the demolition of the concrete structures this week. Petro continues to excavate pipe within the controlled area.

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C. Petro's target is to load and haul 70 loads per day from the STP to the Cell. Petro will be working the next two Saturdays (August 21 and August 28) excavating at the STP and hauling to the Cell.

D. Petro will excavate F-listed waste August 21, 1999. On August 23, 1999 Petro will haul the AWAC soil that is currently stockpiled. On August 30, 1999 Petro will begin utility excavation outside the immediate STP excavation area.

IV. QUALITY AND INSPECTION

A. Mary Eleton is continuing surveillance on electrical issues at the STP and new trailer complex. Test reports from meggering of the cable have not been submitted. Petro will coordinate with their electrical subcontractor to provide those reports.

V. DESIGN AND CONSTRUCTION ISSUES

A. FDF and Petro are to address excavation and placement issues pertaining to transite conduit encased in concrete at the STP.

B. The MHF containers were relocated to the NE corner of Petro's old trailer and laydown area.

C. The preliminary as-builts for the Site Preparation portion of the work should be returned to Petro by FDF by August 19, 1999.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. Several modifications have been issued recently. FDF and Petro will meet on the invoice and STP ramp issues after this meting.

B. Petro received survey data on NAR-007, which indicates that the scheduled soil quantity was exceeded by approximately 400 CY. It appears that the scheduled Category 2 quantities have also been exceeded.

VIII. GENERAL

A. No report.

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Gregg Johnson had the following report.

A. There were no occupational injuries since the August 10, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

FDF Safety has been inspecting the liner installation equipment as it arrives on-site. Gregg Johnson noted that the advance notice given by Petro of the arrival of this equipment is greatly appreciated.

D. Pete Bolig noted that relative to the NCR's on fire extinguishers and smoking issues, it is Petro's intent to have all fire extinguishers in place by August 20, 1999 and that Petro is actively addressing the smoking issues and areas.

E. Dan Stempfley noted that air samples continue to be well below action levels. Dan also noted that FDF Public Relations has been asked to issue a reminder to on-site personnel that the Impacted Material Haul Road is back in service.

F. Dan Stempfley pointed out that Petro needs to be proactive relative to adjustments to the wheel washes in order to keep material from being tracked onto the IMHR. Dan also pointed out that cleaning the road after material has been tracked onto it is not an acceptable alternative to preventing it in the first place.

G. Dan Stempfley reminded everyone that all personnel must notify their supervisor prior to entering a controlled area if they have received radio-pharmaceuticals. This is required regardless of the type they believe they have received and it may require them to report to FDF Medical.

H. Pete Bolig noted that with liner installation beginning there are a lot more people in the Cell 3 work area. He also noted that for safety reasons and in order to prevent damage to the liner, people who are not required to be in the area should observe from outside the area.

XI. SCHEDULE BRIEFING

A. Moody's of Dayton will mobilize to drill an additional construction well on August 23, 1999. Well construction and development will take three to four weeks. The well will be located roughly north-northwest of the existing construction water well. There will be a kick-off meeting in T-183 at 7:00 AM on that date. Moody's plans to begin installation of the horizontal monitoring wells at Cell 4 on August 19, 1999.

B. Petro plans to complete the penetration box installation on August 20, 1999. Liner installation is scheduled all week including Saturday, August 21, 1999. Work hours are anticipated to be from 7:00 AM to approximately 7:30 PM.

C. Petro opened up the drainage corridor along the east side between Cells 1 and 2. This allows Cell 1 to be fully opened for placement and it allows placement of material into the Cell 1 Catchment Area. Petro has been placing material in the Cell 1 Catchment Area.

D. Petro hauled over 200 loads of material into the Cells on August 16, 1999.

XII. QUALITY AND INSPECTION

A. Petro needs to submit sieve analysis and certification data for the current sources of #57 stone.

B. Waste Management inspected twelve ISO's containing Category 5 material and they accepted ten of them. They will be staged in the OMTA.

C. FDF Engineering is reviewing the liner personnel resumes.

D. Petro is to submit the calibration certifications on pressure and vacuum gauges for liner installation.

E. Petro has not yet submitted the material certifications on the HDPE flat stock and pipe for the liner penetration boxes

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Petro is continuing to modify the wheel washes to ensure that the trucks are being cleaned properly.

B. Petro received roll-off beds for the roll-off box trucks. This will allow Petro to utilize the roll-off box trucks to haul Category 1 material when not being used to haul roll-off boxes.

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C. Category 2 deliveries from Waste Management seem to be keeping pace with placement. Mike VanSwol noted that Waste Management will be getting another shear on August 18, 1999. This should increase the supply of roll-off boxes.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. Petro and FDF have resolved the backcharge on damaged roll-off box tarps.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, August 24, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: August 18, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 8-17-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	8/8	8/9	8/10	8/11	8/12	8/13	8/14	8/15	8/16	8/17	8/18	8/19	8/20	8/21	8/22	8/23	8/24	8/25	8/26	8/27	8/28	8/29	8/30	8/31	9/1	9/2	9/3	9/4
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Load Stockpiles		SCH. BAR																												
			CRAFT QTY.		14	14	14	14	14			7	7	7	7	7			7	7	7	7	7			7	7	7			
SWU	Excavate Southfields		SCH. BAR																												
			CRAFT QTY.									7	7	7	7	7			7	7	7	7	7			7	7	7	14	14	
OSDF	Unload & Stage Geosynthetics		SCH. BAR																												
			CRAFT QTY.		3	3	3	3	3																						
OSDF	Penetration Boxes		SCH. BAR																												
			CRAFT QTY.			3	5	5	3							3															
OSDF	Secondary Liner System		SCH. BAR																												
			CRAFT QTY.									13	23	23	23	23	23		23	23	23										
OSDF	Place LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.																5	5	5	5	5	5		5					
OSDF	Primary Liner System		SCH. BAR																												
			CRAFT QTY.																			23	23	23		23	23	23	23	23	
OSDF	Place LCS/LDS Stone		SCH. BAR																												
			CRAFT QTY.																								5	5	5	5	
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		12	12	12	12	12			12	12	12	12	12	7		12	12	12	12	12			12	12	12	12	12	
STP	Transfer Line Pumps/Controls		SCH. BAR																												
			CRAFT QTY.				3	3	3					2	2																
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.		12	12	12	12	12	7		12	12	12	12	12	12		12	12	12	12	12	12		12	12	12	12	12	
STP	STP Demolition		SCH. BAR																												
			CRAFT QTY.		12	12	2	2	2	2		2	2	2	2	2															
STP	Excavate Additional AWAC		SCH. BAR																												
			CRAFT QTY.																12												
STP	SP-7 Mgt.		SCH. BAR																												
			CRAFT QTY.																2												
STP	Excavate Utilities (Outside)		SCH. BAR																												
			CRAFT QTY.																							6	6	6	6	6	

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KBT
8/16/99

SWU EXCAVATION/OSDF (PHASE II) PROJECT
Petro Environmental Technologies, Inc.

2737

PREPARATORY PHASE MEETING MINUTES

Date: August 16, 1999

inable Work Feature: Installation of geotextile, HDPE liner, geosynthetic clay liner, and liner penetration es in Cell 2.

sonnel Present:

view of Applicable Sections (list):

'14 - Geotextiles
'70 - Geomembrane Liner and Cap
'72 - Geosynthetic Clay Liner and Cap
)05 - Liner Penetration Boxes

view of Contract Plans: ✓ (✓)

terial and Equipment Submittals Complete and Approved (list):

tallation Layout Drawings: Doc. No. 20102-DWG-007A, Rev. 0 Action Code; A
ld Weather Deployment Seaming Methods: Doc. No. PET-058F; Rev. 0 Action Code; A
tificates of Tensiometer Calibration: Doc. No. - Not Yet Submitted (1999))
ificates of Calibration for Vacuum/Air Testing Gauges: Doc. No. - Not Yet Submitted (1999)

sting/Inspections/Controls Required (Describe):

C Testing:

e CQC Consultant (GeoSyntec) shall perform conformance sampling of the geotextile, HDPE liner, and GCL in ordance with contract specifications and their approved CQA Plan. Installation of these geosynthetics shall not nmence until GeoSyntec has completed conformance testing and approved the use of these materials.

ld Testing:

HDPE liner
al seaming must be conducted at the beginning of each seaming period and at least once h five hours for each apparatus used that day prior to seaming. Additionally, each seamer shall make at least e trial seam each day the seamer performs work. The trial seams are to be at lest 5-ft. long by 1-ft. wide (after ming) with the seam centered lengthwise for fusion equipment; and at least 3-ft. long by 1-ft. wide for extrusion ipment. Cut 4 specimens, each 1-in. wide from the trial seam sample -- test 2 specimens in shear and 2 in peel ng field tensiometer. All specimens must pass the test; if a specimen fails, repeat the entire operation. Should a cond trial seam fail then two consecutive trial seams must pass prior to allowing the equipment to be used.
ndestructive seam continuity testing will be conducted over the full length of the liner seams. Continuity testing o be performed as the seaming work progresses, not at the completion of field seaming. Use vacuum testing for rusion welds and air pressure testing for double-track fusion seams. The vacuum testing equipment must be e to apply a vacuum of 5 ±1 psi for a period of 20 seconds. Positive pressure testing for fusion seams will be formed at 25 to 30 pounds and is to be sustained for not less than 5 minuets with a loss of pressure not to exceed unds. Destructive testing will be performed as well to evaluate the seam strength and integrity. Destructive t samples shall be collected at a minimum frequency of one test location per 500-ft average of seam length and additional locations of suspected nonperformance. GeoSyntec will select all test locations.

ut two strips 1-in. wide by 12-in. long with the seam centered parallel to the width from either side of the sample ocation. Test the 2 sample strips in the peel mode; GeoSyntec may request an additional test in the shear mode. If ese samples pass, prepare a laboratory sample at least 1-ft. wide by 3.5-ft. long and cut into 3 parts: 1-ft. long (In-er), 1.5-ft. long (GeoSyntec), and 1-ft. long (FDF Construction Manager). After sample has been collected, nmediately repair all holes in the geomembrane. The continuity of the new seams in the repaired area shall then so be tested.

Liner Penetration Boxes

fter all associated earthwork and compacted clay liner installation is complete prior to geosynthetics installation ver the boxes, each box shall be air pressure tested for 30 minutes at an air pressure of 10.8 psi. Monitor the air essure and apply soapy solution to all welds to facilitate detection of leaks. Measured air pressure shall remain nstant over the testing period except for changes that can be explained due to material relaxation and expansion. he manufacturer may repair any leaks either in the field or in the shop. Replace any box which a leak cannot be und and repaired.

spections/Quality Control:

Brian Rick

s the various rolls of geosynthetics are utilized and deployed, the QC Inspector, QA Manager, FDF QA Inspector d/or GeoSyntec will inspect the materials for damage. Those portions of material that are determined to be dam-ed shall be removed or repaired after placement. Periodic QC inspections will also be routinely conducted to en-re compliance with contract specifications and the construction tolerances and level of workmanship as discussed low. Prior to the placement of a subsequent lift of geosynthetics, the QC Inspector, QA Manager, FDF QA In-ector and/or CQC Consultant will jointly participate in the inspection and evaluation of all materials and work ing performed, as well as the results of required field testing, to ensure compliance with contract specifications. l pertinent parties shall also conduct inspections on the liner penetration boxes as testing of the air chamber is rmed, to confirm proper installation of the boxes, and during welding of the geomembrane liner to the boxes.

cess onto the deployed geosynthetic material will be controlled by Petro Environmental, The Installer, FDF, and oSyntec to prevent potential damage to the geosynthetics and to avoid problems during deploy-ent/welding/sewing activities. All personnel will be required to wear soft sole, steel-toed boots without deep s. Bottoms of shoes will be inspected for small rocks and other sharp objects prior to stepping onto the geo-nthetics to prevent potential damage. No smoking will be permitted on the geosynthetics, however, a designated oking area will be provided away from the geosynthetic area. No glass will be allowed onto the liner.

ork Area Inspection. Required Preliminary Work Complete and Acceptable? ___✓___ Yes _____ No
No, Describe Deficiency & Corrective Action.

l Required Materials and Equipment on Hand? _____ Yes ___✓___ No
No, Describe Deficiencies and Corrective Action.

e remaining loads of Geosynthetic Clay Liner is expected to arrive in the next two weeks.

fety Activity Hazard Analysis Reviewed: ✓ (✓) (refer to the Contractor Safe Work Plan)

scussion of Procedures for Completing Work: ✓ (✓)

onstruction Tolerances and Level of Workmanship: -- 2737

eotextiles:

Once unwrapped, the geotextiles will not be exposed for a period in excess of 10 calendar days.
Continuously overlap a min. of 6-in. and sew filter (7-oz.), cushion (10oz.) and ~~supplemental cushion~~ (16-oz.) geotextiles using a "single prayer" seam. Overlap separator geotextiles (7-oz.) a min. of 12-in. and spot sew at intervals necessary to ensure the overlap is maintained. Seams shall be along, not across slopes.
Repair any holes or tears in the geotextiles using a patch made from the same material. Extend patches a min. of 1-ft. beyond the damaged area. Sew geotextile patches into place no closer than 1-in. from any panel edge.
Install the geotextile along with the other geosynthetic layers into the anchor trenches at the crest of the slope. Backfill with compacted clay once all geosynthetic layers are installed into the trench.
To the extent possible, do not place granular drainage material for the LDS or LCS on the side slopes until after the anchor trenches are completely backfilled, unless authorized by the CM.
Do not drive directly on the geotextile. Only use equipment that has the approved ground pressure as denoted in the specifications (02714-3.05.D). Place aggregate and /or soil over the geotextile prior to trafficking.

DPE Liner: SMOOTH - FOR TRIAL SEAM. TO SMOOTH AND | TEXTURED TO TEXTURED

Do not deploy geomembrane until the layout drawings are approved by the CM. Additionally, do not deploy liner in an area until the CM has been provided with a Certificate of Subgrade Acceptance for that area. Do not deploy until GeoSyntec has completed a performance evaluation of previous work, including evaluation of survey results for previous work.
Each field panel shall be given an identification code, as agreed upon between GeoSyntec and the Installer.
Place each panel one at a time and seam each panel immediately after its placement. Use temporary rubsheets to prevent displacement or damage to underlying geosynthetics.
Do not place any liner during any precipitation, in the presence of heavy fog or dew, in an area of ponded water, or in the presence of high wind. Do not seam at ambient temperatures below 40° F or above 104° F.
Ensure that: No vehicular traffic is permitted directly on the liner; equipment used does not damage the liner; personnel working on the liner do not smoke or engage in any activity that would damage the liner; the method used to unroll the sheets does no scratch or crimp the liner and does not damage the underlying geosynthetics or compacted clay soil; wrinkles are minimized - adjust or repair any area of liner wrinkles where the wrinkle height during the hottest part of the day is more than 4-inches; and the liner is anchored or weighted with sandbags to prevent damage or uplift from wind.
Do not install liner between 1-hr. before sunset and 1-hr. after sunrise unless approved by the CM.
Do not perform seaming unless a "master seamer" and GeoSyntec are on-site. Orient seams parallel to the liner of max. slope. Minimize the number of seams in corners. No horizontal seam shall be less than 10-ft. from the toe of the slope. Do not locate seams at an area of potential stress concentration.
Sufficiently overlap liner panels for welding and to allow peel tests to be performed on each seam. Prior to seaming, clean the seam area to ensure the area to be bonded is free from moisture, dust, dirt, debris, etc. if seam overlap grinding is required, complete the process within 20 minutes of the seaming operation. Do not grind to a depth that exceeds 10% of the liner thickness. Grinding marks shall not appear beyond 0.25-inches of the extrudate after its placed. Align seams with the fewest possible number of wrinkles and "fishmouths".
Extend seams to the outside edge of the panels to be placed in the anchor trench.
Repair any portion of the liner exhibiting a flaw or failing test using the most appropriate method of the available procedures listed in specification section 02770-3.02.K.4.
Temporarily anchor each liner panel in the anchor trench at the crest of the slope as soon as the panel is deployed or positioned. Do not entrap soil, sandbags, etc. between the geosynthetic layers.
Do not drive equipment directly on the geomembrane liner except that which has the appropriate ground pressure requirements per specification section 02770-3.04.B.

Install the geomembrane liner penetration boxes and connect the liner to penetrating pipes and boxes per Section 13005. Take extreme care while seaming around appurtenances to minimize the possibility where nondestructive nor destructive testing may be performed.

eosynthetic Clay Liner (GCL):

Prior to installation of the GCL, provide a Certification of Acceptance to the CM for the surface upon which the GCL is to be placed. The surface shall be relatively smooth, firm and not containing ruts greater than 1-inch, not be desiccated, and be free of stones, rocks, etc. which could damage the GCL.

Do not placed the GCL onto an area that has been softened by precipitation or that has cracked due to desiccation.

Excavate the anchor trench prior to GCL placement. The anchor trench beneath the GCL shall be firm, clean and dry. Temporarily anchor the GCL in the anchor trench until all geosynthetic layers are installed in the trench.

Do not initiate placement of the GCL until GeoSyntec completes their performance evaluation of the survey results for previous work. Weight the GCL with sandbags to prevent uplift or movement in the wind. Do not entrap stones or other foreign objects under the GCL.

Cut the GCL using a utility blade. Do not drag equipment across the exposed GCL.

Do not install GCL on a wet subgrade or in standing water. Prevent hydration of the bentonite core prior to completion of the construction of the liner system as appropriate. Do not install the GCL during precipitation or other conditions that may cause hydration of the bentonite.

Install the overlying HDPE liner as soon as possible following GCL installation. cover all GCL that is placed during a work day with liner. Cover and protect the edges of GCL from hydration due to stormwater run-on. Remove and replaced GCL that becomes hydrated (defined by a moisture content of 40% or greater per ASTM 4643).

lace earthen material for the liner system on top of the geomembrane and other geosynthetics overlying the GCL as soon after installation of the GCL as possible.

On slopes steeper than 5H:1V, install GCL continuously down the slope. Allow no horizontal seams on the base of the landfill within 5-ft. of the toe of a slope. Overlap the GCL a minimum of 6-in. along the sides and 12-in. along the ends.

Do not drive equipment directly on the GCL unless approved in writing by the CM. Smoking is absolutely prohibited.

Repair any holes or tears in the GCL by placing a GCL patch over the holes. On slopes greater than 5%, the patch shall overlap the edges of the hole or tear by a min. of 2-ft. in all directions. On slopes less than 5%, the patch shall overlap the edges of the hole or tear by a min. of 1-ft. in all directions. Secure the patch with a water-based adhesive approved by the manufacturer.

Powdered or granular bentonite, as provided by the manufacturer, shall be placed between the overlapped edges of the GCL at a rate recommended by the manufacturer of the GCL.

ner Penetration Boxes:

Excavate the subgrade, compacted fill, and compacted clay liner to the line and grades required for placement of the liner penetration boxes. Hand grade the compacted clay liner surface on which the box is to be installed. Make surface smooth to obtain close contact between compacted clay liner and the liner penetration boxes. Re-compact and re-grade if poor contact occurs between the bottom of the box and compacted clay liner surface.

Apply bentonite granules at a rate of 1 lb/ft^2 to the compacted clay liners over the footprint of the box.

Weld the liner penetration box to the section of the LCS, redundant LCS or LDS pipe using an electrofusion coupling. Backfill around the liner penetration boxes using soil-bentonite mixture and compact. fill any interface between the compacted clay and liner penetration box with bentonite granules.

Air pressure test the liner penetration boxes. Fill the chamber of each liner penetration box with bentonite granules following the successful completion of the air pressure test. Install GCL over each liner penetration box as soon as air pressure testing, surveying, and bentonite filling are complete.

After completion of the air test, seal test openings with HDPE extrudate. Survey the locations and elevation of the liner penetration boxes prior to covering with GCL.

omments During Preparatory Phase Meeting (DOE/FDF/GeoSyntec):

plicable Pre-Work Plans Accepted by FDF: ✓ Yes ____ No

No, Is An Interim Plan Being Utilized?: _____ Yes _____ No

Brian Erisman, QC Representative
Petro Environmental Technologies, Inc.

2737

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: August 10, 1999

MEETING NUMBER: 47
MN:SWP(OSDF):99-0043

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: August 16, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

Kwasi Badu-Tweneboah MS38
Linda Barlow MS 52-7
+ Jennifer Blankemeyer MS 52-0
+ # Pete Bolig - Petro
Charlie Brown MS 60
#Jim Burnett MS 38
Dennis Carr MS 52-2
+ Tom Carr MS 60
+ John Centers MS 52-8
+ J.D. Chiou MS 52-0
+ Tom Crawford MS 52-0
+ Deanna Diallo MS 52-0
+ Alex Duarte MS 52-0
+ Mary Eleton MS 60
+ #Corey Fabricante MS 52-0
Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
+ # Mike Godber MS 64
Don Goetz MS 64
+ Debra Grant MS 52-0
+ # Kevin Harbin MS 64
Matt Harper MS 64
+ Alan Hohnhorst MS 60
Rick Holbrook MS 64
+ # Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
+ # Gregg Johnson MS 64
Greg Kephart MS 52-3
Tony Klimek - MS 64
Uday Kumthekar MS 64
+ Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
+ # Mark Mather – Petro
+ # Lee McDaniel MS 60
+ Rick McGuire MS 60
# Jeff Middaugh MS 64
Chris Neumann MS 60
Brenda Perkins MS 67
+ # Don Pfister MS 45
Carlos Pratt MS 64
+ # Ira Rogers - Petro
#Perry Richardson MS52-8
Mike Rolfes MS 60
David Russell - MS 52-0
+ # Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
+ Sharon Spears - MS 52-5
# Dan Stempfley MS 64
# Mike Stumbo - Petro
# Collin Sukow MS38
Vern Taylor MS 52-0
+ Christa Walls MS52-8
# Lou Wehlitz MS 64
+ Lewis Wiedeman MS 60
+ # Dave Williams - Petro
Fred Wilson MS 60
Chuck Van Arsdale MS 64
Mike Van Swol MS 66
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Be cautious of animals crossing the North Entrance Road. Automobiles have struck several animals in the past few weeks on that road.

Value Creation Topic – Make sure that your customers have the required information before you ask them to complete a task.

Balance Topic – Don't take for granted the emergency services that are available on site.

SOUTHERN WASTE UNITS

-- 2737

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

It was noted that Petro had qualified for the Safety Incentive Program by performing work over the most recent reporting period without any recordable injuries. FDF Construction Management has provided the proper approvals to FDF Procurement to permit the appropriate compensation to Petro field personnel. Petro is to be commended for achieving this.

A. No occupational injuries since the August 3, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. Items that were identified during the walkdown last Thursday were taken care of right away.

D. The FDF Corporate Safety Assessment started yesterday, August 9, 1999.

E. A recent fire protection assessment identified smoking in unapproved areas and issues related to fire extinguishers as problems.

F. IT intends to use the Impacted Material Haul Rd. for a short period of time to haul impacted material from HRD-002.

G. The DOE 835 Radiological Practices Audit has been postponed until the week of September 13, 1999.

H. There was an Off-normal occurrence at the STP August 5 and 6, 1999 pertaining to failure to follow the energy isolation plan. A critique was held and a corrective action plan put together.

I. There is a walkdown on Rad Controls August 11, 1999 in the morning.

III. SCHEDULE BRIEFING

SWU

A. Petro continues to excavate, segregate and load out the South Field Stockpile.

Sewage Treatment Plant Excavation

B. Petro completed the AWAC soil excavation at the sludge drying bed. The lab results will not be back until Friday, August 13, 1999.

C. Petro completed the fence demolition and started demolition of the sedimentation tank. Petro is loading Category 2 material from the STP this week and excavating to elevation 591'.

IV. QUALITY AND INSPECTION

A. Mike Godber and Mary Eleton will be performing a surveillance at the STP on electrical issues.

B. NCR's pertaining to training and seeding remain open. Two NCR's on housekeeping will be closed tomorrow.

V. DESIGN AND CONSTRUCTION ISSUES

A. FDF and Petro are finalizing negotiations on placing of the bags of thorium that are currently at the SWU.

B. FDF is preparing alternatives for placing transite that is discovered during excavation.

C. Petro is to submit an asbestos abatement plan as required, on August 11, 1999.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. Working on outstanding change orders. FDF needs corrected A1P2 proposal.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY 2737

Jeff Middaugh had the following report.

A. There were no occupational injuries since the August 3, 1999 meeting. Safety was involved in the initial discovery of the Lock and Tag incident at the STP.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

The Fluor Daniel Corporate Safety Assessment started this week and will be ongoing.

Sunrise and sunset times are changing. All are reminded of the requirement for auxiliary lighting and personnel flashlight requirements for work during dark time periods. Examples are refueling operations and pedestrian foot traffic before sunrise.

Reminder, lift plans for liner materials should be updated as required to reflect the equipment to be utilized.

Reminder, an adequate number of crossing points over the anchor trenches should be provided to prevent stepping/jumping across the trenches. If possible, FDF Safety would like to inspect the incoming liner equipment this week. Due to vacation next week we will not have a full staff.

Due to no recordable injuries during the recent reporting period the paperwork has been approved for the Safety Incentive Award Program for Petro.

Seatbelt lack of use, lack of proper PPE, and smoking issues continue to be observed during oversight of field activities. Observations involving the lack of seatbelts increased in frequency during the past week.

The 800mHz site radio and charger were returned to T-545.

"Hearing PPE required" signs were installed at the generators at LCS MH# 1 area where DeBra is currently fusing piping for Cell 3.

D. It is not acceptable for personnel to duck under ropes or climb over fences. Established gates must be used.

E. Perimeter Environmental monitoring has increased relative to last year. Amounts detected are still well below Radiological Occupational limits, but the agencies

continue to closely watch these trends. Dust control continues to be extremely important.

XI. SCHEDULE BRIEFING

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A. Petro completed the clay liner. The survey information for final certification will be to GeoSyntec August 11, 1999 in the morning. GeoSyntec expects to have the final certification letter by August 12, 1999.

B. Installation of the liner penetration boxes began today and should be completed by August 13, 1999.

C. Petro's liner subcontractor is mobilizing August 11, 1999. Deployment of the secondary liner is planned to begin on August 16, 1999.

D. Petro will begin receiving #57 stone in the next week or two. Petro will advise FDF in advance.

E. The stone for the OMTA expansion should be complete August 11, 1999. The fence should be installed by August 17, 1999.

F. Petro placed 26 ROB's yesterday. This Thursday and Friday, Petro will be placing Category 5 and Category 2 from the STP and SWU. Petro will also be loading and hauling the East and West Impacted Debris piles.

XII. QUALITY AND INSPECTION

A. Submittals for the GeoSynthetics are in review. Resumes for liner installers are also being reviewed. Petro will submit calibrations as they are received.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Petro will change their work hours to 7:00 AM to 5:30 PM beginning August 16, 1999.

B. In the new OSDF trailer complex, PPE is not required to access the area. Beyond the perimeter, PPE is required.

C. Rick Schairbaum noted that daily reporting and submittals might be delayed over the next 7 – 10 days due to the relocation of Petro's office trailer and computers.

D. Petro would like to receive the remaining 54 rolls of GCL this week.

E. Changes to the IMPP were in a report to EPA last week. FDF will meet with EPA on August 17, 1999 and discuss.

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XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. Petro requested the documentation for the damaged tarps that have been backcharged to Petro.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, August 17, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: August 16, 1999

BAS:bas
Attachments: Four Week Schedule

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SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 8-10-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	8/1	8/2	8/3	8/4	8/5	8/6	8/7	8/8	8/9	8/10	8/11	8/12	8/13	8/14	8/15	8/16	8/17	8/18	8/19	8/20	8/21	8/22	8/23	8/24	8/25	8/26	8/27	8/28
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Load Stockpiles		SCH BAR																												
			CRAFT QTY		14	14	14	14	14			14	14	14	14	14			14	14	14	14	14			14	14	14			
SWU	Excavate Southfields		SCH BAR																												
			CRAFT QTY.																												
OSDF	Unload & Stage Geosynthetics		SCH BAR																												
			CRAFT QTY		3	3	3	3	3			3	3	3	3	3													14	14	
OSDF	Clay Liner Construction		SCH BAR																												
			CRAFT QTY		13	13	10	10	5	5																					
OSDF	Penetration Boxes		SCH BAR																												
			CRAFT QTY																												
OSDF	Secondary Liner System		SCH BAR										3	5	5	3															
			CRAFT QTY.																												
OSDF	Load & Haul EHDS		SCH BAR																13	23	23	23	23			23	23	23	23	23	
			CRAFT QTY																												
OSDF	Cell 1 & Cell 2 Placement		SCH BAR																							5	5	5	5	5	
			CRAFT QTY		12	12	12	12	12			12	12	12	12	12			12	12	12	12	12			12	12	12	12	12	
STP	Transfer Line Pumps/Controls		SCH BAR																												
			CRAFT QTY.					3	3					3	3	3															
STP	Deep Excavation		SCH BAR																												
			CRAFT QTY		5	9	9					12	12	12	12	12			12	12	12	12	12			12	12	12	12	12	
STP	STP Demolition		SCH BAR																												
			CRAFT QTY		2	2	2					12	12	2	2	2			2	2	2	2	2								
STP	OSD 007, NAR 007 & 6-in Strip		SCH BAR																												
			CRAFT QTY		5				1			1				1															
STP	Excavate Additional AWAC		SCH BAR																												
			CRAFT QTY					9	9																						
STP	SP-7 Mgt.		SCH BAR																												
			CRAFT QTY					2	2																						

SWU EXCAVATION/OSDF (PHASE II) PROJECT
Petro Environmental Technologies, Inc.

-- 2737

INITIAL PHASE MEETING MINUTES

Date: 6 August. 1999

)efinable Work Feature: Construction of the compacted clay liner

'ersonnel Present:

)on Goetz Collin Sukow Jeff Browning Kwasi Badu-Tweneboah
3rian Erisman

Review of Preparatory Phase Meeting Minutes: _____ (✓)

'reliminary Work Being Performed (Describe):

ll submittals must be given to FDF and approved; the clay liner material sources must be identified at least 15 alendar days prior to use for conformance testing by GeoSyntec and the material deemed acceptable for use; and ıe subgrade must be surveyed and certified by GeoSyntec prior to placing the first lift of clay.

'reliminary Work in Compliance with Contract Requirements: ____✓____ Yes _____ No
f No, Corrective Action Taken:

terials Being Installed (List with Submittal Number and Action Code):

ıst of Equipment/Methods: (Earthwork Work Plan) Doc. No.: 614-OPTA-021, Rev. 2; Action Code: A
pec. Sheet of Bentonite: Doc. No. PET-030A, Rev. 0; Action Code: A
lb. Sample of Bentonite: Doc. No.: PET-030B, Rev. 0; Action Code: A

quipment Utilized in Executing Work (List):

ırticulated Dump Trucks Cat 825B Compactor Hamm Raco Stabilizer Cat D-6 Dozers
omag 213 Smooth Drum Roller Cat 613 Water Wagon Volvo120 Loader
aser Grading System

ny Deviations From the Previously Approved Submittal(s)?: _____Yes _____ No
f Yes, Describe Deviation (Materials or Construction Methods):

esting/Inspections/Quality Control Required (Describe):

esting:

he clay liner material sources have be identified at least 15 calendar days prior to use for conformance testing by eoSyntec. The compacted clay shall meet the following requirements:

- Classified as lean clay (CL) or fat clay (CH) (ASTM D-2487).
- Have a PI (ASTM D-4318) of at least 10%, but less than 40%.
- Meet particle size requirements 100% of particles passing the 2" sieve, and not less than 50% of particles passing the 200 sieve, and not less than 15 % of particles less than 0.002 mm.
- Have a hydraulic conductivity of not more than $1x10^{-7}$ cm/s when constructed and laboratory tested per ASTM D-5084 at a confining pressure of 5 psi.

lity Control:

ro Environmental's QC Inspector and/or GeoSyntec will continue to verify the following:

That rock particles with a max. dimension larger than 2-inches are continuously removed during the mechanical soil screening process, as well as during clay liner placement, processing, and compaction.
The moisture content and dry density of clay material to be placed shall be within the acceptable permeability zone (APZ) defined, as those combinations of moisture content and dry density that meet the following three criteria:

- Moisture content that is on or to the right of the line of optimums determined by connecting the optimum moisture contents from the standard and modified proctor tests.
- Moisture content not greater than 3 percentage points wet of the standard proctor optimum moisture content.
- Dry unit weight of at least 95 percent of the standard proctor maximum dry unit weight.

eoSyntec will provide Petro Environmental with specific moisture content ranges and associated dry unit weights at satisfy these criteria.

ll Required Materials and Equipment on Hand: __✓__ Yes _____ No
No, Describe Deficiencies & Corrective Action:

iscussion of Procedures/Methods for Completing Work: __✓__ (✓)

ies discussed the remaining work involving the fine grading of the clay surface and survey certification to be pleted by Hirsch surveyors, and reviewed by GeoSyntec.

orkmanship Meets Minimum Acceptable Standards: __✓__ Yes _____ No
No, Corrective Action Taken:

afety Measures Comply with Requirements of CSWP & Activity Hazard Analysis: __✓__ Yes _____ No
No, Corrective Action Taken:

afety Activity Hazard Analysis Reviewed: __✓__ (✓) (reference Contractor Safe Work Plan)

a Change in the Activity Hazard Analysis Required?: _____ Yes __✓__ No
Yes, Describe Changes and Reason(s) Why:

omments During Initial Phase Meeting (DOE/FDF/GeoSyntec):

he penetration box's will be installed beginning next week and tied in to existing pipe as soon as others complete ecessary work to the existing pipe.

eficiencies Noted In This Report Have Been Addressed/Resolved: __✓__ Yes _____ No _____ None
No, Describe Reason(s) Why and Action Items Initiated:

C **Representative Verification:**

above information is complete and correct. Materials being installed are the same as those approved. All pment, materials and workmanship in this phase or work are in strict compliance with the QC procedures and quirements of the contract.

Brian Erisman, QC Representative
Petro Environmental Technologies, Inc.

MEETING NOTES

2737

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: August 3, 1999

MEETING NUMBER: 46
MN:SWP(OSDF):99-0042

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: August 10, 1999

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DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

#Kwasi Badu-Tweneboah MS38
+Linda Barlow MS 52-7
+Jennifer Blankemeyer MS 52-0
Pete Bolig - Petro
+Charlie Brown MS 60
+# Damien Bryant MS 64
#Jim Burnett MS 38
Dennis Carr MS 52-2
+Tom Carr MS 60
+John Centers MS 52-8
J.D. Chiou MS 52-0
Tom Crawford MS 52-0
+Alex Duarte MS 52-0
+ Mary Eleton MS 60
#Corey Fabricante MS 52-0
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Joan Garrity - MS 60
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+# Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
+ Gregg Johnson MS 64
Greg Kephart MS 52-3
+# R. Carl Ketchem - Petro
Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
Mark Mather – Petro
+# Lee McDaniel MS 60
Rick McGuire MS 60
Jeff Middaugh MS 64
Chris Neumann MS 60
Brenda Perkins MS 67
+# Don Pfister MS 45
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# Lou Wehlitz MS 64
+ Lewis Wiedeman MS 60
+# Dave Williams - Petro
Fred Wilson MS 60
Chuck Van Arsdale MS 64
Mike Van Swol MS 66
+# Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Don't overload electrical outlets - it is a fire hazard.

Value Creation Topic – Don't wait to the last minute to get projects done. Allow others time to complete their parts.

Balance Topic – The Career Development Center offers numerous career development opportunities. Take advantage of one.

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SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the July 27, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. Smoking in unauthorized areas continues to be a problem, fire extinguishers located properly and fully charged has also been a problem.

D. Work permits at the SWU are changing to adapt to the new work. Make sure that you are briefed on the current plan.

E. Housekeeping has improved and currently is very good.

F. There has been a problem with personnel signing the RWP without signing the briefing sheet. Please remind workers of the proper places for signatures.

G. Petro is to be commended on the results of a recent DOE Safety Observation. The report was extremely positive. Traffic controls, parking, speed limit adherence, housekeeping, postings and PPE were all cited as positive examples of Petro's safety culture.

III. SCHEDULE BRIEFING

SWU

A. Petro finished excavation of the North IFP. The R-Track results look acceptable.

B. Petro is excavating miscellaneous stockpiles and segregating material.

Sewage Treatment Plant Excavation

C. Petro is hauling material to SP-7 and performing the deep excavation.

D. Petro's electrical subcontractor will finish the transfer line pump wiring and controls this week.

F-2737

IV. QUALITY AND INSPECTION

A. FDF closed 2 NCR's on the Rad Trailer installation and 3 others that are open are being worked on.

V. DESIGN AND CONSTRUCTION ISSUES

A. Sue Lorenz has given a verbal OK to haul AWAC material to SP-7. Sampling at SP-7 will be done on August 4, 1999. Petro will extend the ramp and will attempt to leave it when they are finished hauling to SP-7.

B. Petro completed the A1PII punchlist items last week and requested FDF inspection.

C. Petro expects the A1PII flyover survey data by August 6, 1999.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. No report.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report.

A. There were no occupational injuries since the July 27, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management. No status change regarding the FD Corporate Safety Assessment.

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C. Cool-down suits have been provided for use by personnel working in Cell 1 on the Cat 5 material and for those dressed out in Cell 2.

D. Observations:

Category 5 Placement went well. No results on breathing zone monitors yet. Air samples have been acceptable. There is a Radiological Deficiency Report being issued as a result of rinsing out a haul truck in a clean area.

Seatbelt lack of use, lack of proper PPE, and smoking issues continue to be observed during oversight of field activities. Observations involving the lack of seatbelts increased in frequency during the past week.

The 800mHz site radio and charger were found missing from T-545 at the afternoon briefing today. This radio needs to be returned or alternate means such as a secured scanner utilized to ensure that emergency messages that are broadcast by the FDF Comm. Center are received and the appropriate action taken.

"Hearing PPE required" signs were observed as not being posted at the LCS MH# 1 area where DeBra is currently fusing piping for Cell 3.

A vendor was found this morning on the Barrow Area Haul Rd. picking up a conveyor. FDF OSDF Safety was not notified or requested to inspect any of the vendor's tools or equipment. This vendor was observed violating the FDF Hoist and Rigging Manual requirements, both personnel did not have on safety glasses, and did not have security badges. FDF Const. Mgmt. and Petro Safety were contacted after the rigging operation corrected.

E. Petro is to be commended on the results of a recent DOE Safety Observation. The report was extremely positive. Traffic controls, parking, speed limit adherence, housekeeping, postings and PPE were all cited as positive examples of Petro's safety culture.

XI. SCHEDULE BRIEFING

A. Petro will start fine grading this week and will be proceeding from east to west. Petro has additional clay as needed to achieve final grade and place the wedge.

B. Tentative start date for the 1 foot protective cover is October 18, 1999.

C. Petro's liner subcontractor is mobilizing August 11, 1999. Deployment of the secondary liner is planned for August 16, 1999.

D. Petro placed 4 ISO's of Category 5 double-bagged asbestos last week. Petro is placing ROB's again this week and plans to place more Cat 5 this week.

E. Category 1 material from the SWU has aided in catching up the intervening layers.

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F. FDF is to stock the OMTA with 4 ISO's of Cat 5 this week.

XII. QUALITY AND INSPECTION

A. FDF is inspecting the welds on the HDPE perforated pipe. These welds are not a hold point. Mike Godber pointed out that the final weld from the liner penetration box to the perforated pipe is an electro-fusion weld.

B. Colin Sukow pointed out that the rain over this past weekend hydrated some rolls of the GCL. Petro needs to review all storage locations of the GCL and ensure that the rolls are properly covered to avoid exposure to the elements.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Cincinnati Bell is stringing the overhead phone lines today. On August 5 they will be running the wiring from the Dissolved Oxygen Building to the new trailer area. Petro will relocate trailers August 9 or 10, 1999.

B. Geotextile material is to be delivered this week. The remaining GCL should be delivered by August 16, 1999.

C. FDF still has not received the Safety Performance Data from Petro's liner subcontractor.

D. Petro is to start expansion of the OMTA on August 9, 1999.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. Petro is to submit the balance of resumes for the liner installer's crew.

XV. SUBCONTRACT ADMINISTRATION

A. Petro requests for equitable adjustment have been received. FDF is reviewing

B. Petro is reviewing work at SP-7

XVI. GENERAL

A. Petro will be working Fridays until further notice.

B. Fine grading of clay in Cell 3 will take place on Saturday, August 7, 1999.

C. The new construction water well will start tentatively next week and complete in mid-September.

F-2737

NEXT MEETING: 2:00 PM, August 10, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: August 10, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 8-03-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	7/25	7/26	7/27	7/28	7/29	7/30	7/31	8/1	8/2	8/3	8/4	8/5	8/6	8/7	8/8	8/9	8/10	8/11	8/12	8/13	8/14	8/15	8/16	8/17	8/18	8/19	8/20	8/21
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU	Excavate N. IFP		SCH. BAR																												
			CRAFT QTY.		12	12	12	12																							
SWU	Load Stockpiles		SCH. BAR																												
			CRAFT QTY.						12			12	12	12	12	12			12	12	12	12	12			12	12	12			
SWU	Excavate Southfields		SCH. BAR																												
			CRAFT QTY.																										12	12	
OSDF	Unload & Stage Geosynthetics		SCH. BAR																												
			CRAFT QTY.		3	3	3	3	3			3	3	3	3	3			3	3	3	3	3			3	3	3	3	3	
OSDF	Clay Liner Construction		SCH. BAR																												
			CRAFT QTY.		13	13	13	13	13			13	13	10	10	5	5		5	5	5	5	5								
OSDF	Secondary Liner System		SCH. BAR																												
			CRAFT QTY.																							3	23	23	23	23	
OSDF	Load & Haul EIDS		SCH. BAR																												
			CRAFT QTY.																							5	5	5	5	5	
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		12	12	12	12	12			12	12	12	12	12			12	12	12	12	12			12	12	12	12	12	
STP	Transfer Line Pumps/Controls		SCH. BAR																												
			CRAFT QTY.		3	3	3	3	3																						
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.		12	12	12					5	9	9						12	12	12	12			12	12	12	12	12	
STP	STP Demolition		SCH. BAR																												
			CRAFT QTY.		2	2	2					2	2	2						2	2	2	2			2	2	2	2	2	
STP	OSD 007, NAR 007 & 6-in		SCH. BAR																												
			CRAFT QTY.					6	6			5				1			4												
STP	Excavate Additional AWAC		SCH. BAR																												
			CRAFT QTY.												9	9			9												
STP	SP-7 Mgt.		SCH. BAR																												
			CRAFT QTY.												2	2			2												

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-2737

MEETING NOTES

2737

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: July 27, 1999

MEETING NUMBER: 45
MN:SWP(OSDF):99-0041

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: August 9, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
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Lewis Wiedeman MS 60
+# Dave Williams - Petro
Fred Wilson MS 60
Chuck Van Arsdale MS 64
Mike Van Swol MS 66
+#Tom Voelkerding MS 49
+# Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Heat stress – do not underestimate the effects of heat on your body. Ten individuals in the Greater Cincinnati area have died recently as a result of heat related conditions.

Value Creation Topic – Document your efforts. In the eyes of an auditor, "If you didn't document it, you didn't do it."

2737

Balance Topic – Scheduling time with your family is just as important as scheduling your time at work.

SOUTHERN WASTE UNITS

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the July 20, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

III. SCHEDULE BRIEFING

SWU

A. Petro mobilized a 325 excavator for the SWU. Petro plans to build the required berm on July 23 and to start hauling on July 26, 1999.

B. Petro will finish testing the wheel wash at the SWU this week.

Sewage Treatment Plant Excavation

C. Hauling was slowed due to muddy conditions. Waiting on R-Track.

D. Petro needs direction from FDF on how to proceed on the east drying bed. Petro is demolishing the digester and transporting AWAC sludge to SP-7. Petro is continuing deep excavation as possible.

E. Category 2 debris at the STP is ready for hauling, pending opening of Cell 2 grids for Cat 2 material.

F. Petro is installing the pumps and controls for the transfer line. Should be done this week.

G. Petro will be excavating one more lift beneath OSD-007.

H. Petro hauled 47 loads of Cat 2 and 399 loads of Cat 1 from the STP stockpiles and the deep excavation through July 26. Forty loads of Cat 1 were hauled this

morning. Some trucks were transferred from the STP to the SWU. Petro is fine tuning the wheel wash at the SWU.

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IV. QUALITY AND INSPECTION

A. There are some open issues pertaining to NCR's on housekeeping, Rad Controls and training. There are a total of 8 NCR's open. Lee McDaniel pointed out that Petro must close the NCR's by close of business or FDF may have to shut Petro down until they are resolved.

B. FDF is to publish a NCR summary at the weekly meeting. Petro is to commit one person to participate in the FDF weekly walkthrough so that that person will be aware of issues when they are raised.

V. DESIGN AND CONSTRUCTION ISSUES

A. FDF will clarify if they still provide 30 OSHA Outreach training.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. DCN letters are on the way to Petro.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. Section XIII subparagraph C was reported incorrectly. Change to read: "Petro needs a copy of "Addendum 1 – OSDF Impacted material Placement Plan – Specialized Placement Plan for Bagged Impacted Material." This plan addresses placement of the bagged thorium material in the SWU. Tony Klimek noted that this plan has been approved by the Regulatory Agencies and will be formally added to the IMPP and distributed by ECDC. Bruce Schweitzer will get a copy of the plan to Petro."

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

E-2737

Jeff Middaugh had the following report.

A. There was one occupational injury, a first-aid case, since the July 20, 1999 meeting. A worker got a metal splinter in his finger, which was removed at the FDF Medical Dept.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management

C. Observations:

With the continued extreme temperatures everybody is reminded of the importance of participating in the required heat stress-monitoring program. Everybody attending the morning Petro briefings should be providing a baseline pulse rate. Personnel that arrive as a replacement later in the day should be providing a baseline pulse rate to the respective personnel overseeing the heat stress monitoring at the different work areas. If pulse rates are not provided the worker(s) is subject to a work/rest regiment based on the table in SPR 12-10.

FDF Safety is requesting as much as possible advance notice when the contractor is planning activities that require special monitoring. For example, CAT 5 asbestos placement in the cells and excavation atmospheric monitoring. Advanced notification will prevent delays due to items such as calibration of equipment and obtaining the proper people to setup or operate the equipment.

No status change regarding the FD Corporate Safety Assessment.

The inspection of the ISO containers at the OMTA went will this morning and no problems were noted. The first container is to be off-loaded at Cell 1 this afternoon.

Failure to use seatbelts, lack of proper PPE and smoking issues continue to be problems observed in field activities.

D. DOE Rad Safety will do a routine walkdown of the STP and the OSDF July 28, 1999 at 8 AM.

E. Petro repeated the orientation on heat stress to all workers.

F. The 4 way stop signs at the Borrow Area Haul Road and North Entrance Road intersection seem to be working well.

XI. SCHEDULE BRIEFING

A. Petro is on schedule to complete Cell 3 in early August 1999. Petro hauled 675 truckloads of clay last week. Petro plans to start fine grading August 4, 1999, and to start the secondary liner on August 16, 1999.

B. Jerry Istre (liner installer) will arrive on site August 10, 1999. Liner personnel will attend training from August 11, 1999 through August 16, 1999.

C. Placement of Category 5 material in Cell 1 will continue this week. Petro expects to have more Category 2 grids open on July 30, 1999.

D. Petro received the perforated HDPE pipe for Cell 3 today.

XII. QUALITY AND INSPECTION

A. FDF will do surveillance on Rad Controls at the OSDF.

B. GeoSyntec is to write an RCI on stockpile #4 that will allow it to be released. Stockpile #5 results are due July 28, 1999. GeoSyntec expects the results to be acceptable.

C. GeoSyntec is still awaiting the test results on the GCL. The geotextile is to be delivered next week.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. FDF received Petro's proposal on placing ROB's of thorium. Petro plans to place thorium next week.

B. Cincinnati Bell is on site and working on the phone lines. Petro is to move trailers on August 11 or 12, 1999.

C. Tom Voelkerding of FDF will coordinate the delivery schedule of debris with Matt Harper.

D. FDF is preparing to work on Manhole #3. FDF will notify Petro of any requirements or interfaces for Cell 3 activities. The cleanouts and the centralizers are to be shipped this week.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

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XV. SUBCONTRACT ADMINISTRATION

A. FDF will rescind the not-to-exceed letter on Manhole 3, which was previously issued to Petro. Petro is to submit costs incurred to date for material already purchased.

B. Installer's Warranty for Phase I is to be resubmitted.

XVI. GENERAL

A. Petro is to review training for the liner subcontractor and must submit the subcontractor's EMR prior to mobilization.

NEXT MEETING: 2:00 PM, July 27, 1999, T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: August 9, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 7-27-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	7/18	7/19	7/20	7/21	7/22	7/23	7/24	7/25	7/26	7/27	7/28	7/29	7/30	7/31	8/1	8/2	8/3	8/4	8/5	8/6	8/7	8/8	8/9	8/10	8/11	8/12	8/13	8/14
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU/OSDF	Wheel Wash Installation Water System Startup		SCH. BAR																												
			CRAFT QTY.		3	3																									
SWU	Excavate N. IFP		SCH. BAR																												
			CRAFT QTY.						2			12	12	12	12	12															
SWU	Load Stockpiles		SCH. BAR																												
			CRAFT QTY.																12	12	12	12	12			12	12	12	12	12	
OSDF	Unload & Stage Geosynthetics		SCH. BAR																												
			CRAFT QTY.		3	3	3	3	3			3	3	3	3	3			3	3	3	3	3			3	3	3	3	3	
OSDF	Clay Liner Construction		SCH. BAR																												
			CRAFT QTY.		13	13	13	13	13	7		13	13	13	13	13			13	13	5	5	5			5	5				
OSDF	Secondary Liner System		SCH. BAR																												
			CRAFT QTY.																									3	3	3	
OSDF	Load & Haul EIDS		SCH. BAR																												
			CRAFT QTY.																							5	5	5	5	5	
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		12	12	12	12	12			12	12	12	12	12			12	12	12	12	12			12	12	12	12	12	
STP	Electrical Installation		SCH. BAR																												
			CRAFT QTY.		3	3	3	3		5																					
STP	Transfer Line Pumps/Controls		SCH. BAR																												
			CRAFT QTY.									3	3	3	3	3															
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.		2	2	6	12	12			12	12	12	12	12			12	12	12	12	12			12	12	12	12	12	
STP	STP Demolition		SCH. BAR																												
			CRAFT QTY.		2	2	2	2	2			2	2	2	2	2			2	2	2	2	2			2	2	2	2	2	
STP	OSD 007, NAR 007 & 6-in		SCH. BAR																												
			CRAFT QTY.		8	8	8	8							2	2															

F-2737

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FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

--2737

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: July 20, 1999

MEETING NUMBER: 44
MN:SWP(OSDF):99-0040

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: July 28, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
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Mike Van Swol MS 66
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Protective equipment only works when you use it.

Value Creation Topic – Appropriate measures must be used consistently to gauge progress.

Balance Topic – Develop a career plan, then work toward it.

RECEIVED
JUL 29 1999
Kruman

SOUTHERN WASTE UNITS

F-2737

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the July 13, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. The intersection of the Borrow Area Haul Road and the North Entrance Road is becoming a 4-way stop with stop signs. Petro will take the flashing lights down today or tomorrow. Rick McGuire will coordinate with security to have them monitor the intersection for a period of time.

D. Charlie Brown is working with Radiological Safety to review requirements for Saranex during periods of extreme heat.

E. DOE will audit FDF on the implementation of the new 10 CFR 835 requirements in early August. Attention to detail will be a primary focus of this audit.

III. SCHEDULE BRIEFING

SWU

A. Petro mobilized a 325 excavator for the SWU. Petro plans to build the required berm on July 23 and to start hauling on July 26, 1999.

B. Petro will finish testing the wheel wash at the SWU this week.

Sewage Treatment Plant Excavation

C. There will be an electrical outage this Saturday to allow the STP trailers to be hooked up to permanent power and to extend electrical lines to the new trailer complex.

D. Petro finished excavation and hauling of the AWAC material last week. Petro is currently removing the underground storage tank and stockpiling Category 1 material.

E. Petro should finish the 6" stripping this week. Petro will begin STP deep excavation as soon as the 6" stripping is complete.

F. A shear will arrive on site today to be used on demolition of the remaining structures.

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G. Excavation of stockpiles OSD-007 and NAR-007 should be complete by July 28, 1999.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. Per J.D. Chiou, Petro is to wait to seed the 6" stripping areas near the STP until directed by FDF.

B. Don Pfister noted that equipment maintenance was being done in the area of trailers T-545 and T-546 without PPE (hard hat, safety glasses, etc.). It was confirmed that personnel performing maintenance or other work in this area are required to wear the proper PPE. Personnel not directly performing work are not required to do so.

C. Petro will review the possibility of expediting the removal of the East Debris Pile in order to support certification.

D. There will be a start-up readiness walk-through at the SWU at 9:30 AM on July 21, 1999.

E. Some Petro personnel are delinquent in their training. A review by FDF has indicated that this is a problem throughout the project that Petro must work to resolve soon.

F. Dan Stempfley pointed out that the West Impacted Material Stockpile will be made a contamination area during loading. Access will be restricted until a Rad Tech releases the area.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. FDF will be closing out numerous submittals this week.

VII. SUBCONTRACT ADMINISTRATION

A. FDF will be finishing open change orders this week.

VIII. GENERAL

A. No report.

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report.

A. There were no occupational injuries since the July 13, 1999 meeting. An injury to an FDF employee resulted in a cut elbow which occurred during roll-off box tarping operations

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

* Monthly assessment of the contractor's Fire Protection Program and Open Flame and Welding Work revealed:

* Good housekeeping practices at the sea-land type storage containers
* Good worker practices while performing hot work
* Deficiencies in the fire extinguisher program
* Deficiencies in the smoking policies

Specifics from the assessment will be forwarded to the Contractor as soon as a surveillance number is obtained. This number has been requested.

* A concern has been raised that not all personnel required to participate in the Heat Stress Program are doing so. FDF field support personnel and GeoSyntec field support personnel should be checking/recording baseline pulse rates anytime Petro Safety/Mgmt. instructs their personnel to conduct baseline monitoring.

XI. SCHEDULE BRIEFING

A. Petro placed approximately 19,400 CY of clay as of July 19, 1999, which represents approximately 50% of the total.

B. Petro placed 335 boxes to date vs. the optimization plan target of 337.

C. Petro plans to place Category 5 material July 23, 1999 pending approval of the appropriate plans.

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XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. The intersection of the Borrow Area Haul Road and the North Entrance Road is becoming a 4-way stop with stop signs.

B. Cincinnati Bell is to install the phone lines to the new trailer area the week of July 26, 1999. The cable to the DO Building will take about 1.5 weeks. The lines will be run to the trailers after that.

C. Petro needs a copy of the current thorium placement plan. Tony Klimek noted that it was finalized but pending agency approval. Bruce Schweitzer will get a copy of the plan to Petro.

D. The fencing along the Impacted Material Haul Road needs to be repaired prior to beginning hauling operations from the SWU. Also, the speed limit signs should be installed.

E. Housekeeping needs improvement near the OMTA.

F. Petro is flattening areas on clay stockpiles 4 & 5 so that GeoSyntec can take samples. The results should be back by July 23 or July 26, 1999.

G. Petro has satisfied the requirements to get Jerry Istre approved as the liner installer. Petro will submit the letter of approval from the manufacture on Istre. The RCI requesting a relaxation of this requirement is no longer valid and will be voided.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. Petro is to resubmit the installation warranty with revised wording. The initial submittal will be returned "C"-Action July 21, 1999.

B. Petro's proposal for Manhole #3 slab demolition and pipe repair is due on July 22, 1999.

XVI. GENERAL

A. FDF is to notify Don Pfister prior to placing thorium.

NEXT MEETING: 2:00 PM, July 27, 1999, T-183 Conference Room — 2737

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: July 28, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 7-20-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	7/11	7/12	7/13	7/14	7/15	7/16	7/17	7/18	7/19	7/20	7/21	7/22	7/23	7/24	7/25	7/26	7/27	7/28	7/29	7/30	7/31	8/1	8/2	8/3	8/4	8/5	8/6	8/7
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU/OSDF	Wheel Wash Installation		SCH BAR																												
	Water System Startup		CRAFT QTY.		3	3	3	3	3			3	3																		
SWU	Segregate Stockpiles		SCH. BAR																												
			CRAFT QTY.																1	1	1	1	1			1	1	1	1	1	
SWU	Excavate N. IFP		SCH BAR																												
			CRAFT QTY.													2			12	12	12	12	12								
SWU	Load Stockpiles		SCH BAR																												
			CRAFT QTY.																							12	12	12	12	12	
OSDF	Unload & Stage Geosynthetics		SCH BAR																												
			CRAFT QTY.		3	3	3	3	3			3	3	3	3	3			3	3	3	3	3			3	3	3	3	3	
OSDF	Clay Liner Construction		SCH BAR																												
			CRAFT QTY.		12	12	12	12	12	7		13	13	13	13	13			13	13	13	13	13			5	5	5	5	5	
OSDF	Cell 1 & Cell 2 Placement		SCH BAR																												
			CRAFT QTY.		11	11	11	11	11	2		13	13	13	13	13			13	13	13	13	13			10	10	10	10	10	
STP	Electrical Installation		SCH BAR																												
			CRAFT QTY.		3	3	3	3	3			3	3	3	3		5														
STP	AWAC Soil		SCH BAR																												
			CRAFT QTY.			8	8																								
STP	Deep Excavation		SCH BAR																												
			CRAFT QTY.					4	4			2	2	6	12	12			12	12	12	12	12			12	12	12	12	12	
STP	STP Demolition		SCH BAR																												
			CRAFT QTY.		2	2	2	2	2			2	2	2	2	2			2	2	2	2	2			2	2	2	2	2	
STP	OSD 007, NAR 007 & 6-in		SCH BAR																												
			CRAFT QTY.		8	8	8	6	8			8	8	8	8																

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-2737

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 7-20-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	7/11	7/12	7/13	7/14	7/15	7/16	7/17	7/18	7/19	7/20	7/21	7/22	7/23	7/24	7/25	7/26	7/27	7/28	7/29	7/30	7/31	8/1	8/2	8/3	8/4	8/5	8/6	8/7
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU/OSDF	Wheel Wash Installation Water System Startup		SCH. BAR																												
			CRAFT QTY.		3	3	3	3	3			3	3																		
SWU	Segregate Stockpiles		SCH. BAR																												
			CRAFT QTY.																1	1	1	1	1			1	1	1	1	1	
SWU	Excavate N. IFP		SCH. BAR																												
			CRAFT QTY.													2			12	12	12	12	12								
SWU	Load Stockpiles		SCH. BAR																												
			CRAFT QTY.																							12	12	12	12	12	
OSDF	Unload & Stage Geosynthetics		SCH. BAR																												
			CRAFT QTY.		3	3	3	3	3			3	3	3	3	3			3	3	3	3	3			3	3	3	3	3	
OSDF	Clay Liner Construction		SCH. BAR																												
			CRAFT QTY.		12	12	12	12	12	7		13	13	13	13	13			13	13	13	13	13			5	5	5	5	5	
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		11	11	11	11	11	2		13	13	13	13	13			13	13	13	13	13			10	10	10	10	10	
STP	Electrical Installation		SCH. BAR																												
			CRAFT QTY.		3	3	3	3	3			3	3	3	3		5														
STP	AWAC Soil		SCH. BAR																												
			CRAFT QTY.			8	8																								
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.					4	4			2	2	6	12	12			12	12	12	12	12			12	12	12	12	12	
STP	STP Demolition		SCH. BAR																												
			CRAFT QTY.		2	2	2	2	2			2	2	2	2	2			2	2	2	2	2			2	2	2	2	2	
STP	OSD 007, NAR 007 & 6-in		SCH. BAR																												
			CRAFT QTY.		8	8	8	6	8			8	8	8	8																

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F-2737

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FDF / Petro Weekly OSDF Mtg

20 July 1999
J. Burnett
Page 1 of 1

E-2737

- R. Schairbaum said have received 92 rolls GCL with 251 to go.
- Petro has placed 335 roll-off boxes in Cell 2. Opt. Plan was 337, so are on schedule.
- Petro plans to dispose category 5, double-bagged asbestos on Fri, 23 July.
- Petro needs approved Thorium debris placement plan. FDF Engineering working with ECDC to get out.
- 1,139 loads × 17 yd³ (in-place) = 19,363 yd³ cell 3
  Est. total is 37,000 yd³ / load including inter-cell berm and clay wedge.
  Clay liner constructed as of end of day, Mon, 19 July.
  Petro wanted ~~plans~~ to complete clay hand by Fri, 30 July; and then take 1st week in August to fine grade and smooth roll.

Bill Zebick explained additional sampling/perm testing on Stockpile 4. To take additional samples Stockpile 4 and 5 today. Expect perm results on SP-4 between Fri, 23 July and Mon, 26 July.

Because of equip. breakdowns, will be excavating on SP-1 at least through Fri, 23 July.

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- Jerry Istre — liner installer. R. Schairbaum said GSE approved — will submit letter. RS believes issue is done.
- Petro will submit a new borrow area development plan to be ready to screen EFBA soils for future Cell 1 cap construction if this work is funded/approved.

proposal to FDF on Thurs, 22 July.

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

F-2737

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: July 13, 1999

MEETING NUMBER: 43
MN:SWP(OSDF):99-0039

RECEIVED
JUL 26 1999
R Chuman

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: July 20, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

#Kwasi Badu-Tweneboah MS38
Linda Barlow MS 52-7
+Jennifer Blankemeyer MS 52-0
+# Pete Bolig - Petro
+Charlie Brown MS 60
+# Damien Bryant MS 64
#Jim Burnett MS 38
Dennis Carr MS 52-2
+Tom Carr MS 60
J.D. Chiou MS 52-0
Tom Crawford MS 52-0
William Davis MS 52-0
+ Mary Eleton MS 60
+ #Corey Fabricante MS 52-0
+ Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
+# Don Goetz MS 64
Debra Grant MS 52-0
Kevin Harbin MS 64
#Matt Harper MS 64
Lindsey Harris MS 64
+Alan Hohnhorst MS 60
Rick Holbrook MS 64
+# Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Greg Kephart MS 52-3
Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
+# Susan Lorenz MS 52-8
Mark Mather – Petro
+#Pete Mather - Petro
+Lee McDaniel MS 60
+Rick McGuire MS 60
Jeff Middaugh MS 64
Chris Neumann - MS 60
Don Pfister MS 45
Carlos Pratt MS 64
#Perry Richardson MS52-8
+ Mike Rolfes MS 60
David Russell - MS 52-0
+# Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
+ Sharon Spears - MS 52-5
Dan Stempfley MS 64
Mike Stumbo - Petro
Collin Sukow MS38
Vern Taylor MS 52-0
Chris Tucker - Petro
Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+# Dave Williams - Petro
Fred Wilson MS 60
Chuck Van Arsdale MS 64
#Mike Van Swol MS 66
+# Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic – Keep a well-stocked first-aid kit and know how to use it.

Value Creation Topic – Prescribe solutions rather than describe problems.

Balance Topic – Call your mother.

SOUTHERN WASTE UNITS

2737

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the July 6, 1999 meeting.

B. The results of the BZ data and the air samples continue to be acceptable.

C. The intersection of the Borrow Area Haul Road and the North Entrance Road is becoming a 4-way stop with stop signs.

III. SCHEDULE BRIEFING

SWU

A. The electricians are wiring the wheel wash at the SWU this week. Testing is planned for July 19, 1999. Petro will begin segregating stockpiles at the SWU on July 26, 1999 and Petro will begin hauling from the SWU on July 26, 1999.

Sewage Treatment Plant Excavation

B. Petro hauled 367 loads of soil from the 6" stripping operation from July 7 through July 12, 1999.

C. Petro finished loading the sludge cake into containers on July 12, 1999.

D. Petro started additional AWAC excavation around the trickling filters and expects to finish July14, 1999. It is estimated that there is approximately 500 CY of AWAC soil remaining to be excavated.

E. Excavation of stockpiles OSD-007, NAR-007 and the 6" stripping should be complete by July 28, 1999.

IV. QUALITY AND INSPECTION

A. Some of Petro's personnel are out of compliance on training. An NCR will be issued accordingly.

V. DESIGN AND CONSTRUCTION ISSUES

F-2737

A. FDF expects the sampling data back today on the L-120 and gradall from the STP. Sampling in the sludge bed should permit excavation in the sludge bed in seven days or less.

B. FDF is attempting to get permission from the EPAs to use the WIMS area as a transfer area for soil from the STP.

C. In order to stockpile soil in the Cell, Petro must fill out the required form, shoot elevations prior to stockpiling, obtain GeoSyntec signature on the form and have it faxed to the EPA. Bill Zebick will check with J.D. Chiou to ensure that this process is acceptable and he will coordinate with Petro.

D. Lee McDaniel is working with Petro to obtain additional Rad Tech support at the STP.

E. The flow meter must be installed in the transfer line before the meter can be calibrated.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. Modification 38 was issued. Miscellaneous modifications and changes are being negotiated.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report.

A. There was a heavy equipment accident on July 7, 1999 in the Borrow Area. There were no occupational injuries since the July 6, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

F-2737

C. Observations:

There has been an increase in the use of personal vehicles in the work area. The use of personal vehicles in the work areas is discouraged.

The FDF Corporate Safety Assessment is starting this week.

Petro's unloading of the GCL trucks this week was an example of safety consciousness and teamwork. Specifically, Rick Schairbaum's efforts in spotting and directing traffic near the intersection where STP trucks and Borrow Area truck all converged was recognized. Also, personnel are doing a good job of staying clear of heavy equipment.

It was also pointed out that Petro handled the truck/excavator incident very well. Petro was prepared and executed the follow-up requirements appropriately.

XI. SCHEDULE BRIEFING

A. Petro removed the clay screens on July 12, 1999. Dave Williams noted that they screens would be available on August 26, 1999 if screening of additional material is needed. FDF is to review additional sources for clay.

B. Petro placed approximately 10,600 CY of clay as of July 12, 1999, which represents approximately 25% of the total.

C. Petro placed 56 boxes last week.

D. Petro is unloading GCL today. GML was delivered last week.

E. Petro plans to place Category 5 – Bagged Asbestos in Cell 1 on Friday, July 16, 1999.

XII. QUALITY AND INSPECTION

A. Geotextile is being fabricated. FDF is awaiting test results. Approximately 240,000 SF of GCL has been released for fabrication/delivery. Approximately 130,000 SF was delivered this week. The remainder of the GCL will be delivered by August 12, 1999.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. The intersection of the Borrow Area Haul Road and the North Entrance Road is becoming a 4-way stop with stop signs.

B. Cincinnati Bell is to install the phone lines to Petro's new trailers the week of July 26, 1999. The cable to the DO Building will take about 1.5 weeks; the lines will be run to the trailer after that.

2737

C. Petro requested a copy of the final placement plan for thorium.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. No report.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, July20, 1999 T-183 Conference Room

Prepared by: Bruce Schweitzer, Phone No. 648-5197 Date: July 20, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 7-13-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14	7/15	7/16	7/17	7/18	7/19	7/20	7/21	7/22	7/23	7/24	7/25	7/26	7/27	7/28	7/29	7/30	7/31
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU/OSDF	Wheel Wash Installation		SCH. BAR																												
	Water System Startup		CRAFT QTY.			3	3	3	3			3	3	3	3	3															
SWU	Segregate Stockpiles		SCH. BAR																												
			CRAFT QTY.																							1	1	1	3	3	
OSDF	Unload & Stage Geosynthetics		SCH. BAR																												
			CRAFT QTY.			3	3	3	3			3	3	3	3	3			3	3	3	3	3			3	3	3	3	3	
OSDF	Screen Clay Liner		SCH. BAR																												
			CRAFT QTY.																												
OSDF	Clay Liner Construction		SCH. BAR																												
			CRAFT QTY.			12	12	12	12			12	12	12	12	12			12	12	12	12	12			12	12	5	5	5	
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.			6	6	6	6			6	6	6	6	6			6	6	6	6	6			6	6	6	6	6	
STP	Electrical Installation		SCH. BAR																												
			CRAFT QTY.			3	3	3	3			3	3	3	3	3	3														
STP	AWAC Soil		SCH. BAR																												
			CRAFT QTY.										8	8																	
STP	Sludge Cake Excavation		SCH. BAR																												
			CRAFT QTY.			3	3	3	3			3																			
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.												8	8			8	8	8	8	8			8	8	8	8	8	
STP	STP Demolition		SCH. BAR																												
			CRAFT QTY.			2	2	2	2			2	2	2	2	2			2	2	2	2	2			2	2	2	2	2	
STP	OSD 007, NAR 007 & 6-in		SCH. BAR																												
			CRAFT QTY.			6	6	6	6			6	6	6	6	6			6	6	6	6	6			6	6	6			

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-2737

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: July 6, 1999

MEETING NUMBER: 42
MN:SWP(OSDF):99-0038

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: July 8, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

#Kwasi Badu-Tweneboah MS38
Linda Barlow MS 52-7
+Jennifer Blankemeyer MS 52-0
+# Pete Bolig - Petro
Charlie Brown MS 60
+# Damien Bryant MS 64
Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
+ Tom Crawford MS 52-0
William Davis MS 52-0
Mary Eleton MS 60
Corey Fabricante MS 52-0
+ Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
Debra Grant MS 52-0
Kevin Harbin MS 64
Matt Harper MS 64
Lindsey Harris MS 64
+Alan Hohnhorst MS 60
Rick Holbrook MS 64
+# Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
+# Gregg Johnson MS 64
Greg Kephart MS 52-3
Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
+# Susan Lorenz MS 52-8
Mark Mather - Petro
+# Lee McDaniel MS 60
+ Rick McGuire MS 60
# Jeff Middaugh MS 64
Chris Neumann - MS 60
+# Don Pfister MS 45
Carlos Pratt MS 64
Perry Richardson MS52-8
Mike Rolfes MS 60
David Russell - MS 52-0
+# Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
Sharon Spears - MS 52-5
+# Dan Stempfley MS 64
Mike Stumbo - Petro
Collin Sukow MS38
+Vern Taylor MS 52-0
Chris Tucker - Petro
Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+# Dave Williams - Petro
Fred Wilson MS 60
Chuck Van Arsdale MS 64
Mike Van Swol MS 66
+# Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic - Heat stress/exhaustion - be aware of the signs and symptoms, observe your fellow workers for indications of heat stress or heat exhaustion.

Value Added Topic - Document your efforts. In the eyes of an auditor, "If you didn't document it, you didn't do it."

Balance Topic - Develop a career plan, then work toward it.

SOUTHERN WASTE UNITS EXCAVATION

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the June 30, 1999 meeting.

B. The results of air samples continue to be acceptable.

C. A DOE safety observation pointed out the following items relative to the STP: a power saw was observed straddling the rad boundary near the STP; some individuals were observed performing whole body frisks too fast; an individual was observed wearing their TLD under their PPE which was not appropriate; some fence T-posts did not have caps. Rick McGuire has reviewed all items with the personnel involved and corrected as required.

III. SCHEDULE BRIEFING

Petro presented the attached 4-week schedule.

SWU

A. Petro should finish the wheel was at the SWU this week. Petro will begin segregating stockpiles on July 19, 1999. Petro will begin hauling from the SWU on July 26, 1999.

Sewage Treatment Plant Excavation

B. Petro will finish the electrical work this week. Lee McDaniel, Rick McGuire and Dave Williams will meet with B&J Electric to discuss the schedule for power outages.

C. Petro finished the Above WAC soil and digester sludge. Sludge cake loading is going slow. Rick McGuire will follow up.

D. Petro is working on the transfer line, deep excavation and demolition of the STP structures. Petro is finishing the west sediment tank demolition and started stripping the 6" surface soil.

E. Petro hauled 16 loads of Category 2 Material to the Cell by noon on Friday.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. FDF and GeoSyntec met on July 2, 1999 and determined that the surface material being stripped near the STP meets the Category 1 requirements for placement in the OSDF. GeoSyntec is to submit an RCI outlining the basis for the determination.

B. Petro's monthly update schedule indicates that the STP project is behind schedule by approximately three weeks. Dave Williams will bring a copy of the overall schedule showing target vs. actual to next week's meeting.

C. Petro made their bulldozer operators aware of the need to reduce the amount of soil mixed with debris.

D. The gradall left the STP area without the proper release procedure.

E. Petro is replacing the placards missing from some of the Hubbard trucks.

F. Petro asked for added Rad Tech support at the STP. Lee McDaniel will check with Corey Fabricante to try to resolve.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. DCN 087 routing of pipe for the wheel wash should be back today.

B. RCI on pipe supports should also be back today. This RCI is rejected.

VII. SUBCONTRACT ADMINISTRATION

A. No change from last week.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. No occupational injuries since the June 30, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

The walkway from T-96 to the OMTA has some soil spillage that needs to be cleaned up. The plate for the rollover protection for the stabilizer has not arrived yet.

D. Trucks hauling material from the stockpiles must be tarped.

E. Pete Bolig pointed out that everyone is responsible to get new employees oriented to work tasks and hazards.

XI. SCHEDULE BRIEFING

A. Petro has screened all of the approximately 80,000 tons required for the clay liner. Awaiting answer from FDF as to whether they will continue to screen clay for the cap.

B. Petro began clay liner placement this morning.

C. Petro unloaded three trucks of GML this morning.

D. Petro will be reworking the STP ramp tomorrow.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Petro has requested to be permitted to haul clay from the Borrow Area to Cell 3 starting at 7:30 AM instead of 8:00 AM. Gregg Johnson reported that based on current conditions, 7:45 AM is the earliest Petro can cross the North Entrance Road.

B. Cincinnati Bell is to install the phone lines to Petro's new trailers the week of July 19, 1999.

C. The pump at the east construction water well should be operational by 3:30 this afternoon. Petro pointed out that the water shortage due to the pump being down is impacting their work.

D. Dan Stempfley pointed out that Waste Management needs to improve the cleaning of the top of the roll-off boxes after they load them. Material sits atop the rail of the box then gets dislodged during transport.

MEETING NOTES - Continued

E. Petro will look into an alternate location to store the GML and GCL. Tony Klimek will assist them relative to certification issues.

F. GCL delivery will begin late the week of July 12, 1999.

G. It was pointed out that material is not being cleaned off of the backs of the trucks dumping at the STP ramp and that spillage on the railroad ties was excessive. Petro will instruct their laborer to clean the truck better and the backhoe in the Cell will keep material pulled down off of the ties.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. FDF has received DOE approval on the Manhole 3 repairs. The concrete repair will be deleted.

B. Rick Holbrook provided Mark Mather with a copy of suggested revised wording relative to the liner material.

XVI. GENERAL

A. The electrical tower just southeast of the entrance to Cell area from the North Entrance Road is to be demolished between 12 PM and 1 PM July 7, 1999.

NEXT MEETING: 2:00 PM, July 13, 1999 T-183 Conference Room

Prepared by: Bruce Schweitzer Phone No. 648-5197 Date: July 8, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 7-6-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	6/27	6/28	6/29	6/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14	7/15	7/16	7/17	7/18	7/19	7/20	7/21	7/22	7/23	7/24
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU/OSDF	Wheel Wash Installation		SCH. BAR																												
	Water System Startup		CRAFT QTY.		3	3	3	3	3				3	3	3	3															
SWU	Segregate Stockpiles		SCH. BAR																												
			CRAFT QTY.																							1	1	1	1		
OSDF	Unload & Stage Geosynthetics		SCH. BAR																												
			CRAFT QTY.										3	3	3	3			3	3	3	3	3			3	3	3	3	3	
OSDF	Screen Clay Liner		SCH. BAR																												
			CRAFT QTY.		6	6	6	6	6																						
OSDF	Clay Liner Construction		SCH. BAR																												
			CRAFT QTY.										12	12	12	12			12	12	12	12	12			12	12	12	12	12	
OSDF	Cell 1 & Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.		6	6	6	6	6				6	6	6	6			6	6	6	6				6	6	6	6		
SWU	Excavate/Haul WIMS		SCH. BAR																												
			CRAFT QTY.		4	4	4																								
STP	Electrical Installation		SCH. BAR																												
			CRAFT QTY.		3	3	3	3					3	3	3																
STP	AWAC Soil/Digester Sludge		SCH. BAR																												
			CRAFT QTY.				9																								
STP	STP Transfer Line		SCH. BAR																												
			CRAFT QTY.												2																
STP	Sludge Cake Excavation		SCH. BAR																												
			CRAFT QTY.				3						3	3	3																
STP	Deep Excavation		SCH. BAR																												
			CRAFT QTY.						6				8	8	8	8			8	8	8	8				8	8	8	8		
STP	STP Demolition		SCH. BAR																												
			CRAFT QTY.		2	2	2	2	2				2	2	2	2			2	2	2	2				2	2	2	2		
STP	OSD 007, NAR 007 & 6-in		SCH. BAR																												
			CRAFT QTY.					5	5				5	5	5	5			5	5	5	5				5	5	5	5		

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: June 30, 1999

MEETING NUMBER: 41
MN:SWP(OSDF):99-0037

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: July 6, 1999

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DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

#Kwasi Badu-Tweneboah MS38
+ # Linda Barlow MS 52-7
+ Jennifer Blankemeyer MS 52-0
+ # Pete Bolig - Petro
Charlie Brown MS 60
Damien Bryant MS 64
Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
Tom Crawford MS 52-0
William Davis MS 52-0
Mary Eleton MS 60
Corey Fabricante MS 52-0
+ # Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
Debra Grant MS 52-0
Kevin Harbin MS 64
Matt Harper MS 64
Lindsey Harris MS 64
+ Alan Hohnhorst MS 60
Rick Holbrook MS 64
Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
+ # Gregg Johnson MS 64
Greg Kephart MS 52-3
Tony Klimek - MS 64
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
Mark Mather - Petro
Lee McDaniel MS 60
+ Rick McGuire MS 60
Jeff Middaugh MS 64
Chris Neumann - MS 60
Don Pfister MS 45
Carlos Pratt MS 64
Perry Richardson MS52-8
+ Mike Rolfes MS 60
+ David Russell - MS 52-0
+ # Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
# Sharon Spears - MS 52-5
# Dan Stempfley MS 64
# Mike Stumbo - Petro
# Collin Sukow MS38
# Vern Taylor MS 52-0
Chris Tucker - Petro
Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+ # Dave Williams - Petro
Fred Wilson MS 60
#Chuck Van Arsdale MS 64
Mike Van Swol MS 66
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic - Truck traffic will increase next week when Petro begins hauling clay and crossing the North Access Road. Pay attention to traffic controls.

Value Added Topic - When you order equipment, make sure that the manufacturer understands the requirements.

Balance Topic - Balance your work activities - budget your time.

SOUTHERN WASTE UNITS EXCAVATION

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the June 22, 1999 meeting.

B. The results of air samples continue to be acceptable.

C. Petro and FDF are to determine the limits of PPE and the posting requirements in the areas east of the North Entrance Road.

D. When Petro completes excavation and hauling of the miscellaneous stockpiles and transfers those trucks to STP excavation, they will need to provide additional area to stage trucks at the end of the shift.

III. SCHEDULE BRIEFING

Petro presented the attached 4-week schedule.

SWU

A. Installation of the wheel wash at the SWU will be complete in 7 to 10 days.

MEETING NOTES - Continued

Sewage Treatment Plant Excavation

B. Petro loaded MHG containers today. Petro is finishing excavation around the digester and demolishing the above ground structures. Petro will begin excavating and loading stockpile OSD-007 tomorrow.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. Petro will be submitting the pump for the transfer line.

B. Petro was directed to excavate only to original grade beneath stockpiles NAR-007 and OSD-007.

C. FDF will advise Petro today if the proposal for DCN 20712-042R is within reason, and will provide formal response shortly thereafter.

D. Petro and FDF will conduct the A1P2 punchlist walkdown early during the week of July 5, 1999.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. Petro is to submit two revised proposals on STP Rev. 1 drawings tomorrow.

B. The RFP changes on A1P2 will be to Petro today.

C. Petro has submitted separate proposals on the STP Ramp and the Trailer Support Area. FDF is reviewing the proposals.

VIII. GENERAL

A. No report.

MEETING NOTES - Continued

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Gregg Johnson had the following report:

A. No occupational injuries since the June 22, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

The high grass on the West, North, and East sides of Cell #1 is a potential fire hazard and biological/animal support hazard. Responsibility for cutting and maintaining this area needs to be resolved and hazards remediated.

The Cool Down trailer (T-312) egress issue has been addressed.

D. Pete Bolig noted that the process of getting the rollover protection installed on the stabilizer went smoothly which was a result of a great deal of cooperation by all involved.

E. Matt Harper noted that both of Petro's roll-off box truck's made contact with an overhead communication line in the area of the OMTA. Work was temporarily stopped. The truck drivers and others involved met with Petro and FDF supervision and safety personnel to review the situation. Awareness was heightened and controls were put in place to avoid recurrence.

XI. SCHEDULE BRIEFING

A. Petro has screened approximately 74,000 tons of the approximately 80,000 tons required for the clay liner. Petro anticipates starting construction of the Cell 3 clay liner on July 6, 1999.

B. Petro has placed 154 roll-off boxes as of June 29, 1999.

C. Petro will complete excavation and hauling of the West Impacted Material Stockpile on July 1, 1999 and will begin excavating and hauling stockpile OSD-007.

D. Petro will be receiving GML on July 6, 1999. All GML will be on site by July 9, 1999. GCL will begin arriving the week of July 12, 1999

E. Mike Van Swol will give a listing of the location of all roll-off boxes to Vern Taylor.

F. FDF has received verbal approval from the agencies to reopen Cell 1. Petro has cut in the ramp, and their surveyors are in the catchment area preparing for placement.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Petro has requested to be permitted to haul clay from the Borrow Area to Cell 3 starting at 7:30 AM instead of 8:00 AM beginning July 6, 1999. Gregg Johnson is handling this issue for FDF.

B. Cincinnati Bell is to install the phone lines to Petro's new trailers the week of July 12, 1999.

C. Greg Kephart is to issue the debris delivery schedule by Friday for the following week. Petro is to receive a copy.

D. Placement of Category 5 material is being postponed until Category 2 material can be placed in Cell 1.

E. FDF Waste Management will be delivering roll-off boxes to the OMTA on both Friday, July 2 and Friday, July 9, 1999.

MEETING NOTES - Continued

F. Petro will use a spotter to direct trucks at the STP Ramp. After dumping, a D-8 bulldozer will be used to push the material to a nearby grid. WAO is to receive the manifest prior to the truck being backed up to the ramp.

G. GeoSyntec is to give a copy of the APZ of the stockpiles to Petro.

H. GeoSyntec is to complete their review of the liner installer submittal this week.

I. Petro asked about the status of Phase I submittals pertaining to liner installation warranty and manufacturer's warranty. The Phase I warranty submittals, that are required for closeout, are still with Mike Hickey and FDF legal.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. Petro will be submitting claims for the water line that was broken by FDF during mowing operations, and for delays in Cell 2, Category 2 material placement.

XVI. GENERAL

A. Petro will not work on July 5, 1999.

B. There will be a meeting following this meeting to discuss Category 5 placement.

C. Petro has a new QC inspector from H.C. Nutting who will be starting on July 6, 1999.

NEXT MEETING: 2:00 PM, July 6, 1999 T-183 Conference Room

Prepared by: Bruce Schweitzer Phone No. 648-5197 Date: July 6, 1999

BAS:bas
Attachments: Four Week Schedule

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SUBCONTRACT NO : FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 6-30-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	6/20	6/21	6/22	6/23	6/24	6/25	6/26	6/27	6/28	6/29	6/10	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14	7/15	7/16	7/17
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU/OSDF	Wheel Wash Installation		SCH BAR																												
	Water System Startup		CRAFT QTY		3	3	3	3	3			3	3	3	3	3				3	3	3	3								
SWU	Segregate Stockpiles		SCH BAR																												
			CRAFT QTY																												
OSDF	Screen Clay Liner		SCH BAR																												
			CRAFT QTY.		6	6	6							6	6	6															
OSDF	Clay Liner Construction		SCH BAR																												
			CRAFT QTY.																	12	12	12	12				12	12	12	12	
OSDF	Cell 2 Placement		SCH BAR																												
			CRAFT QTY.		9	9	9	9				6	6	6	6	2				6	6	6	6				6	6	6	6	
SWU	Excavate/Haul WIMS		SCH BAR																												
			CRAFT QTY		4	4	4	4				4	4	4																	
STP	Electrical Installation		SCH BAR																												
			CRAFT QTY.			3	3	3				3	3	3	3					3	3	3									
STP	AWAC Soil/Digester Sludge		SCH BAR																												
			CRAFT QTY		12	12	12							9																	
STP	STP Transfer Line		SCH BAR																												
			CRAFT QTY.		2	2	2	2	2													2									
STP	Sludge Cake Excavation		SCH BAR																												
			CRAFT QTY											3	3																
STP	Deep Excavation		SCH BAR																												
			CRAFT QTY.																	12	12	12	12				12	12	12	12	
STP	STP Demolition		SCH BAR																												
			CRAFT QTY.		2	2	2	2	2			2	2	2	2	2				2	2	2	2				2	2	2	2	
STP	OSD 007, NAR 007 & 6-in		SCH BAR																												
			CRAFT QTY.												5	5				5	5	5	5				5	5	5	5	

MEETING NOTES

F-2737

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: June 22, 1999

MEETING NUMBER: 40
MN:SWP(OSDF):99-0035

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: June 23, 1999

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DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

+ #Kwasi Badu-Tweneboah MS 38
Linda Barlow MS 52-7
+ Jennifer Blankemeyer MS 52-0
+ # Pete Bolig - Petro
Charlie Brown MS 60
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+ # Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
J.D. Chiou MS 52-0
Tom Crawford MS 52-0
William Davis MS 52-0
+ Mary Eleton MS 60
+ Corey Fabricante MS 52-0
Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
+ # Mike Godber MS 64
+ # Don Goetz MS 64
Debra Grant MS 52-0
Kevin Harbin MS 64
Matt Harper MS 64
Lindsey Harris MS 64
+ Alan Hohnhorst MS 60
# Rick Holbrook MS 64
+ # Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Greg Kephart MS 52-3
Tony Klimek - MS 64
Uday Kumthekar MS 64
+ # Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
Mark Mather - Petro
Lee McDaniel MS 60
Rick McGuire MS 60
Jeff Middaugh MS 64
Chris Neumann - MS 60
Don Pfister MS 45
Carlos Pratt MS 64
Perry Richardson MS52-8
+ Mike Rolfes MS 60
+ # David Russell - MS 52-
+ # Rick Schairbaum - Petr
* Bruce Schweitzer MS 64
+ Sharon Spears - MS 52-
# Dan Stempfley MS 64
# Mike Stumbo - Petro
Collin Sukow MS38
+ # Vern Taylor MS 52-0
Chris Tucker - Petro
Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+ # Dave Williams - Petro
+ Fred Wilson MS 60
#Chuck Van Arsdale MS 64
Mike Van Swol MS 66
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-C
ECDC

III. SCHEDULE BRIEFING

Petro presented the attached 4-week schedule.

SWU

A. Petro began installing the wheel wash at the SWU on June 21, 1999.

Sewage Treatment Plant Excavation

B. Petro will finish excavation of the AWAC soil, the digester sludge and the sludge cake by June 23, 1999.

C. Petro mobilized an additional excavator with a hoe-ram attachment to speed up demolition of the concrete structures. Petro will be working on Friday, June 25, 1999 demolishing structures but they will not be hauling material. Petro will also be installing the fence for the transfer line on that date.

D. Petro has already begun deep excavation at the STP. They will begin loading and hauling material on June 28, 1999.

E. Petro's double wide office trailer arrived today. Set up will occur on June 23rd through June 25th, 1999.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. Petro asked the status of telephone lines and the location of the transformers needed for power supply to the new trailer area. Lou Wehlitz will coordinate with Harry Gear of FDF to locate the transformers and schedule phone line installation. Petro plans to move July 9, 10 and 11, 1999 pending availability of phone lines.

B. Petro was directed not to remove the large "dead" tree north of the fence line near the STP.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. FDF is reviewing the STP Rev. 1 proposal.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. No occupational injuries since the June 16, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management. Jeff Middaugh suggested that Petro management set up a rotation to attend the weekly Safety Observation Walk Through's.

C. Observations:

Petro needs to clear the gravel from the path to the cool down trailer or relocate the rad fence to allow clear access until the gravel can be relocated.

Personnel are parking in posted "No Parking" areas around T-96.

Cell 2 Activity - dust control is being handled very well. Ground personnel are doing a good job of keeping clear of equipment.

D. Pete Bolig noted that people are still driving too fast in the construction areas. In addition to vehicular and pedestrian safety issues, this causes dust control problems. He also noted that personnel should be reminded about the requirement for using seat belts in vehicles and wearing safety glasses and traffic vests.

XI. SCHEDULE BRIEFING

A. Petro has screened approximately 66,000 tons of the approximately 80,000 tons required for the clay liner. Petro anticipates starting construction of the Cell 3 clay liner on July 6, 1999.

B. Petro has placed 83 roll-off boxes and approximately 4,500 cy of Category 1 as of COB June 21, 1999. Petro placed 17 truckloads of debris from the West Impacted debris pile on June 21, 1999

C. Petro noted that they may run out of debris from the OMTA on June 23, 1999. Mike Van Swol passed out the recovery schedule for hauling of debris by FDF. The plan is to have deliveries back on schedule by the end of July, 1999. It was pointed out that FDF Waste Management must also concentrate on removing empty roll-off boxes from the OMTA as quickly as possible to further support the project and provide the maximum amount of storage space.

D. Mike Van Swol will bring a listing of the location of all roll-off boxes to next week's meeting.

E. Based on the expected deliveries of roll-off boxes over the next few days, Petro plans to place debris through June 24, 1999, then work on the intervening layer on June 25, 1999.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Petro will coordinate the location of the lay down area for the liner material with FDF. Don Goetz is coordinating the use of the T-545 area for staging based on certification results.

MEETING NOTES - Continued

B. Petro and FDF will coordinate the method Petro plans to use to dump material at the STP ramp, prior to beginning to use the ramp on June 28, 1999.

C. Warren Hooper, J.D. Chiou and Bill Zebick will provide direction as to whether screening of clay will continue after the required amount for Cell 3 is complete.

D. FDF is still awaiting EPA response to changes to the IMPP. FDF is finalizing the proposed changes to the IMPP relative to the intervening layer, and the change pertaining to placement of thorium debris is in progress.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. The letter for the Leachate Line Support modification is at DOE. The package for LCS manhole #3 rework is at DOE Technical.

B. Petro has signed the modification for the CAT 826.

C. Petro will be issuing a delay claim as a result of the depletion of roll-off box inventory on June 21, 1999.

D. Petro and FDF have been coordinating the delivery schedule and quantities for the liner material.

XVI. GENERAL

A. Petro will not work on July 5, 1999.

NEXT MEETING: 2:00 PM, June 29, 1999 T-183 Conference Room

Prepared by: Bruce Schweitzer Phone No. 648-5197 Date: June 23, 1999

BAS:bas
Attachments: Four Week Schedule
Table F1 Weekly Look Ahead (debris deliveries)

40Jun22.WEK.wpd

UBCONTRACT NO.: FSC 614
UBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
UBCONTRACTOR: Petro Environmental Technologies, Inc.
CHEDULE DATE: 6-22-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	6/13	6/14	6/15	6/16	6/17	6/18	6/19	6/20	6/21	6/22	6/23	6/24	6/25	6/26	6/27	6/28	6/29	6/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU/OSDF	Wheel Wash Installation		SCH BAR																												
	Water System Startup		CRAFT QTY									3	3	3	3	3			3	3	3	3	3				3	3	3	3	
OSDF	Screen Clay Liner		SCH BAR																												
			CRAFT QTY.					6	6	6		6	6	6	6	6	6		6	6	6	6	6								
OSDF	Excavate Cell 3 To Subgrade		SCH BAR																												
			CRAFT QTY.			2	2																								
OSDF	Proofroll/Undercut Cell 3		SCH BAR																												
			CRAFT QTY.			2																									
OSDF	Clay Liner Construction		SCH BAR																												
			CRAFT QTY.																								12	12	12	12	
OSDF	Cell 2 Placement		SCH BAR																												
			CRAFT QTY.			9	9	9	9			9	9	9	9				6	6	6	6					6	6	6	6	
OSDF	Stockpile Stone		SCH BAR																												
			CRAFT QTY.			1	1	1																							
OSDF	Size Reduce East Woodpile		SCH BAR																												
			CRAFT QTY											3																	
SWU	Excavate/Haul WIMS/EIMS		SCH BAR																												
			CRAFT QTY.			4	4	4	4			4	4	4	4				4	4	4	4					4	4	4	4	
STP	Electrical Installation		SCH BAR																												
			CRAFT QTY.			3	3	3					3	3	3				3	3	3	3									
STP	STP Digester Sludge		SCH BAR																												
			CRAFT QTY.			12	12	12	12			12	12																		
STP	STP Transfer Line		SCH BAR																												
			CRAFT QTY.			2	2	2	2			2	2	2	2	2															
STP	Sludge Cake Excavation		SCH BAR																												
			CRAFT QTY.										4	4																	
STP	Deep Excavation		SCH BAR																												
			CRAFT QTY.											8	12				12	12	12	12					12	12	12	12	
STP	STP Demolition		SCH BAR																												
			CRAFT QTY.				1	1	1			1	1	1	1	1			2	2	2	2					2	2	2	2	

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FY'99 Table F1 Weekly Look Ahead

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DESCRIPTION	(A-J) Category	D,S,O Category	Pre-staged Containers	WEEK Ending 1	WEEK Ending 2	WEEK Ending 3	WEEK Ending 4	WEEK Ending 5	WEEK Ending 6	WEEK Ending 7	WEEK Ending 8	WEEK Ending 9	WEEK Ending 10	WEEK Ending 11	WEEK Ending 12	WEEK Ending 13	WEEK Ending 14	WEEK Ending 15	WEEK Ending 16	WEEK Ending 17	WEEK Ending 18	WEEK Ending 19	WEEK Ending 20	WEEK Ending 21	WEEK Ending 22	WEEK Ending 23	WEEK Ending 24	WEEK Ending 25	WEEK Ending 26	WEEK Ending 27	WEEK Ending 28	WEEK Ending 29	WEEK Ending 30	Total by Container & Material Type
				11-Jun-99	18-Jun-99	25-Jun-99	02-Jul-99	09-Jul-99	16-Jul-99	23-Jul-99	30-Jul-99	06-Aug-99	13-Aug-99	20-Aug-99	27-Aug-99	03-Sep-99	10-Sep-99	17-Sep-99	24-Sep-99	01-Oct-99	08-Oct-99	15-Oct-99	22-Oct-99	29-Oct-99	05-Nov-99	12-Nov-99	19-Nov-99	26-Nov-99	03-Dec-99	10-Dec-99	17-Dec-99	24-Dec-99	31-Dec-99	
			ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	ROB's Pallets or ISO's	
Structural Steel	A	2			20	17	17	20	11	11	11	16	16	18	18	18					20	20	20	20	20									265
Inaccessible Metals (ROB's)	B	2	1			9		12	8	8	6	9	9	9	9	19	19	18	20	7	7	7	7	7	12	12	12	10						242
Light Gauge Metals (ROB's)	D	2				8	9	5	5	5	5	10	10	10	10	10	10	10	10	5	5	5	5	5	12	12	12	10						184
Concrete (ROB's)	E	2	6	4	5							3	3	3	3	12	12	12	12	8	8	8	8	8	10	10	10	10						155
Co-Mingling A,B,D,E (ROB's)	A,B,D,E	2	78	41	18	8	8	13	15	10	10	12	12	12	12	18	18	18	18	18	18	18	18	18										341
Misc Materials (ROB's)	I	2	5		1		4		5	5	5														3	3	3	3						37
Misc Materials (ROB's)	I	4	17					5	9	9	9														5	5	5	5						69
Transite (55 Pallets = 3 Rubbels)	H	2																																0
Non Regulated ACM	G	2																																0
Double Bagged Friable PACM	H	3	2				4	4	4	4	4	4	4	4	4	4	4	4							4	4	4	4						64
																																		0
																																		3
Fly-Ash		1	2		1																													0
																																		0
																																		0
Average Containers Per Day				11	11	11	11	11	14	14	14	14	14	14	14	15	15	15	15	14	14	14	14	14	13	13	13	11	6	6	6	6	6	1306
Total ROBs			59	45	43	42	38	55	53	51	51	52	52	52	52	57	57	57	58	56	56	56	56	56	42	42	42	40	0	0	0	0	0	Total Containers 1320
Total PALLETS			0																															0
Total ISOs			2	0	0	0	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	0	4	4	4	4	0	0	0	0	0	66
Weekly Total Container Delivery				45	43	42	42	59	57	55	55	56	56	56	56	61	61	61	58	56	56	56	56	56	46	46	46	44						1386
Total Cumulative Containers Delivered Start 6/1			61	45	88	130	172	232	288	343	398	454	510	566	622	683	744	805	863	919	975	1031	1087	1143	1189	1235	1281	1366						
Cumulative Forecast			Pre-staged																															
Cumulative Planned ROBs			61	106	149.1	191.2	229.3	284.55	337.3																									775+375
Cumulative Planned Pallets				0	0	0	0	0	0																									
Cumulative Planned ISOs			0	0	0	0	4	8	12																									
Actuals																																		
Actual ROB's Delivered to T.A.			61	0	20																													
Actual ISO's Delivered to T.A.			0	0	0																													
			0	0	0																													
Planned volume by Week				45	43	42	42	59	57	55	55	56	56	56	56	61	61	61	58	56	56	56	56	56	46	46	46	44	0	0	0	0	0	
Weekly volume needed to make-up schedule slip by 8/30				64	64	78	64	53	55	56	56	56	56	61	61	61	58	56	56	56	56	56	46	46	46	44	0	0	0	0	0			
Planned volume by Day				11	11	11	11	15	14	14	14	14	14	14	14	15	15	15	15	14	14	14	14	14	12	12	12	11						
Daily fills adjustment				18	18	19	18	14	14	14	14	14	14	15	15	15	15	15	14	14	14	14	14	14	12	12	12	11						
Total planned by 7/30 = 298																																		

06/22/99 F199mA2/123

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: June 16, 1999

MEETING NUMBER: 39
MN:SWP(OSDF):99-0034

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: June 17, 1999

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DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

Kwasi Badu-Tweneboah MS 38
Linda Barlow MS 52-7
Jennifer Blankemeyer MS 52-0
+ # Pete Bolig - Petro
+ Charlie Brown MS 60
+ # Damien Bryant MS 64
# Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
+ John Centers MS52-0
J.D. Chiou MS 52-0
+ Tom Crawford MS 52-0
William Davis MS 52-0
Mary Eleton MS 60
+ Corey Fabricante MS 52-0
+ # Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
+ # Don Goetz MS 64
Debra Grant MS 52-0
+ # Kevin Harbin MS 64
# Matt Harper MS 64
Lindsey Harris MS 64
+ Alan Hohnhorst MS 60
Rick Holbrook MS 64
+ # Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Tony Klimek - MS 60
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
+ # Susan Lorenz MS 52-8
Mark Mather - Petro
Lee McDaniel MS 60
+ Rick McGuire MS 60
# Jeff Middaugh MS 64
+ Chris Neumann - MS 60
+ # Don Pfister MS 45
Carlos Pratt MS 64
Perry Richardson MS52-8
Mike Rolfes MS 60
+ David Russell - MS 52-0
+ # Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
+ Sharon Spears - MS 52-5
# Dan Stempfley MS 64
+ # Rich Stengel MS 64
# Mike Stumbo - Petro
Collin Sukow MS38
+ # Vern Taylor MS 52-0
Chris Tucker - Petro
+ Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+ # Dave Williams - Petro
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic - Drive defensively - especially during summer months, watch out for children, bicyclists and motorcyclists.

Value Added Topic -

Balance Topic -

SOUTHERN WASTE UNITS EXCAVATION

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the June 8, 1999 meeting.

B. Initial air samples are well below detectable limits.

C. The DOE Safety Audit that took place this morning went well. General housekeeping can be improved.

D. Petro has adapted a daily walkdown form from the FDF Safety assessment form. Their form is working well as a thorough daily checklist. The checklist may be adapted project wide.

III. SCHEDULE BRIEFING

Petro presented the attached 4-week schedule.

SWU

A. The SWU Wheel Wash is to be complete by June 21, 1999.

Area 1, Phase II - Site Preparation

B. The punchlist is complete. A flyover will be performed this week in order to provide data for the redlines.

Sewage Treatment Plant Excavation

C. Petro has completed the STP ramp.

D. The poles have been installed for the electrical work. Petro needs the detail for the location of the anchors for one pole. Rick McGuire will coordinate with Petro and B&J Electric. The cable will arrive on June 22, 1999.

E. Petro will complete mixing the digester sludge this week.

F. Petro has delivered 83 loads (approximately 1,000 CY) of material to SP-7

G. Petro will be welding the transfer line tomorrow.

H. Removal of the sludge cake is to begin on June 21, 1999.

I. Petro is to begin the deep excavation next week. This material will be transported to the Cell.

J. Demolition of structures began today. Foundations will be removed with the deep excavation.

K. Petro's double wide office trailer will arrive on June 22, 1999. Set up will occur on June 23rd through June 25th, 1999.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. No report.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. STP Rev. 1 changes - Petro will have a proposal tomorrow. FDF is working on the Area 1 Phase II changes.

B. The Leachate Line Support letter is to DOE for approval. FDF expects to be able to negotiate next week.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. No occupational injuries since the June 8, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

A small fire occurred during the refilling of a pump at Cell 3 resulting in no apparent damage. Possible lessons learned include:
* Verify by feeling for heat without touching that equipment is cool prior to refueling. All equipment is different and therefore the cool down time will vary.

* Fuel cans left in direct sun can build-up internal pressure. Use caution when opening fuel cans in this condition as the pressure can cause fuel to splash from the fuel can.
* Fuel cans should not be fully filled.
* By utilizing a UL listed safety can this fire was not able to flash back into the fuel can.
* A fire extinguisher was available at this work site. The involved subcontractor personnel utilized their fire extinguisher training, remained calm, and extinguished the fire. The end results were no damage to the equipment or the environment, and no personnel were injured.

D. Dan Stempfley noted that the adjustment that Petro made to the OSDF wheel wash for roll-off box trucks seems to be cleaning the trucks adequately.

XI. SCHEDULE BRIEFING

A. Petro has screened approximately 58,000 tons of the approximately 80,000 tons required for the clay liner. Petro anticipates approximately two weeks of clay screening remaining. Petro has not been able to screen this week due to the rain earlier in the week.

B. Petro has placed 34 roll-off boxes and 142 loads of Category 1 as of COB June 15, 1999.

C. Petro has completed the overexcavation and backfill of the geotechnical borings.

D. Petro will mobilize the week of June 28,1999 for construction of the test pad for clay compaction.

E. Petro will finish stockpiling gravel for the secondary liner layer on June 17, 1999.

F. The first delivery of liner material is scheduled for July 7, 1999. Petro needs ten days notice prior to delivery and they can accept a limited number of trucks per day. FDF will coordinate the delivery schedule with Petro.

XII. QUALITY AND INSPECTION

A. No report.

MEETING NOTES - Continued

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Petro will coordinate the location of the lay down area for the liner material with FDF. FDF is to review the use of the T-545 area for staging based on certification results.

B. Petro will cute the required amount of GML to send to the liner penetration box fabricator for welding. Petro will coordinate with GeoSyntec and FDF QA prior to cutting.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. GeoSyntec is holding the submittal on the liner installer until Petro provides additional information pertaining to qualifications.

XV. SUBCONTRACT ADMINISTRATION

A. No report.

XVI. GENERAL

A. Petro is to submit a copy of the letter that they have sent to their subcontractors as a part of the Corrective Action Plan from the Lock & Tag incident.

NEXT MEETING: 2:00 PM, June 22, 1999 T-183 Conference Room

Prepared by: Bruce Schweitzer Phone No. 648-5197 Date: June 17, 1999

BAS:bas
Attachments: Four Week Schedule

BCONTRACT NO.: FSC 614
BCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
BCONTRACTOR: Petro Environmental Technologies, Inc.
HEDULE DATE: 6-16-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

CTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	6/6	6/7	6/8	6/9	6/10	6/11	6/12	6/13	6/14	6/15	6/16	6/17	6/18	6/19	6/20	6/21	6/22	6/23	6/24	6/25	6/26	6/27	6/28	6/29	6/30	7/1	7/2	7/3
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
U/OSDF	Wheel Wash Installation		SCH BAR																												
	Water System Startup		CRAFT QTY																3	3	3	3	3			3	3	3	3	3	
F	Screen Clay Liner		SCH BAR																												
			CRAFT QTY.		6	6	6	6							6	6	6		6	6	6	6	6	6		6	6	6	6	6	6
F	Excavate Cell 3 To Subgrade		SCH BAR																												
			CRAFT QTY.			3							2	2																	
F	Proofroll/Undercut Cell 3		SCH BAR																												
			CRAFT QTY.										2																		
F	Cell 2 Placement		SCH BAR																												
			CRAFT QTY.			4	4	4					9	9	9	9			9	9	9	9				6	6	6	6		
F	Stockpile Stone		SCH BAR																												
			CRAFT QTY.		1	1	1	1	1				1	1	1																
F	Clay Liner Test Pad Construction		SCH BAR																												
			CRAFT QTY.																									4	4	4	
	Excavate/Haul WIMS/EIMS		SCH BAR																												
			CRAFT QTY.				4	4					4	4	4	4			4	4	4	4				4	4	4	4		
	Construct STP Ramp		SCH BAR																												
			CRAFT QTY.		5	5	2	2																							
	Electrical Installation		SCH BAR																												
			CRAFT QTY.					3					3	3	3	3			3	3	3	3				3	3				
	STP Digester Sludge		SCH BAR																												
			CRAFT QTY.		12	12	12	12					12	12	12	12															
	STP Transfer Line		SCH BAR																												
			CRAFT QTY.										2	2	2	2			2	2	2	2									
	Sludge Cake Stabilization/ Excavation		SCH BAR																												
			CRAFT QTY.		12	12	12	12					12	12	12	12			12	12											
	Deep Excavation		SCH BAR																												
			CRAFT QTY.																		12	12				12	12	12	12		
	STP Demolition		SCH BAR																												
			CRAFT QTY.											1	1	1			1	1	1	1				2	2	2	2		

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-2737

F-2737

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: June 8, 1999

MEETING NUMBER: 38
MN:SWP(OSDF):99-0034

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: June 15, 1999

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+ Corey Fabricante MS 52-0
+ # Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
+ Debra Grant MS 52-0
Kevin Harbin MS 64
Matt Harper MS 64
Lindsey Harris MS 64
+ Alan Hohnhorst MS 60
# Rick Holbrook MS 64
Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Tony Klimek - MS 60
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
+ # Mark Mather - Petro
Lee McDaniel MS 60
+ Rick McGuire MS 60
Jeff Middaugh MS 64
+ Chris Neumann - MS 60
+ # Don Pfister MS 45
Carlos Pratt MS 64
Maureen Richard MS 64
Perry Richardson MS52-8
Mike Rolfes MS 60
David Russell - MS 52-0
+ # Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
+ Sharon Spears - MS 52-5
Dan Stempfley MS 64
Mike Stumbo - Petro
Collin Sukow MS38
Vern Taylor MS 52-0
Chris Tucker - Petro
+ Christa Walls MS52-8
Lou Wehlitz MS 64
Lewis Wiedeman MS 60
+ # Dave Williams - Petro
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic - Never relax on safety - either at work or at home.

Value Added Topic - Ask employees for their input; involve them in decisions that affect their job.

Balance Topic - Take charge of your attitude. Don't let someone else choose it for you.

SOUTHERN WASTE UNITS EXCAVATION

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the June 3, 1999 meeting.

B. Follow heat stress guidelines.

C. Work at STP is going well. Personnel need to be aware of buffer zones, postings, fences, etc.

D. FDF will coordinate repainting of the lines at the crossings on the Impacted Material Haul Road. Signs and postings are to be put up.

III. SCHEDULE BRIEFING

Petro presented the attached 4-week schedule.

SWU

A. Petro is reworking the SWU wheel wash.

Area 1, Phase II - Site Preparation

B. Petro will be working on the punchlist this week and will coordinate the final walkdown with FDF.

Sewage Treatment Plant Excavation

C. Petro does not anticipate working Friday, June11, 1999. Dave Williams will confirm prior to noon on Wednesday, June 9.

D. Petro is constructing the ramp for STP materials to the cell. Should be complete by June 10, 1999. Placement of STP materials is expected in approximately two weeks.

E. The poles are on site for the STP electrical work. The poles are to be set on June 10, 1999. It is expected to take approximately two weeks for all electrical work to be completed.

F. The AWAC excavation is to be compete this week.

G. The transfer line is to be complete on June 9, 1999.

H. The access road to SP-7 was completed last week.

I. The Digester sludge excavation will require one more week.

J. The office trailers are to be delivered June 22, 1999 and be set up June 23rd through the 25th.

K. Six of a total of ten MHF containers will be delivered to RIMIA on June 9, 1999. The will be delivered to the work area between June 9 and June15.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. Petro is to submit a sketch to FDF showing the routing of the water line to the back-pressure house.

B. Petro is to inform FDF of the status of the delivery of the dewatering pump for the STP.

C. Petro will be posting personnel (including subcontractors) training matrices in the access trailers.

D. The culvert pipes under the roads that the transfer line will be run through are clear. No road outage will be required for installation.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. DCN number 52 on the AWAC soil is to be finalized on June 9, 1999.

B. DCN number 47 on fusion welding should be complete at this time.

VII. SUBCONTRACT ADMINISTRATION

A. Will meet tomorrow on the Rev. 1 proposal.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Gregg Johnson had the following report:

A. One occupational injury since the June 3, 1999 meeting. A GeoSyntec employee was stung by a bee when grabbing a handrail while walking down steps outside of a trailer. The employee was given medication to counteract a possible allergic reaction, therefore the injury was classified as a recordable.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

There was an ambulance run to T-98 June 7, 1999. An employee passed out after getting up from a break - the cause has not been determined.

A team member was exposed to hydraulic fluid today. A hydraulic line on a piece of equipment burst spilling fluid on the person's arm. The person was not injured.

The mobile crane on the blue service truck is still out of service and cannot be used until repairs are complete and FDF inspects the crane.

A CAT 416C backhoe was observed being operated in a backwards direction while the operator was talking on a cellular phone and smoking. Petro Safety was notified at the time and was to address the issue.

Petro has made a good response to the Lock & Tag issue from May 26/27.

The personnel from Petro who supported the LCS repairs are to be commended for a job well done. The team responded to numerous changes and other obstacles to complete repairs in a timely fashion.

D. Petro is to review the location of the "Stop Proceed with Caution" sign on the North Entrance Road. The current location is causing confusion to motorists as to where they are supposed to stop.

XI. SCHEDULE BRIEFING

A. Petro has screened approximately 51,000 tons of the approximately 80,000 tons required for the clay liner. Petro anticipates approximately three weeks of clay screening remaining.

B. The OSDF wheel wash should be operational June 9, 1999.

C. Petro began placing debris in Cell 2 today.

D. Petro will be working on Friday, June 11, 1999 to continue stockpiling of stone for Cell 3.

E. Wise Services will be performing repair work on manholes 1 & 2.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. FDF anticipates that sufficient clay will be available for Cell 3 construction. Petro requested a contingency plan. FDF and GeoSyntec will coordinate this issue.

B. The IMPP changes such as stockpiling Category 1 material in the Cell went to the regulators for approval last week.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. Petro is to notify FDF in writing that they feel an equitable adjustment is appropriate. FDF will then request and RFP if they agree.

XVI. GENERAL

A. Petro asked about the status of Phase I submittals pertaining to liner installation warranty and manufacturer's warranty. The Phase I warranty submittals, that are required for closeout, are still with Mike Hickey and FDF legal.

NEXT MEETING: 2:00 PM, June 16, 1999 T-183 Conference Room

Prepared by: Bruce Schweitzer Phone No. 648-5197 Date: June 14, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 6-08-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	5/30	5/31	6/1	6/2	6/3	6/4	6/5	6/6	6/7	6/8	6/9	6/10	6/11	6/12	6/13	6/14	6/15	6/16	6/17	6/18	6/19	6/20	6/21	6/22	6/23	6/24	6/25	6/26
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
SWU/OSDF	Wheel Wash Installation		SCH BAR																												
	Water System Startup		CRAFT QTY.					2	2																						
OSDF	Screen Clay Liner		SCH BAR																												
			CRAFT QTY.			6		6	6	6		6	6	6	6	6	6		6	6	6	6	6	6		6	6	6	6	6	6
OSDF	Excavate Cell 3 To Subgrade		SCH BAR																												
			CRAFT QTY.					4	4				3																		
OSDF	Proofroll/Undercut Cell 3		SCH BAR																												
			CRAFT QTY.						3																						
OSDF	Repair Decon Pad		SCH BAR																												
			CRAFT QTY.			2		2	4	5																					
OSDF	Cell 2 Preparation		SCH BAR																												
			CRAFT QTY.									5	2	2																	
OSDF	Cell 2 Placement		SCH BAR																												
			CRAFT QTY.										4	4	4				6	6	6	6				6	6	6	6		
OSDF	Stockpile Stone		SCH BAR																												
			CRAFT QTY.									1	1	1	1	1			1	1	1	1	1			1	1	1	1	1	
SWU	Excavate/Haul WIMS		SCH BAR																												
			CRAFT QTY.											4	4				4	4	4	4				4	4	4	4		
STP	Construct STP Ramp		SCH BAR																												
			CRAFT QTY.			5		5	5			5	5	2	2																
STP	Electrical Installation		SCH BAR																												
			CRAFT QTY.			3									3				3	3	3	3				3	3	3	3		
STP	STP AWAC Excavation		SCH BAR																												
			CRAFT QTY.			2		6				6	6	6	6																
STP	STP Transfer Line		SCH BAR																												
			CRAFT QTY.											2	2	2			2	2	2	2				2	2	2	2		
STP	Construct SP-7 Access Rds.		SCH BAR																												
			CRAFT QTY.						2																						
STP	Sludge Cake Excavation		SCH BAR																												
			CRAFT QTY.																				3			3	3	3	3		

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F-2737

F-2737

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: June 3, 1999

MEETING NUMBER: 37
MN:SWP(OSDF):99-0021

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: June 4, 1999

RECEIVED
JUN 15 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

Kwasi Badu-Tweneboah MS 38
Linda Barlow MS 52-7
Jennifer Blankemeyer MS 52-0
Pete Bolig - Petro
Charlie Brown MS60
Jim Burnett MS 38
Dennis Carr MS 52-2
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Lewis Wiedeman MS 60
+ # Dave Williams - Petro
+ # Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

37Jun03.WEK.wpd

MEETING NOTES - Continued

Safety Topic - Don't overload electrical outlets - it is a fire hazard.

TQM Topic - Stay up to date with procedures - review them every few months.

Balance Topic - Work is important but keep your family first.

Due to numerous schedule conflicts, the weekly meeting was canceled. The attendees listed above met briefly on June 3, 1999 review high priority items.

SOUTHERN WASTE UNITS EXCAVATION

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No report.

III. SCHEDULE BRIEFING

Petro presented the attached 4-week schedule.

SWU

A. No report.

Area 1, Phase II - Site Preparation

B. No report.

Sewage Treatment Plant Excavation

C. The STP Excavation started on Thursday, May 27, 1999. Petro started AWAC Excavation, constructed the ditches and berms, and installed the Read fence.

D. Petro mobilized trailers on May 25 and May 26, 1999.

MEETING NOTES - Continued

E. Petro continued AWAC Excavation this week and began preparing SP-7 to accept material.

F. Petro began constructing the STP ramp into the Cell.

G. Petro will be working on June 4, 1999.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. No report.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. No report.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. The time and location for the heat stress briefing have been set. FDF will coordinate with Petro to determine attendees.

XI. SCHEDULE BRIEFING

MEETING NOTES - Continued

A. Petro is to begin placing material in the Cell on June 7, 1999.

B. Cell 3 will be excavated to subgrade by next week. Proofrolling will follow.

C. Petro is in the process of repairing the OSDF Equipment Wash Facility and completing the Cell 2 access ramp.

D. FDF expects the lining of the LCS pipe between manholes 1 and 3 to be complete by May 21, 1999.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Petro operations were shut down on May 27, 1999 as a result of a lock and tag incident. As part of the corrective action, Petro supervisors attended Lock & Tag Training on June 2, 1999.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. No report.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, June 8, 1999 T-183 Conference Room

Prepared by: Bruce Schweitzer Phone No. 648-5197 Date: June 4, 1999

BAS:bas
Attachments: Four Week Schedule

June 3, 1999 Attachment

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 6-03-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	5/23	5/24	5/25	5/26	5/27	5/28	5/29	5/30	5/31	6/1	6/2	6/3	6/4	6/5	6/6	6/7	6/8	6/9	6/10	6/11	6/12	6/13	6/14	6/15	6/16	6/17	6/18	6/19
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
AIPII	Punch Items		SCH. BAR																												
			CRAFT QTY.		3																										
SWU/OSDF	Employee Training		SCH. BAR																												
			CRAFT QTY.																												
SWU/OSDF	Wheel Wash Installation		SCH. BAR																												
	Water System Startup		CRAFT QTY.		5	5	5	5																							
OSDF	Screen Clay Liner		SCH. BAR																												
			CRAFT QTY.		6	6	6	6					6		6	6	6		6	6	6	6	6	6		6	6	6	6	6	6
STP	STP Submittals		SCH. BAR																												
			CRAFT QTY.																												
OSDF	Excavate Cell 3 To Subgrade		SCH. BAR																												
			CRAFT QTY.		2	2									4	4															
OSDF	Proofroll/Undercut Cell 3		SCH. BAR																												
			CRAFT QTY.				3	3					3																		
OSDF	Repair Decon Pad		SCH. BAR																												
			CRAFT QTY.		2	2	2	2					2		2	2															
OSDF	Cell 2 Preparation		SCH. BAR																												
			CRAFT QTY.																5	5	5										
OSDF	Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.																			6				6	6	6	6		
OSDF	Stockpile Stone		SCH. BAR																												
			CRAFT QTY.																1	1	1	1				1	1	1	1		
SWU	Excavate/Haul WIMS		SCH. BAR																												
			CRAFT QTY.																		6	6				6	6	6	6		
STP	Construct STP Ramp		SCH. BAR																												
			CRAFT QTY.		5	5	5	5					5		5	5															
STP	Electrical Installation		SCH. BAR																												
			CRAFT QTY.				2	2					3		3	3			3	3	3	3				3	3	3	3		
STP	Trailer Installation/Fences		SCH. BAR																												
			CRAFT QTY.		4	4	4	4																							
STP	Construct Berms/Ditches		SCH. BAR																												
			CRAFT QTY.		2	2	2																								
STP	STP AWAC Excavation		SCH. BAR																												
			CRAFT QTY.					4					2		6				6	6	6	6				6	6	6	6		
STP	STP Transfer Line		SCH. BAR																												
			CRAFT QTY.												2				2	2	2	2				2	2	2	2		
STP	Mobilization Hubbard Trucks		SCH. BAR																												
			CRAFT QTY.																												
STP	Construct SP-7 Access Rds.		SCH. BAR																												
			CRAFT QTY.													2															
STP	Sludge Cake Excavation		SCH. BAR																												
			CRAFT QTY.																							3	3	3	3		

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F-2737

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: June 3, 1999

MEETING NUMBER: 37
MN:SWP(OSDF):99-0021

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: June 4, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

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Lewis Wiedeman MS 60
+# Dave Williams - Petro
+# Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

37JUN03.WPD

MEETING NOTES - Continued

E. Petro continued AWAC Excavation this week and began preparing SP-7 to accept material.

F. Petro began constructing the STP ramp into the Cell.

G. Petro will be working on June 4, 1999.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. No report.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. No report.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. The time and location for the heat stress briefing have been set. FDF will coordinate with Petro to determine attendees.

XI. SCHEDULE BRIEFING

June 3, 1999 Attachment

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc
SCHEDULE DATE: 6-03-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.
4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	5/23	5/24	5/25	5/26	5/27	5/28	5/29	5/30	5/31	6/1	6/2	6/3	6/4	6/5	6/6	6/7	6/8	6/9	6/10	6/11	6/12	6/13	6/14	6/15	6/16	6/17	6/18	6/19
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
AIPII	Punch Items		SCH BAR																												
			CRAFT QTY.		3																										
SWU/OSDF	Employee Training		SCH BAR																												
			CRAFT QTY.																												
SWU/OSDF	Wheel Wash Installation		SCH BAR																												
	Water System Startup		CRAFT QTY.		5	5	5	5																							
OSDF	Screen Clay Liner		SCH BAR																												
			CRAFT QTY.		6	6	6	6					6		6	6	6		6	6	6	6	6	6		6	6	6	6	6	6
STP	STP Submittals		SCH BAR																												
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OSDF	Excavate Cell 3 To Subgrade		SCH. BAR																												
			CRAFT QTY.		2	2									4	4															
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			CRAFT QTY.				3	3					3																		
OSDF	Repair Decon Pad		SCH. BAR																												
			CRAFT QTY.		2	2	2	2					2		2	2															
OSDF	Cell 2 Preparation		SCH. BAR																												
			CRAFT QTY.																5	5	5										
OSDF	Cell 2 Placement		SCH. BAR																												
			CRAFT QTY.																			6				6	6	6	6		
OSDF	Stockpile Stone		SCH. BAR																												
			CRAFT QTY.																1	1	1	1				1	1	1	1		
SWU	Excavate/Haul WIMS		SCH. BAR																												
			CRAFT QTY.																		6	6				6	6	6	6		
STP	Construct STP Ramp		SCH. BAR																												
			CRAFT QTY.		5	5	5	5					5		5	5															
STP	Electrical Installation		SCH. BAR																												
			CRAFT QTY.				2	2					3		3	3			3	3	3	3				3	3	3	3		
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STP	STP AWAC Excavation		SCH BAR																												
			CRAFT QTY.					4					2		6				6	6	6	6				6	6	6	6		
STP	STP Transfer Line		SCH BAR																												
			CRAFT QTY.												2				2	2	2	2				2	2	2	2		
STP	Mobilization Hubbard Trucks		SCH BAR																												
			CRAFT QTY.																												
STP	Construct SP-7 Access Rds.		SCH BAR																												
			CRAFT QTY.													2															
STP	Sludge Cake Excavation		SCH BAR																												
			CRAFT QTY.																							3	3	3	3		

000310

ID	Sta	Finish	Dur	Float
100	10MAY99	12MAY99	3	2
105	10MAY99	11MAY99	2	3
115	17MAY99*	28MAY99	10	0
110	24MAY99*	27MAY99	4	1
120	01JUN99	11JUN99	9	0
125	14JUN99	14JUN99	1	0
135	15JUN99	21JUN99	5	0
130	15JUN99	17JUN99	3	2
140	22JUN99	24JUN99	3	0
150	25JUN99	01JUL99	5	0
170	02JUL99	16JUL99	10	0
160	02JUL99	02JUL99	1	14
175	19JUL99	23JUL99	5	0
145	26JUL99*	30JUL99	5	0
155	02AUG99	06AUG99	5	0
165	09AUG99	13AUG99	5	0
180		13AUG99	0	0

Received 5/13/99
KBT

000211

F-2737

Project Start	10MAY99	Early Bar	BILL
Project Finish	13AUG99	Progress Bar	Sheet 1 of 1
Data Date	10MAY99	Critical Activity	
Run Date	10MAY99		

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OSDF

Manhole #3 Repair

Scope of Work for Manhole #3 Pipe Repair

Sawcut slab around penetrations (covers, etc.)

Demolish slab

Remove electric panel

Remove solar panel

Remove misc. - bollards, etc.

Install shoring/sheet piling

Excavate

Replace SDR 26 pipe with SDR11, replace fittings → Check on couplings?

Reconfigure cleanouts

Test lines

Backfill

Remove shoring

Reconstruct slab

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: May 18, 1999

MEETING NUMBER: 36
MN:SWP(OSDF):99-0032

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: May 20, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

#Kwasi Badu-Tweneboah MS 38
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+# Dave Williams - Petro
+# Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Sewage Treatment Plant Excavation

C. Petro has constructed the gravel pad for the support area.

D. Petro will construct the STP ramp into Cell 2 on Thursday, May 20, 1999.

E. Petro will turn in the electrical submittal tomorrow. They would like to start setting poles next week.

F. The Rad Control point trailer will arrive on May 25, 1999. The break trailer and cool down trailers will arrive on May 26, 1999.

G. Petro plans to construct the berm and excavate the ditch around the STP next week.

H. Petro will work on the roads and access to SP-7, including surface water controls, next week.

I. Hubbard trucks will be mobilizing May 27, 1999.

J. Petro plans to install the transfer line the first week in June.

K. The water connection at the backpressure house is to be done next week.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. FDF is to clarify whether or not the transfer line and berms around the STP are required prior to beginning excavation on May 27, 1999 or if they are required prior to deep excavation. FDF to write DCN accordingly.

B. FDF is to coordinate access into SP-7 with Petro and IT.

C. FDF is to advise Petro as to the requirements for a generator to support the Rad Control Point to allow use prior to the electric supply being completed.

MEETING NOTES - Continued

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. No occupational injuries since the May 11, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

No problems or issues noted this week.

XI. SCHEDULE BRIEFING

A. Petro has screened approximately 33,000 tons of the approximately 80,000 tons required for the clay liner.

B. Cell 3 will be excavated to subgrade by next week. Proofrolling will follow.

C. Petro is in the process of repairing the OSDF Equipment Wash Facility and completing the Cell 2 access ramp.

D. FDF expects the lining of the LCS pipe between manholes 1 and 3 to be complete by May 21, 1999.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. The source for material for the first waste placement will be the West Impacted Material Stockpile and debris from the Transfer Area.

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 5-18-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	5/9	5/10	5/11	5/12	5/13	5/14	5/15	5/16	5/17	5/18	5/19	5/20	5/21	5/22	5/23	5/24	5/25	5/26	5/27	5/28	5/29	5/30	5/31	6/1	6/2	6/3	6/4	6/5
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
AIPII	Punch Items		SCH. BAR																												
			CRAFT QTY.		2	3										3															
SWU/OSDF	Employee Training		SCH. BAR																												
			CRAFT QTY.																												
SWU/OSDF	Wheel Wash Installation		SCH. BAR																												
	Water System Startup		CRAFT QTY.		5	5		5				5	5	5	5				5	5	5	5									
OSDF	Screen Clay Liner		SCH. BAR																												
			CRAFT QTY.		6	6	6			6		6	6	6	6	6	6		6	6	6	6	6	6			6	6	6	6	
STP	STP Submittals		SCH. BAR																												
			CRAFT QTY.																												
OSDF	Leachate Support		SCH. BAR																												
			CRAFT QTY.		3	4	5	5	4	3		3	3	4	4	4	4		4	4	4	4	4	4							
OSDF	Excavate Cell 3 To Subgrade		SCH. BAR																												
			CRAFT QTY.		2	2	2	2				2	2																		
OSDF	Proofroll/Undercut Cell 3		SCH. BAR																												
			CRAFT QTY.											3	3	3			3	3											
OSDF	Repair Decon Pad		SCH. BAR																												
			CRAFT QTY.										2	2	2				2	2	2	2					2	2	2		
OSDF	Construct Cell 2/3 Ramp		SCH. BAR																												
			CRAFT QTY.		5	5	5	5	5			5	5	5																	
OSDF	Cell 2 Startup		SCH. BAR																												
			CRAFT QTY.																									6	6		
SWU	Excavate/Haul WIMS		SCH. BAR																												
			CRAFT QTY.																									5	5		
STP	Construct STP Support Area		SCH. BAR																												
			CRAFT QTY.		3	3	3	3																							
STP	Construct STP Ramp		SCH. BAR																												
			CRAFT QTY.												5	5			5	5	5	5	5								
STP	Electrical Installation		SCH. BAR																												
			CRAFT QTY.																3	3	3	3					5	5	5		
STP	Trailer Installation/Fences		SCH. BAR																												
			CRAFT QTY.																	2	2										
STP	Construct Contractors Work Area		SCH. BAR																												
			CRAFT QTY.									2	2	2	2																
STP	Construct Berms/Ditches		SCH. BAR																												
			CRAFT QTY.																												
STP	STP AWAC Excavation		SCH. BAR																												
			CRAFT QTY.																								6	6	6	6	
STP	STP Transfer Line		SCH. BAR																												
			CRAFT QTY.																								6	6	6	6	
STP	Mobilization Hubbard Trucks		SCH. BAR																												
			CRAFT QTY.																												
STP	Construct SP-7 Access Rds		SCH. BAR																												
			CRAFT QTY.																		2	2									

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: May 18, 1999

MEETING NUMBER: 36
MN:SWP(OSDF):99-0032

RECEIVED
MAY 21 1999

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: May 19, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
* Author of Notes

#Kwasi Badu-Tweneboah MS 38
Linda Barlow MS 52-7
Jennifer Blankemeyer MS 52-0
+# Pete Bolig - Petro
+ Charlie Brown MS60
# Jim Burnett MS 38
Dennis Carr MS 52-2
Tom Carr MS 60
+# J.D. Chiou MS 52-0
+ Tom Crawford MS 52-0
+Tom Daughtrey MS 52-0
William Davis MS 52-0
Mary Eleton MS 60
Corey Fabricante MS 52-0
+# Frank Flack MS 60
Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
Debra Grant MS 52-0
Kevin Harbin MS 64
Matt Harper MS 64
Lindsey Harris MS 64
Mike Hickey MS 64
+Alan Hohnhorst MS 60
Rick Holbrook MS 64
+# Warren Hooper MS52-0
+# Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Daryl Kelley - Petro
+# Tony Klimek - MS 60
Uday Kumthekar MS 64
+ Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
+# Mark Mather - Petro
Lee McDaniel MS 60
+ Rick McGuire MS 60
# Jeff Middaugh MS 64
+ Chris Neumann - MS 60
Don Pfister MS 45
Carlos Pratt MS 64
Maureen Richard MS 64
Perry Richardson MS52-8
Mike Rolfes MS 60
+ David Russell - MS 52-0
+# Rick Schairbaum - Petro
* Bruce Schweitzer MS 64
Tim Smith - MS 64
+ Sharon Spears - MS 52-5
# Dan Stempfley MS 64
Mike Stumbo - Petro
Collin Sukow MS38
+# Vern Taylor MS 52-0
Chris Tucker - Petro
+# Christa Walls MS52-8
Lou Wehlitz MS 64
+ Lewis Wiedeman MS 60
+# Dave Williams - Petro
+# Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

Safety Topic - Be observant, know what others around you are doing, and take responsibility for your surroundings.

TQM Topic - Handle a document one time - know what you want to do with it and do it.

Balance Topic - Participate in activities that you might not otherwise be interested in - you may find you enjoy something new.

SOUTHERN WASTE UNITS EXCAVATION

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the May 11, 1999 meeting.

B. Poison ivy and ticks have been a problem this spring. Mowing in high traffic areas has been done, and Petro personnel have viewed a safety video on identifying poison ivy.

III. SCHEDULE BRIEFING

Petro presented the attached 4-week schedule.

SWU

A. No report.

Area 1, Phase II - Site Preparation

B. Petro has set aside Friday, May 21, 1999 to work on punchlist items.

Sewage Treatment Plant Excavation

C. Petro has constructed the gravel pad for the support area.

D. Petro will construct the STP ramp into Cell 2 on Thursday, May 20, 1999.

E. Petro will turn in the electrical submittal tomorrow. They would like to start setting poles next week.

F. The Rad Control point trailer will arrive on May 25, 1999. The break trailer and cool down trailers will arrive on May 26, 1999.

G. Petro plans to construct the berm and excavate the ditch around the STP next week.

H. Petro will work on the roads and access to SP-7, including surface water controls, next week.

I. Hubbard trucks will be mobilizing May 27, 1999.

J. Petro plans to install the transfer line the first week in June.

K. The water connection at the backpressure house is to be done next week.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. FDF is to clarify whether or not the transfer line and berms around the STP are required prior to beginning excavation on May 27, 1999 or if they are required prior to deep excavation. FDF to write DCN accordingly.

B. FDF is to coordinate access into SP-7 with Petro and IT.

C. FDF is to advise Petro as to the requirements for a generator to support the Rad Control Point to allow use prior to the electric supply being completed.

D. There will be a meeting at 7:30 AM on Thursday, May 20, 1999 to discuss start-up issues relative to beginning excavation May 27, 1999 and starting waste placement on June 1, 1999.

E. Dan Stempfley is to coordinate with Petro to review boundaries throughout the project and to identify and put in place required postings. Dan pointed out that the permits have all been upgraded to calendar year 1999 and employees will be required to be briefed on them.

F. Petro will notify FDF prior to moving T-545 so that FDF can remove rad tech equipment.

G. Petro will provide FDF (Rick McGuire) with expected electrical loads for the trailers that they will be moving into the trailer complex. FDF will perform load calculations in order to confirm that the electrical equipment design is sufficient. Petro is to submit information relative to the STP first.

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. Petro has three RCI's forthcoming on the STP.

VII. SUBCONTRACT ADMINISTRATION

A. The RFP on the Rev. 1 drawing changes to STP are to be to FDF by tomorrow.

VIII. GENERAL

A. Jay Jalovec noted that the request for enhancements to the Impacted Material Placement Plan had been sent to the agencies several months ago. The agencies have tentatively concurred with the changes but are awaiting FDF/DOE response to their comments.

B. FDF is waiting on USEPA response to sampling data in the area where Petro plans to stockpile gravel. Comments are expected within the week.

MEETING NOTES - Continued

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. No occupational injuries since the May 11, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

No problems or issues noted this week.

XI. SCHEDULE BRIEFING

A. Petro has screened approximately 33,000 tons of the approximately 80,000 tons required for the clay liner.

B. Cell 3 will be excavated to subgrade by next week. Proofrolling will follow.

C. Petro is in the process of repairing the OSDF Equipment Wash Facility and completing the Cell 2 access ramp.

D. FDF expects the lining of the LCS pipe between manholes 1 and 3 to be complete by May 21, 1999.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. The source for material for the first waste placement will be the West Impacted Material Stockpile and debris from the Transfer Area.

B. Repairs are being completed on Petro's roll-off box trucks.

C. Petro will check to see if any of the required grid targets for Cells 1 or 2 are damaged or not in place.

D. The debris delivery schedule that FDF has previously given to Petro is accurate for the first two weeks of placement, beginning June 1, 1999. An updated schedule for subsequent placement will be issued.

E. GeoSyntec noted that they are prepared for waste placement to begin.

F. Petro requested that FDF write a DCN to reflect the change in HDPE couplings at the penetration boxes. The changes were noted on the recent submittal, but have not been formalized via DCN.

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

XV. SUBCONTRACT ADMINISTRATION

A. Issued modification to Petro on backfill for leachate repair. FDF is evaluating the proposal for other leachate repair support. FDF is working on a modification to adjust the milestones schedule. Jay Jalovec noted that FDF's request for changes to the milestones will likely be approved.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, May 25, 1999 T-183 Conference Room

Prepared by: Bruce Schweitzer Phone No. 648-5197 Date: May 19, 1999

BAS:bas
Attachments: Four Week Schedule

SUBCONTRACT NO.: FSC 614

SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A

SUBCONTRACTOR: Petro Environmental Technologies, Inc.

SCHEDULE DATE: 5-18-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	5/9	5/10	5/11	5/12	5/13	5/14	5/15	5/16	5/17	5/18	5/19	5/20	5/21	5/22	5/23	5/24	5/25	5/26	5/27	5/28	5/29	5/30	5/31	6/1	6/2	6/3	6/4	6/5
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
AIPII	Punch Items		SCH. BAR																												
			CRAFT QTY.		2	3										3															
SWU/OSDF	Employee Training		SCH. BAR																												
			CRAFT QTY.																												
SWU/OSDF	Wheel Wash Installation		SCH. BAR																												
	Water System Startup		CRAFT QTY.		5	5		5				5	5	5	5				5	5	5	5									
OSDF	Screen Clay Liner		SCH. BAR																												
			CRAFT QTY.		6	6	6			6		6	6	6	6	6	6		6	6	6	6	6	6			6	6	6	6	
STP	STP Submittals		SCH. BAR																												
			CRAFT QTY.																												
OSDF	Leachate Support		SCH. BAR																												
			CRAFT QTY.		3	4	5	5	4	3		3	3	4	4	4	4		4	4	4	4	4	4							
OSDF	Excavate Cell 3 To Subgrade		SCH. BAR																												
			CRAFT QTY.		2	2	2	2				2	2																		
OSDF	Proofroll/Undercut Cell 3		SCH. BAR																												
			CRAFT QTY.											3	3	3			3	3											
OSDF	Repair Decon Pad		SCH. BAR																												
			CRAFT QTY.										2	2	2				2	2	2	2					2	2	2		
OSDF	Costruct Cell 2/3 Ramp		SCH. BAR																												
			CRAFT QTY.		5	5	5	5	5			5	5	5																	
OSDF	Cell 2 Startup		SCH. BAR																												
			CRAFT QTY.																									6	6		
SWU	Excavate/Haul WIMS		SCH. BAR																												
			CRAFT QTY.																									5	5		
STP	Construct STP Support Area		SCH. BAR																												
			CRAFT QTY.		3	3	3	3																							
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			CRAFT QTY.												5	5			5	5	5	5	5								
STP	Electrical Installation		SCH. BAR																												
			CRAFT QTY.																3	3	3	3					5	5	5		
STP	Trailer Installation/Fences		SCH. BAR																												
			CRAFT QTY.																	2	2										
STP	Construct Contractors Work Area		SCH. BAR																												
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STP	STP Transfer Line		SCH. BAR																												
			CRAFT QTY.																								6	6	6	6	
STP	Mobilization Hubbard Trucks		SCH. BAR																												
			CRAFT QTY.																												
STP	Construct SP-7 Access Rds.		SCH. BAR																												
			CRAFT QTY																		2	2									

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2737

cc: Collin
Kwasi

SUBCONTRACT NO.: FSC 614
SUBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
SUBCONTRACTOR: Petro Environmental Technologies, Inc.
SCHEDULE DATE: 5-18-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	5/9	5/10	5/11	5/12	5/13	5/14	5/15	5/16	5/17	5/18	5/19	5/20	5/21	5/22	5/23	5/24	5/25	5/26	5/27	5/28	5/29	5/30	5/31	6/1	6/2	6/3	6/4	6/5
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
AIPH	Punch Items		SCH. BAR																												
			CRAFT QTY		2	3										3															
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	Water System Startup		CRAFT QTY.		5	5		5				5	5	5	5				5	5	5	5									
OSDF	Screen Clay Liner		SCH. BAR																												
			CRAFT QTY.		6	6	6			6		6	6	6	6	6	6		6	6	6	6	6	6			6	6	6	6	
STP	STP Submittals		SCH. BAR																												
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OSDF	Excavate Cell 3 To Subgrade		SCH. BAR																												
			CRAFT QTY.		2	2	2	2				2	2																		
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			CRAFT QTY.										2	2	2				2	2	2	2					2	2	2		
OSDF	Costruct Cell 2/3 Ramp		SCH. BAR																												
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STP	Mobilization Hubbard Trucks		SCH. BAR																												
			CRAFT QTY.																												
STP	Construct SP-7 Access Rds.		SCH. BAR																												
			CRAFT QTY.																		2	2									

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F-2737

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

Fluor Daniel Fernald Contract
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: SWU Excavation/OSDF Phase II - Weekly Contractor Coordination Meeting (20402/20102)

MEETING DATE: May 11, 1999

MEETING NUMBER: 35
MN:SWP(OSDF):99-0030

RECEIVED
MAY 17 1999
R Clusman

LOCATION: Fluor Daniel Fernald (FDF) Office

ISSUE DATE: May 13, 1999

File Record Storage Copy 104.25.2.4

DISTRIBUTION: + Attendees for SWU # Attendees for OSDF
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Reinhard Friske MS 52-9
Joan Garrity - MS 60
Mike Godber MS 64
Don Goetz MS 64
Debra Grant MS 52-0
Kevin Harbin MS 64
Matt Harper MS 64
Lindsey Harris MS 64
Mike Hickey MS 64
+Alan Hohnhorst MS 60
Rick Holbrook MS 64
+# Warren Hooper MS52-0
Jay Jalovec MS 45
Rob Janke MS 45
Jim Jenkins MS 64
Gregg Johnson MS 64
Daryl Kelley - Petro
Carl Ketchem - Petro
+# Tony Klimek - MS 60
Uday Kumthekar MS 64
Dave Lockerd MS 52-8
Susan Lorenz MS 52-8
+# Mark Mather - Petro
Lee McDaniel MS 60
+ Rick McGuire MS 60
# Jeff Middaugh MS 64
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Lou Wehlitz MS 64
+ Lewis Wiedeman MS 60
+# Dave Williams - Petro
Bill Zebick MS 64
Vicky Zimmerman MS 52-0
ECDC

MEETING NOTES - Continued

Safety Topic - Obey signs and postings and watch for others who may be in an unauthorized area.

TQM Topic - The Health & Safety plan for the STP has been issued, make sure you attend a briefing.

Balance Topic - Spend time with your family.

SOUTHERN WASTE UNITS EXCAVATION

I. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

II. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. No occupational injuries since the May 5, 1999 meeting.

B. There is a severe problem with ticks site wide. Mowing is to be done in high traffic areas.

III. SCHEDULE BRIEFING

SWU

A. Petro presented the attached 4-week schedule.

B. Continuing to install the wheel wash at the SWU. Pipefitters will connect the 3" line from the back-pressure house to the wheel wash this week.

C. The pavers will be on site Friday, May 7, 1999 to repair the South Access Road.

Area 1, Phase II - Site Preparation

D. A walkdown was conducted yesterday. The punchlist items should be done this week or next.

E. Petro will seed and stabilize this week.

Sewage Treatment Plant Excavation

F. Petro started constructing the support area, the Special Materials Transfer Area and they started taking down the fence.

G. Petro plans to have the electrical submittal this week.

H. Trailer installation is to take place next week, with locker installation and other interior finishes next week.

I. Petro has received the certifications for the geotextile at the support area.

J. The PCM's are to be delivered the week of May 24, 1999.

IV. QUALITY AND INSPECTION

A. No report.

V. DESIGN AND CONSTRUCTION ISSUES

A. Corey Fabricante reminded Petro that they may encounter elevated soil contamination levels in the areas near the north and west fence at the STP.

B. FDF is to write a DCN on the OSDF Contractor's area. Dave Russell is to contact Bruce Schweitzer to coordinate this issue.

C. Petro can obtain DCN numbers for STP directly from ECDC.

D. FDF will issue the approved DCN for the water connection to the backpressure house this week.

E. Petro cannot test the SWU wheel wash until FDF returns module 4 of the Safe Work Plan.

MEETING NOTES - Continued

VI. MATERIAL, DCN AND VENDOR DATA STATUS

A. No report.

VII. SUBCONTRACT ADMINISTRATION

A. Limited ATM for STP issued May 7, 1999.

VIII. GENERAL

A. No report.

OSDF PHASE II

IX. PREVIOUS MEETING REVIEW

Comments were solicited from the attendees regarding the minutes for the previous coordination meeting. No comments affecting those minutes were received.

X. HEALTH & SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

Jeff Middaugh had the following report:

A. No occupational injuries since the May 5, 1999 meeting.

B. For specific information pertaining to the weekly joint job site safety inspections contact FDF Construction Management.

C. Observations:

Jeff asked if the ROB trucks are still locked out and if they are ready to be inspected before being placed back into operation.

D. Petro confirmed that they will operate the physiological monitoring just as they did last year. Jeff Middaugh will coordinate the heat stress presentation from FDF Medical.

XI. SCHEDULE BRIEFING

A. Petro is continuing to screen clay. Cell 3 will be excavated to grade and proof-rolled next week.

B. Petro is constructing the Cell 2 Main Access ramp this week and will be building the STP ramp next week.

C. Petro is continuing to provide support for the leachate repair project and they are repairing the equipment wash pad.

XII. QUALITY AND INSPECTION

A. No report.

XIII. DESIGN AND CONSTRUCTION ISSUES

A. Petro needs FDF to assist in identifying suitable material for the access ramps. Petro would like to use the #78 and clay mix of material currently available. GeoSyntec is to review the material acceptability.

B. A meeting will be held immediately following to discuss the equipment to be used for clay placement

C. There will be a meeting on May 19, 1999 in order to review preparedness for June 1, 1999 impacted material placement.

D. A reminder that anyone who needs to enter into the borrow area must first notify Petro Safety and get permission. If it is not absolutely necessary that you enter the area - don't.

E. Petro asked about the status of Phase I submittals pertaining to liner installation warranty and manufacturer's warranty. The Phase I warranty submittals, that are required for closeout, are still with Mike Hickey and FDF legal.

F. Tony Klimek will review the GeoSyntec drawings to determine if any of them need to be revised because five or more DCN's have been written against any single drawing.

MEETING NOTES - Continued

XIV. MATERIAL, DCN AND VENDOR DATA STATUS

A. DCN 20102-080 is not required to be a DCN because it is written against a plan, not a drawing or specification. FDF will convey the information to Petro via letter.

B. RCI 20102-045R is with GeoSyntec for response.

XV. SUBCONTRACT ADMINISTRATION

A. FDF is preparing several modifications including the initial work for the leachate repair and for repair of the Equipment Wash.

B. A meeting will be held at 3 PM on May 18, 1999 to finalize the CAT 826 buy/lease proposal.

XVI. GENERAL

A. No report.

NEXT MEETING: 2:00 PM, May 18, 1999 T-183 Conference Room

Prepared by: Bruce Schweitzer Phone No. 648-5197 Date: May 13, 1999

BAS:bas
Attachments: Four Week Schedule

UBCONTRACT NO.: FSC 614
UBCONTRACT TITLE: SWU/OSDF PHASE II-OPTION A
UBCONTRACTOR: Petro Environmental Technologies, Inc.
CHEDULE DATE: 5-11-99

PETRO ENVIRONMENTAL TECHNOLOGIES, INC.

4-Week Schedule

ACTIVITY AREA	ACTIVITY DESCRIPTION	FOREMAN	WEEK	LAST WEEK							THIS WEEK							NEXT WEEK							SECOND WEEK						
			DATE	5/2	5/3	5/4	5/5	5/6	5/7	5/8	5/9	5/10	5/11	5/12	5/13	5/14	5/15	5/16	5/17	5/18	5/19	5/20	5/21	5/22	5/23	5/24	5/25	5/26	5/27	5/28	5/29
			DAY	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
IPH	Construct Channels/Ditches		SCH BAR																												
			CRAFT QTY		2	3	2	2	2																						
IPH	Seeding Stabilization		SCH BAR																												
			CRAFT QTY.		2	2		4	4			3	3	3	3																
DSDF/SWU	Option-A Submittals		SCH BAR																												
			CRAFT QTY.																												
WU/OSDF	Employee Training		SCH BAR																												
			CRAFT QTY.																												
WU/OSDF	Wheel Wash Installation		SCH BAR																												
	Water System Startup		CRAFT QTY		5	5		5				5	5	5	5				5	5	5	5	5								
DSDF	Screen Clay Liner		SCH BAR																												
			CRAFT QTY.		6	6		6	6	6		6	6	6	6	6	6		6	6	6	6	6	6		6	6	6	6	6	
DSDF	Construct Wedge at Cell 1/Cell 2		SCH BAR																												
			CRAFT QTY.				2	2																							
TP	STP Submittals		SCH BAR																												
			CRAFT QTY.																												
DSDF	Leachate Support		SCH BAR																												
			CRAFT QTY.		3	4	5	5	4	3		3	3	4	4	4	4		4	4	4	4	4	4		4	4	4	4	4	4
DSDF	Excavate Cell 3 To Subgrade		SCH BAR																												
			CRAFT QTY.		2	2	2	2											3	3											
DSDF	Proofroll/Undercut Cell 3		SCH BAR																												
			CRAFT QTY.																		3	3	3			3	3	3	3	3	
DSDF	Repair Decon Pad		SCH BAR																												
			CRAFT QTY																2	2	2	2				2	2	2	2		
DSDF	Costruct Cell 2/1 Ramp		SCH BAR																												
			CRAFT QTY						5			5	5	5	5	6										2	2	2	2		
TP	Construct STP Support Area		SCH BAR																												
			CRAFT QTY									2	2	2	2											2	2	2	2	2	
TP	Construct STP Ramp		SCH BAR																												
			CRAFT QTY																5	5	5	5	5			5	5	5	5	5	
TP	Electrical Installation		SCH BAR																												
			CRAFT QTY																							5	5	5	5	5	
TP	Trailer Installation		SCH BAR																												
			CRAFT QTY.																			2	2			2	2	2	2	2	
TP	Construct Contractors Work Area		SCH BAR																												
			CRAFT QTY																	2	2	2	2			2					

000331

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APPENDIX E

PERSONNEL LOGS

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II WEEK BEGINNING: 01 NOV 99

ITEM	REF ID	COMPANY	MON 01	TUES 02	WED 03	THURS 04	FRI 05	SAT 06	SUN 07
JIM BURNETT	JB	GEOSYNTEC	✓	✓	✓	✓	✓		
K. BADU TWENEBOAH	KBT	"	✓	✓	✓	✓			
RENEE ERISMAN	RE	"			✓	✓	✓		
COLLIN SUKOW	CS	"							
BYRAN YORK	TBY	"	✓	✓	✓	✓	✓		
SCOTT QUAMMEN	SQ	"	✓	✓	✓	✓	✓		
ROB PEDDICORD	RP	"	✓		✓	✓	✓		
MIKE HUMPHREYS	MH	"	✓	✓	✓	✓	✓		
DAVE EVANS	DLE	"	✓	✓	✓				
TONY DECKMAN	TD	"	✓	✓	✓	✓	✓		
Dennis Vanderlinde	DV	"			✓	✓			
David Phillips	DP	"			✓	✓			

000333

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04-1

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 25 OCT 99

ITEM	REF ID	COMPANY	MON 25	TUES 26	WED 27	THURS 28	FRI 29	SAT 30	SUN 31
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
K Badu Twenebeah	KBT	"	✓	✓	✓	✓	✓		
Rence Erisman	RE	"	✓	✓	✓				
Collin Sukow	CS	"							
Byran York	BY	"	✓	✓	✓	✓	✓		
Scott Grammen	SQ	"	✓	✓	✓	✓	✓		
Rob Peddicord	RP	"	✓	✓	✓	✓	✓		
Mike Humphreys	MH	"	✓	✓	✓	✓	✓	✓	
Dave Evans	DE	"	✓	✓	✓	✓	✓		
TONY DICKMAN	TD	"	✓	✓	✓	✓	✓		

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 18 October 99

ITEM	REF ID	COMPANY	MON 18	TUES 19	WED 20	THURS 21	FRI 22	SAT 23	SUN 24
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
K. Badin Juneneboah	KBT	"	✓	✓	✓	✓			
Renee Erisman	RE	"	✓	✓	✓	✓	✓		✓
Collin Sukow	CS	"							
Bryan York	BY	"	✓	✓	✓	✓	✓		
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		✓
Rob Peddicord	RP	"	✓	✓	✓	✓	✓		
Mike Humphreys	MH	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
Tony Dickman	TD	"	✓	✓	✓	✓	✓		

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 11 October 99

ITEM	REF ID	COMPANY	MON 11	TUES 12	WED 13	THURS 14	FRI 15	SAT 16	SUN 17
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
K Badu Tweneboah	KBT	"	✓	✓	✓	✓	✓		
Rene Crusman	RC	"	✓	✓	✓	✓	✓		
Collin Sukow	CS	"	✓						
Bryan York	BY	"	✓	✓	✓	✓	✓		
Scott Glanzman	SG	"	✓	✓	✓	✓	✓	✓	
Rob Peddicord	RP	"	✓	✓	✓	✓			
Mike Humphrey	MH	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
Tony Dackman	TD	"		✓	✓	✓	✓		

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GeoSyntec Consultants

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF Opt. 1 Phase II WEEK BEGINNING: 04 October 99

ITEM	REF ID	COMPANY	MON 04	TUES 05	WED 06	THURS 07	FRI 08	SAT 09	SUN 10
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓			
K. Badu Tweneboah	KBT	"	✓	✓	✓	✓			
Rence Erisman	RE	"	✓	✓	✓	✓	✓		
Collin Sukow	CS	"	✓	✓	✓	✓			
Byran York	BY	"	✓	✓	✓	✓			
Scott Grammer	SG	"	✓	✓	✓	✓			
Rob Peddicord	RP	"	✓	✓	✓	✓			
Mike Humphreys	MH	"	✓	✓	✓	✓			
Dave Evans	DE	"	✓	✓	✓	✓			
Tony Dickman	TD	"	✓	✓	✓	✓	✓		

000337

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 27 Sept 99

ITEM	REF ID	COMPANY	MON 27	TUES 28	WED 29	THURS 30	FRI 01	SAT 02	SUN 03
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
K Badu Tweneboah	KBT	"	✓				✓		
Renee Erisman	RE	"	✓	✓	✓				
Collin Sukow	CS	"	✓	✓	✓	✓	✓		
Bryan York	BY	"	✓	✓	✓	✓	✓		
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Rob Peddicord	RP	"	✓	✓	✓	✓	✓		
Mike Humphreys	MH	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
Tony Dickman	TD	"	✓	✓	✓	✓	✓		
Dave Phillips	DP	"	✓	✓	✓	✓			
Jonathan				✓	✓				
Jean Ines				✓	✓				

000338

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 20 Sept. 99

ITEM	REF ID	COMPANY	MON 20	TUES 21	WED 22	THURS 23	FRI 24	SAT 25	SUN 26
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Renee Erisman	RE	"	✓	✓	✓	✓	✓	✓	
Collin Sukow	CS		✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ		✓	✓	✓	✓	✓	✓	
Dave Evans	DE		✓	✓	✓	✓	✓	✓	
K. Badu Tweneboah	KBT		✓	✓	✓	✓	✓	✓	
Rob Peddicord	RP			✓	✓	✓	✓	✓	
M. Humphreys	MH		✓	✓	✓	✓	✓	✓	
Bryan York	BY		✓	✓	✓	✓	✓	✓	
Tony Dickman	TD		✓	✓	✓	✓	✓	✓	
Ken Caugill	KC	GeoSyntec	✓						
Robert Pyburn	RP	" "	✓						

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: EDF OSDF Phase II WEEK BEGINNING: 13 September 99

ITEM	REF ID	COMPANY	MON 13	TUES 14	WED 15	THURS 16	FRI 17	SAT 18	SUN 19
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓	✓	
Renee Eusman	RE	"	✓	✓	✓	✓	✓	✓	✓
Collin Sukow	CS		✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ		✓	✓	✓	✓	✓	✓	
Dave Evans	DE		✓	✓	✓	✓	✓	✓	
K. Badu Sunesbah	KBT		✓	✓	✓	✓	✓	✓	
Rob Peddicord	RP								
M. Humphreys	MH		✓	✓	✓	✓	✓	✓	
Bryan York	BY		✓	✓	✓	✓	✓	✓	
Tony Dickman	TD		✓	✓	✓	✓	✓		
Dave Phillips	DP				✓	✓	✓	✓	
Jonathan Sudel	JT	Solmers Int'l			✓	✓	✓	✓	
Jean Luis Morency	JLM	Solmers Int'l			✓	✓	✓	✓	
Don Bodine	DB	GeoSyntec			✓				

000340

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 06 September 99

ITEM	REF ID	COMPANY	MON 06	TUES 07	WED 08	THURS 09	FRI 10	SAT 11	SUN 12
Jim Burnett	JB	GeoSyntec	Holiday	✓	✓	✓	✓		
Renee Erisman	RE	"		✓	✓	✓	✓	✓	
Collin Sukow	CS	"		✓	✓	✓	✓	✓	
Scott Quammen	SQ	"		✓	✓	✓	✓	✓	
Dave Evans	DE	"				✓	✓		
K. Badu Tweneboah	KBT	"		✓	✓	✓	✓		
Rob Peddicord	RP	"		✓					
M. Humphrey	MH	"		✓	✓	✓		✓	
Byran York	BY	"		✓	✓	✓	✓	✓	
Tony Dickman	TD	"		✓	✓	✓	✓		

000341

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: EDF OSDF Phase II WEEK BEGINNING: 30 August 99

ITEM	REF ID	COMPANY	MON 30	TUES 31	WED 01	THURS 02	FRI 03	SAT 04	SUN 05
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Rene Erusman	RE		✓	✓	✓	✓			✓
Collin Sukow	CS		✓	✓	✓	✓	✓		
Scott Quammen	SQ		✓	✓	✓	✓	✓		
Dave Evans	DE		✓	✓	✓	✓	✓		
K. Badu Inneboah	KBI		✓	✓	✓	✓	✓		
Rob Peddicord	RP		✓	✓	✓	✓			
M. Humphreys	MH		✓	✓	✓	✓	✓		
Bryan York	BY		✓	✓	✓	✓			
Tony Dickman	TD		✓	✓	✓	✓	✓		

000342

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 23 August 99

ITEM	REF ID	COMPANY	MON 23	TUES 24	WED 25	THURS 26	FRI 27	SAT 28	SUN 29
Jim Bennett	JB	GeoSyntec	✓	✓	✓	✓	✓	✓	
Renee Grusman	RE		✓	✓	✓	✓	✓		✓
Collin Sutkow	CS		✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ		✓	✓	✓	✓	✓	✓	
Dave Evans	DE		✓	✓	✓	✓	✓		
K. Badu Owenebah	KBT		✓	✓	✓	✓		✓	
Rob Peddicord	RP		✓	✓	✓	✓	✓	✓	
M Humphreys	MH		✓	✓	✓	✓	✓	✓	
Bryan York	BY		✓	✓	✓	✓	✓	✓	
Tony Dickman	TD		✓	✓	✓	✓	✓	✓	

000343

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 16 August 99

ITEM	REF ID	COMPANY	MON 16	TUES 17	WED 18	THURS 19	FRI 20	SAT 21	SUN 22
Jim Bournett	JB	GeoSyntec	✓	✓	✓	✓	✓	✓	
Renee Crusman	RE	"	✓	✓		✓	✓	✓	
Collin Sukow	CS	"	✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
Badu Gwenebah	KBT	"	✓	✓	✓	✓	✓	✓	
Rob Peddicord	RP	"		✓	✓	✓	✓	✓	
M. Humphreys	MH	"	✓	✓	✓	✓	✓	✓	
Byran York	BY	"	✓	✓	✓	✓	✓	✓	
Troy Dickman	TD	"	✓	✓	✓	✓	✓		
Jay Beech	JB			✓	✓				

000344

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 09 August 99

ITEM	REF ID	COMPANY	MON 09	TUES 10	WED 11	THURS 12	FRI 13	SAT 14	SUN 15
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Rene Ersman	RE	"	✓	✓	✓	✓	✓		
Collin Sukow	CS	"	✓	✓	✓	✓	✓		
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dane Evans	DE	"	✓	✓	✓	✓	✓		
K. Badu Incneboah	KBI	"	✓	✓	✓	✓			
Rob Peddicord	RP	"		✓					
M. Humphrey	MH	"	✓	✓	✓	✓	✓		
Bryan York	BY	"	✓	✓	✓	✓	✓		
Tony Dickman	TD	"	✓	✓	✓	✓	✓		

000345

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 02 August 99

ITEM	REF ID	COMPANY	MON 02	TUES 03	WED 04	THURS 05	FRI 06	SAT 07	SUN 08
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Renee Grusman	RE	"	✓	✓	✓	✓	✓		✓
Colleen Sukow	CS	"	✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
K Badu Gyeneboah	KBT	"	✓	✓	✓	✓	✓		
Rodney Hummel	RH	"							
Rob Peddicord	RP	"	✓	✓	✓	✓	✓	✓	
M. Humphreys	MH	"	✓	✓		✓	✓		
Bryan York	BY	"	✓	✓	✓	✓	✓		
Tary Dickman	TD	"	✓	✓	✓	✓	✓		

000346

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 26 July 99

ITEM	REF ID	COMPANY	MON 26	TUES 27	WED 28	THURS 29	FRI 30	SAT 31	SUN 01
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
R Eriksman	RE	"	✓	✓	✓	✓	✓		
Colby Sukow	CS	"	✓	✓	✓	✓	✓		
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓					
K. Brad Sunebach	KBS	"							
Rodney Hummel	RH	"							
Rob Peddicord	RP	"	✓	✓		✓	✓		
M. Humphrey	MH	"	✓	✓	✓	✓	✓		
Bryan York	BY	"	✓	✓	✓	✓	✓		
Dan Bodine	DB	"	✓	✓	✓	✓	✓		
Tony Dickman	TD	"	✓	✓	✓	✓	✓		

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SHEET NO. 128 OF

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 19 July 99

ITEM	REF ID	COMPANY	MON 19	TUES 20	WED 21	THURS 22	FRI 23	SAT 24	SUN 25
Jim Bennett	JB	GeoSyntec	✓	✓	✓	✓	✓		
R Eusman	RE	"	✓		✓	✓	✓		
Colin Sukai	CS	"	✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
K Badu Gyeneboah	KBT	"							
Rodney Hummel	RH	"							
Rob Peddicord	RP	"	✓	✓	✓	✓	✓	✓	
M Humphreys	MH	"	✓	✓	✓	✓	✓		
Bryan York	BY	"	✓	✓	✓	✓	✓		
Tony Dickman	TD		✓	✓	✓	✓	✓		

000348

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 12 July 99

ITEM	REF ID	COMPANY	MON 12	TUES 13	WED 14	THURS 15	FRI 16	SAT 17	SUN 18
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
R Crusman	RE	"	✓	✓	✓	✓	✓		
Colleen Sukoric	CS	"	✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ	"	✓	✓	✓	✓	✓	✓	
Dave Evans	DE	"			✓	✓	✓		
K Badu-Tweneboah	KBT	"	✓	✓	✓	✓			
Rodney Hummel	RH	"							
Rob Peddicord	RP	"	✓	✓	✓	✓	✓	✓	
M Humphreys	MH	"	✓	✓	✓	✓	✓	✓	
Bryan York	BY	"	✓	✓	✓	✓	✓	✓	

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 05 July 1999

ITEM	REF ID	COMPANY	MON 05	TUES 06	WED 07	THURS 08	FRI 09	SAT 10	SUN 11
Jim Burnett	JB	GeoSyntec	↑	✓	✓	✓	✓		
Renee Grusman	RE	"		✓		✓	✓		
Collin Sukow	CS	"		✓	✓	✓	✓		
Scott Quarrman	SQ	"	HOLIDAY	✓	✓	✓	✓		
Dave Evans	DE	"							
K. Badu Gweneboah	KBG	"		✓	✓	✓	✓		
R. Hummel	RH	"							
R. Peddicord	RP	"		✓	✓	✓	✓		
M. Humphreys	MH	"		✓	✓	✓	✓		
B. York	BY	"		✓	✓	✓	✓		
			↓						

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SHEET NO. 125 OF

GeoSyntec Consultants

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 28 June 99

ITEM	REF ID	COMPANY	MON 28	TUES 29	WED 30	THURS 01	FRI 02	SAT 03	SUN 04
Jim Burnett	JB	GeoSyntec	✓	✓		✓	✓		
Renee Erisman	RE	"	✓	✓	✓	✓	✓		
Collin Sukow	CS	"	✓		✓	✓	✓		
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
K. Badu Juneboah	KBT	"	✓	✓	✓	✓	✓		
R Hummel	RH	"							
R Peddicord	RP	"	✓	✓	✓	✓	✓		
M Humphreys	MH	"	✓	✓	✓	✓	✓		
B York	BY	"							

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 21 June 99

ITEM	REF ID	COMPANY	MON 21	TUES 22	WED 23	THURS 24	FRI 25	SAT 26	SUN 27
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Renee Crusman	RE	"	✓	✓	✓	✓	✓		
Colleen Sukow	CS	"	✓	✓	✓	✓	✓		
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
K. Badu Twenebrah	KBT	"	✓	✓	✓	✓	✓		
R Hummel	RH	"							
Rob Peddicord	RP	"	✓	✓	✓	✓	✓		
M Humphreys	MH	"	✓	✓	✓	✓	✓		
B. York	BY	"							

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SHEET NO. 123 OF

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 14 June 99

ITEM	REF ID	COMPANY	MON 14	TUES 15	WED 16	THURS 17	FRI 18	SAT 19	SUN 20
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Renee Erisman	RE	"	✓	✓		✓	✓		
Collin Sukow	CS	"	✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
K Baker Turnebeah	KBT	"		✓		✓	✓		
R Hummel	RH	"							
R Peddicord	RP	"		✓	✓	✓	✓		
M. Humphreys	MH	"	✓	✓	✓	✓	✓		
B York	BY	"							
Jay Beech	JB	"	✓	✓					
Dennis Vanderlinde	DV	"	✓						
Dan Bodine	DGB					✓	✓		

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 07 June 99

ITEM	REF ID	COMPANY	MON 07	TUES 08	WED 09	THURS 10	FRI 11	SAT 12	SUN 13
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Rene Gusman	RE	"			✓	✓	✓		
Collin Sukow	CS	"	✓	✓	✓	✓	✓		
Scott Grammer	SG	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
K. Bachu Jurnebah	KBT	"	✓	✓	✓	✓	✓		
R. Hummel	RH	"							
R. Peddicord	RP	"	✓	✓	✓	✓	✓		
M. Humphreys	MH	"	✓	✓	✓	✓	✓		
B. York	BY	"							

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 31 May 99

ITEM	REF ID	COMPANY	MON 31	TUES 01	WED 02	THURS 03	FRI 04	SAT 05	SUN 06
Jim Burnett	JB	GeoSyntec	HOLIDAY	✓	✓	✓	✓		
Renee Erisman	RE	"		✓	✓	✓	✓		
Collin Sukow	CS	"		✓	✓	✓	✓		
Scott Guammen	SQ	"		✓	✓	✓	✓		
Dave Evans	DE	"				✓	✓		
K Badu Tweneboah	KBT	"							
R. Hummel	RH	"		✓	✓	✓	✓		
R. Peddicord	RP	"		✓	✓	✓	✓		
M. Humphreys	MH	"		✓	✓	✓	✓		
Byran York	BY	"							
Dan Bodine	DB			✓	✓	✓			
Jack Peng	JP					✓	✓		

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 24 May 1999

ITEM	REF ID	COMPANY	MON 24	TUES 25	WED 26	THURS 27	FRI 28	SAT 29	SUN 30
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓			
Renee L Erisman	RE	"		✓	✓	✓	✓		
Collin Sukow	CS	"	✓	✓	✓	✓	✓		
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
K Badu Tweneboah	KBT	"	✓	✓	✓	✓	✓		
RODNEY HUMMEL	RH	"	✓	✓	✓	✓			
ROB PEDDICORD	RP	"	✓	✓	✓	✓	✓		
MIKE HUMPHREYS	MH	"	✓	✓	✓	✓			
JACK PENG	JP	"	✓	✓	✓				

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 17 May 1999

ITEM	REF ID	COMPANY	MON 17	TUES 18	WED 19	THURS 20	FRI 21	SAT 22	SUN 23
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Renee Gusman	RE		✓	✓	✓		✓		
Collin Sukovi	CS		✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ		✓	✓	✓	✓	✓	✓	✓
Dave Evans	DE		✓	✓	✓	✓	✓		
Badu Juneboak	KBT		✓	✓	✓	✓	✓	✓	
R. Peddicord	RP		✓		✓	✓	✓	✓	
Rodney Hummel	RH		✓	✓	✓	✓	✓		
M. Humphreys	MH		✓	✓	✓	✓	✓		
Dan Bedine	DB		✓	✓					

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 10 May 1999

ITEM	REF ID	COMPANY	MON 10	TUES 11	WED 12	THURS 13	FRI 14	SAT 15	SUN 16
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓	✓	
Renee Eusman	RE	"		✓	✓	✓	✓		
Collin Sukow	CS	"	✓	✓	✓	✓	✓	✓	
Scott Quarmen	SQ	"	✓	✓	✓	✓			
Dave Evans	DE	"	✓	✓	✓	✓	✓		
Brad Juenebrink	KBJ	"	✓	✓	✓	✓			
Rob Peddicord	RP	"	✓	✓	✓	✓	✓	✓	
Mike Humphries	MH	"	✓	✓	✓	✓	✓	✓	
Rod Hummel	RH	"	✓	✓	✓	✓	✓		
Dan Bodine	DBI	"					✓	✓	

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 03 May 99

ITEM	REF ID	COMPANY	MON 03	TUES 04	WED 05	THURS 06	FRI 07	SAT 08	SUN 09
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓	✓	
Bree Grusman	BG	"	✓	✓	✓	—	✓		
Collyn Sukow	CS	"	✓	✓	✓	—	✓	✓	
Scott Quammen	SQ	"	✓	✓	✓	✓	✓	✓	
Dane Evans	DE	"	✓	✓	✓	✓	✓	✓	
K. Bader-Juenebaak	KBJ	"	✓	✓	✓	—	✓	✓	
M. Humphreys	MH	"	✓	✓	✓	✓	✓	✓	
Rob Peddicord	RP	"	✓	✓	✓		✓	✓	
Jay Beech	JB	"			—		~~✓~~		

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 26 April 99

ITEM	REF ID	COMPANY	MON 26	TUES 27	WED 28	THURS 29	FRI 30	SAT 01	SUN 02
J.M. Burnett	JB	GeoSyntec	✓	✓		✓			
Renee Crusman	RE	"	✓			✓	✓		
Collin Sukow	CS	"	✓	✓	✓	✓	✓	✓	✓
Scott Quarmer	SQ	"	✓	✓	✓	✓	✓	✓	✓
Dave Evans	DE	"	✓	✓	✓	✓	✓	✓	✓
Bryan York	BY	"	✓	Departed from Site for TN.					→
Rodney Hammel	RH	"	✓	✓	✓	✓	✓		
K. Badu-Tweneboah	KBT	"	IN FLORIDA OFFICE ALL WEEK						
Dan Bodine	DaB		✓	✓	✓	✓			
M. Humphries	MH								✓

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SHEET NO. 115 OF

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 19 April 99

ITEM	REF ID	COMPANY	MON 19	TUES 20	WED 21	THURS 22	FRI 23	SAT 24	SUN 25
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Renee Erisman	REc	"	✓	✓	✓	✓	✓		
Collin Sukow	CS	"	✓	✓	✓	✓	✓		
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
Bryan York	BY	"	✓	✓	✓	✓	✓		
Rodney Hummel	RH	"	✓	✓	✓	✓	✓		
K. Badu-Tweneboah	KBT	"		✓	✓	✓	✓		
M. Masty	MM	"				✓	✓		
~~Jay B~~ R. Bonaparte	RB	"			✓				

000361

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 12 April 1999

ITEM	REF ID	COMPANY	MON 12	TUES 13	WED 14	THURS 15	FRI 16	SAT 17	SUN 18
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓	✓		
Renee Crusman	RE	"	✓	✓	✓	✓	✓		
Collin Sukow	CS	"	✓	✓					
Scott Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓	✓		
Byran York	BY	"							
Rodney Hemmel	RH	"	✓	✓	✓	✓			
K. Badu Tweneboah	KBT	"					✓	✓	

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 05 April 99

ITEM	REF ID	COMPANY	MON 05	TUES 06	WED 07	THURS 08	FRI 09	SAT 10	SUN 11
Jim Burnett	JB	GeoSyntec	✓	✓	✓	✓			
Renee Crusman	RE	"	✓	✓	✓	✓			
Collin Sukow	CS	"							
Scott Quannen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"	✓	✓	✓	✓			
Bryan York	BY	"	✓	✓	✓	✓			
Rodney Hummel	RH	"	✓	✓		✓			

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: FDF OSDF Phase II WEEK BEGINNING: 29 March 99

ITEM	REF ID	COMPANY	MON 29	TUES 30	WED 31	THURS 01	FRI 02	SAT 03	SUN 04
Dan Bodine	DGB	GeoSyntec					✓		
Kwasi Badu-Tweneboah	KBT	"	✓	✓		✓	✓		
Jim Burnett	JB	"	✓	✓	✓	✓	✓		
Renee Erisman	RE	"			✓	✓			
Collin Sukow	CS	"	✓	✓	✓	✓	✓		
SCOT Quammen	SQ	"	✓	✓	✓	✓	✓		
Dave Evans	DE	"				✓	✓		
Byron York	BY	"	✓	✓	✓	✓	✓		
Rodney Hummel	RH	"	✓	✓	✓	✓			
Mike Humphries	MH	"							
Rudy Bonaparte	RB	"	✓						

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APPENDIX F

GEOTECHNICAL LABORATORY TEST RESULTS

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: MAY YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
RA-01	—	Clayey Gravel (Dirty 78's)	On Site	Compacted Fill	6 MAY	ASTM D422, D2487	CS
RA-02	—	" " "	" "	" "	6 MAY	ASTM D422, D2487	CS
RA-03	—	Brown Clay	" "	" "	7 MAY	ASTM D-422, D2487, D-4318, D698	MH
RA-04	—	" "	" "	" "	7 MAY	ASTM D-422, D4643, D698	MH
RA-05	—	" "	" "	" "	* 13 ~~MAY~~ MARCH	ASTM D422, D2487, D4318 D698	MH
RA-06	—	" "	" "	" "	14 MAY	ASTM D-698 (one point)	CS
RA-07	—	" "	" "	" "	15 MAY	ASTM D698 (one point)	MH
RA-08	—	" "	" "	" "	15 MAY	ASTM D698 (one point)	CS
RA-09	—	" "	" "	" "	19 MAY	ASTM D-698 (one point)	CS
RA-10	—	" "	" "	" "	7 June	ASTM D-698 (one point)	RP/DLE
RA-11	—	" "	" "	" "	6 July	ASTM D-698 (one point) D2216, D4643	RP
RA-12	—	" "	" "	" "	16 July	ASTM D-698	CS
RA-13	—	" "	" "	" "	2 Aug	ASTM D-698	CS
~~RA-14~~							

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NOTES: * Collected in March, not determined for use until May

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II

DATE: 9 day Nov month 1999 year

MATERIAL TYPE: Compacted Fill

QA ID: CL

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
RA-1	—	—	27.2	✓	—	—	—	—	—	GC, Clayey..	—	—	—	—	—	—	—		—
RA-2	—	—	9.0	✓	—	—	—	—	—	GP-GC	—	—	—	—	—	—	—		—
RA-3	—	—	74.3	✓	—	29	13	16	—	CL	—	—	113.7	15.6	—	—	—		—
RA-4	—	—	64.2	✓	—	—	—	—	—	—	—	—	125.1	11.6	—	—	—		—
RA-5	—	—	76.1	✓	—	38	20	18	—	CL	—	—	110.7	15.8	—	—	—		—
RA-6	—	—	—	—	—	—	—	—	—	—	—	—	114.0*	9.7	—	—	—		—
RA-7	—	—	—	—	—	—	—	—	—	—	—	—	117.7*	11.4	—	—	—		—
RA-8	—	—	—	—	—	—	—	—	—	—	—	—	106.5*	17.2	—	—	—		—
RA-9	—	—	—	—	—	—	—	—	—	—	—	—	118.9*	12.8	—	—	—		—
RA-10	—	—	—	—	—	—	—	—	—	—	—	—	117.1*	12.0	—	—	—		—

COMMENTS: * one point proctor check

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF NA.

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CHECKED BY: _____

SHEET NO. 1 OF 2

000367

-2737

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase II

DATE: 9 day Nov month 1999 year

MATERIAL TYPE: Compacted Fill.

QA ID: [illegible]

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
RA-11	–	14.9 / 16.1	–	–	–	–	–	–	–	–	–	–	*110.3	14.5	–	–	–		–
RA12	–	– / –	–	–	–	–	–	–	–	–	–	–	119.0	15.0	–	–	–		–
RA13	–	– / –	–	–	–	–	–	–	–	–	–	–	122.0	12.4	–	–	–		–

000368

27.37

COMMENTS: * one point proctor check

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF NA.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II DATE: 14 day MAY month 1999 year

MATERIAL TYPE: Compacted Fill (dirty 78's) SAMPLE NO.: RA-01

SOIL SAMPLE SIZE

-2737

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		BT	BT
WT. OF DRY SAMPLE PLUS TARE	(grams)	3950.9	3165.4
WT. OF TARE	(grams)	952.6	952.6
WT. OF DRY SAMPLE	(grams)	2998.3	2212.8

SIEVE ANALYSIS

QA ID: [illegible]

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
1"	25.0	Ø	0	100	
3/4"	19.0	38.4	1.3	98.7	
1/2"	12.5	433.5	14.5	85.5	
3/8"	9.5	909.6	30.3	69.7	
#4	4.75	1689.2	56.3	43.7	
#10	2.00	1891.7	63.1	36.9	
#20	0.85	1968.3	65.6	34.3	
#40	0.425	2022.1	67.4	32.6	
#60	0.250	2066.3	68.9	31.1	
#100	0.150	2116.1	70.6	29.4	
#200	0.075	2183.0	72.8	27.2	
PAN		2212.3	–	–	

000369

%FINER = 100 − Σ% RETAINED

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

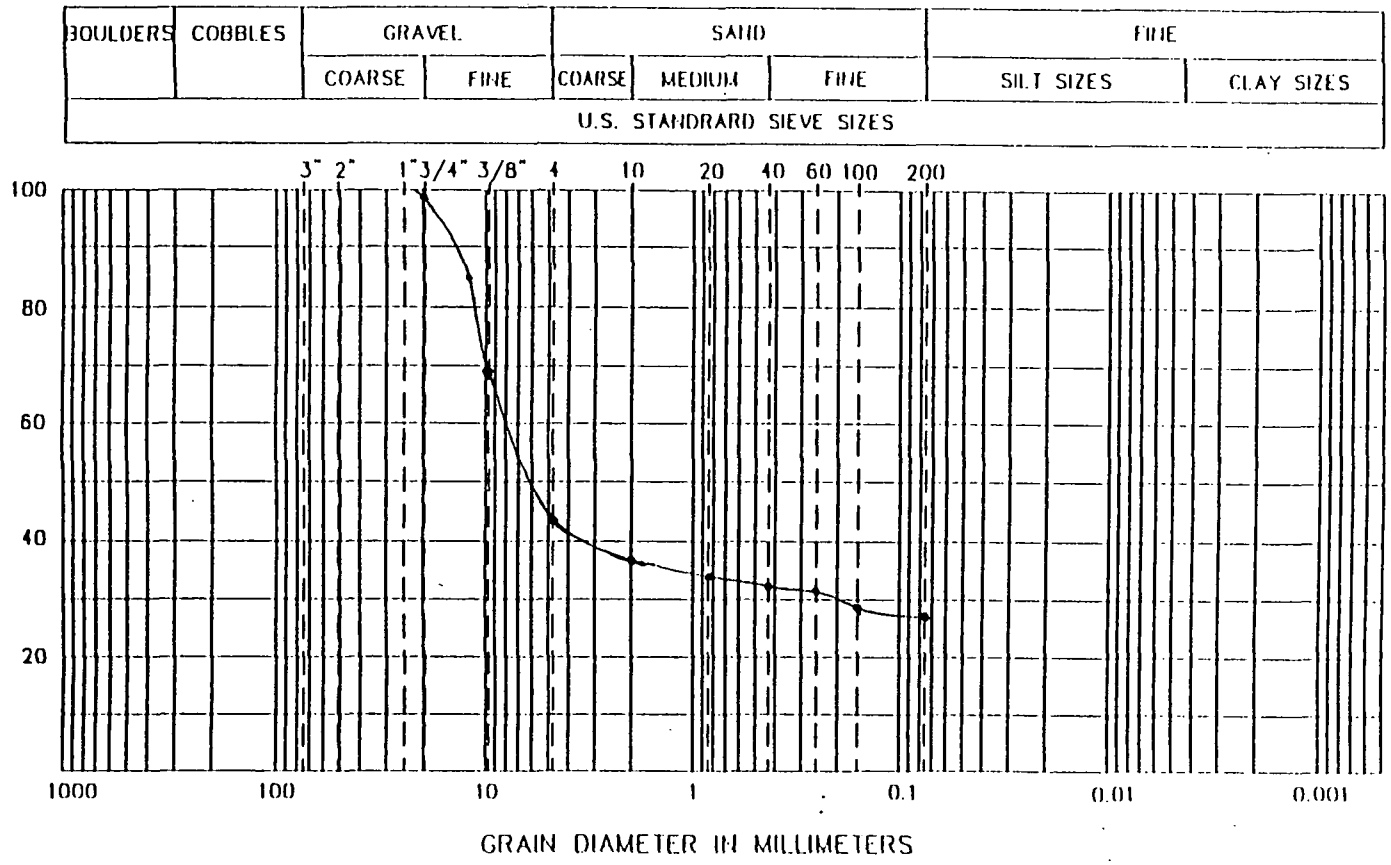
DESCRIPTION: Phase II

DATE: 14 day MAY month 1999 year

MATERIAL TYPE: Compacted Fill (dirty 78's)

SAMPLE NO.: RA-01 QA ID: CL

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) .....

(PL) .....

(PI) .....

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	~~93~~ 98.7
1/2-in.	85.5
3/8-in.	69.7
NO. 4	43.7
NO. 10	36.9
NO. 20	34.3
NO. 40	32.6
NO. 60	31.1
NO. 100	29.4
NO. 200	27.2

HYDROMETER RESULTS

PARTICLE DIA.	% FINER

SOIL CLASSIFICATION (ASTM D 2487): GC - clayey gravel

000370

-2737

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FLUOR DANIEL FERNALD

2737

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 16 day MAY month 1999 year

MATERIAL TYPE: Compacted fill (dirty 78's) SAMPLE NO.: RA-02

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		BT	BT
WT. OF DRY SAMPLE PLUS TARE	(grams)	4300.5	4067.2
WT. OF TARE	(grams)	952.6	952.6
WT. OF DRY SAMPLE	(grams)	3347.9	3114.6

SIEVE ANALYSIS

QA ID:

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
1"	25.0	Ø	Ø	100	
3/4"	19.0	78.8	2.4	97.6	
1/2"	12.5	563.1	16.8	83.2	
3/8"	9.5	1043.2	31.2	68.8	
#4	4.75	1698.4	50.7	49.3	
10	2.00	2108.9	63.0	37.0	
20	0.85	2339.4	69.9	30.1	
40	0.425	2585.9	77.2	22.8	
60	0.250	2778.3	83.0	17.0	
100	0.150	2902.1	86.7	13.3	
200	0.075	3046.6	91.0	9.0	
PAN		3114.2	—	—	

000371

%FINER = 100 − Σ% RETAINED

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

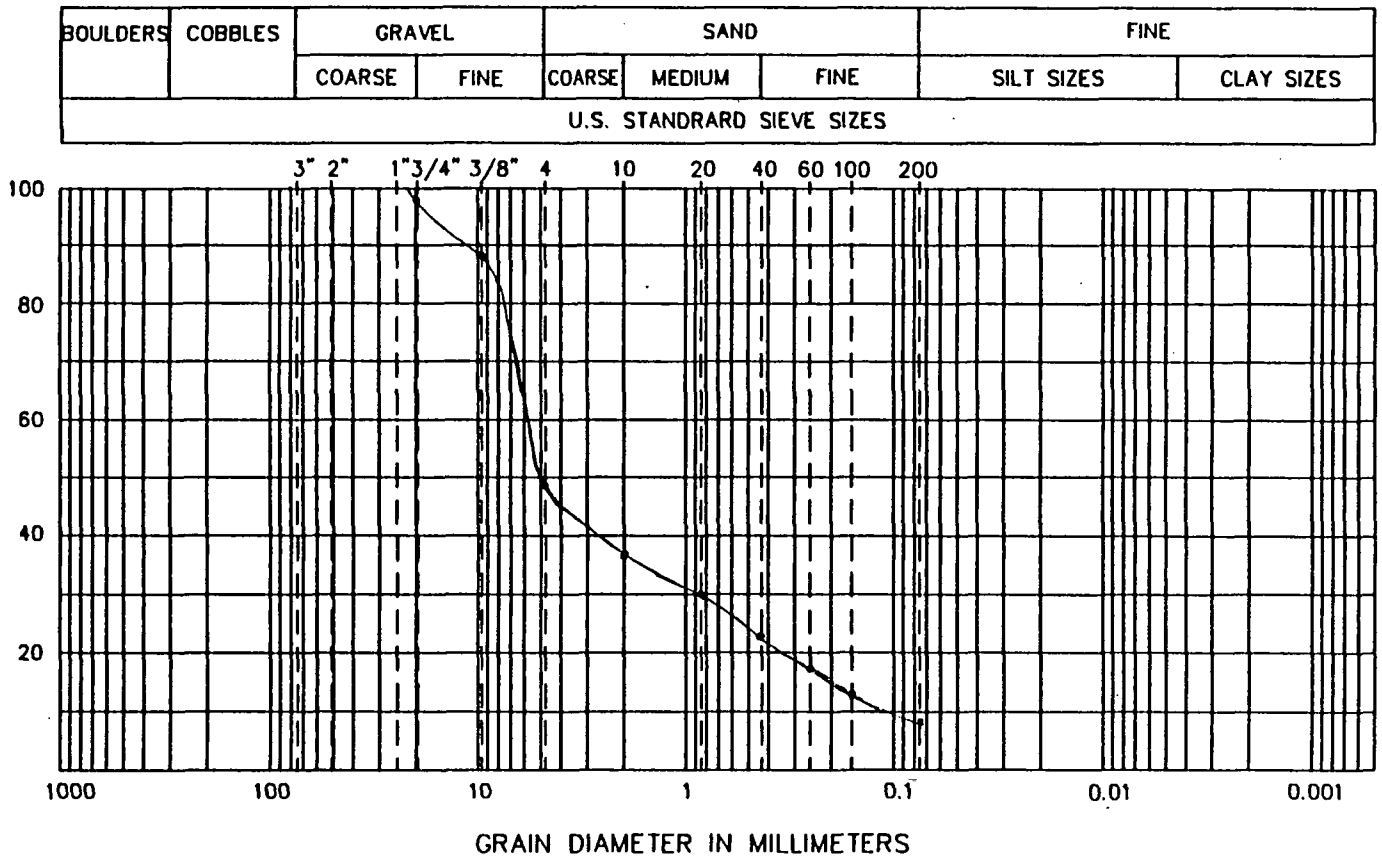
DESCRIPTION: Phase II

DATE: 16 day MAY month 1999 year

MATERIAL TYPE: Compacted fill (dirty 78's)

SAMPLE NO.: RA-02 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) .....

(PL) .....

(PI) .....

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	97.6
1/2-in.	83.2
3/8-in.	68.8
NO. 4	49.3
NO. 10	37.0
NO. 20	30.1
NO. 40	22.8
NO. 60	17.0
NO. 100	13.3
NO. 200	9.0

HYDROMETER RESULTS

PARTICLE DIA.	% FINER

SOIL CLASSIFICATION (ASTM D 2487): GP-~~SM~~ GC Poorly graded gravel with clay

0003372

-2737

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422) 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 26 day May month 1994 year

MATERIAL TYPE: ~~Red P. Clay~~ Compacted fill SAMPLE NO.: RA-3

SOIL SAMPLE SIZE Total Sample 26245.3 gm 57.86 Lbs

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	BEFORE WASH #4		AFTER WASH #4	
TARE NO.	L-3	N	L-3	N
WT. OF DRY SAMPLE PLUS TARE (grams)	910.0	910.0	847.7	
WT. OF TARE (grams)	15.49	15.49	146.4	
WT. OF DRY SAMPLE (grams)	894.51	894.51	701.3	

SIEVE ANALYSIS QA ID: DLE/MH

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0	100		100
1½"	37.5	310.11	1.18	98.82		
1"	25.0	473.50	1.80	98.2		
¾"	19.0	534.40	2.0	98.0		90 to 100
½"	12.5	732.20	2.8	97.2		
⅜"	9.5	836.10	3.2	96.8		
#4	4.75	843.40	3.2	96.8		
#10	2.00	27.04	3.0	97.0	93.9	
#20	0.850	59.68	6.7	93.3	90.3	
#40	0.425	100.29	11.2	88.8	85.9	
#60	0.250	131.61	14.7	85.3	82.6	
#100	0.150	168.51	18.8	81.2	78.6	
#200	0.075	208.36	23.3	76.7	74.3	50 to 100
PAN		212.62	~~23.8~~	~~76.2~~	~~73.8~~	

000373

%FINER = 100 − Σ% RETAINED

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GeoSyntec Consultants

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS (ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

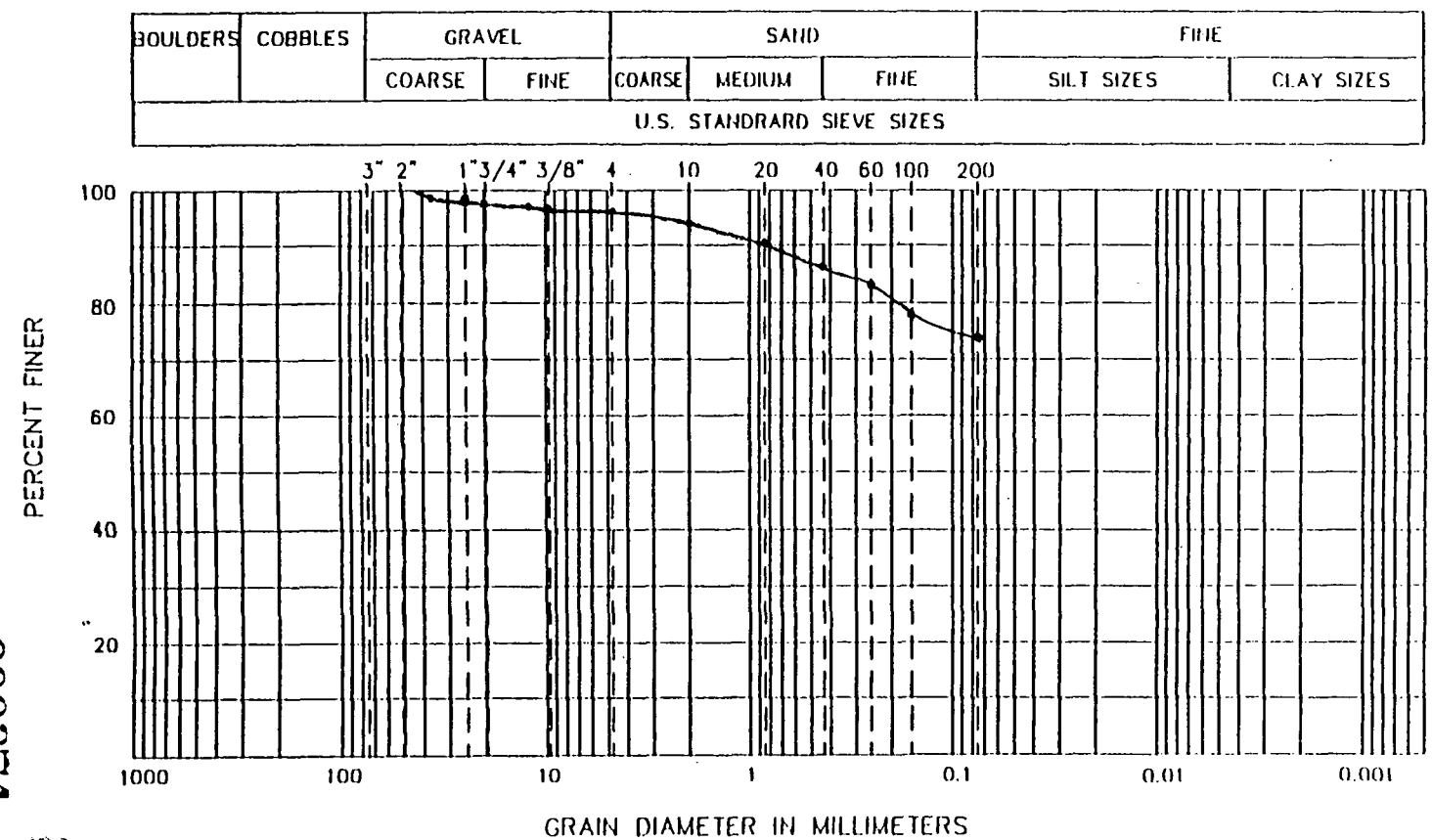
DESCRIPTION: Phase II

DATE: 27 day MAY month 1999 year

MATERIAL TYPE: Compacted Fill

SAMPLE NO.: RA-03 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) .....

(PL) NA

(PI) .....

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	98.8
1-in.	98.2
3/4-in.	98.0
1/2-in.	97.2
3/8-in.	96.8
NO. 4	96.8
NO. 10	93.9
NO. 20	90.3
NO. 40	85.9
NO. 60	82.6
NO. 100	78.6
NO. 200	74.3

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): CL - lean clay w/sand

000374

2737

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2737

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 26 day May month 1999 year

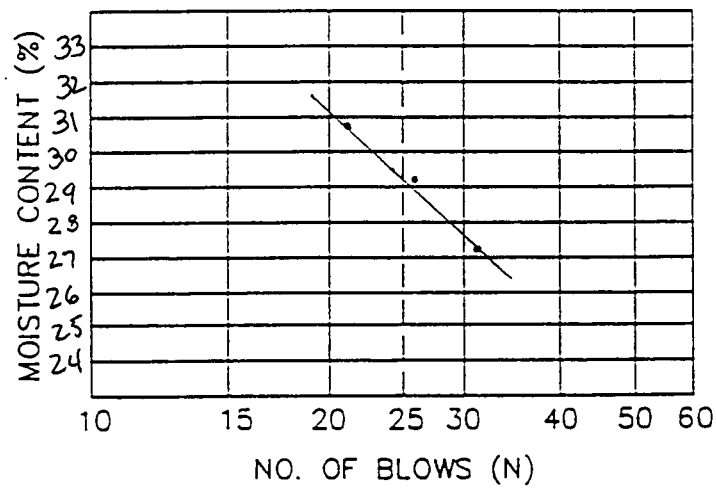
MATERIAL TYPE: Compacted fill SAMPLE NO.: RA-03

LIQUID LIMIT DETERMINATION

QA ID: [illegible]

	TARE NO.		1.1	2.6	3.2	
A	WT. OF TARE	(grams)	28.79	28.55	27.83	
B	WT. OF WET SOIL & TARE	(grams)	34.23	34.39	33.73	
C	WT. OF DRY SOIL & TARE	(grams)	32.95	33.07	32.47	
D	WT. OF WATER = B-C	(grams)	1.28	1.32	1.26	
E	WT. OF DRY SOIL = C-A	(grams)	4.16	4.52	4.64	
F	MOISTURE CONTENT = (D/E)X100	(%)	30.8	29.2	27.2	
N	NUMBER OF BLOWS		22	26	31	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: [illegible]

	TARE NO.		1.4	2.9		
A	WT. OF TARE	(grams)	28.51	31.47		
B	WT. OF WET SOIL & TARE	(grams)	37.72	40.26		
C	WT. OF DRY SOIL & TARE	(grams)	36.65	39.26		
D	WT. OF WATER = B-C	(grams)	1.07	1.00		
E	WT. OF DRY SOIL = C-A	(grams)	8.14	7.79		
F	MOISTURE CONTENT = (D/E)X100	(%)	13.1	12.8		

000375

LIQUID LIMIT (LL) = 29.1 PLASTIC LIMIT (PL) = 13.0 PLASTICITY INDEX (PI) = 16

GeoSyntec Consultants

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 26 day MAY month 1999 year

MATERIAL TYPE: Compacted fill — SAMPLE NO.: RA-03

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: [signature]

			13.54	13.65	13.56	13.31	
	WATER ADDED	(ml)	6%	8%	10%	4%	
A	WT. OF SOIL & MOLD	(grams)	6141.7	6191.6	6150.8	~~5955.8~~ 6037.4	
B	WT. OF MOLD	(grams)	@ ~~1932.3~~ 4209.4	4209.4	4209.4	~~4209.4~~ 4209.4	
C	WT. OF SOIL = A - B	(grams)	@ ~~127.5~~ 1932.3	1982.2	1941.4	~~1746.4~~ 1828.0	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	127.5	130.8	128.1	~~115.3~~ 120.6	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	111.1	112.1	107.3	107.0	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: [signature]

	TARE NO.		#27	#23	#103	#25	
F	WT. OF TARE	(grams)	8.2	8.4	~~8.36~~ 8.4	8.3	
G	WT. OF WET SOIL & TARE	(grams)	280.6	360.6	358.3	409.0	
H	WT. OF DRY SOIL & TARE	(grams)	245.4	310.3	301.4	363.6	
I	WT. OF WATER = G - H	(grams)	35.2	50.3	56.9	45.4	
J	WT. DRY SOIL = H - F	(grams)	237.2	301.9	293.0	355.3	
K	MOISTURE CONTENT = (I/J) X 100	(%)	14.8	16.7	19.4	12.8	

2737

000376

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FLUOR DANIEL FERNALD

2737

MOISTURE–DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

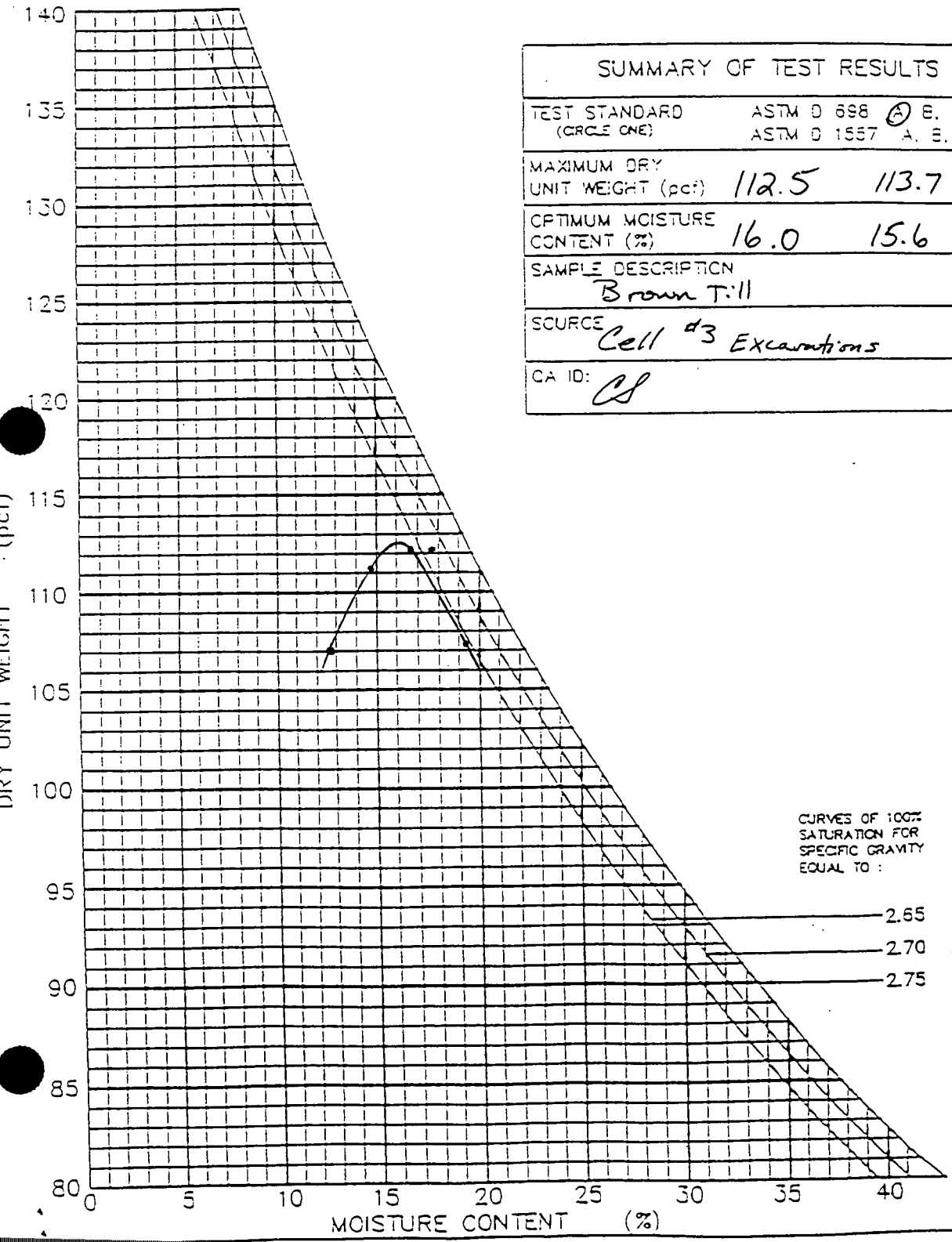
PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II

DATE: 26 day MAY month 1999 year

MATERIAL TYPE: Compacted Fill

SAMPLE NO.: RA-03



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B, C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	112.5	113.7
OPTIMUM MOISTURE CONTENT (%)	16.0	15.6
SAMPLE DESCRIPTION	Brown Till	
SOURCE	Cell #3 Excavations	
CA ID:	CS	

000377

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FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04 · 1

DESCRIPTION: Phase II DATE: 26 day MAY month 1999 year

MATERIAL TYPE: Compacted Fill Sample ~~CP III~~ RA - 03

Weight of Total Sample	=	26245.3
Weight of Oversize Fraction	=	843.4
Weight of Finer Fraction (-~~3/8~~ #4)	=	2541.9
Percentage of Oversize Fraction	= (P_C)	3.2
Percentage of Finer Fraction (-~~3/8~~ #4)	= (P_F)	96.8
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F) =	Water Content - ~~3/8~~ #4, as decimal	=	0.161
(W_C) =	Water Content + ~~3/8~~ #4, as decimal	=	0.015
(δ_F) =	Dry Density of finer fraction	=	112.5
(δ_W) =	Unit Weight of Water	=	62.4

$C_W = (W_F P_F) + (W_C P_C)$

$C_w = (0.161)(96.8) + (0.015)(3.2)$

$C_w = 15.6\%$

$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$

$C_{\delta D} = 100(112.5)(2.72)(62.4) / (112.5)(3.2) + (62.4)(2.72)(96.8)$

$C_{\delta D} = 113.7$ pcf

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) — 2737

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 8 day May month 98 year

MATERIAL TYPE: ~~L.P. CLAY~~ Compacted Fill — SAMPLE NO.: RA-04

SOIL SAMPLE SIZE

Total wt. 19,214.5g 42.36 lbs

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	+4 BEFORE WASH	-4	+4 AFTER WASH	-4
TARE NO.	L-2	L-2	L-2	L-3
WT. OF DRY SAMPLE PLUS TARE (grams)	1862.2	986.6	1769.6	397.98
WT. OF TARE (grams)	146.7	146.4	146.7	146.40
WT. OF DRY SAMPLE (grams)	1715.5	840.2	1622.9	251.58

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0.0	0.0	100.0		~~100~~
1½"	37.5	91.33	0.48	99.5		
1"	25.0	218.91	1.1	98.9		
¾"	19.0	708.10	3.7	96.3		~~90 to 100~~
½"	12.5	1010.3	5.3	94.7		
⅜"	9.5	1609.8	8.4	91.6		
#4	4.75	.60	0.07	99.9	91.1	
#10	2.00	40.63	4.8	95.2	87.1	
#20	0.850	80.79	9.6	90.4	82.7	
#40	0.425	115.75	13.8	86.2	79.0	
#60	0.250	144.29	17.2	~~16.1~~ 82.9	75.6	
#100	0.150	179.02	21.3	78.7	72.1	
#200	0.075	251.36	29.9	70.1	64.2	~~50 to 100~~
PAN						

000379

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

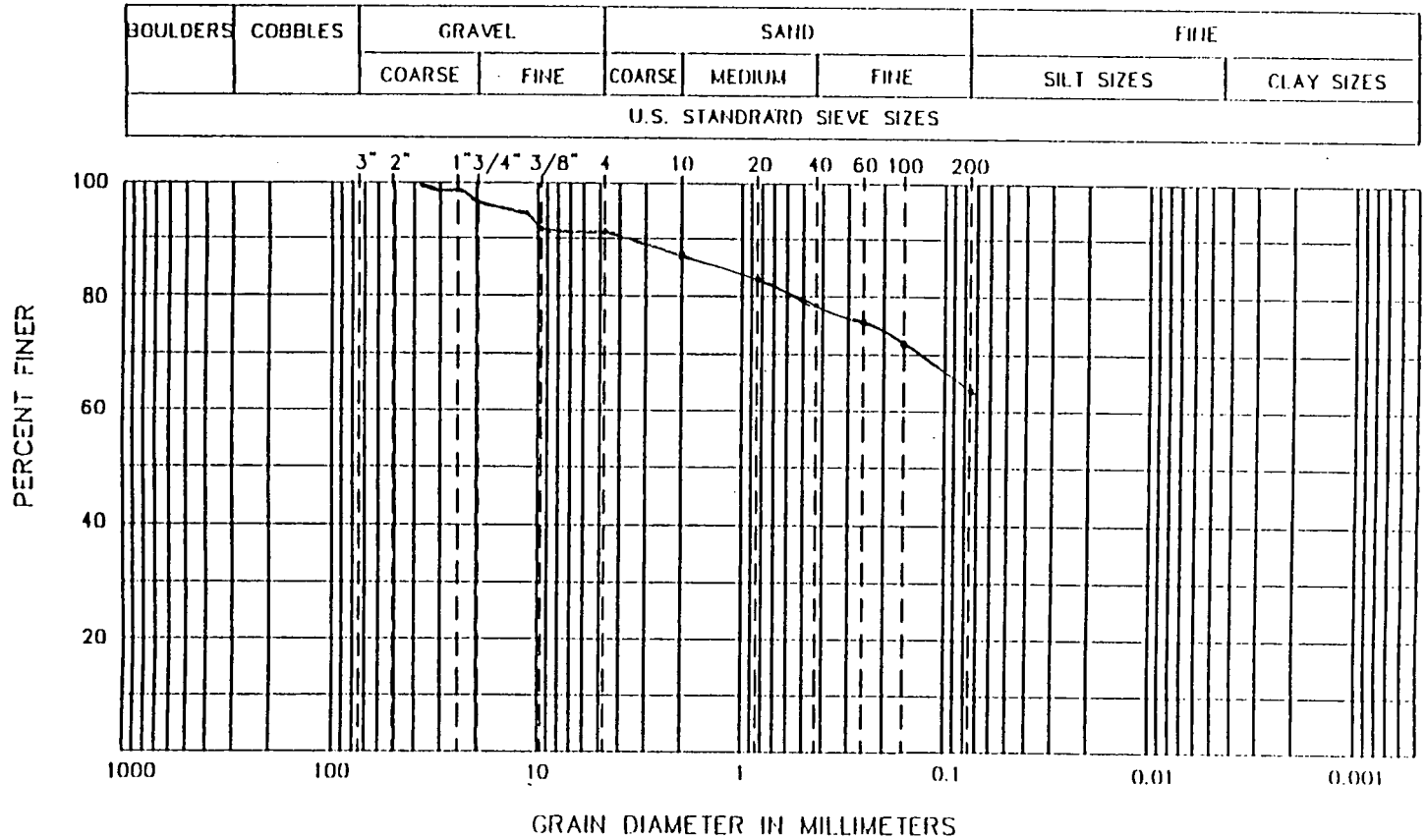
DESCRIPTION: Phase II

DATE: 8 day MAY month 1999 year

MATERIAL TYPE: Compacted Fill

SAMPLE NO.: RA-04 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) .....

(PL) .....

(PI) .....

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	99.5
1-in.	98.9
3/4-in.	96.3
1/2-in.	94.7
3/8-in.	91.6
NO. 4	91.1
NO. 10	87.1
NO. 20	82.7
NO. 40	79.0
NO. 60	75.6
NO. 100	72.1
NO. 200	64.2

HYDROMETER RESULTS

PARTICLE DIA.	% FINER

SOIL CLASSIFICATION (ASTM D 2487):

082080

2737

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SHEET NO. 2 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) -2737

LOCATION: FERNALD, OHIO DLE PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 6 day May month 1998 year DLE

MATERIAL TYPE: Compacted Fill SAMPLE NO.: ~~LP III-38~~ ~~LP III-25~~ RA-4

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: DLE

100% PASING THE NO. 10 (2-mm) SIEVE	20 grams
100% PASSING THE NO. 4 (4.75-mm) SIEVE	100 grams
100% PASSING THE NO. 3/8-in. (9.5-mm) SIEVE	500 grams
100% PASSING THE NO. 3/4-in. (19-mm) SIEVE	2.5 kilograms

	TARE NO.					
A	WT. OF TARE					
B	WT. OF WET SOIL & TARE					
C	WT. OF DRY SOIL & TARE					
D	WT. OF WATER = B-C					
E	WT. OF DRY SOIL = C-A					
F	MOISTURE CONTENT = (D/E) X 100					

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: _____

90% PASSING THE NO. 10 (2-mm) SIEVE	100 TO 200 grams
90% PASSING THE NO. 4 (4.75-mm) SIEVE	200 TO 500 grams
90% PASSING THE 3/4-in. (19-mm) SIEVE	500 TO 1000 grams

INITIAL SETTING TO BE AT 3.0 MINUTES, CONTINUE DRYING SAMPLE AT 1.0 MINUTE SETTING UNTIL MOISTURE CONTENT VARIATION BETWEEN SETTINGS IS LESS THAN 0.1%

52
47
54
36

	TARE NO.	IV				
A	WT. OF TARE	132.28				
B	WT. OF WET SOIL & TARE	343.61				
C	WT. OF DRY SOIL & TARE	317.8				
D	WT. OF WATER = B-C	25.81				
E	WT. OF DRY SOIL = C-A	185.52				
F	MOISTURE CONTENT = (D/E) X 100	13.9				

000381

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD ~~A~~ B ~~C~~)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 10 day MAY month 1998 year

MATERIAL TYPE: Brown Fill — SAMPLE NO.: RA-04

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.62 6%	13.80 8%	13.86 10%	13.94 12%	
A	WT. OF SOIL & MOLD	(grams)	6178.0	6259.7	6296.0	6232.5	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1967.6	2050.3	2086.6	2023.1	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	129.9	135.3	137.7	133.5	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	118.6	121.3	121.3	115.3	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE

	TARE NO.		#2	#29	#24	#28	
F	WT. OF TARE	(grams)	8.17	8.25	8.40	8.22	
G	WT. OF WET SOIL & TARE	(grams)	455.40	366.31	409.10	364.89	
H	WT. OF DRY SOIL & TARE	(grams)	417.00	329.40	361.26	316.19	
I	WT. OF WATER = G - H	(grams)	38.7	36.9	47.8	48.7	
J	WT. DRY SOIL = H - F	(grams)	408.8	321.1	352.9	308.0	
K	MOISTURE CONTENT = (I/J) X 100	(%)	9.5	11.5	13.5	15.8	

000382

F-2737

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

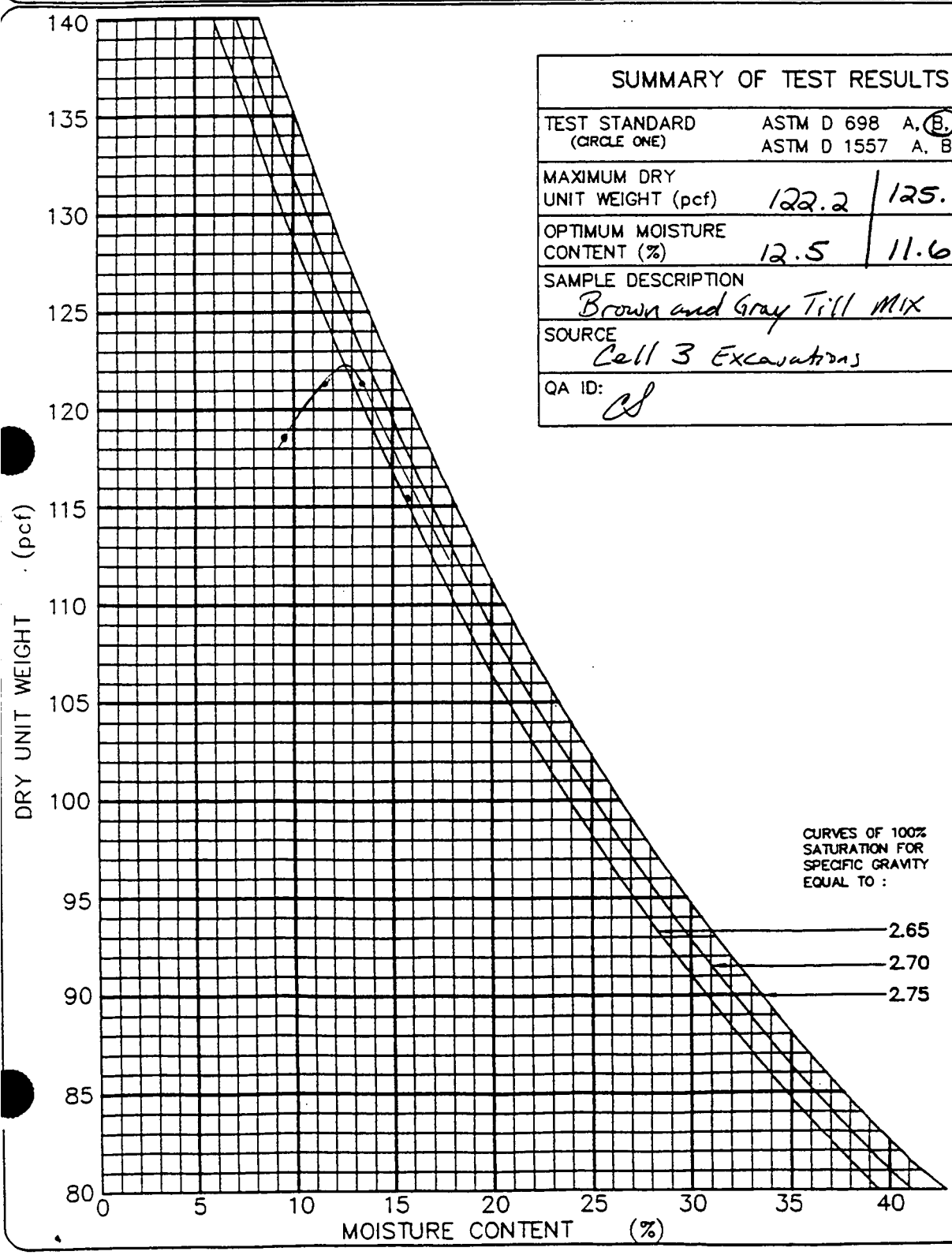
MOISTURE–DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) -2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II DATE: 10 day MAY month 1999 year

MATERIAL TYPE: Compacted Fill SAMPLE NO.: AA-04



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A, (B.) C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	122.2	125.1
OPTIMUM MOISTURE CONTENT (%)	12.5	11.6
SAMPLE DESCRIPTION	Brown and Gray Till MIX	
SOURCE	Cell 3 Excavations	
QA ID:	CS	

000383

SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 4 day May month 1999 year

MATERIAL TYPE: Compacted fill — SAMPLE NO.: RA-04

Weight of Total Sample	=	19214.5
Weight of Oversize Fraction	=	1609.8
Weight of Finer Fraction (-4)	=	17604.7
Percentage of Oversize Fraction	= (P_C)	8.4
Percentage of Finer Fraction (-4)	= (P_F)	91.6
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.125
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	122.2
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$(0.125)(91.6) + (0.015)(8.4)$$

$$C_W = 11.6\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$= 100\,(122.2)(2.72)(62.4) / (122.2)(8.4) + (2.72)(62.4)(91.6)$$

~~125.1~~

$$C_{\delta D} = 125.1 \text{ pcf}$$

000384

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO (OH) PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 4 day March month 1999 year

MATERIAL TYPE: Brown Clay / Structural Fill SAMPLE NO.: RA-05

SOIL SAMPLE SIZE Total 27487.2 gm 60.6 LB's

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		K	K
WT. OF DRY SAMPLE PLUS TARE	(grams)	1076.0	311.80
WT. OF TARE	(grams)	101.6	101.60
WT. OF DRY SAMPLE	(grams)	974.4	210.2

SIEVE ANALYSIS QA ID: _____

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0			
1 1/2"	37.5	220.53	.80	99.2		
1"	25.0	356.20	1.30	98.7		
3/4"	19.0	412.90	1.5	98.5		
1/2"	12.5	622.7	2.3	97.9		
3/8"	9.5	818	3.0	97.0		
#4	4.75	14.99	1.5	99.5	95.5	
#10	2.00	46.73	4.8	95.2	92.3	
#20	0.850	84.42	8.7	91.3	88.6	
#40	0.425	124.23	12.9	87.3	84.7	
#60	0.250	150.95	15.5	84.5	82.0	
#100	0.150	179.88	18.5	81.5	79.1	
#200	0.075	209.80	21.5	78.5	76.1	
		210.18				

000385

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

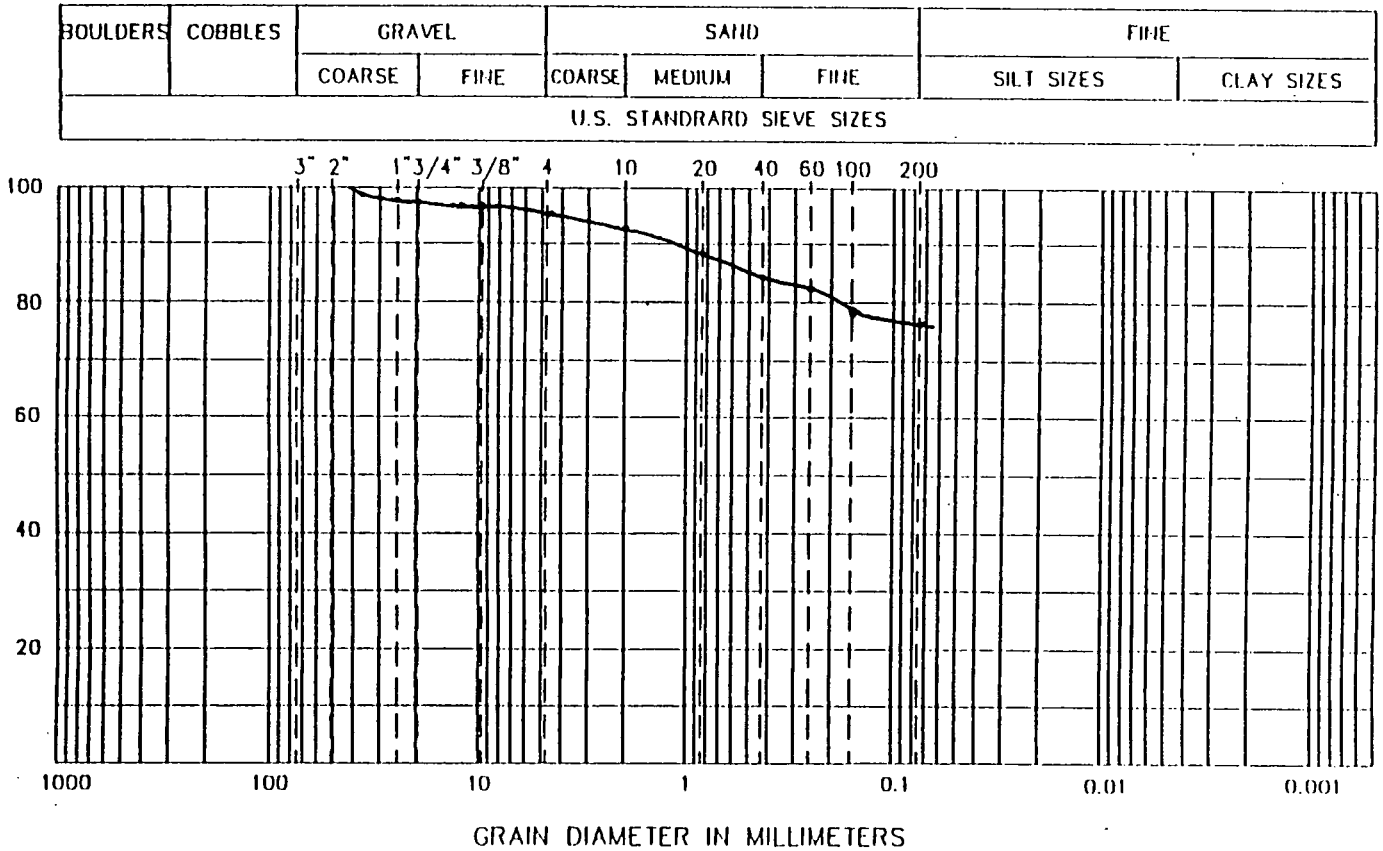
DESCRIPTION: Phase II

DATE: 4 day March month 1999 year

MATERIAL TYPE: Compacted fill

SAMPLE NO.: RA-05 QA ID:

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 38

(PL) 20

(PI) 18

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	99.2
1-in.	98.7
3/4-in.	98.5
1/2-in.	97.9
3/8-in.	97.0
NO. 4	95.5
NO. 10	92.3
NO. 20	88.6
NO. 40	84.7
NO. 60	82.0
NO. 100	79.1
NO. 200	76.1

HYDROMETER RESULTS

PARTICLE DIA.	% FINER

SOIL CLASSIFICATION (ASTM D 2487): CL - Sandy lean clay

000386

-2737

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO: GO0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II

DATE: 18 day March month ~~1998~~ 1999 year

MATERIAL TYPE: Structural FILL

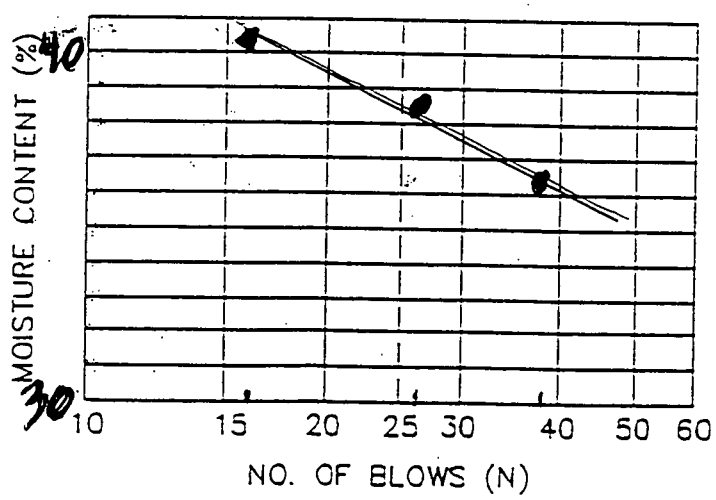
SAMPLE NO.: RA-05

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.5	2.9	1.9	
A	WT. OF TARE	(grams)	28.61	31.46	28.55	
B	WT. OF WET SOIL & TARE	(grams)	38.90	44.23	41.77	
C	WT. OF DRY SOIL & TARE	(grams)	36.15	40.67	37.99	
D	WT. OF WATER = B-C	(grams)	2.75	3.56	3.78	
E	WT. OF DRY SOIL = C-A	(grams)	7.54	9.21	9.44	
F	MOISTURE CONTENT = (D/E)X100	(%)	36.47	38.65	40.04	
N	NUMBER OF BLOWS		38	26	16	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		3.2	1.8		
A	WT. OF TARE	(grams)	27.83	28.80		
B	WT. OF WET SOIL & TARE	(grams)	39.61	40.48		
C	WT. OF DRY SOIL & TARE	(grams)	37.63	38.47		
D	WT. OF WATER = B-C	(grams)	1.98	1.96		
E	WT. OF DRY SOIL = C-A	(grams)	9.8	9.7		
F	MOISTURE CONTENT = (D/E)X100	(%)	20.2	20.2		

000387

LIQUID LIMIT (LL) = 38 PLASTIC LIMIT (PL) = 20 PLASTICITY INDEX (PI) = 18

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD ~~A~~ B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) Rock wt. 25,000.00

LOCATION: FERNALD, OHIO 845.80 2487.20 PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II 27487.20 DATE: 23 day Feb month ~~1998~~ 1999 year

MATERIAL TYPE: Brown Clay SAMPLE NO.: RA-05

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

			4%	6%	8%	10%	12%
	WATER ADDED	(ml)	LB 12.87 5837.8				
A	WT. OF SOIL & MOLD	(grams)	LB 12.87 5837.8	LB 12.97 5883.20	LB 13.12 5951.2	13.41 6082.8	13.60 6169.1
B	WT. OF MOLD	(grams)	4209.4	4209.40	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1628.4	1673.8	1741.8	1873.4	1959.7
D	WET UNIT WT.(1) = C X 0.066	(pcf)	107.5	110.5	115.0	123.6	129.3
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	101.0	102.6	104.4	109.1	111.6

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

000388

MOISTURE CONTENT — ASTM D 2216

QA ID: DLE/CA

	TARE NO.		104	11	A	12	21
F	WT. OF TARE	(grams)	8.27	7.35	8.24	7.27	8.44
G	WT. OF WET SOIL & TARE	(grams)	247.92	229.22	258.99	281.23	346.08
H	WT. OF DRY SOIL & TARE	(grams)	233.4	213.4	236.0	249.1	299.7
I	WT. OF WATER = G - H	(grams)	14.5	15.8	23.0	32.1	46.4
J	WT. DRY SOIL = H - F	(grams)	225.1	206.0	227.8	241.8	291.3
K	MOISTURE CONTENT = (I/J) X 100	(%)	6.4	7.7	10.1	13.3	15.9

27.37

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD ~~A~~ B

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II

DATE: 1 day March month 1997 year

MATERIAL TYPE: Brown Clay

SAMPLE NO.: RA-05

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: _____

	WATER ADDED	(ml)	13.49 14%	13.60 16%	14.2%		
A	WT. OF SOIL & MOLD	(grams)	6119.06	6170.0			
B	WT. OF MOLD	(grams)	4209.40	4209.4	4209.4		
C	WT. OF SOIL = A − B	(grams)	1909.7	1960.6			
D	WET UNIT WT.(1) = C X 0.066	(pcf)	126.04	129.4			
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	~~105.2~~ 107.5				

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: _____

	TARE NO.		8	31			
F	WT. OF TARE	(grams)	7.27	8.30			
G	WT. OF WET SOIL & TARE	(grams)	239.51	290.08			
H	WT. OF DRY SOIL & TARE	(grams)	205.50	245.57			
I	WT. OF WATER = G − H	(grams)	34.01	44.51			
J	WT. DRY SOIL = H − F	(grams)	~~171.5~~ 198.2	237.3 ~~201.1~~			
K	MOISTURE CONTENT = (I/J) X 100	(%)	~~19.8~~ 17.2	18.8 ~~22.13~~			

2737

GeoSyntec Consultants FILE NO. 2-04-FLC CHECKED BY: _____ SHEET NO. 2 OF 2

000389

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

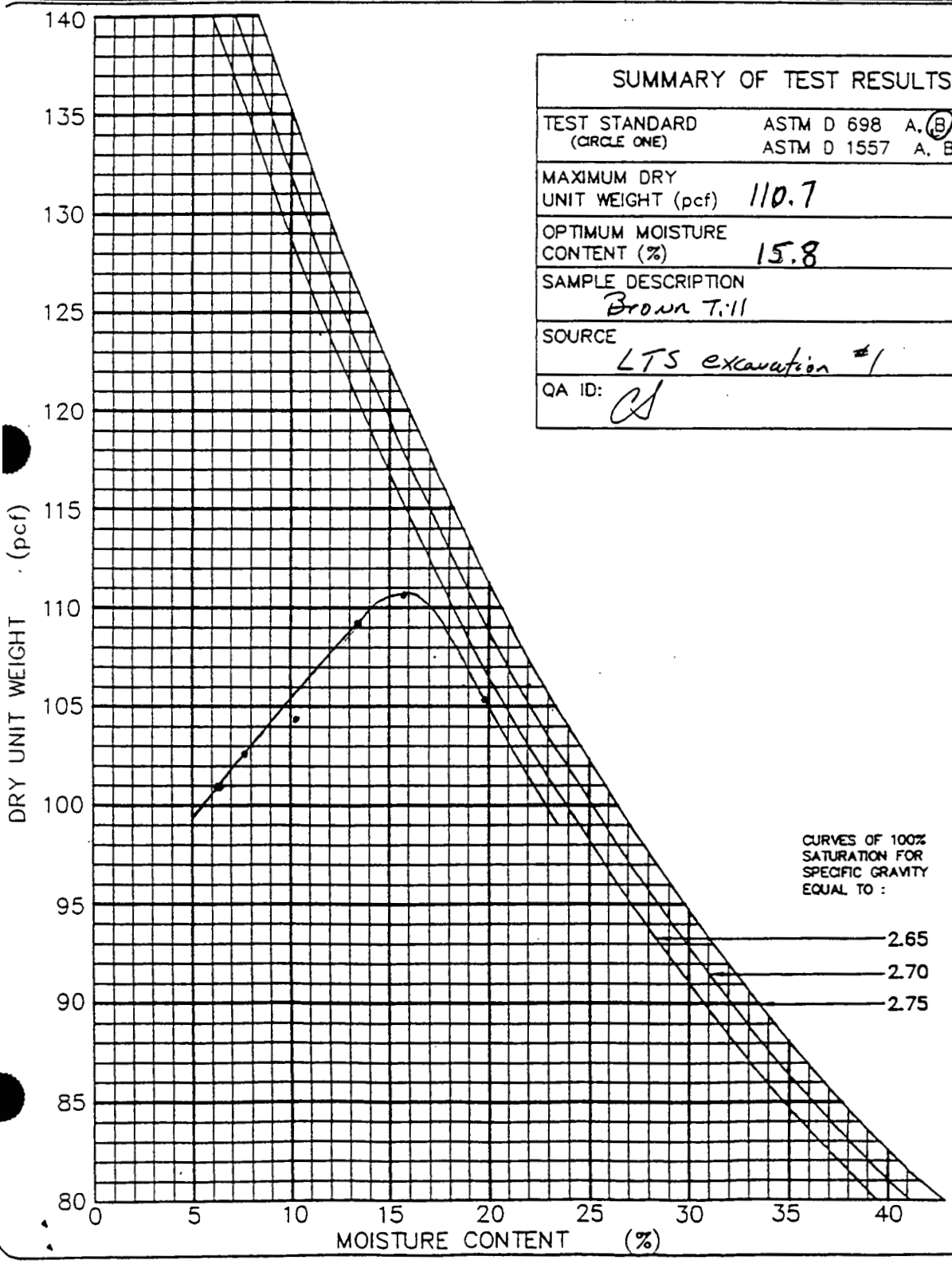
2737

PROJECT: ON–SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II DATE: 2 day March month 1999 year

MATERIAL TYPE: Compacted Fill SAMPLE NO.: RA-05



SUMMARY OF TEST RESULTS	
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A, (B) C ASTM D 1557 A, B, C
MAXIMUM DRY UNIT WEIGHT (pcf)	110.7
OPTIMUM MOISTURE CONTENT (%)	15.8
SAMPLE DESCRIPTION	Brown Till
SOURCE	LTS excavation #1
QA ID:	CS

000390

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 13 day MAY month 1999 year

MATERIAL TYPE: Compacted Fill — SAMPLE NO.: RA-06

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS GREATER THAN 20%, AND IF THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: CL

			13.46				
	WATER ADDED	(ml)	NAT				
A	WT. OF SOIL & MOLD	(grams)	6105.5				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A - B	(grams)	1896.1				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	125.1				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	114.0				

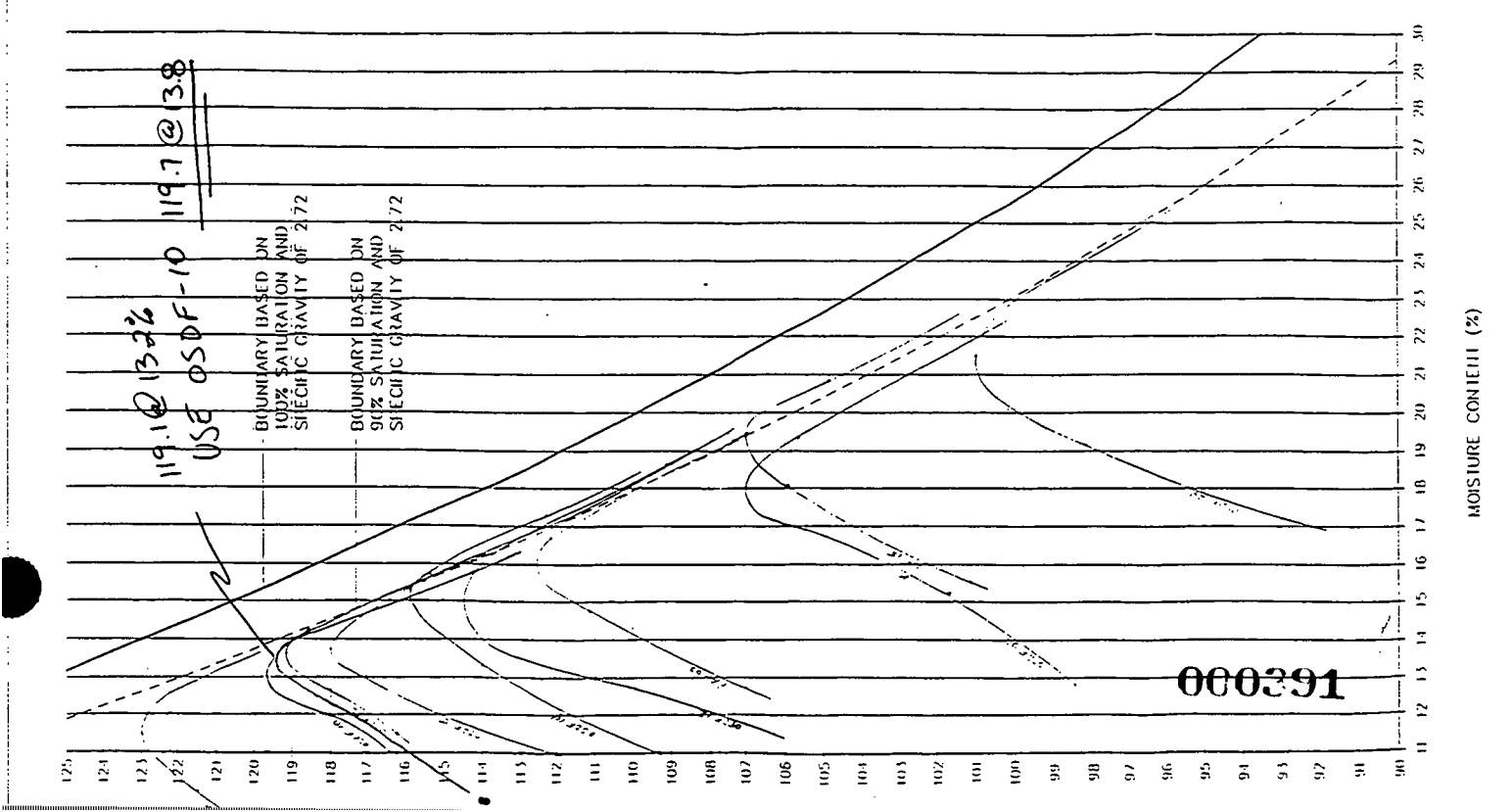
NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: CL

	TARE NO.		IV				
F	WT. OF TARE	(grams)	132.3				
G	WT. OF WET SOIL & TARE	(grams)	391.5				
H	WT. OF DRY SOIL & TARE	(grams)	368.6				
I	WT. OF WATER = G - H	(grams)	22.9				
J	WT. DRY SOIL = H - F	(grams)	236.3				
K	MOISTURE CONTENT = (I/J) X 100	(%)	9.7				

GEOSYNTEC CONSULTANTS FILE NO. 2-05-FLC CHECKED BY: CL SHEET NO. 1 OF 1



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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 15 day MAY month 1999 year

MATERIAL TYPE: Compacted Fill — SAMPLE NO.: RA-07

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS GREATER THAN 20%, AND IF THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: CA

WATER ADDED	(ml)	13.66 NAT				
WT. OF SOIL & MOLD	(grams)	6196.2				
WT. OF MOLD	(grams)	4209.4				
WT. OF SOIL = A − B	(grams)	1986.8				
WET UNIT WT.(1) = C X 0.066	(pcf)	131.1				
DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	117.7				

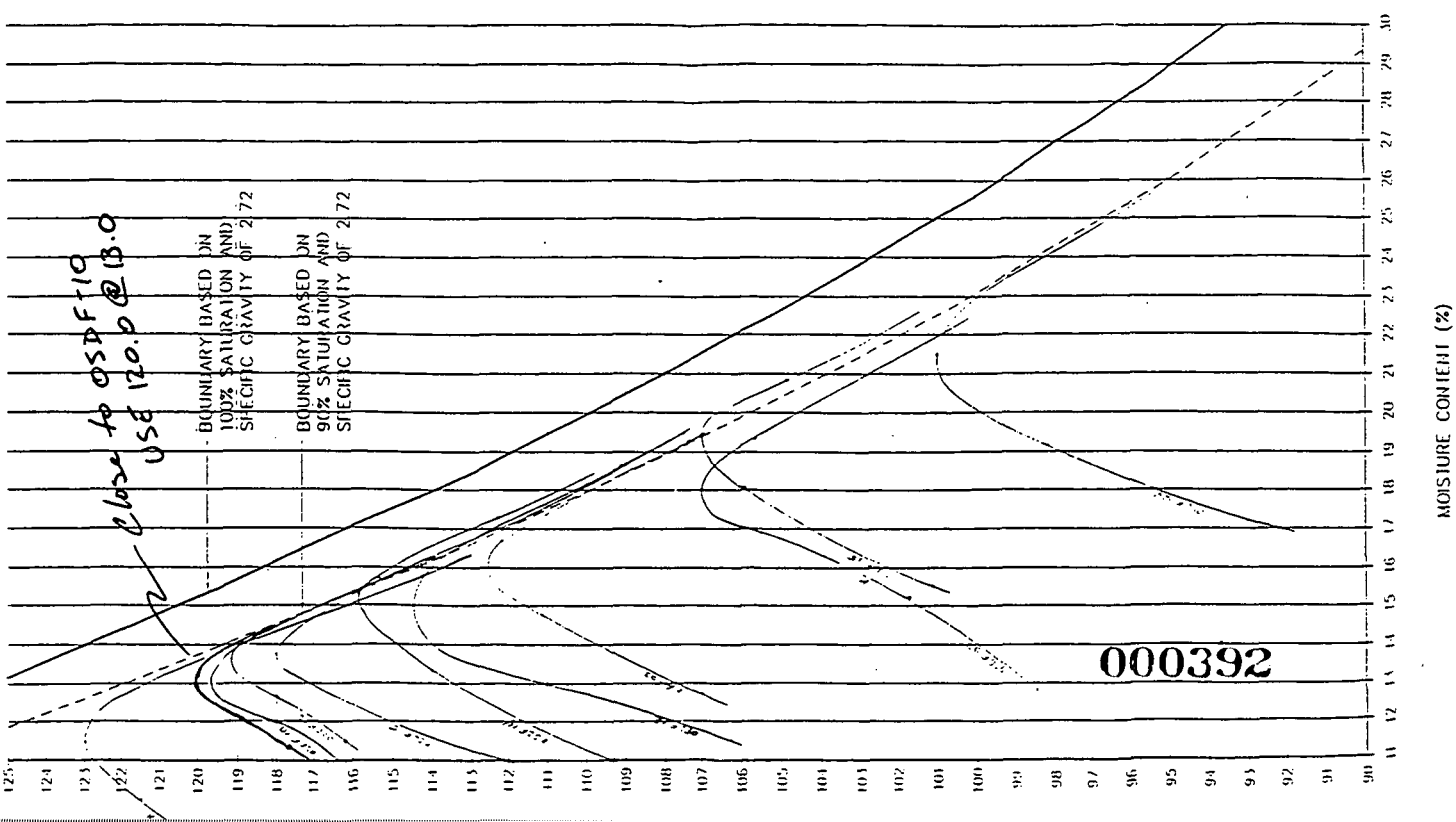
NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT – ASTM D 2216

QA ID: CA

TARE NO.		IV				
WT. OF TARE	(grams)	132.3				
WT. OF WET SOIL & TARE	(grams)	401.2				
WT. OF DRY SOIL & TARE	(grams)	380.2				
WT. OF WATER = G − H	(grams)	28.3				
WT. DRY SOIL = H − F	(grams)	248.5				
MOISTURE CONTENT = (I/J) X 100	(%)	11.4				

GEOSYNTEC CONSULTANTS FILE NO. 2-05-FLC — CHECKED BY: [illegible] — SHEET NO. 1 OF 1



GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD B)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II — DATE: 15 day May month 1999 year

MATERIAL TYPE: Compacted Fill — SAMPLE NO.: RA-08

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS GREATER THAN 20%, AND IF THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

13.45 Brown Till — QA ID: CA

	WATER ADDED	(ml)	NAT				
A	WT. OF SOIL & MOLD	(grams)	6100.9				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A − B	(grams)	1891.2				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	124.8				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	106.5				

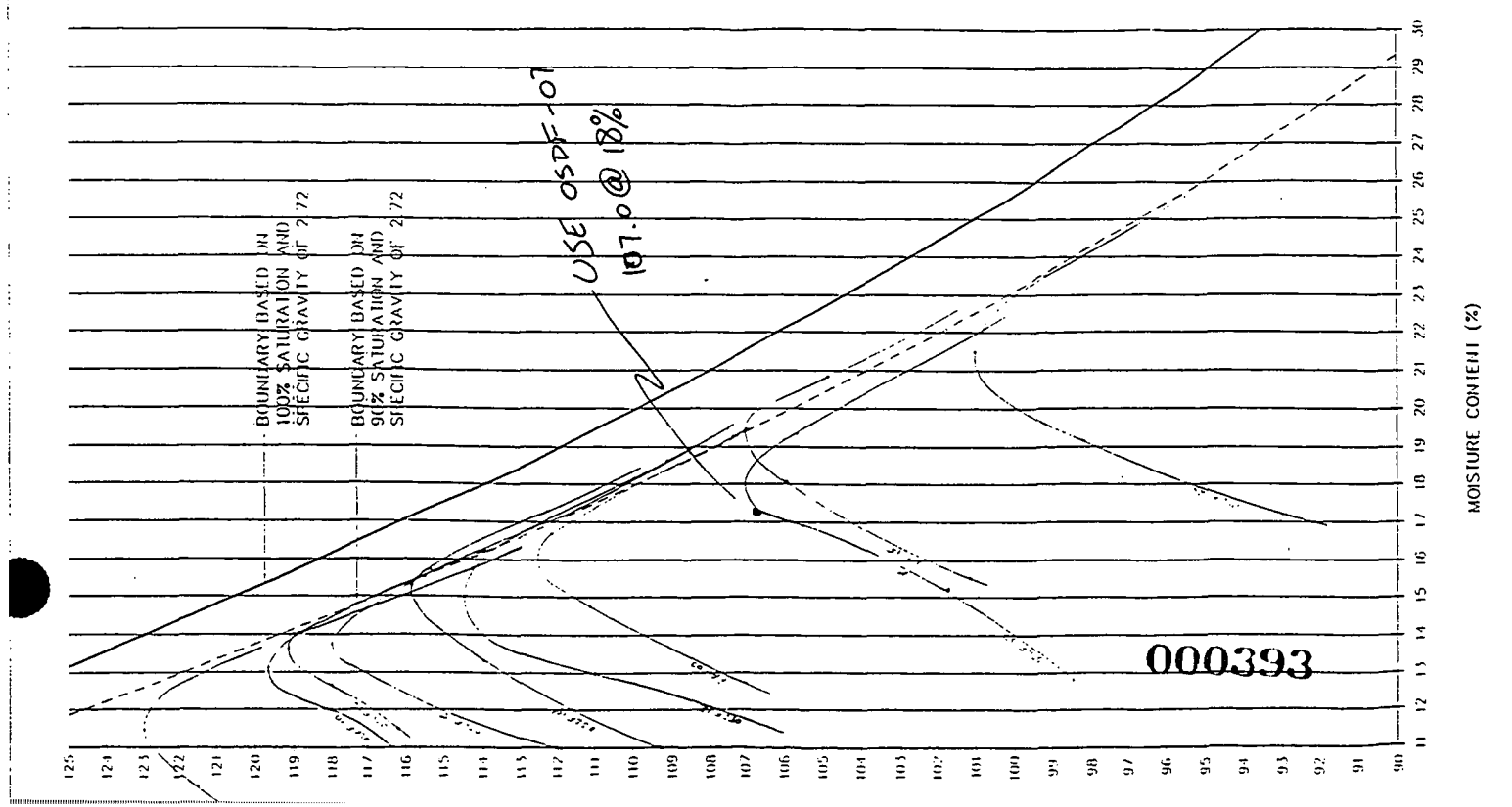
NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: CA

	TARE NO.		IV				
F	WT. OF TARE	(grams)	132.3				
G	WT. OF WET SOIL & TARE	(grams)	383.0				
H	WT. OF DRY SOIL & TARE	(grams)	346.2				
I	WT. OF WATER = G − H	(grams)	36.8				
J	WT. DRY SOIL = H − F	(grams)	213.9				
K	MOISTURE CONTENT = (I/J) X 100	(%)	17.2				

GEOSYNTEC CONSULTANTS FILE NO. 2-05-FLC — CHECKED BY: CA — SHEET NO. 1 OF 1



GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 1 day June month 1999 year

MATERIAL TYPE: Compacted fill — SAMPLE NO.: RA-09

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS GREATER THAN 20%, AND IF THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: [illegible]

	WATER ADDED	(ml)	13.76 DB				
A	WT. OF SOIL & MOLD	(grams)	6241.5				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A − B	(grams)	2032.1				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	134.1				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	118.9				

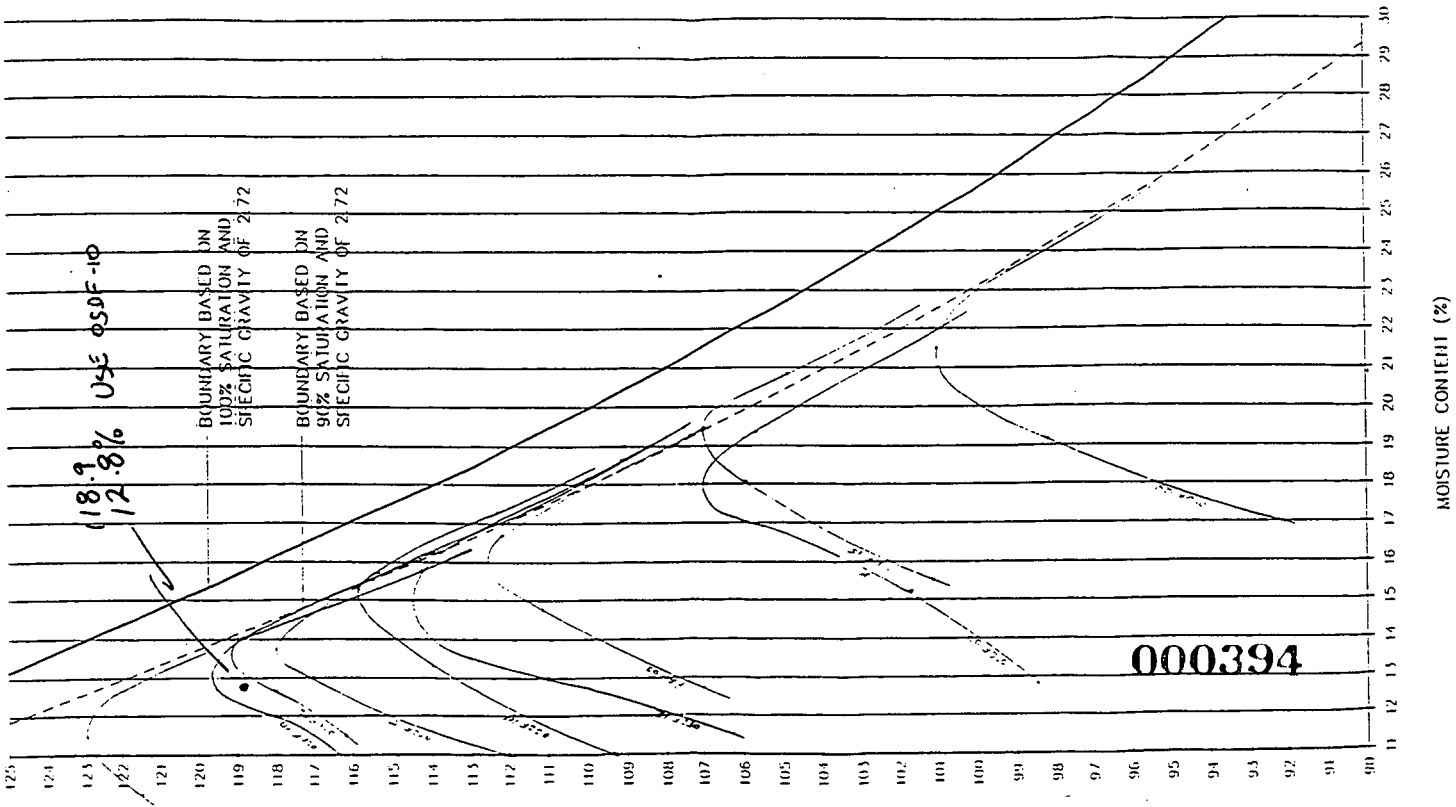
NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: [illegible]

	TARE NO.		V				
F	WT. OF TARE	(grams)	126.3				
G	WT. OF WET SOIL & TARE	(grams)	349.4				
H	WT. OF DRY SOIL & TARE	(grams)	324.1				
I	WT. OF WATER = G − H	(grams)	25.3				
J	WT. DRY SOIL = H − F	(grams)	197.8				
K	MOISTURE CONTENT = (I/J) X 100	(%)	12.8				

GEOSYNTEC CONSULTANTS FILE NO. 2-05-FLC — CHECKED BY: [illegible] — SHEET NO. 1 OF 1



GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD B)

-- 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 7 day June month 1999 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: RA-10

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS GREATER THAN 20%, AND IF THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: CJ

WATER ADDED	(ml)	Dry Back	+6%			
WT. OF SOIL & MOLD	(grams)	5969.4	6196.2			
WT. OF MOLD	(grams)	4209.4	4209.4			
WT. OF SOIL = A - B	(grams)	1760.0	1986.8			
WET UNIT WT.(1) = C X 0.066	(pcf)	116.2	131.1			
DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	109.2	117.1			

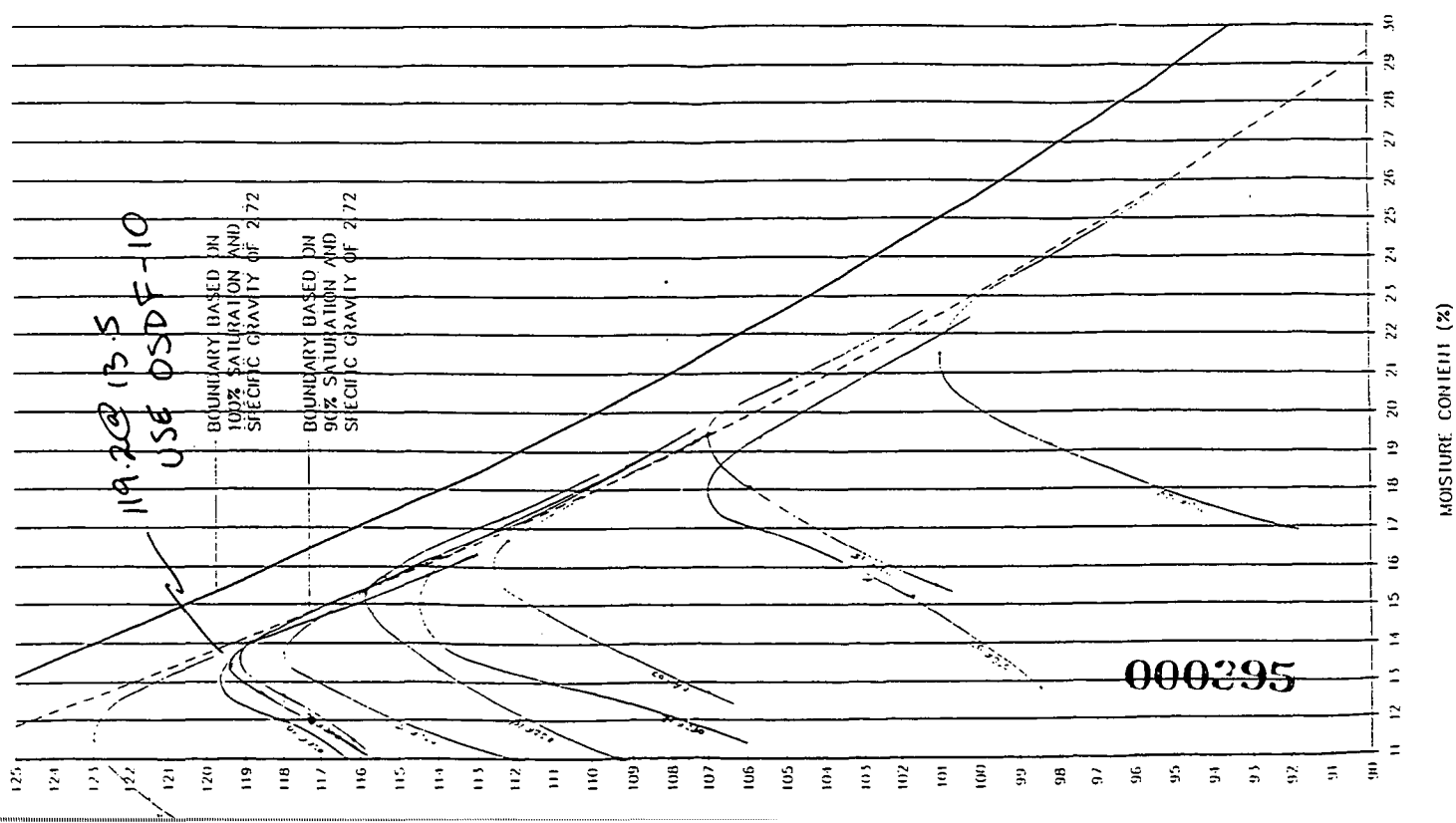
NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: CJ

TARE NO.		III	III			
WT. OF TARE	(grams)	132.1	132.1			
WT. OF WET SOIL & TARE	(grams)	359.1	419.7			
WT. OF DRY SOIL & TARE	(grams)	345.5	388.9			
WT. OF WATER = G - H	(grams)	13.6	30.8			
WT. DRY SOIL = H - F	(grams)	213.4	256.8			
MOISTURE CONTENT = (I/J) X 100	(%)	6.4	12.0			

GEOSYNTEC CONSULTANTS FILE NO. 2-05-FLC CHECKED BY: CJ SHEET NO. 1 OF 1



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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO DLE

PROJECT NO: GO0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II

DATE: 8 day June month ~~1998~~ 1999 DLE year

MATERIAL TYPE: Compacted Fill

SAMPLE NO.: ~~CF-23~~ RA-11

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: DLE

100% PASING THE NO. 10 (2-mm) SIEVE	20 grams
100% PASSING THE NO. 4 (4.75-mm) SIEVE	100 grams
100% PASSING THE NO. 3/8-in. (9.5-mm) SIEVE	500 grams
100% PASSING THE NO. 3/4-in. (19-mm) SIEVE	2.5 kilograms

	TARE NO.	28				
A	WT. OF TARE	8.23				
B	WT. OF WET SOIL & TARE	345.20				
C	WT. OF DRY SOIL & TARE	301.56				
D	WT. OF WATER = B-C	43.64				
E	WT. OF DRY SOIL = C-A	293.33				
F	MOISTURE CONTENT = (D/E) X 100	14.9				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: DLE

90% PASSING THE NO. 10 (2-mm) SIEVE	100 TO 200 grams
90% PASSING THE NO. 4 (4.75-mm) SIEVE	200 TO 500 grams
90% PASSING THE 3/4-in. (19-mm) SIEVE	500 TO 1000 grams

INITIAL SETTING TO BE AT 3.0 MINUTES, CONTINUE DRYING SAMPLE AT 1.0 MINUTE SETTING UNTIL MOISTURE CONTENT VARIATION BETWEEN SETTINGS IS LESS THAN 0.1%

3.40
2.62
2.35
2.14

	TARE NO.	IV				
A	WT. OF TARE	132.29				
B	WT. OF WET SOIL & TARE	410.80				
C	WT. OF DRY SOIL & TARE	372.12				
D	WT. OF WATER = B-C	38.68				
E	WT. OF DRY SOIL = C-A	239.83				
F	MOISTURE CONTENT = (D/E) X 100	16.1				

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD B)

-- 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II — DATE: 30 day June month 1999 year

MATERIAL TYPE: Compacted Fill — SAMPLE NO.: RA-11

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%.
IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS GREATER THAN 20%, AND IF THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

13.50 — QA ID: CA

	WATER ADDED	(ml)	Nat.				
A	WT. OF SOIL & MOLD	(grams)	6123.6				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A - B	(grams)	1914.2				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	126.3				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	110.3				

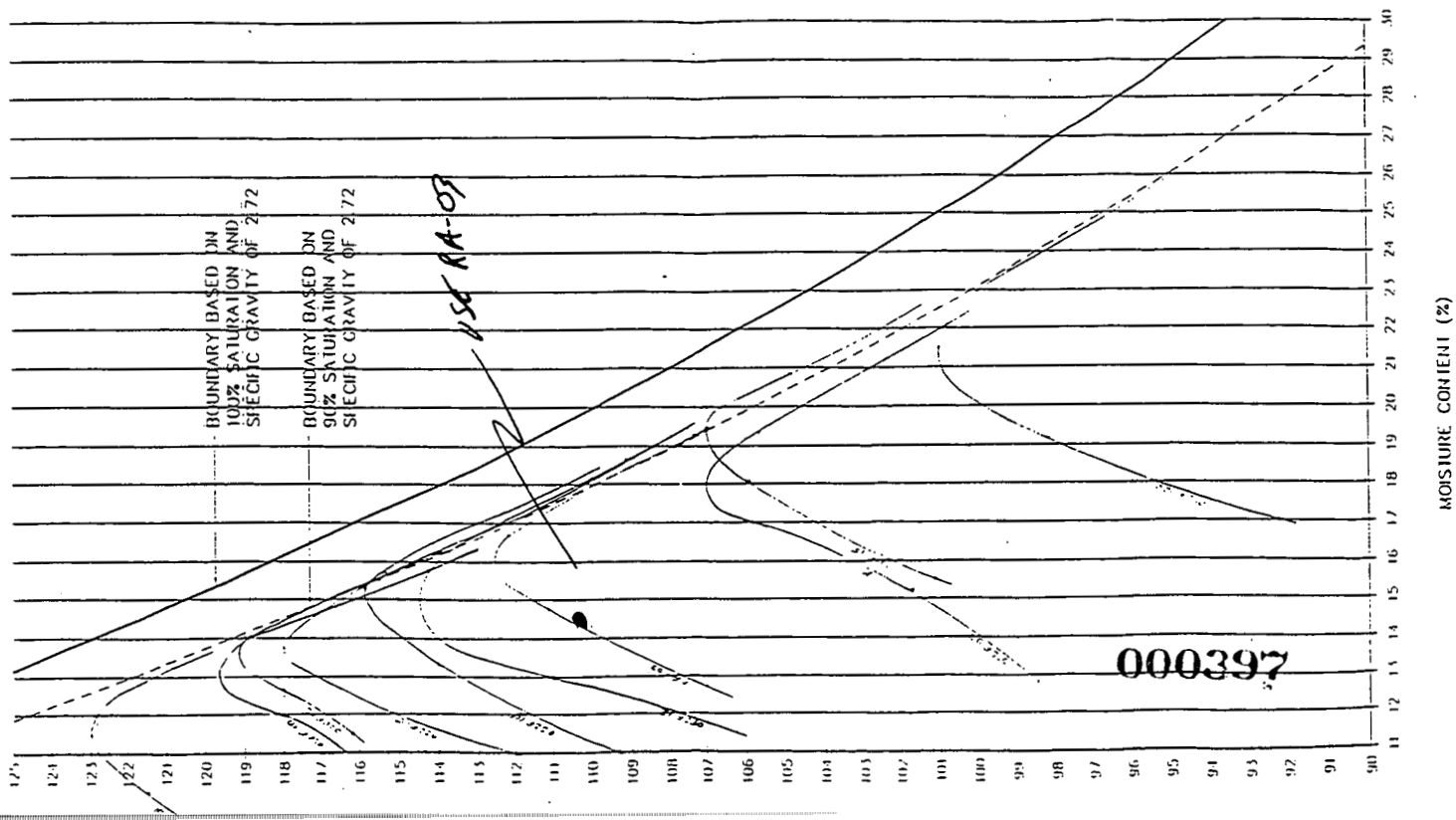
NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: CA

	TARE NO.		IV	18			
F	WT. OF TARE	(grams)	132.3	8.4			
G	WT. OF WET SOIL & TARE	(grams)	327.6	294.8			
H	WT. OF DRY SOIL & TARE	(grams)	302.8				
I	WT. OF WATER = G - H	(grams)	24.8				
J	WT. DRY SOIL = H - F	(grams)	170.5				
K	MOISTURE CONTENT = (I/J) X 100	(%)	14.5				

GEOSYNTEC CONSULTANTS FILE NO. 2-05-FLC — CHECKED BY: CA — SHEET NO. 1 OF 1



GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE-DENSITY RELATIONSHIP

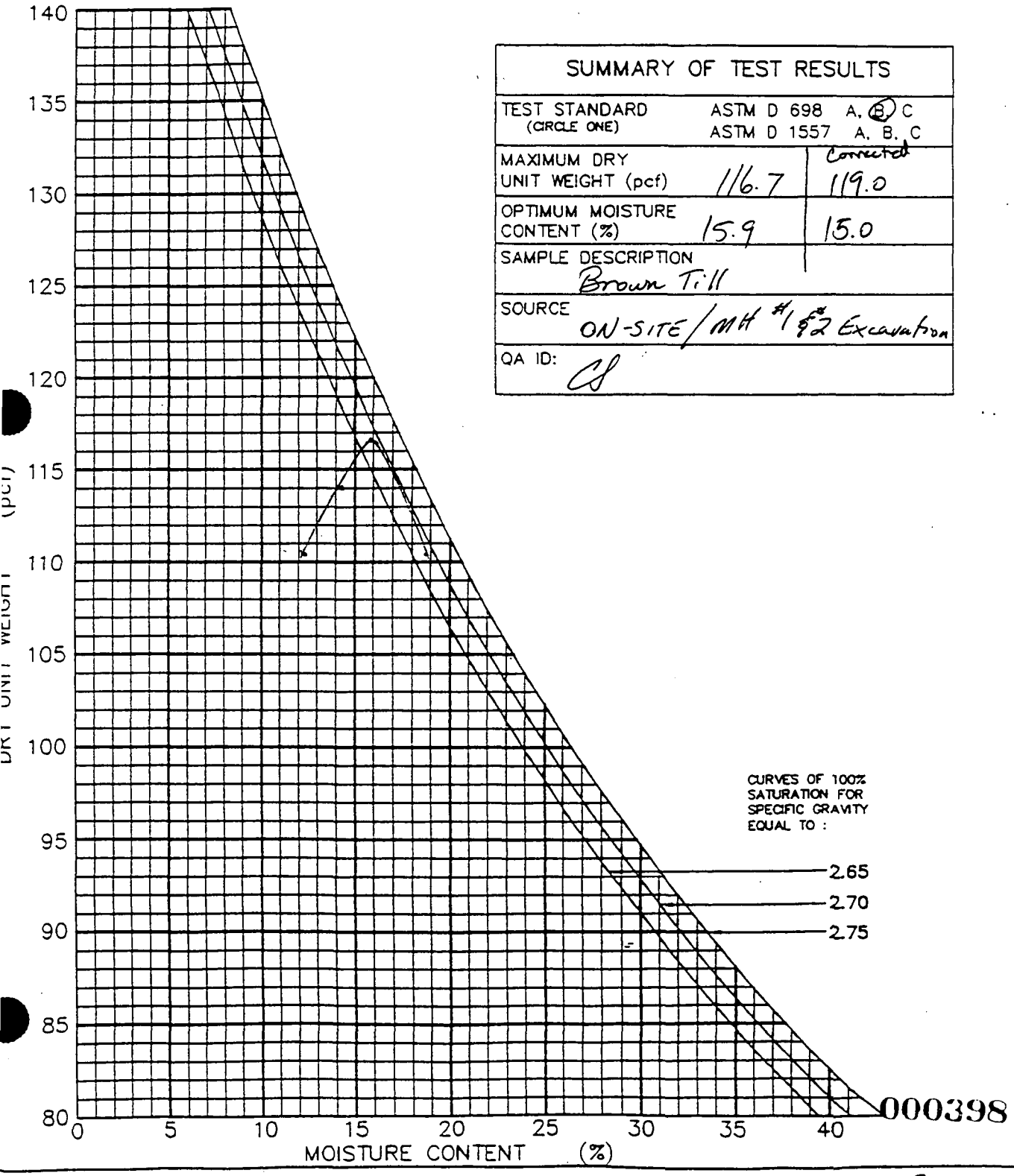
=-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 21 day July month 1999 year

MATERIAL TYPE: Compacted Fill SAMPLE NO.: RA 12



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A, (B) C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	116.7	Corrected 119.0
OPTIMUM MOISTURE CONTENT (%)	15.9	15.0
SAMPLE DESCRIPTION	Brown Till	
SOURCE	ON-SITE / MH #1 & #2 Excavation	
QA ID:	CS	

000398

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 17 day 07 month 99 year

MATERIAL TYPE: — SAMPLE NO.: RA-12

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS GREATER THAN 20%, AND IF THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: MH

			13.80	13.63	13.42	13.65	
	WATER ADDED	(ml)	12%	10%	8%	14%	16%
A	WT. OF SOIL & MOLD	(grams)	6259.7	6182.6	6087.3	6191.6	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A − B	(grams)	2050.3	1973.2	1877.9	1982.2	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	135.3	130.2	123.9	130.8	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	116.7	114.0	110.4	110.3	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: MH

	TARE NO.		#27	#13	#25	#28	
F	WT. OF TARE	(grams)	8.2	8.2	8.3	8.2	
G	WT. OF WET SOIL & TARE	(grams)	348.3	311.5	386.8	346.9	
H	WT. OF DRY SOIL & TARE	(grams)	301.6	273.9	345.6	293.9	
I	WT. OF WATER = G − H	(grams)	46.7	~~36~~ 37.6	41.2	53.0	
J	WT. DRY SOIL = H − F	(grams)	293.4	265.7	337.3	285.7	
K	MOISTURE CONTENT = (I/J) X 100	(%)	15.9	14.2	12.2	18.6	

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000399

GEOSYNTEC CONSULTANTS FILE NO. 2-05-FLC — CHECKED BY: — SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

-- 2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 21 day July month 1999 year

MATERIAL TYPE: Compacted Fill RA-12

Weight of Total Sample	=	19,164.6
Weight of Oversize Fraction	=	1207.4
Weight of Finer Fraction (-3/8)	=	17,957.2
Percentage of Oversize Fraction	= (P_C)	6.3
Percentage of Finer Fraction (-3/8)	= (P_F)	93.7
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F) =	Water Content -3/8, as decimal	=	0.159
(W_C) =	Water Content +3/8, as decimal	=	0.015
(δ_F) =	Dry Density of finer fraction	=	116.7
(δ_W) =	Unit Weight of Water	=	62.4

$$C_W=(W_F P_F)\div(W_C P_C)$$

$$C_w = (0.159)(\cancel{116}\,93.7) + (0.015)(6.3)$$

$$C_w = 15.0$$

$$C\delta_D=100\delta_F G_M \delta_W/(\delta_F P_C)\div(G_M \delta_W P_F)$$

$$C_{\delta D} = 100(116.7)(2.72)(62.4)/(116.7)(6.3) + (62.4)(2.72)(93.7)$$

$$C_{\delta D} = 119.0$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

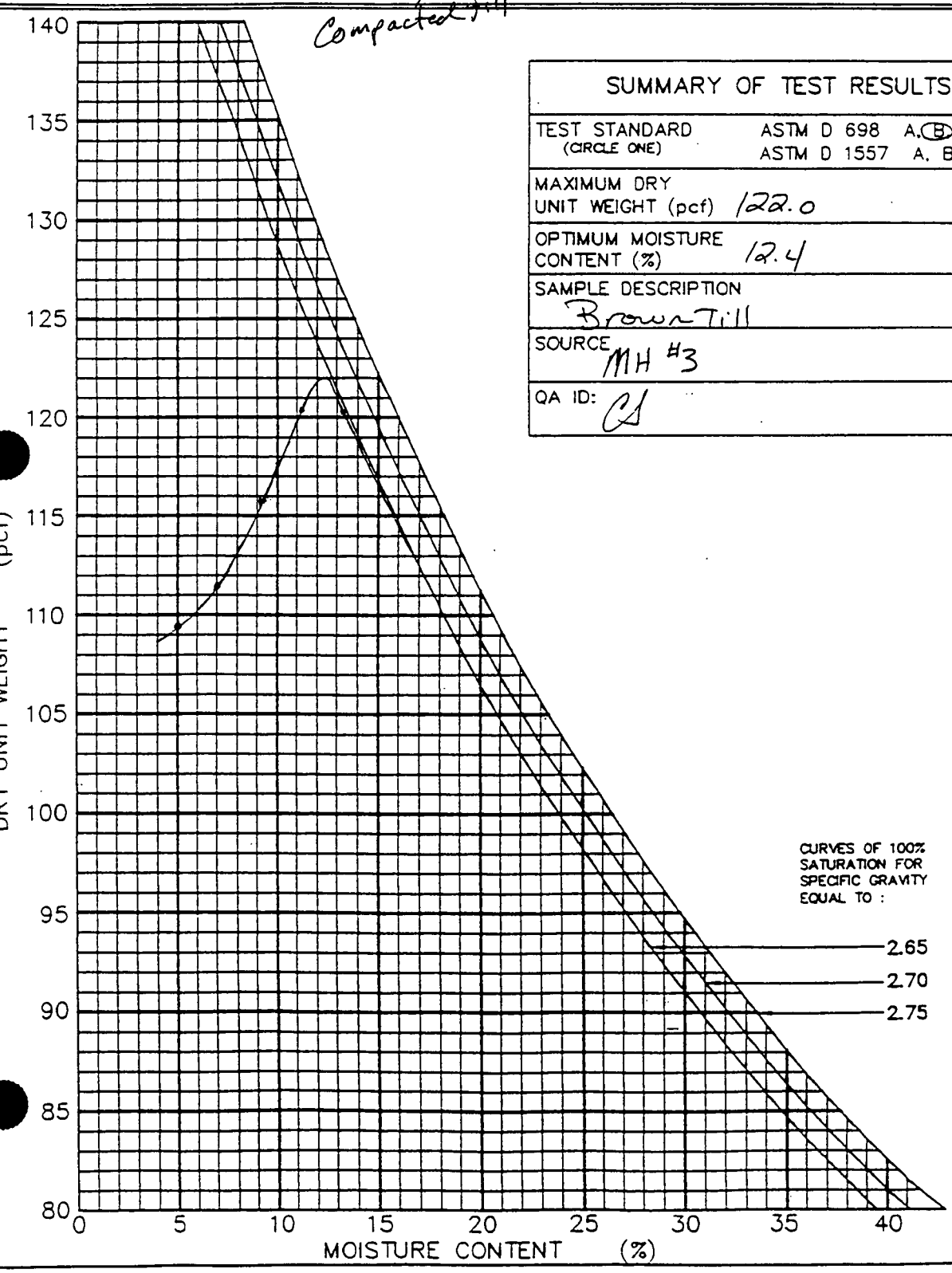
-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04-1

DESCRIPTION: Phase II — DATE: 12 day Aug month 1999 year

MATERIAL TYPE: ~~Low Perm Clay~~ Compacted Fill — SAMPLE NO.: RA-13



SUMMARY OF TEST RESULTS	
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A, (B) C ASTM D 1557 A, B, C
MAXIMUM DRY UNIT WEIGHT (pcf)	122.0
OPTIMUM MOISTURE CONTENT (%)	12.4
SAMPLE DESCRIPTION	Brown Till
SOURCE	MH #3
QA ID:	CJ

000401

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 04 day AUG month 99 year

MATERIAL TYPE: Compacted Fill — SAMPLE NO.: RA-13

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS GREATER THAN 20%, AND IF THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: (TBV)

			13.12 lbs	13.26 lbs	13.54 lbs	13.75	13.82
	WATER ADDED	(ml)	50 ml	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)	5951.2	6014.7	6141.7	6237.0	6268.8
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1741.8	1805.3	1932.3	2027.6	2059.4
D	WET UNIT WT.(1) = C X 0.066	(pcf)	114.9	119.1	127.5	133.8	135.9
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	109.4	111.3	116.9	120.3	120.1

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: TBV

	TARE NO.		1	6	21	9	34
F	WT. OF TARE	(grams)	8.25	7.6	8.4	7.2	8.4
G	WT. OF WET SOIL & TARE	(grams)	568.0	540.5	541.6	476.1	437.2
H	WT. OF DRY SOIL & TARE	(grams)	541.4	506.1	497.0	428.8	387.3
I	WT. OF WATER = G - H	(grams)	26.6	34.4	44.6	47.3	49.9
J	WT. DRY SOIL = H - F	(grams)	533.1	498.5	488.6	421.6	378.9
K	MOISTURE CONTENT = (I/J) X 100	(%)	~~8.0~~ 5.0	7.0	9.1	11.2	13.2

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000402

-2737

COMPACTED FILL

COMPACTED CLAY LINER AND CLAY WEDGE

F-2737

PHASE II CELL 2 (1998) LABORATORY TESTING

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PHB

PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II

DATE: 21 day Oct month 1998 year

MATERIAL TYPE:

SAMPLE NO.: LP 133

SOIL SAMPLE SIZE +4 = 717 −4 = 16623.7

Total wt 38.23 LB 17340.7 grams

% +4 4.3 % Before wash

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		L-3	L-3
WT. OF DRY SAMPLE PLUS TARE	(grams)	508.6	235.6
WT. OF TARE	(grams)	146.4	146.4
WT. OF DRY SAMPLE	(grams)	362.2	89.20

SIEVE ANALYSIS

QA ID: RP/CL

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	~~16.21g~~ ∅	0	100		100
1½"	37.5	~~31.08~~ ∅	0	100		
1"	25.0	~~44.09~~ ∅	0	100		
¾"	19.0	~~56.21~~ 9.8	0.06	99.94		90-106
½"	12.5	128.97	0.7	99.3		
⅜"	9.5	276.0	1.6	98.4		
#4	4.75	658.3	3.8	96.2		
#10	2.00	16.21	4.5	95.5	91.9	
20	0.850	31.08	8.6	91.4	87.9	
40	0.425	44.09	12.2	87.8	84.5	
60	0.250	56.21	15.5	84.5	81.3	
100	0.150	71.42	19.7	80.3	77.2	
200	0.075	88.88	24.5	75.5	72.6	50-100
PAN	—	89.20	—	—		

24/10/98 ∅

000406

%FINER = 100 − Σ% RETAINED

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CHECKED BY: PHB

SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM ~~C 136~~/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

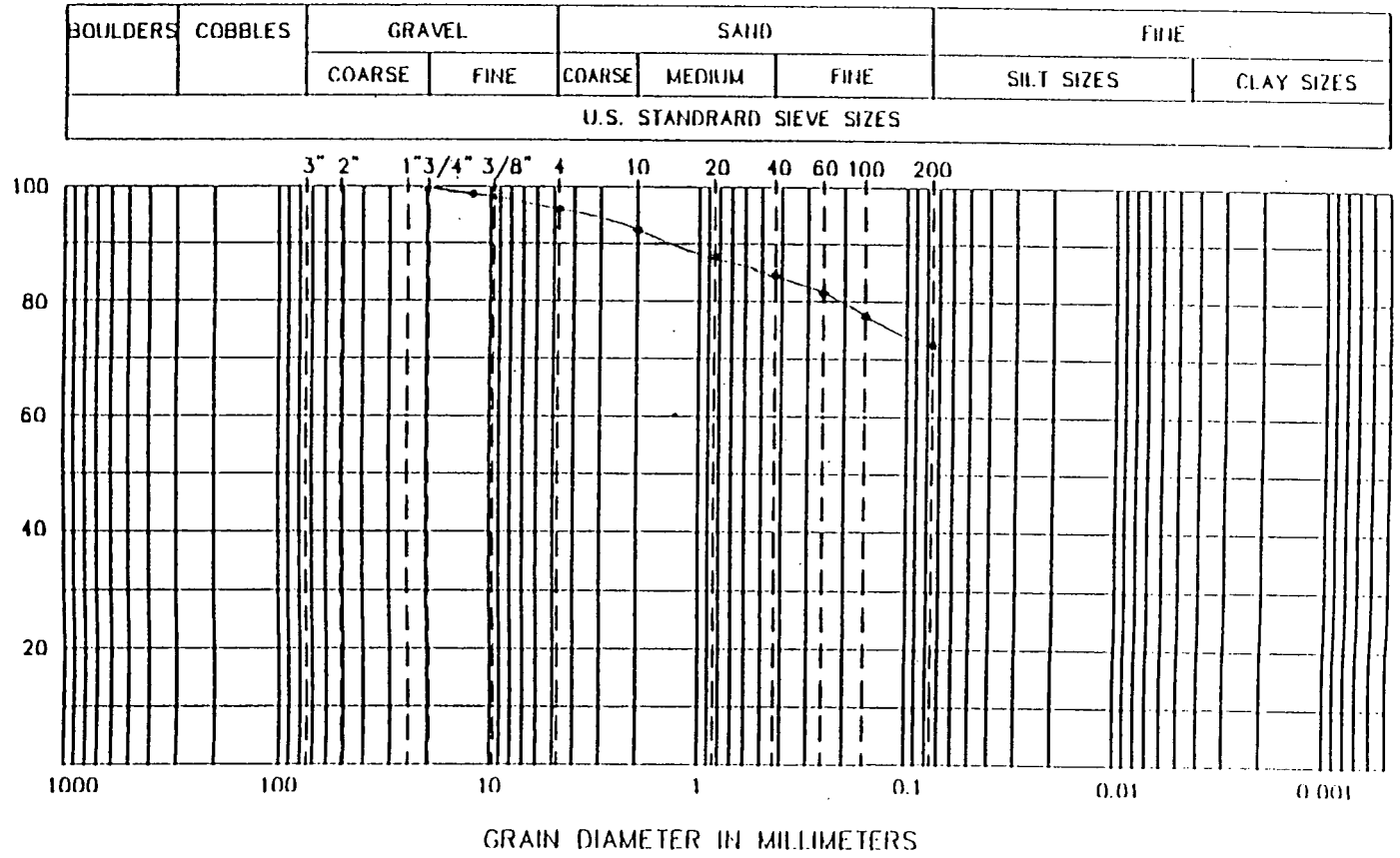
DESCRIPTION: Phase ~~one~~ II

DATE: 22 day Oct month 1998 year

MATERIAL TYPE: Clay Liner

SAMPLE NO.: LPII-133 QA ID: Cf

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 32

(PL) 17

(PI) 15

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	99.9
1/2-in.	99.3
3/8-in.	98.4
NO. 4	96.2
NO. 10	91.9
NO. 20	87.9
NO. 40	84.5
NO. 60	81.3
NO. 100	77.2
NO. 200	72.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER

SOIL CLASSIFICATION (ASTM D 2487): Brown sandy lean clay (CL) w/ trace gravel

000407

-2737

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SHEET NO 2 OF 2

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Geomechanics and Environmental Laboratory
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FIGURE

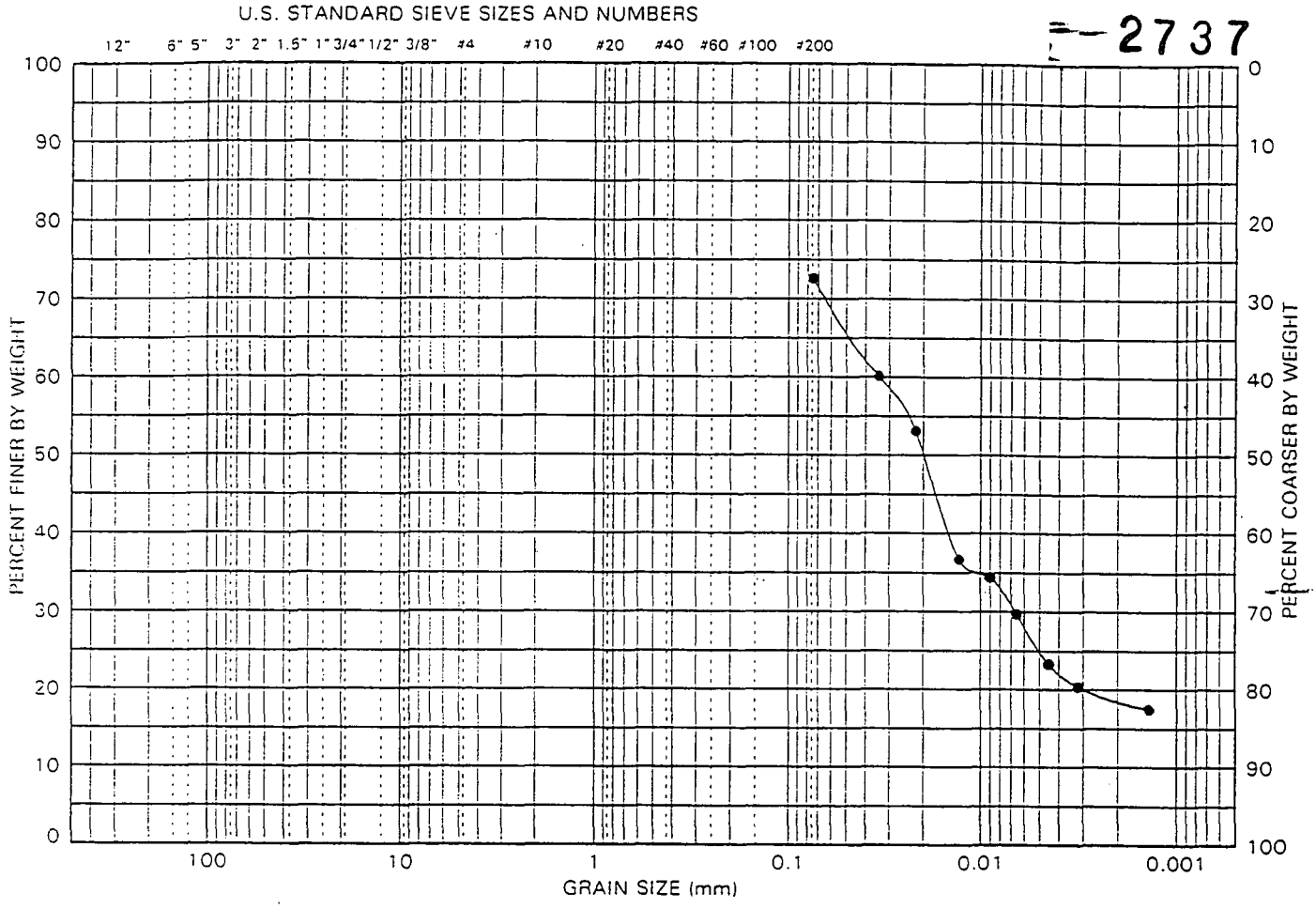
PROJECT: OSDF-Phase II
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 10/27/98

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487
D 3042 AND D 4318

2737



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID LP-II-133	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)	
LAB. SAMPLE NO. 98J239	PLASTIC LIMIT (%)		SAND (%)	
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)	72.6
SOIL CLASSIFICATION:			SILT (%)	53.8
			CLAY(%)	18.8
			COEFF. UNIFORMITY (Cu)	
			COEFF. CURVATURE (Cc)	

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													73	66	50	25	19	

NOTES:

000408

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2737

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 20 day Oct month 1998 year

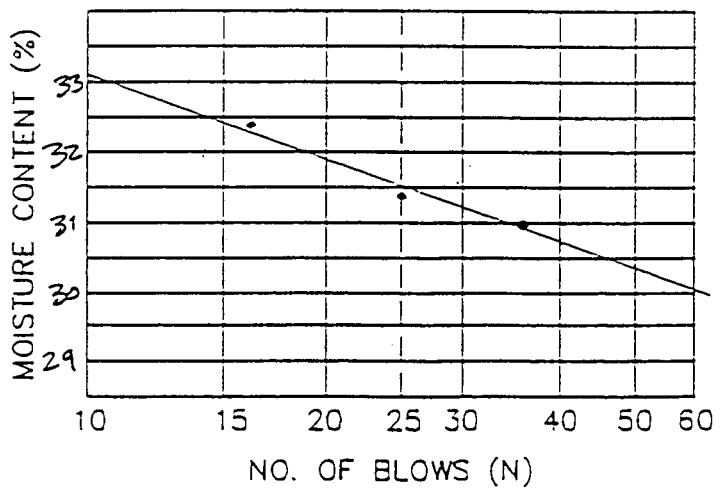
MATERIAL TYPE: Clay Liner SAMPLE NO.: LP ~~I~~ 133

LIQUID LIMIT DETERMINATION

QA ID: CA/DE

	TARE NO.		3.1	1.9	3.2	
A	WT. OF TARE	(grams)	28.40	28.54	27.86	
B	WT. OF WET SOIL & TARE	(grams)	39.35	41.04	44.13	
C	WT. OF DRY SOIL & TARE	(grams)	36.67	38.05	40.28	
D	WT. OF WATER = B-C	(grams)	2.68	2.99	3.85	
E	WT. OF DRY SOIL = C-A	(grams)	8.27 ✓	9.51 ✓	12.42 ✓	
F	MOISTURE CONTENT = (D/E)X100	(%)	32.4 ✓	31.4 ✓	31.0 ✓	
N	NUMBER OF BLOWS		16	25	36	

DRYING TARE NO.



CURING TARE NO.

CA

PLASTIC LIMIT DETERMINATION

QA ID: CA/DE

	TARE NO.		2.7	2.9	3.1	
A	WT. OF TARE	(grams)	28.68	31.46	28.38	
B	WT. OF WET SOIL & TARE	(grams)	39.68	45.21	40.90	
C	WT. OF DRY SOIL & TARE	(grams)	38.10	42.60	39.06	
D	WT. OF WATER = B-C	(grams)	1.58 ✓	2.61 ✓	1.84 ✓	
E	WT. OF DRY SOIL = C-A	(grams)	9.42 ✓	11.14 ✓	10.68 ✓	
F	MOISTURE CONTENT = (D/E)X100	(%)	16.8 ✓	23.4 ✓	17.2 ✓	000409

LIQUID LIMIT (LL) = ~~31.5~~ 32 PLASTIC LIMIT (PL) = 17.0 PLASTICITY INDEX (PI) = 15

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE-DENSITY RELATIONSHIP

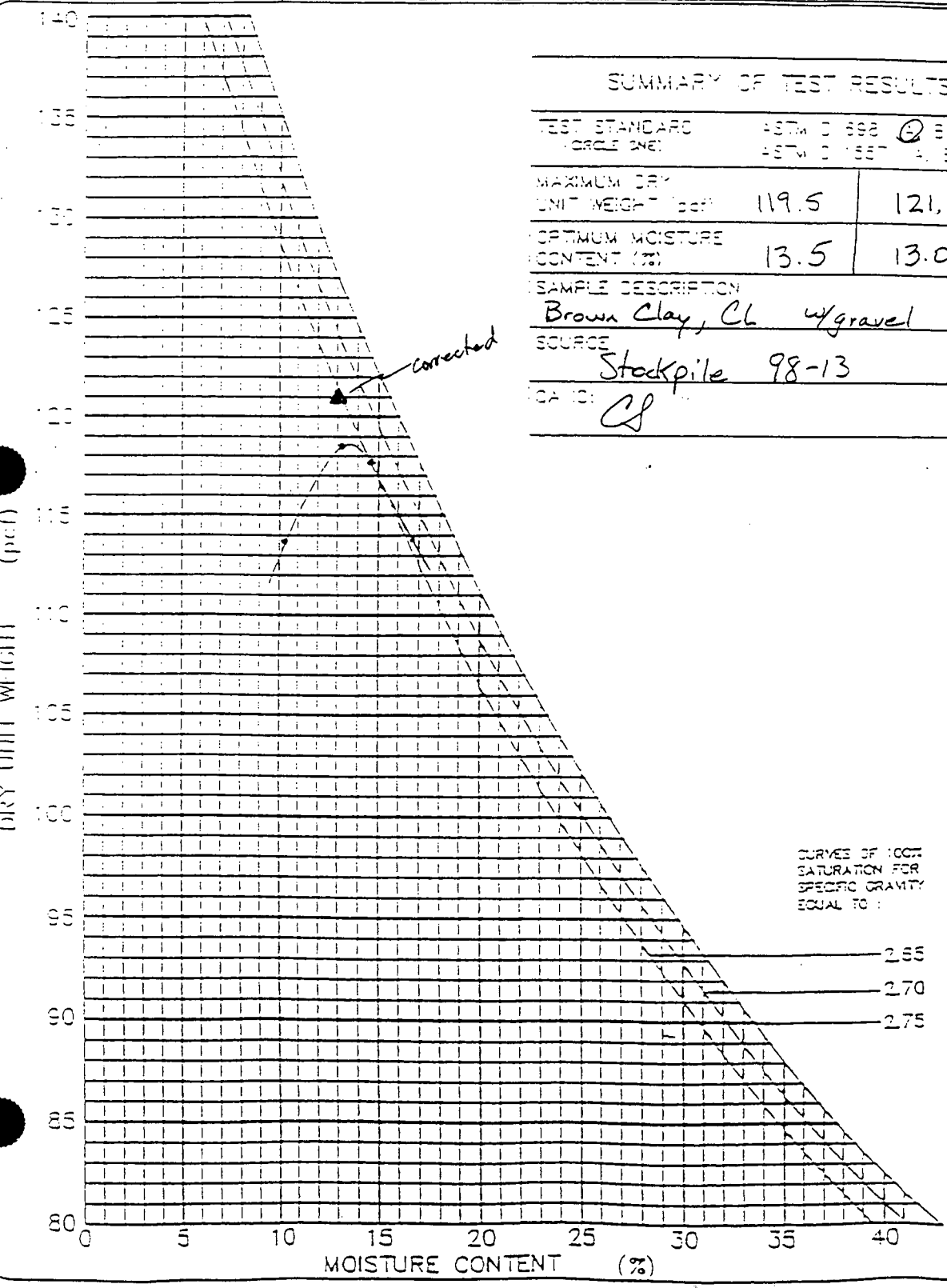
2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 21 day Oct month 1998 year

MATERIAL TYPE: Clay Liner — SAMPLE NO.: LP-II-133



SUMMARY OF TEST RESULTS

TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B. C. / ASTM D 1557 A. B. C.	
MAXIMUM DRY UNIT WEIGHT (pcf)	119.5	121.0
OPTIMUM MOISTURE CONTENT (%)	13.5	13.0

SAMPLE DESCRIPTION: Brown Clay, CL w/gravel

SOURCE: Stockpile 98-13

TAKEN BY: CS

000410

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 20 day Oct month 1998 year

MATERIAL TYPE: Clay Liner — SAMPLE NO.: LPII-133

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: CS

	WATER ADDED	(ml)	6%	8%	10%	4%	
A	WT. OF SOIL & MOLD	(grams)	~~2046.9~~ 6256.3	6250.6	6223.4	6110.0	
B	WT. OF MOLD	(grams)	4209.4	→	→	→	
C	WT. OF SOIL = A - B	(grams)	2046.9	2041.2	2014.0	1900.6	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	135.1	134.7	132.9	125.4	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	119.4	117.7	113.9	113.9	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: CS/DE

	TARE NO.		23	104	18	28	
F	WT. OF TARE	(grams)	8.4	8.3	8.4	8.2	
G	WT. OF WET SOIL & TARE	(grams)	281.4	290.5	302.0	310.7	
H	WT. OF DRY SOIL & TARE	(grams)	249.8	254.8	260.0	283.0	
I	WT. OF WATER = G - H	(grams)	31.6	35.7	42.0	27.7	
J	WT. DRY SOIL = H - F	(grams)	241.4	246.5	251.6	274.8	
K	MOISTURE CONTENT = (I/J) X 100	(%)	13.1	14.5	16.7	10.1	

000411

2737

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GEOSYNTEC CONSULTANTS

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2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES (ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 — TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 21 day Oct month 1993 year

MATERIAL TYPE: Clay Liner — SAMPLE NO.: LPII-133

Weight of Total Sample	=	17,340.7 g
Weight of Oversize Fraction	=	717.0
Weight of Finer Fraction (-4)	=	16,623.7
Percentage of Oversize Fraction	= (P_C)	4.1%
Percentage of Finer Fraction (-4)	= (P_F)	95.9%
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.138
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	119.5
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (\cancel{0.138}\ 0.135)(95.9) + (0.015)(4.1)$$

$$C_W = \cancel{13.3\%}\ 13.0\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C\delta_D = \frac{100\,(119.5)(2.72)(62.4)}{(119.5)(4.1) + (2.72)(62.4)(95.9)}$$

$$C\delta_D = \cancel{120.}\ 121.0 \text{ pcf}$$

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 22 day Oct month 1998 year

MATERIAL TYPE: — SAMPLE NO.: II-134

SOIL SAMPLE SIZE: +4 = 1119.2; −4 = 16796.7 — Total wt 39.50 LB 17915.7 grams; % +4 6.7 % Before wash

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		L-4	L-4
WT. OF DRY SAMPLE PLUS TARE	(grams)	518.9	243.0
WT. OF TARE	(grams)	146.6	146.6
WT. OF DRY SAMPLE	(grams)	372.3	96.4

SIEVE ANALYSIS — QA ID: RP/CS

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	100		100
1 1/2"	37.5	Ø	Ø	100		
1"	25.0	Ø	Ø	100		
3/4"	19.0	117.70	0.7	99.3		90-106
1/2"	12.5	347.29	1.9	98.1		
3/8"	9.5	528.7	3.0	97.0		
#4	4.75	1001.7	5.6	94.4		
#10	2.00	22.85	~~6.1~~ 6.2 DGB	~~93.8~~ 93.9 DGB	88.6	
20	0.850	40.92	11.0	89.0	84.0	
40	0.425	53.65	14.4	85.6	80.8	
60	0.250	64.57	17.3	82.7	78.0 DGB	
100	0.150	79.43	21.3	78.7	74.3	
200	0.075	96.12	25.8	74.2	70.0	50-100
PAN	—	96.40				

000413

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C ~~136~~/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

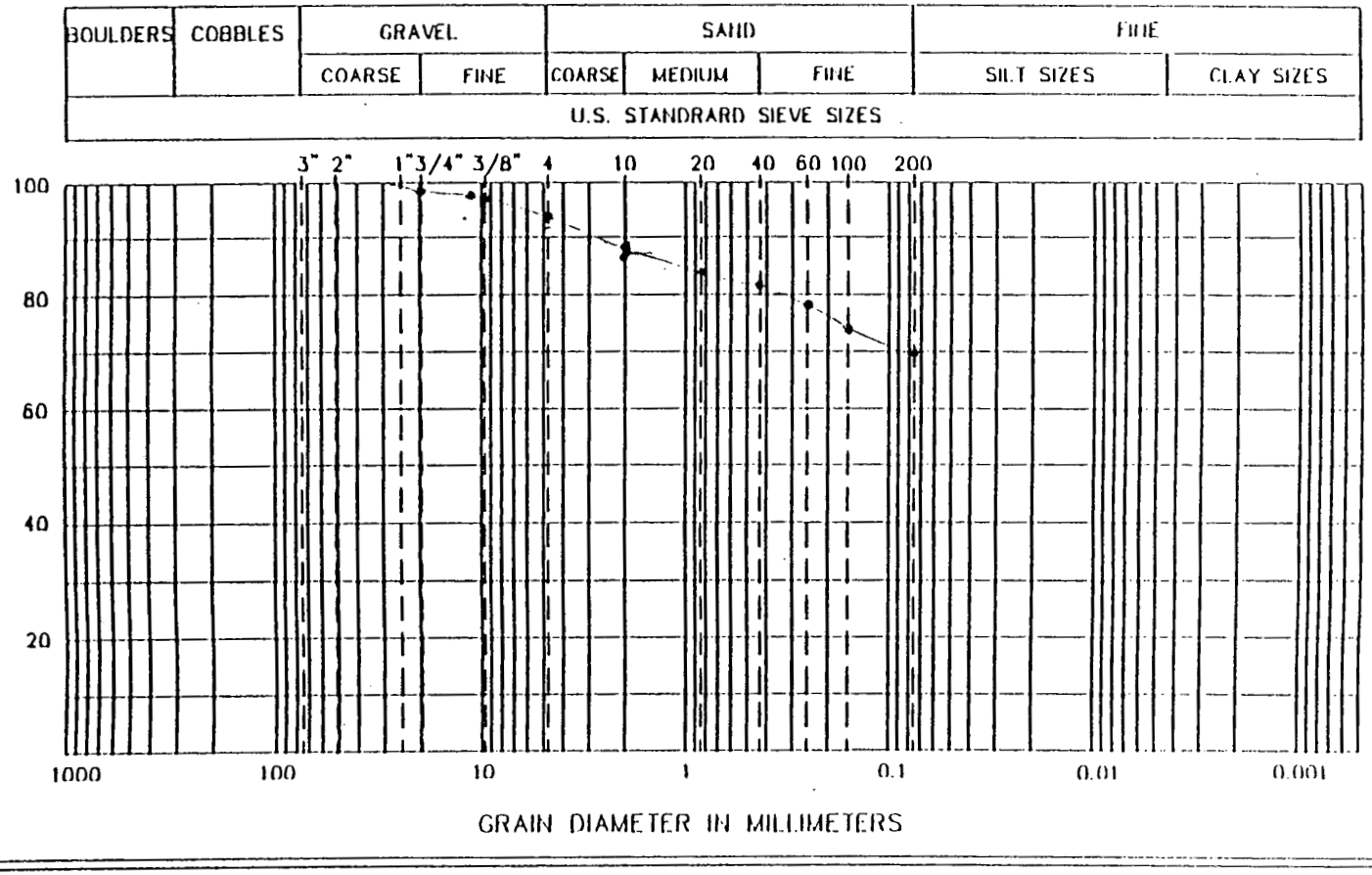
DESCRIPTION: Phase ~~one~~ II

DATE: 23 day Oct month 1998 year

MATERIAL TYPE: Clay Liner

SAMPLE NO.: LPII-134 QA ID: CA

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



000414

2737

ATTERBERG LIMITS

(LL) 31

(PL) 16

(PI) 15

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	99.3
1/2-in.	98.1
3/8-in.	97.0
NO. 4	94.4
NO. 10	86.6
NO. 20	84.0
NO. 40	80.8
NO. 60	78.1
NO. 100	74.3
NO. 200	70.0

HYDROMETER RESULTS

PARTICLE DIA.	% FINER

SOIL CLASSIFICATION (ASTM D 2487): Brown sandy lean clay (CL) w/ trace gravel

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Geomechanics and Environmental Laboratory
Atlanta, Georgia

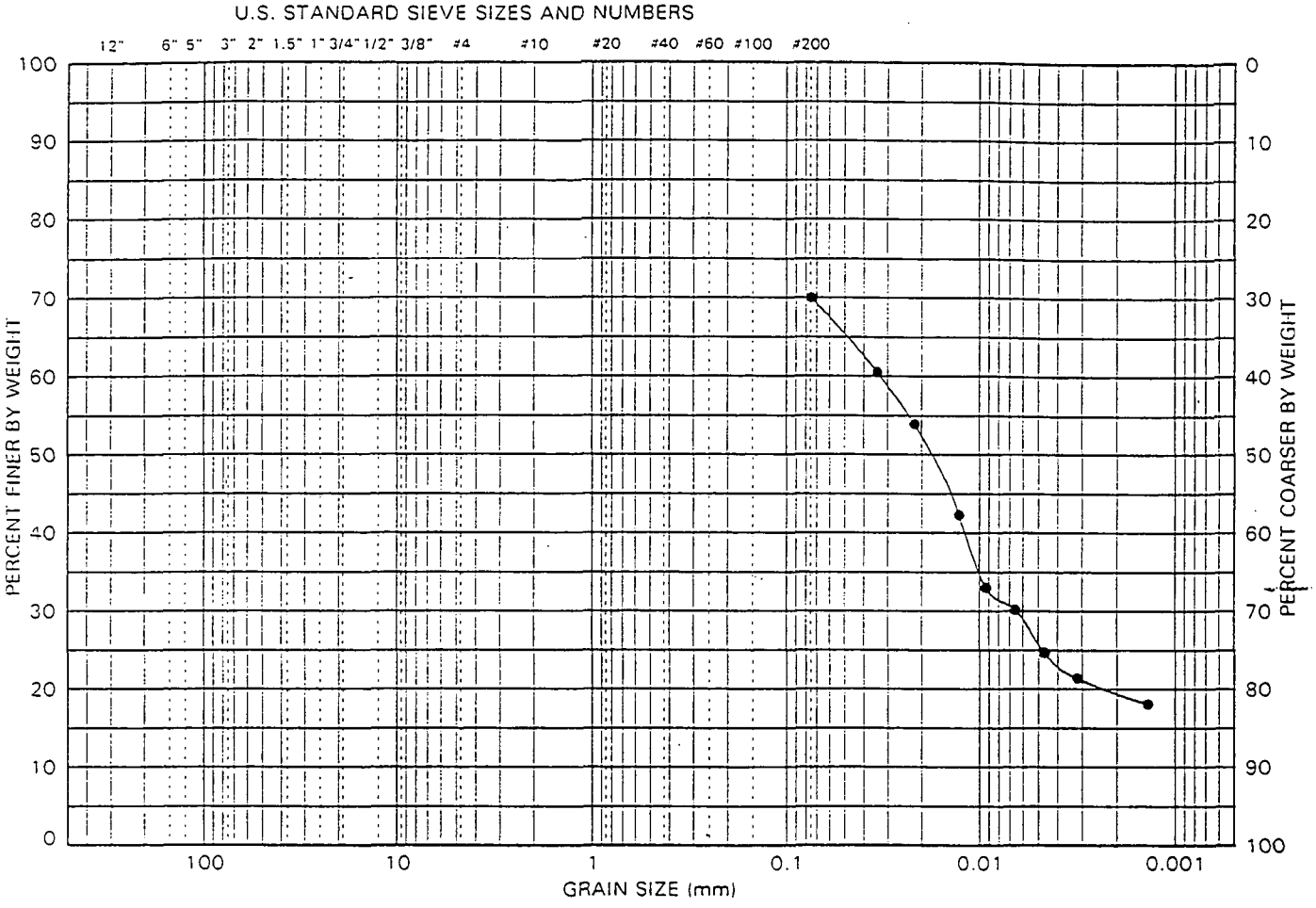
FIGURE 2737

PROJECT: OSDF-Phase II
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 10/27/98

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID LP-II-134	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)	
LAB. SAMPLE NO. 98J240	PLASTIC LIMIT (%)		SAND (%)	
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)	70.0
SOIL CLASSIFICATION:			SILT (%)	50.5
			CLAY(%)	19.5
			COEFF. UNIFORMITY (Cu)	
			COEFF. CURVATURE (Cc)	

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													70	65	52	26	20	

NOTES:

000415

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

=-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 20 day Oct month 1998 year

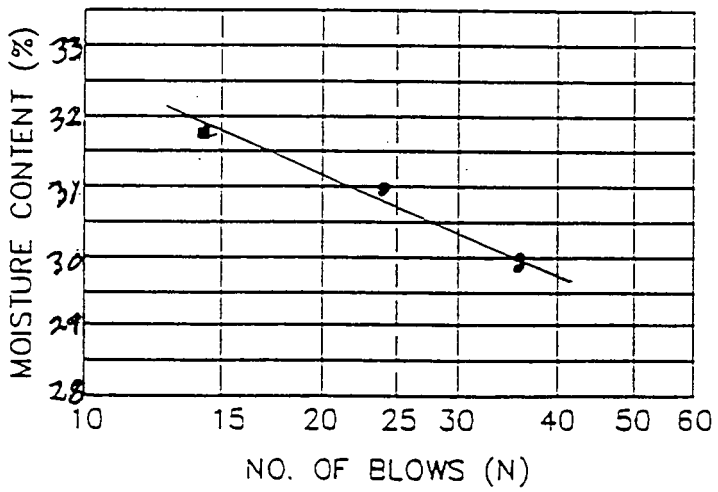
MATERIAL TYPE: Clay Liner — SAMPLE NO.: LP #134

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		~~1.9~~ DLE	2.7	2.9	3.1
A	WT. OF TARE	(grams)	~~28.58~~	28.69	31.46	28.38
B	WT. OF WET SOIL & TARE	(grams)	~~41.61~~	45.68	46.48	41.82
C	WT. OF DRY SOIL & TARE	(grams)		41.60	42.93	38.72
D	WT. OF WATER = B-C	(grams)		4.08	3.55	3.10
E	WT. OF DRY SOIL = C-A	(grams)		12.91	11.47	10.34
F	MOISTURE CONTENT = (D/E)X100	(%)		31.60	~~30.95~~ 31.0	~~29.98~~ 30.0
N	NUMBER OF BLOWS			14	24	36

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		3.2	1.5		
A	WT. OF TARE	(grams)	27.82	28.62		
B	WT. OF WET SOIL & TARE	(grams)	41.02	41.69		
C	WT. OF DRY SOIL & TARE	(grams)	39.17	39.90		
D	WT. OF WATER = B-C	(grams)	1.85	1.79		
E	WT. OF DRY SOIL = C-A	(grams)	~~12.15~~ 11.35	11.28		
F	MOISTURE CONTENT = (D/E)X100	(%)	~~15.23~~ 16.3	~~15.87~~ 15.9		

LIQUID LIMIT (LL) = ~~30~~ 31 PLASTIC LIMIT (PL) = 16 PLASTICITY INDEX (PI) = ~~14~~ 15

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FLUOR DANIEL FERNALD

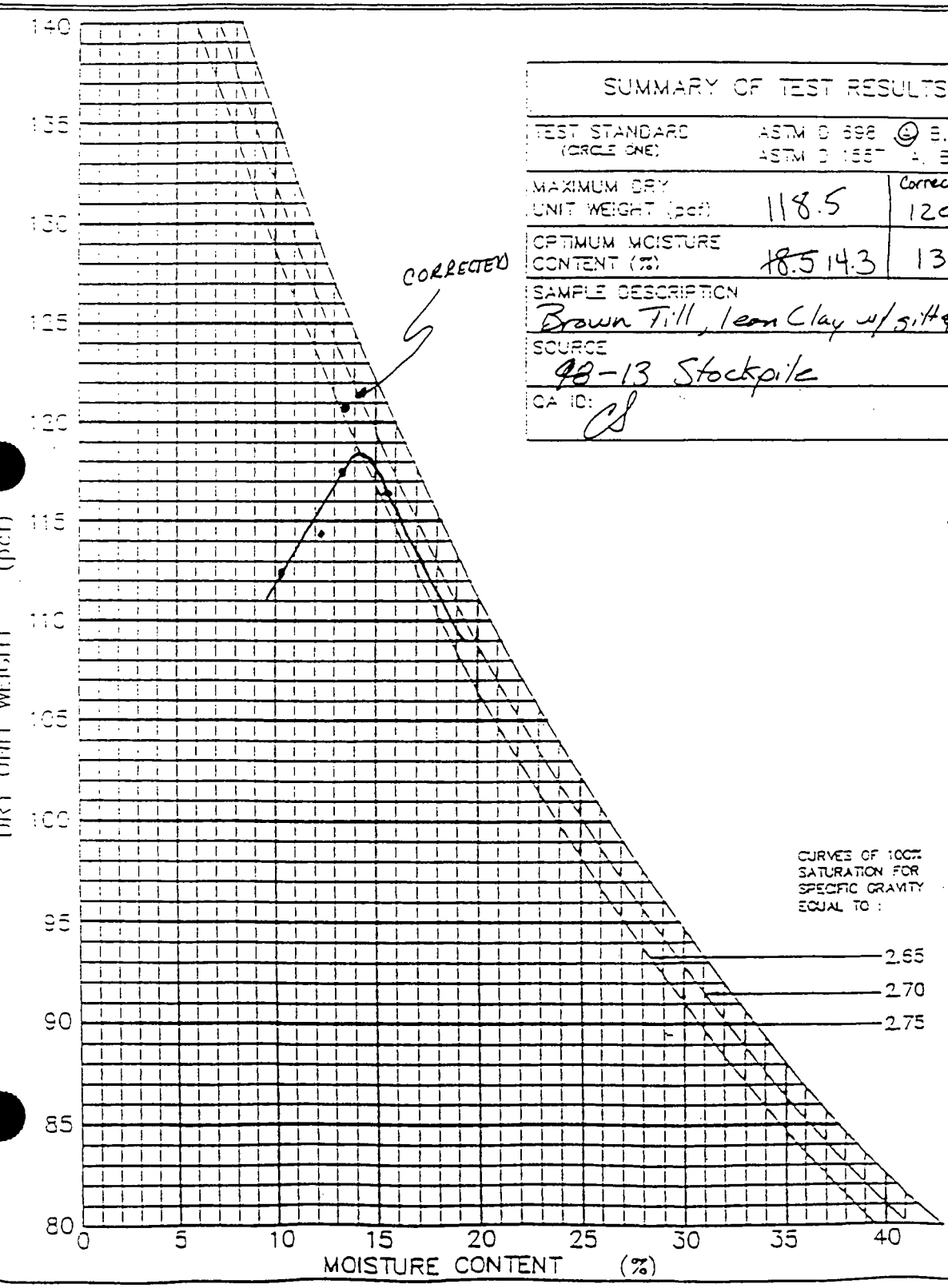
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) — 2737

LOCATION: FERNALD, OHIO — PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 22 day Oct month 1998 year

MATERIAL TYPE: — SAMPLE NO.: ~~LPII-133~~ LPII-134



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (C) B. D ASTM D 1557 A. B. D	
MAXIMUM DRY UNIT WEIGHT (pcf)	118.5	Corrected 120.8
OPTIMUM MOISTURE CONTENT (%)	~~18.5~~ 14.3	13.5
SAMPLE DESCRIPTION	Brown Till, lean Clay w/ silt & gravel	
SOURCE	98-13 Stockpile	
CA ID:	CS	

000417

15,781.5 g (16,716.7 g 5011)

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 22 day Oct month 1998 year

MATERIAL TYPE: Clay Liner — SAMPLE NO.: LPII-134

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	4%	6%	8%	10%	
A	WT. OF SOIL & MOLD	(grams)	13.42 LB 6087.3	13.56 LB 6150.8	13.73 6229.9	13.77 6246.1	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	~~4209.4~~
C	WT. OF SOIL = A - B	(grams)	1877.9	1941.4	2018.5	2036.7	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	123.9	128.1	133.2	134.4	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	112.~~43~~ 58	114.2	117.5	116.4	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: DLE

	TARE NO.		11	8	A	13	
F	WT. OF TARE	(grams)	7.4	7.3	8.2	8.2	
G	WT. OF WET SOIL & TARE	(grams)	376.9	328.8	330.7	368.7	
H	WT. OF DRY SOIL & TARE	(grams)	342.2	293.8	~~292.4~~ 292.5	320.2	
I	WT. OF WATER = G - H	(grams)	34.5	35.0	38.2	48.5	
J	WT. DRY SOIL = H - F	(grams)	334.8	286.5	284.3	312.0	
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.3	12.2	13.4	15.5	

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FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES (ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: 000409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 22 (day) Oct (month) 1993 (year)

MATERIAL TYPE: Clay Liner — SAMPLE NO.: LPII-134

Weight of Total Sample	=	~~17917.1~~ ~~17915.9~~	17915.9
Weight of Oversize Fraction	=	1119.2	
Weight of Finer Fraction (-4)	=	~~16797.9~~	16796.7
Percentage of Oversize Fraction	= (P_C)	6.2	
Percentage of Finer Fraction (-4)	= (P_F)	93.8	
Specific Gravity (Assumed)	= (G_M)	2.72	

(W_F)	=	Water Content -4, as decimal	=	0.143
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	118.5
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (0.143)(93.8) + (0.015)(6.2)$$

$$C_W = 13.5\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C\delta_D = \frac{100(118.5)(2.72)(62.4)}{(118.5)(6.2) + (2.72)(62.4)(93.8)}$$

$$C\delta_D = 120.8 \text{ pcF}$$

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422) 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 1 day DEC month 1998 year

MATERIAL TYPE: Brown Clay SAMPLE NO.: LP-II-139

SOIL SAMPLE SIZE +3/8 = 1424.5 Total wt 96.069 LB 43577.1 grams

-3/8 = 85.27 % +4 3.3 %

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	BEFORE WASH	AFTER WASH
TARE NO.	N	N
WT. OF DRY SAMPLE PLUS TARE (grams)	~~376.00~~ 477.63	186.90
WT. OF TARE (grams)	101.63	101.63
WT. OF DRY SAMPLE (grams)	~~477.63~~ 376.00	85.27

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	—		100
1 1/2"	37.5	Ø	Ø	—		
1"	25.0	56.93	0.13	99.87		
3/4"	19.0	538.16	1.23	98.77		90-100
1/2"	12.5	991.50	2.28	97.72		
3/8"	9.5	~~13566.60~~ 1356.66	~~3.91~~ ~~31.1~~ 3.11	96.9 ~~96.89~~ ~~68.9~~		
#4	4.75	1424.90	3.27	96.73		
#10	2.00	12.68	3.37	96.63	93.5	
20	0.850	29.01	7.72	92.28	89.3	
40	0.425	42.19	11.22	88.78	85.9	
60	0.250	53.37	14.19	85.81	83.0	
100	0.150	67.54	17.96	82.04	79.4	
200	0.075	85.23	22.67	77.33	74.8	50-100
PAN	—	85.27	-			

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%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

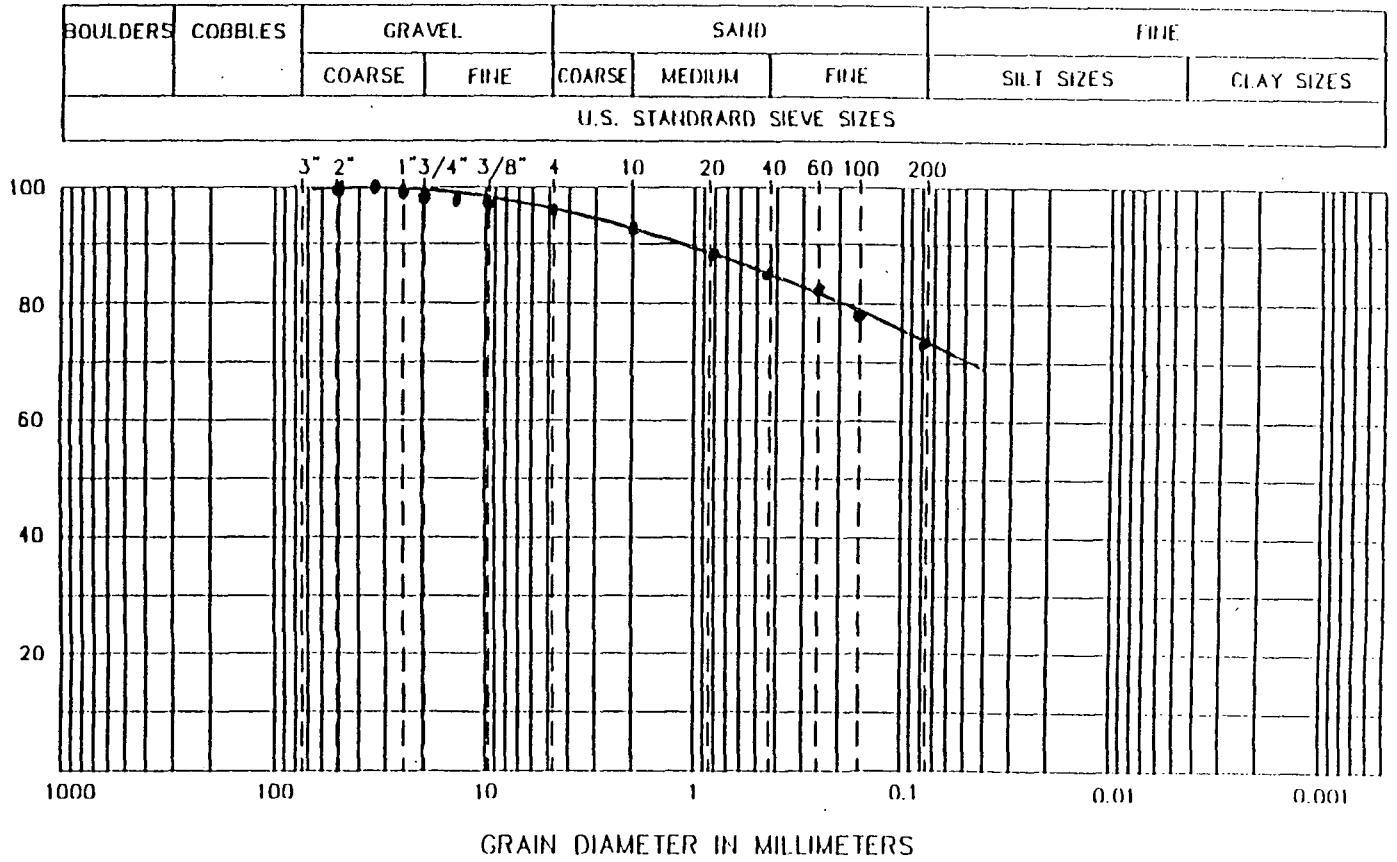
DESCRIPTION: Phase ~~one~~ II

DATE: 1 day Dec. month 1998 year

MATERIAL TYPE: ~~Brown~~ Clay Liner

SAMPLE NO.: 2PII-139 QA ID: DLE

CURVE COEFFICIENTS: (C_u) ..... (C_c)



ATTERBERG LIMITS

(LL) 33.4

(PL) 17.2

(PI) 16.0

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	0
2-in.	0
1 1/2-in.	0
1-in.	99.88
3/4-in.	98.99
1/2-in.	97.92
3/8-in.	96.89
NO. 4	96.93
NO. 10	93.5
NO. 20	89.3
NO. 40	85.9
NO. 60	83.0
NO. 100	79.4
NO. 200	74.8

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): CL Lean Clay, Sandy Clay with Gravel

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 30 day Nov month 1998 year

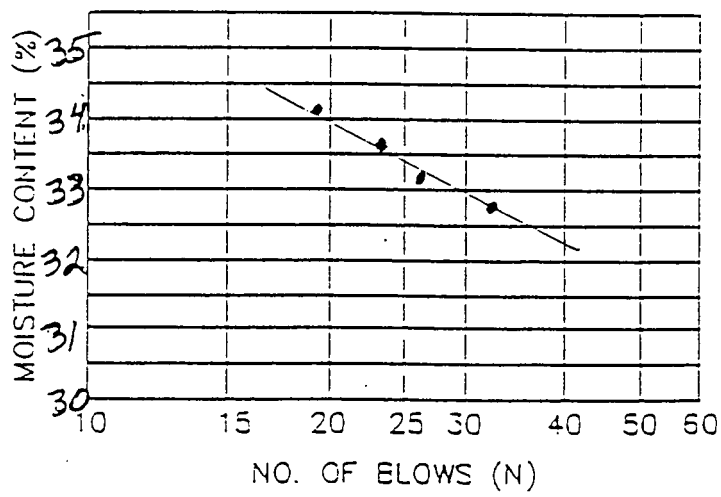
MATERIAL TYPE: Clay Liner / Brown Clay SAMPLE NO.: LP II-139

LIQUID LIMIT DETERMINATION

QA ID: DLF

	TARE NO.		1.9	3.1	2.7	3.2
A	WT. OF TARE	(grams)	28.55	28.39	28.60	27.83
B	WT. OF WET SOIL & TARE	(grams)	38.60	41.18	40.97	39.25
C	WT. OF DRY SOIL & TARE	(grams)	36.10	37.92	37.86	36.43
D	WT. OF WATER = B-C	(grams)	2.50	3.26	3.11	2.82
E	WT. OF DRY SOIL = C-A	(grams)	7.55	9.53	9.26	8.60
F	MOISTURE CONTENT = (D/E)X100	(%)	33.1	34.2	33.6	32.8
N	NUMBER OF BLOWS		~~35~~ 26	19	23	34

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLF

	TARE NO.		1.5	1.8		
A	WT. OF TARE	(grams)	28.60	28.80		
B	WT. OF WET SOIL & TARE	(grams)	42.28	42.72		
C	WT. OF DRY SOIL & TARE	(grams)	40.32	40.64		
D	WT. OF WATER = B-C	(grams)	1.96	2.08		
E	WT. OF DRY SOIL = C-A	(grams)	11.72	11.84		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.72	17.6		

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LIQUID LIMIT (LL) = 33.4 PLASTIC LIMIT (PL) = 17.2 PLASTICITY INDEX (PI) = 16

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 1557 METHOD B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 24 day Nov month 1998 year

MATERIAL TYPE: Brown Clay — SAMPLE NO.: LP II-139

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 4-in. (4.75-mm) SIEVE IS GREATER THAN 20%, AND THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 10-lb RAMMER / 18-in. DROP / 5 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	4%	6%	8%	10%	
A	WT. OF SOIL & MOLD	(grams)	13.71 6218.86	13.84 6277.82	14.0 6350.40	13.88 6296.00	
B	WT. OF MOLD	(grams)	4209.40	4209.40	4209.40	4209.40	
C	WT. OF SOIL = A − B	(grams)	2009.46	2068.42	2141.0	2086.60	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	132.62	136.5 ~~136.50~~	141.31	137.72	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	123.0	124.3 ~~124.1~~	125.9 ~~126.0~~	119.8	

NOTE: IF CALIBRATED MOLD OF 1/30 FT³ IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT³ ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT – ASTM D 2216

QA ID: DLE

	TARE NO.		34	8	104	3	
F	WT. OF TARE	(grams)	8.34	7.29	8.27	7.57	
G	WT. OF WET SOIL & TARE	(grams)	343.46	422.0	335.17	312.10	
H	WT. OF DRY SOIL & TARE	(grams)	319.15	384.87	299.73	272.36	
I	WT. OF WATER = G − H	(grams)	24.31	37.13	35.5 ~~35.44~~	39.74	
J	WT. DRY SOIL = H − F	(grams)	~~310.81~~ 310.9	377.50	291.1 ~~291.46~~	264.8	
K	MOISTURE CONTENT = (I/J) X 100	(%)	07.82	09.83	12.2 ~~12.16~~	15.0	

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A~~B~~)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 041

DESCRIPTION: Phase ~~one~~ II — DATE: 24 day Nov month 1998 year

MATERIAL TYPE: Brown Clay — SAMPLE NO.: LP II-139

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	4%	6%	8%	10%	12%
A	WT. OF SOIL & MOLD	(grams)	13.07 5928.55	13.21 5992.06	13.48 6114.53	13.72 6246.07	13.73 6227.9
B	WT. OF MOLD	(grams)	4209.40	4209.40	4209.4	4209.40	4209.4
C	WT. OF SOIL = A - B	(grams)	1719.15	1782.66	1965.13	2036.67	2018.5
D	WET UNIT WT.(1) = C X 0.066	(pcf)	113.46	117.66	125.74	134.42	133.2
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	08 ~~105.0~~ 105.1	107.9	112.5	118.0	114.9

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: DLE

	TARE NO.		31	105	21	11	A
F	WT. OF TARE	(grams)	8.30	8.25	8.44	7.37	8.25
G	WT. OF WET SOIL & TARE	(grams)	274.51	310.18	343.95	359.60	351.42
H	WT. OF DRY SOIL & TARE	(grams)	254.65	285.04	308.67	316.68	304.29
I	WT. OF WATER = G - H	(grams)	19.8 ~~19.86~~	25.2 ~~25.14~~	35.28	42.92	47.13
J	WT. DRY SOIL = H - F	(grams)	08 246.35	~~276.8~~ ~~276.79~~ 276.7	~~300.23~~ 300.3	309.31	296.04
K	MOISTURE CONTENT = (I/J) X 100	(%)	8.0 ~~8.06~~	9.1 ~~9.08~~ 05	11.75	13.88	15.9

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FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

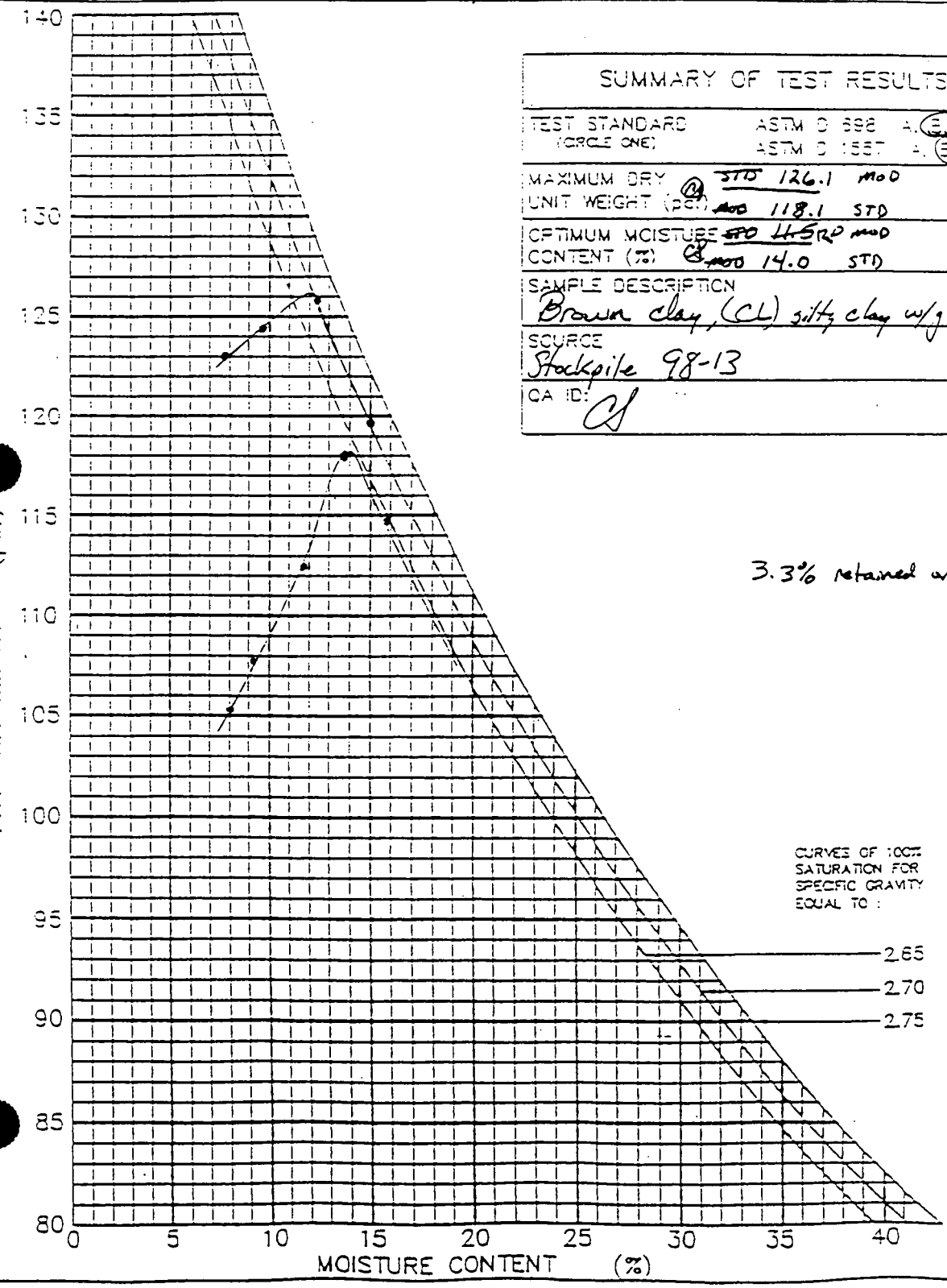
-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 30 day Nov month 1998 year

MATERIAL TYPE: ~~Brown Clay~~ Clay Liner — SAMPLE NO.: LP II - 139



SUMMARY OF TEST RESULTS	
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A. (E) C ASTM D 1557 A. (E) C
MAXIMUM DRY UNIT WEIGHT (pcf)	~~STD~~ 126.1 MOD ~~MOD~~ 118.1 STD
OPTIMUM MOISTURE CONTENT (%)	~~STD~~ 14.5 RP MOD ~~MOD~~ 14.0 STD
SAMPLE DESCRIPTION	Brown clay, (CL) silty clay w/gravel
SOURCE	Stockpile 98-13
QA ID:	

3.3% retained on the 3/8" sieve

000425

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FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 21 day July month 1999 year

MATERIAL TYPE: Low Perm Clay LP-II-139

Weight of Total Sample	=	43577.1
Weight of Oversize Fraction	=	1424.9
Weight of Finer Fraction ~~(#4)~~ 3/8	=	42,152.2
Percentage of Oversize Fraction	= (P_C)	3.3
Percentage of Finer Fraction (~~#4~~) 3/8	= (P_F)	96.7
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F) =	Water Content ~~#4~~ 3/8, as decimal	=	0.14
(W_C) =	Water Content ~~#4~~ 3/8, as decimal	=	0.015
(δ_F) =	Dry Density of finer fraction	=	118.1
(δ_W) =	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_w = (0.14)(96.7) + (0.015)(3.3)$$

$$C_w = 13.6\ \%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(118.1)(2.72)(62.4) / (118.1)(3.3) + (2.72)(62.4)(96.7)$$

$$C_{\delta D} = 119.3\ pcf$$

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FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04

DESCRIPTION: Phase II DATE: 22 day July month 1999 year

MATERIAL TYPE: Low Perm Clay ~~LP III~~ LP II-139

Weight of Total Sample	=	43577.1
Weight of Oversize Fraction	=	1424.9
Weight of Finer Fraction (-3/8)	=	42,152.2
Percentage of Oversize Fraction	= (P_C)	3.3
Percentage of Finer Fraction (-3/8)	= (P_F)	96.7
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -3/8, as decimal	=	0.12
(W_C)	=	Water Content +3/8, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	126.1
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (0.12)(96.7) + (0.015)(3.3)$$

$$C_W = 11.7\%$$

$$C_{\delta D} = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(126.1)(2.72)(62.4) / (126.1)(3.3) + (2.72)(62.4)(96.7)$$

$$C_{\delta D} = 127.2 \text{ pcf}$$

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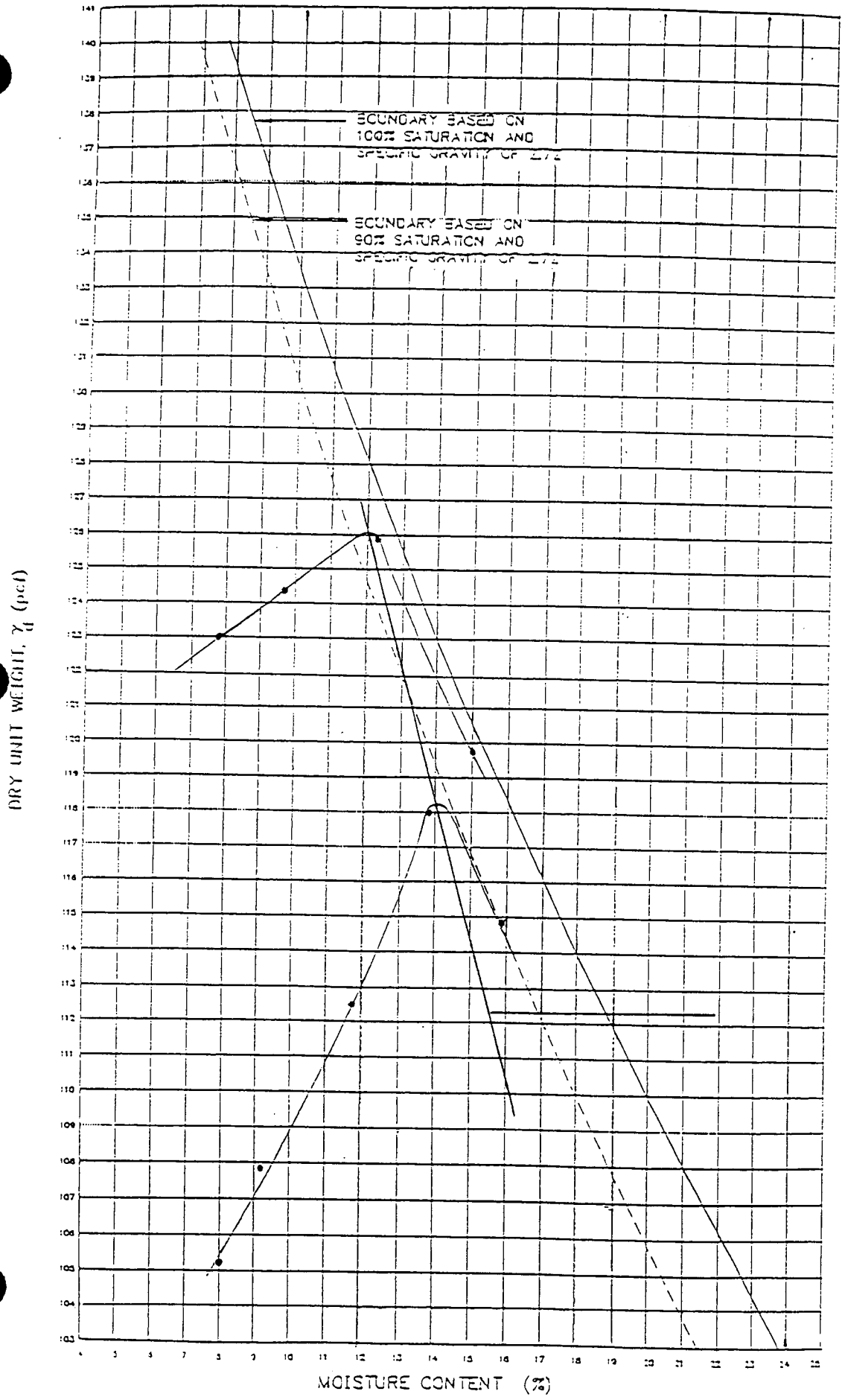

LP-II-139
Stockpile 98-13
STD/MOD
Proctor curves

PHASE II CELL 3 (1999) LABORATORY TESTING

GeoSyntec Consultants

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP III 1		Brown Clay	Stockpile Area @ Screening Mach	Wedge Clay Liner	2 April 99	ASTM D: 422, 4318, 2487	DLE
LP III 2		" "	"	"	2 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 3		" "	"	"	2 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 4		~~Low Perm. Clay~~ Brown Till (RP)	Borrow Area	~~Brown Till~~ Low Perm clay (RP)	12 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 5		" "	"	"	12 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 6		" "	"	"	12 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 7		" "	"	"	12 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 8	99D158	" "	"	"	12 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 9	99D159	" "	"	"	13 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 10		" "	"	"	13 APR 99	ASTM D: *	DLE
LP III 11		" "	"	"	15 APR 99	ASTM D: *	DLE
LP III 12		" "	"	"	15 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 13		" "	"	"	15 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 14		" "	"	"	15 APR 99	ASTM D: 422, 4318, 2487	DLE
		" "	"	"			~~DLE~~

NOTES: * Samples tossed and not tested.

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP III 15		Brown TILL ~~Low Perm Clay~~	BORROW AREA	Low Perm Clay ~~Brown TILL~~	15 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 16		" "	" "	"	15 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 17		" "	" "	"	20 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 18		" "	" "	"	20 APR 99	ASTM D: 422, 4318, 2487	DLE
LP III 19	99E02	Brown TILL ~~Low Perm Clay~~	STOCKPILE 99-1 BORROW AREA	Low Perm Clay ~~Brown TILL~~	29 APR 99	ASTM D: 422, 4318, 2487 698, 5084	DLE
LP III 20	99E56	" "	"	"	3 MAY 99	ASTM D: 422, 4318, 2487 698	MH
LP III 21	99E57	" "	"	"	4 MAY 99	ASTM D: 422, 4318, 2487 698, 1557	C/S DLE
LP III 22	99E96	" "	"	"	4 MAY 99	ASTM D: 422, 4318, 2487 698	C/S DLE
LP III 23		(RP) ~~Wedge~~ ~~Brown~~ Brown CLAY	WEST SIDE Cell 1 C-WEDGE 4th LIFT	(RP) ~~Brown~~ Wedge CLAY	5 MAY 99	ASTM D: 2216	M/H DLE
LP III 24	99E97	Brown TILL ~~Low Perm Clay~~	STOCKPILE 99-1 BORROW AREA	Low Perm Clay ~~Brown TILL~~	6 MAY 99	ASTM D: 422, 4318, 2487 698, 1557	M.H.
LP III 25		" "	WEST SIDE Cell 1 C-WEDGE	"	7 MAY 99	ASTM D:	M.H.
LP III 26	99E98	Brown CLAY	NEW STOCKPILE BORROW AREA	Low Perm Clay ~~Brown CLAY~~	8 MAY 99	ASTM D: 422, 4318, 2487 698	M.H.
LP III 27	99E99.2	Brown CLAY	EAST SIDE STOCKPILE BORROW AREA	Low Perm Clay ~~Brown CLAY~~	8 MAY 99	ASTM D: 422, 4318, 2487 1557, 5084	MH
LP III 28	99E161	" " DK TAN	BROW AREA SCREENED STOCKPILE	"	12 MAY 99	ASTM D: 422, 4318, 2487 698	R/H SQ
LP III 29	99E162	" " "	"	"	12 MAY 99	ASTM D: 422, 4318, 2487 698, 1557	RH / SQ

NOTES:

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LPIII 30	99E163	Brown Till DK ~~Low Perm Clay~~ TAN	Borrow Area Screened Stockpile	Low Perm Clay	12 May 99	ASTM D: 422, 4318, 2487 698	RH/S.Q
LPIII 31	99E164	Brown Till ~~Low Perm Clay~~ RP	99-2	Low Perm Clay ~~Brown Till~~ RP	17 May 99	ASTM D: 422, 4318, 2487 698, 1557, 5084	CS/SQ
LPIII 32	99F13	" "	"	"	19 May 99	ASTM D: 422, 4318, 2487 698	CS
LPIII 33	99F14	" "	"	"	19 May 99	ASTM D: 422, 4318, 2487 698, 1557	CS
LPIII 34	99F15	" "	99-3	"	21 May 99	ASTM D: 422, 4318, 2487 698	CS
LPIII 35	99F16	" "	99-3	"	21 May 99	ASTM D: 422, 4318, 2487 698, 1557, 5084	CS
LPIII 36	99F49	" "	99-3	"	1 June 99	ASTM D: 422, 4318, 2487 698, 1557	RH
LPIII 37	99F50	" "	99-3	"	1 June 99	ASTM D: 422, 4318, 2487 698	RH
LPIII 38	99F51	" "	99-3	"	3 June 99	ASTM D: 422, 4318, 2487 698	MH
LPIII 39	99F52	" "	99-3 Stockpile 3	"	4 June 99	ASTM D: 422, 4318, 2487 698, 1557, 5084	MH
LPIII 40	99F53	" "	99-3	"	8 June 99	ASTM D: 422, 4318, 2487 698	MH
LPIII 41	99F100	" "	99-3	"	9 June 99	ASTM D: 422, 4318, 2487 698, 1557	MH.
LPIII 42	99F101	" "	99-4	"	9 June 99	ASTM D: 422, 4318, 2487 698	MH
LPIII 43	99F102	" "	99-4	"	10 June 99	ASTM D: 422, 4318, 2487 698, 1557, 5084	CS
LPIII 44	99F103	" "	99-4	"	10 June 99	ASTM D: 422, 4318, 2487 698	CS

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LPIII 45	99G08	Brown Till ~~Low Perm Clay~~	~~99-4~~ 98-13	Low Perm clay ~~Brown Till~~	15 June 99	ASTM D: 422, 4318, 2487 698, 1557, 5084	CS
LPIII 46	99G09	" "	99-4	"	22 June 99	ASTM D: 422, 4318, 2487 698 1557, 5084	CS/DLE
LPIII 47	99G10	" "	"	"	22 June 99	ASTM D: 422, 4318, 2487 698	CS/DLE
LPIII 48	99G11	" "	"	"	23 June 99	ASTM D: 422, 4318, 2487 698, 1557	CS
LPIII 49	99G12	" "	"	"	23 June 99	ASTM D: 422, 4318, 2487 698	CS
LPIII 50		~~Stockpile 2 Day~~ Brown ~~Clay~~ clay	Cell 4 99-2	Stock-pile 2 Clay	6 July 99	ASTM D: 2216	RP
LPIII 51		Brown Clay ~~Liner~~	Test 3-9	clay liner	6 July 99	ASTM D: 2216	RP
LPIII 52		"	Test 3-12	"	6 July 99	ASTM D: 2216	RP
LPIII 53		"	Test 3-13	"	6 July 99	ASTM D: 2216	RP
LPIII 54		"	99-2	"	7 July 99	ASTM D: 2216	CS
LPIII 55		"	"	"	7 July 99	ASTM D: 2216	CS
LPIII 56		Brown Till	"	Clay Liner ~~Brown Till~~	7 July 99	ASTM D: 2216	CS
LPIII 57		"	"	"	7 July 99	ASTM D: 2216	CS
LPIII 58		"	"	"	7 July 99	ASTM D: 2216	CS
LPIII 59		Brown Clay	Test 3-14	Clay Liner ~~Brown Clay~~	7 July 99	ASTM D: 2216	RP

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NOTES:

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II

DATE: YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LPIII 60		Brown Clay ~~Clay Liner~~ (RP)	Test 3-15	Clay Liner ~~Brown Clay~~ (RP)	7 July 99	ASTM D: 2216	RP
LPIII 61		"	" 3-16	"	7 July 99	ASTM D: 2216	RP
LPIII 62		"	" 3-17	"	7 July 99	ASTM D: 2216	RP
LPIII 63		"	" 3-18	"	8 July 99	ASTM D: 2216	CS
LPIII 64		"	" 3-19	"	8 July 99	ASTM D: 2216	CS
LPIII 65		"	" 3-21	"	8 July 99	ASTM D: 2216	CS
LPIII 66		"	" 3-22	"	8 July 99	ASTM D: 2216	CS
LPIII 67		"	" 3-24	"	8 July 99	ASTM D: 2216	CS
LPIII 68		"	" 3-29	"	9 July 99	ASTM D: 2216	CS
LPIII 69		"	" 3-31	"	9 July 99	ASTM D: 2216	CS
LPIII 70		"	" 3-32	"	9 July 99	ASTM D: 2216	CS
LPIII 71		"	" 3-33	"	12 July 99	ASTM D: 2216	RP
LPIII 72		"	" 3-34	"	12 July 99	ASTM D: 2216	RP
LPIII 73		"	" 3-35	"	12 July 99	ASTM D: 2216	RP
LPIII 74		"	" 3-37	"	12 July 99	ASTM D: 2216	RP

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LPIII 75		Brown clay ~~Clay Liner~~ (RP)	TEST 3-39	Clay liner ~~Brown Clay~~ (RP)	12 July 99	ASTM D: 2216	RP
LPIII 76		"	" 3-40	"	12 July 99	ASTM D: 2216	RP
LPIII 77		"	" 3-45	"	13 July 99	ASTM D: 2216	RP
LPIII 78		"	" 3-46	"	13 July 99	ASTM D: 2216	RP
LPIII 79		"	" 3-49	"	13 July 99	ASTM D: 2216	~~RP~~ CS
LPIII 80		"	" 3-52	"	13 July 99	ASTM D: 2216	~~RP~~ CS
LPIII 81	99659	"	— 99-5	"	14 July 99	ASTM D: ~~2216~~, 422, 4318 2487, 698, 1557, 5084	CS
LPIII 82	99660	"	99-5	"	14 July 99	ASTM D: ~~2216~~, 422, 4318 2487, 698	CS
LPIII 83	99661	"	99-5	"	14 July 99	ASTM D: ~~2216~~, 422, 4318 2487, 698, 1557	CS
LPIII 84	99662	"	99-5	"	14 July 99	ASTM D: ~~2216~~, 422, 4318 2487, 698	CS
LPIII 85		"	TEST 3-59	"	14 July 99	ASTM D: 2216	RP
LPIII 86		"	" 3-60	"	14 July 99	ASTM D: 2216	RP
LPIII 87		"	" 3-63	"	14 July 99	ASTM D: 2216	RP
LPIII-88		"		"	14 July 99	ASTM D: 2216	
LPIII-89		"		"	14 July 99	ASTM D: 2216,	

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NOTES:

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LPIII-90		Brown Clay ~~Clay liner~~		Clay Liner ~~Brown Clay~~ RP	14 July 99	ASTM D: 2216	CS
LPIII-91		"		"	14 July 99	ASTM D: 2216	CS
LPIII-92		"		"	14 July 99	ASTM D: 2216	CS
LPIII-93		"		"	14 July 99	ASTM D: 2216	CS
LPIII-94		"		"	14 July 99	ASTM D: 2216	CS
LPIII-95		"		"	14 July 99	ASTM D: 2216	CS
LPIII-96		Brown Till	3-67	Clay Liner ~~Brown Till~~ RP	15 July 99	ASTM D: 2216	CS
LPIII-97		"	3-~~68~~ 69	"	15 July 99	ASTM D: 2216	CS
LPIII-98		"	3-74	"	15 July 99	ASTM D: 2216	CS
LPIII-99		"	3-75	"	15 July 99	ASTM D: 2216	CS
LPIII-100		"	3-85	"	19 July 99	ASTM D: 2216	RP
LPIII-101		"	3-86	"	19 July 99	ASTM D: 2216	RP
LPIII-102		Brown clay	Collected when truck dumped clay on cell 3 floor	Clay liner ~~Brown Clay~~	20 July 99	ASTM D: 2216	RP
LPIII-103		"	"	"	20 July 99	ASTM D: 2216	RP
LPIII-104		"	"	"	20 July 99	ASTM D: 2216	RP

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NOTES:

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LPIII-105		Brown Till	Collected when truck dumped clay on C-3 Floor	Low Perm Clay	20 July 99	ASTM D: 2216	RP
LPIII-106		" "	"	" " "	"	ASTM D: 2216	RP
LPIII-107		" "	"	" " "	"	ASTM D: 2216	RP
LPIII-108		" "	"	" " "	"	ASTM D: 2216	RP
LPIII-109		" "	99-5 North	" " "	"	ASTM D: ✱	CS
LPIII-110		" "	99-5 South	" " "	"	ASTM D: ✱	CS
LPIII-111	99671	" "	99-4 Quad-1	" " "	"	ASTM D: 422, 5084	CS
LPIII-112	99672	" "	99-4 Quad-2	" " "	"	ASTM D: 422, 5084	CS
LPIII-113		" "	99-4 Quad-3	" " "	"	ASTM D: 422, 5084	CS
LPIII-114	99674	" "	99-4 Quad-4	" " "	"	ASTM D: 422, 5084	CS
LPIII-115		" "	Test # 3-154	" " "	22 July 99	ASTM D: 2216	RP
LPIII-116		" "	" 3-158	" " "	"	ASTM D: 2216, 698	RP
LPIII-117		" "	" 3-185	" " "	23 July 99	ASTM D: 2216	RP
LPIII-118		" "	" 3-186	" " "	"	ASTM D: 2216	CS
LPIII-119		" "	" 3-187	" " "	"	ASTM D: 698 (one point)	RP

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NOTES: ✱ Samples Tossed and not tested

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: YEAR: 1999

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LPIII-120		Brown Till	NDT# 3-240 cell-3, 99-5 dumped from trucks to cell floor	Low Perm Clay	29 July 99	ASTM D: 2216	RP
LPIII-121		" "		" " "	02 Aug 99	ASTM D: 2216	RP
LPIII-122		" "		" " "	"	ASTM D: 2216	RP
LPIII-123		" "		" " "	"	ASTM D: 2216	RP
LPIII-124		" "		" " "	"	ASTM D: 2216	RP
LPIII-125		" "		" " "	"	ASTM D: 2216	RP

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NOTES:

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FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II — DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay — QA ID: CL

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	PL (%)	PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	MOIST. CONT. ASTM D 2216 (%)	HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
4PIII 1	—	—	32.8	✓	—	NP	NP	NP	—	SW-SM	—	—	—	—	—	—	—		—
2	—	—	73.6	✓	—	29.1	16.7	12.4	—	CL	—	—	—	—	—	—	—		—
3	—	—	48.6	✓	—	24.3	15.3	9.2	—	SW-SM	—	—	—	—	—	—	—		—
4	—	—	95.3	✓	—	52.5	23.0	30.	—	CH	—	—	—	—	—	—	—		—
5	—	—	73.0	✓	—	39.8	20.8	19.	—	CL	—	—	—	—	—	—	—		—
6	—	—	70.6	✓	—	33.6	17.2	16.4	—	CL	—	—	—	—	—	—	—		—
7	—	—	73.2	✓	—	31.5	17.9	14.	—	CL	—	—	—	—	—	—	—		—
8	99D158	—	69.5	✓	21.1	30.3	16.5	13.8	—	CL	—	—	—	—	—	—	—		—
9	99D158	—	83.7	✓	26.5	41.9	20.8	21.1	—	CL	—	—	—	—	—	—	—		—
10			SAMPLE COLLECTED, HELD, AND TOSSED, NO TESTS RUN																

COMMENTS:

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

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FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm Clay — QA ID: CS

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) AND ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
LPIII-11	—	—	SAMPLE COLLECTED, HELD, AND TOSSED, NO TESTS RUN														—		
12	—	—	64.7	✓	—	28	16	12	—	CL	—	—	—	—	—	—	—		—
13	—	—	46.6	✓	—	22	15	7	—	SC	—	—	—	—	—	—	—		
14	—	—	68.8	✓	—	NP	NP	NP	—	ML	—	—	—	—	—	—	—		—
15	—	—	67.1	✓	—	29	17	12	—	CL	—	—	—	—	—	—	—		1
16	—	—	94.1	✓	—	43	21	22	—	CL	—	—	—	—	—	—	—		2
17	—	—	81.3	✓	—	37	19	18	—	CL	—	—	—	—	—	—	—		3
18	—	—	93.9	✓	—	45	20	25	—	CL	—	—	—	—	—	—	—		3
19	99E02	—	83.6	✓	33.5	45	21	24	—	CL	—	—	107.8 / 118.8	19.5 / 13.7	105.1	21.1	7.3E-9		1600
20	99E56	—	73.4	✓	26.3	34	17	17	—	CL	—	—	113.9	16.3	—	—	—		3200

000440

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

GeoSyntec Consultants

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 — TASK NO.: 04

DESCRIPTION: PHASE II — DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay — QA ID: CS

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS ASTM D 4318: PL (%)	ATTERBERG LIMITS ASTM D 4318: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION ASTM D 698 (or) ASTM D 1557: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
PAI 21	99E57	— / —	75.4	✓	26.7	34.	16.5	17.5	–	CL	–	–	116.1 / 131.1	14.5 / 9.7	–	–	–		4800
22	99E96	— / —	70.4	✓	21.0	36.5	17.8	19.	–	CL	–	–	113.5	14.5	–	–	–		6400
23	–	17.5 / 17.3	–	–	–	–	–	–	–	–	–	–	~~115.1 / 14.6~~	~~127.2 / 11.1~~ ← TD	–	–	–		
24	99E97	— / —	75.9	✓	22.5	34.5	17.6	17.	–	CL	–	–	115.1 / 14.6	127.2 / 11.1	–	–	–		8000
25	–	— / —	–	–	–	–	–	–	–	–	–	–	108.4	* 10.2	–	–	–		
26	99E98	— / —	73.4	✓	23.0	36.4	18.0	18.4	–	CL	–	–	118.5	14.3	–	–	–		9600
27	99E99	— / —	75.6	✓	24.8	36.1	16.9	19.2	–	CL	–	–	118.4 / 12.8	128.4 / 10.9	115.0	16.3	1.7×10^{-8}		~~9600~~ 11,200
28	99E161	— / —	72.3	✓	18.0	29.7	16.1	13.6	–	CL	–	–	120.8	13.4	–	–	–		12430
29	99E162	— / —	68.4	✓	19.7	29.6	16.4	13.	–	CL	–	–	124.6 / 11.8	132.6 / 9.3	–	–	–		13660
30	99E163	— / —	67.4	✓	18.6	28.2	16.	12.	–	CL	–	–	124.2	10.4	–	–	–		14890

2737

COMMENTS: *one point proctor check

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

©GeoSyntec Consultants FILE NO. 2-22-LTS

CHECKED BY: _____

000441

GeoSyntec Consultants

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 — TASK NO.: 04

DESCRIPTION: PHASE II — DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay — QA ID: [illegible]

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS ASTM D 4318: PL (%)	ATTERBERG LIMITS ASTM D 4318: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
LPIII 31	99E164	— / —	68.4	✓	16.6	28.8	16.6	12.2	—	CL	—	—	124.2 / 10.4	132.5 / 9.3	119.6	12.5	2.6×10^{-8}		16120
32	99F13	— / —	69.1	✓	17.3	30.	15.9	14.	—	CL	—	—	122.6	12.5	—	—	—		17350
33	99F14	— / —	65.2	✓	17.0	28	16.3	12.	—	CL	—	—	123.[illegible] / 12.3	134.5 / 8.6	—	—	—		18580
34	99F15	— / —	71.3	✓	17.3	29.6	16.5	13.1	—	CL	—	—	123.9	11.7	—	—	—		19885
35	99F16	— / —	72.9	✓	17.7	30.7	16.8	14.	—	CL	—	—	117.0 / 14.2	129.8 / 9.7	112.9	16.9	4.5×10^{-8}		21190
36	99F49	— / —	75.3	✓	19.3	31.2	16.2	15.	—	CL	—	—	120.7 / 13.7	129.3 / 11.1	—	—	—		22495
37	99F50	— / —	71.1	✓	17.0	31.	15.5	15.5	—	CL	—	—	121.5	12.7	—	—	—		23800
38	99F51	— / —	69.0	✓	16.0	29.9	16.7	13.2	—	CL	—	—	121.9	13.6	—	—	—		25105
39	99F52	— / —	75.5	✓	16.6	34.1	18.2	16.	—	CL	—	—	117.8 / 14.1	128.0 / 10.5	111.5	17.7	1.5×10^{-8}		26410
40	99F53	— / —	70.6	✓	18.2	32.2	16.9	15.	—	CL	—	—	120.0	14.4	—	—	—		27715

000442

2737

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II — DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay — QA ID: CA

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
~~4PIII~~ 41	99F100	–	71.8	✓	19.3	30.9	16.56	14	–	CL	–	–	122.3 / 12.8	130.9 / 9.8	–	–	–		29,020
42	99F101	–	74.2	✓	19.5	31.6	17.5	14.1	–	CL	–	–	120.4	13.6	~~117.1~~	~~14.1~~ 14.4	–		30245
43	99F102	–	69.4	✓	18.2	28.8	15.9	12.9	–	CL	–	–	123.4 / 12.2	133.7 / 8.7	117.1	14.4	7.6×10^{-8}		31470
44	99F103	–	68.6	✓	16.7	26.5	15.2	12.	–	CL	–	–	125.9	11.3	–	–	–		32695
45	99G08	–	73.0	✓	22.0	32.2	16.0	16.	–	CL	–	–	122.1 / 12.1	131.9 / 9.5	115.3	15.3	2.5×10^{-8}		★
46	99G09	–	68.1	✓	17.6	29.6	13.9	16.	–	CL	–	–	123.4 / 11.6	129.9 / 9.9	117.4	14.9	2.1×10^{-8}		33920
47	99G10	–	68.7	✓	19.2	32.1	15.2	17.	–	CL	–	–	123.8	12.1	–	–	–		35145
48	99G11	–	67.4	✓	16.1	27.4	15.4	12.	–	CL	–	–	122.7 / 12.6	135.8 / 8.6	–	–	–		36370
49	99G12	–	69.7	✓	17.3	28.4	14.9	13.	–	CL	–	–	120.7	12.2	–	–	–		37595
50	~~99G59~~	– 14.0	~~68.7~~ TD	~~–~~	–	–	–	–	–	–	–	–	–	–	–	–	–		↓

COMMENTS: ★ Sample taken from Stockpile 98-13 from Cell 2 construction

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

000443

27372

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay QA ID: CS

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS ASTM D 4318: PL (%)	ATTERBERG LIMITS ASTM D 4318: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION ASTM D 698 (or) ASTM D 1557: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
LPIII 51	—	13.0 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		37595
52	—	14.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
53	—	14.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
54	—	14.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
55	—	14.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
56	—	14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
57	—	15.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
58	—	14.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
59	—	13.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
60	—	14.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

000444

2737

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi

©GEOSYNTEC CONSULTANTS FILE NO. 2-22-LTS CHECKED BY: _____ SHEET NO. 6 OF 14

GeoSyntec Consultants

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II

DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay

QA ID: [illegible]

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS ASTM D 4318: PL (%)	ATTERBERG LIMITS ASTM D 4318: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION ASTM D 698 (or) ASTM D 1557: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
LPIII 61	—	14.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		37595
62	—	14.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
63	—	14.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
64	—	14.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
65	—	14.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
66	—	13.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
67	—	13.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
68	—	16.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
69	—	15.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
70	—	14.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

000445

2737

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II — DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay — QA ID: CL

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
4-III 71	–	14.6 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		37595
72	–	13.5 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
73	–	14.4 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
74	–	13.6 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
75	–	14.9 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
76	–	13.9 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
77	–	15.0 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
78	–	14.3 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
79	–	15.0 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
80	–	14.7 –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		

000446

FT 2713 7

COMMENTS:

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II — DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay — QA ID: CS

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
4PIII 81	99G59	— / —	68.7	✓	20.4	30.7	16.62	14.08	—	CL	—	—	123.0 / 12.5	134.3 / 9.0	117.5	14.6	7.8×10^{-8}		38865
82	99G60	— / —	64.4	✓	16.5	25.6	15.59	10.07	—	CL	—	—	127.6	11.5	—	—	—		40135
83	99G61	— / —	64.3	✓	18.8	29.4	16.3	13.	—	CL	—	—	122.9 / 12.5	133.8 / 8.2	—	—	—		41405
84	99G62	— / —	64.8	✓	17.3	26.75	15.73	11.02	—	CL	—	—	127.7	10.2	—	—	—		42675
85	—	14.0 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		↓
86	—	14.2 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
87	—	14.5 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
88	—	14.5 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
89	—	14.2 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
90	—	13.5 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

000447

COMMENTS:

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II

DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay

QA ID: CL

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
4PIII 91	—	14.7 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		42675
92	—	14.0 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
93	—	13.7 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
94	—	14.2 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
95	—	14.7 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
96	—	13.6 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
97	—	15.3 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
98	—	16.0 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
99	—	13.7 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
100	—	15.2 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

000448

127 37

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II — DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay — QA ID: CJ

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
LPDI 101	—	15.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		42675
102	—	14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		↓
103	—	14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
104	—	15.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
105	—	15.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
106	—	14.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
107	—	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
108	—	15.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
109	TOSSED	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
110	TOSSED	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

000449

— 27317

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II — DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low plastic clay — QA ID: CJ

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
LPIII 111	99G71	– / –	69.0	✓	15.4	30	16	14	–	CL	–	–	–	–	117.5	14.2	1.0×10^{-6}	* ✓	* 42675
112	99G72	– / –	69.5	✓ @	~~14.3~~ 16.5	30	16	14	–	CL	–	–	–	–	117.5	14.0	1.0×10^{-6}	✓	*
113	99G73	– / –	70.9	✓	14.6	31	16	15	–	CL	–	–	–	–	117.6	13.9	2.6×10^{-6}	✓	*
114	99G74	– / –	72.1	✓	14.9	28	16	12	–	CL	–	–	–	–	118.0	13.5	1.2×10^{-6}	✓	*
115	–	16.3 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
116	–	13.9 / –	–	–	–	–	–	–	–	–	–	– @	~~121.3~~ 122.8	~~122.8~~ 12.7	–	–	–		
117	–	18.6 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
118	–	16.3 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
119	–	– / –	–	–	–	–	–	–	–	–	–	–	* 107.1	10.1	–	–	–		
120	–	17.8 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		

000450

1-2737

COMMENTS: * Composite Samples (Geoprobe) from Stockpile 99-4

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 12 day Nov month 99 year

MATERIAL TYPE: Low perm clay — QA ID: CL

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
LPIII-121	—	12.9 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		42675
122	—	14.5 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
123	—	14.5 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
124	—	14.1 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
125	—	14.2 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Composite	99F22	— —	—	—	—	—	—	—	—	—	—	—	—	—	110.5	17.1	4×10^{-8}		11,200
2	99F54.2	— —	—	—	—	—	—	—	—	—	—	—	—	—	118.1	14.2	4.2×10^{-8}		18,571
3	99F104	— —	—	—	—	—	—	—	—	—	—	—	—	—	115.6	14.9	6.1×10^{-8}		29,023
4	99G63.1	— —	—	—	—	—	—	—	—	—	—	—	—	—	117.2	15.1	2.3×10^{-8}		37582

COMMENTS:

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi

000451

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY TEST SUMMARY REQUEST FORM NO. _____

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: Phase II

DATE: 12 day Nov month 1999 year

MATERIAL TYPE: Low perm clay

QA ID: CJ

NOTE: Separate forms are required for each material type and source. Strike out nonapplicable tests.

SITE SAMPLE NO.	LAB SAMPLE NO.	MOISTURE CONTENT ASTM D 2216/ D 4643 (%)	GRAIN SIZE: PASSING NO. 200 SIEVE ASTM D 1140 (%)	GRAIN SIZE: ASTM D 422 SIEVE	GRAIN SIZE: ASTM D 422 HYDR.	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI	SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI ASTM C311 (%)	CARBO CONT. ASTM D3042 (%)	COMPACTION ASTM D 698 (or) ASTM D 1557: MAX. DRY UNIT WT. (pcf)	COMPACTION: OPT. MOIST. CONT. (%)	PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2): DRY UNIT WT. (pcf)	PERMEABILITY: MOIST. CONT. ASTM D 2216 (%)	PERMEABILITY: HYDRAULIC COND'VITY (cm/sec)	PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX) (yd³)
Composite 5	99664	—	—	—	—	—	—	—	—	—	—	—	—	—	120.2	13.6	3.8×10^{-8}		42659

0004452

F-2737

COMMENTS:

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 02 day April month 1999 year

MATERIAL TYPE: L.P. Clay — SAMPLE NO.: LP III-1

SOIL SAMPLE SIZE

Total wt. 13.7 LB's 6214.32 gram

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		N	N
WT. OF DRY SAMPLE PLUS TARE	(grams)	2162.30	1491.51
WT. OF TARE	(grams)	101.80	101.80
WT. OF DRY SAMPLE	(grams)	2060.56	1389.71

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100	100
1½"	37.5	0	0	100	
1"	25.0	72.21	3.5	96.5	
¾"	19.0	167.19	8.1	91.9	90 to 100
½"	12.5	227.87	11.1	88.9	
⅜"	9.5	285.20	13.8	86.2	
#4	4.75	464.41	22.5	77.5	
#10	2.00	675.30	32.8	67.2	
#20	0.850	842.41	40.9	59.1	
#40	0.425	980.00	47.6	52.4	
#60	0.250	1103.10	53.5	46.5	
#100	0.150	1245.10	60.4	39.6	
#200	0.075	1385.2	67.2	32.8	50 to 100
PAN					

000453

%FINER = 100 − Σ% RETAINED

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

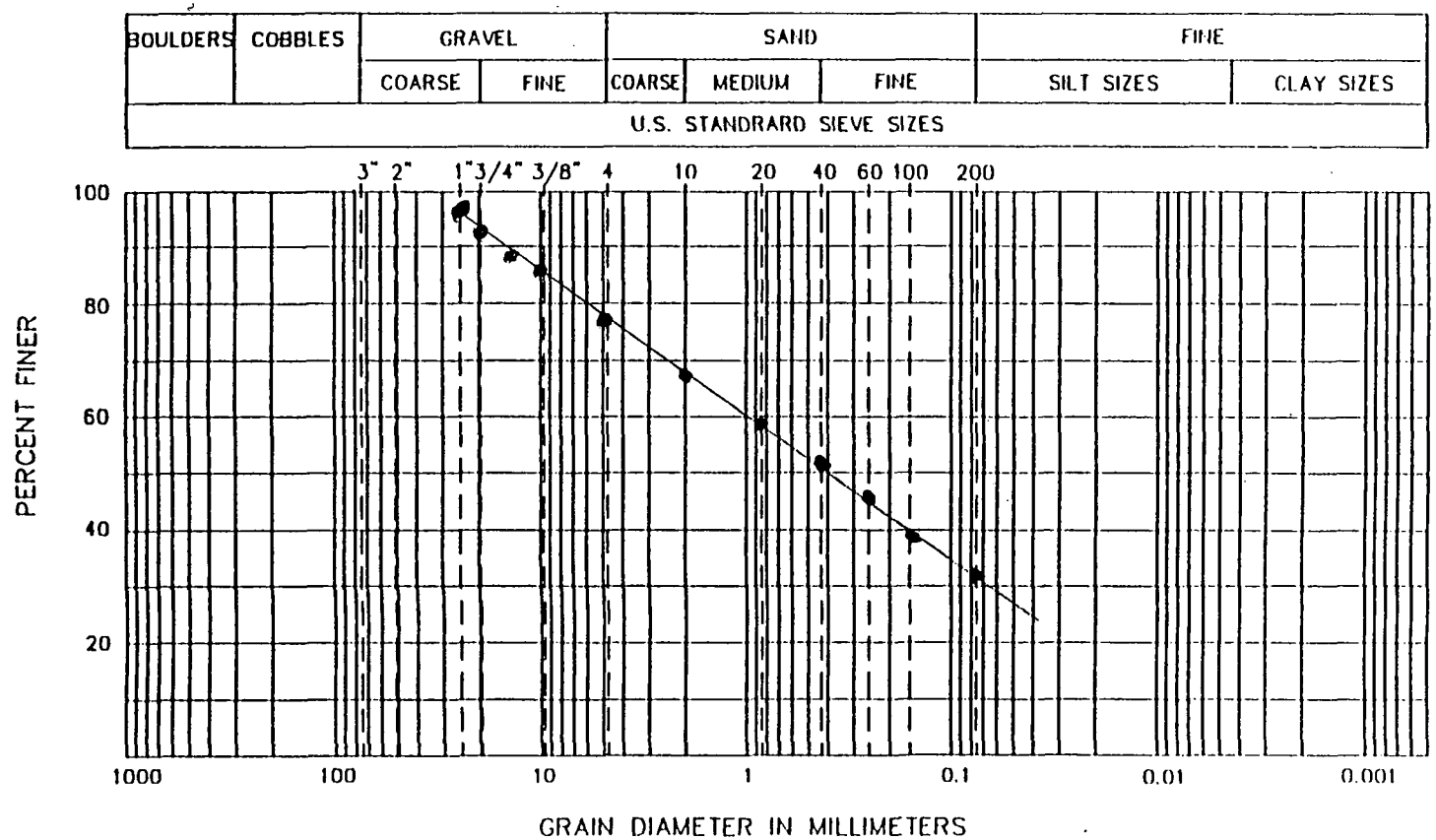
DESCRIPTION: Phase II

DATE: 08 day APRIL month 1999 year

MATERIAL TYPE: Structural Fill

SAMPLE NO.: LP3-1 QA ID: DLE

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) N/A

(PL) N/A

(PI) N/A

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	96.5
3/4-in.	91.9
1/2-in.	88.9
3/8-in.	86.2
NO. 4	79.5
NO. 10	62.2
NO. 20	59.1
NO. 40	52.4
NO. 60	46.5
NO. 100	39.6
NO. 200	32.8

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): ~~Well graded Sand with Silt and gravel~~ SW-SM - ~~Silty Sand with gravel~~

000454

-2733

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SHEET NO. 2 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) -- 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 08 day Aug month 1999 year

MATERIAL TYPE: Standard Fill SAMPLE NO.: LP 3-1

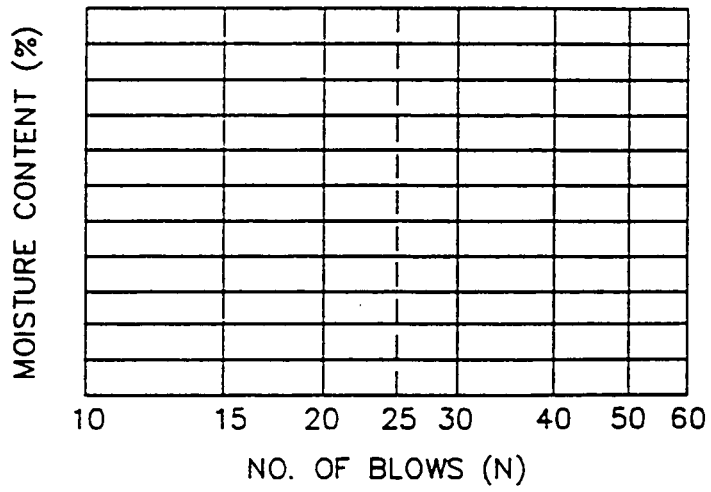
LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.					
A	WT. OF TARE	(grams)				
B	WT. OF WET SOIL & TARE	(grams)				
C	WT. OF DRY SOIL & TARE	(grams)				
D	WT. OF WATER = B-C	(grams)				
E	WT. OF DRY SOIL = C-A	(grams)				
F	MOISTURE CONTENT = (D/E)X100	(%)				
N	NUMBER OF BLOWS					

NON PLASTIC

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.					
A	WT. OF TARE	(grams)				
B	WT. OF WET SOIL & TARE	(grams)				
C	WT. OF DRY SOIL & TARE	(grams)				
D	WT. OF WATER = B-C	(grams)				
E	WT. OF DRY SOIL = C-A	(grams)				
F	MOISTURE CONTENT = (D/E)X100	(%)				

000455

LIQUID LIMIT (LL) = NP PLASTIC LIMIT (PL) = NP PLASTICITY INDEX (PI) = NP

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 02 day April month 1999 year

MATERIAL TYPE: LP. Clay SAMPLE NO.: LP III-2

SOIL SAMPLE SIZE Total wt. 6.29 LBs 2854.6 gram

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		N	L-2
WT. OF DRY SAMPLE PLUS TARE	(grams)	876.0	351.13
WT. OF TARE	(grams)	101.8	146.38
WT. OF DRY SAMPLE	(grams)	774.2	204.75

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100	100
1 1/2"	37.5	0	0	100	
1"	25.0	0	0	100	
3/4"	19.0	0	0	100	90 TO 100
1/2"	12.5	0	0	100	
3/8"	9.5	6.56	.85	99.2	
#4	4.75	26.08	3.37	96.6	
#10	2.00	50.07	6.47	93.5	
#20	0.850	81.57	10.54	89.5	
#40	0.425	143.95	18.59	81.4	
#60	0.250	163.44	21.12	78.9	
#100	0.150	180.32	23.29	76.7	
#200	0.075	204.69	26.43	73.6	50 TO 100
PAN					

000456

%FINER = 100 − Σ% RETAINED

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

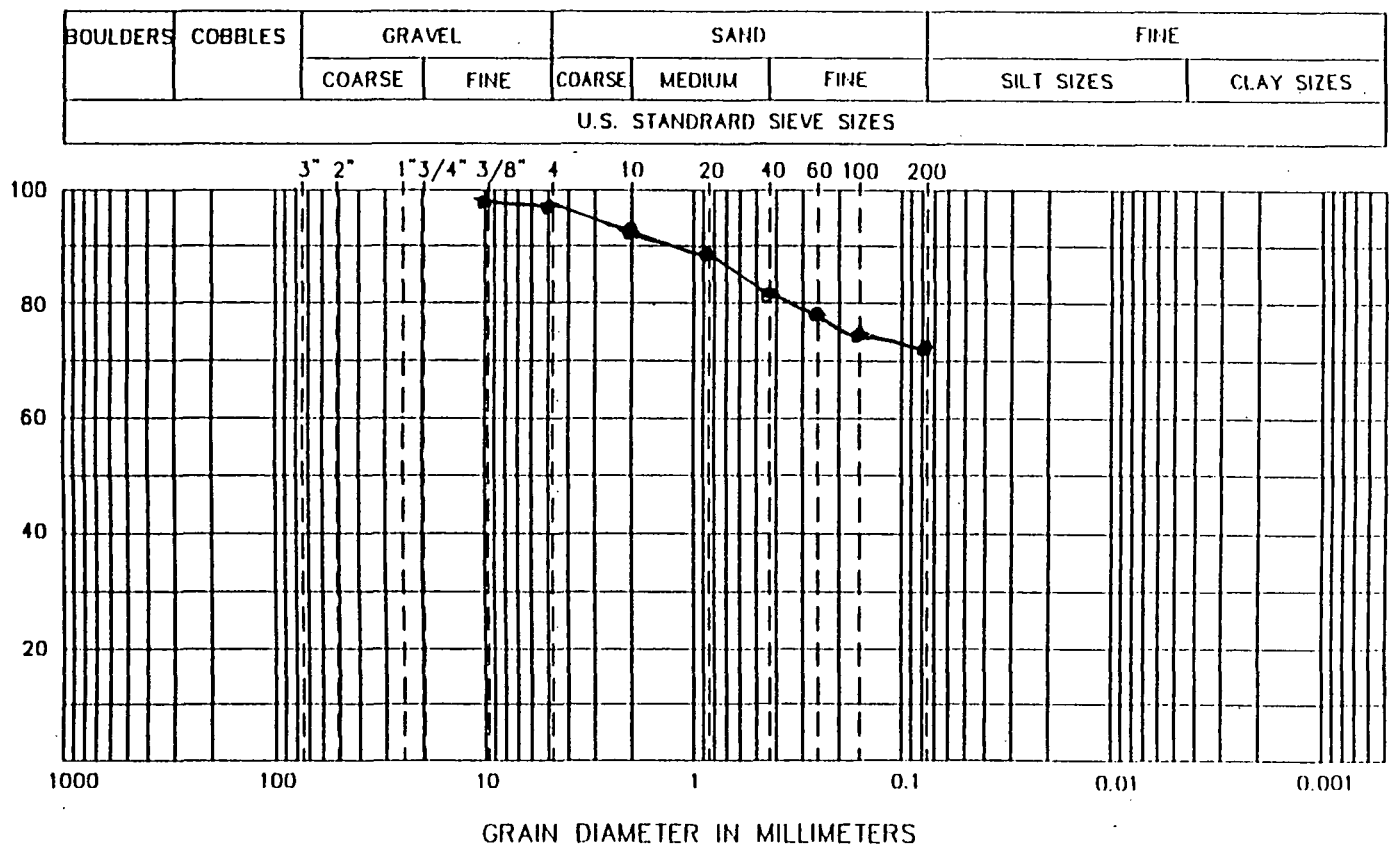
DESCRIPTION: Phase II

DATE: 08 day April month 1999 year

MATERIAL TYPE: Structural fill

SAMPLE NO.: LP 3-2 QA ID: DLE

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 29.1

(PL) 16.95

(PI) 12.4

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	100
3/8-in.	99.2
NO. 4	96.6
NO. 10	93.5
NO. 20	89.5
NO. 40	81.4
NO. 60	78.9
NO. 100	76.2
NO. 200	73.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): CL - lean clay w/sand

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CHECKED BY: CS

SHEET NO. 2 OF 2

000452

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

-- 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 06 day Apr. 2 month 1999 year

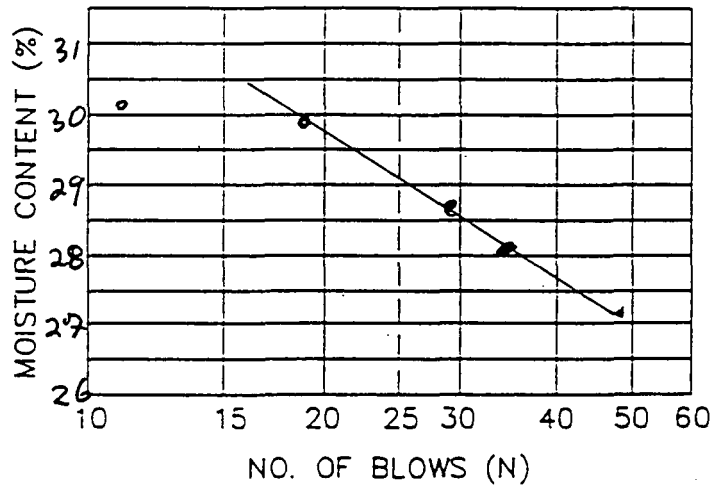
MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-1

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.9	1.5	3.2	1.2
A	WT. OF TARE	(grams)	31.47	28.57	27.83	28.51
B	WT. OF WET SOIL & TARE	(grams)	43.79	43.52	43.24	47.67
C	WT. OF DRY SOIL & TARE	(grams)	40.93	40.08	39.86	43.47
D	WT. OF WATER = B-C	(grams)	2.86	3.44	3.44	4.20
E	WT. OF DRY SOIL = C-A	(grams)	9.46	11.51	11.97	14.96
F	MOISTURE CONTENT = (D/E)X100	(%)	30.2	29.9	28.7	28.1
N	NUMBER OF BLOWS		12	18	28	34

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.7	1.8		
A	WT. OF TARE	(grams)	28.70	28.80		
B	WT. OF WET SOIL & TARE	(grams)	41.55	43.11		
C	WT. OF DRY SOIL & TARE	(grams)	39.70	41.06		
D	WT. OF WATER = B-C	(grams)	1.85	2.05		
E	WT. OF DRY SOIL = C-A	(grams)	11.00	12.26		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.8	16.7		

000458

LIQUID LIMIT (LL) = 29.1 PLASTIC LIMIT (PL) = 16.75 PLASTICITY INDEX (PI) = 12.4

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

F 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 02 day April month 1999 year

MATERIAL TYPE: L P Clay SAMPLE NO.: L P III-3

SOIL SAMPLE SIZE Total wt. 8.7 3934.6 GRAM

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

-4 sample	BEFORE WASH	AFTER WASH
TARE NO.	L-4	L-2
WT. OF DRY SAMPLE PLUS TARE (grams)	1120.2	647.4
WT. OF TARE (grams)	146.6	146.7
WT. OF DRY SAMPLE (grams)	973.6	500.7

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100	100
1½"	37.5	0	0	100	
1"	25.0	0	0	100	
¾"	19.0	34.73	3.57	96.4	90 TO 100
½"	12.5	57.76	5.93	94.1	
⅜"	9.5	97.24	9.99	90.0	
#4	4.75	168.57	17.31	82.7	
#10	2.00	260.86	26.79	73.2	
#20	0.850	327.40	33.63	66.4	
#40	0.425	376.08	38.63	61.4	
#60	0.250	413.62	42.48	57.5	
#100	0.150	456.14	46.85	53.2	
#200	0.075	500.76	51.43	48.6	50 TO 100
PAN					

000459

%FINER = 100 − Σ% RETAINED

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

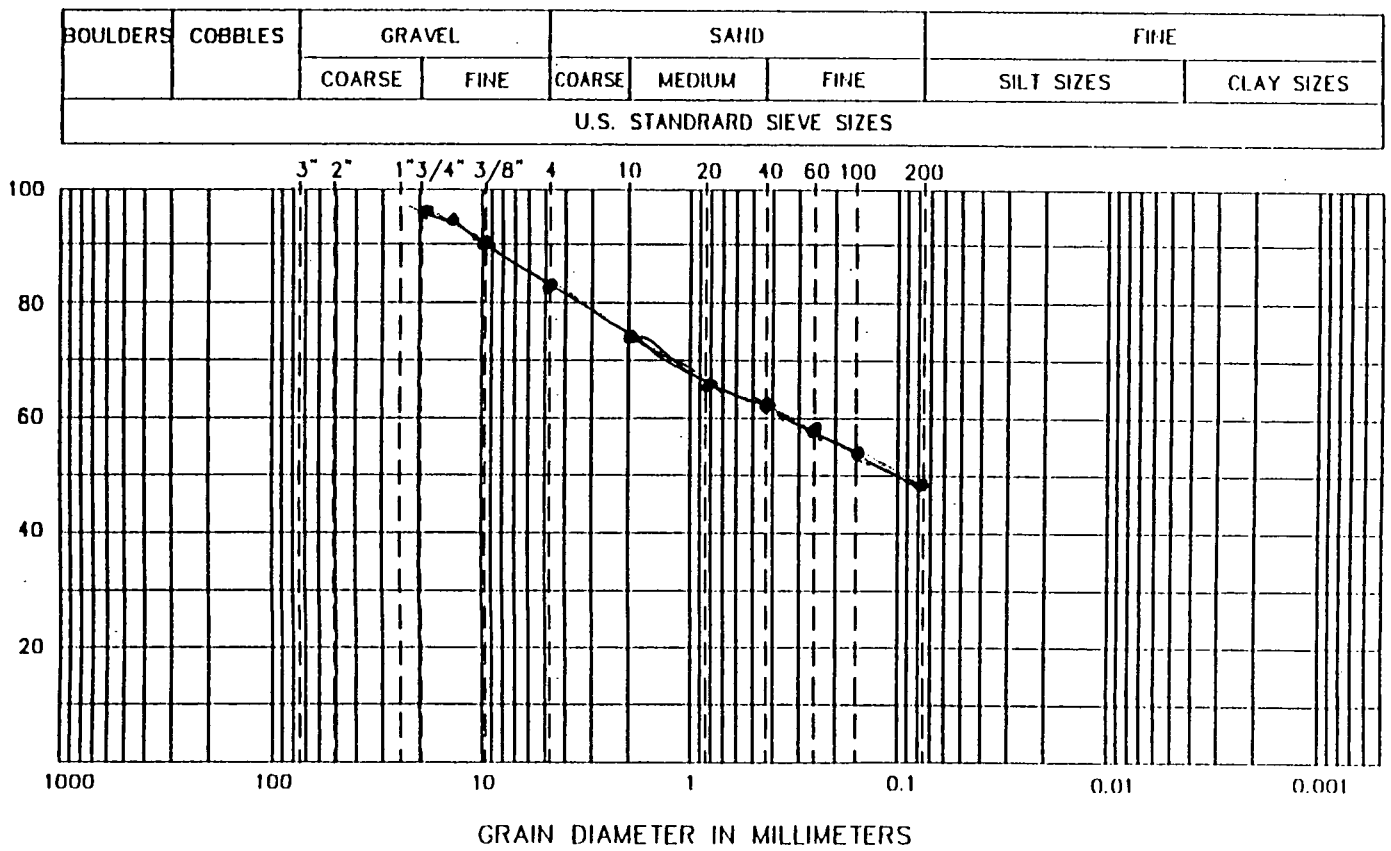
DESCRIPTION: Phase II

DATE: 08 day April month 1999 year

MATERIAL TYPE: Structural fill

SAMPLE NO.: LP3-3 QA ID: DLE

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 24.3

(PL) 15.3

(PI) 9.2

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	96.9
1/2-in.	94.1
3/8-in.	90.0
NO. 4	82.7
NO. 10	73.2
NO. 20	66.4
NO. 40	61.4
NO. 60	57.5
NO. 100	53.2
NO. 200	48.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): SW-SM Well graded sand with silt and Gravel

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SHEET NO. 2 OF 2

000460

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 18 day May month 1999 year

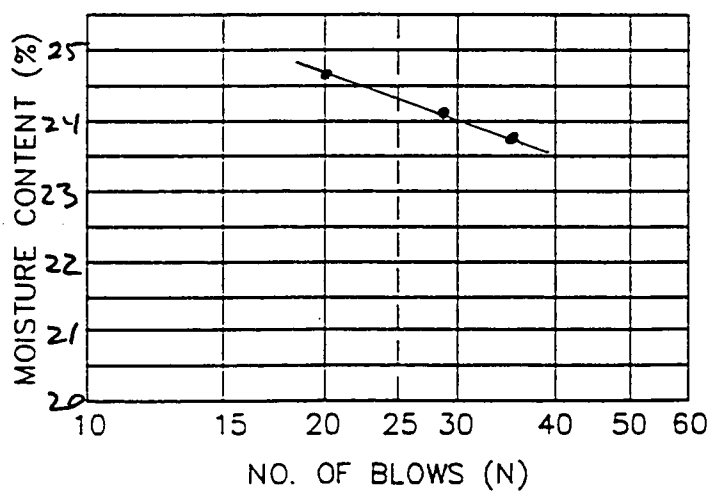
MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III - 3

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.9	1.2	3.2	
A	WT. OF TARE	(grams)	31.48	28.48	27.83	
B	WT. OF WET SOIL & TARE	(grams)	48.46	43.69	45.50	
C	WT. OF DRY SOIL & TARE	(grams)	45.10	40.73	42.10	
D	WT. OF WATER = B-C	(grams)	3.36	2.96	3.40	
E	WT. OF DRY SOIL = C-A	(grams)	13.62	12.25	14.27	
F	MOISTURE CONTENT = (D/E)X100	(%)	24.7	24.2	23.8	
N	NUMBER OF BLOWS		20	28	35	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.5	2.7		
A	WT. OF TARE	(grams)	28.60	28.68		
B	WT. OF WET SOIL & TARE	(grams)	44.22	44.30		
C	WT. OF DRY SOIL & TARE	(grams)	42.13	42.24		
D	WT. OF WATER = B-C	(grams)	2.09	2.06		
E	WT. OF DRY SOIL = C-A	(grams)	13.53	13.56		
F	MOISTURE CONTENT = (D/E)X100	(%)	15.4	15.2		

000461

LIQUID LIMIT (LL) = 24.3 PLASTIC LIMIT (PL) = 15.3 PLASTICITY INDEX (PI) = 9.2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) = 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 13 day April month 1999 year

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LPTII-4

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		L-1	N
WT. OF DRY SAMPLE PLUS TARE	(grams)	1099.4	147.44
WT. OF TARE	(grams)	147.2	101.80
WT. OF DRY SAMPLE	(grams)	952.2	45.64

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100	100
1 1/2"	37.5	0	0	100	
1"	25.0	0	0	100	
3/4"	19.0	0	0	100	90 to 100
1/2"	12.5	6.93	.73	99.3	
3/8"	9.5	6.93	.73	99.3	
#4	4.75	7.93	.83	99.2	
#10	2.00	9.87	1.04	99.0	
#20	0.850	14.70	1.54	98.5	
#40	0.425	21.02	2.21	97.8	
#60	0.250	27.03	2.84	97.2	
#100	0.150	35.60	3.74	96.3	
#200	0.075	45.60	4.79	95.2	50 to 100
PAN					

000462

%FINER = 100 − Σ% RETAINED

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

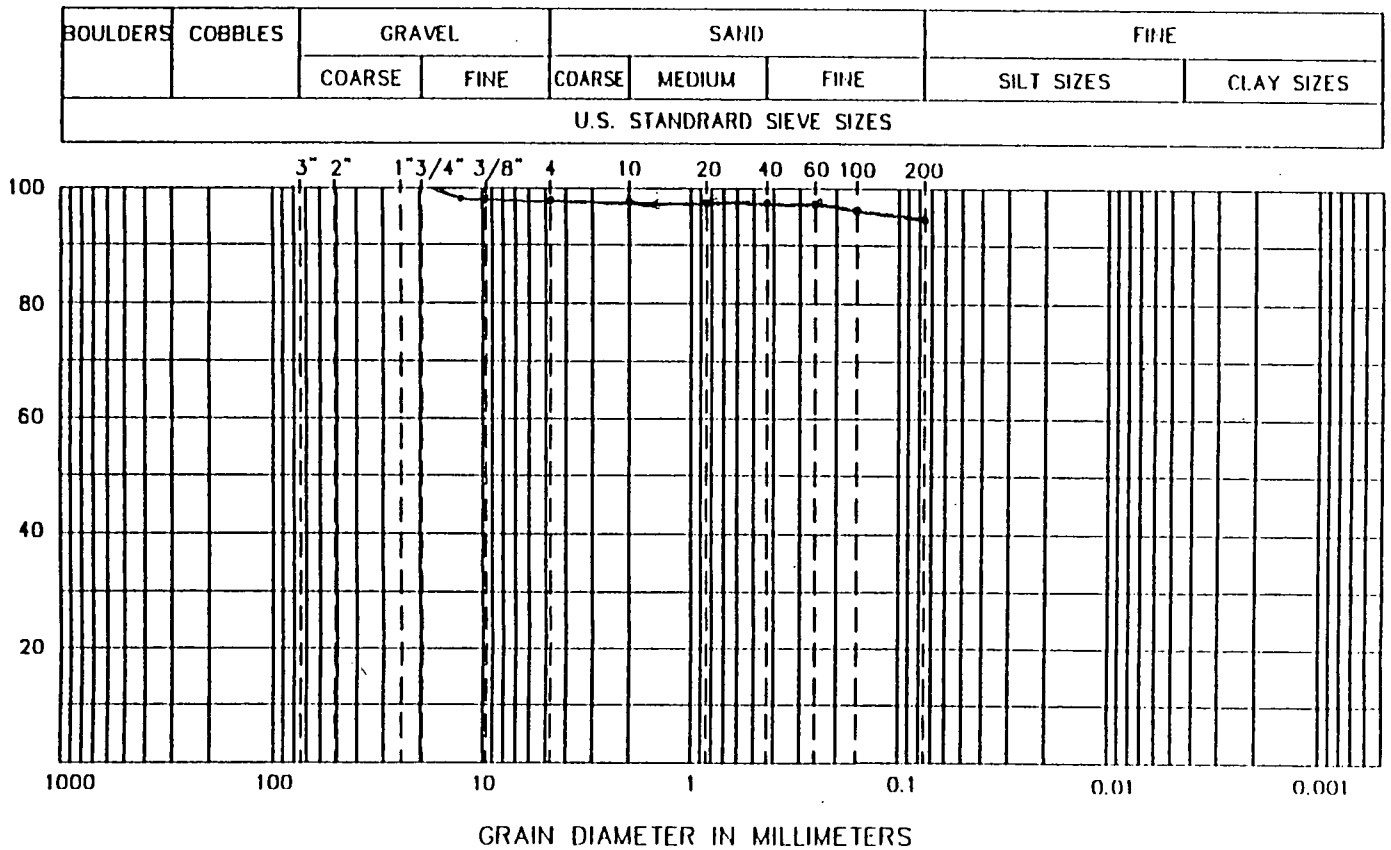
DESCRIPTION: Phase II

DATE: 28 day April month 1999 year

MATERIAL TYPE: Low perm clay

SAMPLE NO.: LPIII-4 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 53

(PL) 23

(PI) 30

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	99.3
3/8-in.	99.3
NO. 4	99.2
NO. 10	99.0
NO. 20	98.5
NO. 40	97.8
NO. 60	97.2
NO. 100	96.3
NO. 200	95.3

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): CH Fat Clay

000463

F-2737

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SHEET NO. 2 OF 2

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 13 day April month 1999 year

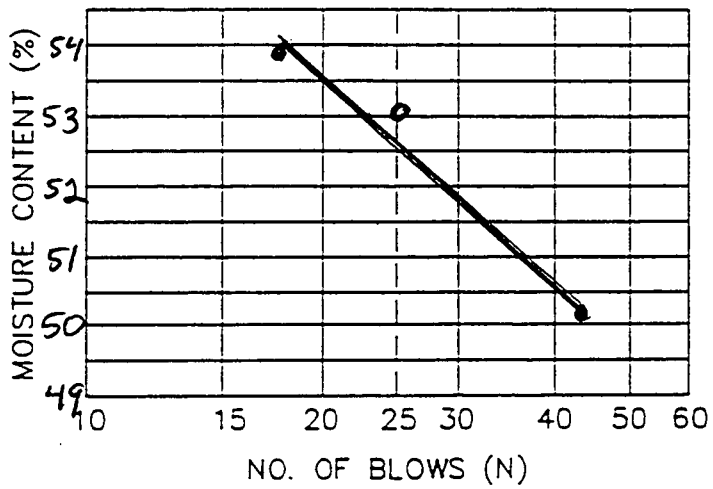
MATERIAL TYPE: L.P. CLAY — SAMPLE NO.: LP III-4

LIQUID LIMIT DETERMINATION

QA ID: DLF

	TARE NO.		1.6	2.5	1.2	
A	WT. OF TARE	(grams)	28.87	28.46	28.53	
B	WT. OF WET SOIL & TARE	(grams)	45.15	42.01	43.95	
C	WT. OF DRY SOIL & TARE	(grams)	39.71	37.31	38.56	
D	WT. OF WATER = B-C	(grams)	5.44	4.70	5.39	
E	WT. OF DRY SOIL = C-A	(grams)	10.84	8.85	10.03	
F	MOISTURE CONTENT = (D/E)X100	(%)	50.2	53.1	53.7	
N	NUMBER OF BLOWS		42	25	17	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLF

	TARE NO.		2.8	1.5		
A	WT. OF TARE	(grams)	28.51	28.60		
B	WT. OF WET SOIL & TARE	(grams)	35.55	34.90		
C	WT. OF DRY SOIL & TARE	(grams)	34.24	32.72		
D	WT. OF WATER = B-C	(grams)	1.31	1.18		
E	WT. OF DRY SOIL = C-A	(grams)	5.73	5.12		
F	MOISTURE CONTENT = (D/E)X100	(%)	22.9	23.0		

000464

LIQUID LIMIT (LL) = 52.5 PLASTIC LIMIT (PL) = 23.0 PLASTICITY INDEX (PI) = 30

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) F-2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 13 day April month 1999 year

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-5

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		K	K
WT. OF DRY SAMPLE PLUS TARE	(grams)	1155.2	386.78
WT. OF TARE	(grams)	101.6	101.60
WT. OF DRY SAMPLE	(grams)	1053.6	285.18

SIEVE ANALYSIS

QA ID: DKE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100	100
1½"	37.5	0	0	100	
1"	25.0	33.74	3.20	96.8	
¾"	19.0	33.74	3.20	96.8	90 to 100
½"	12.5	33.74	3.20	96.8	
⅜"	9.5	46.52	4.42	95.6	
#4	4.75	54.18	5.14	94.9	
#10	2.00	81.05	7.69	92.3	
#20	0.850	111.13	10.55	89.5	
#40	0.425	143.85	13.7	86.3	
#60	0.250	205.68	19.52	80.5	
#100	0.150	242.44	23.01	77.0	
#200	0.075	284.76	27.03	73.0	50 to 100
PAN					

000465

%FINER = 100 − Σ% RETAINED

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

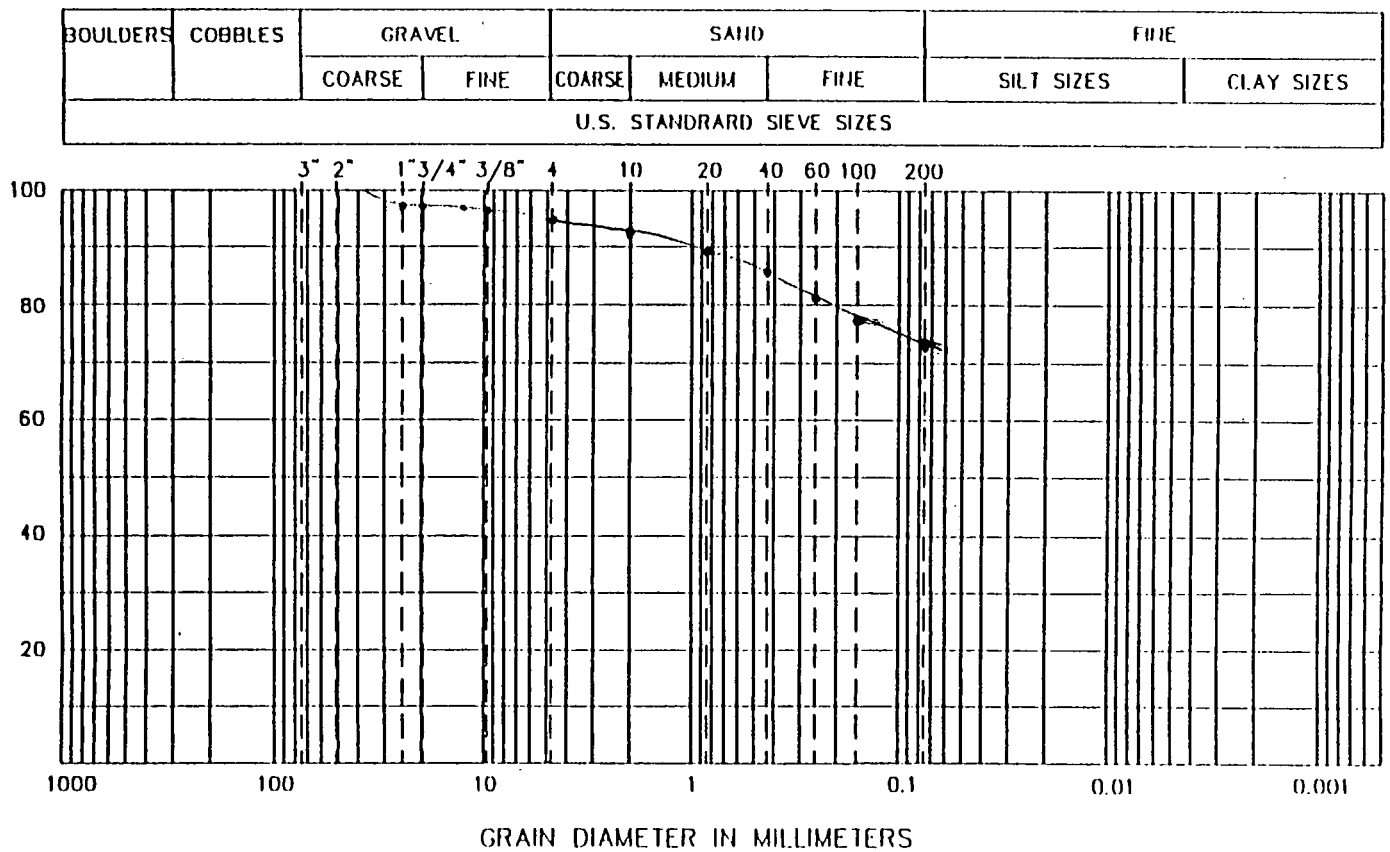
DESCRIPTION: Phase II

DATE: 13 day April month 1999 year

MATERIAL TYPE: Low PERm Clay

SAMPLE NO.: LP III-5 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 40

(PL) 21

(PI) 19

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	96.8
3/4-in.	96.8
1/2-in.	96.8
3/8-in.	96.5
NO. 4	94.9
NO. 10	92.3
NO. 20	89.5
NO. 40	86.3
NO. 60	80.5
NO. 100	77.0
NO. 200	73.0

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): CL - lean clay w/sand

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SHEET NO. 2 OF 2

000466

1-27-3

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) -2737

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 13 day Apr. month 1999 year

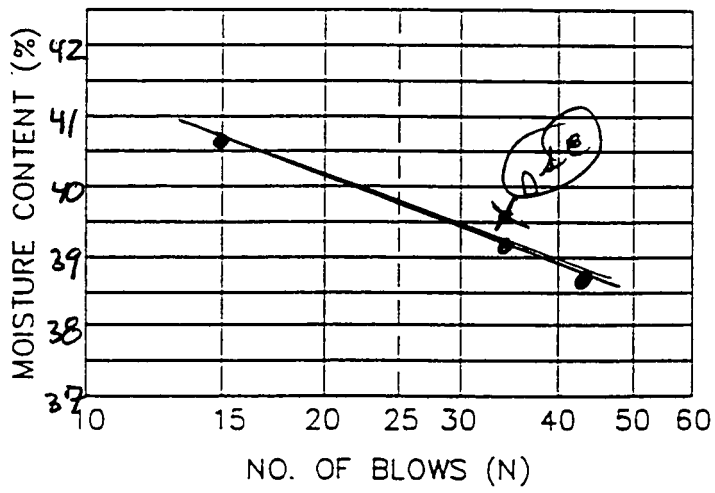
MATERIAL TYPE: L.P. CLAY SAMPLE NO.: L.P. III-5

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.1	2.4	3.2	
A	WT. OF TARE	(grams)	28.23	27.38	27.82	
B	WT. OF WET SOIL & TARE	(grams)	42.79	45.39	41.52	
C	WT. OF DRY SOIL & TARE	(grams)	38.69	40.19	37.70	
D	WT. OF WATER = B-C	(grams)	4.10	5.20	3.82	
E	WT. OF DRY SOIL = C-A	(grams)	10.46	12.81	9.88	
F	MOISTURE CONTENT = (D/E)X100	(%)	39.20	40.6	38.7	
N	NUMBER OF BLOWS		36	15	44	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.7	1.9		
A	WT. OF TARE	(grams)	28.70	28.57		
B	WT. OF WET SOIL & TARE	(grams)	35.21	36.13		
C	WT. OF DRY SOIL & TARE	(grams)	34.10	34.82		
D	WT. OF WATER = B-C	(grams)	1.11	1.31		
E	WT. OF DRY SOIL = C-A	(grams)	5.40	6.25		
F	MOISTURE CONTENT = (D/E)X100	(%)	20.6	21.0		

000467

LIQUID LIMIT (LL) = 39.8 PLASTIC LIMIT (PL) = 20.8 PLASTICITY INDEX (PI) = 19

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) -- 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 13 day April month 1999 year

MATERIAL TYPE: L. P. CLAY SAMPLE NO.: LP III-6

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		K	K
WT. OF DRY SAMPLE PLUS TARE	(grams)	876.0	329.24
WT. OF TARE	(grams)	101.6	101.60
WT. OF DRY SAMPLE	(grams)	774.4	227.64

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100	100
1½"	37.5	0	0	100	
1"	25.0	0	0	100	
¾"	19.0	0	0	100	90 TO 100
½"	12.5	0	0	100	
⅜"	9.5	8.37	1.1	98.9	
#4	4.75	20.77	2.7	97.3	
#10	2.00	42.36	5.5	94.5	
#20	0.850	71.78	9.3	90.7	
#40	0.425	103.11	13.5	86.7	
#60	0.250	135.13	17.4	82.6	
#100	0.150	178.24	23.0	77.0	
#200	0.075	227.51	29.4	70.6	50 TO 100
PAN					

000468

%FINER = 100 − Σ% RETAINED

GeoSyntec Consultants

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

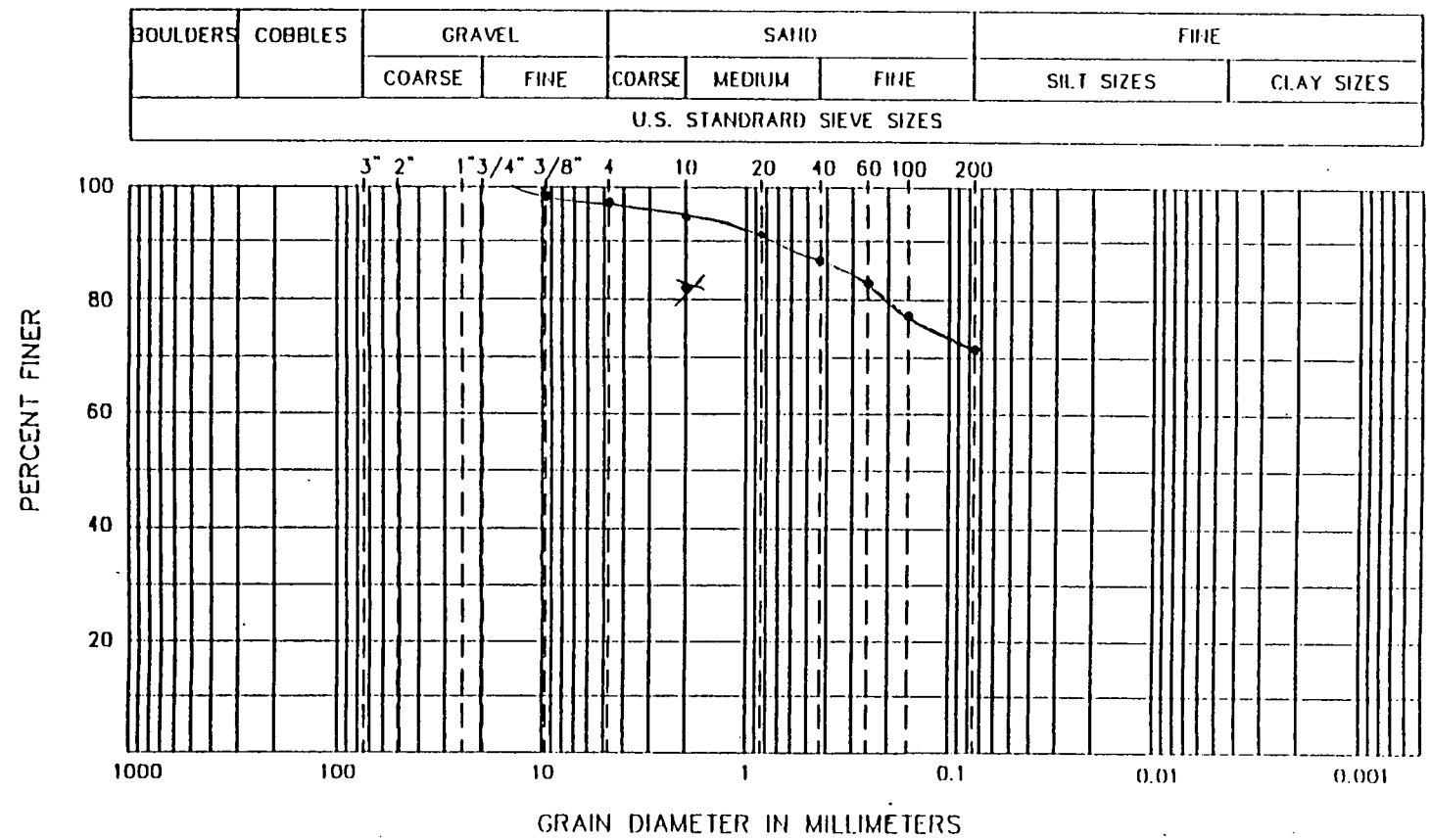
DESCRIPTION: Phase II

DATE: 28 day April month 1999 year

MATERIAL TYPE: Low PERm clay

SAMPLE NO.: LP III-6 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 34

(PL) 17

(PI) 17

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	100
3/8-in.	98.9
NO. 4	97.3
NO. 10	94.5
NO. 20	90.7
NO. 40	86.7
NO. 60	82.6
NO. 100	77.0
NO. 200	70.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): CL - lean clay w/Sand

2787

000469

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SHEET NO. 2 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 13 day April month 1999 year

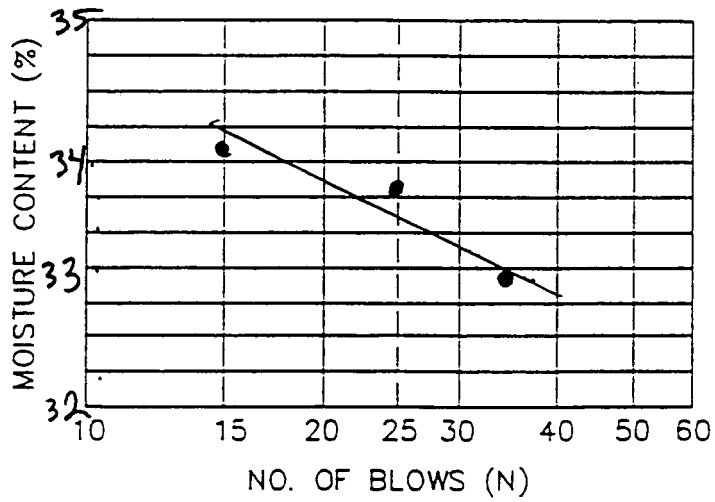
MATERIAL TYPE: L.P. CLAY — SAMPLE NO.: LP III-6

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.3	3.1	2.6	
A	WT. OF TARE	(grams)	28.63	28.36	28.54	
B	WT. OF WET SOIL & TARE	(grams)	40.78	39.60	41.75	
C	WT. OF DRY SOIL & TARE	(grams)	37.78	36.74	38.41	
D	WT. OF WATER = B-C	(grams)	3.00	2.86	3.34	
E	WT. OF DRY SOIL = C-A	(grams)	9.15	8.38	9.87	
F	MOISTURE CONTENT = (D/E)X100	(%)	32.8	34.1	33.8	
N	NUMBER OF BLOWS		~~35~~ 35	15	25	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.4	1.1		
A	WT. OF TARE	(grams)	27.39	28.78		
B	WT. OF WET SOIL & TARE	(grams)	37.90	39.06		
C	WT. OF DRY SOIL & TARE	(grams)	36.33	37.58		
D	WT. OF WATER = B-C	(grams)	1.57	1.48		
E	WT. OF DRY SOIL = C-A	(grams)	8.94	8.8		000470
F	MOISTURE CONTENT = (D/E)X100	(%)	17.6	16.8		

LIQUID LIMIT (LL) = 33.6 PLASTIC LIMIT (PL) = 17.2 PLASTICITY INDEX (PI) = 16.4

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO DLE

PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II

DATE: 13 day April month 1995 year DLE

MATERIAL TYPE: L.P. Clay

SAMPLE NO.: [redacted] LPIII-7

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	BEFORE WASH	IN OVEN AFTER WASH
TARE NO.	[redacted] N	N
WT. OF DRY SAMPLE PLUS TARE (grams)	1066.8	361.58
WT. OF TARE (grams)	101.8	101.74
WT. OF DRY SAMPLE (grams)	965.0	259.84

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2	50.0	0	0	100	100
1 1/2	37.5	0	0	100	100
1	25.0	0	0	100	100
3/4	19.0	0	0	100	90 TO 100
1/2	12.5	3.33	0.3	99.7	
3/8	9.5	6.04	0.7	99.3	
#4	4.75	33.88	3.5	96.5	
#10	2.00	63.94	~~66.2~~ 6.6	93.4	
#20	0.850	93.81	9.7	90.3	
#40	0.425	129.63	13.4	86.6	
#60	0.250	164.71	17.1	82.9	
#100	0.150	207.66	21.5	78.5	
#200	0.075	259.09	26.8	73.2	50 TO 100
PAN					

000471

%FINER = 100 − Σ% RETAINED

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CHECKED BY: CS

SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

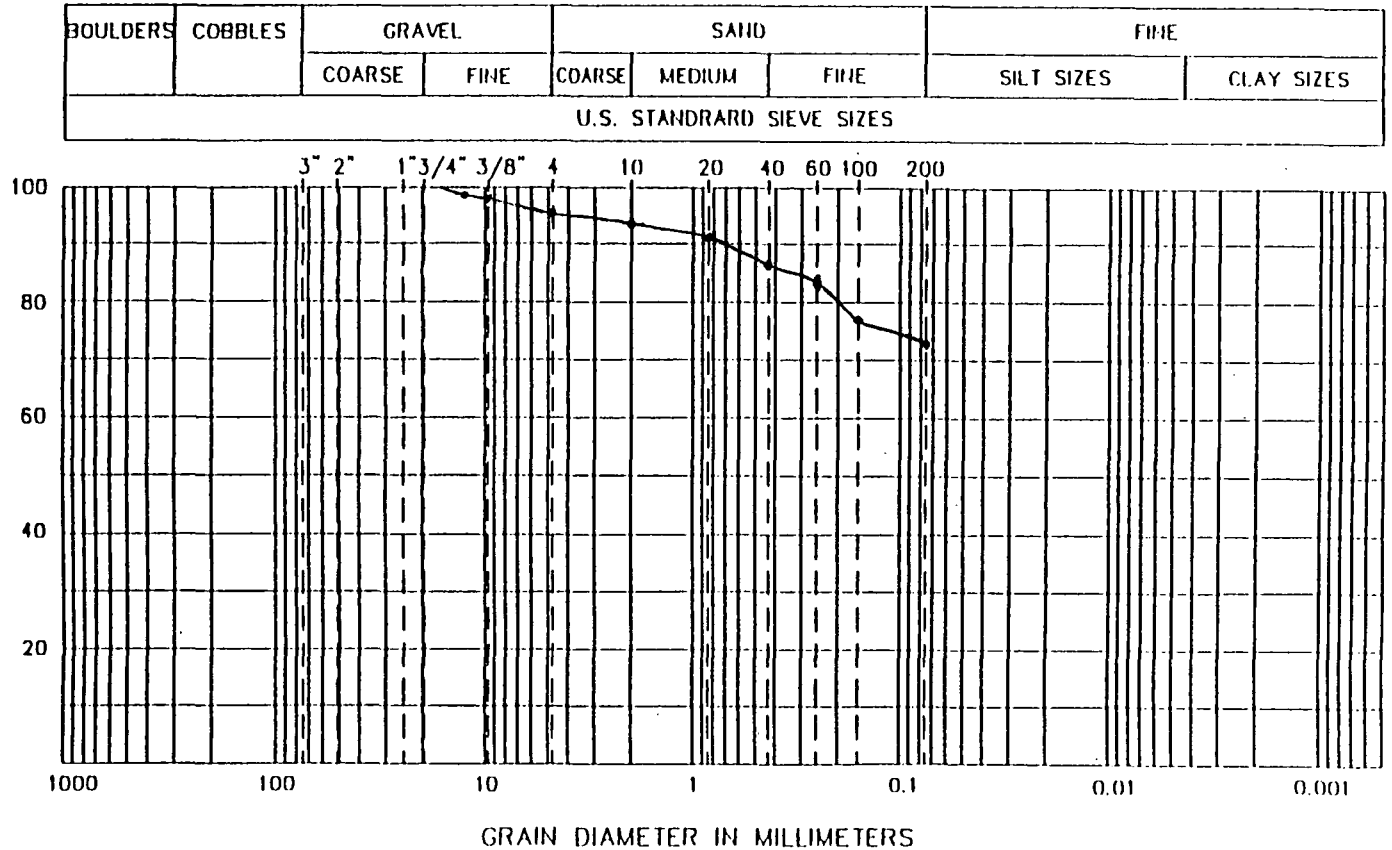
DESCRIPTION: Phase II

DATE: 28 day April month 1999 year

MATERIAL TYPE: Low perm clay

SAMPLE NO.: LP III-7 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 32

(PL) 18

(PI) 14

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	99.7
3/8-in.	99.3
NO. 4	96.5
NO. 10	93.4
NO. 20	90.3
NO. 40	86.6
NO. 60	~~89~~ 82.9
NO. 100	78.5
NO. 200	73.2

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): CL- lean clay w/Sand

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SHEET NO. 2 OF 2

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-2734

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 13 day April month 1999 year

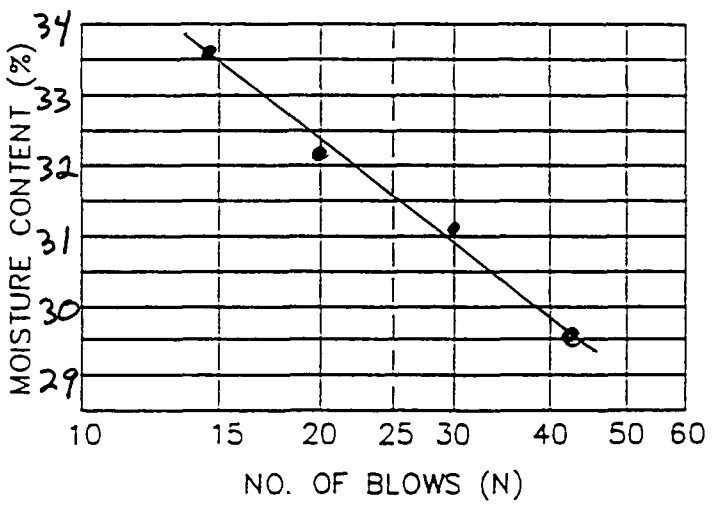
MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP TII.7

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		3.2	1.1	2.6	1.3
A	WT. OF TARE	(grams)	27.82	28.76	28.55	28.64
B	WT. OF WET SOIL & TARE	(grams)	47.65	46.80	47.12	44.94
C	WT. OF DRY SOIL & TARE	(grams)	43.13	42.52	42.60	40.84
D	WT. OF WATER = B-C	(grams)	4.52	4.28	4.52	4.10
E	WT. OF DRY SOIL = C-A	(grams)	15.31	13.76	14.05	12.20
F	MOISTURE CONTENT = (D/E)X100	(%)	29.50	31.1	32.2	33.60
N	NUMBER OF BLOWS		41	30	20	14

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.4	2.9		
A	WT. OF TARE	(grams)	28.50	31.46		
B	WT. OF WET SOIL & TARE	(grams)	34.40	37.99		
C	WT. OF DRY SOIL & TARE	(grams)	33.50	37.01		
D	WT. OF WATER = B-C	(grams)	.90	.98		
E	WT. OF DRY SOIL = C-A	(grams)	5.0	5.55		
F	MOISTURE CONTENT = (D/E)X100	(%)	18.0	17.7		

000473

LIQUID LIMIT (LL) = 31.5 PLASTIC LIMIT (PL) = 17.9 PLASTICITY INDEX (PI) = 14

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422) 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 13 day April month 1999 year

MATERIAL TYPE: L.P. Clay SAMPLE NO.: LP III-8

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		N	N
WT. OF DRY SAMPLE PLUS TARE	(grams)	1143.7	440.2
WT. OF TARE	(grams)	101.8	101.8
WT. OF DRY SAMPLE	(grams)	1041.9	338.4

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	~~100~~ 0 DLE	100	100
1½"	37.5	0	~~100~~ 0 DLE	100	
1"	25.0	0	0	100	
¾"	19.0	31.24	3.0	97.0	90 to 100
½"	12.5	42.83	4.1	95.9	
⅜"	9.5	50.31	4.8	95.2	
#4	4.75	86.20	8.3	91.7	
#10	2.00	132.87	12.8	87.2	
#20	0.850	177.66	17.1	82.9	
#40	0.425	217.18	20.8	79.2	
#60	0.250	250.46	24.0	76.0	
#100	0.150	291.41	28.0	72.0	
#200	0.075	338.11	32.5	67.5	50 to 100
PAN		—			

000474

%FINER = 100 − Σ% RETAINED

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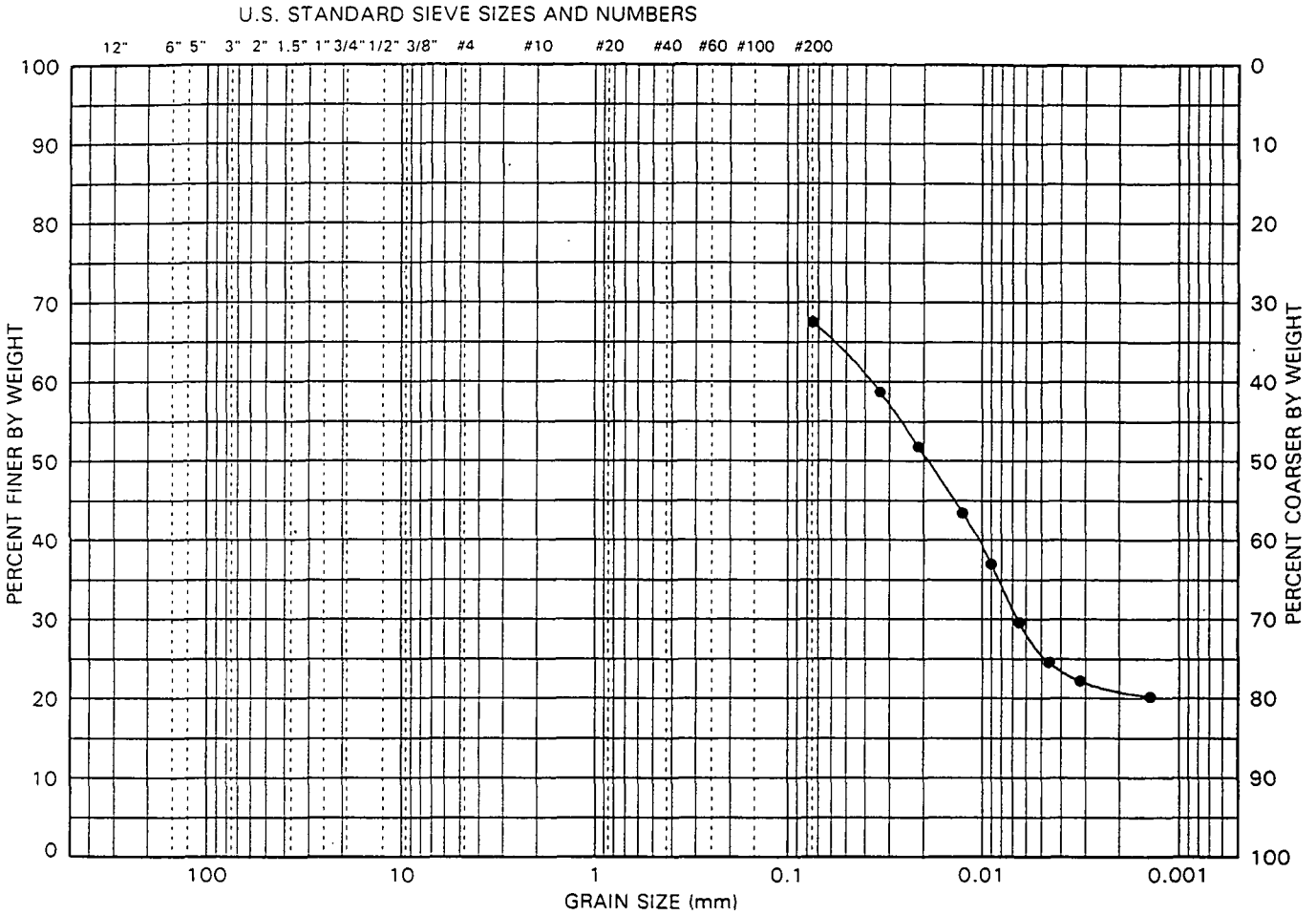
Atlanta, Georgia

FIGURE 2737
PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/05/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-8	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	99D158	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%) 67.5
SOIL CLASSIFICATION:				SILT (%) 46.4
				CLAY(%) 21.1
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													68	63	51	26	21	

NOTES:

000475

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

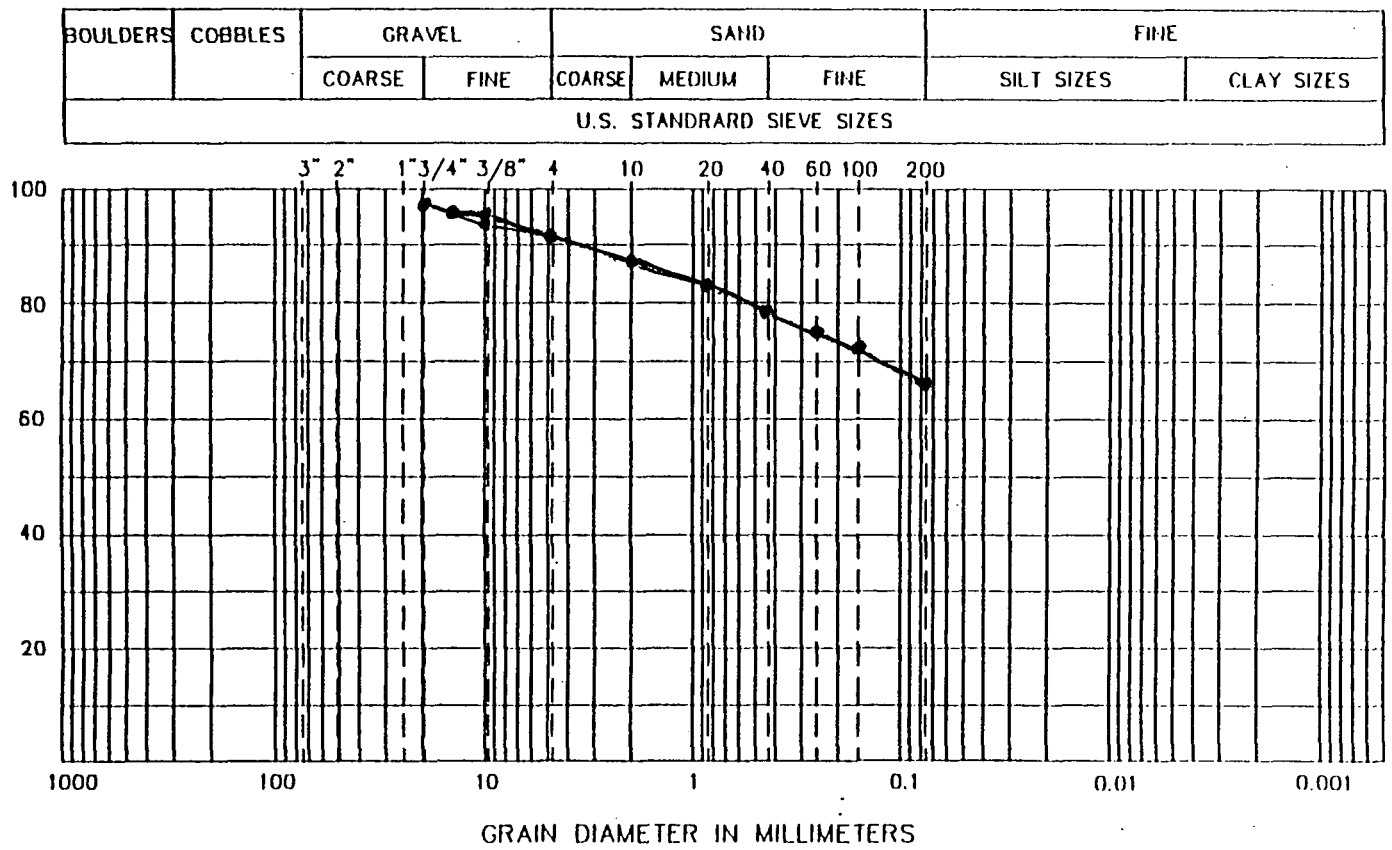
DESCRIPTION: Phase II

DATE: 21 day April month 1999 year

MATERIAL TYPE: L.P. Clay

SAMPLE NO.: LPIII-8 QA ID: DLE

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 30.3

(PL) 16.5

(PI) 13.8

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	99.0
1/2-in.	95.9
3/8-in.	95.2
NO. 4	91.7
NO. 10	87.2
NO. 20	82.9
NO. 40	79.2
NO. 60	76.0
NO. 100	72.0
NO. 200	69.5

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.075	—
0.050	63
0.020	51
0.005	26
0.002	21

SOIL CLASSIFICATION (ASTM D 2487): Lean Clay with Sand

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SHEET NO. 2 OF 2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 13 day April month 1999 year

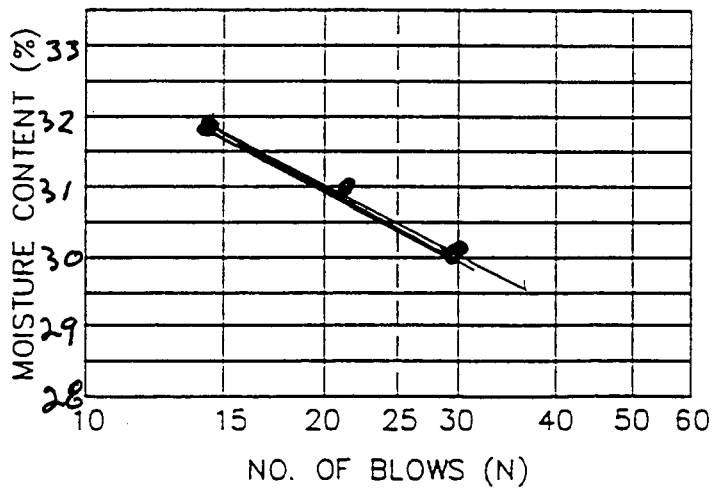
MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-8

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.1	2.6	3.2	
A	WT. OF TARE	(grams)	28.79	28.55	27.83	
B	WT. OF WET SOIL & TARE	(grams)	42.46	45.84	46.88	
C	WT. OF DRY SOIL & TARE	(grams)	39.34	41.75	42.28	
D	WT. OF WATER = B-C	(grams)	3.12	4.09	4.60	
E	WT. OF DRY SOIL = C-A	(grams)	10.55	13.20	14.45	
F	MOISTURE CONTENT = (D/E)X100	(%)	29.6	31.0	31.8	
N	NUMBER OF BLOWS		30	22	14	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.4	2.9		
A	WT. OF TARE	(grams)	28.51	31.47		
B	WT. OF WET SOIL & TARE	(grams)	41.56	44.50		
C	WT. OF DRY SOIL & TARE	(grams)	39.69	42.67		
D	WT. OF WATER = B-C	(grams)	1.87	1.83		
E	WT. OF DRY SOIL = C-A	(grams)	11.18	11.20		000477
F	MOISTURE CONTENT = (D/E)X100	(%)	16.7	16.3		

LIQUID LIMIT (LL) = 30.3 PLASTIC LIMIT (PL) = 16.5 PLASTICITY INDEX (PI) = 13.8

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422) - 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 13 dcy April month 1999 year

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-9

SOIL SAMPLE SIZE Total WT — LBs ~~954.4~~ grams

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		N	K
WT. OF DRY SAMPLE PLUS TARE	(grams)	1056.2	257.77
WT. OF TARE	(grams)	101.8	101.60
WT. OF DRY SAMPLE	(grams)	954.4	156.17

SIEVE ANALYSIS QA ID: D&E

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	~~100~~ 0	100	100
1½"	37.5	0	0	100	
1"	25.0	0	0	100	
¾"	19.0	0	0	100	90 TO 100
½"	12.5	4.93	0.52	99.5	
⅜"	9.5	8.64	0.91	99.1	
#4	4.75	17.91	1.88	98.1	
#10	2.00	39.93	4.18	95.8	
#20	0.850	58.25	6.10	93.9	
#40	0.425	78.03	8.18	91.8	
#60	0.250	98.81	10.35	89.6	
#100	0.150	125.46	13.15	86.8	
#200	0.075	155.87	16.33	83.7	50 TO 100
PAN					

000478

%FINER = 100 − Σ% RETAINED

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GEO SYNTEC CONSULTANTS
Geomechanics and Environmental Laboratory
Atlanta, Georgia

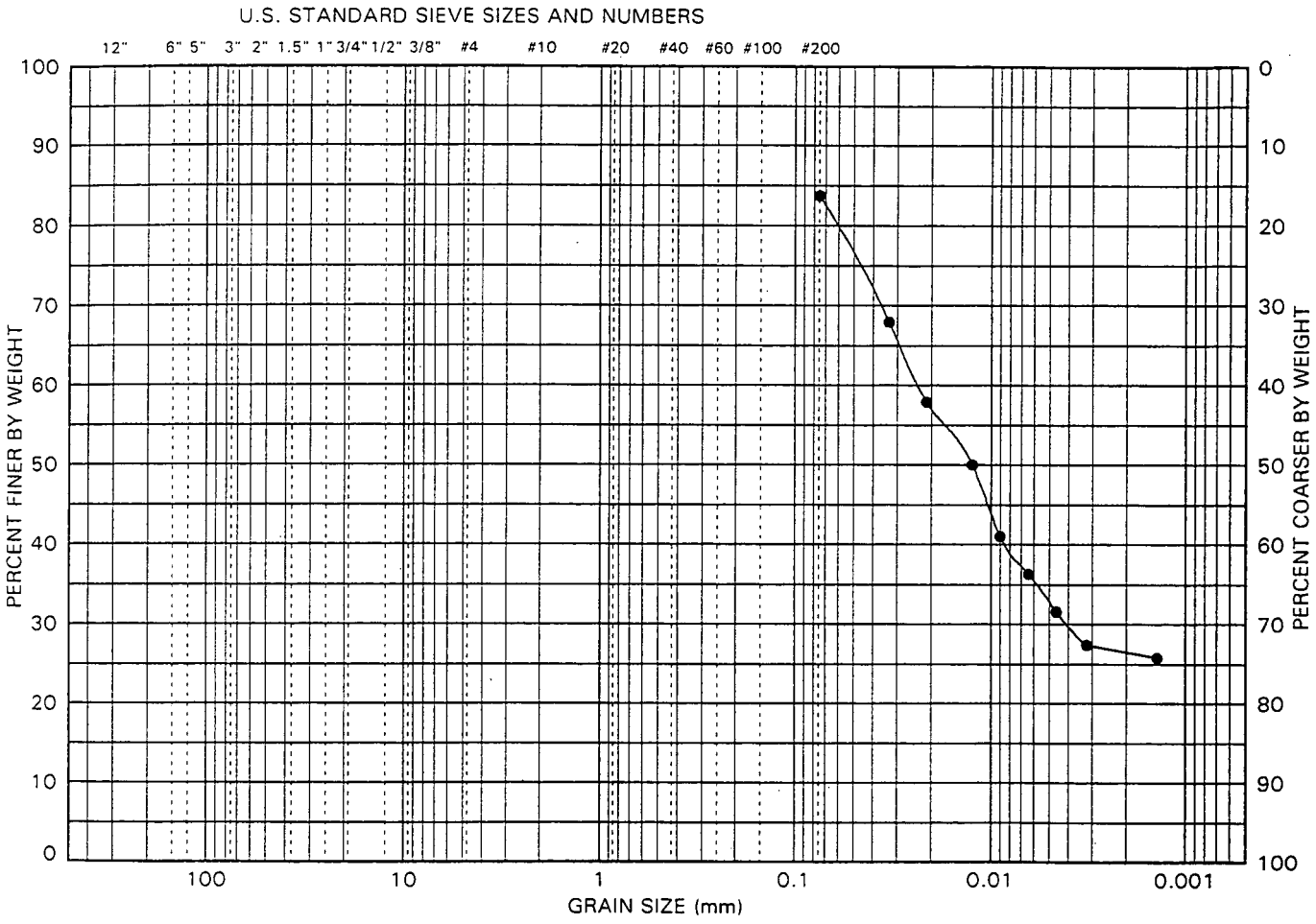
FIGURE

PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.: -- 2737

GS FORM: 4PS2 05/05/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487
D 3042 AND D 4318



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-9	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	99D159	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%) 83.7
SOIL CLASSIFICATION:				SILT (%) 57.2
				CLAY(%) 26.5
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													84	76	57	33	26	

NOTES:

000479 ✓ BSS 5-5-99

GeoSyntec Consultants

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS (ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

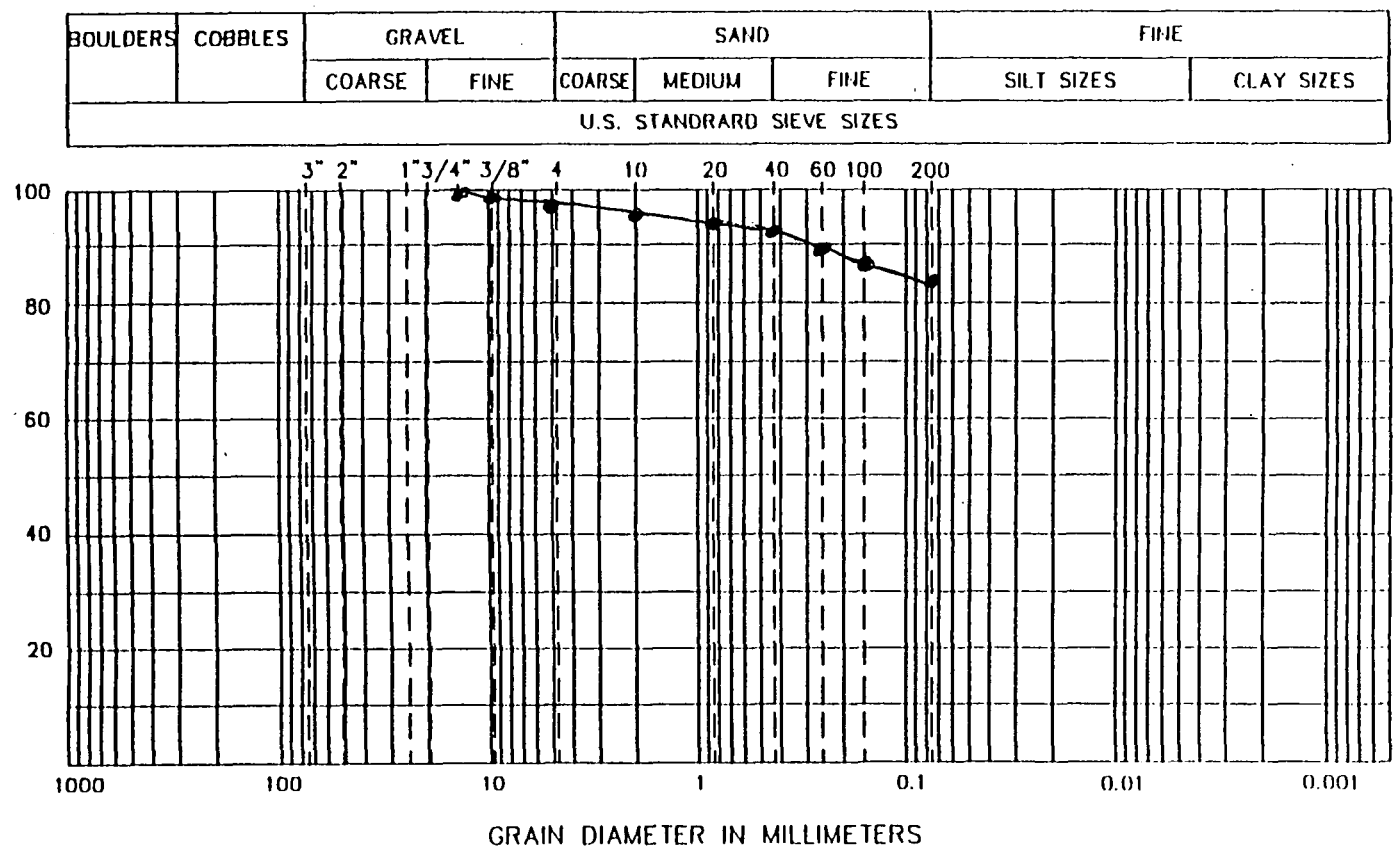
DESCRIPTION: Phase II

DATE: 16 day April month 1999 year

MATERIAL TYPE: L.P. Clay

SAMPLE NO.: LP III-9 QA ID: DLE

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 42

(PL) 21

(PI) 21

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	99.5
3/8-in.	99.1
NO. 4	98.1
NO. 10	95.8
NO. 20	93.9
NO. 40	91.8
NO. 60	89.7
NO. 100	86.9
NO. 200	83.7

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.050	76
0.020	57
0.005	33
0.002	26

SOIL CLASSIFICATION (ASTM D 2487): Lean Clay with Sand

000480

2737

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SHEET NO. 2 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) 2737

LOCATION: FERNALD, OHIO (DLE) PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 13 day April month 1999 year (DLE)

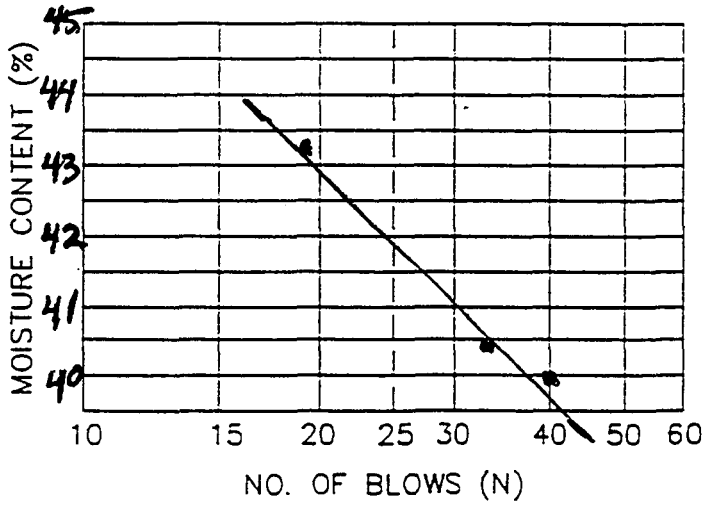
MATERIAL TYPE: LP-Clay SAMPLE NO.: LP III-9

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.1	3.2	2.9	
A	WT. OF TARE	(grams)	28.79	27.83	31.46	
B	WT. OF WET SOIL & TARE	(grams)	40.89	41.04	47.81	
C	WT. OF DRY SOIL & TARE	(grams)	37.44	37.24	42.87	
D	WT. OF WATER = B-C	(grams)	3.45	3.80	4.94	
E	WT. OF DRY SOIL = C-A	(grams)	8.65	9.41	11.41	
F	MOISTURE CONTENT = (D/E)X100	(%)	39.9	40.4	43.3	
N	NUMBER OF BLOWS		40	33	19	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.4	2.6		
A	WT. OF TARE	(grams)	28.50	28.55		
B	WT. OF WET SOIL & TARE	(grams)	36.46	36.56		
C	WT. OF DRY SOIL & TARE	(grams)	35.10	35.17		
D	WT. OF WATER = B-C	(grams)	1.36	1.39		
E	WT. OF DRY SOIL = C-A	(grams)	6.60	6.62		
F	MOISTURE CONTENT = (D/E)X100	(%)	20.6	21.0		

000481

LIQUID LIMIT (LL) = 41.9 PLASTIC LIMIT (PL) = 20.8 PLASTICITY INDEX (PI) = 21.1

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) — 2737

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 23 day April month 1999 year

MATERIAL TYPE: LP Clay SAMPLE NO.: LP III-12

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	INDUCED AFTER WASH
TARE NO.		L-4	L-4
WT. OF DRY SAMPLE PLUS TARE	(grams)	1227.3	529.03
WT. OF TARE	(grams)	146.6	146.74
WT. OF DRY SAMPLE	(grams)	1080.7	382.29

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100 %	100
1 1/2"	37.5	0	0	100	
1"	25.0	0	0	100	
3/4"	19.0	0	0	100	90 To 100
1/2"	12.5 →	6.69	.62	99.4	
3/8"	9.5	13.41	1.24	98.8	
#4	4.75	54.08	5.00	95.0	
#10	2.00	135.60	12.55	87.5	
#20	0.850	196.84	18.21	81.8	
#40	0.425	248.06	23.0 ~~22.95~~	@ ~~77.1~~ 77.0	
#60	0.250	289.51	26.79	73.2	
#100	0.150	336.30	31.12	68.9	
#200	0.075	381.78	35.33	64.7	50 To 100
Pan	—				

000482

%FINER = 100 − Σ% RETAINED

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

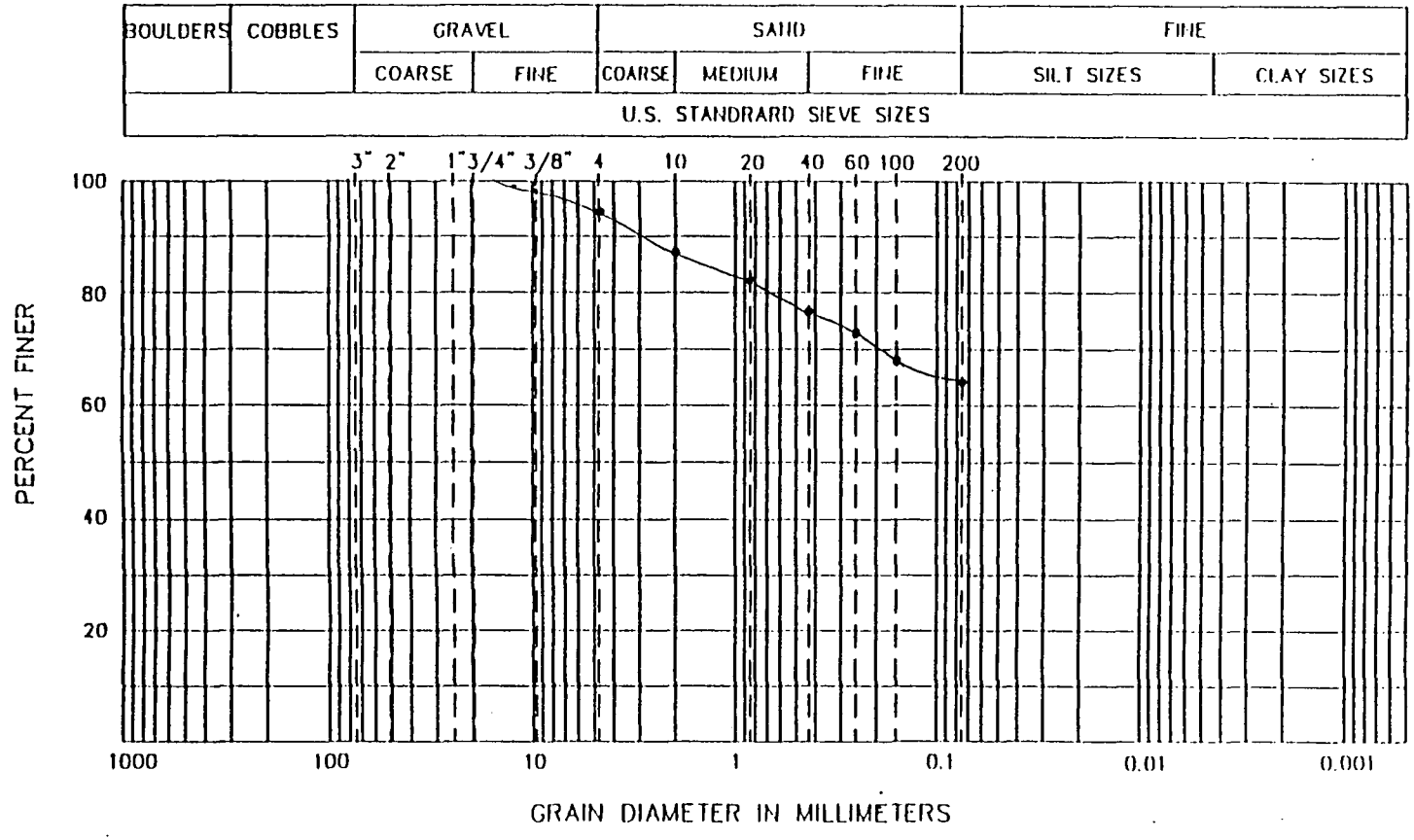
DESCRIPTION: Phase II

DATE: 28 day April month 1999 year

MATERIAL TYPE: Low Perm clay

SAMPLE NO.: LP III-12 QA ID: CA

CURVE COEFFICIENTS: (C_U) ..... (C_C) .....



ATTERBERG LIMITS

(LL) 27.7

(PL) 16.4

(PI) 11

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	99.4
3/8-in.	98.8
NO. 4	95.0
NO. 10	87.5
NO. 20	81.8
NO. 40	77.0
NO. 60	73.2
NO. 100	68.9
NO. 200	64.7

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): Sandy lean clay

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CHECKED BY: CA

SHEET NO. 2 OF 2

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-2737

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

— 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: ____ day ____ month 1999 year

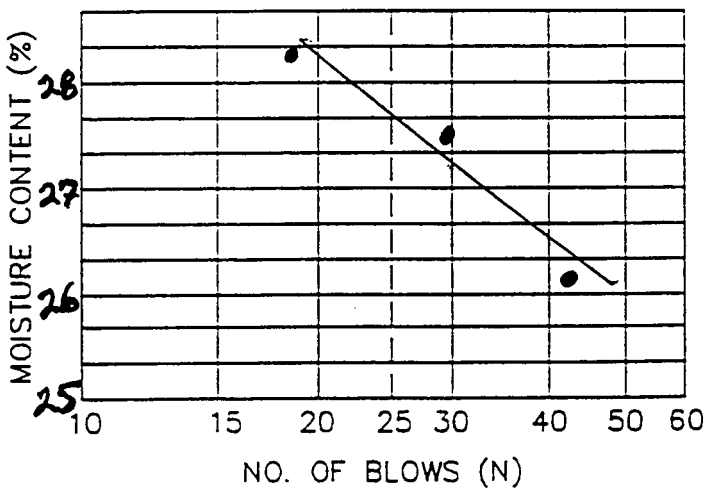
MATERIAL TYPE: LP Clay SAMPLE NO.: LP III-12

LIQUID LIMIT DETERMINATION

2.B Soaked 26/10/99 QA ID: DLE

	TARE NO.		1.7	2.3	3.3	
A	WT. OF TARE	(grams)	28.48	31.18	21.45	
B	WT. OF WET SOIL & TARE	(grams)	45.99	45.05	37.63	
C	WT. OF DRY SOIL & TARE	(grams)	42.35	42.05	34.05	
D	WT. OF WATER = B-C	(grams)	3.64	3.00	3.58	
E	WT. OF DRY SOIL = C-A	(grams)	13.87	10.87	12.6	
F	MOISTURE CONTENT = (D/E)X100	(%)	26.2	27.6 ~~9.2~~	28.4	
N	NUMBER OF BLOWS		42	30	18	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		3.4	2.8		
A	WT. OF TARE	(grams)	21.41	28.45		
B	WT. OF WET SOIL & TARE	(grams)	28.72	36.61		
C	WT. OF DRY SOIL & TARE	(grams)	27.69	35.46		
D	WT. OF WATER = B-C	(grams)	1.03	1.15		
E	WT. OF DRY SOIL = C-A	(grams)	6.28	7.01		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.40	16.41		

000484

LIQUID LIMIT (LL) = 27.7 PLASTIC LIMIT (PL) = 16.4 PLASTICITY INDEX (PI) = 11.3

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 23 day April month 1999 year

MATERIAL TYPE: LP CLAY — SAMPLE NO.: LP III 3

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	IN OVEN AFTER WASH
TARE NO.		L-1	L-1
WT. OF DRY SAMPLE PLUS TARE	(grams)	1421.1	827.49
WT. OF TARE	(grams)	147.2	147.49
WT. OF DRY SAMPLE	(grams)	1273.9	680.00

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100%	100
1½"	37.5	0	0	100%	
1"	25.0 →	16.63	1.30	98.7	
¾"	19.0	30.24	2.37	97.6	90 TO 100
½"	12.5	82.74	6.50	93.5	
⅜"	9.5	115.88	9.10	90.9	
#4	4.75	224.24	17.60	82.4	
#10	2.00	323.69	25.41	74.6	
#20	0.850	410.60	32.23	67.8	
#40	0.425	487.00	38.23	61.8	
#60	0.250	550.01	43.18	56.8	
#100	0.150	613.28	48.14	51.9	
#200	0.075	679.89	53.37	46.6	50 TO 100
PAN					

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%FINER = 100 − Σ% RETAINED

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SHEET NO. 1 OF 2

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

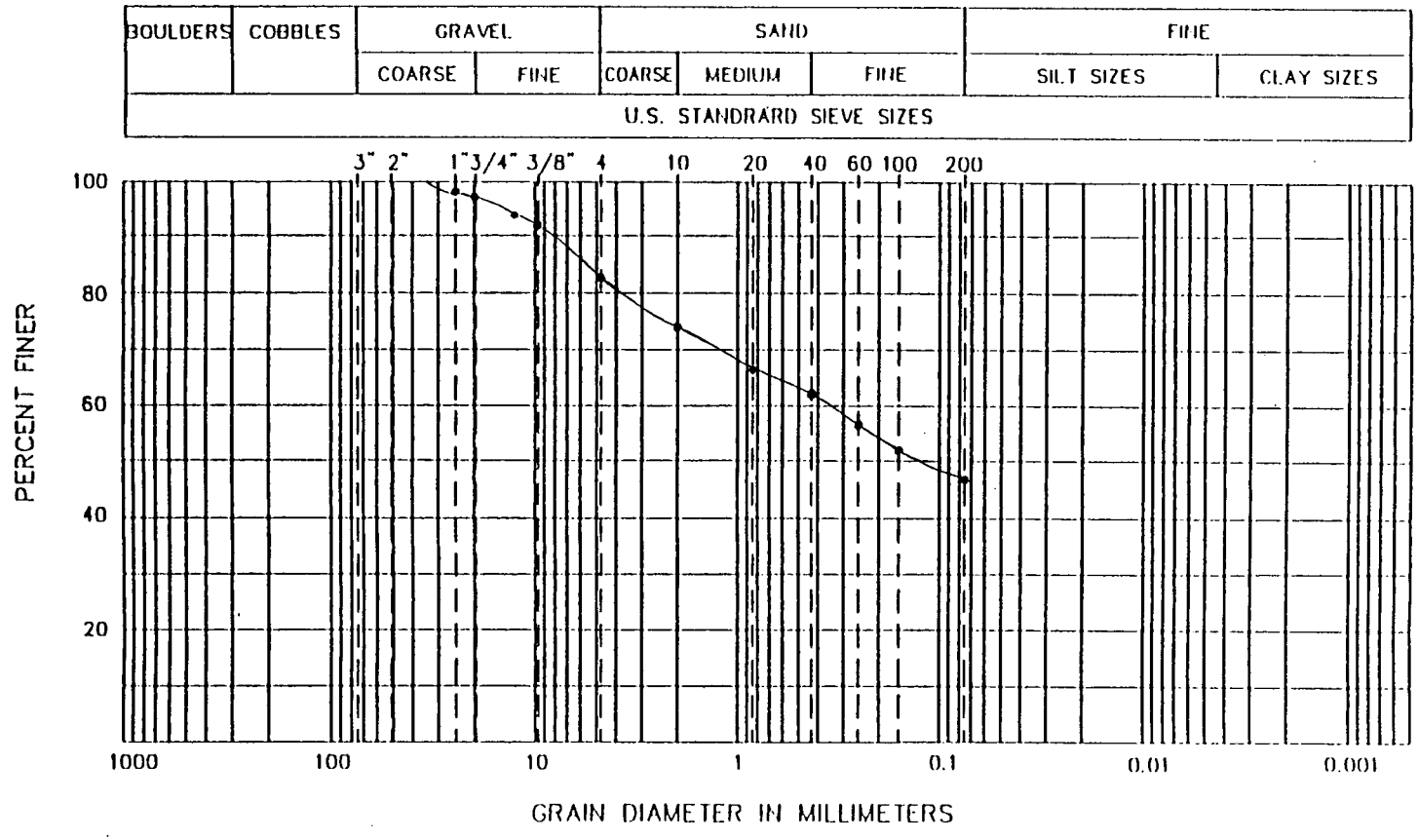
DESCRIPTION: Phase II

DATE: 28 day April month 1999 year

MATERIAL TYPE: Low Perm Clay

SAMPLE NO.: LP III-13 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 22.4

(PL) 14.8

(PI) 8

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	98.7
3/4-in.	97.6
1/2-in.	93.5
3/8-in.	90.9
NO. 4	82.4
NO. 10	74.6
NO. 20	67.8
NO. 40	61.8
NO. 60	56.8
NO. 100	51.9
NO. 200	46.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): SC Clayey Sand w/ gravel

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SHEET NO. 2 OF 2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 23 day April month 1999 year

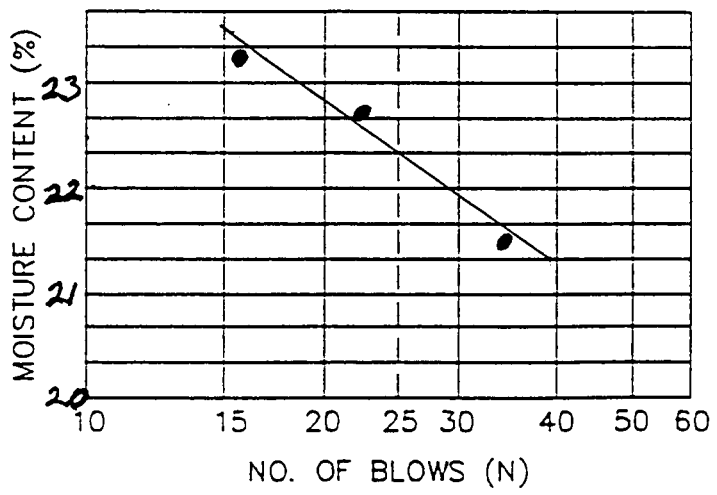
MATERIAL TYPE: LP Clay — SAMPLE NO.: LP III 13

LIQUID LIMIT DETERMINATION

IN 1-G SOAKING — QA ID: DLE

	TARE NO.		1.1	2.6	3.1	
A	WT. OF TARE	(grams)	28.79	28.54	28.39	
B	WT. OF WET SOIL & TARE	(grams)	44.07	40.99	41.84	
C	WT. OF DRY SOIL & TARE	(grams)	41.37	38.69	39.29	
D	WT. OF WATER = B-C	(grams)	2.7	2.3	2.55	
E	WT. OF DRY SOIL = C-A	(grams)	12.58	10.15	10.90	
F	MOISTURE CONTENT = (D/E)X100	(%)	21.5	22.7	23.4	
N	NUMBER OF BLOWS		35	23	16	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.3	2.4		
A	WT. OF TARE	(grams)	26.64	27.39		
B	WT. OF WET SOIL & TARE	(grams)	36.71	34.50		
C	WT. OF DRY SOIL & TARE	(grams)	35.66	33.59		
D	WT. OF WATER = B-C	(grams)	1.05	.9		
E	WT. OF DRY SOIL = C-A	(grams)	7.02	6.2		
F	MOISTURE CONTENT = (D/E)X100	(%)	15.0	14.5		

000487

8

LIQUID LIMIT (LL) = 22.4 PLASTIC LIMIT (PL) = 14.8 PLASTICITY INDEX (PI) = 7.6

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 23 day APRIL month 1999 year

MATERIAL TYPE: LP Clay — SAMPLE NO.: LP III-14

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH (IN OVEN)
TARE NO.		L-2	N
WT. OF DRY SAMPLE PLUS TARE	(grams)	1253.6	446.94
WT. OF TARE	(grams)	146.7	101.72
WT. OF DRY SAMPLE	(grams)	1106.9	345.22

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100	100
1½"	37.5	0	0	100	
1"	25.0	0	0	100	
¾"	19.0	0	0	100	90 To 100
½"	12.5	0	0	100	
⅜"	9.5 →	1.12	0.10	99.9	
#4	4.75	23.94	2.16	97.8	
#10	2.00	64.11	5.79	94.2	
#20	0.850	106.47	9.62	90.4	
#40	0.425	154.19	13.93	86.1	
#60	0.250	201.80	18.23	81.8	
#100	0.150	268.20	24.23	75.8	
#200	0.075	345.10	31.18	68.8	50 To 100
PAN					

000488

%FINER = 100 − Σ% RETAINED

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SHEET NO. 1 OF 2

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

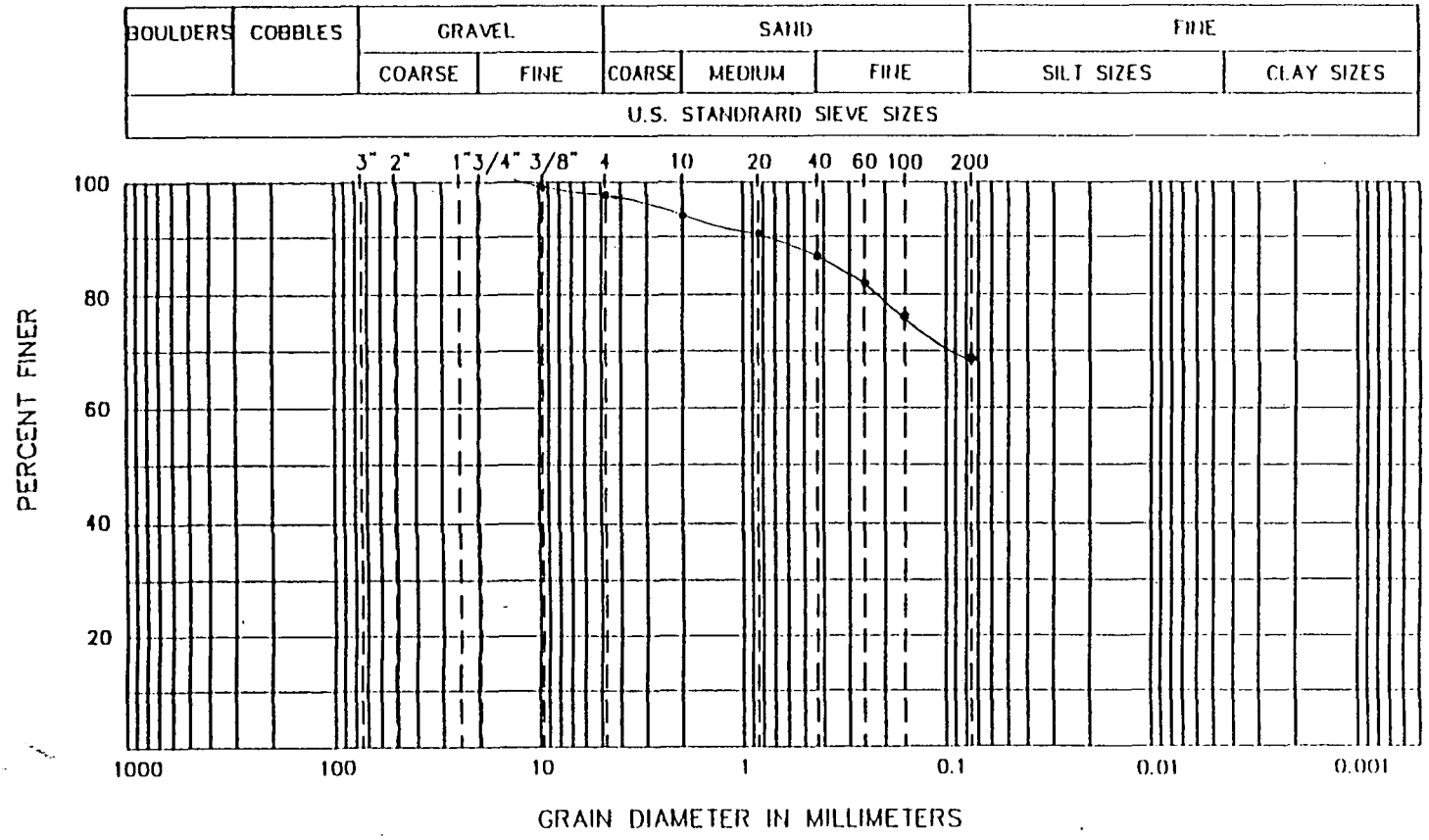
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 28 day April month 1999 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-14 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) Non

(PL) Plastic

(PI)

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	100
3/8-in.	99.9
NO. 4	97.8
NO. 10	94.2
NO. 20	90.4
NO. 40	86.1
NO. 60	81.8
NO. 100	75.8
NO. 200	68.8

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): ML - Sandy Silt

000489

2737

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 23 day April month 1999 year

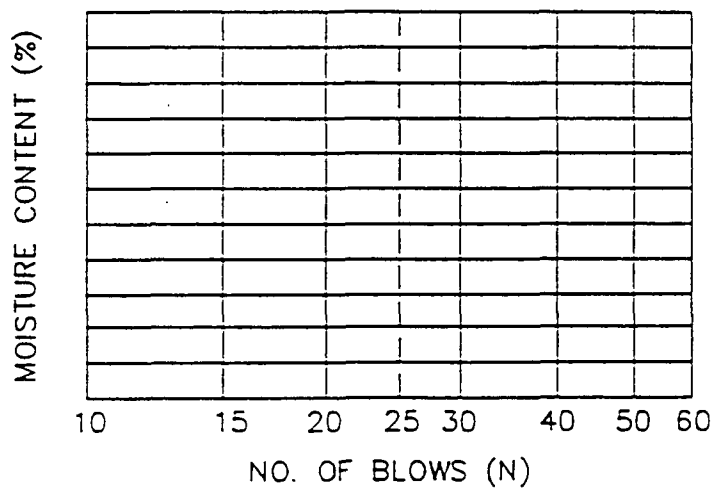
MATERIAL TYPE: L.P. Clay — SAMPLE NO.: LPIII 14

LIQUID LIMIT DETERMINATION

1-E Soaking — QA ID: DCE

	TARE NO. ~~on oven drying~~ (B)		4.2	4.3	3.8	
A	WT. OF TARE	(grams)	21.18	21.36	21.07	
B	WT. OF WET SOIL & TARE	(grams)	34.55	39.50	37.09	
C	WT. OF DRY SOIL & TARE	(grams)				
D	WT. OF WATER = B-C	(grams)				
E	WT. OF DRY SOIL = C-A	(grams)				
F	MOISTURE CONTENT = (D/E)X100	(%)				
N	NUMBER OF BLOWS		35	28	21	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DCE

	TARE NO.					
A	WT. OF TARE	(grams)				
B	WT. OF WET SOIL & TARE	(grams)				
C	WT. OF DRY SOIL & TARE	(grams)				
D	WT. OF WATER = B-C	(grams)				
E	WT. OF DRY SOIL = C-A	(grams)				
F	MOISTURE CONTENT = (D/E)X100	(%)				

NON PLASTIC

000490

LIQUID LIMIT (LL) = NP PLASTIC LIMIT (PL) = NP PLASTICITY INDEX (PI) = NP

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422) — 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO DLE — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 23 day April month 1998 year DLE

MATERIAL TYPE: LP. CLAY — SAMPLE NO.: LP III-15

SOIL SAMPLE SIZE +4 = — Total WT ___ LB ___ grams

-4 = — % +4 ___ %

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

-4	BEFORE WASH	AFTER WASH
TARE NO. [redacted]	IN OVEN K	K
WT. OF DRY SAMPLE PLUS TARE (grams)	1196.1	462.90
WT. OF TARE (grams)	101.6	101.59
WT. OF DRY SAMPLE (grams)	1094.5	~~295.31~~ 361.31 DLE

SIEVE ANALYSIS — QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100%	100
1 1/2"	37.5	0	0	100	
1"	25.0	0	0	100	
3/4"	19.0	10.70	1.0 ~~0.98~~	99.0	90-106
1/2"	12.5	42.86	3.92	96.1	
3/8"	9.5	57.39	5.24	94.8	
#4	4.75	90.81	8.30	91.7	
#10	2.00	139.34	12.73	87.3	
20	0.850	186.92	17.08	82.9	
40	0.425	230.21	21.03	79.0	
60	0.250	268.04	24.49	75.5	
100	0.150	311.72	28.48	71.5	
200	0.075	360.40	32.93	67.1	50-100
PAN	—				

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%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

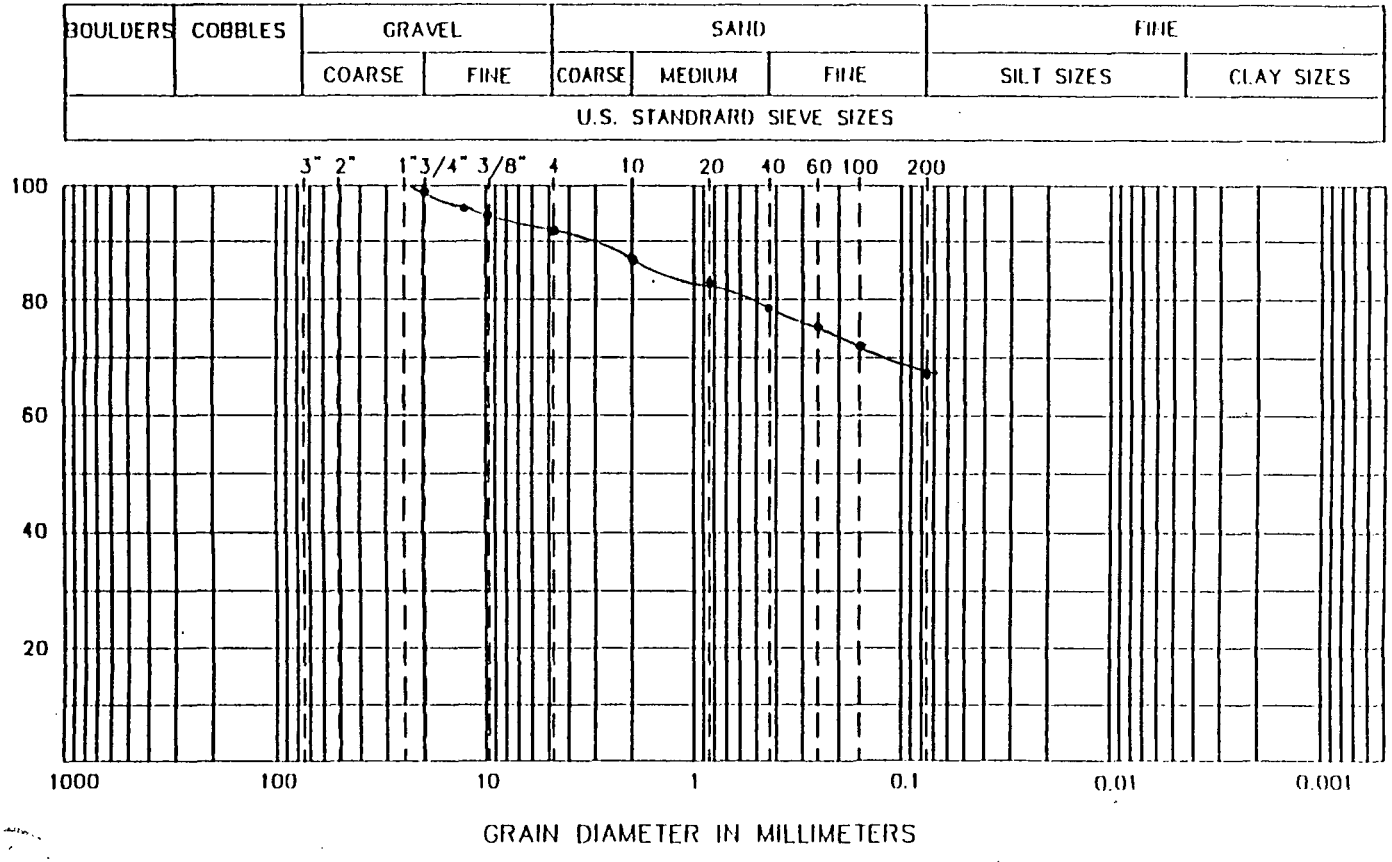
DESCRIPTION: Phase II

DATE: 28 day April month 1999 year

MATERIAL TYPE: Low Perm Clay

SAMPLE NO.: LPVII-15 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 29.1

(PL) 16.5

(PI) 13

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	99.0
1/2-in.	96.1
3/8-in.	94.8
NO. 4	91.7
NO. 10	87.3
NO. 20	82.9
NO. 40	79.0
NO. 60	75.5
NO. 100	71.5
NO. 200	67.1

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): Sandy Lean Clay - CL

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SHEET NO. 2 OF 2

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) 2737

LOCATION: FERNALD, OHIO DLE PROJECT NO: GQ0409 TASK NO.: 04.1

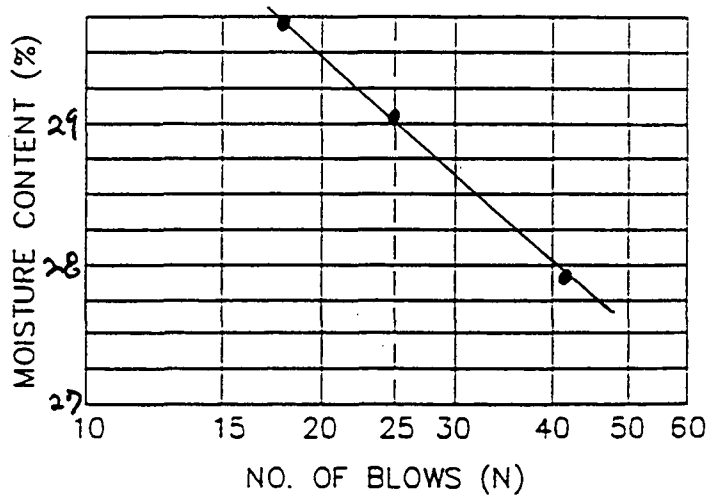
DESCRIPTION: Phase II DATE: 23 day April month 1999 year DLE

MATERIAL TYPE: LP. Clay SAMPLE NO.: LP III - 15

LIQUID LIMIT DETERMINATION (1-C - Soaking) QA ID: DLE

	TARE NO.		1.8	2.5	3.2	
A	WT. OF TARE	(grams)	28.79	28.43	27.82	
B	WT. OF WET SOIL & TARE	(grams)	41.49	45.21	41.33	
C	WT. OF DRY SOIL & TARE	(grams)	38.72	41.43	38.24	
D	WT. OF WATER = B-C	(grams)	2.77	3.78	3.09	
E	WT. OF DRY SOIL = C-A	(grams)	9.93	13.00	10.42	
F	MOISTURE CONTENT = (D/E)X100	(%)	27.9 DLE	29.1	29.7	
N	NUMBER OF BLOWS		41	25	18	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION QA ID: DLE

	TARE NO.		1.2	2.1		
A	WT. OF TARE	(grams)	28.50	28.24		
B	WT. OF WET SOIL & TARE	(grams)	39.89	39.43		
C	WT. OF DRY SOIL & TARE	(grams)	38.26	37.86		
D	WT. OF WATER = B-C	(grams)	1.63	1.57		
E	WT. OF DRY SOIL = C-A	(grams)	9.76 9.8	9.62		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.6 16.7	16.4 16.3		13

000493

LIQUID LIMIT (LL) = 29.1 PLASTIC LIMIT (PL) = 16.5 PLASTICITY INDEX (PI) = 12.6

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 22 day April month 1999 year

MATERIAL TYPE: LP CLAY SAMPLE NO.: LP III-16

SOIL SAMPLE SIZE +4 = Total WT ___ LB ___ grams

-4 = % +4 ___ %

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

-4	BEFORE WASH	AFTER WASH
TARE NO. in oven	K	K
WT. OF DRY SAMPLE PLUS TARE (grams)	728.0	138.42
WT. OF TARE (grams)	101.6	101.51
WT. OF DRY SAMPLE (grams)	626.4	36.91

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100	100
1 1/2"	37.5	0	0	100	
1"	25.0	0	0	100	
3/4"	19.0	0	0	100	90-106
1/2"	12.5	0	0	100	
3/8"	9.5	0	0	100	
#4	4.75	.22	0.035	99.965	
#10	2.00	3.75	0.60	99.4	
20	0.850	10.14	1.62	98.4	
40	0.425	14.93	2.38	97.6	
60	0.250	20.08	3.20	96.8	
100	0.150	27.88	4.45	95.5 ~~95.6~~	
200	0.075	36.80	5.87	94.1	50-100
PAN	—				

000494

%FINER = 100 − Σ% RETAINED

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

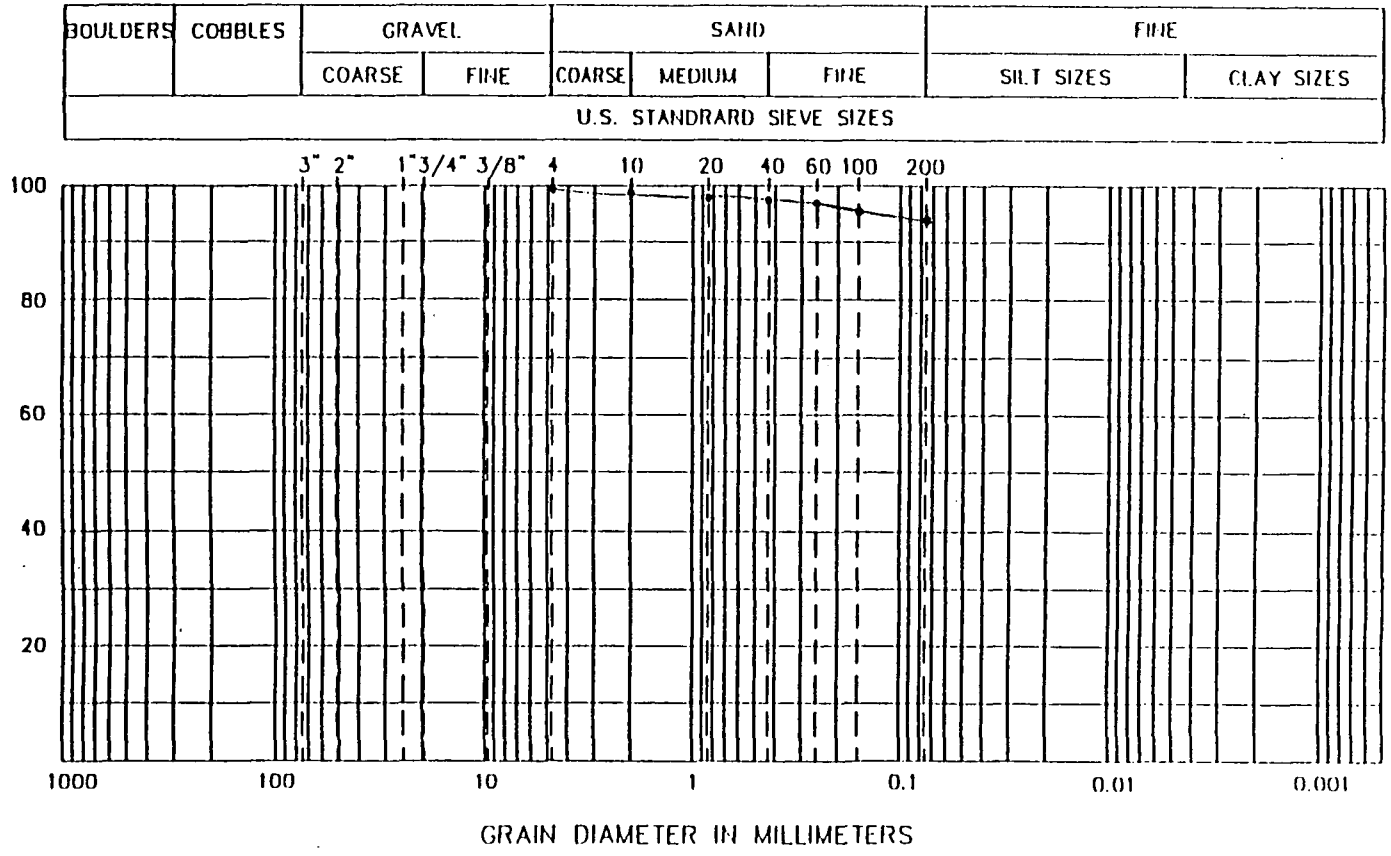
DESCRIPTION: Phase II

DATE: 28 day April month 1999 year

MATERIAL TYPE: Low Perm Clay

SAMPLE NO.: LP III-16 QA ID: CS

CURVE COEFFICIENTS: (C_U) ..... (C_C) .....



ATTERBERG LIMITS

(LL) 43.1

(PL) 21.2

(PI) 22

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	100
3/8-in.	100
NO. 4	99.965
NO. 10	99.4
NO. 20	98.4
NO. 40	97.6
NO. 60	96.8
NO. 100	95.5
NO. 200	94.1

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): CL - lean Clay

000495

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SHEET NO. 2 OF 2

-27.37

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GO0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 23 day April month 1999 year

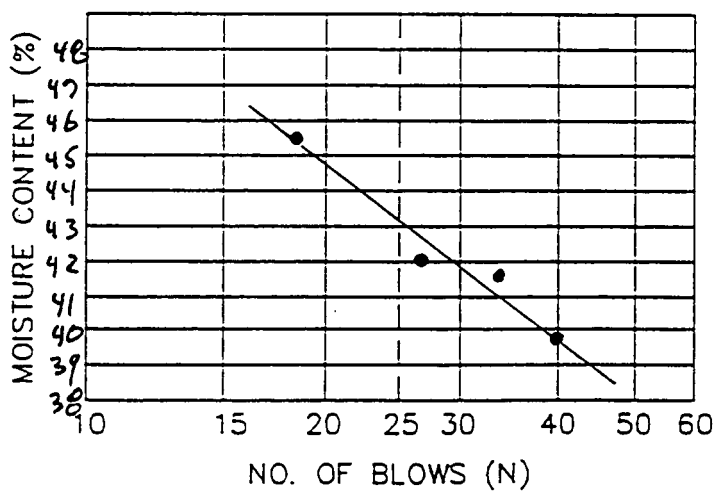
MATERIAL TYPE: L.P. CLAY — SAMPLE NO.: LP III-16

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.2	3.9	4.0	3.5
A	WT. OF TARE	(grams)	27.63	20.98	21.04	21.22
B	WT. OF WET SOIL & TARE	(grams)	42.99	35.12	35.78	33.81
C	WT. OF DRY SOIL & TARE	(grams)	38.62	30.96	31.42	29.84
D	WT. OF WATER = B-C	(grams)	4.37	4.16	4.36	3.94
E	WT. OF DRY SOIL = C-A	(grams)	10.99	9.98	10.38	8.65
F	MOISTURE CONTENT = (D/E)X100	(%)	39.8	41.7	42.0	45.5
N	NUMBER OF BLOWS		40	35	27	18

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		3.6	4.1		
A	WT. OF TARE	(grams)	21.44	21.08		
B	WT. OF WET SOIL & TARE	(grams)	30.28	31.54		
C	WT. OF DRY SOIL & TARE	(grams)	28.73	29.72		
D	WT. OF WATER = B-C	(grams)	1.55	1.82		
E	WT. OF DRY SOIL = C-A	(grams)	7.29	8.64		
F	MOISTURE CONTENT = (D/E)X100	(%)	21.3	21.1		22

000496

LIQUID LIMIT (LL) = 43.1 PLASTIC LIMIT (PL) = 21.2 PLASTICITY INDEX (PI) = 21.9

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422) 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO DLE PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 27 day April month 1998 DLE year

MATERIAL TYPE: L.P. Clay SAMPLE NO.: LP III-17

SOIL SAMPLE SIZE +4 = Total wt ___ LB ___ grams

-4 = % +4 ___ %

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

-4	BEFORE WASH	AFTER WASH
TARE NO. [illegible]	N	N
WT. OF DRY SAMPLE PLUS TARE (grams)	830.9	238.18
WT. OF TARE (grams)	101.8	101.71
WT. OF DRY SAMPLE (grams)	729.1	136.47

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0	100	100
1½"	37.5	0	0	100	
1"	25.0	0	0	100	
¾"	19.0	0	0	100	90-100
½"	12.5	6.23	.85	99.1 ~~99.2~~	
⅜"	9.5	13.26	1.82	98.2	
#4	4.75	23.44	3.21	96.8	
#10	2.00	31.94	4.38	95.6	
20	0.850	41.79	5.73	94.3	
40	0.425	57.84	7.93	92.1	
60	0.250	76.87	10.54	89.5	
100	0.150	104.67	14.36	85.6	
200	0.075	136.31	18.70	81.3	50-100
PAN	—				

000497

%FINER = 100 − Σ% RETAINED

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II

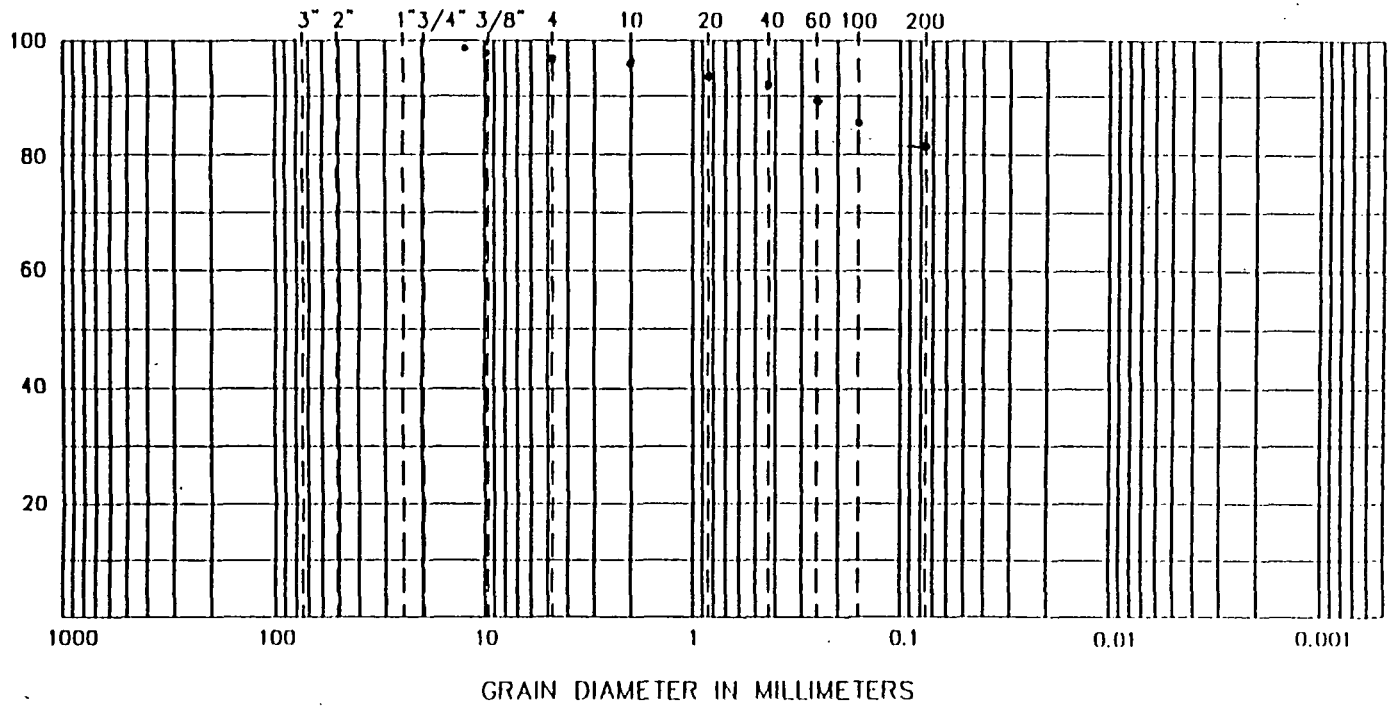
DATE: 28 day April month 1999 year

MATERIAL TYPE: Low Perm clay

SAMPLE NO.: LPIII-17 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....

BOULDERS	COBBLES	GRAVEL		SAND			FINE	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES
U.S. STANDRARD SIEVE SIZES								



ATTERBERG LIMITS

(LL) 36.5

(PL) 18.8

(PI) 18

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	99.1
3/8-in.	98.2
NO. 4	96.8
NO. 10	95.6
NO. 20	94.3
NO. 40	92.1
NO. 60	89.5
NO. 100	85.6
NO. 200	81.3

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): CL-lean clay with sand

000498

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SHEET NO. 2 OF 2

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 — TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II OSE — DATE: 22 day April month 1998 year

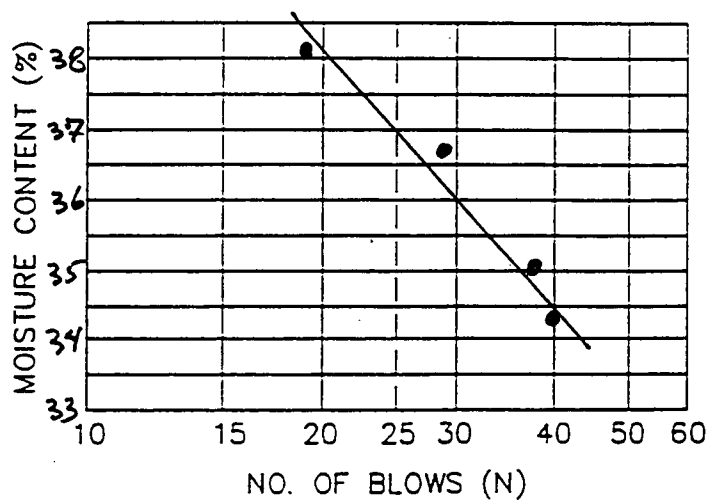
MATERIAL TYPE: low prem clay — SAMPLE NO.: LP III -17

LIQUID LIMIT DETERMINATION

~~Mixed in Container KH~~ — QA ID: DLE

	TARE NO.	(B) ~~on top of oven~~	1.5	1.6	2.7	1.4
A	WT. OF TARE	(grams)	28.61	28.86	28.68	28.50
B	WT. OF WET SOIL & TARE	(grams)	43.42	47.01	44.95	43.99
C	WT. OF DRY SOIL & TARE	(grams)	39.64	42.30	40.58	39.72
D	WT. OF WATER = B-C	(grams)	3.78	4.71	4.37	4.27
E	WT. OF DRY SOIL = C-A	(grams)	11.03	13.44	11.90	11.22
F	MOISTURE CONTENT = (D/E)X100	(%)	34.3	35.0	36.7	38.1
N	NUMBER OF BLOWS		40	37	29	19

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.9	1.9		
A	WT. OF TARE	(grams)	31.47	28.56		
B	WT. OF WET SOIL & TARE	(grams)	42.55	40.45		
C	WT. OF DRY SOIL & TARE	(grams)	40.82	38.55		
D	WT. OF WATER = B-C	(grams)	1.73	1.9		
E	WT. OF DRY SOIL = C-A	(grams)	9.35	9.99		
F	MOISTURE CONTENT = (D/E)X100	(%)	18.50	19.0		18

000499

LIQUID LIMIT (LL) = 36.5 PLASTIC LIMIT (PL) = 18.75 PLASTICITY INDEX (PI) = 17.8

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) ~~2737~~

LOCATION: FERNALD, OHIO (OSE) PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 27 day April month 1998 (OSE) year

MATERIAL TYPE: SAMPLE NO.: LP III - 1E

SOIL SAMPLE SIZE +4 = Total WT ___ LB ___ grams

-4 = % +4 ___ %

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

~~TARE A in oven~~	BEFORE WASH	AFTER WASH
TARE NO.	L-3	L-3
WT. OF DRY SAMPLE PLUS TARE (grams)	~~114.3~~ 852.2	189.91
WT. OF TARE (grams)	146.1	146.41
WT. OF DRY SAMPLE (grams)	706.1	43.50

SIEVE ANALYSIS QA ID: DLF

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0	0%	100	100
1 1/2"	37.5	0	0%	100	
1"	25.0	0	0%	100	
3/4"	19.0	0	0%	100	90-106
1/2"	12.5	0	0%	100	
3/8"	9.5	0	0%	100	
#4	4.75	0	0%	100	
#10	2.00	7.44	1.05	98.9 ~~99.0~~	
20	0.850	15.85	2.3 ~~2.24~~	97.7 ~~97.8~~	
40	0.425	22.15	3.14	96.9	
60	0.250	29.09	4.12	95.9	
100	0.150	35.21	4.99	95.0	
200	0.075	43.15	6.11	93.9	50-100
PAN	—				

000500

%FINER = 100 − Σ% RETAINED

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

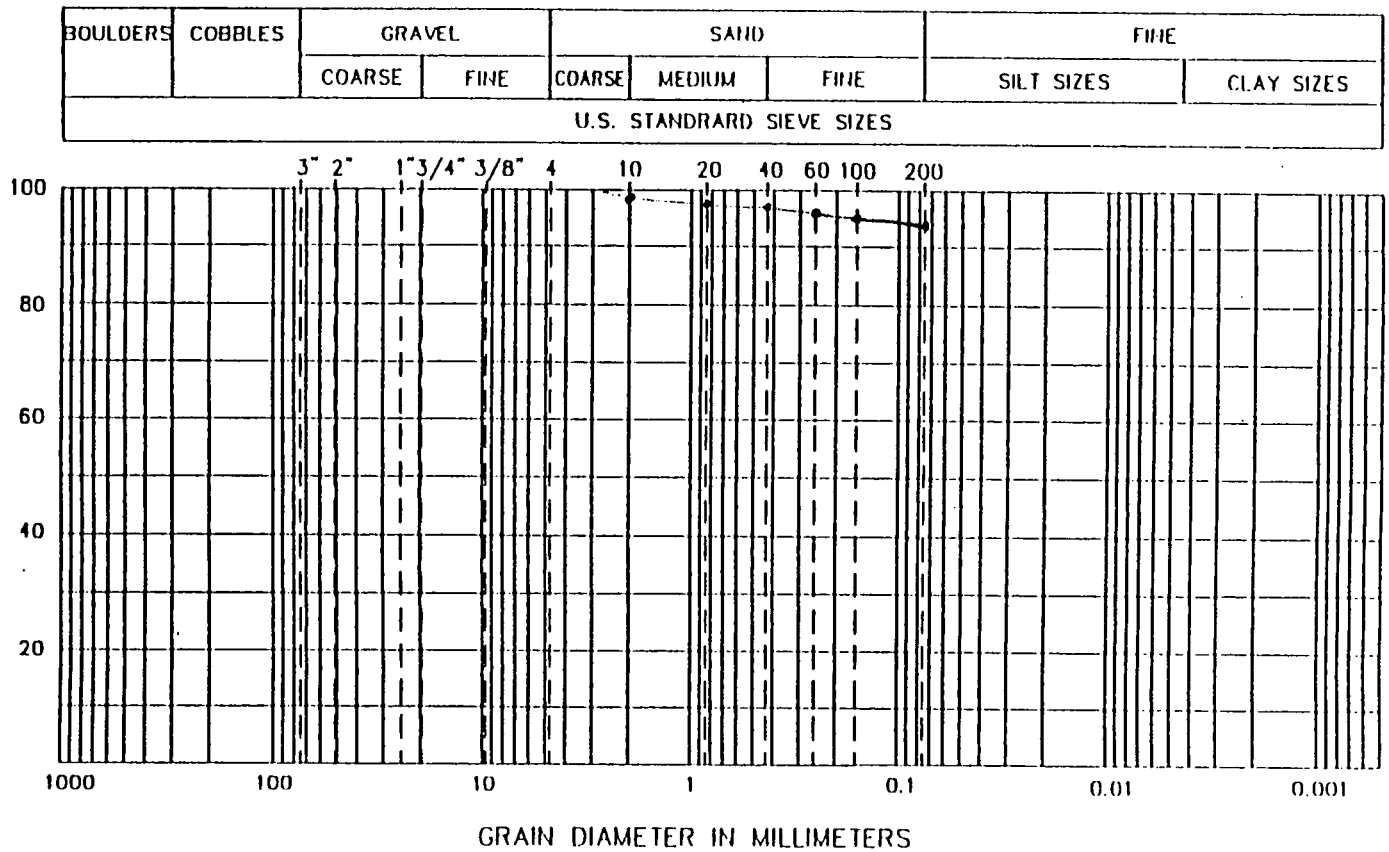
DESCRIPTION: Phase II

DATE: 28 day April month 1999 year

MATERIAL TYPE: Low Perm clay

SAMPLE NO.: LPIII-18 QA ID: CA

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 44.5

(PL) 20.4

(PI) 24

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	100
1/2-in.	100
3/8-in.	100
NO. 4	100
NO. 10	98.9
NO. 20	97.7
NO. 40	96.9
NO. 60	95.9
NO. 100	95.0
NO. 200	93.9

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	

SOIL CLASSIFICATION (ASTM D 2487): CL - lean Clay

103000

-27237

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SHEET NO. 2 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) 2737

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 22 day April month 1999 year

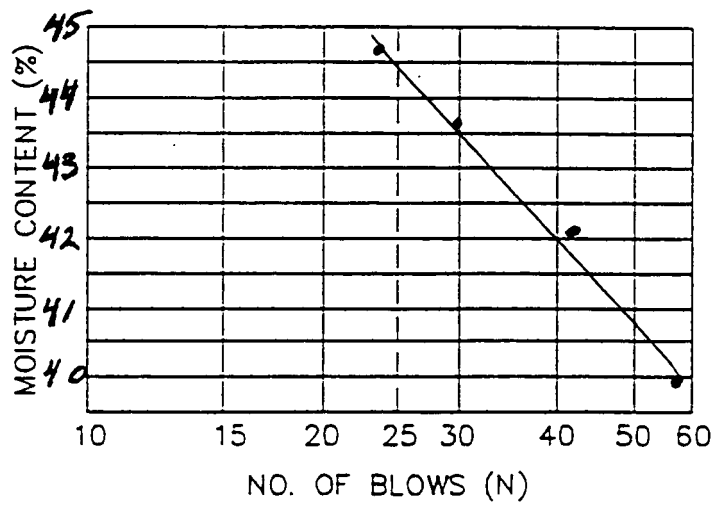
MATERIAL TYPE: SAMPLE NO.: LP III 18

LIQUID LIMIT DETERMINATION

Mixed in containers III QA ID: DLF

	TARE NO. (P) on top oven		2.5	1.3	3.2	2.6
A	WT. OF TARE	(grams)	28.42	28.63	27.83	28.55
B	WT. OF WET SOIL & TARE	(grams)	42.66	38.60	38.70	41.43
C	WT. OF DRY SOIL & TARE	(grams)	38.60	35.64	35.40	37.45
D	WT. OF WATER = B-C	(grams)	4.06	2.96	3.30	3.98
E	WT. OF DRY SOIL = C-A	(grams)	10.18	7.01	7.57	8.90
F	MOISTURE CONTENT = (D/E)X100	(%)	39.9	42.2	43.6	44.7
N	NUMBER OF BLOWS		58	43	30	23

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: _____

	TARE NO.		1.1	2.4		
A	WT. OF TARE	(grams)	28.80	27.36		
B	WT. OF WET SOIL & TARE	(grams)	35.70	34.26		
C	WT. OF DRY SOIL & TARE	(grams)	34.54	33.08		
D	WT. OF WATER = B-C	(grams)	1.16	1.18		
E	WT. OF DRY SOIL = C-A	(grams)	5.74	5.72		
F	MOISTURE CONTENT = (D/E)X100	(%)	20.21	20.63		

000502

LIQUID LIMIT (LL) = 44.5 PLASTIC LIMIT (PL) = 20.4 PLASTICITY INDEX (PI) = 24.1

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422) 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: ~~10~~ 01 day May month 1999 year

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-19

SOIL SAMPLE SIZE + 4 Stone Total weight 714.2	Total Sample 69.12 LB 31352.1 gm	
APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND 115	FINE GRAIN 65

Stone in Tare N		BEFORE WASH -4 stone	BEFORE WASH -4 Seive	AFTER WASH -4 stone	AFTER WASH -4 Seive
TARE NO.		N	K	N	K
WT. OF DRY SAMPLE PLUS TARE	(grams)	832.0	326.10	816.0	133.98
WT. OF TARE	(grams)	101.8	101.60	101.8	101.48
WT. OF DRY SAMPLE	(grams)	730.5	224.5	714.2	32.5

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	100		100
1½"	37.5	Ø	Ø	100		
1"	25.0	23.24	Ø.07	99.9		
¾"	19.0	129.81	Ø.41	99.6		90 to 100
½"	12.5	306.60	1.0 ~~Ø.98~~	99.Ø		
⅜"	9.5	446.00	1.42	98.6		
#4	4.75	714.20	2.28	97.7		
#10	2.00	3.36	1.50	98.5	96.2	
#20	0.850	7.44	3.31	96.7	94.5	
#40	0.425	12.39	5.52	94.5	92.3	
#60	0.250	17.51	7.80	92.2	90.1	
#100	0.150	24.39	10.86	89.1	87.1	
#200	0.075	32.48	14.47	85.53	83.6	50 to 100
PAN						

000503

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS (ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

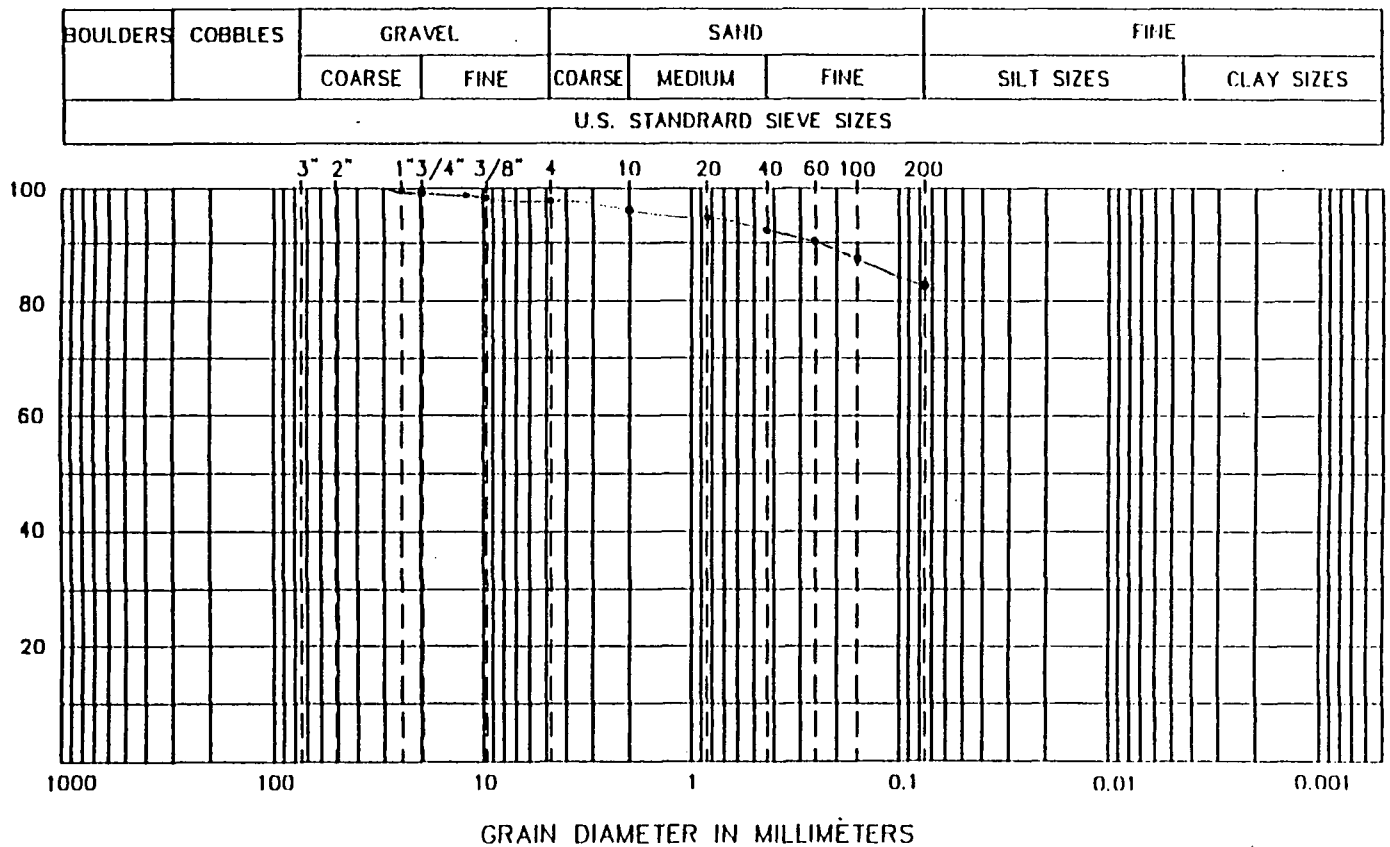
DESCRIPTION: Phase II

DATE: 5 day May month 1999 year

MATERIAL TYPE: Low perm clay

SAMPLE NO.: LP III-19 QA ID: CL

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 45

(PL) 21

(PI) 24

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	99.9
3/4-in.	99.6
1/2-in.	99.0
3/8-in.	98.6
NO. 4	97.7
NO. 10	96.2
NO. 20	94.5
NO. 40	92.3
NO. 60	90.1
NO. 100	87.1
NO. 200	83.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	79
0.02	65
0.005	40
0.002	33

SOIL CLASSIFICATION (ASTM D 2487): CL - Lean Clay

000504

E-2737

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GEO SYNTEC CONSULTANTS
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE

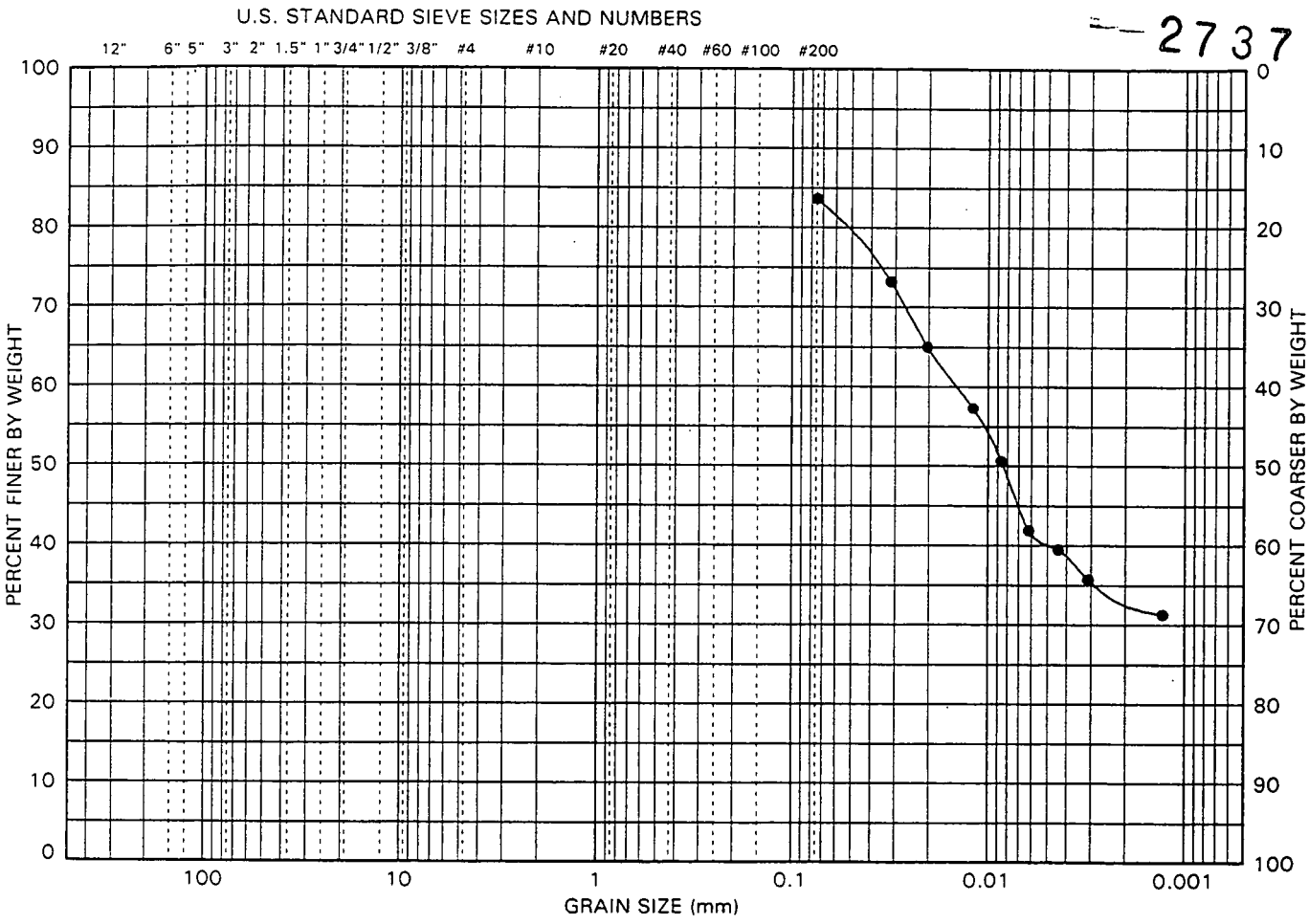
PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/10/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487
D 3042 AND D 4318

2737



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-19	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)	
LAB. SAMPLE NO.	99E02	PLASTIC LIMIT (%)		SAND (%)	
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)	83.6
SOIL CLASSIFICATION:				SILT (%)	50.1
				CLAY(%)	33.5
				COEFF. UNIFORMITY (Cu)	
				COEFF. CURVATURE (Cc)	

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													84	79	65	40	33	

NOTES:

000505

JSV 5-10-99

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) =2737

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 6 day MAY month 1999 year

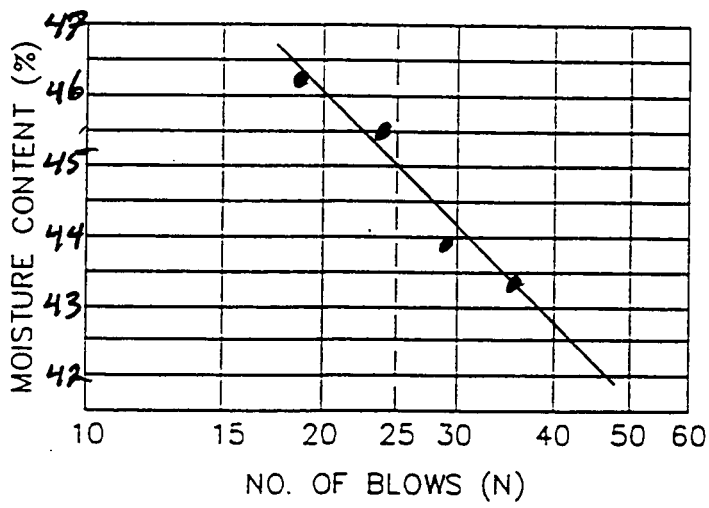
MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-19

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.6	1.3	3.2	1.1
A	WT. OF TARE	(grams)	28.56	28.64	27.83	28.78
B	WT. OF WET SOIL & TARE	(grams)	42.93	43.15	44.17	45.12
C	WT. OF DRY SOIL & TARE	(grams)	38.58	38.72	39.06	39.95
D	WT. OF WATER = B-C	(grams)	4.35	4.43	5.11	5.17
E	WT. OF DRY SOIL = C-A	(grams)	10.02	10.08	11.23	11.17
F	MOISTURE CONTENT = (D/E)X100	(%)	43.4	43.9	45.5	46.3
N	NUMBER OF BLOWS		37	28	24	18

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.2	1.9		
A	WT. OF TARE	(grams)	27.64	28.56		
B	WT. OF WET SOIL & TARE	(grams)	35.32	37.10		
C	WT. OF DRY SOIL & TARE	(grams)	33.97	35.62		
D	WT. OF WATER = B-C	(grams)	1.35	1.48		
E	WT. OF DRY SOIL = C-A	(grams)	6.33	7.06		
F	MOISTURE CONTENT = (D/E)X100	(%)	21.3	21.0		

000506

LIQUID LIMIT (LL) = 45 PLASTIC LIMIT (PL) = 21.2 PLASTICITY INDEX (PI) = 23.8

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

2737

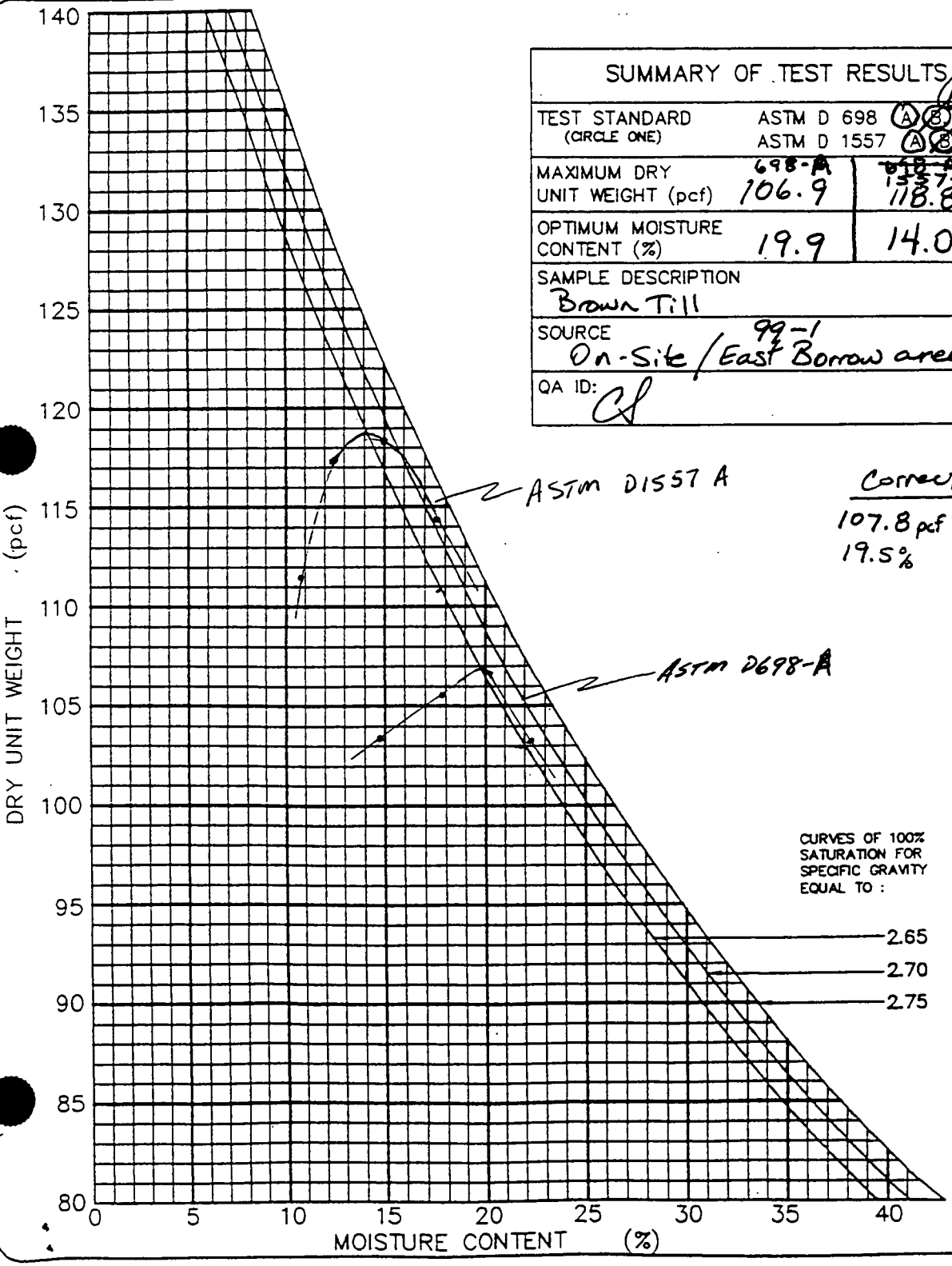
PROJECT: ON–SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II — DATE: 7 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LPIII-19

SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) (B) C ASTM D 1557 (A) (B) C	
MAXIMUM DRY UNIT WEIGHT (pcf)	698-A 106.9	~~698-A~~ 1557-A 118.8
OPTIMUM MOISTURE CONTENT (%)	19.9	14.0
SAMPLE DESCRIPTION	Brown Till	
SOURCE	99-1 On-Site / East Borrow area	
QA ID:	CS	



Corrected

107.8 pcf	118.8
19.5%	13.7%

000507

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD ~~A/B~~ METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II

DATE: 03 day May month 1998 year

MATERIAL TYPE: LP Clay

SAMPLE NO.: LP II-19

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	10%	12%	16%	14%	
A	WT. OF SOIL & MOLD	(grams)	13.2 6005.66	13.44 6096.38	13.49 6119.06	13.56 6150.8	
B	WT. OF MOLD	(grams)	4209.40	4209.40	4209.40	4209.4	
C	WT. OF SOIL = A - B	(grams)	1796.26	1886.98	1909.66	1941.4	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	118.6	124.5	126.03	128.1	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	103.3	105.6	103.1	106.7	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE

	TARE NO.		4	2	24	6	
F	WT. OF TARE	(grams)	8.34	8.14	8.40	7.7	
G	WT. OF WET SOIL & TARE	(grams)	325.27	304.72	409.80	405.7	
H	WT. OF DRY SOIL & TARE	(grams)	284.42	259.68	337.04	339.1	
I	WT. OF WATER = G - H	(grams)	40.9	45.0	72.8	66.6	
J	WT. DRY SOIL = H - F	(grams)	276.1	251.6	328.6	331.4	
K	MOISTURE CONTENT = (I/J) X 100	(%)	14.8	17.9	22.2	20.1	

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GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC CHECKED BY: CL SHEET NO. 1 OF 2

GeoSyntec Consultants

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 1557 METHOD ~~B~~ A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 5 day May month 1999 year

MATERIAL TYPE: L. P. Clay — SAMPLE NO.: LP III-19

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 4-in. (4.75-mm) SIEVE IS GREATER THAN 20%, AND THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 10-lb RAMMER / 18-in. DROP / 5 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLF

						Dried Back	
	WATER ADDED	(ml)	10%	12%	8%	10%	
A	WT. OF SOIL & MOLD	(grams)	13.83 6273.3	13.77 6246.1	13.69 6209.8	13.41 ~~6100.92~~ 6082.8	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A − B	(grams)	2063.9	2036.7	2000.4	~~1891.52~~ 1873.4	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	136.2	134.4	132.0	~~124.8~~	123.6
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	118.4	114.4	117.3	~~112.5~~	111.5

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT – ASTM D 2216

QA ID: DLF

	TARE NO.		2	6	29	13	
F	WT. OF TARE	(grams)	8.2	7.6	8.25	8.28	
G	WT. OF WET SOIL & TARE	(grams)	287.30	439.60	246.91	367.86	
H	WT. OF DRY SOIL & TARE	(grams)	250.86	375.11	220.34	332.57	
I	WT. OF WATER = G − H	(grams)	36.44	64.49	26.57	35.29	
J	WT. DRY SOIL = H − F	(grams)	242.66	367.51	212.09	324.29	
K	MOISTURE CONTENT = (I/J) X 100	(%)	15.0	17.5	12.5	10.9	

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 7 day May month 1999 year

MATERIAL TYPE: Low perm clay — SAMPLE NO.: LP III-19

Weight of Total Sample	=	31352.1 g
Weight of Oversize Fraction	=	714.2
Weight of Finer Fraction (-4)	=	30637.9
Percentage of Oversize Fraction	= (P_C)	2.3 %
Percentage of Finer Fraction (-4)	= (P_F)	97.7%
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.199
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	106.9 (D698A)
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (0.199)(97.7) + (0.015)(2.3)$$

$$C_W = 19.5$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(106.9)(2.72)(62.4) \Big/ [(106.9)(2.3) + (2.72)(62.4)(97.7)]$$

$$C_{\delta D} = 1814392.3 / 16828.3$$

$$C_{\delta D} = 107.8$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

- 2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 10 day MAY month 1999 year

MATERIAL TYPE: LOW PERM CLAY — SAMPLE NO.: LP III-19

Weight of Total Sample	=	31352.1
Weight of Oversize Fraction	=	714.1
Weight of Finer Fraction (-4)	=	30637.9
Percentage of Oversize Fraction	= (P_C)	2.3%
Percentage of Finer Fraction (-4)	= (P_F)	97.7%
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	14.0	
(W_C)	=	Water Content +4, as decimal	=	0.015	
(δ_F)	=	Dry Density of finer fraction	=	118.8	(D1557 A)
(δ_W)	=	Unit Weight of Water	=	62.4	

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_w = (0.14)(97.7) + (0.015)(2.3)$$

$$C_w = 13.7\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(118.8)(2.72)(62.4) / [(118.8)(2.3) + (2.72)(62.4)(97.7)]$$

$$C_{\delta D} = 2016368.6 / 16855.7$$

$$C_{\delta D} = 119.6 \text{ pcf}$$

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FLEXIBLE WALL PERMEABILITY TEST [1]

ASTM D5084

Project Name:	FERNALD OSDF-OPTION YEAR 1
Project Number:	GQ0409-04.1
Client Project Number:	N/A
Client/Site ID:	LP III-19
Sample Number:	99E02
Material Type:	Soil
Expected/Specified Value:	1.0E-7 cm/s

Specimen	Test Specimen Initial Conditions					Test Conditions					Hydraulic
No.	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (%)	Back Press. (psi)	Cell Press. (psi)	Consolid. Press. (psi)	Permeant Liquid [3] (-)	Average Gradient (-)	Conductivity (cm/s)
1	R	6.7	7.2	105.1	21.1	66.3	61.3	5.0	DTW	13.8	7.3E-9

Notes:

1. Method B, "Falling-Head, Constant-Tailwater" test procedures were followed during the testing.
2. Specimen preparation: ST = Shelby Tube, R = Remolded, B = Block Sample.
3. Type of permeant liquid: DTW = Deaired Tap Water, DDI = Deaired Deionized Water

Deviations:

Test Conditions: Laboratory Temperature at 21±3 °C, Laboratory Humidity at 50±10 %

Test specimen final conditions are not presented.

000512

Tested/Checked by: RT Date: 5-13-99 Approved by: BGS Date: 5-13-99

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) — 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II DATE: 5 day MAY month 1998 year DLE

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-20

SOIL SAMPLE SIZE +4 = Total wt 63.73 LB ~~28908.644~~ ~~grams~~ DLE

−4 = % +4 —— % 28908.644 grams

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

DLE	+4 Stone BEFORE WASH		+4 Stone in over AFTER WASH	in over −4 Seive
TARE NO.	K	L-4	K	L-4
WT. OF DRY SAMPLE PLUS TARE (grams)	1560.384	625.6	1505.64	255.87
WT. OF TARE (grams)	101.54	146.6	101.54	146.60
WT. OF DRY SAMPLE (grams)	1458.84	479.0	1404.10	109.27

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0	100		100
1½"	37.5	0	0	100		~~100~~
1"	25.0	166.81	.58 ~~4.86~~ DLE	99.4		~~100~~
¾"	19.0	328.10	1.13	98.9		90-100
½"	12.5	604.20	2.1	97.9		
⅜"	9.5	848.90	2.94	97.1		
#4	4.75	1404.10	4.86	95.1		
#10	2.00	13.98	2.92	97.1	92.3	
20	0.850	32.85	6.86	93.1	~~88.5~~ 88.6	
40	0.425	50.59	10.56	89.4	~~85.0~~ 85.1	
60	0.250	66.02	13.78	86.2	82.0	
100	0.150	86.19	17.99	82.0	78.0	
200	0.075	109.19	22.80	77.2	73.4	50-100
PAN	—					

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%FINER = 100 − Σ% RETAINED

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

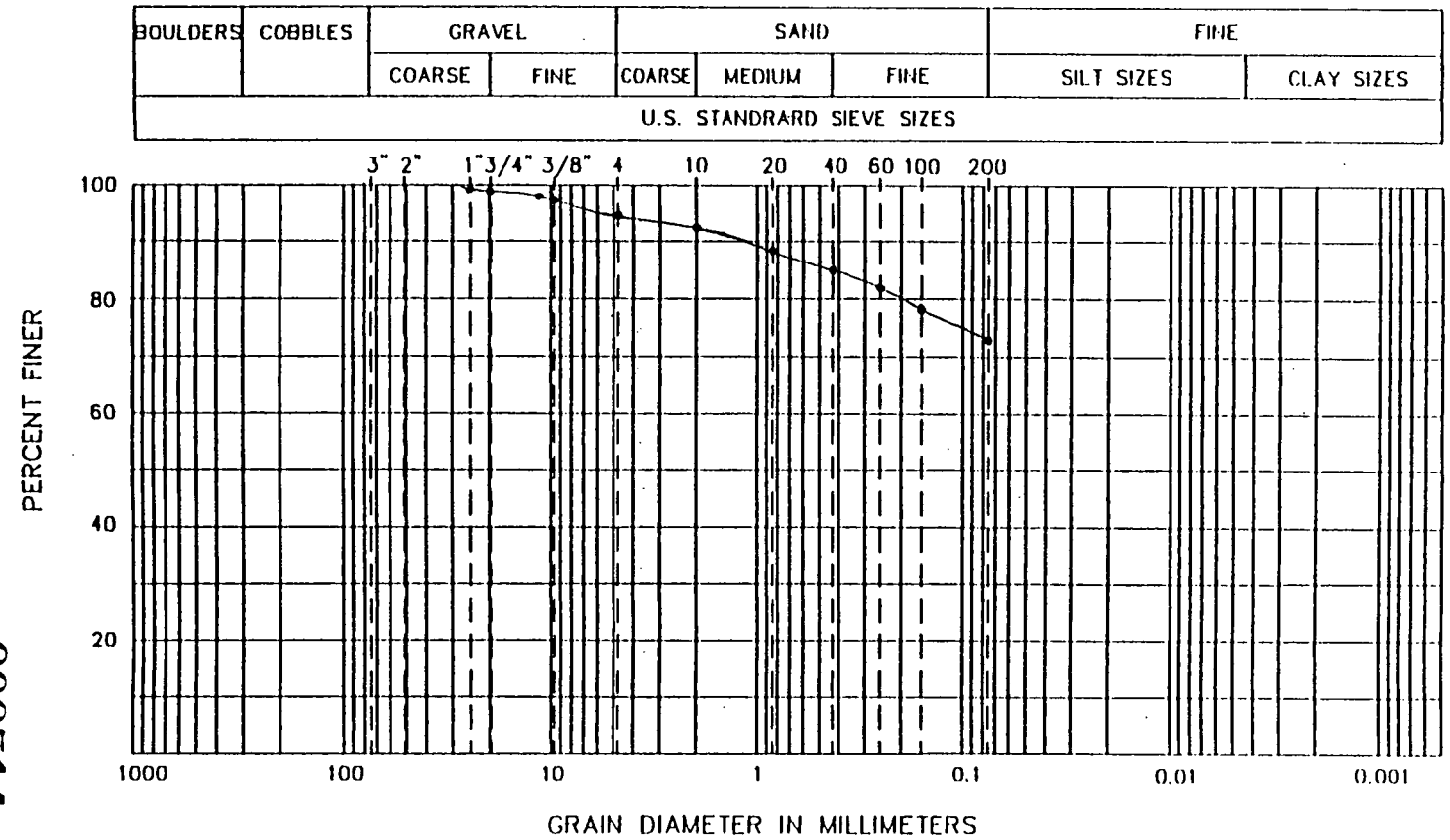
DESCRIPTION: Phase II

DATE: 8 day May month 1999 year

MATERIAL TYPE: LP Clay

SAMPLE NO.: LP III-20 QA ID: CA

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 34

(PL) 17

(PI) 17

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	99.4
3/4-in.	98.9
1/2-in.	97.9
3/8-in.	97.1
NO. 4	95.1
NO. 10	92.3
NO. 20	88.6
NO. 40	85.1
NO. 60	82.0
NO. 100	78.0
NO. 200	73.4

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	69
0.02	38
0.005	33
0.002	26

SOIL CLASSIFICATION (ASTM D 2487): Lean Clay w/Sand (CL

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SHEET NO. 2 OF 2

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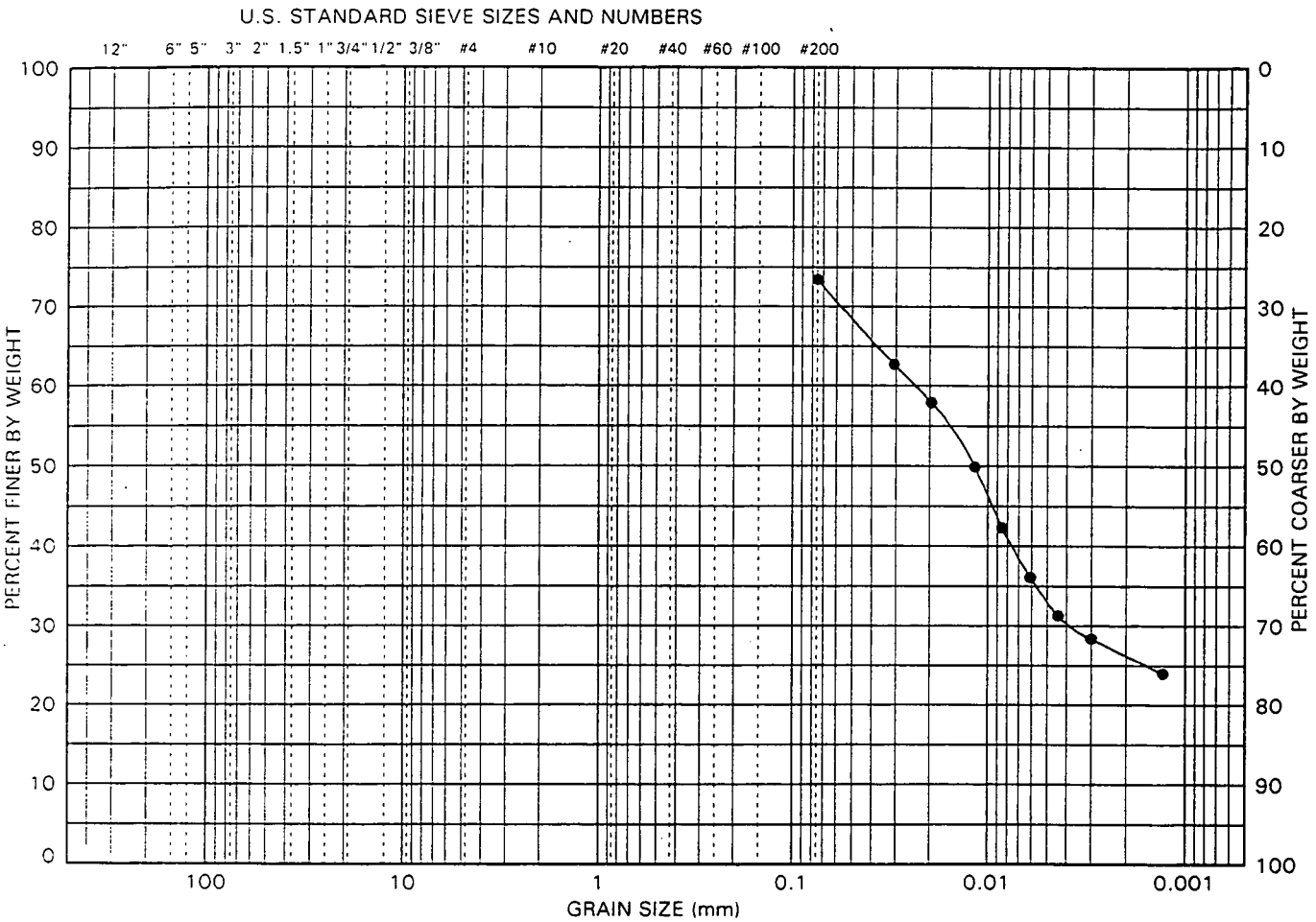
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE– 2737
PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/15/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



SITE SAMPLE ID LP-III-20	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO. 99E56	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%) 73.4
SOIL CLASSIFICATION:			SILT (%) 47.1
			CLAY(%) 26.3
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													73	69	58	33	26	

NOTES:

000515

JD 5/17/99

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) 2737

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 7 day May month 1999 year

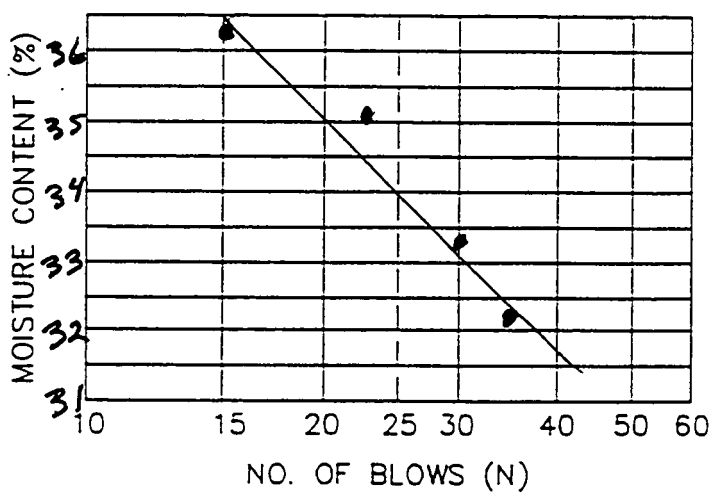
MATERIAL TYPE: L. P. CLAY SAMPLE NO.: LP III 20

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.1	2.2	3.2	1.3
A	WT. OF TARE	(grams)	28.78	27.62	27.83	28.64
B	WT. OF WET SOIL & TARE	(grams)	41.64	39.26	40.22	43.93
C	WT. OF DRY SOIL & TARE	(grams)	38.50	36.35	36.99	39.86
D	WT. OF WATER = B-C	(grams)	3.14	2.91	3.23	4.07
E	WT. OF DRY SOIL = C-A	(grams)	9.72	8.73	9.16 ~~9.2~~	11.22
F	MOISTURE CONTENT = (D/E)X100	(%)	32.3	33.3	35.3 ~~35.1~~	36.3
N	NUMBER OF BLOWS		36	30	23	15

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.2	2.6		
A	WT. OF TARE	(grams)	28.49	28.55		
B	WT. OF WET SOIL & TARE	(grams)	39.90	39.81		
C	WT. OF DRY SOIL & TARE	(grams)	38.20	38.17		
D	WT. OF WATER = B-C	(grams)	1.70	1.64		
E	WT. OF DRY SOIL = C-A	(grams)	9.71	9.62		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.5	17.0		

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LIQUID LIMIT (LL) = 34 PLASTIC LIMIT (PL) = 17.3 PLASTICITY INDEX (PI) = 16.7

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

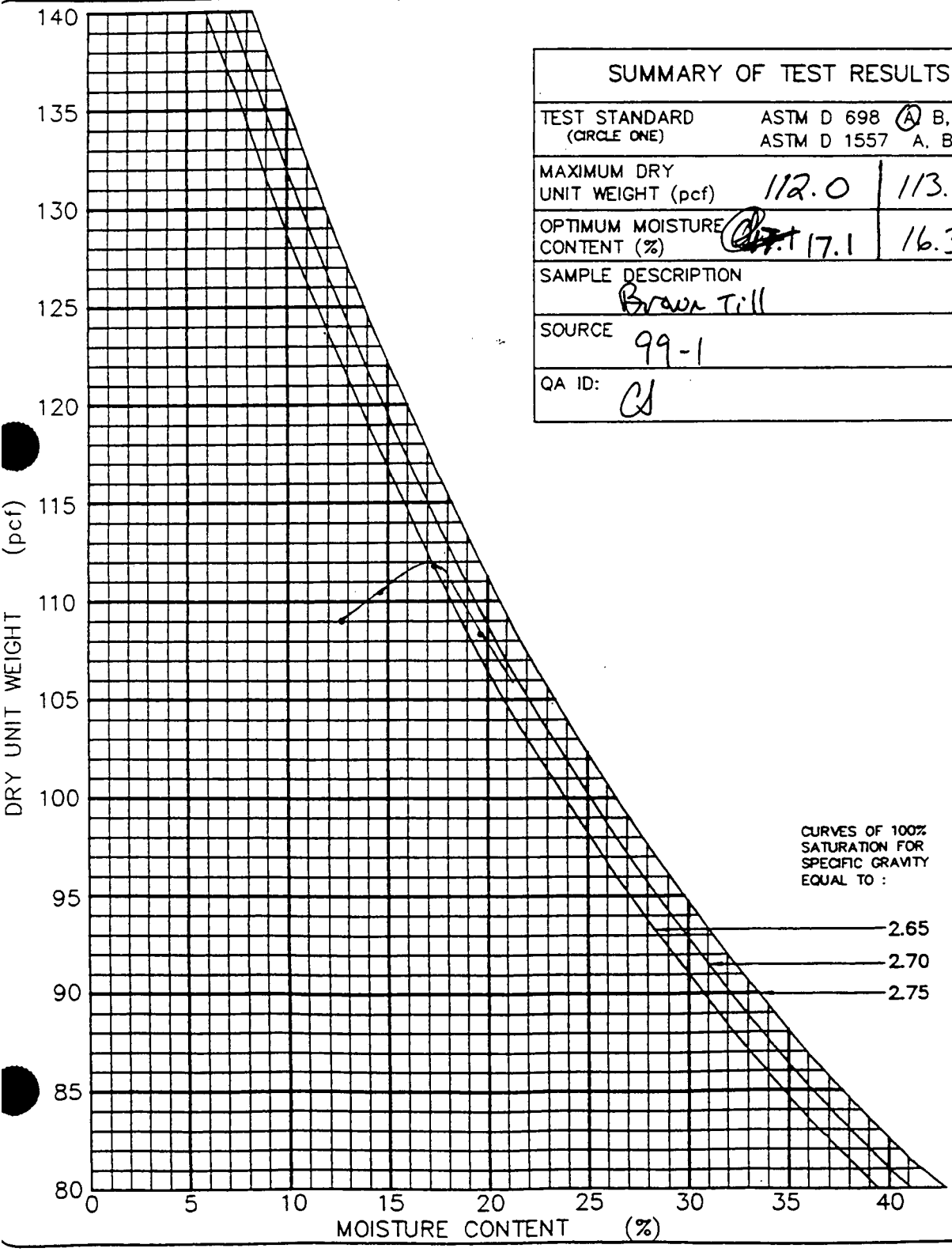
2737

PROJECT: ON–SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04·1

DESCRIPTION: Phase II — DATE: ~~02~~ 1 day July month 1999 year

MATERIAL TYPE: Low perm clay — SAMPLE NO.: LP III-20



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B, C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	112.0	113.9
OPTIMUM MOISTURE CONTENT (%)	~~17.1~~ 17.1	16.3
SAMPLE DESCRIPTION	Brown Till	
SOURCE	99-1	
QA ID:	CJ	

000517

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO DLE

PROJECT NO.: GQ0409 TASK NO.: 04

DESCRIPTION: Phase ~~one~~ II

DATE: 5 day May month 1998 year

MATERIAL TYPE: L.P. Clay

SAMPLE NO.: LP III-20

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.38 6%	13.51 8%	13.66 10%	13.61 12%	
A	WT. OF SOIL & MOLD	(grams)	6069.2	6128.1	6196.2	6173.5	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1859.8	1918.7	1986.8	1964.1	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	122.7	126.6	131.1	129.6	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	109.0	110.3	111.9	108.4	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE

	TARE NO.		9	20	13	7	
F	WT. OF TARE	(grams)	7.25	8.35	8.26	7.33	
G	WT. OF WET SOIL & TARE	(grams)	452.9	407.60	369.60	422.7	
H	WT. OF DRY SOIL & TARE	(grams)	403.1	356.12	316.51	354.6	
I	WT. OF WATER = G - H	(grams)	49.8	51.5	53.1	68.1	
J	WT. DRY SOIL = H - F	(grams)	395.8 ~~395.9~~	347.7 ~~347.8~~	308.2 ~~308.3~~	347.3	
K	MOISTURE CONTENT = (I/J) X 100	(%)	12.6	14.8	17.2	19.6	

GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC CHECKED BY: Q SHEET NO. 1 OF 2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES (ASTM D 4718)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 10 day MAY month 1999 year

MATERIAL TYPE: Low perm clay — SAMPLE NO.: LPIII-20

Weight of Total Sample	=	28908.6 g
Weight of Oversize Fraction	=	~~1458.8~~ 1404.1
Weight of Finer Fraction (-4)	=	~~27449.8~~ 27504.5
Percentage of Oversize Fraction	= (P_C)	4.9
Percentage of Finer Fraction (-4)	= (P_F)	95.1
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	~~0.170~~ 0.171
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	~~113.0~~ 112.0
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (\cancel{0.170}\ 0.171)(95.1) + (0.015)(4.9)$$

$$C_W = \cancel{16.2}\ 16.3$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(\cancel{113}\ 112.0)(2.72)(62.4) \Big/ \left[(\cancel{113.0}\ 112.0)(4.9) + (2.72)(62.4)(95.1)\right]$$

$$C_{\delta D} = \cancel{114.9}\ 113.9$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1 - 2737

DESCRIPTION: Phase II — DATE: 8 day May month 1999 year

MATERIAL TYPE: L.P. Clay — SAMPLE NO.: LP III 21

SOIL SAMPLE SIZE — Total Sample 38456.82 — % of +4 Stone 3.5

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		+4 stone BEFORE WASH		AFTER WASH	
TARE NO.		K	N	K	N
WT. OF DRY SAMPLE PLUS TARE	(grams)	1715.12	853.00	1465.44	266.32
WT. OF TARE	(grams)	101.60	101.75	101.60	101.65
WT. OF DRY SAMPLE	(grams)	1613.52	751.25	1363.84	164.67

SIEVE ANALYSIS — QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0	100		100
1½"	37.5	0	0	100		
1"	25.0	56.5	0.1	99.9		
¾"	19.0	185.7	0.5	99.5		90 to 100
½"	12.5	472.4	1.2	98.8		
⅜"	9.5	692.7	1.8	98.2		
#4	4.75	1359.4	3.5	96.5		
#10	2.00	20.24	2.7	97.3	93.9	
#20	0.850	45.21	6.0	94.0	90.7	
#40	0.425	71.60	9.5	90.5	87.3	
#60	0.250	95.53	12.7	87.3	84.2	
#100	0.150	126.89	17.3	82.7	79.8	
#200	0.075	164.58	21.9	78.1	75.4	50 to 100
PAN						

000520

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

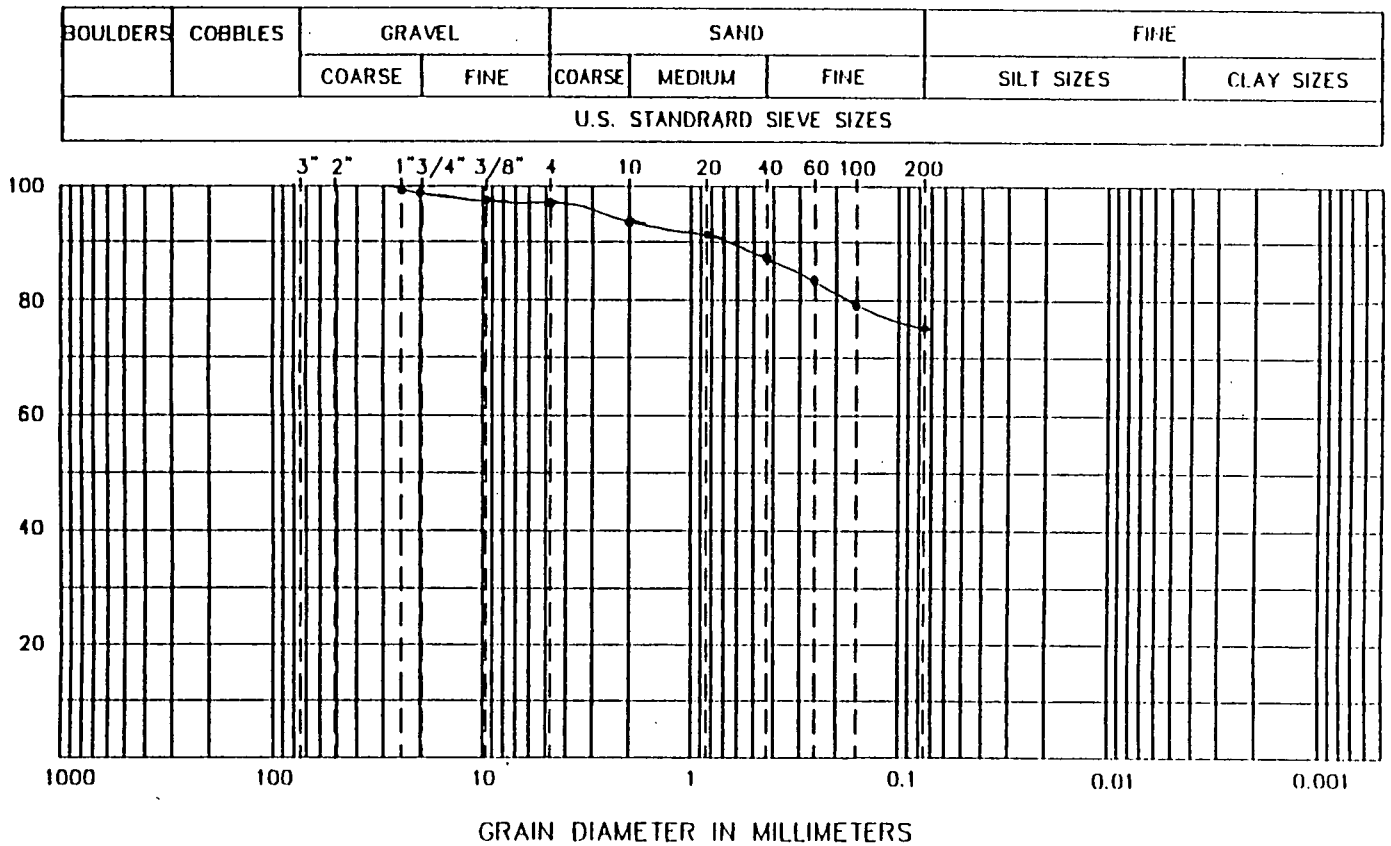
DESCRIPTION: Phase II

DATE: 8 day May month 1999 year

MATERIAL TYPE: L.P. Clay

SAMPLE NO.: LPIII-21 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 34

(PL) 16

(PI) 18

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	99.9
3/4-in.	99.5
1/2-in.	98.8
3/8-in.	98.2
NO. 4	96.5
NO. 10	93.9
NO. 20	90.7
NO. 40	87.3
NO. 60	84.2
NO. 100	79.8
NO. 200	75.4

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	72
0.02	62
0.005	35
0.002	27

SOIL CLASSIFICATION (ASTM D 2487): CL lean clay w/sand

000521

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SHEET NO. 2 OF 2

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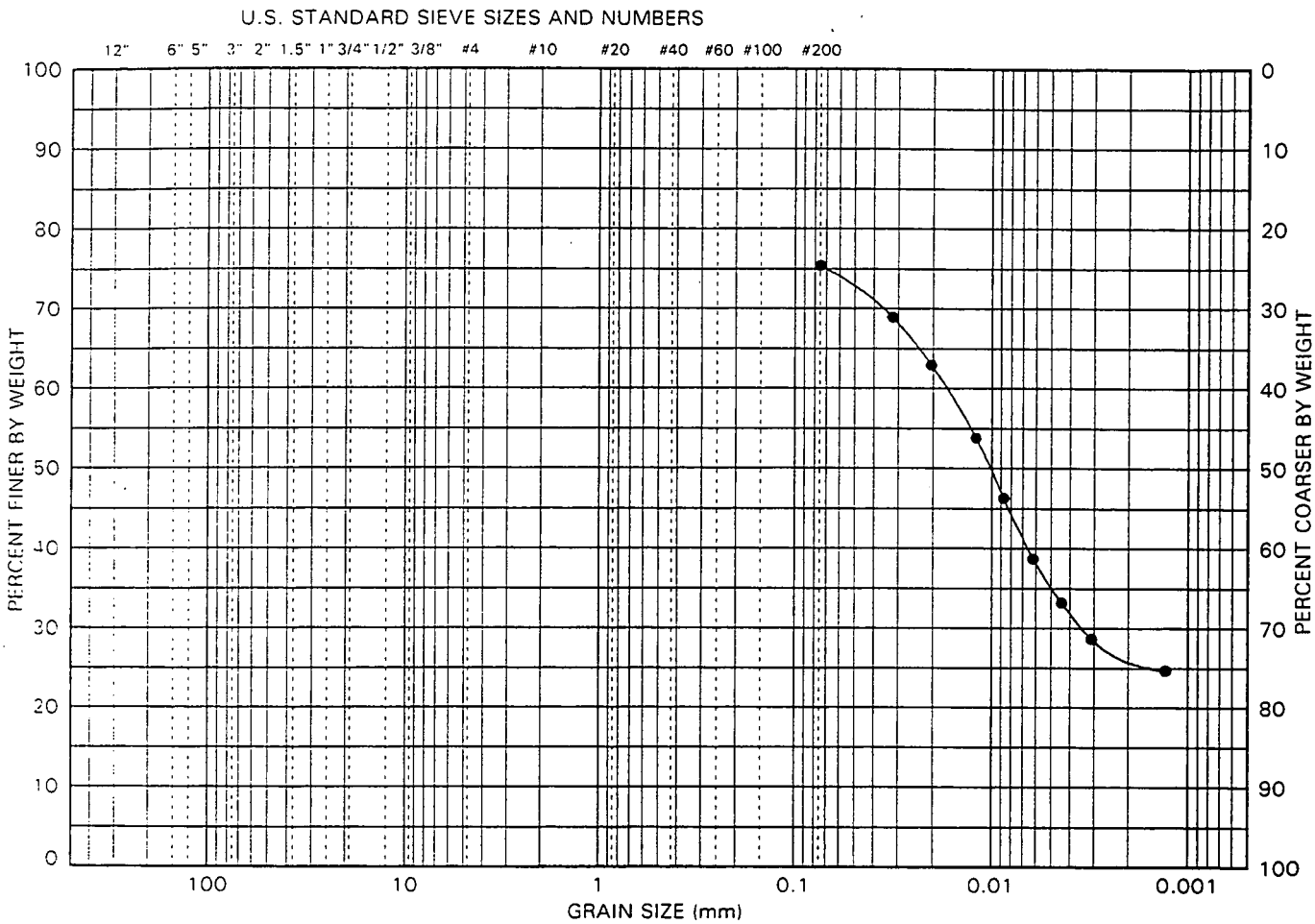
FIGURE 2737

PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/17/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



SITE SAMPLE ID LP-III-21	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO. 99E57	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%) 75.4
SOIL CLASSIFICATION:			SILT (%) 48.7
			CLAY(%) 26.7
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													75	72	62	35	27	

NOTES:

000522

SD 5,17,99

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 6 day MAY month 1999 year

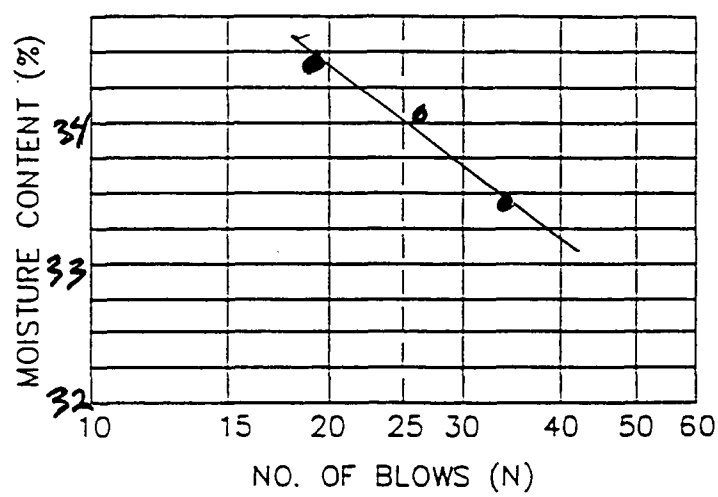
MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-21

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.4	2.3	3.1	
A	WT. OF TARE	(grams)	28.54	31.20	28.38	
B	WT. OF WET SOIL & TARE	(grams)	42.28	48.95	45.87	
C	WT. OF DRY SOIL & TARE	(grams)	39.22	44.39	41.41	
D	WT. OF WATER = B-C	(grams)	3.56	4.56	4.46	
E	WT. OF DRY SOIL = C-A	(grams)	~~10.7~~ 10.68	@ ~~13.2~~ 13.19	@ ~~13.0~~ 13.03	
F	MOISTURE CONTENT = (D/E)X100	(%)	33.3	34.6	~~34.3~~ 34.2	
N	NUMBER OF BLOWS		34	19	28	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2-8	1.4		
A	WT. OF TARE	(grams)	28.46	28.51		
B	WT. OF WET SOIL & TARE	(grams)	37.92	37.08		
C	WT. OF DRY SOIL & TARE	(grams)	36.57	35.87		
D	WT. OF WATER = B-C	(grams)	1.35	1.21		
E	WT. OF DRY SOIL = C-A	(grams)	8.11	7.36 ~~7.4~~		000523
F	MOISTURE CONTENT = (D/E)X100	(%)	16.6	16.4		

LIQUID LIMIT (LL) = 34 PLASTIC LIMIT (PL) = 16.5 PLASTICITY INDEX (PI) = 17.5

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FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

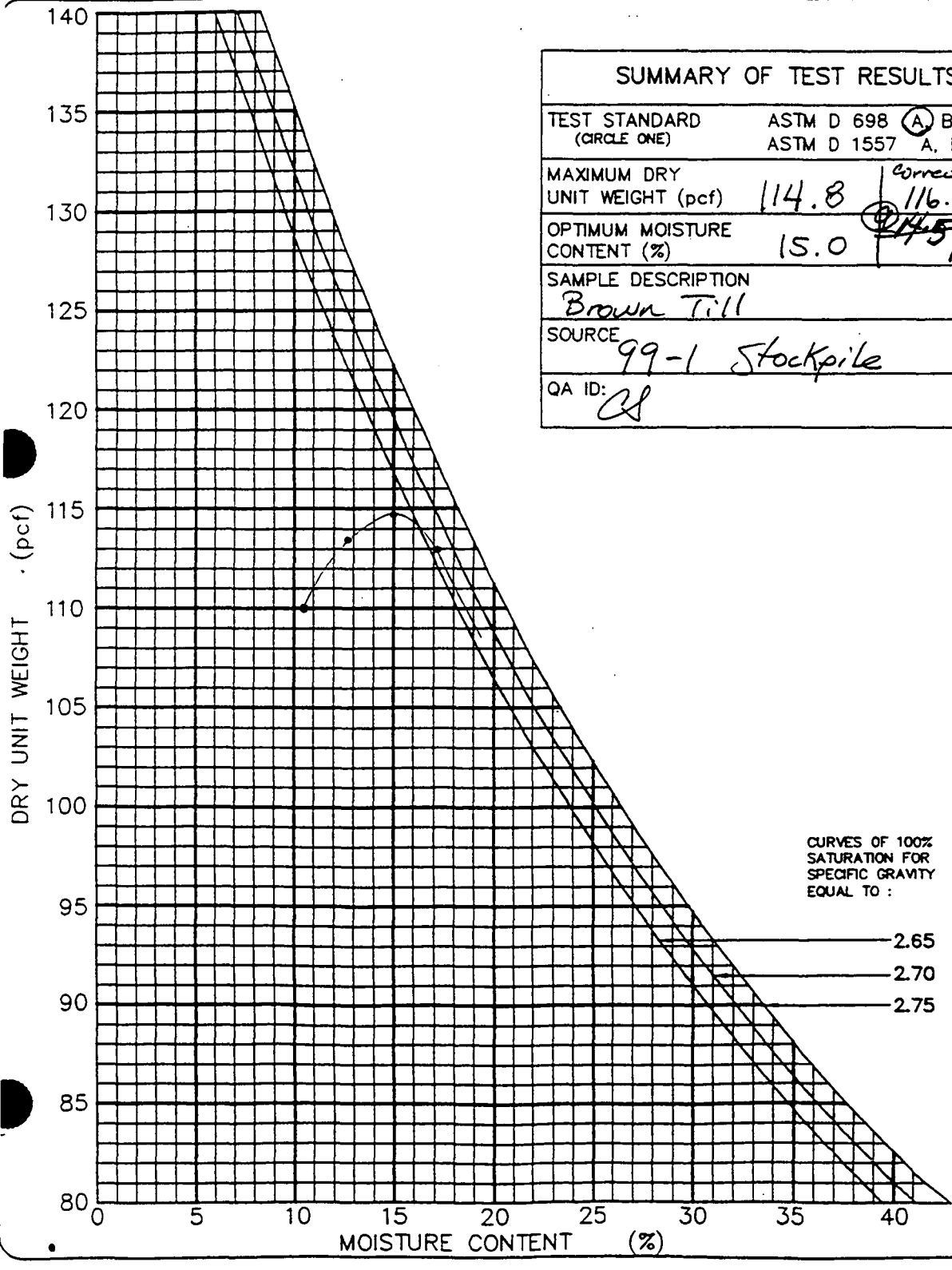
2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: 10 day MAY month 1999 year

MATERIAL TYPE: SAMPLE NO.: LPIII-21



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B, C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	114.8	corrected 116.1
OPTIMUM MOISTURE CONTENT (%)	15.0	~~14.5~~ 14.5
SAMPLE DESCRIPTION Brown Till		
SOURCE 99-1 Stockpile		
QA ID: CS		

000524

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 6 day MAY month 1999 year

MATERIAL TYPE: L.P. Clay — SAMPLE NO.: LP-TH-21

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS GREATER THAN 20%, AND IF THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.69 8%	13.70 10%	13.34 4%	13.56 6%	
A	WT. OF SOIL & MOLD	(grams)	6209.78	6214.3	6051.0	6150.8	
B	WT. OF MOLD	(grams)	4209.40	4209.40	4209.40	4209.40	
C	WT. OF SOIL = A - B	(grams)	2000.40	2004.90	1841.6	1941.4	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	132.0	132.3	121.5	128.1	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	114.8	113.0	110.0	113.5	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE

	TARE NO.		9	7	33	25	
F	WT. OF TARE	(grams)	7.25	7.35	8.36	8.26	
G	WT. OF WET SOIL & TARE	(grams)	335.50	372.52	436.9	399.93	
H	WT. OF DRY SOIL & TARE	(grams)	292.7	319.3	396.3	355.31	
I	WT. OF WATER = G - H	(grams)	42.8	53.2	40.6	44.6	
J	WT. DRY SOIL = H - F	(grams)	285.4	311.9	387.9	347.0	
K	MOISTURE CONTENT = (I/J) X 100	(%)	15.0	17.1	10.5	12.9	

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GEOSYNTEC CONSULTANTS

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=-2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES *(ASTM D 4718)*

PROJECT: ON-SITE DISPOSAL FACILITY (CSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~of Cell~~ II — DATE: 10 day MAY month 1999 year

MATERIAL TYPE: — SAMPLE NO.: LPII-21

Weight of Total Sample	=	38456.8
Weight of Oversize Fraction	=	1359.4
Weight of Finer Fraction (-4)	=	37097.4
Percentage of Oversize Fraction	= (P_C)	3.5
Percentage of Finer Fraction (-4)	= (P_F)	96.5
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.15
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	114.8
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W=(W_F P_F)+(W_C P_C)$$

$$C_W = (0.15)(96.5) + (0.015)(3.5)$$

$$C_W = 14.5\ \%$$

$$C\delta_D=100\delta_F G_M \delta_W/(\delta_F P_C)+(G_M \delta_W P_F)$$

$$C_{\delta D} = 100(114.8)(2.72)(62.4)/[(114.8)(3.5)+(2.72)(62.4)(96.5)]$$

$$C_{\delta D} = 116.1$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

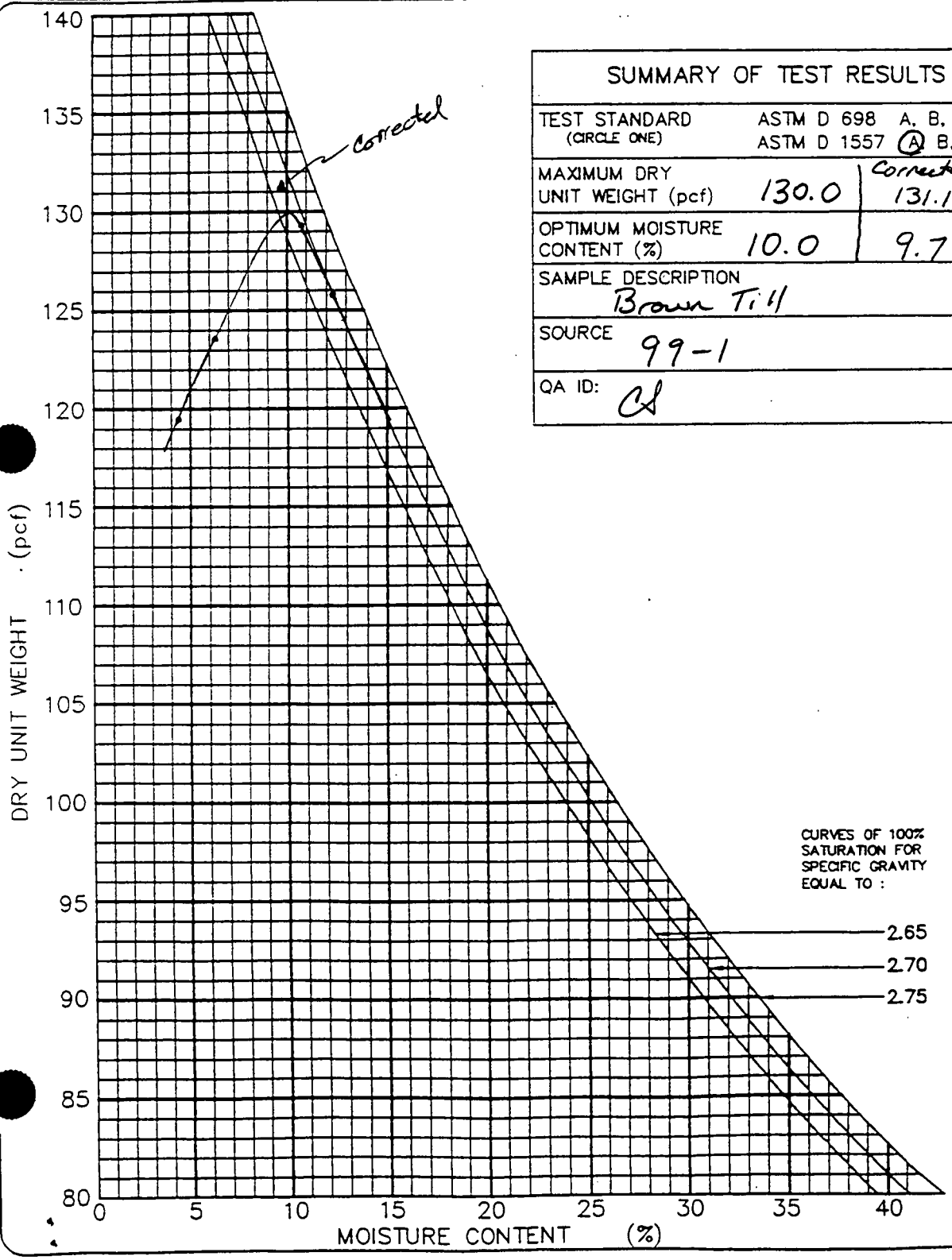
2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: 13 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LP III -21



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A, B, C ASTM D 1557 (A) B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	130.0	Corrected 131.1
OPTIMUM MOISTURE CONTENT (%)	10.0	9.7
SAMPLE DESCRIPTION Brown Till		
SOURCE 99-1		
QA ID: CL		

000527

GeoSyntec Consultants

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 1557 METHOD B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 11 day May month 1999 year

MATERIAL TYPE: LP Clay — SAMPLE NO.: LP III - 21

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 4-in. (4.75-mm) SIEVE IS GREATER THAN 20%, AND THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 10-lb RAMMER / 18-in. DROP / 5 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE/08

	WATER ADDED	(ml)	13.45 0%	13.67 2%	14.06 4%	14.00 6%	
A	WT. OF SOIL & MOLD	(grams)	6100.9	6200.7	6377.6	6350.4	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	1891.5	1991.3	2168.2	2141.0	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	124.8	131.4	143.1	141.3	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	119.5	123.7	129.2	125.9	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE/08

	TARE NO.		#9	#33	#7	9	
F	WT. OF TARE	(grams)	7.25	8.35	7.33	7.2	
G	WT. OF WET SOIL & TARE	(grams)	295.35	303.33	316.51	384.5	
H	WT. OF DRY SOIL & TARE	(grams)	283.20	286.06	286.4	343.6	
I	WT. OF WATER = G - H	(grams)	12.15	17.27	30.1	40.9	
J	WT. DRY SOIL = H - F	(grams)	275.95	277.71	279.1	336.4	
K	MOISTURE CONTENT = (I/J) X 100	(%)	4.4	6.20	10.8	12.2	

2737

000528

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2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES *(ASTM D 4718)*

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 13 day MAY month 1998 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LPIII-21

Weight of Total Sample	=	38456.8
Weight of Oversize Fraction	=	1359.4
Weight of Finer Fraction (-4)	=	37097.4
Percentage of Oversize Fraction	= (P_C)	3.5
Percentage of Finer Fraction (-4)	= (P_F)	96.5
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.10
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	130.0
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W=(W_F P_F)+(W_C P_C)$$

$$C_W = (0.1)(96.5)+(0.015)(3.5)$$

$$C_W = 9.7\%$$

$$C\delta_D=100\delta_F G_M \delta_W/(\delta_F P_C)+(G_M \delta_W P_F)$$

$$C_{\delta D} = 100(130.0)(2.72)(62.4)/(130.0)(3.5)+(2.72)(62.4)(96.5)$$

$$C_{\delta D} = 131.1$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422) - 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 8 day MAY month 1999 year

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-22

SOIL SAMPLE SIZE

Total wt. 19,532.0 g 43.06 lbs Total wt. ~~20,368.1 g~~ ~~44.90 lb~~

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH		AFTER WASH	
TARE NO.		K	L-4	K	~~L-4~~ N in oven
WT. OF DRY SAMPLE PLUS TARE	(grams)	~~1031.1~~ 1132.7	~~820.8~~ (799.9)	929.4	~~799.9~~ 275.15
WT. OF TARE	(grams)	101.6	146.6	101.6	101.72
WT. OF DRY SAMPLE	(grams)	1031.1	~~674.2~~ 653.3	827.8	173.43

SIEVE ANALYSIS

QA ID: [illegible]

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0	100		100
1½"	37.5	0	0	100		
1"	25.0	0	0	100		
¾"	19.0	93.59	0.5	99.5		90 to 100
½"	12.5	340.7	1.7	98.3		
⅜"	9.5	529.0	2.7	97.3		
#4	4.75	822.4	4.2	95.8		
#10	2.00	20.14	3.1	96.9	92.8	
#20	0.850	50.03	7.7	92.3	88.5	
#40	0.425	77.23	11.8	88.2	84.5	
#60	0.250	100.00	15.3	84.7	81.1	
#100	0.150	127.02	19.4	80.6	77.2	
#200	0.075	173.26	26.5	73.5	70.4	50 to 100
PAN	—	—	—			

000530

%FINER = 100 − Σ% RETAINED

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PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

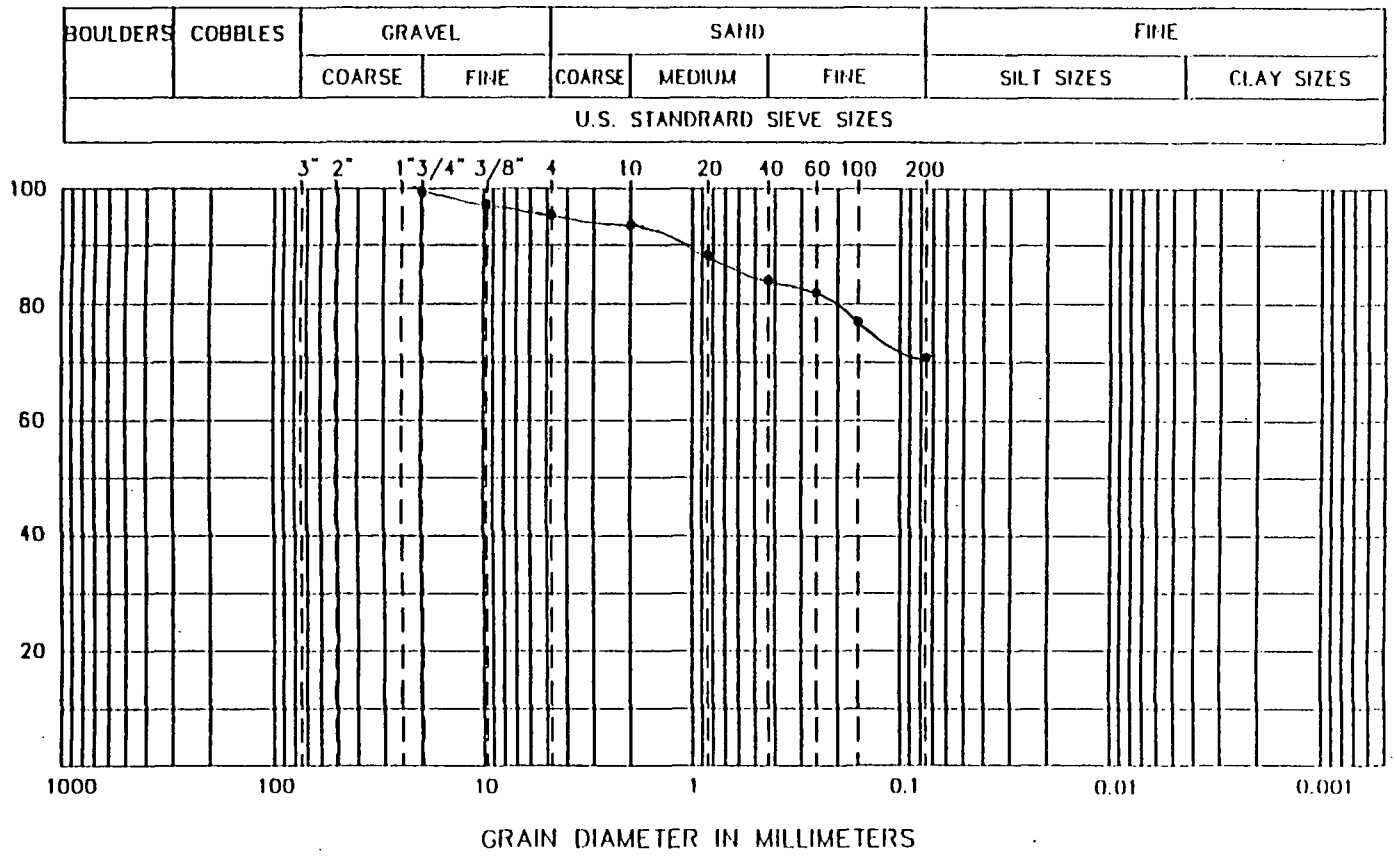
DESCRIPTION: Phase II

DATE: 10 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay

SAMPLE NO.: LP III-22 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 37

(PL) 18

(PI) 19

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	99.5
1/2-in.	98.3
3/8-in.	97.3
NO. 4	95.8
NO. 10	92.8
NO. 20	88.5
NO. 40	84.5
NO. 60	81.1
NO. 100	77.2
NO. 200	70.4

HYDROMETER RESULTS

PARTICLE DIA.	% FINER

SOIL CLASSIFICATION (ASTM D 2487): CL lean clay w/sand

000531

2723

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Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE

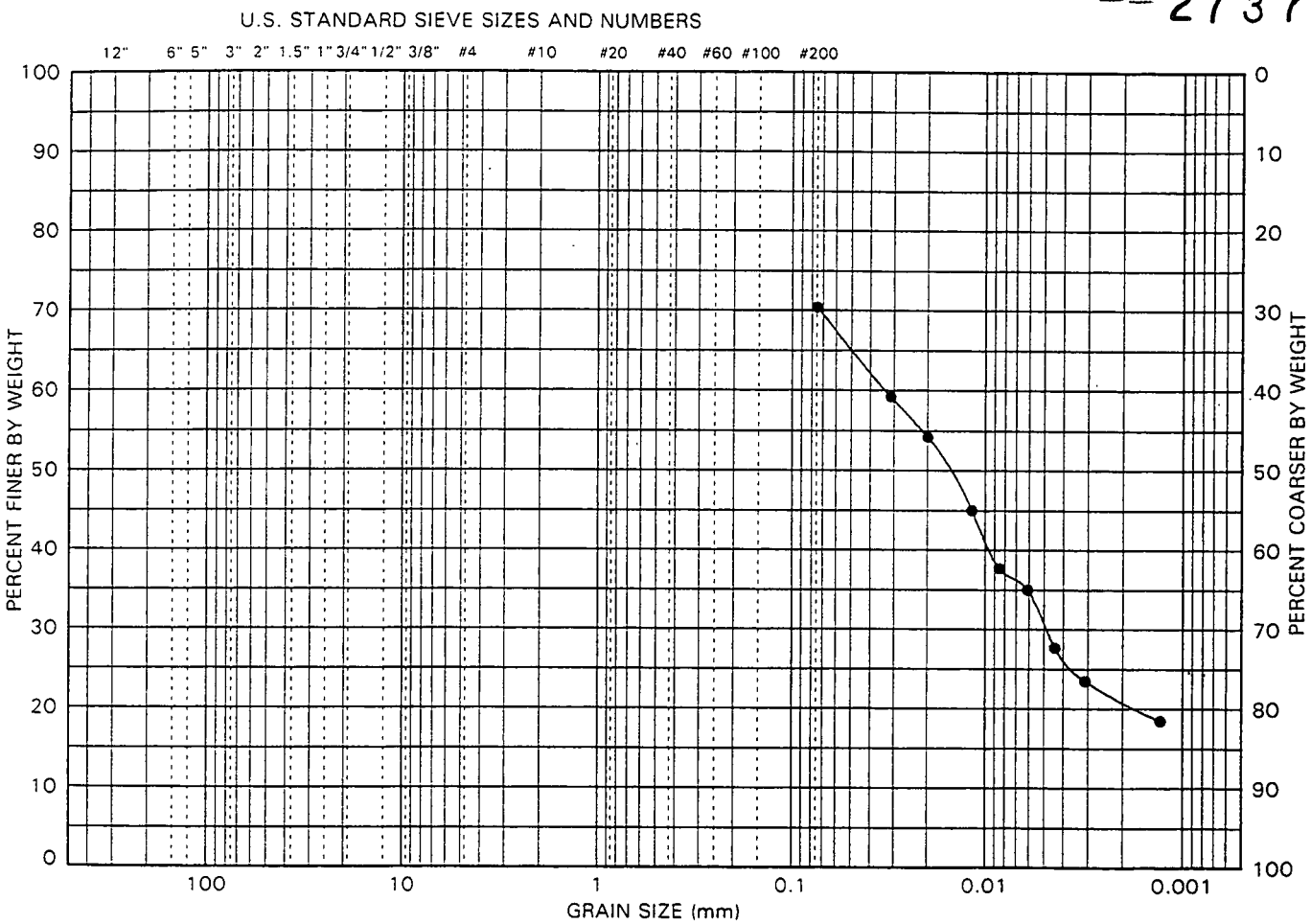
PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/18/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487
D 3042 AND D 4318

2737



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-22	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	99E96	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%) 70.4
SOIL CLASSIFICATION:				SILT (%) 49.4
				CLAY(%) 21.0
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													70	65	54	31	21	

NOTES:

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JD 5/18/99

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FLUOR DANIEL FERNALD

2737

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 10 day May month 1999 year

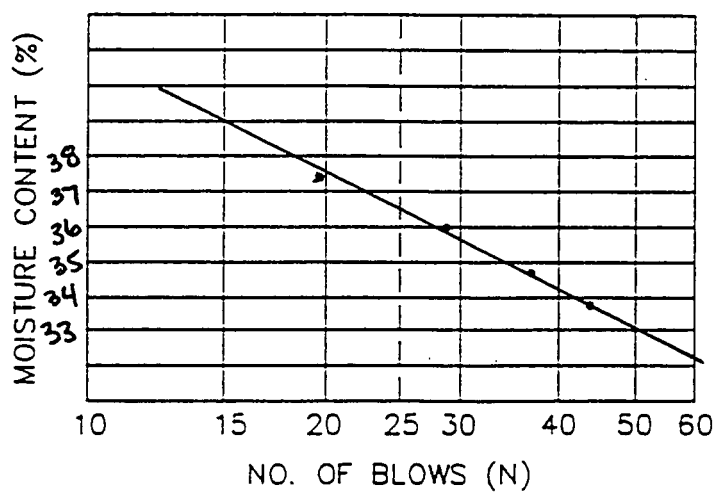
MATERIAL TYPE: L. P. CLAY SAMPLE NO.: LP III-22

LIQUID LIMIT DETERMINATION

QA ID: DLE/CA

	TARE NO.		1.2	3.2	2.8	1.1
A	WT. OF TARE	(grams)	28.49	27.83	28.47	28.80
B	WT. OF WET SOIL & TARE	(grams)	42.66	44.47	45.24	44.63
C	WT. OF DRY SOIL & TARE	(grams)	39.08	40.19	40.80	40.32
D	WT. OF WATER = B-C	(grams)	3.58	4.28	4.44	4.31
E	WT. OF DRY SOIL = C-A	(grams)	10.59	12.36	12.33	11.52
F	MOISTURE CONTENT = (D/E)X100	(%)	33.8	34.6	36.0	37.4
N	NUMBER OF BLOWS		42	36	28	19

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE/CA

	TARE NO.		1.4	2.3		
A	WT. OF TARE	(grams)	28.51	31.19		
B	WT. OF WET SOIL & TARE	(grams)	36.25	40.56		
C	WT. OF DRY SOIL & TARE	(grams)	35.08	39.15		
D	WT. OF WATER = B-C	(grams)	1.17	1.41		
E	WT. OF DRY SOIL = C-A	(grams)	6.57	7.96		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.8	17.7		

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LIQUID LIMIT (LL) = 36.5 PLASTIC LIMIT (PL) = 17.8 PLASTICITY INDEX (PI) = 19

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FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

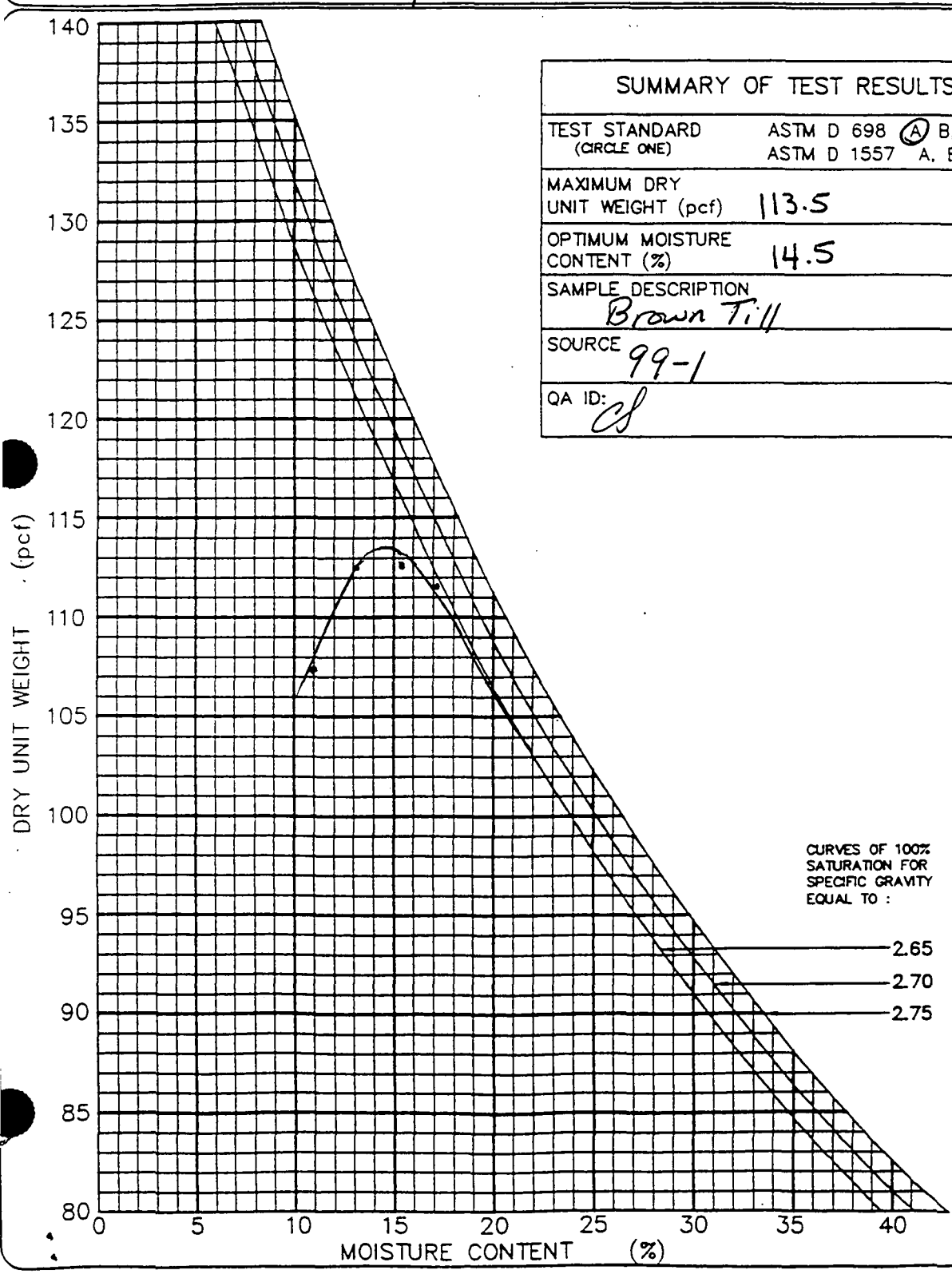
-- 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04

DESCRIPTION: PHASE II DATE: 11 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LPIII-22



SUMMARY OF TEST RESULTS	
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B, C ASTM D 1557 A, B, C
MAXIMUM DRY UNIT WEIGHT (pcf)	113.5
OPTIMUM MOISTURE CONTENT (%)	14.5
SAMPLE DESCRIPTION	Brown Till
SOURCE	99-1
QA ID:	CS

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 10 day MAY month 1998 year

MATERIAL TYPE: LP Clay — SAMPLE NO.: LP III-22

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.26 8%	13.53 10%	13.12 12%	13.6 14%	
A	WT. OF SOIL & MOLD	(grams)	6014.7	6137.2	6178.0	6191.6	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	1805.3	1927.8	1968.6	1982.2	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	119.1	127.2	129.9	130.8	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	107.4	112.5	112.6	111.7	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE/CS

	TARE NO.		7	23	6	34	
F	WT. OF TARE	(grams)	7.32	8.39	7.63	8.33	
G	WT. OF WET SOIL & TARE	(grams)	362.97	349.23	357.15	251.55	
H	WT. OF DRY SOIL & TARE	(grams)	327.90	309.72	310.54	216.00	
I	WT. OF WATER = G - H	(grams)	35.1	39.5	@ ~~47.1~~ 46.7	35.6	
J	WT. DRY SOIL = H - F	(grams)	320.6	301.3	302.9	207.7	
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.9	13.1	15.4	17.1	

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GeoSyntec Consultants FILE NO. 2-04-FLC CHECKED BY: CS SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

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- 2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES *(ASTM D 4718)*

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 — TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 11 day May month 1999 year

MATERIAL TYPE: — SAMPLE NO.: LP II-22

Weight of Total Sample	=	19532.0
Weight of Oversize Fraction	=	822.4
Weight of Finer Fraction (-4)	=	18709.6
Percentage of Oversize Fraction	= (P_C)	4.2
Percentage of Finer Fraction (-4)	= (P_F)	95.8
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.145
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	113.5
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (0.145)(95.8) + (0.015)(4.2)$$

$$C_W = 14.0$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$= 100(113.5)(2.72)(62.4) / (113.5)(4.2) + (2.72)(62.4)(95.8)$$

$$C_{\delta D} = 115.1$$

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL -- 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO DLE — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 5 day May month 1998 year

MATERIAL TYPE: Clay Liner — SAMPLE NO.: LP/III-23

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight — QA ID: DLE

100% PASING THE NO. 10 (2-mm) SIEVE	20 grams
100% PASSING THE NO. 4 (4.75-mm) SIEVE	100 grams
100% PASSING THE NO. 3/8-in. (9.5-mm) SIEVE	500 grams
100% PASSING THE NO. 3/4-in. (19-mm) SIEVE	2.5 kilograms

	TARE NO.	~~I~~	25			
A	WT. OF TARE	~~132.12~~	8.25			
B	WT. OF WET SOIL & TARE	~~400.11~~	199.80			
C	WT. OF DRY SOIL & TARE		171.26			
D	WT. OF WATER = B-C		28.54			
E	WT. OF DRY SOIL = C-A		163.01			
F	MOISTURE CONTENT = (D/E) X 100		17.5			

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight — QA ID: DLE

90% PASSING THE NO. 10 (2-mm) SIEVE	100 TO 200 grams
90% PASSING THE NO. 4 (4.75-mm) SIEVE	200 TO 500 grams
90% PASSING THE 3/4-in. (19-mm) SIEVE	500 TO 1000 grams

INITIAL SETTING TO BE AT 3.0 MINUTES, CONTINUE DRYING SAMPLE AT 1.0 MINUTE SETTING UNTIL MOISTURE CONTENT VARIATION BETWEEN SETTINGS IS LESS THAN 0.1%

	TARE NO.	~~I~~	I			
A	WT. OF TARE	~~132.12~~	132.12			
B	WT. OF WET SOIL & TARE	~~400.11~~	400.11			
C	WT. OF DRY SOIL & TARE		360.67			
D	WT. OF WATER = B-C		39.44			
E	WT. OF DRY SOIL = C-A		228.55			
F	MOISTURE CONTENT = (D/E) X 100		17.3			

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70
88
.13
.86
.80

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) -- 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 11 day May month 1999 year

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LPIII-24

SOIL SAMPLE SIZE Total wt. 34,452.4g

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	BEFORE WASH +4	BEFORE WASH -4	AFTER WASH +4	AFTER WASH -4
TARE NO.	L-4	L-2		L-2
WT. OF DRY SAMPLE PLUS TARE (grams)	1468.1	~~944.3~~ 865.7	1343.4	299.55
WT. OF TARE (grams)	146.6	146.7	101.6	146.76
WT. OF DRY SAMPLE (grams)	1321.5	719.0	1241.8	152.79

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER	PROJECT SPECIFICATIONS
2"	50.0	0.0	0.0	100	100
1½"	37.5	0.0	0.0	99.8 100	
1"	25.0	81.23	0.24	~~100%~~	
¾"	19.0	273.75	0.79	99.2 %	90 to 100
½"	12.5	528.50	1.53	98.5 %	
⅜"	9.5	683.00	2.0 ~~1.98~~	96.0 %	
#4	4.75	1240.7	3.60	96.4 %	
#10	2.00	22.50	3.1 ~~1.90~~	96.9 ~~98.3~~	~~94.8~~ 93.4
#20	0.850	47.97	6.1 ~~3.63~~	93.3 ~~96.4~~	~~92.9~~ 90.0
#40	0.425	70.85	9.8 ~~5.4~~	90.1 ~~94.6~~	~~91.2~~ 86.9
#60	0.250	91.81	12.8 ~~6.95~~	87.2 ~~93.1~~	~~89.7~~ 84.1
#100	0.150	118.66	16.5 ~~8.99~~	83.5 ~~91.0~~	~~87.7~~ 80.5
#200	0.075	152.64	21.2 11.55	78.8 ~~88.5~~	~~85.3~~ 75.9 50 76.60
PAN					

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%FINER = 100 − Σ% RETAINED

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PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

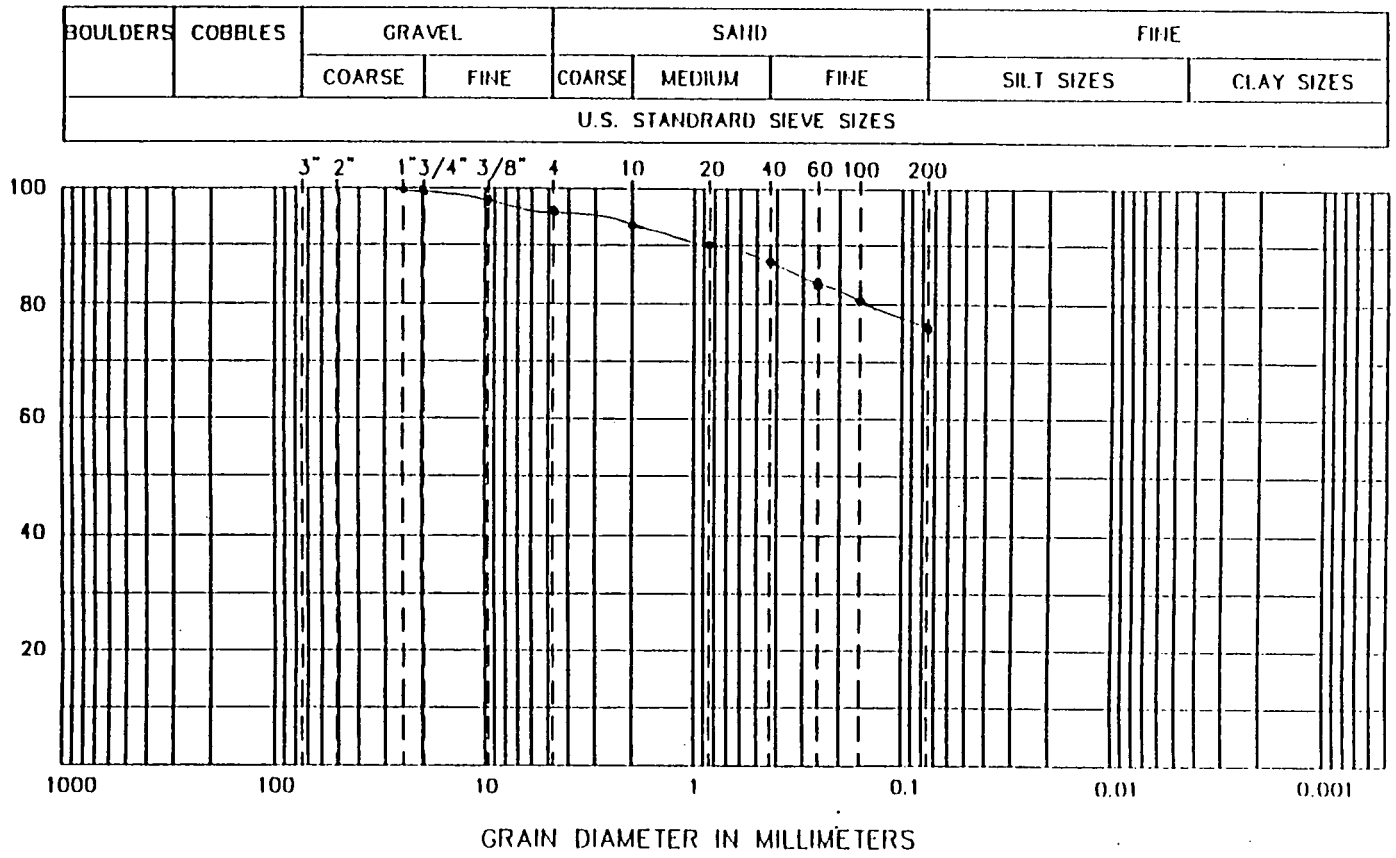
DESCRIPTION: Phase II

DATE: 12 day MAY month 1999 year

MATERIAL TYPE: Low Perm clay

SAMPLE NO.: LPIII-24 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 35

(PL) 18

(PI) 17

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	99.8
3/4-in.	99.2
1/2-in.	98.5
3/8-in.	98.0
NO. 4	96.4
NO. 10	93.4
NO. 20	90.0
NO. 40	86.9
NO. 60	84.1
NO. 100	80.5
NO. 200	75.9

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	70
0.02	55
0.005	32
0.002	23

SOIL CLASSIFICATION (ASTM D 2487): CL-ML lean Clay w/sand

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SHEET NO. 2 OF 2

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Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE

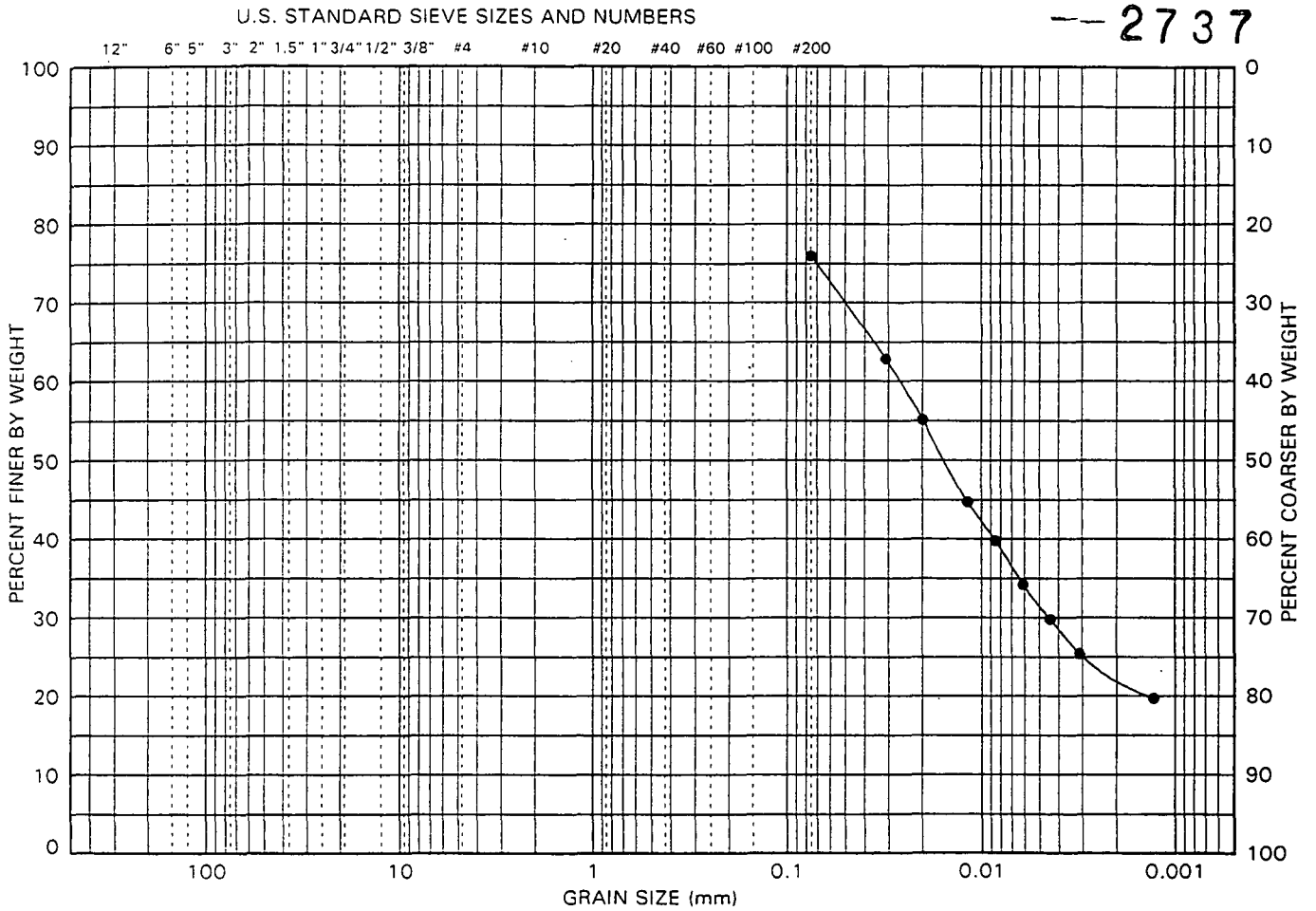
PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/18/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318

-- 2737



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-24	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	99E97	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%) 75.9
SOIL CLASSIFICATION:				SILT (%) 53.4
				CLAY(%) 22.5
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													76	70	55	32	23	

NOTES:

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) - 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 11 day MAY month 1999 year

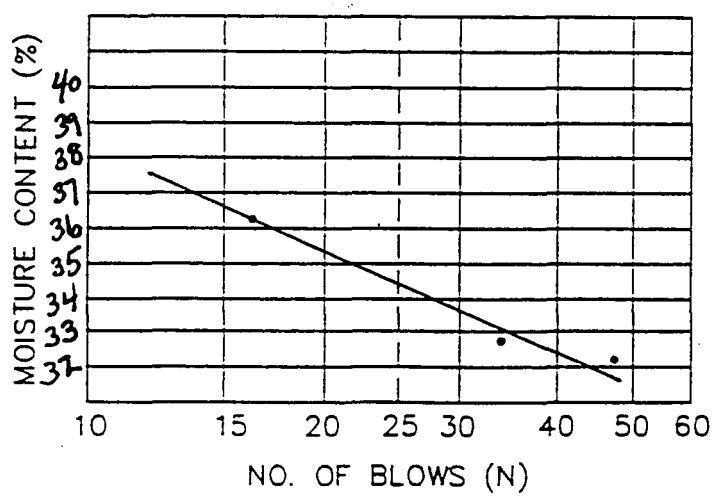
MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-24

LIQUID LIMIT DETERMINATION

QA ID: DLE/RD

	TARE NO.		1.9	2.7	2.2	1.3
A	WT. OF TARE	(grams)	28.55	28.68	27.63	28.64
B	WT. OF WET SOIL & TARE	(grams)	44.09	45.59	46.02	44.76
C	WT. OF DRY SOIL & TARE	(grams)	39.73	41.10	41.50	40.83
D	WT. OF WATER = B-C	(grams)	4.36	4.49	4.52	3.93
E	WT. OF DRY SOIL = C-A	(grams)	11.18	12.42	13.87	12.19
F	MOISTURE CONTENT = (D/E)X100	(%)	39.0	36.2	32.6	32.2
N	NUMBER OF BLOWS		7	16	34	47

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE/RD

	TARE NO.		2.1	3.1		
A	WT. OF TARE	(grams)	28.24	28.41		
B	WT. OF WET SOIL & TARE	(grams)	35.16	36.98		
C	WT. OF DRY SOIL & TARE	(grams)	34.13	35.70		
D	WT. OF WATER = B-C	(grams)	1.03	1.28		
E	WT. OF DRY SOIL = C-A	(grams)	5.89	7.29		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.5	17.6		

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LIQUID LIMIT (LL) = 34.5 PLASTIC LIMIT (PL) = 17.6 PLASTICITY INDEX (PI) = 17

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

2737

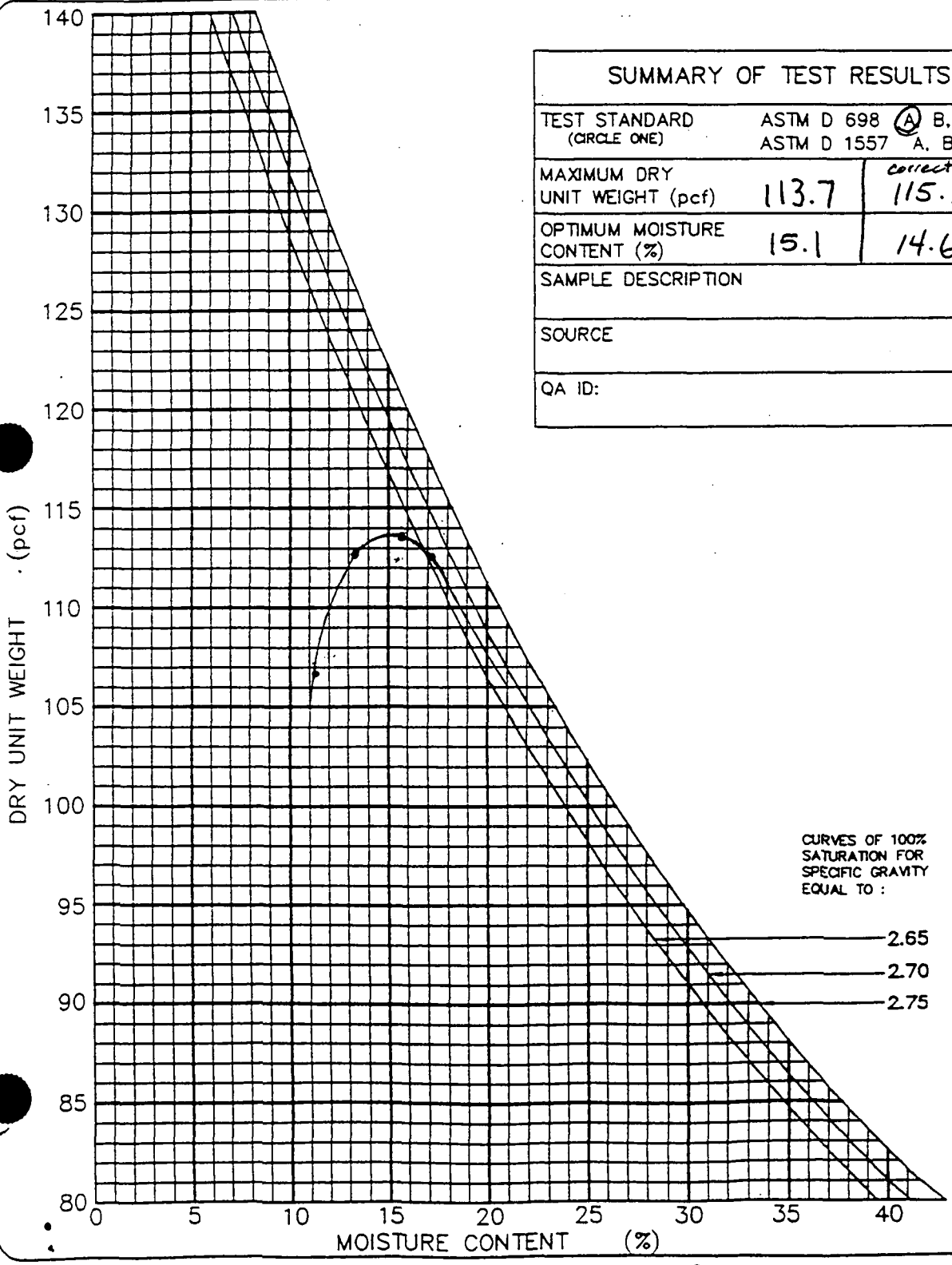
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: 13 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LPII-24

SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B, C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	113.7	corrected 115.1
OPTIMUM MOISTURE CONTENT (%)	15.1	14.6
SAMPLE DESCRIPTION		
SOURCE		
QA ID:		



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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO (DLE) PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~OSDF~~ II DATE: 12 day May month 1998 (01E) year

MATERIAL TYPE: L. P. Clay SAMPLE NO.: LP III.2Y

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.5 4%	13.67 6%	13.67 8%	13.26 2%	
A	WT. OF SOIL & MOLD	(grams)	6146.3	6200.7	6209.8	6014.7	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A − B	(grams)	1936.9	1991.3	2000.4	1805.3	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	127.8	131.4	132.0	119.1	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	112.8	113.6	112.1	106.9	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: DLE

	TARE NO.		#9	#2	#101	#29	
F	WT. OF TARE	(grams)	7.25	8.16	8.28	8.25	
G	WT. OF WET SOIL & TARE	(grams)	389.59	400.60	405.11	433.80	
H	WT. OF DRY SOIL & TARE	(grams)	344.8	347.4	345.3	390.2	
I	WT. OF WATER = G − H	(grams)	44.8	53.2	59.8	43.6	
J	WT. DRY SOIL = H − F	(grams)	337.5	339.2	337.0	381.9	
K	MOISTURE CONTENT = (I/J) X 100	(%)	13.3	15.7	17.7	11.4	

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GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC CHECKED BY: RDH SHEET NO. ____ OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES *(ASTM D 4718)*

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 13 day MAY month 1998 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-24

Weight of Total Sample	=	34,452.4
Weight of Oversize Fraction	=	1240.7
Weight of Finer Fraction (-4)	=	33211.7
Percentage of Oversize Fraction	= (P_C)	3.6%
Percentage of Finer Fraction (-4)	= (P_F)	96.4%
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	~~0.01~~ 0.151
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	113.7
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (0.151)(96.4) + (0.015)(3.6)$$

$$C_W = 14.6\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(113.7)(2.72)(62.4) / (113.7)(3.6) + (2.72)(62.4)(96.4)$$

$$C_{\delta D} = 115.1$$

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FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

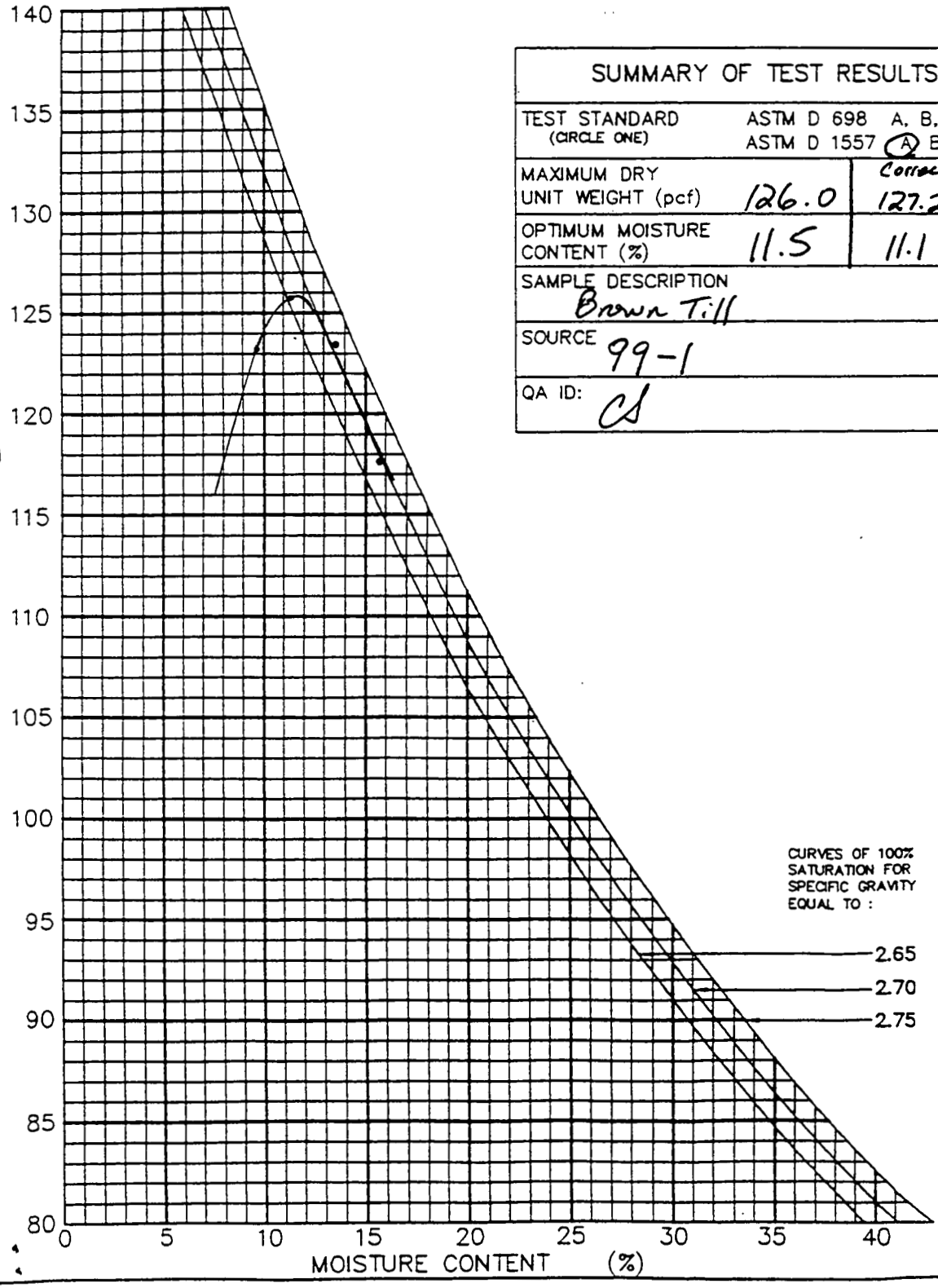
-- 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: 14 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LP III-2d



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A, B, C ASTM D 1557 (A) B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	126.0	Corrected 127.2
OPTIMUM MOISTURE CONTENT (%)	11.5	11.1
SAMPLE DESCRIPTION Brown Till		
SOURCE 99-1		
QA ID: CS		

000545

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 1557 METHOD B)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 12 day MAY month 1999 year

MATERIAL TYPE: L.P. CLAY — SAMPLE NO.: LP III-24

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 4-in. (4.75-mm) SIEVE IS GREATER THAN 20%, AND THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 10-lb RAMMER / 18-in. DROP / 5 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.96 4%	13.82 6%	13.74 8%	13.96 2%	13.79 0%
A	WT. OF SOIL & MOLD	(grams)	6332.3	6268.8	6232.5	6332.3	6255.1
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	2122.9	2059.4	2023.1	2122.9	2045.7
D	WET UNIT WT.(1) = C X 0.066	(pcf)	140.1	135.9	133.5	140.1	135.0
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	123.4	117.6	113.9	125.9	123.1

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE

	TARE NO.		#22	#24	#27	#102	#27
F	WT. OF TARE	(grams)	8.35	8.39	8.17	8.21	8.18
G	WT. OF WET SOIL & TARE	(grams)	436.3	356.1	276.33	346.43	371.48
H	WT. OF DRY SOIL & TARE	(grams)	385.4	309.1	237.0	312.2	339.52
I	WT. OF WATER = G - H	(grams)	50.9	47.0	39.3	34.2	32.0
J	WT. DRY SOIL = H - F	(grams)	377.0	300.7	228.8	304.0	331.3
K	MOISTURE CONTENT = (I/J) X 100	(%)	13.5	15.6	17.2	11.3	9.7

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES *(ASTM D 4718)*

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 — TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: ____ day ____ month 1998 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LPII-24 (MOD)

Weight of Total Sample	=	34,452.4
Weight of Oversize Fraction	=	1240.7
Weight of Finer Fraction (-4)	=	33211.7
Percentage of Oversize Fraction	= (P_C)	3.6
Percentage of Finer Fraction (-4)	= (P_F)	96.4
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.115
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	126.0
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (0.115)(96.4) + (0.015)(3.6)$$

$$C_W = 11.1\ \%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(126.0)(2.72)(62.4) / (126)(3.6) + (2.72)(62.4)(96.4)$$

$$C_{\delta D} = 127.2\ pcf$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 10 day MAY month 1998 year

MATERIAL TYPE: ~~L.P. Clay~~ Compacted Clay — SAMPLE NO.: ~~LP III-25~~ LP III-25

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, ~~RAS~~
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.78%				
A	WT. OF SOIL & MOLD	(grams)	6019.3				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A − B	(grams)	1809.9				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	119.5		MATCHES LP II-131 Cell #2 Cuttings		
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	108.4				

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: DLE/QS

	TARE NO.		103				
F	WT. OF TARE	(grams)	8.39				
G	WT. OF WET SOIL & TARE	(grams)	447.0				
H	WT. OF DRY SOIL & TARE	(grams)	406.30				
I	WT. OF WATER = G − H	(grams)	40.7				
J	WT. DRY SOIL = H − F	(grams)	397.9				
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.2				

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GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC CHECKED BY: SHEET NO. 1 OF 1

TARE (D) 500 grams for #4 Sieve

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 12 day May month 1999 year

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LPIII-26

SOIL SAMPLE SIZE

Total Sample 14,765

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	+4 store BEFORE WASH	-4 store BEFORE WASH	+4 store AFTER WASH	-4 store AFTER WASH
TARE NO.	N	L-4	N	L-4
WT. OF DRY SAMPLE PLUS TARE (grams)	741.3	624.4	708.9	258.91
WT. OF TARE (grams)	101.71	146.58	101.8	146.77
WT. OF DRY SAMPLE (grams)	639.6	477.6	~~607.1~~	112.14

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	100		100
1½"	37.5	Ø	Ø	100		
1"	25.0	Ø	Ø	100		
¾"	19.0	60.50	.41	99.6 %		90 to 100
½"	12.5	211.65	1.43	98.6 %		
⅜"	9.5	315.50	2.14	97.9 %		
#4	4.75	607.10	4.11	95.9 %		
#10	2.00	19.87	~~3.~~ 14.2	~~96.1~~ 95.8	~~97.1~~ 91.9	
#20	0.850	34.31	~~5.4~~ 17.2	~~94.7~~ 92.8	~~90.7~~ 89.0	
#40	0.425	50.67	~~2.9~~ 10.6	~~92.1~~ 89.3	~~88.3~~ 85.7	
#60	0.250	65.76	~~10.3~~ 13.8	~~89.7~~ 86.7	~~86.0~~ 82.7	
#100	0.150	86.81	~~13.6~~ 18.2	~~86.1~~ 81.8	~~82.9~~ 78.5	
~~#200~~	0.075	111.86	~~17.5~~ 23.4	~~82.5~~ 76.6	~~79.1~~ 73.4	50 to 100
PAN						

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%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

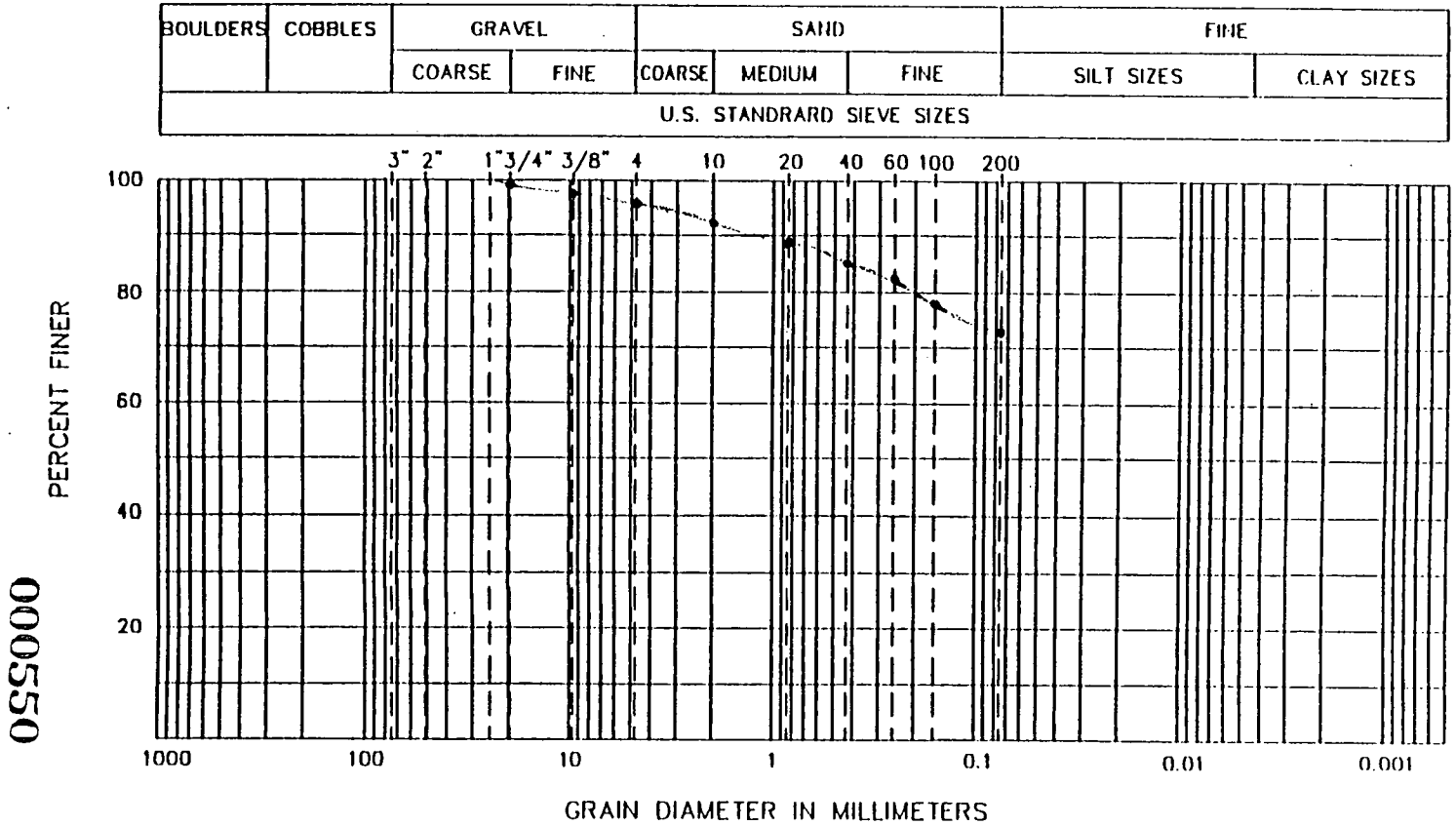
DESCRIPTION: Phase II

DATE: 14 day MAY month 1999 year

MATERIAL TYPE: Low perm Clay

SAMPLE NO.: LP III-26 QA ID: CA

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 36

(PL) 18

(PI) 18

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	99.6
1/2-in.	98.6
3/8-in.	97.9
NO. 4	95.9
NO. 10	91.9
NO. 20	89.0
NO. 40	85.7
NO. 60	82.7
NO. 100	78.5
NO. 200	73.4

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	67
0.02	52
0.005	31
0.002	23

SOIL CLASSIFICATION (ASTM D 2487): CL + lean clay w/sand

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SHEET NO. 2 OF 2

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Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE

PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/18/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318

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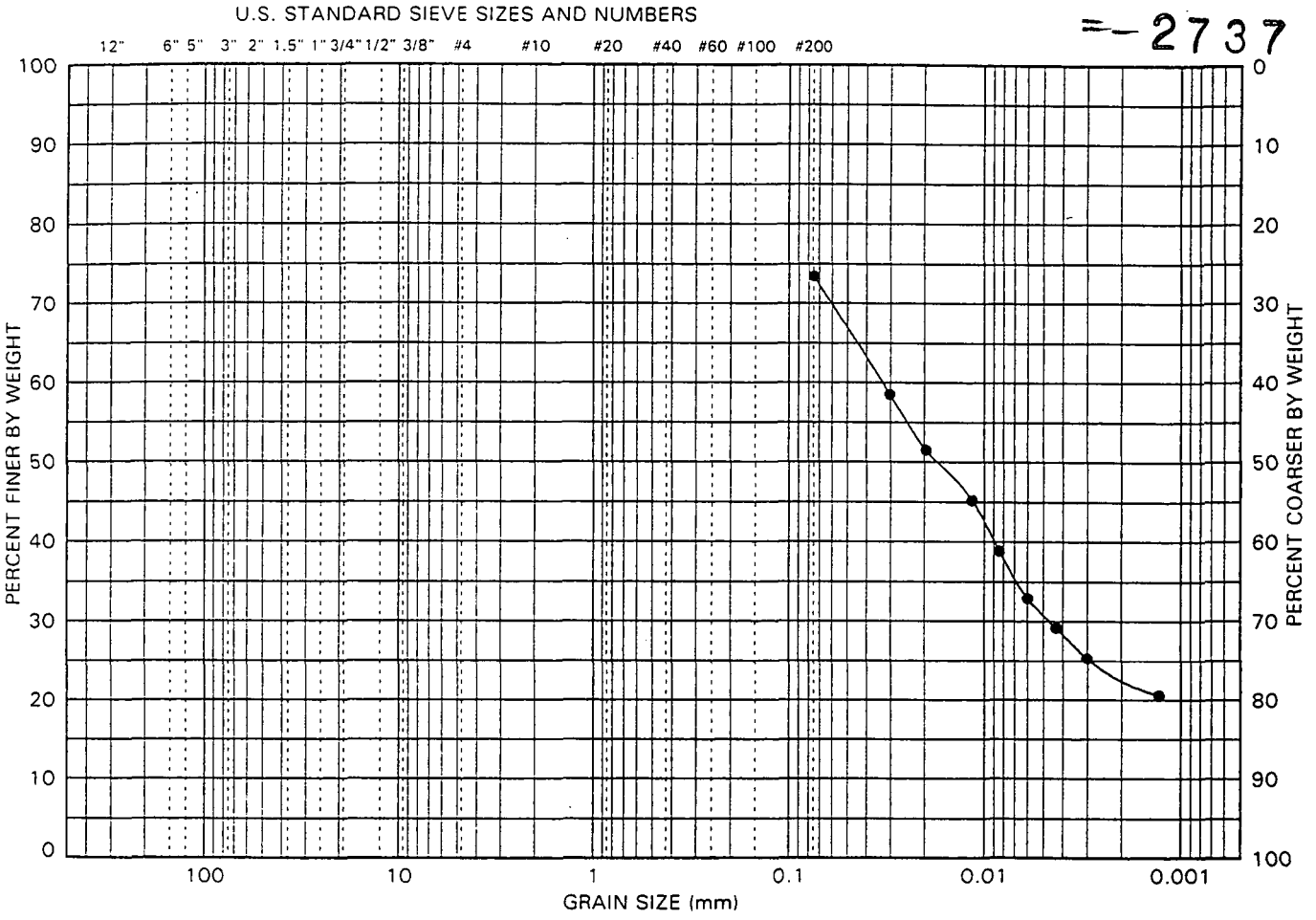

BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-26	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	99E98	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%) 73.4
SOIL CLASSIFICATION:				SILT (%) 50.4
				CLAY(%) 23.0
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													73	67	52	31	23	

NOTES:

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SD 5,18,99

250 grams in the oven

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

-- 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 12 day May month 1999 year

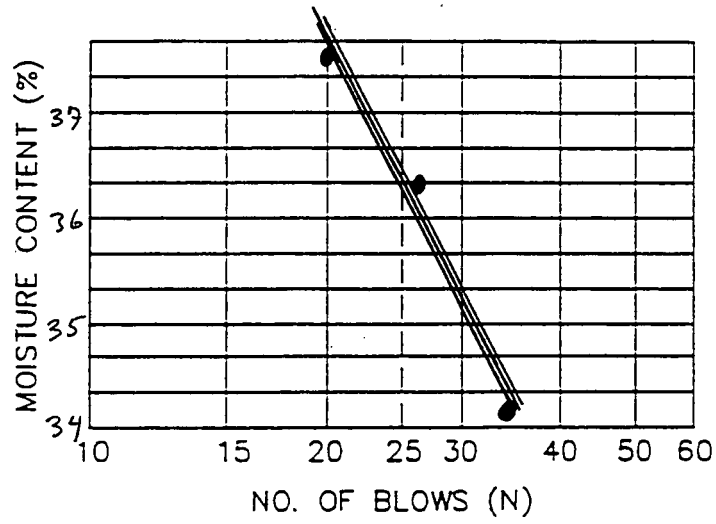
MATERIAL TYPE: L.P. Clay SAMPLE NO.: LP III-26

LIQUID LIMIT DETERMINATION

QA ID: DLE/MH

	TARE NO.		#3.1	#2.7	#1.3	
A	WT. OF TARE	(grams)	28.38	28.68	28.64	
B	WT. OF WET SOIL & TARE	(grams)	43.69	45.99	42.43	
C	WT. OF DRY SOIL & TARE	(grams)	39.79	41.38	38.67	
D	WT. OF WATER = B-C	(grams)	3.90	4.61	3.76	
E	WT. OF DRY SOIL = C-A	(grams)	11.41	12.70	10.03	
F	MOISTURE CONTENT = (D/E)X100	(%)	34.2	36.3	37.5	
N	NUMBER OF BLOWS		35	26	20	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE/MH

	TARE NO.		#2.2	#3.2		
A	WT. OF TARE	(grams)	27.63	27.83		
B	WT. OF WET SOIL & TARE	(grams)	35.82	36.42		
C	WT. OF DRY SOIL & TARE	(grams)	34.57	35.11		
D	WT. OF WATER = B-C	(grams)	1.25	1.31		
E	WT. OF DRY SOIL = C-A	(grams)	6.94	7.28		
F	MOISTURE CONTENT = (D/E)X100	(%)	18.0	18.00		

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LIQUID LIMIT (LL) = 36.4 PLASTIC LIMIT (PL) = 18.0 PLASTICITY INDEX (PI) = 18.4

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FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

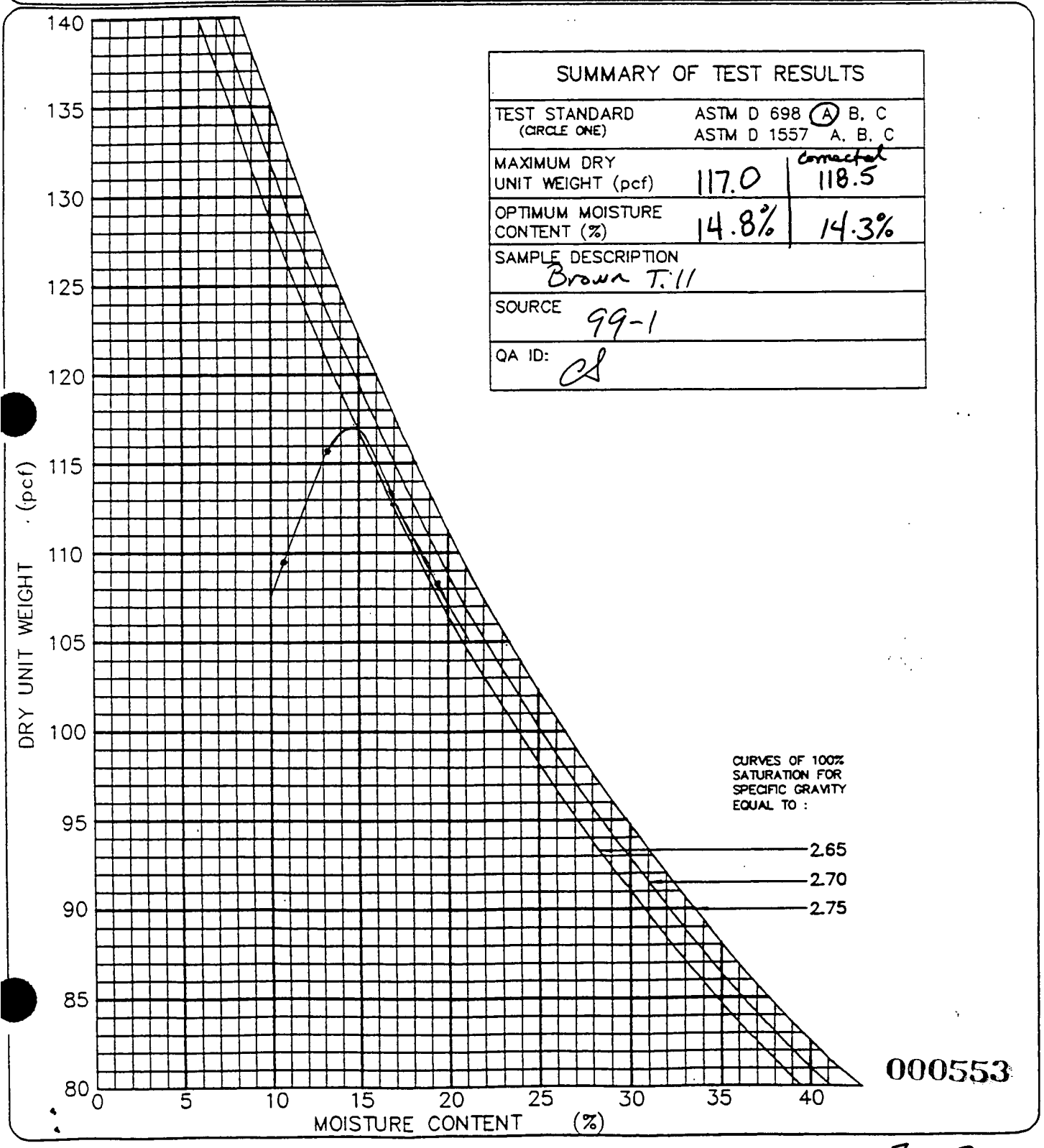
-- 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04-1

DESCRIPTION: PHASE II DATE: 14 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LP III-26



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B, C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	117.0	Corrected 118.5
OPTIMUM MOISTURE CONTENT (%)	14.8%	14.3%
SAMPLE DESCRIPTION Brown Till		
SOURCE 99-1		
QA ID: CS		

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SHEET NO. 2 OF 2

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II

DATE: 13 day MAY month 1999 year

MATERIAL TYPE: L.P. CLAY

SAMPLE NO.: LP III 26

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%, AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.33 6%	13.66 8%	13.70 12%	13.59 14%	
A	WT. OF SOIL & MOLD	(grams)	6046.5	6196.2	6214.3	6164.4	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A − B	(grams)	1837.1	1986.8	2004.9	1955.0	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	121.2	131.1	132.3	129.0	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	109.5	115.8	113.2	108.1	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT – ASTM D 2216

QA ID: DLE

	TARE NO.		#9	#102	#13	#105	
F	WT. OF TARE	(grams)	7.24	8.22	8.24	8.24	
G	WT. OF WET SOIL & TARE	(grams)	421.4	443.0	408.9	410.0	
H	WT. OF DRY SOIL & TARE	(grams)	381.5	392.4	351.0	344.6	
I	WT. OF WATER = G − H	(grams)	39.9	50.6	57.9	65.4	
J	WT. DRY SOIL = H − F	(grams)	374.3	384.2	342.8	336.4	
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.7	13.2	16.9	19.4	

= 2737

GeoSyntec Consultants FILE NO. 2-04-FLC CHECKED BY: [signature] SHEET NO. 1 OF 2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 14 day MAY month 1998 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-26

Weight of Total Sample	=	14,765.0
Weight of Oversize Fraction	=	607.1
Weight of Finer Fraction (-4)	=	14160.9
Percentage of Oversize Fraction	= (P_C)	4.1
Percentage of Finer Fraction (-4)	= (P_F)	95.9
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.148
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	117.0
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_w = (0.148)(95.9) + (0.015)(4.1)$$

$$C_w = 14.3\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(117.0)(2.72)(62.4) / (117.0)(4.1) + (2.72)(62.4)(95.9)$$

$$C_{\delta D} = 118.5$$

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) = 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 12 day MAY month 1999 year

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III-27

SOIL SAMPLE SIZE ___ % of Stone 66.22 LBs Total Sample 30,038

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	BEFORE WASH +4 Stone	BEFORE WASH -4 Stone	AFTER WASH +4 Stone (Oven)	AFTER WASH -4 Stone
TARE NO.	K	L-2	K	L-2
WT. OF DRY SAMPLE PLUS TARE (grams)	1339.4	430.1	1257.0	206.9
WT. OF TARE (grams)	101.65	146.7	101.6	146.7
WT. OF DRY SAMPLE (grams)	1237.75	283.4	1154.4	60.2

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø				100
1 1/2"	37.5	Ø				
1"	25.0	Ø				
3/4"	19.0 →	307.29	1.02	99.%		90 to 100
1/2"	12.5	562.90	1.87	98.1%		
3/8"	9.5	713.10	2.37	97.6%		
#4	4.75	1255.10	4.18	95.8%		
#10	2.00	15.9	5.6	94.4	90.4	
#20	0.850	22.8	8.0	92.0	88.1	
#40	0.425	29.9	10.6	89.4	85.7	
#60	0.250	36.9	13.0	87.0	83.3	
#100	0.150	47.4	16.7	83.3	79.8	
#200	0.075	59.9	21.1	78.8	75.6	50 to 100
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%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS (ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

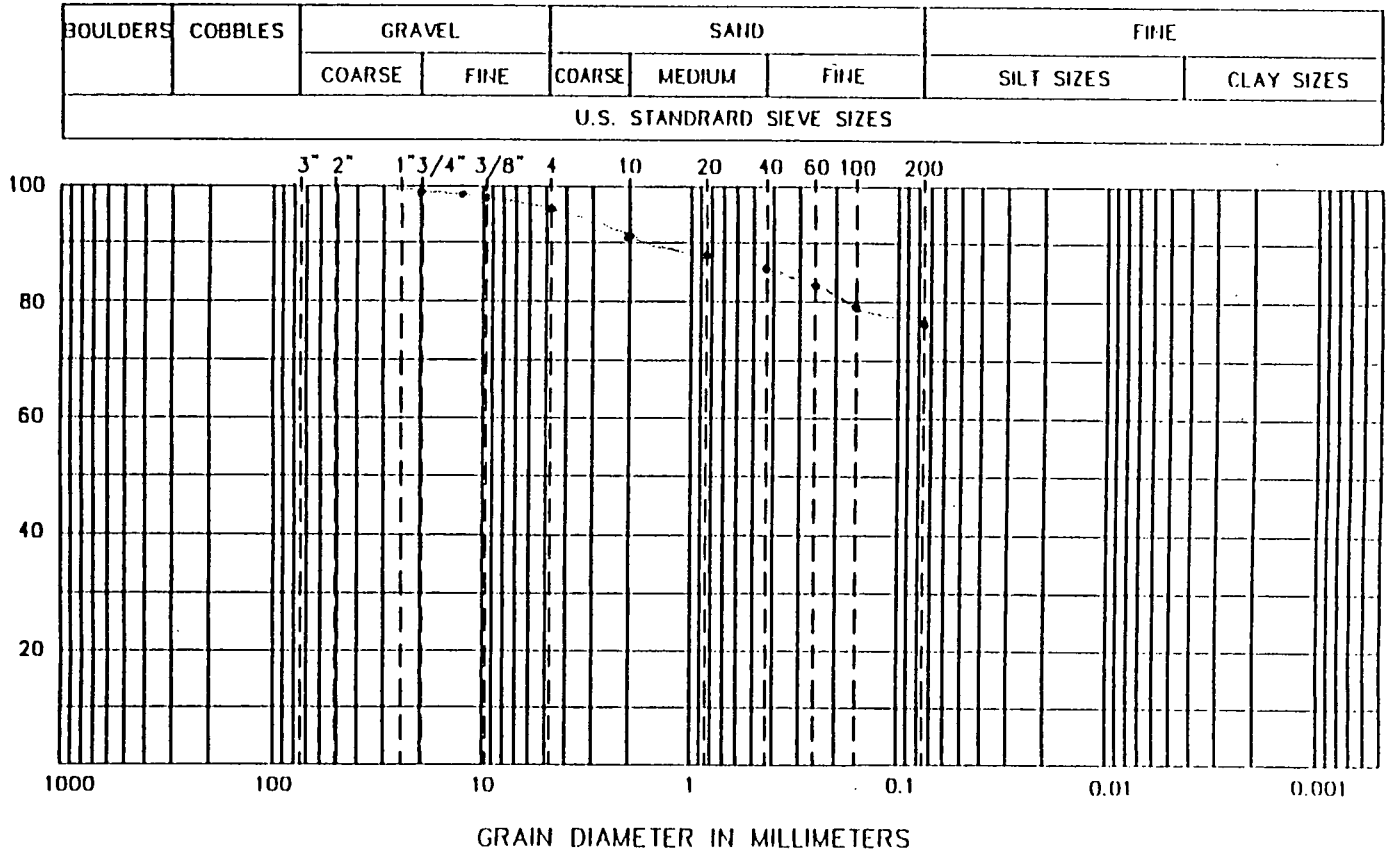
DESCRIPTION: Phase II

DATE: 15 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay

SAMPLE NO.: LP III-27 QA ID: Cl

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 36

(PL) 17

(PI) 19

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	99.0
1/2-in.	98.1
3/8-in.	97.6
NO. 4	95.8
NO. 10	90.4
NO. 20	88.1
NO. 40	85.7
NO. 60	83.3
NO. 100	79.8
NO. 200	75.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	71
0.02	57
0.005	33
0.002	25

SOIL CLASSIFICATION (ASTM D 2487): CL - lean clay w/ Sand

000557

2737

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GEO SYNTEC CONSULTANTS
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE

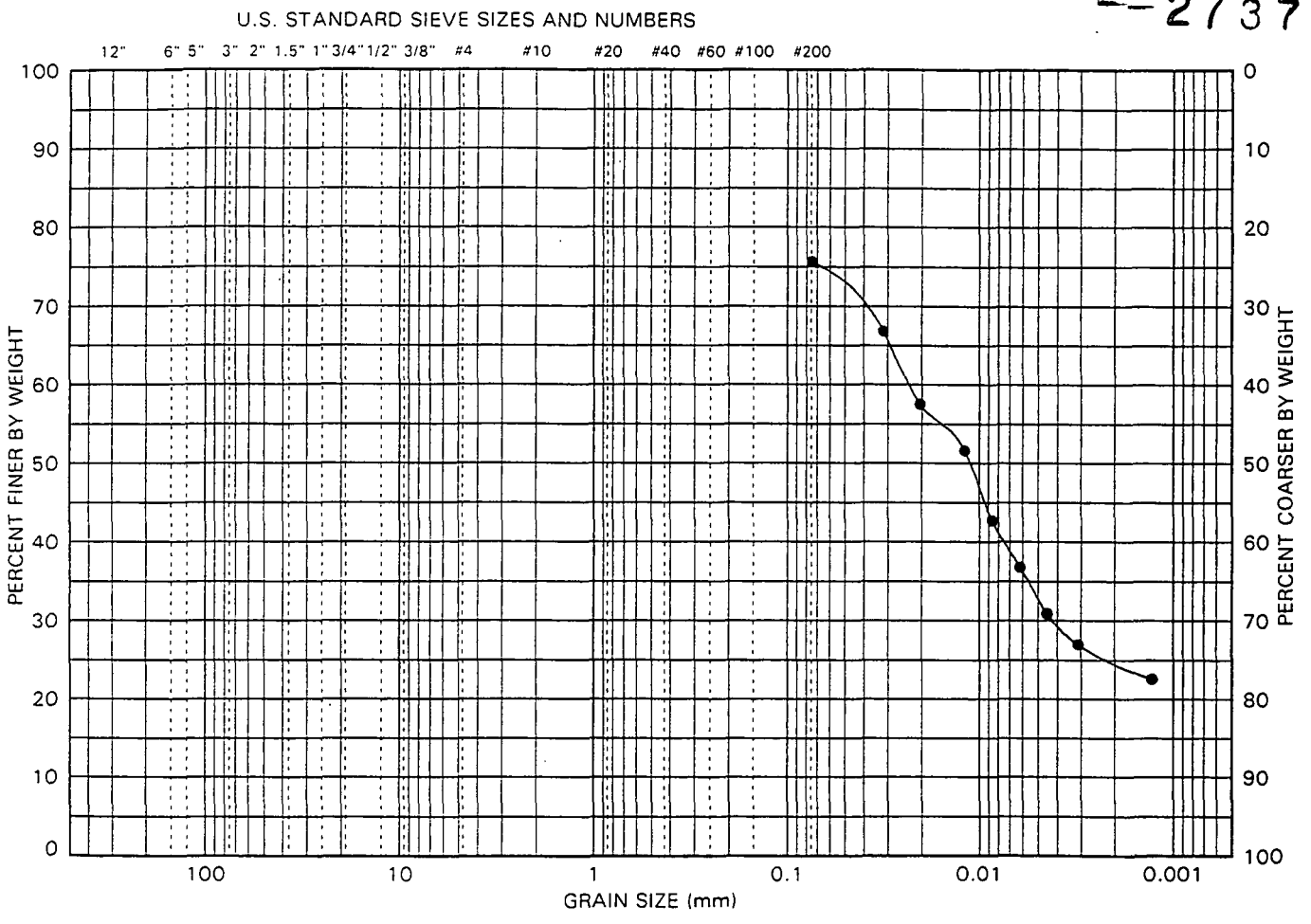
PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/18/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318

=-2737



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-27	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	99E99	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%) 75.6
SOIL CLASSIFICATION:				SILT (%) 50.8
				CLAY(%) 24.8
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													76	71	57	33	25	

NOTES:

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SD 5/18/99

300 grams in #22 Sieve After Sample.

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

=-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 13 day May month 1999 year

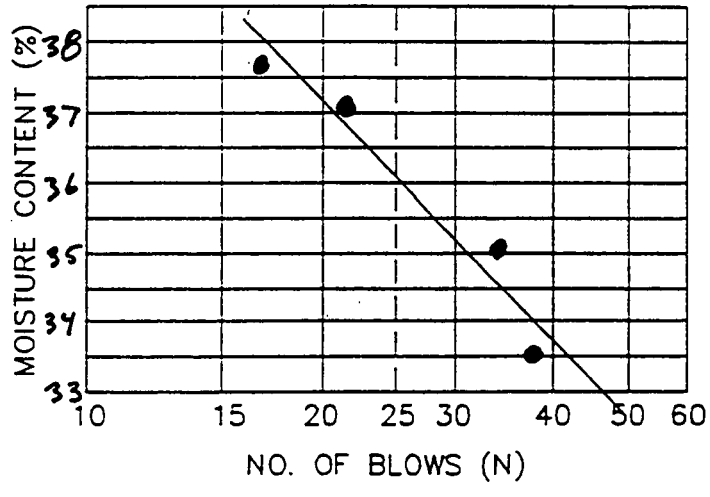
MATERIAL TYPE: L.P. Clay SAMPLE NO.: LP III-27

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.8	2.8	1.1	2.5
A	WT. OF TARE	(grams)	28.78	28.47	28.78	28.42
B	WT. OF WET SOIL & TARE	(grams)	43.94	45.79	47.59	46.57
C	WT. OF DRY SOIL & TARE	(grams)	40.11	41.29	42.50	41.61
D	WT. OF WATER = B-C	(grams)	3.80	4.50	5.09	4.96
E	WT. OF DRY SOIL = C-A	(grams)	11.36	12.82	13.72	13.19
F	MOISTURE CONTENT = (D/E)X100	(%)	33.5	35.1	37.1	37.60
N	NUMBER OF BLOWS		38	35	22	17

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.4	2.6		
A	WT. OF TARE	(grams)	28.48	28.52		
B	WT. OF WET SOIL & TARE	(grams)	40.44	39.89		
C	WT. OF DRY SOIL & TARE	(grams)	38.72	38.24		
D	WT. OF WATER = B-C	(grams)	1.72	1.65		
E	WT. OF DRY SOIL = C-A	(grams)	10.24	9.72		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.8	17.0		

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LIQUID LIMIT (LL) = 36.1 PLASTIC LIMIT (PL) = 16.9 PLASTICITY INDEX (PI) = 19.2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

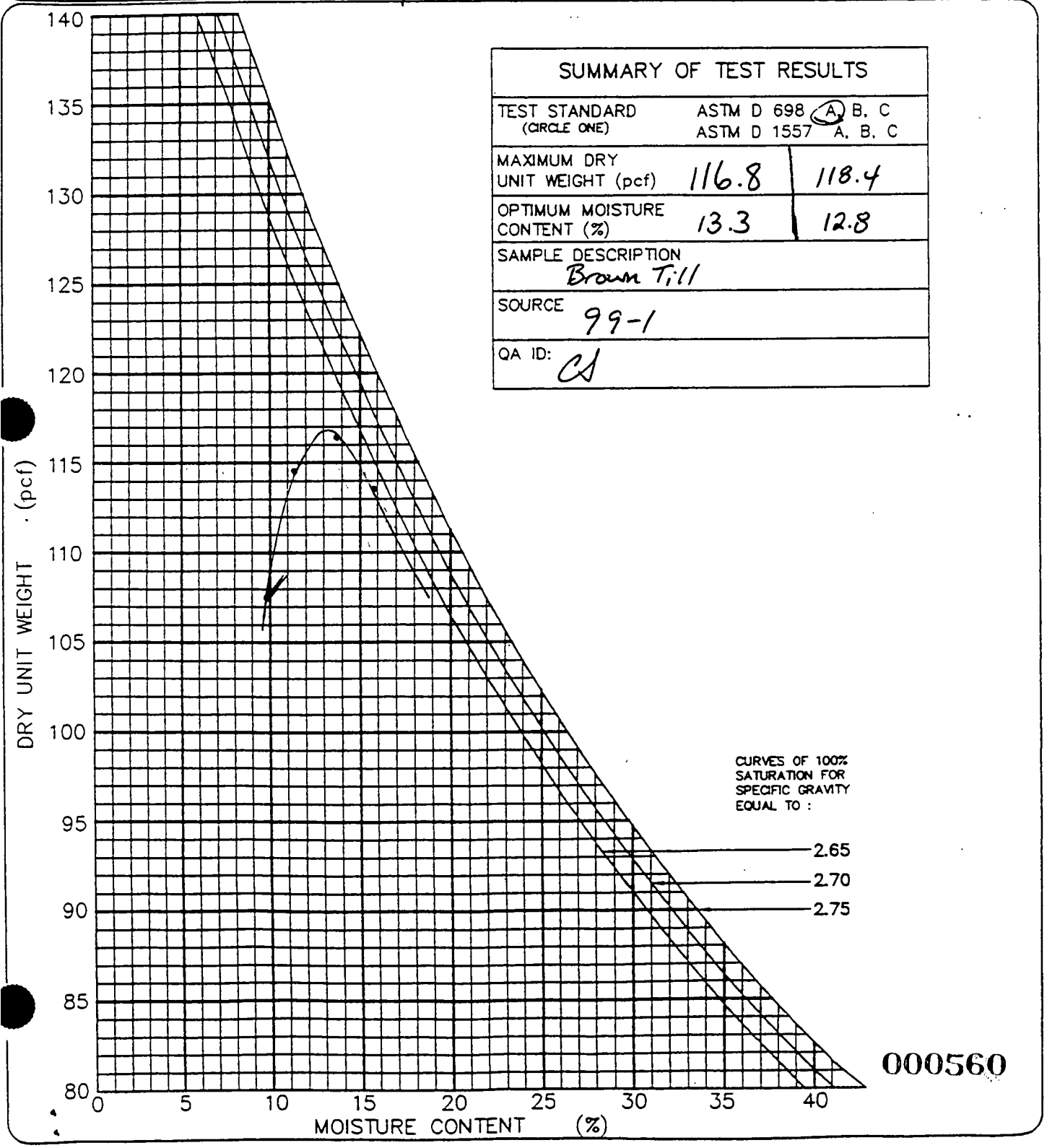
-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: 15 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LP III-27



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B, C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	116.8	118.4
OPTIMUM MOISTURE CONTENT (%)	13.3	12.8
SAMPLE DESCRIPTION	Brown Till	
SOURCE	99-1	
QA ID:	CS	

000560

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 13 day MAY month 1999 year

MATERIAL TYPE: L.P. CLAY — SAMPLE NO.: LP III - 27

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.54 4%	13.70 6%	13.68 8%	13.72 2%	
A	WT. OF SOIL & MOLD	(grams)	6141.7	6214.3	6205.2	5996.6	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	1932.3	2004.9	1995.8	1787.2	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	127.5	132.3	131.7	118.0	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	114.6	116.3	113.6	107.4	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE

	TARE NO.		#24	#2	#101	#26	
F	WT. OF TARE	(grams)	8.39	8.16	8.27	8.30	
G	WT. OF WET SOIL & TARE	(grams)	420.50	477.8	445.3	397.15	
H	WT. OF DRY SOIL & TARE	(grams)	378.8	420.7	385.4	362.10	
I	WT. OF WATER = G - H	(grams)	41.7	57.1	59.9	35.1	
J	WT. DRY SOIL = H - F	(grams)	370.41	412.5	377.1	353.8	
K	MOISTURE CONTENT = (I/J) X 100	(%)	11.3	13.8	15.9	9.9	

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 17 day MAY month 1999 year

MATERIAL TYPE: Low perm clay — SAMPLE NO.: LP III-27

Weight of Total Sample	=	30,038.0
Weight of Oversize Fraction	=	1255.1
Weight of Finer Fraction (-4)	=	28782.9
Percentage of Oversize Fraction	= (P_C)	4.2
Percentage of Finer Fraction (-4)	= (P_F)	95.8
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.133
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	116.8
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (0.133)(95.8) + (0.015)(4.2)$$

$$C_W = 12.8$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(116.8)(2.72)(62.4) / (116.8)(4.2) + (62.4)(2.72)(95.8)$$

$$C_{\delta D} = 118.4$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

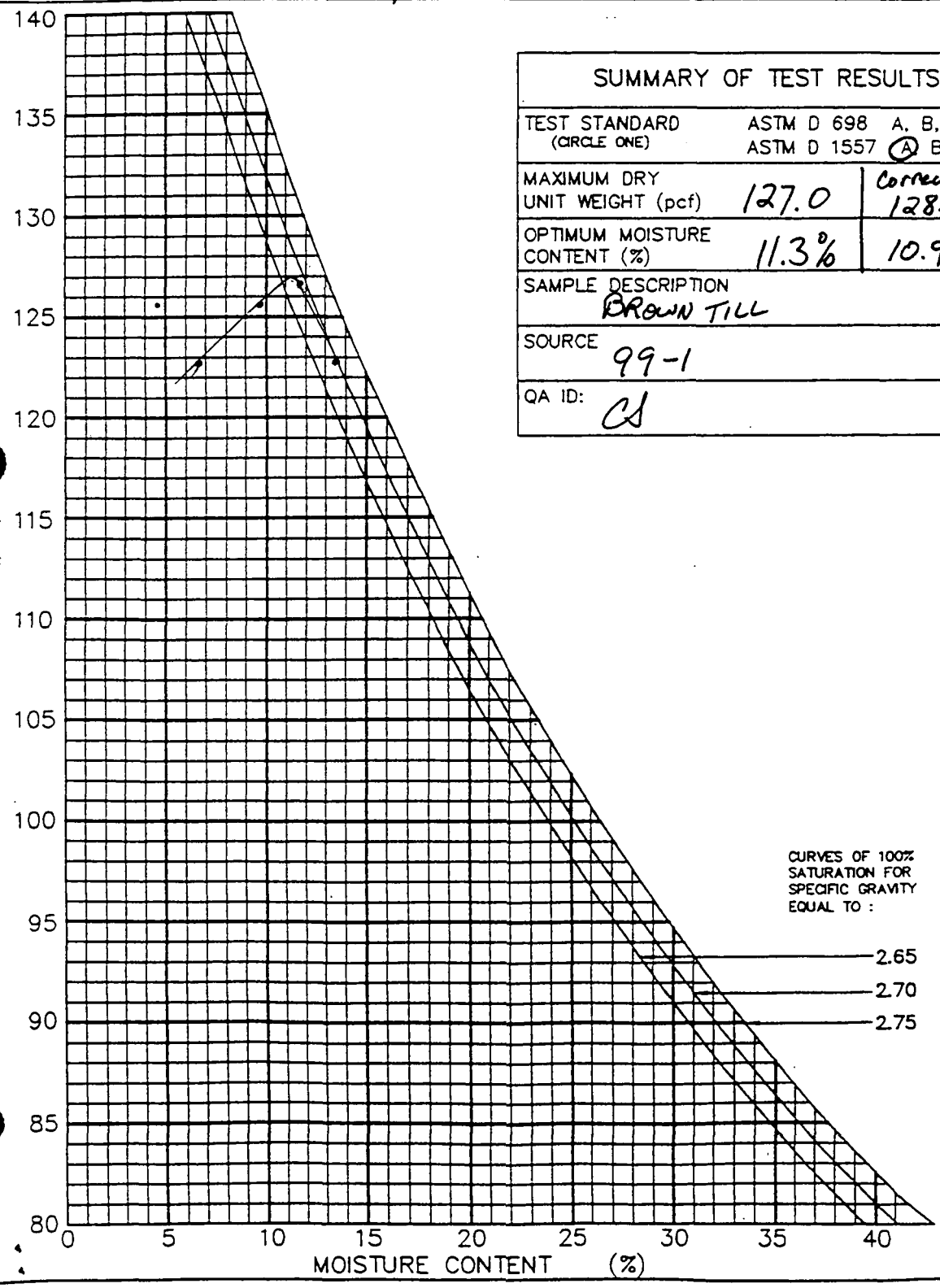
= 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: 18 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LP III-27



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A, B, C ASTM D 1557 (A) B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	127.0	Corrected 128.4
OPTIMUM MOISTURE CONTENT (%)	11.3%	10.9
SAMPLE DESCRIPTION	BROWN TILL	
SOURCE	99-1	
QA ID:	CS	

000563

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 1557 METHOD ~~B~~ A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 17 day MAY month 1999 year

MATERIAL TYPE: L.P. CLAY — SAMPLE NO.: LP III.27

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 4-in. (4.75-mm) SIEVE IS GREATER THAN 20%, AND THE MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 10-lb RAMMER / 18-in. DROP / 5 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.89 2%	14.00 4%	13.94 6%		
A	WT. OF SOIL & MOLD	(grams)	6300.5	6350.4	6323.2		
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4		
C	WT. OF SOIL = A - B	(grams)	2091.1	2141.0	2113.8		
D	WET UNIT WT.(1) = C X 0.066	(pcf)	138.0	141.3	139.5		
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	125.7	126.6	122.9		

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE

	TARE NO.		#1B	#26	#20		
F	WT. OF TARE	(grams)	8.38	8.32	8.31		
G	WT. OF WET SOIL & TARE	(grams)	355.69	365.00	409.1		
H	WT. OF DRY SOIL & TARE	(grams)	324.6	327.8	361.3		
I	WT. OF WATER = G - H	(grams)	31.1	37.2	47.8		
J	WT. DRY SOIL = H - F	(grams)	316.2	319.5	353.0		
K	MOISTURE CONTENT = (I/J) X 100	(%)	9.8	11.6	13.5		

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 1557 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II

DATE: 20 day May month 1999 year

MATERIAL TYPE: L. P. Clay

SAMPLE NO.: LP III-27

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30% AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE A 4-in. DIAMETER MOLD / 10-lb RAMMER / 18-in. DROP / 5 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DCE

	WATER ADDED	(ml)	13.66 7%				
A	WT. OF SOIL & MOLD	(grams)	6196.2				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A - B	(grams)	1986.8				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	131.1				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	122.8				

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DCE

	TARE NO.		#28				
F	WT. OF TARE	(grams)	8.23				
G	WT. OF WET SOIL & TARE	(grams)	299.20				
H	WT. OF DRY SOIL & TARE	(grams)	280.70				
I	WT. OF WATER = G - H	(grams)	18.50				
J	WT. DRY SOIL = H - F	(grams)	272.47				
K	MOISTURE CONTENT = (I/J) X 100	(%)	6.8				

-2737

000565

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 — TASK NO.: 04.1

DESCRIPTION: Phase ~~CRE~~ II — DATE: 21 day MAY month 1998 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-27

Weight of Total Sample	=	30,038
Weight of Oversize Fraction	=	1255.1
Weight of Finer Fraction (-4)	=	28782.9
Percentage of Oversize Fraction	= (P_C)	4.2
Percentage of Finer Fraction (-4)	= (P_F)	95.8
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.113
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	127.0
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (0.113)(95.8) + (0.015)(4.2)$$

$$C_W = \underline{10.9}$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(127.0)(2.72)(62.4) / \left(\frac{127.0}{\cancel{2.72}}\right)(4.2) + (2.72)(62.4)(95.8)$$

$$C_{\delta D} = \underline{128.4}$$

E-2737

FLEXIBLE WALL PERMEABILITY TEST[1]

ASTM D5084

Project Name:	FERNALD OSDF-OPTION YEAR 1
Project Number:	GQ0409-04.1
Client Project Number:	N/A
Client/Site ID:	LPIII-27
Sample Number:	99E99.2
Material Type:	SOIL
Expected/Specified Value:	

Specimen	Test Specimen Initial Conditions					Test Conditions					Hydraulic
No.	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (%)	Cell Press. (psi)	Back Press. (psi)	Consolid. Press. (psi)	Permeant Liquid [3] (-)	Average Gradient (-)	Conductivity (cm/s)
1	R	6.6	7.2	115.0	16.3	63.2	58.2	5.0	DTW	11.0	1.7E-8

Notes:

1. Method C, "Falling-Head, Increasing-Tailwater" test procedures were followed during the testing.
2. Specimen preparation: ST = Shelby Tube, R = Remolded, B = Block Sample.
3. Type of permeant liquid: DTW = Deaired Tap Water, DDI = Deaired Deionized Water

Deviations:
Test Conditions: Laboratory Temperature at 21±3 °C, Laboratory Humidity at 50±10 %
Test specimen final conditions are not presented.

000567

Tested/Checked by: ZR Date: 5-21-99 Approved by: [illegible] Date: 5-21-99

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) -- 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 17 day May month 1999 year

MATERIAL TYPE: L.P. Clay SAMPLE NO.: LP III-28

SOIL SAMPLE SIZE % of +4 Stone 4.99% Total Weight 18082.172 gm

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		+4 Stone BEFORE WASH -4 Sand		+4 AFTER WASH -4	
TARE NO.		K	H	K	K
WT. OF DRY SAMPLE PLUS TARE	(grams)	1061.80	560.50	1003.80	211.64
WT. OF TARE	(grams)	101.65	101.65	101.65	101.65
WT. OF DRY SAMPLE	(grams)	960.1	458.85	902.15	109.99

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	Ø		100
1½"	37.5 ~~25.0~~ DLE	Ø	Ø	Ø		
1"	25.0	44.04	.24	99.8 %		
3/4"	19.0	105.07	.58	99.4 %		90 TO 100
1/2"	12.5	312.40	1.73	98.3 %		
3/8"	9.5	498.70	2.76	97.2 %		
#4	4.75	899.40	4.97	95.0 %		
#10	2.0	15.08	3.3	96.7	① ~~91.2~~ 91.9	
20	0.850	33.05	7.20	92.8	88.2	
40	0.425	50.25	11.0	89.0	84.6	
60	0.250	65.32	14.2	85.8	81.5	
100	0.150	86.19	18.8	81.2	77.1	
200	0.075	109.86	23.9	76.1	72.3	50 to 100
PAN						

000568

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

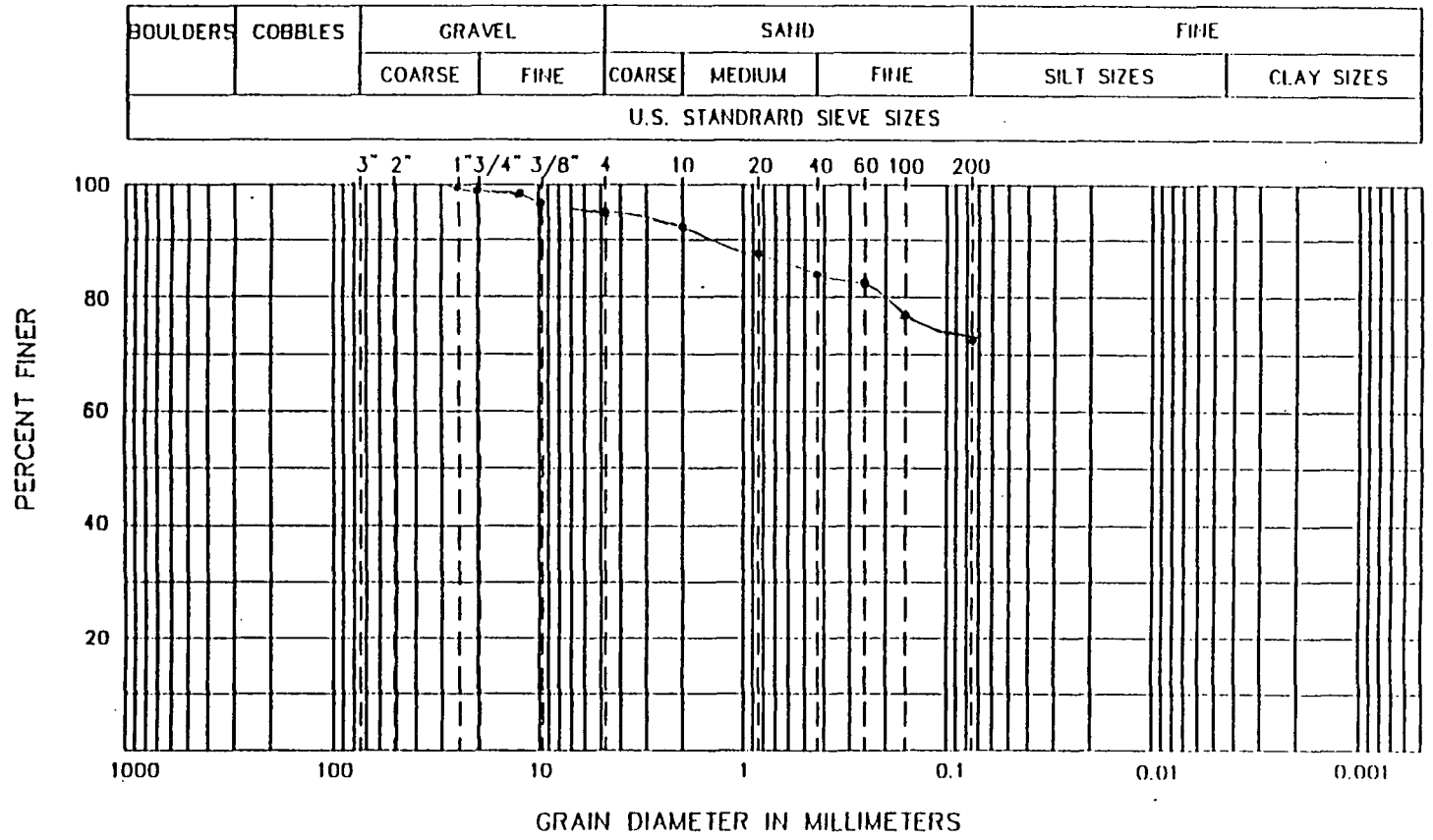
DESCRIPTION: Phase II

DATE: 20 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay

SAMPLE NO.: LP III-28 QA ID: CS

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 30

(PL) 16

(PI) 14

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	99.8
3/4-in.	99.4
1/2-in.	98.3
3/8-in.	97.2
NO. 4	95.0
NO. 10	91.9
NO. 20	88.2
NO. 40	84.6
NO. 60	81.5
NO. 100	77.1
NO. 200	72.3

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	67
0.02	54
0.005	27
0.002	18

SOIL CLASSIFICATION (ASTM D 2487): Lean Clay with Sand (CL)

000569

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SHEET NO. 2 OF 2

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Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE

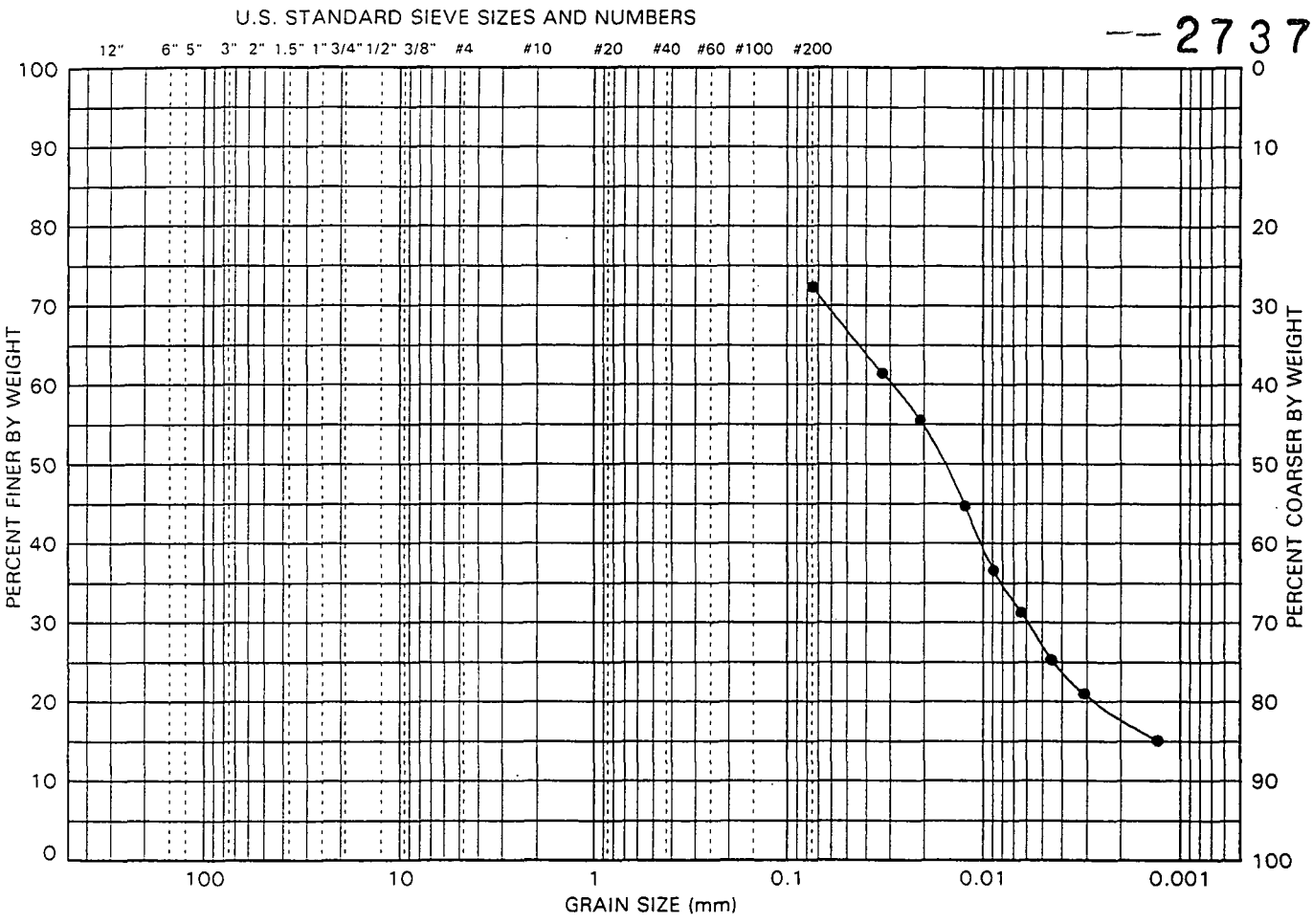
PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/24/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318

—2737



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-28	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	99E161	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%) 72.3
SOIL CLASSIFICATION:				SILT (%) 54.3
				CLAY(%) 18.0
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													72	67	54	27	18	

NOTES:

000570

SD 5,24,99

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 26 day MAY month 1999 year

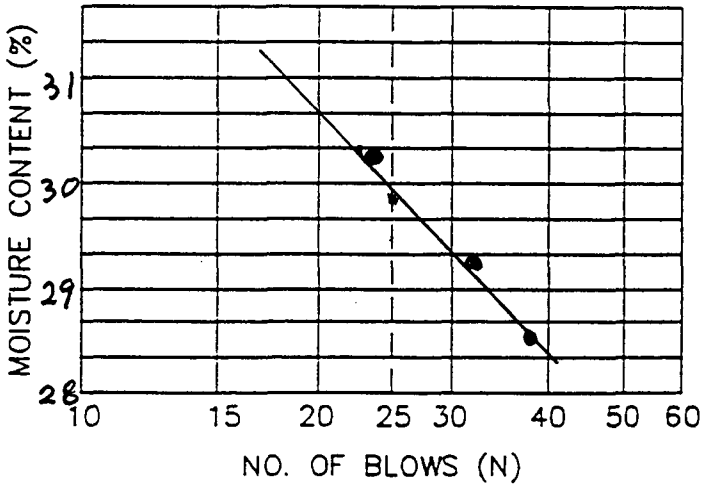
MATERIAL TYPE: L.P. CLAY — SAMPLE NO.: LP III-28

LIQUID LIMIT DETERMINATION

QA ID: DLE/MH

	TARE NO.		1.1	3.2	2.8	
A	WT. OF TARE	(grams)	28.78	27.82	28.47	
B	WT. OF WET SOIL & TARE	(grams)	47.21	46.22	47.34	
C	WT. OF DRY SOIL & TARE	(grams)	43.12	42.05	42.96	
D	WT. OF WATER = B-C	(grams)	4.09	4.17	4.38	
E	WT. OF DRY SOIL = C-A	(grams)	14.34	14.23	14.49	
F	MOISTURE CONTENT = (D/E)X100	(%)	28.52	29.30	30.2	
N	NUMBER OF BLOWS		36	31	23	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE/MH

	TARE NO.		1.2	2.1		
A	WT. OF TARE	(grams)	28.50	28.23		
B	WT. OF WET SOIL & TARE	(grams)	40.65	40.48		
C	WT. OF DRY SOIL & TARE	(grams)	38.96	39.22		
D	WT. OF WATER = B-C	(grams)	1.69	1.96		
E	WT. OF DRY SOIL = C-A	(grams)	10.49	10.99		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.11	16.01		

000571

LIQUID LIMIT (LL) = 29.9 PLASTIC LIMIT (PL) = 16.1 PLASTICITY INDEX (PI) = 13.6

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FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

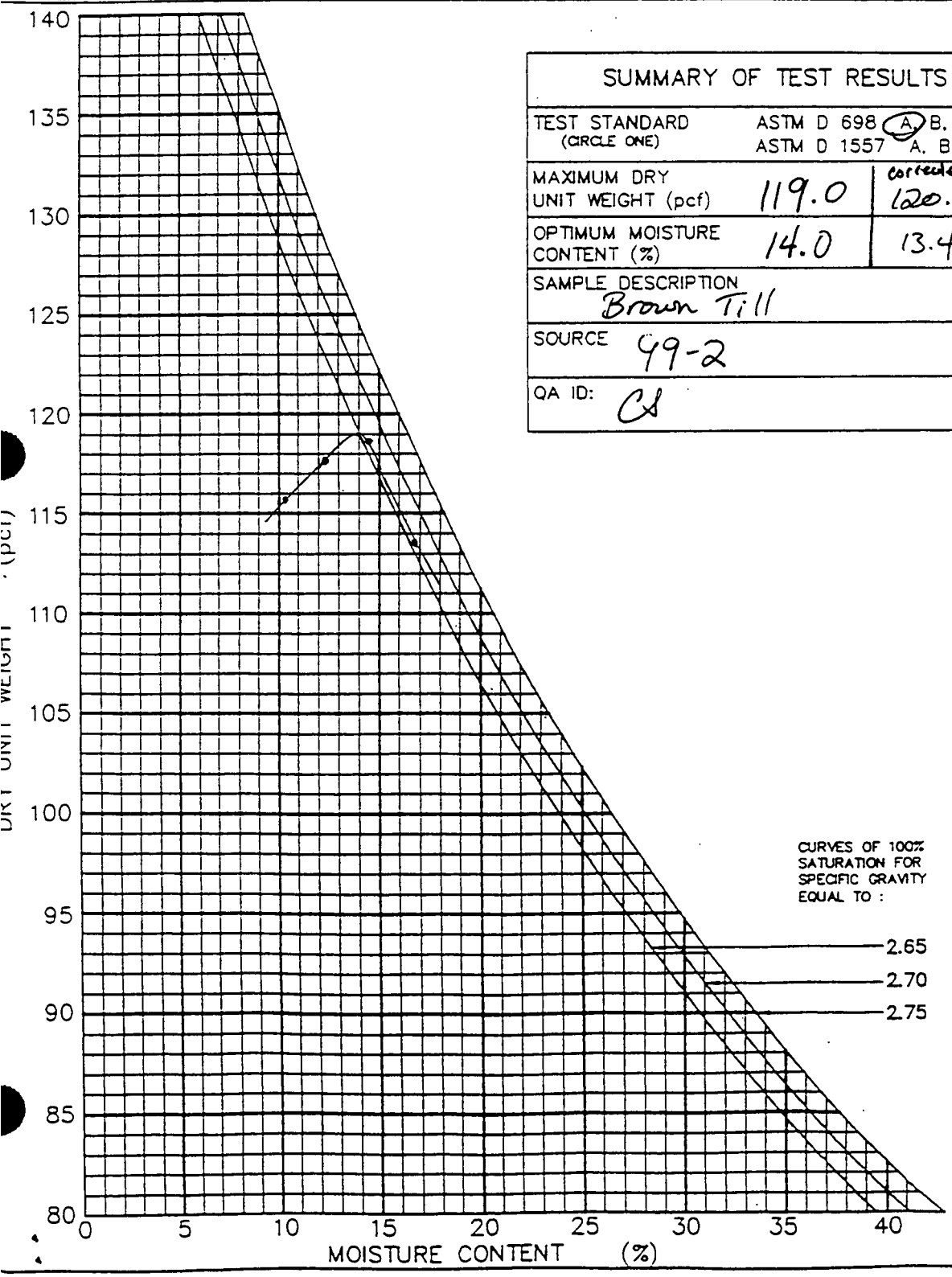
=-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: 20 day MAY month 1999 year

MATERIAL TYPE: Low Perm. Clay SAMPLE NO.: LP III-28



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B. C ASTM D 1557 A. B. C	
MAXIMUM DRY UNIT WEIGHT (pcf)	119.0	corrected 120.8
OPTIMUM MOISTURE CONTENT (%)	14.0	13.4
SAMPLE DESCRIPTION Brown Till		
SOURCE 99-2		
QA ID: CS		

000572

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 19 day 05 month 1999 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LPIII-28

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: MH/CA

	WATER ADDED	(ml)	13.90 8%	13.82 10%	13.71 12%	13.55 6%	
A	WT. OF SOIL & MOLD	(grams)	6214.3	6268.8	6218.9	6146.3	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	2004.9	2059.4	2009.5	~~13~~ 1936.9	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	132.3	135.9	132.6	127.8	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	117.8	118.7	113.5	115.9	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: MH

	TARE NO.		9	24	102	2	
F	WT. OF TARE	(grams)	~~7.25~~ 7.2	8.4	8.2	8.2	
G	WT. OF WET SOIL & TARE	(grams)	331.19	316.7	275.9	278.6	
H	WT. OF DRY SOIL & TARE	(grams)	295.6	277.7	237.3	253.6	
I	WT. OF WATER = G - H	(grams)	35.6	39	38.6	25	
J	WT. DRY SOIL = H - F	(grams)	288.4	269.3	229.1	245.4	
K	MOISTURE CONTENT = (I/J) X 100	(%)	12.3	14.5	16.8	10.2	

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES (ASTM D 4718)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 20 day MAY month 1998 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP II -28

Weight of Total Sample	=	18082.2
Weight of Oversize Fraction	=	~~18082.2~~ ~~17~~ 899.4
Weight of Finer Fraction (-4)	=	~~95%~~ 17182.8
Percentage of Oversize Fraction	= (P_C)	5%
Percentage of Finer Fraction (-4)	= (P_F)	95%
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.140
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	119.0
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W=(W_F P_F)+(W_C P_C)$$

$$C_w = (0.14)(95) + (0.015)(5) = 13.4$$

$$C_w = 13.4$$

$$C\delta_D=100\delta_F G_M \delta_W/(\delta_F P_C)+(G_M \delta_W P_F)$$

$$\cancel{C_{\delta D} = 100(119.0)(2.72)(62.4) + (62.4)}$$

$$C_{\delta D} = 100(119.0)(2.72)(62.4) / (119.0)(5) + (2.72)(62.4)(95)$$

$$C_\delta = 120.8 \text{ pcf}$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) 2737

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 18 day May month 1999 year

MATERIAL TYPE: L.P. CLAY SAMPLE NO.: LP III 29

SOIL SAMPLE SIZE (78.9054 LBS) Total weight 35791.5

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH +4 stone	BEFORE WASH -4 stone	AFTER WASH +4 stone	AFTER WASH
TARE NO.		N	I	N	L-2
WT. OF DRY SAMPLE PLUS TARE	(grams)	2316.8	575.80	2217.1	249.46 DLE
WT. OF TARE	(grams)	101.8	146.63	101.8	146.70
WT. OF DRY SAMPLE	(grams)	2215.0	429.17	2115.3	102.76 DLE

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	Ø		100
1½"	37.5	Ø	Ø	Ø		
1"	25.0 →	24.11	0.07	99.9 %		
3/4"	19.0	293.28	0.82	99.2 %		90 To 100
½"	12.5	980.90	2.74	97.3 %		
3/8"	9.5	1280.00	3.58	96.4 %		
#4	4.75	2111.30	5.90	94.1 %		
10	2.00	14.71	3.43	96.6	90.9	
20	0.850	27.30	6.36	93.6	88.1	
40	0.425	42.80	10.00	90.0	84.7	
60	0.250	57.41	13.38	86.6	81.5	
100	0.150	78.57	18.31	81.7	76.9	
200	0.075	102.63	23.91	76.1	71.6	50 To 100
PAN						

000575

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

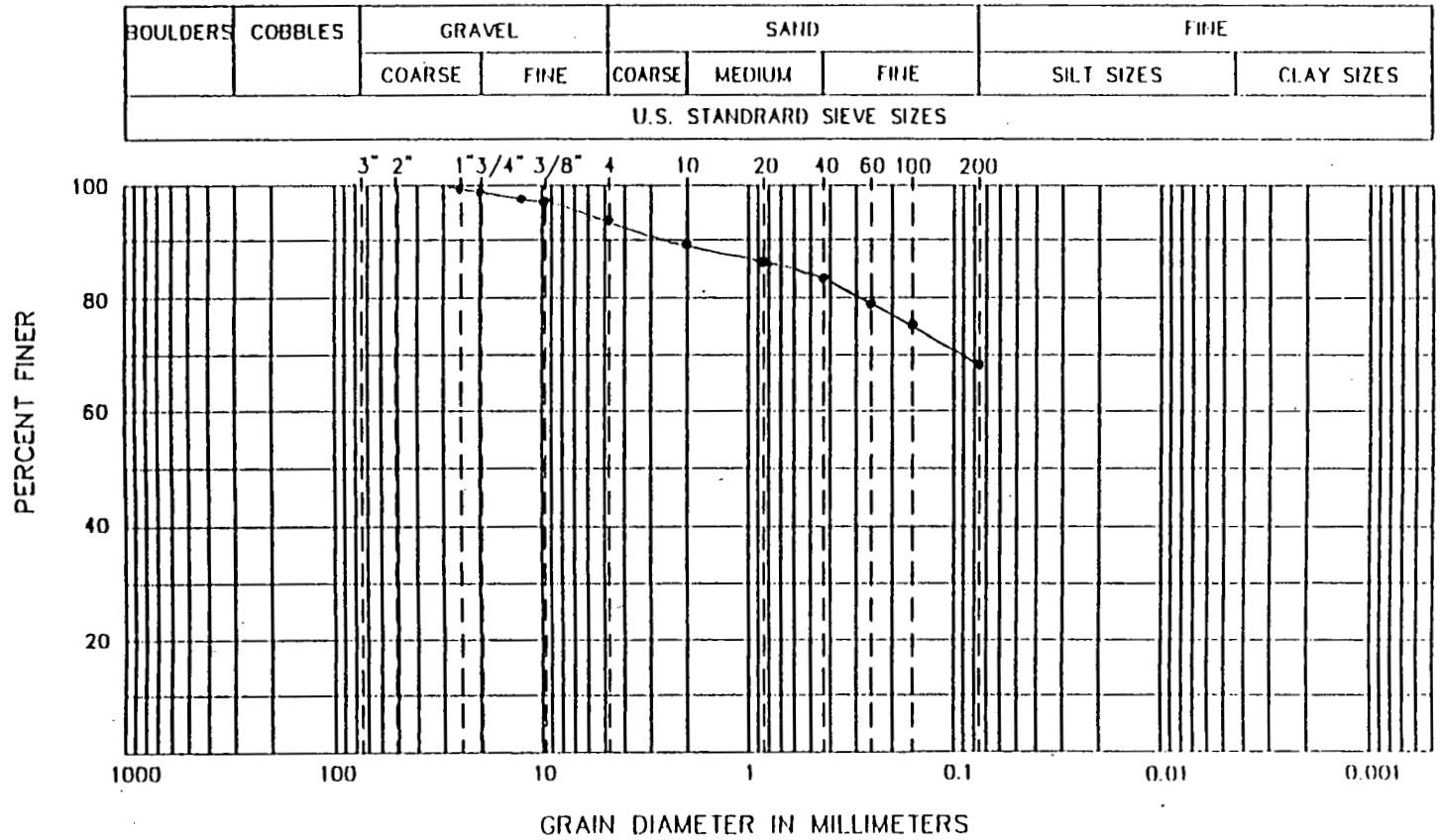
DESCRIPTION: Phase II

DATE: 21 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay

SAMPLE NO.: LPII-29 QA ID: CL

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 30

(PL) 17

(PI) 13

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	99.8
3/4-in.	99.0
1/2-in.	97.8
3/8-in.	96.7
NO. 4	94.2
NO. 10	89.5
NO. 20	85.9
NO. 40	83.0
NO. 60	79.4
NO. 100	75.0
NO. 200	68.4

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	64
0.02	50
0.005	28
0.002	20

SOIL CLASSIFICATION (ASTM D 2487): lean clay with sand (CL)

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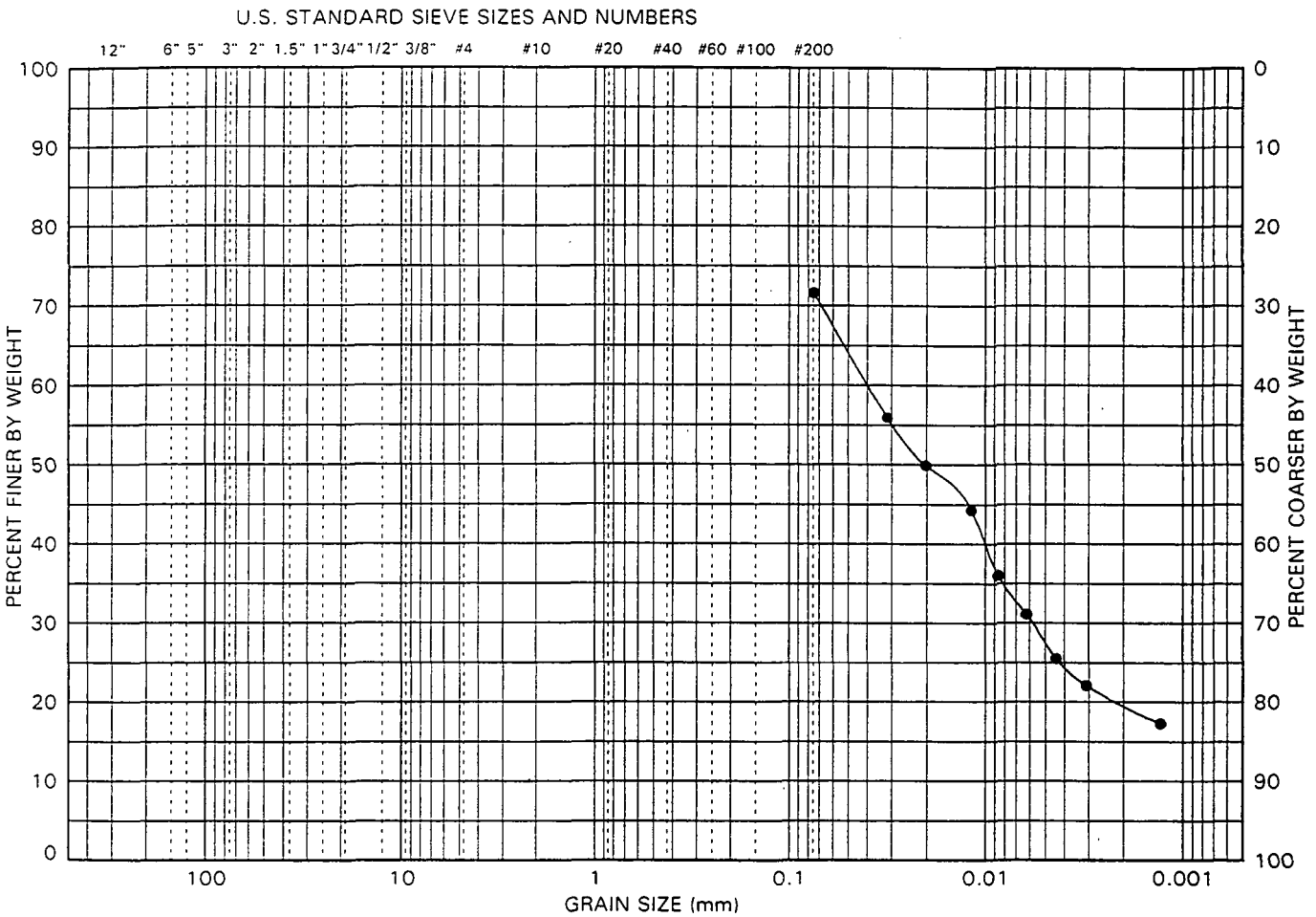
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE 2737
PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/24/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID LPIII-29	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)	
LAB. SAMPLE NO. 99E162	PLASTIC LIMIT (%)		SAND (%)	
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)	71.6
SOIL CLASSIFICATION:			SILT (%)	51.9
			CLAY(%)	19.7
			COEFF. UNIFORMITY (Cu)	
			COEFF. CURVATURE (Cc)	

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													72	64	50	28	20	

NOTES:

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JD 5/24/99

On dun #22 Tare LP III-29 Atterbe Mixed

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 28 day MAY month 1999 year

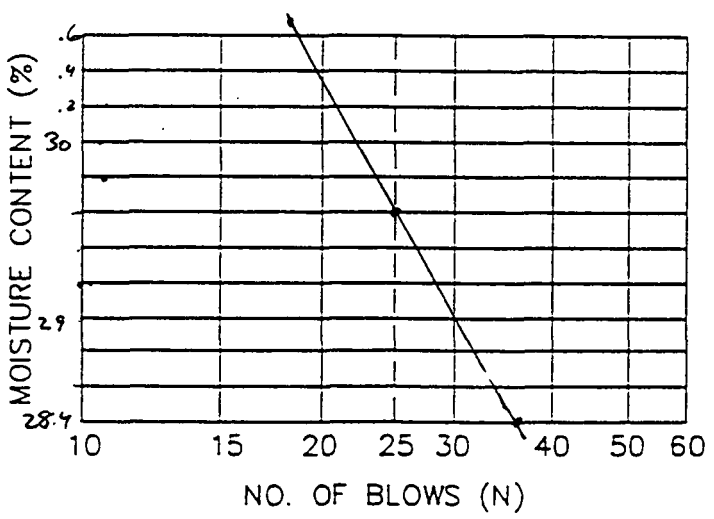
MATERIAL TYPE: Low perm clay SAMPLE NO.: LP III-29

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.8	2.8	3.2	
A	WT. OF TARE	(grams)	28.79	28.47	27.83	
B	WT. OF WET SOIL & TARE	(grams)	43.30	42.99	43.53	
C	WT. OF DRY SOIL & TARE	(grams)	40.09	39.67	39.84	
D	WT. OF WATER = B-C	(grams)	3.21	3.32	3.69	
E	WT. OF DRY SOIL = C-A	(grams)	11.3	11.2	12.01	
F	MOISTURE CONTENT = (D/E)X100	(%)	28.4	29.6	30.7	
N	NUMBER OF BLOWS		36	25	18	

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.2	2.1		
A	WT. OF TARE	(grams)	28.51	28.23		
B	WT. OF WET SOIL & TARE	(grams)	43.65	43.43		
C	WT. OF DRY SOIL & TARE	(grams)	41.49	41.32		
D	WT. OF WATER = B-C	(grams)	~~3.22~~ 2.16	2.11		
E	WT. OF DRY SOIL = C-A	(grams)	12.98	~~13.7~~ 13.09		
F	MOISTURE CONTENT = (D/E)X100	(%)	~~16.9~~ 16.6	16.1		

000578

LIQUID LIMIT (LL) = 29.6 PLASTIC LIMIT (PL) = ~~16.5~~ 16.4 PLASTICITY INDEX (PI) = 13.0

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FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

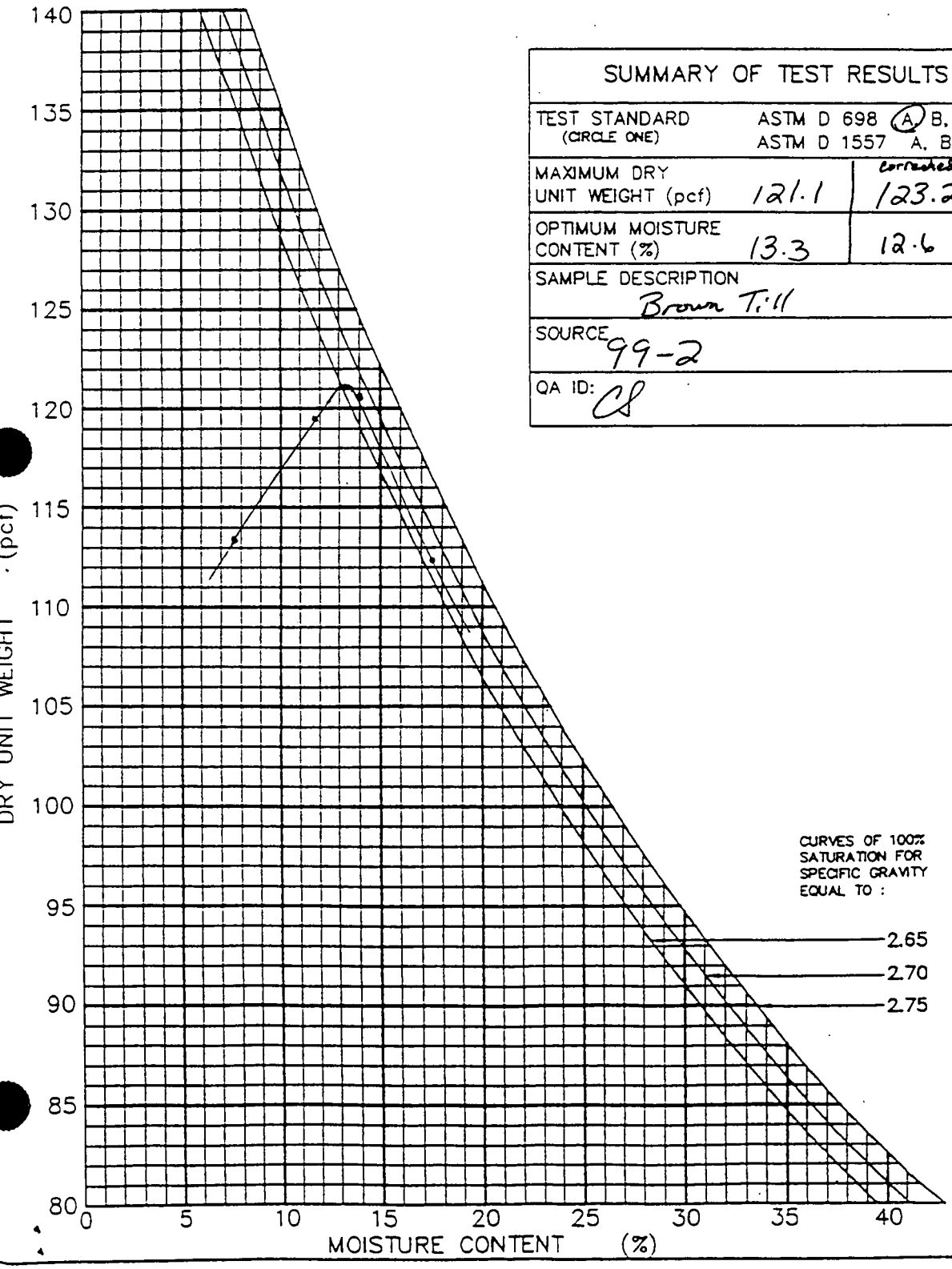
= 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 — TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 22 day MAY month 1999 year

MATERIAL TYPE: ~~LP III-2~~ Lawpern clay — SAMPLE NO.: LP III-29



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B, C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	121.1	corrected 123.2
OPTIMUM MOISTURE CONTENT (%)	13.3	12.6
SAMPLE DESCRIPTION	Brown Till	
SOURCE	99-2	
QA ID:	CS	

000579

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.

DESCRIPTION: Phase ~~one~~ II — DATE: 22 day MAY month 1998 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LPII-29

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: [illegible]

	WATER ADDED	(ml)	13.69 12%	13.88 10%	13.74 8%	13.76 4%	
A	WT. OF SOIL & MOLD	(grams)	6209.8	6296.0	6232.5	6060.1	
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A − B	(grams)	2000.4	2086.6	2023.1	1850.7	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	132.0	137.7	133.5	122.1	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	112.3	120.8	119.5	113.4	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: [illegible]

	TARE NO.		104	11	30	11	
F	WT. OF TARE	(grams)	8.3	7.4	8.4	7.3	
G	WT. OF WET SOIL & TARE	(grams)	301.70	321.20	334.3	303.4	
H	WT. OF DRY SOIL & TARE	(grams)	258.02	282.60	300.19	282.3	
I	WT. OF WATER = G − H	(grams)	43.7	38.6	34.1	21.1	
J	WT. DRY SOIL = H − F	(grams)	249.7	275.2	291.8	275.0	
K	MOISTURE CONTENT = (I/J) X 100	(%)	17.5	14.0	11.7	~~7.8~~ 7.7	

2737

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GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC CHECKED BY: _____ SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 22 day MAY month 1998 year

MATERIAL TYPE: Clay Liner — SAMPLE NO.: LP III-29

Weight of Total Sample	=	35,791.5
Weight of Oversize Fraction	=	2111.3
Weight of Finer Fraction (-4)	=	33680.2
Percentage of Oversize Fraction	= (P_C)	5.9
Percentage of Finer Fraction (-4)	= (P_F)	94.1
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.133
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	121.1
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_w = (0.133)(94.1) + (0.015)(5.9)$$

$$C_w = 12.6\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(121.1)(2.72)(62.4) / (121.1)(5.9) + (2.72)(62.4)(94.1)$$

$$C_{\delta D} = 123.2$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE-DENSITY RELATIONSHIP

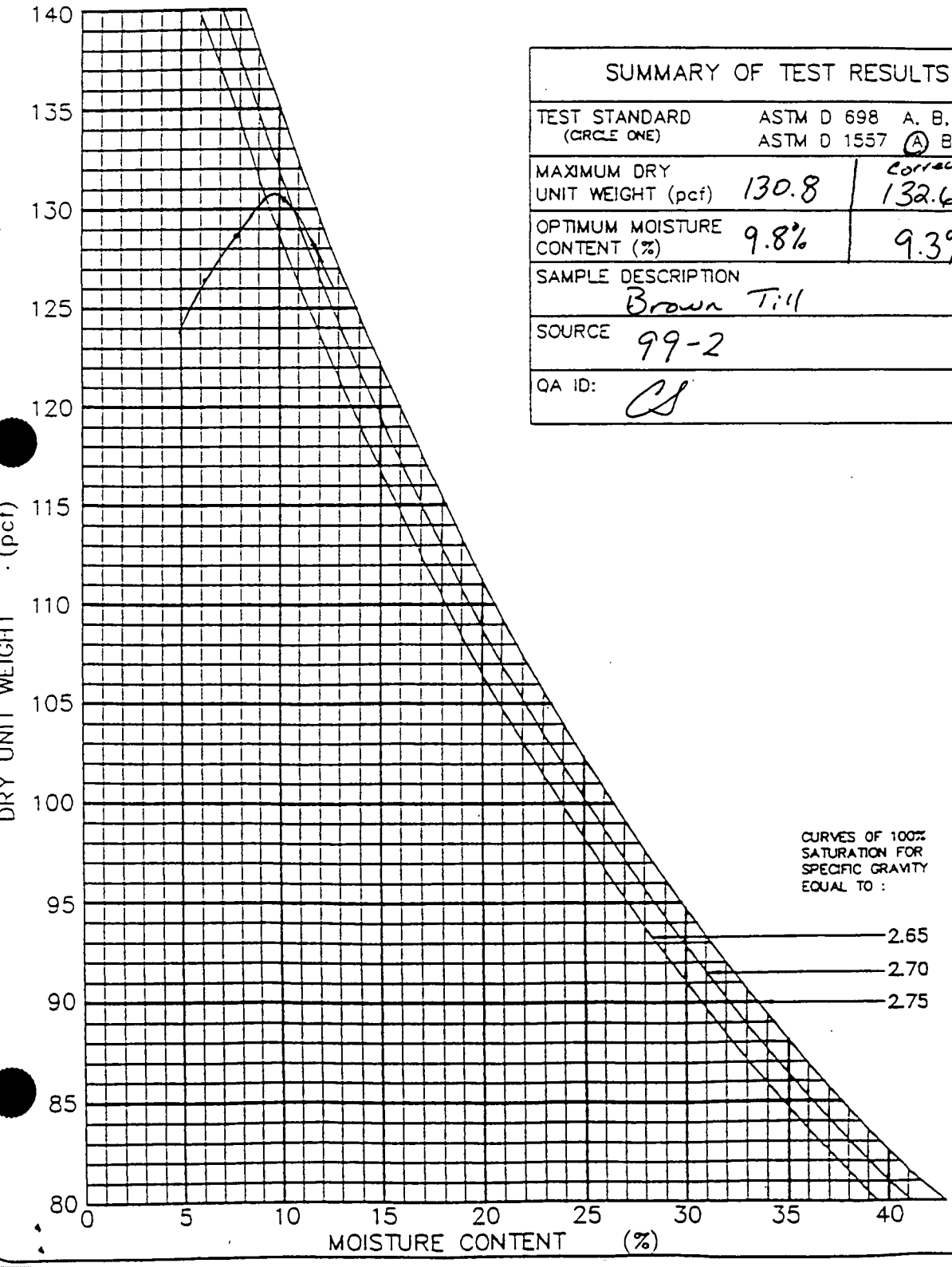
=-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II DATE: 28 day MAY month 1999 year

MATERIAL TYPE: LOW Perm clay SAMPLE NO.: LP III-29



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A, B, C ASTM D 1557 (A) B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	130.8	Corrected 132.6
OPTIMUM MOISTURE CONTENT (%)	9.8%	9.3%
SAMPLE DESCRIPTION	Brown Till	
SOURCE	99-2	
QA ID:	CS	

000582

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 1557 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 27 day MAY month 1999 year

MATERIAL TYPE: L.P CLAY — SAMPLE NO.: LP III. ~~31~~ 29

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30% AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE A 4-in. DIAMETER MOLD / 10-lb RAMMER / 18-in. DROP / 5 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

			14.08	14.06	13.97	13.76	
	WATER ADDED	(ml)	4%	6%	2%	0%	
A	WT. OF SOIL & MOLD	(grams)	6386.7	6377.6	6314.1	6241.5	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A − B	(grams)	2177.3	2168.2	2104.7	2032.1	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	143.7	143.1	138.9	134.1	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	130.4	128.1	128.7	126.4	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT – ASTM D 2216

QA ID: DLE

	TARE NO.		#21	#13	#1	#27	
F	WT. OF TARE	(grams)	8.43	8.24	8.21	8.17	
G	WT. OF WET SOIL & TARE	(grams)	386.90	350.61	327.85	379.55	
H	WT. OF DRY SOIL & TARE	(grams)	352.01	314.74	304.36	358.22	
I	WT. OF WATER = G − H	(grams)	34.89	35.87	23.49	21.33	
J	WT. DRY SOIL = H − F	(grams)	343.58	306.5	296.15	350.05	
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.2	11.7	7.9	6.1 ~~6.09~~	

1-2737

0005583

GEOSYNTEC CONSULTANTS FILE NO. 2-08-FLC — CHECKED BY: [illegible] — SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

-2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES *(ASTM D 4718)*

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 28 day MAY month ~~1998~~ 1999 year

MATERIAL TYPE: Low Perm clay — SAMPLE NO.: LP III-29

Weight of Total Sample	=	35,791.5
Weight of Oversize Fraction	=	2111.3
Weight of Finer Fraction (-4)	=	33680.2
Percentage of Oversize Fraction	= (P_C)	5.9
Percentage of Finer Fraction (-4)	= (P_F)	94.1
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.098
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	130.8
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_W = (94.1)(0.098) + (5.9)(0.015)$$

$$C_W = 9.3\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(130.8)(2.72)(62.4) / (130.8)(5.9) + (2.72)(62.4)(94.1)$$

$$C_{\delta D} = 132.6 \text{ pcf}$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 18 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LP III - 30

SOIL SAMPLE SIZE

Total 20,562.3

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH		AFTER WASH	
TARE NO.		K	L-4	K	L-4
WT. OF DRY SAMPLE PLUS TARE	(grams)	~~1066.9~~ 1766.9	786.4	1655.7	319.93
WT. OF TARE	(grams)	146.6	146.6	101.6	146.60
WT. OF DRY SAMPLE	(grams)	1620.3	639.8	1554.1	17333

SIEVE ANALYSIS

QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	Ø		100
1 1/2"	37.5	Ø	Ø	Ø		
1"	25.0	Ø	Ø	Ø		
3/4"	19.0	329.2	1.6	98.4 %		90 To 100
1/2"	12.5	771.1	3.75	96.2 ~~96.3~~ %		
3/8"	9.5	986.9	4.80	95.2 %		
#4	4.75	1551.0	7.54	92.5 %		
10	2.00	35.52	5.55	94.5 ~~95.5~~	~~88.3~~ 87.4	
20	0.850	63.95	10.00	90.0	~~83.3~~ 83.2	
40	0.425	89.46	13.98	86.0	79.6	
60	0.250	110.99	17.35	82.7	76.5	
100	0.150	141.23	22.10	77.9	72.1	
200	0.075	173.08	27.10	72.9	67.4	50 To 100
PAN						

000585

%FINER = 100 − Σ% RETAINED

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

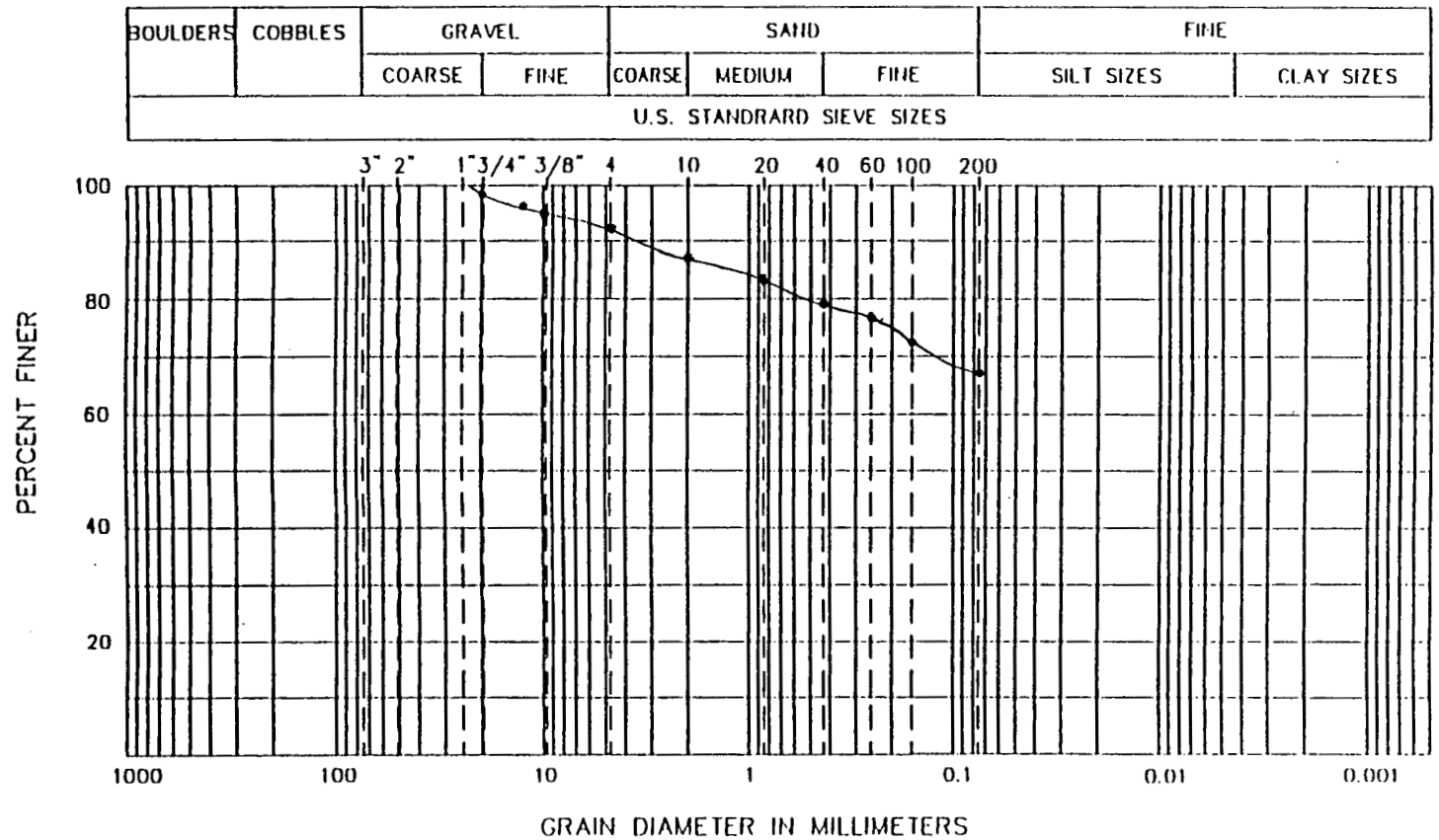
DESCRIPTION: Phase II

DATE: 21 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay

SAMPLE NO.: LP III-30 QA ID: CL

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 28

(PL) 16

(PI) 12

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	100
3/4-in.	98.4
1/2-in.	96.2
3/8-in.	95.2
NO. 4	92.5
NO. 10	87.4
NO. 20	83.2
NO. 40	79.6
NO. 60	76.5
NO. 100	72.1
NO. 200	67.4

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	63
0.02	50
0.005	26
0.002	19

SOIL CLASSIFICATION (ASTM D 2487): CL - lean clay with sand

985000

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Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE

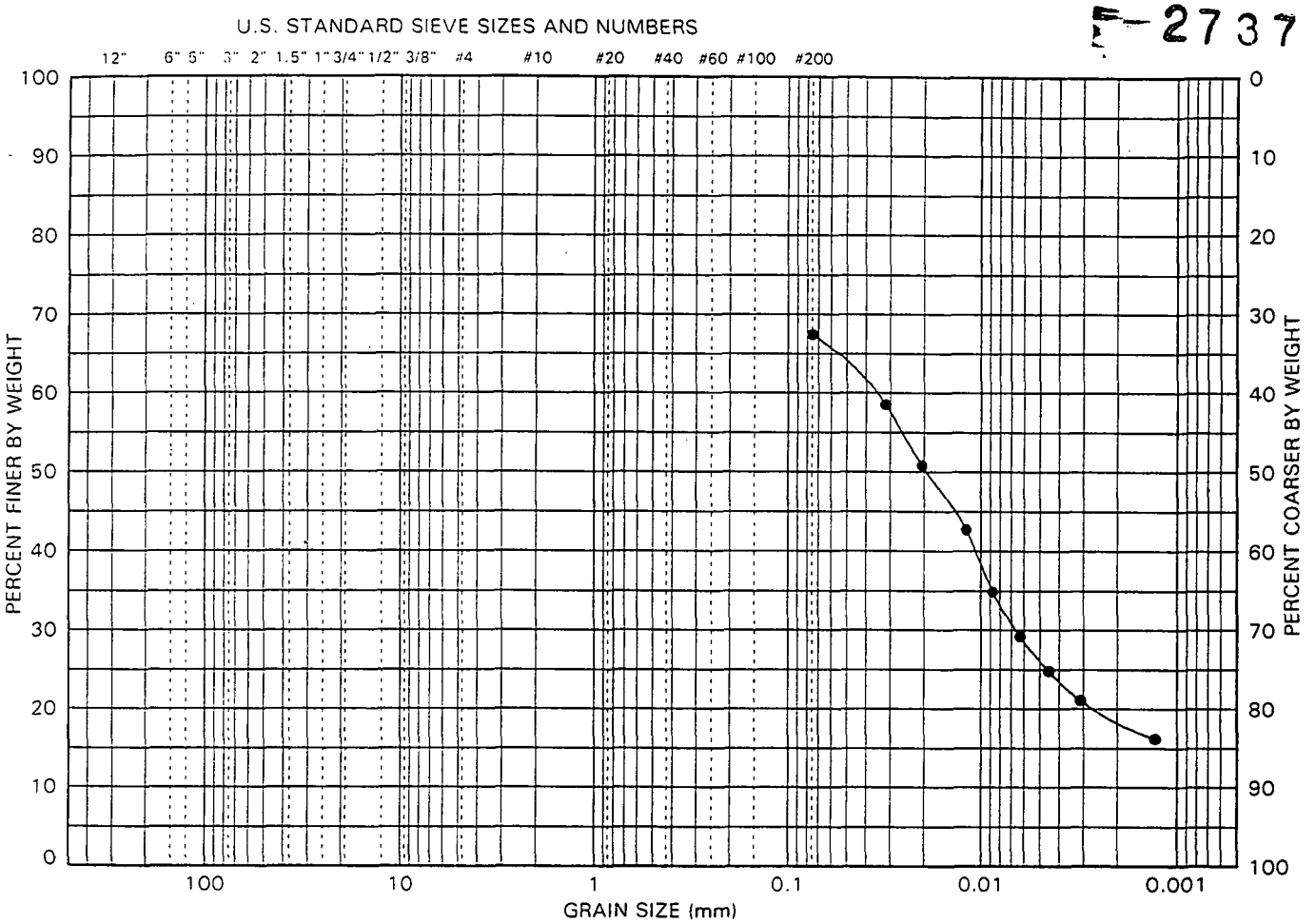
PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/24/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487
D 3042 AND D 4318

F-2737



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-30	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)	
LAB. SAMPLE NO.	99E163	PLASTIC LIMIT (%)		SAND (%)	
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)	67.4
SOIL CLASSIFICATION:				SILT (%)	48.8
				CLAY(%)	18.6
				COEFF. UNIFORMITY (Cu)	
				COEFF. CURVATURE (Cc)	

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													67	63	50	26	19	

NOTES:

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

F-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GO0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 28 day MAY month 1999 year

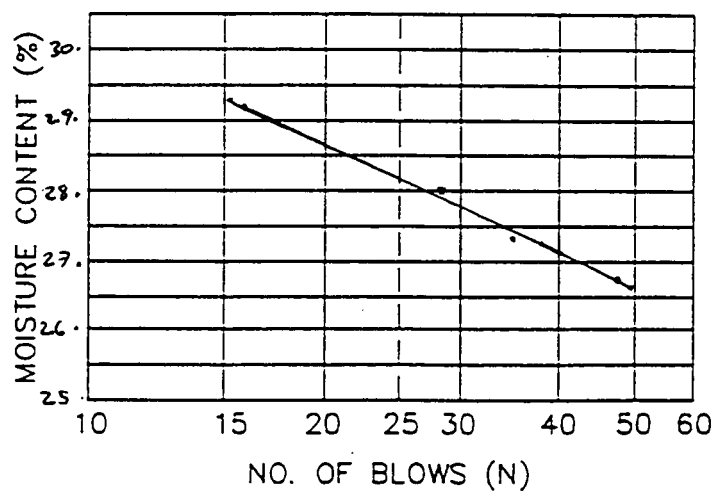
MATERIAL TYPE: Low perm clay SAMPLE NO.: LPII-30

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.4	2.6	2.3	3.1
A	WT. OF TARE	(grams)	28.51	28.55	31.19	28.38
B	WT. OF WET SOIL & TARE	(grams)	42.28	46.62	49.40	42.09
C	WT. OF DRY SOIL & TARE	(grams)	39.39	42.74	45.40	38.99
D	WT. OF WATER = B-C	(grams)	2.89	3.88	4.0	3.1
E	WT. OF DRY SOIL = C-A	(grams)	10.88	14.19	14.21	10.61
F	MOISTURE CONTENT = (D/E)X100	(%)	26.6	27.3	~~28.2~~ 28.1	29.2
N	NUMBER OF BLOWS		47	35	28	16

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.3	2.7		
A	WT. OF TARE	(grams)	28.64	28.68		
B	WT. OF WET SOIL & TARE	(grams)	36.32	38.42		
C	WT. OF DRY SOIL & TARE	(grams)	35.26	37.07		
D	WT. OF WATER = B-C	(grams)	1.06	1.35		
E	WT. OF DRY SOIL = C-A	(grams)	6.62	8.39		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.0	16.1		

000588

LIQUID LIMIT (LL) = 28.2 PLASTIC LIMIT (PL) = 16.0 PLASTICITY INDEX (PI) = 12

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FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

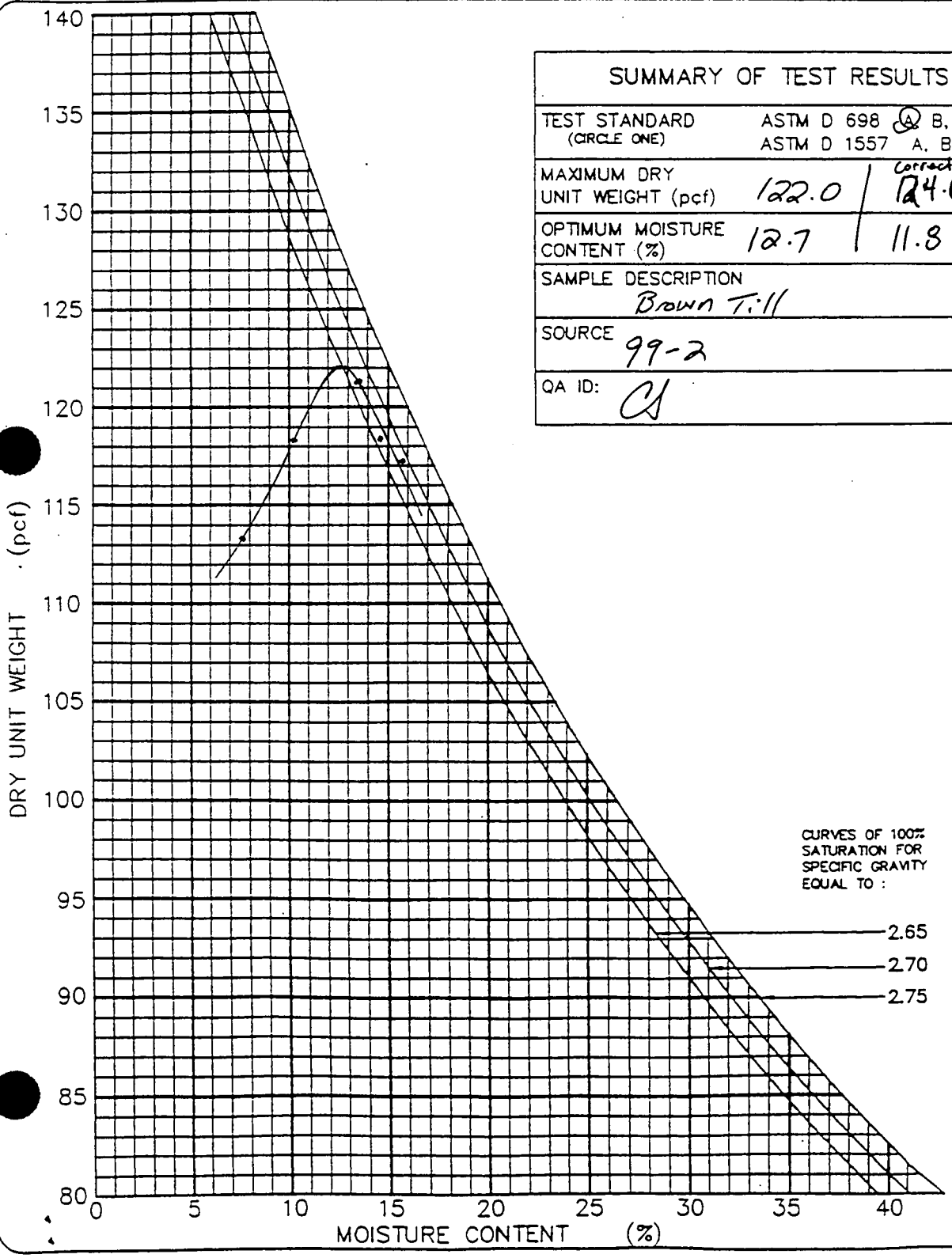
2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 26 day MAY month 1999 year

MATERIAL TYPE: Low Form Clay — SAMPLE NO.: LP III-30



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A) B, C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	122.0	Corrected 124.6
OPTIMUM MOISTURE CONTENT (%)	12.7	11.8
SAMPLE DESCRIPTION	Brown Till	
SOURCE	99-2	
QA ID:	CJ	

000589

SHEET NO. 2 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 25 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-30

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: _____

	WATER ADDED	(ml)	13.88 10%	13.81 12%	13.68 7%	13.35 4%	13.81
A	WT. OF SOIL & MOLD	(grams)	6296.0	6264.2	6182.6	6055.4	6264.2
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A − B	(grams)	2086.6	2054.8	1973.2	1846.2	2054.8
D	WET UNIT WT.(1) = C X 0.066	(pcf)	137.7	135.6	130.2	121.9	135.6
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	121.3	117.1	118.3	113.2	118.4

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT — ASTM D 2216

QA ID: _____

	TARE NO.		104	A	28	105	21
F	WT. OF TARE	(grams)	8.3	8.3	8.2	8.3	8.4
G	WT. OF WET SOIL & TARE	(grams)	308.7	335.4	306.8	320.8	345.2
H	WT. OF DRY SOIL & TARE	(grams)	272.9	290.73	279.5	298.4	302.6
I	WT. OF WATER = G − H	(grams)	35.8	44.7	27.3	22.4	42.6
J	WT. DRY SOIL = H − F	(grams)	264.6	282.4	271.3	290.1	294.2
K	MOISTURE CONTENT = (I/J) X 100	(%)	13.5	15.8	10.1	7.7	14.5

000590

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CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES *(ASTM D 4718)*

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 26 day MAY month 1998 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-30

Weight of Total Sample	=	20,562.3
Weight of Oversize Fraction	=	1551.0
Weight of Finer Fraction (-4)	=	19011.3
Percentage of Oversize Fraction	= (P_C)	7.5%
Percentage of Finer Fraction (-4)	= (P_F)	92.5
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.127
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	122.0
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_w = (0.127)(92.4) + (0.015)(7.5)$$

$$C_w = 11.8\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(122.0)(2.72)(62.4) / (122.0)(7.5) + (2.72)(62.4)(92.5)$$

$$C_w = 124.6 \text{ pcf}$$

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II — DATE: 21 day MAY month 1999 year

MATERIAL TYPE: L.P. CLAY — SAMPLE NO.: LP III-31

SOIL SAMPLE SIZE ([redacted] % of +4 Stone) 85.353 LBS Total weight 38716.02

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	+4 BEFORE WASH	-4	+4 in oven AFTER WASH	-4 in oven
TARE NO.	K	N	K	N
WT. OF DRY SAMPLE PLUS TARE (grams)	2450.0	589.0	2337.8	235.19
WT. OF TARE (grams)	101.6	101.8	101.6	101.72
WT. OF DRY SAMPLE (grams)	2348.4	487.2	2236.2	133.47

SIEVE ANALYSIS — QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0	100		100
1 1/2"	37.5	0	0	100		
1"	25.0 →	79.81	0.2 ~~23.97~~	99.8		
3/4"	19.0	370.50	1.0	99.0		90 to 100
1/2"	12.5	641.10	2.2	97.8		
3/8"	9.5	1281.00	3.3	96.7		
#4	4.75	2234.60	5.8	94.2		
#10	2.00	24.29 [redacted]	5.0	95.0	89.5	
#20	0.850	42.81	8.8	~~91.2~~ 91.2	85.9	
#40	0.425	60.72	12.5	87.5	83.0	
#60	0.250	76.58	15.7	84.3	79.4	
#100	0.150	99.08	20.3	79.7	75.0	
#200	0.075	133.24	27.3	72.7	68.4	50 to 100
PAN						

000592

%FINER = 100 − Σ% RETAINED

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SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0409 TASK NO.: 04.1

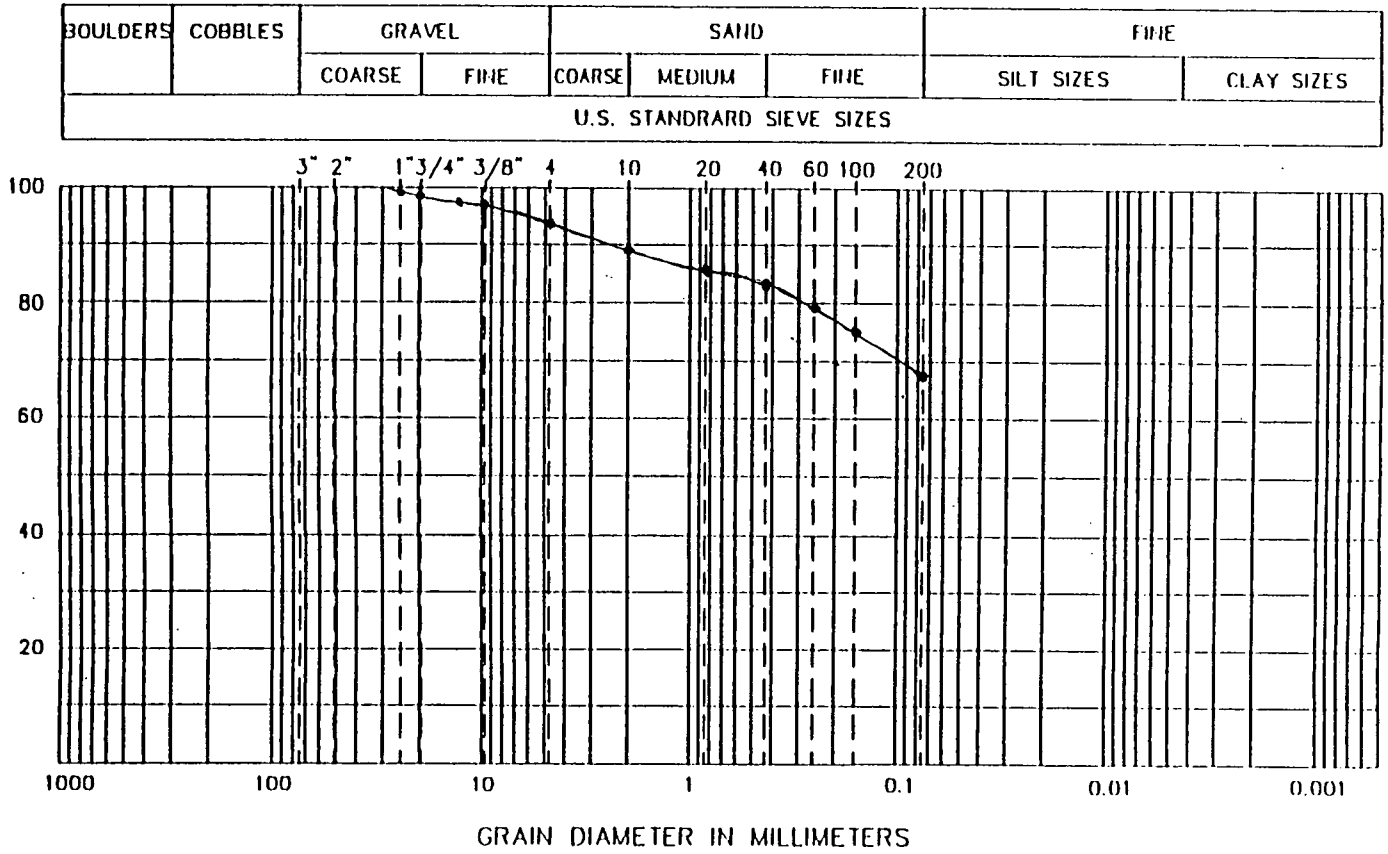
DESCRIPTION: Phase II

DATE: 21 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay

SAMPLE NO.: LPII-31 QA ID: CL

CURVE COEFFICIENTS: (C_u) ..... (C_c) .....



ATTERBERG LIMITS

(LL) 29

(PL) 17

(PI) 12

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	100
1-in.	99.8
3/4-in.	99.0
1/2-in.	97.8
3/8-in.	96.7
NO. 4	94.2
NO. 10	89.5
NO. 20	85.9
NO. 40	83.0
NO. 60	79.4
NO. 100	75.0
NO. 200	68.4

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
0.05	63
0.02	47
0.005	24
0.002	17

SOIL CLASSIFICATION (ASTM D 2487): CL - lean clay with sand

000593

2737

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GEO SYNTEC CONSULTANTS
Geomechanics and Environmental Laboratory
Atlanta, Georgia

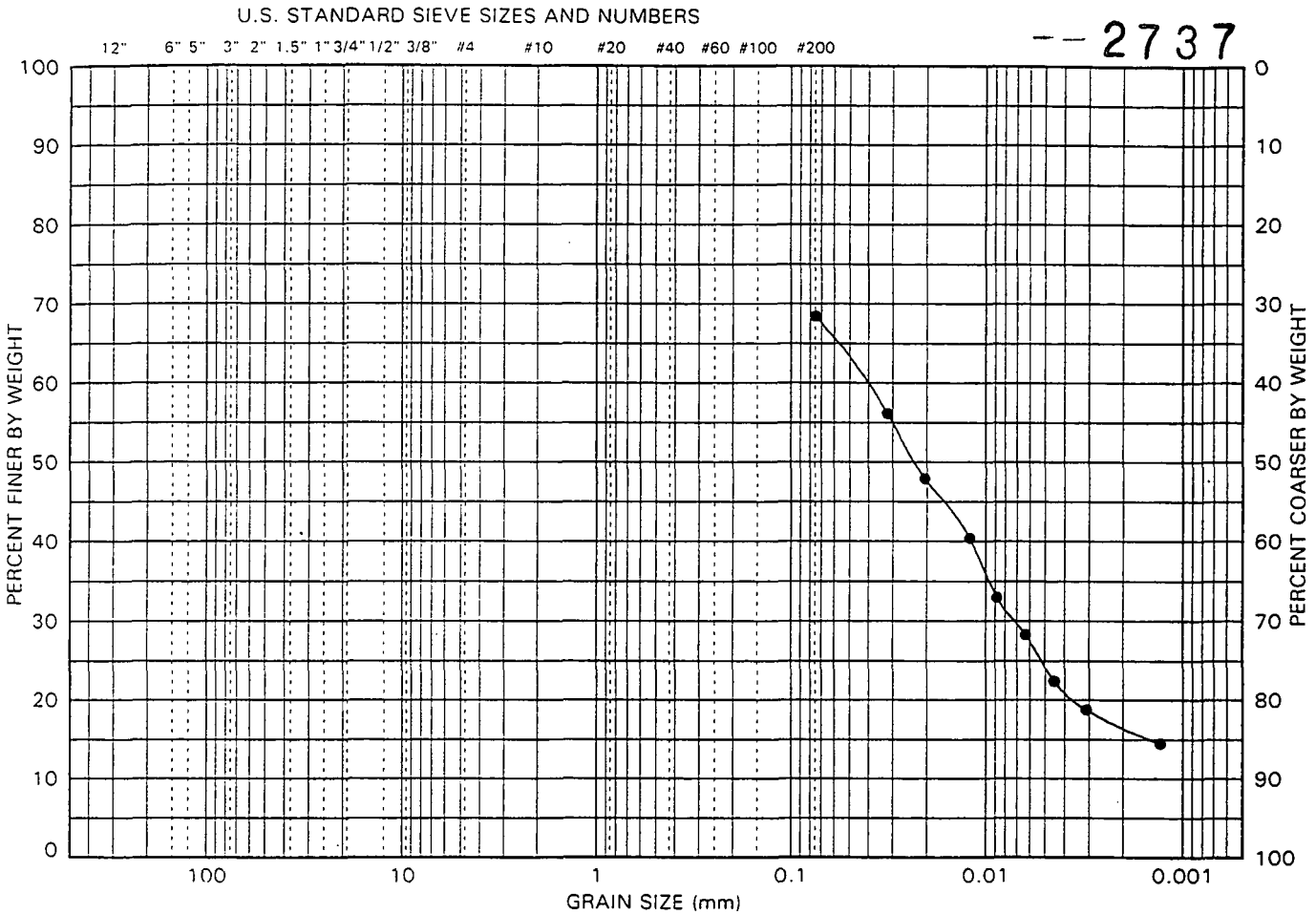
FIGURE

PROJECT: FERNALD OSDF-OPTION YEAR 1
PROJECT NO.: GQ0409
DOCUMENT NO.:

GS FORM: 4PS2 05/24/99

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



BOULDERS	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID	LPIII-31	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	99E164	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%) 68.4
SOIL CLASSIFICATION:				SILT (%) 51.8
				CLAY(%) 16.6
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS														PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)				
3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200					
PERCENT PASSING SIEVE SIZES (mm)																		
75	50	37.5	25	19	12.5	9.5	4.75	2.00	0.850	0.425	0.250	0.150	0.075	0.050	0.020	0.005	0.002	0.001
													68	63	47	24	17	

NOTES:

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JD 5/24/99

Tare F as oven

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

-2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 1 day June month 1999 year

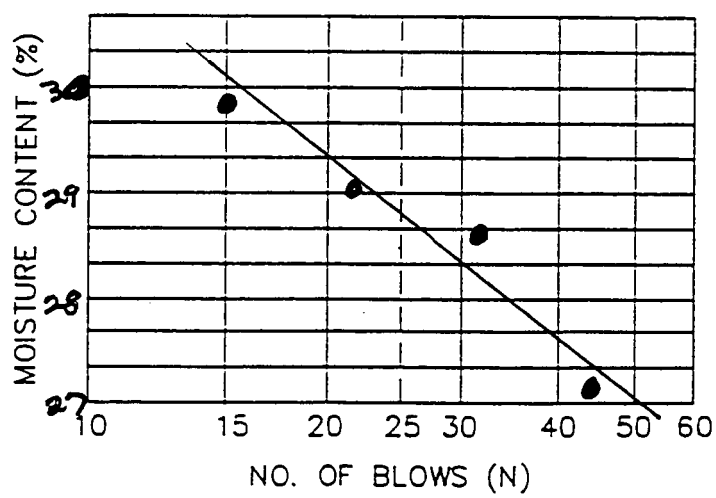
MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LP III · 31

LIQUID LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		1.3	2.5	3.1	1.1
A	WT. OF TARE	(grams)	28.65	28.47	28.38	28.78
B	WT. OF WET SOIL & TARE	(grams)	43.50	46.18	44.24	46.52
C	WT. OF DRY SOIL & TARE	(grams)	40.32	42.22	40.67	42.44
D	WT. OF WATER = B-C	(grams)	3.18	3.96	3.57	4.08
E	WT. OF DRY SOIL = C-A	(grams)	11.67	13.8	12.29	13.66
F	MOISTURE CONTENT = (D/E)X100	(%)	27.2	28.7	29.1 MH ~~29.0~~	29.9
N	NUMBER OF BLOWS		44	31	22	15

DRYING TARE NO.



CURING TARE NO.

PLASTIC LIMIT DETERMINATION

QA ID: DLE

	TARE NO.		2.7	1.2		
A	WT. OF TARE	(grams)	28.69	28.51		
B	WT. OF WET SOIL & TARE	(grams)	39.39	39.21		
C	WT. OF DRY SOIL & TARE	(grams)	37.87	37.69		
D	WT. OF WATER = B-C	(grams)	1.52	1.52		
E	WT. OF DRY SOIL = C-A	(grams)	9.18	9.18		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.6	16.6		

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LIQUID LIMIT (LL) = 28.8 PLASTIC LIMIT (PL) = 16.6 PLASTICITY INDEX (PI) = 12.2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

2737

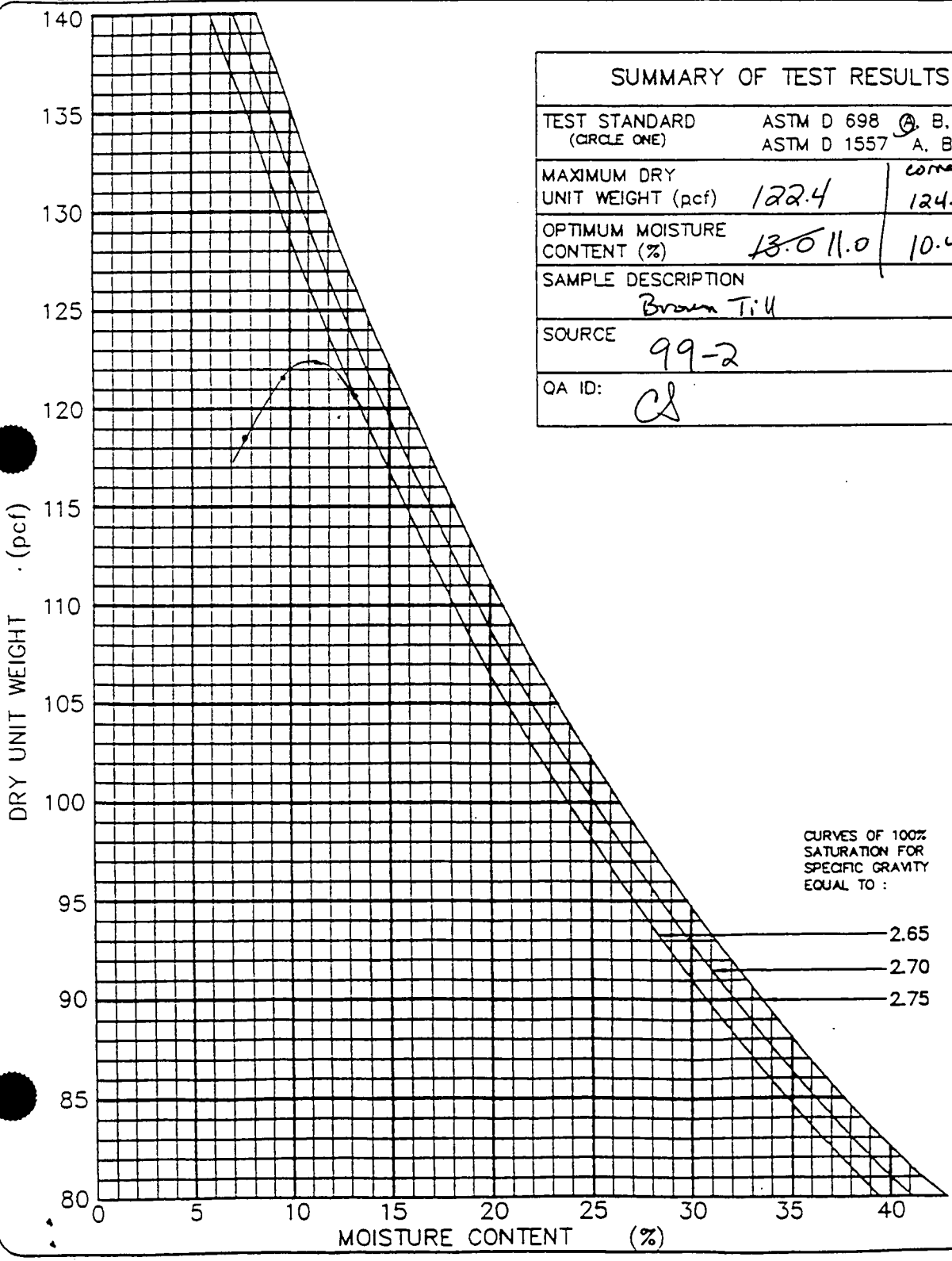
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 — TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 21 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-31

SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 (A), B, C ASTM D 1557 A, B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	122.4	corrected 124.2
OPTIMUM MOISTURE CONTENT (%)	~~13.0~~ 11.0	10.4
SAMPLE DESCRIPTION	Brown Till	
SOURCE	99-2	
QA ID:	CS	



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CHECKED BY: SHEET NO. 2 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 21 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-31

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30%,
AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%
ALL MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS DISCARDED.
USE OVERSIZE CORRECTION IF MORE THAN 5% IS DISCARDED ACCORDING TO ASTM D 4718.
USE A 4-in. DIAMETER MOLD / 5.5-lb RAMMER / 12-in. DROP / 3 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: _____

	WATER ADDED	(ml)	13.84 8%	13.85 10%	13.54 4%	13.74 6%	
A	WT. OF SOIL & MOLD	(grams)	6277.8	6282.4	6141.7	6232.5	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A − B	(grams)	2068.4	2073.0	1932.3	2023.1	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	136.5	136.8	127.5	133.5	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	122.3	120.7	118.5	121.6	

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT – ASTM D 2216

QA ID: _____

	TARE NO.		A	31	8	28	
F	WT. OF TARE	(grams)	8.2	8.3	7.32	8.2	
G	WT. OF WET SOIL & TARE	(grams)	329.7	357.7	404.6	340.6	
H	WT. OF DRY SOIL & TARE	(grams)	296.9	316.8	376.5	311.0	
I	WT. OF WATER = G − H	(grams)	32.8	40.9	28.1	29.6	
J	WT. DRY SOIL = H − F	(grams)	288.7	308.5	369.2	302.8	
K	MOISTURE CONTENT = (I/J) X 100	(%)	11.4	13.3	7.6	9.8	

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-2737

GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC CHECKED BY: _____ SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

-- 2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES

(ASTM D 4718)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~one~~ II — DATE: 22 day MAY month 1998 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-31

Weight of Total Sample	=	38,716
Weight of Oversize Fraction	=	2234.6
Weight of Finer Fraction (-4)	=	36481.4
Percentage of Oversize Fraction	= (P_C)	5.8
Percentage of Finer Fraction (-4)	= (P_F)	94.2
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.11
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	122.4
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W = (W_F P_F) + (W_C P_C)$$

$$C_w = (0.11)(94.2) + (0.015)(5.8)$$

$$C_w = 10.4\%$$

$$C\delta_D = 100\delta_F G_M \delta_W / (\delta_F P_C) + (G_M \delta_W P_F)$$

$$C_{\delta D} = 100(122.4)(2.72)(62.4) / (122.4)(5.8) + (62.4)(2.72)(94.2)$$

$$C_{\delta D} = 124.4 \text{ pcf}$$

000598

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE–DENSITY RELATIONSHIP

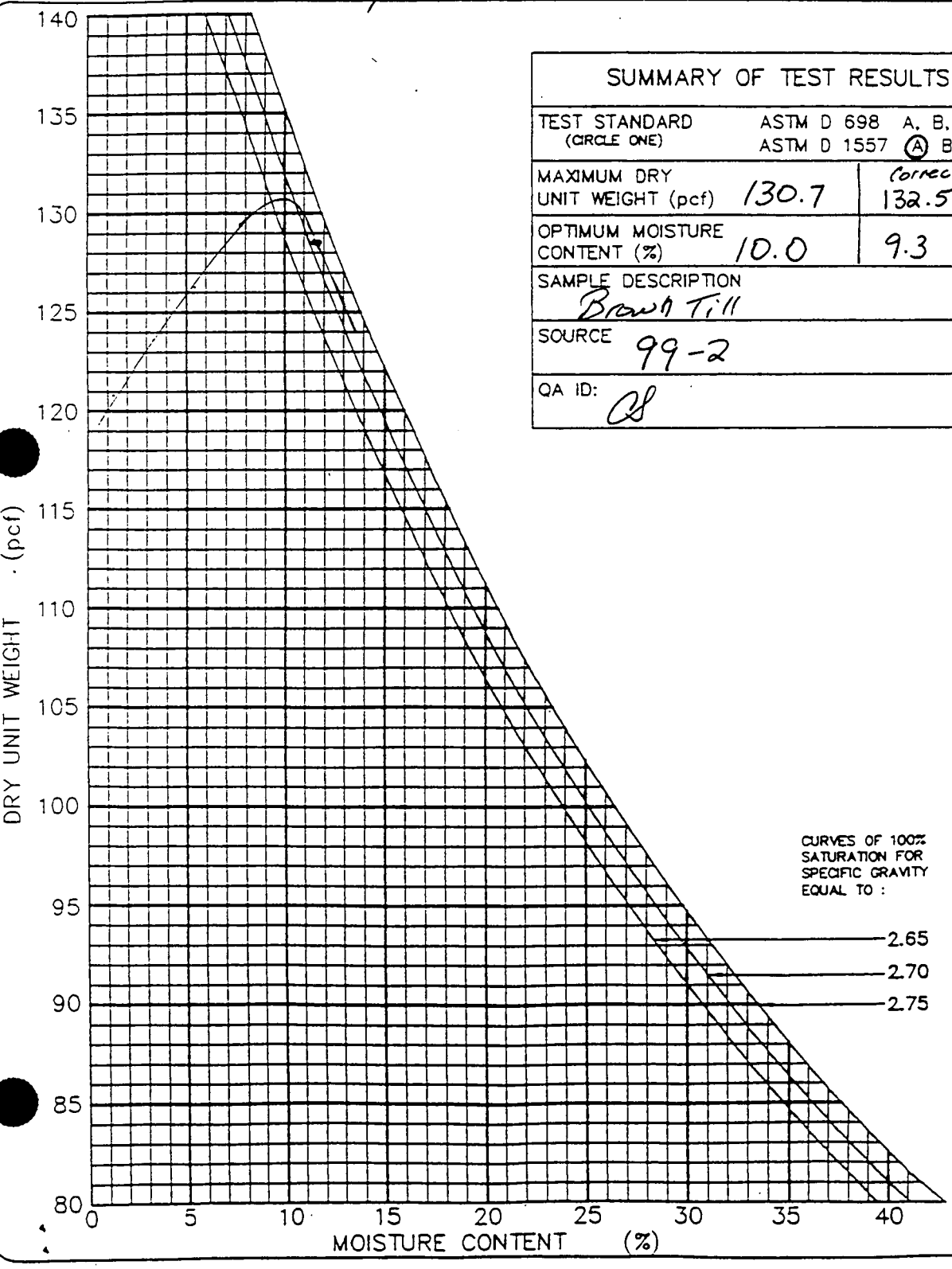
2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: PHASE II — DATE: 27 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay — SAMPLE NO.: LP III-31



SUMMARY OF TEST RESULTS		
TEST STANDARD (CIRCLE ONE)	ASTM D 698 A, B, C ASTM D 1557 (A) B, C	
MAXIMUM DRY UNIT WEIGHT (pcf)	130.7	Corrected 132.5
OPTIMUM MOISTURE CONTENT (%)	10.0	9.3
SAMPLE DESCRIPTION	Brown Till	
SOURCE	99-2	
QA ID:	CS	

000599

SHEET NO. 2 OF 2

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FLUOR DANIEL FERNALD

FIELD LABORATORY COMPACTION TEST (ASTM D 1557 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0409 TASK NO.: 041

DESCRIPTION: Phase II — DATE: 26 day May month 1999 year

MATERIAL TYPE: L.P Clay — SAMPLE NO.: LP III-31

THIS METHOD WILL BE USED IF THE MATERIAL RETAINED ON THE NO. 3/4-in. (19-mm) SIEVE IS LESS THAN 30% AND IF THE MATERIAL RETAINED ON THE NO. 4 (4.75-mm) SIEVE IS LESS THAN 20%.
ALL MATERIAL RETAINED ON THE NO. 3/8-in. (9.5-mm) SIEVE IS DISCARDED.
USE A 4-in. DIAMETER MOLD / 10-lb RAMMER / 18-in. DROP / 5 LAYERS / 25 BLOWS PER LAYER.

COMPACTION OF SOIL

QA ID: DLE

	WATER ADDED	(ml)	13.55 0%	13.72 2%	13.94 4%	13.37 0% or Dry	14.07 8%
A	WT. OF SOIL & MOLD	(grams)	6146.3	6223.4	6323.2	6064.6	6382.2
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1936.9	2014.0	2113.8	1855.2	2172.8
D	WET UNIT WT.(1) = C X 0.066	(pcf)	127.8	132.9	139.5	122.4	143.4
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	123.6	126.2	129.4	120.9	128.5

NOTE: IF CALIBRATED MOLD OF 1/30 FT^3 IS USED, THE WET DENSITY IS CALCULATED FROM THE WEIGHT OF SOIL, THE VOLUME OF THE MOLD AND THE CONVERSION FROM GRAMS TO POUNDS (I.E., CONVERSION FACTOR = (30 / 453.6) = 0.066). THE MOLD MUST BE CALIBRATED TO VERIFY A CAPACITY OF 1/30 ± 0.0005 FT^3 ON INTERVALS NOT TO EXCEED 1000 TIMES THAT THE MOLD IS FILLED.

MOISTURE CONTENT - ASTM D 2216

QA ID: DLE

	TARE NO.		A	#8	#28	#104	#23
F	WT. OF TARE	(grams)	8.26	7.29	8.25	8.28	8.42
G	WT. OF WET SOIL & TARE	(grams)	324.09	317.47	343.76	335.37	388.88
H	WT. OF DRY SOIL & TARE	(grams)	313.67	301.98	319.40	331.28	349.35
I	WT. OF WATER = G - H	(grams)	10.4	15.5	24.4	4.1	39.53
J	WT. DRY SOIL = H - F	(grams)	305.4	294.7	311.1	323.0	340.93
K	MOISTURE CONTENT = (I/J) X 100	(%)	3.4%	5.3	7.8	1.3	11.6

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2737

CORRECTION OF UNIT WEIGHT AND WATER CONTENT FOR SOILS CONTAINING OVERSIZE PARTICLES *(ASTM D 4718)*

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO: GC0409 TASK NO.: 04.1

DESCRIPTION: Phase ~~CRE~~ II — DATE: 27 day MAY month 1999/9 year

MATERIAL TYPE: Low perm clay — SAMPLE NO.: LP III-31

Weight of Total Sample	=	~~21898~~ 38716.0
Weight of Oversize Fraction	=	2234.6
Weight of Finer Fraction (-4)	=	36481.4
Percentage of Oversize Fraction	= (P_C)	5.8
Percentage of Finer Fraction (-4)	= (P_F)	94.2
Specific Gravity (Assumed)	= (G_M)	2.72

(W_F)	=	Water Content -4, as decimal	=	0.100
(W_C)	=	Water Content +4, as decimal	=	0.015
(δ_F)	=	Dry Density of finer fraction	=	130.7
(δ_W)	=	Unit Weight of Water	=	62.4

$$C_W=(W_F P_F)+(W_C P_C)$$

$$C_W = (0.100)(94.2)+(0.015)(5.8)$$

$$C_W = 9.3\%$$

$$C\delta_D=100\delta_F G_M \delta_W/(\delta_F P_C)+(G_M \delta_W P_F)$$

$$C_{\delta D} = 100(130.7)(2.72)(62.4)/(130.7)(5.8)+(2.72)(62.4)(94.2)$$

$$C_{\delta D} = 132.5 \text{ pcf}$$

Geotechnical, Environmental and Material Testing Laboratory

A division of GeoSyntec Consultants Laboratories

FLEXIBLE WALL PERMEABILITY TEST [1]

-- 2737

ASTM D5084

Project Name:	FERNALD OSDF - OPTION YEAR 1
Project Number:	GQ0409-04.1
Client Project Number:	N/A
Client/Site ID:	LPIII-31
Sample Number:	99E164.2
Material Type:	SOIL
Expected/Specified Value:	

Specimen	Test Specimen Initial Conditions					Test Conditions					Hydraulic
No.	Spec. Prep. [2] (-)	Spec. Length (cm)	Spec. Diameter (cm)	Dry Unit Weight (pcf)	Moisture Content (%)	Cell Press. (psi)	Back Press. (psi)	Consolid. Press. (psi)	Permeant Liquid [3] (-)	Average Gradient (-)	Conductivity (cm/s)
1	R	6.6	7.2	120.4	13.8	66.4	61.4	5.0	DTW	25.5	2.6E-8

Notes:

1. Method C, "Falling-Head, Increasing-Tailwater" test procedures were followed during the testing.
2. Specimen preparation: ST = Shelby Tube, R = Remolded, B = Block Sample.
3. Type of permeant liquid: DTW = Deaired Tap Water, DDI = Deaired Deionized Water

Deviations:

Test Conditions: Laboratory Temperature at 21±3 °C, Laboratory Humidity at 50±10 %

Test specimen final conditions are not presented.

000602

Tested/Checked by: EE Date: 6,01,99 Approved by: BJS Date: 6-2-99

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422) 2737

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0409 TASK NO.: 04.1

DESCRIPTION: Phase II DATE: 24 day MAY month 1999 year

MATERIAL TYPE: Low Perm Clay SAMPLE NO.: LP III·32

SOIL SAMPLE SIZE % of +4 Stone ____ Total weight 21898.07 gm 48.296 lbs

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	BEFORE WASH +4 stone	BEFORE WASH -4 sieved	AFTER WASH +4	AFTER WASH -4
TARE NO.	K	L-4	K	L-4
WT. OF DRY SAMPLE PLUS TARE (grams)	1453.90	573.1	1351.50	260.59
WT. OF TARE (grams)	101.57	146.6	101.57	146.49
WT. OF DRY SAMPLE (grams)	1352.33	426.5	1249.93	114.10

SIEVE ANALYSIS QA ID: DLE

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	Ø		100
1½"	37.5	88.45	0.40	99.6%		
1"	25.0	105.85	0.48	99.5%		
3/4"	19.0	223.60	1.02	99.0%		90 to 100
½"	12.5	610.99	2.79	97.2%		
3/8"	9.5	764.86	3.49	96.5%		
#4	4.75	1249.30	5.71	94.3%		
#10	2.0	14.58	3.42	96.6	91.1%	
20	0.850	33.01	7.74	92.3	87.0%	
40	0.425	50.50	11.84	88.2	83.2%	
60	0.250	65.95	15.46	84.5	79.7	
100	0.150	88.84	20.83	79.2	74.7	
200	0.075	114.09	26.75	73.3	69.1	50 to 100
PAN						

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%FINER = 100 − Σ% RETAINED

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