CONSTRUCTION QUALITY A[redacted]

FINAL REPORT

ON-SITE DISPOSAL FACILITY, PHASE I AND LEACHATE CONVEYANCE SYSTEM

REVISION 0
JANUARY 1998
VOLUME IV

[redacted] Department of Energy
Fernald Environmental Management Project
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Subcontract 95PS005028

WEEKLY CONSTRUCTION MEETINGS FOR LEACHATE CONVEYANCE SYSTEM

File No. 1700.589.3.45

1265

ALIGNMENT/MEETING

Subject: **OSDF LEACHATE CONVEYANCE SYSTEM**

Date: *February 4, 1997*

PARTICIPANTS

NAME	ORGANIZATION	FUNCTION	MS	PHONE
Larry Evans	Fluor Daniels Fernald	TQM Co-facilitator	35	648-5376
Ron Baker	Fluor Daniels Fernald	TQM Facilitator	80-4	648-6104
Mayur Kadakia	Village Bldg. Serv. Inc.	Estimator		761-1653
Yahaya Willingham	Village Bldg. Serv. Inc.	CE		761-1653
Jerre Houser	Village Bldg. Serv. Inc.	Estimator		761-1653
Mary Jo Cleveland	Village Bldg. Serv. Inc.,	Project Manager		761-1653
Oscar Willingham	Village Bldg. Serv. Inc.	President		761-1653
Timothy Keaty	FDF	Project Controls	64	648-4023
Carlos Pratt	FDF	Project Controls	64	648-4598
Rick Holbrook	FDF	Contracts	64	648-4622
Carlton Schroeder	Parsons	Project Engineer		648-6810
Todd A. Elliott	FDF	Safety Engineer	44	648-5929
Dan Bodine	GeoSyntec Consultants	Resident Engineer		(404) 705-9500
Jeph McMichen	GeoSyntec Consultants	QC Site manager		(404) 705-9500
Ken Cargill	GeoSyntec Consultants	Task Leader		(404) 705-9500
Mike Godber	FDF	QA	64	648-4930
Bill Zebick	FDF	OSDF-CM	64	648-4134
Jim Jenkins	FDF	OSDF - Proj. Engr	64	648-4636
Alan Hohnhorst	FDF	CA	44	648-5168
Rick McGuire	FDF	OSDF - Const. Contr. Mgr	64	648-5347
Gary Pope	FDF	OSDF - Contr. Coord	64	648-5351
Ken Gerard	Parsons	Civil Engineer		648-6743
Gregg Johnson	FDF	Safety Support	64	648-3709
Uday Kumthekar	FDF	OSDF - Engineering Manager	64	648-4640
Mike Hickey	FDF	OSDF - Project Manager	64	648-5971

OSDF LEACHATE CONVEYANCE SYSTEM ALIGNMENT

February 4, 1997
7:30 - 4:00
Alpha A

AGENDA

- Safety/TQM/Balance Topics
- Objectives of Alignment
- Overview
  - OSDF and Accelerated Plan
- Expectations
- Mission
- Key Result Areas (KRA's)
- Critical Risks/Issues/Barriers
- Roles and Responsibilities
- Action Plans
  - Mitigate Risks
  - Measurement of KRA's
- Path Forward

OSDF LEACHATE CONVEYANCE SYSTEM ALIGNMENT

EXPECTATIONS

- Meeting people on team
- Start communication process and keep going
- Clear overall understanding of project
- Identify no problem that's unsolvable
- See points of contact (Single per function)
- See foundation of a team with common goals
- Know each individual's role and interfaces
- See how process fits into the plan submitted to EPA
- Understand the systems in place
- Understand importance of safety and their roles in this
- Better understand overall leachate system
- Establish roles and responsibilities
- Clear path forward on how all fits together
- Understand the project and develop communication skills and feel more comfortable operating in this arena
- ●★ Better understand processes and procedures
- What support we'll receive from FDF and better methods/formats of what's required
- Know who does what
- When we're going to plan job and submittal requirements
- Know the system and be proactive

MISSION STATEMENT

As our contribution to the overall site restoration, the OSDF Leachate Conveyance System (LCS) Team will safely construct a quality and certifiable LCS in a timely, least cost manner that meets all requirements expected by our stakeholders, while coordinating with other site activities.

STAKEHOLDERS

- DOE
- EPA-OH, US
- Fluor Daniel Fernald (FDF)
- Residents
  - FRESH
  - CTF
  - CRO
- GeoSyntec
- Village Building Services Inc.
- Parsons
- Employees
- Bldg. Trades
- Teaming Partners
- Fluor Daniel Corporate
- Fluor Daniel Small Business
- Congress
- Local Politicians
- DFNSB
- B&J Electrical
- Diaz Construction

STAKEHOLDER EXPECTATIONS

1. Safety
2. Quality
3. Teamwork/Communication
   - Responsiveness/Trust
4. Cost Effectiveness/Schedule
5. Environmental Compliance

- Customer Satisfaction
- Accountability

KEY RESULT AREAS (KRAs)

1. **Safety**
2. **Quality**
3. **Teamwork/Communication**
   -Responsiveness/Trust
4. **Cost Effectiveness/Schedule**
5. **Environmental Compliance**

RISKS/ISSUES/BARRIERS
KRA #1 - SAFETY

- ● Bad attitude/culture
- ●★ Lack of proper equipment
- ● Unfamiliarity with FDF safety culture and expectations
- ● FDF Environmental
- ●★ Non-planning of work
- ●★ Lack of management involvement - rely on safety cops
- ● Compression of schedule
- ●★ Craft knowledge of expectations
- ●★ Effective training
- ● Not aware of crafts working in area
- ● Loss of perspective of mission
- ●★ Lack of belief in safety
- ●★ Not planning and working the plan
- ●★ Failure to follow procedures
- ●★ Failure to address requests - timely
- ●★ Hazards in excavation
- ●★ Lack of equipment maintenance
- ● Negligence - no safety meetings
- ● Lack of documentation
- ●★ Ineffective safety meetings
- ● Not acting on hazards
- ●★ Not using existing drawings, resources
- ●★ Not being proactive

★ - *High priority for actions*

RISKS/ISSUES/BARRIERS
KRA #2 - QUALITY

- ●★ How do we define quality?
- ● Schedule and cost pressures/short cuts
- ●★ Responsiveness from FDF
- ●★ Poor planning by the project
- ●★ Taking shortcuts
- ● Not following written procedures
- ● Not utilizing expertise
- ●★ Lack of understanding and obtaining clarification of drawings and specifications - One page
- ●★ Not being proactive/need to define
- ● The job's not done until all paperwork (documents) are in
- ●★ System testing
- ●★ Training/procedures
- ●★ Responsibility for receipt inspection
- ●★ Lack of understanding of quality goals at the beginning
- ●★ Quality culture
- ● We work at hazardous waste site
- ●★ Lack of familiarity with work specifications
- ● Lack of communication
- ● Ambiguous instructions, documents and information
- ●★ Maintain control of documents and filing
- ●★ Protecting each other's work

RISKS/ISSUES/BARRIERS
KRA #3 - TEAMWORK/COMMUNICATION

- ●★ Coordination/integration
- ● Willingness to succeed
- ●★ Abundance of verbal communication
- ●★ Not listening/responsive
- ● Innovative
- ● Forming opinion before listening
- ●★ Lack of roles and responsibilities (listening to the wrong people)
- ● Integration with other work groups
- ●★ Know the chain of command
- ●★ Open minded - put aside company name for team
- ● Documentation lacking
- ● New subcontractor/learning curves
- ● Not a we attitude
- ● Don't be afraid to ask questions
- ●★ Lack of flexibility and compromise
- ●★ Follow through with commitments

RISKS/ISSUES/BARRIERS
KRA #4 - COST EFFECTIVENESS/SCHEDULES

- ● Falling behind in schedules/and not communicating this
- ●★ Poor initial planning/schedule
- ● Up-front coordination
- ●★ Lack of timely turn-around-time for submittals
- ●★ Do it right the first time (quality)
- ●★ Good housekeeping
- ●★ Succeeding as mentors (win/win solutions)
- ● Weather (uncooperative)
- ●★ Understanding critical path
- ● Communication/coordination

RISKS/ISSUES/BARRIERS
KRA #4 - COST EFFECTIVENESS/SCHEDULES (continued)

- Imposing unrealistic time constraints on schedules
- ★ Failure to anticipate (such as interface and material problems)
- ★ Lack of timely payments
- ★ Ineffective/insufficient manpower utilization
- Not realizing common goal
- Supplier material delivery
- ★ Surprises (ie., burial ground)
- Changed conditions and materials

RISKS/ISSUES/BARRIERS
KRA #5 - ENVIRONMENTAL COMPLIANCE

- ★ Lack of understanding of the compliance rules
- ★ Spill reporting/containment
- Volume of regulations
- Coordination of all areas
- Lack of proper certifications
- Lack of following Environmental Plan
- ★ Lack of dust control
- ★ Ask questions/lack of communication
- Utilize expertise
- ★ Lack of proper documentation
- Not following other KRAs
- ★ Failure to recognize the importance of Environmental Regulations
- Failure to understand the logistical needs of subcontractors
- ★ Carelessness due to haste
- ★ Lack of common sense/training
- ★ Waste minimization (ie., vehicles)

ROLES & RESPONSIBILITIES

What do you see as the major roles and responsibilities of your group/function?

ROLES & RESPONSIBILITIES
CONSTRUCTION - Bill Zebick, Gary Pope, Rick McGuire

- Interface with other groups (construction, other subcontractors, FDF, DOE, security, etc)
- Construction management oversight
- Mentoring
- Permitting
- Coordination all construction field operations
- Single point of contact for subcontractor for technical/construction issues
- Safety and quality oversight
- Reporting responsibilities
- Oversight and assistance for environmental issues/requirements
- Timely progress payments
- Coordinate and expedite turn-around-time for review/approval of submittals
- Review and assist on timely issuance of changes/contract modifications
- Assist subcontractor in development/monitoring schedule
- Chair schedule/status meetings and document meetings
- Document job progress/daily activities
- Participants and assist in audits
- Presence in the field
- Provide timely responses to subcontractor
- Coordinating site tours/visitors
- Coordinate testing, acceptance and turnover of project

ROLES & RESPONSIBILITIES
CONTRACTS - Rick Holbrook, Alan Hohnhorst

- Facilitate the negotiation and processing of change orders
- Ensure timely payment of invoices
- Timely response to contract questions/issues
- Ensure contractual compliance
- Active participation in weekly progress meetings
- Review and approve certified payrolls
- Perform Davis-Bacon craft interviews
- Participate in subcontractor performance evaluation
- Close-out of subcontract

ROLES & RESPONSIBILITIES
FDF PROJECT ENGINEER - Jim Jenkins

- Coordinate all technical questions through construction management
- Review/coordinate submittals (shop drawings)
- Provide input to project manager and engineering manager as requested
- Ensure design change notices (DCN's) and request for clarification of information (RCI's) are completed and properly coordinated with Engineering Document Control (EDC)
- Ensure coordination with GeoSyntec, Parsons, and FDF Engineering
- Coordinate technical issues with other projects on-going at FEMP

ROLES & RESPONSIBILITIES
FDF PROJECT CONTROLS - Tim Keaty, Carlos Pratt

- Provide accurate and timely schedule information to project management and affected OU's
- Interface with Village Construction regarding schedule and cost reporting and statusing
- Review with construction management the pay item schedule
- Update schedules and perform monthly variance and schedule analyses
- Monitor and verify time charges and perform mischarge corrections
- Identify potential schedule conflicts with other O.U. contractors
  - Use of site master schedule
- Monitor project costs/requisitions/trends
- Be responsive to all cost and schedule needs of our team and our customers

ROLES & RESPONSIBILITIES
FDF SAFETY - Gregg Johnson, Todd Elliott

- Ensure (assist) project team includes safety in all activities
- Advocate to instill safety culture
- OSHA/Safety compliance (review oversight)
  - work plans
  - field activities
  - project documents
- Assist/technical support for contractor(s) with safety programs/issues

ROLES & RESPONSIBILITIES
FDF QUALITY ASSURANCE - Mike Godber

- Overviewing subcontractor documents to assure workers have training to approved procedures
- Document and report nonconformances to management
- Overview drawing and specifications to assure they are latest revisions and controlled. Assure the subcontractor has all controlled documents including DCNs
- Do overview inspections using approved procedures and documenting results
- Assure as-built drawings are accurately redlined during work progression
- Audit subcontractors and CQC inspection documents
- Review the management assessment documentation of quality program
- Verify and document testing activities
- Perform overviews on the subcontractors to assure they are meeting Part 9

ROLES & RESPONSIBILITIES
PARSONS ENGINEERING - Ken Gerard

- Title III Service to include:
  - Field contact (Hank Ketron)
  - Process Request for clarification of information, vendor submittals, design change notice (RCI/DCN)
  - Attend meetings
  - Other support upon request

ROLES & RESPONSIBILITIES
GEOSYNTEC CONSULTANTS - Ken Cargill, Dan Bodine, Jeph McMichen

- Providing QC documentation and project certification
- Performing QC testing and inspection
- Providing QA and interacting with FDF's QA
- Make design interpretations and changes if needed
- Assist construction management and FDF project engineering in turn-around-time of submittals
- Promote safety awareness

ROLES & RESPONSIBILITIES
VILLAGE BLDG. SERVICES -

President - Oscar Willingham

- Ensure employees understanding of our expected goals and deliver in a safe, efficient manner
- Make sure personnel have access to all tools, materials and training to perform optimally
- Reports to FDF Small Business Department

C.E. - Yahaya Willingham

- Coordinate with and provide support for project manager and site personnel
- Facilitate communication between site and main office personnel

PM. - Mary Jo Cleveland

- Communicate/coordinate with FDF
- Update and maintain schedule
- Coordinate subcontractors and site personnel
- Maintain and assure documentation at all levels
- Monitor safety/environmental/QA
- Problem identification and resolution with team

Estimating - Jerre Houser, Mayur Kadakia

- Compliance requirements
- Scope of work
- Submittals/approval procedure
- DCN/RFP
- Mobilization
- Planning
- Purchasing
- Coordination with subcontractor prior to mobilization
- Site office support
- Construction schedule

ACTION PLANS - KRA SUBTEAMS				
Safety	Quality	Teamwork/ Communication	Cost Efficient/ Schedule	Environ. Compliance
KRA #1	KRA #2	KRA #3	KRA #4	KRA #5
Todd	Mike	Gary	Tim	Teams 3 & 4
Bill	Jeph	Dan	Carlos	Combined
Oscar	Yahaya	Mary Jo	Ken	
Jerre	Ken	Rick H.	Mayur	
		Jim	Rick M.	

KRA #1 - SAFETY		
Actions	Resp.	Date
Lack of proper equipment and maintenance: • Review work plans, provide detailed inspection checklist for equipment and tools; • Maintain log books; daily inspection of tools, ladders, extension cords, etc.	FDF/ Todd Elliott Village	2/11/97 Daily
Non-planning of work: • Submit and review work plans for approval	Village & FDF	On-going
Lack of management involvement: • At least one member of Village management present at weekly meeting	Village	Start of work
Ineffective safety meetings: • Applicable subject matter, review weekly observation checklist, worker feedback	FDF, Elliott/ Village	On-going
Effective training: • Utilize GCBT, manufacturer recommended training on pipe welding and materials • Provide list of tools to FDF safety to determine if further training is necessary	Village	2/14/97
Failure to follow procedures: • Training, safety meetings, administration, discipline policy	Village	Prior to and during work

KRA #1 - SAFETY		
Actions	**Resp.**	**Date**
Hazards in excavation: • Competent persons, proper permits - FDF, use latest redline drawings	Village	On-going

KRA #2 - QUALITY		
Actions	**Resp.**	**Date**
Training: • Determine what training is required by position - Village Building Services - Subcontractors • Schedule training identify site procedures and industry procedures		
Receipt Inspection: • Items that arrive will be inspected by CQC consultants and subcontractor and overviewed by FDF if required - (Document as required)	GeoSyntec	
What is quality? • Study specifications, drawings and CQA plan and know the acceptance criteria. Ask questions		
Quality culture: • Management support on job specific quality topics. • Have tailgate quality meetings each morning		
Responsiveness: • Document control put together DCN and submittal logs for tracking documents	Rick McGuire	
Poor planning: • Develop and maintain resource loaded schedule. • Schedule will be submitted and used to monitor field activity	Village	
Taking short cuts: • Have task specific meetings on procedures for performing work and quality requirements on outputs	Village/QC	

KRA #2 - QUALITY		
Actions	**Resp.**	**Date**
Lack of understanding: • Ask questions to the right individual until an answer is received and understood	Village/QC	
• Proactive management involvement in QA meetings		

KRA #3 - TEAMWORK/COMMUNICATION		
Actions	**Resp.**	**Date**
• Post org. chart with appropriate names, phone, fax, pagers, radio, etc.,	Gary Pope	1st week of "on-site"
• Demonstrate (examples of) flexibility and ability to compromise at each weekly meeting (ie., agenda item)	All	Weekly
• Establish response date for each action item identified at weekly meeting	All	On-going
• Ensure documentation of verbal communication on significant issues - identify authority	Mary Jo/Rick McGuire	All the time
• Identify key coordination items (agenda) for each weekly meeting and notify appropriate parties and/or other organizations	Gary Pope	On-going
• Assign specific individual(s) to follow through with commitments on action items	Rick McGuire to chair	On-going

KRA #4 - COST EFFECTIVENESS/SCHEDULE		
Actions	**Resp.**	**Date**
• Develop a CPM schedule and approved that can be used as an effective work tool/ accurate updates *vs* baseline	Mayur Kadakia, Carlos Pratt, Tim Keaty, Rick McGuire	2/11/97
• Establish a single point for control of submittals (T.Russell)	Tracy Russel, Rick McGuire, Jim Jenkins, Dan Bodine	2/5/97
• Establish a matrix for submittal flow	Jim Jenkins, Rick McGuire	2/7/97
• Submittal register - accurate and updated	Mayur Kadakia, Jim Jenkins, Dan Bodine, Rick McGuire	2/11/97
• Submittals part of weekly status/schedule meetings	Rick McGuire, Jim Jenkins	2/19/97
• CQC Kick-off meeting	JM, Mike Godber, Rick McGuire	2/12/97
• Establish RCI/DCN register	Tracy Russel, Rick McGuire, Jim Jenkins	2/6/97
• Daily walkdown of project with subcontractor, FDF construction and correct immediately (walk-your-space)	Mary Jo Cleveland, Rick McGuire, Safety	On-going
• Provide expertise and assistance on CPM schedule/ schedule status/ variance analysis/trend analysis	Team	On-going
• Proactive approach - anticipating need/not waiting to be asked - daily stand-up meeting to discuss planned activities - long and short range	Team	On-going
• Post the schedule in the contractors trailer/meeting rooms etc., (updated weekly)	Village Building Services Inc., Tim Keaty	Mobilization

KRA #4 - COST EFFECTIVENESS/SCHEDULE		
Actions	Resp.	Date
• Submit pay request to accounting within five working days of receipt	Rick McGuire, Bill Zebick, Rick Holbrook, Carlos Pratt	On-going (monthly)
• Resource load CPM schedule; review at weekly meeting (2/19/97 start)	Mayur Kadakia, Carlos Pratt, Tim Keaty, Rick McGuire	2/11/97
• Efficient use of O.T. and Friday make-up day (weather)	Village Building Services Inc., Rick McGuire	On-going
• Follow the schedule!! (Plan the work - work the plan)	Team	Review weekly
• Document the work daily	Rick McGuire, Village Building Services Inc., Gary Pope, GeoSyntec	On-going
• Deal with surprises as they occur/resolve same day if possible	Team	Daily

KRA #5 - ENVIRONMENTAL COMPLIANCE		
Actions	Resp.	Date
• Have representative from Environmental Compliance attend weekly meetings as needed (rules, etc.,)	Rick McGuire	As needed
• Have Environmental Compliance (EC) give overview to team at early weekly meeting to reinforce importance of EC	C.E.	Early
• Immediate action to make notification for reporting and corrective measures	Gary Pope	ASAP
• Daily "toolbox" meetings to discuss daily activities and lessons learned	Mary Jo Cleveland	Daily
• Plan the work - work the plan	Mary Jo Cleveland	

KRA #5 - ENVIRONMENTAL COMPLIANCE		
Actions	**Resp.**	**Date**
• Document any dust control measures on daily logs	Gary Pope, Mary Jo Cleveland	
• Reinforce the need to document for compliance and non-compliance	Rick McGuire, Mary Jo Cleveland	
• Assist Village Building Services Inc., with surface water management, erosion, and sediment control plan	CE, Jim Jenkins, Rick McGuire, Dan Bodine, subteam	

PATH FORWARD		
Actions	**Resp.**	**Date**
• Finalize actions with responsibilities and dates	Team/Rick McGuire	
• Address technical aspects of system	Team meeting/ Rick McGuire	2/12/97
• Issue notes of alignment	Ron Baker	2/11/97
• Fill open positions on team (ie Village safety, QA)	Village - Oscar Willingham	2/12/97

OSDF LEACHATE CONVEYANCE SYSTEM ALIGNMENT

February 4, 1997

Facilitated by:

Ron Baker

OSDF LEACHATE CONVEYANCE SYSTEM ALIGNMENT

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A G E N D A

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OSDF LEACHATE CONVEYANCE SYSTEM ALIGNMENT

PARTICIPANTS

VILLAGE BUILDING SERVICES, INC.

- Mary Jo Clevland
- Oscar Willingham

B&J ELECTRICAL

DIAZ CONSTRUCTION

FLUOR DANIEL FERNALD

- Todd Elliot
- Jeff Ellis
- Mike Godber
- Mike Hickey
- Alan Hohnhorst
- Jim Jenkins
- Gregg Johnson
- Rick McGuire
- Gary Pope
- Dan Stempfley
- Lou Wehlitz
- Bill Zebick

PARSONS

- Carlton Schroeder

GEOSYNTECH

- Ken Cargill

ALIGNMENT OBJECTIVES

1. Develop and strengthen the trust and teamwork of the project team.

2. Focus the activities of the team on those areas that will lead to successful completion of their project.

3. Better understand the concepts of Total Quality Management and how they support the team.

4. Clarify what is expected and needed by others.

5. Develop specific action plans to improve the performance of the team!

ROLE OF THE FACILITATOR

- A neutral servant of the team.
- Focuses energy of the team on a common task.
- Suggests alternate methods.
- Protects individuals and their ideas from attack (with help from the team).
- Encourages participation.
- Helps the team find win-win situations.
- Will not take the responsibility for solving the team's problems - the answers are in the team.
- Will not pretend to know your business - does understand continuous improvement concepts and tools.
- May "shoot from the hip" to increase awareness. All comments are meant to be helpful.
- Ensures issues and results are documented for sharing with others.
- It's the team's responsibility to use the facilitation well.

GROUND RULES

1. One person talks at a time
2. Stay on the subject
3. Maintain a supportive atmosphere
4. Build on the thoughts of others
5. No personal attacks
6. Everyone's opinion carries equal weight
7. Work together toward consensus
8. No "War Stories"
9. No surprises!
10. Take care of your personal needs
11. Encourage participation by all
12. Maintain a win-win atmosphere

MISSION STATEMENT

What is the criteria for a Mission Statement?

- The Team's mission statement is clear and understandable to all team members.
- The mission statement is brief enough for most team members to keep it in mind
- The mission statement clearly specifies what the business of the team is:
  - What customer or client needs the team is attempting to fill, not what products or services are offered;
  - Who the team's primary customers are; and
  - How the team plans to go about its business; that is, what its primary technologies are.
- The mission statement should prioritize the goals and milestones of team effort.
- The mission statement should reflect attainable goals.
- The mission statement should reflect the team's distinctive competence.
- The mission statement should be broad to allow flexibility in process and action, but not so broad that it reduces the focus.
- The mission statement should support the means the team uses to make decisions/recommendations.
- The mission statement must be consistent with the values, beliefs, and philosophy of both the organization and the team.
- The mission statement should be worded so as to serve as an energy source and rallying point for the team.

KEY RESULT AREAS AND CRITICAL ACTIVITIES

What are Key Result Areas and Critical Activities?

- **Key Result Areas** are the elements that the team must deliver in order to succeed at making the vision a reality. They can make or break the success of the team. Each should be devoted to one issue. They may include several Critical Activities.

- **Critical Activities** are the actions/work processes necessary to achieve Key Result Areas. Critical actions are specific, action oriented and measurable. The groups will define these during the analysis process from the Key Result Areas.

Why do we want to identify Key Result Areas and Critical Activities?

- Key Result Areas and Critical Activities are the first steps in defining opportunities for improvement. They help us make our Vision a reality by leading us to focus on specific actions.

- After we have defined the Key Result Areas and Critical Activities, we determine the relative priorities of our actions based on the potential gains and risks for our partnership.

DEFINING ROLES AND RESPONSIBILITIES

WHAT ARE ROLES AND RESPONSIBILITIES?

Multiple groups within a team often experience conflict with one another because of confusion or disagreement about their respective roles. Communication and interaction between the groups can be exponentially more difficult because of the number of people involved with individual differences and group loyalties.

If two groups have contradictory expectations about one another's role in the team, they will experience "role conflict". If a group does not know or understand what is expected of it, it will experience "role ambiguity".

- Who are the major internal and external customers?
- Are all participants, on both personal and organizational basis, aware of their specific customers and suppliers?
- Do we understand the need to define our needs to our suppliers?
- What are we doing now to promote continuous improvement?
- What "lessons learned" are we applying?

DEFINING ROLES AND RESPONSIBILITIES

WHY DO WE DEFINE ROLES AND RESPONSIBILITIES?

- To better organize in order to make the vision a reality.
- To better understand the jobs performed by other teams.
- To gain insight into how the job of one's own team is perceived by others.
- To clarify and refocus the team's role and responsibilities.
- To reduce potential conflicts with members of other teams.

HOW DO WE DEFINE ROLES AND RESPONSIBILITIES?

- Periodic feedback on how a team is perceived by others is beneficial in pointing our areas that need to be refocused and clarified.
- By clearly understanding the roles and responsibilities of our own team, as well as those of teams with whom we interface, we can maximize effectiveness of working relationships.

PENETRATION PERMITS

1.0 General

1.1 This SPR is supplemental to SPR 2-8, Work Permits, and defines the requirements for protecting personnel when a penetration is made into an unknown space (e.g., a wall, floor, ground/earth).

1.2 FDF uses the Penetration Permit as a method of providing information about the area to be penetrated. Penetration Permits are used for only one task at one location. "Blanket" Penetration Permits are **not** allowed. If the section of the permit regarding scope of work and exact location cannot be accurately completed, additional permits are required.

Note: **Utilities within 20 feet of penetrations into the ground/earth must be listed on the Penetration Permit.**

1.3 FDF does **not** require Penetration Permits for penetration into the ground/earth for depths of less than 6 inches unless a known hazard is within the 6 inch space or the activity is within a building/structure. The minor penetrations of routine maintenance work (e.g., hanging/securing items on walls, etc.) and like activity **do not** require a Penetration Permit unless requested by the involved personnel.

1.4 Any area where public utilities may be present require authorization from the local utility companies prior to penetration into the ground/earth.

Note: **The Ohio organization to call before digging is Ohio Utilities Protection Services. The telephone number is 1-800-362-2764.**

1.5 All Penetration Permits require that either site utility drawings or building utility drawings showing existing utilities or hazards be attached to the permit.

Note: **When Certified for Construction (CFC) drawing packages are developed for penetrations into ground/earth, a drawing showing the foot print of the penetration and all known underground utilities and hazards in the penetration area must included be in the package.**

1.6 Penetration Permits are only valid for 6 months from date of issue and a copy of the permit is to be posted at the work site.

1.7 Excavations are conducted per the requirements of SPR 9-4.

1.8 The terms **FEMP Personnel** and **Employee(s)** include anyone performing work at FEMP.

PENETRATION PERMITS

2.0 Requirements

2.1 Notify the Occupational Safety & Health (OS&H) Department if any of the requirements in this SPR cannot be met.

2.2 Engineering

A. For new construction, ensure that drawings showing penetrations into ground/earth and all known utilities and underground hazards are included in the CFC drawing package.

B. Provide underground utility drawings for all penetrations into the ground/earth.

C. For penetrations inside buildings or into walls, provide building utility drawings for all floor, ceiling/roof, and wall penetrations.

D. For all penetrations, confer with personnel having process knowledge to determine locations of utilities and hazards. Personnel with process knowledge can include: facility owners, retirees, past process operators, past project engineers, and other project teams members.

2.3 Management/Supervision

Management/Supervision may be a Supervisor, Project Engineer, Construction Manager or a designee.

A. Initiate a Penetration Permit.

B. Ensure that the defined work scope agrees with the actual work being performed.

C. Confer with personnel having process knowledge to determine hazards. Personnel with process knowledge can include: facility owners, retirees, past process operators, past process engineers, and other project team members.

Note: Assistance from other divisions/departments is encouraged to ensure the control of all concerns.

D. After reviewing and listing all known utilities and hazards, complete the Precautions section of the Penetration Permit.

E. Ensure that underground or hidden utilities or hazards in or near proximity (10 feet) to the penetration area are marked or flagged.

F. Ensure that required coordination with other work groups is accomplished.

PENETRATION PERMITS

G. Ensure that the Penetration Permit is completed, with required underground utilities drawings or building utilities drawings attached, prior to seeking sign off by the Utilities Engineer (UE) or Project Safety & Health representative.

H. Sign Penetration Permit

I. Schedule and conduct a walk-through of the penetration area with the UE and Project Safety & Health representative.

2.4 Utility Engineer (UE)

A. Participate in the walk-through of a penetration area with management/supervision and Project Safety and Health representative.

B. Review the penetration area and verify that the provided information and drawings are accurate and complete. Ensure that all corrections to drawings are forwarded to FEMP Drafting.

Note: **CFC drawings showing excavation footprint and underground utilities are to be compared to UE's controlled set of underground utilities drawings. Differences in the drawings are to be corrected in the field or new drawings are to be obtained.**

C. Review flagged or marked utilities for concurrence with site utility grids.

D. Use a magnetometer or other underground detection device to survey the penetration area for utilities or hazards. When to use and the type of detection device used is to be based on UE discretion.

E. Ensure that the Penetration Permit is complete.

F. Sign the Penetration Permit.

2.5 Project Safety & Health representative

A. Develop and communicate Penetration Permit requirements.

B. Participate in the walk-through of the penetration area with the UE and management/supervision of performing organization.

C. Review completed Penetration Permit and provide concurrence with the hazards and mitigation methods as defined on the permits.

D. Sign Penetration Permit only when all sections of the permit, and the required signatures,

PENETRATION PERMITS

are completed and correct.

2.6 Management/Supervision

A. Ensure that Penetration Permits are posted at the work site and that the involved personnel are briefed on any precautions or hazards noted on the permits.

B. Ensure personnel conducting work authorized by the Penetration Permit are complying with all precautions.

2.7 FEMP Personnel

A. Adhere to all requirements provided on Penetration Permits.

B. Review permit prior to new penetration locations to determine where underground or hidden utilities or hazards are located.

3.0 Attachments

Attachment: Penetration Permit

4.0 References

SPR 2-8
SPR 9-4

PENETRATION PERMITS

Attachment
Page 1 of 2
Penetration Permit

FLUOR DANIEL FERNALD PENETRATION PERMIT

ISSUED TO:	DATE ISSUED:
BUILDING, LOCATION OR AREA:	WORK PERMIT #:
EXACT LOCATION, WALL, LEVEL, AREA:	
SCOPE OF WORK:	
LIST THE UTILITY/HAZARD THAT MAYBE ENCOUNTERED DURING PENETRATION:	

This permit is issued on the basis of available information and may not be a complete description of all obstructions. Refuse or stop work immediately and contact Management/Supervision if obstructions other than those defined are encountered.

The Ohio Underground Utility Damage Act requires notification of appropriate utilities for work outside the plant boundaries. Call 1-800-362-2764, " OHIO- CALL BEFORE YOU DIG"

SPECIAL INSTRUCTIONS/PRECAUTIONS:	
THE FOLLOWING REVIEWS AND APPROVALS ARE REQUIRED:	DATE:
SUPERVISOR/CONSTRUCTION ENGINEER:	
UTILITIES ENGINEER:	
PROJECT SAFETY & HEALTH REPRESENTATIVE:	
OTHER (as appropriate):	

PENETRATION PERMITS

Attachment
Page 2 of 2
Penetration Permit

Page 2 of 2
Penetration Permit

INSTRUCTION FOR COMPLETING PENETRATION PERMIT FORM

1. ISSUED TO: Enter the project title or work group doing the work (e.g., RSO Pipefitters, Plant 8 demo project by ABC Construction Co.).
2. DATE ISSUED: Enter date the permit is written. Note: Permits are only valid for 6 months.
3. BLDG. LOCATION, OR AREA: Enter location that best defines the work or project location of the task.
4. WORK PERMIT #: Enter work permit number associated with this permit.
5. EXACT LOCATION, WALL, LEVEL, AREA: Enter the floor level, wall or some method to clearly explain the specific location of the penetration within the area defined in #3 above.
6. SCOPE OF WORK: Enter the activity to be done causing the penetration. Include the methods to be used (e.g., Will be drilling a single one inch hole through cement block wall with electric hammer drill).
7. LIST UTILITY/HAZARD: After comprehensive review of available information, such as drawings, walk-downs and interviews with personnel with knowledge of area, list all utilities/hazards located in or close (within 20 feet) to the work location. If after a thorough review it is verified that no utilities/hazards are within the permitted area, state: VERIFIED - NO UTILITIES OR HAZARDS and initial the statement.
8. SPECIAL INSTRUCTIONS/PRECAUTIONS: Enter any methods to abate hazards defined in #7 above. This section is intended for safety related instructions.
9. SUPERVISOR/CONSTRUCTION ENGINEER: Enter the name of the supervising person initiating the permit and the responsible supervisor of the activity. For construction activity, this may be a FDF construction management person assigned to the project.
10. UTILITIES ENGINEER: Enter signature to document that area has been field verified and signer agrees with the utilities/hazards as stated in #7 above.
11. OS&H REPRESENTATIVE: Signs the permit after all others have reviewed and signed permit.
12. OTHER: Reviewers complete, as required. Other reviewers can be facility owners, speciality engineers (ex. electrical), and fire protection.

FS-F-3959 (REV. 1, 11/13/96)

OSDF LEACHATE CONVEYANCE SYSTEM ALIGNMENT

February 4, 1997
7:30 - 4:00
Alpha A

AGENDA

- Safety/TQM/Balance Topics
- Objectives of Alignment
- Overview
  - OSDF and Accelerated Plan
- Expectations
- Mission
- Key Result Areas (KRA's)
- Critical Risks/Issues/Barriers
- Roles and Responsibilities
- Action Plans
  - Mitigate Risks
  - Measurement of KRA's
- Path Forward

ALIGNMENT/MEETING

Subject: **OSDF LEACHATE CONVEYANCE SYSTEM**
Date: *February 4, 1997*

PARTICIPANTS

NAME	ORGANIZATION	FUNCTION	MS	PHONE
Larry Evans	Fluor Daniels Fernald	TQM Co-facilitator	35	648-5376
Ron Baker	Fluor Daniels Fernald	TQM Facilitator	80-4	648-6104
Mayur Kadakia	Village Bldg. Serv. Inc.	Estimator		761-1653
Yahaya Willingham	Village Bldg. Serv. Inc.	CE		761-1653
Jerre Houser	Village Bldg. Serv. Inc.	Estimator		761-1653
Mary Jo Cleveland	Village Bldg. Serv. Inc.,	Project Manager		761-1653
Oscar Willingham	Village Bldg. Serv. Inc.	President		761-1653
Timothy Keaty	FDF	Project Controls	64	648-4023
Carlos Pratt	FDF	Project Controls	64	648-4598
ıck Holbrook	FDF	Contracts	64	648-4622
Carlton Schroeder	Parsons	Project Engineer		648-6810
Todd A. Elliott	FDF	Safety Engineer	44	648-5929
Dan Bodine	GeoSyntec Consultants	Resident Engineer		(404) 705-9500
Jeph McMichen	GeoSyntec Consultants	QC Site manager		(404) 705-9500
Ken Cargill	GeoSyntec Consultants	Task Leader		(404) 705-9500
Mike Godber	FDF	QA	64	648-4930
Bill Zebick	FDF	OSDF-CM	64	648-4134
Jim Jenkins	FDF	OSDF - Proj. Engr	64	648-4636
Alan Hohnhorst	FDF	CA	44	648-5168
Rick McGuire	FDF	OSDF - Const. Contr. Mgr	64	648-5347
Gary Pope	FDF	OSDF - Contr. Coord	64	648-5351
Ken Gerard	Parsons	Civil Engineer		648-6743
Gregg Johnson	FDF	Safety Support	64	648-3709
Jday Kumthekar	FDF	OSDF - Engineering Manager	64	648-4640
Mike Hickey	FDF	OSDF - Project Manager	64	648-5971

OSDF LEACHATE CONVEYANCE SYSTEM ALIGNMENT

EXPECTATIONS

- Meeting people on team
- Start communication process and keep going
- Clear overall understanding of project
- Identify no problem that's unsolvable
- See points of contact (Single per function)
- See foundation of a team with common goals
- Know each individual's role and interfaces
- See how process fits into the plan submitted to EPA
- Understand the systems in place
- Understand importance of safety and their roles in this
- Better understand overall leachate system
- Establish roles and responsibilities
- Clear path forward on how all fits together
- Understand the project and develop communication skills and feel more comfortable operating in this arena
- ★ Better understand processes and procedures
- What support we'll receive from FDF and better methods/formats of what's required
- Know who does what
- When we're going to plan job and submittal requirements
- Know the system and be proactive

MISSION STATEMENT

As our contribution to the overall site restoration, the OSDF Leachate Conveyance System (LCS) Team will safely construct a quality and certifiable LCS in a timely, least cost manner that meets all requirements expected by our stakeholders, while coordinating with other site activities.

STAKEHOLDERS

- DOE
- EPA-OH, US
- Fluor Daniel Fernald (FDF)
- Residents
  - FRESH
  - CTF
  - CRO
- GeoSyntec
- Village Building Services Inc.
- Parsons
- Employees
- Bldg. Trades
- Teaming Partners
- Fluor Daniel Corporate
- Fluor Daniel Small Business
- Congress
- Local Politicians
- DFNSB
- B&J Electrical
- Diaz Construction

STAKEHOLDER EXPECTATIONS

1. Safety
2. Quality
3. Teamwork/Communication
   - Responsiveness/Trust
4. Cost Effectiveness/Schedule
5. Environmental Compliance

- Customer Satisfaction
- Accountability

KEY RESULT AREAS (KRAs)

1. **Safety**
2. **Quality**
3. **Teamwork/Communication**
   -Responsiveness/Trust
4. **Cost Effectiveness/Schedule**
5. **Environmental Compliance**

RISKS/ISSUES/BARRIERS
KRA #1 - SAFETY

- ● Bad attitude/culture
- ●★ Lack of proper equipment
- ● Unfamiliarity with FDF safety culture and expectations
- ● FDF Environmental
- ●★ Non-planning of work
- ●★ Lack of management involvement - rely on safety cops
- ● Compression of schedule
- ●★ Craft knowledge of expectations
- ●★ Effective training
- ● Not aware of crafts working in area
- ● Loss of perspective of mission
- ●★ Lack of belief in safety
- ●★ Not planning and working the plan
- ●★ Failure to follow procedures
- ●★ Failure to address requests - timely
- ●★ Hazards in excavation
- ●★ Lack of equipment maintenance
- ● Negligence - no safety meetings
- ● Lack of documentation
- ●★ Ineffective safety meetings
- ● Not acting on hazards
- ●★ Not using existing drawings, resources
- ●★ Not being proactive

★ - *High priority for actions*

RISKS/ISSUES/BARRIERS
KRA #2 - QUALITY

- ●★ How do we define quality?
- ● Schedule and cost pressures/short cuts
- ●★ Responsiveness from FDF
- ●★ Poor planning by the project
- ●★ Taking shortcuts
- ● Not following written procedures
- ● Not utilizing expertise
- ●★ Lack of understanding and obtaining clarification of drawings and specifications - One page
- ●★ Not being proactive/need to define
- ● The job's not done until all paperwork (documents) are in
- ●★ System testing
- ●★ Training/procedures
- ●★ Responsibility for receipt inspection
- ●★ Lack of understanding of quality goals at the beginning
- ●★ Quality culture
- ● We work at hazardous waste site
- ●★ Lack of familiarity with work specifications
- ● Lack of communication
- ● Ambiguous instructions, documents and information
- ●★ Maintain control of documents and filing
- ●★ Protecting each other's work

RISKS/ISSUES/BARRIERS
KRA #3 - TEAMWORK/COMMUNICATION

- ●★ Coordination/integration
- ● Willingness to succeed
- ●★ Abundance of verbal communication
- ●★ Not listening/responsive
- ● Innovative
- ● Forming opinion before listening
- ●★ Lack of roles and responsibilities (listening to the wrong people)
- ● Integration with other work groups
- ●★ Know the chain of command
- ●★ Open minded - put aside company name for team
- ● Documentation lacking
- ● New subcontractor/learning curves
- ● Not a we attitude
- ● Don't be afraid to ask questions
- ●★ Lack of flexibility and compromise
- ●★ Follow through with commitments

RISKS/ISSUES/BARRIERS
KRA #4 - COST EFFECTIVENESS/SCHEDULES

- ● Falling behind in schedules/and not communicating this
- ●★ Poor initial planning/schedule
- ● Up-front coordination
- ●★ Lack of timely turn-around-time for submittals
- ●★ Do it right the first time (quality)
- ●★ Good housekeeping
- ●★ Succeeding as mentors (win/win solutions)
- ● Weather (uncooperative)
- ●★ Understanding critical path
- ● Communication/coordination

RISKS/ISSUES/BARRIERS
KRA #4 - COST EFFECTIVENESS/SCHEDULES (continued)

- Imposing unrealistic time constraints on schedules
- ★ Failure to anticipate (such as interface and material problems)
- ★ Lack of timely payments
- ★ Ineffective/insufficient manpower utilization
- Not realizing common goal
- Supplier material delivery
- ★ Surprises (ie., burial ground)
- Changed conditions and materials

RISKS/ISSUES/BARRIERS
KRA #5 - ENVIRONMENTAL COMPLIANCE

- ★ Lack of understanding of the compliance rules
- ★ Spill reporting/containment
- Volume of regulations
- Coordination of all areas
- Lack of proper certifications
- Lack of following Environmental Plan
- ★ Lack of dust control
- ★ Ask questions/lack of communication
- Utilize expertise
- ★ Lack of proper documentation
- Not following other KRAs
- ★ Failure to recognize the importance of Environmental Regulations
- Failure to understand the logistical needs of subcontractors
- ★ Carelessness due to haste
- ★ Lack of common sense/training
- ★ Waste minimization (ie., vehicles)

ROLES & RESPONSIBILITIES

What do you see as the major roles and responsibilities of your group/function?

ROLES & RESPONSIBILITIES
CONSTRUCTION - Bill Zebick, Gary Pope, Rick McGuire

- Interface with other groups (construction, other subcontractors, FDF, DOE, security, etc)
- Construction management oversight
- Mentoring
- Permitting
- Coordination all construction field operations
- Single point of contact for subcontractor for technical/construction issues
- Safety and quality oversight
- Reporting responsibilities
- Oversight and assistance for environmental issues/requirements
- Timely progress payments
- Coordinate and expedite turn-around-time for review/approval of submittals
- Review and assist on timely issuance of changes/contract modifications
- Assist subcontractor in development/monitoring schedule
- Chair schedule/status meetings and document meetings
- Document job progress/daily activities
- Participants and assist in audits
- Presence in the field
- Provide timely responses to subcontractor
- Coordinating site tours/visitors
- Coordinate testing, acceptance and turnover of project

ROLES & RESPONSIBILITIES
CONTRACTS - Rick Holbrook, Alan Hohnhorst

- Facilitate the negotiation and processing of change orders
- Ensure timely payment of invoices
- Timely response to contract questions/issues
- Ensure contractual compliance
- Active participation in weekly progress meetings
- Review and approve certified payrolls
- Perform Davis-Bacon craft interviews
- Participate in subcontractor performance evaluation
- Close-out of subcontract

ROLES & RESPONSIBILITIES
FDF PROJECT ENGINEER - Jim Jenkins

- Coordinate all technical questions through construction management
- Review/coordinate submittals (shop drawings)
- Provide input to project manager and engineering manager as requested
- Ensure design change notices (DCN's) and request for clarification of information (RCI's) are completed and properly coordinated with Engineering Document Control (EDC)
- Ensure coordination with GeoSyntec, Parsons, and FDF Engineering
- Coordinate technical issues with other projects on-going at FEMP

ROLES & RESPONSIBILITIES
FDF PROJECT CONTROLS - Tim Keaty, Carlos Pratt

- Provide accurate and timely schedule information to project management and affected OU's
- Interface with Village Construction regarding schedule and cost reporting and statusing
- Review with construction management the pay item schedule
- Update schedules and perform monthly variance and schedule analyses
- Monitor and verify time charges and perform mischarge corrections
- Identify potential schedule conflicts with other O.U. contractors
  - Use of site master schedule
- Monitor project costs/requisitions/trends
- Be responsive to all cost and schedule needs of our team and our customers

ROLES & RESPONSIBILITIES
FDF SAFETY - Gregg Johnson, Todd Elliott

- Ensure (assist) project team includes safety in all activities
- Advocate to instill safety culture
- OSHA/Safety compliance (review oversight)
  - work plans
  - field activities
  - project documents
- Assist/technical support for contractor(s) with safety programs/issues

ROLES & RESPONSIBILITIES
FDF QUALITY ASSURANCE - Mike Godber

- Overviewing subcontractor documents to assure workers have training to approved procedures
- Document and report nonconformances to management
- Overview drawing and specifications to assure they are latest revisions and controlled. Assure the subcontractor has all controlled documents including DCNs
- Do overview inspections using approved procedures and documenting results
- Assure as-built drawings are accurately redlined during work progression
- Audit subcontractors and CQC inspection documents
- Review the management assessment documentation of quality program
- Verify and document testing activities
- Perform overviews on the subcontractors to assure they are meeting Part 9

ROLES & RESPONSIBILITIES
PARSONS ENGINEERING - Ken Gerard

- Title III Service to include:
  - Field contact (Hank Ketron)
  - Process Request for clarification of information, vendor submittals, design change notice (RCI/DCN)
  - Attend meetings
  - Other support upon request

ROLES & RESPONSIBILITIES
GEOSYNTEC CONSULTANTS - Ken Cargill, Dan Bodine, Jeph McMichen

- Providing QC documentation and project certification
- Performing QC testing and inspection
- Providing QA and interacting with FDF's QA
- Make design interpretations and changes if needed
- Assist construction management and FDF project engineering in turn-around-time of submittals
- Promote safety awareness

ROLES & RESPONSIBILITIES
VILLAGE BLDG. SERVICES -

President - Oscar Willingham

- Ensure employees understanding of our expected goals and deliver in a safe, efficient manner
- Make sure personnel have access to all tools, materials and training to perform optimally
- Reports to FDF Small Business Department

C.E. - Yahaya Willingham

- Coordinate with and provide support for project manager and site personnel
- Facilitate communication between site and main office personnel

PM. - Mary Jo Cleveland

- Communicate/coordinate with FDF
- Update and maintain schedule
- Coordinate subcontractors and site personnel
- Maintain and assure documentation at all levels
- Monitor safety/environmental/QA
- Problem identification and resolution with team

Estimating - Jerre Houser, Mayur Kadakia

- Compliance requirements
- Scope of work
- Submittals/approval procedure
- DCN/RFP
- Mobilization
- Planning
- Purchasing
- Coordination with subcontractor prior to mobilization
- Site office support
- Construction schedule

ACTION PLANS - KRA SUBTEAMS				
Safety	Quality	Teamwork/ Communication	Cost Efficient/ Schedule	Environ. Compliance
KRA #1	KRA #2	KRA #3	KRA #4	KRA #5
Todd	Mike	Gary	Tim	Teams 3 & 4
Bill	Jeph	Dan	Carlos	Combined
Oscar	Yahaya	Mary Jo	Ken	
Jerre	Ken	Rick H.	Mayur	
		Jim	Rick M.	

KRA #1 - SAFETY		
Actions	Resp.	Date
Lack of proper equipment and maintenance: • Review work plans, provide detailed inspection checklist for equipment and tools; • Maintain log books; daily inspection of tools, ladders, extension cords, etc.	FDF/ Todd Elliott Village	2/11/97 Daily
Non-planning of work: • Submit and review work plans for approval	Village & FDF	On-going
Lack of management involvement: • At least one member of Village management present at weekly meeting	Village	Start of work
Ineffective safety meetings: • Applicable subject matter, review weekly observation checklist, worker feedback	FDF, Elliott/ Village	On-going
Effective training: • Utilize GCBT, manufacturer recommended training on pipe welding and materials • Provide list of tools to FDF safety to determine if further training is necessary	Village	2/14/97
Failure to follow procedures: • Training, safety meetings, administration, discipline policy	Village	Prior to and during work

KRA #1 - SAFETY		
Actions	**Resp.**	**Date**
Hazards in excavation: • Competent persons, proper permits - FDF, use latest redline drawings	Village	On-going

KRA #2 - QUALITY		
Actions	**Resp.**	**Date**
Training: • Determine what training is required by position - Village Building Services - Subcontractors • Schedule training identify site procedures and industry procedures		
Receipt Inspection: • Items that arrive will be inspected by CQC consultants and subcontractor and overviewed by FDF if required - (Document as required)	GeoSyntec	
What is quality? • Study specifications, drawings and CQA plan and know the acceptance criteria. Ask questions		
Quality culture: • Management support on job specific quality topics. • Have tailgate quality meetings each morning		
Responsiveness: • Document control put together DCN and submittal logs for tracking documents	Rick McGuire	
Poor planning: • Develop and maintain resource loaded schedule. • Schedule will be submitted and used to monitor field activity	Village	
Taking short cuts: • Have task specific meetings on procedures for performing work and quality requirements on outputs	Village/QC	

KRA #2 - QUALITY		
Actions	**Resp.**	**Date**
Lack of understanding: • Ask questions to the right individual until an answer is received and understood	Village/QC	
• Proactive management involvement in QA meetings		

KRA #3 - TEAMWORK/COMMUNICATION		
Actions	**Resp.**	**Date**
• Post org. chart with appropriate names, phone, fax, pagers, radio, etc.,	Gary Pope	1st week of "on-site"
• Demonstrate (examples of) flexibility and ability to compromise at each weekly meeting (ie., agenda item)	All	Weekly
• Establish response date for each action item identified at weekly meeting	All	On-going
• Ensure documentation of verbal communication on significant issues - identify authority	Mary Jo/Rick McGuire	All the time
• Identify key coordination items (agenda) for each weekly meeting and notify appropriate parties and/or other organizations	Gary Pope	On-going
• Assign specific individual(s) to follow through with commitments on action items	Rick McGuire to chair	On-going

KRA #4 - COST EFFECTIVENESS/SCHEDULE		
Actions	**Resp.**	**Date**
• Develop a CPM schedule and approved that can be used as an effective work tool/ accurate updates *vs* baseline	Mayur Kadakia, Carlos Pratt, Tim Keaty, Rick McGuire	2/11/97
• Establish a single point for control of submittals (T.Russell)	Tracy Russel, Rick McGuire, Jim Jenkins, Dan Bodine	2/5/97
• Establish a matrix for submittal flow	Jim Jenkins, Rick McGuire	2/7/97
• Submittal register - accurate and updated	Mayur Kadakia, Jim Jenkins, Dan Bodine, Rick McGuire	2/11/97
• Submittals part of weekly status/schedule meetings	Rick McGuire, Jim Jenkins	2/19/97
• CQC Kick-off meeting	JM, Mike Godber, Rick McGuire	2/12/97
• Establish RCI/DCN register	Tracy Russel, Rick McGuire, Jim Jenkins	2/6/97
• Daily walkdown of project with subcontractor, FDF construction and correct immediately (walk-your-space)	Mary Jo Cleveland, Rick McGuire, Safety	On-going
• Provide expertise and assistance on CPM schedule/ schedule status/ variance analysis/trend analysis	Team	On-going
• Proactive approach - anticipating need/not waiting to be asked - daily stand-up meeting to discuss planned activities - long and short range	Team	On-going
• Post the schedule in the contractors trailer/meeting rooms etc., (updated weekly)	Village Building Services Inc., Tim Keaty	Mobilization

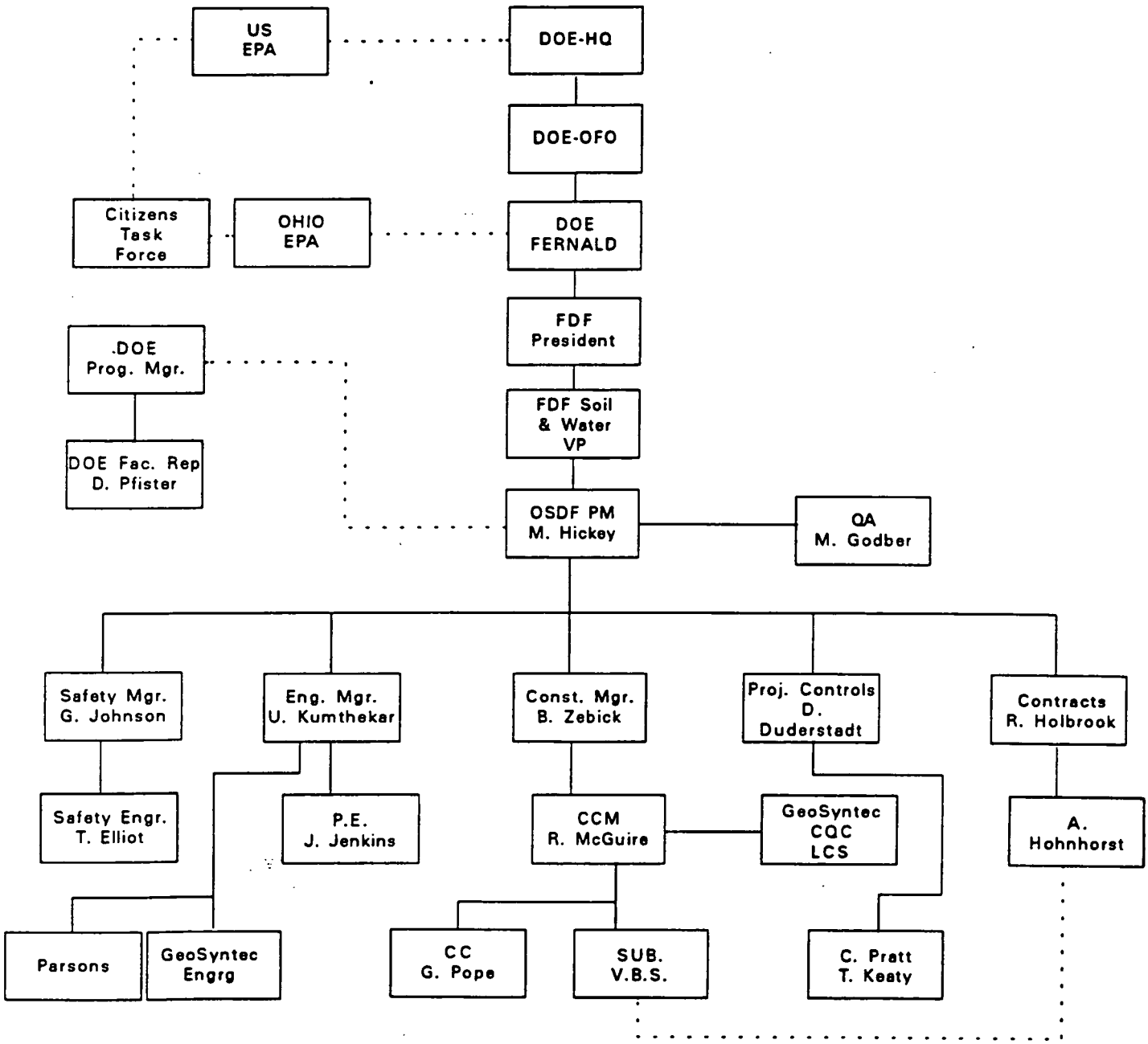
KRA #4 - COST EFFECTIVENESS/SCHEDULE		
Actions	**Resp.**	**Date**
• Submit pay request to accounting within five working days of receipt	Rick McGuire, Bill Zebick, Rick Holbrook, Carlos Pratt	On-going (monthly)
• Resource load CPM schedule; review at weekly meeting (2/19/97 start)	Mayur Kadakia, Carlos Pratt, Tim Keaty, Rick McGuire	2/11/97
• Efficient use of O.T. and Friday make-up day (weather)	Village Building Services Inc., Rick McGuire	On-going
• Follow the schedule!! (Plan the work - work the plan)	Team	Review weekly
• Document the work daily	Rick McGuire, Village Building Services Inc., Gary Pope, GeoSyntec	On-going
• Deal with surprises as they occur/resolve same day if possible	Team	Daily

KRA #5 - ENVIRONMENTAL COMPLIANCE		
Actions	**Resp.**	**Date**
• Have representative from Environmental Compliance attend weekly meetings as needed (rules, etc.,)	Rick McGuire	As needed
• Have Environmental Compliance (EC) give overview to team at early weekly meeting to reinforce importance of EC	C.E.	Early
• Immediate action to make notification for reporting and corrective measures	Gary Pope	ASAP
• Daily "toolbox" meetings to discuss daily activities and lessons learned	Mary Jo Cleveland	Daily
• Plan the work - work the plan	Mary Jo Cleveland	

KRA #5 - ENVIRONMENTAL COMPLIANCE		
Actions	Resp.	Date
• Document any dust control measures on daily logs	Gary Pope, Mary Jo Cleveland	
• Reinforce the need to document for compliance and non-compliance	Rick McGuire, Mary Jo Cleveland	
• Assist Village Building Services Inc., with surface water management, erosion, and sediment control plan	CE, Jim Jenkins, Rick McGuire, Dan Bodine, subteam	

PATH FORWARD		
Actions	Resp.	Date
• Finalize actions with responsibilities and dates	Team/Rick McGuire	
• Address technical aspects of system	Team meeting/ Rick McGuire	2/12/97
• Issue notes of alignment	Ron Baker	2/11/97
• Fill open positions on team (ie Village safety, QA)	Village - Oscar Willingham	2/12/97

OSDF Leachate Conveyance System Project Organization



FLUOR DANIEL FERNALD

FAX COVER SHEET FOR THE ON-SITE DISPOSAL FACILITY

Date: 02/10/97 Time: 10:45

To: GeoSyntec - Ken Cargill Dept.: -

Phone #: (404) 705-9500 Fax #: (404) 705-9400

Number of Pages including Cover Sheet: 3

From: Rick McGuire

Phone #: (513) 648-5347 Fax #: (513)

Subject: Leachate Conveyance System - Kick-Off Meeting

Message: Attached is notice of meeting and the agenda for our Wednesday meeting.

R. McGuire

Meeting Cancelled. Rescheduled for Telephone Conference. However, GeoSyntec was not contacted for the conference.

J. Smith

000058

Author: Rick Mcguire at FNST-03
Date: 2/10/97 10:22 AM
Priority: Normal
Receipt Requested
TO: Debra Cochran at FNST-02
TO: Mike Godber at FNST-04
TO: Michael Hickey at FNST-02
TO: Alan Hohnhorst
TO: Rick Holbrook at FNST-02
TO: James Jenkins at FNST-02
TO: Tim Keaty at FNST-02
TO: Henry Ketron at FEFE-27-ERAFS1-A
TO: Gregg Johnson at FNST-02
TO: Phil Payne at FEFE-27-ERAFS1-A
TO: Don Pfister at FEST-01-A
TO: Phillip Pope
TO: Carlos Pratt at FNST-04
TO: Carlton Schroeder at FEFE-27-ERAFS1-A
TO: Debby Smith at FNST-01
TO: Daniel Stempfley at FNST-05
TO: Uday Kumthekar at FNST-02
TO: Louis Wehlitz
TO: Bill Zebick at FNST-02
BCC: Rick Mcguire
Subject: OSDF - Leachate Conveyance System - Kick-Off Meeting

---------- Message Contents ----------

The Pre-Construction, Kick-Off Meeting for the Leachate Conveyance System subcontract is scheduled as shown below:

DATE: Wednesday, February 12, 1997

TIME: 2:00 - 4:00 PM

LOCATION: Trailer T-58, Room A

Please plan to attend or send a representative to this meeting. An agenda is attached for this meeting (WPW 6.1 file).

R. McGuire

OSDF LEACHATE CONVEYANCE SYSTEM PRE-CONSTRUCTION, KICKOFF MEETING

February 12, 1997
2:00 - 4:00
T-58 A

AGENDA

- Safety/TQM/Balance Topics
- Introduction
- Review of Technical Items
- Environmental, Safety & Health Requirements
- Review of Material Status and Shop Fabrication
- Coordination of Subcontractor Work, Inspection, and Testing
- Industrial Relations Review
- Status of Documentation/Approvals for NTP/Authorization to Mobilize
- Review of Subcontractor's Schedule
- General Construction Requirements
- Changes and Extra Work
- Subcontract Control and Reporting Requirements
- Progress Payments/Invoicing

OSDF LEACHATE CONVEYANCE SYSTEM PRE-CONSTRUCTION, KICKOFF MEETING

February 12, 1997
2:00 - 4:00
T-58 A

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- Review of Subcontractor's Schedule
- General Construction Requirements
- Changes and Extra Work
- Subcontract Control and Reporting Requirements
- Progress Payments/Invoicing

MEETING ATTENDANCE SHEET

.E OF MEETING: February 12, 1997

MEETING TITLE: Leachate Conveyance System - Subcontract FSC 589
Pre-Construction/Kick-Off Meeting

NAME	COMPANY	DIVISION/DEPARTMENT
Mayur Kadakia	Village Bldg. Services	SUBCONTRACTOR
OSCAR WILLINGHAM	" "	"
Timothy Keefy	Fluor Daniel Fernald	OSDF
Carlos Pratt	Fluor Daniel Fernald	OSDF
ALAN HOHNHORST	FLUOR DANIEL FERNALD	OSDF
Greg Pope	FDF OSDF	SHWP
JERRE HOUSER	VILLAGE BLDG. SERV.	SUBCONTRACTOR
PAUL ERNST	B&J ELEC. CO. INC.	—
Todd A. Ellioto	FDF	OSDF / Safety
MJ Cleveland	VILLAGE BLDG SERV	PROJ. MGR
STEVE PORTER	VILLAGE BLDG. SERV.	SAFETY OFFICER
Sheila Armstead	FDF - Construction	S & W
Yahaya Willington	Village Bldg. Serv.	Construction Engineer
Uday Kumtzekar (Part Time)	FDF	Engg
Ted HARTLEY	DIAZ CONST. INC.	PROJECT MGR.
CLAUDE REED	DIAZ CONST. INC.	SUB CONT.

FS-F-4292 (11/15/94)

000062

rec'd 1265 6 FEB 97 J.F.
GeoSystems Personnel not in attendance. J.F.

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: February 12, 1997

LOCATION: Fluor Daniel Fernald Office

SWP(OSDF):97-0001

ISSUE DATE: February 18, 1997 File Record Storage Copy 106.4.34.3

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

Fluor Daniel Fernald

+ S. Armstead, MS64
D. Cochran, MS15
+ T. Elliott, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
+ R. Holbrook, MS64
+ J. Jenkins, MS64
+ G. Johnson, MS64
+ T. Keaty, MS64
+ U. Kumthekar, MS64
+ • R. McGuire, MS64 zcm
+ P. G. Pope, MS64
+ C. Pratt, MS64
+ D. Rapier, MS30
+ D. Smith, MS30
D. Stempfley, MS30
+ L. Wehlitz, MS64
+ B. Zebick, MS64

DOE

D. Pfister, MS45

Parsons

+ K. Gerard
H. Ketron, MS17
+ P. Payne, MS17
+ J. Usher

Village Building Services

+ M. J. Cleveland
+ J. Houser
+ M. Kadakia
+ S. Porter
+ O. Willingham
+ Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

+ T. Hartley
+ C. Reed

SAFETY TOPIC

Hearing Protection: Many factors must be considered when using hearing protection. The Noise Reduction Rating (NRR) may be reduced by a safety factor and other factors identified by OSHA. These must all be taken into consideration when determining noise reduction afforded by a type of hearing protection, in order to keep decibel levels <85dBA.

TQM TOPIC

Never become so complacent that you stop growing and learning. Challenge yourself to meet higher goals.

MEETING NOTES - Continued

BALANCE TOPIC

Differences in people will lead to increased strength for the overall organization.

I. INTRODUCTIONS

Participants were introduced. Village Building Services was introduced as the prime subcontractor. Sub-subcontractors will be B&J Electrical Co. (electrical subcontractor), Diaz Construction, Inc. (civil/concrete), B. L. Payne & Associates (surveying), Midwest Mole, Inc. (boring and jacking), Security Fence Group, Inc. (chain link fencing), and ATEC Associates (concrete testing).

The Meeting Agenda was reviewed by R. McGuire.

II. REVIEW OF TECHNICAL ITEMS

Rick McGuire gave a brief description of the technical scope of the Leachate Conveyance System project.

Two Change Orders are anticipated to be issued by next week: One will change the wall thickness (SDR number) of the HDPE pipe , change sizes and material for the manhole access covers, revises telephone pole coordinates, and revises the surveying specification. The second will involve additional piping installation along the west corridor.

III. ENVIRONMENTAL, SAFETY AND HEALTH REQUIREMENTS

Todd Elliott reviewed the health and safety matrix. FDF's policy on reporting of injuries was also reviewed.

Village's safety program was submitted on February 6, 1997. Steve Porter will be the Safety Representative for Village Building Services. Village to submit a list of their competent persons for excavation and other work as required by OSHA.

FDF will designate smoking areas near the work area, if required. No smoking will be allowed outside these areas.

Village requested a controlled copy of the Health and Safety Matrix for the Leachate Conveyance System.

MEETING NOTES - Continued

IV. REVIEW OF MATERIAL STATUS AND SHOP FABRICATION

Village will submit their material status and delivery schedule by Thursday, February 20, 1997. HDPE pipe delivery is 4 weeks after drawing approval; manholes 1, 2, and 3 can be delivered 6 weeks after drawing approval. (Village submitted a letter from the supplier, Workman Development, during the meeting identifying that the 6-8 week delivery for cleanout manholes is based on approval of a material change from SDR 32.5 to SDR 26 and material price differences being approved. A DCN will be prepared by FDF to reflect this change.)

V. COORDINATION OF SUBCONTRACTOR WORK, INSPECTION, AND TESTING

Village will be responsible to inspect their own work per their QA/QC Program. FDF will provide a QC oversight. GeoSyntech will provide a CQC consultant for soils testing, currently scheduled to be on site March 3, 1997.

Village requested a meeting with B. L. Payne and Associates to discuss the revised surveying scope. Village will advise FDF of meeting schedule.

VI. INDUSTRIAL RELATIONS REVIEW

Debra Cochran could not make the meeting. Industrial relations items were discussed with Oscar Willingham after the meeting adjourned.

VII. STATUS OF DOCUMENTATION/APPROVALS FOR NTP/AUTHORIZATION TO MOBILIZE

Notice to proceed was issued on January 27, 1997. The contract period of performance is 208 calendar days, establishing completion date as August 23, 1997.

The following items have been received: signed subcontract, insurance certificates, payment and performance bonds, PLA Letter of Assent. A list of proposed sub-subcontractors was submitted by Village Building Services with their proposal. Village will re-submit as a submittal document.

Approval of Village Building Services Construction Safe Work Plan, Environmental Health & Safety Program/Plan, Substance Abuse Program, QA/QC Program, and Pay Item Schedule of Values is required for authorization to mobilize. Village submitted these items on February 6, 1997.

MEETING NOTES - Continued

VIII. REVIEW OF SUBCONTRACTOR'S SCHEDULE

Village Building Services plans to mobilize mid-March. FDF emphasized that work needed to start on the west corridor near the K-65 trench as soon as possible to avoid conflict with the Haul Road contractor.

FDF met with Village Building after the meeting to discuss their preliminary detailed schedule. Electrical pay items need to be started sooner to meet contractual requirements. FDF will comment on detailed construction schedule submitted.

IX. GENERAL CONSTRUCTION REQUIREMENTS

R. McGuire reviewed general construction requirements. Work hours will be Monday-Thursday, 6:30 AM - 5:00 PM. Work outside of these work times must be requested in writing and approved by FDF. Village must notify R. McGuire or Gary Pope by noon Wednesday for weekend work.

X. CHANGES AND EXTRA WORK

No work is to be performed without a written Change Order. Site instructions, or requests are not Changes to the contract.

XI. SUBCONTRACT CONTROL AND REPORTING REQUIREMENTS

Rick McGuire reviewed reporting requirements in part 6 and part 8 of the contract.

XII. PROGRESS PAYMENTS/INVOICING

Cut-off dates for billing are identified in Part 6 of the contract. R. McGuire requested that Village submit their preliminary billing request for February no later than COB on Monday, February 17, 1997 as FDF must report accruals on February 18, 1997.

No Payment will be made on stored material, without a Contract Modification. No payment will be made on Change Orders without an executed Contract Modification.

MEETING NOTES - Continued

XIII. ATTACHMENTS

Action Item Tracking List
Meeting Agenda

NEXT MEETING: TBA

RLM:rlm

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 02/18/97
Richard L. McGuire

ATTACHMENT I

Action Item Tracking List - FSC 509 - Leachate Conveyance System

April 30, 1996

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1	Provide a Controlled Copy of Health & Safety Matrix to Village Building	R. McGuire	2/12/97	2/20/97	Open		
2	Set up meeting with B.L.Payne & Associates	M. Kadakia	2/12/96	2/20/97	Open		
3	Issue RFP for pipe SDR change, manhole access cover change, revised power pole coordinates, and survey specification revision	R. McGuire	2/12/97	2/20/97	Open		
4	Issue RFP for additional piping in west corridor	R. McGuire	2/12/97	2/20/97	Open		Need CFC drawings issued by Parsons
5	Review/Approve Pay Item Schedule	R. McGuire	2/12/97	2/19/97	Open		

000068

MEETING ATTENDANCE SHEET

DATE OF MEETING: February 12, 1997

MEETING TITLE: Leachate Conveyance System - Subcontract FSC 589
Pre-Construction/Kick-Off Meeting

NAME	COMPANY	DIVISION/DEPARTMENT	PHONE NUMBER
J. C. JENKINS	FDF	OSDF	[redacted]
J.M. USHER	PARSONS	TITLE III	
MICHAEL GOOBER	FDF	QA	
Rick Horbrook	FDF	ACQ	
Phil PAYNE	PARSONS	TITLE III FIELD	
JEN GERARD	PARSONS	CIVIL ENGINEER	
Donna E. Lapien	FDF	O/PI Medical	
DEBBY SMITH	FDF	O+PI MEDICAL	
Lee Wenitz	FDF	OSDF	
Rick McGuire	FDF	OSDF	

FS-F-4292 (11/15/94)

Received 1265 MARCH 1997 JZ

MEETING NOTES MN:SWP(OSDF):97-0002

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: February 20, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: February 25, 1997 File Record Storage Copy 106.4.34.3

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

FDF

B. Crowley, MS30
+ T. Elliott, MS64
M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
+ R. Holbrook, MS64
+ J. Jenkins, MS64
+ G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ * R. McGuire, MS64
+ P. G. Pope, MS64
C. Pratt, MS64
+ T. Russell, MS64
+ D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

DOE

+ D. Pfister, MS45

Parsons

H. Ketron, MS17
+ P. Payne, MS17

GeoSyntec

D. Bodine
K. Cargill
J. McMichen

B. L. Payne & Associates

+ B. Payne

Village Building Services

+ M. J. Cleveland
J. Houser
+ M. Kadakia
+ S. Porter
+ O. Willingham
+ Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC - The ABC's of Safety are Attitude, Behavior and Control.

1. Attitude - A safe employee has the right safety attitude. Management believes in safety first.
2. Behavior - A safe employee uses safe work practices and follows procedures.
3. Control - An organization has an effective safety program and implements it.

TQM TOPIC

The team can accomplish more than an individual.

MEETING NOTES - Continued

BALANCE TOPIC

Take advantage of differences in the team. An organization that thinks alike probably isn't thinking!

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. FDF received Village Building Health and Safety Plan and Safe Work Plan on 2/6/97. FDF plans to have comments back no later than 2/28/97.

B. R. McGuire and G. Pope will work with Village Building to set up an area for fuel storage.

C. Rad Engineering working on down-posting high-nitrate storage tank area. Scheduled for completion by 3/1/97.

D. Elliot and G. Johnson reviewed the Health & Safety Matrix with Village Building after the meeting.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the Kick-off /Pre-construction meeting. No comments affecting those minutes were received other than those listed below:

No comments.

III. SCHEDULE BRIEFING

A. Percent Complete - 3.8%, Percent Scheduled - TBD

B. FDF discussed schedule issues with Village Builders and will formalize comments on villages preliminary schedule by 2/27/97. Village was advised that FDF wants to start work and concentrate manpower in the west corridor between the BSL and COMH-8 forst.

C. FDF requested that Village start electrical work by March 17, 1997. (Telephone pole installation)

MEETING NOTES - Continued

IV. DESIGN AND CONSTRUCTION ISSUES

A. DCN's #6 through #10 issued to Village Builders with Request for Proposal on 2/20/97.

B. Two more DCN's are pending: DCN#10 is for additional piping in west corridor. DCN#11 deletes nine (9) clean out manholes.

C. RCI's #1 through #4 received by FDF and answered. Village Builders submitted RIC#5 on 2/20/97 (re: heat tracing).

V. MATERIAL AND VENDOR DATA STATUS

A. Material - Lead time for manholes 1-3 is 4 to 6 weeks after drawing approval. Pipe delivery is 6 weeks from today (4/3/97).

B. Vendor Data - See attached submittal register.

C. Scheduled VBS submittals: Clean out manholes-2/25/97; Lift station - by 3/7/97.

VI. QUALITY AND INSPECTION

A. Village building's QA/QC Plan received 2/6/97. M. Godber should complete his review by COB today (2/20/97).

B. Forty-one (41) telephone and power poles received by FDF on 2/19/97 and 2/20/97. FDF will inspect poles once VBS's electrical contractor (B&J Electrical) mobilizes.

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - Request for Proposal (change orders #1 through #4) were issued on 2/20/97. FDF expects to issue RFP for DCN's #10 and #11 no later than 2/25/97.

B. R. McGuire concurred with Village Building preliminary pay request for February. Village Builders will formally submit next week.

MEETING NOTES - Continued

VIII. GENERAL

A. G. Pope to issue team information list with phone, radio, pager numbers, etc. for LCS personnel.

B. R. McGuire will contact Gwen Knox to authorize activating VBS radios.

C. Don P. Fister was introduced to team. Don will be the DOE representative for the Leachate Conveyance System Project.

IX. ATTACHMENTS

Action Item Tracking List

Village Builders Submittal Register

NEXT MEETING: Thursday, February 27, 1997, 1:00 PM, T-58B

RLM:rlm

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 02/24/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire	2/12/97	2/20/97	Open		A Controlled Copy will be issued with the next H&S revision.
2.	Set up meeting with B. L. Payne Associates.	M. Kadia	2/12/97	2/20/97	Closed	2/20/97	Meeting held on 2/20/97.
3.	Issue RFP for pipe SDR change, manhole access cover change, and survey specification revision.	R. McGuire	2/12/97	2/20/97	Closed	2/20/97	Issued as Change Order #1 through #4
4.	Issue RFP for additional piping in west corridor	R. McGuire	2/12/97	2/20/97	Open		Pending copies of drawings from CDC.
5.	Review/Approve Pay Item Schedule	R. McGuire	2/12/97	2/19/97	Open		Forecast 2/24/97.
6.	Issue Alighment Meeting Notes to Participants	R. McGuire	2/20/97	2/24/97	Open		
7.	Issue Team Information List	G. Pope	2/20/97	2/27/97	Open		

February 26, 1997 - F:\WPW61\CONSTRUC\MCGUIRE\ACTION.WPD

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ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
8.	Issue a copy of Quality Evaluation Plan for power poles to VBS.	R. McGuire M. Godbar	2/20/97	2/27/97	Open		
9.	Contact G. Knox to authorize activation of VBS Radios.	R. McGuire	2/20/97	2/27/97	Open		
10.	Send a copy of VBS's Safe Work Plan to D. Stempfley.	R. McGuire	2/20/97	2/25/97	Open		

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LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

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Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
01	VBS-SUR-000	Submittal Register	CR	Part 7, Sub.Req.Sec 4	02/13/97					
02	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97					
03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97					
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97					
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97					
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97					
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97					
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97					
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97					
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97					
11	VBS-ERP-000	Erosion Plan	CR	Section 02270						
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97					
13	-	Resumes	CR	Part 6;2.4.A	02/06/97					
14	VBS-MSD-000	MSDS Documentations	INF	Part8;A.3.9.2						
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4						
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1						
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						

1265

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

220000

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
23	VBS-WEC-000	Welding Certificates	REC	Part 7, Tech.Specs.						
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97					
25	VBS-HDM-000	HDPE MH,Lift Stns.	CR	Section 02605	02/18/97					
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97					
27	VBS-LSC-000	Lift Stn Access Covers	CR	Section 15000						
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97					
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97					
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97					
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97					
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400						
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

820000

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000						
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Section 15000						
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97					
46	VBS-SAN-000	Sand	CR	Section 02215						
47	VBS-STF-000	Silt Fence	CR	Section 02270						
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97					
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97					
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97					
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97					
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97					
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					
56										
57										
58										

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

620000

1265

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					
105	VBS-BJ11-000	Anchors,Pole,Insulation	CR	Section 16370	02/13/97					
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97					
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111										
112										
113										
114										
115										
116										

Received 10 MARCH 1997

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0002

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: February 27, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: March 3, 1997 File Record Storage Copy 106.4.34.3

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

B. Crowley, MS30
T. Elliott, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
+ R. Holbrook, MS64
+ J. Jenkins, MS64
+ G. Johnson, MS64
T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64
+ P. G. Pope, MS64
C. Pratt, MS64
+ T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

DOE

+ D. Pfister, MS45

Parsons

H. Ketron, MS17
+ P. Payne, MS17

GeoSyntec

D. Bodine
K. Cargill
J. McMichen

B. L. Payne & Associates

+ B. Payne

Village Building Services

+ M. J. Cleveland
J. Houser
M. Kadakia
+ S. Porter
O. Willingham
+ Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC - Investigation of abnormal events: FEMP procedures regarding incident reporting reviewed.

TQM TOPIC

The person doing the job is the expert and knows best how the process can be improved.

BALANCE TOPIC

Stagnation numbs the spirit. Try something different: take a class, start a new hobby, etc.

000080

MEETING NOTES - Continued

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. FDF expects to return comments on Health and Safety Plan and Safe Work Plan by Thursday, March 6, 1996. A meeting was tentatively scheduled for Tuesday, March 4, 1996 to discuss Safe Work Plan.

B. Sampling of high nitrate storage tank area sampling in progress. Sampling data is expected to be complete by March 6, 1997.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the Kick-off /Pre-construction meeting. No comments affecting those minutes were received other than those listed below:

No comments.

III. SCHEDULE BRIEFING

A. Percent Complete - 3.8%, Percent Scheduled - TBD

B. FDF will return comments on VBS's schedule on Monday, March 3, 1996.

C. FDF will provide formal direction to VBS within the next two weeks, for earliest start of work from LCS/LDS MH #1 to lift stations.

IV. DESIGN AND CONSTRUCTION ISSUES

A. VBS submitted their cost proposals for DCN's #1700-7 and #1700-8 today (2/27/97). (Proposals for DCN's #1700-9 were received later same day.)

B. DCN #1700-10 (additional piping) approved; DCN#1700-11 (deletion of manholes) is expected to be approved by 3/4/97. RCI's #1 through #5 answered and returned to VBS. (RCI #5 re-assigned as DCN#1700-012 and "on-hold". Two RCI's were submitted by VBS during the meeting.

MEETING NOTES - Continued

V. MATERIAL AND VENDOR DATA STATUS

A. Material - FDF received a letter from VBS's supplier, Plexco, stating LCS/LDS manholes can be ready for shipment by week of April 14, 1997 if shop drawings are approved by March 3, 1997. FDF expects to complete drawing review by COB on March 6, 1997 (drawings received by CDC February20, 1997). Cleanout manholes can be ready for shipment by week of May 5, 1997 if shop drawings are approved by March 3, 1997 (drawings submitted by VBS on February 26, 1997).

B. Vendor Data - See attached submittal register.

VI. QUALITY AND INSPECTION

A. FDF's comments on VBS's QA/QC Plan should be returned by March 6, 1997. M. Godber and R. McGuire will review resumes for QC Engineer by COB today, (2/27/97).

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - Proposals for change orders #1 through #4 received on 2/27/97. FDF expects to issue RFP for change Order #5 (DCN #1700-010) by COB on March 4, 1997.

B. Pay request #1 received from VBS on February 26, 1997.

VIII. GENERAL

A. Team information list (team personnel, phone numbers, radio numbers, pager numbers, etc.) handed out in the meeting.

IX. ATTACHMENTS

Action Item Tracking List

Submittal Register

NEXT MEETING: Thursday, March 6, 1997, 1:00 PM, T-58B

MEETING NOTES - Continued

RLM:rlm

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 03/03/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire	2/12/97	2/20/97	Open		A Controlled Copy will be issued with the next H&S revision.
2.	Issue RFP for additional piping in west corridor	R. McGuire	2/12/97	2/20/97	Open		Forecast 3/4/97.
3.	Review/Approve Pay Item Schedule	R. McGuire	2/12/97	2/19/97	Open		Forecast 3/3/97.
4.	Issue Alignment Meeting Notes to Participants	R. McGuire	2/20/97	2/24/97	Closed	2/24/97	
5.	Issue Team Information List	G. Pope	2/20/97	2/27/97	Closed	2/27/97	
6.	Issue a copy of Quality Evaluation Plan for power poles to VBS.	R. McGuire M. Godbar	2/20/97	2/27/97	Open		Forecast 3/3/97.
7.	Contact G. Knox to authorize activation of VBS Radios.	R. McGuire	2/20/97	2/27/97	Open		Forecast 2/27/97.
8.	Send a copy of VBS's Safe Work Plan to D. Stempfley.	R. McGuire	2/20/97	2/25/97	Open		
9.	Review VBS proposal for CO's #1, #2, #3, and #4.	R. McGuire J. Jenkins A. Hohnhorst	2/27/97	3/6/97	Open		
10.	Set up fuel storage area.	VBS R. McGuire G. Pope	2/27/97	3/3/97	Open		

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

000085

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
01	VBS-SUR-000	Submittal Register	CR	Part 7, Sub.Req.Sec 4	02/13/97					
02	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97					
03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97					
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97					
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97					
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97					
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97					
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97					
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97					
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97					
11	VBS-ERP-000	Erosion Plan	CR	Section 02270						
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97					
13	-	Resumes	CR	Part 6;2.4.A	02/06/97					
14	VBS-MSD-000	MSDS Documentations	INF	Part8;A.3.9.2						
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4						
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1						
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						

LEACHATE [illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

000086

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
23	VBS-WEC-000	Welding Certificates	REC	Part 7, Tech.Specs.						
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97					
25	VBS-HDM-000	HDPE MH,Lift Stns.	CR	Section 02605	02/18/97					
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97					
27	VBS-LSC-000	Lift Stn Access Covers	CR	Section 15000						
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97					
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97					
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97					
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97					
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97					
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

000087

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97					
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G-00255/8	02/27/97					
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97					
46	VBS-SAN-000	Sand	CR	Section 02215						
47	VBS-STF-000	Silt Fence	CR	Section 02270						
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97					
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97					
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97					
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97					
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97					
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97					
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97					
58										

LEACHATE [illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

000088

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97					
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					
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116										

1265

Record 265

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: March 6, 1997

LOCATION: Fluor Daniel Fernald Office

MN:SWP(OSDF):97-0004

ISSUE DATE: March 19, 1997

File Record Storage Copy 106.4.34.3

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

FDF

B. Crowley, MS30
+ T. Elliott, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
R. Holbrook, MS64
+ J. Jenkins, MS64
G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64 RLM
+ P. G. Pope, MS64
+ C. Pratt, MS64
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+ D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

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Parsons

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+ H. Millron
+ S. Porter
+ O. Willingham
Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC - Barricades: Types of barricades and their use and requirements were reviewed.

TQM TOPIC - Before you ask someone to do a job for you, be sure that what you want is clear in your own mind.

BALANCE TOPIC - We have a strict Drug Abuse Program at the FEMP that is clearly communicated to all employees and subcontractors working here on site. Remember when you go home to communicate with your kids about drug and alcohol abuse, because, if you don't, there may be someone else communicating a different message to them.

MEETING NOTES - Continued

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Todd Elliott reviewed a recent OSHA recordable accident at site caused by poor housekeeping. A FDF employee tripped over an extension cord, injuring his ankle.

B. Comments on Village Building Services' Safe Work Plan should be returned to E/CDC by March 10, 1997. A meeting was held with VBS on March 5, 1997 to discuss preliminary comments on their work plan. A copy of written comments to date were given to VBS in the meeting.

C. The High Nitrate Temporary Storage Tank area has been down-posted to a "Controlled Area." Village Building Services requested an "Information Only" copy of the Radiation Work Permit (RWP) for this area.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous construction meeting. No comments affecting those minutes were received other than those listed below:

No comments.

III. SCHEDULE BRIEFING

A. Percent Complete - 3.8 % (through 2/23/97), Percent Scheduled - TBD

B. Written comments on VBS's detailed schedule were returned to E/CDC on March 3, 1997. VBS's has not yet received this submittal.

C. Village Building Service was advised that field work on the leachate piping from LCS/LDS manhole #1 to the permanent lift station and work on the permanent lift station cannot start until July 1. 1997, due to unresolved soil certification issues. VBS's revised schedule should reflect this constraint.

MEETING NOTES - Continued

IV. DESIGN AND CONSTRUCTION ISSUES

A. DCN #1700-014 (deletion of CO manholes) was approved March 4, 1997. DCN #1700-012 (heat tracing GFCI circuit breaker, formerly RCI #1700-005R) is expected to be approved by Parsons by March 7, 1997. RCI #1700-006R (permission to scale piping profiles) was approved on March 4, 1997.

V. MATERIAL AND VENDOR DATA STATUS

A. Material - No new items discussed.

B. Vendor Data - See attached submittal register.

VI. QUALITY AND INSPECTION

A. Comments on VBS's QA/QC Plan are expected to be returned to E/CDC by COB on March 10, 1997.

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - FDF expects to complete their review of Village Building Services' proposals for Change Orders #1-#4 next week.

B. Attachments for request for proposal for Change Order #5 (additional piping installation) and Change Order #6 (CO manhole deletions) will be given to VBS today. The RFP is scheduled to be issued by COB on March 10, 1997.

C. VBS's Pay Request #1 is being processed and should be to accounting next week. R. McGuire requested that VBS re-submit their Pay Item Schedule of Values to incorporate FDF comments.

VIII. GENERAL

A. No new items discussed.

IX. ATTACHMENTS

Action Item Tracking List
Submittal Register

MEETING NOTES - Continued

NEXT MEETING: Thursday, March 20, 1997, 1:00 PM, T-58B

RLM:sam

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 03/19/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 569 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire	2/12/97	2/20/97	Open		A Controlled Copy will be issued with the next H&S revision.
2.	Issue RFP for additional piping in west corridor	R. McGuire	2/12/97	2/20/97	Open		Forecast 3/10/97. Attachments on 3/06/97.
3.	Review/Approve Pay Item Schedule	R. McGuire	2/12/97	2/19/97	Closed	3/03/97	Rev. 1 Received at E/CDC on 3/7/97.
4.	Issue a copy of Quality Evaluation Plan for power poles to VBS.	R. McGuire M. Godbar	2/20/97	2/27/97	Closed	3/06/97	Forecast 3/3/97.
5.	Contact G. Knox to authorize activation of VBS Radios.	R. McGuire	2/20/97	2/27/97	Open		Forecast 3/13/97.
6.	Send a copy of VBS's Safe Work Plan to D. Stempliey.	R. McGuire	2/20/97	2/25/97	Closed	3/06/97	
7.	Review VBS proposal for CO's #1, #2, #3, and #4.	R. McGuire J. Jenkins A. Hohnhorst	2/27/97	3/6/97	Open		Forecast W/E 3/13/97.
8.	Set up fuel storage area.	VBS R. McGuire G. Pope	2/27/97	3/3/97	Open		Forecast 3/13/97.

LEACHATE C[illegible]YANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
01	VBS-SUR-000	Submittal Register	CR	Part 7, Sub.Req.Sec 4	02/13/97					
02	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97	-	-	02/16/97	02/27/97	-
03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	02/16/97	02/27/97	-
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	02/16/97	02/27/97	-
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	02/18/97	02/27/97	-
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97					
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97					
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97					
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97					
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97					
11	VBS-ERP-000	Erosion Plan	CR	Section 02270						
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97					
13	-	Resumes	CR	Part 6;2.4.A	02/06/97					
14	VBS-MSD-000	MSDS Documentations	INF	Part8;A.3.9.2						
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4						
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1						
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						

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25	VBS-HDM-000	HDPE MH,Lift Stns.	CR	Section 02605	02/18/97					
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97					
27	VBS-LSC-000	Lift Stn Access Covers	CR	Section 15000						
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97					
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97					
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97					
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97					
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97					
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					

LEACHATE CO[illegible]YANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97					
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97					
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97					
46	VBS-SAN-000	Sand	CR	Section 02215						
47	VBS-STF-000	Silt Fence	CR	Section 02270						
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97					
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97					
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97					
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97					
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97					
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97					
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97					
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97					

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

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Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Released
58	FP90D-6932o2	84" Lift Station	CR	Section 02605	03/03/97					
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97					
60										
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97					
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97					

RECEIVED APR 1 1997
1265

MEETING NOTES

SUBJECT: OSDF - All Hands Staff Meeting

MEETING DATE: March 18, 1997

LOCATION: Fluor Daniel Fernald - Trailer 1 Conference Room

ISSUE DATE: April 1, 1997 File Record Storage Copy 104.5

DISTRIBUTION: + Attendees ++ Part-time * Author of Notes

- * Sheila Armstead
- + Dan Bodine, Geosyntec
- + Dave Duderstadt
- + Todd Elliot
- + Christine Esselman
- + Don Goetz
- + Mike Godbar
- + Lindsey Harris
- + Rick Holbrook
- + Rick Heath
- Mike Hickey
- + Jim Jenkins
- + Tim Keaty
- + John Lippett
- + J. McMichen
- + Carlos Pratt
- + Gary Pope
- + Uday Kumthekar
- + Dave Sablowsky
- + Jim Salyers
- + Bruce Schweitzer
- + Mike Snyder
- + Dan Stempfley
- + Jim Turner
- + Tracey Russell
- Lou Wehlitz
- + Bill Zebick

Safety Topic

- Report hazards in our workspace to our Safety Advocate.

Balance Topic

- Keep you eyes open for some of the new Leadership Forums that are upcoming. These forums are diverse and cover a large range of speakers on professional, personal and inspirational development. Most of the conferences have refreshments and an open bar.

TQM Topic

- Ideas are worth nothing; if not applied or passed along.

DISCUSSIONS

Leachate - R. McGuire

- Reviewing Submttals and 10% have gone back. He is planning to give Authorization to Mobilize.

MEETING NOTES - Continued

Discussions Cont'd

- Utility Integration material are here.
- We need to send Village a letter directing their work. We will be managing this work; telling them not to work on the east leg. We may have to extend the contract for Village which will be extra costs.

Haul Road

- Barrett has completed clearing, installed fencing and obtained grid permits. Thursday, Barrett is mobilizing utilizing the D&D Facility. They are ready to go on Monday, March 24, 1997 with Heavy Equipment.
- The main problem is with D&D, north side of plant, with T-Hoppers. The meeting with Brenda Perkins and Jim Salyers went well; RSO moved C-Lans and box trailers. Major effort in D&D. RAD ropes must be relocated.
- Focus on D&D, relocation of ropes are not a problem.
- We need to extend our appreciation to Brenda Perkins for her timely and professional assistance in getting RSO to complete work on our project. Mike Hickey will follow-up on this item.
- Removing the T-Hoppers is confirmed as being as being in the budget.
- C-Lans are not being charged. Jim Salyers will check on this.
- Permits - We have to make sure we have done all we can do; digging up something will be a problem on Haul Rd.
- Digging up something will be a bigger concern with Leachate.
- The OSDF Project is officially on hold. We have not received permission to move forward. There are some certification problems.

General Discussions

- Vehicles - Bill Zebick will look into leasing vehicles. Maybe two vehicles will be forthcoming.
- There are concerns raised regarding insurance on personal vehicles pertaining to coverage or the lack of coverage.

MEETING NOTES - Continued

General Discussions Cont'd

- Rick Holbrook is doing the letter to Lorretta Parsons requesting lease of vehicles until we can complete the process of procuring vehicles for the project.
- Insurance and safety issues regarding coverage will be addressed by Mike Hickey.
- Rick Holbrook has located a trailer with 1 ½ weeks to delivery for $48,000.
- Brenda Hoog is trying to get space to place trailer.
- Please be aware that we must call laborer's for moving furniture from one trailer to another, otherwise grievances could be filed against the project.

Next meeting is scheduled for April 1, 1997 in T-1 Conference Room

RECEIVED 20 MARCH 1997
J. Fu

1265

OSDF - LEACHATE CONVEYANCE SYSTEM SUBCONTRACTOR SCHEDULE AND STATUS MEETING

March 20, 1997
1:00 - 2:30
T-58 B

AGENDA

- Safety/TQM/Balance Topics
- Fire and Safety, Industrial Hygiene, Radiological Safety
- Previous Meeting Review
- Schedule Briefing
- Design and Construction Issues
- Material and Vendor Data Status
- Quality and Inspection
- Subcontract Administration
- General Discussion

Received 20 March 1997
1265

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0002

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: March 20, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: March 25, 1997 File Record Storage Copy 106.4.34.3

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

B. Crowley, MS30
T. Elliott, MS64
J. Ellis, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
+ R. Holbrook, MS64
J. Jenkins, MS64
+ G. Johnson, MS64
T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64 RLM
P. G. Pope, MS64
C. Pratt, MS64
+ T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

DOE

+ D. Pfister, MS45

Parsons

H. Ketron, MS17
+ P. Payne, MS17

GeoSyntec

+ D. Bodine
K. Cargill
+ J. McMichen

B. L. Payne & Associates

+ B. Payne

Village Building Services

+ M. J. Cleveland
J. Houser
M. Kadakia
+ H. Milliron
+ S. Porter
O. Willingham
+ Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC - Approved fire retardant protective clothing (PPE) and it's proper use was reviewed.

TQM TOPIC

Ideas are worth nothing if not applied or passed along.

BALANCE TOPIC

Diversity is the best way to beat the completion - for customers and for talented employees.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Village Building Services plans to submit their revised Safe Work Plan on Monday, March 24, 1997.

B. VBS will submit the Safe Work Plan for telephone pole in installation (by B&J Electrical) by Friday, March 21, 1997. FDF can give limited authorization to mobilize for this work once the work plan is approved.

C. B. Payne questioned confined space requirements, since some trenches are relatively deep. Confined space evaluation by IH is required for trenches 4 feet depth or greater. Methods should be employed to minimize need to enter trenches, where possible.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the Kick-off /Pre-construction meeting. No comments affecting those minutes were received other than those listed below:

H. Milliron's name misspelled.

III. SCHEDULE BRIEFING

A. Percent Complete - 5.63% (through 3/23/97), Percent Scheduled - TBD

B. R. McGuire requested that VBS expedite resubmittal of their detailed schedule. VBS committed to have by March 25, 1997. FDF needs VBS schedule to integrate with other OSDF contractor's work.

IV. DESIGN AND CONSTRUCTION ISSUES

A. DCN# 17200-012 (heat tracing circuit breaker) was approved March 10, 1997. DCN# 1700-015 (delete electrical feeder to trailers) will be issued next week.

B. RCI under review for HDPE lift station overflow vent. GeoSyntec has completed review and returned to FDF.

C. B. Payne requested clarification on NAD 1983 coordinates for the CE-BDN-6" line shown on new drawing #18A-1920-P-00301,Rev. 2. Drawing is in FEMP coordinates, not NAD 1983. FDF requested that VBS submit a Request for Clarification of Information (RCI).

D. B. Payne also noted that the station numbers on the piping profiles start over at zero at drawing matchlines. This can be confusing when laying out control points in the field.

V. MATERIAL AND VENDOR DATA STATUS

A. Material - No critical deliveries/problems identified. R. McGuire requested that VBS submit a Material Delivery and Status Report at the next meeting.

B. Vendor Data - See attached submittal register.

VI. QUALITY AND INSPECTION

A. VBS plans to submit their revised QA/QC Plan by March 27, 1997.

B. Deficiencies in submittals received to date were discussed. (See attached E-Mail from Mike Godber, detailing noted deficiencies.)

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - Proposals for change orders #1 through #4 received on 2/27/97. FDF expects to issue RFP for change Order #5 (DCN #1700-010) by COB on March 4, 1997.

B. VBS's expects to submit their proposal for Change Orders 5 and 6 on March 24th or March 26, 1997.

C. VBS advised they have received payment on pay request #1. Pay request for March period to be issued by VBS next week.

D. FDF issued a letter to VBS on March 17, 1997 outlining requirements for progress payments on materials.

VIII. GENERAL

A. No new items discussed.

IX. ATTACHMENTS

Action Item Tracking List
Submittal Register
Submittal Report by Submittal Number
cc: Mail M. Godber to J. Jenkins dated 3/18/97 Re: Leachate Conveyance Project Submittals

NEXT MEETING: Thursday, March 27, 1997, 1:00 PM, T-58B

RLM:rlm

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 03/24/97
Richard L. McGuire

LEACHATE C[illegible]EYANCE SYSTEM

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03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	02/16/97	02/27/97	H,S
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	02/16/97	02/27/97	H,S
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	02/18/97	02/27/97	H
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97	03/06/97	03/07/97			P,S
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97	03/06/97				Q,S
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97					H,S
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97	03/12/97				F,S
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97	03/12/97				Q
11	VBS-ERP-000	Erosion Plan	CR	Section 02270						O
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97	03/06/97	03/11/97			H
13	-	Resumes	INF	Part 6;2.4.A	02/06/97	-	-	02/27/97	03/06/97	-
14	VBS-MSD-000	MSDS Documentations	INF	Part8;A.3.9.2						B
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						Monthly
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						D
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						M
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						Monthly
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						Bi-Monthly
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4						O
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1						E
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						E

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25	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97					O,L
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97					O,L
27	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97					O,L
27	E-C1154	3' x 3' Acess Cover	CR	Section 15000	03/11/97					O,L
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97					O,L
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					R
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97					O,L
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					R
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97					O,L
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					R
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97					O,L
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					O,L
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					O,L
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					O,L
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					O,L
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97					

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VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					O,L
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97					O,L
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97					O,L
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						O,L
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97					O,L
46	VBS-SAN-000	50 lb.Samples of Fill	CR	Section 02215						O,L
47	VBS-STF-000	Silt Fence	CR	Section 02270						O,L
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97					O,L
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97					R
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97					R
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					O,L
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					O,L
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					O,L
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97					O,L
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97	03/12/97				O,L

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589000109

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97					O,L
58	FP90D-6932o2	84" Lift Station	CR	Section 02605	03/03/97					O,L
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97					O,L
60	VBS-PLE-001	HDPE Man.List of Comp.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-002	HDPE MH QA/QC Prog.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-003	Origin of PE Resin in MH	CFC	Section 02605	03/19/97					O,L
60	VBS-PLE-004	HDPE MH Man.Cert.Value	REC	Section 02605	03/19/97					O,L
60	VBS-PLE-005	Cert. no Rec. Polymer	CFC	Section 02605	03/19/97					O,L
	VBS-DDE-000	Name of Sup. & del.date	CFC	Section 02605						O,L
	VBS-MHT-000	Hy.testing Pr.for MH,Pipe	CR	Section 02605						O,L
	VBS-CRT-000	Qual.Cert for Resin	REC	Section 02605						R
	VBS-QLY-000	Qual.Test Res. for Resin	REC	Section 02605						R
	VBS-CMH-000	Cert. of Comp. HDPE MH	REC	Section 02605						R
	VBS-CPI-000	Cert. of Comp. Pipe	REC	Section 02605						R
	VBS-TNG-000	Training Certificates	CFC	Section 02605						A
	VBS-SAP-000	Substance Abuse Prog.	CR	Part 8	02/06/97					H,S
	VBS-4WK-000	4 Wk Rolling Schedule	INF	Part 6						Weekly
	VBS-UPD-000	Schedule Updates	INF	Part 6						Monthly
	VBS-DAY-000	Daily Reports	INF	Part 4						Daily
	VBS-FQC-000	Fastener Quality Cert.	REC	Part 4						R
	VBS-ITR-000	Inspection Test Reports	REC	Part 7						J
	VBS-FAC-000	Sch. of Factory Tests	INF	Part 7/Part 9						M

LEACHATE C[illegible]YANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
	VBS-RED-000	Red Lines/As-Builts	REC	Part 4						L,R
	VBS-DEV-000	Tab. of Overcur.Pr.Device	INF	Part 7/Part 9						J
	VBS-OHI-000	Ohio Surveyor's License	INF	Section 02100						O,L
	VBS-FIE-000	Red. & Ckd Field Notes	REC	Section 02100						O,L
	VBS-SKT-000	Drawings & Sketches	REC	Section 02100						O,L
	VBS-EQP-000	List of Eqpt. for trenching	INF	Section 02215						O,L
	VBS-MAT-000	Source of Embedment Mat	CR	Section 02215						O,L
	VBS-RES-000	Test Results for Emb.Mat	CR	Section 02215						O,L
	VBS-BEN-000	Sp.Sheet for Bentonite	CR	Section 02215						O,L
	VBS-5LB-000	5 lb. Sample of Bentonite	CR	Section 02215						O,L
	VBS-SCP-000	Steel Casing Pipe Data	CR	Section 02300						O,L
	VBS-END-000	Steel Casing End Seals	CR	Section 02300						O,L
	VBS-ETC-000	Prop.Seed Mixes,Asp.	CR	Section 02930						O,L
	VBS-APP-000	App.method Seed,Asp.	CR	Section 02930						O,L
	VBS-SEE-000	Cert. of Comp. Seed Mix	REC	Section 02930						O,L
	VBS-FER-000	Man. Cert. for fertilizer	REC	Section 02930						R
	VBS-LIM-000	Man. Cert. for Lime	REC	Section 02930						R
	VBS-MUL-000	Man. Cert. for Mulch	REC	Section 02930						R
	VBS-ASP-000	Man. Cert. for Asphalt	REC	Section 02930						R

1265

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589 000111

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97			B
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97					O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97					O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97					O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97					O,L
114	VBS-BJ20-000	Lifting Plan	CFC	Part 8	03/20/97					O,L

LEACHATE CC [illegible] VANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97					O,L
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97					O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97					O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97					O,L

1700/589 - SUBMITTAL REPORT BY SUBMITTAL NUMBER

3/20/97

000113

Document No.	Rev.	Type	Date	Status	Document Description
1700-589-001 VBS-SUR-000	0	REG	2/19/97	B	SUBMITTAL REGISTER
1700-589-002 VBS-PPB-000	0	BOND	1/16/97	INF	PAYMENT BOND
1700-589-002 VBS-PPB-001	0	BOND	1/16/97	INF	PERFORMANCE BOND
1700-589-003 VBS-INS-000	0	CERTS	1/16/97	INF	CERTIFICATE OF INSURANCE
1700-589-004 VBS-FSF-000	0	FORM	1/16/97	INF	FORM SF 1413
1700-589-005 VBS-PLA-000	0	LETTER	1/16/97	INF	PLA LETTER
1700-589-006 VBS-PIS-000	1	SCHED	3/10/97	CFC-R	PAY ITEM SCHEDULE
1700-589-006 VBS-PIS-000	0	SCHED	2/19/97	B	PAY ITEM SCHEDULE
1700-589-007 VBS-DCS-000	0	SCHED	2/19/97	C	DETAILED CONSTRUCTION SCHEDULE
1700-589-008 VBS-HSP-000	0	PLAN	2/19/97	B	HEALTH & SAFETY PLAN
1700-589-009 VBS-QAP-000	0	PLAN	2/19/97	C ?	QUALITY ASSURANCE PLAN
1700-589-010 VBS-SWP-000	0	PLAN	2/19/97	C	SAFE WORK PLAN
1700-589-012 VBS-SUB-000	0	LIST	2/18/97	B	SUBCONTRACTOR'S LIST

1700/589 - SUBMITTAL REPORT BY SUBMITTAL NUMBER

3/20/97

Document No.	Rev.	Type	Date	Status	Document Description
1700-589-012 VBS-SUB-000	1	LIST	3/11/97	INF-R	SUBCONTRACTOR'S LIST
1700-589-013 PFAHLER-RES	0	RESUME	2/18/97	INF	RESUME FOR THOMAS C. PFAHLER
1700-589-013 MILLIRON-RES	0	RESUME	2/18/97	D	RESUME FOR HOWARD D MILLIRON
1700-589-014 VBS-MSD-000	0	MSDS	3/18/97	INF	MSDS SHEETS
1700-589-024 VBS-HDP-000	0	DATA	2/21/97	B	HDPE PIPE & FITTINGS (CATALOG CUTS)
1700-589-025 VBS-HDM-000	0	DATA	2/20/97	CFC-R	LCS TO 3 & LDS-1 TO 3 MANHOLES & MONIT. WALLS
1700-589-026 VBS-LSP-000	0	MANUALS	2/18/97	CFC-R	LIFT STATION PUMPS
1700-589-027 SS-C9257	0	DWG	3/11/97	CFC-R	SS-C9257
1700-589-027 E-C1154	0	DWG	3/11/97	CFC-R	E-C1154
1700-589-028 VBS-MHC-000	0	DATA	2/18/97	CFC-R	NEENAH MH FRAME & COVER #R-1798-1
1700-589-029 VBS-6CV-000	0	DATA	2/18/97	CFC-R	6" CHECK VALVE # L9106GEIF
1700-589-029 VBS-6CV-001	0	DATA	2/18/97	INF-R	O & M FOR 6" CHECK VALVE
1700-589-030 VBS-SAR-000	0	DATA	2/18/97	CFC-R	1/2 " AIR RELEASE VALVE # 50.1

1265

000114

1700/589 - SUBMITTAL REPORT BY SUBMITTAL NUMBER

3/20/97

000115

Document No.	Rev.	Type	Date	Status	Document Description
1700-589-030 VBS-SAR-001	0	DATA	2/18/97	INF-R	O & M AIR RELEASE VALVE # 50.1
1700-589-031 VBS-3CV-000	0	DATA	2/18/97	CFC-R	3" CHECK VALVE SERIES 33
1700-589-031 VBS-3CV-001	0	MANUALS	2/18/97	INF-R	INST. OPERATION MAINT. MANUAL FOR CHECK VALVE
1700-589-032 VBS-PBU-000	0	LIST	2/19/97	CFC-R	6" PVC BUTTERFLY VALVE ASAHI/AMERICAN TYPE 75 PART NO. 1101-060
1700-589-033 VBS-10B-000	0	DATA	2/19/97	CFC-R	6"/10" BUTTERFLY VALVE
1700-589-034 VBS-6MV-000	0	LIST	2/19/97	CFC-R	6" PVC BALL VALVE ASAHI/AMERICA MODEL DUO-BLOC TRUE UNION PART NO.:1004-060 WITH ELECTRIC ACTUATOR PART NO.:2001-060, SERIES 92
1700-589-035 VBS-PCV-000	0	LIST	2/19/97	CFC-R	1/2" PVC BALL VALVE ASAHI/AMERICA DUO-BLOC TRUE UNION PART NO.:1001-005
1700-589-036 VBS-4CV-000	0	DATA	2/18/97	CFC-R	4" CHECK VALVE KENNEDY # 126
1700-589-037 VBS-4GV-000	0	DATA	2/18/97	CFC-R	4" GATE VALVE KENNEDY #4068A
1700-589-038 VBS-4BV-000	0	DATA	2/18/97	CFC-R	4" BALL VALVE APPOLLO #88-14A-01
1700-589-039 VBS-GAV-000	0	DATA	2/18/97	CFC-R	1/2" GATE VALVE POWELL #2714

1700/589 - SUBMITTAL REPORT BY SUBMITTAL NUMBER

3/20/97

Document No.	Rev.	Type	Date	Status	Document Description
1700-589-040 VBS-3FM-000	0	DATA	2/27/97	CFC-R	3" F&P NO.: 10D1475EN14PL29-AD11CAC1 WAFER STYLE MAGNETIC FLOWMETER (CATALOG CUTS)
1700-589-041 VBS-BNF-000	0	DATA	2/19/97	CFC-R	LOW TORQUE TYPE FLANGE GASKETS ASAHI/AMERICA AV GASKETS
1700-589-042 VBS-SSP-000	0	DATA	2/27/97	CFC-R	S.S PIPE & FITTINGS (CATALOG CUTS)
1700-589-043 VBS-SSF-000	0	DATA	2/27/97	CFC-R	C.S. PIPE & FITTING (CATALOG CUTS)
1700-589-045 VBS-UWT-000	0	DATA	2/21/97	CFC-R	UNDERGROUND WARNING TAPE (CATALOG CUTS) BRADY CATALOG NUMBER 91604
1700-589-048 VBS-CLF-000	0	SKETCH	2/19/97	CFC-R	CHAIN LINK FENCES
1700-589-049 VBS-SOP-000	0	DATA	2/18/97	CFC-R	SOLAR PANEL MODEL # SJ-5100
1700-589-049 VBS-SOP-001	0	DATA	2/18/97	CFC-R	SOLAR BATTERIES MODEL # 8G27
1700-589-050 VBS-FPR-000	0	DATA	2/19/97	CFC-R	FRENQUENCY PULSE RECEIVER TA5100 SERIES
1700-589-050 VBS-FPR-002	0	DATA	2/19/97	INF-R	O & M INST. INSTRUCTIONS FOR TA5100 SERIES
1700-589-050 VBS-FPR-001	0	DATA	2/19/97	CFC-R	CALIBRATION INSTRUCTIONS TA5100 SERIES
1700-589-051 VBS-PTR-000	0	DATA	2/19/97	CFC-R	PULSE TO PULSE TRANS./REC. PTA 4017 SERIES

000116

1700/589 - SUBMITTAL REPORT BY SUBMITTAL NUMBER

3/20/97

000117

Document No.	Rev.	Type	Date	Status	Document Description
1700-589-052 VBS-ILR-000	0	DATA	2/18/97	CFC-R	ISOLATOR DIN/AUX 4000 SERIES
1700-589-052 VBS-ILR-001	0	DATA	2/18/97	CFC-R	CALIBRATION INSTRUCTIONS DIN/AUX 4000 SERIES
1700-589-052 VBS-ILR-002	0	LIST	2/18/97	INF-R	O & M INST. INSTRUCTIONS FOR DIN/AUX 4000 SERIES
1700-589-053 VBS-LAR-000	0	DATA	2/21/97	CFC-R	LIGHTNING ARRESTER M-SYSTEM CO. # MMD-24 (CATALOG CUTS)
1700-589-054 VBS-PRG-000	0	DATA	2/20/97	CFC-R	PRESSURE GAGE TYPE 45-1279-S W/DIAPHRAGM SEAL
1700-589-055 VBS-CPL-000	0	LIST	2/19/97	CFC-R	3" & 4" S.S QUICK CONNECT HOSE COUPLINGS WITH & WITHOUT PLUG, BANJO SERIES 300 & 400
1700-589-056 VBS-6UM-000	0	DATA	2/21/97	CFC-R	6" UNIMAT FABRIFORM (CATALOG CUTS)
1700-589-057 FP90D-692	1	DWG	2/27/97	C	54" OD SDR 32.5 COMH (PLEXCO DRAWING)
1700-589-058 FP90D-693102	0	DWG	3/10/97	CFC-R	84" LIFT STATION SHEET 1 OF 2
1700-589-058 FP90D-693202	0	DWG	3/10/97	CFC-R	84" LIFT STATION SHEET 2 OF 2
1700-589-059 VBS-RUB-000	0	DATA	3/6/97	CFC-R	CONTECH NON-WOVEN GEOTEXTILES N. C-160NW
1700-589-101 VBS-BJ1-000	0	DATA	2/19/97	CFC-R	RIGID/PVC CONDUIT FITTING/SUPP./WIRE

1700/589 - SUBMITTAL REPORT BY SUBMITTAL NUMBER

3/20/97

Document No.	Rev.	Type	Date	Status	Document Description
1700-589-101 VBS-BJ3-000	0	DATA	2/19/97	CFC-R	RIGID/PVC CONDUIT FITTING/SUPP./WIRE
1700-589-101 VBS-BJ2-000	0	DATA	2/19/97	CFC-R	RIGID/PVC CONDUIT FITTING/SUPP./WIRE
1700-589-102 VBS-BJ4-000	0	DATA	2/19/97	CFC-R	RECEPTACLE/LINK SEALS/JUNCTION BOXES
1700-589-102 VBS-BJ6-000	0	DATA	2/19/97	CFC-R	RECEPTACLE/LINK SEALS/JUNCTION BOXES
1700-589-102 VBS-BJ5-000	0	DATA	2/19/97	CFC-R	RECEPTACLE/LINK SEALS/JUNCTION BOXES
1700-589-103 VBS-BJ7-000	0	DATA	2/18/97	CFC-R	GROUND RODS AND WIRE
1700-589-104 VBS-BJ8-000	0	DATA	2/19/97	CFC-R	QUAD/TRIPLEX; BARE COPPER ; GUY WIRE
1700-589-104 VBS-BJ9-000	0	DATA	2/19/97	CFC-R	QUAD/TRIPLEX; BARE COPPER ; GUY WIRE
1700-589-104 VBS-BJ10-000	0	DATA	2/19/97	CFC-R	QUAD/TRIPLEX; BARE COPPER ; GUY WIRE
1700-589-105 VBS-BJ11-000	0	DATA	2/18/97	CFC-R	ANCHORS;POLE LINE HARDWARE;INSULATOR
1700-589-106 VBS-BJ12-000	0	DATA	2/19/97	CFC-R	HEAT TRACE
1700-589-107 VBS-BJ13-000	0	PROCED	2/19/97	CFC-R	CONTINUITY TEST PROCEDURE
1700-589-107 VBS-BJ13-001	0	PROCED	2/19/97	CFC-R	INSULATION TEST PROCEDURE

000118

1265

1700/589 - SUBMITTAL REPORT BY SUBMITTAL NUMBER

3/20/97

Document No.	Rev.	Type	Date	Status	Document Description
1700-589-107 VBS-BJ13-002	0	PROCED	2/19/97	CFC-R	GROUND RESISTANCE TEST PROCEDURE
1700-589-107 VBS-BJ13-003	0	PROCED	2/19/97	CFC-R	HEAT TRACE TEST PROCEDURE
1700-589-107 VBS-BJ13-004	0	PROCED	2/19/97	CFC-R	MOTOR CHECK OUT PROCEDURE
1700-589-108 VBS-BJ14-000	0	MSDS	2/19/97	B	MSDS INDEX
1700-589-109 VBS-BJ15-000	0	DATA	2/21/97	CFC-R	PANELS/DISCONNECTS (DRY TYPE TRANSFORMERS)
1700-589-110 VBS-BJ16-000	0	DATA	3/10/97	CFC-R	LIGHTING (CATALOG CUT)
1700-589-111 VBS-BJ17-000	0	DATA	3/10/97	CFC-R	NAMEPLATES (CATALOG CUT)
1700-589-112 VBS-BJ18-000	0	DATA	3/10/97	CFC-R	WIRE & CABLE MARKERS
1700-589-113 VBS-BJ19-000	0	DATA	3/10/97	CFC-R	NEMA 3R WIREWAY (CATALOG CUT)
1700-589-201 VBS-DC01-000	0	PLAN	3/18/97	C	SAFE WORK PLAN
1700-589-202 VBS-DC02-002	0	DATA	3/18/97	CFC-R	PRODUCT DATA STEEL SPECS. & MILL CERTIFICATES
1700-589-202 VBS-DC02-001	0	DATA	3/18/97	CFC-R	PRODUCT DATA CONCRETE MIX DESIGN

Author: Mike Godber at FNST-04
Date: 3/18/97 9:59 AM
Priority: Normal
TO: James Jenkins at FNST-02
TO: Rick Mcguire at FNST-03
TO: Dan Bodine
Subject: LEACHATE CONVEYANCE PROJECT
---------- Message Contents ----------

PROJECT TEAM

WHEN REVIEWING SUBMITTALS, SOME COMPLIANCE ISSUES SEEM TO BE REPEATED ON EACH SUBMISSION. THESE ISSUES ARE AS FOLLOWS:

1. ALTHOUGH THE SUBMITTALS MEET THE INTENT OF THE SPECIFICATION, THE DETAILS OF THE CATALOGE CUTS AND SHOP DRAWINGS NORMALLY DO NOT COMPLETELY MATCH THE DRAWINGS AND SPECIFICATIONS.

2. THE SUBMITTALS SEEM TO BE INCOMPLETE BECAUSE THEY DO NOT INCLUDE QUALITY REQUIREMENTS, CERTIFIED TEST CERTIFICATES, TEST PROCEDURES, ETC.

THE SPECIFICATION REQUIRES A SUBMITTAL SHOULD MEET THE SPECIFICATION IN ITS ENTIRETY FOR IT TO BE FULLY APPROVED. IF THE SUBMITTAL DOES NOT FULLY MEET THE DESIGN DOCUMENTS, THE SUBCONTRACTOR IS REQUIRED TO NOTE THIS ON HIS SUBMITTAL. THE PROCESS FOR NOTING DEVIATIONS ON SUBMITTALS IS NOTED IN PART 7 OF THE CONTRACT, SECTION 6.0 WHICH STATES:

" DEVIATIONS-ATTENTION IS CALLED TO THE GENERAL PROVISIONS ARTICLE "SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION" FOR REQUIREMENTS FOR IDENTIFYING PROPOSED DEVIATIONS. ANY VARIATIONS FROM THE SUBCONTRACT REQUIREMENTS WILL BE HIGHLIGHTED ON THE DATE OF SUBMITTALS AND MUST BE ACCOMPANIED BY SEPARATE FORMAL WRITTEN REQUEST FOR DEVIATION.

THE SUBCONTRACTOR SHOULD BE MADE AWARE OF THIS STATEMENT SO FUTURE SUBMITTALS CAN HAVE A LETTER ATTACHED TO THEM IF THEY DEVIATE FROM CONTRACT DOCUMENTS. WHEN THE JOB IS COMPLETE THE ASBUILTS SHOULD AGREE WITH THE SUBMITTALS AND DEVIATIONS SHOULD BE ADDRESSED.

WHEN REVIEWING SUBMITTALS I HAVE FOUND THEY ARE NOT A COMPLETE PACKAGE. I HAVE SEEN THE SHOP DRAWINGS AND CATALOG CUTS, BUT I HAVE NOT SEEN THE SUBMITTALS THAT ADDRESS QUALITY ISSUES. FOR THIS PARTICULAR JOB, CERTIFICATION OF THE LEACHATE SYSTEM IS DEPENDANT ON HAVING THE SYSTEMS AND STRUCTURES COMPLETE AND ALSO HAVING QUALITY CONTROL PROPERLY CONDUCTED AND DOCUMENTED. BELOW IS A LIST OF DOCUMENTS THAT SHOULD BE SUBMITTED TO ADDRESS QUALITY CONTROL FOR THE PROJECT. THIS LISTING IS REQUIRED BY CONTRACT AND IS FOR INFORMATION ONLY.

1. SPEC 2100: SUBMIT THE OHIO LICENSE OF THE LAND SURVEYOR.

2. SPEC 2215: SUBMIT SOURCE OF EMBEDMENT FILL, TESTS CONDUCTED ON EMBEDMENT FILL, 50-POUND SAMPLE OF EMBEDMENT FILL, EMBEDMENT FILL CERTIFICATIONS.

3. SPEC 2605: DETAILED PROCEDURES FOR HYDROSTATIC TESTING, LIST OF COMPLETED FACILITIES BY HDPE MANUFACTURER, DOCUMENTATION THAT THE HDPE MANUFACTURER HAS AN ADEQUATE QUALITY ASSURANCE PROGRAM, ORIGIN AND ID OF RESIN, CERTIFIED VALUES AND TEST PROCEDURES FOR HDPE MATERIAL, QUALITY CONTROL CERTIFICATES FOR RESIN, TEST RESULTS FOR RESIN, CERTIFICATION THAT NO RECLAIMED POLYMER IS ADDED TO RESIN, SUBMIT AT LEAST 30 CALENDER PRIOR TO SHIPMENT INSPECTION REPORTS AND CERTIFICATIONS, SUBMIT AT LEAST 14 CALENDER DAYS PRIOR TO INSTALLATION TRAINING CERTIFICATES FOR WORKERS JOINING THE PIPE.

4. SPEC 3100: SUBMIT CONCRETE MIX DESIGN, NAME AND ADDRESS OF CONCRETE SUPPLIER, COMPRESSIVE STRENGTH RESULTS FOR PAST POURS, CONCRETE MATERIALS TEST CERTIFICATES.

5. SPEC 13400: SUBMIT CERTIFICATION OF TEST EQUIPMENT, INSPECTION AND TEST PROCEDURES FOR INSTRUMENTS, O AND M MANUALS, CALIBRATION INFORMATION CAN BE SENT LATER.

6. SPEC 13401: SUBMIT O AND M MANUALS, MAINTENANCE PROCEDURE, ASBUILTS, SUGGESTED SPARE PARTS FOR PLC. THIS IS FOR INFORMATION AND I REALIZE THESE ITEMS COULD BE SUBMITTED AT A LATER DATE.

7. SPEC 15160: FOR PUMPS SUBMIT O AND M MANUALS, TEST PROCEDURES IN ACCORDANCE TO THE HYDRAULIC INSTITUTES STANDARDS, TEST PROCEDURES FOR DEMONSTRATING THE WATER TIGHT INTEGRITY OF THE MOTOR HOUSING, ETC.

I REALIZE THE O AND M MANUALS, SPARE PARTS LISTS, ASBUILTS WILL ARRIVE AS THE JOB PROGRESSES. BUT THE QUALITY ISSUES SHOULD BE ADDRESSED AT THE BEGINNING OF THE JOB SO MANUFACTURER QUALITY CONTROL (MQC) CAN BE DIRECTED TO EQUIPMENT PRIOR TO SHIPMENT. MQC IS VERY IMPORTANT TO THE CERTIFICATION PROCESS.

THIS LETTER IS FOR INFORMATION ONLY AND IS OPEN TO DISCUSSIONS.

MIKE GODBER

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire	2/12/97	2/20/97	Open		A Controlled Copy will be issued with the next H&S revision.
2.	Issue RFP for additional piping in west corridor	R. McGuire	2/12/97	2/20/97	Closed		Change Order #5.
3.	Contact G. Knox to authorize activation of VBS Radios.	R. McGuire	2/20/97	2/27/97	Open		Forecast 3/13/97.
4.	Review VBS proposal for CO's #1, #2, #3, and #4.	R. McGuire J. Jenkins A. Hohnhorst	2/27/97	3/6/97	Open		Re-forecast W/E 3/27/97.
5.	Set up fuel storage area.	VBS R. McGuire G. Pope	2/27/97	3/3/97	Open		Re-forecast 3/20/97.
6.	Explain Roles/Responsibilities for Title III.	J. Jenkins R. McGuire	3/20/97	3/27/97	Open		Requested by D. Pfister.

1265

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OSDF - LEACHATE CONVEYANCE SYSTEM SUBCONTRACTOR SCHEDULE AND STATUS MEETING

March 27, 1997
1:00 - 2:30
T-58 B

AGENDA

- Safety/TQM/Balance Topics
- Fire and Safety, Industrial Hygiene, Radiological Safety
- Previous Meeting Review
- Schedule Briefing
- Design and Construction Issues
- Material and Vendor Data Status
- Quality and Inspection
- Subcontract Administration
- General Discussion

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0009

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: March 27, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: March 31, 1997 File Record Storage Copy 106.4.34.3

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

B. Crowley, MS30
T. Elliott, MS64
+ J. Ellis, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
+ R. Holbrook, MS64
J. Jenkins, MS64
+ G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64 RGM
+ J. Middaugh, MS44
P. G. Pope, MS64
+ C. Pratt, MS64
+ T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

DOE

+ D. Pfister, MS45

Parsons

H. Ketron, MS17
+ P. Payne, MS17

GeoSyntec

+ D. Bodine
K. Cargill
+ J. McMichen

B. L. Payne & Associates

+ B. Payne

Village Building Services

+ M. J. Cleveland
J. Houser
+ M. Kadakia
+ H. Milliron
+ S. Porter
O. Willingham
Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
+ C. Reed

SAFETY TOPIC - House numbers that can be clearly seen from the street can save precious minutes in case of a medical emergency. Numerals, rather than house numbers spelled out, should be used.

TQM TOPIC - Quality work saves time (as well as money and morale).

BALANCE TOPIC - Be kind, remember how fragile the human spirit is.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Work sessions were held with Village Building Services on 3/24/97 and 3/26/97 to revise their Safe Work Plan. Rev. 1 is expected to be completed on March 31, 1997.

B. FDF had minor comments on VBS's Safe Work Plan for telephone pole installation (Section 12.0 of VBS's Safe Work Plan). Work on this portion of the plan can proceed, pending resubmittal of VBS's Safe Work Plan and QA/QC plan on Monday, March 31, 1997.

C. J. Middaugh clarified radio channels for emergency response. Channel II is to be used for normal communications with security (i.e. requests to open gates, etc.) channel 7 is to be used for injury, accident or fire emergency response.

D. J. Middaugh advised that B&J Electrical's track auger has been repaired and approved for use.

E. VBS was advised that they must use a 12" air gap or provide a backflow preventer at yard hydrants during water truck filling operations (See attached E-Mail on this subject).

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the Kick-off /Pre-construction meeting. No comments affecting those minutes were received other than those listed below:

No comments.

III. SCHEDULE BRIEFING

A. Percent Complete - 5.63% (through 3/23/97), Percent Scheduled - TBD

B. VBS met with FDF this morning (3/27/97) to correct problems with their schedule. VBS plans to have their schedule finalized by March 31, 1997.

C. The current plan is for FDF to issue Authorization to Mobilize to VBS on April 1, 1997, pending approval ('A' or 'B' status) of VBS's Safe Work Plan, QA/QC Plan and detailed schedule. FDF would like VBS to start piping work no later than April 17, 1997.

IV. DESIGN AND CONSTRUCTION ISSUES

A. DCN# 1700-015 (delete electrical feeder to trailers) sent to R. Worsley (FDF Engineering) for review/approval.

B. RCI#1700-008R (HDPE Lift Station overflow vent) answered on 3/19/97 and distributed to VBS.

C. VBS to issue Request for Clarification of Information (RCI) for conversion of FEMP coordinates to NAD 1983 coordinates on drawing #18A-1900-P-00301, Rev. 2, issued with RFP for Change Order #5.

D. B. Payne advised that they will use drawing sheet number (e.g. G002) to identify station numbers, since station numbers start over at 0+00 at drawing match lines.

E. B. L. Payne requested FDF's assistance to locate the existing catch basin near the SWRB pump house. This will be done at the time of "walkdown" for the penetration permit.

V. MATERIAL AND VENDOR DATA STATUS

A. Material - VBS did not have their material delivery and status report available. R. McGuire requested that VBS submit early next week.

B. Vendor Data - See attached submittal register.

VI. QUALITY AND INSPECTION

A. M. Godber and R. McGuire reviewed VBS's QA/QC organizational chart and letter regarding compliance with FDF's QA/QC program and have no comments VBS was requested to also include a narrative of roles/responsibilities for the QA/QC Program and resubmit the entire plan by March 31, 1997.

B. M. Godber requested that VBS develop three (3) forms identified in Part 9 of the contract, prior to starting field work.

C. Telephone poles furnished by FDF were inspected. One pole was found to be non-conforming and will be returned to the vendor. The pole has been flagged and a "QA Hold Tag will be placed on it by FDF/QC.

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - FDF has not completed their review of Change Orders #1 through #4 (Forecast for 4/3/97).

B. VBS submitted cost for DCN #1700-012 (change order #7) on March 17, 1997 (received by FDF on 3/18/97).

C. Proposal for Change Order #5 and #6 submitted by VBS on March 24, 1997. FDF issued a letter on March 26, 1997 directing VBS to proceed with engineering and shop drawing submittal on Change Order #6.

D. Pay Request #2 (March) in FDF internal approval.

VII. GENERAL

A. No new items discussed.

IX. ATTACHMENTS

Action Item Tracking List
Submittal Register
E-Mail from Robert Duckworth re: Filling from 2 inch yard hydrant on North Access Road

RLM:rlm

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 03/24/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire	2/12/97	2/20/97	Open		A Controlled Copy will be issued with the next H&S revision. "Field Copy" (Rev.O) will be issued to VBS.
2.	Contact G. Knox to authorize activation of VBS Radios.	R. McGuire	2/20/97	2/27/97	Closed	3/25/97	
3.	Review VBS proposal for CO's #1, #2, #3, and #4.	R. McGuire J. Jenkins A. Hohnhorst	2/27/97	3/6/97	Open		Re-forecast W/E 04/03/97.
4.	Set up fuel storage area.	VBS R. McGuire G. Pope	2/27/97	3/3/97	Open		Will be done at time of VBS mobilization.
5.	Explain Roles/Responsibilities for Title III.	J. Jenkins R. McGuire	3/20/97	3/27/97	Open		Requested by D. Pfister.
6.	Review VBS proposal for CO's #5 and #6.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		
7.	Review VBS proposal for CO #7.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		
8.	Finalize Job Trailer Location.	R. McGuire	3/27/97	4/01/97	Open		
9.	Determine Stormwater Discharge Location North of 2nd street.	R. McGuire	3/27/97	4/01/97	Open		
10.	Issue RCI for NAD 1983 coordinates on Dwg. #18A-1900-P-00301 (Rev.2).	VBS	3/27/97	4/03/97	Open		

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LEACHATE [illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
01	VBS-SUR-000	Submittal Register	CFC	Part 7, Sub.Req.Sec 4	02/13/97	03/06/97	03/20/97			Q
02	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97	-	-	02/16/97	02/27/97	H
03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	02/16/97	02/27/97	H,S
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	02/16/97	02/27/97	H,S
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	02/18/97	02/27/97	H
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97	03/06/97	03/07/97			P,S
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97	03/06/97	03/25/97			Q,S
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97	03/20/97				H,S
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97	03/12/97				F,S
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97	03/12/97				Q
11	VBS-ERP-000	Erosion Plan	CR	Section 02270						O
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97	03/06/97	03/11/97			H
13	-	Resumes	INF	Part 6;2.4.A	02/06/97	-	-	02/27/97	03/06/97	-
14	VBS-MSD-000	MSDS Documentations	INF	Part8;A.3.9.2						B
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						Monthly
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						D
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						M
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						Monthly
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						Bi-Monthly
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4						O
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1						E
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						E

LEACHATE VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
23	VBS-WEC-000	Welding Certificates	REC	Part 7, Tech.Specs.						E
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97	03/20/97				O,L
25	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97					O,L
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97					O,L
27	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97					O,L
27	E-C1154	3' x 3' Acess Cover	CR	Section 15000	03/11/97					O,L
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97					O,L
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					O,L
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97					R
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97					R
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					O,L
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97					R
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					O,L
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					O,L
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					O,L
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					O,L
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97					O,L

1265

LEACHATE C[illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

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VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					O,L
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97					O,L
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97					O,L
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						O,L
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97					O,L
46	VBS-SAN-000	50 lb.Samples of Fill	CR	Section 02215						O,L
47	VBS-STF-000	Silt Fence	CR	Section 02270						O,L
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97					O,L
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97					R
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97					R
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					O,L
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					O,L
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					O,L
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97					O,L
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97	03/12/97	03/25/97			O,L

LEACHATE [illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97					O,L
58	FP90D-6932o2	84" Lift Station	CR	Section 02605	03/03/97					O,L
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97					O,L
60	VBS-PLE-001	HDPE Man.List of Comp.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-002	HDPE MH QA/QC Prog.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-003	Origin of PE Resin in MH	CFC	Section 02605	03/19/97					O,L
60	VBS-PLE-004	HDPE MH Man.Cert.Value	REC	Section 02605	03/19/97					O,L
60	VBS-PLE-005	Cert. no Rec. Polymer	CFC	Section 02605	03/19/97					O,L
61	VBS-OHI-000	Ohio Surveyor's License	INF	Section 02100	03/25/97					O,L
62	VBS-SCP-000	12 3/4" OD Steel Pipe Cer	CR	Section 02300	03/25/97					O,L
62	VBS-SCP-001	16" OD Steel Pipe Cert.	CR	Section 02300	03/25/97					
	VBS-DDE-000	Name of Sup. & del.date	CFC	Section 02605						O,L
	VBS-MHT-000	Hy.testing Pr.for MH,Pipe	CR	Section 02605						O,L
	VBS-CRT-000	Qual.Cert for Resin	REC	Section 02605						R
	VBS-QLY-000	Qual.Test Res. for Resin	REC	Section 02605						R
	VBS-CMH-000	Cert. of Comp. HDPE MH	REC	Section 02605						R
	VBS-CPI-000	Cert. of Comp. Pipe	REC	Section 02605						R
	VBS-TNG-000	Training Certificates	CFC	Section 02605						A
	VBS-SAP-000	Substance Abuse Prog.	CR	Part 8	02/06/97					H,S
	VBS-4WK-000	4 Wk Rolling Schedule	INF	Part 6						Weekly
	VBS-UPD-000	Schedule Updates	INF	Part 6						Monthly
	VBS-DAY-000	Daily Reports	INF	Part 4						Daily

LEACHATE VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
	VBS-FQC-000	Fastener Quality Cert.	REC	Part 4						R
	VBS-ITR-000	Inspection Test Reports	REC	Part 7						J
	VBS-FAC-000	Sch. of Factory Tests	INF	Part 7/Part 9						M
	VBS-RED-000	Red Lines/As-Builts	REC	Part 4						L,R
	VBS-DEV-000	Tab. of Overcur.Pr.Device	INF	Part 7/Part 9						J
	VBS-FIE-000	Red. & Ckd Field Notes	REC	Section 02100						O,L
	VBS-SKT-000	Drawings & Sketches	REC	Section 02100						O,L
	VBS-EQP-000	List of Eqpt. for trenching	INF	Section 02215						O,L
	VBS-MAT-000	Source of Embedment Mat	CR	Section 02215						O,L
	VBS-RES-000	Test Results for Emb.Mat	CR	Section 02215						O,L
	VBS-BEN-000	Sp.Sheet for Bentonite	CR	Section 02215						O,L
	VBS-5LB-000	5 lb. Sample of Bentonite	CR	Section 02215						O,L
	VBS-END-000	Steel Casing End Seals	CR	Section 02300						O,L
	VBS-ETC-000	Prop.Seed Mixes,Asp.	CR	Section 02930						O,L
	VBS-APP-000	App.method Seed,Asp.	CR	Section 02930						O,L
	VBS-SEE-000	Cert. of Comp. Seed Mix	REC	Section 02930						O,L
	VBS-FER-000	Man. Cert. for fertilizer	REC	Section 02930						R
	VBS-LIM-000	Man. Cert. for Lime	REC	Section 02930						R
	VBS-MUL-000	Man. Cert. for Mulch	REC	Section 02930						R
	VBS-ASP-000	Man. Cert. for Asphalt	REC	Section 02930						R

LEACHATE VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97			B
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97					O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97					O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97					O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97					O,L
114	VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97					O,L

LEACHATE VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97	03/20/97				O,L
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97					O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97					O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97					O,L

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Leachate Conveyance System

Solicitation No.: F96P283742

Subcontract No.: FSC 589

VBS Job No.: 0197

Contract Amount	2,883,328.00
Change Orders	874,913.17
Revised Amount	3,758,241.17

DCN'S

VBS No	FDF No.	Description	Date Recv.	Type	Sent to Sub.	Submitted	Amount	Agd. Date	Amount	Remarks
-	1700-004	Change Piping Configuration	01/20/97	M	-					for information only
-	1700-005	Injection Demo. Pipe Line	03/04/97	M	03/06/97					for information only
-	1700-011	Force Main Clean Outs	03/06/97	M	-	-	-	-	-	VOID
-	1700-013	Permission to Scale Profile	03/06/97	C	-	-	-	-	-	VOID
001	1700-006	Revised Pole Locations	02/12/97	E	02/17/97	02/27/97	0.00			
002	1700-007	Piping Spec. Changes	02/14/97	M	-	02/26/97	-34,634.30			
003	1700-008	LDS/LCS Access Covers	02/14/97	M/C	02/18/97	02/26/97	-33,576.91			
004	1700-009	Surveying Specification	02/20/97	Surv.	02/20/97	02/27/97	-14,638.50			
005	1700-002	Add Underground Piping	03/12/97	All	03/12/97	03/24/97	1,019,611.50			
005	1700-003	Biodenitrification Bypass Piping	03/12/97	All	03/12/97	03/24/97	-			
005	1700-010	Add/Adjust Utilities	03/04/97	All	03/06/97	03/24/97	-			
006	1700-014	Force Main Cleanouts	03/12/97	All	03/12/97	03/24/97	-62,902.55			
007	1700-012	Heat Trace GFI C.B	03/12/97	E	03/12/97	03/17/97	1,053.93			
						Sub C.O	874,913.17	App.C.O	0.00	

Change Order Amount

1265

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3/27/97

DCN0197.XLS

Leachate Conveyance System

Solicitation No.: F96P283742

Subcontract No.: FSC 589

VBS Job No.: 0197

RCI'S

FDF No.	Description	Date Sub.	Type	Res. Rcv.	DCN No.	Amount	Agd. Date	Amount	Remarks
1700-001R	Pole Mounted Lighting	02/14/97	E	03/06/97	-	-	-	-	-
1700-002R	HDPE Manholes (C.O)	02/14/97	M	02/20/97	-	-	-	-	-
1700-003R	Pulse Rate	02/14/97	M	02/26/97	-	-	-	-	-
1700-004R	PVC Conduit Size	02/14/97	E	03/06/97	-	-	-	-	-
1700-005R	Heat Trace GFI C.8.	02/20/97	E	03/06/97	1700-012	1,053.93			
1700-006R	Permission to Scale Profile	02/27/97	C	03/06/97	-	-	-	-	-
1700-007R	Painting	03/11/97	M	03/27/97					
1700-008R	HDPE Lift Stn. Overflow Vent	02/27/97	M	03/27/97					

Author: Robert Duckworth at FNST-04
Date: 3/13/97 7:11 AM
Priority: Normal
TO: Joe Riede at FNST-03
TO: BRAD THOMPSON at FDGV-03
TO: Phillip Thompson at FNST-05
CC: Casey Meeks at FNST-01
CC: Donald McCool at FNST-05
CC: Ed Stacey at FNST-01
CC: Jack Bierman
CC: Todd Elliott at FNST-03
CC: Phillip Pope at FNST-03
CC: Jeff Middaugh at FNST-03
CC: Louis Wehlitz at FNST-03
CC: Shelby Blankenship at FNST-02
CC: Jeff Halcomb at FNST-02
Subject: Filling From 2 inch Yard hydrants on North Acess Road

---------- Message Contents ----------

Gentlemen,

Please be advised that all fill operations that are conducted on the north access roadway yard hydrants must maintain an air break during fill or have a reduced pressure backflow prevention device attached to the yard hydrant.

Requirements for an air break require that a 12 inch air gap remain during point of release and the water surface. The water tanker being used for dust control must use the top fill for these two locations. Field conversations with Wise personnel operating this unit were give directions for top fill operation only. This is a change from the west yard hydrant by the new boiler plant, that yard hydrant was on an independent water system protected by a master backflow preventor device.

Localized backflow preventor must be an approved device and tested at time of installation. Any backflow preventor brought on site needs to be registered with Water Treatment and the UE's. The inspection certification paperwork identifying the tested individual must accompany the paperwork. Recent problems involving backflow prevention at Plant 1 project has increased awareness to this situation.

If anyone has any questions do not hesitate to contact myself or the on shift UE / AEDO.

Minor work requests have been written both to repair the Treated Water Yard Hydrant damage by the new Boiler Plant and to properly color code all three of these units and place signs on the units on the north access roadway.

If this information is appropriate for safety briefing with personnel conducting this type of operation, please fill free to pass it along.

Robert Duckworth UE / AEDO

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AGENDA

OSDF ALL-HANDS STAFF MEETING

04/01/97

Safety Topic:

TQM Topic:

Balance Topic:

- **Bill Zebick:**
  - **FDF Insurance Coverage for Business Travel (cc:Mail)**
- **All:**
  - **Project Updates**
- **Safety Issues/Concerns:**
  - **Open**
- **General Discussion:**
  - **Open**

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FD FERNALD CONTRACT
DE-AC24-92OR21972

MEETING NOTES

SUBJECT: OSDF - All Hands Staff Meeting

MEETING DATE: April 1, 1997

LOCATION: Fluor Daniel Fernald - Picnic Table (Across from T-18)

ISSUE DATE: April 7, 1997 File Record Storage Copy 104.5

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

- • Sheila Armstead
- + Dan Bodine
- + Dave Duderstadt
- + Todd Elliot
- + Christine Esselman
- + Don Goetz
- + Mike Godbar
- + Lindsey Harris
- + Rick Holbrook
- + Rick Heath
- Mike Hickey
- + Jim Jenkins
- + John Lippett
- + J. McMichen
- + Carlos Pratt
- + Gary Pope
- + Uday Kumthekar
- + Dave Sablowsky
- + Jim Salyers
- + Bruce Schweitzer
- + Mike Snyder
- + Dan Stempfley
- + Tracey Russell
- + Lou Wehlitz
- + Bill Zebick

Safety Topic

- We need to use extra caution in the parking lot as the barricades are constantly being relocated.

Balance Topic

- Take some time tonight to see the Comet; it is really something very beautiful to see.

TQM Topic

- Prioritize first thing in the morning. It really makes a difference in accomplishing tasks.

Status of Projects - OSDF Uday Kumthekar

- We have submitted the recommendation for Award.
- Engineering is presently working on four cost estimates: Phase III Planning, The 8-Year Plan, and DOE Headquarters and the IG Cost Estimates for on-site and off-site disposal. These packages are expected to be completed by April 30, 1997.
- Village Builder's have received Authorization to Mobilize on April 1, 1997. Installation of piping is scheduled to begin on April 17. Thirty four poles are in the plan and it is expected to take approximately 2 weeks.

MEETING NOTES - Continued

- The track vehicle will be used to install the poles along the North Entrance Road.

Haul Road Project

- Presently construction is resolving conflicts with other groups as our projects move forward, other areas realize how our work will impact their projects. We have issued the proper notification to projects prior to beginning work. We will continue to resolve issues on a case by case basis.
- Fencing installation has been completed on this project.
- Under-cutting has been stalled as a result of a flat tire on the scraper.
- Wise Pre-Work has been completed.
- Barrett is beginning to do Catch Basin work.

OSDF Phase I Sub-Contract Update

- Dennis Carr has sent a letter to Jack Craig requesting approval of the subcontract.
- We are waiting on the concurrence signature from DOE to begin construction of the OSDF Phase I.
- We expect to begin scheduling the Kick-Off Meetings and Alignment Sessions.
- Integrated schedule has been prepared for the OSDF Project to show how our project interfaces with soil excavation and D&D projects.

Other Issues

- Please see the CC: Mail on Insurance of personal vehicles. This policy states that personal vehicles are not covered by FDF.
- Personnel must obtain riders to their personal insurance as accidents are not covered by FDF.
- Bill Zebick stated that one option to address issues pertaining to vehicles is to have vehicles become a part of the subcontractor's responsibility when they come on board.
- Vaughn Furlong is in Alberquerque looking at Trailers to purchase.

MEETING NOTES - Continued

Other Issues Cont'd

- We would like to secure a trailer for Geosyntec first.
- Please see Tonya Seiwert to review a copy of the Safety Walk-through Program Review.
- Bill Zebick has hand-out's on Information Management which describes what it is at FDF and what services are available through them.
- Don Goetz will handle computer pricing and phones for the new trailers being brought on site.
- We are expecting (2) new Teaming Partners in the Engineering Team to arrive on this project. The first partner, from Jacobs, is scheduled to arrive on April 14, 1997.
- Space issues need to be coordinated by Tonya Seiwert and Don Goetz.
- Christine Essleman will see Dennis Carr on the WAC Plan.

Meeting was concluded at 10:30.

OSDF - LEACHATE CONVEYANCE SYSTEM SUBCONTRACTOR SCHEDULE AND STATUS MEETING

April 3, 1997
1:00 - 2:30
T-58 B

AGENDA

- Safety/TQM/Balance Topics
- Fire and Safety, Industrial Hygiene, Radiological Safety
- Previous Meeting Review
- Schedule Briefing
- Design and Construction Issues
- Material and Vendor Data Status
- Quality and Inspection
- Subcontract Administration
- General Discussion

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0009

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: April 3, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: April 10, 1997 EDC #20110

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

B. Crowley, MS30
T. Elliott, MS64
+ J. Ellis, MS64
M. Godber, MS64
M. Hickey, MS64
A. Hohnhorst, MS44
R. Holbrook, MS64
J. Jenkins, MS64
G. Johnson, MS64
T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64 RLM
+ J. Middaugh, MS44
P. G. Pope, MS64
C. Pratt, MS64
T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

DOE

D. Pfister, MS45

Parsons

H. Ketron, MS17
+ P. Payne, MS17

GeoSyntec

+ D. Bodine
K. Cargill
+ J. McMichen

B. L. Payne & Associates

+ B. Payne

Village Building Services

M. J. Cleveland
J. Houser
+ M. Kadakia
+ H. Milliron
+ S. Porter
O. Willingham
+ Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
+ C. Reed

SAFETY TOPIC - Be alert for motorcycles - they are not always as visible as an automobile. With the warmer weather, more of them will be on the roads.

TQM TOPIC - Total Quality Management is an ongoing process, not a result.

BALANCE TOPIC - Accentuate the positives - don't always point out the negatives.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Rev. 1 of Village's Safe Work Plan was submitted on April 1, 1997. FDF is reviewing the document and hope to have comments back by April 7, 1997. From review comments received to date, the document will likely be 'B' status.

B. VBS was given Authorization to Mobilize for telephone pole installation on March 28, 1997 and started work on Tuesday, April 1, 1997.

C. B&J Electrical's track auger is back into service and B&J will start installing poles in the "certified area".

D. VBS requested a MSDS for the treatment used on the telephone poles. FDF has contacted the vendor and he is mailing to FDF. FDF should receive the MSDS on Monday, March 31, 1997.

E. VBS advised that they will be utilizing trench boxes for excavations and that this is covered in Section 5.2 of their Safe Work Plan. Certification of the trench boxes will be required.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the Kick-off /Pre-construction meeting. No comments affecting those minutes were received other than those listed below:

Schedule briefing Item C: the date requested by FDF for Village to start piping work should have read April 14, 1997, not April 17, 1997.

III. SCHEDULE BRIEFING

A. Percent Complete - 5.63% (through 3/23/97), Percent Scheduled - T.B.D.

B. VBS will re-submit their schedule by Tuesday, April 8, 1997. The schedule, once approved, will have to be resource loaded.

IV. DESIGN AND CONSTRUCTION ISSUES

A. DCN # 1700-015 (delete electrical feeder to trailers) was approved March 26, 1997 and distributed.

B. J. Jenkins is generating a DCN to add one telephone pole south of pole OP-100 and to revise easting coordinate for pole OP-100 and OP-101.

V. MATERIAL AND VENDOR DATA STATUS

A. Vendor Data - See attached submittal register.

B. Submittal #73 (air release manholes) and submittal #74 (cleanout), submitted by VBS on April 3, 1997, needs expedited review.

VI. QUALITY AND INSPECTION

A. Village's QA/QC Program approved and returned to VBS 'A' status.

B. VBS still must develop three (3) forms identified in Part 9 of the contract, prior to beginning installation of leachate piping.

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - Negotiations for Change Orders #2 and #3 are on hold pending independent estimate by FDF Estimating. Change Order #1 is no cost and Change Order #4 requires a technical evaluation. (Re-forecast for end of April completion)

B. Change Order #7 - Technical evaluation required. (Forecast completion April 1, 1997)

C. Change Order #5 - Independent estimate has been requested.

VII. GENERAL

A. No new items discussed.

IX. ATTACHMENTS

Action Item Tracking List
Submittal Register
Delivery Status As Of April 03, 1997

RLM:rlm

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 04/10/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire G. Johnson	2/12/97	2/20/97	Open		H&S Matrix will be revised by end of April, 1997 to incorporate VBS's Safe Work Plan
3.	Review VBS proposal for CO's #1, #2, #3, and #4.	R. McGuire J. Jenkins A. Hohnhorst	2/27/97	3/6/97	Open		Pending independent estimate for CO #2 and CO #3. CO #4 requires technical evaluation. Re-forecast 04/30/97.
4.	Set up fuel storage area.	VBS R. McGuire G. Pope	2/27/97	3/3/97	Open		Will be done at time of VBS mobilization.
5.	Explain Roles/Responsibilities for Title III.	J. Jenkins R. McGuire	3/20/97	3/27/97	Open		Requested by D. Pfister.
6.	Review VBS proposal for CO's #5 and #6.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Pending independent estimate.
7.	Review VBS proposal for CO #7.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Technical evaluation required.
8.	Finalize Job Trailer Location.	R. McGuire	3/27/97	4/01/97	Open		
9.	Determine Stormwater Discharge Location North of 2nd street.	R. McGuire	3/27/97	4/01/97	Closed	04/01/97	Stormwater will be discharged into the existing drainage ditch north of second street. Erosion and sediment controls must be in place [illegible]
10.	Issue RCI for NAD 1983 coordinates on Dwg. #18A-1900-P-00301 (Rev.2).	VBS	3/27/97	4/03/97	Closed	04/03/97	RCI #1700-010 [illegible]
11.	Expedite review of submittals #73 and #74.	J. Jenkins	04/03/97	04/07/97	Open		
12.	Resubmit embedment fill (Submittal #46)	VBS	04/03/97	04/07/97	Open		

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April 10, 1997 F:\WPW61\ACTION.WP5

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000149

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
01	VBS-SUR-000	Submittal Register	CFC	Part 7, Sub.Req.Sec 4	02/13/97	03/06/97	03/20/97			Q
02	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97	-	-	02/16/97	02/27/97	H
03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	02/16/97	02/27/97	H,S
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	02/16/97	02/27/97	H,S
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	02/18/97	02/27/97	H
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97	03/06/97	03/07/97			P,S
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97	03/06/97	03/25/97			Q,S
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97	03/20/97	-	B	03/20/97	H,S
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97	03/12/97	03/31/97			F,S
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97	03/12/97	03/31/97			Q
11	VBS-ERP-000	Erosion Plan	CR	Section 02270	Included in Safe Work Plan Submittal No.: 10					O
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97	03/06/97	03/11/97			H
13	-	Resumes	INF	Part 6;2.4.A	02/06/97	-	-	02/27/97	03/06/97	-
14	VBS-MSD-000	MSDS-Limestone	INF	Section 02930	03/31/97					B
14	VBS-MSD-001	MSDS-Fertilizer 12-12-12	INF	Section 02930	03/31/97					B
14	VBS-MSD-002	MSDS-Fertilizer 10-10-10	INF	Section 02930	03/31/97					B
14	VBS-MSD-003	MSDS-Asphalt Emulsion	INF	Section 02930	03/31/97					B
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						Monthly
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						D
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						M
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						Monthly
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						Bi-Monthly

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000150

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4	Included in Safe Work Plan Submittal No.: 10					O
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1						E
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						E
23	VBS-WEC-000	Welding Certificates	REC	Part 7, Tech.Specs.						E
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97	03/18/97	-	B	03/20/97	O,L
25	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97					O,L
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97					O,L
27	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	O,L
27	E-C1154	3' x 3' Acess Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	O,L
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97	03/27/97	-	B	03/27/97	O,L
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					O,L
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97					R
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97					R
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					O,L
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97					O,L
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					O,L
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					O,L
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					O,L
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					O,L
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	03/27/97	-	B	03/27/97	O,L
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	03/27/97	O,L

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000151

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97	03/27/97				O,L
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					O,L
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97	03/27/97	03/31/97			O,L
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97	03/27/97	-	B	03/27/97	O,L
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						O,L
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97	03/27/97	-	B	03/27/97	O,L
46	VBS-RES-000	Test Res. of Emb. Fill	CR	Section 02215	03/31/97					O,L
46	VBS-50L-000	50 lb.Samples of Fill	CR	Section 02215	03/31/97					O,L
47	VBS-STF-000	Silt Fence	CR	Section 02270	03/31/97					O,L
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97					O,L
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97					R
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97					R
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					O,L

LEACHATE CO[illegible]ANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000152

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					O,L
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					O,L
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97					O,L
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97	03/12/97	03/25/97			O,L
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97				O,L
58	FP90D-6932o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97				O,L
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97					O,L
60	VBS-PLE-001	HDPE Man.List of Comp.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-002	HDPE MH QA/QC Prog.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-003	Origin of PE Resin in MH	CFC	Section 02605	03/19/97					O,L
60	VBS-PLE-004	HDPE MH Man.Cert.Value	REC	Section 02605	03/19/97					O,L
60	VBS-PLE-005	Cert. no Rec. Polymer	CFC	Section 02605	03/19/97					O,L
61	VBS-OHI-000	Ohio Surveyor's License	INF	Section 02100	03/25/97					O,L
62	VBS-SCP-000	12 3/4" OD Steel Pipe Cer	CR	Section 02300	03/25/97					O,L
62	VBS-SCP-001	16" OD Steel Pipe Cert.	CR	Section 02300	03/25/97					O,L
63	VBS-BEN-000	Sp.Sheet for Bentonite	CR	Section 02215	03/31/97					O,L
63	VBS-5LB-000	5 lb. Sample of Bentonite	CR	Section 02215	03/31/97					O,L
64	VBS-ETC-000	Proposed Seed Mixes	CR	Section 02930	03/31/97					O,L
65	VBS-AGG-000	Bit.Agg.Base/Asp.Conc.	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
66	VBS-STW-000	Cert. of Comp. for Straw	REC	Section 02930	03/31/97					O,L
67	VBS-TRH-000	List of Eqpt. for Trenching	INF	Section 02215	03/31/97					O,L
68	VBS-171-000	Neenah R-1711-A	CR	SK-20110-005	03/31/97					O,L

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000153

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
69	VBS-PTG-000	TNEMEC 37H & 66 Series	CR	DWg.92X-5900-G-00258	03/31/97					O,L
70	VBS-BLK-000	Concrete Mix Design	CR	Dwg.92X-5900-G-00255/7	03/31/97					O,L
71	VBS-ROT-000	Seed Spreader Roto-Jet	INF	Section 02930	03/31/97					O,L
71	VBS-SDR-000	Grass Spreader	INF	Section 02930	03/31/97					O,L
72	VBS-DAM-000	# 9 Grits Test Data	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
72	VBS-DAM-001	# 53 Gravel Test Report	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
72	VBS-DAM-002	Fabric ODOT 712-09 Type	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
73	FP90D-718	Air Release Manhole	CR	Dwg.92X-5900-G-00410	04/03/97					O,L
74	SK-0197-002	Clean Out	CR	SK-20110-005/1700-014	04/03/97					O,L
75	SK-0197-001	Steel Casing End Seals	CR	Section 02300	04/03/97					

LEACHATE C[illegible]YANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000154

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
	VBS-SAP-000	Substance Abuse Prog.	CR	Part 8	02/06/97					H,S
	VBS-DDE-000	Name of Sup. & del.date	CFC	Section 02605						O,L
	VBS-MHT-000	Hy.testing Pr.for MH,Pipe	CR	Section 02605						O,L
	VBS-CRT-000	Qual.Cert for Resin	REC	Section 02605						R
	VBS-QLY-000	Qual.Test Res. for Resin	REC	Section 02605						R
	VBS-CMH-000	Cert. of Comp. HDPE MH	REC	Section 02605						R
	VBS-CPI-000	Cert. of Comp. Pipe	REC	Section 02605						R
	VBS-TNG-000	Training Certificates	CFC	Section 02605						A
	VBS-4WK-000	4 Wk Rolling Schedule	INF	Part 6						Weekly
	VBS-UPD-000	Schedule Updates	INF	Part 6						Monthly
	VBS-DAY-000	Daily Reports	INF	Part 4						Daily
	VBS-FQC-000	Fastener Quality Cert.	REC	Part 4						R
	VBS-ITR-000	Inspection Test Reports	REC	Part 7						J
	VBS-FAC-000	Sch. of Factory Tests	INF	Part 7/Part 9						M
	VBS-RED-000	Red Lines/As-Builts	REC	Part 4						L,R
	VBS-DEV-000	Tab. of Overcur.Pr.Device	INF	Part 7/Part 9						J
	VBS-FIE-000	Red. & Ckd Field Notes	REC	Section 02100						O,L
	VBS-SKT-000	Drawings & Sketches	REC	Section 02100						O,L
	VBS-MAT-000	Source of Embedment Mat	CR	Section 02215						O,L
	VBS-MUL-000	Man. Cert. for Mulch	REC	Section 02930						R

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000155

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97			B
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97					O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97					O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97					O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97					O,L
114	VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97		Included in Village's Submittal No.: 10			

LEACHATE C YANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97	03/20/97	Included in Village's Submittal No.: 10			O,L
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97					O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97					O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97					O,L

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000157

DELIVERY STATUS AS OF APRIL 03, 1997

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Delivery
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97	03/18/97	-	B	03/20/97	04/14/97
25	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97					06/02/97
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97					06/30/97
27	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	
27	E-C1154	3' x 3' Acess Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97	03/27/97	-	B	03/27/97	05/19/97
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					07/28/97
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					05/19/97
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					05/05/97
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					04/28/97
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					04/28/97
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					04/28/97.
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					04/28/97
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	03/27/97	-	B	03/27/97	04/28/97
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	03/27/97	04/28/97
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					04/28/97
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					04/28/97
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97	03/27/97				Stock
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					04/28/97
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97	03/27/97	03/31/97			04/28/97
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97	03/27/97	-	B	03/27/97	04/28/97
44	V[illegible]LM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G[illegible]257						04/28/97

LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

DELIVERY STATUS AS OF APRIL 03, 1997

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Delivery
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97	03/27/97	-	B	03/27/97	04/21/97
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					04/21/97
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					04/21/97
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					04/21/97
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					04/21/97
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					04/21/97
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					05/19/97
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					05/19/97
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					04/28/97
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97					04/28/97
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97	03/12/97	03/25/97			05/19/97
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97				06/02/97
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97					04/28/97
68	VBS-171-000	Neenah R-1711-A	CR	SK-20110-005	03/31/97					06/16/97
69	VBS-PTG-000	TNEMEC 37H & 66 Series	CR	DWg.92X-5900-G-00258	03/31/97					04/28/97
73	FP90D-718	Air Release Manhole	CR	Dwg.92X-5900-G-00410	04/03/97					05/19/97
74	SK-0197-002	Clean Out	CR	SK-20110-005/1700-014	04/03/97					04/28/97
75	SK-0197-001	Steel Casing End Seals	CR	Section 02300	04/03/97					04/21/97

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

DELIVERY STATUS AS OF APRIL 03, 1997

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Delivery
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97			B
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97					O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97					O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97					O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97					O,L
114	VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97		Included in Village's Submittal No.: 10			

LEACHATE CO EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

DELIVERY STATUS AS OF APRIL 03, 1997

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Delivery
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97	03/20/97	Included in Village's Submittal No.: 10			
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97					O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97					O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97					O,L

000460

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RECEIVED 3 APRIL 1997

LEACHATE [illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000161

DELIVERY STATUS AS OF APRIL 03, 1997

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Delivery
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97	03/18/97	-	B	03/20/97	04/14/97
25	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97					06/02/97
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97					06/30/97
27	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	
27	E-C1154	3' x 3' Acess Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97	03/27/97	-	B	03/27/97	05/19/97
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					07/28/97
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					05/19/97
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					05/05/97
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					04/28/97
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					04/28/97
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					04/28/97
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					04/28/97
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	03/27/97	-	B	03/27/97	04/28/97
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	03/27/97	04/28/97
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					04/28/97
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					04/28/97
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97	03/27/97				Stock
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					04/28/97
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97	03/27/97	03/31/97			04/28/97
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97	03/27/97	-	B	03/27/97	04/28/97
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						04/28/97

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LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000162

DELIVERY STATUS AS OF APRIL 03, 1997

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Delivery
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97	03/27/97	-	B	03/27/97	04/21/97
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					04/21/97
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					04/21/97
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					04/21/97
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					04/21/97
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					04/21/97
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					05/19/97
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					05/19/97
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					04/28/97
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97					04/28/97
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97	03/12/97	03/25/97			05/19/97
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97				06/02/97
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97					04/28/97
68	VBS-171-000	Neenah R-1711-A	CR	SK-20110-005	03/31/97					06/16/97
69	VBS-PTG-000	TNEMEC 37H & 66 Series	CR	DWg.92X-5900-G-00258	03/31/97					04/28/97
73	FP90D-718	Air Release Manhole	CR	Dwg.92X-5900-G-00410	04/03/97					05/19/97
74	SK-0197-002	Clean Out	CR	SK-20110-005/1700-014	04/03/97					04/28/97
75	SK-0197-001	Steel Casing End Seals	CR	Section 02300	04/03/97					04/21/97

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LEACHAT NVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000463

DELIVERY STATUS AS OF APRIL 03, 1997

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Delivery
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97			B
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97					O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97					O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97					O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97					O,L
114	VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97		Included in Village's Submittal No.: 10			

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LEACHATE [illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

DELIVERY STATUS AS OF APRIL 03, 1997

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Delivery
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97	03/20/97	Included in Village's Submittal No.: 10			
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97					O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97					O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97					O,L

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OSDF - LEACHATE CONVEYANCE SYSTEM SUBCONTRACTOR SCHEDULE AND STATUS MEETING

April 10, 1997
1:00 - 2:30
T-58 B

AGENDA

- Safety/TQM/Balance Topics
- Fire and Safety, Industrial Hygiene, Radiological Safety
- Previous Meeting Review
- Schedule Briefing
- Design and Construction Issues
- Material and Vendor Data Status
- Quality and Inspection
- Subcontract Administration
- General Discussion

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0010

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: April 10, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: April 16, 1997 EDC #20110

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

FDF

B. Crowley, MS30
T. Elliott, MS64
J. Ellis, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
R. Holbrook, MS64
J. Jenkins, MS64
G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64 RLM
+ J. Middaugh, MS44
+ P. G. Pope, MS64
C. Pratt, MS64
T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

DOE

D. Pfister, MS45

Parsons

H. Ketron, MS17
P. Payne, MS17

GeoSyntec

+ D. Bodine
K. Cargill
+ J. McMichen

B. L. Payne & Associates

+ B. Payne

Village Building Services

+ M. J. Cleveland
J. Houser
M. Kadakia
+ H. Milliron
+ S. Porter
O. Willingham
+ Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC - Be aware of increased foot traffic on the roads leading into the Bldg. 45 parking lot. Observe posted speed limits.

TQM TOPIC - Be timely to meetings and other appointments.

BALANCE TOPIC - Make time for vacations.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Village's Safe Work Plan was approved with comments ('B' status) on April 9, 1997. Village's copy is at CDC for pick-up. Village should return revised by the end of April.

B. R. McGuire to set up a meeting (tentatively 04/14/97) with S. Porter and Tracy Baker to discuss VBS's lift plans (Attachments 'D' and 'H' of the Safe Work Plan).

C. A MSDS for the Penta treatment used on the telephone poles was forwarded to VBS.

D. FDF requested that Village submit certifications for the trench boxes they intend to use for trenching and excavation.

E. Penetration permits for work from COMH 8 to the permanent lift station are needed to start work by April 28, 1997. Grids 26, 28 and 31B are needed first.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous meeting. No comments affecting those minutes were received other than those listed below:

No comments.

III. SCHEDULE BRIEFING

A. Percent Complete - 5.63% (through 3/23/97), Percent Scheduled - T.B.D.

B. FDF will meet with VBS on Friday, April 11, 1997 to discuss concerns with the latest schedule submittal. The schedule as submitted does not meet the contract requirements.

C. Authorization to Mobilize was issued on April 7, 1997. Village plans to bring their site trailer on site on Monday, April 14, 1997. R. McGuire stated that the land use group had approved the trailer location and that he is waiting for M. Hundley for final approval and should have this no later than Friday.

IX. ATTACHMENTS

Action Item Tracking List
Submittal Register

RLM:rlm

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 04/16/97
Richard L. McGuire

CONVEYANC[illegible]TEM

ON NO.: F96P283742

ACT NO.: FSC 589

O.: 0197

SUBMITTAL REGISTER

c. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
SUR-000	Submittal Register	CFC	Part 7, Sub.Req.Sec 4	02/13/97	03/06/97	03/20/97			Q
-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97	-	-	02/16/97	02/27/97	H
-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	02/16/97	02/27/97	H,S
-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	02/16/97	02/27/97	H,S
-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	02/18/97	02/27/97	H
-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97	03/06/97	03/07/97			P,S
-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97	03/06/97	04/09/97			Q,S
-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97	03/20/97	-	B	03/20/97	H,S
-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97	03/12/97	03/31/97	A	04/03/97	F,S
-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97	03/12/97	03/31/97			Q
S-ERP-000	Erosion Plan	CR	Section 02270	Included in Safe Work Plan Submittal No.: 10					O
S-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97	03/06/97	03/11/97			H
-	Resumes	INF	Part 6;2.4.A	02/06/97	-	-	02/27/97	03/06/97	-
S-MSD-000	MSDS-Limestone	INF	Section 02930	03/31/97	04/03/97				B
S-MSD-001	MSDS-Fertilizer 12-12-12	INF	Section 02930	03/31/97	04/03/97				B
S-MSD-002	MSDS-Fertilizer 10-10-10	INF	Section 02930	03/31/97	04/03/97				B
S-MSD-003	MSDS-Asphalt Emulsion	INF	Section 02930	03/31/97	04/03/97				B
S-MPR-000	Man Power Report	INF	Part 8;A.2.4						Monthly
S-TRC-000	Training Certificates	INF	Part 8;C.1.5						D
S-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						M
S-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						Monthly
BS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						Bi-Monthly

CHATE CONV CE SYSTEM

ICITATION NO.: F96P283742

CONTRACT NO.: FSC 589

JOB NO.: 0197

000170

SUBMITTAL REGISTER

	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97	03/27/97	04/09/97			O,L
	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					O,L
2	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97	03/27/97	03/31/97			O,L
3	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97	03/27/97	-	B	03/27/97	O,L
4	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						O,L
5	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97	03/27/97	-	B	03/27/97	O,L
6	VBS-RES-000	Test Res. of Emb. Fill	CR	Section 02215	03/31/97		04/07/97			O,L
16	VBS-50L-000	50 lb.Samples of Fill	CR	Section 02215	03/31/97		04/07/97			O,L
17	VBS-STF-000	Silt Fence	CR	Section 02270	03/31/97					O,L
18	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97					O,L
19	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
19	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97					R
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97					O,L
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97					R
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97					O,L
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					

1263

E CONVEYAN YSTEM

TION NO.: F96P283742

TRACT NO.: FSC 589

NO.: 0197

SUBMITTAL REGISTER

Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
BS-PTG-000	TNEMEC 37H & 66 Series	CR	DWg.92X-5900-G-00258	03/31/97					O,L
BS-BLK-000	Concrete Mix Design	CR	Dwg.92X-5900-G-00255/7	03/31/97					O,L
BS-ROT-000	Seed Spreader Roto-Jet	INF	Section 02930	03/31/97					O,L
BS-SDR-000	Grass Spreader	INF	Section 02930	03/31/97					O,L
BS-DAM-000	# 9 Grits Test Data	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
BS-DAM-001	# 53 Gravel Test Report	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
BS-DAM-002	Fabric ODOT 712-09 Type	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
FP90D-718	Air Release Manhole	CR	Dwg.92X-5900-G-00410	04/03/97					O,L
K-0197-002	Clean Out	CR	SK-20110-005/1700-014	04/03/97					O,L
K-0197-001	Steel Casing End Seals	CR	Section 02300	04/03/97					
BS-PSU-000	Pipe Support Detail	CR	Dwg.92X-5900-G-00258	04/04/97					
VBS-DRI-000	Driscopipe Quality As.	INF	Section 02605	04/09/97					
VBS-DRI-001	Cert. no recl. polmer	CFC	Section 02605	04/09/97					

GISTER.XLS

4/10/97

1265

:HATE CON\ CE SYSTEM

CITATION NO.: F96P283742

CONTRACT NO.: FSC 589

JOB NO.: 0197

SUBMITTAL REGISTER

Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					O,L
VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					O,L
VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					O,L
VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					O,L
VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97	04/03/97	Disappr.	B
VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					O,L
VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97					O,L
VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97					O,L
VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97					O,L
VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97					O,L
VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97	Included in Village's Submittal No.: 10				

AGENDA

OSDF ALL-HANDS STAFF MEETING

04/15/97

Safety Topic:

TQM Topic:

Balance Topic:

- **Mike Hickey**
  - **SWP Reorganization**

- **Uday Kumthekar**
  - **Introduce Maureen Enderle to the team**

- **Jim Turner**
  - **Procedure/Compliance Issues**

- **All:**
  - **Project Updates**

- **Safety Issues/Concerns:**
  - **Extension Cord & Surge Protector Recall (Handout)**
  - **Open**

- **General Discussion:**
  - **Open**

Author: Michael Bishop at FNST-05
Date: 4/11/97 2:01 PM
Subject: CPSC: Extension Cord & Surge Protector Recall
Returned - Unknown Recipient: #FE-Level 3B Mgmt. at FESP-FERMCO

---------- Message Contents ----------

Please forward this information to your staff and organizations as appropriate. This information was provided via the DOE Lessons Learned Listserver, which is an internal channel of communications intended to further the dissemination of lessons DOE complex-wide.

This information will also be incorporated into the FEMP Lessons Learned Database.

Lessons Learned Coordination Team

Please check this out MAA

---------- Forward Header ----------

Subject: CPSC: Extension Cord & Surge Protector Recall
Author: Meredith Brown <racer@lanl.gov> at FE-INTERNET
Date: 4/9/97 11:13 AM

CPSC and Eastern America Trio Products Inc. Recall Trisonic Extension Cords and Power Strip Surge Protectors

In cooperation with the U.S. Consumer Product Safety Commission (CPSC), importer Eastern America Trio Products Inc. of Flushing, N.Y., is recalling over 43,500 Trisonic extension cords and over 26,800 Trisonic power strip surge protectors. The extension cords and power strip surge protectors present fire and shock hazards. CPSC and Eastern America Trio Products Inc. are not aware of any injuries involving these extension cords and power strip surge protectors. This recall is being conducted to prevent the possibility of injury.

The white 12-foot extension cord (model number TS-2512W) has undersized wire, which has been incorrectly connected to the attachment plug creating reverse polarity. The following words are printed on the cord, "SPT-2 60o VW-1 16AWGX2C E135375 404803-002." A blue tag attached to the cord reads in part, "UND. LAB INC LIST CORD SET ISSUE No. BU-6684...13A...125V...1625W...GE CO." The cord was packaged in a cardboard wrapper labeled in part, "Trisonic TS-2512W 12 Ft. Household EXTENSION CORD UL LISTED NO. E109853." Discount and hardware stores nationwide sold the cords from November 1993 through November 1995 for about $2.

The gray 9-foot air conditioner/appliance extension cord (model number TS-2609) has a non-polarized plug. There is no identification information on the cord. The cord was packaged in a cardboard wrapper labeled in part, "Trisonic AIR CONDITIONER/APPLIANCE EXTENSION CORD...UL GROUNDED 3 PRONGED...9FT...13A/125V...1625W." Discount and hardware stores nationwide sold the cords from July 1994 through November 1995 for about $4.

The cream 8-outlet power strip surge protector (model number TS-1008) has undersized wiring, faulty soldering, and a flammable plastic body. The following words are molded into the back of the power strip, "8 OUTLET POWER STRIP (TEMPORARY POWER TAP) AC125V 15A...MADE IN CHINA." A silver label bears both the UL and CSA symbols without listed numbers. The power strip was packaged in a cardboard box labeled in part, "Trisonic TS-1008...8

OUTLET POWER STRIP SURGE PROTECTOR SAFETY CIRCUIT BREAKER." Discount and hardware stores nationwide sold the power strip surge protectors from January 1992 through September 1995 for about $7,

Consumers should stop using these extension cords and power strip surge protectors immediately, and return them to the stores where purchased for a full refund. For more information, consumers can call Eastern America Trio Products Inc. at (800) 661-7146.

This recall does not extend to other models of Trisonic extension cords and power strip surge protectors.

Contact: Jane Francis
March 31, 1997
(301) 504-0580 Ext. 1187
Release # 97-093

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0012

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: April 17, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: April 21, 1997 EDC #20110

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

FDF

B. Crowley, MS30
T. Elliott, MS64
+ J. Ellis, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
R. Holbrook, MS64
+ J. Jenkins, MS64
G. Johnson, MS64
T. Keaty, MS64
U. Kumthekar, MS64
+ * R. McGuire, MS64 RLM
+ J. Middaugh, MS44
+ P. G. Pope, MS64
+ C. Pratt, MS64
T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

DOE

D. Pfister, MS45

Parsons

H. Ketron, MS17
+ P. Payne, MS17

GeoSyntec

+ D. Bodine
K. Cargill
J. McMichen

B. L. Payne & Associates

+ B. Payne

Village Building Services

+ M. J. Cleveland
J. Houser
+ M. Kadakia
+ H. Milliron
+ S. Porter
+ O. Willingham
+ Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC - Three cc:Mails were handed out identifying product recalls by the U.S. Consumer Product Safety Commission, regarding defective Stihl and Husqvarna chain saws and extension cord and surge protector.

TQM TOPIC - There is always a better way....your challenge is to find it.

BALANCE TOPIC - Live the examined life, subjecting your motives and actions to the scrutiny of mind and heart so to rise above prejudice and hatred.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Village should be able to revise and re-submit their Safe Work Plan (CFC status) by April 30, 1997. Village requested to meet with Todd Elliott to discuss some of his review comments.

B. S. Porter, Tracy Baker and Greg Cantwell will meet to discuss VBS's lift plans (Attachments 'D' and 'H' of the Safe Work Plan), tentatively scheduled for 9:00 AM on Monday, April 21, 1997.

C. Certifications for the trench boxes VBS will use for trenching and excavation will be submitted with re-submittal of VBS Submittal #67.

D. Penetration permits for work from COMH 8 to the gravel area west of the TACOS trailers should be signed off by April 25, 1997. A walkdown with the U.E. will be conducted on Wednesday, April 23, 1997.

E. J. Middaugh reminded VBS that maintenance history and inspection records must accompany all equipment when it is brought site.

F. Speed limits on the access roads are 30 mph and 10 mph in the parking lots. There will be increased enforcement, particularly on the north access road, due to construction work in the area.

G. VBS was requested to attend a meeting to be held today, 3:00 PM, at Barrett's site trailer to discuss access during haul road construction in the K-65 area.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous meeting. No comments affecting those minutes were received other than those listed below:

VBS requested that a copy of the minutes be provided to them by Tuesday of the week following the meeting. It was noted that starting April 22, 1997, the weekly meetings will be held on Tuesday and minutes will be made available by Thursday.

III. SCHEDULE BRIEFING

A. Percent Complete - 5.63% (through 3/23/97), Percent Scheduled - T.B.D.

B. VBS re-submitted their construction schedule on Wednesday, April 16, 1997. Upon initial review the schedule appears acceptable. FDF requested that a resource loaded schedule and manpower loaded schedule be submitted next week.

IV. DESIGN AND CONSTRUCTION ISSUES

A. Open DCN's were identified and discussed:

- DCN #1700-016 - adds one pole (OP-99) and revises coordinates for poles OP-100 and OP-101. DCN will be issued today (4/17/97).
- DCN #1700-013 - re-alignment of the leachate line north of 2nd Street to the BSL. Scheduled to be back from Parsons on 4/18/97.

B. Open RCI's were identified and discussed:

- RCI #1700-009R - Pavement restoration detail
- RCI #1700-010R - NAD 1983 surveying coordinates
- RCI #1700-011R - Piping section detail

C. FDF advised that pipe purchased for Change Order #5 is SDR 11. Vendor data for post indicator valves, etc. will be forwarded to VBS when received.

D. FDF advised that telephone pole #OP-108 will not be moved. Additional guy lines may be required.

E. FDF will provide Village with a set of the haul road drawings for reference.

V. MATERIAL AND VENDOR DATA STATUS

A. Vendor Data - See attached submittal register.

B. Critical submittals :

Need Date	Submittal Nos.
4/18/97	101-114
4/21/97	29, 31, 33, 40R1, 50, 51, 52, 53, 54, 59
4/24/97	78

VI. QUALITY AND INSPECTION

A. Four (4) telephone poles have been rejected to date due to defects. R. McGuire to re-order additional poles, as required.

B. VBS will be submitting their Daily Summary Report for review/approval next week. Monitoring reports will be developed as the work progresses. R. McGuire will provide VBS some sample forms which they could adopt.

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - Negotiations for Change Orders #2 and #3 are on hold pending independent estimate by FDF Estimating. Change Order #1 is no cost and Change Order #4 requires a technical evaluation. (Re-forecast for end of April completion)

B. Change Order #7 - Technical evaluation required. (Forecast completion April 18, 1997)

C. Change Order #5 - Independent estimate has been requested.

VII. GENERAL

A. Williams Mobile Offices personnel will be arriving Monday, 4/21/97, to set up VBS's office trailer.

B. Village's personnel are currently scheduled for Rad Worker II training May 5-8, 1997. R. McGuire will see if the training can be moved up to the week of April 28, 1997. Five (5) personnel need training.

IX. ATTACHMENTS

Action Item Tracking List
Submittal Register

THE NEXT MEETING WILL BE TUESDAY, APRIL 22, 1997, 2:00 PM, T-58, ROOM A. PLEASE NOTE THIS CHANGE.

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 04/21/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire G. Johnson	2/12/97	2/20/97	Open		H&S Matrix will be revised by end of April, 1997 to incorporate VBS's Safe Work Plan
3.	Review VBS proposal for CO's #1, #2, #3, and #4.	R. McGuire J. Jenkins A. Hohnhorst	2/27/97	3/6/97	Open		Pending independent estimate for CO #2 and CO #3. CO #4 requires technical evaluation. Re-forecast 04/30/97.
4.	Set up fuel storage area.	VBS R. McGuire G. Pope	2/27/97	3/3/97	Open		Will be done at time of VBS mobilization.
5.	Explain Roles/Responsibilities for Title III.	J. Jenkins R. McGuire	3/20/97	3/27/97	Open		Requested by D. Pfister.
6.	Review VBS proposal for CO's #5 and #6.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Pending independent estimate.
7.	Review VBS proposal for CO #7.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Technical evaluation required.
8.	Finalize Job Trailer Location.	R. McGuire	3/27/97	4/1/97	Closed	4/16/97	
11.	Expedite review of submittals #73 and #74.	J. Jenkins	4/3/97	4/7/97	Closed	4/14/9	
12.	Resubmit embedment fill (Submittal #46).	VBS	4/3/97	4/7/97	Closed	4/11/97	Submittal #76
13.	Set up meeting with VBS's PLC and control panel supplier, Parsons, GeoSyntec, and FDF.	R. McGuire J. Jenkins	4/17/97	4/22/97	Open		Tentatively scheduled for Tuesday, 4/22/97, 1:00 PM. Location TBA. VBS to provide an agenda of issues to be resolved.
14.	Obtain approval for proposed lay down areas and gravel access to lay down area with land use group.	R. McGuire	4/17/97	4/22/97	Open		

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ATTACHMENT

Action Item Tracking List - FSC 5[illegible] - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
15.	Obtain access and safety requirements/permission to access berm @ Bio-Surge Lagoon to measure for fabriform length.	G. Pope	4/17/97	4/21/97	Open		
16.	Identify markings for U/G warning tape for leachate line.	J. Jenkins	4/17/97	4/21/97	Open		
17.	Submit manufacturer's certifications for Driscopipe (VBS Submittals #24 and #77R1).	VBS	4/17/97		Open		

April 18, 1997 F:\WPW61\ACTION.WP5

LEACHATE [illegible]/EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
01	VBS-SUR-000	Submittal Register	CFC	Part 7, Sub.Req.Sec 4	02/13/97	03/06/97	03/20/97			Q
02	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97	-	-	02/16/97	02/27/97	H
03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	02/16/97	02/27/97	H,S
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	02/16/97	02/27/97	H,S
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	02/18/97	02/27/97	H
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97	03/06/97	03/07/97			P,S
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97	03/06/97	04/17/97			Q,S
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97	03/20/97	-	B	03/20/97	H,S
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97	03/12/97	03/31/97	A	04/03/97	F,S
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97	03/12/97	03/31/97	B	04/11/97	Q
11	VBS-ERP-000	Erosion Plan	CR	Section 02270	Included in Safe Work Plan Submittal No.: 10					O
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97	03/06/97	03/11/97			H
13	-	Resumes	INF	Part 6;2.4.A	02/06/97	-	-	02/27/97	03/06/97	-
14	VBS-MSD-000	MSDS-Limestone	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-001	MSDS-Fertilizer 12-12-12	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-002	MSDS-Fertilizer 10-10-10	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-003	MSDS-Asphalt Emulsion	INF	Section 02930	03/31/97	04/03/97				B
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						Monthly
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						D
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						M
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						Monthly
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						Bi-Monthly

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LEACHATE [illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4	Included in Safe Work Plan Submittal No.: 10					O
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1						E
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						E
23	VBS-WEC-000	Welding Certificates	REC	Part 7, Tech.Specs.						E
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97	03/18/97	-	B	03/20/97	O,L
25	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97	04/11/97				O,L
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97	04/11/97				O,L
27	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	O,L
27	E-C1154	3' x 3' Acess Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	O,L
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97	03/27/97	-	B	03/27/97	O,L
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					O,L
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97					R
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97					R
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					O,L
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97					R
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					O,L
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					O,L
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					O,L
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					O,L
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	03/27/97	-	B	03/27/97	O,L
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	03/27/97	O,L

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LEACHATE [illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97	03/27/97	04/09/97			O,L
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					O,L
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97	03/27/97	03/31/97			O,L
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97	03/27/97	-	B	03/27/97	O,L
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						O,L
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97	03/27/97	-	B	03/27/97	O,L
46	VBS-RES-000	Test Res. of Emb. Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97			O,L
46	VBS-50L-000	50 lb.Samples of Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97			O,L
47	VBS-STF-000	Silt Fence	CR	Section 02270	03/31/97	04/16/97	04/17/97			O,L
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97					O,L
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97					R
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97					R
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					O,L

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LEACHATE [illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					O,L
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					O,L
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97	-	-	A	04/03/97	O,L
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97	03/12/97	03/25/97	04/14/97-B	04/16/97	O,L
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97				O,L
58	FP90D-6932o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97				O,L
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97					O,L
60	VBS-PLE-001	HDPE Man.List of Comp.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-002	HDPE MH QA/QC Prog.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-003	Origin of PE Resin in MH	CFC	Section 02605	03/19/97					O,L
60	VBS-PLE-004	HDPE MH Man.Cert.Value	REC	Section 02605	03/19/97					O,L
60	VBS-PLE-005	Cert. no Rec. Polymer	CFC	Section 02605	03/19/97					O,L
61	VBS-OHI-000	Ohio Surveyor's License	INF	Section 02100	03/25/97					O,L
62	VBS-SCP-000	12 3/4" OD Steel Pipe Cer	CR	Section 02300	03/25/97					O,L
62	VBS-SCP-001	16" OD Steel Pipe Cert.	CR	Section 02300	03/25/97					O,L
63	VBS-BEN-000	Sp.Sheet for Bentonite	CR	Section 02215	03/31/97					O,L
63	VBS-5LB-000	5 lb. Sample of Bentonite	CR	Section 02215	03/31/97					O,L
64	VBS-ETC-000	Proposed Seed Mixes	CR	Section 02930	03/31/97					O,L
65	VBS-AGG-000	Bit.Agg.Base/Asp.Conc.	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
66	VBS-STW-000	Cert. of Comp. for Straw	REC	Section 02930	03/31/97	04/14/97	-	A	04/16/97	O,L
67	VBS-TRH-000	List of Eqpt. for Trenching	INF	Section 02215	03/31/97					O,L
68	VBS-171-000	Neenah R-1711-A	CR	SK-20110-005	03/31/97					O,L

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LEACHATE [illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
69	VBS-PTG-000	TNEMEC 37H & 66 Series	CR	DWg.92X-5900-G-00258	03/31/97					O,L
70	VBS-BLK-000	Concrete Mix Design	CR	Dwg.92X-5900-G-00255/7	03/31/97					O,L
71	VBS-ROT-000	Seed Spreader Roto-Jet	INF	Section 02930	03/31/97					O,L
71	VBS-SDR-000	Grass Spreader	INF	Section 02930	03/31/97					O,L
72	VBS-DAM-000	# 9 Grits Test Data	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
72	VBS-DAM-001	# 53 Gravel Test Report	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
72	VBS-DAM-002	Fabric ODOT 712-09 Type	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
73	FP90D-718	Air Release Manhole	CR	Dwg.92X-5900-G-00410	04/03/97	04/14/97	-	B	04/16/97	O,L
74	SK-0197-002	Clean Out	CR	SK-20110-005/1700-014	04/03/97	04/14/97	-	B	04/16/97	O,L
75	SK-0197-001	Steel Casing End Seals	CR	Section 02300	04/03/97					O,L
76	VBS-PSU-000	Pipe Support Detail	CR	Dwg.92X-5900-G-00258	04/04/97					
77	VBS-DRI-000	Driscopipe Quality Assur.	INF	Section 02605	04/09/97		04/16/97			
77	VBS-DRI-001	Cert. no recl. polymer	CFC	Section 02605	04/09/97		04/16/97			
78	VBS-FIL-000	Test of Fill (Manhole)	CR	Section 02215	04/16/97					
78	VBS-M50-000	50 lb fill sample (Manhole)	CR	Section 02215	04/16/97					

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LEACHATE /EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
	VBS-SAP-000	Substance Abuse Prog.	CR	Part 8	02/06/97					H,S
	VBS-DDE-000	Name of Sup. & del.date	CFC	Section 02605						O,L
	VBS-MHT-000	Hy.testing Pr.for MH,Pipe	CR	Section 02605						O,L
	VBS-CRT-000	Qual.Cert for Resin	REC	Section 02605						R
	VBS-QLY-000	Qual.Test Res. for Resin	REC	Section 02605						R
	VBS-CMH-000	Cert. of Comp. HDPE MH	REC	Section 02605						R
	VBS-CPI-000	Cert. of Comp. Pipe	REC	Section 02605						R
	VBS-TNG-000	Training Certificates	CFC	Section 02605						A
	VBS-4WK-000	4 Wk Rolling Schedule	INF	Part 6						Weekly
	VBS-UPD-000	Schedule Updates	INF	Part 6						Monthly
	VBS-DAY-000	Daily Reports	INF	Part 4						Daily
	VBS-FQC-000	Fastener Quality Cert.	REC	Part 4						R
	VBS-ITR-000	Inspection Test Reports	REC	Part 7						J
	VBS-FAC-000	Sch. of Factory Tests	INF	Part 7/Part 9						M
	VBS-RED-000	Red Lines/As-Builts	REC	Part 4						L,R
	VBS-DEV-000	Tab. of Overcur.Pr.Device	INF	Part 7/Part 9						J
	VBS-FIE-000	Red. & Ckd Field Notes	REC	Section 02100						O,L
	VBS-SKT-000	Drawings & Sketches	REC	Section 02100						O,L
	VBS-MAT-000	Source of Embedment Mat	CR	Section 02215						O,L
	VBS-MUL-000	Man. Cert. for Mulch	REC	Section 02930						R

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LEACHATE /EYANCE SYSTEM

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VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97	04/03/97	Disappr.	B
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97					O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97					O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97					O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97					O,L
114	VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97		Included in Village's Submittal No.: 10			

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LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97	03/20/97	Included in Village's Submittal No.: 10			
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97					O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97					O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97					O,L

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OSDF - LEACHATE CONVEYANCE SYSTEM SUBCONTRACTOR SCHEDULE AND STATUS MEETING

April 22, 1997
2:00 - 2:30
T-58 A

AGENDA

- Safety/TQM/Balance Topics
- Fire and Safety, Industrial Hygiene, Radiological Safety
- Previous Meeting Review
- Schedule Briefing
- Design and Construction Issues
  - Open DCN's
  - Open RCI's
- Material and Vendor Data Status
  - Critical Submittals
  - Critical Material Deliveries
- Quality and Inspection
- Subcontract Administration
  - Change Order Status
- General Discussion

RECEIVED 29 APRIL 1997
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MEETING NOTES MN:SWP(OSDF):97-0013

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: April 22, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: April 24, 1997 EDC #20110

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

B. Crowley, MS30
T. Elliott, MS64
J. Ellis, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
R. Holbrook, MS64
+ J. Jenkins, MS64
G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64
+ J. Middaugh, MS44
+ P. G. Pope, MS64
+ C. Pratt, MS64
T. Russell, MS64
+ D. Stempfley, MS30
L. Wehlitz, MS64
+ B. Zebick, MS64

DOE

D. Pfister, MS45

Parsons

H. Ketron, MS17
+ P. Payne, MS17

GeoSyntec

+ D. Bodine
K. Cargill
+ J. McMichen

B. L. Payne & Associates

+ B. Payne

Village Building Services

+ M. J. Cleveland
J. Houser
+ M. Kadakia
+ H. Milliron
+ S. Porter
+ O. Willingham
+ Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed
+ R. Swayne

SAFETY TOPIC - Tick season is here...watch out for ticks, especially when doing yard work. If you discover a tick on you at site, Medical requests that you bring the tick to them for identification.

TQM TOPIC - A great idea doesn't have to be a big one...don't overlook the simple solution.

BALANCE TOPIC - Work hard, but play as hard as you work.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Re-submittal of Village's Safe Work Plan (CFC status) is pending lift plan information. Village resolved Todd Elliott's review comments and should be able to submit CFC by April 30, 1997.

B. Certifications for the trench boxes VBS will use for trenching and excavation will be submitted with re-submittal of VBS Submittal #67, scheduled for April 23, 1997.

C. Penetration permits for work from COMH 8 to the gravel area west of the TACOS trailers should be signed off by April 25, 1997. A walkdown with the U.E. will be conducted on Wednesday, April 23, 1997.

D. Backup alarm and damaged tire on VBS's backhoe has been repaired and is ready for service.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous meeting. No comments affecting those minutes were received other than those listed below:

No comments received.

III. SCHEDULE BRIEFING

A. Percent Complete - 5.63% (through 3/23/97), Percent Scheduled - T.B.D.

B. VBS's should be able to submit manpower loading for their schedule next week. VBS's re-submitted schedule will be approved with minor comment.

C. FDF will begin holding a coordination meeting with Village, Barrett and Petro to discuss schedule integration beginning Thursday, April 24, 1997. Time will be advised later today.

IV. DESIGN AND CONSTRUCTION ISSUES

A. Open DCN's were identified and discussed:

None

B. Open RCI's were identified and discussed:

None

C. Vendor data for post indicator valves, and gate valves for utilities installation on Change Order #5 handed to VBS at the meeting.

D. FDF will provide Village with a set of the haul road drawings for reference.

V. MATERIAL AND VENDOR DATA STATUS

A. Vendor Data - See attached submittal register.

B. Critical submittals:

Submittal No(s).	Need Date	Remarks
101-114	4/18/97	#108 'B' status. All others open.
29, 31, 33, 40 R1, 50-54, 59	4/21/97	Open
78	4/24/97	Sample failed sieve analysis

VI. QUALITY AND INSPECTION

A. Non-conformance report to be issued this week for four (4) telephone poles. One additional 45 foot pole required.

B. VBS submitted a draft Daily Summary Report. M. Godber is reviewing and should complete the review by the end of the week.

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - Negotiations for Change Orders #2 , #3, and #4 are on hold pending independent estimate by FDF Estimating. Independent estimate for forecasted for May 2, 1997.

B. Change Order #5 - Independent estimate forecasted for April 25, 1997. A conference call was tentatively set up for 8:15 AM tomorrow to determine costs for piping under the K-65 trench. NTP is required on this portion of the work to install piping during a June 2-9, 1997 window.

C. Change Order #6 - Independent estimate forecasted for May 2, 1997.

D. Change Order #7 - Technical evaluation required.

VII. GENERAL

A. Williams Mobile Offices should complete blocking and anchoring of VBS's field office tomorrow. A separate contractor will be installing skirting. Village requested that an auger trailer in the way be moved to facilitate skirting installation.

B. Village's personnel are currently scheduled for Rad Worker II training May 5-8, 1997. R. McGuire is working the issue to possibly move up training to the week of April 28, 1997. Five (5) personnel need training.

IX. ATTACHMENTS

Action Item Tracking List
Submittal Register

The next meeting will be Tuesday, April 29, 1997, 1:00 pm, T-58, Room A. Beginning May 6, 1997, the meeting will be permanently moved to T-58, Room B. PLEASE NOTE THIS CHANGE.

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 04/24/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire G. Johnson	2/12/97	2/20/97	Open		H&S Matrix Rev. 1 draft being reviewed internally. Comments due 4/30/97.
3.	Review VBS proposal for CO's #1, #2, #3, and #4.	R. McGuire J. Jenkins A. Hohnhorst	2/27/97	3/6/97	Open		Pending independent estimate for CO #2 and CO #3. CO #4 requires technical evaluation. Re-forecast 04/30/97.
4.	Set up fuel storage area.	VBS R. McGuire G. Pope	2/27/97	3/3/97	Open		Will be done at time of VBS mobilization.
5.	Explain Roles/Responsibilities for Title III.	J. Jenkins R. McGuire	3/20/97	3/27/97	Open		Requested by D. Pfister.
6.	Review VBS proposal for CO's #5 and #6.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Pending independent estimate. Estimate requested for C.O. #5 by 4/25/97 and C.O. #6 by 5/2/97.
7.	Review VBS proposal for CO #7.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Technical evaluation required. Forecast for 4/24/97.
13.	Set up meeting with VBS's PLC and control panel supplier, Parsons, GeoSyntec, and FDF.	R. McGuire J. Jenkins	4/17/97	4/22/97	Closed	4/22/97	Additional drawings provided to panel vendor. GeoSyntec to provide information on basis of specified instruments for...
14.	Obtain approval for proposed lay down areas and gravel access to lay down area with land use group.	R. McGuire	4/17/97	4/22/97	Open		Pending approval by Pat Patel.
15.	Obtain access and safety requirements/permission to access berm @ Bio-Surge Lagoon to measure for fabriform length.	G. Pope	4/17/97	4/21/97	Closed	4/17/97	VBS needs body harness and rope line.
16.	Identify markings for U/G warning tape for leachate line.	J. Jenkins	4/17/97	4/21/97	Open		U.G. warning tape submitted on VBS Submittal #45

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ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
17.	Submit manufacturer's certifications for Driscopipe (VBS Submittals #24 and #77R1).	VBS	4/17/97		Open		Due from supplier on or before 4/28/97. Required prior to installing HDPE pipe.
18.	Expedite review of VBS Submittals #25R1, 57R2, 58R1, and 73R1.	J. Jenkins J. Ellis GeoSyntec Parsons	4/22/97		Open		Submitted 4/22/97
19.	Expedite telephone lines for VBS field trailer	R. McGuire G. Pope	4/22/97		Open		2 telephone + 1 fax line requested
20.	Return VBS Submittal #78 for manhole embedment fill to VBS 'C' status	J. Jenkins J. Ellis	4/22/97	4/22/97	Open		Both samples failed sieve analysis requirements for AASHTO No. 89 coarse aggregate per ODOT Section 703.
21.	Return VBS Submittal #46R1 for pipe embedment fill to VBS	J. Jenkins J. Ellis	4/22/97	4/24/97	Open		Submitted 4/7/97

LEACHATE CONVEYANCE SYSTEM

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VBS JOB NO.: 0197

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01	VBS-SUR-000	Submittal Register	CFC	Part 7, Sub.Req.Sec 4	02/13/97	03/06/97	03/20/97			Q
02	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97	-	-	02/16/97	02/27/97	H
03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	02/16/97	02/27/97	H,S
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	02/16/97	02/27/97	H,S
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	02/18/97	02/27/97	H
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97	03/06/97	03/07/97			P,S
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97	03/06/97	04/17/97			Q,S
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97	03/20/97	-	B	03/20/97	H,S
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97	03/12/97	03/31/97	A	04/03/97	F,S
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97	03/12/97	03/31/97	B	04/11/97	Q
11	VBS-ERP-000	Erosion Plan	CR	Section 02270	Included in Safe Work Plan Submittal No.: 10					O
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97	03/06/97	03/11/97			H
13	-	Resumes	INF	Part 6;2.4.A	02/06/97	-	-	02/27/97	03/06/97	-
14	VBS-MSD-000	MSDS-Limestone	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-001	MSDS-Fertilizer 12-12-12	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-002	MSDS-Fertilizer 10-10-10	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-003	MSDS-Asphalt Emulsion	INF	Section 02930	03/31/97	04/03/97				B
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						Monthly
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						D
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						M
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						Monthly
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						Bi-Monthly

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LEACHATE [illegible]VEYANCE SYSTEM

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VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4	Included in Safe Work Plan Submittal No.: 10					O
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1						E
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						E
23	VBS-WEC-000	Welding Certificates	REC	Part 7, Tech.Specs.						E
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97	03/18/97	-	B	03/20/97	O,L
25	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97	04/11/97	04/22/97			O,L
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97	04/11/97				O,L
27	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	O,L
27	E-C1154	3' x 3' Acess Cover	CR	Section 15000	03/11/97	03/27/97	-	B	04/01/97	O,L
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97	03/27/97	-	B	03/27/97	O,L
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					O,L
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97					R
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97					O,L
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97					R
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97					O,L
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97					R
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97					O,L
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97					O,L
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97					O,L
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97					O,L
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	03/27/97	-	B	03/27/97	O,L
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	03/27/97	O,L

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LEACHATE /EYANCE SYSTEM

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SUBMITTAL REGISTER

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38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	02/26/97	03/27/97	04/09/97			O,L
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97					O,L
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97	03/27/97	03/31/97			O,L
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97	03/27/97	-	B	03/27/97	O,L
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						O,L
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97	03/27/97	-	B	03/27/97	O,L
46	VBS-RES-000	Test Res. of Emb. Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97			O,L
46	VBS-50L-000	50 lb.Samples of Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97			O,L
47	VBS-STF-000	Silt Fence	CR	Section 02270	03/31/97	04/16/97	04/17/97			O,L
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97					O,L
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97					O,L
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97					O,L
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97					R
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97					O,L
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97					R
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97					O,L

LEACHATE [illegible]/EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97					O,L
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97					O,L
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97	-	-	A	04/03/97	O,L
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97	03/12/97	03/25/97	04/14/97-B	04/16/97	O,L
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97	04/22/97			O,L
58	FP90D-6932o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97	04/22/97			O,L
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97					O,L
60	VBS-PLE-001	HDPE Man.List of Comp.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-002	HDPE MH QA/QC Prog.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-003	Origin of PE Resin in MH	CFC	Section 02605	03/19/97					O,L
60	VBS-PLE-004	HDPE MH Man.Cert.Value	REC	Section 02605	03/19/97					O,L
60	VBS-PLE-005	Cert. no Rec. Polymer	CFC	Section 02605	03/19/97					O,L
61	VBS-OHI-000	Ohio Surveyor's License	INF	Section 02100	03/25/97					O,L
62	VBS-SCP-000	12 3/4" OD Steel Pipe Cer	CR	Section 02300	03/25/97					O,L
62	VBS-SCP-001	16" OD Steel Pipe Cert.	CR	Section 02300	03/25/97					O,L
63	VBS-BEN-000	Sp.Sheet for Bentonite	CR	Section 02215	03/31/97					O,L
63	VBS-5LB-000	5 lb. Sample of Bentonite	CR	Section 02215	03/31/97					O,L
64	VBS-ETC-000	Proposed Seed Mixes	CR	Section 02930	03/31/97					O,L
65	VBS-AGG-000	Bit.Agg.Base/Asp.Conc.	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
66	VBS-STW-000	Cert. of Comp. for Straw	REC	Section 02930	03/31/97	04/14/97	-	A	04/16/97	O,L
67	VBS-TRH-000	List of Eqpt. for Trenching	INF	Section 02215	03/31/97					O,L
68	VBS-171-000	Neenah R-1711-A	CR	SK-20110-005	03/31/97					O,L

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LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
69	VBS-PTG-000	TNEMEC 37H & 66 Series	CR	DWg.92X-5900-G-00258	03/31/97					O,L
70	VBS-BLK-000	Concrete Mix Design	CR	Dwg.92X-5900-G-00255/7	03/31/97					O,L
71	VBS-ROT-000	Seed Spreader Roto-Jet	INF	Section 02930	03/31/97					O,L
71	VBS-SDR-000	Grass Spreader	INF	Section 02930	03/31/97					O,L
72	VBS-DAM-000	# 9 Grits Test Data	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
72	VBS-DAM-001	# 53 Gravel Test Report	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
72	VBS-DAM-002	Fabric ODOT 712-09 Type	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
73	FP90D-718	Air Release Manhole	CR	Dwg.92X-5900-G-00410	04/03/97	04/14/97	04/22/97	B	04/16/97	O,L
74	SK-0197-002	Clean Out	CR	SK-20110-005/1700-014	04/03/97	04/14/97	-	B	04/16/97	O,L
75	SK-0197-001	Steel Casing End Seals	CR	Section 02300	04/03/97					O,L
76	VBS-PSU-000	Pipe Support Detail	CR	Dwg.92X-5900-G-00258	04/04/97					
77	VBS-DRI-000	Driscopipe Quality Assur.	INF	Section 02605	04/09/97		04/16/97			
77	VBS-DRI-001	Cert. no recl. polymer	CFC	Section 02605	04/09/97		04/16/97			
78	VBS-FIL-000	Test of Fill (Manhole)	CR	Section 02215	04/16/97					
78	VBS-M50-000	50 lb fill sample (Manhole)	CR	Section 02215	04/16/97					

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LEACHATE [illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
	VBS-SAP-000	Substance Abuse Prog.	CR	Part 8	02/06/97					H,S
	VBS-DDE-000	Name of Sup. & del.date	CFC	Section 02605						O,L
	VBS-MHT-000	Hy.testing Pr.for MH,Pipe	CR	Section 02605						O,L
	VBS-CRT-000	Qual.Cert for Resin	REC	Section 02605						R
	VBS-QLY-000	Qual.Test Res. for Resin	REC	Section 02605						R
	VBS-CMH-000	Cert. of Comp. HDPE MH	REC	Section 02605						R
	VBS-CPI-000	Cert. of Comp. Pipe	REC	Section 02605						R
	VBS-TNG-000	Training Certificates	CFC	Section 02605						A
	VBS-4WK-000	4 Wk Rolling Schedule	INF	Part 6						Weekly
	VBS-UPD-000	Schedule Updates	INF	Part 6						Monthly
	VBS-DAY-000	Daily Reports	INF	Part 4						Daily
	VBS-FQC-000	Fastener Quality Cert.	REC	Part 4						R
	VBS-ITR-000	Inspection Test Reports	REC	Part 7						J
	VBS-FAC-000	Sch. of Factory Tests	INF	Part 7/Part 9						M
	VBS-RED-000	Red Lines/As-Builts	REC	Part 4						L,R
	VBS-DEV-000	Tab. of Overcur.Pr.Device	INF	Part 7/Part 9						J
	VBS-FIE-000	Red. & Ckd Field Notes	REC	Section 02100						O,L
	VBS-SKT-000	Drawings & Sketches	REC	Section 02100						O,L
	VBS-MAT-000	Source of Embedment Mat	CR	Section 02215						O,L
	VBS-MUL-000	Man. Cert. for Mulch	REC	Section 02930						R

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SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97					O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97					O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97					O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97					O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97					O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97					O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97					O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97	04/03/97	Disappr.	B
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97					O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97					O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97					O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97					O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97					O,L
114	VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97		Included in Village's Submittal No.: 10			

LEACHATE CONVEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97	03/20/97	Included in Village's Submittal No.: 10			
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97					O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97					O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97					O,L

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Rec'd 5/5/97 HEM
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MEETING NOTES MN:SWP(OSDF):97-0014

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: April 29, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: April 30, 1997 EDC #20110

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

B. Crowley, MS30
T. Elliott, MS64
J. Ellis, MS64
M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
+ R. Holbrook, MS64
+ J. Jenkins, MS64
G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ * R. McGuire, MS64 RGM
J. Middaugh, MS44
P. G. Pope, MS64
C. Pratt, MS64
T. Russell, MS64
+ D. Stempfley, MS30
L. Wehlitz, MS64
+ B. Zebick, MS64

DOE

D. Pfister, MS45

Parsons

H. Ketron, MS17
P. Payne, MS17

GeoSyntec

+ D. Bodine
K. Cargill
+ J. McMichen

B. L. Payne & Associates

+ B. Payne

Village Building Services

+ M. Brooks
+ M. J. Cleveland
M. Kadakia
+ H. Milliron
+ S. Porter
+ O. Willingham
+ Y. Willingham

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC - The recent loggable event regarding telephone pole anchor installation was reviewed. A key contributing factor to this incident was a failure in communications, both verbal and written.

TQM TOPIC - Communicate....Communicate....Communicate!

BALANCE TOPIC - If you believe one person can't make a difference, think about the effect a single stalled car has on rush hour traffic.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Certified for Construction (CFC) re-submittal of Village's Safe Work Plan will be submitted on April 30, 1997.

B. Certifications for the trench boxes VBS will use for trenching and excavation will be submitted with re-submittal of VBS Submittal #67, which has not yet been re-submitted. VBS cannot use trench boxes until certifications are received.

C. Penetration permits for work from COMH 8 to the gravel area west of the TACOS trailers are signed off. Village will start excavation at the east end of this area, near COMH 5.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous meeting. No comments affecting those minutes were received other than those listed below:

No comments received.

III. SCHEDULE BRIEFING

A. Percent Complete - 5.63% (through 3/23/97), Percent Scheduled - T.B.D.

B. FDF still needs VBS's manpower loading for their schedule. R. McGuire also requested that VBS have their 4-week rolling schedule at the next meeting (5/6/97).

C. Village's schedule will be returned to them with minor comments ('B' status) by Friday, May 2, 1997.

D. A follow-up coordination meeting with Village, Barrett and Petro to discuss schedule integration is scheduled for Friday, May 2, 1997, at 7:00 AM in T-82 conference room.

E. Scheduled activities - install sediment and erosion controls from COMH 5 to COMH 8, starting 4/30/97; begin excavation for leachate piping starting on 5/5/97.

IV. DESIGN AND CONSTRUCTION ISSUES

A. Open DCN's were identified and discussed:

#1700-018 - Revises tie-in point coordinates for GW lines included on Change Order #5. The DCN was signed off today and should be distributed to VBS on 4/30/97.

#1700-020 - Incorporates miscellaneous items not identified on DCN #1700-008 (access cover sizes, material of construction, submittal #27 R1). DCN should be signed off today.

B. Open RCI's were identified and discussed:

None

C. FDF will provide Village with a set of the haul road drawings for reference.

V. MATERIAL AND VENDOR DATA STATUS

A. Vendor Data - See attached submittal register.

B. Critical submittals:

Submittal No(s).	Need Date	Remarks
26	5/2/97	Returned 4/9/97 'C' status.
27	5/2/97	Open. Rev. 1 received 4/28/97
29	5/2/97	Open. Submitted 2/18/97.
40	5/2/97	Returned 4/22/97 'C' status.
42	5/2/97	Open. Rev 1 received 4/1/97.
45	5/2/97	Open. Rev 1 received 4/25/97.
47-52,54	Various	Returned 'C' status. Needs re-submitta.l
67	5/2/97	Returned 4/23/97 'C' status.
78	4/24/97	Needs re-submittal. Sample failed sieve analysis.
102 &109	4/18/97	#102 open, #109 re-submitted 4/29/97.

VI. QUALITY AND INSPECTION

A. Non-conformance report #97-0084 issued this week for four (4) telephone poles. J. Jenkins and R. McGuire will inspect poles to determine if any can be used.

B. Daily Summary Report to be re-submitted by VBS by May 6, 1997

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - Negotiations for Change Orders #2 , #3, and #4 are on hold pending independent estimate by FDF Estimating. Independent estimate re-forecasted for May 9, 1997.

B. Change Order #5 - Independent estimate re-forecasted for May 2, 1997.

C. Change Order #6 - Independent estimate re-forecasted for May 9, 1997.

D. Change Order #7 - Technical evaluation required.

VIII. GENERAL

A. FDF will research alternatives for expedited Rad II training for Village's personnel and advise.

B. Village was reminded that erosion control measures, dust control measures, spills, etc. should be identified on their Subcontractor Daily Report forms.

IX. ATTACHMENTS

Action Item Tracking List
Submittal Register

The next meeting will be Tuesday, May 6, 1997, 1:00 pm, T-58, Room B. PLEASE NOTE THIS PERMANENT CHANGE.

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 04/30/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 58[illegible] - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire G. Johnson	2/12/97	2/20/97	Open		H&S Matrix Rev. 1 draft being reviewed internally. Comments due 4/30/97. VBS will receive copy when comments incorporated.
3.	Review VBS proposal for CO's #1, #2, #3, and #4.	R. McGuire J. Jenkins A. Hohnhorst	2/27/97	3/6/97	Open		Pending independent estimate for CO #2, #3 and #4. CO #4 requires technical evaluation. Re-forecast 5/9/97.
4.	Set up fuel storage area.	VBS R. McGuire G. Pope	2/27/97	3/3/97	Open		Will be done at time of VBS mobilization.
5.	Explain Roles/Responsibilities for Title III.	J. Jenkins R. McGuire	3/20/97	3/27/97	Open		Requested by D. Pfister. Will issue by 4/30/97.
6.	Review VBS proposal for CO's #5 and #6.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Pending independent estimate. Estimate requested for C.O. #5 by 4/25/97 and C.O. #6 by 5/2/97. Forecast for estimate completion is 5/2/97 for C.O. #5 and 5/9/97 for C.O. #6.
7.	Review VBS proposal for CO #7.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Technical evaluation required. Forecast for 5/2/97.
14.	Obtain approval for proposed lay down areas and gravel access to lay down area with land use group.	R. McGuire	4/17/97	4/22/97	Open		Pending approval by land use group. Request sent out for blue sheet review (due 5/9/97).
16.	Identify markings for U/G warning tape for leachate line.	J. Jenkins	4/17/97	4/21/97	Closed	4/25/97	
17.	Submit manufacturer's certifications for Driscopipe (VBS Submittals #24 and #77R1).	VBS	4/17/97		Closed	4/22/97	Due from supplier on or before 4/28/97. Required prior to installing HDPE pipe.

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ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
18.	Expedite review of VBS Submittals #25R1, 57R2, 58R1, and 73R1.	J. Jenkins J. Ellis GeoSyntec Parsons	4/22/97		Closed	4/28/97	Submitted 4/22/97
19.	Expedite telephone lines for VBS field trailer	R. McGuire G. Pope	4/22/97		Closed	4/29/97	3 telephone + 1 fax line installed
20.	Return VBS Submittal #78 for manhole embedment fill to VBS 'C' status	J. Jenkins J. Ellis	4/22/97	4/22/97	Open		Test data 'B' status, sample 'C' status
21.	Return VBS Submittal #46R1 for pipe embedment fill to VBS	J. Jenkins J. Ellis	4/22/97	4/24/97	Closed	4/24/97	Submitted 4/7/97
22.	Certification of HDPE Fusion Process Trainer and Operators	VBS	4/29/97		Open		
23.	Re-submit VBS Submittal #78	VBS	4/29/97		Open		Need test data and sample
24.	DCN to delete concrete testing from VBS scope	J. Jenkins	4/29/97		Open		
25.	Move VBS storage trailer to subcontractor's area	R. McGuire G. Pope	4/29/97		Open		
26.	Controlled copy of Spec. Section 02667 for VBS	R. McGuire CDC	4/29/97		Open		
27.	Set of Haul Road drawings for VBS	R. McGuire CDC	4/29/97		Open		

LEACHATE VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
01	VBS-SUR-000	Submittal Register	CFC	Part 7, Sub.Req.Sec 4	02/13/97	03/06/97	03/20/97			Q
02	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97	-	-	02/16/97	02/27/97	H
03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	02/16/97	02/27/97	H,S
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	02/16/97	02/27/97	H,S
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	02/18/97	02/27/97	H
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97	03/06/97	03/07/97			P,S
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97	03/06/97	04/17/97			Q,S
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97	03/20/97	-	B	03/20/97	H,S
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97	03/12/97	03/31/97	A	04/03/97	F,S
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	02/06/97	03/12/97	03/31/97	B	04/11/97	Q
11	VBS-ERP-000	Erosion Plan	CR	Section 02270	Included in Safe Work Plan Submittal No.: 10					O
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97	03/06/97	03/11/97			H
13	-	Resumes	INF	Part 6;2.4.A	02/06/97	-	-	02/27/97	03/06/97	-
14	VBS-MSD-000	MSDS-Limestone	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-001	MSDS-Fertilizer 12-12-12	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-002	MSDS-Fertilizer 10-10-10	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-003	MSDS-Asphalt Emulsion	INF	Section 02930	03/31/97	04/03/97				B
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						Monthly
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						D
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						M
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						Monthly
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						Bi-Monthly

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LEACHATE [illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4	Included in Safe Work Plan Submittal No.: 10					O
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1						E
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						E
23	VBS-WEC-000	Welding Certificates	REC	Part 7, Tech.Specs.						E
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97	03/18/97	-	B	03/20/97	O,L
25	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97	04/11/97	04/22/97	A	04/28/97	O,L
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97	04/11/97				O,L
27	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97	04/01/97	04/28/97			O,L
27	E-C1154	3' x 3' Access Cover	CR	Section 15000	03/11/97	04/01/97	04/28/97			O,L
27	D-C4552	4' x 4" Access Cover	CR	Section 15000	04/28/97					O,L
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97	03/27/97	04/28/97			O,L
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97					O,L
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97					R
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	04/19/97	-	A	04/22/97	O,L
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97	04/19/97	-	A	04/22/97	R
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97	04/19/97	-	A	04/22/97	O,L
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97	04/19/97	-	A	04/22/97	R
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97	04/24/97	-	B	04/28/97	O,L
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97	04/19/97	-	B	04/22/97	O,L
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97	04/24/97	-	B	04/28/97	O,L
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97	04/24/97	-	A	04/28/97	O,L
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	03/27/97	-	B	03/27/97	O,L

LEACHATE VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

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VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	03/27/97	O,L
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	04/09/97	04/23/97				O,L
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97	04/24/97	-	A	04/28/97	O,L
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97	03/27/97	03/31/97			O,L
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97	03/27/97	04/29/97			O,L
44	VBS-PLM-000	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257						O,L
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97	03/27/97	04/28/97			O,L
46	VBS-RES-000	Test Res. of Emb. Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97	B	04/28/97	O,L
46	VBS-50L-000	50 lb.Samples of Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97	A	04/28/97	O,L
47	VBS-STF-000	Silt Fence	CR	Section 02270	03/31/97	04/16/97	04/28/97			O,L
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97	04/28/97				O,L
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97	04/28/97				O,L
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97	04/28/97				O,L
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97	04/22/97				O,L
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97	04/22/97				O,L
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97	04/22/97				R
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97	04/22/97				O,L
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97	04/22/97				O,L
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97	04/22/97				O,L
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97	04/22/97				R

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LEACHATE [illegible]/EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97	04/19/97	-	B	04/22/97	O,L
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97	04/22/97				O,L
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97	04/24/97	-	A	04/28/97	O,L
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97	-	-	A	04/03/97	O,L
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97	03/12/97	04/22/97	A	04/28/97	O,L
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97	04/22/97	A	04/28/97	O,L
58	FP90D-6932o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97	04/22/97	A	04/28/97	O,L
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97	03/27/97	-	A	04/22/97	O,L
60	VBS-PLE-001	HDPE Man.List of Comp.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-002	HDPE MH QA/QC Prog.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-003	Origin of PE Resin in MH	CFC	Section 02605	03/19/97					O,L
60	VBS-PLE-004	HDPE MH Man.Cert.Value	REC	Section 02605	03/19/97					O,L
60	VBS-PLE-005	Cert. no Rec. Polymer	CFC	Section 02605	03/19/97					O,L
61	VBS-OHI-000	Ohio Surveyor's License	INF	Section 02100	03/25/97	-	-	A	04/28/97	O,L
62	VBS-SCP-000	12 3/4" OD Steel Pipe Cer	CR	Section 02300	03/25/97					O,L
62	VBS-SCP-001	16" OD Steel Pipe Cert.	CR	Section 02300	03/25/97					O,L
63	VBS-BEN-000	Sp.Sheet for Bentonite	CR	Section 02215	03/31/97					O,L
63	VBS-5LB-000	5 lb. Sample of Bentonite	CR	Section 02215	03/31/97					O,L
64	VBS-ETC-000	Proposed Seed Mixes	CR	Section 02930	03/31/97					O,L
65	VBS-AGG-000	Bit.Agg.Base/Asp.Conc.	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
66	VBS-STW-000	Cert. of Comp. for Straw	REC	Section 02930	03/31/97	04/14/97	-	A	04/16/97	O,L
67	VBS-TRH-000	List of Eqpt. for Trenching	INF	Section 02215	03/31/97	04/28/97				O,L

LEACHATE [illegible]/EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

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Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
68	VBS-171-000	Neenah R-1711-A	CR	SK-20110-005	03/31/97					O,L
69	VBS-PTG-000	TNEMEC 37H & 66 Series	CR	DWg.92X-5900-G-00258	03/31/97					O,L
70	VBS-BLK-000	Concrete Mix Design	CR	Dwg.92X-5900-G-00255/7	03/31/97					O,L
71	VBS-ROT-000	Seed Spreader Roto-Jet	INF	Section 02930	03/31/97					O,L
71	VBS-SDR-000	Grass Spreader	INF	Section 02930	03/31/97					O,L
72	VBS-DAM-000	# 9 Grits Test Data	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
72	VBS-DAM-001	# 53 Gravel Test Report	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
72	VBS-DAM-002	Fabric ODOT 712-09 Type	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
73	FP90D-718	Air Release Manhole	CR	Dwg.92X-5900-G-00410	04/03/97	04/14/97	04/22/97	A	04/28/97	O,L
74	SK-0197-002	Clean Out	CR	SK-20110-005/1700-014	04/03/97	04/14/97	-	B	04/16/97	O,L
75	SK-0197-001	Steel Casing End Seals	CR	Section 02300	04/03/97					O,L
76	VBS-PSU-000	Pipe Support Detail	CR	Dwg.92X-5900-G-00258	04/04/97					O,L
77	VBS-DRI-000	Driscopipe Quality Assur.	INF	Section 02605	04/09/97		04/16/97			O,L
77	VBS-DRI-001	Cert. no recl. polymer	CFC	Section 02605	04/09/97		04/16/97			O,L
77	VBS-DRI-002	Isco's letter dated 04/28	CR	Section 02605	04/29/97					O,L
77	VBS-DRI-003	Drisco's letter dt. 04/28	INF	Section 02605	04/29/97					O,L
77	VBS-DRI-004	QA Manual 6400 Series	CR	Section 02605	04/29/97					O,L
77	VBS-DRI-005	Resin Cert. of Comp.	INF	Section 02605	04/29/97					O,L
77	VBS-DRI-006	Manuf. Cert. of Comp.	INF	Section 02605	04/29/97					O,L
78	VBS-FIL-000	Test of Fill (Manhole)	CR	Section 02215	04/16/97					O,L
78	VBS-M50-000	50 lb fill sample (Manhole)	CR	Section 02215	04/16/97					O,L

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LEACHATE [illegible]/EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
	VBS-SAP-000	Substance Abuse Prog.	CR	Part 8	02/06/97					H,S
	VBS-DDE-000	Name of Sup. & del.date	CFC	Section 02605						O,L
	VBS-MHT-000	Hy.testing Pr.for MH,Pipe	CR	Section 02605						O,L
	VBS-CRT-000	Qual.Cert for Resin	REC	Section 02605						R
	VBS-QLY-000	Qual.Test Res. for Resin	REC	Section 02605						R
	VBS-CMH-000	Cert. of Comp. HDPE MH	REC	Section 02605						R
	VBS-CPI-000	Cert. of Comp. Pipe	REC	Section 02605						R
	VBS-TNG-000	Training Certificates	CFC	Section 02605						A
	VBS-4WK-000	4 Wk Rolling Schedule	INF	Part 6						Weekly
	VBS-UPD-000	Schedule Updates	INF	Part 6						Monthly
	VBS-DAY-000	Daily Reports	INF	Part 4						Daily
	VBS-FQC-000	Fastener Quality Cert.	REC	Part 4						R
	VBS-ITR-000	Inspection Test Reports	REC	Part 7						J
	VBS-FAC-000	Sch. of Factory Tests	INF	Part 7/Part 9						M
	VBS-RED-000	Red Lines/As-Builts	REC	Part 4						L,R
	VBS-DEV-000	Tab. of Overcur.Pr.Device	INF	Part 7/Part 9						J
	VBS-FIE-000	Red. & Ckd Field Notes	REC	Section 02100						O,L
	VBS-SKT-000	Drawings & Sketches	REC	Section 02100						O,L
	VBS-MAT-000	Source of Embedment Mat	CR	Section 02215						O,L
	VBS-MUL-000	Man. Cert. for Mulch	REC	Section 02930						R

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LEACHATE [illegible]VEYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97	04/15/97	-	B	04/28/97	O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97	04/15/97	-	B	04/28/97	O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97	04/15/97	-	B	04/28/97	O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97	04/21/97	-	A	04/28/97	O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97	04/21/97	-	A	04/28/97	O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97	04/21/97	-	A	04/28/97	O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97	04/21/97	-	B	04/23/97	O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97	04/21/97	-	A	04/28/97	O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97	04/21/97	-	A	04/28/97	O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97	04/21/97	-	B	04/28/97	O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97	04/21/97	-	B	04/23/97	O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97	04/21/97	-	A	04/23/97	O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97	04/21/97	-	B	04/28/97	O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97	04/03/97	Disappr.	B
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97	04/23/97	04/29/97			O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97	04/21/97	-	A	04/23/97	O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97	04/21/97	-	A	04/23/97	O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97	04/21/97	-	A	04/28/97	O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97	04/21/97	-	A	04/23/97	O,L
114	VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97		Included in Village's Submittal No.: 10			

4/29/97

REGISTER.XLS

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LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97	03/20/97	Included in Village's Submittal No.: 10			
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97					O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97					O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97					O,L

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0019

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: May 6, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: May 9, 1997 EDC File #20110

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

FDF

+ S. Alkire, MS46
+ T. Cherry, MS52-5
+ B. Crowley, MS30
+ J. Ellis, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
R. Holbrook, MS64
J. Jenkins, MS64
G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64 RM
+ J. Middaugh, MS44
+ P. G. Pope, MS64
C. Pratt, MS64
T. Russell, MS64
+ D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

DOE

P. Darnell, MS45
J. Desormeau, MS45
J. Jalovec, MS45
J. Neyer, MS45
D. Pfister, MS45
D. Riley, MS45
R. Warner, MS45

Parsons

P. Payne, MS17

GeoSyntec

+ D. Bodine, MS64
K. Cargill, MS64
+ B. Erisman, MS64
+ J. McMichen

Village Building Services

+ M. Brooks
+ M. J. Cleveland
M. Kadakia
+ H. Milliron
+ S. Porter
+ O. Willingham
+ Y. Willingham

B. L. Payne & Associates

+ B. Payne

B & J Electrical Co.

P. Ernst

Diaz Construction

T. Hartley
C. Reed
+ R. Swayne

SAFETY TOPIC - Be alert to changing weather conditions. This is the season for thunderstorms and lightning.

TQM TOPIC - Plan your work and work your plan.

BALANCE TOPIC - Take time to honor your mother and/or spouse this Mother's Day.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Certified for Construction (CFC) Safe Work Plan was submitted on April 30, 1997.

B. Certifications for the trench boxes received. Trench boxes must be inspected prior to use.

C. Village requested that FDF initiate a Penetration Permit from COMH #5 to the permanent lift station.

D. Village will need a permit board and single entry point at their work areas.

E. Health and Safety matrix comments are back and being incorporated. Revision should be issued by May 16, 1997.

F. Work area inside of the construction fence has been mowed. VBS requested that the area outside of their construction area also be mowed. Precautions need to be taken for ticks, chiggers and other insects.

G. Weekly safety walkdowns will be held Wednesday at 8:00 AM.

H. FDF requested that gravel be placed at the fuel storage area.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous meeting. No comments affecting those minutes were received other than those listed below:

No comments received.

III. SCHEDULE BRIEFING

A. Percent Complete - 10.11% (through 4/30/97), Percent Scheduled - T.B.D.

B. FDF still needs VBS's manpower loading for their schedule. 4-week rolling schedule reviewed.

C. Follow-up coordination meeting with Village, Barrett and Petro to discuss schedule integration is scheduled 4:00 PM today.

IV. DESIGN AND CONSTRUCTION ISSUES

A. Open DCN's were identified and discussed:

None identified.

B. Open RCI's were identified and discussed:

None identified.

C. FDF will provide Village with a set of the haul road drawings for reference.

V. MATERIAL AND VENDOR DATA STATUS

A. Vendor Data - See attached submittal register.

B. Critical submittals:

Submittal No(s).	Need Date	Remarks
67 R1		Returned 'C' status 4/28/97. Resubmitted 5/6/97.
74 R1		Returned 'C' status 4/16/97. Resubmitted 5/6/97.

VI. QUALITY AND INSPECTION

A. Non-conformance report #97-0084 for four (4) telephone poles is open. J. Jenkins and R. McGuire will inspect poles to determine if any can be used.

B. Open NCR on leachate pipe needs to be closed out. GeoSyntec is working on a DCN to allow 4.5 ft. spacing for support centralizers on carrier pipe.

C. Brian Erisman and Tim Cherry were introduced. Brian is GeoSyntec's CBC representative and Tim will be performing CBC on the utilities piping.

D. Several material certifications submitted were not signed. A company representative should sign each certificate.

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - Negotiations for Change Orders #2 , #3, and #4 are on hold pending independent estimate by FDF Estimating. Independent estimate re-forecasted for May 16, 1997.

B. Change Order #5 - Independent estimate re-forecasted for May 9, 1997.

C. Change Order #6 - Independent estimate re-forecasted for May 16, 1997.

D. Change Order #7 - Technical evaluation required.

VIII. GENERAL

A. Village's personnel are scheduled to complete Rad II training by 5/12/97.

IX. ATTACHMENTS

Action Item Tracking List
Submittal Register
4-Week Rolling Schedule

The next meeting will be a joint meeting with Barrett and Petro. Date time and location will be announced later.

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 05/09/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
1.	Provide a Controlled Copy of Health & Safety Matrix to Village Building.	R. McGuire G. Johnson	2/12/97	2/20/97	Open		Comments received. Revision will be issued May 16, 1997.
3.	Review VBS proposal for CO's #1, #2, #3, and #4.	R. McGuire J. Jenkins A. Hohnhorst	2/27/97	3/6/97	Open		Pending independent estimate for CO #2, #3 and #4. Re-forecast 5/16/97.
4.	Set up fuel storage area.	VBS R. McGuire G. Pope	2/27/97	3/3/97	Closed	5/6/97	Need to place gravel around flammable storage area.
5.	Explain Roles/Responsibilities for Title III.	J. Jenkins R. McGuire	3/20/97	3/27/97	Closed	5/6/97	
6.	Review VBS proposal for CO's #5 and #6.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Pending independent estimate. Estimate requested for C.O. #5 by 4/25/97 and C.O. #6 by 5/2/97. Forecast for estimate completion is 5/9/97 for C.O. #5 and 5/16/97 for C.O. #6.
7.	Review VBS proposal for CO #7.	J. Jenkins R. McGuire	3/27/97	4/10/97	Open		Technical evaluation required. Completion forecast for 5/7/97.
14.	Obtain approval for proposed lay down areas and gravel access to lay down area with land use group.	R. McGuire	4/17/97	4/22/97	Open		Pending approval by land use group. Request sent out for blue sheet review (Due 5/9/97).
20.	Return VBS Submittal #78 for manhole embedment fill to VBS 'C' status	J. Jenkins J. Ellis	4/22/97	4/22/97	Closed	5/2/97	
22.	Certification of HDPE Fusion Process Trainer and Operators	VBS	4/29/97		Closed	5/5/97	
23.	Re-submit VBS Submittal #78 (Rev. 1)	VBS	4/29/97		Open		Need test data and sample
24.	DCN to delete concrete testing from VBS scope	J. Jenkins	4/29/97		Open		

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ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Date Entered	Need/Due Date	Status	Date Closed	REMARKS
25.	Move VBS storage trailer to subcontractor's area	R. McGuire G. Pope	4/29/97		Open		Scheduled to be moved 5/6/97
26.	Controlled copy of Spec Section 02667 for VBS	R. McGuire CDC	4/29/97		Closed	5/6/97	
27.	Set of Haul Road drawings for VBS	R. McGuire CDC	4/29/97		Open		
28.	Initiate Penetration Permit from COMH #5 to LS	G. Pope	5/6/97		Open		
29.	Set up permit board and entry point at construction area	VBS	5/6/97		Open		

LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000226

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
01	VBS-SUR-000	Submittal Register	CFC	Part 7, Sub.Req.Sec 4	02/13/97	03/06/97	03/20/97			Q
02	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97	-	-	02/16/97	02/27/97	H
03	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	02/16/97	02/27/97	H,S
04	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	02/16/97	02/27/97	H,S
05	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	02/18/97	02/27/97	H
06	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97	03/06/97	03/07/97			P,S
07	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97	03/06/97	04/17/97			Q,S
08	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97	03/20/97	-	B	03/20/97	H,S
09	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97	03/12/97	03/31/97	A	04/03/97	F,S
10	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	03/31/97	04/11/97	04/30/97			Q
11	VBS-ERP-000	Erosion Plan	CR	Section 02270	Included in Safe Work Plan Submittal No.: 10					O
12	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97	03/06/97	03/11/97			H
13	-	Resumes	INF	Part 6;2.4.A	02/06/97	-	-	02/27/97	03/06/97	-
14	VBS-MSD-000	MSDS-Limestone	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-001	MSDS-Fertilizer 12-12-12	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-002	MSDS-Fertilizer 10-10-10	INF	Section 02930	03/31/97	04/03/97				B
14	VBS-MSD-003	MSDS-Asphalt Emulsion	INF	Section 02930	03/31/97	04/03/97				B
15	VBS-MPR-000	Man Power Report	INF	Part 8;A.2.4						Monthly
16	VBS-TRC-000	Training Certificates	INF	Part 8;C.1.5						D
17	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						M
18	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						Monthly
19	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						Bi-Monthly

1265

LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
20	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4	Included in Safe Work Plan Submittal No.: 10					O
21	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1	04/30/97					E
22	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						E
23	VBS-WEC-000	Welding Certificates	REC	Part 7, Tech.Specs.	04/30/97					E
24	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97	03/18/97	-	B	03/20/97	O,L
25	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97	04/11/97	04/22/97	A	04/28/97	O,L
26	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97	04/11/97				O,L
[illegible]	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97	04/01/97	04/28/97			O,L
[illegible]	E-C1154	3' x 3' Access Cover	CR	Section 15000	03/11/97	04/01/97	04/28/97			O,L
[illegible]	D-C4552	4' x 4" Access Cover	CR	Section 15000	04/28/97					O,L
28	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97	03/27/97	04/28/97	A	05/02/97	O,L
29	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97	-	-	A	05/01/97	O,L
29	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97	-	-	A	05/01/97	R
30	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	04/19/97	-	A	04/22/97	O,L
30	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97	04/19/97	-	A	04/22/97	R
31	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97	04/19/97	-	A	04/22/97	O,L
31	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97	04/19/97	-	A	04/22/97	R
32	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97	04/24/97	-	B	04/28/97	O,L
33	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97	04/19/97	-	B	04/22/97	O,L
34	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97	04/24/97	-	B	04/28/97	O,L
35	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97	04/24/97	-	A	04/28/97	O,L
36	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	03/27/97	-	B	03/27/97	O,L

LEACHATE C[illegible]YANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000228

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
37	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	03/27/97	O,L
38	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
39	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
40	VBS-3FM-000	3" Flow Meter	CR	Section 13400	04/09/97	04/23/97				O,L
41	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97	04/24/97	-	A	04/28/97	O,L
42	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97	03/27/97	03/31/97			O,L
43	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97	03/27/97	04/29/97	A	05/02/97	O,L
44	SK-0197-003	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257	04/30/97					O,L
45	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97	03/27/97	04/28/97			O,L
46	VBS-RES-000	Test Res. of Emb. Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97	B	04/28/97	O,L
46	VBS-50L-000	50 lb.Samples of Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97	A	04/28/97	O,L
47	VBS-STF-000	Silt Fence	CR	Section 02270	03/31/97	04/16/97	04/28/97	A	05/01/97	O,L
48	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97	04/28/97				O,L
49	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97	04/28/97				O,L
49	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97	04/28/97				O,L
50	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97	04/22/97				O,L
50	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97	04/22/97				O,L
50	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97	04/22/97				R
51	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97	04/22/97				O,L
52	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97	04/22/97				O,L
52	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97	04/22/97				O,L
52	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97	04/22/97				R

1265

LEACHATE C EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000229

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
53	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97	04/19/97	-	B	04/22/97	O,L
54	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97	04/22/97				O,L
55	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97	04/24/97	-	A	04/28/97	O,L
56	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97	-	-	A	04/03/97	O,L
57	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	02/26/97	03/12/97	04/22/97	A	04/28/97	O,L
58	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97	04/22/97	A	04/28/97	O,L
58	FP90D-6932o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97	04/22/97	A	04/28/97	O,L
59	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97	03/27/97	-	A	04/22/97	O,L
60	VBS-PLE-001	HDPE Man.List of Comp.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-002	HDPE MH QA/QC Prog.	INF	Section 02605	03/19/97					O,L
60	VBS-PLE-003	Origin of PE Resin in MH	CFC	Section 02605	03/19/97					O,L
60	VBS-PLE-004	HDPE MH Man.Cert.Value	REC	Section 02605	03/19/97					O,L
60	VBS-PLE-005	Cert. no Rec. Polymer	CFC	Section 02605	03/19/97					O,L
61	VBS-OHI-000	Ohio Surveyor's License	INF	Section 02100	03/25/97	-	-	A	04/28/97	O,L
62	VBS-SCP-000	12 3/4" OD Steel Pipe Cer	CR	Section 02300	03/25/97					O,L
62	VBS-SCP-001	16" OD Steel Pipe Cert.	CR	Section 02300	03/25/97					O,L
63	VBS-BEN-000	Sp.Sheet for Bentonite	CR	Section 02215	03/31/97					O,L
63	VBS-5LB-000	5 lb. Sample of Bentonite	CR	Section 02215	03/31/97					O,L
64	VBS-ETC-000	Proposed Seed Mixes	CR	Section 02930	03/31/97					O,L
65	VBS-AGG-000	Bit.Agg.Base/Asp.Conc.	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
66	VBS-STW-000	Cert. of Comp. for Straw	REC	Section 02930	03/31/97	04/14/97	-	A	04/16/97	O,L
67	VBS-TRH-000	List of Eqpt. for Trenching	INF	Section 02215	03/31/97	04/28/97				O,L

LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000230

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
[illegible]	VBS-171-000	Neenah R-1711-A	CR	SK-20110-005	03/31/97					O,L
69	VBS-PTG-000	TNEMEC 37H & 66 Series	CR	DWg.92X-5900-G-00258	03/31/97	-	-	A	05/02/97	O,L
[illegible]	VBS-BLK-000	Concrete Mix Design	CR	Dwg.92X-5900-G-00255/7	03/31/97					O,L
[illegible]	VBS-ROT-000	Seed Spreader Roto-Jet	INF	Section 02930	03/31/97					O,L
[illegible]	VBS-SDR-000	Grass Spreader	INF	Section 02930	03/31/97					O,L
[illegible]	VBS-DAM-000	# 9 Grits Test Data	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
[illegible]	VBS-DAM-001	# 53 Gravel Test Report	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
[illegible]	VBS-DAM-002	Fabric ODOT 712-09 Type	CR	Dwg.92X-5900-G-00257	03/31/97					O,L
73	FP90D-718	Air Release Manhole	CR	Dwg.92X-5900-G-00410	04/03/97	04/14/97	04/22/97	A	04/28/97	O,L
74	SK-0197-002	Clean Out	CR	SK-20110-005/1700-014	04/03/97	04/14/97	-	B	04/16/97	O,L
[illegible]	SK-0197-001	Steel Casing End Seals	CR	Section 02300	04/03/97					O,L
76	VBS-PSU-000	Pipe Support Detail	CR	Dwg.92X-5900-G-00258	04/04/97	-	-	A	05/02/97	O,L
[illegible]	VBS-DRI-000	Driscopipe Quality Assur.	INF	Section 02605	04/09/97		04/16/97			O,L
[illegible]	VBS-DRI-001	Cert. no recl. polymer	CFC	Section 02605	04/09/97		04/16/97			O,L
[illegible]	VBS-DRI-002	Isco's letter dated 04/28	CR	Section 02605	04/29/97					O,L
[illegible]	VBS-DRI-003	Drisco's letter dt. 04/28	INF	Section 02605	04/29/97					O,L
[illegible]	VBS-DRI-004	QA Manual 6400 Series	CR	Section 02605	04/29/97					O,L
[illegible]	VBS-DRI-005	Resin Cert. of Comp.	INF	Section 02605	04/29/97					O,L
[illegible]	VBS-DRI-006	Manuf. Cert. of Comp.	INF	Section 02605	04/29/97					O,L
78	VBS-FIL-000	Test of Fill (Manhole)	CR	Section 02215	04/16/97	05/02/97		B		O,L
78	VBS-M50-000	50 lb fill sample (Manhole)	CR	Section 02215	04/16/97	05/02/97		C		O,L
[illegible]	VBS-TNG-000	Training Certificates	CFC	Section 02605	04/30/97					A

1265

LEACHATE C YANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000231

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
80	VBS-QCS-000	Q.C Daily Summary Report	REC	Part 9, 8.1	04/30/97					A
81	SK-0197-004	Piping Mod. @ BSL	CR	Dwg.92X-5900-G-00255	04/30/97					O,L
	VBS-SAP-000	Substance Abuse Prog.	CR	Part 8	02/06/97					H,S
	VBS-MHT-000	Hy.testing Pr.for MH,Pipe	CR	Section 02605						O,L
	VBS-CRT-000	Qual.Cert for Resin	REC	Section 02605						R
	VBS-QLY-000	Qual.Test Res. for Resin	REC	Section 02605						R
	VBS-CMH-000	Cert. of Comp. HDPE MH	REC	Section 02605						R
	VBS-4WK-000	4 Wk Rolling Schedule	INF	Part 6						Weekly
	VBS-UPD-000	Schedule Updates	INF	Part 6						Monthly
	VBS-DAY-000	Daily Reports	INF	Part 4						Daily
	VBS-FQC-000	Fastener Quality Cert.	REC	Part 4						R
	VBS-ITR-000	Inspection Test Reports	REC	Part 7						J
	VBS-FAC-000	Sch. of Factory Tests	INF	Part 7/Part 9						M
	VBS-RED-000	Red Lines/As-Builts	REC	Part 4						L,R
	VBS-DEV-000	Tab. of Overcur.Pr.Device	INF	Part 7/Part 9						J
	VBS-FIE-000	Red. & Ckd Field Notes	REC	Section 02100						O,L
	VBS-SKT-000	Drawings & Sketches	REC	Section 02100						O,L
	VBS-MUL-000	Man. Cert. for Mulch	REC	Section 02930						R

LEACHATE C[illegible]YANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000232

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97	04/15/97	-	B	04/28/97	O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97	04/15/97	-	B	04/28/97	O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97	04/15/97	-	B	04/28/97	O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97	04/21/97	-	A	04/28/97	O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97	04/21/97	-	A	04/28/97	O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97	04/21/97	-	A	04/28/97	O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97	04/21/97	-	B	04/23/97	O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97	04/21/97	-	A	04/28/97	O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97	04/21/97	-	A	04/28/97	O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97	04/21/97	-	B	04/28/97	O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97	04/21/97	-	B	04/23/97	O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97	04/21/97	-	A	04/23/97	O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97	04/21/97	-	B	04/28/97	O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97	04/03/97	Disappr.	B
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	02/21/97	04/23/97	04/29/97			O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97	04/21/97	-	A	04/23/97	O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97	04/21/97	-	A	04/23/97	O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97	04/21/97	-	A	04/28/97	O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97	04/21/97	-	A	04/23/97	O,L
114	VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97		Included in Village's Submittal No.: 10			

1265

LEACHATE C YANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

000233

SUBMITTAL REGISTER

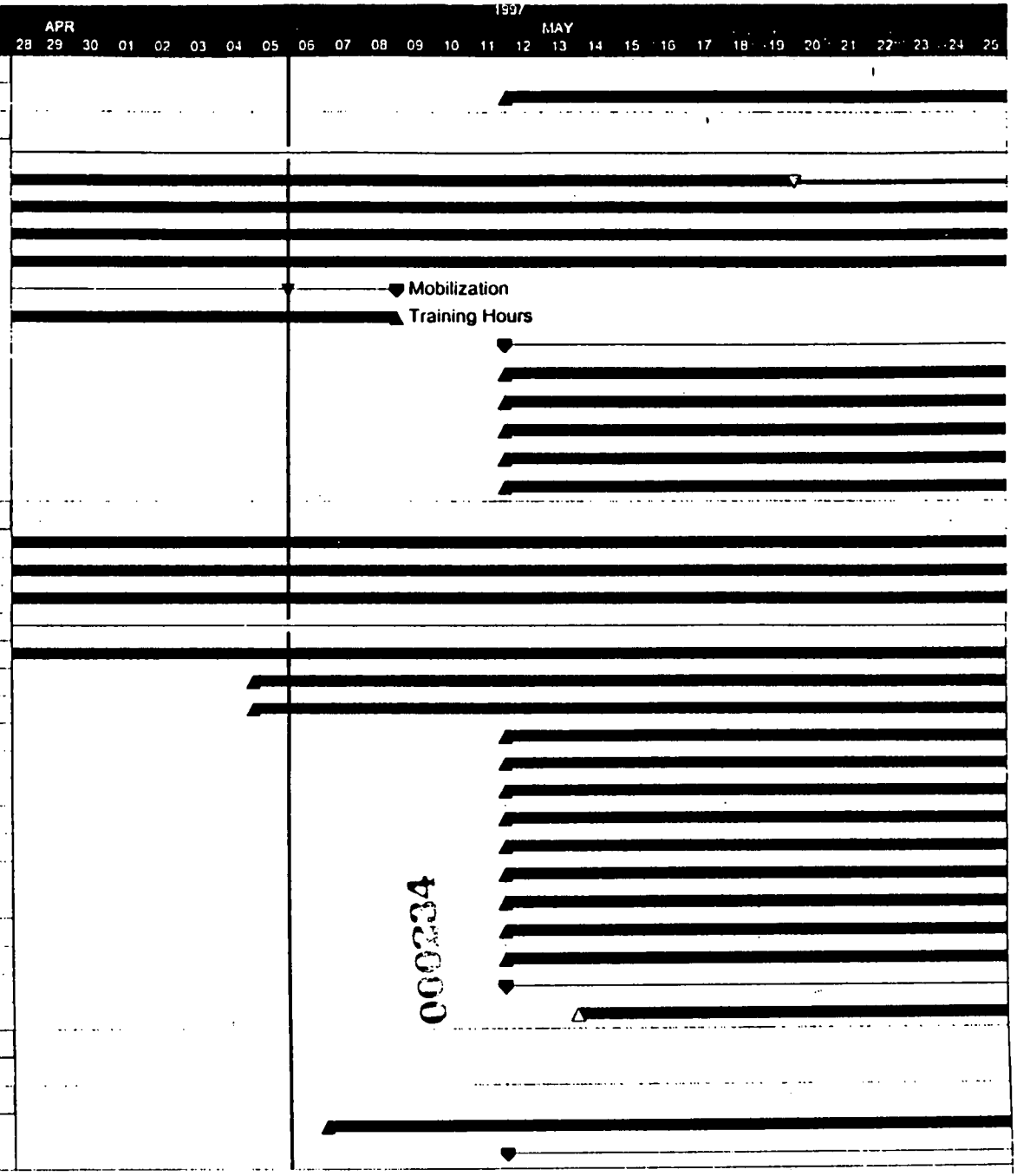
Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97	03/20/97	Included in Village's Submittal No.: 10			
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97	05/02/97				O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97	-	-	A	05/02/97	O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97					O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97					O,L

Submittal with "A" status

Critical Submittal

1265

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish
Item 1.0 Bond/Insurance					
01.12	Allowance	80	80	12MAY97	30SEP97
Item 2.0 Mobilization					
01.97	Supervision	132 *	83 *	06FEB97 A	30SEP97
02.02	Health & Safety Program	58	8	06FEB97 A	19MAY97
02.16	Project Manager	132	83	06FEB97 A	30SEP97
02.17	Safety Engineer	132	83	06FEB97 A	30SEP97
02.18	Quality/Field Engineer	117	83	06MAR97 A	30SEP97
01.98	Mobilization	19 *	3 *	08APR97 A	08MAY97
02.09	Training Hours	19	3	08APR97 A	08MAY97
01.96	Construction Support	80 *	80 *	12MAY97	30SEP97
02.11	Clean-Up	80	80	12MAY97	30SEP97
02.12	Water Truck Fill-Up	80	80	12MAY97	30SEP97
02.13	Water Spraying	80	80	12MAY97	30SEP97
02.14	Operator	80	80	12MAY97	30SEP97
02.15	Teamster	80	80	12MAY97	30SEP97
Item 2.1 Rental					
02.35	Site Office Trailer	94	83	16APR97 A	30SEP97
02.36	Site Storage Trailer	94	83	16APR97 A	30SEP97
02.37	Temporary Toilet w/wash sink	94	83	16APR97 A	30SEP97
02.41	Field Office & Temporary Facilities	94 *	83 *	16APR97 A	30SEP97
02.38	Telephone Charges	89	83	24APR97 A	30SEP97
02.31	8" Pipe Fusion Machine	84	83	05MAY97 A	30SEP97
02.33	4"/8" Split Ring Heater	84	83	05MAY97 A	30SEP97
02.21	Backhoe	80	80	12MAY97	30SEP97
02.22	Dozer	80	80	12MAY97	30SEP97
02.23	Loader	80	80	12MAY97	30SEP97
02.24	Excavator	80	80	12MAY97	30SEP97
02.25	Dump Truck	80	80	12MAY97	30SEP97
02.26	Trench Box - Square	80	80	12MAY97	30SEP97
02.27	Trench Box - Round	80	80	12MAY97	30SEP97
02.28	Trench Roller	80	80	12MAY97	30SEP97
02.34	Water Truck	80	80	12MAY97	30SEP97
02.40	Rental Equipment	80 *	80 *	12MAY97	30SEP97
02.29	Welding Machine	17	17	14MAY97	12JUN97
Item 4.0 LCS 3 to LS Piping					
04.21	Survey & Layouts	12	12 *	27MAY97 *	16JUN97
Item 6.0 Lift Station to COMH 8					
06.26	Survey & Layouts	13	13 *	07MAY97 *	29MAY97
06.10	Pipe, Fittings, Valves, Pipe Support &	24 *	24 *	12MAY97	23JUN97



Calculate Total
Display Quantity
Interval Week
Total cumulative curve

Village Building Services, Inc.

Leachate Conveyance System

Subcontract No.: FSC 589

Job No.: 0197

Four Weeks Rolling Schedule

Page number	1A
Data date	06MAY97
Number/Version	0
Layout	Activity data item org. by Resp
Run date	06MAY97
Finish date	14OCT97

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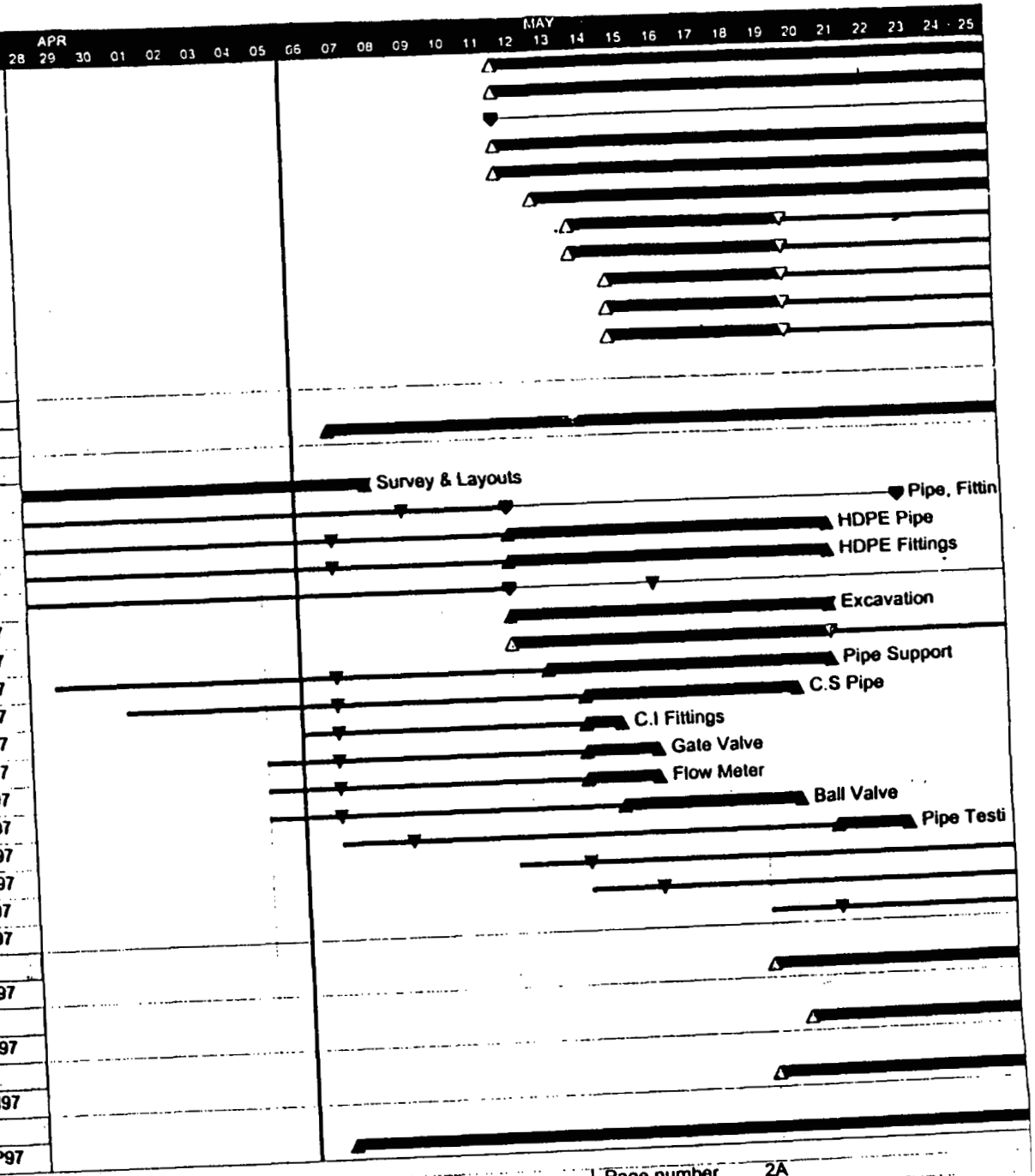
VBS-4WK-000

1265
000234

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish
06.11	HDPE Pipe	20	20	12MAY97	16JUN97
06.12	HDPE Fittings	20	20	12MAY97	16JUN97
06.23	Excavation, Backfill & Compaction	35 *	35 *	12MAY97	10JUL97
06.23.1	Excavation	20	20	12MAY97	16JUN97
06.24	Pipe Bedding	20	20	12MAY97	16JUN97
06.18	Pipe Support	18	18	13MAY97	12JUN97
06.13	C.S Pipe	3	3	14MAY97	19MAY97
06.14	C.I Fittings	3	3	14MAY97	19MAY97
06.15	Gate Valve	2	2	15MAY97	19MAY97
06.16	Ball Valve	2	2	15MAY97	19MAY97
06.17	Flow Meter	2	2	15MAY97	19MAY97
06.27	Jacking & Boring	5	5	27MAY97	03JUN97
Item 7.0 COMH 8 to COMH 10					
07.24	Survey & Layouts	13	13	07MAY97	29MAY97
Item 8.0 COMH 10 to BSL					
08.26	Survey & Layouts	15	2	04APR97 A	07MAY97
08.10	Pipe, Fittings, Valves, Support,	8 *	8 *	12MAY97	22MAY97
08.11	HDPE Pipe	6	6	12MAY97	20MAY97
08.12	HDPE Fittings	6	6	12MAY97	20MAY97
08.23	Excavation, Backfill & Compaction	12 *	12 *	12MAY97	02JUN97
08.23.1	Excavation	6	6	12MAY97	20MAY97
08.24	Pipe Bedding	6	6	12MAY97	20MAY97
08.18	Pipe Support	5	5	13MAY97	20MAY97
08.13	C.S Pipe	3	3	14MAY97	19MAY97
08.14	C.I Fittings	1	1	14MAY97	14MAY97
08.15	Gate Valve	2	2	14MAY97	15MAY97
08.17	Flow Meter	2	2	14MAY97	15MAY97
08.16	Ball Valve	2	2	15MAY97	19MAY97
08.29	Pipe Testing	2	2	21MAY97	22MAY97
08.23.2	Backfill	2	2	27MAY97	28MAY97
08.23.3	Compaction	2	2	29MAY97	02JUN97
08.22	Underground Warning Tape	2	2	03JUN97	04JUN97
Item 9.0 Power @ Bldg 77					
09.11	Electrical Work	17	17	19MAY97 *	17JUN97
Item 10.0 Install 480V Power					
10.11	Electrical Work	14	14	20MAY97 *	12JUN97
Item 11.0 Power & BSL					
11.11	Electrical Work	14	14	19MAY97	11JUN97
Item 16.0 Contract Closeout					
16.13	As-Built Drawings	82	82	07MAY97	30SEP97



Calculate: Total
Display: Quantity
Interval: Week
Total cumulative curve

Village Building Services, Inc.
Leachate Conveyance System
Subcontract No.: FSC 589
Job No.: 019

Four Weeks Rolling Schedule

Page number	2A
Data date	06MAY97
Number/Version	0
Layout	Activity data item org. by Resp
Run date	06MAY97
Finish date	14OCT97

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000235

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0021

SUBJECT: BARRETT, VILLAGE BUILDER'S & FDF INTEGRATED MEETING

MEETING DATE: May 13, 1997

LOCATION: T-58

ISSUE DATE: May 20, 1997 File Record Storage Copy 106.4.34.3

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

+ Sarah Alkire
Dave Coleman
+ Jeff Ellis
Henry Fuller
+ Mike Godber
Don Goetz
+ Rick Holbrook
+ Gregg Johnson
+ Jim Jenkins
+ Tim Keaty
+ Rick McGuire
+ Jeff Middaugh
+ G. Pope
Carlos Pratt
+ J. Salyers
+ Joe Straub
• Jim Salyers,
+ Lou Wehlitz
S. Wolinski
+ Bill Zebick

GeoSyntec

+ J. McMichen

B. L. Payne & Associates

+ B. Payne

B & J Electrical Co.

+ P. Ernst

DOE

Joe Desormeau, MS45
Pete Darnell, MS45
Jay Jolovec, MS45
Joe Neyer, MS45
Don Pfister, MS45
Dennis Riley, MS45
Rod Warner, MS45

BARRETT PAVING INC.

+ Andrew Brueggemann
+ Forrest Cash
+ Chuck Misch
+ Alex Saplala

Village Building Services

+ M. Brooks
+ M. J. Cleveland
+ J. Houser
+ M. Kadakia
+ H. Milliron
+ S. Porter
+ O. Willingham
+ Y. Willingham

SAFETY TOPIC Plan your work; work your plan. Know specifically what your tasks are and the tasks of others which could influence your work. Ask questions and have the scope in writing.

TQM TOPIC Work the details.

BALANCE TOPIC Honor our Veterans on Memorial Day.

I. DISCUSSIONS

- Village Builder's is working piles of soil and is to meet at 2:30 this afternoon in T-46 and wants to know what to do with the ground water.

- Jeff Middaugh stated that traffic to building 45 on Saturday was going too fast and he has asked FDF security for more attention in that area.

- Subcontractors are to designate their own smoking areas with FDF safety approval and have the proper receptacles for the cigarette butts. Smoking is permitted in the subcontractors trailers. Barrett Paving questioned about tobacco chewing in the controlled area.

- The Kelchner fuel truck that Forrest Cash of Barrett Paving had tagged out due to faulty wiring on the pump has been removed from the site until it is repaired.
- Village Builders needs T-boxes inspected today and their permit box will be here today.

- Forrest Cash of Barrett paving suggested installing speed limit signs at the exit of the building 45 parking lot to remind people of the speed limits. Jim Jenkins of FDF will add this activity to his list of traffic items his committee is working on.

- Barrett stated that they want to close the "gaps" in their construction fence and begin using their Haul Road crossing person on Monday May 19-97. This is to be discussed after the meeting.

- Barrett stated that their employees had been asking about the current conditions north of the D&D building with respect to the sabotage that had taken place with their equipment.

- Barrett Paving requested Jeff Middaugh's assistance with modifying their safety matrix to include the use of a "Quick Saw" to cut the geo-grid.

- We will establish make up days for our safety walkthroughs if the needs arise. The Leachate project will have its walkthrough tomorrow morning.

- * S. Porter w/VBS interrupted the meeting and notified that FDF should notify people to stay out of VBS's work area except for a photographer and one other person. Also, he reinforced the need for speed control. The meeting informed him that we had already discussed it and had it as an action item.

II. SCHEDULE BRIEFING

- VBS four week rolling schedule for this week and the next two weeks VBS will be fusion welding the leachate piping from the OU-4 access road to the K-65 trench, and west of the contractors' lot to AWWT. FDF released the additional six lines in this meeting.
- Barrett Paving Materials is to delete the pipe sleeves for the leachate line north of the K-65 trench but VBS is to install the sleeves under the K-65 trench.
- FDF, Jim Jenkins, is to check the cover requirements over the piping to make sure there will be enough to keep Barrett's equipment from damaging it.
- FDF to provide Barrett Paving a copy of VBS's schedule.
- At the next meeting, we will have a integrated schedule on the wall of the conference room.
- Barrett Paving will have their culvert pipe installed today or tomorrow and the remaining fill will take two days beyond that at station 119.
- VBS asked when the meeting would address the small items pertaining to schedule. Answer- outside this meeting.

III. CHANGE ORDERS

- There is to be no discussion of money in the group meeting.
- Change order no. 5 for VBS has been approved and VBS was notified in the meeting.
- Barrett Paving asked about the DCN for the "Staver Ditch". FDF advised that it is on the way.
- VBS is to shut down the last row of parking south of T-80/81 between 5:00 and 7:00 pm to do their layout work. They are to advertise ahead of time and use traffic cones and barriers stating "Survey Crew Ahead".
- FDF is having an internal change order meeting today at 1:00 pm.

IV. QUALITY

- FDF stated that the job is not complete from a quality standpoint until the paperwork is complete. Certificates are to be provided with deliveries and NCR's are to be closed immediately.

- VBS is to read the Trenching and Excavation specification before backfilling over the piping.

- Barrett Paving is looking for the return of DCN-14 on silt fence and RCI-09 about rock channel protection.

- FDF stated that there are two RCI's pertaining to solar panels and a check valve that are due to VBS.

- VBS is altering pipe bedding materials due to the ground water problems even with watering.

- Barrett paving is to submit data on the material they are planning to use over VBS's backfill. VBS needs to know by Thursday and needs the detail by Thursday.

- Geo-Syntech is to set up for testing of the material but this could be a legal problem.

- The Vit. Pilot plant personnel seem to have completed their moves into the trailer complex.

- Barrett Paving Materials Inc. needs direction on what to do with contaminated excavated materials within the controlled area. FDF to determine by early next week.

- By the end of today, Barrett Paving is out of work due to delays. Next week they will be working in the turn lane on Rt. 126 Monday and Tuesday.

- Wise Services will pump out the water north of D&D and Kelchner will put a dozer there to prep the area to receive soil from another OU.

- VBS and Barrett Paving are to provide input to FDF on their feelings about having a combined meeting.

JS:sla

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Jim Salyers Phone No. 648-5526 Date: 05/20/97

CONSTRUCTION FOR HAUL ROAD AND RE-ROUTED NORTH ENTRANCE ROAD, / LEACHATE COLLECTION

FSC 587

(Sign-In Sheet)

Date: 5-13-97

	Name (Printed)	Signature	Company	Phone #
1.	FORREST CASH	Forrest Cash	BARRETT	4901
2.	ALEX SAPUALA	[illegible]	BARRETT	4901
3.	Sarah Alkire	Sarah B Alkire	FDF/WPM	5080
4.	Louis B. Kelewitz	[illegible]	FDF/OSDF	5230
5.	Bud Payne	[illegible]	B.L. Payne & Assoc	385-5922
6.	MJ CLEVELAND	[illegible]	V.B.S.	5782
7.	PAUL ERNST	[illegible]	B&J ELEC.	3949
8.	BILL ZEBICH	Bill Zebich	FDF	4134
9.	Tim Keaty	[illegible]	FDF	4023
10.	Chuck Misik	[illegible]	Barrett	4901
11.	MICHAEL W GODDER	[illegible]	FDF	4930
12.	James T. Turner	[illegible]	FDF	4941
13.	ANDREW BRUEGGEMANN	Andrew Brueggemann	BPM	4901
14.	JEFF ELLIS	Jeffrey Ellis	FDF	x5722
15.	RICK HORSBROOK	[illegible]	FDF	4622

CONSTRUCTION FOR HAUL ROAD AND RE-ROUTED NORTH ENTRANCE ROAD, / LEACHATE COLLECTION

FSC 587

(Sign-In Sheet)

Date: 5-13-97

	Name (Printed)	Signature	Company	Phone #
1.	JEPHORY McMICHAEL	J. McMichael	GEOSYNTEC	4635
2.	JIM SALYERS	Jim Salyers	OSDF	X5526
3.	Jim JENKINS	James C. Jenkins	OSDF	4636
4.	GREGG JOHNSON	Gregg Johnson	FDF OSDF	3709
5.	Jeff Middaugh	Jeff Middaugh	FDF OSDF	256
6.	Rick McGuire	Richard L. McGuire	FDF OSDF	5347
7.	MARVIN BROOKS	Marvin Brooks	VBS	76089
8.	GARY POPE	Gary Pope	FDF/OSDF	5351
9.	JOE STRAUB	Joe Straub	FDF	5758
10.				
11.				
12.				
13.				
14.				
15.				

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0024

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: May 20, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: May 23, 1997 EDC File #20110

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

FDF

S. Alkire, MS46
T. Cherry, MS52-5
B. Crowley, MS30
+ J. Ellis, MS64
+ M. Godber, MS64
M. Hickey, MS64
+ A. Hohnhorst, MS44
R. Holbrook, MS64
+ J. Jenkins, MS64
G. Johnson, MS64
T. Keaty, MS64
U. Kumthekar, MS64
+ * R. McGuire, MS64
+ J. Middaugh, MS44
+ P. G. Pope, MS64
C. Pratt, MS64
T. Russell, MS64
+ D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64

DOE

P. Darnell, MS45
J. Desormeau, MS45
J. Jalovec, MS45
J. Neyer, MS45
+ D. Pfister, MS45
D. Riley, MS45
R. Warner, MS45

Parsons

+ P. Payne, MS17

GeoSyntec

+ D. Bodine, MS64
K. Cargill, MS64
B. Erisman, MS64
J. McMichen

Village Building Services

M. Brooks
+ M. J. Cleveland
M. Kadakia
+ H. Milliron
+ S. Porter
O. Willingham
Y. Willingham

B. L. Payne & Associates

+ B. Payne

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed
+ R. Swayne

SAFETY TOPIC - Recent OSHA citations of trench safety violations and a OSHA interpretation concerning soil testing, confined space, and monitoring requirements were reviewed (see attached articles).

TQM TOPIC - Communication is a two way street. Ask questions if you are unsure of directions.

BALANCE TOPIC - Use this Memorial Day holiday to relax and, at the same time, reflect on those that gave their lives to preserve our way of life.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. VBS is holding regular weekly toolbox safety meetings at 6:30 AM every Monday.

B. Rev. 1 of the Health & Safety Matrix was signed off and is in distribution.

C. A joint safety observation walkdown with the DOE and FDF management will be conducted today. The haul road, K-65 area and the leachate line installation will be visited during the walkdown.

D. A joint emergency response drill is scheduled today between 6:00 PM and 9:00 PM. Some roads southwest of the FEMP may be closed off during this drill.

E. Village's trench boxes have been inspected by FDF Safety and are OK for use.

F. Ground water in the K-65 area will be discharged into the K-65 trench. Jim Leslie must be notified at least one hour prior to pumping to start sump pump. Precautions must be taken to prevent pumping silt into the trench.

G. Corrective action for most items from the 5/21/97 safety walkdown have been completed. Troughs for fuel can secondary containment are due on site today.

H. Hearing protection zones have been set up around the VBS's generators and the 12" fusion machine. Signs are posted and ear plugs are available at the construction area entry point.

I. Construction Subcontractor's Statistics (safety statistics) are available. A copy will be forwarded to VBS by the end of the week.

J. Village's needs to generate a lift plan for placing their fusion equipment in trenches (needed by 5/23/97). S. Porter advised that the lift plan for the jacking and boring machine is included in VBS's safe Work Plan.
within next 2 days

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous meeting. No comments affecting those minutes were received other than those listed below:

Meeting minutes for the May 13th combined meeting were not distributed at the time of this meeting.

III. SCHEDULE BRIEFING

A. Percent Complete - 16.98% (through 5/19/97), Percent Scheduled - T.B.D.

B. Schedule integration follow-up meeting with Village, Barrett, and Petro is tentatively scheduled for Thursday, May 22, 1997 (time to be advised later). The integrated schedule and matrix will be finalized in this meeting.

C. The four week rolling schedule was reviewed.

IV. DESIGN AND CONSTRUCTION ISSUES

A. Open DCN's were identified and discussed:

- signed the DCN #1700-025 - Re-routes leachate and utility piping in K-65 area [Need 5/22/97]
- DCN #1700-026 - Re-routes leachate and GO line near AWWT. [Need 5/22/97]
- 23 May 97 DCN #1700-027 - Invert elevation of line GO-10" between Sta. 7+00 and 9+00. [Need 5/22/97]
- Approved closed DCN #1700-030 - Casing end seal detail [Need 5/22/97]

DCN 28 HILTI Approved

B. Open RCI's were identified and discussed:

- RCI #1700-015R - Dissimilar SDR's between pipe and manhole fittings. [Need 5/22/97]
- RCI #1700-016R - Markings for UG utilities warning tape [Need 5/22/97]
- RCI #1700-017R - Back pressure and line pressure for 3" check valve [Need 5/22/97]
- RCI #1700-019R - Solar panel sizing worksheet [Need 5/22/97]

NEW DCN Addressing Testing of pipe (pressure) Anticipate 28 May 97
" " Regarding Backfilling above pipe prior Testing to Allow

V. MATERIAL AND VENDOR DATA STATUS

A. Vendor Data - See attached submittal register.

B. Critical submittals:

Lift Station Delivery 7-21-97
Clean out manholes → ~~week~~ 6 June week
CSLDS → 20th June week

Submittal No(s).	Need Date	Remarks
26	5/22/97	Need additional information from VBS on controls
32 32R1 approved	5/22/97	Returned 'B' status 4/24/97. Pending VBS resubmittal
33	N/A	Approved 5/19/97
34 ~~34~~R1	5/22/97	Returned 'B' status 4/24/97. Pending VBS resubmittal
40	N/A	Approved 5/19/97
70	N/A	Approved 5/19/97
72 72R1 resubmitted	5/22/97	Returned 'B' status 5/6/97. Pending VBS resubmittal

VI. QUALITY AND INSPECTION

A. Non-conformance report #97-0084 for four (4) telephone poles is open. Disposition required by 5/23/97.

B. Mike Godber identified open issues on submittals that need to be brought to resolution (see attached). Closeout requested by 5/30/97.

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - Negotiations for Change Orders #2 , #3, and #4 are on hold pending independent estimate by FDF Estimating. Independent estimate re-forecasted for June 30, 1997.

B. Change Order #5 - Independent estimate re-forecasted for May 23, 1997.

C. Change Order #6 - Independent estimate re-forecasted for June 5, 1997.

D. Change Order #7 - Technical evaluation required.

VIII. GENERAL

A. R. McGuire advised that the Midwest Mole technician's site access training is current. Initial drug screening will be required.

B. Village requested assistance on getting training scheduled for fire watch training and Rad II practical for two of their personnel.

IX. ATTACHMENTS

Safety Topic Articles
Action Item Tracking List
Submittal Register
Q/A Issues Listing

RLM

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 05/23/97
Richard L. McGuire

a massing scheme for mixed-use development on 18 mostly razed blocks in the historic hotel district. The team's connections include Perkins & Will's parent company, Cairo-based Dar Al-Handasah Consultants, which previously drew up the overall master plan for rebuilding Beirut's central district, and Fred Koetter, dean of Yale University's School of Architecture. The massing scheme clears the way for 640,000 sq m of development, reports Koetter Kim associate Stephen R. Keyser.

Adjacent to the once luxurious hotel district, work also continues on reclaiming a 25-hectare waterfront dump thrown up during the 1975-1990 civil war. Last year, Los Angeles-based geotechnical engineer Dames & Moore completed a study of how to treat the 5 million cu m of waste and toxics at that so-called Normandy landfill. And whenever U.S. staff participated, Dames & Moore notified the U.S. embassy in Beirut, points out Jacques R. Chahine, the firm's local managing director.

A CITY REBORN War's rubble recedes.

Beirut plans to expand the landfill site to cover 61 hectares, for development as

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Safety

OSHA METES OUT TRENCH FINES

FEDERAL SAFETY OFFICIALS RECENTLY proposed $700,000 in penalties for alleged trench safety violations against three contractors in the eastern U.S. The companies are accused of violations connected to accidents last fall that killed three workers and injured several others.

In the largest penalty, officials of the Occupational Safety & Health Administration proposed a $448,000 fine against Richard E. Fowler Inc., a Pompano Beach contractor. Fowler employed Oscar Escobar, who was killed in a trench collapse. Two other workers were injured.

Fowler's workers had been laying water and sewer lines in a watery trench where several cave-ins had occurred. "He [Fowler] was warned by his employees that this was a dangerous situation," claims an OSHA spokesman. One offered to rent a trench box an hour before the accident occurred, claims OSHA. Fowler could not be reached for comment and it is not clear if he will appeal the proposed fine.

OSHA also has proposed a $145,000 fine against Alliance Construction Co., Ardmore, Pa. The company was installing a water line in East Goshen Township, Pa., when a trench collapsed, killing Terry Houser and his son, Richard. "There was no sloping or shoring of trench," claims OSHA.

An Alliance employee says the company would not comment about whether it will appeal.

A New Jersey contractor, Scafar Contracting, Newark, was also hit with a proposed $103,000 fine for alleged trenching violations. The company did not return a call asking whether it would appeal the penalty. ❑

PHOTO COURTESY OF SOLIDERE

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From a OSHA Compliance Letter. A question concerning soil testing, confined space, and monitoring requirements.

Record Type: Interpretation
Standard Number: 1926.21; 1910.146; 1910.651(g)
Subject: Soil testing and confined space.
Information Date: 06/15/1992

> "...a trench could be considered an enclosed area; but, since it would usually be subject to natural ventilation, it would not be considered a confined space **unless other factors**, such as those addressed in 29 CFR 1926.651(g), are present."

..1926.651(g)
(g) Hazardous atmospheres - (1) Testing and controls. In addition to the requirements set forth in subparts D and E of this part (29 CFR 1926.50 - 1926.107) to prevent exposure to harmful levels of atmospheric contaminants and to assure acceptable atmospheric conditions, the following requirements shall apply:

(ii) Adequate precautions shall be taken to prevent employee exposure to atmospheres containing less than 19.5 percent oxygen and **other hazardous atmospheres.** These precautions include providing proper respiratory protection or ventilation in accordance with subparts D and E of this part respectively.

..1926.651(g)(1)(iv)
(iv) When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, testing shall be conducted as often as necessary to ensure that the atmosphere remains safe.

I think this makes the situation very clear. This is exactly what we spelled out as requirements.

LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
001	VBS-SUR-000	Submittal Register	CFC	Part 7, Sub.Req.Sec 4	02/13/97	03/06/97	03/20/97			Q
002	VBS-PPB-000	Bonds	INF	Part 6;9.2;Part 2,Sec 1&2	01/20/97	-	-	A	02/27/97	H
003	VBS-INC-000	Insurance Certificate	INF	Part 6;9.2;Part 3,A.44	01/20/97	-	-	A	02/27/97	H,S
004	VBS-FSF-000	Form SF1413	INF	Part 2;Sec.4	01/20/97	-	-	A	02/27/97	H,S
005	VBS-PLA-000	PLA Letter	INF	Part 2;Sec.3	01/20/97	-	-	A	02/27/97	H
006	VBS-PIS-000	Pay Item Schedule	CR	Part6;11.2.1.1	02/06/97	03/06/97	03/07/97			P,S
007	VBS-DCS-000	Construction Schedule	CR	Part6;11.2.1.2	02/11/97	03/06/97	04/17/97			Q,S
008	VBS-HSP-000	Health & Safety Plan	CR	Part 8;B.1	02/06/97	03/20/97	-	B	03/20/97	H,S
009	VBS-QAP-000	Quality Assurance Plan	CR	Part 6;9.2;Part 9	02/06/97	03/12/97	03/31/97	A	04/03/97	F,S
010	VBS-SWP-000	Safe Work Plan	CR	Part 6;2.4	03/31/97	04/11/97	04/30/97			Q
011	VBS-ERP-000	Erosion Plan	CR	Section 02270	Included in Safe Work Plan Submittal No.: 10					O
012	VBS-SUB-000	Sub-contractor's List	INF	Part 2;Sec.5,Part3,Sec.F.1	01/20/97	03/06/97	03/11/97			H
013	-	Resumes	INF	Part 6;2.4.A	02/06/97	-	-	02/27/97	03/06/97	-
014	VBS-MSDS-000	Pulv. Limestone	INF	Part 8, 3.9	03/31/97					B
014	VBS-MSDS-001	Fertilizer 12-12-12	INF	Part 8, 3.9	03/31/97					B
014	VBS-MSDS-002	Fertilizer 10-10-10	INF	Part 8, 3.9	03/31/97					B
014	VBS-MSDS-003	Asphalt Emulsion	INF	Part 8, 3.9	03/31/97					B
014	VBS-MSDS-004	Caldweld Electrical	INF	Part 8, 3.9	02/13/97	-	-	-	04/03/97	B
014	VBS-MSDS-005	40-630 Zinc Cold Galv.	INF	Part 8, 3.9	02/13/97	-	-	-	04/03/97	B
014	VBS-MSDS-006	Polywater Lubricant	INF	Part 8, 3.9	02/13/97	-	-	-	04/03/97	B
014	VBS-MSDS-007	Clear PVC Solv.Cement	INF	Part 8, 3.9	02/13/97	-	-	-	04/03/97	B
014	VBS-MSDS-008	Ridgid-Thread Cut. Oil	INF	Part 8, 3.9	02/13/97	-	-	-	04/03/97	B

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LEACHATE C[illegible]EYANCE SYSTEM

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Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
014	VBS-MSDS-009	Tap Magic Cut. Fluid	INF	Part 8, 3.9	02/13/97	-	-	-	04/03/97	B
014	VBS-MSDS-010	MSDS Index	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-011	Safety Absorbent	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-012	HDPE Pipe	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-013	SS-2 Winter Gr.Sh.Fluid	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-014	Acetylene	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-015	Unleaded Gasoline	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-016	WD-40	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-017	Pipe thread sealant	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-018	Stihl 50:1 2-Cycle Oil	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-019	LA-CO SLIC-TITE Paste	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-020	Oatey Cleaner	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-021	Aerosol Paint	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-022	Fire Extinguisher	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-023	Petroleum Grease	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-024	Motor Oil SAE 10W40	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-025	Marathon No.2 F.O Dyed	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-026	Auto.Tran.Fluid Type FA	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-027	Windshield Washer AF	INF	Part 8, 3.9	05/12/97					B
014	VBS-MSDS-028		INF	Part 8, 3.9						B
014	VBS-MSDS-029	TNEMEC Series 37-H	INF	Part 8, 3.9	05/16/97					B
014	VBS-MSDS-030	TNEMEC Series 066	INF	Part 8, 3.9	05/16/97					B

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LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
014	VBS-MSDS-031	TNEMEC 066 Epox.Conv.	INF	Part 8, 3.9	05/16/97					B
015	VBS-DAY-000	Daily Reports	INF	Part 4						Daily
016	VBS-TCS-000	Training Certificates	INF	Part 8;C.1.5						D
017	VBS-OSH-000	OSHA 30 Hr. Training	INF	Part 8;C.1.11						M
018	VBS-USF-000	Urinalysis Sampling Form	INF	Part 8;A.3.1.3						Monthly
019	VBS-BIF-000	Bioassay Form	INF	Part 8;A.3.1.3						Bi-Monthly
020	VBS-RIP-000	Rigging Plan	CR	Part 8;A.7.1.4	Included in Safe Work Plan Submittal No.: 10					O
021	VBS-OVF-000	Operator Verification Form	REC	Part 8;A.13.1	04/30/97					E
022	VBS-RVF-000	Rigger Verification Form	REC	Part 8;A.7.1						E
023	VBS-WEC-000	Welding Certificates	REC	Part 7, Tech.Specs.	04/30/97					E
024	VBS-HDP-000	HDPE Pipe & Fittings	CR	Section 02605	02/20/97	03/18/97	05/08/97			O,L
025	VBS-HDM-000	HDPE LCS/LDS MH'S	CR	Section 02605	02/18/97	04/11/97	04/22/97	A	04/28/97	O,L
026	VBS-LSP-000	Lift Station Pumps	CR	Section 15160	02/11/97	04/11/97	05/13/97			O,L
027	SS-C9257	2' x 2' Access Cover	CR	Section 15000	03/11/97	04/01/97	04/28/97			O,L
027	E-C1154	3' x 3' Access Cover	CR	Section 15000	03/11/97	04/01/97	04/28/97			O,L
027	D-C4552	4' x 4" Access Cover	CR	Section 15000	04/28/97					O,L
028	VBS-MHC-000	MH Access Covers	CR	Dwg. 92X-5900-G-00258	02/11/97	03/27/97	04/28/97	A	05/02/97	O,L
029	VBS-6CV-000	6" Check Valve	CR	Section 15000	02/06/97	-	-	A	05/01/97	O,L
029	VBS-6CV-001	O & M for 6" Check Valve	INF	Section 15000	02/06/97	-	-	A	05/01/97	R
030	VBS-SAR-000	1/2" S.S Air Rel. Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	04/19/97	-	A	04/22/97	O,L
030	VBS-SAR-001	O & M for 1/2" Rel.Valve	INF	Dwg. 92X-5900-G-00258	02/06/97	04/19/97	-	A	04/22/97	R
031	VBS-3CV-000	3" Check Valve	CR	Section 15000	02/06/97	04/19/97	-	A	04/22/97	O,L

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LEACHATE C[illegible]EYANCE SYSTEM

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VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
031	VBS-3CV-001	O & M for 3" Check Valve	INF	Section 15000	02/06/97	04/19/97	-	A	04/22/97	R
032	VBS-PBU-000	6" PVC Butterfly Valve	CR	Section 15000	02/18/97	04/28/97	05/16/97			O,L
032	VBS-PBU-001	Inst. Instruction But.Valve	INF	Section 15000	05/16/97					O,L
032	VBS-PBU-002	Main.Instr.Butterfly Valve	INF	Section 15000	05/16/97					O,L
033	VBS-10B-000	6"/10" Butterfly Valve	CR	Section 15000	02/18/97	04/19/97	05/12/97			O,L
034	VBS-6MV-000	6" Motor Oper. Valve	CR	Section 15000	02/18/97	04/28/97	05/16/97		04/28/97	O,L
034	VBS-6MV-001	Main.Instr.Ball Valve	INF	Section 15000	05/16/97					O,L
034	VBS-6MV-002	Inst. Instruction Ball Valve	INF	Section 15000	05/16/97					O,L
034	VBS-6MV-003	O & M Manual Series 92	INF	Section 15000	05/16/97					O,L
035	VBS-PCV-000	1/2" PVC Ball Valve	CR	Section 15000	02/18/97	04/24/97	-	A	04/28/97	O,L
036	VBS-4CV-000	4" Check Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	03/27/97	05/14/97			O,L
037	VBS-4GV-000	4" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	03/27/97	O,L
038	VBS-4BV-000	4" Ball Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
039	VBS-GAV-000	1/2" Gate Valve	CR	Dwg. 92X-5900-G-00258	02/06/97	-	-	A	04/03/97	O,L
040	VBS-3FM-000	3" Flow Meter	CR	Section 13400	04/09/97	04/23/97	05/13/97			O,L
040	VBS-3FM-001	Inst. Bulletin for flow mete	INF	Section 13400	05/13/97					
041	VBS-BNF-000	Bolts,Nuts & Gaskets	CR	Section 15000	02/18/97	04/24/97	-	A	04/28/97	O,L
042	VBS-SSP-000	S.S Pipe & Fittings	CR	Section 15000	02/27/97	03/27/97	03/31/97			O,L
043	VBS-SSF-000	C.S Pipe & Fittings	CR	Dwg. 92X-5900-G00255/8	02/27/97	03/27/97	04/29/97	A	05/02/97	O,L
044	SK-0197-003	Pipe Line Marker	CR	Dwg. 92X-5900-G-00257	04/30/97					O,L
045	VBS-UWT-000	Undergr. Warning Tape	CR	Dwg. 92X-5900-G-00257	02/20/97	03/27/97	04/28/97			O,L
046	VBS-RES-000	Test Res. of Emb. Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97	B	04/28/97	O,L

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LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
046	VBS-50L-000	50 lb.Samples of Fill	CR	Section 02215	03/31/97	04/11/97	04/07/97	A	04/28/97	O,L
047	VBS-STF-000	Silt Fence	CR	Section 02270	03/31/97	04/16/97	04/28/97	A	05/01/97	O,L
048	VBS-CLF-000	Chain Link Fence	CR	Section 02831	02/18/97	04/28/97				O,L
049	VBS-SOP-000	Solar Panel	CR	Dwg. 90X-6000-E-00060	02/06/97	04/28/97				O,L
049	VBS-SOP-001	Solar Batteries	CR	Dwg. 90X-6000-E-00060	02/06/97	04/28/97				O,L
050	VBS-FPR-000	Frequency Pulse Rec.	CR	Section 13400	02/13/97	04/22/97				O,L
050	VBS-FPR-001	Cal.Inst. for Freq.Pul.Rec.	CR	Section 13400	02/13/97	04/22/97				O,L
050	VBS-FPR-002	O & M for Freq.Pul.Rec.	INF	Section 13400	02/13/97	04/22/97				R
051	VBS-PTR-000	Pul. to Pul. Trans./Recv.	CR	Section 13400	02/13/97	04/22/97				O,L
052	VBS-ILR-000	Isolator	CR	Section 13400	02/13/97	04/22/97				O,L
052	VBS-ILR-001	Cal.Inst. for Isolator	CR	Section 13400	02/13/97	04/22/97				O,L
052	VBS-ILR-002	O & M for Isolator	INF	Section 13400	02/13/97	04/22/97				R
053	VBS-LAR-000	Lightning Arrester	CR	Section 13400	02/20/97	04/19/97	-	B	04/22/97	O,L
054	VBS-PRG-000	Pressure Gauge	CR	Section 13400	02/18/97	04/22/97				O,L
055	VBS-CPL-000	Quick Connect S.S Cplg.	CR	Section 15000	02/18/97	04/24/97	-	A	04/28/97	O,L
056	VBS-6UM-000	Unimat Fabriform	CR	Dwg.92X-5900-G-00255	02/21/97	-	-	A	04/03/97	O,L
057	FP90D-692 R1	54" OD SDR 32.5 COMH	CR	Section 02605	04/22/97	04/28/97	05/08/97			O,L
058	FP90D-6931o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97	04/22/97	A	04/28/97	O,L
058	FP90D-6932o2	84" Lift Station	CR	Section 02605	03/03/97	04/01/97	04/22/97	A	04/28/97	O,L
059	VBS-RUB-000	Contech Geotextiles	CR	Dwg.92X-5900-G-00255	03/06/97	03/27/97	-	A	04/22/97	O,L
060	VBS-PLE-001	HDPE Man.List of Comp.	INF	Section 02605	03/19/97	-	-	A	05/14/97	O,L
060	VBS-PLE-002	HDPE MH QA/QC Prog.	INF	Section 02605	03/19/97	-	-	A	05/14/97	O,L

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LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
060	VBS-PLE-003	Origin of PE Resin in MH	CFC	Section 02605	03/19/97	-	-	A	05/14/97	O,L
060	VBS-PLE-004	HDPE MH Man.Cert.Value	REC	Section 02605	03/19/97	-	-	A	05/14/97	O,L
060	VBS-PLE-005	Cert. no Rec. Polymer	CFC	Section 02605	03/19/97	-	-	A	05/14/97	O,L
061	VBS-OHI-000	Ohio Surveyor's License	INF	Section 02100	03/25/97	-	-	A	04/28/97	O,L
062	VBS-SCP-000	12 3/4" OD Steel Pipe Cer	CR	Section 02300	03/25/97	-	-	A	05/07/97	O,L
062	VBS-SCP-001	16" OD Steel Pipe Cert.	CR	Section 02300	03/25/97	-	-	A	05/07/97	O,L
063	VBS-BEN-000	Sp.Sheet for Bentonite	CR	Section 02215	03/31/97	-	-	A	05/07/97	O,L
063	VBS-5LB-000	5 lb. Sample of Bentonite	CR	Section 02215	03/31/97	-	-	A	05/07/97	O,L
064	VBS-ETC-000	Proposed Seed Mixes	CR	Section 02930	03/31/97	05/06/97	05/16/97			O,L
065	VBS-AGG-000	Bit.Agg.Base/Asp.Conc.	CR	Dwg.92X-5900-G-00257	03/31/97	-	-	A	05/06/97	O,L
066	VBS-STW-000	Cert. of Comp. for Straw	REC	Section 02930	03/31/97	04/14/97	-	A	04/16/97	O,L
067	VBS-TRH-000	List of Eqpt. for Trenching	INF	Section 02215	03/31/97	04/28/97	05/06/97	A	05/15/97	O,L
068	VBS-171-000	Neenah R-1711-A	CR	SK-20110-005	03/31/97	-	-	A	05/06/97	O,L
069	VBS-PTG-000	TNEMEC 37H & 66 Series	CR	DWg.92X-5900-G-00258	03/31/97	-	-	A	05/02/97	O,L
070	VBS-BLK-000	Concrete Mix Design	CR	Dwg.92X-5900-G-00255/7	03/31/97	05/06/97	05/12/97			O,L
071	VBS-ROT-000	Seed Spreader Roto-Jet	INF	Section 02930	03/31/97	-	-	A	05/06/97	O,L
071	VBS-SDR-000	Grass Spreader	INF	Section 02930	03/31/97	-	-	A	05/06/97	O,L
072	VBS-DAM-000	# 9 Grits Test Data	CR	Dwg.92X-5900-G-00257	03/31/97	05/07/97	05/16/97			O,L
072	VBS-DAM-001	# 53 Gravel Test Report	CR	Dwg.92X-5900-G-00257	03/31/97	05/07/97	05/16/97			O,L
072	VBS-DAM-002	Fabric ODOT 712-09 Type	CR	Dwg.92X-5900-G-00257	03/31/97	05/07/97	05/16/97			O,L
073	FP90D-718	Air Release Manhole	CR	Dwg.92X-5900-G-00410	04/03/97	04/14/97	04/22/97	A	04/28/97	O,L
074	SK-0197-002	Clean Out	CR	SK-20110-005/1700-014	04/03/97	04/14/97	05/06/97	A	05/13/97	O,L

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LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
075	SK-0197-001	Steel Casing End Seals	CR	Section 02300	04/03/97	-	-	A	05/14/97	O,L
076	VBS-PSU-000	Pipe Support Detail	CR	Dwg.92X-5900-G-00258	04/04/97	-	-	A	05/02/97	O,L
077	VBS-DRI-000	Driscopipe Quality Assur.	INF	Section 02605	04/09/97	05/09/97	04/16/97			O,L
077	VBS-DRI-001	Cert. no recl. polymer	CFC	Section 02605	04/09/97	05/09/97	04/16/97			O,L
077	VBS-DRI-002	Isco's letter dated 04/28	CR	Section 02605	04/29/97	-	-	A	05/07/97	O,L
077	VBS-DRI-003	Drisco's letter dt. 04/28	INF	Section 02605	04/29/97	-	-	A	05/07/97	O,L
077	VBS-DRI-004	QA Manual 6400 Series	CR	Section 02605	04/29/97	-	-	A	05/07/97	O,L
077	VBS-DRI-005	Resin Cert. of Comp.	INF	Section 02605	04/29/97	-	-	A	05/07/97	O,L
077	VBS-DRI-006	Manuf. Cert. of Comp.	INF	Section 02605	04/29/97	-	-	A	05/07/97	O,L
078	VBS-FIL-000	Test of Fill (Manhole)	CR	Section 02215	04/16/97	05/02/97	05/16/97			O,L
078	VBS-M50-000	50 lb fill sample (Manhole)	CR	Section 02215	04/16/97	05/02/97	05/16/97			O,L
079	VBS-TRC-000	Ken Zickel McElroy Cert.	CFC	Section 02605	04/30/97					A
079	VBS-TRC-001	Letter from McElroy	CFC	Section 02605	04/30/97					A
079	VBS-TRC-002	Letter from Driscopipe	CFC	Section 02605	04/30/97					A
079	VBS-TRC-003	Ken Zickel Electro.Cert.	CFC	Section 02605	05/08/97					A
079	VBS-TRC-004	Gary Kern ISCO Cert.	CFC	Section 02605	05/08/97					A
079	VBS-TRC-005	George Kort ISCO Cert.	CFC	Section 02605	05/08/97					A
079	VBS-TRC-006	Paul Adkins ISCO Cert.	CFC	Section 02605	05/08/97					A
079	VBS-TRC-007	Terry Halloran ISCO Cert.	CFC	Section 02605	05/08/97					A
080	VBS-QCS-000	Q.C Daily Summary Report	REC	Part 9, 8.1	04/30/97					A
081	SK-0197-004	Piping Mod. @ BSL	CR	Dwg.92X-5900-G-00255	04/30/97					O,L
082	VBS-UPD-000	Schedule Updates	INF	Part 6	05/06/97					Monthly

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LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
083	VBS-4WK-000	4 Wk Rolling Schedule	INF	Part 6	05/06/97					Weekly
084	VBS-MPR-000	Man Power Report	INF	Part 8	05/08/97					Monthly
	VBS-SAP-000	Substance Abuse Prog.	CR	Part 8	02/06/97					H,S
	VBS-MHT-000	Hy.testing Pr.for MH	CR	Section 02605						O,L
	VBS-CRT-000	Qual.Cert for Resin MH	REC	Section 02605						R
	VBS-QLY-000	Qual.Test Res. for Resin	REC	Section 02605						R
	VBS-CMH-000	Cert. of Comp. HDPE MH	REC	Section 02605						R
	VBS-FQC-000	Fastener Quality Cert.	REC	Part 4						R
	VBS-ITR-000	Inspection Test Reports	REC	Part 7						J
	VBS-FAC-000	Sch. of Factory Tests	INF	Part 7/Part 9						M
	VBS-RED-000	Red Lines/As-Builts	REC	Part 4						L,R
	VBS-DEV-000	Tab. of Overcur.Pr.Device	INF	Part 7/Part 9						J
	VBS-FIE-000	Red. & Ckd Field Notes	REC	Section 02100						O,L
	VBS-SKT-000	Drawings & Sketches	REC	Section 02100						O,L
	VBS-MUL-000	Man. Cert. for Mulch	REC	Section 02930						R

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LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
101	VBS-BJ1-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97	04/15/97	-	B	04/28/97	O,L
101	VBS-BJ2-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97	04/15/97	-	B	04/28/97	O,L
101	VBS-BJ3-000	Rigid/PVC Conduit	CR	Section 16050	02/13/97	04/15/97	-	B	04/28/97	O,L
102	VBS-BJ4-000	Link Seals/Receptacle	CR	Section 16050	02/13/97	04/21/97	-	A	04/28/97	O,L
102	VBS-BJ5-000	Link Seals/Receptacle	CR	Section 16050	02/13/97	04/21/97	-	A	04/28/97	O,L
102	VBS-BJ6-000	Link Seals/Receptacle	CR	Section 16050	02/13/97	04/21/97	-	A	04/28/97	O,L
103	VBS-BJ7-000	Ground Rods & Wire	CR	Section 16170	02/13/97	04/21/97	-	B	04/23/97	O,L
104	VBS-BJ8-000	Quad/Triplex Wire	CR	Section 16370	02/13/97	04/21/97	-	A	04/28/97	O,L
104	VBS-BJ9-000	Quad/Triplex Wire	CR	Section 16370	02/13/97	04/21/97	-	A	04/28/97	O,L
104	VBS-BJ10-000	Quad/Triplex Wire	CR	Section 16370	02/13/97	04/21/97	-	B	04/28/97	O,L
105	VBS-BJ11-000	Anchors,Pole,Insulators	CR	Section 16370	02/13/97	04/21/97	-	B	04/23/97	O,L
106	VBS-BJ12-000	Heat Trace	CR	Section 16855	02/13/97	04/21/97	-	A	04/23/97	O,L
107	VBS-BJ13-000	Cont./Insul./Gr./Motor	CR	Part 7 Test Procd./Rep.	02/13/97	04/21/97	-	B	04/28/97	O,L
108	VBS-BJ14-000	MSDS Index	INF	Part 8;3.9	02/13/97	03/06/97	03/17/97	04/03/97	05/12/97	see 014
109	VBS-BJ15-000	Panels/Disconnects	CR	Section 16462	04/29/97	05/07/97	05/08/97			O,L
110	VBS-BJ16-000	Lighting	CR	Section 16500	02/27/97	04/21/97	-	A	04/23/97	O,L
111	VBS-BJ17-000	Nameplates	CR	Section 16050	03/07/97	04/21/97	-	A	04/23/97	O,L
112	VBS-BJ18-000	Wire & Cable Markers	CR	Section 16050	03/07/97	04/21/97	-	A	04/28/97	O,L
113	VBS-BJ19-000	Nema 3R Wireway	CR	Section 16050	03/07/97	04/21/97	-	A	04/23/97	O,L
114	VBS-BJ20-000	Lifting Plan	CR	Part 8	03/20/97		Included in Village's Submittal No.: 10			

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LEACHATE C[illegible]EYANCE SYSTEM

SOLICITATION NO.: F96P283742

SUBCONTRACT NO.: FSC 589

VBS JOB NO.: 0197

SUBMITTAL REGISTER

Sub	Doc. No.	Description	Type	Specification	Submitted	Disapprd.	Resubd.	Final Appr.	Received	Doc.Reqd.
201	VBS-DC01-000	Safe Work Plan	CR	Part 6/7	03/17/97	03/20/97	Included in Village's Submittal No.: 10			
202	VBS-DC02-001	Prod.Data Concrete Mix	CR	Section 03100	03/17/97	05/02/97				O,L
202	VBS-DC02-002	Pr.Data Steel Specs	CR	Section 03100	03/17/97	-	-	A	05/02/97	O,L
203	VBS-DC03-001	Pr.Data-Cement Grout	INF	Section 03100	03/19/97	-	-	A	05/01/97	O,L
203	VBS-DC03-002	Pr.Data-Asp.Exp.jt.filler	INF	Section 03100	03/19/97	05/01/97		B		O,L
203	VBS-DC03-003	Pr.Data-Sonopatch 200	INF	Section 03100	03/19/97	-	-	A	05/01/97	O,L
203	VBS-DC03-004	Pr.Data-Sup.Conc.Bonder	INF	Section 03100	03/19/97	05/01/97				O,L

Submittal with "A" status

Critical Submittal

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Rick below is a list of items that were brought up by Q/A IN THE MEETING DATED 5/20/97.

1. SPEC SECTION 2100, THE MANNER OF SURVEY NOTATION HAS NOT BEEN SUBMITTED AND APPROVED.

2. SPEC 2110, A WORK AREA PLAN HAS NOT BEEN SUBMITTED AND APPROVED.

3. SPEC. 2200, AN EARTHWORK PLAN HAS NOT BEEN SUBMITTED AND APPROVED

4. SPEC 2215, A CERTIFICATE OF CONFORMANCE HAS NOT BEEN SUBMITTED FOR THE FILL MATERIAL.

5. SPEC 2605, REQUIRE TEST PROCEDURES FOR THE MANHOLES AND PIPES.

6. SPEC SECTION 2667, WHAT SUBMITTALS ARE REQUIRED UNDER SPEC 2667.

NOTE: PER PART 7, SECTION 9.0, THE COMPLIANCE REVIEW CONSTITUTES A CHECK FOR COMPLIANCE WITH SUBCONTRACT DOCUMENTS, SPECIFICATIONS, STANDARDS, AND DIMENSIONS FURNISHED BY FLUOR DANIEL FERNALD; NO DIMENSIONAL CHECK IS MADE OF DIMENSIONS OTHER THAN THOSE FURNISHED BY FLUOR DANIEL FERNALD AS THEY ARE THE RESPONSIBILITY OF THE SUBCONTRACTOR. FLUOR DANIEL FERNALD REVIEW DOES NOT RELIEVE THE SUBCONTRACTOR FROM RESPONSIBILITY FOR COMPLIANCE WITH SUBCONTRACT REQUIREMENTS.

MIKE GODBER

OSDF - LEACHATE CONVEYANCE SYSTEM SUBCONTRACTOR SCHEDULE AND STATUS MEETING

May 27, 1997
1:00 - 2:00
T-58 B

AGENDA

- Safety/TQM/Balance Topics
- Fire and Safety, Industrial Hygiene, Radiological Safety
- Previous Meeting Review
- Schedule Briefing
- Design and Construction Issues
  - Open DCN's
  - Open RCI's
- Material and Vendor Data Status
  - Critical Submittals
  - Critical Material Deliveries
- Quality and Inspection
- Subcontract Administration
  - Change Order Status
- General Discussion

OSDF - LEACHATE CONVEYANCE SYSTEM SUBCONTRACTOR SCHEDULE AND STATUS MEETING

June 3, 1997
1:00 - 2:00
T-58 B

AGENDA

- Safety/TQM/Balance Topics
- Fire and Safety, Industrial Hygiene, Radiological Safety
- Previous Meeting Review
- Schedule Briefing
- Design and Construction Issues
  - Open DCN's
  - Open RCI's
- Material and Vendor Data Status
  - Critical Submittals
  - Critical Material Deliveries
- Quality and Inspection
- Subcontract Administration
  - Change Order Status
- General Discussion

Author: Debra Grant at FNST-02
Date: 5/29/97 10:57 AM
Priority: Normal
TO: Roger Grant at FNST-05
TO: Todd Elliott at FNST-03
TO: Amber Perry at FNST-03
TO: Jack Craighead at FNST-05
TO: Rob Lindsay at FNST-05
TO: Gregg Johnson
TO: Jack Patrick
TO: Kevin Murrin at FNST-03
TO: Jeff Middaugh at FNST-03
TO: Marlon Richardson at FNST-05
TO: Wayne Mallory at FNST-05
TO: Michael Davis
TO: Tom Beasley at FNST-03
TO: David Balzen at FNST-03
TO: Kenneth Benjamin at FNST-03
TO: Kenneth Shinkle at FNST-03
TO: Patrick O'Neill at FNST-03
TO: Lorie Miller
Subject: Safety Tips to Prevent Falls

---------- Message Contents ----------

POOR WORK HABITS RESULT IN MORE FALLS
++++++++++++++++++++++++++++++++++++

Slips, trips and falls account for an estimated 300,000 crippling injuries and 1,400 deaths each year. These injuries and fatalities can be
avoided but only if everyone does their part. Here are some tips on how to avoid these accidents:

** Move all obstacles that cause slips and falls from the work and traffic areas.

** Walk, don't run from place to place so that you can avoid any objects that might be in your way.

** Watch where you are going and don't carry anything that can interfere with your intended path.

** Don't wear sunglasses in low-light areas.

** Make sure your shoes provide enough traction.

** Improve the lighting conditions in your workplace.

** Make it a habit to put everything in its right spot.

** Keep the floors dry.

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FERMCO CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0037

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #589

MEETING DATE: July 15, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: July 22, 1997 EDC File #20110

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

S. Alkire, MS46
B. Crowley, MS30
+ J. Ellis, MS64
+ F. Flack, MS44
+ M. Godber, MS64
M. Hickey, MS64
A. Hohnhorst, MS44
+ J. Jenkins, MS64
G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ J. McCormack, MS44
+ • R. McGuire, MS64 RKM
+ P. G. Pope, MS64
C. Pratt, MS64
T. Russell, MS64
D. Sablosky, MS44
+ D. Stempfley, MS30
+ V. Taylor, MS44
+ G. Tominack, MS64
+ K. Waugh, MS52-8
L. Wehlitz, MS64
B. Zebick, MS64

DOE

P. Darnell, MS45
J. Desormeau, MS45
J. Jalovec, MS45
J. Neyer, MS45
+ D. Pfister, MS45
D. Riley, MS45
R. Warner, MS45

Parsons

+ Y. Ashfar, MS17
+ P. Payne, MS17

GeoSyntec

+ D. Bodine, MS64
K. Cargill, MS64
B. Erisman, MS64
J. McMichen •

Village Building Services

M. Brooks
+ M. J. Cleveland
M. Kadakia
+ H. Milliron
+ S. Porter
+ O. Willingham
+ Y. Willingham

B. L. Payne & Associates

+ B. Payne

B & J Electrical Co.

P. Ernst

Diaz Construction

T. Hartley
C. Reed
R. Swayne

SAFETY TOPIC

Heat stress - During hot weather, pace yourself, drink plenty of water and practice the "buddy system".

TQM TOPIC

Don't be afraid to fail. Don't worry about failure, worry about the chances you miss when you don't even try.

BALANCE TOPIC

Use vacation time to "re-energize" yourself.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. VBS is holding regular weekly toolbox safety meetings at 6:00 AM every Monday.

B. No formal safety walkthrough was held the week of July 7-11 (R. McGuire was on vacation). VBS Safety officer conducted a walkdown of the area when no FDF Safety Representative appeared. The next safety walkthrough is scheduled for tomorrow (July 16, 1997) at 8:00 AM.

C. Steve Porter identified the cool down areas set up by VBS (two air-conditioned trailers and a portable tent with water and chairs).

D. Gary Tominack was introduced as the FDF Safety Representative now assigned to the project. Gary is temporarily assigned from Fluor Daniel, Greenville, and will be providing 100 percent coverage for the LCS project.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous meeting. No comments affecting those minutes were received other than those listed below:

No formal meetings held on July 1, 1997 and July 8, 1997.

III. SCHEDULE BRIEFING

A. Percent Complete - 38.2% (C.O. #5 not included), Percent Scheduled - 65.6%

B. Rick McGuire handed out a project "recovery"schedule generated by FDF. It was stressed that this schedule must be followed to have a chance of completing the LCS system by September 30, 1997. Each activity on the schedule was discussed and action items identified which could impact the schedule.

IV. DESIGN AND CONSTRUCTION ISSUES ☛ See attached Action Item Tracking List

V. MATERIAL AND VENDOR DATA STATUS ☛ See attached Action Item Tracking List

VI. QUALITY AND INSPECTION

A. ~~8"~~ 6" 10" HDPE pipe delivered on July 10, 1997 is not approved for installation due to certifications and damage to pipe exterior walls. Review of certifications and disposition of damaged pipe to be resolved by July 16, 1997.

VII. SUBCONTRACT ADMINISTRATION

No new items discussed

VIII. GENERAL

A discussion was held between VBS and FDF after the meeting and the following was resolved:

1. A DCN will be initiated by FDF clarifying materials and methods for hydro-testing through cleanout manholes.

2. Testing responsibility was resolved as follows:

   LCS Piping: VBS will test from south of the Bldg. 45 parking lot access road to the transition fitting at the BSL berm, and from the AWWT to the permanent lift station. Wise will test the portion of LCS piping that they install (Area 2). Two fusion joints where Wise/VBS piping interfaces will be documented on as-built drawings and service tested.

   Utility Lines: Entire line will be tested by VBS after installation.

IX. ATTACHMENTS

Action Item Tracking List
Revised Leachate System Schedule (7/15/97)

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 07/22/97
Richard L. McGuire

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Need/Due Date	Date Entered	Status	Date Closed	REMARKS
Area 1	1. Release for Mat Mat'l (Shipment)	VBS-Mary Jo	07/15/97	07/15/97			
	2. Test Process for Containment Pipe	FDF Rick/Jim	07/15/97	07/15/97			
	3. Work Plan & Meeting For Duct Bank Crossing	FDF-Rick	07/15/97	07/16/97 a.m.			
	4. Verify Pipe Length on 2nd Street Crossing	VBS-Mary Jo	07/15/97	07/16/97			
	5. Mobilize Diaz for Fabriform and concrete @ BSL Area -	VBS - Mary Jo	07/15/97	07/21/97			
Area 2	1. Verify Funding for Wise to Complete.	Vern	07/15/97	07/16/97			
	2. Clarify Testing for Wise Installation. (How, Who, Where)	Rick/Jim	07/15/97	COB 07/16/97			
Area 3	1. Fence Issues (Rad/Security) West of AWWT	Rick	07/15/97	COB 07/16/97			
	2. Status *(Vern-Make Call to Village Builders.	Mary Jo	07/15/97	07/16/97			
Area 4	1. Clarify Diaz Proposal (Need to Compare Costs)	Mary Jo	07/15/97	07/16/97			
	2. Penetration Permit	Rick	07/15/97	07/18/97			
PERMANENT LIFT STATION			07/15/97				
	1. Develop Excavation Plan	VBS - Mary Jo	07/15/97	07/18/97			
	2. Penetration Permit	Rick	07/15/97	07/16/97			North ½ Required.

000267

ATTACHMENT

Action Item Tracking List - FSC 589 - Leachate Conveyance System

Item No.	Action Item	Person Responsible	Need/Due Date	Date Entered	Status	Date Closed	REMARKS
	3. Clarify Need To Move Petro Soil Pile. Verify/Coordinate Issues Around Sed. Basin. Verify/Coordinate Issues Around Cont. Soil Pile.	Jim/Rick	07/15/97	07/18/97			
	4. GeoSyntec Approve Submittals.	Jim/Rick	07/15/97	COB 07/15/97			
	5. Transmit a copy of GeoSyntec Soil Stability Report.	Rick	07/15/97	07/16/97			
	6. Lift Plan For PLS	VBS-Steve	07/15/97	07/18/97			
Area 5	1. VB to Make Formal Submittals.	Mary Jo	07/15/97	07/16/97			
	2. Mow Area Along N. Access Road.	Rick	07/15/97	07/16/97			
	3. Testing Procedure Clarification for <u>All</u> Testing.	Jim/Rick	07/15/97	07/16/97			
	4. Man Power Issues	Oscar	07/15/97	07/15/97			
	o Clarify Training Requirements		07/15/97				
	5. Start Date for Area 5 VBS	Rick and Mary Jo	07/15/97	07/16/97			
General	1. Marker Tape Placement Issue.	Rick	07/15/97	07/16/97			
	2. Testing Procedure For Gas Line.	Jim/Rick/ Parsons	07/15/97	07/16/97			Submittal No. 90R3 Needs Review
	3. Verify Confined Space Training for LCS/LDS manholes and PLS work (VBS & B&J)	Mary Jo	07/15/97				

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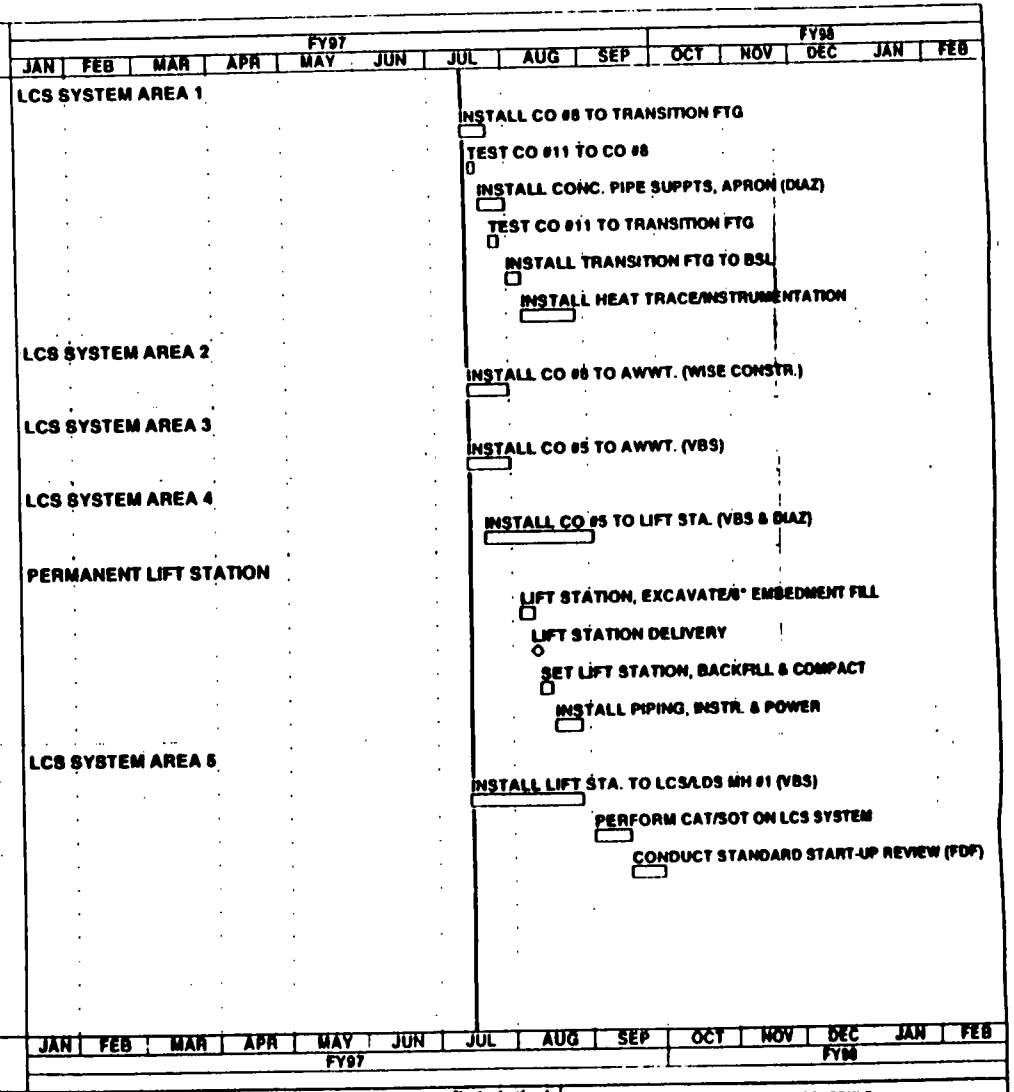
ACTIVITY ID	ACTIVITY DESCRIPTION	EARLY START	EARLY FINISH	REM DUR
	LCS SYSTEM AREA 1			
2AN7V3001	INSTALL CO #8 TO TRANSITION FTG	14JUL97A	24JUL97	8
2AN7V2095	TEST CO #11 TO CO #8	17JUL97	19JUL97	3
2AN7V3010	INSTALL CONC. PIPE SUPPTS, APRON (DIAZ)	21JUL97	31JUL97	9
2AN7V3005	TEST CO #11 TO TRANSITION FTG	25JUL97	26JUL97	2
2AN7V3015	INSTALL TRANSITION FTG TO BSL	1AUG97	6AUG97	4
2AN7V3020	INSTALL HEAT TRACE/INSTRUMENTATION	7AUG97	26AUG97	16
	LCS SYSTEM AREA 2			
2AN7V2005	INSTALL CO #8 TO AWWT. (WISE CONSTR.)	15JUL97	31JUL97	13
	LCS SYSTEM AREA 3			
2AN7V2010	INSTALL CO #5 TO AWWT. (VBS)	14JUL97A	31JUL97	13
	LCS SYSTEM AREA 4			
2AN7V4001	INSTALL CO #5 TO LIFT STA. (VBS & DIAZ)	21JUL97	2SEP97	31
	PERMANENT LIFT STATION			
2AN7V4005	LIFT STATION, EXCAVATE/6" EMBEDMENT FILL	4AUG97	9AUG97	6
2AN7V4010	LIFT STATION DELIVERY	11AUG97		0
2AN7V4015	SET LIFT STATION, BACKFILL & COMPACT	12AUG97	16AUG97	5
2AN7V4020	INSTALL PIPING, INSTR. & POWER	18AUG97	26AUG97	9
	LCS SYSTEM AREA 5			
2AN7V5005	INSTALL LIFT STA. TO LCS/LDS MH #1 (VBS)	14JUL97A	26AUG97	33
2AN7V5010	PERFORM CAT/SOT ON LCS SYSTEM	2SEP97	18SEP97	11
2AN7FDF215	CONDUCT STANDARD START-UP REVIEW (FDF)	17SEP97	30SEP97	10



Plot Date 15JUL97
Data Date 15JUL97
Project Start 1JAN90
Project Finish 31JAN98

Activity Bar/Early Dates
Critical Activity
Progress Bar
Milestone/Flag Activity

VILL

Sheet 1 of 1

FLUOR DANIEL FERNALD
OSDF PROJECT
REVISED LEACHATE SYSTEM SCHEDULE

—INTEGRATED SCHEDULE—

Date	Revision	Checked	Approved

(c) Primavera Systems, Inc.

000069

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FD FERNALD CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0062

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #FSC 589

MEETING DATE: September 4, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: September 8, 1997 File Record Storage Copy 104.5

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

+ S. Alkire, MS46
+ C. Brown, MS64
B. Crowley, MS30
J. Ellis, MS64
+ F. Flack, MS44
+ M. Godber, MS64
M. Hickey, MS64
J. Jenkins, MS64
G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64
W. Morris, MS44
P. G. Pope, MS64
+ C. Pratt, MS64
T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64
ECDC

DOE

P. Darnell, MS45
J. Desormeau, MS45
J. Jalovec, MS45
J. Neyer, MS45
+ D. Pfister, MS
D. Riley, MS45
R. Warner, MS45

GeoSyntec

+ D. Bodine, MS64
K. Cargill, MS64
B. Erisman, MS64
+ J. McMichen, MS64

Parsons

Y. Ashfar, MS17
+ P. Payne, MS17

Village Building Services

C. Abdullah
M. Brooks
M. J. Cleveland
M. Kadakia
+ S. Porter
+ O. Willingham
Y. Willingham

B. L. Payne & Associates

+ B. Payne

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
+ C. Reed

SAFETY TOPIC - Close calls are warnings to the wise ... Stop and think about it.

TQM TOPIC - Prescribe solutions rather than describe problems

BALANCE TOPIC - Little things... Enjoy life's tiny delights. There are plenty for us all.

MEETING NOTES - Continued

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. R. McGuire forwarded a cc:Mail and attachment to VBS clarifying application of carbon monoxide limits for trenching operations. The main points are that the FDF Action Level for carbon monoxide are 12 ppm CO(8 hour TWA basis) and ceiling limit is 200 ppm, measured over 5 minutes. If the CO monitor alarms at 200 ppm (ceiling) the worker is to halt activity, exit the trench, wait for 5 minutes before re-entering the trench, check equipment for proper operation, then re-start the activity.

B. Other controls recommended to control CO: limit distance from exhaust fan to work to 25 feet or less; move generators away from trench.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous construction meeting. No comments affecting those minutes were received other than those listed below:

None.

III. SCHEDULE BRIEFING

A. Percent Complete - 60.4% - LCS only; 66% - including C.O. #5 (through 8 /25 /97) Percent Scheduled - 92%

B. LCS activities scheduled for next two weeks:

- Test LCS piping from COMH #5 to COMH #11
- Re-install COMH #11 and backfill
- Install LCS/LDS-1 manholes 9/4/97
- Install LCS/LDS-2 manholes
- Trench and install 6"/10" gravity line from LCS/LDS 1 to 2
- Install 6"/10" temporary gravity line from north RIMIA fence to east of sediment basin
- Backfill 6"/10" temporary gravity line east of RIMIA

MEETING NOTES - Continued

IV. DESIGN AND CONSTRUCTION ISSUES

A. VBS requested that the RIMIA gates (north and south) be kept open until 7:00 PM until further notice.

B. Village was requested during the last storm water inspection of the LCS to perform temporary seeding between COMH #5 and Cleanout #8. VBS was instructed to not perform any temporary seeding until R. McGuire can discuss the request with Marlene Landrum.

C. Open RCI's:

- Procedure for turnover of spare pump and parts (dated 8/21/96)
- Concrete piers for piping at BSL will penetrate FML (dated 8/26/97)

V. MATERIAL AND VENDOR DATA STATUS

A. Material - Status of outstanding material discussed in detail in 10:00 AM meeting this morning with Warren Hooper. (See attached)

B. GeoSyntec conducted a conference call with Control Interface, Inc.(VBS's control panel vendor) and Parsons' instrumentation engineer. Resolution was obtained to use either a Honeywell Model #3000 level indicator/controller or multiple Honeywell Model #1000 level indicator/controller modules to provide the necessary inputs and outputs at the panel vendor's option.

C. Vendor Data - No outstanding critical submittals identified.

VI. QUALITY AND INSPECTION

A. Mike Godber advised that a surveillance will be performed on VBS's as-built drawings. It was agreed that CAD-CAM as-built profiles and plans developed from B.L. Payne's field data would suffice for as-built's for the leachate piping rather than red-lining a set of blueprint drawings.

VII. SUBCONTRACT ADMINISTRATION

A. Change Orders - R. McGuire advised that a meeting will be set up for early next week to discuss changes and claims. Time and date will be advised later.

MEETING NOTES - Continued

VIII. GENERAL

A. No items new items discussed.

IX. ATTACHMENTS

Material Status Report (5 pages)

NEXT MEETING:Tuesday, September 16, 1997, 1:00 PM, T-58B

RLM:sla

Attachment

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 09/08/97
Richard L. McGuire

Author: Don Fleming at FNST-05
Date: 9/4/97 12:02 PM
TO: Gregg Johnson at FNST-02
TO: Andrew Cleeter
TO: Philip Thomas
TO: John R Patton
TO: Michael Davis at FNST-02
TO: Rick Mcguire at FNST-03
TO: Steve Wentzel
CC: Warren Hooper at FNST-02
CC: Barry Ko at FNST-02
CC: Tony Renk at FNST-06
CC: Doran Christensen at FNST-01
CC: Jack Patrick at FNST-02
CC: Roger Grant
CC: Debra Grant at FNST-02
CC: Sherman Russell
CC: Todd Valli
CC: Walter Mengel
CC: Don Fleming
Subject: Carbon monoxide in trenching operations

---------- Message Contents ----------

Carbon monoxide monitoring is being performed by the IH Technicians in support of construction operations involving the use of gasoline powered equipment by personnel in trenches. Based on recent monitoring results and observation of equipment and controls which have been implemented, the attached "application of carbon monoxide limits for trenching operations" has been developed and is to be used.

The attachment provides the air monitoring limits, the action levels, and the actions which are to be taken when these limits are reached.

Please contact me with any questions.

Don Fleming (x4237)

Application of Carbon Monoxide limits for trenching operations

Use fans (or other means, e.g. exhaust hose)to provide reduced carbon monoxide levels during use of manually operated plate compactor. Limit radio use within 5 feet of personal CO monitor.

ACGIH limit: 25 ppm (8 hour TWA)

FDF Action level: 12 ppm (8 hour TWA basis)

Action:Halt activity
Exit trench
Notify IH Technician
IHTechnician actions:
Verify fan(s) are in use
review monitoring data
re-check CO levels as necessary
Determine additional work time allowable to ensure resulting 8 hour TWA is less than 25 ppm.
Contact FDF project personnel including HSO.

Ceiling Limit: 200 ppm (ceiling, measured over 5 minutes)

FDF Action level: 200 ppm (ceiling, instantaneous)

Action: Halt activity (continue exhaust fan operation)
Exit trench
Wait 5 minutes
Check equipment for proper operation
Re-start activity

LEACHATE CONVEYANCE SYSTEM 09/04/97

To: MJC
From: MK

9:40

Delivery Status:

① Sub. No. 042 4" Sch. 40 S.S Vent Pipe submitted 08/20/97
Status ⇒ waiting for approval from FDF. Del 2 weeks.

② Sub. No. 049 Solar Panel received "B" status on 08/14/97
resubmitted Mounting Detail on 08/25/97
Status ⇒ Change order not approved – Hold for release
notified D. Sablosky & R. McGuire on 08/14/97.
Delivery 6 weeks. Also, waiting for mounting
detail approval from FDF

③ Sub. No. 301 Control Panels from Control Interface Inc.
Status ⇒ catalog cut faxed to Jim Jenkins regarding
Honeywell 1000 vs Honeywell 3000, waiting
Geo Systec/Parson's decision. Del 3 weeks.

PLEASE NOTE: ALL THE DELIVERIES LISTED ABOVE ARE AFTER
RELEASE FOR FABRICATION.

CC: MR. R. McGUIRE @ 648-4528

Village building SERVICES INC.
MECHANICAL CONTRACTORS
7311 Vine Street Cincinnati Ohio 45216 (513) 761-1653

FOR: R McGUIRE

FAXED 10:30

COMPANY: ISCO DATE: 08/28/97

ATTN: Mr. Scott Hoff # OF PAGES: 1
(INCLUDING COVER SHEET)

CC: ~~Mr Jamie Sucee, ISCO~~
Ms. Mary Jo Cleveland, VBS

FAXED 10:32

DESCRIPTION: As per our telephone conversation on 08/27/97 I need the fittings as per the list below. The fittings not list below, but it's on p.o Nos 4637 & 4348 reqd by 09/02/97.

SENDER: Mayur P Kadakia

THANK YOU !!!!!!
(PLEASE CALL IF THIS FAX IS NOT LEGIBLE)

					Qty		Date Reqd.	P.O No.
R	(1)	Sheet 9 of 10			1		08/29/97	4348
R	(2)	Sheet 10 of 10			1		08/29/97	4348
O *	(3)	Sheet 6 of 10	9/8		1		08/29/97	4637
R	(4)	Sheet 7 of 10			1		08/29/97	4637
O *	(5)	Sheet 6 of 10	8x4 Tang Clearcut		5		09/03/97	4637
R	(6)	Sheet 7 of 10	9/8 " "		5	2 to ship	09/03/97	4637
*	(7)	Sheet 2 of 10			3		09/08/97	4637
*	(8)	Sheet 3 of 10			2		09/08/97	4637
O *	(9)	Sheet 1 of 10			3		09/12/97	4637
O *	(10)	Sheet 4 of 10			3		09/12/97	4637
R	(11)	Sheet 5 of 10			3		09/12/97	4637

1265

[redacted]

SHS

ISCO Industries, Inc.
926 Baxter Ave.
Louisville KY 40204

<< P I C K I N G S L I P >>

Post-it® Fax Note 7671	Date	# of pages ▶
To MAYUR K.	From	
Co./Dept. VBS	Co.	
Phone # 761-1896	Phone #	
Fax #	Fax #	

Picking Slip No 64921

Order No 00064921
Order Date 08/26/97
Req Ship Date 09/15/97

[redacted]

9-3-97

Ship Via	FOB	PR	Rep	Page No
BEST WAY				1
7t. Transport	LOU	Y	HD	

Ship: VILLAGE BUILDING SERVICES
TRAILER # 502
7400 WILLEY RD.
FERNALD OH 45030
513 648 5782

VIL001
Sold: VILLAGE BUILDING SERVICES, INC
7311 VINE ST
PO# REQUIRED
CINCINNATI OH 45216

[redacted]

Ent	Item No/Description/Serial No	Bin	Units	Ordered	Shipped	Bckord
001	3" X 6" CENTRALIZER ISCO JOB # 082603		EA	1	1	
002	6" X 10" CENTRALIZER ISCO JOB #082603		EA	1	1	
003	3" X 6" SDR 26 45 ELL ISCO JOB 082603		EA	1	1	
004	3" X 6" / 6" X 10" SDR 26 REDUCER ISCO JOB # 082603		EA	1	1	
005	6" X 10" SDR 26 TRU LATERAL WYE ISCO JOB # 082603		EA	1	1	
006	6" X 10" PERMANEANT LIFT STATION CLEANOUT ISCO JOB # 082603		EA	1	1	
007	4" X 8" AVAIL. CONNECTION TEE ISCO JOB # 082603		EA	1	1	
008	PE100826 8" DRISCOPIPE 1000 SDR 26		FT	10	10	

ISCO Industries, Inc.
926 Baxter Ave.
Louisville KY 40204

<< P I C K I N G S L I P >>

Picking Slip No 63663

Order No 00063663
Order Date 07/30/97
Req Ship Date 08/07/97

Revised

Loc ID	Ship Date	Customer P.O.#	Ship Via	FOB	Sls	Price No.
	9-3-97	4637	BEST WAY Ft. Transport	LOU	YES	JS

Ship: VILLAGE BUILDING SERVICES
TRAILOR #502
7400 WILLEY ROAD
FERNALD, OHIO 45030
ATTN: MARY JO 513-648-5782

Sold: VIL001
VILLAGE BUILDING SERVICES, INC
7311 VINE ST
POW REQUIRED
CINCINNATI OH 45216

Ent	Item No/Description/Serial No	Bin	Units	Ordered	Shipped	Bckord
001	CLEANOUT #01 ISCO JOB #073003		EA	3	Ø	
002	CLEANOUT #02 ISCO JOB #073003		EA	3	Ø	
003	CLEANOUT #03 ISCO JOB #073003		EA	2	Ø	
004	CLEANOUT #04 ISCO JOB #073003		EA	3	Ø	
005	HORIZONTAL WELL TEE #05 ISCO JOB #073003		EA	3	3	
006	HORIZONTAL WELL LATERAL #06 ISCO JOB #073003		EA	3	2	1
007	TEMP. CLEANOUT #07 ISCO JOB #073003		EA	6	Ø	
008	TEMP. CLEANOUT #08 (TOP) ISCO JOB #073003		EA	6	6	
009	PROTECTIVE VALVE COVER #09		EA	7	Ø	

ISCO Industries, Inc.
926 Baxter Ave.
Louisville KY 40204

<< PICKING SLIP >>

Picking Slip No 63663

Order No 00063663
Order Date 07/30/97
Req Ship Date 08/07/97

Loc ID	Ship Date	Customer P.O.#	Ship Via	FOB	PR	Rep	Page No
LOU		4637	BEST WAY			LOU YES JS	2

Ship: VILLAGE BUILDING SERVICES
TRAILOR #502
7400 WILLEY ROAD
PERNALD, OHIO 45030
ATTN: MARY JO 513-648-5782

Sold: VIL001
VILLAGE BUILDING SERVICES, INC
7311 VINE ST
PO# REQUIRED
CINCINNATI OH 45216

Ent	Item No/Description/Serial No	Bin	Units	Ordered	Shipped	Bckord
010	PE100326 3" DRISCOPIPE 1000 SDR 26 BANDSAW CUT ONLY		FT	10	Ø	
011	PE101011 10" DRISCOPIPE 1000 SDR 11 BANDSAW CUT ONLY		FT	10	Ø	
012	PE1012135 12" DRISCOPIPE 1000 SDR 13.5		FT	40	Ø	

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FD FERNALD CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0075

RECEIVED
OCT 09 1997

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #FSC 589

MEETING DATE: September 23, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: September 30, 1997

EDC File #20110

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

+ S. Alkire, MS46
+ C. Brown, MS64
B. Crowley, MS30
+ J. Ellis, MS64
F. Flack, MS44
+ M. Godber, MS64
M. Hickey, MS64
+ J. Jenkins, MS64
G. Johnson, MS64
T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64
W. Morris, MS44
+ P. G. Pope, MS64
C. Pratt, MS64
T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
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J. Jalovec, MS45
J. Neyer, MS45
D. Pfister, MS
D. Riley, MS45
R. Warner, MS45

GeoSyntec

+ D. Bodine, MS64
K. Cargill, MS64
B. Erisman, MS64
J. McMichen, MS64

Parsons

+ Y. Ashfar, MS17
+ P. Payne, MS17

Village Building Services

N. Abdullah
+ M. J. Cleveland
M. Kadakia
+ D. Noth
+ S. Porter
O. Willingham
+ Y. Willingham

B. L. Payne & Associates

+ B. Payne

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed
+ R. Swayne

SAFETY TOPIC

Traffic hazards at RIMIA access road discussed. Exercise caution in this area.

TQM TOPIC

Why does everyone hate meetings?... A stand-up meeting could be a stand-out.

BALANCE TOPIC

Take a closer look in your own backyard.

MEETING NOTES - Continued

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. VBS advised that problems with CO monitors alarming has been resolved. **Status: Closed**

B. Revision to VBS's Safe Work Plan to include the use of a chain saw to cut HDPE pipe approved. **Status: Closed**

C. Traffic at RIMIA road was discussed. R. McGuire met with RIMIA and waste shipping personnel this morning and a path forward was recommended. VBS was asked not to park personal vehicles along the RIMIA access road. RIMIA will do a better job of controlling and staging trailers and personnel working at RIMIA will park in the East parking lot and be shuttled to RIMIA. This should relieve congestion and lessen the safety hazards.

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous construction meeting. No comments affecting those minutes were received other than those listed below:

None.

III. SCHEDULE BRIEFING

A. Percent Complete - 60.4% - LCS only; 66% - including C.O. #5 (through 8/25/97) Percent Scheduled - 92%

B. LCS activities completed and activities scheduled for next two weeks:

Work Completed

- Excavate and install LCS/LDS-3 manholes
- Fuse connections at LCS-1
- Install 6"/10" gravity line from LCS-2 to LCS-3
- Install temporary cleanout at Sta. 23 + 50

MEETING NOTES - Continued

Work Scheduled

- Backfill @ COMH #11 near BSL (in progress - 90% complete)
- Install pipe supports at the BSL
- Install fabriform mat at the BSL (in progress)
- Install horizontal piping @ LCS/LDS-1 manholes (in progress)
- Fuse connections at LCS-2
- Place and compact backfill for 6"/10" gravity line from LCS-1 to LCS-2 (in progress)
- Excavate trench from Sta. 23 + 50 north to LCS-3 (in progress)
- Backfill 6"/10" temporary gravity line east of RIMIA (in progress)
- Backfill 6"/10" temporary gravity line from north RIMIA fence to east of sediment basin and restore ditch line
- Install and backfill temporary cleanout at permanent lift station (in progress)
- Electrical installation at the BSL. Conduit installation started between COMH #11 and the Methanol Tank.
- Begin electrical installation at the Permanent Lift Station
- Begin mechanical installation at the Permanent Lift Station

IV. DESIGN AND CONSTRUCTION ISSUES

A. Disposition of the electrical duct bank interfering with LCS/LDS-3 manholes resolved. Concrete duct bank removed will be stockpiled southeast of SP-3 next to asphalt pile. **Status: Closed**

B. R. McGuire discussed disposition of the working soil piles and erosion control (seeding) between COMH #5 and Cleanout #8 with Marlene Landrum of Environmental Compliance. It was agreed that seeding would take place after Village completed earthwork in Area 5, but that this work should be done as soon as possible. **Status: Open - Action: VBS**

C. Open RCI's/DCN's:

- RCI No. 1700-31: Procedure for turnover of spare pump and parts. **Action: J. Jenkins**

- DCN's required to add a power pole near the BSL for instrumentation wiring and to relocate the power pole near the permanent lift station. **Action: J. Jenkins**

MEETING NOTES - Continued

V. MATERIAL AND VENDOR DATA STATUS

A. Material - LCS/LDS and Permanent Lift Station level control panels to ship 9/30/97. Solar collector panels due on site 10/20/97.

B. Vendor Data - Submittal #26, Rev. 3 (Lift Station Pumps) returned to VBS 'B' status. Submittal #301 (Panels, PLC, Instrumentation) needs re-submittal. **Action: VBS.**

VI. QUALITY AND INSPECTION

A. GeoSyntec Construction Nonconformance Reports need close-out: 1) Clean-out installed backwards; 2) Improper compaction of pipe embedment; 3) Coupling fusion failure at the Permanent Lift Station; and 4) Incorrect specification coupling used at two locations. **Action: R. McGuire**

VII. SUBCONTRACT ADMINISTRATION

Change Orders - FDF and VBS to continue meetings this week to discuss changes and claims. Meeting schedule at 3:00 Thursday, September 25, 1997 to finalize changes.

VIII. GENERAL

FDF requested that VBS remove mud from the RIMIA road by C.O.B. today. This has become a safety hazard. **Action: VBS**

IX. ATTACHMENTS

None

NEXT MEETING: Thursday, October 2, 1997, 1:00 PM, T-58B

RLM:sla

MEETING NOTES - Continued

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 09/30/97
Richard L. McGuire

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FD FERNALD CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0076

RECEIVED
OCT 09 1997

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #FSC 589

MEETING DATE: October 2, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: October 3, 1997

EDC File #20110

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

FDF

S. Alkire, MS46
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O. Willingham
+ Y. Willingham

B. L. Payne & Associates

B. Payne

B & J Electrical Co.

P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC

Check your brake lights regularly to prevent a potential accident.

TQM TOPIC

If you think you know a lot.. try to answer some of the questions a Boy Scout must know to earn a merit badge in national and world citizenship.

BALANCE TOPIC

Reflect before you sound off... Don't be sorry you said it.

MEETING NOTES - Continued

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. Verbal approval was given to VBS's Safe Work Plan for confined space entry on 10/1/97. Submittal should be returned 'A' status by 10/3/97. **Status: Closed**

B. As earthwork progresses between LCS-1 and LCS-3 and soil piles are removed excavation and trench barricades need to be reviewed for adequacy. **Action: VBS**

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous construction meeting. No comments affecting those minutes were received other than those listed below:

None.

III. SCHEDULE BRIEFING

A. Percent Complete - 60.4% - LCS only; 66% - including C.O. #5 (through 8/25/97) Percent Scheduled - 92%

B. LCS activities completed and activities scheduled for next two weeks:

Work Completed

- Backfill @ COMH #11 near BSL
- Install fabriform mat at the BSL
- Excavate trench from Sta. 23 + 50 north to LCS-3
- Place and compact backfill for 6"/10" gravity line from LCS-1 to LCS-3
- Install and backfill temporary cleanout at permanent lift station
- Backfill from Sta. 24+00 to south RIMIA

MEETING NOTES - Continued

Work Scheduled

- Install pipe supports at the BSL (need DCN for west support pier)
- Install horizontal monitoring well @ LCS/LDS-1 manholes and connect to Cell #1 piping (Scheduled for 10/3/97)
- Install horizontal monitoring well LCS-2
- Electrical installation at the BSL (need DCN for additional power pole and decision on who will install cable to telephone hut #3)
- Begin electrical installation at the Permanent Lift Station (need B. L. Payne to lay out cover slab and current pole location)
- Place concrete for pump pad at the Permanent Lift Station
- Begin mechanical installation at the Permanent Lift Station

IV. DESIGN AND CONSTRUCTION ISSUES

A. DCN and sketch is required for re-design of the west pipe support pier at the BSL discharge piping. **Action: Parsons/J. Jenkins**

B. A 10" x 1" and 12" x 1" tee were turned over to VBS by FDF for installation at the air release manholes. VBS still needs 2 each 1" 90 degree ells and a lenghth of 1" pipe. R. McGuire will check delivery status. **Action: R. McGuire/F. Flack**

C. R. McGuire will advise VBS the quantity of pipeline markers needed for Wise Services for Areas 2 and 4. **Action: R. McGuire**

D. Open RCI's/DCN's:

- RCI No. 1700-031: Procedure issued, VBS has complied with procedure requirements and awaiting FDF action. **Action: J. Jenkins**

- DCN's required to: 1) add a power pole near the BSL for instrumentation wiring; 2) to relocate the power pole near the permanent lift station; and 3) Re-design of west pipe support pier at BSL leachate pipe discharge. **Action: J. Jenkins**

- DCN No. 1700-059: Returned to Parsons for a corrected response. The DCN concerns elevations for the GW-10" line in the West Parking Lot area and does not affect VBS. **Action: Parsons/J. Jenkins**

- DCN No. 1700-060 - Programmable level controllers: DCN with GeoSyntec for response. **Action: GeoSyntec**

MEETING NOTES - Continued

V. MATERIAL AND VENDOR DATA STATUS

A. Material:

- LCS/LDS and Permanent Lift Station level control panels were to ship 9/30/97. VBS has not received and will confirm status. **Action : VBS**
- Solar collector panels due on site 10/20/97.

B. Vendor Data:

- Submittal #26, Rev. 3 (Lift Station Pumps) returned to VBS 'B' status.
- Submittal #301 (Panels, PLC, Instrumentation) needs re-submittal. VBS advised that vendor may be waiting on information regarding compatibility with 24 volt power supply outputs. Mary Jo Cleveland will contact Mayur Kadakia to confirm. A conference call with the panel vendor (Control Interface), VBS and GeoSyntec will be set up if needed to resolve. **Action: VBS.**

VI. QUALITY AND INSPECTION

A. GeoSyntec Construction Nonconformance Report need close-out: 1) Improper compaction of pipe embedment. **Action: R. McGuire - 10/3/97**

VII. SUBCONTRACT ADMINISTRATION

Change Orders - Contract modifications on negotiated change orders should be issued week of 10/6/97. Change Order #5 contract modification pending funding resolution.

VIII. GENERAL

No new items.

MEETING NOTES - Continued

IX. ATTACHMENTS

None

NEXT MEETING: Tuesday, October 7, 1997, 1:00 PM, T-58B

RLM:sla

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 10/03/97
Richard L. McGuire

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FD FERNALD CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0085

RECEIVED
OCT 1997

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #FSC 589

MEETING DATE: October 14, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: October 20, 1997

EDC File #20110

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

FDF

S. Alkire, MS46
+ C. Brown, MS64
B. Crowley, MS30
J. Ellis, MS64
F. Flack, MS44
M. Godber, MS64
M. Hickey, MS64
+ J. Jenkins, MS64
G. Johnson, MS64
T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64
W. Morris, MS44
+ P. G. Pope, MS64
C. Pratt, MS64
T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64
ECDC

DOE

P. Darnell, MS45
J. Desormeau, MS45
J. Jalovec, MS45
J. Neyer, MS45
+ D. Pfister, MS
D. Riley, MS45
R. Warner, MS45

GeoSyntec

D. Bodine, MS64
K. Cargill, MS64
B. Erisman, MS64
J. McMichen, MS64

Parsons

+ Y. Afshar, MS17
+ P. Payne, MS17

Village Building Services

N. Abdullah
+ M. J. Cleveland
M. Kadakia
+ D. Noth
+ S. Porter
O. Willingham
Y. Willingham

B. L. Payne & Associates

B. Payne

B & J Electrical Co.

+ P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC

At home accidents affect the workplace...Play it safe!

TQM TOPIC

The person doing the job is the expert and knows best how the process can be improved.

BALANCE TOPIC

Eight words can make a better world...honesty, workmanship, ambition, faith, education, charity, responsibility, courage.

MEETING NOTES - Continued

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. With high winds, VBS needs to pay particular attention to dust control. **Status: On-going**

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous construction meeting. No comments affecting those minutes were received other than those listed below:

None.

III. SCHEDULE BRIEFING

A. Percent Complete - 84.6% (through 9/20/97 - excluding C.O. #5); Percent scheduled - 100%

B. LCS activities scheduled for next two weeks:

Work Scheduled

- Install pipe supports at the BSL (Scheduled for 10/15/97. DCN #1700-067 issued for west support pier. Parson's review/approval due 10/15/97)
- Electrical installation at the BSL (DCN #1700-069 issued 10/14/97, pending Parson's approval)
- Install horizontal monitoring well @ LCS/LDS-1 manholes and connect to Cell #1 piping
- Install horizontal monitoring wells at LCS/LDS-2 and LCS/LDS-3
- Install cover slabs at LCS/LDS manholes
- Electrical installation at the Permanent Lift Station
- Cover slab at the Permanent Lift Station
- Complete mechanical installation at the Permanent Lift Station
- Install control panels at the Permanent Lift Station. Pending cover slab installation and delivery of panels (ETS for PLS panel 10/17/97)
- Set power pole and install level control panels at LCS/LDS manholes (ETS 10/20/97 for solar panels and 10/22/97 for level control panels). Pending monitoring well installation, installation of cover slab
- Complete backfill and grading from sediment basin north to LCS/LDS manhole #1
- Cover slabs at cleanouts, cleanout manholes
- Install and wire programmable loop controller at AWWT

MEETING NOTES - Continued

IV. DESIGN AND CONSTRUCTION ISSUES

A. VBS needs 90 degree ells and 1" pipe (FDF purchase) for air release manholes. R. McGuire will check delivery status. **Action: R. McGuire/F. Flack**

B. Fax sent 10/8/97 for pipeline markers quantity and piping material needed for Wise Services for manholes #1 and #4. VBS expects material to be delivered today. **Action: VBS - 10/14/97**

C. Open RCI's/DCN's:

- RCI No. 1700-031- Procedure issued, VBS has complied with procedure requirements. Need Buy American Act certification and pump curves from VBS. **Action: VBS**
- DCN No. 1700-059 - Parson's review/approval due 10/14/97 **Action: Parsons**
- DCN No. 1700-060 - Programmable level controllers: DCN with GeoSyntec for response **Action: GeoSyntec**
- DCN No. 1700-065 - Modifications to guard post detail - Issued 10/8/97 **Action: Parsons**
- DCN No. 1700-066 - Permanent vegetation (seeding) alternate - Issued 10/8/97 **Action: Parsons**
- DCN No. 1700-067 - Pipe support at BSL - Issued 10/10/97 **Action: Parsons**
- DCN No. 1700-068 - Flow meter COMH internal piping - Issued 10/10/97 **Action: J. Jenkins**
- DCN No. 1700-069 - Signal line location at BSL - Issued 10/14/97 **Action: Parsons**

D. VBS requested that Wise Services backfill at cleanout manhole #5 for concrete for cover slab. Wise has started backfill. **Status: In Progress**

E. Excess topsoil in MTL-LCS-006 (rad suspect area) to go to SP-3 for material <1,000 dpm. VBS will be moving excess material this week.

F. R. McGuire will advise if tree pile in T.A.C.O.S. area needs chipping. Only a small portion of the trees on the existing pile were generated by the LCS project. **Status: Open - Action: R. McGuire**

V. MATERIAL AND VENDOR DATA STATUS

A. Material:

- Permanent lift station level control , PLC, chart recorder and distribution panel delivery slipped from 10/14/97 to 10/17/97
- LCS/LDS level control panel delivery slipped from 10/21/97 to 10/22/97
- Solar collector panels and batteries due 10/20/97

Action : Expedite material - VBS

MEETING NOTES - Continued

B. Vendor Data:
- Submittal #301 - Rev. 2 received by CDC 10/8/97. Awaiting GeoSyntec comments. **Action: Expedite review - J. Jenkins**
- B & J needs to submit annual inspection paperwork on their pole truck. **Status: Open - Action: VBS**

VI. QUALITY AND INSPECTION

A. GeoSyntec Construction Nonconformance Report needs close-out: Improper compaction of pipe embedment, dispositioned by FDF, pending concurrence by GeoSyntec. **Action: GeoSyntec**

VII. SUBCONTRACT ADMINISTRATION

Change Orders - Contract modifications on negotiated change orders pending release of hold on procurement actions.

VIII. GENERAL

No new items.

IX. ATTACHMENTS

Statused Punchlist Inspection Report (Revised 10/17/97)

NEXT MEETING: Tuesday, October 21, 1997, 1:00 PM, T-58B

RLM:sla

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 10/20/97
Richard L. McGuire

PUNCHLIST INSPECTION REPORT

WO#: 1700	DATE OF INSPECTION: OCTOBER 1, 1997
S/C #: FSC 589	RECORDED BY: R. L. MCGUIRE
S/C NAME: VILLAGE BUILDING SERVICES, INC.	S/C REPRESENTATIVE: DAN NOTH
FACILITY/AREA: LEACHATE CONVEYANCE SYSTEM	SYSTEM/SUBSYSTEM: LEACHATE CONVEYANCE SYSTEM

ITEM NO.	REFERENCE NO.	DESCRIPTION	REQUIRED DATE/STATUS/ LATEST PROMISE	CONS. DIV. INITIALS
Area 1/1A				
1		Install pipe support pier and pipe supports for leachate discharge pipe @ the BSL	10/8/97 10/15/97	
2		Install leachate line discharge pipe @ the BSL	10/9/97 10/22/97	
3		Backfill and form, place concrete cover slab @ COMH #11, including cast iron access covers	10/9/97 Complete	
4		Form, place concrete cover slab @ Cleanouts #9, #10, and #12, including cast iron access covers	10/8/97 Complete	
5		Seed, mulch and fertilize	10/30/97	
6		Install pipe line markers	10/30/97	
7		Install heat tracing @ BSL	10/29/97	
8		Install, wire and terminate flow meter FE-012B @ COMH #11 and interface with telephone hut #3	10/21/97 Pending DCN 1700-069 approval	

Area 3				
1		Remove working soil stockpiles and fine grade area	10/29/97	
2		Form, place concrete cover slab @ Cleanouts #5, #6, and #7, including cast iron access covers	10/9/97 Pending backfill @ COMH #5 by Wise	
4		Seed, mulch and fertilize	10/30/97	
5		Install pipe line markers and end of pipe markers	10/30/97	
6		Install stub-up for line GW-10" at point GW-4	10/20/97	
7		Install Air Release Manhole #2 on line GW-10" including branch tee	10/20/97	
8		Install Air Release Manhole #3 on line GW-12" including branch tee	10/20/97	
9		Form, place concrete cover slab @ Air Release Manholes #2 and #3, including cast iron access covers	10/21/97	
11		Complete hydro test on lines DW-6", FQ-12", GW-10" and GW-12"	10/20/97	
12		Complete pneumatic test on line FG-6"	10/20/97	
13		Install fence southwest of AWWT	10/24/97	
14		Chip and mulch trees and shrubs removed during clearing and grubbing	RLM to advise if required	
15		Remove construction boundary fence, tool trailer, other temporary facilities and clean up	10/30/97	

Permanent Lift Station				
1		Install concrete pump base	10/1/97 Complete	
2		Install lift sation pumps	10/8/97 Waiting on rails - ETA 10/16/97	
3		Install piping, valves, etc. inside PLS	10/10/97 10/17/97	
4		Form and place Permanent Lift Station cover slab (including embedded conduit)	10/16/97 Scheduled 10/15/97	
5		Install Permanent Lift Station access covers	10/16/97 10/24/97	
6		Install, wire and terminate FE-012A @ COMH #1 and telephone hut interface	10/15/97 Start 10/16/97	
7		Install, wire and terminate Permanent Lift Station level control panel P-111	10/30/97	
8		Install, wire and terminate instrumentation at Permanent Lift Station (PS-110, LT-110, PS-111, LT-111, V-001)	10/30/97	
9		Install power pole @ Permanent Lift Station	10/13/97 Complete	
10		Install 480 V. Power from power distribution center #2 to the PLS	10/13/97 Start 10/16/97	
11		Install, wire and terminate Permanent Lift Station pump control panel	10/15/97 Start 10/22/97	
12		Connect 480 V. Power @ the Permanent Lift Station pumps	10/30/97	
13		Install light fixture at pole OP-82	10/29/97	
14		Install fence, gates and fence grounding around PLS cover slab	10/17/97 Week of 10/20/97	
15		Install bollards at the Permanent Lift Station	10/17/97 Week of 10/20/97	
16		Remove construction boundary fence and clean up	10/30/97	

Area 5				
1		Test 6"/10" gravity line from LCS-1 to LCS-2	10/10/97 Start 10/14/97	
2		Test 6"/10" gravity line from LCS-2 to LCS-3	10/10/97 Start 10/14/97	
3		Test 6"/10" gravity line from LCS-3 to PLS	10/10/97 Start 10/14/97	
4		Install Horizontal Monitoring Well @ LCS-1	10/8/97 10/15/97	
5		Connect LCS Line, Redundant LCS Line, LDS Line and Horizontal Monitoring Well to Petro's piping @ Cell #1	10/8/97 Complete	
6		Install Horizontal Monitoring Well @ LCS-2	10/10/97 Start 10/15/97	
7		Install LCS Line, Redundant LCS Line, LDS Line and Horizontal Monitoring Well @ LCS/LDS-3 to 30' out from MH's	10/10/97 Complete	
8		Cap ends of LCS Line, Redundant LCS Line, LDS Line and Horizontal Monitoring Well @ LCS/LDS-3 and LCS/LDS-2	10/10/97 Complete	
9		Install 25' power poles @ LCS/LDS manholes (3 ea.)	10/14/97 10/21/97	
10		Install level control panels @ LCS/LDS manholes (3 ea.)	10/22/97	
11		Install solar collector panels and batteries @ LCS/LDS manholes (3 ea.)	11/3/97	
12		Install wire, and terminate LT-101/LT-102 @ LCS/LDS Manhole #1	11/4/97	
13		Install wire, and terminate LT-201/LT-202 @ LCS/LDS Manhole #2	11/4/97	
14		Install wire, and terminate LT-301/LT-302 @ LCS/LDS Manhole #3	11/4/97	
15		Install stub-out for Decontamination Facility in 6"/10" gravity line @ Sta. 13+25.00	10/14/97 Complete	
16		Install protective valve covers at temporary line cleanouts at Sta.'s 16+00.00, 20+00.00, 24+00.00, 28+00.00 and 32+00.00	10/16/97	

000298

Area 5 (Cont'd)				
17		Cut drainage swale at culvert pipes #1 and #2 near Sta. 28+00.00	Complete	
18		Remove working soil stockpiles and fine grade south RIMIA area	10/8/97 Complete	
19		Remove working soil stockpiles and fine grade north RIMIA area	10/10/97 Complete	
20		Remove working soil stockpiles and fine grade Sta. 14+00.00 to Sta. 24+00.00	10/14/97 10/15/97	
21		Remove working soil stockpiles and fine grade LCS/LDS-3 to Sta. 14+00.00	10/14/97 10/21/97	
22		Remove working soil stockpiles and fine grade LCS/LDS-1 to LCS/LDS-3	10/14/97 10/21/97	
23		Rework backfill at temporary road at approx. Sta. 24+00.00	10/10/97 10/21/97	
24		Seed, mulch and fertilize	10/30/97	
25		Install pipe line markers	10/30/97	
26		Repair silt fencing east of soil stockpile (PETRO or VBS?)	To be done by PETRO	
27		Remove construction boundary fence, cool-down trailers, other temporary facilities and clean up	10/30/97	
AWWT				
1		Install and wire Programmable Loop Controller and Frequency Pulse Receivers at the AWWT Facility	11/7/97	

FS-F-4314 (02/14/94)

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FD FERNALD CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0088

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #FSC 589

MEETING DATE: October 21, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: October 28, 1997 EDC File #20110

DISTRIBUTION: + Attendees ++ Part-time • Author of Notes

FDF

S. Alkire, MS46
+ C. Brown, MS64
B. Crowley, MS30
J. Ellis, MS64
F. Flack, MS44
M. Godber, MS64
M. Hickey, MS64
+ J. Jenkins, MS64
G. Johnson, MS64
+ T. Keaty, MS64
U. Kumthekar, MS64
+ • R. McGuire, MS64
W. Morris, MS44
+ P. G. Pope, MS64
C. Pratt, MS64
T. Russell, MS64
D. Stempfley, MS30
L. Wehlitz, MS64
B. Zebick, MS64
ECDC

DOE

P. Darnell, MS45
J. Desormeau, MS45
J. Jalovec, MS45
J. Neyer, MS45
D. Pfister, MS
D. Riley, MS45
R. Warner, MS45

GeoSyntec

+ D. Bodine, MS64
K. Cargill, MS64
B. Erisman, MS64
J. McMichen, MS64

Parsons

Y. Afshar, MS17
+ P. Payne, MS17

Village Building Services

N. Abdullah
+ M. J. Cleveland
M. Kadakia
+ D. Noth
+ S. Porter
O. Willingham
Y. Willingham

B. L. Payne & Associates

B. Payne

B & J Electrical Co.

P. Ernst

Diaz Construction

T. Hartley
C. Reed

SAFETY TOPIC

Unsafe attitudes are the seeds of an accident about to happen.

TQM TOPIC

Winners measure success by how they deal with roadblocks along the way.

BALANCE TOPIC

The dumbest person in the world...it's the American who knocks what he's got.

MEETING NOTES - Continued

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. With high winds, VBS needs to pay particular attention to dust control. **Status: On-going**

B. Village noted that there is a dust problem in the west parking lot. R. McGuire will pass the observation along to Jack McCormack for action by Wise Services. **Action: R. McGuire/J. McCormack**

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous construction meeting. No comments affecting those minutes were received other than those listed below:

None.

III. SCHEDULE BRIEFING

A. Percent Complete - 84.6% (through 9/20/97 - excluding C.O. #5); Percent scheduled - 100%

B. LCS activities scheduled for next two weeks:

Work Completed

- Cover slab at the Permanent Lift Station
- Horizontal monitoring wells @ LCS/LDS manholes #1, #2 and #3

Work Scheduled

- Install pipe supports at the BSL (Re-scheduled for 10/27/97. DCN #1700-067 approved 10/17/97)
- Electrical installation at the BSL (DCN #1700-069 approved 10/20/97)
- Correct elevations of LCS, LDS and Redundant LDS lines at Cell #1
- Complete backfill at LCS/LDS manholes #1, #2 and #3
- Install cover slabs at LCS/LDS manholes
- Electrical installation at the Permanent Lift Station
- Complete mechanical installation at the Permanent Lift Station
- Install control panels at the Permanent Lift Station
- Set power pole and install level control panels at LCS/LDS manholes (ETS 10/22/97 for level control panels). Pending backfill and installation of cover slab
- Complete backfill and grading from sediment basin north to LCS/LDS manhole #3

MEETING NOTES - Continued

Work Scheduled Cont'd

- Cover slabs at cleanout manhole #5
- Install and wire programmable loop controller at AWWT
- Install pipe line markers
- Seeding, mulch and fertilizer

IV. DESIGN AND CONSTRUCTION ISSUES

A. All material delivered to VBS for air release manholes. **Status: Closed**

B. Pipeline markers quantity and piping material needed for Wise Services for manholes #1 and #4 delivered. **Status: Closed**

C. VBS is missing FDF supplied PIV operator for the GW-12" tie-in. VBS has the gate valve. **Action: R. McGuire**

D. Open RCI's/DCN's:

- RCI No. 1700-031- Buy American Act certification, pump curves and leak test reports received from VBS. **Status: Closed**
- DCN No. 1700-059 - Approved 10/15/97 **Status: Closed**
- DCN No. 1700-060 - Programmable level controllers: DCN with GeoSyntec, on "hold" pending review of Submittal #301, Rev. 2. **Action: GeoSyntec**
- DCN No. 1700-065 - Modifications to guard post detail - Approved 10/17/97 **Status: Closed**
- DCN No. 1700-066 - Permanent vegetation (seeding) alternate - Approved 10/17/97 **Status: Closed**
- DCN No. 1700-067 - Pipe support at BSL - Approved 10/17/97 **Status: Closed**
- DCN No. 1700-068 - Flow meter COMH internal piping - Issued 10/10/97 **Action: J. Jenkins**
- DCN No. 1700-069 - Signal line location at BSL - Approved 10/20/97 **Status: Closed**

E. R. McGuire will advise if tree pile in T.A.C.O.S. area needs chipping. Only a small portion of the trees on the existing pile were generated by the LCS project. **Status: Open - Action: R. McGuire**

V. MATERIAL AND VENDOR DATA STATUS

A. Material:

- Permanent lift station level control , PLC, chart recorder and distribution panel on site

MEETING NOTES - Continued

- LCS/LDS level control panel delivery slipped from 10/21/97 to 10/22/97 - on schedule
- Solar collector panels and batteries on site

Action : Expedite material - VBS

B. Vendor Data:
- Submittal #301 - Rev. 2 received by CDC 10/8/97. GeoSyntec will return final comments today. **Action: Expedite review - J. Jenkins**
- B & J needs to submit annual inspection paperwork on their pole truck. **Status: Open - Action: VBS**

VI. QUALITY AND INSPECTION

A. GeoSyntec Construction Nonconformance Report needs close-out: Improper compaction of pipe embedment, dispositioned by FDF, pending concurrence by GeoSyntec. **Action: GeoSyntec**

VII. SUBCONTRACT ADMINISTRATION

Change Orders - Site has received funding. Contract modifications on negotiated change orders pending completion of consent package.

VIII. GENERAL

B & J will be working Friday on the Permanent Lift Station electrical installation. No VBS personnel are scheduled to work this weekend.

IX. ATTACHMENTS

Statused Punchlist Inspection Report (Revised 10/17/97)

NEXT MEETING: Tuesday, October 28, 1997, 1:00 PM, T-58B

RLM:sla

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 10/27/97
Richard L. McGuire

PUNCHLIST INSPECTION REPORT

WO#: 1700	DATE OF INSPECTION: OCTOBER 1, 1997
S/C #: FSC 589	RECORDED BY: R. L. MCGUIRE
S/C NAME: VILLAGE BUILDING SERVICES, INC.	S/C REPRESENTATIVE: DAN NOTH
FACILITY/AREA: LEACHATE CONVEYANCE SYSTEM	SYSTEM/SUBSYSTEM: LEACHATE CONVEYANCE SYSTEM

ITEM NO.	REFERENCE NO.	DESCRIPTION	REQUIRED DATE/STATUS/ LATEST PROMISE	CONS. DIV. INITIALS
Area 1/1A				
1		Install pipe support pier and pipe supports for leachate discharge pipe @ the BSL	10/8/97 10/27/97	
2		Install leachate line discharge pipe @ the BSL	10/9/97 10/31/97	
3		Backfill and form, place concrete cover slab @ COMH #11, including cast iron access covers	10/9/97 Complete	
4		Form, place concrete cover slab @ Cleanouts #9, #10, and #12, including cast iron access covers	10/8/97 Complete	
5		Seed, mulch and fertilize	10/30/97	
6		Install pipe line markers	10/30/97 Started 10/21/97	
7		Install heat tracing @ BSL	10/29/97	
8		Install, wire and terminate flow meter FE-012B @ COMH #11 and interface with telephone hut #3	10/21/97 10/31/97	

Area 3				
1		Remove working soil stockpiles and fine grade area	10/29/97 Complete	
2		Form, place concrete cover slab @ Cleanouts #5, #6, and #7, including cast iron access covers	10/9/97 10/27/97	
4		Seed, mulch and fertilize	10/30/97	
5		Install pipe line markers and end of pipe markers	10/30/97 Started 10/21/97	
6		Install stub-up for line GW-10" at point GW-4	10/20/97 Complete	
7		Install Air Release Manhole #2 on line GW-10" including branch tee	10/20/97 Pending Fence Removal @ AWWT	
8		Install Air Release Manhole #3 on line GW-12" including branch tee	10/20/97 Pending Fence Removal @ AWWT	
9		Form, place concrete cover slab @ Air Release Manholes #2 and #3, including cast iron access covers	10/21/97 See Items #7 and #8	
11		Complete hydro test on lines DW-6", FQ-12", GW-10" and GW-12"	10/20/97 Started 10/21/97	
12		Complete pneumatic test on line FG-6"	10/20/97 Started 10/21/97	
13		Install fence southwest of AWWT	10/24/97 After OSDF Perimeter Fence	
14		Chip and mulch trees and shrubs removed during clearing and grubbing	RLM to advise if required	
15		Remove construction boundary fence, tool trailer, other temporary facilities and clean up	10/30/97	

Permanent Lift Station				
1		Install concrete pump base	10/1/97 Complete	
2		Install lift sation pumps	10/8/97 Waiting onguide rail beam - ETA 10/23/97	
3		Install piping, valves, etc. inside PLS	10/10/97 10/24/97	
4		Form and place Permanent Lift Station cover slab (including embedded conduit)	10/16/97 Complete	
5		Install Permanent Lift Station access covers	10/16/97 10/24/97	
6		Install, wire and terminate FE-012A @ COMH #1 and telephone hut interface	10/15/97 10/31/97	
7		Install, wire and terminate Permanent Lift Station level control panel P-111	10/30/97	
8		Install, wire and terminate instrumentation at Permanent Lift Station (PS-110, LT-110, PS-111, LT-111, V-001)	10/30/97	
9		Install power pole @ Permanent Lift Station	10/13/97 Complete	
10		Install 480 V. Power from power distribution center #2 to the PLS	10/13/97 In Progress	
11		Install, wire and terminate Permanent Lift Station pump control panel	10/15/97 Start 10/24/97	
12		Connect 480 V. Power @ the Permanent Lift Station pumps	10/30/97	
13		Install light fixture at pole OP-82	10/29/97	
14		Install fence, gates and fence grounding around PLS cover slab	10/17/97 After OSDF Perimeter Fence	
15		Install bollards at the Permanent Lift Station	10/17/97 Week of 10/27/97	

16		Remove construction boundary fence and clean up	10/30/97	
Area 5				
1		Test 6"/10" gravity line from LCS-1 to LCS-2	10/10/97 In Progress	
2		Test 6"/10" gravity line from LCS-2 to LCS-3	10/10/97 In Progress	
3		Test 6"/10" gravity line from LCS-3 to PLS	10/10/97 In Progress	
4		Install Horizontal Monitoring Well @ LCS-1	10/8/97 Complete	
5		Connect LCS Line, Redundant LCS Line, LDS Line and Horizontal Monitoring Well to Petro's piping @ Cell #1	10/8/97 Complete	
6		Install Horizontal Monitoring Well @ LCS-2	10/10/97 Complete	
7		Install LCS Line, Redundant LCS Line, LDS Line and Horizontal Monitoring Well @ LCS/LDS-3 to 30' out from MH's	10/10/97 Complete	
8		Cap ends of LCS Line, Redundant LCS Line, LDS Line and Horizontal Monitoring Well @ LCS/LDS-3 and LCS/LDS-2	10/10/97 Complete	
9		Install 25' power poles @ LCS/LDS manholes (3 ea.)	10/14/97 10/22/97	
10		Install level control panels @ LCS/LDS manholes (3 ea.)	10/22/97 10/27/97	
11		Install solar collector panels and batteries @ LCS/LDS manholes (3 ea.)	11/3/97 10/23/97	
12		Install wire, and terminate LT-101/LT-102 @ LCS/LDS Manhole #1	11/4/97	
13		Install wire, and terminate LT-201/LT-202 @ LCS/LDS Manhole #2	11/4/97	
14		Install wire, and terminate LT-301/LT-302 @ LCS/LDS Manhole #3	11/4/97	
15		Install stub-out for Decontamination Facility in 6"/10" gravity line @ Sta. 13+25.00	10/14/97 Complete	

Area 5 (Cont'd)				
16		Install protective valve covers at temporary line cleanouts at Sta.'s 16+00.00, 20+00.00, 24+00.00, 28+00.00 and 32+00.00	10/16/97 Complete	
17		Cut drainage swale at culvert pipes #1 and #2 near Sta. 28+00.00	Complete	
18		Remove working soil stockpiles and fine grade south RIMIA area	10/8/97 Complete	
19		Remove working soil stockpiles and fine grade north RIMIA area	10/10/97 Complete	
20		Remove working soil stockpiles and fine grade Sta. 14+00.00 to Sta. 24+00.00	10/14/97 Complete	
21		Remove working soil stockpiles and fine grade LCS/LDS-3 to Sta. 14+00.00	10/14/97 In Progress	
22		Remove working soil stockpiles and fine grade LCS/LDS-1 to LCS/LDS-3	10/14/97 10/21/97	
23		Rework backfill at temporary road at approx. Sta. 24+00.00	10/10/97 10/21/97	
24		Seed, mulch and fertilize	10/30/97	
25		Install pipe line markers	10/30/97	
26		Repair silt fencing east of soil stockpile (PETRO or VBS?)	To be done by PETRO	
27		Remove construction boundary fence, cool-down trailers, other temporary facilities and clean up	10/30/97	
AWWT				
1		Install and wire Programmable Loop Controller and Frequency Pulse Receivers at the AWWT Facility	11/7/97 Due on Site 10/22/97	

FS-F-4314 (02/14/94)

1265

MEETING NOTES MN:SWP(OSDF):97-0091

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #FSC 589

MEETING DATE: October 28, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: November 5, 1997EDC File #20110

DISTRIBUTION: + Attendees + + Part-time • Author of Notes

FDF

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  Y. Willingham

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Diaz Construction

  T. Hartley
  C. Reed

SAFETY TOPIC

Allow yourself plenty of time between home and work so you don't have to hurry.

TQM TOPIC

Prescribe solution rather than describe problems.

BALANCE TOPIC

Stick you neck out.

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. The construction boundary fence at the permanent lift station needs some maintenance. **Action: VBS**

B. Housekeeping in the T.A.C.O.S. area needs attention. VBS will be cleaning up area over the next week. **Action: VBS**

C. VBS needs the following permits:

- An Energy Isolation Plan and facility Outage Permit for the 12" groundwater line tie-in @ T.A.C.O.S. area.
- Facility Outage Permit for 480 V electrical tie-in @ Power Distribution Center #2. Tie-in is scheduled for November 8, 1997.
- Penetration Permit for power pole down guys adjacent OSDF trailers.

Action: G. Pope/R. McGuire

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous construction meeting. No comments affecting those minutes were received other than those listed below:

None.

III. SCHEDULE BRIEFING

A. Percent Complete - 84.6% (through 9/20/97 - excluding C.O. #5); Percent scheduled - 100%

B. LCS activities scheduled for next two weeks:

Work Completed

- Correct elevations of LCS, LDS and Redundant LDS lines at Cell #1
- Complete backfill at LCS/LDS manholes #1, #2 and #3
- Complete backfill and grading from sediment basin north to LCS/LDS manhole #3
- Cover slab at cleanout manhole #5

Work Scheduled

- Install pipe supports at the BSL
- Electrical installation at the BSL (DCN #1700-069 approved 10/20/97)
- Install cover slabs at LCS/LDS manholes

- Electrical installation at the Permanent Lift Station
- Complete mechanical installation at the Permanent Lift Station
- Install control panels at the Permanent Lift Station
- Set power pole and install level control panels at LCS/LDS manholes
- Install and wire programmable loop controller at AWWT
- Install pipe line markers
- Seeding, mulch and fertilizer

IV. DESIGN AND CONSTRUCTION ISSUES

A. VBS is missing FDF supplied PIV operator for the GW-12" tie-in. VBS has the gate valve. FDF cannot locate operator and will have to re-order. **Action: R. McGuire**

B. Open RCI's/DCN's:

- DCN No. 1700-060 - Programmable level controllers: DCN with GeoSyntec, on "hold" pending review of Submittal #301, Rev. 2 versus specification. **Action: GeoSyntec**
- DCN No. 1700-067 - Pipe support at BSL - Approved 10/17/97 **Status: Closed**
- DCN No. 1700-068 - Flow meter COMH internal piping - Issued 10/10/97. Returned by Parsons 10/27/97, to go to ECDC today. **Action: J. Jenkins**
- DCN No. 1700-070 - Delete power pole at Power Distribution Center #2 - Issued 10/22/97. **Status: Open**

C. R. McGuire will advise if tree pile in T.A.C.O.S. area needs chipping. Only a small portion of the trees on the existing pile were generated by the LCS project. **Status: Open - Action: R. McGuire**

V. MATERIAL AND VENDOR DATA STATUS

A. Material:

- LCS/LDS level control panel has not been received . VBS to expedite. **Action: Expedite delivery - VBS**

B. Vendor Data:

- Submittal #301 - Rev. 2 returned "B" status. **Action: Resubmit - VBS**
- Meeting to be scheduled with B. L. Payne and Parsons to resolve comments on as-built's. **Action: J. Jenkins**

VI. QUALITY AND INSPECTION

A. GeoSyntec Construction Nonconformance Report needs close-out: Improper compaction of pipe embedment, dispositioned by FDF, pending concurrence by

GeoSyntec. **Action: GeoSyntec**

VII. SUBCONTRACT ADMINISTRATION

Change Orders - Contract modifications on negotiated change orders should be issued next week.

VIII. GENERAL

VBS will be working Friday. Saturday work will depend on weather.

IX. ATTACHMENTS

Statused Punchlist Inspection Report (Revised 11/5/97)

NEXT MEETING: Thursday, November 6, 1997, 10:00 AM, T-58A

RLM:sla

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by: _____ Phone No. 648-5347 Date: 11/5/97
Richard L. McGuire

OSDF - LEACHATE CONVEYANCE SYSTEM SUBCONTRACTOR SCHEDULE AND STATUS MEETING

October 28, 1997
1:00 - 2:00 P.M.
T-58 B

AGENDA

- Safety/TQM/Balance Topics
- Fire and Safety, Industrial Hygiene, Radiological Safety
- Previous Meeting Review
- Schedule Briefing
- Design and Construction Issues
  - Open DCN's
  - Open RCI's
- Material and Vendor Data Status
  - Critical Submittals
  - Critical Material Deliveries
- Quality and Inspection
- Subcontract Administration
  - Change Order Status
- General Discussion

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

FD FERNALD CONTRACT
DE-AC24-92OR21972

MEETING NOTES MN:SWP(OSDF):97-0091

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #FSC 589

MEETING DATE: October 28, 1997

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MEETING NOTES - Continued

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B. Housekeeping in the T.A.C.O.S. area needs attention. VBS will be cleaning up area over the next week. **Action: VBS**

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- Cover slab at cleanout manhole #5

MEETING NOTES - Continued

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- Electrical installation at the BSL (DCN #1700-069 approved 10/20/97)
- Install cover slabs at LCS/LDS manholes
- Electrical installation at the Permanent Lift Station
- Complete mechanical installation at the Permanent Lift Station
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A. Material:

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B. Vendor Data:

MEETING NOTES - Continued

- Submittal #301 - Rev. 2 returned "B" status. **Action: Resubmit - VBS**
- Meeting to be scheduled with B. L. Payne and Parsons to resolve comments on as-built's. **Action: J. Jenkins**

VI. QUALITY AND INSPECTION

A. GeoSyntec Construction Nonconformance Report needs close-out: Improper compaction of pipe embedment, dispositioned by FDF, pending concurrence by GeoSyntec. **Action: GeoSyntec**

VII. SUBCONTRACT ADMINISTRATION

Change Orders - Contract modifications on negotiated change orders should be issued next week.

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IX. ATTACHMENTS

Statused Punchlist Inspection Report (Revised 11/5/97)

NEXT MEETING: Thursday, November 6, 1997, 10:00 AM, T-58A

RLM:sla

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Prepared by: Richard L. McGuire Phone No. 648-5347 Date: 11/5/97
Richard L. McGuire

PUNCHLIST INSPECTION REPORT

WO#: 1700	DATE OF INSPECTION: OCTOBER 1, 1997
S/C #: FSC 589	RECORDED BY: R. L. MCGUIRE
S/C NAME: VILLAGE BUILDING SERVICES, INC.	S/C REPRESENTATIVE: DAN NOTH
FACILITY/AREA: LEACHATE CONVEYANCE SYSTEM	SYSTEM/SUBSYSTEM: LEACHATE CONVEYANCE SYSTEM

ITEM NO.	REFERENCE NO.	DESCRIPTION	REQUIRED DATE/STATUS/ LATEST PROMISE	CONS. DIV. INITIALS
Area 1/1A				
1		Install pipe support pier and pipe supports for leachate discharge pipe @ the BSL	10/8/97 ~~10/30/97~~	
2		Install leachate line discharge pipe @ the BSL	10/9/97 ~~11/03/97~~	
3		Backfill and form, place concrete cover slab @ COMH #11, including cast iron access covers	10/9/97 Complete	
4		Form, place concrete cover slab @ Cleanouts #9, #10, and #12, including cast iron access covers	10/8/97 Complete	
5		Seed, mulch and fertilize	10/30/97	
6		Install pipe line markers	10/30/97 ~~In Progress~~	
7		Install heat tracing @ BSL	~~11/14/97~~	
8		Install, wire and terminate flow meter FE-012B @ COMH #11 and interface with telephone hut #3	10/21/97 ~~11/06/97~~	
Area 3				

1		Remove working soil stockpiles and fine grade area	10/29/97 Complete	
2		Form, place concrete cover slab @ Cleanouts #5, #6, and #7, including cast iron access covers	10/9/97 ~~10/30/97~~	
4		Seed, mulch and fertilize	10/30/97	
5		Install pipe line markers and end of pipe markers	10/30/97 ~~Started 10/21/97~~	
6		Install stub-up for line GW-10" at point GW-4	10/20/97 Complete	
7		Install Air Release Manhole #2 on line GW-10" including branch tee	10/20/97 ~~Pending Fence Removal @ AWWT~~	
8		Install Air Release Manhole #3 on line GW-12" including branch tee	10/20/97 ~~Pending Fence Removal @ AWWT~~	
9		Form, place concrete cover slab @ Air Release Manholes #2 and #3, including cast iron access covers	10/21/97 ~~See Items #7 and #8~~	
11		Complete hydro test on lines DW-6", FQ-12", GW-10" and GW-12"	10/20/97 ~~Started 11/05/97~~	
12		Complete pneumatic test on line FG-6"	10/20/97 Complete	
13		Install fence southwest of AWWT	10/24/97 ~~After OSDF Perimeter Fence~~	
14		Chip and mulch trees and shrubs removed during clearing and grubbing	RLM to advise if required	
15		Remove construction boundary fence, tool trailer, other temporary facilities and clean up	10/30/97	
Permanent Lift Station				
1		Install concrete pump base	10/1/97 Complete	

2		Install lift sation pumps	10/8/97 ~~10/31/97~~	
3		Install piping, valves, etc. inside PLS	10/10/97 ~~10/31/97~~	
4		Form and place Permanent Lift Station cover slab (including embedded conduit)	10/16/97 ~~Complete~~	
5		Install Permanent Lift Station access covers	10/16/97 ~~11/05/97~~	
6		Install, wire and terminate FE-012A @ COMH #1 and telephone hut interface	10/15/97 ~~10/31/97~~	
7		Install, wire and terminate Permanent Lift Station level control panel P-111	10/30/97 ~~10/31/97~~	
8		Install, wire and terminate instrumentation at Permanent Lift Station (PS-110, LT-110, PS-111, LT-111, V-001)	10/30/97 ~~10/31/97~~	
9		Install power pole @ Permanent Lift Station	10/13/97 Complete	
10		Install 480 V. Power from power distribution center #2 to the PLS	10/13/97 ~~11/05/97~~	
11		Install, wire and terminate Permanent Lift Station pump control panel	10/15/97 ~~11/04/97~~	
12		Connect 480 V. Power @ the Permanent Lift Station pumps	10/30/97 ~~11/04/97~~	
13		Install light fixture at pole OP-82	10/29/97 ~~11/07/97~~	
14		Install fence, gates and fence grounding around PLS cover slab	10/17/97 ~~After OSCP Perimeter Fence~~	
15		Install bollards at the Permanent Lift Station	10/17/97 ~~Week of 10/27/97~~	
16		Remove construction boundary fence and clean up	10/30/97	
<u>Area 5</u>				
1		Test 6"/10" gravity line from LCS-1 to LCS-2	10/10/97 ~~In Progress~~	
2		Test 6"/10" gravity line from LCS-2 to LCS-3	10/10/97 ~~In Progress~~	

3		Test 6"/10" gravity line from LCS-3 to PLS	10/10/97 In Progress	
4		Install Horizontal Monitoring Well @ LCS-1	10/8/97 Complete	
5		Connect LCS Line, Redundant LCS Line, LDS Line and Horizontal Monitoring Well to Petro's piping @ Cell #1	10/8/97 Complete	
6		Install Horizontal Monitoring Well @ LCS-2	10/10/97 Complete	
7		Install LCS Line, Redundant LCS Line, LDS Line and Horizontal Monitoring Well @ LCS/LDS-3 to 30' out from MH's	10/10/97 Complete	
8		Cap ends of LCS Line, Redundant LCS Line, LDS Line and Horizontal Monitoring Well @ LCS/LDS-3 and LCS/LDS-2	10/10/97 Complete	
9		Install 25' power poles @ LCS/LDS manholes (3 ea.)	10/14/97 Start 10/20/97	
10		Install level control panels @ LCS/LDS manholes (3 ea.)	10/22/97 10/27/97	
11		Install solar collector panels and batteries @ LCS/LDS manholes (3 ea.)	11/3/97 10/23/97	
12		Install wire, and terminate LT-101/LT-102 @ LCS/LDS Manhole #1	11/4/97	
13		Install wire, and terminate LT-201/LT-202 @ LCS/LDS Manhole #2	11/4/97	
14		Install wire, and terminate LT-301/LT-302 @ LCS/LDS Manhole #3	11/4/97	
15		Install stub-out for Decontamination Facility in 6"/10" gravity line @ Sta. 13+25.00	10/14/97 Complete	
Area 5 (Cont'd)				
16		Install protective valve covers at temporary line cleanouts at Sta.'s 16+00.00, 20+00.00, 24+00.00, 28+00.00 and 32+00.00	10/16/97 Complete	
17		Cut drainage swale at culvert pipes #1 and #2 near Sta. 28+00.00	Complete	
18		Remove working soil stockpiles and fine grade south RIMIA area	10/8/97 Complete	

19		Remove working soil stockpiles and fine grade north RIMIA area	10/10/97 Complete	
20		Remove working soil stockpiles and fine grade Sta. 14+00.00 to Sta. 24+00.00	10/14/97 Complete	
21		Remove working soil stockpiles and fine grade LCS/LDS-3 to Sta. 14+00.00	10/14/97 Complete	
22		Remove working soil stockpiles and fine grade LCS/LDS-1 to LCS/LDS-3	10/14/97 Complete	
23		Rework backfill at temporary road at approx. Sta. 24+00.00	10/10/97 Complete	
24		Seed, mulch and fertilize	10/30/97	
25		Install pipe line markers	10/30/97	
26		Repair silt fencing east of soil stockpile (PETRO or VBS?)	To be done by PETRO	
27		Remove construction boundary fence, cool-down trailers, other temporary facilities and clean up	10/30/97	
~~28~~		~~Install cover slabs at LCS/LDS manholes~~	~~11/07/97~~	
AWWT				
1		Install and wire Programmable Loop Controller and Frequency Pulse Receivers at the AWWT Facility	11/7/97 ~~11/14/97~~	

FS-F-4314 (02/14/94)

OSDF - LEACHATE CONVEYANCE SYSTEM SUBCONTRACTOR SCHEDULE AND STATUS MEETING

November 18, 1997
1:00 - 2:00 P.M.
T-58 B

AGENDA

- Safety/TQM/Balance Topics
- Fire and Safety, Industrial Hygiene, Radiological Safety
- Previous Meeting Review
- Schedule Briefing
- Design and Construction Issues
  - < Open DCN's
  - < Open RCI's
- Material and Vendor Data Status
  - < Critical Submittals
  - < Critical Material Deliveries
- Quality and Inspection
- Subcontract Administration
  - < Change Order Status
- General Discussion

MEETING NOTES MN:SWP(OSDF):97-0094

SUBJECT: LEACHATE CONVEYANCE SYSTEM
W.O. #1700 S/C #FSC 589

MEETING DATE: November 6, 1997

LOCATION: Fluor Daniel Fernald Office

ISSUE DATE: November 13, 1997EDC File #20110

DISTRIBUTION: + Attendees ++ Part-time * Author of Notes

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SAFETY TOPIC

When descending a ladder, put your foot down carefully on the next rung...don't fall.

TQM TOPIC

Success is more attitude than aptitude.

BALANCE TOPIC

Balance is when you know when to say "NO" to a situation or task..

I. FIRE AND SAFETY, INDUSTRIAL HYGIENE, RADIOLOGICAL SAFETY

A. ALARA Topic: VBS was reminded that MSDS's need to be submitted in a timely manner to allow adequate time for review for PPE and other requirements. The MSDS for the red dye is being reviewed by IH at this time.

B. The construction boundary fence at the permanent lift station has been repaired. VBS was reminded that the fence and the signs needs to be in place whenever the access opening is uncovered. Status: Closed

C. VBS will be cleaning up T.A.C.O.S area as material is brought in from other work area to be shipped off site. Status: On-going

D. VBS needs the following permits:

An Energy Isolation Plan and Facility Outage Permit for the 12" groundwater line tie-in @ T.A.C.O.S. area. VBS will need some time next week after the GW-12" line is tested - in progress.
Facility Outage Permit for 480 V electrical tie-in @ Power Distribution Center #2. Tie-in is scheduled for November 8, 1997.
Penetration Permit for power pole down guys adjacent OSDF trailers - to be issued today. Action: G. Pope/R. McGuire

II. PREVIOUS MEETING REVIEW

A. Comments were solicited by FERMCO Construction Management from the attendees after the last meeting regarding the minutes for the previous construction meeting. No comments affecting those minutes were received other than those listed below:
None.

III. SCHEDULE BRIEFING

A. Percent Complete - 84.6% (through 9/20/97 - excluding C.O. #5); Percent scheduled - 100%

B. LCS activities scheduled for next two weeks:

Work Completed

Complete mechanical installation at the Permanent Lift Station

Work Scheduled

Install pipe supports at the BSL
Electrical installation at the BSL (DCN #1700-069 approved 10/20/97)
Install cover slabs at LCS/LDS manholes
Electrical installation at the Permanent Lift Station
Install control panels at the Permanent Lift Station
Set power pole and install level control panels at LCS/LDS manholes
Install and wire programmable loop controller at AWWT
Install pipe line markers
Seeding, mulch and fertilizer

IV. DESIGN AND CONSTRUCTION ISSUES

A. FDF to re-order missing PIV operator for the GW-12" tie-in. Action: R. McGuire - 10/10/97

B. Open RCI's/DCN's:

DCN No. 1700-060 - Programmable level controllers. Status: Closed 10/30/97
DCN No. 1700-068 - Flow meter COMH internal piping. Status: Closed 10/29/97
DCN No. 1700-070 - Delete power pole at Power Distribution Center #2. Status: Closed 10/29/97
DCN No. 1700-072 - Alarm at AWWT. Issued 11/3/97. Status: Open
RCI No. 1700-036R - Testing of 10" containment for LCS gravity line. Response by GeoSyntec 11/5/97 to provide perforated fixed end seal on 10" containment at LCS manholes, per design.

C. Extrusion welding to install fixed end seals per RCI No. 1700-036 will require IH evaluation for confined space at LCS manholes. Action: Walk down with IH 11/7/97

V. MATERIAL AND VENDOR DATA STATUS

A. Material:

Programmable logic controller for AWWT has not been released by vendor. A meeting will be set up Monday with VBS, FDF, Parsons, GeoSyntec and Control Interface, Inc. Time and place to be advised. Action: R. McGuire

B. Vendor Data:

Submittal #301 - Rev. 2 returned "B" status. Action: Resubmit after Monday's discussions - VBS
Meeting scheduled 2:30 PM today with B. L. Payne and Parsons to resolve comments on as-built's.

VI. QUALITY AND INSPECTION

A. Open Construction Nonconformance Reports: 1) 1700-005 - Proposed corrective action rejected by GeoSyntec. Rework recommended. 2) 1700-010 - "Use -as-is" recommended subject to hydrostatic pressure test. Method of testing being evaluated. Action: R. McGuire/J. Jenkins

B. VBS was requested to submit all test reports to date for compilation of the turnover package. Action: VBS

VII. SUBCONTRACT ADMINISTRATION

Change Orders - Contract modifications on negotiated change orders should be issued this week.

VIII. GENERAL

VBS will be working Friday and Saturday. B&J will work Saturday on 480 volt electrical tie-in.

IX. ATTACHMENTS

Statused Punchlist Inspection Report (Revised 11/7/97)

NEXT MEETING: Tuesday, November 18, 1997, 1:00 PM, T-58B

RLM:sla

To the best of my knowledge and belief, these minutes are an accurate reflection of the statements made during the subject meeting. Any claims of errors, omissions or misinterpretations shall be placed in writing and discussed at the next meeting. If no further meeting is to be held, the written statements will be published as an addendum to the last minutes. Failure to make notification by the next meeting (or within ten calendar days of the receipt of the minutes when no further meeting has been scheduled) shall constitute acceptance of these minutes as written.

Prepared by:_____ Phone No. 648-5347 Date: 11/13/97
Richard L. McGuire

APPENDIX E:

PERSONNEL LOGS

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1 *03.1

DESCRIPTION: LEACHATE CONVEYANCE SYSTEM WEEK BEGINING: 17 FEBRUARY 1997

ITEM	REF ID	COMPANY	MON 17	TUES 18	WED 19	THURS 20	FRI 21	SAT 22	SUN 23
* DAN BODINE	D.B.	GEO SYNTEC		✓	✓	✓			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1 # 03.1

DESCRIPTION: LEACHATE CONVEYANCE SYSTEM WEEK BEGINING: 24 FEBRUARY 1997

	ITEM	REF ID	COMPANY	MON 24	TUES 25	WED 26	THURS 27	FRI 28	SAT 1	SUN 2
*	DAN BODING	D.B.	GEO SYNTEC	✓	✓	✓	✓			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1 * 03.1

DESCRIPTION: LEACHATE CONVEYANCE SYSTEM WEEK BEGINING: 3 MARCH 1997

	ITEM	REF ID	COMPANY	MON 3	TUES 4	WED 5	THURS 6	FRI 7	SAT 8	SUN 9
*	DAN BODING	D.B.	GEO SYNTEC	✓	✓	✓	✓			
	JEPHORY McMICHEN	J.M.	" "	✓	✓	✓	✓			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1 #03.1

DESCRIPTION: LEACHATE CONVEYANCE SYSTEM WEEK BEGINING: 10 MARCH 1997

ITEM	REF ID	COMPANY	MON 10	TUES 11	WED 12	THURS 13	FRI 14	SAT 15	SUN 16
* DAN BODINE	D.B.	GEO SYNTEC		✓	✓	✓	✓		
JEPHORY McMICHEN	J.M.	" "	✓	✓	✓	✓			
KEN CARGILL	K.C.	" "	✓	✓					

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 041

DESCRIPTION: LEACHATE CONVEYANCE SYSTEM WEEK BEGINING: 17 MARCH 1997

ITEM	REF ID	COMPANY	MON 17	TUES 18	WED 19	THURS 20	FRI 21	SAT 22	SUN 23
DAN BODINE	D.B.	GEO SYNTEC	✓	✓	✓	✓			
JEPHORY McMICHEN	J.M.	" "	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓	✓	✓
NED MEEKINS	N.M.	" "		✓	✓ ✓	✓ ✓	✓	✓	✓

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 041

DESCRIPTION: LEACHATE CONVEYANCE SYSTEM WEEK BEGINING: 24 MARCH 1997

ITEM	REF ID	COMPANY	MON 24	TUES 25	WED 26	THURS 27	FRI 28	SAT 29	SUN 30
DAN BODINE	D.B.	GEO SYNTEC	✓	✓	✓	✓			
JEPHORY McMICHEN	J.M.	" "	✓	✓	✓	✓			
NED MEEKINS	N.M.	" "	✓	✓	✓	✓			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: FDF - LCS WEEK BEGINING: 31 MARCH 1997

ITEM	REF ID	COMPANY	MON 31 MAR	TUES 01 APR	WED 02 APR	THURS 03 APR	FRI 04 APR	SAT 05 APR	SUN 06 APR
DAN BODINE	DB	GEO SYNTEC	✓	✓	✓	✓			
JEPH McMICHEN	JM	"	✓	✓	✓	✓			
NED MEEKINS	NM	"	✓	✓	✓	✓	✓		
KEN CARGILL	KC	"			✓				

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04

DESCRIPTION: LEACHATE COLLECTION SYSTEM WEEK BEGINING: 07 APRIL 1997

ITEM	REF ID	COMPANY	MON 7	TUES 8	WED 9	THURS 10	FRI 11	SAT 12	SUN 13
DAN BODINE	D.B.	GEO SYNTEC	✓	✓	✓	✓			
JEPHORY McMICHEN	J.M.	" "	✓	✓	✓	✓	✓		
NED MEEKINS	N.M.	" "	✓	✓	✓	✓	✓		
Ken Cargill	KWC	" "		✓					

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LEACHATE COLLECTION SYSTEM WEEK BEGINING: 14 APRIL 1997

ITEM	REF ID	COMPANY	MON 14	TUES 15	WED 16	THURS 17	FRI 18	SAT 19	SUN 20
DAN BODINE	DB	GEOSYNTEC	✓	✓	✓	✓			
JEPHORY MCMICHEN	JM	"	✓ x	✓ x	✓ x	✓ x	x	x	
NED MEEKINS	NM	"	✓ x	✓ x	✓ x	✓ x	x		
BRIAN ERISMAN	BE	"	x	✓ x	✓ x	✓ x	x		

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: Leachate Collection System WEEK BEGINING: 21 April 1997

ITEM	REF ID	COMPANY	MON 21	TUES 22	WED 23	THURS 24	FRI 25	SAT 26	SUN 27
DAN BODINE	DB	GEO SYNTEC	✓	✓	✓	✓			
JEPHORY MCMICHEN	JM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
BRIAN ERISMAN	BE	"	✓ x	✓ x	✓ x	✓ x	✓ x		
KEN CARGILL	KWC	"	✓	✓					

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / PHASE 1 WEEK BEGINING: ~~4 MAY 1997~~ HEM 5/5/97 28APR.'97

ITEM	REF ID	COMPANY	MON 28	TUES 29	WED 30	THURS 1	FRI 2	SAT 3	SUN 4
DAN BODINE	D.B.	GEOSYNTEC	✓	✓	✓	✓			
JEPHORY F. McMICHEN	J.M.	" "	✓ x	✓ x	✓ x	✓ x			
NED MEEKINS	N.M.	" "	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	x
BRIAN ERISMAN	B.E.	" "	✓ x	✓ x	✓ x	✓ x	✓ x		

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/PHASE I WEEK BEGINING: 05 MAY 1997

ITEM	REF ID	COMPANY	MON 05	TUES 06	WED 07	THURS 08	FRI 09	SAT 10	SUN 11
DAN BODINE	DB	GEOSYNTEC	✓	✓	✓	✓			
JEPHORY McMICHEN	JM	"							
NED MEEKINS	NM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	x
BRIAN ERISMAN	BE	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
KEN CARGILL	KC	"		✓					

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / PHASE I WEEK BEGINING: 12 MAY 1997

ITEM	REF ID	COMPANY	MON 12	TUES 13	WED 14	THURS 15	FRI 16	SAT 17	SUN 18
DAN BODINE	DB	GEOSYNTEC	✓	✓	✓	✓			
JEPHORY McMICHEN	JM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	x
NED MEEKINS	NM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓	
BRIAN ERISMAN	BE	"	✓ x	✓ x	✓ x	✓ x			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / PHASE ONE WEEK BEGINING: 19 MAY 1997

ITEM	REF ID	COMPANY	MON 19	TUES 20	WED 21	THURS 22	FRI 23	SAT 24	SUN 25
DAN BODINE	D.B.	GEOSYNTEC	✓	✓	✓	✓	✓		
JEPHORY MEMICHEN	J.M.	" "	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	x
NED MEEKINS	N.M.	" "	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
BRIAN GRISMAN	B.E.	" "	✓ x	✓ x	✓ x	✓ x			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS- / PHASE ONE WEEK BEGINING: 26 MAY 1997

ITEM	REF ID	COMPANY	MON 26	TUES 27	WED 28	THURS 29	FRI 30	SAT 31	SUN 1
DAN BODINE	D.B.	GEOSYNTEC		✓	✓	✓	✓		
JEPHORY McMICHEN	J.M.	"		✓ x	✓ x	✓ x	✓ x	✓ x	x
NED MEEKINS	N.M.	"		✓ x	✓ x	✓ x	✓ x	✓ x	
BRIAN ERISMAN	B.E.	"	HOLIDAY					x	
ROB PEDDICORD	R.P.	"		✓ x	✓ x	✓ x	✓ x	✓ x	
KEN CARGILL	K.C.	"		✓					
RUDY BONAPARTE	R.B.	"		✓					

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04-1

DESCRIPTION: LCS / PHASE ONE WEEK BEGINING: 2 JUNE 1997

ITEM	REF ID	COMPANY	MON 2	TUES 3	WED 4	THURS 5	FRI 6	SAT 7	SUN 8
DAN BODINE	D.B.	GEOSYNTEC	✓	✓	✓	✓			
JEPHORY McMICHEN	J.M.	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	x
NED MEEKINS	N.M.	"	✓ x	✓ x	✓ x	✓ x	x		
BRIAN ERISMAN	B.E.	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	x
ROB PEDDICORD	R.P.	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
PAUL ODUROH	P.O.	"	✓ x	✓ x	✓ x	✓ x	✓ x		
JAY BEECH	J.B.	"		✓					

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / PHASE ONE WEEK BEGINING: 9 JUNE 1997

ITEM	REF ID	COMPANY	MON 9	TUES 10	WED 11	THURS 12	FRI 13	SAT 14	SUN 15
DAN BODINE	D.B.	GEOSYNTEC	✓	✓	✓	✓	✓		
JEPHORY MCMICHEN	J.M.	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x
NED MEEKINS	N.M.	"							
BRIAN ERISMAN	B.E.	"	✓ x	✓ x	✓ x	✓ x	✓ x		
ROB PEDDICORD	R.P.	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
PAUL ODUROH	P.O.	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / PHASE ONE WEEK BEGINING: ~~22~~ 16 JUNE 1997

ITEM	REF ID	COMPANY	MON 16	TUES 17	WED 18	THURS 19	FRI 20	SAT 21	SUN 22
DAN BODINE	D.B.	GEOSYNTEC	✓	✓	✓	✓	✓		
JEPHORY McMICHEN	J.M.	"	✓ x	✓ x	✓ x	✓ x	x		
NED MEEKINS	N.M.	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
BRIAN ERISMAN	B.E.	"	✓ x	✓ x			✓ x	✓ x	
ROB PEDDICORD	R.P.	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
PAUL ODUROM	P.O.	"	✓ x	✓ x	✓ x	✓ x	✓ x		
RANDOLPH LIVINGSTON	R.L.	"			✓ x	✓ x	✓ x		
RENEE HALTER	R.H.	"		✓	✓	✓	✓	✓	

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/PHASE I WEEK BEGINING: 23 JUNE 1997

ITEM	REF ID	COMPANY	MON 23	TUES 24	WED 25	THURS 26	FRI 27	SAT 28	SUN 29
DAN BODINE	DB	GEOSYNTEC	✓	✓	✓	✓	✓	✓	✓
JEPHORY MCMICHEN	JM	"							×
NED MEEKINS	NM	"	✓ ×	✓ ×	✓ ×	✓ ×	✓ ×	✓ ×	✓ ×
BRIAN ERISMAN	BE	"	✓ ×	✓ ×	✓ ×	✓ ×	✓ ×	✓ ×	
ROB REDDICORD	RP	"	✓ ×	×	✓ ×	✓ ×	✓ ×	✓ ×	
PAUL ODUROH	PO	"	✓ ×	✓ ×	✓ ×	✓ ×	✓ ×	✓ ×	
RANDOLPH LIVINGSTON	RL	"	✓ ×	✓ ×	✓ ×	✓ ×	✓ ×		
RENEE HALTER	RH	"	✓	✓	✓	✓	✓		
SCOTT QUAMMAN	SQ	"	✓ ×	×	✓ ×	✓ ×	✓ ×	✓ ×	
DAVID BONNETT	DB	"	✓	✓	✓	✓	✓		
KEN CARGILL	KC	"	✓						
RUDY BONAPARTE	RB	"		✓					

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS | PHASE I WEEK BEGINING: 30 June 1997

ITEM	REF ID	COMPANY	MON 30	TUES July 1	WED 2	THURS 3	FRI 4	SAT 5	SUN 6
Dan Bodine	DB	GeoSyntec	✓	✓	✓	✓			
Nephory McMichen	JM	"	✓ x	✓ x	✓ x	✓ x		✓ x	x
Ned Meekins	NM	"	✓ x	✓ x	✓ x	✓ x		✓ x	x
Brian Erisman	BE	"	✓ x	✓ x	✓ x	✓ x			
Rob Peddicord	RP	"	✓ x	✓ x	✓ x	✓ x			
Paul Oduroh	PO	"	✓ x	✓ x	✓ x	✓ x			
Randolph Livingston	RL	"	✓ x	✓ x	✓ x	✓ x			
Renee Halter	RH	"	✓	✓	✓	✓			
Scott Quammen	SQ	"	✓ x	✓ x	✓ x	✓ x		✓ x	
David Bonnett	DB	"							
Ken Cargill	KC	"							
Rudy Bonaparte	RB	"							

©GEO SYNTEC CONSULTANTS FILE NO. 1-03-PDL

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS 1 Phase I WEEK BEGINING: 7 July 97

ITEM	REF ID	COMPANY	MON 7/7	TUES 8	WED 9	THURS 10	FRI 11	SAT 12	SUN 13
Dan Bordinac	DB	GeoSyntec		✓	✓	✓	✓	✓	✓
John McMicken	JM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x
Ned McKinnis	NM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x
Brian Erisman	BE	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Rob Peddicord	RP	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Paul Odenbach	PO	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x
Randy Livingston	RL	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Renee Hacker	RH	"	✓	✓	✓	✓	✓	✓	
Scott Quammen	SQ	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x
David Bennett	DB	"							
Ken Cargill	KC	"							
Rudy Bonaparte	RB	"							

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS | Phase I WEEK BEGINNING: 14 July 1997

ITEM	REF ID	COMPANY	MON 7/14	TUES 15	WED 16	THURS 17	FRI 18	SAT 19	SUN 20
Dan Bodine	DB	GeoSyntec	✓	✓	✓	✓			
Jeph McMicken	JM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Ned Mickiad	NM	"	✓	✓ x	✓ x	✓ x	✓ x	✓ x	
Brian Ervman	BE	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Rob Peddicord	RP	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Paul Church	PO	"	✓ x		✓ x	✓ x	✓ x	14/19/97	
Randy Lumpton	RL	"	✓ x	✓ x	✓ x	✓ x	✓ x		
Scott Quammen	SQ	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
David Bennett	DB	"							
Ken Cargell	KC	"	✓						
Rudy Bonapartc	RB	"							
Jeff Williams	JW	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Rene Harter	RH	"	✓	✓	✓	✓	✓		

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS | Phase I WEEK BEGINNING: 21 July '97

ITEM	REF ID	COMPANY	MON 7/21	TUES 22	WED 23	THURS 24	FRI 25	SAT 26	SUN 27
Dan Bodine	DB	GeoSyntec	✓	✓	✓	✓	✓	✓	✓
Jeph McMicken	JM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x
Ned McKinD	NM	"	✓ x	✓ x	✓ x	✓ x	✓ x		
Brian Ensman	BE	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Rob Peddicord	RP	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Paul Odurow	PO	"	✓ x	✓ x	✓ x	✓ x	✓ x		
Randy Lumington	RL	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Scott Quammen	SQ	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Jeff Williams	JW	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
Renee Hacker	RH	"	✓	✓	✓	✓	✓		
Kirk Wells	KW	"	RH 21/7/97	✓ x	✓ x	✓ x	✓ x	✓ x	

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SHEET NO. 23 OF ____

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04

DESCRIPTION: LCS/ PHASE ONE WEEK BEGINING: 28 JULY 97

ITEM	REF ID	COMPANY	MON 7/28	TUES 7/29	WED 7/30	THURS 7/31	FRI 8/1	SAT 8/2	SUN 8/3
JEPH McMICHEN	JM		✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
DAN BODINE	DB		✓	✓	✓	✓			
NED MEEKINS	NM								
BRIAN ERISMAN	BE		✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
ROB PEDDICORD	RP		✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
SCOTT QUAMMEN	SQ		✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
RANDY LIVINGSTON	RL		✓ x	✓ x	✓ x	✓ x	✓ x		
KIRK WILLS	KW		✓ x	✓ x	✓ x	✓ x	✓ o	✓ o	
JEFF WILLIAMS	JW		✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
PAUL ODUROH	PO		✓ x	✓ x	✓ x	✓ x	✓ x		
RENEE HALTER	RH		✓	✓	✓	✓	✓	✓	
KEN CARGILL	KC			✓	✓	✓			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / Phase One WEEK BEGINNING: Aug 4, 97

ITEM	REF ID	COMPANY	MON 8/4	TUES 8-5	WED 8-6	THURS 8-7	FRI 8-8	SAT 8-9	SUN 8-10
J McMuchen	JM	GeoSyntec	✓ x	✓ x	✓ x	✓ 0	~~✓~~ RH		
D. Bodine	DB	"	✓	✓	✓	✓	✓	✓	✓
N. Mullins	NM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x
B. Ehrman	BE	"		✓ x	✓ x	✓ x	✓ x	✓ x	
R Piddicord	RP	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
S Quammen	SQ	"	✓ x	✓ x	✓ x	✓ x	✓ x		
R. Livingston	RL	"							
K Wills	KW	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
J Williams	JW	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
P Odurch	PO	"							
R Harter	RH	"		✓	✓	✓	✓		
Dan Pass	DP	"	✓ x	✓ x	✓ x	✓ x	✓ x		
K Cargill	KC	"							
D. Bonnett	DB	"							
R Bonaparte	RB	"			✓				

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS | Phase One WEEK BEGINNING: 11 August 97

ITEM	REF ID	COMPANY	MON 8/11	TUES 8/12	WED 8/13	THURS 8/14	FRI 8/15	SAT 8/16	SUN 8/17
J McMuchen	JM	GeoSyntec							
D Bedine	DB	"	✓	✓	✓	✓	✓	✓	
N Meekins	NM	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
B Eusman	BE	"	✓ x	✓ x	✓ x	✓ x	✓ x		
R Peddicord	RP	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
S Quammen	SQ	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
R Livingston	RL	"	✓ x	✓ x	✓ x	✓ x	✓ x		
K Wills	KW	"	✓ x	✓ x	✓ x	✓ x	✓ x		
J Williams	JW	"	✓ x	✓ x	✓ x	✓ x	✓ x		
P O'Dwyer	PO	"							
R Hatter	RH	"	✓	✓	✓	✓	✓		
D Pass	DP	"							
D Bonnett	DB	"			✓	✓			
B Nagel	BN	"	✓ x	✓ x	✓ x	✓ x	✓ x		
K Cargill	KC	"	✓						
J. BEECH	JB	"		✓	✓	✓			
RUDY BONAPARTE	RB	"					✓		

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / Phase One WEEK BEGINNING: 18 August '97

ITEM	REF ID	COMPANY	MON 8/18	TUES 8/19	WED 8/20	THURS 8/21	FRI 8/22	SAT 8/23	SUN 8/24
J McNuchen	JM	GeoSyntec	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
N Meekins	NM		✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
D Bodine	DB	"							
B Ehrman	BE	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
R Peddicord	RP	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
S Quammen	SQ	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
R Livingston	RL	"	✓ x	✓ x	✓ x	✓ x	✓ x		
K Willo	KW	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
J Williams	JW	"	✓ x	✓ x	✓ x	✓ x	✓ x		
B Nagel	BN	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
R Halter	RH	"	✓	✓	✓	✓	✓		
D Bonnett	DB	"	✓	✓	✓	✓	✓		
K. Cargill	CG	"			✓	✓			

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SHEET NO. 27 OF

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: ICS / Phase One WEEK BEGINNING: 25 August 97

ITEM	REF ID	COMPANY	MON 8/25	TUES 8/26	WED 8/27	THURS 8/28	FRI 8/29	SAT 8/30	SUN 8/31
J McMicken	JM	GeoSyntec	✓ X	✓ X	✓ X	✓ X	✓ X	✓ X	
N Mecklin	NM	"	✓ X	✓ X	✓ X	✓ X	✓ X	✓ X	
D Bodine	DB	"	✓	✓	✓	✓	✓		
B Erwin	BE	"	✓ X	✓ X	✓ X	✓ X	✓ X	✓ X	
R Peddicord	RP	"	✓ X	✓ X	✓ X	✓ X	✓ X	✓ X	
S. Quarmen	SQ	"	✓ X	✓ X	✓ X	✓ X	✓ X	✓ X	
R Lumpton	RL	"	✓ X	✓ X	✓ X	✓ X	✓ X		
K Wells	KW	"	✓ X	✓ X	✓ X	✓ X	✓ X		
J Williams	JW	"							
B Nagel	BN	"	✓ X	✓ X	✓ X	✓ X	✓ X	✓ X	
R Hatter	RH	"	✓	✓	✓	✓	✓		
D Bennett	DB	"			✓	✓			
K. Cargill	K.C.	"		✓	✓				

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / Phase One WEEK BEGINNING: 1 September 97

ITEM	REF ID	COMPANY	MON 9/1	TUES 9/2	WED 9/3	THURS 9/4	FRI 9/5	SAT 9/6	SUN 9/7
J McNuchen	JM	GeoSyntec	✓	✓ X	✓ X	✓ X	✓ X	✓ X	
N Meikins	NM	"	✓	✓ X	✓ X	✓ X	✓ X	✓ X	
D Bodine	DB	"	✓	✓	✓	✓	✓	✓	✓
B Ehrsman	BE	"	✓	✓ X	✓ X	✓ X	✓ X	✓ X	
R. Peddicord	RP	"	✓	✓ X	✓ X	✓ X	✓ X	✓ X	✓ X
S Quammen	SQ	"	✓	✓ X	✓ X	✓ X	✓ X	✓ X	
R. Livingston	RL	"	✓	✓ X	✓ X	✓ X	✓ X	✓ X	✓ X
K Weld	KW	"							
J Williams	JW	"	—	—	—	—	—	—	—
B Nagel	BN	"	✓	✓ X	✓ X	✓ X	✓ X	✓ X	
R Halter	RH	"	✓	✓	✓	✓	✓		
D Bonnett	DB	"							
B. Nichols	BN	"	✓	✓ X	✓ X	✓ X	✓ X	✓ X	
K. CARGILL	K.C.	"		09/09/97 ✓	✓				

09/09/97

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / Phase One WEEK BEGINNING: 8 Sept 97

ITEM	REF ID	COMPANY	MON 9/8	TUES 9/9	WED 9/10	THURS 9/11	FRI 9/12	SAT 9/13	SUN 9/14
J McMuchen	JM	GeoSyntec	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x
N Meekins	NM	"	✓ x	✓ x	✓ x	✓ x			
D Bodine	DB	"	✓	✓	✓	✓	✓ x	✓	
B Ericman	BE	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
R Peddicord	RP	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
S Quammen	SQ	"							
R Lumpton	RL	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
K Willo	KW	"			✓ x	✓ x	✓ x	✓ x	
B Nagel	BN	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
R Hartz	RH	"	✓	✓	✓	✓	✓		
B Nichols	BN	"	✓ x	✓ x	✓ x	✓ x	✓ x	✓ x	
D Bennett	DB	"	✓	✓		---			
K. CARGILL	K.C.	"					✓		
D. UNDERLINDG	D.U.	"					✓		

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / Phase One WEEK BEGINNING: 15 September 97

ITEM	REF ID	COMPANY	MON 15	TUES 16	WED 17	THURS 18	FRI 19	SAT 20	SUN 21
J McMicken	JM	GeoSyntec	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓
N Meekins	NM	"							
D Bodine	DB	"	✓	✓	✓	✓			
B Erusman	BE	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
R. Peddicord	RP	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
S Quammen	SQ	"	✓✓	✓✓	✓✓	✓✓	✓	✓	
R Livingston	RL	"	✓✓	✓✓	✓✓	✓✓	✓✓		
K Wells	KW	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
B Nagel	BN	"	✓✓	✓✓	✓✓				
R Haefer	RH	"	✓	✓	✓	✓	✓		
B. Nichols	RBN	"	✓✓	✓✓	✓✓	✓	✓✓	✓✓	
J. Lepkowski	JL	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
P. PROMMER	P.P.	"			✓✓	✓✓	✓✓	✓✓	
M. RUCAND	M.R.	"			✓	✓			
S. HALL	S.H.	"			✓	✓			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/Phase One WEEK BEGINNING: 22 September 97

ITEM	REF ID	COMPANY	MON 22	TUES 23	WED 24	THURS 25	FRI 26	SAT 27	SUN 28
J McMicken	JM	GeoSyntec	✓✓	✓✓	✓✓	✓✓			
N Meckund	NM	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
D Bodine	DB	"	✓	✓	✓	✓	✓	✓	✓
R Peddicord	RP	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
S Quinnan	SQ	"	✓✓	✓✓	✓✓	✓✓	✓	✓	
R Humpton	RL	"							
K Willo	KW	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
B Nagel	BN	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
R Hafter	RH	"	✓	✓	✓				
B Nichols	RBN	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
J Lepkowski	JL	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
P Prommer	PP	"	✓✓	✓✓	✓✓	✓✓	✓✓		
B Eidman	BE	"	✓✓	✓✓	✓✓	✓✓			
K Carroll	KC	"		✓	✓		✓		
K Weiss	KW	"		✓					
David Bennett	DB	"				✓	✓		
Tom Ontko		OHIO-EPA (for HSI-Weldfuns)					✓		
Martin Kosel							✓		

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / Phase One WEEK BEGINNING: 29 September 97

ITEM	REF ID	COMPANY	MON 29	TUES 30	WED 1	THURS 2	FRI 3	SAT 4	SUN 5
J. McMicken	JM	GeoSyntec							
N. Meekins	NM	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
D. Bodine	DB	"	✓	✓	✓	✓			
B. Erusman	BE	"			✓✓	✓✓	✓✓	✓✓	
R. Peddicord	RP	"	✓✓	✓✓	✓✓	✓✓	✓✓		
S. Quammen	SQ	"	✓✓	✓✓	✓✓	✓✓	✓✓		
R. Livingston	RL	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
K. Wells	KW	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
B. Nagel	BN	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
B. Nichols	RBN	"	✓✓	✓✓	✓				
J. Lepkowski	JL	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓	
P. Plummer	PP	"	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	
R. Erusman	RE	"			✓	✓			
D. Bennett	DB	"			✓✓	✓	✓		
A. Zaguirre	AZ	"			✓	✓✓	✓✓	✓✓	
K. Cerrato	KC	"				✓			
D. Vandekunde	DV	"				✓			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS Phase Inc WEEK BEGINNING: 6 October 97

ITEM	REF ID	COMPANY	MON 6	TUES 7	WED 8	THURS 9	FRI 10	SAT 11	SUN 12
J. McMicken	JM	GeoSyntec		✓	✓	✓	✓	✓	
N. McKinney	NM	"	✓	✓	✓	✓	✓	✓	✓
D. Bodine	DB	"							
B. Erisman	BE	"	✓	✓	✓	✓	✓	✓	
R. Pickard	RP	"	✓	✓	✓	✓	✓	✓	
S. Quammen	SQ	"	✓	✓	✓	✓	✓	✓	
R. Livingston	RL	"	✓	✓					
K. Wells	KW	"	✓	✓	✓	✓	✓		
B. Nagel	BN	"	✓	✓	✓	✓	✓	✓	
J. Lipkowski	JL	"	✓	✓	✓	✓	✓	✓	
P. Prenmer	PP	"	✓	✓	✓	✓	✓		
R. Erisman	RE	"	✓	✓	✓	✓	✓		
A. Zagaron	AZ	"	✓	✓	✓	✓	✓	✓	
R. Bonaparte	R.B.	"		✓	✓				

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/Phase One WEEK BEGINNING: 13 October 1997

ITEM	REF ID	COMPANY	MON 13	TUES 14	WED 15	THURS 16	FRI 17	SAT 18	SUN 19
J McMuchen	JM	GeoSyntec	✓	✓	✓	✓	✓	✓	
N Mullins	NM	"	✓	✓	✓	✓	✓		
D Bodine	DB	"	✓	✓	✓	✓	✓		
B Erdman	BE	"	✓	✓	✓	✓	✓		
R Pedducci	RP	"	✓	✓	✓	✓	✓		
S Quammen	SQ	"	✓	✓	✓	✓	✓		
R Livingston	RL	"							
K Wills	KW	"		✓	✓	✓	✓		
B Nagel	BN	"	✓	✓	✓	✓	✓		
J Lepkowski	JL	"	✓	✓	✓	✓	✓	✓	
P Plonner	PP	"	✓	✓	✓	✓	✓		
R Erdman	RE	"	✓	✓	✓	✓	✓		
A Zagaron	AZ	"	✓	✓	✓	✓	✓	✓	
K Cargill	KC	"		✓					

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/Phase One WEEK BEGINNING: 20 October 97

ITEM	REF ID	COMPANY	MON 20	TUES 21	WED 22	THURS 23	FRI 24	SAT 25	SUN 26
J McMuchen	JM	GeoSyntec	✓	✓	✓	✓	✓	✓	
N Mullins	NM	"	✓	✓	✓	✓	✓	✓	
D Bodine	DB	"	✓	✓	✓	✓	✓		
B Eichman	BE	"	✓	✓	✓	✓			
R Peddicord	RP	"	✓	✓	✓	✓	✓		
S Quammen	SQ	"	✓	✓	✓	✓	✓		
R Livingston	RL	"					✓		
K Wills	KW	"	✓	✓	✓	✓	✓	✓	
B Nagel	BN	"	✓	✓	✓	✓	✓	✓	
J Lepkowski	JL	"	✓	✓	✓	✓	✓		
P Prommer	PP	"	✓	✓	✓	✓	✓		
A Zagaron	AZ	"	✓	✓	✓	✓			
R Eichman	RE	"	✓	✓	✓	✓	✓		
K Cargill	KC	"	✓	✓					

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS Phase One WEEK BEGINNING: 27 Oct 97

ITEM	REF ID	COMPANY	MON 27	TUES 28	WED 29	THURS 30	FRI 31	SAT 1	SUN 2
J McNulchen	JM	GeoSyntec	✓	✓	✓	✓	✓	✓	
N Meekins	NM	"	✓	✓	✓	✓	✓		
D Bodine	DB	"	✓	✓	✓	✓	✓		
B Eusman	BE	"	✓	✓	✓	✓	✓		
R. Peddicord	RP	"	✓	✓	✓	✓	✓	✓	
S Quammen	SQ	"	✓	✓	✓	✓	✓	✓	
K Wells	KW	"	✓	✓	✓	✓			
B Nagel	BN	"	✓	✓	✓	✓	✓	✓	
J Lepkowski	JL	"	✓	✓					
A Zagaron	AZ	"	✓	✓					
R Eusman	RE	"	✓	✓	✓	✓	✓		
D Bonnett	DB	"	✓	✓	✓	✓			
T. ONTKO	T.O	OHIO EPA			✓				
T. SCHNEIDER	T.S.	"			✓				
K. CARGILL	KC	GEOSYNTEC		✓	✓				

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS Phase One WEEK BEGINNING: 03 NOV 97

ITEM	REF ID	COMPANY	MON 3	TUES 4	WED 5	THURS 6	FRI 7	SAT 8	SUN 9
J McMicher	JM	GeoSyntec	✓	✓	✓	✓	✓	✓	✓
N. Meekins	NM	"							
D. Bodine	DB	"	✓	✓	✓	✓			
B. Erisman	BE	"	✓	✓	✓	✓	✓	✓	✓
R. Peddicord	RP	"	✓				✓	✓	
S. Quammen	SQ	"	✓	✓	✓	✓	✓	✓	
B. Nagel	BN	"	✓	✓	✓	✓	✓		
R. Erisman	RE	"	✓	✓	✓	✓	✓		
K. CARGILL	K.C.	"			✓				
J.P. GIROUD	JG	"					✓		

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/Phase One WEEK BEGINNING: 10 Nov 97

ITEM	REF ID	COMPANY	MON 10	TUES 11	WED 12	THURS 13	FRI 14	SAT 15	SUN 16
J McMicken	JM	GeoSyntec	✓	✓	✓	✓	✓	✓	✓
N. Meekins	NM	"	✓	✓	✓	✓	✓	✓	✓
D Bodine	DB	"	✓	✓					
B. Ersman	BE	"	✓	✓	✓	✓	✓	✓	
R Pedducci	RP	"	✓	✓	✓	✓	✓	✓	HEm
S Quammen	SQ	"	✓	✓	✓	✓	✓	✓	
B. Nagel	BN	"							
R Ersman	RE	"	✓	✓		✓			
K. Cargill	KC	"		✓	✓				
M. Montleone	MM	"	RE	✓	✓				
J Beech	JB	"		✓	✓	✓			

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS | Phase One WEEK BEGINNING: 17 November 1997

ITEM	REF ID	COMPANY	MON 17	TUES 18	WED 19	THURS 20	FRI 21	SAT 22	SUN 23
J McMuchen	JM	GeoSyntec	✓	✓	✓	✓	✓	✓	
N. Meekins	NM	"	✓	✓	✓	✓	✓		✓
D. Bodine	DB	"							
B. Erwman	BE	"	✓	✓	✓	✓	✓	✓	✓
R. Peddicord	RP	"	✓	✓	✓	✓	✓	✓	✓
S. Quammen	SQ	"	✓	✓	✓	✓	✓		
B. Nagel	BN	"	✓	✓	✓	✓	✓	✓	✓
R. Erwman	RE	"	✓		✓	✓			
J. BEECH	J.B.	"		✓					
B. JACOBSON	B.J.	"				✓	✓		

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / Phase One WEEK BEGINNING: 24 November 1997

ITEM	REF ID	COMPANY	MON 24	TUES 25	WED 26	THURS 27	FRI 28	SAT 29	SUN 30
J McNicken	JM	GeoSyntec	✓	✓					
N. Meekins	NM	"	✓	✓	✓	✓	✓	✓	
D. Bodine	DB	"	✓	✓	✓	✓	✓	✓	✓
B. Ehrsman	BE	"	✓	✓	✓		✓	✓	✓
R. Peddicord	RP	"	✓	✓	✓		✓	✓	
S. Quammen	SQ	"							
B. Nagel	BN	"	✓	✓	✓	✓	✓	✓	
R. Ehrsman	RE	"	✓		✓		✓		
K. CARGILL	KC	"	✓						
J. BEECH	JB	"	✓	✓					
J. LEPKOWSKI	JL	"						✓	

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/PHASE I CONSTRUCTION WEEK BEGINNING: 01 DECEMBER 1997

ITEM	REF ID	COMPANY	MON 01	TUES 02	WED 03	THURS 04	FRI 05	SAT 06	SUN 07
JEFF MCMICHEN	JM	GEOSYNTEC							
NED MEEKINS	NM	"	✓	✓	✓	✓	✓	✓	✓
DAN BODINE	DB	"	✓	✓	✓	✓	✓	✓	✓
BRIAN ERISMAN	BE	"	✓	✓	✓	✓	✓	✓	✓
ROB PEDDICORD	RP	"	✓	✓	✓	✓	✓	✓	✓
SCOTT QUAMMEN	SQ	"	✓	✓	✓	✓	✓	✓	✓
BILL NAGEL	BN	"	✓	✓	✓	✓	✓	✓	✓
RENE ERISMAN	RE	"	✓		✓	✓	✓		
JEN LEPKOWSKI	JL	"	✓	✓	✓	✓	✓	✓	
KEN CARGILL	KC	"							
JAY BEECH	JB	"				✓	✓		
BILL KOSCO	BK	TETRA TECH	✓			---			
TOM ONTKO	TO	OHIO EPA	✓						

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/PHASE I CONSTRUCTION WEEK BEGINNING: 08 DECEMBER 1997

ITEM	REF ID	COMPANY	MON 08	TUES 09	WED 10	THURS 11	FRI 12	SAT 13	SUN 14
JEPH McMICHEN	JM	GEOSYNTEC	✓	✓	✓	✓	✓	✓	✓
NED MEEKINS	NM	"	✓	✓	✓	✓	✓	✓	✓
DAN BODINE	DB	"	✓	✓	✓	✓			
BRIAN ERISMAN	BE	"	✓	✓	✓	✓			
ROB PEDDICORD	RP	"		✓	✓	✓	✓		✓
SCOTT QUAMMEN	SQ	"	✓	✓	✓	✓	✓	✓	✓
BILL NAGEL	BN	"	✓	✓	✓	✓	✓	✓	✓
RENÉE ERISMAN	RE	"		✓	✓	✓			
JEN LEPKOWSKI	JL	"	✓	✓	✓	✓	✓	✓	✓
KEN CARGILL	KC	"			✓	✓			
JAY BEECH	JB	"							

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/PHASE I CONSTRUCTION WEEK BEGINNING: 15 DECEMBER 1997

ITEM	REF ID	COMPANY	MON 15	TUES 16	WED 17	THURS 18	FRI 19	SAT 20	SUN 21
JOSEPH MCMICHEN	JM	GEOSYNTEC	✓	✓	✓	✓			
NED MEEKINS	NM	"	✓	✓	✓	✓			
DAN BODINE	DB	"	✓	✓	✓	✓	✓	✓	✓
BRIAN ERISMAN	BE	"	✓	✓	✓	✓	✓	✓	
ROB PEDDICORD	RP	"	✓	✓	✓	✓		✓	
SCOTT QUAMMEN	SQ	"	✓	✓	✓	✓	✓	✓	
BILL NAGEL	BN	"	✓	✓	✓	✓	✓	✓	✓
RENEE ERISMAN	RE	"	✓	✓	✓	✓			
JEW LEPKOWSKI	JL	"	✓	✓	✓	✓	✓		
KEN CARGILL	KC	"		✓	✓				
GUY MONTFORM	GM	TETRA-TECH		✓			✓		

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS / PHASE I CONSTRUCTION WEEK BEGINNING: 22 DECEMBER 1997

ITEM	REF ID	COMPANY	MON 22	TUES 23	WED 24	THURS 25	FRI 26	SAT 27	SUN 28
JEPH MCMICHEN	JM	GEOSYNTEC CONSULTANTS							
NED MEEKINS	NM								
DAN BODINE	DB		✓	✓					
BRIAN ERISMAN	BE			✓			✓	✓	✓
ROB PEDDICORD	RP		✓	✓			✓	✓	✓
SCOTT QUAMMEN	SQ		✓	✓			✓	✓	✓
BILL NAGEL	BN		✓						
RENEE ERISMAN	RE		✓	✓					
KEN CARGILL	KC								

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PERSONNEL/EQUIPMENT DAILY LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: LCS/PHASE I CONSTRUCTION WEEK BEGINNING: 29 DECEMBER 1997

ITEM	REF ID	COMPANY	MON 29	TUES 30	WED 31	THURS 01	FRI 02	SAT 03	SUN 04
JEPH MCMICHEN	JM	GEOSYNTEC CONSULTANTS							
NED MEEKINS	NM								
DAN BODINE	DB		✓	✓	✓				
BRIAN ERISMAN	BE		✓						
ROB PEDDICORD	RP		✓	✓	✓		✓		
SCOTT QUAMMEN	SQ								
BILL NAGEL	BN		✓	✓	✓		✓		
RENEE' ERISMAN	RE								
KEN CARGILL	KC								

APPENDIX F:

PHASE I - GEOTECHNICAL LABORATORY TEST RESULTS

Field Laboratory Test Results
- Compacted Fill
- Compacted Clay Liner
- Granular Drainage Material

Off-Site Laboratory Test Results
- Pipe Embedment Fill
- Manhole Embedment Fill
- Granular Drainage Material
- Compacted Clay Liner

Field Laboratory Test Results

Compacted Fill

- **Soil Sample Log**

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 10 JUNE YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
OSDF-01	—	BROWN SILTY CLAY	SEDEMENTATION POND STA. 29+00, 30+00 & 31+00	STRUCTURAL FILL	10 JUNE	ASTM D2216, D4643, D422, D2487, D4318, D698	PKO
OSDF-02	—	BROWN SILTY CLAY	CERT. ON-SITE STOCKPILE	"	17 JUNE	ASTM D2216, D4643, D422, D2487, D4318, D698	NM
OSDF-03	—	BROWN SILTY CLAY	SOUTH-EAST CORNER OF SED. BASIN BERM, EXCAV. TEST PIT (-4') & W. DRAIN CHNL.	"	27 JUNE	ASTM D2216, D4643, D422 D2487, D4318, D698	PKO
OSDF-04	—	BROWN SILTY CLAY	100' W of cell 1/2 intercell berm	"	10 JULY	ASTM D2216, D4643, D422, D2487, D4318, D698	NM
OSDF-05	—	BROWN SILTY CLAY	N. of Cell 1 & N. DRAIN CHNL.	"	10 JULY	"	NM
OSDF-06	—	BR/GR SILTY CLAY	N. PERIMETER BERM	"	15 JULY	"	NM
OSDF-07	—	Brown silty clay	N. PERIMETER BERM	"	16 JULY	ASTM D698 (1 pt.) "	NM
OSDF-08	—	BR/GR clay~~ey~~ sand	N. Perimeter Berm	"	18 JULY	ASTM D2216, D4643, D422 D2487, D4318, D698	NM
OSDF-09	—	BR. sa. clay w/GVL	WEST BERM	"	21 JULY	"	NM
OSDF-10	—	BR sa clay w/GVL	" "	"	22 JULY	"	NM
OSDF-11	—	BR. SANDY CLAY W/GVL	E. PERIMETER BERM	"	28 JULY	"	KW
OSDF-12	—	BR. SANDY CLAY W/GVL	W. PERIMETER BERM	"	29 JULY	"	KW
OSDF-13	—	BR. SANDY CLAY W/GVL	W. PERIMETER BERM	"	30 JULY	"	KW
OSDF-14	—	BR. SANDY CLAY W/GVL	E. PERIMETER BERM	"	30 JULY	"	KW
OSDF-15	—	BR. SANDY CLAY w/TR. GVL	N. FLOOR BACKFILL	"	04 AUG	"	NM

NOTES:

GEO SYNTEC CONSULTANTS FILE NO. 2-01-SSL CHECKED BY: JTM SHEET NO. 1 OF 2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 26 AUGUST YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
OSDF-16		BROWN SA. CLAY W/GVL	WEST Perimeter Berm CELL 2	STR. FILL	26 AUG	ASTM D2216, D422, D4318, D698, D2487	NM
OSDF-17		"	WEST PERIMETER BERM CELL 2	" "	23 SEPT	ASTM D2216, D4643, D698 (1 pt.)	NM
OSDF-18		"	"	" "	24 SEPT	ASTM D698, D422, D2487, D4318	NM
OSDF-19		BR. GR. Tan Sandy CLAY W/GVL	"TOPSOIL" STOCKPILE	" "	08 OCT	ASTM D698, D422, D2487, D4318	NM
OSDF-20		BR. SILTY Clay	NDT-367	" "	15 Oct	ASTM-D2216, D4643	NM
OSDF-21		"	WEST BERM CELL 2 COMP. FILL	" "	15 OCT	ASTM D698 (1 Pt)	NM
OSDF-22		"	NDT-378	" "	16 Oct	ASTM D2216, D4643	JL
OSDF-23		Dark grey and brown Sandy Clay	WEST & West Berm	" "	16 Oct	ASTM D698 (1 Pt)	JL
OSDF-24		"	"	" "	16 OCT	ASTM D698, D422, D4318, D2487	NM
OSDF-25		GRAYISH BR. CLAY	WNW of Cell 1	" "	16 OCT	ASTM D698 (1 PT)	NM

NOTES:

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CHECKED BY: JJm

SHEET NO. 2 OF 2

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- Laboratory Test Summary

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 I CONSTRUCTION — DATE: 10 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — QA ID: PKO

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)
OSDF-01	—	23.9 / 20.0	86.1	✓	—	33	19	14	—	(CL)	—	—	106.9	19.4	—	—	—	P	500
OSDF-02	—	15.3 / 18.5	70.1	✓	—	30	16	14	—	(CL)	—	—	113.0	15.0	—	—	—	P	4000
OSDF-03	—	19.4 / 20.5	77.3	✓	—	33	18	15	—	(CL)	—	—	116.5	14.2	—	—	—	P	8000
OSDF-04	—	13.5 / 16.4	66.6	✓	—	34	17	17	—	(CL)	—	—	117.8	14.0	—	—	—	P	
OSDF-05	—	18.3 / 17.4	71.9	✓	—	39	18	21	—	(CL)	—	—	118.0	13.8	—	—	—	P	
OSDF-06	—	5.8 / —	61.8	✓	—	24	15	9	—	sandy (CL) w/some GVL	—	—	116.0	15.1	—	—	—	P	11000
OSDF-07	—	17.1 / —	87.6	✓	—	40	18	22	—	(CL) w/some sand/trace GVL	—	—	107.0	18.0	—	—	—	P	13500
OSDF-08	—	13.1 / 15.0	56.0	✓	—	24	14	10	—	sandy (CL) w/some GVL	—	—	123.0	11.5	—	—	—	P	17500
OSDF-09	—	21.6 / 22.8	69.6	✓	—	37	17	20	—	SANDY (CL) w/some GVL.	—	—	114.2	16.0	—	—	—	P	21,500
OSDF-10	—	18.2 / 17.1	62.9	✓	—	27	15	12	—	SANDY (CL) w/some GVL.	—	—	119.7	13.8	—	—	—	P	25,000

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF NA.

000097

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 28 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — QA ID: NM

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)
OSDF-11	—	19.6 / 21.2	70.1	✓	—	41	17	24	—	BR. SA. (CL) w/some GVL.	—	—	115.8	15.8	—	—	—	P	29,000
OSDF-12	—	15.5 / 14.6	67.0	✓	—	34	17	17	—	BR. SA. (CL) w/some GVL.	—	—	114.5	15.0	—	—	—	P	33,000
OSDF-13	—	14.6 / 14.8	63.7	✓	—	30	16	14	—	BR. SA. (CL) w/some GVL.	—	—	115.8	15.2	—	—	—	P	36,500
OSDF-14	—	17.6 / 17.7	78.8	✓	—	31	17	14	—	BR (CL) w/some sand & GVL.	—	—	115.9	15.2	—	—	—	P	40,000
OSDF-15	—	13.6 / —	81.5	✓	—	34	17	17	—	BR (CL) w/some sand & Tr. of GVL	—	—	107.0	19.5	—	—	—	P	45,000
OSDF-16	—	21.7 / 22.5	63.8	✓	—	30	17	13	—	BR. SA (CL) w/some GVL	—	—	119.1	13.6	—	—	—	P	50,000
OSDF-17	—	— / —	—	—	—	—	—	—	—	—	—	—	*98.3	*20.0	—	—	—	T	
OSDF-18	—	— / —	79.7	✓	—	42	19	23	—	BR (CL) w/some SA, & Tr of GVL	—	—	106.0	15.8	—	—	—	P	
OSDF-19	—	21.4 / 20.8	92.0	✓	—	45	19	26	—	SA. (CL)	—	—	102.2	20.0	—	—	—	P	
OSDF-20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: * CK PT. COMPARES W/ NO PREV. TEST. ADDITIONAL SAMPLE TAKEN AS OSDF-18

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF NA.

CHECKED BY: [illegible] SHEET NO. 2 OF 3

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 I CONSTRUCTION — DATE: 15 day OCT month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — QA ID: NM

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)
OSDF-21	—	—	—	—	—	—	—	—	—	—	—	—	* 102.8	* 20.8	—	—	—	T	—
OSDF-22	—	21.4 21.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
OSDF-23	—	—	—	—	—	—	—	—	—	—	—	—	** 95.3	** 20.0	—	—	—	+	—
OSDF-24	—	—	59.2	✓	—	52	18	34	—	SANDY (CH)	—	—	101.0	21.5	—	—	—	F	—
OSDF-25	—		—	—	—	—	—	—	—	—	—	—	*** 92.3	*** 19.1	—	—	—	+	—

COMMENTS: * CK PT. COMPARES W/OSDF-19 (102.2 pcf @ 20.0%) / ** CK PT COMPARES W/NO EXISTING SAMPLE / *** CK. PT. COMPARES W/OSDF-24 (101.0 pcf @ 21.5%)

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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SHEET NO. 3 OF 3

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- **Laboratory Testing**

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE ONE CONSTRUCTION DATE: 10 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-01

SOURCE: CUT AT STA 29+00 30+00 & 31+00 - SHEET # G-8C

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	2				
A	WT. OF TARE	7.60				
B	WT. OF WET SOIL & TARE	168.17				
C	WT. OF DRY SOIL & TARE	137.2				
D	WT. OF WATER = B-C	30.97				
E	WT. OF DRY SOIL = C-A	129.6				
F	MOISTURE CONTENT = (D/E) X 100	23.9				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	405.8				
C	WT. OF DRY SOIL & TARE	360.2				
D	WT. OF WATER = B-C	45.6				
E	WT. OF DRY SOIL = C-A	228.2				
F	MOISTURE CONTENT = (D/E) X 100	20.0				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE ONE CONSTRUCTION DATE: 12 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: [illegible]

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 12,695.6 gms (SOURCE: CUT @ STA. 29+00, 30+00, 31+00, SHEET G-8C)
>#4 SAMPLE WT = 267.0 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		2	2
WT. OF DRY SAMPLE PLUS TARE	(grams)	136.8	23.4
WT. OF TARE	(grams)	7.8	7.6
WT. OF DRY SAMPLE	(grams)	129.2	15.8

SIEVE ANALYSIS QA ID: PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
3/4"	19	Ø	Ø	100		MAXIMUM PARTICLE SIZE = 5in. Per DCN 1702-019
1/2"	12.5	29.0	0.2	99.8		
3/8"	9.5	73.1	0.6	99.4		
4	4.75	266.6	2.1	97.9		
10	2.00	4.0	3.1	96.9	94.9	
20	0.850	6.3	4.9	95.1	93.1	
40	0.425	8.6	6.7	93.3	91.3	
60	0.250	10.3	8.0	92.0	90.1	
100	0.150	12.6	9.8	90.2	88.3	
200	0.075	15.6	12.1	87.9	86.1	

NOTE: SIEVE ANALYSIS PERFORMED ON INDIVIDUAL SAMPLES AND MATHMATICALLY COMBINED

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS (ASTM D 422 & ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE ONE CONSTRUCTION

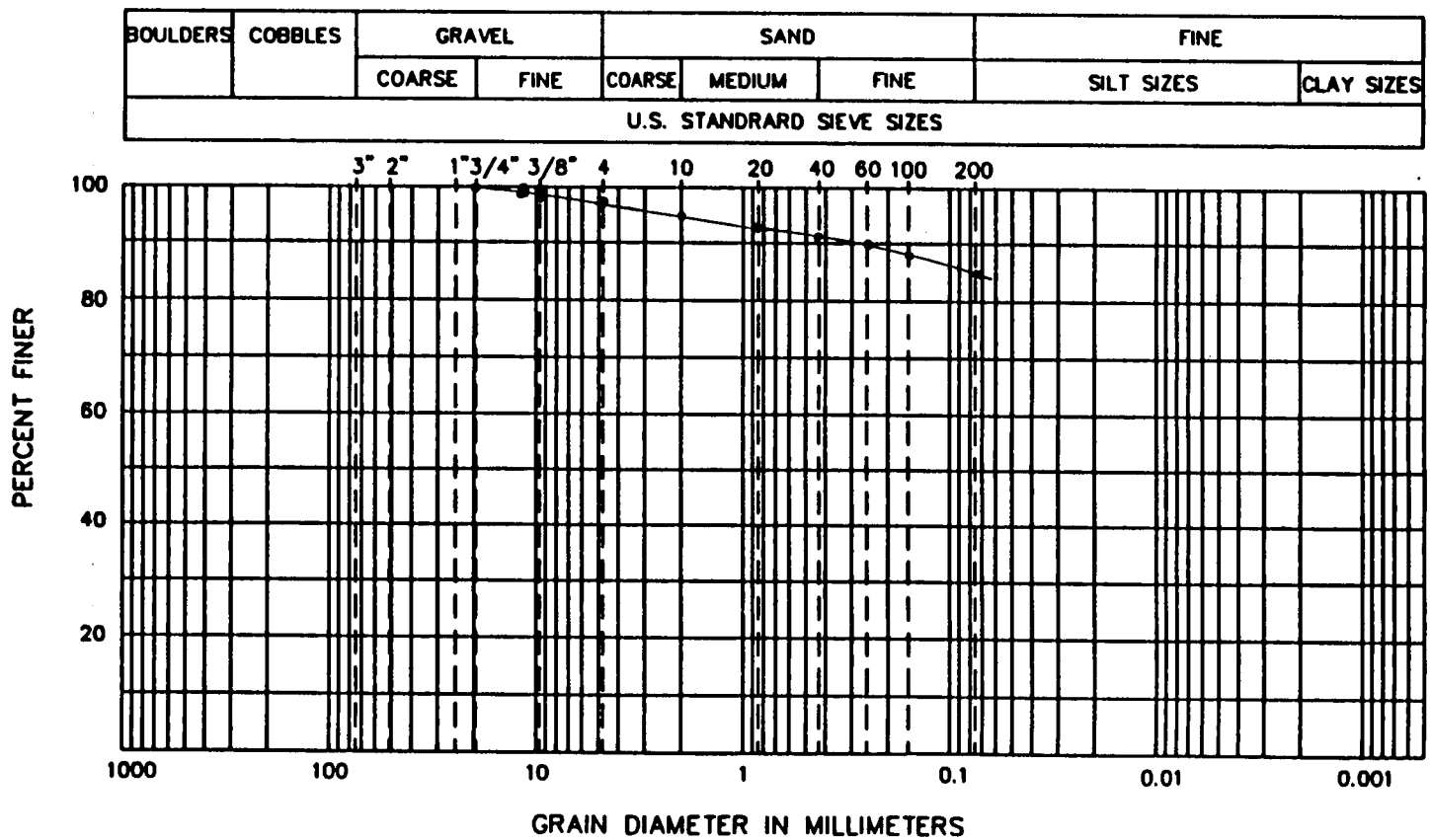
DATE: 12 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF/SB-01 QA ID: PKO

SOURCE: CUT @ STA. 29+00, 30+00 + 31+00 DWG G-8C

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) ~~32~~ 33 Hem

(PL) 19 Hem

(PI) ~~13~~ 14 Hem

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	
1-in.	
3/4-in.	100
1/2-in.	99.8
3/8-in.	99.4
NO. 4	97.9
NO. 10	94.9
NO. 20	93.1
NO. 40	91.3
NO. 60	90.1
NO. 100	88.3
NO. 200	86.1

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN SILTY 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)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: ~~LCS CONSTRUCTION~~ PHASE ONE CONSTRUCTION 12/11/97 DATE: 12 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.:

SOURCE: CUT @ STA. 29+00, 30+00 + 31+00 DWG G-8C

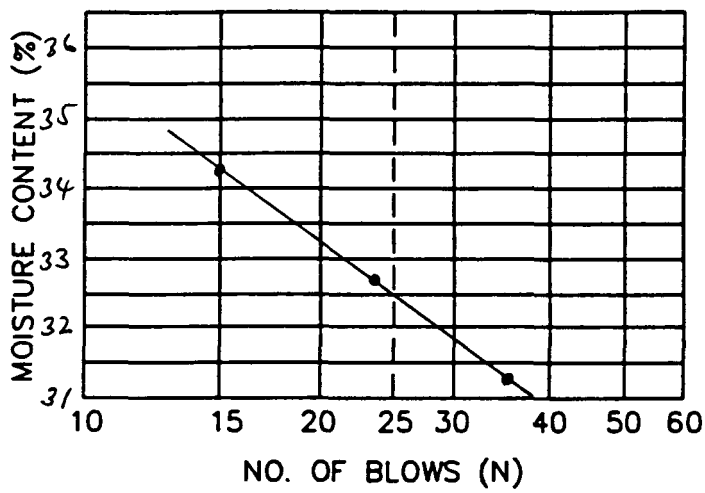
LIQUID LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·1	1·2	1·3	
A	WT. OF TARE	(grams)	28·76	28·50	28·64	
B	WT. OF WET SOIL & TARE	(grams)	49·75	44·88	44·26	
C	WT. OF DRY SOIL & TARE	(grams)	44·76	40·89	40·27	
D	WT. OF WATER = B-C	(grams)	4·99	3·99	3·99	
E	WT. OF DRY SOIL = C-A	(grams)	16·0	12·39	11·63	
F	MOISTURE CONTENT = (D/E)X100	(%)	31·2	32·2	34·3	
N	NUMBER OF BLOWS		35	24	15	

DRYING TARE NO.

D



CURING TARE NO.

1-C

PLASTIC LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·4	1·5		
A	WT. OF TARE	(grams)	28·52	28·61		
B	WT. OF WET SOIL & TARE	(grams)	36·55	36·57		
C	WT. OF DRY SOIL & TARE	(grams)	35·25	35·31		
D	WT. OF WATER = B-C	(grams)	1·3	1·26		
E	WT. OF DRY SOIL = C-A	(grams)	6·73	6·7		
F	MOISTURE CONTENT = (D/E)X100	(%)	19·3	18·8		

LIQUID LIMIT (LL) = ~~32·5~~ 33 Hem PLASTIC LIMIT (PL) = ~~19·1~~ 19 Hem PLASTICITY INDEX (PI) = ~~13·4~~ 14 Hem

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE ONE — DATE: 10 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF/SS-01

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: PKO

	WATER ADDED	(ml)	200	250	300	150	100
A	WT. OF SOIL & MOLD	(grams)	6138.4	6103.7	6057.1	6102.0	6003.2
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1929.0	1894.3	1847.7	1892.6	1793.8
D	WET UNIT WT.(1) = C X 0.066	(pcf)	127.3	125.0	122.0	124.9	118.4
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	106.4	102.2	97.8	105.9	102.9

NOTE: IF CALIBRATED MOLD OF 1/30 FT 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: PKO

	TARE NO.		1	14	12	11	15
F	WT. OF TARE	(grams)	7.20	7.60	7.2	7.30	8.0
G	WT. OF WET SOIL & TARE	(grams)	262.9	290.0	278.8	263.8	249.5
H	WT. OF DRY SOIL & TARE	(grams)	221.0	238.5	225.0	224.8	217.9
I	WT. OF WATER = G - H	(grams)	41.9	51.5	53.8	39.0	31.6
J	WT. DRY SOIL = H - F	(grams)	213.8	230.9	217.8	217.5	209.9
K	MOISTURE CONTENT = (I/J) X 100	(%)	19.6	22.3	24.7	17.9	15.1

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FLUOR DANIEL FERNALD

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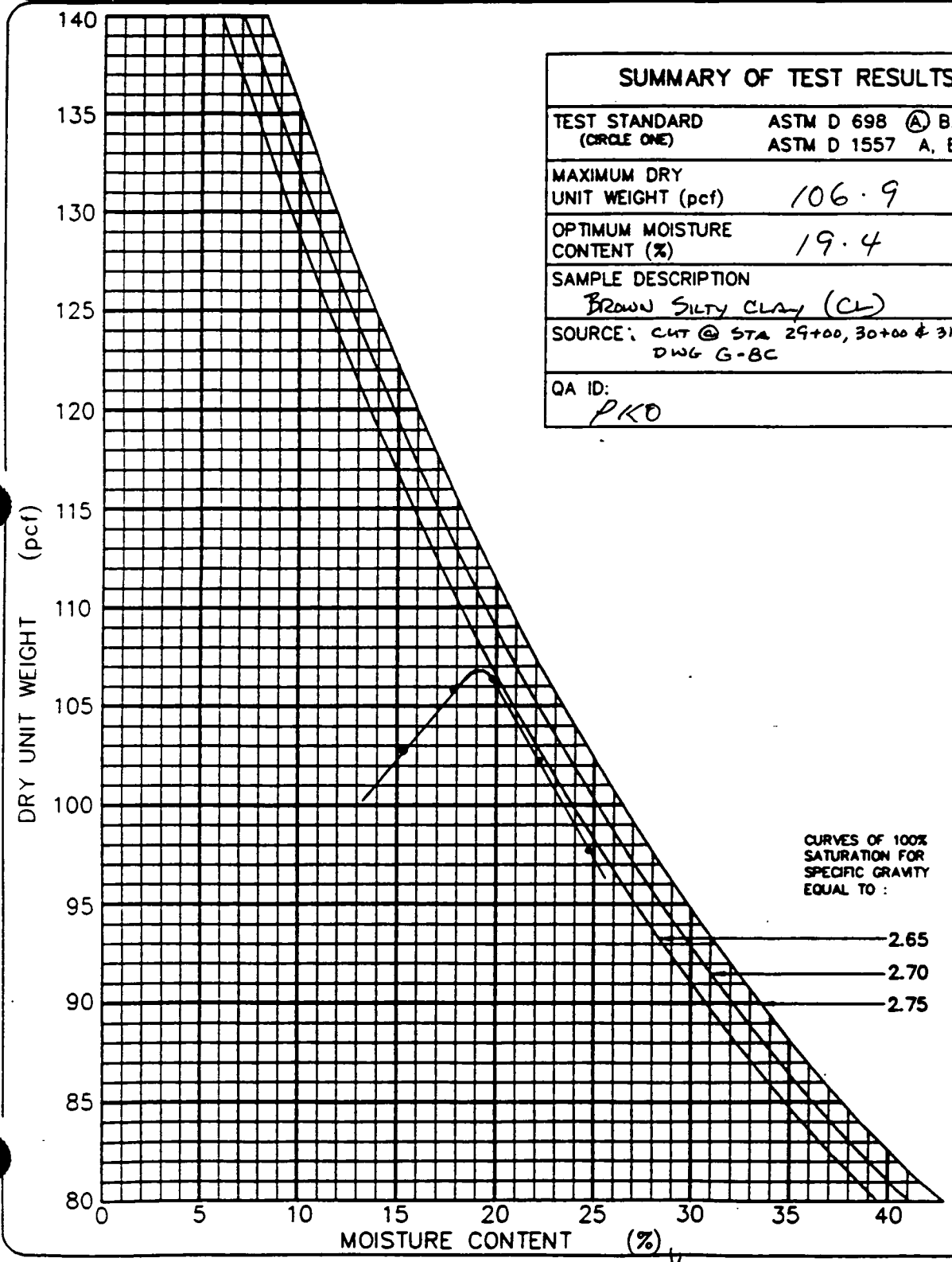
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE ONE DATE: 10 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-01



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)	106.9
OPTIMUM MOISTURE CONTENT (%)	19.4
SAMPLE DESCRIPTION	BROWN SILTY CLAY (CL)
SOURCE:	CUT @ STA 29+00, 30+00 & 31+00 DWG G-8C
QA ID:	PKO

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE ONE CONSTRUCTION DATE: 17 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-02

SOURCE: CERTIFIED ON-SITE STOCKPILE

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	3				
A	WT. OF TARE	7.54				
B	WT. OF WET SOIL & TARE	175.43				
C	WT. OF DRY SOIL & TARE	153.22				
D	WT. OF WATER = B-C	22.21				
E	WT. OF DRY SOIL = C-A	145.68				
F	MOISTURE CONTENT = (D/E) X 100	15.3				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	275.34				
C	WT. OF DRY SOIL & TARE	252.92				
D	WT. OF WATER = B-C	22.42				
E	WT. OF DRY SOIL = C-A	120.92				
F	MOISTURE CONTENT = (D/E) X 100	18.5				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-02

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 17,865.7 >#4 SAMPLE WT = 311.4 SOURCE: CERTIFIED ON-SITE STOCKPILE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		3	3
WT. OF DRY SAMPLE PLUS TARE	(grams)	153.22	49.36
WT. OF TARE	(grams)	7.54	7.54
WT. OF DRY SAMPLE	(grams)	145.68	41.82

SIEVE ANALYSIS QA ID: PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
1"	25	Ø	Ø	100		MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
3/4"	19	43.1	0.2	99.8		
1/2"	12.5	123.4	0.7	99.3		
3/8"	9.5	178.6	1.0	99.0		
4	4.75	~~132~~ 311.3	1.7	98.3		
10	2.00	13.6	9.3	90.7	89.2	
20	0.850	18.0	12.4	87.6	86.~~4~~	
40	0.425	23.0	15.8	84.2	82.8	
60	0.250	27.4	18.8	81.2	79.8	
100	0.150	33.2	22.8	77.2	75.9	
200	0.075	41.74	28.7	71.3	70.1	

NOTE: SIEVE ANALYSIS PERFORMED ON INDIVIDUAL SAMPLES AND MATHEMATICALLY COMBINED

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS (ASTM D 422 & ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

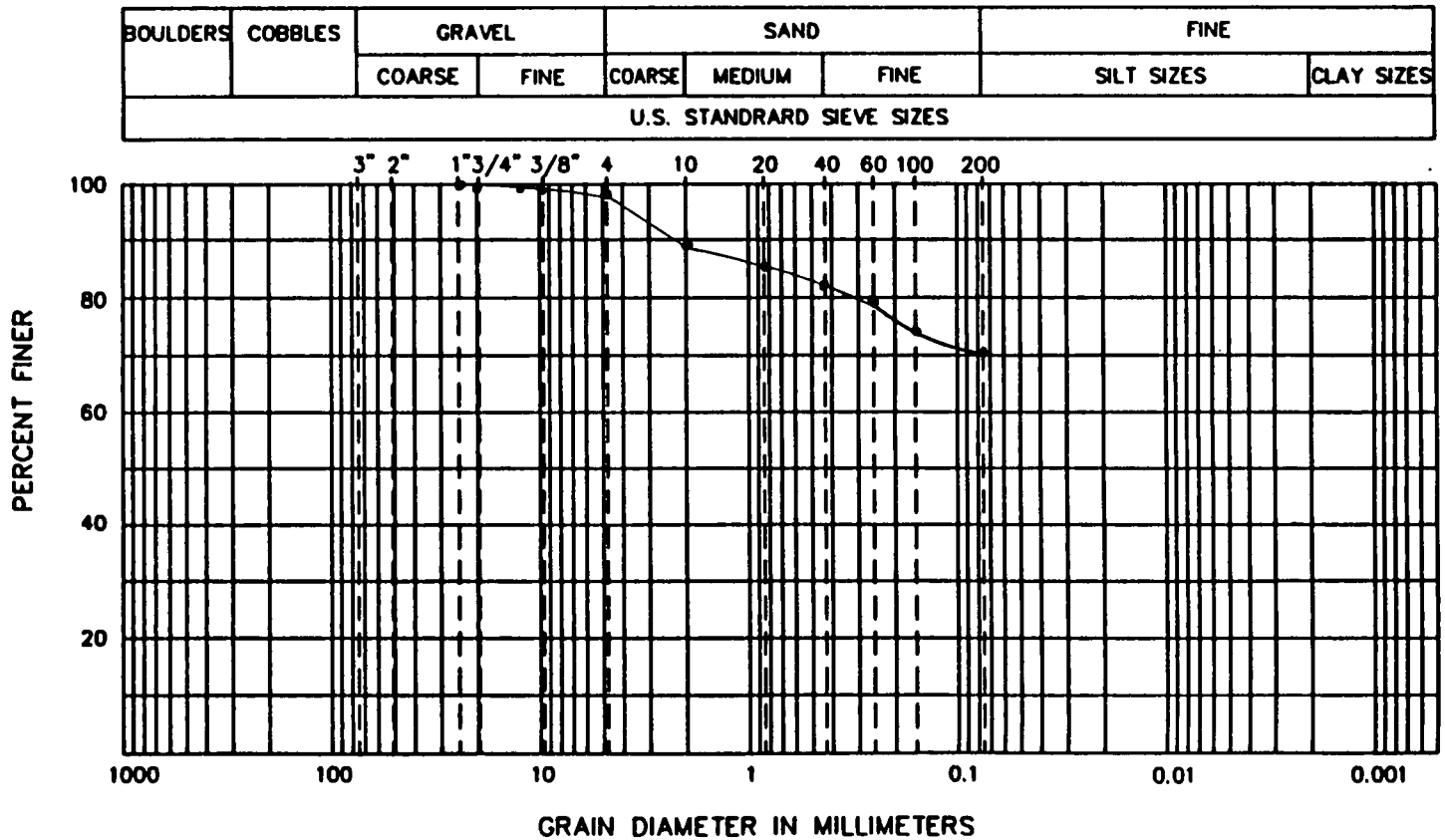
LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 20 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-02 QA ID: PKO

SOURCE: CERTIFIED ON-SITE STOCKPILE

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 30

(PL) 16

(PI) 14

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	
1-in.	100
3/4-in.	99.8
1/2-in.	99.3
3/8-in.	99.0
NO. 4	98.3
NO. 10	89.2
NO. 20	86.0
NO. 40	82.8
NO. 60	79.8
NO. 100	75.9
NO. 200	70.1

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN Sandy SILTY 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)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-02

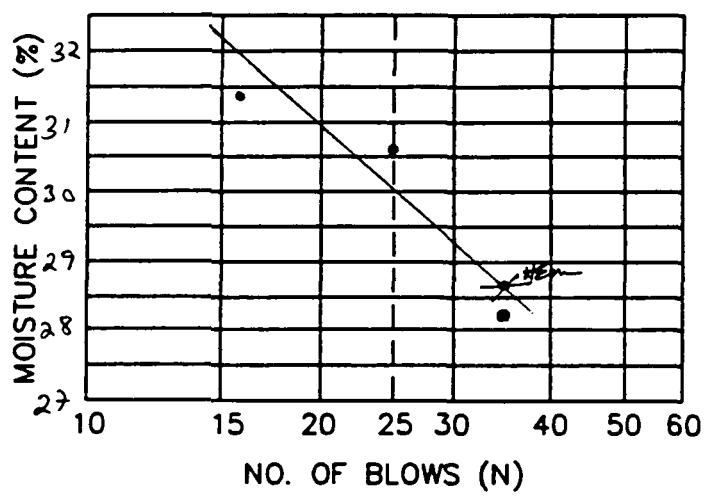
SOURCE: CERTIFIED ON-SITE STOCKPILE

LIQUID LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·1	1·2	1·3	
A	WT. OF TARE	(grams)	28·76	28·50	28·64	
B	WT. OF WET SOIL & TARE	(grams)	46·29	46·22	48·32	
C	WT. OF DRY SOIL & TARE	(grams)	42·43	42·07	43·62	
D	WT. OF WATER = B-C	(grams)	3·86	4·15	4·7	
E	WT. OF DRY SOIL = C-A	(grams)	13·~~47~~ 67	13·57	14·98	
F	MOISTURE CONTENT = (D/E)X100	(%)	28·~~72~~	30·6	31·4	
N	NUMBER OF BLOWS		35	25	16	

DRYING TARE NO.: A



CURING TARE NO.: 1-C

PLASTIC LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·4	1·5		
A	WT. OF TARE	(grams)	28·52	28·61		
B	WT. OF WET SOIL & TARE	(grams)	38·47	40·63		
C	WT. OF DRY SOIL & TARE	(grams)	37·08	38·94		
D	WT. OF WATER = B-C	(grams)	1·39	1·69		
E	WT. OF DRY SOIL = C-A	(grams)	8·56	10·33		
F	MOISTURE CONTENT = (D/E)X100	(%)	16·2	16·4		

LIQUID LIMIT (LL) = 30 PLASTIC LIMIT (PL) = 16 PLASTICITY INDEX (PI) = 14

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE 1 CONSTRUCTION — DATE: 19 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-02

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: PKO

	WATER ADDED	(ml)	150	200	250	300	100
A	WT. OF SOIL & MOLD	(grams)	6143.7	6187.7	6174.1	6124.3	5983.1
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1934.3	1978.3	1964.7	1914.9	1773.7
D	WET UNIT WT.(1) = C X 0.066	(pcf)	127.7 ✓	130.6 ✓	129.7 ✓	126.4 ✓	117.1 ✓
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	112.4 ✓	112.4 ✓	109.5 ✓	103.9 ✓	105.3 ✓

NOTE: IF CALIBRATED MOLD OF 1/30 FT 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: PKO

	TARE NO.		5	6	2	4	1
F	WT. OF TARE	(grams)	7.5	7.6	7.6	7.5	7.2
G	WT. OF WET SOIL & TARE	(grams)	258.6	292.9	273.8	263.0	258.8
H	WT. OF DRY SOIL & TARE	(grams)	228.6	253.1	232.29	217.47	233.45
I	WT. OF WATER = G - H	(grams)	30.0	39.8	41.51	45.53	25.35
J	WT. DRY SOIL = H - F	(grams)	221.1	245.5	224.69	210.0	226.25
K	MOISTURE CONTENT = (I/J) X 100	(%)	13.6 ✓	16.2 ✓	18.5 ✓	21.7 ✓	11.2 ✓

1265

000401

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FLUOR DANIEL FERNALD

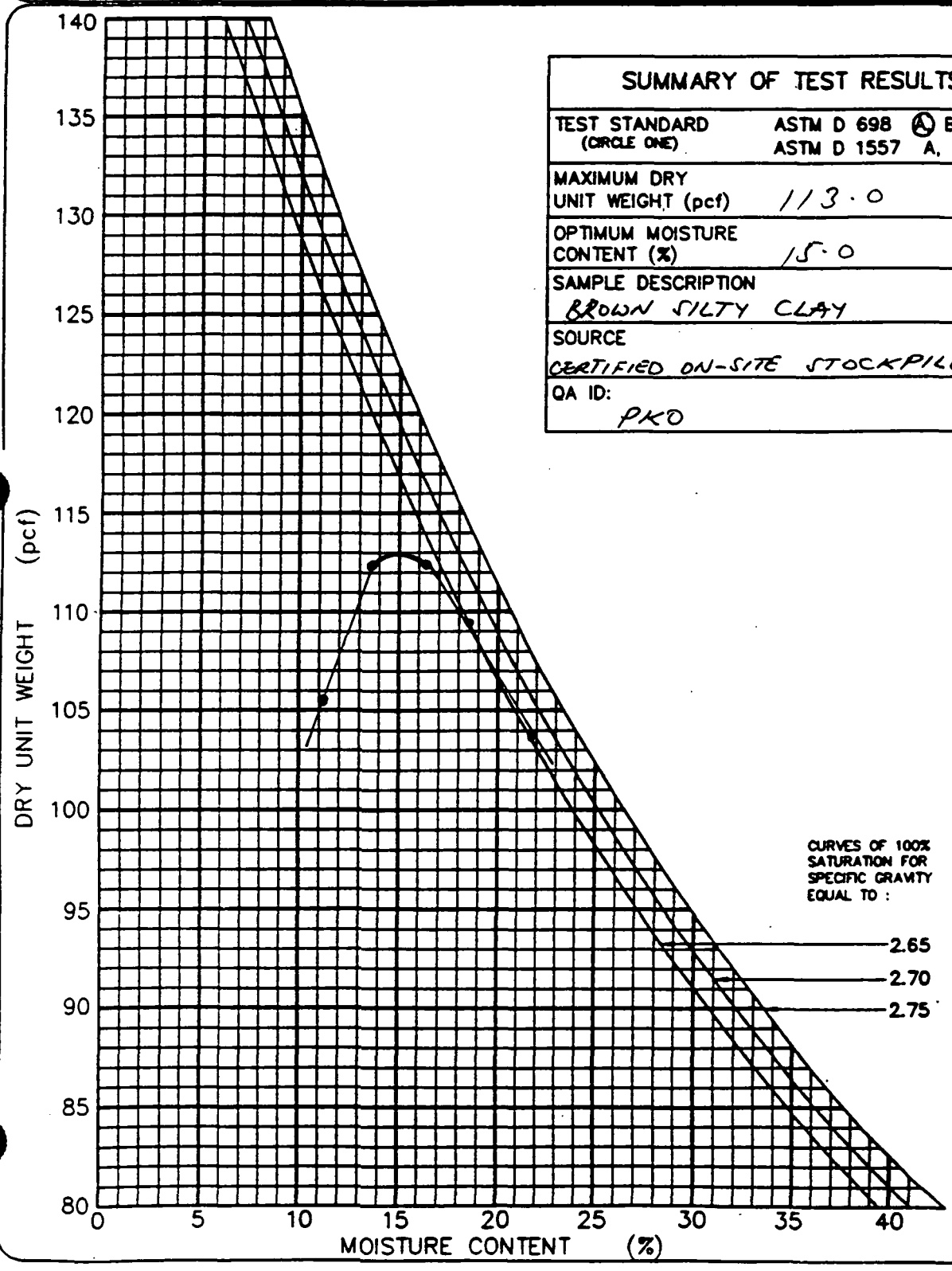
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 20 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-02



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)	113.0
OPTIMUM MOISTURE CONTENT (%)	15.0
SAMPLE DESCRIPTION	BROWN SILTY CLAY
SOURCE	CERTIFIED ON-SITE STOCKPILE
QA ID:	PKO

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04·1

DESCRIPTION: PHASE 1 CONSTRUCTION DATE: 27 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-03

SOURCE: SOUTH-EAST CORNER OF SEDIMENTATION BASIN EXCAVATION

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	3				
A	WT. OF TARE	7.54				
B	WT. OF WET SOIL & TARE	192.0				
C	WT. OF DRY SOIL & TARE	162.0				
D	WT. OF WATER = B-C	30.0				
E	WT. OF DRY SOIL = C-A	154.5				
F	MOISTURE CONTENT = (D/E) X 100	19.4				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	319.6				
C	WT. OF DRY SOIL & TARE	287.7				
D	WT. OF WATER = B-C	31.9				
E	WT. OF DRY SOIL = C-A	155.7				
F	MOISTURE CONTENT = (D/E) X 100	20.5				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE 1 CONSTRUCTION DATE: 01 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-03

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 17,254.4 grms
> #4 SAMPLE WT = 879.4 grms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		3	3
WT. OF DRY SAMPLE PLUS TARE	(grams)	162.0	36.5
WT. OF TARE	(grams)	7.54	7.54
WT. OF DRY SAMPLE	(grams)	154.5	29.0

SIEVE ANALYSIS QA ID: PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
1½"	37.5	Ø	Ø	100		maximum PARTICLE SIZE = 5in. PER DCN 1702-019
1.0"	25	141.2	0.8	99.2		
3/4"	19	175.6	1.0	99.0		
½"	12.5	321.6	1.9	98.1		
3/8"	9.5	462.1	2.7	97.3		
4	4.75	844.5	4.9	95.1		
10	2.00	5.6	3.6	96.4	91.7	
20	0.850	8.4	5.4	94.6	90.0	
40	0.425	11.9	7.7	92.3	87.8	
60	0.250	15.8	10.2	89.8	85.4	
100	0.150	21.2	13.7	86.3	82.1	
200	0.075	28.9	18.7	81.3	77.3	

NOTE: SIEVE ANALYSIS PERFORMED ON INDIVIDUAL SAMPLES AND MATHEMATICALLY COMBINED.

%FINER = 100 − Σ% RETAINED

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS (ASTM D 422 & ASTM D 2487)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

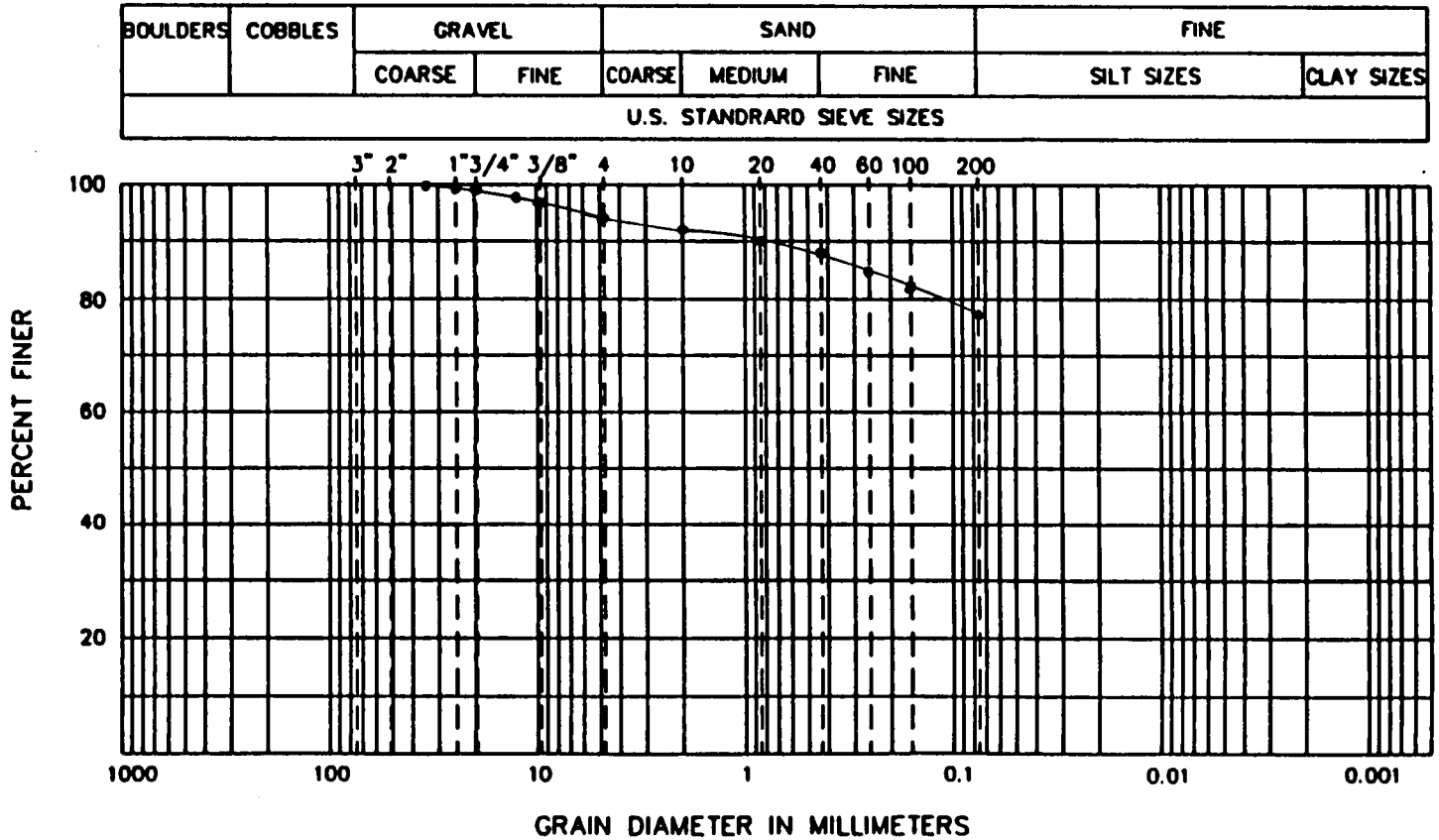
LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE 1 CONSTRUCTION — DATE: 01 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-03 QA ID: PKO

SOURCE: SOUTH EAST CORNER OF SEDIMENTATION BASIN, EXCAVATION

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 33

(PL) 18

(PI) 15

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	100
1-in.	99.2
3/4-in.	99.0
1/2-in.	98.1
3/8-in.	97.3
NO. 4	95.1
NO. 10	91.7
NO. 20	90.0
NO. 40	87.8
NO. 60	85.4
NO. 100	82.1
NO. 200	77.3

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN SILTY CLAY (CL) w/ SOME 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)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04·1

DESCRIPTION: PHASE 1 CONSTRUCTION DATE: 01 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-03

SOURCE: SOUTH-EAST CORNER SEDIMENTATION BASIN EXCAVATION

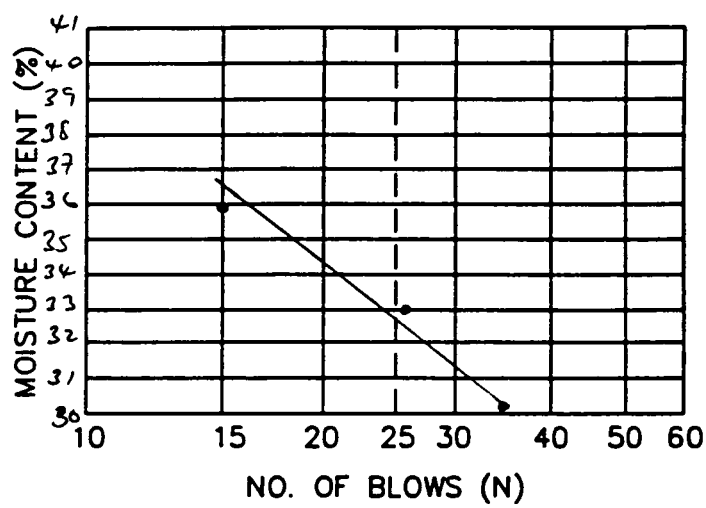
LIQUID LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·1	1·2	1·3	
A	WT. OF TARE	(grams)	28·76	28·50	28·64	
B	WT. OF WET SOIL & TARE	(grams)	44·08	43·56	45·70	
C	WT. OF DRY SOIL & TARE	(grams)	40·54	39·82	41·19	
D	WT. OF WATER = B-C	(grams)	3·54	3·74	4·51	
E	WT. OF DRY SOIL = C-A	(grams)	11·78	11·32	12·55	
F	MOISTURE CONTENT = (D/E)X100	(%)	30·1	33·0	35·9	
N	NUMBER OF BLOWS		35	26	15	

DRYING TARE NO.

B



CURING TARE NO.

1-C

PLASTIC LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·4	1·5		
A	WT. OF TARE	(grams)	28·52	28·61		
B	WT. OF WET SOIL & TARE	(grams)	40·48	40·30		
C	WT. OF DRY SOIL & TARE	(grams)	38·64	38·51		
D	WT. OF WATER = B-C	(grams)	1·84	1·79		
E	WT. OF DRY SOIL = C-A	(grams)	10·12	9·90		
F	MOISTURE CONTENT = (D/E)X100	(%)	18·2	18·1		

LIQUID LIMIT (LL) = 33 PLASTIC LIMIT (PL) = 18 PLASTICITY INDEX (PI) = 15

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE 1 CONSTRUCTION — DATE: 28 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-03

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: PKO

	WATER ADDED	(ml)	150	200	250	300	100
A	WT. OF SOIL & MOLD	(grams)	6076.3	6151.9	6226.2	6206.6	5983.4
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1866.9	1942.5	2016.8	1997.2	1774.0
D	WET UNIT WT.(1) = C X 0.066	(pcf)	123.2	128.2	133.1	131.8	117.1
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	112.1	114.4	116.6	113.4	108.4

NOTE: IF CALIBRATED MOLD OF 1/30 FT 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: PKO

	TARE NO.		13	12	11	15	14
F	WT. OF TARE	(grams)	7.6	7.2	7.3	7.6	7.6
G	WT. OF WET SOIL & TARE	(grams)	269.3	293.4	294.7	251.7	267.0
H	WT. OF DRY SOIL & TARE	(grams)	245.8	262.5	259.0	217.7	247.8
I	WT. OF WATER = G - H	(grams)	23.5	30.9	35.7	34.0	19.2
J	WT. DRY SOIL = H - F	(grams)	238.2	255.3	251.~~X~~7 HEM 7/8/97	210.1	240.2
K	MOISTURE CONTENT = (I/J) X 100	(%)	9.9	12.1	14.2	16.2	8.0

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE-DENSITY RELATIONSHIP

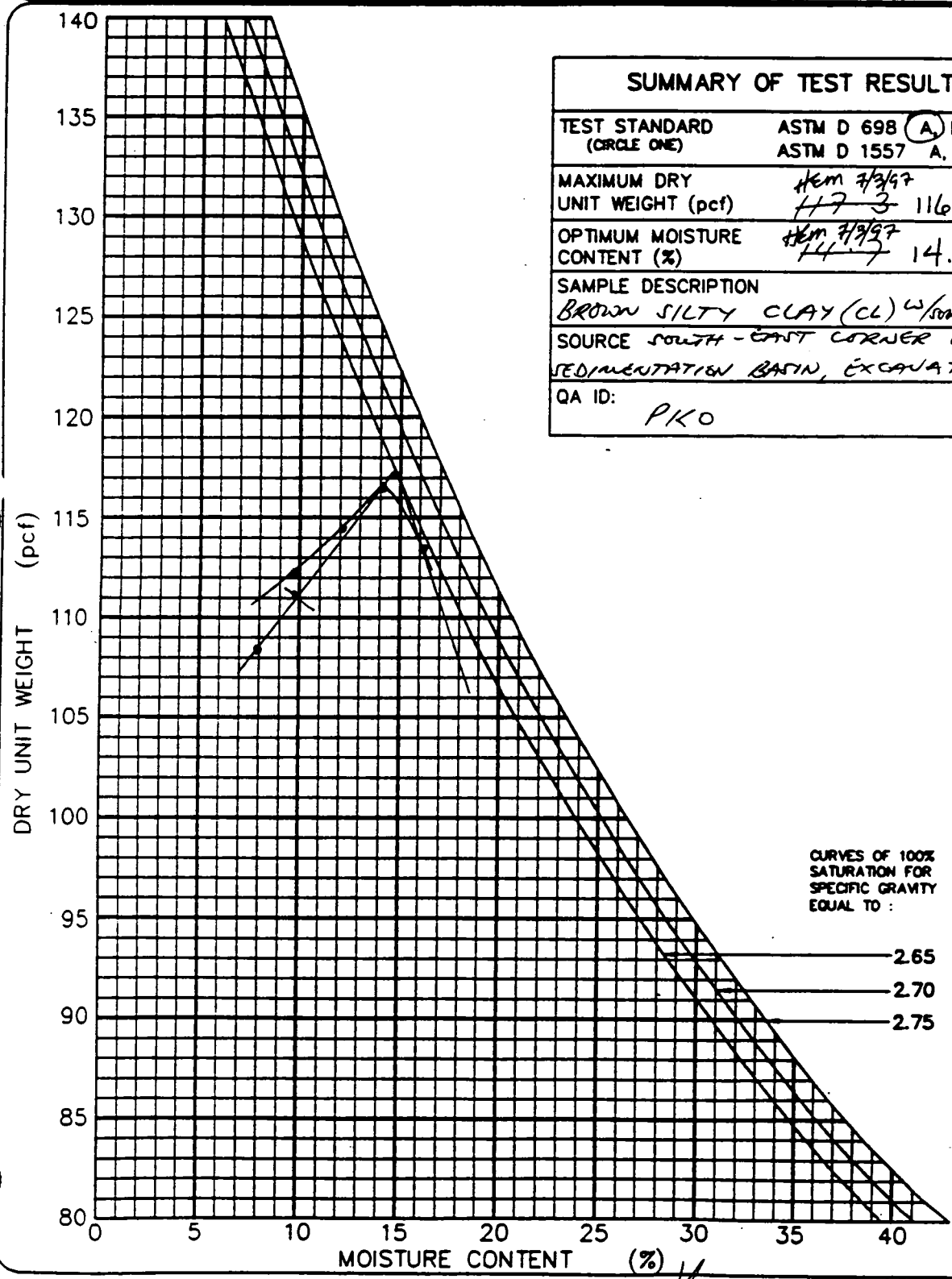
1265

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE 1 CONSTRUCTION DATE: 30 day JUNE month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF - 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)	HEM 7/3/97 ~~117.3~~ 116.5
OPTIMUM MOISTURE CONTENT (%)	HEM 7/3/97 ~~14.7~~ 14.2
SAMPLE DESCRIPTION	BROWN SILTY CLAY (CL) W/SOME GVL
SOURCE	SOUTH-EAST CORNER OF SEDIMENTATION BASIN, EXCAVATION
QA ID:	PKO

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE 1 CONSTRUCTION DATE: 10 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-04

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO/RL

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. _____	8				
A	WT. OF TARE	7.2				
B	WT. OF WET SOIL & TARE	183.0				
C	WT. OF DRY SOIL & TARE	162.3				
D	WT. OF WATER = B-C	20.7				
E	WT. OF DRY SOIL = C-A	155.1				
F	MOISTURE CONTENT = (D/E) X 100	13.3				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO/RL

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.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	312.0				
C	WT. OF DRY SOIL & TARE	286.7				
D	WT. OF WATER = B-C	25.3				
E	WT. OF DRY SOIL = C-A	154.7				
F	MOISTURE CONTENT = (D/E) X 100	16.4				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04·1

DESCRIPTION: PHASE 2 CONSTRUCTION DATE: 11 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-04

SOIL SAMPLE SIZE > TOTAL SAMPLE WT = 17,622.0 gms
> #4 SAMPLE WT = 1020.2 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		8	8
WT. OF DRY SAMPLE PLUS TARE	(grams)	162·3	53·5
WT. OF TARE	(grams)	7·2	7·2
WT. OF DRY SAMPLE	(grams)	155·1 ✓	46.3 ✓

SIEVE ANALYSIS QA ID: PKO/RL/NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
1½"	37·5	Ø	Ø	100		~~7/4/97~~ HEM 11/23/97
1"	25·0	199·8	1·1	98·9		MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
3/4"	19·0	228·7	1·3	98·7		
½"	12·5	403·8	2·3	97·7		
3/8"	9·5	524·1	3·0	97·0		
4	4·75	978·0	5·6	94·4		
10	2·00	~~113.5~~ 12.0	7.7	92.3	87.1	
20	0·850	~~119.8~~ 18.3	11.8	88.2	83.3	
40	0·425	~~126.0~~ 24.5	15.8	84.2	79.5	
60	0·250	~~131.5~~ 30.0	19.3	80.7	76.2	
100	0·150	~~138.5~~ 37.0	23.9	76.1	71.8	
200	0·075	~~147.3~~ 45.8	29.5	70.5	66.6	✓

HEM 7/4/97

%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.: GQ0166 TASK NO.: 04.1

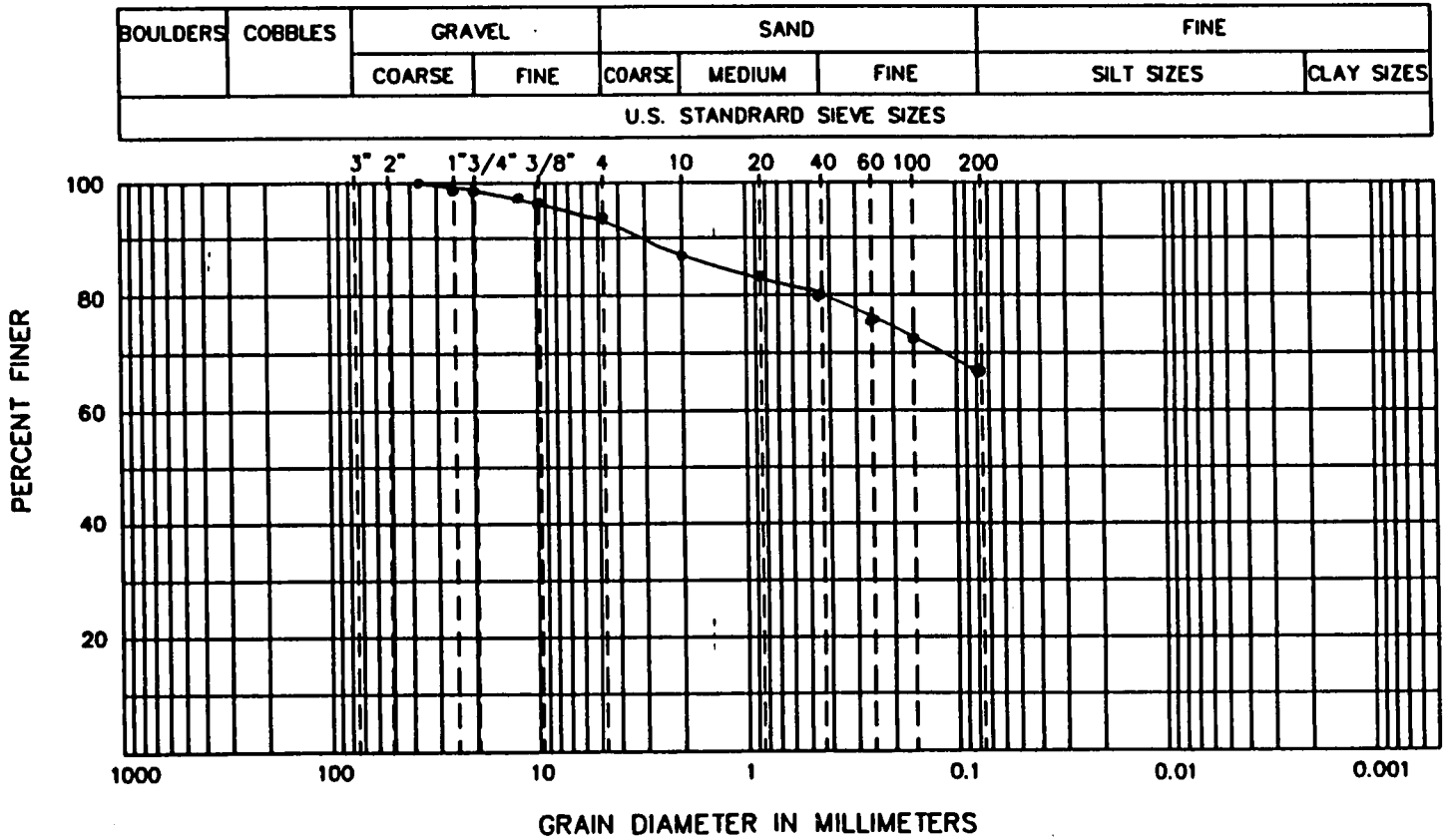
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 14 day JULY month 1997 year

MATERIAL TYPE: GENERAL FILL

SAMPLE NO.: OSDF-04 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 34

(PL) 17

(PI) 17

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	100.0
1-in.	98.9
3/4-in.	98.7
1/2-in.	97.7
3/8-in.	97.0
NO. 4	94.4
NO. 10	87.1
NO. 20	83.3
NO. 40	79.5
NO. 60	76.2
NO. 100	71.8
NO. 200	66.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/SOME GVL.

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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)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 12 day JULY month 1987 year

MATERIAL TYPE: GENERAL FILL SAMPLE NO.: OSDF-04

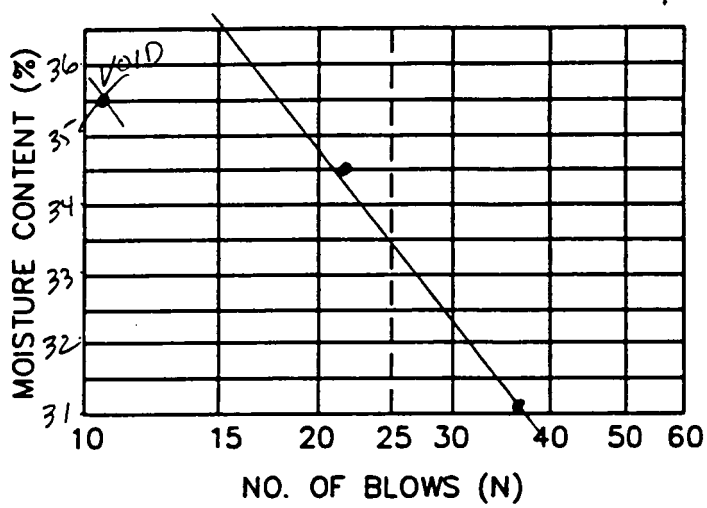
LIQUID LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·1	1·2	1·3	
A	WT. OF TARE	(grams)	28·76	28·50	28·64	
B	WT. OF WET SOIL & TARE	(grams)	44·60	43·0	45·18	
C	WT. OF DRY SOIL & TARE	(grams)	40.84	39.28	40.30	
D	WT. OF WATER = B-C	(grams)	3.76	3.72	4.50	
E	WT. OF DRY SOIL = C-A	(grams)	12.08	10.78	12.66	
F	MOISTURE CONTENT = (D/E)X100	(%)	31.1	34.5	35.5	
N	NUMBER OF BLOWS		37	22	11	

DRYING TARE NO.

B



CURING TARE NO.

1-B

CL

PLASTIC LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·4	1·5		
A	WT. OF TARE	(grams)	28·52	28·61		
B	WT. OF WET SOIL & TARE	(grams)	41.4	41.6		
C	WT. OF DRY SOIL & TARE	(grams)	39.47	39.68		
D	WT. OF WATER = B-C	(grams)	1.93	1.92		
E	WT. OF DRY SOIL = C-A	(grams)	10.95	11.07		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.6	17.3		

LIQUID LIMIT (LL) = 34 PLASTIC LIMIT (PL) = 17 PLASTICITY INDEX (PI) = 17

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 12 day 7 month 97 year

MATERIAL TYPE: GENERAL FILL — SAMPLE NO.: OSDF-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: SQ/NM

	WATER ADDED	(ml)	250	300	200	150	
A	WT. OF SOIL & MOLD	(grams)	4037.0	3967.1	4082.4	4055.2	3850.5
B	WT. OF MOLD	(grams)	2047.3	2047.3	2047.3	2047.3	2047.3
C	WT. OF SOIL = A - B	(grams)	1989.7	1919.8	2035.1	2007.9	1803.2
D	WET UNIT WT.(1) = C X 0.066	(pcf)	131.3	126.7	134.3	132.5	119.0
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	111.6	105.4	116.2	116.8	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: SQ/NM

	TARE NO.		13	14	20	21	1
F	WT. OF TARE	(grams)	7.6	7.6	8.3	8.3	7.2
G	WT. OF WET SOIL & TARE	(grams)	200.4	236.6	218.6	230.5	246.1
H	WT. OF DRY SOIL & TARE	(grams)	171.5	198.3	190.2	204.2	[illegible]
I	WT. OF WATER = G - H	(grams)	28.9	38.3	28.4	26.3	[illegible]
J	WT. DRY SOIL = H - F	(grams)	163.9	190.7	181.9	195.9	[illegible]
K	MOISTURE CONTENT = (I/J) X 100	(%)	17.6	~~20.2~~ 20.1 RBN 9/9/97	15.6	13.4	[illegible]

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SHEET NO. 1 OF 2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

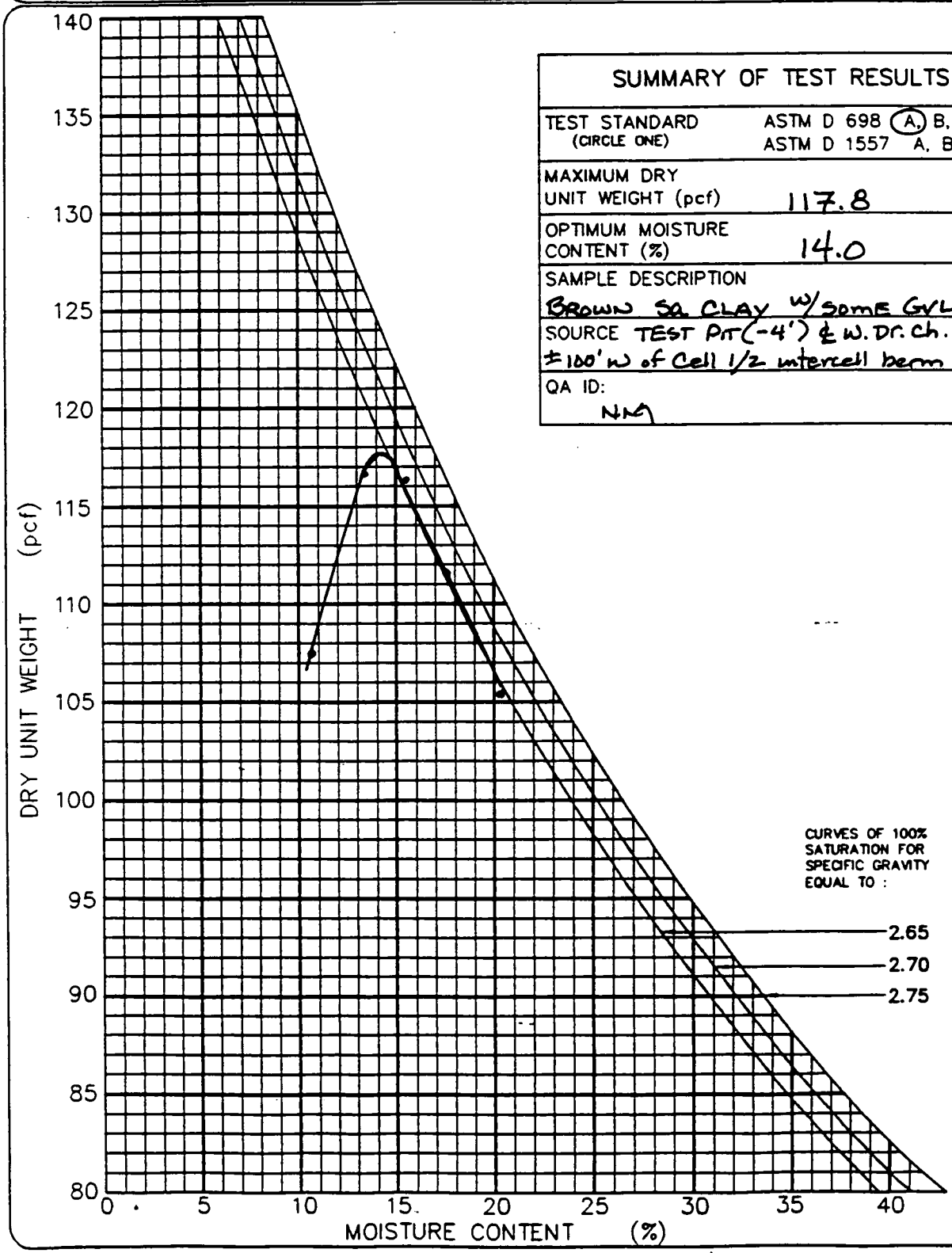
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 13 day JULY month 1997 year

MATERIAL TYPE: GENERAL FILL SAMPLE NO.: OSDF-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)	117.8
OPTIMUM MOISTURE CONTENT (%)	14.0
SAMPLE DESCRIPTION	BROWN SA CLAY W/SOME GVL
SOURCE	TEST PIT (-4') & W. DR. CH. ±100' W of Cell 1/2 intercell berm
QA ID:	NA

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE 2 CONSTRUCTION DATE: 10 day 7 month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-05

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: RL/PKO

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. _____	6				
A	WT. OF TARE	7.6				
B	WT. OF WET SOIL & TARE	139.0				
C	WT. OF DRY SOIL & TARE	118.7				
D	WT. OF WATER = B-C	20.3				
E	WT. OF DRY SOIL = C-A	111.1				
F	MOISTURE CONTENT = (D/E) X 100	18.3				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: RL/PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	276.4				
C	WT. OF DRY SOIL & TARE	255.0				
D	WT. OF WATER = B-C	21.4				
E	WT. OF DRY SOIL = C-A	123.0				
F	MOISTURE CONTENT = (D/E) X 100	17.4				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE 2 CONSTRUCTION DATE: 11 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF - 05

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 22,168.7 gms
> #4 SAMPLE WT = 1575.3 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		6	6
WT. OF DRY SAMPLE PLUS TARE	(grams)	118.7	33.0
WT. OF TARE	(grams)	7.6	7.6
WT. OF DRY SAMPLE	(grams)	111.1	25.4

SIEVE ANALYSIS QA ID: PKO/RL

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50	0	Ø	100		HEM 11/23/97 ~~N/A~~
1½"	37.5	157.6	0.7	99.3		MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
1"	25.0	421.0	1.9	98.1		
3/4"	19.0	575.5	2.6	97.4		
1/2"	12.5	788.6	3.6	96.4		
3/8"	9.5	970.7	4.4	95.6		
4	4.75	1,518.8	6.9	93.1		
10	2.00	7.8	7.0	93.0	86.6	
20	0.850	10.5	9.5	90.5	84.3	
40	0.425	13.2	11.9	88.1	82.0	
60	0.250	15.9	14.3	85.7	79.8	
100	0.150	19.9	17.9	82.1	76.4	
200	0.075	25.3	22.8	77.2	71.9	

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS (ASTM D 422 & ASTM D 2487)

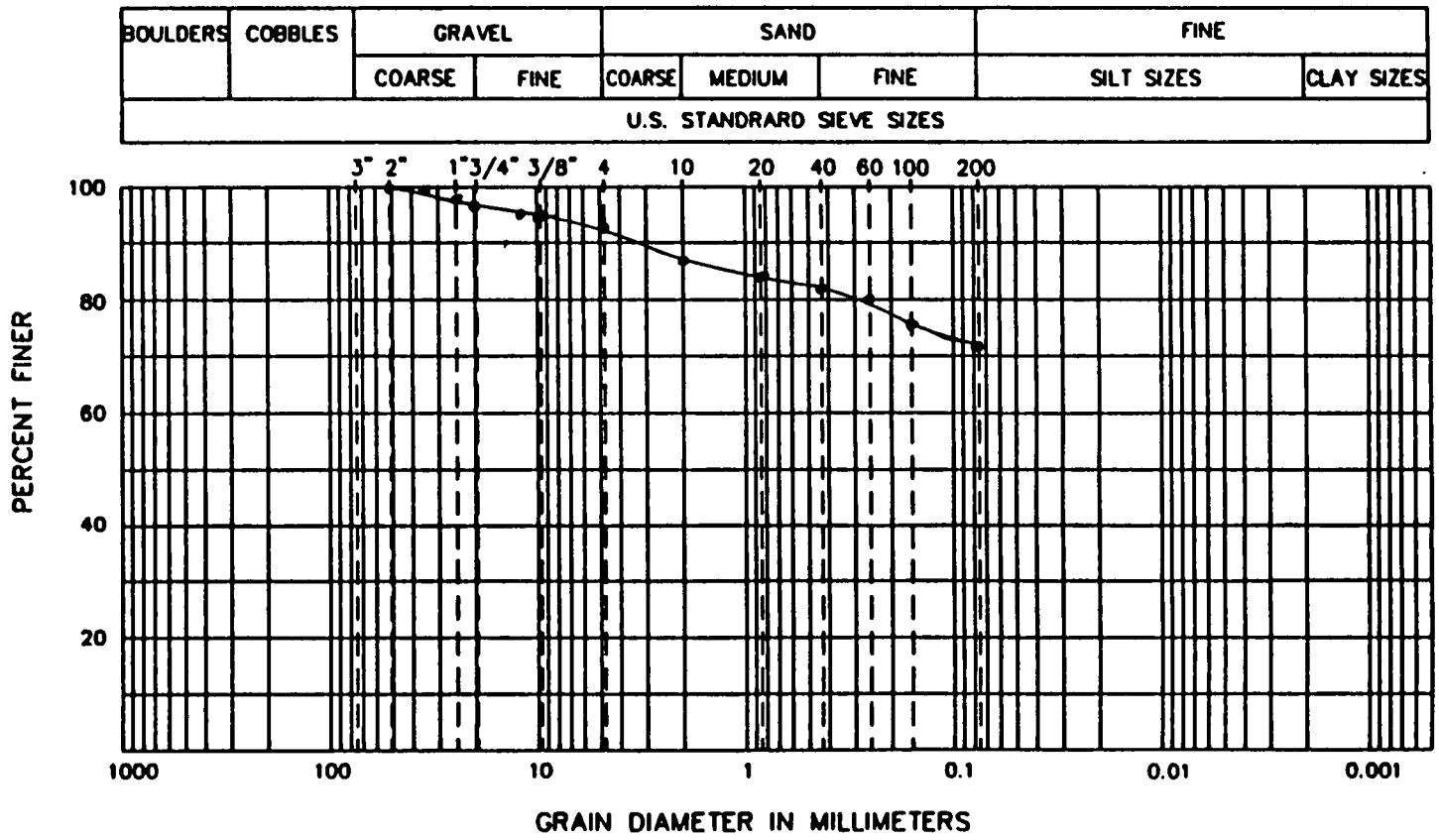
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE 1 CONSTRUCTION — DATE: 13 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-05 QA ID: PKO/RL

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) HEW 7/13/97 ~~34~~ 39

(PL) HEW 7/13/97 ~~17~~ 18

(PI) HEW 7/13/97 ~~17~~ 21

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100
1 1/2-in.	99.3
1-in.	98.1
3/4-in.	97.4
1/2-in.	96.4
3/8-in.	95.6
NO. 4	93.1
NO. 10	86.6
NO. 20	84.3
NO. 40	82.0
NO. 60	79.8
NO. 100	76.4
NO. 200	71.9

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GRAVEL

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 11 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-05

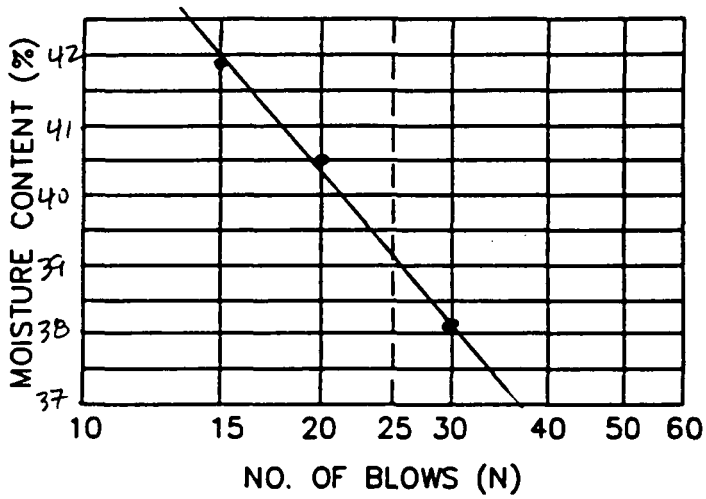
LIQUID LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·6	1·7	1·8	
A	WT. OF TARE	(grams)	28·87	28·49	28·81	
B	WT. OF WET SOIL & TARE	(grams)	46·4	43·4	46·4	
C	WT. OF DRY SOIL & TARE	(grams)	41.56	39.10	41.21	
D	WT. OF WATER = B-C	(grams)	4.84	4.30	5.19	
E	WT. OF DRY SOIL = C-A	(grams)	12.69	10.61	12.40	
F	MOISTURE CONTENT = (D/E)X100	(%)	38.1	40.5	41.9	
N	NUMBER OF BLOWS		30	20	15	

DRYING TARE NO.

A



CURING TARE NO.

1-C

CL

PLASTIC LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·9	2·1		
A	WT. OF TARE	(grams)	28·56	28·24		
B	WT. OF WET SOIL & TARE	(grams)	41·58	41·98		
C	WT. OF DRY SOIL & TARE	(grams)	39.59	39.90		
D	WT. OF WATER = B-C	(grams)	1.99	2.08		
E	WT. OF DRY SOIL = C-A	(grams)	11.03	11.66		
F	MOISTURE CONTENT = (D/E)X100	(%)	18.0	17.8		

LIQUID LIMIT (LL) = 39 PLASTIC LIMIT (PL) = 18 PLASTICITY INDEX (PI) = 21

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 12 day 7 month 97 year

MATERIAL TYPE: GENERAL FILL — SAMPLE NO.: OSDF-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: SQ/NM

	WATER ADDED	(ml)	250	300	200	150	100
A	WT. OF SOIL & MOLD	(grams)	4037.0	3989.6	4068.8	4050.6	3854.9
B	WT. OF MOLD	(grams)	2047.3	2047.3	2047.3	2047.3	2047.3
C	WT. OF SOIL = A - B	(grams)	1989.7	1942.3	2021.5	2003.3	1807.6
D	WET UNIT WT.(1) = C X 0.066	(pcf)	131.3	128.2	133.4	132.2	119.3
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	112.0 ✓	107.3 ✓	115.5 ✓	117.0 ✓	108.5 ✓

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: SQ/NM

	TARE NO.		23	25	26	28	12
F	WT. OF TARE	(grams)	8.3	8.2	8.2	8.2	7.2
G	WT. OF WET SOIL & TARE	(grams)	202.3	225.9	200.8	216.8	213.6
H	WT. OF DRY SOIL & TARE	(grams)	173.8	190.3	174.9	192.8	194.8
I	WT. OF WATER = G - H	(grams)	28.5	35.6	25.9	24.0	18.9
J	WT. DRY SOIL = H - F	(grams)	165.5	182.1	166.7	184.6	187.6
K	MOISTURE CONTENT = (I/J) X 100	(%)	17.2 ✓	19.5 ✓	15.5 ✓	13.0 ✓	10.0 ✓

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1265

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

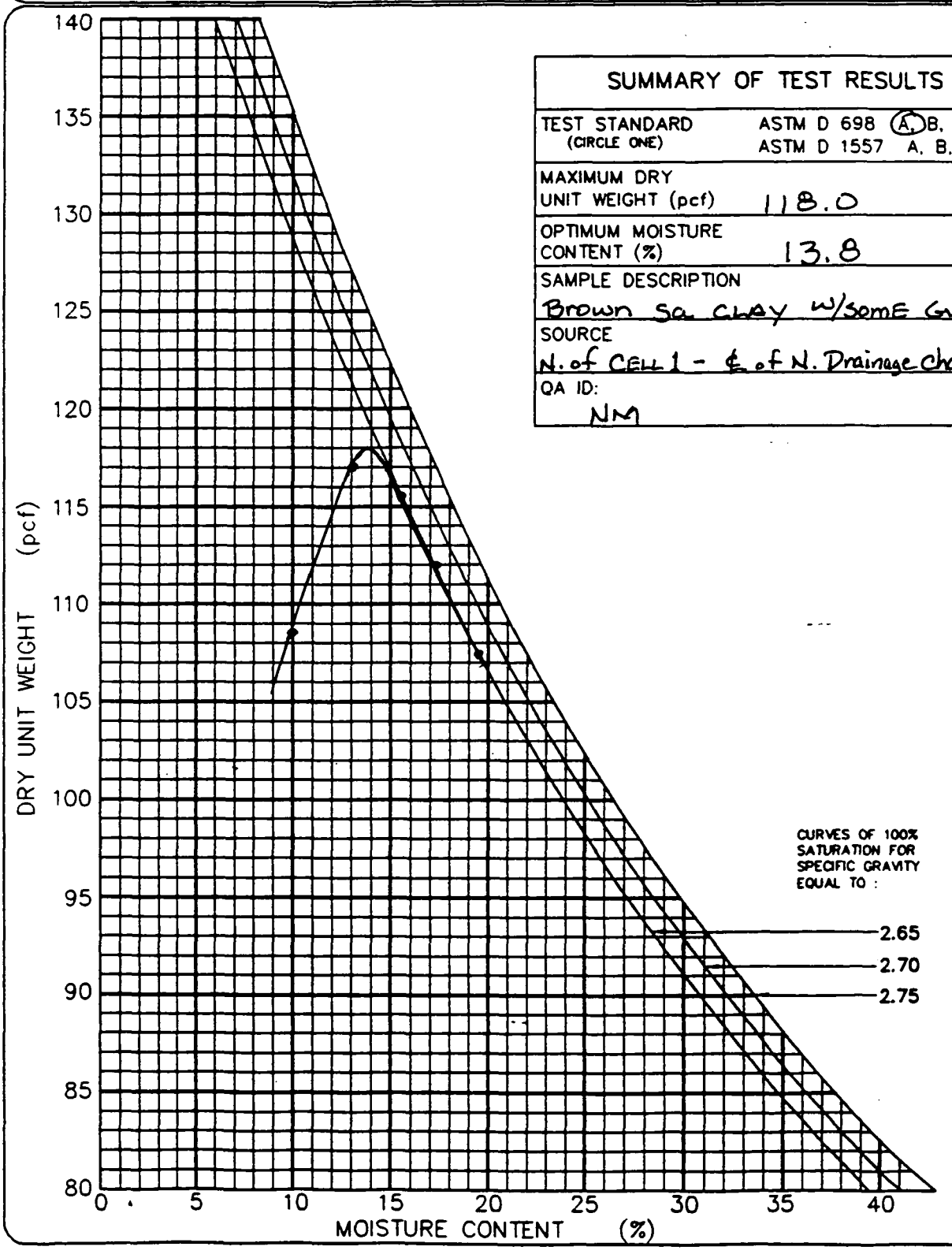
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 13 day JULY month 1997 year

MATERIAL TYPE: GENERAL FILL SAMPLE NO.: OSDF-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)	118.0
OPTIMUM MOISTURE CONTENT (%)	13.8
SAMPLE DESCRIPTION	Brown SC CLAY w/SOME GVL
SOURCE	N. of CELL 1 - ℄ of N. Drainage Channel
QA ID:	NM

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~RE SITE~~ PHASE I CONSTRUCTION DATE: 16 day 7 month 97 year

MATERIAL TYPE: ~~CLAY LINER~~ STRUCTURAL FILL SAMPLE NO.: OSDF - 6

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: JW

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. _____	2				
A	WT. OF TARE	7.59				
B	WT. OF WET SOIL & TARE	262.78				
C	WT. OF DRY SOIL & TARE	248.8				
D	WT. OF WATER = B-C	14.0				
E	WT. OF DRY SOIL = C-A	241.2				
F	MOISTURE CONTENT = (D/E) X 100	5.8				

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%

	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					

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~Bo~~ PHASE I CONSTRUCTION ~~SILTY~~ CLAY DATE: 16 day 7 month 97 year

MATERIAL TYPE: ~~EG~~ STRUCTURAL FILL SAMPLE NO.: OSDF-6

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 26,940.2 > #4 SAMPLE WT = 1504.8 grams

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.	2	2	2
WT. OF DRY SAMPLE PLUS TARE	(grams)	262.78	94.07
WT. OF TARE	(grams)	7.59 RBN 9/9/97	7.59
WT. OF DRY SAMPLE	(grams)	~~[illegible]~~ 255.19	86.5

SIEVE ANALYSIS QA ID: NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	0	100.0		MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
1½"	37.5	106.1	0.4 RBN 9/9/97	99.6		
	25.0	195.6	0.7 ~~0.7~~ ~~0.8~~	99.3		
3/4"	19.0	323.2	1.2 ~~1.2~~ ~~1.3~~	98.8		
½"	12.5	553.0	2.1 ~~2.1~~ ~~2.7~~	97.9		
3/8"	9.5	728.6	2.9	97.1		
4	4.75	1404.5	5.4	94.6		
10	2.00	23.3	~~9.4~~ 9.1	~~90.6~~ 90.9	~~86.7~~ 86.0	
20	0.850	35.5	~~14.3~~ 13.9	~~85.7~~ 86.1	~~81.7~~ 81.5	
40	0.425	48.2	~~19.3~~ 18.9	~~80.7~~ 81.1	~~76.3~~ 76.7	
60	0.250	58.9	~~23.7~~ 23.1	~~76.3~~ 76.9	~~72.2~~ 72.7	
100	0.150	72.3	~~29.1~~ 28.3	~~70.9~~ 71.7	~~67.1~~ 67.8	
200	0.075	86.3	~~34.7~~ 33.8	~~65.3~~ 66.2	~~61.5~~ 62.6	

%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.: GQ0166 TASK NO.: 04.1

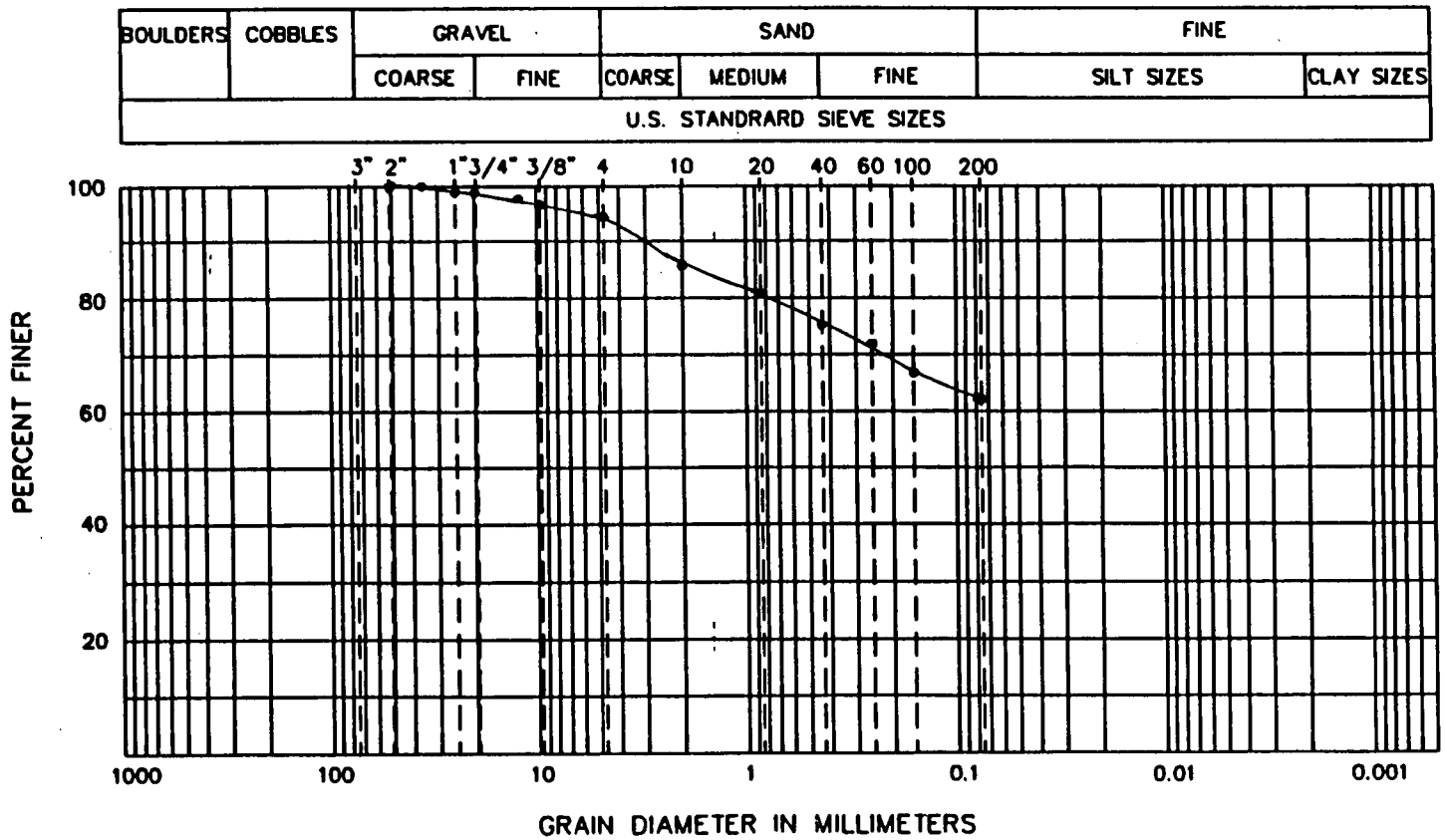
DESCRIPTION: ~~BN SILTY CLAY~~ PHASE I CONSTRUCTION

DATE: ~~16~~ day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF-6 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 24

(PL) 15

(PI) 9

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	99.6
1-in.	99.3
3/4-in.	98.8
1/2-in.	97.9
3/8-in.	97.1
NO. 4	94.6
NO. 10	~~85.7~~ 86.0
NO. 20	~~81.1~~ 81.5
NO. 40	~~76.3~~ 76.7
NO. 60	~~72.2~~ 72.7
NO. 100	~~67.1~~ 67.8
NO. 200	~~61.8~~ 62.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN/GRAY sandy LEAN CLAY (CL) w/ SOME GRAVEL

GEOSYNTEC CONSULTANTS FILE NO. 2-16-PSD

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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)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~BN SILTY CLAY~~ PHASE I CONSTRUCTION DATE: ~~16~~ 18 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-6

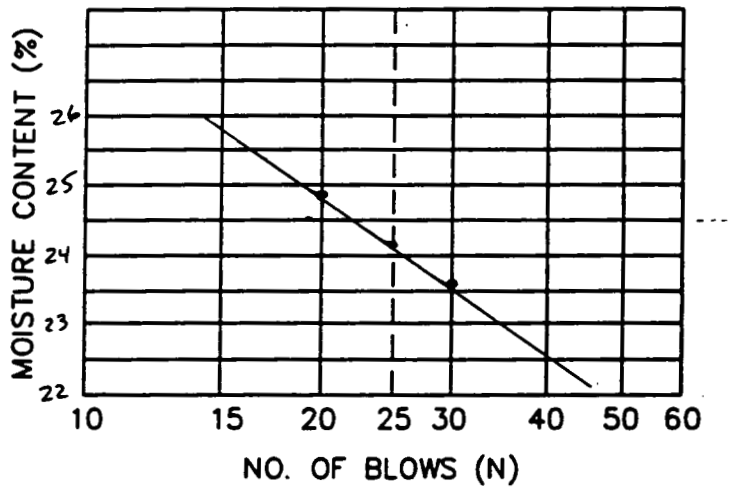
LIQUID LIMIT DETERMINATION

QA ID: JU

	TARE NO.		2.9	2.3	2.6	
A	WT. OF TARE	(grams)	31.46	31.20	28.56	
B	WT. OF WET SOIL & TARE	(grams)	42.25	42.39	37.28	
C	WT. OF DRY SOIL & TARE	(grams)	40.19	40.21	35.54	
D	WT. OF WATER = B-C	(grams)	2.06	2.18	1.74	
E	WT. OF DRY SOIL = C-A	(grams)	8.73	9.01	6.98	
F	MOISTURE CONTENT = (D/E)X100	(%)	23.6	24.2	24.9	
N	NUMBER OF BLOWS		30	25	20	

DRYING TARE NO.

3



CURING TARE NO.

1-G

CL

PLASTIC LIMIT DETERMINATION

QA ID: JU

	TARE NO.		2.4	2.8		
A	WT. OF TARE	(grams)	27.39	28.45		
B	WT. OF WET SOIL & TARE	(grams)	38.30	40.11		
C	WT. OF DRY SOIL & TARE	(grams)	36.90	38.64		
D	WT. OF WATER = B-C	(grams)	1.40	1.47		
E	WT. OF DRY SOIL = C-A	(grams)	9.51	10.19		
F	MOISTURE CONTENT = (D/E)X100	(%)	14.7	14.4		

LIQUID LIMIT (LL) = 24 PLASTIC LIMIT (PL) = 15 PLASTICITY INDEX (PI) = 9

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~BY SILTY CLAY~~ PHASE I CONSTRUCTION — DATE: 19 day July month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-6

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: JW

	WATER ADDED	(ml)	~~100~~	150	200	250	300
A	WT. OF SOIL & MOLD	(grams)		6023.6	6182.6	6232.5	6169.0
B	WT. OF MOLD	(grams)		4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)		1814.2	1973.2	2023.1	1959.6
D	WET UNIT WT.(1) = C X 0.066	(pcf)		119.7	130.2	133.5	129.3
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)		108.8 ✓	114.6 ✓	116.0 ✓	110.0 ✓

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: JW

	TARE NO.		~~101~~	102	103	104	105
F	WT. OF TARE	(grams)		8.18	9.28	8.2	9.4
G	WT. OF WET SOIL & TARE	(grams)		216.64	192.18	160.57	247.77
H	WT. OF DRY SOIL & TARE	(grams)		197.77	170.17	140.55	212.79
I	WT. OF WATER = G - H	(grams)		18.87	22.01	20.02	35.98
J	WT. DRY SOIL = H - F	(grams)		189.59	161.89	132.35	204.59
K	MOISTURE CONTENT = (I/J) X 100	(%)		10.0 ✓	13.6 ✓	15.1 ✓	17.6 ✓

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FLUOR DANIEL FERNALD

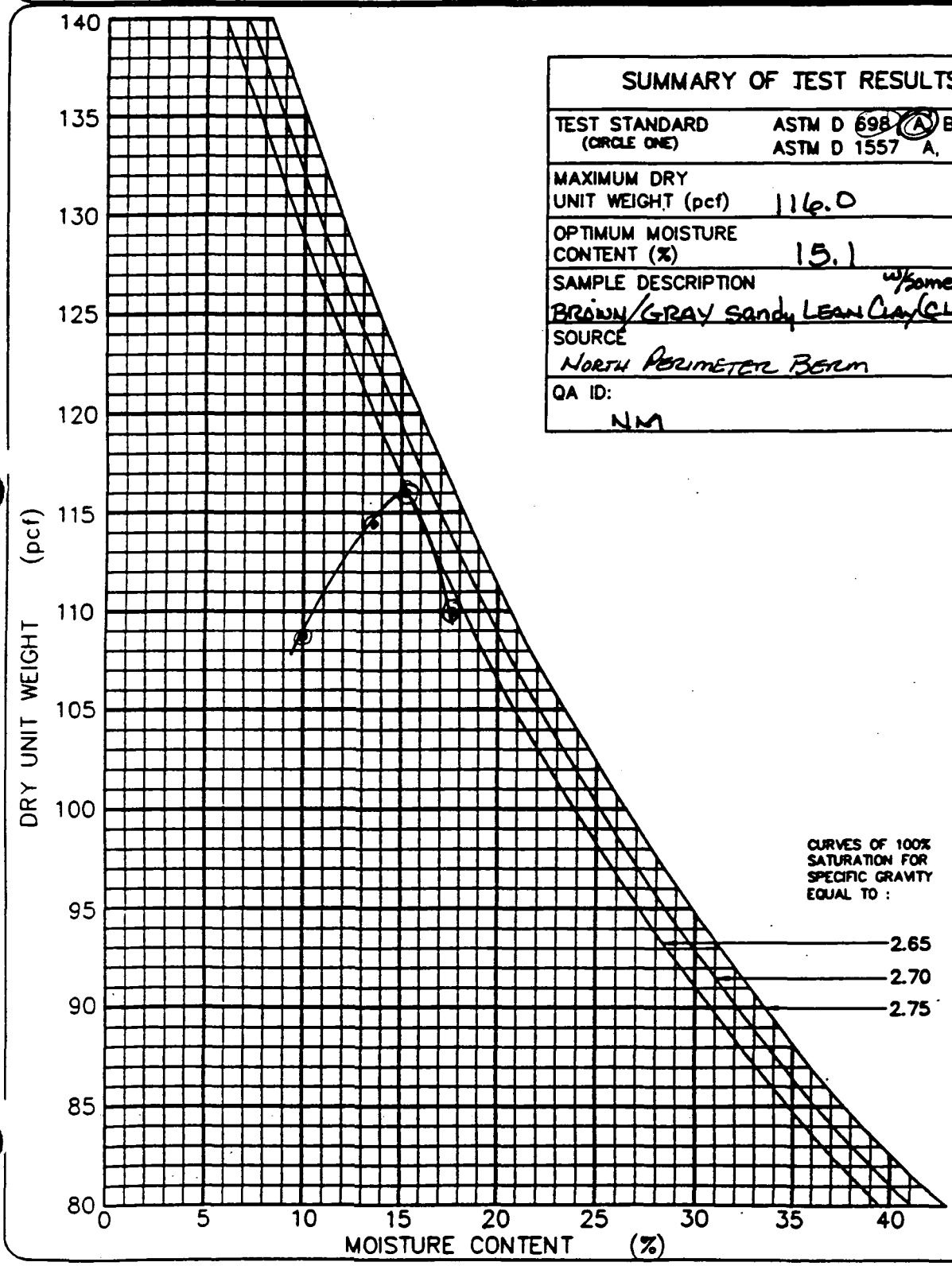
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-06



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)	116.0
OPTIMUM MOISTURE CONTENT (%)	15.1
SAMPLE DESCRIPTION	w/some gvl. BROWN/GRAY sandy LEAN CLAY (CL)
SOURCE	NORTH PERIMETER BERM
QA ID:	NM

GEOSYNTEC CONSULTANTS FILE NO. [illegible] CHECKED BY RBN

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~ON~~ PHASE I CONSTRUCTION ~~SILTY~~ ~~CLAY~~ DATE: 16 day 7 month 97 year

MATERIAL TYPE: ~~CLAY~~ STRUCTURAL FILL SAMPLE NO.: OSDF-07

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: JW

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. _____	5				
A	WT. OF TARE	7.6				
B	WT. OF WET SOIL & TARE	236.6				
C	WT. OF DRY SOIL & TARE	203.2				
D	WT. OF WATER = B-C	33.4				
E	WT. OF DRY SOIL = C-A	195.7				
F	MOISTURE CONTENT = (D/E) X 100	17.1				

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%

	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					

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~BAT~~ ~~SITE~~ PHASE I ~~CLAY~~ CONSTRUCTION DATE: 16 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-07

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 13,123.1 grams
> #4 SAMPLE WT = 259.0 grams

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.	5	5	5
WT. OF DRY SAMPLE PLUS TARE	(grams)	203.2	28.84
WT. OF TARE	(grams)	7.6	7.6
WT. OF DRY SAMPLE	(grams)	195.6 ✓	21.2 ✓

SIEVE ANALYSIS QA ID: PKD/NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
1½"	37.5	0	0	100.0		MAXIMUM PARTICLE SIZE = 5in. PER DCN 1702-D19
1"	25.0	42.2	0.3	99.7		
¾"	19.0	120.2	0.9	99.1		
½"	12.5	143.8	1.1	98.9		
3/8"	9.5	164.4	1.3	98.7		
4	4.75	24[illegible]	1.8	98.2		
10	2.00	3.3	1.7	98.3	96.5	
20	0.850	6.4	3.3	96.7	95.0	
40	0.425	9.7	5.0	95.0	93.3	
60	0.250	12.6	6.4	93.6	91.9	
100	0.150	16.4	8.4	91.6	90.0	
200	0.075	21.2	10.8	89.2	87.6	

%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.: GQ0166 TASK NO.: 04.1

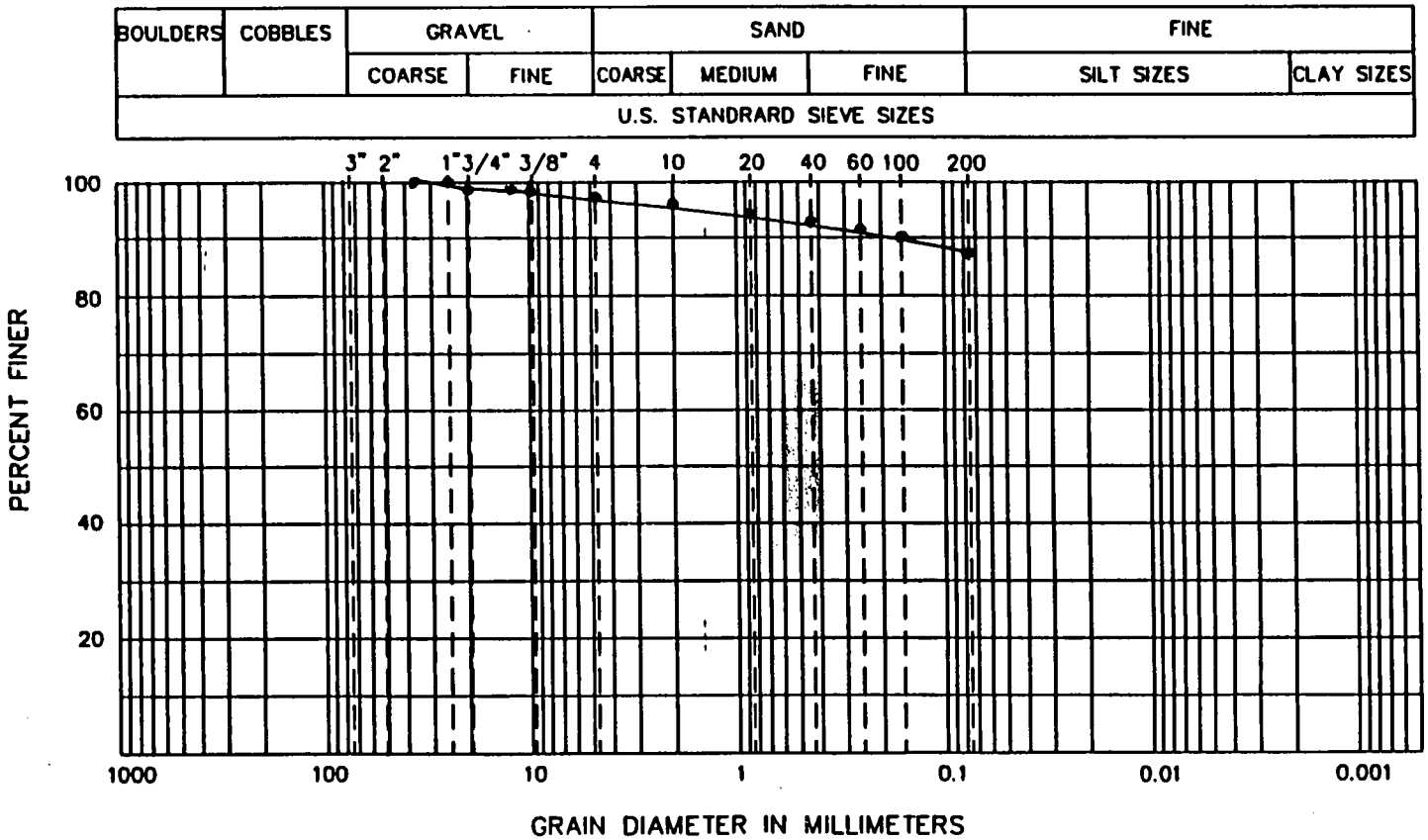
DESCRIPTION: ~~BN~~ SILTY CLAY PHASE I CONSTRUCTION

DATE: 19 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF-070A ID: NM

CURVE COEFFICIENTS: (C_U) N/A (C_C) N/A



ATTERBERG LIMITS

(LL) 40

(PL) 18

(PI) 22

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	100.0
1-in.	99.7
3/4-in.	99.1
1/2-in.	98.9
3/8-in.	98.7
NO. 4	98.2
NO. 10	96.5
NO. 20	95.0
NO. 40	93.3
NO. 60	91.9
NO. 100	90.0
NO. 200	87.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN LEAN CLAY (CL) W/SOME SAND & TR. of GRAVEL

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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)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~BC~~ SILTY CLAY CONSTRUCTION PHASE I DATE: ~~16~~ 18 day 7 month 97 year

MATERIAL TYPE: ~~CLAY LINER~~ STRUCTURAL FILL SAMPLE NO.: ~~LP-07~~ OSDF-07

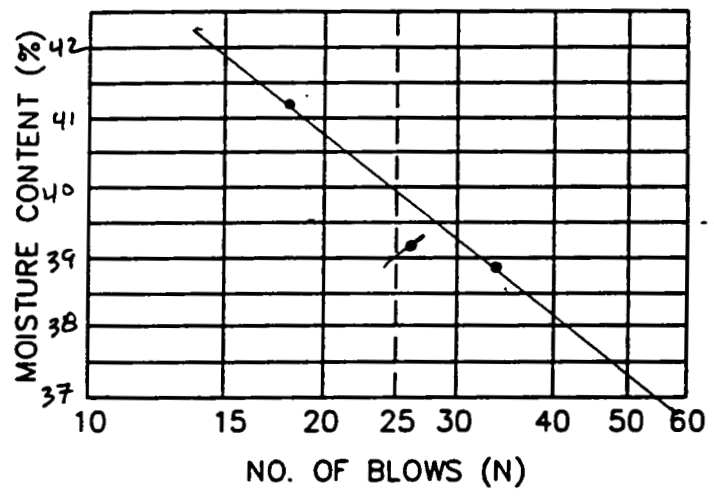
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.2	1.1	1.7	
A	WT. OF TARE	(grams)	28.50	28.76	29.49	
B	WT. OF WET SOIL & TARE	(grams)	34.54	35.93	38.08	
C	WT. OF DRY SOIL & TARE	(grams)	32.85	33.91	35.28	
D	WT. OF WATER = B-C	(grams)	1.69	2.02	2.80	
E	WT. OF DRY SOIL = C-A	(grams)	4.35	5.15	6.79	
F	MOISTURE CONTENT = (D/E)X100	(%)	38.9	39.2	41.2	
N	NUMBER OF BLOWS		34	26	18	

DRYING TARE NO.

26



CURING TARE NO.

1-C

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.9	1.4		
A	WT. OF TARE	(grams)	28.56	28.52		
B	WT. OF WET SOIL & TARE	(grams)	42.42	39.63		
C	WT. OF DRY SOIL & TARE	(grams)	40.29	37.92		
D	WT. OF WATER = B-C	(grams)	2.13	1.71		
E	WT. OF DRY SOIL = C-A	(grams)	11.73	9.40		
F	MOISTURE CONTENT = (D/E)X100	(%)	18.2	18.2		

LIQUID LIMIT (LL) = 40 PLASTIC LIMIT (PL) = 18 PLASTICITY INDEX (PI) = 22

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 16 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-07

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 (1 point)

QA ID: JW

	WATER ADDED	(ml)					
A	WT. OF SOIL & MOLD	(grams)	~~13~~ 5987.5				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A - B	(grams)	1778.1				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	117.4				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	~~100.7~~ 102.0				

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: JW

	TARE NO.		8				
F	WT. OF TARE	(grams)	7.3				
G	WT. OF WET SOIL & TARE	(grams)	195.7				
H	WT. OF DRY SOIL & TARE	(grams)	171.0				
I	WT. OF WATER = G - H	(grams)	24.7				
J	WT. DRY SOIL = H - F	(grams)	163.7				
K	MOISTURE CONTENT = (I/J) X 100	(%)	15.1				

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~BN SILTY CLAY~~ PHASE I CONSTRUCTION — DATE: 18 day July month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-07

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: NM

	WATER ADDED	(ml)	200	250	300	350	
A	WT. OF SOIL & MOLD	(grams)	5896.8	5987.5	6078.2	6123.6	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	1687.4	1778.1	1868.8	1914.2	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	111.4	117.4	123.3	126.3	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	98.7 ✓	101.7 ✓	105.5 ✓	105.8 ✓	

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: NM

	TARE NO.		31	32	25	22	
F	WT. OF TARE	(grams)	8.3	8.3	8.2	8.3	
G	WT. OF WET SOIL & TARE	(grams)	242.5	252.3	236.3	195.3	
H	WT. OF DRY SOIL & TARE	(grams)	215.7	219.7	203.3	164.9	
I	WT. OF WATER = G - H	(grams)	26.8	32.6	33.0	30.4	
J	WT. DRY SOIL = H - F	(grams)	207.4	211.4	195.1	156.6	
K	MOISTURE CONTENT = (I/J) X 100	(%)	12.9 ✓	15.4 ✓	16.9 ✓	19.1 ✓	

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FLUOR DANIEL FERNALD

MOISTURE-DENSITY RELATIONSHIP

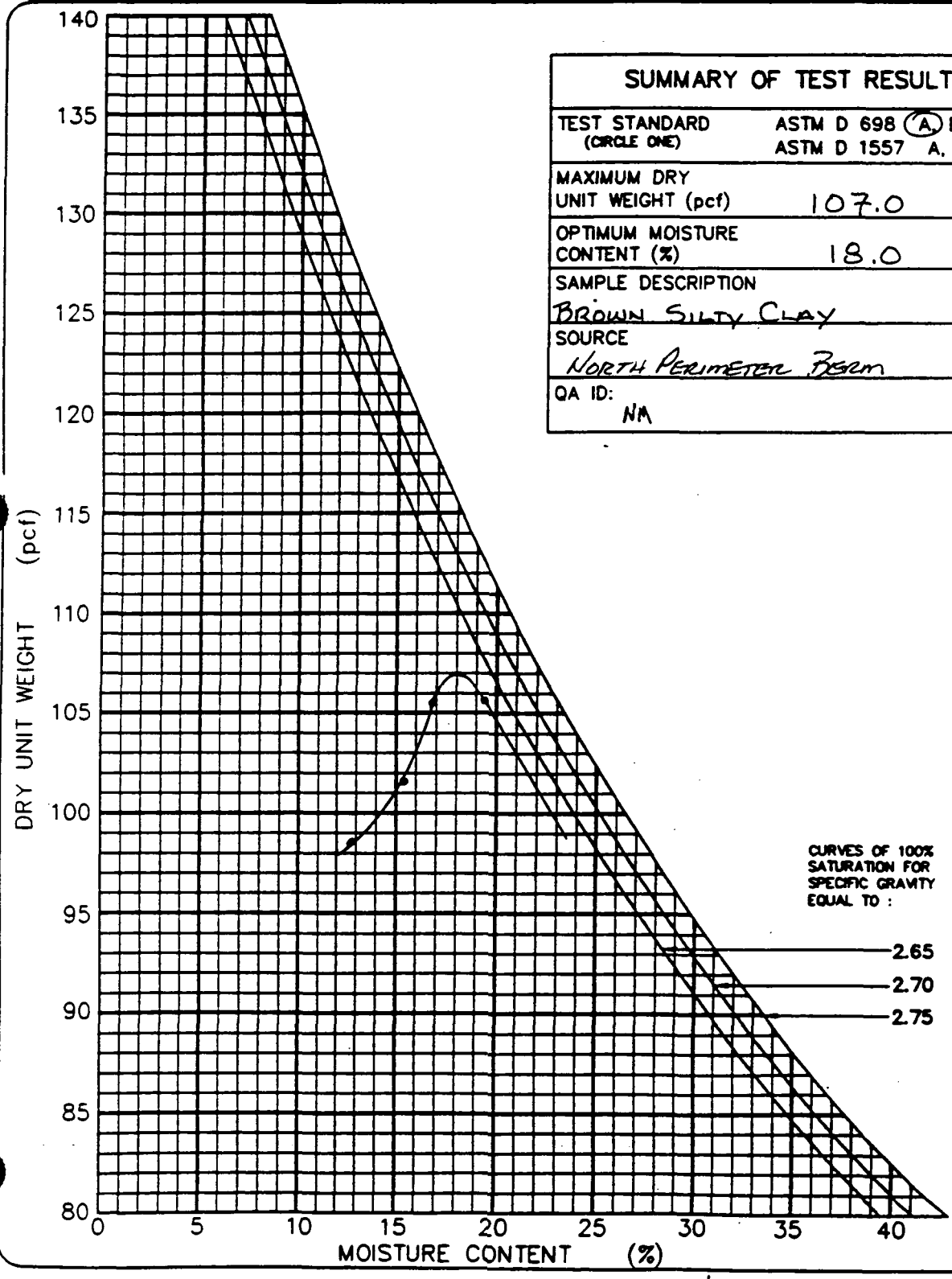
1265

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-07



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)	107.0
OPTIMUM MOISTURE CONTENT (%)	18.0
SAMPLE DESCRIPTION	BROWN SILTY CLAY
SOURCE	NORTH PERIMETER BERM
QA ID:	NA

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000433

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 day JUL month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-08

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: RD

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	28				
A	WT. OF TARE	8.16				
B	WT. OF WET SOIL & TARE	193.90				
C	WT. OF DRY SOIL & TARE	172.4				
D	WT. OF WATER = B-C	21.5				
E	WT. OF DRY SOIL = C-A	164.2				
F	MOISTURE CONTENT = (D/E) X 100	13.1				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: RD

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	321.91				
C	WT. OF DRY SOIL & TARE	297.2				
D	WT. OF WATER = B-C	24.7				
E	WT. OF DRY SOIL = C-A	165.2				
F	MOISTURE CONTENT = (D/E) X 100	14.95				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JUN month '97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-08

SOIL SAMPLE SIZE TOTAL SAMPLE WT 18,842.6
>#4 WT = 23270

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		28	28
WT. OF DRY SAMPLE PLUS TARE	(grams)	172.4	68.3
WT. OF TARE	(grams)	8.2	8.2
WT. OF DRY SAMPLE	(grams)	164.2 ✓	60.1 ✓

SIEVE ANALYSIS QA ID: NM/PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	258.6	1.4	98.6		MAXIMUM PARTICLE SIZE = 5in. PER DCN 1702-019
1½"	37.5	480.7	2.6	97.4		
1"	25.0	654.6	3.5	96.5		
¾"	19.0	909.7	4.8	95.2		
½"	12.5	1248.9	6.6	93.4		
⅜"	9.5	1502.1	8.0	92.0		
4	4.75	2277.9	12.1	87.9		
10	2.00	15.0	9.1	90.9	79.9	
20	0.850	24.9	15.2	84.8	74.5	
40	0.425	33.6	20.5	79.5	69.9	
60	0.250	40.9	24.9	75.1	66.0	
100	0.150	49.6	30.2	69.8	61.4	
200	0.075	59.6	36.3	63.7	56.0	

%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.: GQ0166 TASK NO.: 04.1

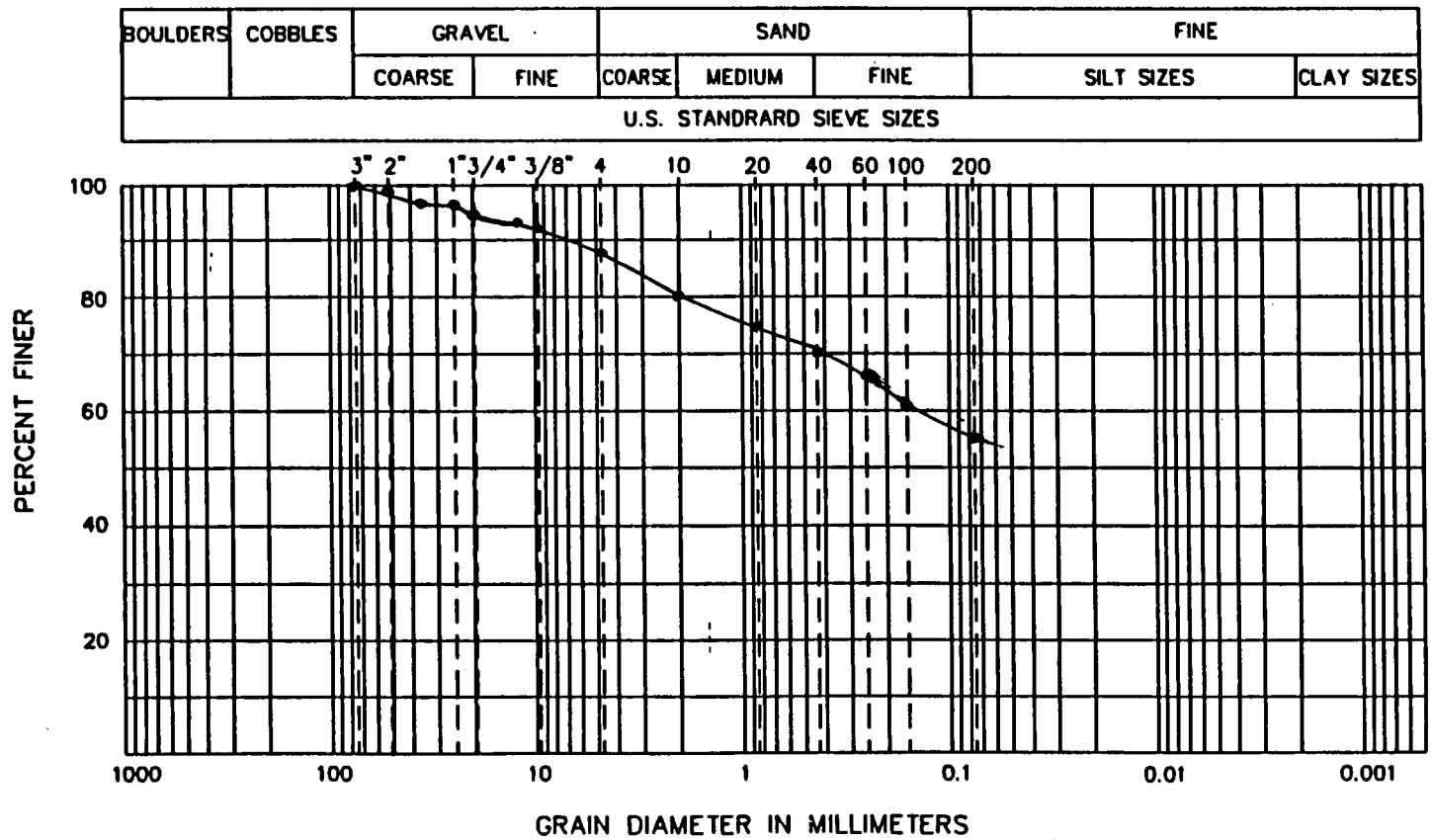
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 22 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF-08 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 24

(PL) 14

(PI) 10

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	98.6
1 1/2-in.	97.4
1-in.	96.5
3/4-in.	95.2
1/2-in.	93.4
3/8-in.	92.0
NO. 4	87.9
NO. 10	79.9
NO. 20	74.5
NO. 40	69.9
NO. 60	66.0
NO. 100	61.4
NO. 200	56.0

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BR/GR sandy lean clay w/some gvl (CL)

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SHEET NO. 2 OF 2

1265

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-08

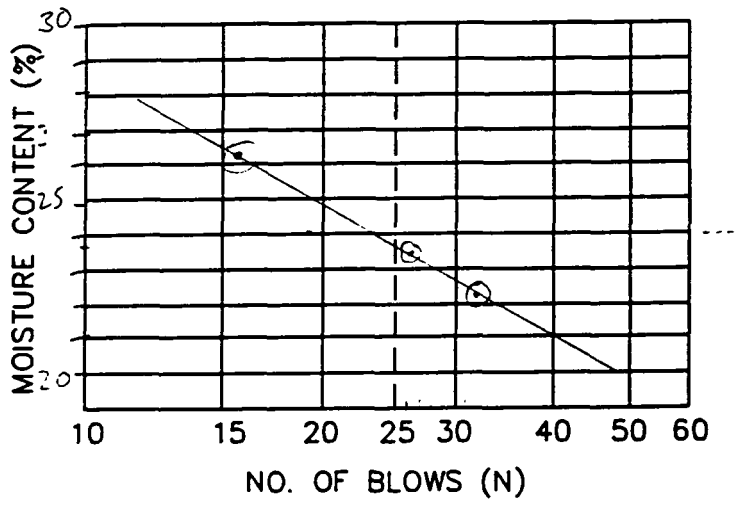
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.7	3.1	1.5	
A	WT. OF TARE	(grams)	28.67	28.38	28.61	
B	WT. OF WET SOIL & TARE	(grams)	38.81	39.42	40.47	
C	WT. OF DRY SOIL & TARE	(grams)	36.96	37.13	38.21	
D	WT. OF WATER = B-C	(grams)	1.85	2.29	2.26	
E	WT. OF DRY SOIL = C-A	(grams)	8.29	8.75	9.60	
F	MOISTURE CONTENT = (D/E)X100	(%)	22.3 ✓	26.2 ✓	23.5 ✓	
N	NUMBER OF BLOWS		33	16	26	

DRYING TARE NO.

D



CURING TARE NO.

1-F

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.5	1.3		
A	WT. OF TARE	(grams)	28.42	28.64		
B	WT. OF WET SOIL & TARE	(grams)	43.58	40.06		
C	WT. OF DRY SOIL & TARE	(grams)	41.73	38.69		
D	WT. OF WATER = B-C	(grams)	1.85	1.37		
E	WT. OF DRY SOIL = C-A	(grams)	13.31	10.05		
F	MOISTURE CONTENT = (D/E)X100	(%)	13.9 ✓	13.6 ✓		

LIQUID LIMIT (LL) = 24 PLASTIC LIMIT (PL) = 14 PLASTICITY INDEX (PI) = 10

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 22 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-08

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: JW

	WATER ADDED	(ml)	100	150	200		DRY
A	WT. OF SOIL & MOLD	(grams)	6264.2	6264.2	6250.6		6023.8
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4		4109.4
C	WT. OF SOIL = A - B	(grams)	2054.8	2054.8	2041.2		1914.4
D	WET UNIT WT.(1) = C X 0.066	(pcf)	135.6	135.6	134.7		119.8
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	122.3	119.2	117.3		112.8

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: JW

	TARE NO.		104	3	102		11
F	WT. OF TARE	(grams)	8.26	7.57	8.15		7.33
G	WT. OF WET SOIL & TARE	(grams)	222.44	265.72	236.74		206.33
H	WT. OF DRY SOIL & TARE	(grams)	201.51	234.35	207.23		194.79
I	WT. OF WATER = G - H	(grams)	20.93	31.37	29.51		11.54
J	WT. DRY SOIL = H - F	(grams)	193.25	226.78	199.08		187.46
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.8	13.8	14.8		6.2

1265

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MOISTURE-DENSITY RELATIONSHIP

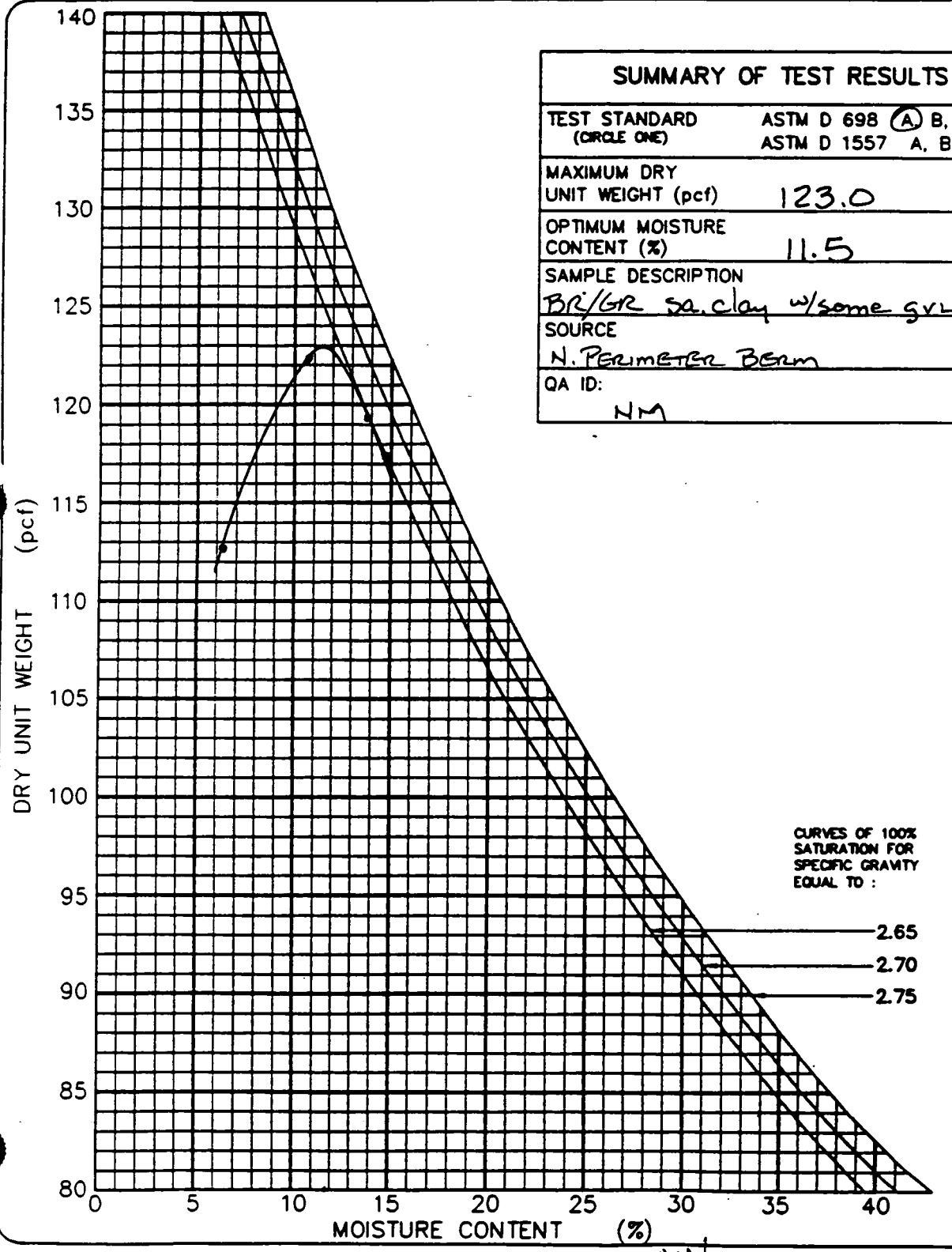
1265

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-08



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)	123.0
OPTIMUM MOISTURE CONTENT (%)	11.5
SAMPLE DESCRIPTION	BR/GR sa. clay w/some gvl.
SOURCE	N. PERIMETER BERM
QA ID:	NM

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 21 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-09

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	9				
A	WT. OF TARE	7.2				
B	WT. OF WET SOIL & TARE	178.8				
C	WT. OF DRY SOIL & TARE	148.3				
D	WT. OF WATER = B-C	30.5				
E	WT. OF DRY SOIL = C-A	141.1				
F	MOISTURE CONTENT = (D/E) X 100	21.6				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	278.1				
C	WT. OF DRY SOIL & TARE	251.0				
D	WT. OF WATER = B-C	27.1				
E	WT. OF DRY SOIL = C-A	119.0				
F	MOISTURE CONTENT = (D/E) X 100	22.8				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-09

SOIL SAMPLE SIZE TOTAL SAMPLE WT. = 15,961.3 gms
>#4 SAMPLE WT. = 1641.1 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		9	9
WT. OF DRY SAMPLE PLUS TARE	(grams)	148.3	39.8
WT. OF TARE	(grams)	7.2	7.2
WT. OF DRY SAMPLE	(grams)	141.1 ✓	32.6 ✓

SIEVE ANALYSIS QA ID: PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0	100		MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
1 1/2"	37.5	282.3	1.8	98.2		
1"	25.0	365.2	2.3	97.7		
3/4"	19.0	452.0	3.0	97.0		
1/2"	12.5	694.2	4.3	95.7		
3/8"	9.5	866.2	5.4	94.6		
4	4.75	1542.0	9.7	90.3		
10	2.00	7.6	5.4	94.6	85.4	
20	0.850	10.8	7.7	92.3	83.3	
40	0.425	14.4	10.2	89.8	81.1	
60	0.250	18.9	13.4	86.6	78.2	
100	0.150	25.1	17.8	82.2	74.2	
200	0.075	32.3	22.9	77.1	69.6	

%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.: GQ0166 TASK NO.: 04.1

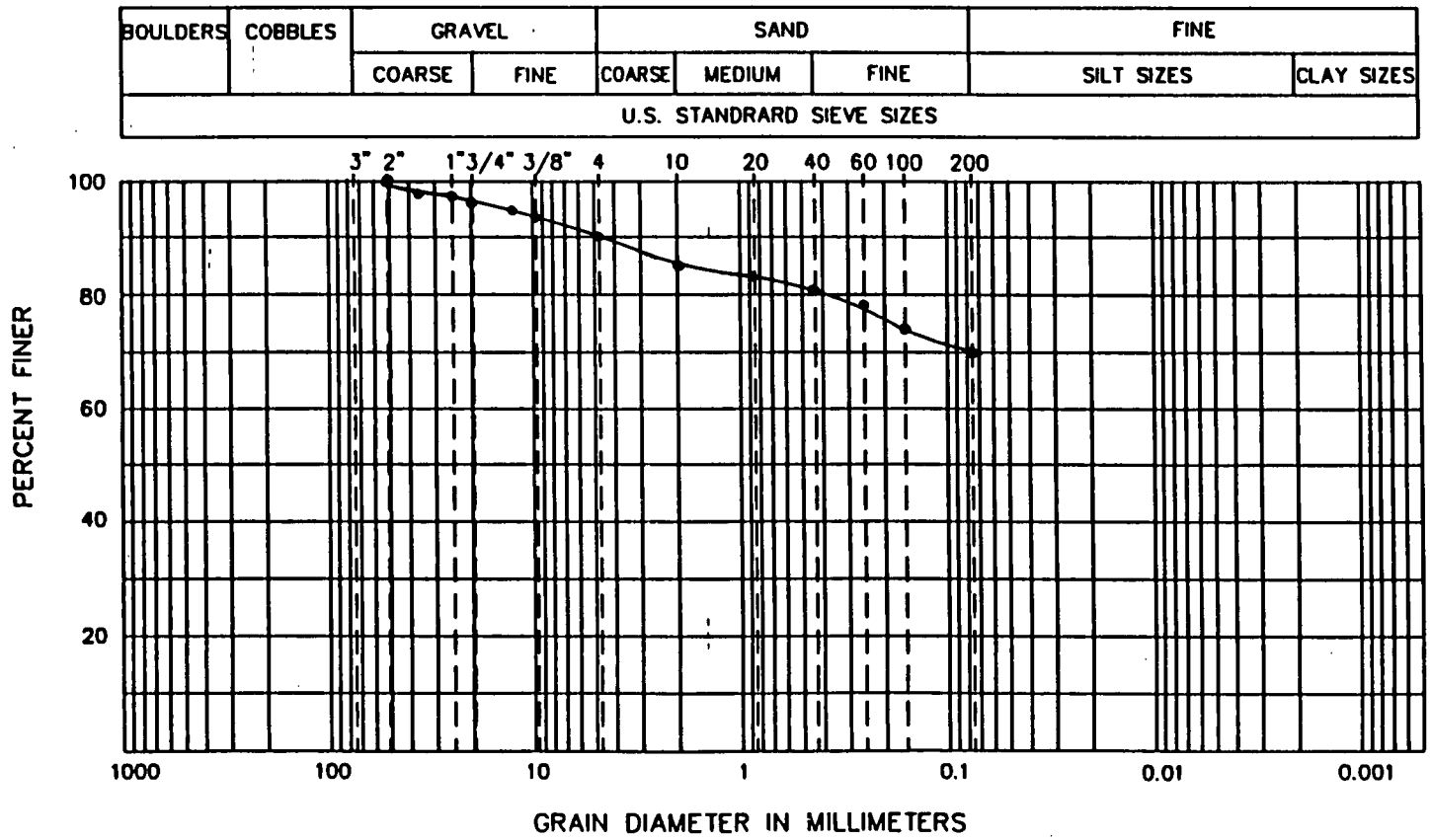
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 24 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF-09 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 37

(PL) 17

(PI) 20

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	98.2
1-in.	97.7
3/4-in.	97.0
1/2-in.	95.7
3/8-in.	94.6
NO. 4	90.3
NO. 10	85.4
NO. 20	83.3
NO. 40	81.1
NO. 60	78.2
NO. 100	74.2
NO. 200	69.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) w/ SOME GRAVEL.

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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)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 28 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-09

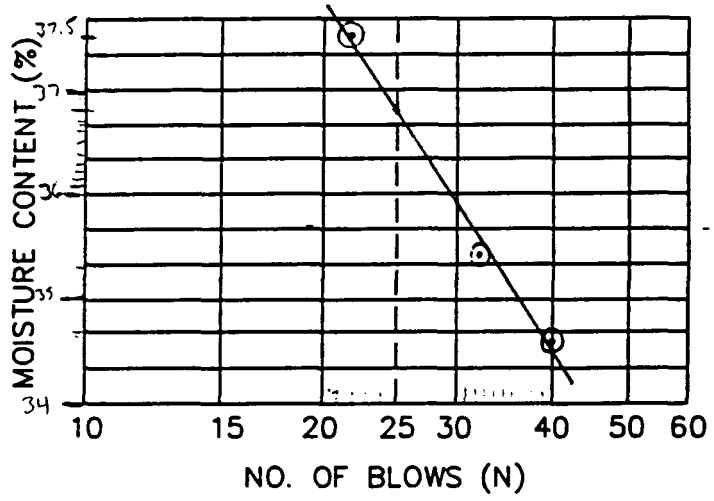
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.1	2.8	1.7	
A	WT. OF TARE	(grams)	28.24	28.45	28.49	
B	WT. OF WET SOIL & TARE	(grams)	38.50	42.69	39.34	
C	WT. OF DRY SOIL & TARE	(grams)	35.86	38.97	36.38	
D	WT. OF WATER = B-C	(grams)	2.64	3.72	2.96	
E	WT. OF DRY SOIL = C-A	(grams)	7.62	10.52	7.89	
F	MOISTURE CONTENT = (D/E)X100	(%)	34.6 ✓	35.4 ✓	37.5 ✓	
N	NUMBER OF BLOWS		40	33	22	

DRYING TARE NO.

H



CURING TARE NO.

1-A

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.4	1.6		
A	WT. OF TARE	(grams)	27.39	28.87		
B	WT. OF WET SOIL & TARE	(grams)	35.84	36.80		
C	WT. OF DRY SOIL & TARE	(grams)	34.59	35.64		
D	WT. OF WATER = B-C	(grams)	1.25	1.16		
E	WT. OF DRY SOIL = C-A	(grams)	7.2	6.77		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.4 ✓	17.1 ✓		

LIQUID LIMIT (LL) = 37 PLASTIC LIMIT (PL) = 17.0 PLASTICITY INDEX (PI) = 20

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 23 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-09

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: JW

	WATER ADDED	(ml)	150	200	250	300	350
A	WT. OF SOIL & MOLD	(grams)	5937.6	6019.3	6110.0	6223.4	6205.2
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A − B	(grams)	1728.2	1809.9	1900.6	2014.0	1995.8
D	WET UNIT WT.(1) = C X 0.066	(pcf)	114.1 ✓	119.5 ✓	125.4 ✓	132.9 ✓	131.7 ✓
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	103.9 ✓	107.7 ✓	110.3 ✓	114.0 ✓	111.9 ✓

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: JW

	TARE NO.		29	7	11	31	20
F	WT. OF TARE	(grams)	8.25	8.00	7.43	8.24	8.38
G	WT. OF WET SOIL & TARE	(grams)	302.51	210.78	295.79	207.31	196.94
H	WT. OF DRY SOIL & TARE	(grams)	276.25	190.70	261.13	179.94	168.52
I	WT. OF WATER = G − H	(grams)	26.26	20.08	34.66	27.37	28.42
J	WT. DRY SOIL = H − F	(grams)	268.00	182.70	253.7	170.7	160.14
K	MOISTURE CONTENT = (I/J) X 100	(%)	9.8 ✓	11.0 ✓	13.7 ✓	16.6 ✓	17.7 ✓

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FLUOR DANIEL FERNALD

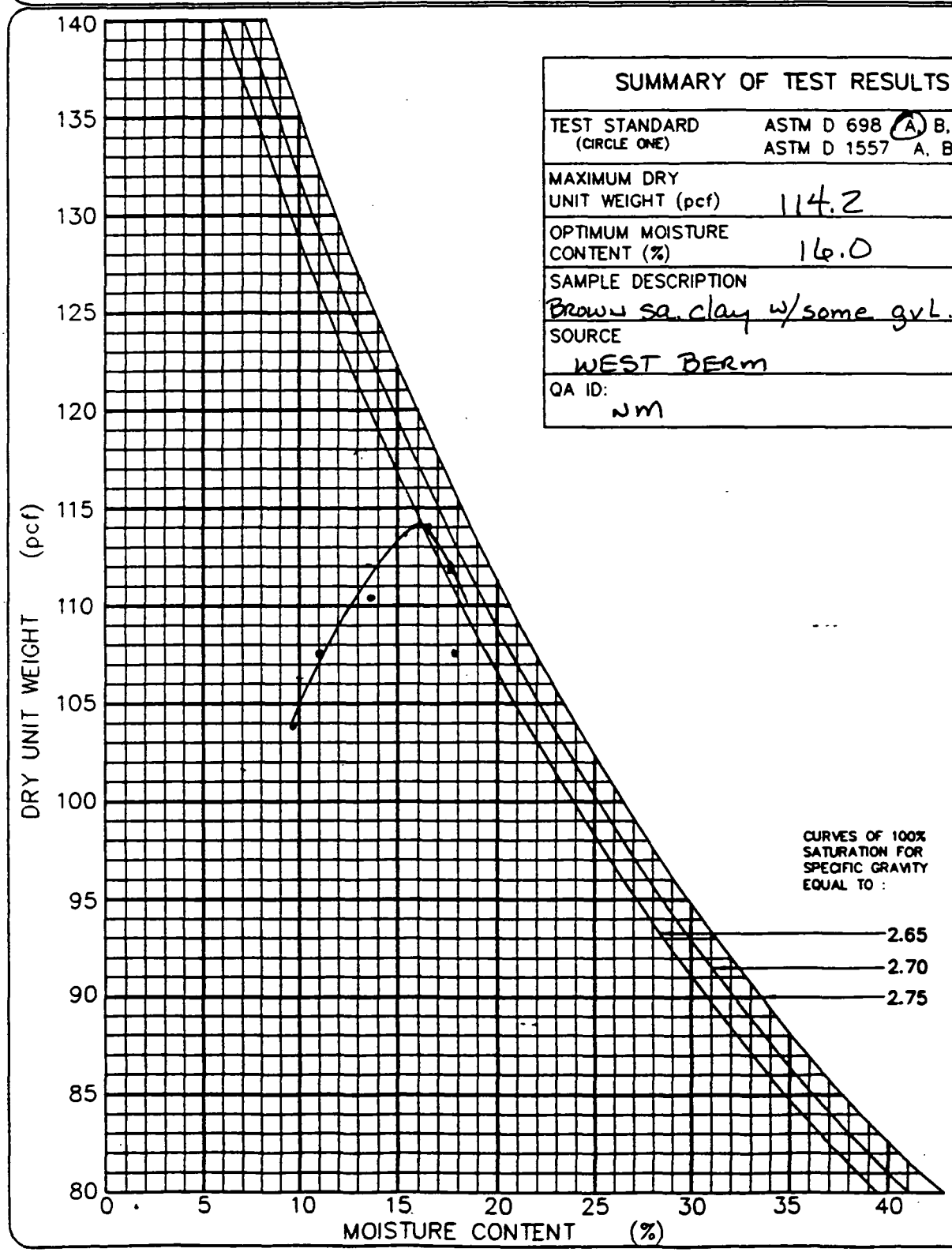
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 23 day 7 month '97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-09



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)	114.2
OPTIMUM MOISTURE CONTENT (%)	16.0
SAMPLE DESCRIPTION	Brown sa. clay w/some gvl.
SOURCE	WEST BERM
QA ID:	NM

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-10

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	30				
A	WT. OF TARE	8.3				
B	WT. OF WET SOIL & TARE	195.7				
C	WT. OF DRY SOIL & TARE	166.9				
D	WT. OF WATER = B-C	28.8				
E	WT. OF DRY SOIL = C-A	158.6				
F	MOISTURE CONTENT = (D/E) X 100	18.2				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	291.8				
C	WT. OF DRY SOIL & TARE	268.5				
D	WT. OF WATER = B-C	23.3				
E	WT. OF DRY SOIL = C-A	136.5				
F	MOISTURE CONTENT = (D/E) X 100	17.1				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 24 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-10

SOIL SAMPLE SIZE TOTAL SAMP. WT. = 17,731.2 grams
>#4 SAMP. WT. = 2,159.1 grams

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		30	30
WT. OF DRY SAMPLE PLUS TARE	(grams)	166.9	55.0
WT. OF TARE	(grams)	8.3	8.2
WT. OF DRY SAMPLE	(grams)	158.6	46.7

SIEVE ANALYSIS QA ID: KW/PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0	100		~~100~~ 11/23/97
1½"	37.5	362.6	2.0	98.0		MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
1"	25.0	470.3 ~~362.6~~ 7/24/97	2.7	97.3		
¾"	19.0	666.1 ~~454.1~~ 7/24/97	3.8	96.2		~~40-100~~ 11/23/97
½"	12.5	947.9	5.3	94.7		
⅜"	9.5	1149.3	6.5	93.5		
4	4.75	1969.1	11.1	88.9		
10	2.00	10.8	6.8	93.2	82.9	
20	0.850	18.2	11.5	88.5	78.7	
40	0.425	25.0	15.8	84.2	74.9	
60	0.250	30.6	19.3	80.7	71.7	
100	0.150	37.6	23.7	76.3	67.8	
200	0.075	46.4	29.3	70.7	62.9	~~75~~ 11/23/97

%FINER = 100 − Σ% RETAINED

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CHECKED BY: [illegible] 000147 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.: GQ0166 TASK NO.: 04.1

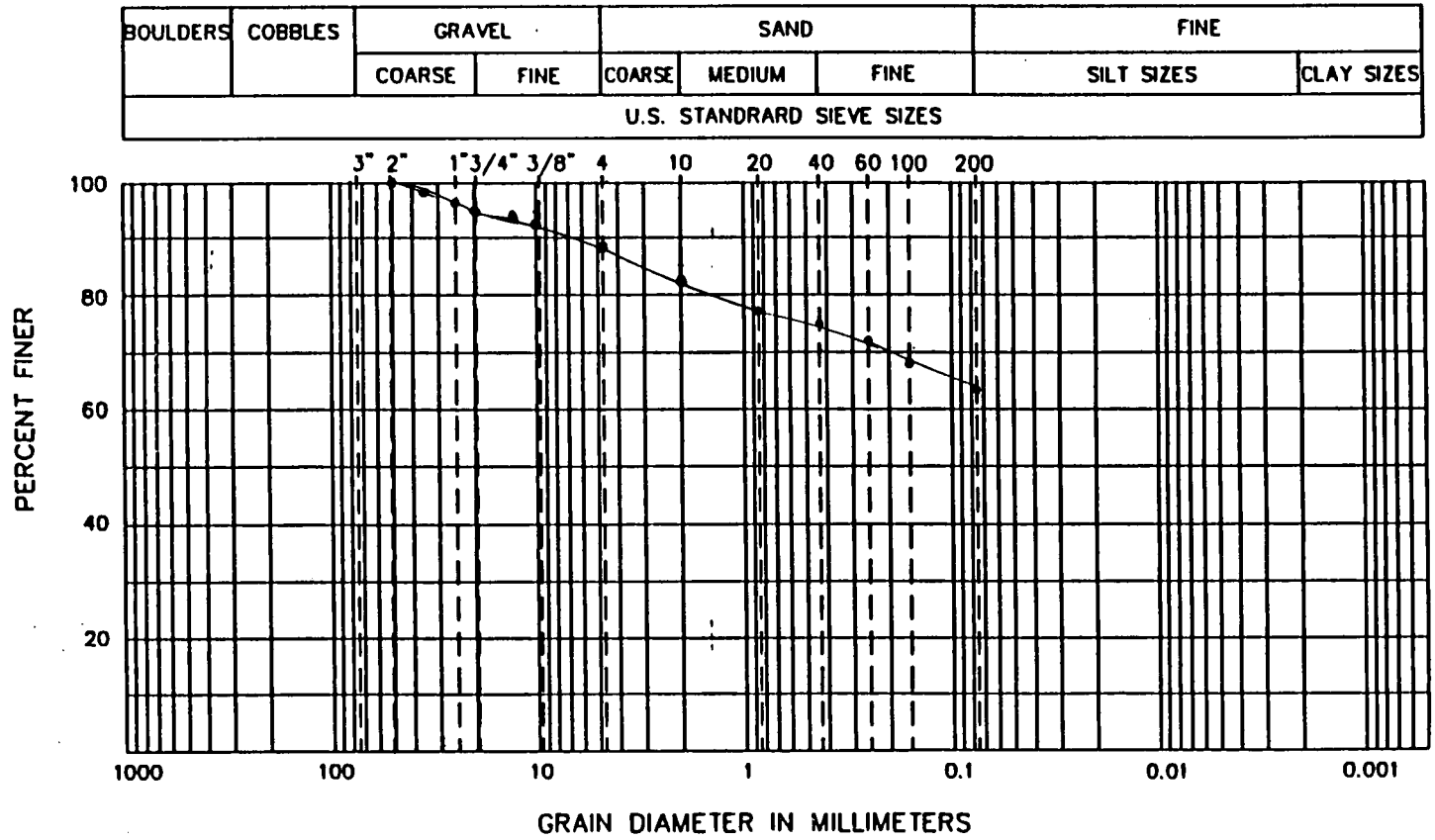
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 28 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF-10 QA ID: KW

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 27

(PL) 15

(PI) 12

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	100
1 1/2-in.	98.0
1-in.	97.3
3/4-in.	96.2
1/2-in.	94.7
3/8-in.	93.5
NO. 4	88.9
NO. 10	82.8
NO. 20	78.7
NO. 40	74.9
NO. 60	71.7
NO. 100	67.8
NO. 200	62.9

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GVL.

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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)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 28 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-10

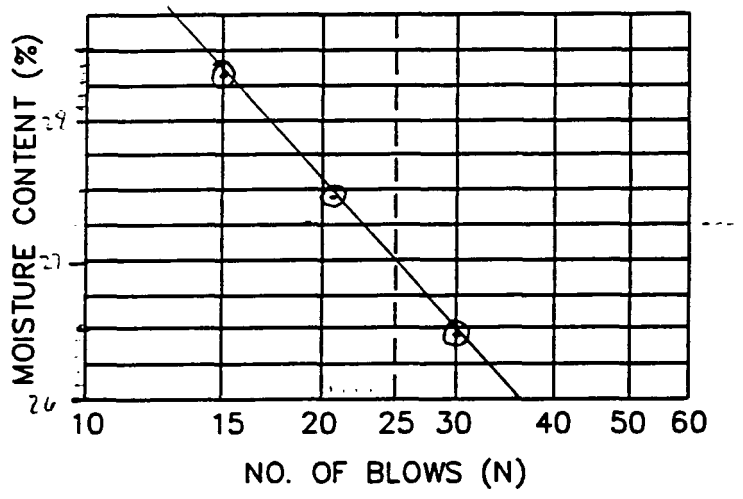
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.3	1.5	2.9	1.9
A	WT. OF TARE	(grams)	31.20	28.61	31.46	28.56
B	WT. OF WET SOIL & TARE	(grams)	45.04	44.24	44.58	43.66
C	WT. OF DRY SOIL & TARE	(grams)	42.15	40.99	41.76	40.33
D	WT. OF WATER = B-C	(grams)	2.89	3.25	2.82	3.33
E	WT. OF DRY SOIL = C-A	(grams)	10.95	12.38	10.3	11.77
F	MOISTURE CONTENT = (D/E)X100	(%)	26.4 ✓	26.3	27.4 ✓	28.3 ✓
N	NUMBER OF BLOWS		30	34	21	15

DRYING TARE NO.

I



CURING TARE NO.

1-J

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.2	3.1		
A	WT. OF TARE	(grams)	28.50	28.38		
B	WT. OF WET SOIL & TARE	(grams)	39.08	37.01		
C	WT. OF DRY SOIL & TARE	(grams)	37.67	35.90		
D	WT. OF WATER = B-C	(grams)	1.41	1.11		
E	WT. OF DRY SOIL = C-A	(grams)	9.17	7.52		
F	MOISTURE CONTENT = (D/E)X100	(%)	15.4 ✓	14.8 ✓		

LIQUID LIMIT (LL) = 27 PLASTIC LIMIT (PL) = 15 PLASTICITY INDEX (PI) = 12

2047.3

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 26 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-10

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: SQ

	WATER ADDED	(ml)	100	150	200	250	
A	WT. OF SOIL & MOLD	(grams)	3982.6	4050.6	4114.2	4055.2	
B	WT. OF MOLD	(grams)	2047.3	2047.3	2047.3	2047.3	2047.3
C	WT. OF SOIL = A - B	(grams)	1935.3	2003.3	2066.9	2007.9	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	127.7	132.2	136.4	132.5	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	116.3 ✓	118.0 ✓	119.5 ✓	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: SQ

	TARE NO.		1	30	15	2	
F	WT. OF TARE	(grams)	7.3	8.3	7.7	7.6	
G	WT. OF WET SOIL & TARE	(grams)	199.3	200.1	202.0	201.1	
H	WT. OF DRY SOIL & TARE	(grams)	182.14	179.49	178.04	174.05	
I	WT. OF WATER = G - H	(grams)	17.16	20.61	23.96	27.05	
J	WT. DRY SOIL = H - F	(grams)	174.84	171.19	170.34	166.45	
K	MOISTURE CONTENT = (I/J) X 100	(%)	9.8 ✓	12.0 ✓	14.1 ✓	16.3 ✓	

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

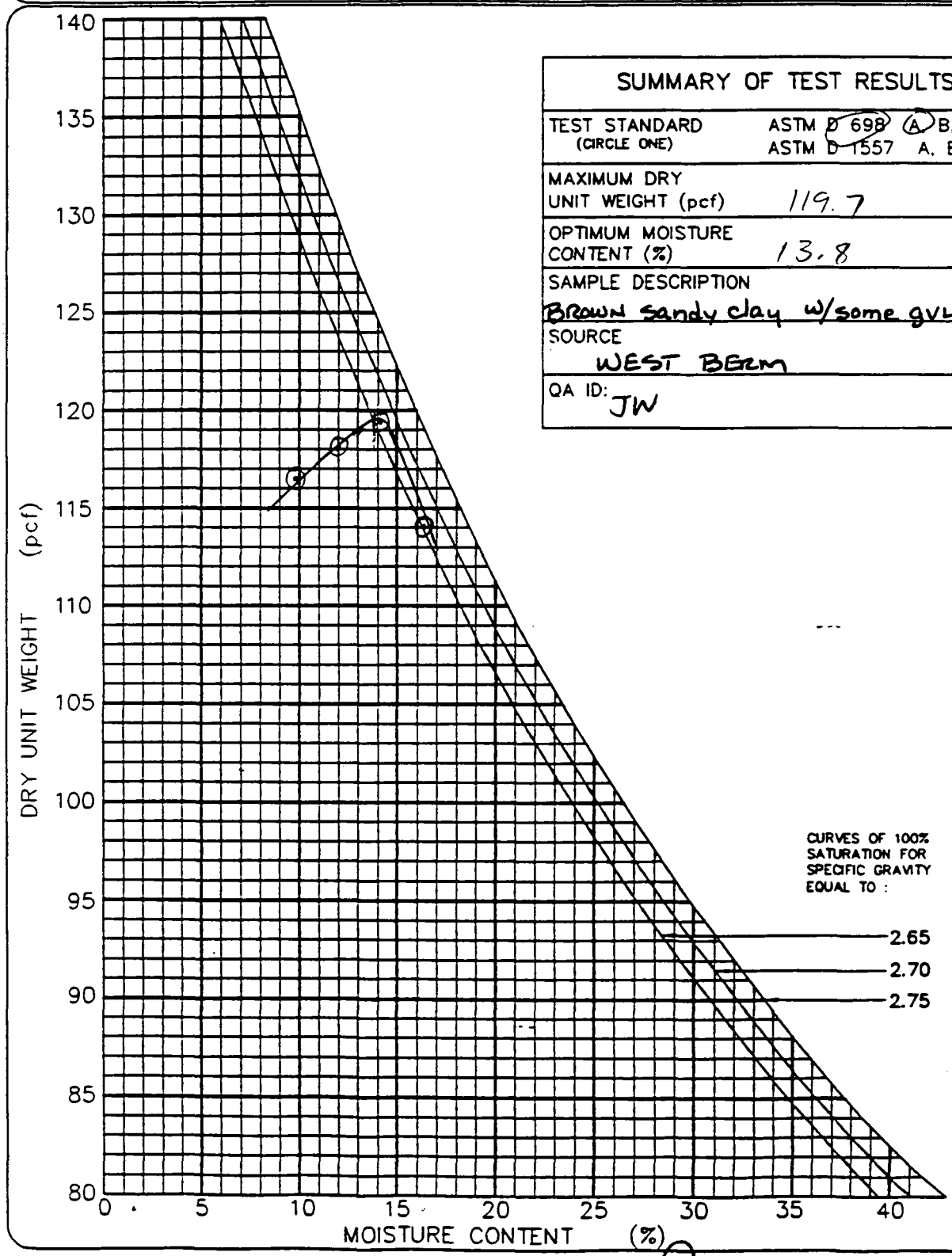
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 26 day 7 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-10



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)	119.7
OPTIMUM MOISTURE CONTENT (%)	13.8
SAMPLE DESCRIPTION	BROWN sandy clay w/some gvl.
SOURCE	WEST BERM
QA ID:	JW

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 28 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-11

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	32				
A	WT. OF TARE	8.3				
B	WT. OF WET SOIL & TARE	197.2				
C	WT. OF DRY SOIL & TARE	166.2				
D	WT. OF WATER = B-C	31.0				
E	WT. OF DRY SOIL = C-A	157.9				
F	MOISTURE CONTENT = (D/E) X 100	19.6 ✓				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	296.2				
C	WT. OF DRY SOIL & TARE	267.5				
D	WT. OF WATER = B-C	28.7				
E	WT. OF DRY SOIL = C-A	135.5				
F	MOISTURE CONTENT = (D/E) X 100	21.2 ✓				

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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: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 01 day AUGUST month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-11

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 18,112.1 gms
>#4 SAMPLE WT = 1238.2 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		32	32
WT. OF DRY SAMPLE PLUS TARE	(grams)	166.2	47.9
WT. OF TARE	(grams)	8.3	8.3
WT. OF DRY SAMPLE	(grams)	157.9 ✓	39.6 ✓

SIEVE ANALYSIS QA ID: PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	143.8	0.8	99.2		~~100~~ 1/23/97
1½"	37.5	143.8	0.8	99.2		maximum PARTICLE SIZE = 5 in. PER DCN 1802-019
1"	25.0	352.9	1.9	98.1		
¾"	19.0	498.9	2.8	97.2		
½"	12.5	661.6	3.7	96.3		
⅜"	9.5	783.2	4.3	95.7		
4	4.75	1176.6	6.5	93.5		
10	2.00	8.6	5.4	94.6	88.5	
20	0.850	13.5	@ 8/2/97 ~~8.6~~ 8.5	@ 8/4/97 91.5	@ 8/4/97 85.5	
40	0.425	18.8	11.9	88.1	82.4	
60	0.250	23.9	15.1	84.9	79.4	
100	0.150	30.9	19.6	80.4	75.2	
200	0.075	39.4	25.0	75.0	70.1 ✓	

%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.: GQ0166 TASK NO.: 04.1

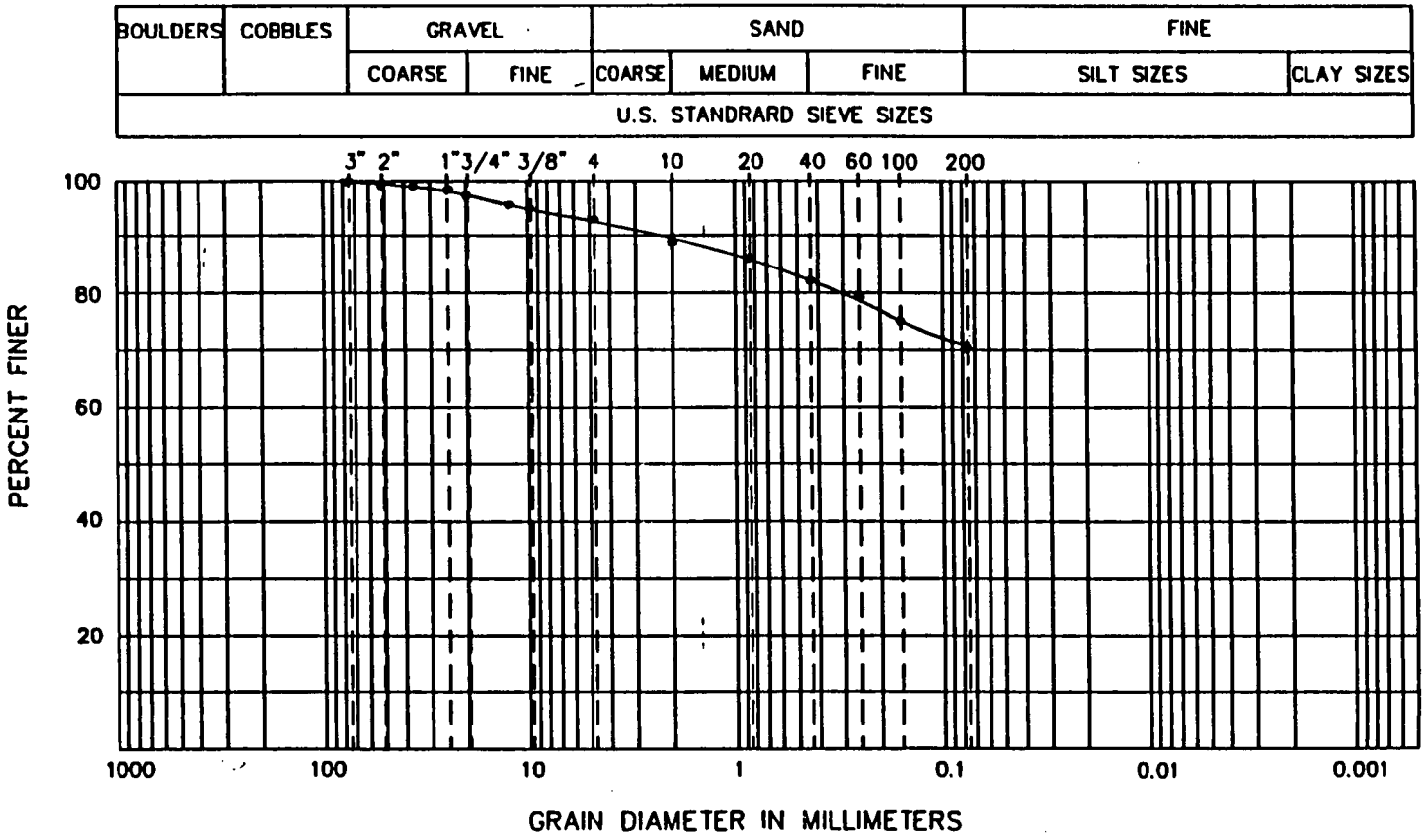
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 04 day AUG. month 1997 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF-11 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 41

(PL) 17

(PI) 24

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	99.2
1 1/2-in.	99.2
1-in.	98.1
3/4-in.	97.2
1/2-in.	96.3
3/8-in.	95.7
NO. 4	93.5
NO. 10	88.5
NO. 20	85.6
NO. 40	82.4
NO. 60	79.4
NO. 100	75.2
NO. 200	70.1

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
NA	NA

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/SOME GVL.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 7 day 8 month 9 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-11

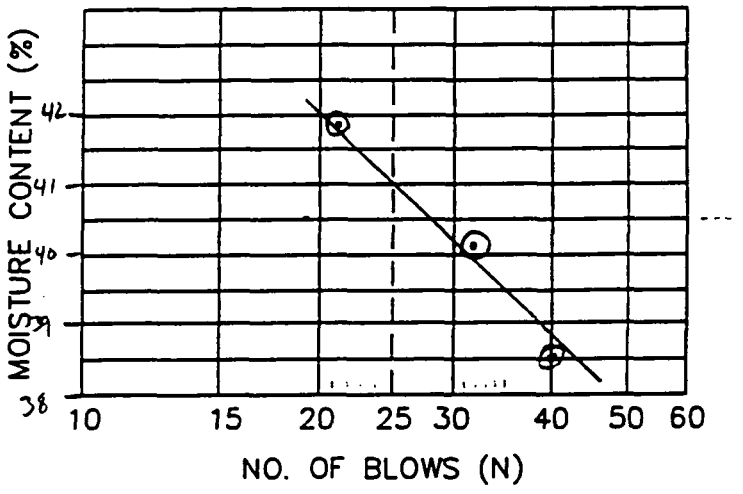
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		4.0	1.3	3.9	
A	WT. OF TARE	(grams)	21.11	28.64	21.01	
B	WT. OF WET SOIL & TARE	(grams)	39.96	48.39	41.00	
C	WT. OF DRY SOIL & TARE	(grams)	34.72	42.74	35.10	
D	WT. OF WATER = B-C	(grams)	5.24	5.65	5.9	
E	WT. OF DRY SOIL = C-A	(grams)	13.61	14.1	14.09	
F	MOISTURE CONTENT = (D/E)X100	(%)	38.5 ✓	40.1 ✓	41.9 ✓	
N	NUMBER OF BLOWS		40	31	21	

DRYING TARE NO.

P



CURING TARE NO.

1-B

CL

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		3.3	4.2		
A	WT. OF TARE	(grams)	21.44	21.19		
B	WT. OF WET SOIL & TARE	(grams)	30.64	29.15		
C	WT. OF DRY SOIL & TARE	(grams)	29.25	27.99		
D	WT. OF WATER = B-C	(grams)	1.39	1.16		
E	WT. OF DRY SOIL = C-A	(grams)	7.81	6.8		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.8 ✓	17.1 ✓		

LIQUID LIMIT (LL) = 41 PLASTIC LIMIT (PL) = 17 PLASTICITY INDEX (PI) = 24

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 8 day 1 month 97 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-11

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: R.L.

	WATER ADDED	(ml)	200	250	300	150	350
A	WT. OF SOIL & MOLD	(grams)	3834.2	3942.7	3628.0	3724.9	6246.1
B	WT. OF MOLD	(grams)	2046.7	2046.7	2046.7	2046.7	4207.4
C	WT. OF SOIL = A - B	(grams)	1787.5	1896.0	1582.1	1678.2	2076.7
D	WET UNIT WT.(1) = C X 0.066	(pcf)	118.0	125.1	104.4	110.8	134.4
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	106.5	110.6	90.4	101.7	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: R.L.

	TARE NO.		26	23	9	12	29
F	WT. OF TARE	(grams)	8.3	8.4	7.2	7.2	8.25
G	WT. OF WET SOIL & TARE	(grams)	373.4	351.9	302.10	361.7	219.72
H	WT. OF DRY SOIL & TARE	(grams)	337.96	312.08	262.34	332.48	189.54
I	WT. OF WATER = G - H	(grams)	35.44	39.82	39.66	29.22	30.18
J	WT. DRY SOIL = H - F	(grams)	329.66	303.68	255.14	325.28	181.29
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.8	13.1	15.5	9.0	16.6

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 4 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF -11

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.

* NEED WET PT OF 350 ml

COMPACTION OF SOIL

QA ID: JW

	WATER ADDED	(ml)	400				
A	WT. OF SOIL & MOLD	(grams)	6164.4				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A - B	(grams)	1955				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	129.03				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	108.52 HKM 8/7/97				

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: JW

	TARE NO.		3				
F	WT. OF TARE	(grams)	7.57				
G	WT. OF WET SOIL & TARE	(grams)	260.51				
H	WT. OF DRY SOIL & TARE	(grams)	219.80				
I	WT. OF WATER = G - H	(grams)	40.71				
J	WT. DRY SOIL = H - F	(grams)	212.23				
K	MOISTURE CONTENT = (I/J) X 100	(%)	19.2 ~~18.9~~ HKM 8/7/97				

GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC CHECKED BY: HKM

SHEET NO. 2 OF 3

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE-DENSITY RELATIONSHIP

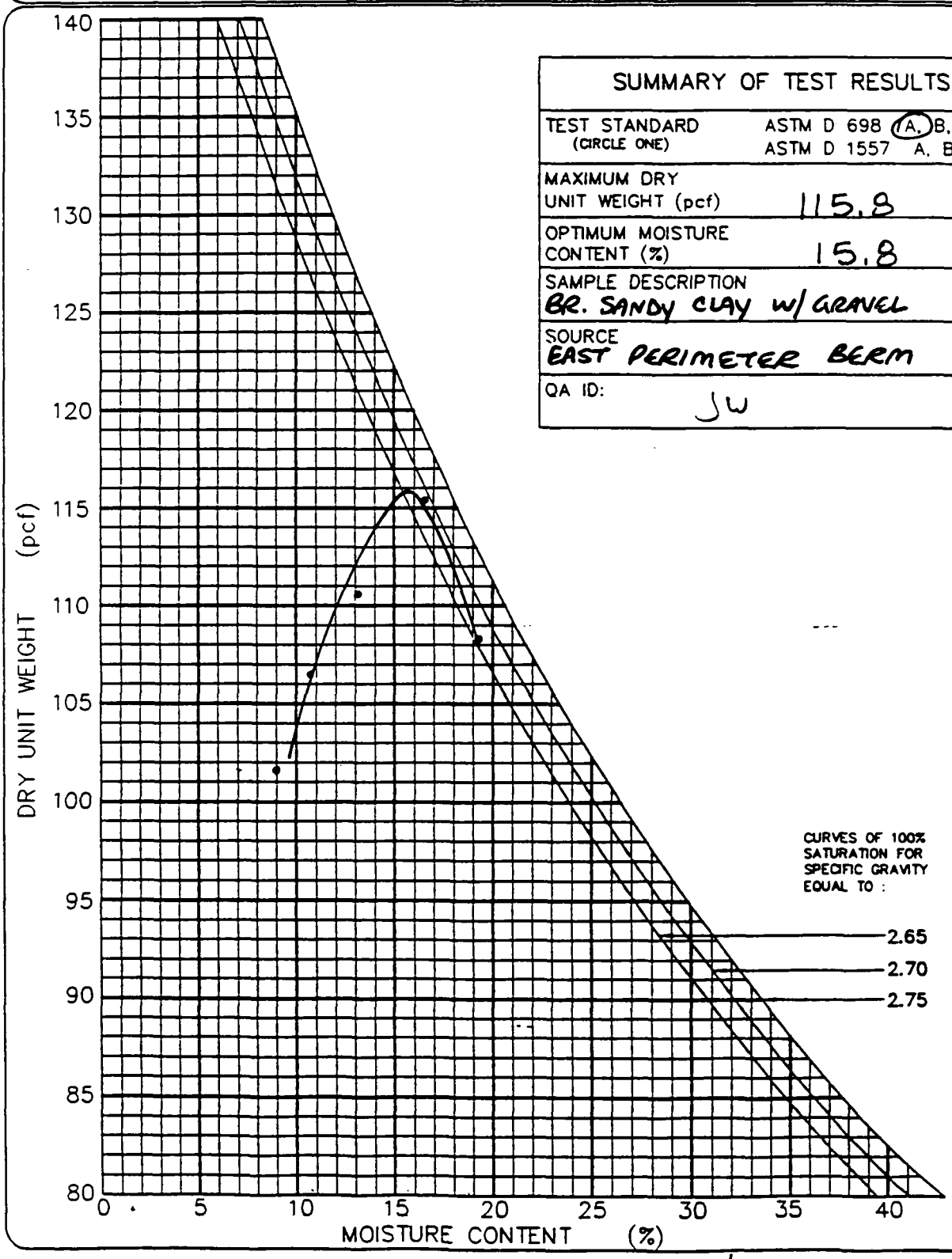
1265

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 1 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-11



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)	115.8
OPTIMUM MOISTURE CONTENT (%)	15.8
SAMPLE DESCRIPTION	BR. SANDY CLAY W/ GRAVEL
SOURCE	EAST PERIMETER BERM
QA ID:	JW

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 30 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-12

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	2				
A	WT. OF TARE	7.6				
B	WT. OF WET SOIL & TARE	186.8				
C	WT. OF DRY SOIL & TARE	162.7				
D	WT. OF WATER = B-C	24.1				
E	WT. OF DRY SOIL = C-A	155.1				
F	MOISTURE CONTENT = (D/E) X 100	15.5 ✓				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	307.9				
C	WT. OF DRY SOIL & TARE	280.2				
D	WT. OF WATER = B-C	21.7				
E	WT. OF DRY SOIL = C-A	148.2				
F	MOISTURE CONTENT = (D/E) X 100	14.6 ✓				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 04 day AUG month '97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-12

SOIL SAMPLE SIZE TOTAL SAMPLE WT. = 18,411.1 gms
>#4 SAMPLE WT. = 2113.2 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		2	2
WT. OF DRY SAMPLE PLUS TARE	(grams)	162.7	46.28
WT. OF TARE	(grams)	7.6	7.6
WT. OF DRY SAMPLE	(grams)	155.1	38.68

SIEVE ANALYSIS QA ID: JW/NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	159.6	0.9	99.1		~~100~~ KN 11/23/97
1½"	37.5	218.7	1.2	98.8		MAXIMUM PARTICLE SIZE = 5 in.
1"	25.0	549.2	3.0	97.0		
¾"	19.0	802.8	4.4	95.6		~~90 - 100~~ KN 11/23/97
½"	12.5	1157.3	6.3	93.7		PER DCN 1702-019
⅜"	9.5	1467.0	8.0	92.0		
4	4.75	1998.5	10.9	89.1		
10	2.00	8.10	5.2	94.8	84.5	
20	0.850	12.78	8.2	91.8	81.8	
40	0.425	17.70	11.4	88.6	78.9	
60	0.250	22.37	14.4	85.6	76.3	
100	0.150	29.08	18.7	81.3	72.4	
200	0.025	38.49	24.8	75.2	67.0	~~50 - 100~~ KN 11/23/97

%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)

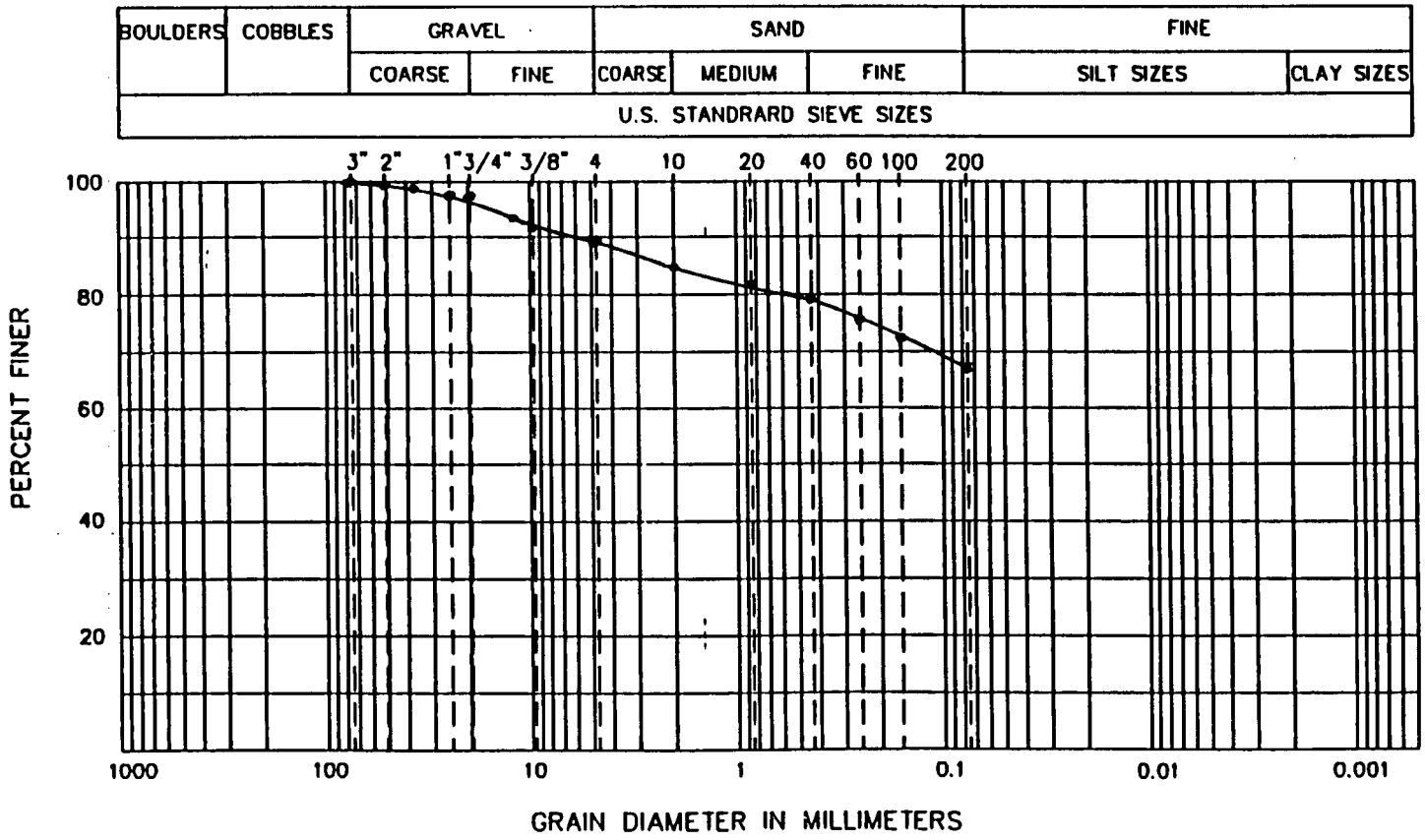
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 05 day AUG. month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-12 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 34

(PL) 17

(PI) 17

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	99.1
1 1/2-in.	98.8
1-in.	97.0
3/4-in.	95.6
1/2-in.	93.7
3/8-in.	92.0
NO. 4	89.1
NO. 10	84.5
NO. 20	81.8
NO. 40	78.9
NO. 60	76.3
NO. 100	72.4
NO. 200	67.0

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
NA	NA

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GVL

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 7 day 8 month 97 year

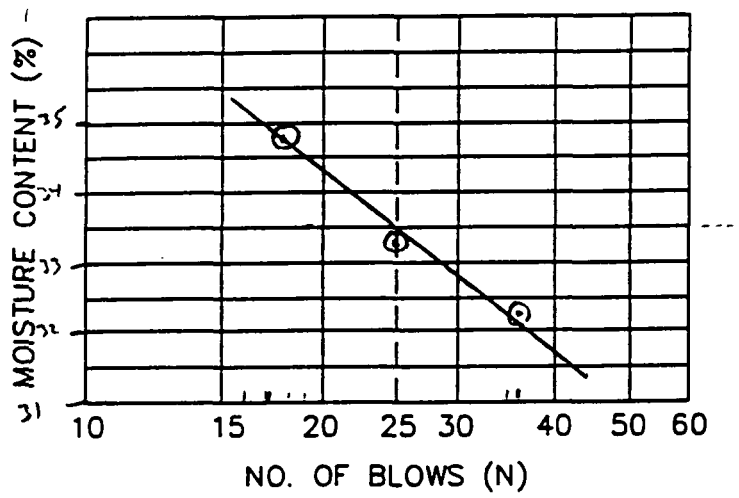
MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-12

LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.4	1.7	4.1	
A	WT. OF TARE	(grams)	28.52	28.49	21.07	
B	WT. OF WET SOIL & TARE	(grams)	49.95	51.34	44.74	
C	WT. OF DRY SOIL & TARE	(grams)	44.43	45.63	38.96	
D	WT. OF WATER = B-C	(grams)	5.52	5.71	5.78	
E	WT. OF DRY SOIL = C-A	(grams)	15.91	17.14	17.89	
F	MOISTURE CONTENT = (D/E)X100	(%)	34.7	33.3	32.3	
N	NUMBER OF BLOWS		17	25	36	

DRYING TARE NO.: 3



CURING TARE NO.: 1-G

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		3.7	4.3		
A	WT. OF TARE	(grams)	21.29	21.36		
B	WT. OF WET SOIL & TARE	(grams)	31.49	29.99		
C	WT. OF DRY SOIL & TARE	(grams)	30.05	28.76		
D	WT. OF WATER = B-C	(grams)	1.44	1.23		
E	WT. OF DRY SOIL = C-A	(grams)	8.76	7.4		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.4	16.6		

LIQUID LIMIT (LL) = 34 PLASTIC LIMIT (PL) = 17 PLASTICITY INDEX (PI) = 17

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 8 day 2 month 97 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-12

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: JW

	WATER ADDED	(ml)	400	200	250	300	350
A	WT. OF SOIL & MOLD	(grams)	6173.5	6005.7	6110.0	6205.2	6205.2
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1964.1	1796.3	1900.6	1995.8	1995.8
D	WET UNIT WT.(1) = C X 0.066	(pcf)	129.6	118.6	125.4	131.7	131.7
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	109.1	106.2	~~109.7~~ 111.0	114.0	114.4

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: JW

	TARE NO.		10	3	27	13	20
F	WT. OF TARE	(grams)	7.39	7.60	8.18	7.67	8.36
G	WT. OF WET SOIL & TARE	(grams)	192.12	274.76	212.77	214.78	289.13
H	WT. OF DRY SOIL & TARE	(grams)	162.94	247.05	194.55	187.03	252.27
I	WT. OF WATER = G - H	(grams)	29.18	27.71	24.32	27.75	36.86
J	WT. DRY SOIL = H - F	(grams)	155.55	239.45	~~170.37~~ 186.37	179.36	243.91
K	MOISTURE CONTENT = (I/J) X 100	(%)	18.8	11.6	~~14.3~~ 13.0	15.5	15.1

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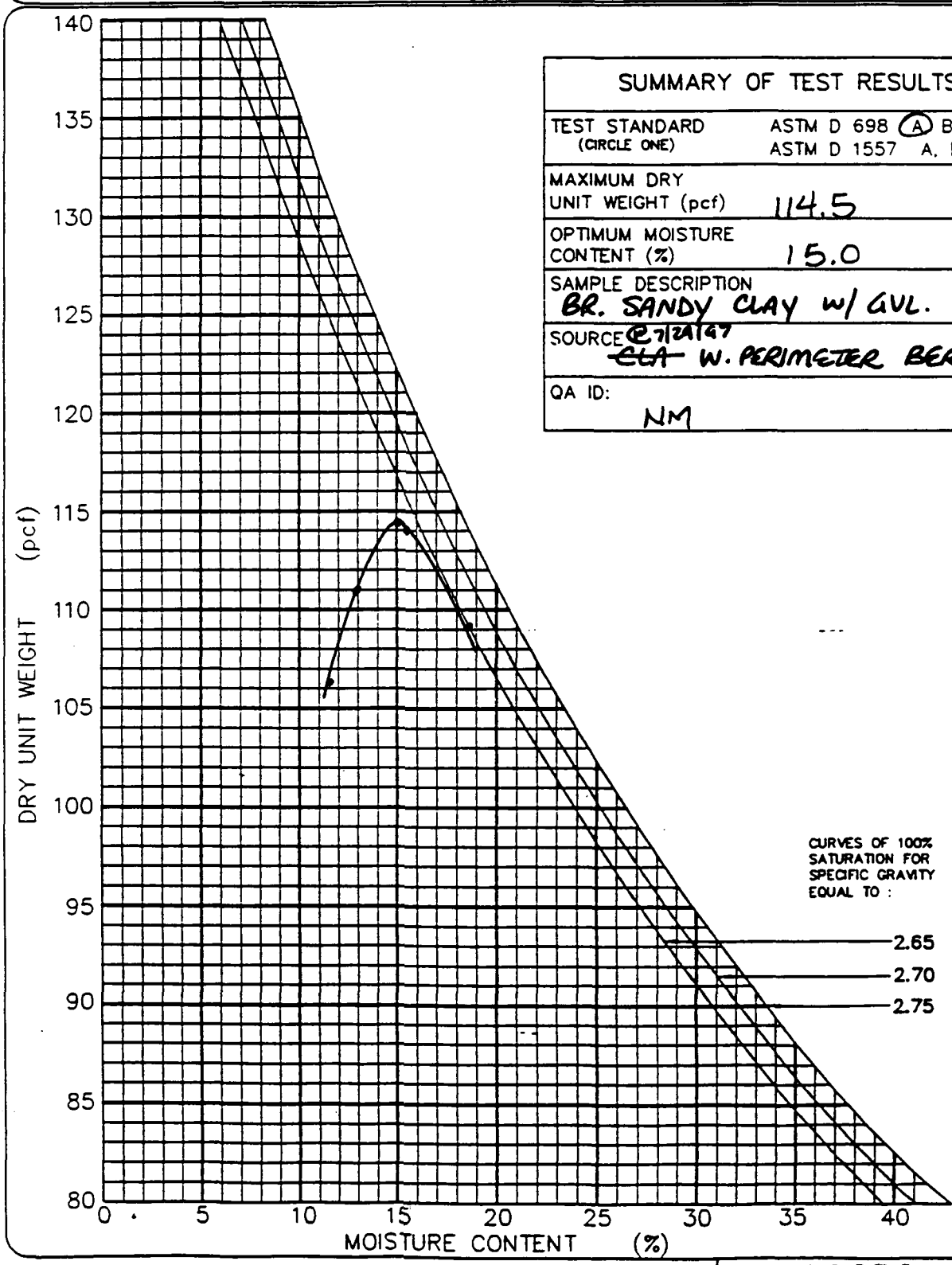
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 3 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-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)	114.5
OPTIMUM MOISTURE CONTENT (%)	15.0
SAMPLE DESCRIPTION	BR. SANDY CLAY w/ GVL.
SOURCE @ 7/24/97	~~CLA~~ W. PERIMETER BERM
QA ID:	NM

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 30 day JULY month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-13

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: PKO

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. _____	14				
A	WT. OF TARE	7.7				
B	WT. OF WET SOIL & TARE	201.8				
C	WT. OF DRY SOIL & TARE	177.0				
D	WT. OF WATER = B-C	24.8				
E	WT. OF DRY SOIL = C-A	169.3				
F	MOISTURE CONTENT = (D/E) X 100	14.6 ✓				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: PKO

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.	IV				
A	WT. OF TARE	132.3				
B	WT. OF WET SOIL & TARE	332.9				
C	WT. OF DRY SOIL & TARE	307.0				
D	WT. OF WATER = B-C	25.9				
E	WT. OF DRY SOIL = C-A	174.7				
F	MOISTURE CONTENT = (D/E) X 100	14.8 ✓				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 5 day 8 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-13

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 17,384.9 gms
>#4 SAMPLE WT. = 1998.8 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH WASHED 8/3 mon	AFTER WASH
TARE NO.		14	14
WT. OF DRY SAMPLE PLUS TARE	(grams)	177.0	56.66
WT. OF TARE	(grams)	7.7	7.7
WT. OF DRY SAMPLE	(grams)	169.3	48.96

SIEVE ANALYSIS QA ID: JW/RM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	0	100.0		MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
1½"	37.5	161.6	0.9	99.1		
1"	25.0	453.6	2.6	97.4		
¾"	19.0	705.5	4.1	95.9		
½"	12.5	1017.7	5.9	94.1		
⅜"	9.5	1238.8	7.1	92.9		
4	4.75	1818.9	10.5	89.5		
10	2.00	18.87	11.1	88.9	79.6	
20	0.850	25.40	15.0	85.0	76.1	
40	0.425	31.10	18.4	81.6	73.0	
60	0.250	35.81	21.2	78.8	70.5	
100	0.150	41.60	24.6	75.4	67.5	
200	0.025	48.76	28.8	71.2	63.7	

%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.: GQ0166 TASK NO.: 04.1

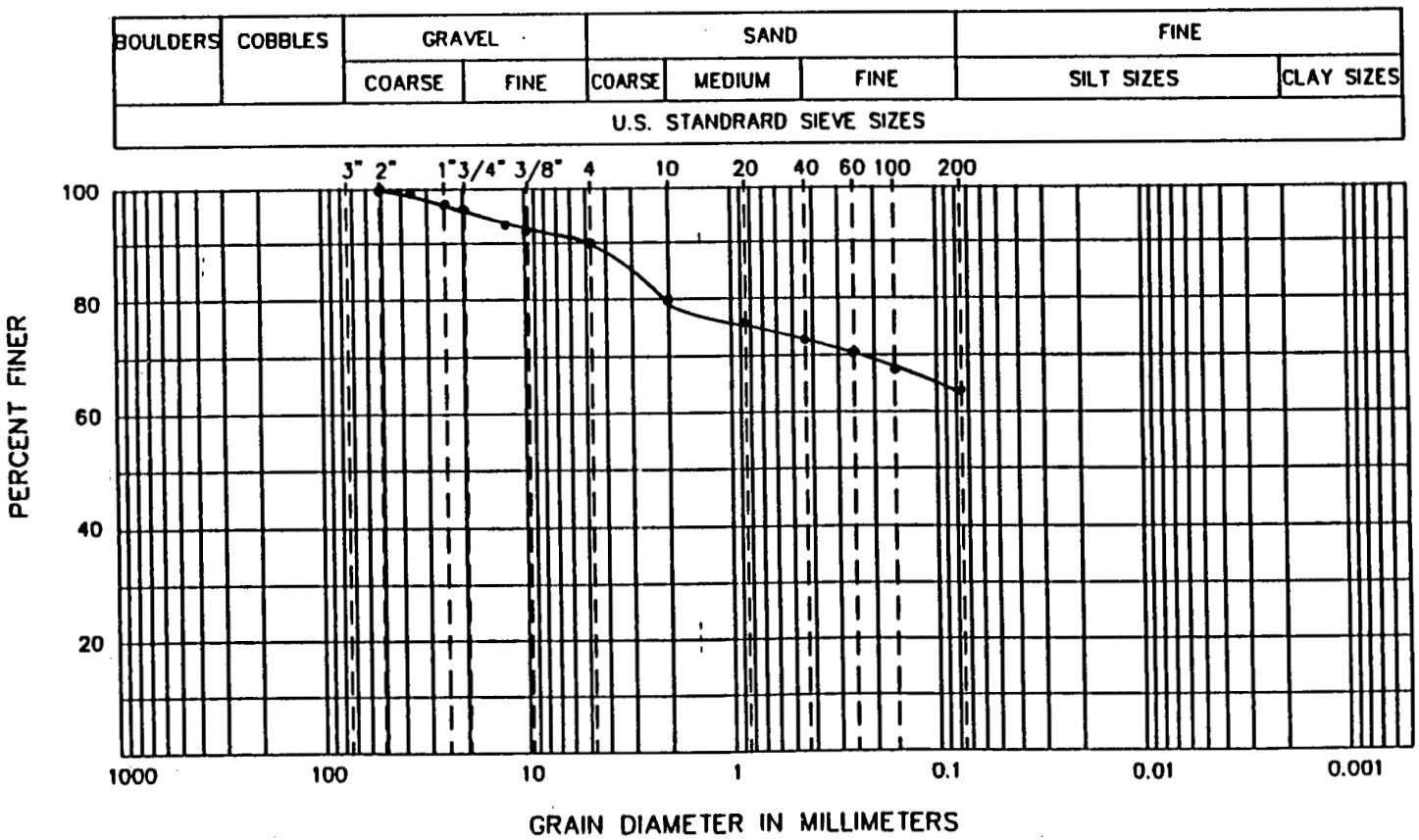
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 05 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF-13 QA ID: NA

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 30

(PL) 16

(PI) 14

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	99.1
1-in.	97.4
3/4-in.	95.9
1/2-in.	94.1
3/8-in.	92.9
NO. 4	89.5
NO. 10	79.6
NO. 20	76.1
NO. 40	73.0
NO. 60	70.5
NO. 100	67.5
NO. 200	63.7

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
NA	NA

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GRAVEL

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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)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 8 month 97 year

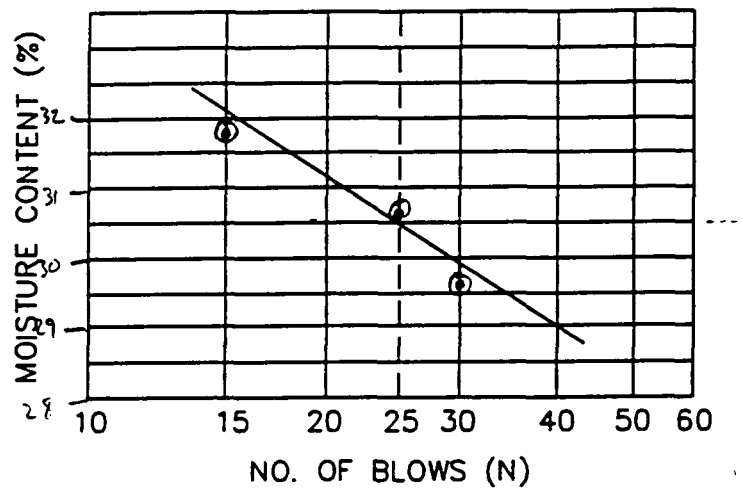
MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-13

LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.9	2.6	4.1	
A	WT. OF TARE	(grams)	31.46	28.56	21.07	
B	WT. OF WET SOIL & TARE	(grams)	51.23	47.76	40.73	
C	WT. OF DRY SOIL & TARE	(grams)	46.72	43.26	35.99	
D	WT. OF WATER = B-C	(grams)	4.51	4.5	4.74	
E	WT. OF DRY SOIL = C-A	(grams)	15.26	14.7	14.92	
F	MOISTURE CONTENT = (D/E)X100	(%)	29.6 ✓	30.6 ✓	31.8 ✓	
N	NUMBER OF BLOWS		30	25	15	

DRYING TARE NO.: 28



CURING TARE NO.: 1-D

CL

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		3.9	4.0		
A	WT. OF TARE	(grams)	21.01	21.11		
B	WT. OF WET SOIL & TARE	(grams)	32.77	30.36		
C	WT. OF DRY SOIL & TARE	(grams)	31.10	29.09		
D	WT. OF WATER = B-C	(grams)	1.67	1.27		
E	WT. OF DRY SOIL = C-A	(grams)	10.09	7.98		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.6 ✓	15.9 ✓		

LIQUID LIMIT (LL) = 30 PLASTIC LIMIT (PL) = 16 PLASTICITY INDEX (PI) = 14

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 8 day 2 month 97 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-13

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: JW

	WATER ADDED	(ml)	50	100	150	200	
A	WT. OF SOIL & MOLD	(grams)	6111.0	6214.3	6214.3	6164.4	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A − B	(grams)	1901.6	2004.9	2004.9	1954.6	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	125.5 ✓	132.3 ✓	132.3 ✓	129.0 ✓	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	111.1 ✓	115.2 ✓	113.5 ✓	108.2 ✓	

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: JW

	TARE NO.		6	101	8	103	
F	WT. OF TARE	(grams)	7.69	8.31	7.39	8.37	
G	WT. OF WET SOIL & TARE	(grams)	254.10	279.52	222.47	211.35	
H	WT. OF DRY SOIL & TARE	(grams)	225.71	244.29	191.84	178.71	
I	WT. OF WATER = G − H	(grams)	28.39	35.23	30.63	32.64	
J	WT. DRY SOIL = H − F	(grams)	218.02	235.98	184.45	170.34	
K	MOISTURE CONTENT = (I/J) X 100	(%)	13.0 ✓	14.9 ✓	16.6 ✓	19.2 ✓	

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FLUOR DANIEL FERNALD

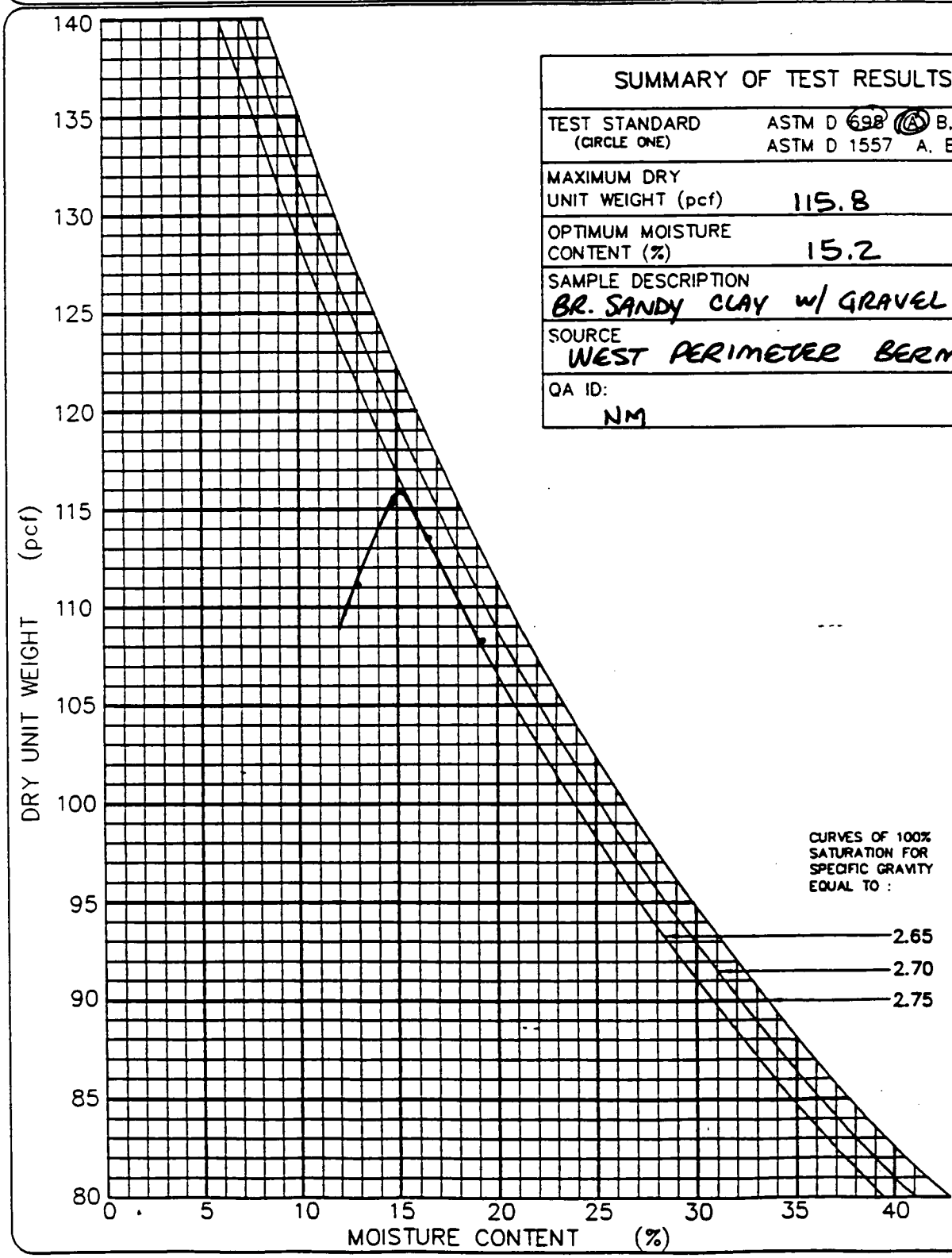
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 02 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-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)	115.8
OPTIMUM MOISTURE CONTENT (%)	15.2
SAMPLE DESCRIPTION	BR. SANDY CLAY w/ GRAVEL
SOURCE	WEST PERIMETER BERM
QA ID:	NM

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 02 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-14

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: JW/NM

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. _____	15				
A	WT. OF TARE	7.8				
B	WT. OF WET SOIL & TARE	187.1				
C	WT. OF DRY SOIL & TARE	160.30				
D	WT. OF WATER = B-C	26.8				
E	WT. OF DRY SOIL = C-A	152.5				
F	MOISTURE CONTENT = (D/E) X 100	17.6 ✓				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: JW/NM

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.	IV				
A	WT. OF TARE	132.3				
B	WT. OF WET SOIL & TARE	286.6				
C	WT. OF DRY SOIL & TARE	263.35				
D	WT. OF WATER = B-C	23.25				
E	WT. OF DRY SOIL = C-A	131.05				
F	MOISTURE CONTENT = (D/E) X 100	17.7 ✓				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 9 day 8 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-14

SOIL SAMPLE SIZE TOTAL SAMPLE WT. = 21065.7
>~~X~~ #4 SAMPLE WT. = 11279.9
8/3/97

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH (Soaking 8/3)	AFTER WASH
TARE NO.		15	15
WT. OF DRY SAMPLE PLUS TARE	(grams)	160.58	33.04
WT. OF TARE	(grams)	7.8	7.8
WT. OF DRY SAMPLE	(grams)	152.7	25.24

SIEVE ANALYSIS QA ID: JW

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0.0	0	100		~~100~~ HEM 11/23/97
1½"	37.5	0.0	0	100		MAXIMUM PARTICLE SIZE = 5 in.
1"	25.0	228.09	1.1	98.9		
3/4"	19.0	349.0	1.7	98.3		~~90-100~~ HEM 11/23/97
½"	12.5	553.7	2.6	97.4		PER DCN 1702-019
3/8"	9.5	702.8	3.3	96.7		
4	4.75	1179.9	5.6	94.4		
10	2.00	4.24	2.8	97.2	91.8	
20	0.850	7.83	5.1	94.9	89.6	
40	0.425	11.54	7.6	92.4	87.2	
60	0.250	14.78	9.7	90.3	85.2	
100	0.150	19.17	12.6	87.4	82.5	
200	0.025	25.15	16.5	83.5	78.8	~~50-100~~ HEM 11/23/97

%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.: GQ0166 TASK NO.: 04.1

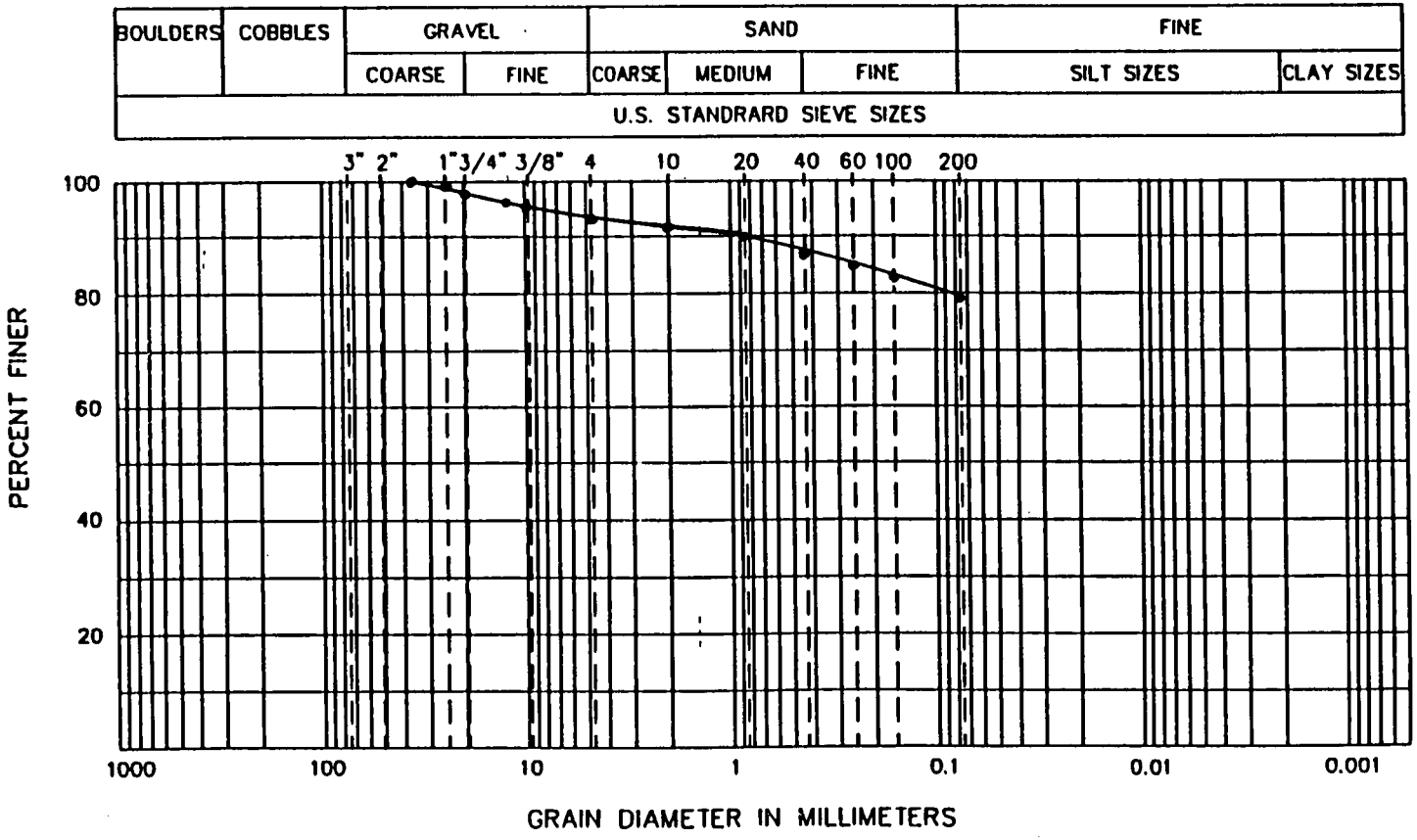
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 09 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF-14 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 31

(PL) 17

(PI) 14

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	100.0
1-in.	98.9
3/4-in.	98.3
1/2-in.	97.4
3/8-in.	96.7
NO. 4	94.4
NO. 10	91.8
NO. 20	89.6
NO. 40	87.2
NO. 60	85.2
NO. 100	82.5
NO. 200	78.8

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN LEAN CLAY (CL) W/ SOME SAND AND 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)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 9 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-14

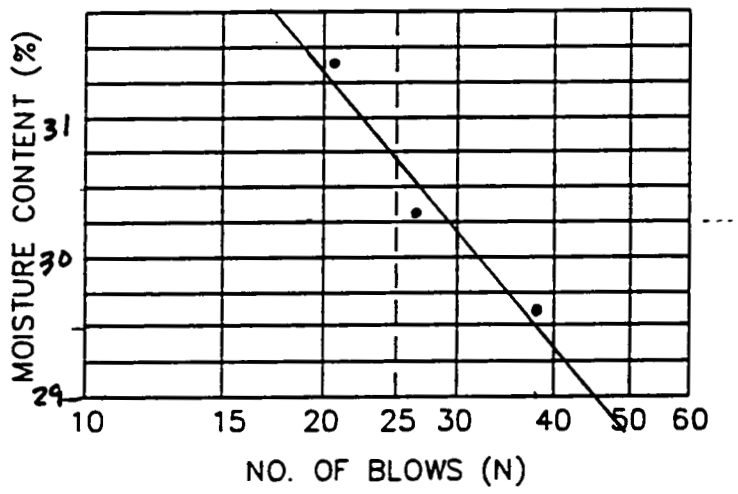
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.5	2.3	1.2	
A	WT. OF TARE	(grams)	28.42	31.20	28.50	
B	WT. OF WET SOIL & TARE	(grams)	49.93	54.89	52.19	
C	WT. OF DRY SOIL & TARE	(grams)	44.93	49.48	46.53	
D	WT. OF WATER = B-C	(grams)	5.00	5.41	5.66	
E	WT. OF DRY SOIL = C-A	(grams)	16.51	18.29	18.03	
F	MOISTURE CONTENT = (D/E)X100	(%)	30.3	29.6	31.4	
N	NUMBER OF BLOWS		27	38	21	

DRYING TARE NO.

L/14



CURING TARE NO.

1-E

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		3.7	4.2		
A	WT. OF TARE	(grams)	21.29	21.19		
B	WT. OF WET SOIL & TARE	(grams)	31.68	31.15		
C	WT. OF DRY SOIL & TARE	(grams)	30.15	29.69		
D	WT. OF WATER = B-C	(grams)	1.53	1.46		
E	WT. OF DRY SOIL = C-A	(grams)	8.86	8.50		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.3	17.1		

LIQUID LIMIT (LL) = 31 PLASTIC LIMIT (PL) = 17 PLASTICITY INDEX (PI) = 14

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 8 day 8 month 97 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-14

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: JW

	WATER ADDED	(ml)	50	100	150	200	0
A	WT. OF SOIL & MOLD	(grams)	6105.5	6232.5	6205.2	6164.4	6046.5
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A − B	(grams)	1896.1	2023.1	1995.8	1955.0	1837.1
D	WET UNIT WT.(1) = C X 0.066	(pcf)	125.1 ✓	133.5 ✓	131.7 ✓	129.0 ✓	121.2 ✓
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	111.5 ✓	115.4 ✓	112.3 ~~112.4~~	108.4 ✓	109.2 ✓

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: JW

	TARE NO.		23	105	34	9	26
F	WT. OF TARE	(grams)	8.48	8.26	8.32	7.25	8.36
G	WT. OF WET SOIL & TARE	(grams)	265.27	290.50	229.36	261.81	276.98
H	WT. OF DRY SOIL & TARE	(grams)	237.25	252.27	195.88	221.10	250.42
I	WT. OF WATER = G − H	(grams)	28.02	38.23	32.48	40.71	26.56
J	WT. DRY SOIL = H − F	(grams)	228.77	244.01	187.56 ~~188.13~~	213.85	242.06
K	MOISTURE CONTENT = (I/J) X 100	(%)	12.2 ✓	15.7 ✓	17.3	19.0 ✓	11.0 ✓

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

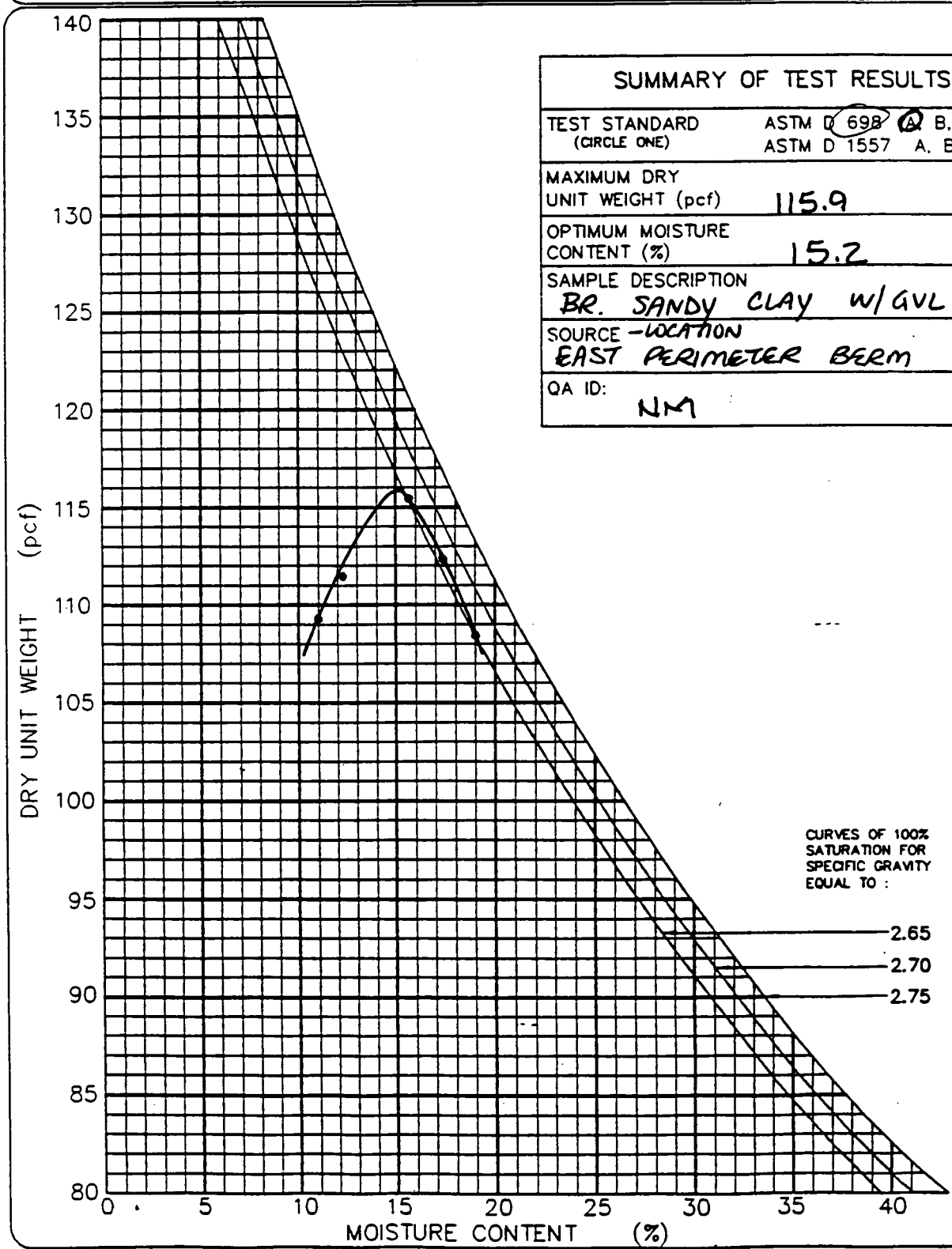
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 9 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-14



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)	115.9
OPTIMUM MOISTURE CONTENT (%)	15.2
SAMPLE DESCRIPTION	BR. SANDY CLAY W/GVL
SOURCE - LOCATION	EAST PERIMETER BERM
QA ID:	NM

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 8 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF -15

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 1591.5.6
L #4 SAMPLE WT = 461.4

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		13	13
WT. OF DRY SAMPLE PLUS TARE	(grams)	345.50	62.08
WT. OF TARE	(grams)	7.66	7.66
WT. OF DRY SAMPLE	(grams)	337.84	54.42

SIEVE ANALYSIS QA ID: JW

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0.0	0	100		MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
1½"	37.5	0.0	0	100		
1"	25.0	106.97	0.7	99.3		
¾"	19.0	168.16	1.1	98.9		
½"	12.5	224.94	1.4	98.6		
⅜"	9.5	280.87	1.8	98.2		
4	4.75	461.5	2.9	97.1		
10	2.00	18.90	5.6	94.4	91.7	
20	0.850	24.65	7.3	92.7	90.0	
40	0.425	31.40	9.3	90.7	88.1	
60	0.250	37.62	11.1	88.9	86.3	
100	0.150	45.52	13.5	86.5	84.0	
200	0.075	54.33	16.1	83.9	81.5	

%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)

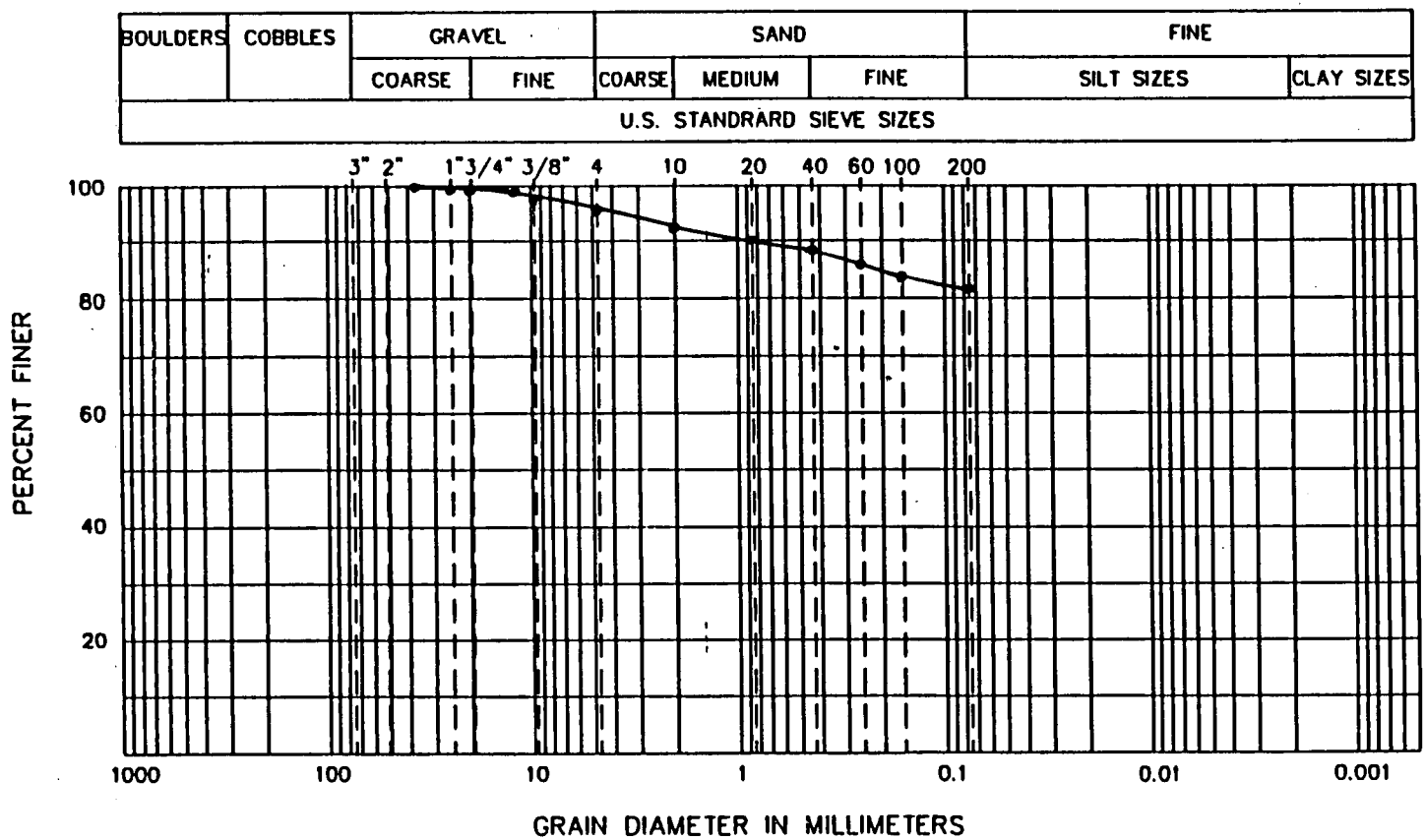
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 09 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-15 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/a (C_c) N/a



ATTERBERG LIMITS

(LL) 34

(PL) 17

(PI) 17

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	100.0
1-in.	99.3
3/4-in.	98.9
1/2-in.	98.6
3/8-in.	98.2
NO. 4	97.1
NO. 10	91.7
NO. 20	90.0
NO. 40	88.1
NO. 60	86.3
NO. 100	84.0
NO. 200	81.5

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/a	N/a

SOIL CLASSIFICATION (ASTM D 2487): BROWN LEAN CLAY (CL) w/ some sand & TR. of GVL.

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 9 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-15

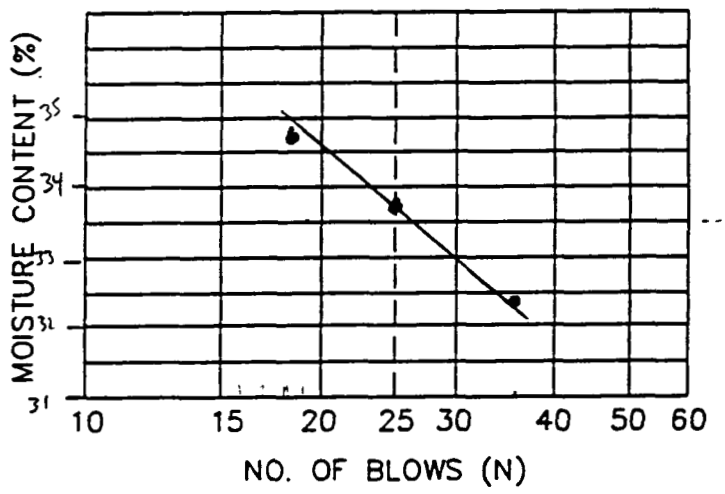
LIQUID LIMIT DETERMINATION

QA ID: JLO

	TARE NO.		2.3	2.6	1.2	
A	WT. OF TARE	(grams)	31.20	29.56	28.50	
B	WT. OF WET SOIL & TARE	(grams)	50.93	47.58	45.97	
C	WT. OF DRY SOIL & TARE	(grams)	46.10	42.79	41.47	
D	WT. OF WATER = B-C	(grams)	4.83	4.79	4.5	
E	WT. OF DRY SOIL = C-A	(grams)	14.9	14.23	12.97	
F	MOISTURE CONTENT = (D/E)X100	(%)	32.4	33.7	34.7	
N	NUMBER OF BLOWS		36	25	18	

DRYING TARE NO.

8



CURING TARE NO.

1-C

CL

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		4.0	3.7		
A	WT. OF TARE	(grams)	21.11	21.29		
B	WT. OF WET SOIL & TARE	(grams)	26.93	28.74		
C	WT. OF DRY SOIL & TARE	(grams)	26.09	27.65		
D	WT. OF WATER = B-C	(grams)	.84	1.09		
E	WT. OF DRY SOIL = C-A	(grams)	4.98	6.36		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.9	17.1		

LIQUID LIMIT (LL) = 34 PLASTIC LIMIT (PL) = 17 PLASTICITY INDEX (PI) = 17

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 8 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-15

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: JW

	WATER ADDED	(ml)	50	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)	5996.6	6096.4	6132.7	6128.1	6073.7
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1787.2	1887	1923.3	1918.7	1864.3
D	WET UNIT WT.(1) = C X 0.066	(pcf)	118.0 ✓	124.5 ✓	126.9 ✓	126.6 ✓	123.0 ✓
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	102.1 ✓	105.6 ✓	106.6 ✓	103.9 ✓	99.3 ✓

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: JW

	TARE NO.		104	24	12	1	31
F	WT. OF TARE	(grams)	8.23	8.38	7.28	7.29	8.28
G	WT. OF WET SOIL & TARE	(grams)	293.17	287.23	281.20	316.93	268.41
H	WT. OF DRY SOIL & TARE	(grams)	254.72	244.91	237.53	261.36	218.22
I	WT. OF WATER = G - H	(grams)	38.45	42.32	43.67	55.57	50.19
J	WT. DRY SOIL = H - F	(grams)	246.49	236.53	230.25	254.07	209.94
K	MOISTURE CONTENT = (I/J) X 100	(%)	15.6 ✓	17.9 ✓	19.0 ✓	21.9 ✓	23.9 ✓

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

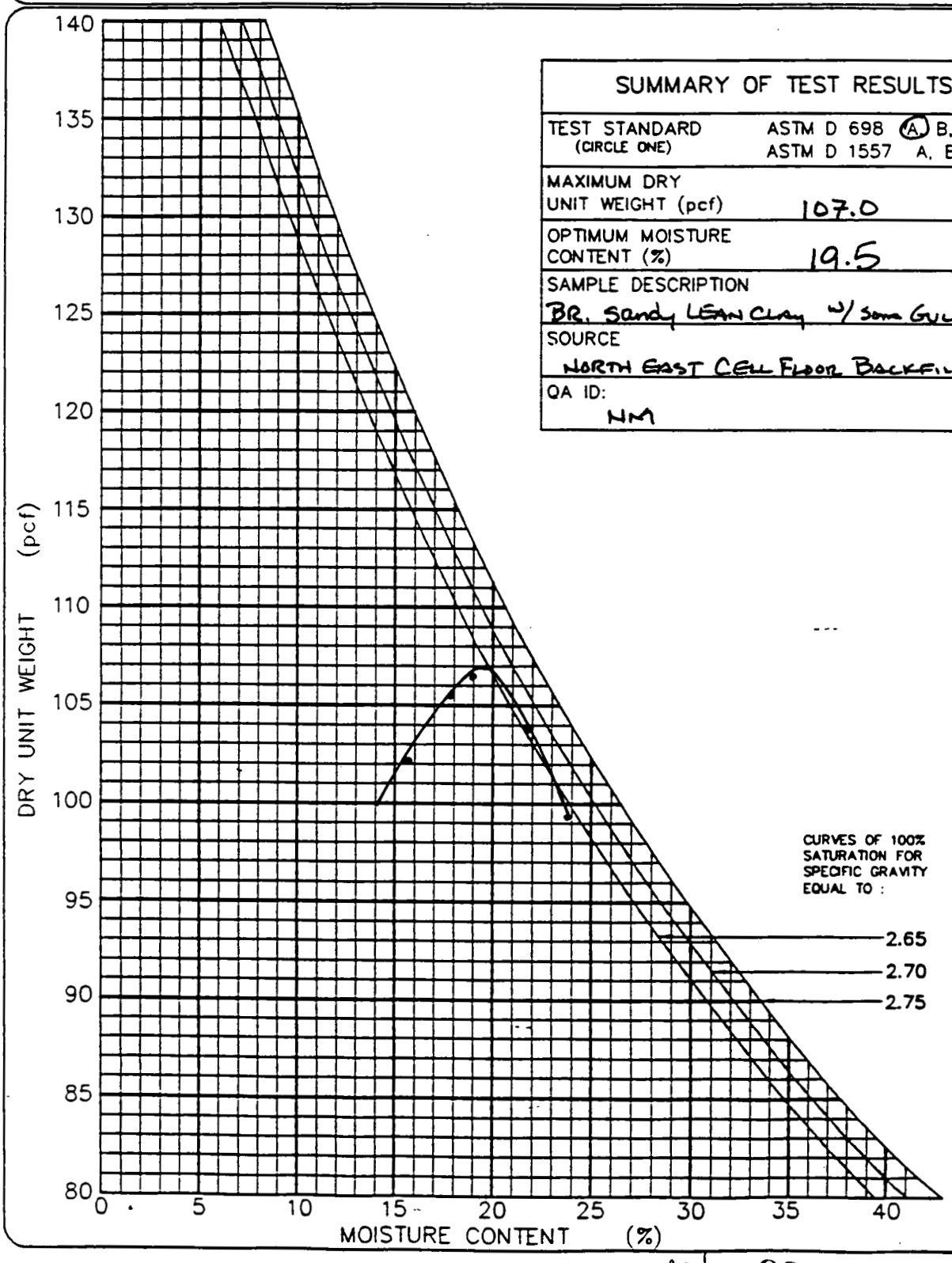
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 8 day 8 month 97 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-15



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)	107.0
OPTIMUM MOISTURE CONTENT (%)	19.5
SAMPLE DESCRIPTION	BR. Sandy LEAN CLAY w/ Some GVL.
SOURCE	NORTH EAST CELL FLOOR BACKFILL
QA ID:	NM

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 26 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-16

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: NM

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.	2				
A	WT. OF TARE	7.7				
B	WT. OF WET SOIL & TARE	228.0				
C	WT. OF DRY SOIL & TARE	201.7				
D	WT. OF WATER = B-C	26.3				
E	WT. OF DRY SOIL = C-A	194.0				
F	MOISTURE CONTENT = (D/E) X 100	13.6				

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%

	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					

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 29 day AUG. month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-16

SOIL SAMPLE SIZE TOTAL SAMPLE = 23,088.2 gms
>NO.4 SAMPLE = 1995.8 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		2	2
WT. OF DRY SAMPLE PLUS TARE	(grams)	201.7	66.9
WT. OF TARE	(grams)	7.7	7.7
WT. OF DRY SAMPLE	(grams)	194.0 ✓	59.2 ✓

SIEVE ANALYSIS QA ID: NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	100.0		maximum PARTICLE SIZE = 5 in. PER DCN 01702-019
1½"	37.5	Ø	Ø	100.0		
1"	25.0	245.8	1.1	98.9		
¾"	19.0	422.1	1.8	98.2		
½"	12.5	843.9	3.7	96.3		
⅜"	9.5	1105.6	4.8	95.2		
4	4.75	1888.9	8.2	91.8		
10	2.00	13.4	6.9	93.1	85.4	
20	0.850	22.8	11.8	88.2	81.0	
40	0.425	31.7	16.3	83.7	76.8	
60	0.250	39.3	20.3	79.7	73.2	
100	0.150	48.5	25.0	75.0	68.9	
200	0.075	59.2	30.5	69.5	63.8	

%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.: GQ0166 TASK NO.: 04.1

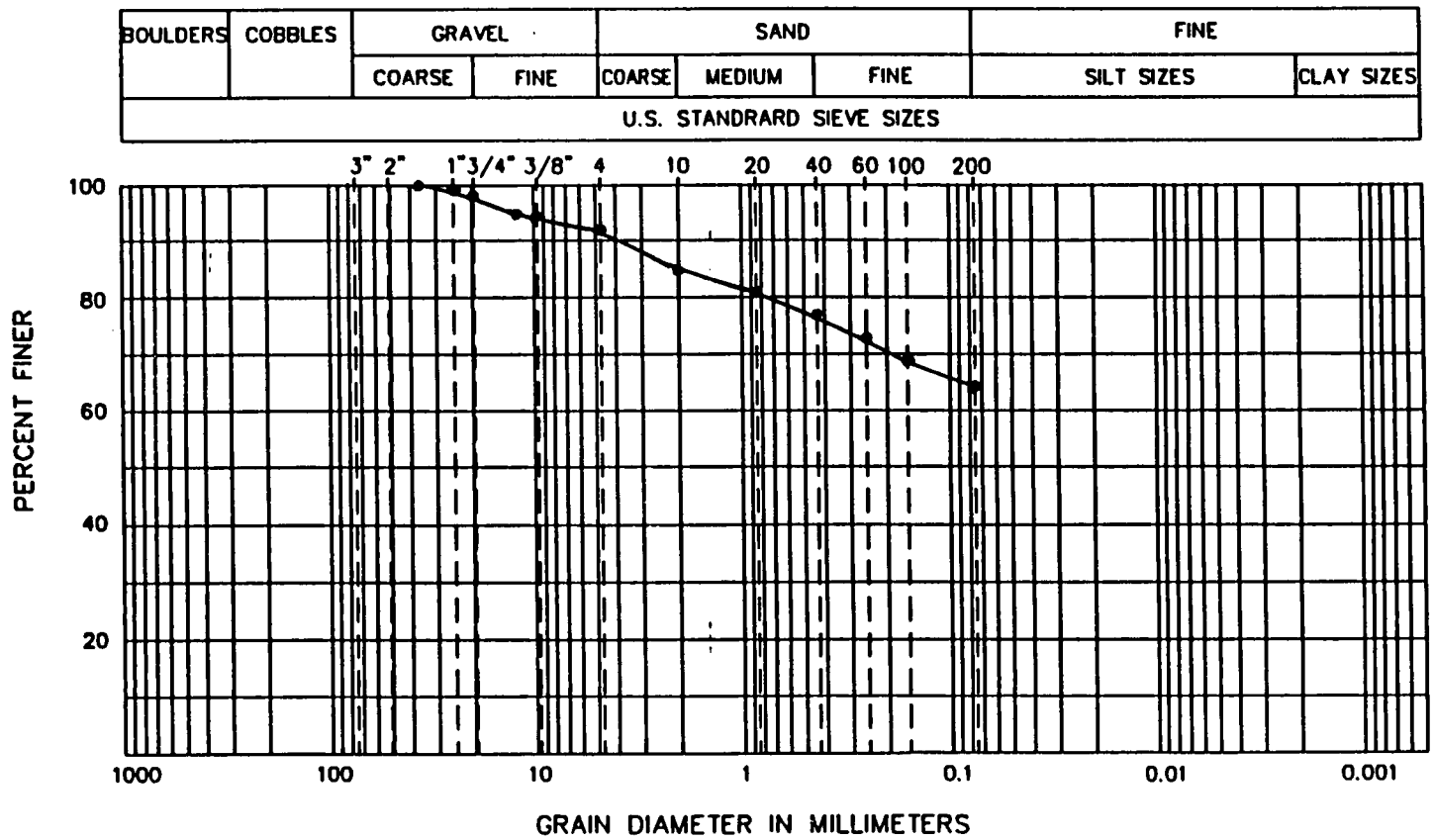
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 29 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL

SAMPLE NO.: OSDF-16 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 30

(PL) 17

(PI) 13

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	100.0
1-in.	98.9
3/4-in.	98.2
1/2-in.	96.3
3/8-in.	95.2
NO. 4	91.8
NO. 10	85.4
NO. 20	81.0
NO. 40	76.8
NO. 60	73.2
NO. 100	68.9
NO. 200	63.8

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/SOME GVL.

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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)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 30 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-16

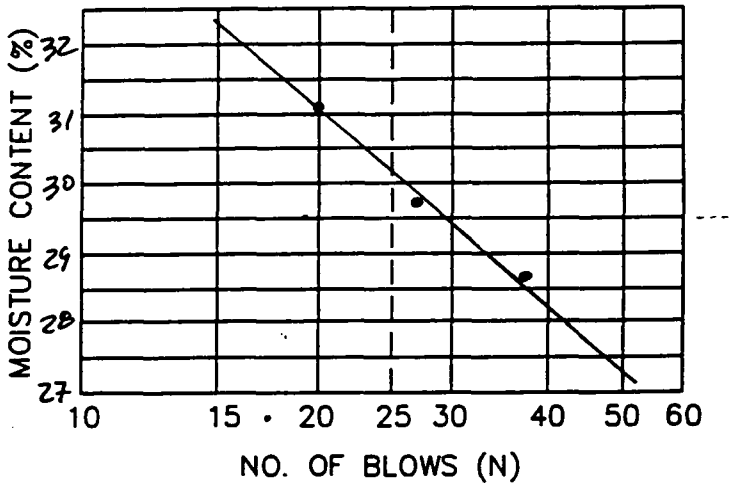
LIQUID LIMIT DETERMINATION

QA ID: NM

	TARE NO.		1.4	1.3	1.7	
A	WT. OF TARE	(grams)	28.52	28.64	28.49	
B	WT. OF WET SOIL & TARE	(grams)	43.14	46.52	48.33	
C	WT. OF DRY SOIL & TARE	(grams)	39.88	42.43	43.62	
D	WT. OF WATER = B-C	(grams)	3.26	4.09	4.71	
E	WT. OF DRY SOIL = C-A	(grams)	11.36	13.79	15.13	
F	MOISTURE CONTENT = (D/E)X100	(%)	28.7 ✓	29.7 ✓	31.1 ✓	
N	NUMBER OF BLOWS		38	27	20	

DRYING TARE NO.

J



CURING TARE NO.

1-B

PLASTIC LIMIT DETERMINATION

QA ID: NM

	TARE NO.		2.7	2.4		
A	WT. OF TARE	(grams)	28.67	27.39		
B	WT. OF WET SOIL & TARE	(grams)	39.91	40.85		
C	WT. OF DRY SOIL & TARE	(grams)	38.32	38.91		
D	WT. OF WATER = B-C	(grams)	1.59	1.94		
E	WT. OF DRY SOIL = C-A	(grams)	9.65	11.52		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.5 ✓	16.8 ✓		

LIQUID LIMIT (LL) = 30 PLASTIC LIMIT (PL) = 17 PLASTICITY INDEX (PI) = 13

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 30 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-16

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: BE

	WATER ADDED	(ml)	50	100	150	200	
A	WT. OF SOIL & MOLD	(grams)	6123.6	6168.0	6259.7	6214.3	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	1914.2	1958.6	2050.3	2004.9	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	126.3	129.3	135.3	132.3	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	115.0 ✓	116.1 ✓	119.1 ✓	114.3 ✓	

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: BE

	TARE NO.		31	22	24	8	
F	WT. OF TARE	(grams)	8.3	8.3	8.4	7.3	
G	WT. OF WET SOIL & TARE	(grams)	385.4	370.2	332.5	305.1	
H	WT. OF DRY SOIL & TARE	(grams)	351.7	333.3	293.8	264.7	
I	WT. OF WATER = G - H	(grams)	33.7	36.9	38.7	40.4	
J	WT. DRY SOIL = H - F	(grams)	343.4	325.0	285.4	257.4	
K	MOISTURE CONTENT = (I/J) X 100	(%)	9.8 ✓	11.4 ✓	13.6 ✓	15.7 ✓	

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

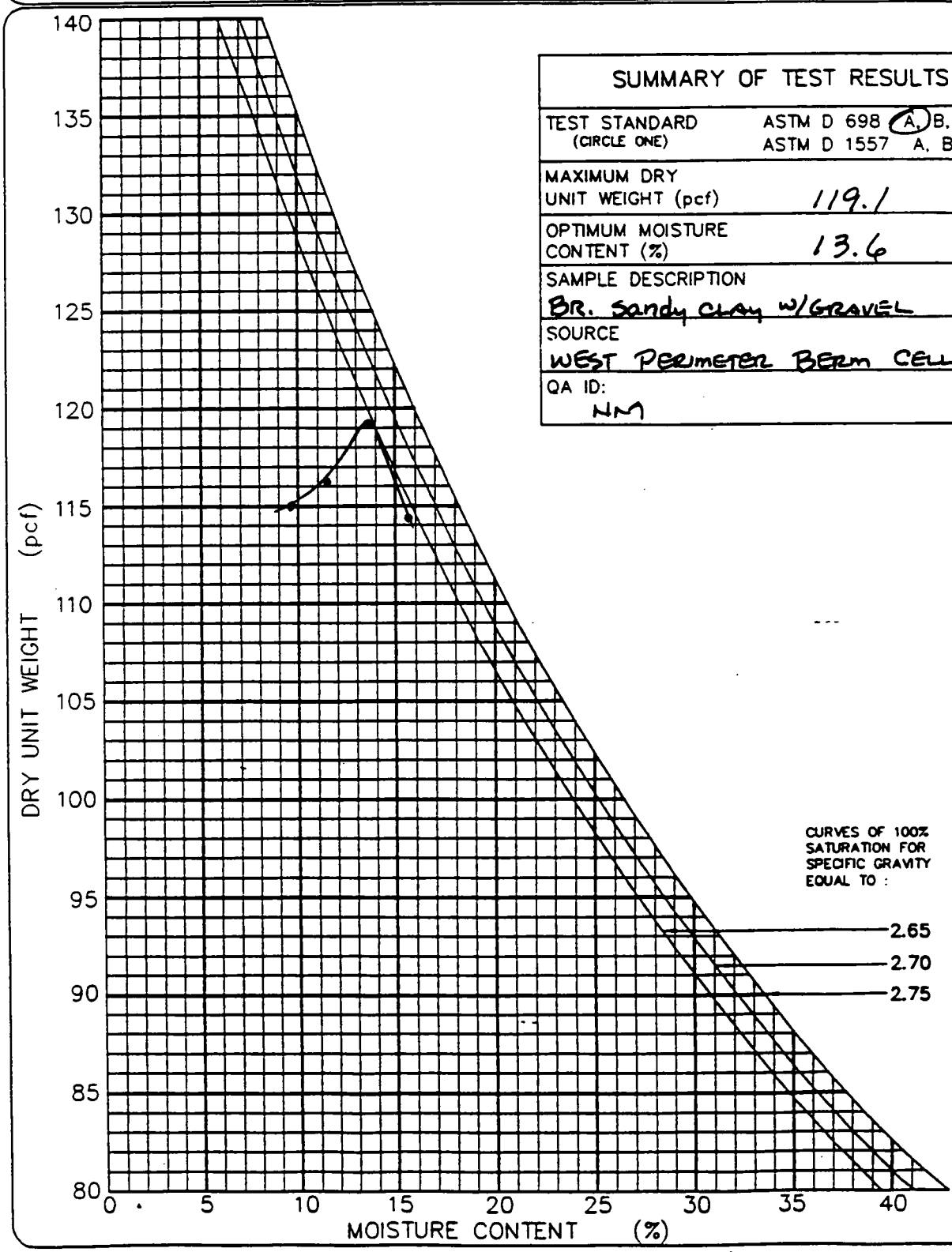
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 31 day AUG month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-16



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)	119.1
OPTIMUM MOISTURE CONTENT (%)	13.6
SAMPLE DESCRIPTION	BR. Sandy CLAY W/GRAVEL
SOURCE	WEST PERIMETER BERM CELL 2
QA ID:	NM

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I Construction DATE: 23 day Sept month 1997 year

MATERIAL TYPE: Compacted Fill SAMPLE NO.: OSDF-17

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: JL

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

		OSDF-17				
	TARE NO.	29				
A	WT. OF TARE	8.2				
B	WT. OF WET SOIL & TARE	233.3				
C	WT. OF DRY SOIL & TARE	192.0				
D	WT. OF WATER = B-C	41.3				
E	WT. OF DRY SOIL = C-A	183.8				
F	MOISTURE CONTENT = (D/E) X 100	22.5				
	gage	21.7				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: JL

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	300.4				
C	WT. OF DRY SOIL & TARE	269.5				
D	WT. OF WATER = B-C	30.9				
E	WT. OF DRY SOIL = C-A	137.5				
F	MOISTURE CONTENT = (D/E) X 100	22.5				

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 23 day SEPT month 1997 year

MATERIAL TYPE: Structural Fill — SAMPLE NO.: OSDF-~~16~~ 17 JL 23/9/97

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: JC

			OSDF-17				
	WATER ADDED	(ml)					
A	WT. OF SOIL & MOLD	(grams)	JL 23/9/97 ~~5~~6 5996.6		NOTE: DOES NOT COMPARE WITH ANY PREVIOUS TEST RESULTS		
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A - B	(grams)	1787.2				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	118.0				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	98.3		98.5		

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: JC

				Oven	microwave		
	TARE NO.		29 JL 23/9/97	13	IV		
F	WT. OF TARE	(grams)	8.2	8.2	132.3		
G	WT. OF WET SOIL & TARE	(grams)	233.3	216.8	269.6		
H	WT. OF DRY SOIL & TARE	(grams)		182.1	246.9		
I	WT. OF WATER = G - H	(grams)		34.7	22.7		
J	WT. DRY SOIL = H - F	(grams)		173.9	114.6		
K	MOISTURE CONTENT = (I/J) X 100	(%)		20.0	19.8		

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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: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 29 day SEPT month 1997 year

MATERIAL TYPE: STRUCTURAL SAMPLE NO.: OSDF-18

SOIL SAMPLE SIZE TOTAL SAMPLE = 18,144.0 gms
> NO.4 = 499.0 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		33	33
WT. OF DRY SAMPLE PLUS TARE	(grams)	186.7	40.8
WT. OF TARE	(grams)	8.3	8.3
WT. OF DRY SAMPLE	(grams)	178.4	32.5

SIEVE ANALYSIS QA ID: JL

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0	100		MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
1½"	37.5	0	0	100		
1"	25.0	55.0	.3	99.7		
¾"	19.0	151.0	.5	99.2		
½"	12.5	253.9	1.4	95.6		
⅜"	9.5	312.3	1.7	98.3		
4	4.75	476.1	2.6	97.4		
10	2.00	4.1	2.3	97.7	95.2	
20	0.850	10.7	6.0	94.0	91.6	
40	0.425	17.0	9.5	90.5	88.1	
60	0.250	21.6	12.1	87.9	85.6	
100	0.150	26.7	15.0	85.0	82.8	
200	0.075	32.5	18.2	81.8	79.7	

%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)

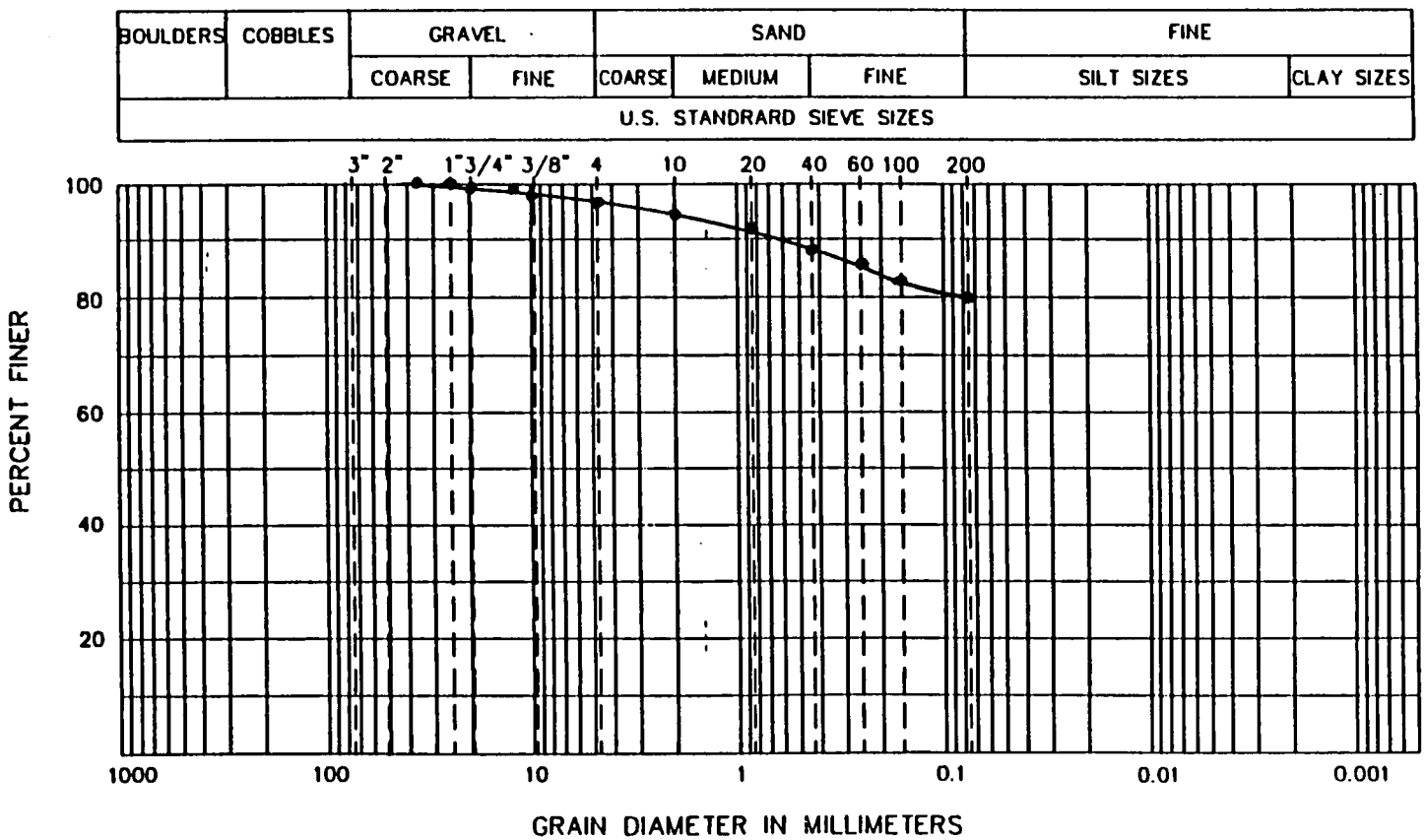
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 29 day SEPT month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-18 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 42

(PL) 19

(PI) 23

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	100.0
1-in.	99.7
3/4-in.	99.2
1/2-in.	98.6
3/8-in.	98.3
NO. 4	97.4
NO. 10	95.2
NO. 20	91.6
NO. 40	88.1
NO. 60	85.6
NO. 100	82.8
NO. 200	79.7

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN LEAN CLAY (CL) W/ SOME SAND and Tr. of gvl

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 30 day SEP month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-18

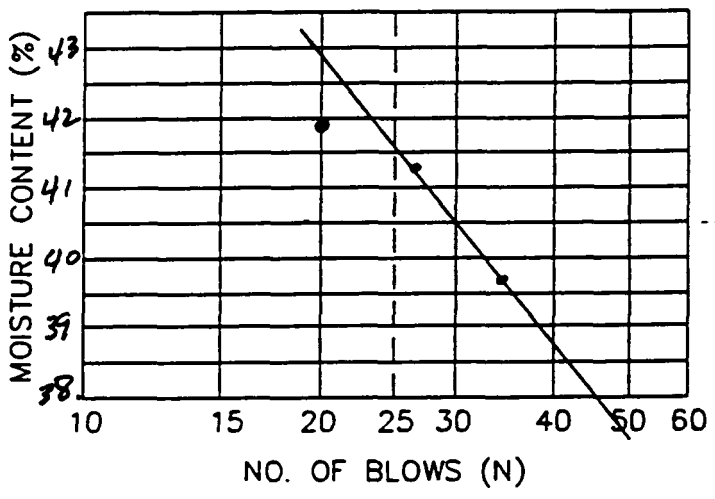
LIQUID LIMIT DETERMINATION

QA ID: NM

	TARE NO.		1.1	1.2	2.3	
A	WT. OF TARE	(grams)	28.76	28.50	31.20	
B	WT. OF WET SOIL & TARE	(grams)	48.01	47.39	50.39	
C	WT. OF DRY SOIL & TARE	(grams)	42.54	41.87	44.72	
D	WT. OF WATER = B-C	(grams)	5.47	5.52	5.67	
E	WT. OF DRY SOIL = C-A	(grams)	13.78	13.37	13.52	
F	MOISTURE CONTENT = (D/E)X100	(%)	39.70	41.29	41.94	
N	NUMBER OF BLOWS		35	27	20	

DRYING TARE NO.

M



CURING TARE NO.

I

CL

PLASTIC LIMIT DETERMINATION

QA ID: NM

	TARE NO.		2.6	2.8		
A	WT. OF TARE	(grams)	28.55	28.45		
B	WT. OF WET SOIL & TARE	(grams)	40.28	38.87		
C	WT. OF DRY SOIL & TARE	(grams)	38.39	37.23		
D	WT. OF WATER = B-C	(grams)	1.89	1.64		
E	WT. OF DRY SOIL = C-A	(grams)	9.84	8.78		
F	MOISTURE CONTENT = (D/E)X100	(%)	19.21	18.68		

LIQUID LIMIT (LL) = 42 PLASTIC LIMIT (PL) = 19 PLASTICITY INDEX (PI) = 23

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 26 day SEPT month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-18

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: JL

	WATER ADDED	(ml)	50	100	150	200	
A	WT. OF SOIL & MOLD	(grams)	5876.4	5987.5	6073.7	6076.0	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	1667.0	1778.1	1864.3	1866.6	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	110.0	117.4	123.0	123.2	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	98.2	103.1	105.6	104.9	

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: JL

	TARE NO.		26	4	20	28	
F	WT. OF TARE	(grams)	7.3	7.2	8.3	5.2	
G	WT. OF WET SOIL & TARE	(grams)	194.0	210.6	197.9	214.9	
H	WT. OF DRY SOIL & TARE	(grams)	174.0	185.8	172.7	184.3	
I	WT. OF WATER = G - H	(grams)	20.0	24.8	27.2	30.6	
J	WT. DRY SOIL = H - F	(grams)	166.7	178.6	164.4	176.1	
K	MOISTURE CONTENT = (I/J) X 100	(%)	12.0	13.9	16.5	17.4	

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

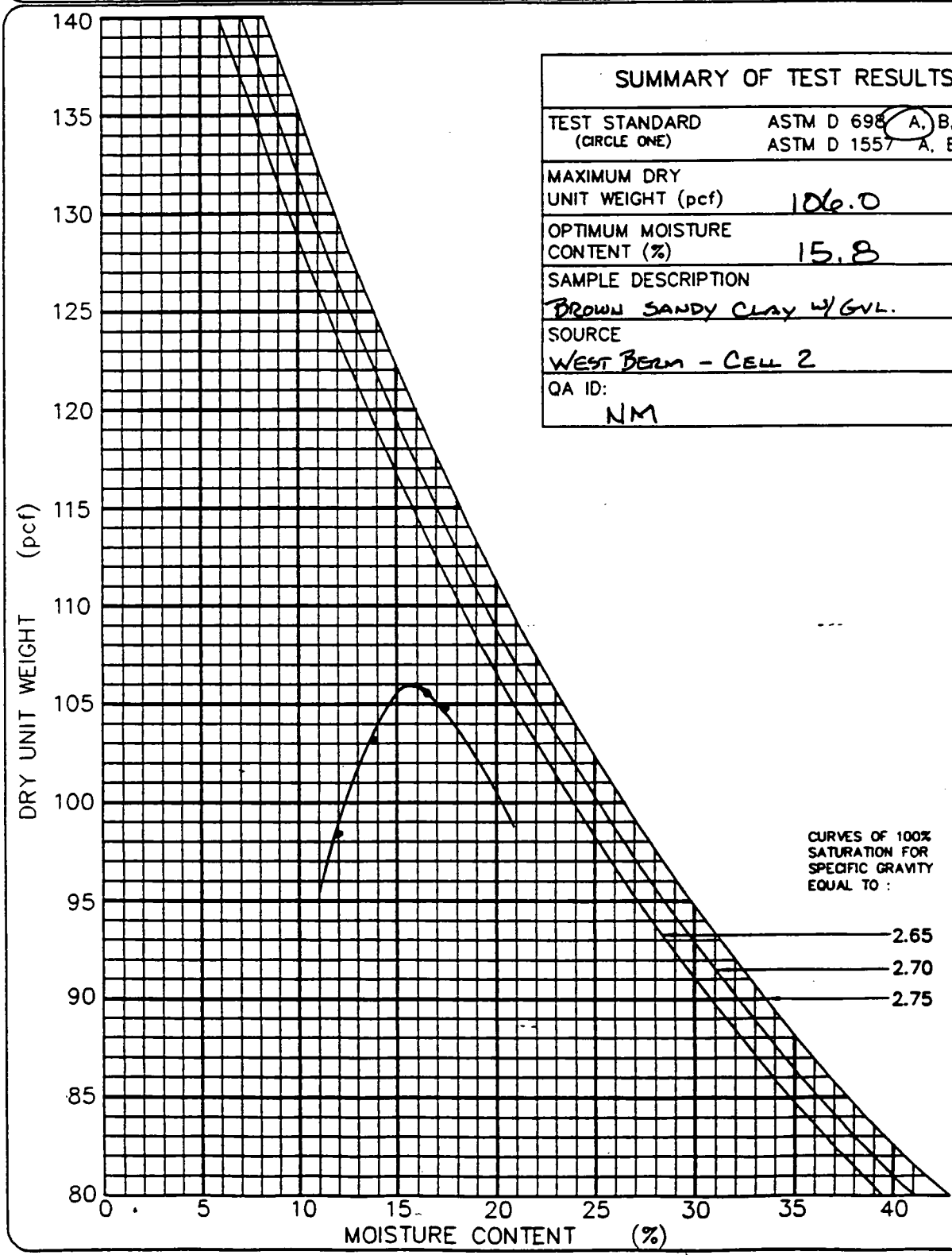
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 27 day SEPT month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-18



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)	106.0
OPTIMUM MOISTURE CONTENT (%)	15.8
SAMPLE DESCRIPTION	BROWN SANDY CLAY W/GVL.
SOURCE	WEST BERM - CELL 2
QA ID:	NM

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 11 day OCT month '97 year

MATERIAL TYPE: STR. FILL SAMPLE NO.: OSDF-19

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
~~14469.8~~ g 14699.2 g JL 7 No 4 - 136.1 g	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		104	104
WT. OF DRY SAMPLE PLUS TARE	(grams)	166.4	35.5
WT. OF TARE	(grams)	8.2	8.2
WT. OF DRY SAMPLE	(grams)	158.2	27.3

SIEVE ANALYSIS

QA ID: JL

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0					MAXIMUM PARTICLE SIZE = 5 in. PER DCN 1702-019
1½"	37.5					
1"	25.0					
¾"	19.0			---		
½"	12.5					
⅜"	9.5	0 JL	0	100.0		
4	4.75	~~0~~ 136.1	.9	99.1		
10	2.00	1.5	.1	99.9	99.0	
20	0.850	5.6	3.5	96.5	95.6	
40	0.425	10.8	6.8	93.2	92.4	
60	0.250	15.5	9.8	90.2	89.4	
100	0.150	21.2	13.4	86.6	85.8	
200	0.075	27.3	17.3	82.7	82.0	

%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)

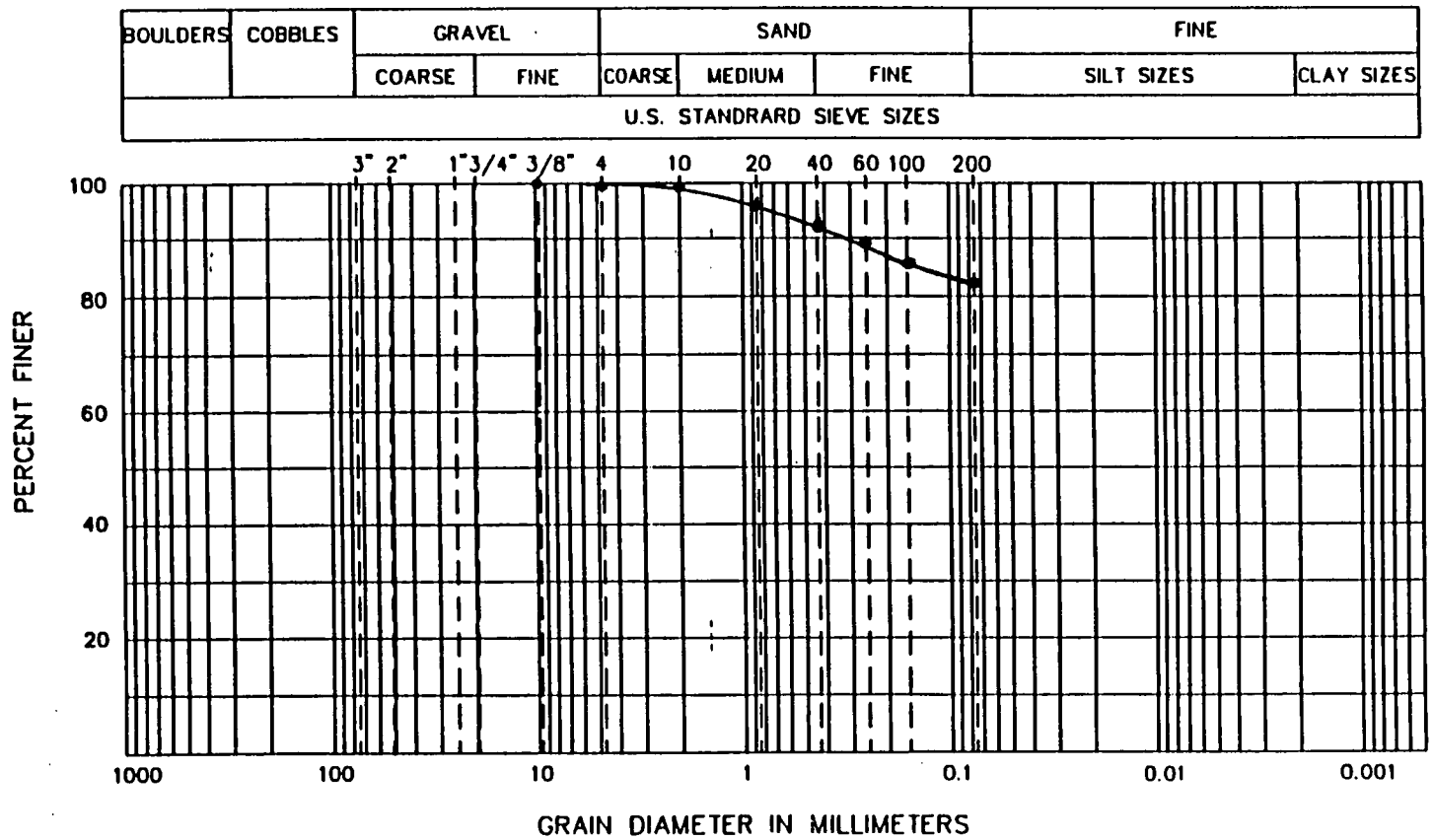
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 11 day OCT month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-19 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 45

(PL) 19

(PI) 26

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	
1-in.	
3/4-in.	
1/2-in.	
3/8-in.	100.0
NO. 4	99.1
NO. 10	99.0
NO. 20	95.6
NO. 40	93.4
NO. 60	89.4
NO. 100	85.8
NO. 200	82.0

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN, GRAY, TAN SANDY LEAN CLAY (CL)

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 10 day OCT month 97 year

MATERIAL TYPE: STR. FILL SAMPLE NO.: OSDF-19

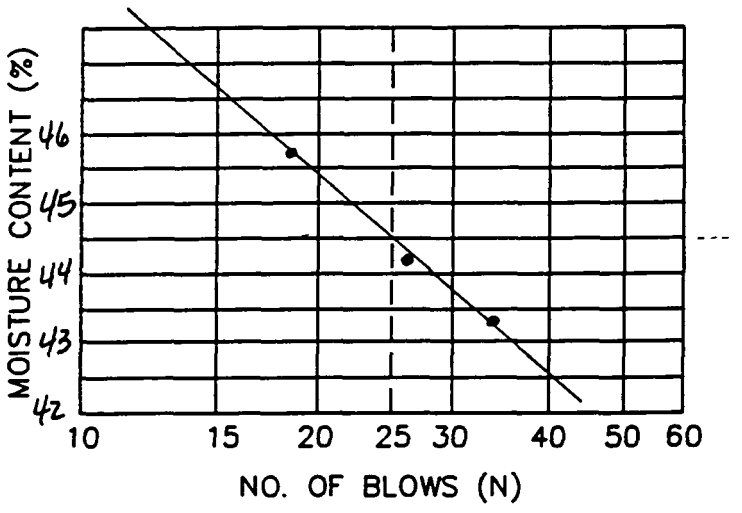
LIQUID LIMIT DETERMINATION

QA ID: JL

	TARE NO.		24	12	32	
A	WT. OF TARE	(grams)	27.39	28.50	27.82	
B	WT. OF WET SOIL & TARE	(grams)	44.24	44.41	45.09	
C	WT. OF DRY SOIL & TARE	(grams)	39.15	39.53	39.67	
D	WT. OF WATER = B-C	(grams)	5.09	4.88	5.42	
E	WT. OF DRY SOIL = C-A	(grams)	11.76	11.03	11.85	
F	MOISTURE CONTENT = (D/E)X100	(%)	43.28	44.24	45.74	
N	NUMBER OF BLOWS		34	26	18	

DRYING TARE NO.

M



CURING TARE NO.

I

PLASTIC LIMIT DETERMINATION

QA ID: JL

	TARE NO.		13	14		
A	WT. OF TARE	(grams)	28.64	28.52		
B	WT. OF WET SOIL & TARE	(grams)	37.42	35.16		
C	WT. OF DRY SOIL & TARE	(grams)	36.03	34.10		
D	WT. OF WATER = B-C	(grams)	1.39	1.06		
E	WT. OF DRY SOIL = C-A	(grams)	7.39	5.58		
F	MOISTURE CONTENT = (D/E)X100	(%)	18.81	19.00		

LIQUID LIMIT (LL) = 45 PLASTIC LIMIT (PL) = 19 PLASTICITY INDEX (PI) = 26

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 09 day Oct month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-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: JL

	WATER ADDED	(ml)	50	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)	5851.4	5942.2	5942.2	6078.2	6078.2
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1642.0	1732.8	1732.8	1868.8	1868.8
D	WET UNIT WT.(1) = C X 0.066	(pcf)	108.4	114.4	114.4	123.3	123.3
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	95.3	98.1	97.4	101.6	100.8

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: JL

	TARE NO.		33	26	27	28	20
F	WT. OF TARE	(grams)	8.3	8.3	8.2	8.3	8.3
G	WT. OF WET SOIL & TARE	(grams)	238.0	211.4	207.6	198.3	213.7
H	WT. OF DRY SOIL & TARE	(grams)	210.1	182.5	170.1	164.9	176.3
I	WT. OF WATER = G - H	(grams)	27.9	28.9	29.5	33.4	37.4
J	WT. DRY SOIL = H - F	(grams)	201.8	174.2	169.9	156.6	168.0
K	MOISTURE CONTENT = (I/J) X 100	(%)	13.8	16.6	17.4	21.3	22.3

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FLUOR DANIEL FERNALD

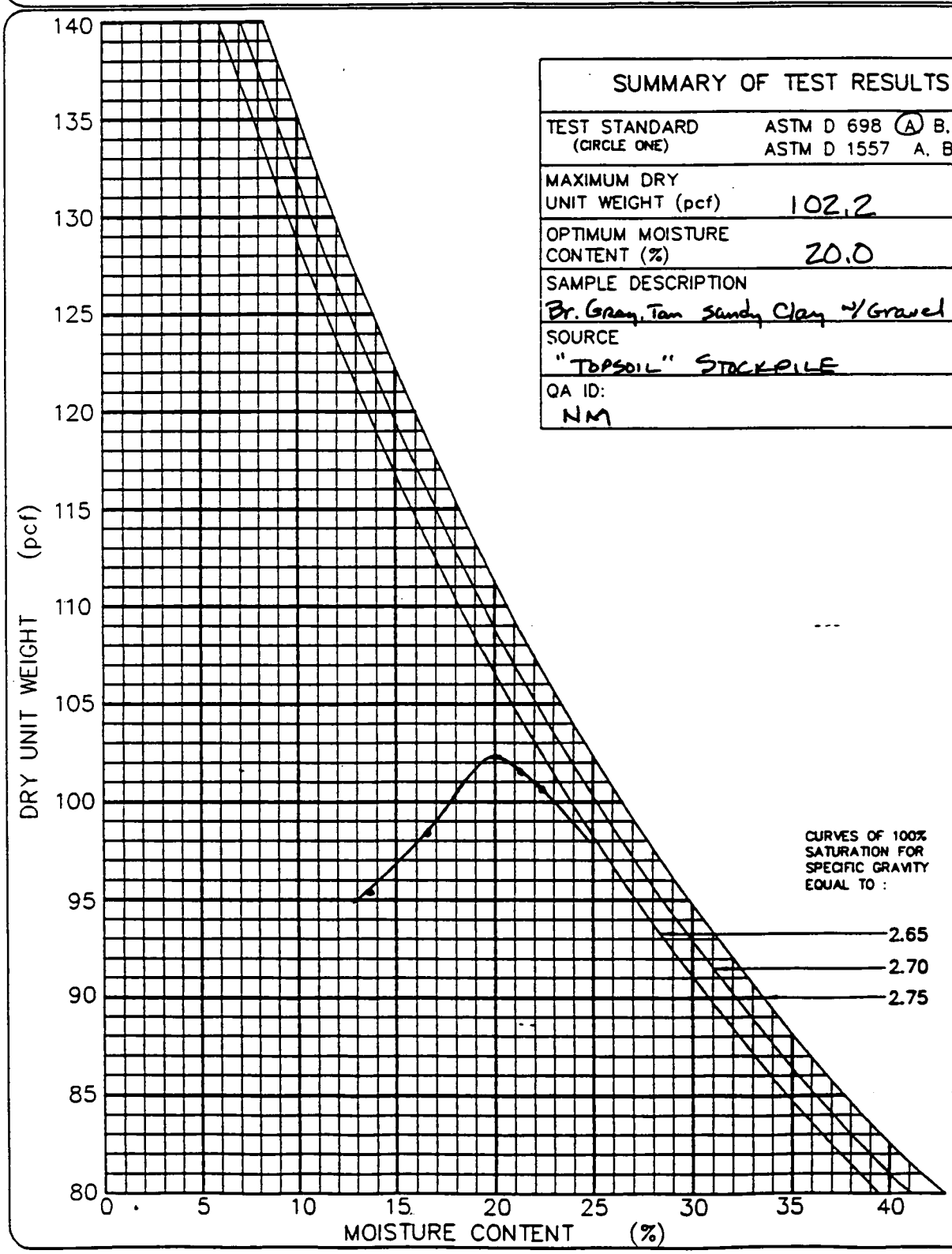
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 10 day OCT month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-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)	102.2
OPTIMUM MOISTURE CONTENT (%)	20.0
SAMPLE DESCRIPTION	Br. Gray, Tan Sandy Clay w/Gravel
SOURCE	"TOPSOIL" STOCKPILE
QA ID:	NM

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I Construction DATE: 15 day Oct month 1997 year

MATERIAL TYPE: Structural Fill SAMPLE NO.: OSDF-20

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: JL

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 OSDF 20	2.5 kilograms

	TARE NO.	2				
A	WT. OF TARE	8.2				
B	WT. OF WET SOIL & TARE	207.3				
C	WT. OF DRY SOIL & TARE	172.2				
D	WT. OF WATER = B-C	35.1				
E	WT. OF DRY SOIL = C-A	164.0				
F	MOISTURE CONTENT = (D/E) X 100	21.4				
		NDT 367				
	gaz	-21.1			---	

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: JL

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				
A	WT. OF TARE	132.1				
B	WT. OF WET SOIL & TARE	224.9				
C	WT. OF DRY SOIL & TARE	208.9				
D	WT. OF WATER = B-C	16.0				
E	WT. OF DRY SOIL = C-A	76.8				
F	MOISTURE CONTENT = (D/E) X 100	20.8				

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I Construction — DATE: 15 day Oct month 1997 year

MATERIAL TYPE: Structural Fill — SAMPLE NO.: OSDF-21

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: JL NM

	WATER ADDED	(ml)	—				
A	WT. OF SOIL & MOLD	(grams)	6091.8				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A − B	(grams)	1882.4				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	124.2				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	~~101.3~~ 102.8	103.3			

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: JL NM

			oven	microwave			
	TARE NO.		101	I			
F	WT. OF TARE	(grams)	8.3	132.1			
G	WT. OF WET SOIL & TARE	(grams)	188.4	237.7	COMPARES WITH OSDF-19		
H	WT. OF DRY SOIL & TARE	(grams)	157.4	219.1	MDD=	102.2 pcf	
I	WT. OF WATER = G − H	(grams)	31.0	18.6	OMC=	20.0%	
J	WT. DRY SOIL = H − F	(grams)	149.1	87.0			
K	MOISTURE CONTENT = (I/J) X 100	(%)	20.8	21.4			

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I Construction DATE: 16 day Oct month 1997 year

MATERIAL TYPE: Structural Fill SAMPLE NO.: OSDF-22

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: JL

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

		OSDF-22				
	TARE NO.	13				
A	WT. OF TARE	8.2				
B	WT. OF WET SOIL & TARE	201.4				
C	WT. OF DRY SOIL & TARE	167.3				
D	WT. OF WATER = B-C	34.1				
E	WT. OF DRY SOIL = C-A	159.1				
F	MOISTURE CONTENT = (D/E) X 100	21.4				
		WDT 378				
		-20.6				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: JL

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.	SL ~~132.1 I~~				
A	WT. OF TARE	132.1				
B	WT. OF WET SOIL & TARE	212.8				
C	WT. OF DRY SOIL & TARE	198.4				
D	WT. OF WATER = B-C	14.4				
E	WT. OF DRY SOIL = C-A	66.3				
F	MOISTURE CONTENT = (D/E) X 100	21.7				

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I Construction — DATE: 16 day Oct month 1997 year

MATERIAL TYPE: Structural Fill — SAMPLE NO.: GSDF - 23

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: JL

	WATER ADDED	(ml)					
A	WT. OF SOIL & MOLD	(grams)	5942.2				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A - B	(grams)	1732.8				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	114.4				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	95.3 *	~~95.2~~			

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: JL

			oven	m/w			
	TARE NO.		101	V			
F	WT. OF TARE	(grams)	8.3	126.3	* COMPARES WITH NO EXISTING SAMPLE.		
G	WT. OF WET SOIL & TARE	(grams)	196.3	213.0			
H	WT. OF DRY SOIL & TARE	(grams)	165.0	198.4			
I	WT. OF WATER = G - H	(grams)	31.3	14.6			
J	WT. DRY SOIL = H - F	(grams)	156.7	72.1			
K	MOISTURE CONTENT = (I/J) X 100	(%)	20.0 *	20.2			

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 21 day Oct month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: 0 SOF - 24

SOIL SAMPLE SIZE

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
~~18234.7g~~ JL 17949.0g 7 No 4 244.9g.	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		1 ~~JL 20~~ 21 OCT	1
WT. OF DRY SAMPLE PLUS TARE	(grams)	187.7	79.7
WT. OF TARE	(grams)	7.3	7.3
WT. OF DRY SAMPLE	(grams)	JL ~~79.7~~ 180.4	72.4

SIEVE ANALYSIS

QA ID: JL

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	0	0	100		MAXIMUM PARTICLE SIZE = 5in. PER DCN 1702-019
1½"	37.5	0	0	100		
1"	25.0	40.4	21 OCT JL ~~2.30~~ 2	99.8		
¾"	19.0	75.6	0.4	99.6		
½"	12.5	108.4	0.6	99.4		
⅜"	9.5	148.7	0.8	99.2		
4	4.75	244.9	1.4	98.6		
10	2.00	5.9	21 OCT JL ~~94.1~~ 3.3	96.7	95.3	
20	0.850	22.6	12.5	87.5	86.3	
40	0.425	41.1	22.8	77.2	76.1	
60	0.250	52.8	29.3	70.7	69.7	
100	0.150	63.1	35.0	65.0	64.1	
200	0.075	72.1	40.0	60.0	59.2	

%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)

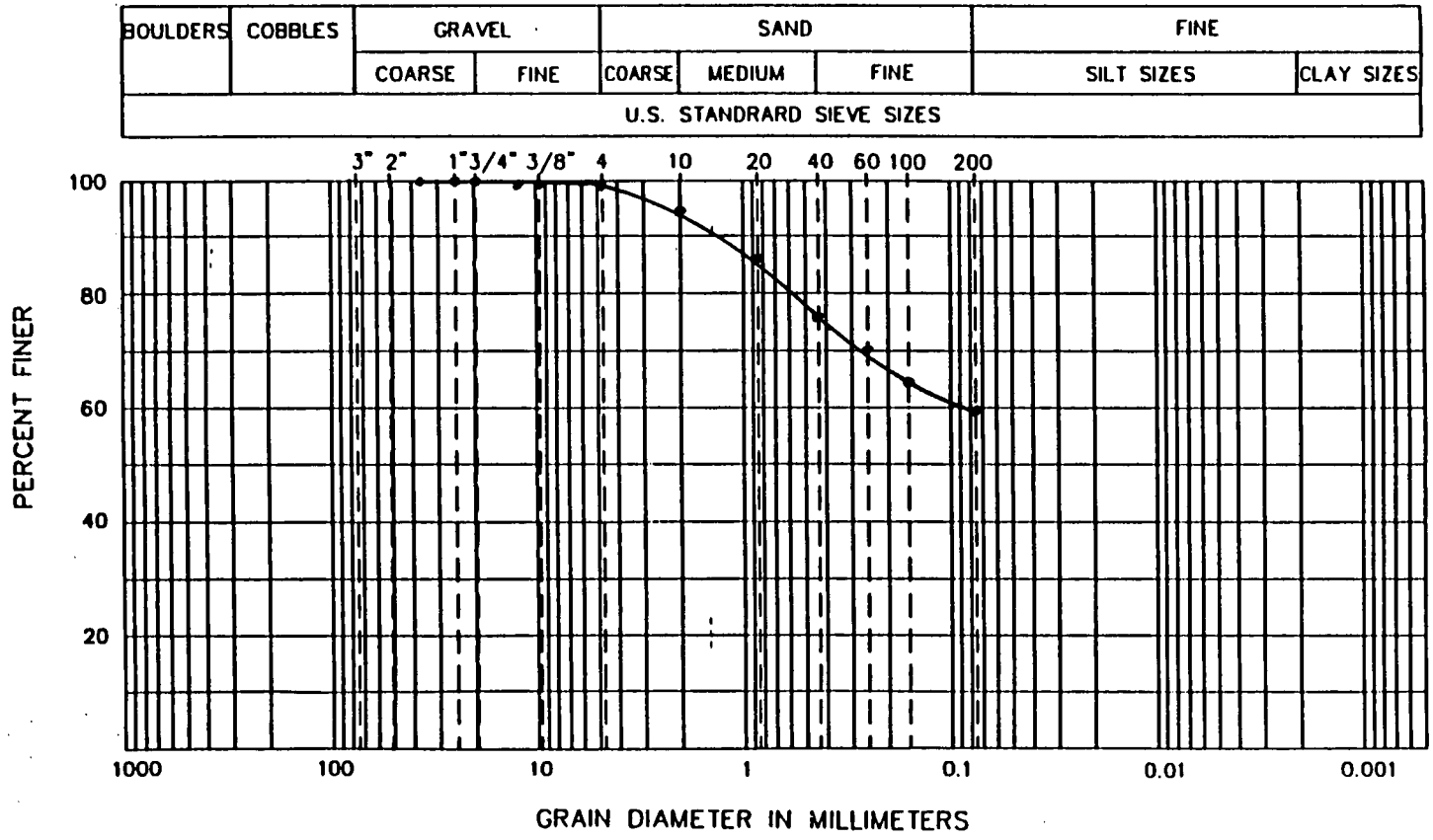
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 21 day OCT month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-24 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 52

(PL) 18

(PI) 34

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100
1 1/2-in.	100
1-in.	99.8
3/4-in.	99.6
1/2-in.	99.4
3/8-in.	99.2
NO. 4	98.6
NO. 10	95.3
NO. 20	86.3
NO. 40	76.1
NO. 60	69.7
NO. 100	64.1
NO. 200	59.2

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): DK. GRAY & BROWN sandy FAT CLAY (CH)

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 21 day Oct month 1997 year

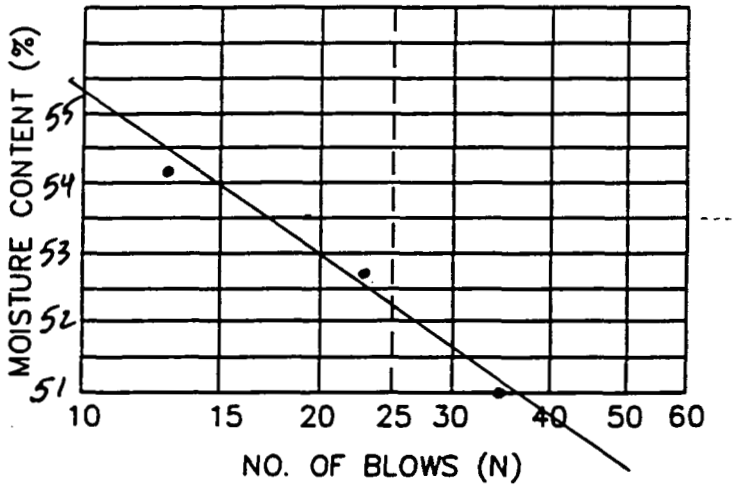
MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-24

LIQUID LIMIT DETERMINATION

QA ID: JL

	TARE NO.		2.5	2.9	2.3	
A	WT. OF TARE	(grams)	28.42	31.46	31.20	
B	WT. OF WET SOIL & TARE	(grams)	46.06	49.74	53.89	
C	WT. OF DRY SOIL & TARE	(grams)	40.07	43.43	45.92	
D	WT. OF WATER = B-C	(grams)	5.99	6.31	7.97	
E	WT. OF DRY SOIL = C-A	(grams)	11.65	11.97	14.72	
F	MOISTURE CONTENT = (D/E)X100	(%)	51.42	52.72	54.14	
N	NUMBER OF BLOWS		35	23	13	

DRYING TARE NO.: M



CURING TARE NO.: 1-D

PLASTIC LIMIT DETERMINATION

QA ID: JL

	TARE NO.		3.1	3.2		
A	WT. OF TARE	(grams)	28.38	27.82		
B	WT. OF WET SOIL & TARE	(grams)	36.82	39.23		
C	WT. OF DRY SOIL & TARE	(grams)	35.53	37.43		
D	WT. OF WATER = B-C	(grams)	1.29	1.80		
E	WT. OF DRY SOIL = C-A	(grams)	7.15	9.61		
F	MOISTURE CONTENT = (D/E)X100	(%)	18.04	18.73		

LIQUID LIMIT (LL) = 52 PLASTIC LIMIT (PL) = 18 PLASTICITY INDEX (PI) = 34

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 18 day Oct month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-24

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: AZ, JL

	WATER ADDED	(ml)	Ø	50	100	150	200
A	WT. OF SOIL & MOLD	(grams)	5701.1	5851.4	5983.0	5969.4	6069.2
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1491.7	1642.0	1773.6	1760.0	1859.8
D	WET UNIT WT.(1) = C X 0.066	(pcf)	98.5	108.4	117.1	116.2	122.7
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	85.5	92.6	98.2	96.1	99.0

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: AZ, JL

	TARE NO.		29	20	27	33	13
F	WT. OF TARE	(grams)	8.3	8.3	8.2	8.3	8.2
G	WT. OF WET SOIL & TARE	(grams)	214.7	232.4	246.3	192.0	234.9
H	WT. OF DRY SOIL & TARE	(grams)	187.4	199.6	208.0	160.2	191.5
I	WT. OF WATER = G - H	(grams)	27.3	32.8	38.3	31.8	43.4
J	WT. DRY SOIL = H - F	(grams)	179.1	191.3	199.8	151.8	183.3
K	MOISTURE CONTENT = (I/J) X 100	(%)	15.2	17.1	19.2	20.9	23.7

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FLUOR DANIEL FERNALD

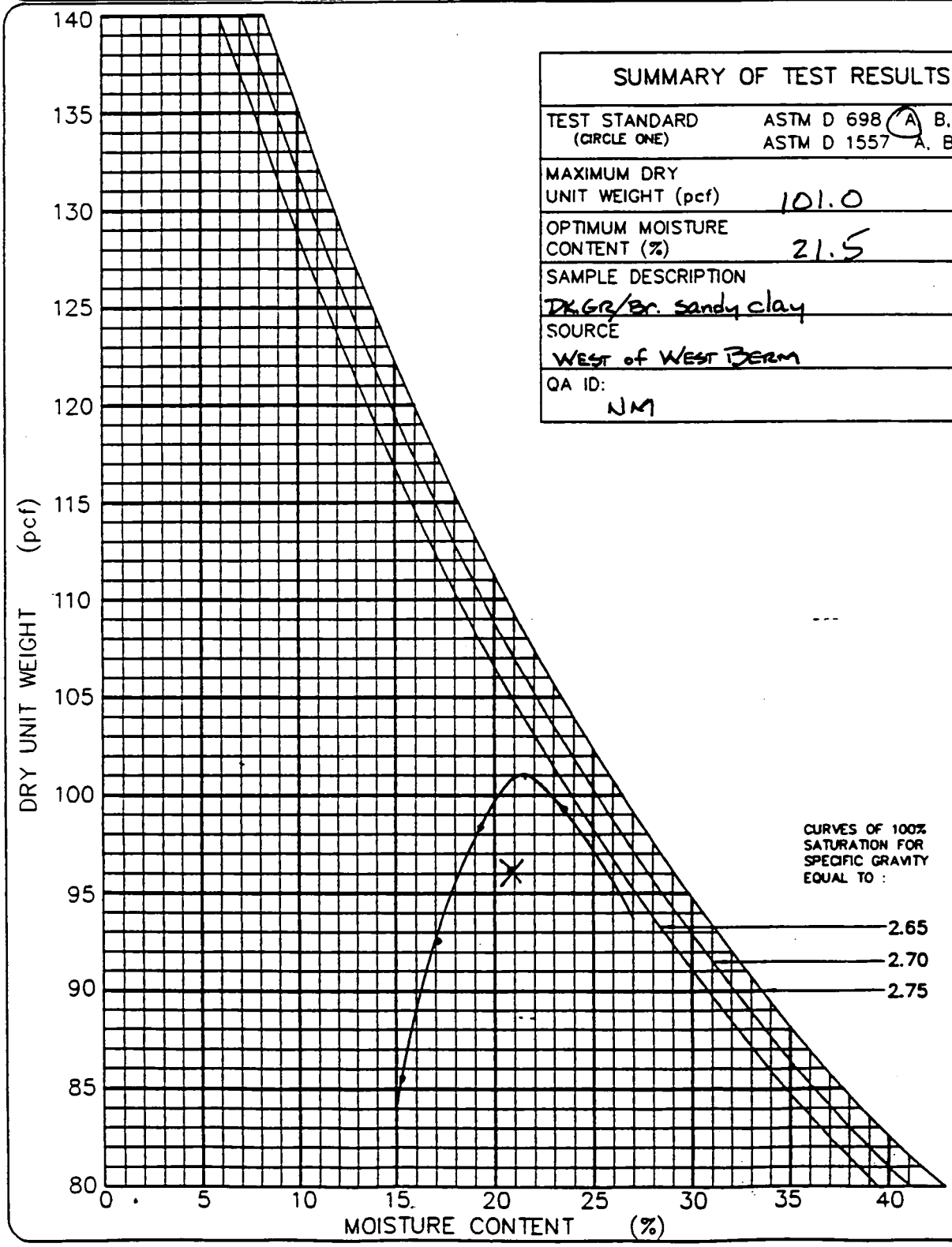
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 20 day OCT month 1997 year

MATERIAL TYPE: STRUCTURAL FILL SAMPLE NO.: OSDF-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)	101.0
OPTIMUM MOISTURE CONTENT (%)	21.5
SAMPLE DESCRIPTION	DK.GR/Br. sandy clay
SOURCE	WEST of WEST BERM
QA ID:	NM

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 17 day Oct month 1997 year

MATERIAL TYPE: STRUCTURAL FILL — SAMPLE NO.: OSDF-25

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: A.Z

	WATER ADDED	(ml)	Ø				
A	WT. OF SOIL & MOLD	(grams)	5869.6				
B	WT. OF MOLD	(grams)	4209.4	~~4209.4~~ J.Tom	22/11/97 ~~4209.4~~	~~4209.4~~	
C	WT. OF SOIL = A - B	(grams)	1660.2				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	109.6				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	92.3				

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: A.Z

			Oven	Mic.	Mic		
	TARE NO.		28				
F	WT. OF TARE	(grams)	8.2	132.1	126.3	COMPARES WITH OSDF-24	
G	WT. OF WET SOIL & TARE	(grams)	212.1	297.7	307.4	MDD = 101.0 pcf	
H	WT. OF DRY SOIL & TARE	(grams)	179.4	271.3	278.9	OMC = 21.5%	
I	WT. OF WATER = G - H	(grams)	32.7	26.3	28.5		
J	WT. DRY SOIL = H - F	(grams)	171.2	139.2	152.6		
K	MOISTURE CONTENT = (I/J) X 100	(%)	19.1	18.9	18.7	= 18.8	

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Compacted Clay Liner

- **Soil Sample Log**

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 11 JULY 8/11/97 YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-01	97G61.1 97G61.2	BROWN CLAY W/GVL	CLAY STOCKPILE 1 *	CLAY LINER	11 JULY	ASTM D2216, D4643, D422, D4318, D2487, D698, ~~D2434~~ D5084	NM
LP-02	97G62.1 97G62.2	"	CLAY STOCKPILE 1 *	"	11 JULY	"	NM
LP-03	97G66	BROWN fi sa clay W/GVL	CLAY STOCKPILE 1 *	"	11 JULY	"	NM
LP-04	97G67	"	CLAY STOCKPILE 1 *	"	12 JULY	"	NM
LP-05	97G81	"	CLAY STOCKPILE 1 *	"	12 JULY	"	NM
LP-06	97G107	"	" " 2 *	"	14 JULY	"	NM
LP-07	97G128	"	CLAY STOCKPILE 2 *	"	15 JULY	"	NM
LP-08	97G129	"	" " 3 *	"	15 JULY	"	NM
LP-09	97G130	"	" " 2 *	"	15 JULY	"	NM
LP-10	97G146	BR/GRAY SA CLAY W/GVL	" " 4 *	"	16 JULY	"	NM
LP-11	97G147	BROWN SA CLAY W/GVL	" " 4 *	"	16 JULY	"	NM
LP-12	97G164	"	" " 4 *	"	17 JULY	"	NM
LP-13	97G165	"	" " 4 *	"	17 JULY	"	NM
LP-14	97G166	"	" " 4 *	"	17 JULY	"	NM
LP-15	97G167	"	" " 4 *	"	18 JULY	"	PKO

NOTES: * REFER TO B. ERKMAN DAILY RPT.

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 JULY YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-16	97G168.2	BR. sandy Clay w/GVL	CLAY STOCKPILE 4 *	CLAY LINER	18 JULY	ASTM D2216, D2487, D2488, D4318, D4122, D6913, D6910	NM
LP-17	97G187	BR/GR sandy Clay w/GVL	" " 4 *	" "	18 JULY	"	NM
LP-18	97G188.A	BR. sandy clay w/GVL	" " 4 *	" "	18 JULY	"	NM
LP-19	97G189	BR. sandy clay w/GVL	" " 4 *	" "	21 JULY	"	NM
LP-20	97G220	BR. sandy clay w/GVL	" " 4 *	" "	21 JULY	"	NM
LP-21	97G221	BR/GR sandy Clay w/GVL	" " 4 *	" "	21 JULY	"	NM
LP-22	97G222	BR. sandy clay w/GVL	" " 4 *	" "	21 JULY	"	NM
LP-23	97G227	BR. sandy clay w/GVL	" " 5 *	" "	22 JULY	"	NM
LP-24	97G228	BR. sandy clay w/GVL	" " 5 *	" "	23 JULY	"	NM
LP-25A	97G225	BR. sandy clay w/GVL	" " 5 *	" "	23 JULY	** "	NM
LP-25	97G229	BR. sandy Clay w/GVL	" " 5 *	" "	23 JULY	"	NM
LP-26	97G231	BR. sandy Clay w/GVL	" " 5 *	" "	23 JULY	"	NM
★ LP-07.1	97G223	BR. sandy Clay w/GVL	" " 2 *	" "	23 JULY	"	NM
★ LP-07.2	97G224	BR. sandy Clay w/GVL	" " 2 *	" "	23 JULY	"	NM
LP-27	97G232	BR. sandy Clay w/GVL	" " 5 *	" "	24 JULY	"	NM

NOTES: * REFER TO B. ERISMAN DAILY RPT. ** DUPLICATE SAMPLE TO GEL ★ ISOLATION SAMPLES FOR LP-07

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SHEET NO. 2 OF

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION

DATE: 24 JULY YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-28	97G233	BR. sa. clay w/GVL	CLAY STOCKPILE 5 *	CLAY LINER	24 JULY	ASTM D2216, D4643, D422 D4318, D2487, D698, D5084	NM
LP-29	97G235	BR. sa clay w/GVL	" " 5 *	" "	24 JULY	"	NM
LP-30	97G236	BR/GR sa. clay w/GVL	" " 3 *	" "	24 JULY	"	NM
LP-31	97G237	BR sa. clay w/GVL	" " 5 *	" "	24 JULY	"	NM
LP-32	97G284	BR. sandy clay w/GVL	" " 5 *	" "	24 JULY	"	NM
LP-33	97G285	BR. sa. clay w/GVL	" " 3 *	" "	24 JULY	"	NM
LP-34	97G286	BR/GR SA. CLAY W/GVL	" " 6 *	" "	25 JULY	"	KW
LP-35	97G287	BR. SANDY CLAY W/GVL	" " 6 *	" "	25 JULY	"	KW
LP-36	97G288	BR. SANDY CLAY W/GVL	" " 3 *	" "	25 JULY	"	KW
** LP-36A	97G234	BR. SANDY CLAY W/GVL	" " 3 *	" "	25 JULY	** "	KW
LP-37	97G289	BR. SANDY CLAY W/GVL	" " 6 *	" "	25 JULY	"	KW
LP-38	97G290	BR. SANDY CLAY W/GVL	" " 6 *	" "	25 JULY	"	KW
LP-39	97H16	BR. SANDY CLAY W/GVL	" " 6 *	" "	26 JULY	"	KW
LP-40	97H17	BR/GR. SANDY CLAY W/GVL	" " 6 *	" "	26 JULY	"	KW
LP-41	97H49	BR. SANDY CLAY W/GVL	" " 6	" "	28 JULY	"	KW

NOTES: * REFER TO B. ERISMAN DAILY RPT. ** DUPLICATE SAMPLE TO GEL

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SHEET NO. 3 OF

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1265

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION

DATE: 28 JULY 1997 YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-42	97H50	BR. SANDY CLAY w/GVL	CLAY STOCKPILE 6 *	CLAY LINER	28 JULY	ASTM D2216, D4643, D422 D4318, D2487, D698, D5084	KW
LP-43	—	BR sandy clay w/GVL.	LANE 2, LIFT 1, EAST 1/3 IN PLACE	CLAY LINER	12 AUG.	ASTM D698	NM
LP-17.1	97H278	BR. sandy clay w/GVL.	CLAY STOCKPILE 4	CLAY LINER	20 AUG	ASTM D422	NM
LP-17.2	97H279	BR. sandy clay w/GVL.	CLAY STOCKPILE 4	CLAY LINER	20 AUG	ASTM D422	NM
LP-18.1	97H280	BR. sandy clay w/GVL	clay STOCKPILE 4	CLAY LINER	20 AUG	ASTM D698 (1 pt.) ASTM D5084	NM
LP-18.2	97H281	BR. sandy clay w/GVL	CLAY STOCKPILE 4	CLAY LINER	20 AUG	ASTM D422, D4318, D2487 D698, D5084	NM
LP-19.1	97H282	BR. sandy clay w/GVL	CLAY STOCKPILE 4	CLAY LINER	20 AUG	ASTM D422	NM
LP-19.2	97H283	BR. sandy clay w/GVL	CLAY STOCKPILE 4	CLAY LINER	20 AUG.	ASTM D422	NM
LP-21.1	97H284	BR. sandy clay w/GVL	CLAY STOCKPILE 4	CLAY LINER	20 AUG	ASTM D422, D4318	NM
LP-21.2	97H285	BR. sandy CLAY w/GVL	CLAY STOCKPILE 4	CLAY LINER	20 AUG	ASTM D422, D4318	NM
LP-22.1	—	BR. sandy CLAY w/GVL	CLAY STOCKPILE 4	CLAY LINER	20 AUG	ASTM D422	NM
LP-22.2	—	BR. sandy CLAY w/GVL	CLAY STOCKPILE 4	CLAY LINER	20 AUG	ASTM D422	NM
LP-34.1	97H286	BR. sandy CLAY w/GVL	CLAY STOCKPILE 6	CLAY LINER	20 AUG	ASTM D4318, D698 (1 pt.), D5084	NM
LP-34.2	97H287	BR. sandy CLAY w/GVL	CLAY STOCKPILE 6	CLAY LINER	20 AUG	ASTM D422, D4318, D698, D5084, D2487	NM
LP-40.1	—	BR. sandy CLAY w/GVL.	CLAY STOCKPILE 6	CLAY LINER	20 AUG	ASTM D4318	NM

NOTES: * REFER TO B. ERISMAN'S DAILY REPORT

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SHEET NO. 4 OF

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 20 AUGUST 1997 ~~YEAR:~~

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-40.2	—	BR. Sandy clay w/GVL	CLAY STOCKPILE 6 IN-PLACE CELL 1	CLAY LINER	20 AUG.	ASTM D4318	NM
LP-44	—	BR. Sandy clay w/GVL		CLAY LINER	21 AUG	ASTM D698 (1 pt.)	NM
LP-45	—	BR. Sandy clay w/GVL	IN-PLACE CELL 1, LANE 8, LIFT 1 S/E CORNER	CLAY LINER	25 AUG	ASTM D698 (1-pt.)	NM
LP-46	97I12	BR. Sandy clay w/GVL.	CLAY STOCKPILE 7	CLAY LINER	27 AUG	ASTM D2216, D422, D4318, D2487, D698, D5084	NM
LP-47	97I13	BR. Sandy clay w/GVL.	CLAY STOCKPILE 7	CLAY LINER	28 AUG	"	NM
LP-48	—	BR. Sandy clay w/GVL.	LANE 2 TEST AREA S/E COR. LIFT 1	CLAY LINER	19 AUG ~~28 AUG~~	ASTM D4643	NM
LP-49	—	↓	LANE 2 TEST AREA CTR LIFT 1	↓	↓	↓	↓
LP-50	—		LANE 2 TEST AREA N/E COR. LIFT 1				
LP-51	—		NDT-21			ASTM D4643, D2216	
LP-52	—		NDT-22			↓	
LP-53	—		NDT-23				
LP-54	—		NDT-24				
LP-55	—		SOUTH 1/2 N/W COR CELL 1 TEST AREA			ASTM D4643	
LP-56	—		SOUTH 1/2 CTR CELL 1 TEST AREA			↓	
LP-57	—		SOUTH 1/2 S/E COR CELL 1 TEST AREA				

NOTES:

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SHEET NO. 5 OF

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1265

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 28 AUGUST YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-58	—	BR. SA. CLAY W/GVL.	S/E COR. CELL 1 TEST AREA	CLAY LINER	21 AUG	ASTM D4643	NM
59	—		CTR SO. CELL 1 TEST AREA				
60	—		CTR NO. CELL 1 TEST AREA				
61	—		N/W COR. CELL 1 TEST AREA				
62	—		SCREENED MAT'L				
63	—		NDT-25			ASTM D4643, D2216	
64	—		NDT-26				
65	—		NDT-27				
66	—		NDT-28				
67	—		PT 428 -10'		22 AUG		
68	—		PT 428 -40'				
69	—		PT 432 - 20'				
70	—		PT 432 - 30'				
71	—		PT 432 - 40'				
72	—		PT 507 -25'				

NOTES:

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 28 AUGUST YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-73	—	BR. SA. CLAY W/GVL	NDT-29	CLAY LINER	22 AUG.	ASTM D4643, D2216	NM
74	—		NDT-30				
75	—		NDT-31				
76	—		SCREENED MAT'L			ASTM D4643	
77	—		LN-8, 75' W of E BERM		23 AUG.		
78	—		LN-8, 175' W of E BERM				
79	—		LN-8, 275' W of E BERM				
80	—		LN-8, 375' W of E BERM				
81	—		LN-7, 75' W of E BERM				
82	—		LN-7, 175' W of E BERM				
83	—		LN-7, 275' W of E BERM				
84	—		LN-7, 375' W of E BERM				
85	—		LN-7, 475' W of E BERM				
86	—		LN-7, 575' W of E BERM				
87	—		LN-6/7, 75' W of E. BERM				

NOTES:

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION

DATE: 28 AUGUST YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-88	—	BR. sa clay w/GVL	LN-6/7, 175' W of E Berm	CLAY LINER	23 AUG	ASTM D4643	NM
89	—		LN-6/7, 275' W of E Berm				
90	—		LN-6/7, 375' W of E Berm				
91	—		LN-6/7, 500' W of E Berm				
92	—		LN-6, 75' W of E Berm				
93	—		LN-6, 175' W of E Berm				
94	—		LN-6, 275' W of E. Berm				
95	—		LN-6, 375' W of E Berm				
96	—		LN-6, 475' W of E Berm				
97	—		NDT-32			ASTM D4643, D2216	
98	—		NDT-33				
99	—		NDT-34				
100	—		NDT-35				
101	—		NDT-36				
102	—		NDT-37				

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GEOSYNTEC CONSULTANTS FILE NO. 2-01-SSL

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SHEET NO. 8 OF

1265

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 28 AUGUST YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-103	—	BR. SA. clay W/GVL	NDT-38	CLAY LINER	23 AUG.	ASTM D 4643, D2216	NM
104	—		NDT-39				
105	—		NDT-40				
106	—		PT-511, LN-2, LIFT 1		25 AUG	ASTM D4643	
107	—		PT-520, LN-2, LIFT 1				
108	—		PT-532, LN-2, LIFT 1				
109	—		LN-5, SO. of PT 606				
110	—		LN-5, SO. of PT 621				
111	—		PT-401, LN-1, LIFT 2				
112	—		PT-403, LN-1, LIFT 2				
113	—		PT-406, LN-1, LIFT 2				
114	—		PT-510, LN-1, LIFT 2				
115	—		PT-519, LN-2, LIFT 2				
116	—		PT-526, LN-2, LIFT 2				
117	—		NDT-41			ASTM D4643, D2216	

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1265

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 28 AUGUST YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-118	—	BR. SA, clay w/GVL.	NDT-42	CLAY LINER	25 AUG	ASTM D4643, 2216	NM
119	—		NDT-43				
120	—		NDT-44				
121	—		NDT-45				
122	—		NDT-46				
123	—		NDT-47				
124	—		NDT-48				
125	—		NDT-49				
126	—		NDT-50		26 AUG		
127	—		NDT-51				
128	—		NDT-52				
129	—		NDT-53				
130	—		NDT-54				
131	—		NDT-55				
132	—		NDT-56				

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1265

000521

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION

DATE: 28 AUGUST YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-133	—	BR. SA. clay w/GVL	NDT-57	CLAY LINER	26 AUG	ASTM D4643, D2216	NM
134	—		NDT-58				
135	—		NDT-59				
136	—		NDT-60				
137	—		NDT-61				
138	—		NDT-62				
139	—		NDT-63				
140	—		NDT-64				
141	—		NDT-65				
142	—		NDT-67		27 AUG		
143	—		NDT-68				
144	—		NDT-70				
145	—		NDT-72				
146	—		NDT-75				
LP-147	—	BR. SA. clay w/GVL	STOCKPILE 3	CLAY LINER	27 AUG	ASTM D4643, D2216	NM

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SHEET NO. 11 OF

1265

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION

DATE: 31 OCT YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-329	—	BR. Sandy Clay w/GVL	CELL 1, SUBGRADE SURFACE MOISTURE SAMPLE	CLAY LINER	31 OCT	ASTM D 4643	JFM

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SHEET NO. 1 OF 1

1265

000523

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 29 AUGUST YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-148	—	BR. SA. CLAY W/GVL	STOCKPILE 5	CLAY LINER	27 AUG.	ASTM D4643, D2216	NM
149	—	"	NDT-80	"	28 AUG	ASTM D2216	NM
150	—	"	NDT-82	"	↓	" "	NM
151	—	"	NDT-87	"	↓	" "	NM
152	—	"	NDT-89	"	↓	" "	NM
153	—	"	NDT-91	"	29 AUG	" "	NM
154	—	"	NDT-102	"	↓	" "	NM
155	—	"	NDT-113	"	02 SEPT	" "	NM
156	—	"	NDT-116	"	02 SEPT	" "	NM
157	—	"	NDT-125	"	↓	" "	NM
158	97I49	"	STOCKPILE 7	"	↓	ASTM D422, D4318, D2487, D698, D5084	NM
159	—	"	NDT-135	"	03 SEPT	ASTM D2216	NM
160	—	"	NDT-138	"	↓	" "	NM
161	—	"	NDT-148	"	↓	" "	NM
162	—	"	NDT-160	"	04 SEPT	ASTM D2216	RBN

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SHEET NO. 12 OF

1265

000524

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I construction DATE: 04 September YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-163	—	Br. Sl. Clay w/GVL	NDT - 171	CLAY LINER	04/SEPT	ASTM D2216	RBN
LP-164	—	↓	NDT-182	CLAY LINER	05 SEPT	ASTM D2216	RBN
LP-165	—	↓	NDT-187	CLAY LINER	05 SEPT	ASTM D 2216	RBN
LP-166	—	↓	NDT -197	↓	05 SEPT	ASTM D 2216	NM
LP-167	—	↓	NDT- 200	↓	06 Sept	"	NM
LP-10.1	—	↓	STOCKPILE NO.4	↓	06 Sept.	ASTM D422	NM
LP-10.2	—	↓	STOCKPILE NO.4	↓	06 Sept.	ASTM D422	NM
LP-168	—	↓	TEST 200 Lane 8	↓	06 Sept	ASTM D698 (1 pt)	NM
LP-169	—	Br. Sa. Clay w/GVL	NDT- 224	CLAY LINER	06 Sept	ASTM D2216	RBN
LP-170	—	↓	Lane 7 mid cell NDT From NDT	CLAY LINER	06 Sept	ASTM D698 (pt)	RBN
LP-171	-	↓	NDT-231	" "	08 SEPT	ASTM D2216	RBN
LP-172	-	↓	NDT-239	" "	08 SEPT	ASTM D2216	RBN
LP-173	—	BR. Sa. Clay w/GVL	BENCH OF EAST BERM NDT-	" "	11 Sept	ASTM D698 (1 pt.)	NM
LP-174	97I 174	↓	STOCKPILE NO. 8 WEST END 1st load	" "	11 SEPT.	ASTM D 422, D2487, D4318, D698, D5084	NM
LP-175	97I 175	↓	STOCKPILE NO. 8 126 loads	" "	11 Sept.	↓	NM

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1265

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 11 SEPT. YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-176	—	Br. Sa. Clay w/GVL	Lane #4 Lift 4	CLAY LINER	11/SEPT	ASTM D4643, D2216	RBN
LP-177	—	" "	" "	" "	11/SEPT	ASTM D4643, D2216	RBN
LP-178	—	" "	NORTH BERM LIFT 2 STOCKPILE 6	"	11 SEPT	ASTM D698 (1 pt)	NM
LP-179	—	" "	NDT-242	"	11 Sept.	ASTM D2216	NM
LP-180	—	" "	NDT-243	"	11 Sept.	↓	NM
LP-181	—	" "	NDT-245	"	11 Sept.	↓	NM
LP-182	—	" "	NDT-246	"	11 Sept	↓	NM
LP-183	97I170	" "	stockpile #8 at 255 loads	"	12 Sept	ASTM D698, D422, D2487 D4318, D5084, D2216, D1140	RBN
LP-184	97I177	Brown/Gray Sa. Clay w/GVL	stockpile #8 at 352 loads	"	12 Sept	↓	RBN
LP-185	—	Br. Sa. Clay w/GVL	NDT-246	"	12 Sept	ASTM D2216	RBN
LP-186	—	" "	NDT-249	"	12 Sept	↓	RBN
LP-187	—	" "	NDT-248	"	12 Sept	↓	RBN
LP-188	—	" "	NDT-254	"	12 Sept	↓	RBN
LP-189	—	" "	NDT-255	"	12 Sept	↓	RBN
LP-190	—	" "	NDT-257	"	12 Sept	↓	RBN

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SHEET NO. 14 OF

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1265

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I Construction DATE: 13SEPT97 YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-191	—	Br Sa. Clay w/Gravel	NDT-260	Clay Liner	13/Sept	ASTM D2216	RBN
LP-192	—	↓	NDT-262	" "	13/Sept	↓	RBN
LP-193	—	↓	NDT-266	" "	13/Sept	↓	RBN
LP-194	—	Br Sa. Clay w/Gravel	East Perimeter Berm stockpile #4	" "	13/Sept	ASTM D698 (Lpt)	RBN
LP-195	—	↓	East Berm Bench N side	" "	13/Sept	ASTM D4643	RBN
LP-196	—	↓	East Berm	" "	13/Sept	ASTM D4643	RBN
LP-197	—	↓	NDT-270	" "	13/Sept	ASTM D2216	RBN
LP-198	—	↓	NDT-272	" "	13/Sept	↓	RBN
LP-199	—	↓	NDT-276	" "	13/Sept	↓	RBN
LP-200	—	↓	NDT-275	" "	13/Sept	↓	RBN
LP-201	97I196	↓	Stockpile #9	" "	15/Sept	ASTM D698, D422, D2487, D4318, D1140, D5084, D2216	RBN
LP-202	—	↓	NDT-316	" "	15/Sept	ASTM D2216	RBN
LP-203	—	↓	NDT-315	" "	15/Sept	↓	RBN
LP-204	—	↓	NDT-298	" "	15/Sept	↓	RBN
LP-205	—	↓	NDT-307	" "	15/Sept	↓	RBN

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1265

000527

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I Construction

DATE: 15 SEPT '97 YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-206	–	BrSa. Clay w/GVL	NDT-299	Clay Liner	15/Sept	ASTM D2216	RBN
LP-207	–	↓	NDT-297	↓	15/Sept	↓	RBN
LP-208	—	↓	NDT-313	↓	15/Sept	↓	RBN
LP-209	–	BrSa. Clay w/GVL	RBN 9/16/97 N. Berm Slope Lift 4 ~~NDT~~ Stockpile 6	↓	16/Sept	ASTM D698 (pt)	RBN
LP-210	–	↓	Lane #4 West End Stockpile #7	↓	16/Sept	ASTM D698 (pt)	RBN
LP-211	–	↓	NDT-327	↓	16/Sept	ASTM D2216	RBN
LP-212	—	↓	NDT-331	↓	16/Sept	↓	RBN
LP-213	–	↓	NDT-337	↓	16/Sept	↓	RBN
LP-214	—	↓	NDT-342	↓	16/Sept	↓	RBN
LP-215	—	↓	NDT-341	↓	16/Sept	↓	RBN
LP-216	—	↓	NDT-343	↓	16/Sept	↓	RBN
LP-217	–	↓	NDT-347	↓	16/Sept	↓	RBN
LP-218	—	↓	NDT-357	↓	16/Sept	↓	RBN
LP-219	—	↓	#418	↓	17/Sept	ASTM D2216/D4643	RBN
LP-220	—	↓	North Slope Bench #417	↓	17/Sept	ASTM D2216/D4643	RBN

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GEOSYNTEC CONSULTANTS FILE NO. 2-01-SSL

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SHEET NO. 16 OF

1265

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I Construction

DATE: 17 SEPT YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-221	—	Brn Sa. Clay w/ GVL	NDT-350	CLAY LINER	17/SEPT	ASTM 2216	RBN
LP-222	—	" "	NDT-367	" "	17/SEPT	" "	RBN
LP-223	—	" "	NDT-367 Lift 1	" "	17/Sept	" "	JL
LP-224	—	" "	Gage 16.1	" "	17/Sept	" "	JL
LP-225	—	" "	Stockpile #7	" "	17/Sept	" "	JL
LP-226	—	" "	NDT-375	" "	17/Sept	" "	JL
LP-227	—	" "	NDT-384	" "	17/Sept	" "	JL
LP-228	—	" "	Stockpile #4	" "	18/Sept	" "	JL
LP-229	—	" "	Stockpile #4	" "	18/Sept	" "	JL
LP-230	—	" "	Cont. Pt 414 Bench N. Berm Lift #5	" "	18/Sept	ASTM D698	JL
LP-231	—	" "	E Berm Slope Lift #4	" "	18/Sept	ASTM D 698	JL
LP-232	—	" "	cont. pt. 579, Stockpile #4 Stockpile 4 E. Berm Bench Lift #3	" "	18/Sept	ASTM D 698	JL
LP-233	—	" "	NDT-412 Gage 12.6%	" "	18/Sept	ASTM 2216	JL
LP-234	—	" "	NDT-418 Gage 13.5	" "	18/Sept	ASTM 2216	JL
LP-235	—	" "	NDT-407 Gage 13.4	" "	18/Sept	ASTM 2216	JL

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GEOSYNTEC CONSULTANTS FILE NO. 2-01-SSL

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SHEET NO. 17 OF

1265

000529

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: Phase I construction DATE: 18 Sept YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-236	—	Br. Sy. clay w/ gravel	NDT 398 gage 12.7	clay liner	18/Sept	ASTM 2216	JC
LP-237	97I272	" "	Stockpile #9	clay liner	19/Sept	ASTM D 698, D422, D2487 D4318, D5084	RBN
LP-238	—	" "	Stockpile 4, NE corner end dump	clay liner	19/Sept	ASTM D 698 1pt	JC
LP-239	—	" "	Stockpile 7	clay liner	19/Sept	ASTM D 698 1pt	JC
LP-240	—	" "	stockpile 7	clay liner	20/Sept	ASTM D 698 1pt	RBN
LP-241	—	" "	stockpile 4	Clay Liner	20/Sept	Astm D698	JC
LP-242	—	" "	Stockpile 8 lane 8	clay liner	22/Sept	Astm D 698	JC
LP-243	97I327	" "	Stockpile 10	clay liner	22/Sept	ASTM D698, D422, D2487 D4318, D5084	RBN
LP-244	—	" "	NDT 470 Gage 11.6	clay liner	22/Sept	ASTM 2216	JC
LP-245	—	" "	NDT 490 Gage 15.8	clay liner	22/Sept	ASTM 2216	JC
LP-246	—	" "	NDT 492 gage 14.1	clay liner	22/Sept	ASTM 2216	JC
LP-247	—	" "	NDT 493 gage 14.2	clay liner	22/Sept	ASTM 2216	JC
LP-248	—	" "	NDT 494 gage 15.4	clay liner	22/Sept	Astm 2216	JC
LP-249	—	" "	stockpile 8	clay liner	22/Sept	Astm D698 1pt	RBN
~~LP-250~~	—	" "	cell 2	~~Cte~~ compact. fill	22/Sept		

JC 22/4/97

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: CLAY LINER DATE: 23 SEPT. YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-250	—	Br. sa. clay & GVL	NDT-534	CLAY LINER	23 Sept.	ASTM D2216	NM
LP-251	—	"	WEST QUARTER CELL 1-SURFACE	CLAY LINER	24 SEPT	ASTM D698 (ck pt.)	NM
LP-252	—	"	NDT-551	"	"	ASTM D2216	NM
LP-253	—	"	NDT-547	"	"	"	NM
LP-254	—	"	NDT-555	"	"	"	NM
LP-255	—	"	NDT-557	"	"	"	NM
LP-256	—	"	NDT-558	"	"	"	NM
LP-257	—	"	NDT-562	"	"	"	NM
LP-258	—	"	NDT-564 S. Tuc Intercell Berm	"	25 SEPT	"	JL
LP-259	—	"	NDT-567	"	"	"	JL
LP-260	—	"	NDT-569	"	"	"	JL
LP-261	—	"	INTERCELL BEAM LPT 2 AT 1120 STOCKPILE	"	25 SEPT	ASTM D698 1 pt.	NM
LP-262	97I357	"	STOCKPILE 10	"	"	ASTM D698, D422, D4318, D2487, D5084	NM
LP-263	97I372	"	STOCKPILE 11	"	26 SEPT	ASTM D698, D422, D4318, D2487, D5084	NM
LP-264	—	"	NDT-574	"	"	ASTM D2216	NM

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SHEET NO. 19 OF

1265

000531

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 26 SEPT YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-265	—	BR. SA CLAY W/GVL	NDT-~~585~~ 578	Clay Liner	26 Sept	ASTM D2216	NM
LP-266	—	"	NDT- 584	"	"	"	NM
LP-267	—	"	Stockpile 9	"	29 Sept	ASTM D698	JL
LP-268	—	"	NDT 591 gage 14.0	"	29 Sept.	ASTM D 2216	JL
LP-269	97J13	"	Stockpile "	"	29 Sept.	ASTM D698, D422, D4318 D2487, D5084	JL
LP-270	—	"	NDT 598 gage 16.2	"	29 Sept	ASTM D2216	JL
LP-271	—		NDT 600 gage 13.0	"	29 Sept.	ASTM D 2216	JL
LP-272	—	"	NDT 602 gage 19.4	"	29 Sept	ASTM D2216	JL
LP-273	—	"	NDT-604 gage 15.4	"	29 Sept	ASTM D 2216	JL
LP-274	—	"	NDT-608	"	29 Sept	ASTM D 2216	JL
LP-275	—	"	NDT-619 gage 14.8	"	30 Sept	ASTM D2216	JL
LP-276	—	"	NDT-623 gage 15.6	"	30 Sept	ASTM D2216	JL
LP-277	—	"	Stockpile 10 Lift 8 Interroll. Berm S. slope	"	30 Sept	ASTM D 698	JL
LP-278	—	"	Stockpile 10 Lift 7,10 S. slope of Interroll. Berm	"	1 Oct	ASTM D 698	JL
LP-279	—	"	Stockpile ? SW corner of cell 1	"	1 Oct	ASTM D698	JL

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000532

265

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FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION

DATE: 01 OCTOBER YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-280	—	Br. Sil. clay w/Gvl.	Stockpile 11 SW corner	clay liner	1 Oct	ASTM D 698	JL
LP-281	—	"	NDT 641	"	1 Oct	ASTM D 2216	NM
LP-282	—	"	NDT 643	"	"	"	NM
LP-283	—	"	NDT 645	"	"	"	NM
LP-284	—	"	NDT 647	"	"	"	NM
LP-285	—	"	NDT 649	"	"	"	NM
LP-286	—	"	NDT 651	"	"	"	NM
LP-287	—	"	NDT 653	"	"	"	NM
LP-288	—	"	NDT 655	"	"	"	NM
LP-289	—	"	NDT 661	"	"	"	NM
LP-290	—	"	NDT 662	"	"	"	NM
LP-291	—	"	NDT 665	"	2 Oct	"	NM
LP-292	—	"	NDT 667	"	"	"	NM
LP-293	—	"	NDT 668	"	"	"	NM
LP-294	—	"	NDT 669	"	"	"	NM

NOTES:

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SHEET NO. 21 OF

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000533

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 02 OCTOBER YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-295	—	BR. SA. clay w/GVL	NDT 670	clay Liner	02 OCT	ASTM - D2216	NM
LP-296	—	"	NDT 671	"	"	"	NM
LP-297	97J55	"	STOCKPILE 11	"	"	ASTM - D422, D4318, D2487, D698, D5084	NM
LP-298	—	"	NDT 683	"	"	ASTM D 2216	NM
LP-299	97J56	"	Stock pile 11 Process material	"	30 Oct.	ASTM - D422, D4318, D2487, D698, D5084	JC
LP-300	97J57	"	stock pile 12 From cell 3	"	30 Oct.	ASTM D422, D4318, D2487, D698, D5084	JC
LP-301	—	"	NDT-688	"	"	ASTM D2216	NM
LP-302	—	"	NDT-689	"	"	"	NM
LP-303	—	"	NDT-693	"	"	"	NM
LP-304	—	"	NDT-695	"	7 OCT	"	NM
LP-305	—	"	NDT-697	"	"	"	NM
LP-306	—	"	NDT-702	"	"	"	NM
LP-307	97J95	"	STOCKPILE 13 FROM CELL 3	"	08 OCT	ASTM D422, D4318, D2487 D698, D5084	NM
LP-308	—	"	NDT-712	"	"	ASTM D 2216	NM
LP-309	—	"	NDT-720	"	"	"	NM

NOTES:

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000534

1265

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 08 Oct YEAR: 1997

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-310	—	BR. Sa. clay w/Gvl	NDT-724	Clay Liner	08 Oct	ASTM D2216	NM
LP-311	—	"	NDT-725	"	"	"	NM
LP-312	—	"	NDT-735	"	9 Oct	ASTM D 2216	JL
LP 313	—	"	NDT 737	"	9 Oct	"	JL
LP 314	—	"	NDT-738	"	"	"	JL
LP 315	—	"	CELL 1, WEST BERM BENCH LIFT 1	"	"	ASTM D698 (ck. pt.)	NM
LP-316	—	"	NDT-752	"	"	ASTM D 2216	NM
LP-317	—	"	NDT-763	"	"	ASTM D 2216	JL
LP-318	—	"	NDT-769	"	"	"	JL
LP-319	—	"	"E" NDT-783	"	10 Oct	"	NM
LP-320	—	"	NDT-774	"	"	"	NM
LP-321	97J121	BR. sandy Clay w/Gvl	STOCKPILE 10/13	"	13 OCT	ASTM D422, D4318, D2487, D698, D5084	NM
LP-322	—	"	"H" NDT-847	"	"	ASTM D2216	NM
LP-323	—	"	NDT-829	"	"	"	NM
LP-324	—	"	NDT 856	"	10 Oct	"	JL

NOTES:

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1265

000535

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

SOIL SAMPLE LOG

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF) PROJECT NO.: GQ0166 TASK NO.: 04.1

LOCATION: FERNALD, OHIO DATE: YEAR: 1997

DESCRIPTION: PHASE I CONSTRUCTION

SITE SAMPLE NO.	OFF-SITE LAB SAMPLE NO.	VISUAL DESCRIPTION	SOURCE (LOCATION/DEPTH)	MATERIAL TYPE	DATE SAMPLED (day/mo)	TEST METHODS	QA ID
LP-325 ~~LP-325~~	97J175	BROWN CLAY ~~br. sa. clay w/ [illegible]~~	STOCKPILE 13 (CELL 3) NDT	CLAY LINER ~~Clay liner~~	16 OCT ~~15 Oct~~	ASTM-D698, D422, D4318, ~~ASTM D2216~~ D2487, ~~D5084~~	NM ~~JC~~
LP-326	97J176	BR. Sandy CLAY w/ OM	STOCKPILE 10/12/13 CELL 3	"	17 OCT	"	NM
LP-327	—	"	West Berm Bench cell 1	"	17 Oct	ASTM D698	JL
LP-328	97J257	"	STOCKPILE NW of Cell 1	"	23 OCT	ASTM D698, D422, D4318, D2487, D5084	NM
LP-329	—	BROWN SANDY CLAY	CELL No. 1	"	31 OCT	ASTM D4643	NM

NOTES:

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000536

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- **Laboratory Test Summary**

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 I CONSTRUCTION — DATE: 11 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. <.002mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	PL (%)	PI ≥10	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)
LP-01	97661.2	14.1 / 14.9	63.6	✓	21.5	34	18	16	—	SANDY (CL) w/SOME GVL	—	—	115.0	14.5	112.3	16.9	2.9 E-8	P	1500
LP-02	97662.2	12.2 / 13.2	63.6	✓	20.4	29	17	12	—	SANDY (CL) w/SOME GVL	—	—	119.8	13.0	115.6	15.6	2.2 E-8	P	3000
LP-03	97666	12.4 / 12.8	53.7	✓	16.5	28	15	13	—	SANDY (CL) w/SOME GVL	—	—	124.0	11.8	121.2	14.4	3.2 E-8	P	4000 HEM ~~4500~~ 9/12/97
LP-04	97667	13.1 / 13.3	62.9	✓	20.2	25	15	10	—	SANDY (CL) w/SOME GVL	—	—	120.5	12.8	119.0	14.7	2.6 E-8	P	5000
LP-05	97681	12.9 / 13.2	55.5	✓	17.2 ✓	27	17	10	2.75	SANDY (CL) w/SOME GVL	—	—	120.0	13.4	118.1	15.9	3.0 E-8	P	5500
LP-06	97687	14.1 / 13.3	54.3	✓	19.0	28	15	13	—	SANDY (CL) w/SOME GVL	—	—	118.7	13.5	116.6	15.8	2.1 E-8	P	6720
LP-07	97688	13.3 / —	*35.5	✓	12.3	29	15	14	—	CLAYEY SAND (SC) w/S.GVL	—	—	120.0	13.0	118.0	14.7	1.8 E-7	~~P~~ F	8540
LP-08	97689	13.1 / —	~~81.1~~ 82.4 @ 9/20	47 ✓	28.0	36	18	18	—	(CL) w/SOME Sand & GVL	—	—	106.8	18.2	106.4	21.0	1.1 E-8	P	8960
LP-09	97690	9.1 / —	~~59.1~~ 60.4 @ 9/20	47 ✓	—	31	16	15	—	sandy (CL) w/SOME GVL	—	—	114.0	14.5	115.0	17.4	1.8 E-8	P	9072
LP-10	97696	11.8 / 12.6	*47.2	✓	—	24	15	11	—	CLAYEY SAND (SC) w/SO.GVL	—	—	123.3	12.0	119.7	14.6	4.7 E-8	~~P~~ F	11,~~000~~ 060

COMMENTS: * <50% PASSING NO. 200 SIEVE

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi

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GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

1265

000538

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 I CONSTRUCTION — DATE: 16 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	PL (%)	PI. ≥10	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)
LP-11	97G147	13.2 / 14.5	55.5	✓	—	34	18	16	—	SA. (CL) W/SD. GVL.	—	—	112.4	14.5	118.1	15.6	2.0E-8	P	12740
LP-12	97G164	13.3 / 13.5	56.8	✓	22.6	30	16	14	—	SA. (CL) W/SD. GVL	—	—	116.5	15.2	119.5	14.7	2.9E-8	P	13874
LP-13	97G165	13.5 / 15.7	56.2	✓	18.1	28	16	12	—	SA. (CL) W/SD. GVL.	—	—	117.0	14.8	122.6	13.6	5.8E-8	P	14700
LP-14	97G166	13.2 / 14.5	51.1	✓	16.3	30	15	15	—	SA. (CL) W/SD. GVL.	—	—	117.8	13.8	121.9	13.7	4.3E-8	P	15456
LP-15	97G167 / 97G167.2	14.2 / 14.5	61.9	✓	19.4 ✓	30	16	14	2.74	SA. (CL) W/SOME GVL.	—	—	115.0	14.5	122.6	13.0	7.9E-8	P	16380
* LP-16	97G168.2	16.1 / 17.2	70.2	✓	22.1	30	16	14	—	SA. (CL) W/SOME GVL.	—	—	109.5	17.8	116.8	15.6	1.7E-7	F	17830
LP-17	97G187	13.3 / 14.7	44.3	✓	13.4	26	15	11	—	CLAYEY SAND (SC) W/ SOME GRAVEL	—	—	118.8	13.2	121.3	14.0	1.8E-8	F	19340
LP-18	97G188	14.6 / 14.9	63.5	✓	—	33	16	17	—	SA. (CL) W/SOME GVL.	—	—	113.1	14.5	116.1	16.5	1.5E-7	F	20840
LP-19	97G189	13.8 / 14.7	43.5	✓	13	26	15	11	—	CLAYEY SAND (SC) W/SD. GVL.	—	—	119.5	14.0	116.8	16.0	1.4E-8	F	21098
LP-20	97G220	16.3 / 14.8	65.1	✓	19.5	27	17	10	—	SA. (CL) W/SD. GVL	—	—	115.7	15.0	120.2	14.6	5.0E-8	P	22064

COMMENTS: * TARGET MOISTURE NOT ATTAINED, SAMPLE (TEST) TO BE REMOLDED LP-16.2

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

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GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

1265

000539

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 I CONSTRUCTION — DATE: 21 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	PL (%)	PI ≥10	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)
LP-21	97G221	16.7 / 17.9	51.5	✓	13.8 ✓	23	15	8	—	SA. (CL) W/SOME GVL.	—	—	123.8	12.5	122.7	13.5	3.2 E-8	F	23464
LP-22	97G222	14.4 / 13.8	47.6	✓	17 ✓	29	14	15	—	CLAYEY SAND (SC) W/SOME GVL.	—	—	120.0	13.5	121.0	13.9	2.2 E-8	F	24808
LP-23	97G227	21.8 / 21.7	77.5	✓	24.1 ✓	39	16	23	—	SANDY (CL) W/SOME GVL.	—	—	110.0	17.5	109.9	19.1	5.9 E-8	P	26852
LP-24	97G228A	14.9 / 14.9	63.7	✓	20.3 ✓	28	16	12	—	SANDY CLAY (CL) W/SOME GVL	—	—	117.5	14.5	116.3	16.7	1.9 E-8	P	28532 ~~27958~~
LP-25	97G229	14.5 / 14.1	60.1	✓	20.1 ✓	29	16	13	—	SANDY CLAY (CL) W/SOME GVL.	—	—	118.3	14.0	116.3	16.1	6.8 E-8	P	29666
* LP-25A	97G225	14.2 / —	65.5	✓	19.1 ✓	32	18	14	—	SANDY (CL) W/SOME GVL	—	—	123.0	12.7	115.0	16.4	4.2 E-8	P	29666
LP-26	97G231	19.1 / 16.8	71.0	✓	23.5 ✓	28	16	12	—	BR. LEAN CLAY (CL) W/SAND	—	—	112.3	17.2	112.9	17.8	2.6 E-8	P	31,248
★ LP-07.1	97G223	16.1 / —	70.5	✓	24.2 ✓	38	18	20	—	BR. SA. (CL) W/SOME GVL	—	—	119.0	14.5	115.5 ~~119.0~~	17.5 ~~21.5~~	1.6 E-8	P	—
★ LP-07.2	97G224	12.6 / —	67.3	✓	20.2 ✓	35	19	16	—	BR. SA. (CL) W/SOME GVL.	—	—	117.4	14.0	114.7	17.2	1.1 E-8	P	—
LP-27	97G232	15.1 / 16.1	64.2	✓	20.3 ✓	29	16	13	—	BR. SANDY LEAN CLAY (CL) W/ SOME GRAVEL	—	—	114.8	15.9	116.7	15.3	8.9 E-8	P	33292

COMMENTS: * COMPANION SAMPLE TO GEL * ISOLATION SAMPLES FOR LP-07 TO GEL

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi

CHECKED BY: [illegible] SHEET NO. 3 OF ____

©GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

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000540

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 I CONSTRUCTION — DATE: 24 day July month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	PL (%)	PI ≥10	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)
LP-28	97G233	17.4 / 17.2	70.4	✓	22.5	32	16	16	—	BR. SANDY LEAN CLAY (CL) W/SOME GVL.	—	—	112.3	16.5	112.4	17.7	7.2E-8	P	34664
LP-29	97G235	20.8 / 21.5	80.6	✓	25.1	38	16	22	—	BR. LEAN CLAY W/SAND	—	—	108.4	18.5	106.4	20.7	8.5E-9	P	36162
LP-30	97G236	20.4 / 22.9	53.4	✓	18.5	33	15	18	—	BR/GR SANDY LEAN CLAY W/SOME GVL	—	—	113.7	16.5	115.5	17.0	8.9E-9	P	37450 item ~~36232~~ 7/24/97
LP-31	97G237	15.8 / 15.9	62.6	✓	19.2	33	15	18	—	Sandy (CL) W/some GVL	—	—	113.7	16.4	111.6	18.2	1.2E-8	P	38612
LP-32	97G284	20.9 / 18.6	82.1	✓	23.8	33	18	15	—	BR. (CL) W/some SA. & TR. GVL	—	—	107.7	19.0	109.2	18.8	1.4E-8	P	40852
LP-33	97G285	19.7 / 18.3	74.0	✓	21.7	26	14	12	—	BR. SA (CL) W/some GVL	—	—	119.1 ~~119.3~~	13.5 ~~13.3~~	119.8	14.7	2.0E-8	P	42714
LP-34	97G286	21.4 / 20.3	70.2	✓	14.8	22	16	6	—	BR/GR Sa. Si. Clay (CL-ML) W/TR. GRAVL.	—	—	118.2	13.8	118.7	14.9	1.8E-7	F	44,254
LP-35	97G287	15.9 / 15.6	69.1	✓	27.4	33	16	17	—	Br. SA (CL) W/some GVL	—	—	112.8	16.0	114.5	16.7	3.7E-8	P	46,158
LP-36	97G288	22.0 / 22.9	95.9	✓	35.1	43	18	25	—	Br (CL) W/TR. of SA.	—	—	108.2	18.0	108.3	19.7	1.2E-8	P	47,362
LP-36A	97G234	22.6 / —	90.4	✓	26.7	52	22	30	✓	BR. (CH) W/some sand	—	—	105.2	19.9	111.9	17.9	4.7E-8	P	47,362

COMMENTS: * COMPANION SAMPLE TO GEL

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi

CHECKED BY: [illegible] SHEET NO. 4 OF ____

GEOSYNTEC CONSULTANTS FILE NO. 2-22-LTS

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* 000541

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 I CONSTRUCTION — DATE: 25 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: KW

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. <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	PL (%)	PI ≥10	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)
LP-37	976289	17.5 / 16.8	70.3	✓	25.3 ✓	32	16	16	—	BR. sandy (CL) w/some GVL.	—	—	114.2	15.5	110.1	18.9	2.3E-8	P	48,360
LP-38	976290	15.4 / 13.5	67.0	✓	24.7 ✓	29	16	13	—	BR. sandy (CL) w/some GVL.	—	—	113.4	15.9	115.6	16.4	3.9E-8	P	50,428
LP-39	97H16	15.4 / 16.7	61.7	✓	26.6 ✓	28	16	12	—	BR. sandy (CL) w/some GVL.	—	—	113.4	15.3	116.6	16.1	4.8E-8	P	52,220
LP-40	97H17	20.7 / 18.8	85.3	✓	30.8 ✓	23	15	*8	—	BR/GR. LEAN Clay (CL) w/some sand + GVL.	—	—	116.8	14.5	116.4	16.1	2.0E-8	*F	54,782
LP-41	97H49	17.2 / 14.8	79.1	✓	28.1 ✓	28	16	12	—	BR. sandy (CL) w/some GVL	—	—	112.2	17.2	111.6	18.2	1.6E-8	P	58,086
LP-42	97H50	20.9 / 14.1	89.2	✓	30.2 ✓	29	16	13	—	BR. (CL) w/some sa. & GVL.	—	—	116.0	15.4	113.0	17.6	1.0E-8	P	62,205
LP-15.2	976167.2	— / —	—	—	—	—	—	—	—	—	—	—	—	—	118.6	15.2	5.1E-8	P	—
LP-16.2	976168.2	— / —	—	—	—	—	—	—	—	—	—	—	—	—	110.8	18.7	3.7E-8	P	—
LP-18	976188A	— / —	—	—	—	—	—	—	—	—	—	—	—	—	116.5	16.3	1.1E-8	P	—
LP-43	—	— / —	—	—	—	—	—	—	—	—	—	—	120.2	14.0	—	—	—	P	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi

CHECKED BY: [illegible] SHEET NO. 5 OF ____

GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

000542

1265

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 I CONSTRUCTION — DATE: 20 day AUG. month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI ≥10	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)
LP-17.1	97H278	—	70.1	✓	22.7 ✓	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-17.2	97H279	—	72.0	✓	25.5 ✓	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-18.1	97H280	—											*113.1	*14.5	✓116.1	✓16.3	✓1.4E-8	P	—
LP-18.2	97H281	—	72.0	✓	✓24.7	✓35	✓18	✓17	—	✓ CL	—	—	✓119.5	✓13.2	✓119.3	✓14.9	✓7.7E-8	P	—
LP-19.1	97H282	—	77.2	✓	✓22.4	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-19.2	97H283	—	72.4	✓	✓21.4	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-21.1	97H284	—	72.2	✓	✓19.3	✓30	✓17	✓13	—		—	—	—	—	—	—	—	P	—
LP-21.2	97H285	—	69.2	✓	✓19.3	✓30	✓17	✓13	—		—	—	—	—	—	—	—	P	—
LP-22.1	—	—	69.1	✓	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-22.2	—	—	71.0	✓	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—

COMMENTS: * CHECK POINT (COMPARES WITH) LP-18, 113.1 pcf @ 14.5%

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 PSI.

CHECKED BY: [illegible] SHEET NO. 6 OF _____

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 I CONSTRUCTION — DATE: 20 day AUG month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI ≥10	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)
LP-34.1	97H286	—				31	17	14	—		—	—	* 118.7	* 14.6 ~~13.8~~	116.8	16.0	7.8 E-8	P	—
LP-34.2	97H287	—	70.3		23.9	37	17	20	—	(CL)	—	—	119.1	13.7	118.7	14.9	1.8 E-8	P	—
LP-40.1	—	—	—	—	—	34	18	16	—	—	—	—	—	—	—	—	—	P	—
LP-40.2	—	—	—	—	—	35	18	17	—	—	—	—	—	—	—	—	—	P	—
LP-44	—	—	—	—	—	—	—	—	—	—	—	—	** 113.7 ~~119.8~~	** 10.8 ~~13.0~~	—	—	—	—	—
LP-45	—	—	—	—	—	—	—	—	—	—	—	—	*** 111.7 ~~114.2~~	*** 14.1 ~~15.5~~	—	—	—	—	—
LP-46	97I12	20.9	88.2		31.1	41	20	21	—	(CL)	—	—	110.5	18.0	110.8	18.6	1.2 E-8	P	63,700
LP-47	97I13	—	79.0		29.9	41	19	22	—	(CL)	—	—	107.5	18.0	111.6	18.1	1.7 E-8	P	65,200
LP-48	—	14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
LP-49	—	15.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

COMMENTS: * CHECK POINT (COMPARES WITH) LP-34, 118.2 pcf @ 13.8% ** CKPT COMPARES W/ LP-02 (119.8 pcf @ 13%) *** CK PT COMPARES W/ LP-37 (114.2 pcf @ 15.5%)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PSI.

CHECKED BY: [signature] SHEET NO. 7 OF _____

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 I CONSTRUCTION — DATE: 28 day AUG month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI ≥ 10	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)
LP-50	—	— / 14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-51	—	15.4 / 15.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-52	—	14.9 / 15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-53	—	15.7 / 15.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-54	—	15.7 / 15.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-55	—	— / 16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-56	—	— / 18.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-57	—	— / 16.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-58	—	— / 16.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-59	—	— / 15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PSI.

CHECKED BY: [signature] SHEET NO. 8 OF ____

GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

265

000545

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 I CONSTRUCTION — DATE: 28 day AUG month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS ASTM D 4318: PL (%)	ATTERBERG LIMITS ASTM D 4318: PI. #10	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)
LP-60	—	— / 18.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-61	—	— / 14.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-62	—	— / 16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-63	—	14.3 / 15.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-64	—	15.3 / 15.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-65	—	14.5 / 15.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-66	—	14.6 / 14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-67	—	16.4 / 15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-68	—	15.7 / 16.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-69	—	18.8 / 19.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PSI.

CHECKED BY: [signature] SHEET NO. 9 OF ____

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 I CONSTRUCTION — DATE: 28 day AUG. month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI ≥10	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)
LP-70	—	19.4 / 19.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-71	—	15.8 / 16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-72	—	14.6 / 15.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-73	—	13.7 / 14.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-74	—	13.8 / 14.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-75	—	14.3 / 13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-76	—	— / 16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-77	—	— / 18.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-78	—	— / 18.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-79	—	— / 18.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PSI.

CHECKED BY: [illegible] SHEET NO. 10 OF ____

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 I CONSTRUCTION — DATE: 28 day AUG. month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI ≥10	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)
LP-80	—	— 19.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-81	—	— 19.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-82	—	— 18.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-83	—	— 19.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-84	—	— 15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-85	—	— 16.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-86	—	— 18.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-87	—	— 19.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-88	—	— 18.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-89	—	— 17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PSI.

CHECKED BY [signature] SHEET NO. 11 OF ____

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 I CONSTRUCTION — DATE: 28 day AUG. month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 MM	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI ≥10	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)
LP-90	—	— / 16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-91	—	— / 15.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-92	—	— / 20.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-93	—	— / 15.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-94	—	— / 15.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-95	—	— / 17.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-96	—	— / 16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-97	—	17.2 / 16.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-98	—	18.1 / 18.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-99	—	14.9 / 15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PSI.

CHECKED BY: [signature]

SHEET NO. 12 OF _____

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 I CONSTRUCTION — DATE: 28 day AUG month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <0.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI ≥10	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)
LP-100	—	17.2 / 17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-101	—	16.2 / 17.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-102	—	14.0 / 15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-103	—	15.1 / 15.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-104	—	16.4 / 16.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-105	—	16.0 / 16.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-106	—	— / 13.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-107	—	— / 14.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-108	—	— / 16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-109	—	— / 11.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PS'.

CHECKED BY: [illegible] SHEET NO. 13 OF _____

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 I CONSTRUCTION — DATE: 28 day AUG month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI ≥10	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)
LP-110	—	— / 10.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—
LP-111	—	— / 16.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—
LP-112	—	— / 17.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—
LP-113	—	— / 16.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—
LP-114	—	— / 18.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—
LP-115	—	— / 19.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—
LP-116	—	— / 16.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—
LP-117	—	14.5 / 14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—
LP-118	—	15.0 / 15.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—
LP-119	—	15.8 / 16.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	T	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PSI.

CHECKED BY: [illegible] SHEET NO. 14 OF _____

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 I CONSTRUCTION — DATE: 28 day AUG month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS: PL (%)	ATTERBERG LIMITS: PI, ≥10	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)
LP-120	—	15.3 / 15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-121	—	15.2 / 15.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-122	—	16.1 / 15.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-123	—	14.9 / 14.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-124	—	14.9 / 14.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-125	—	18.8 / 19.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-126	—	15.0 / 15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-127	—	12.5 / 12.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-128	—	14.4 / 15.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-129	—	16.0 / 16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PSI.

CHECKED BY: [signature] SHEET NO. 15 OF ____

GEOSYNTEC CONSULTANTS FILE NO. 2-22-LTS

1265

000552

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 I CONSTRUCTION — DATE: 28 day AUG month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	ATTERBERG LIMITS ASTM D 4318: LL (%)	ATTERBERG LIMITS ASTM D 4318: PL (%)	ATTERBERG LIMITS ASTM D 4318: PI ≥10	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)
LP-130	—	16.6 / 16.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-131	—	15.3 / 15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-132	—	14.8 / 15.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-133	—	15.3 / 15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-134	—	15.7 / 16.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-135	—	16.0 / 16.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-136	—	17.0 / 16.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-137	—	16.6 / 17.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-138	—	16.8 / 16.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-139	—	16.7 / 16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5PSI.

CHECKED BY: [signature] SHEET NO. 16 OF ____

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 I CONSTRUCTION — DATE: 28 day AUG month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-140	—	16.5 / 16.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
LP-141	—	15.7 / 15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
LP-142	—	16.0 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
LP-143	—	16.3 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
LP-144	—	15.9 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
LP-145	—	16.7 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
LP-146	—	17.8 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
LP-147	—	17.2 / 15.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
LP-148	—	16.0 / 13.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—
LP-149	—	15.9 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF NA.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF SPSL.

CHECKED BY: [signature] SHEET NO. 17 OF ____

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 I CONSTRUCTION — DATE: 29 day AUG month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-150	—	15.2 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-151	—	18.2 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-152	—	15.6 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-153	—	15.9 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-154	—	15.9 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-155	—	14.0 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-156	—	14.5 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-157	—	15.5 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-158	97I49	— / —	70.8	✓	24.5	33	17	16	—	CL	—	—	115.1	15.8	116.1	16.4	1.1 E-8	P	66,700
LP-159	—	15.8 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi

CHECKED BY: [illegible] SHEET NO. 18 OF _____

GEOSYNTEC CONSULTANTS FILE NO. 2-22-LTS

1265

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 I CONSTRUCTION — DATE: 03 day SEPT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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)
LP-160	—	15.8 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-161	—	15.3 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-162	—	15.2 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-163	—	14.9 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-164	—	16.6 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-165	—	15.6 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-166	—	16.5 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-167	—	15.2 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-10.1	—	— —	70.9	✓	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-10.2	—	— —	71.2	✓	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 06 day SEPT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-168	—	—	—	—	—	—	—	—	—	—	—	—	* 113.3	* Hem 13.7 ~~14.2~~ 9/3/97	—	—	—	—	—
LP-169	—	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-170	—	—	—	—	—	—	—	—	—	—	—	—	** 107.4	** 15.0	—	—	—	—	—
LP-171	—	14.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-172	—	14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-173	—	—	—	—	—	—	—	—	—	—	—	—	*** 112.1	*** 12.4	—	—	—	—	—
LP-174	97I174	—	82.2	✓	32.3	37	18	19	—	(CL) w/sand	—	—	111.5	17.5	108.6	20.5	6.4E-9	P	68,200
LP-175	97I175	—	77.0	✓	25.7	34	18	16		(CL) w/sand	—	—	112.5	16.2	116.3	16.3	3.6E-8	P	69,700
LP-176	—	16.7 17.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-177	—	19.3 19.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: * 1 pt ck - Compares w/ LP-27 (114.8 pcf/15.9% omc) ** 1 pt ck - Compares w/ LP-16 (109.5 pcf/17.8% omc) *** 1 pt ck - Compares with LP-13 (113.1 pcf/14.5% omc)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

CHECKED BY: [illegible]

SHEET NO. 20 OF _____

1265

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 I CONSTRUCTION — DATE: 11 day SEPT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-178	—	—	—	—	—	—	—	—	—	—	—	—	* 110.4	* 14.1	—	—	—	P	—
LP-179	—	17.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-180	—	16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-181	—	16.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-182	—	17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-183	97I170	19.1	78.6	✓	26.3	45	20	25	—	(CL) w/sand	—	—	110.1	18.0	108.9	19.6	2.6 E-8	P	71,200
LP-184	97I177	20.0	78.2	✓	27.2	44	19	25	—	(CL) w/sand	—	—	112.4	16.1	107.5	20.2	5.6 E-8	P	72,700
LP-185	—	14.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-186	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-187	—	17.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—

COMMENTS: * 1 PT - COMPARES W/LP-~~20 (115.7 pcf/15.0 %mc)~~ LP-37 (114.2 pcf/15.5%MC) RBN 9/12/97

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

CHECKED BY: [illegible] SHEET NO. 21 OF _____

1265

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 I Construction DATE: 13 day SEPT month 1997 year

MATERIAL TYPE: CLAY LINER QA ID: RBN

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)
LP-188	–	16.0 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LP-189	–	15.6 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LP-190	–	12.6 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LP-191	–	13.0 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LP-192	–	14.2 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LP-193	–	12.8 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LP-194	–	– / –	–	–	–	–	–	–	–	–	–	–	* 112.8	* 13.6	–	–	–	–	–
LP-195	–	– / 18.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LP-196	–	– / 17.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LP-197	–	18.8 / –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

COMMENTS: * lpt compares w/LP-18 (113.1 pcf/14.5%mc)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi

CHECKED BY: [signature] SHEET NO. 22 OF _____

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 I Construction — DATE: 15 day SEPT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: RBN

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. % <.002 mm	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)
LP-198	—	15.6 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-199	—	14.4 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-200	—	15.6 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-201	97I196	16.5 —	84.1 ✓	✓	29.0 ✓	41 ✓	20 ✓	21 ✓	—	(CL)w/sand ✓	—	—	110.8 ✓	17.0 ✓	115.5 ✓	16.2 ✓	5.1E-8 ✓	P	74/200
LP-202	—	14.4 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-203	—	15.2 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-204	—	15.4 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-205	—	16.4 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-206	—	14.3 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-207	—	12.8 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—

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.

CHECKED BY: [illegible] SHEET NO. 23 OF ____

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 I Construction — DATE: 16 day SEPT month 1997 year

MATERIAL TYPE: CLAYLINER — QA ID: RBN

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)
LP-208	—	14.6 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-209	—	— / —	—	—	—	—	—	—	—	—	—	—	* 116.6	* 13.0	—	—	—		—
LP-210	—	— / —	—	—	—	—	—	—	—	—	—	—	** 111.4	** 13.4	—	—	—		—
LP-211	—	14.5 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-212	—	15.1 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-213	—	14.1 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-214	—	14.7 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-215	—	17.3 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-216	—	13.4 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-217	—	15.3 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—

COMMENTS: *1pt compares w/LP-34 (118.2pcf/17.8%Mc) **1pt compares w/LP-158 (115.1pcf/15.8%Mc)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS — CHECKED BY: [illegible] — SHEET NO. 24 OF ____

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION

DATE: 16 day SEPT month '97 year

MATERIAL TYPE: CLAY LINER

QA ID: NM

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)
LP-218	—	15.1 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-219	—	17.9 / 19.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-220	—	17.9 / 18.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-221	—	14.5 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-222	—	15.3 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-223	—	15.0 / 13.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-224	—	16.5 / 16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-225	—	17.0 / 16.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-226	—	16.7 / 15.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-227	—	15.7 / 15.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—

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.

GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

CHECKED BY: [signature]

SHEET NO. 25 OF _____

1265

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 18 day SEPT month 97 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-228	—	14.6 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-229	—	15.5 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-230	—	— / —	—	—	—	—	—	—	—	—	—	—	* 118.0	* 13.4	—	—	—	P	—
LP-231	—	— / —	—	—	—	—	—	—	—	—	—	—	** 115.5	** 13.8	—	—	—	P	—
LP-232	—	— / —	—	—	—	—	—	—	—	—	—	—	*** 110.4	*** 13.1	—	—	—	P	—
LP-233	—	14.2 / 13.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-234	—	15.2 / 15.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-235	—	14.8 / 14.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-236	—	14.9 / 14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-237	971272	— / —	82.5	/	30.0	39	17	22	—	(CL) w/sand	—	—	110.1	18.0	108.9	19.8	1.3 E-8	P	75,700

COMMENTS: * CK. PT. Compares w/ LP-33 (119.1 pcf @ 13.5% omc) ** CK. PT. COMPARES w/ LP-24 (117.5 pcf @ 15.5% omc) *** CK. PT. COMPARES w/ LP-01 (115.0 pcf @ 14.5% omc)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

CHECKED BY: [illegible] SHEET NO. 26 OF _____

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 I CONSTRUCTION — DATE: 19 day SEPT month 97 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-238	—	—	—	—	—	—	—	—	—	—	—	—	* 115.9	* 12.9	—	—	—	P	—
LP-239	—	—	—	—	—	—	—	—	—	—	—	—	** 112.1	** 13.1	—	—	—	P	—
LP-240	—	—	—	—	—	—	—	—	—	—	—	—	*** 115.1	*** 13.8 ~~15.5~~ KEM 9/30/97	—	—	—	P	—
LP-241	—	—	—	—	—	—	—	—	—	—	—	—	**** 118.2	**** 13.7	—	—	—	P	—
LP-242	—	—	—	—	—	—	—	—	—	—	—	—	***** 111.9	***** 15.6	—	—	—	P	—
LP-243	971327	—	82.3	✓	26.8	42	20	22	—	(CL) w/ Tr. Gvl w/ So. Sand	—	—	104.2	20.0	102.4	23.3	1.1E-8	P	77,200
LP-244	—	13.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-245	—	18.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-246	—	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-247	—	15.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—

COMMENTS: * CK. PT. COMPARES w/ LP-25 (118.3 pcf @ 14.0% omc) ** CK. PT. COMPARES w/ LP-01 (115.0 pcf @ 14.5% omc) *** CK. PT. COMPARES w/ LP-24 (117.5 pcf @ 15.5% omc)

**** CK. PT. COMPARES w/ LP-25 (118.3 pcf @ 14.0% omc)

***** CK. PT. COMPARES w/ LP-31 (~~113.7 pcf @ 16.4% omc~~) KEM 9/30/97 175 (112.5 pcf @ 16.2% omc)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

CHECKED BY: KEM

SHEET NO. 27 OF _____

1265

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 I CONSTRUCTION — DATE: 22 day SEPT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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)
LP-248	—	16.5 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-249	—	— / —	—	—	—	—	—	—	—	—	—	—	** 114.1	** 15.2	—	—	—		—
LP-250	—	16.9 / 16.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-251	—	— / —	—	—	—	—	—	—	—	—	—	—	* 108.8	* 9.5	—	—	—		—
LP-252	—	16.3 / 15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-253	—	18.1 / 15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-254	—	15.9 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-255	—	18.4 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-256	—	15.9 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-257	—	17.8 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—

COMMENTS: * CK. PT. COMPARES W/ LP-34 (118.2 pcf @ 13.8% OMC) ** CK. PT. COMPARES W/ LP-27 (114.8 pcf @ 15.9% OMC)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

CHECKED BY: [illegible] SHEET NO. 28 OF _____

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 I CONSTRUCTION — DATE: 25 day SEPT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-258	—	14.6 / 14.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-259	—	17.3 / 16.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-260	—	16.9 / 17.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-261	—	— / —	—	—	—	—	—	—	—	—	—	—	* 113.4	* 15.1	—	—	—		—
LP-262	97I357	— / —	72.7	✓	25.5	37	19	18	—	SA(CL) w/TR GVL	—	—	107.7	18.5	113.0	18.0	9.1E-9	P	78,700
LP-263	97I372	— / —	76.0	✓	26.8	40	19	21	—	SA(CL) w/TR GVL	—	—	108.1	17.5	114.1	17.3	1.1E-8	P	80,200
LP-264	—	17.4 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-265	—	17.3 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-266	—	17.4 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
LP-267	—	— / —	—	—	—	—	—	—	—	—	—	—	** 112.7	** 13.9	—	—	—		—

COMMENTS: * CK PT. COMPARES w/ LP-158 (115.1 pcf @ 15.8% omc) ** CK. PT. COMPARES w/ LP-01 (115.0 pcf @ 14.5% omc)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

CHECKED BY: [illegible] SHEET NO. 29 OF _____

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 I CONSTRUCTION — DATE: 29 day SEPT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-268	—	15.6 / 16.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-269	97J13	— / —	79.5	✓	28.4	39	20	19	—	(CL) w/ 50.5% TR GVL	—	—	107.0	19.2	110.1	18.2	1.0E-8	P	81,700
LP-270	—	16.7 / 17.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-271	—	15.8 / 16.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-272	—	17.1 / 16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-273	—	22.1 / 16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-274	—	15.9 / 16.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-275	—	16.1 / 16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-276	—	17.1 / 17.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	P	—
LP-277	—	— / —	—	—	—	—	—	—	—	—	—	—	* 115.0	* 14.5	—	—	—	P	—

COMMENTS: * CK. PT. COMPARES W/ LP-42 (1160 pcf @ 15.4% OMC)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

CHECKED BY: [illegible] SHEET NO. 30 OF _____

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 I CONSTRUCTION — DATE: 01 day OCT month 1997 year

MATERIAL TYPE: _____ QA ID: _____

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)
LP-278	—	— / —	—	—	—	—	—	—	—	—	—	—	* 111.8	* 14.8	—	—	—	—	—
LP-279	—	— / —	—	—	—	—	—	—	—	—	—	—	** 112.8	** 13.0	—	—	—	—	—
LP-280	—	— / —	—	—	—	—	—	—	—	—	—	—	*** 104.3	*** 14.6 ~~15.1~~	10/2/97	—	—	—	—
LP-281	—	15.3 / 15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-282	—	14.7 / 15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-283	—	16.6 / 17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-284	—	16.9 / 16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-285	—	16.9 / 17.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-286	—	17.1 / 17.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-287	—	17.3 / 17.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: * CK. PT. COMPARES W/ LP-37 (114.2 pcf @ 15.5% omc) ** CK. PT. COMPARES W/ LP-24 (117.5 pcf @ 15.5% omc) *** CK. PT. COMPARES W/ LP-263 (108.1 pcf @ 17.5% omc)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5 psi.

•GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

CHECKED BY: [illegible] SHEET NO. 31 OF _____

1265

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 01 day OCT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-288	—	16.1 / 16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-289	—	17.7 / 18.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-290	—	18.9 / 19.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-291	—	16.8 / 17.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-292	—	17.9 / 18.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-293	—	17.4 / 17.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-294	—	18.3 / 18.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-295	—	19.1 / 19.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-296	—	19.3 / 19.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-297	97J55	— / —	73.8	✓	25.3	39	20	19	—	SC, (CL) TR, GVL	—	—	107.7	17.7	109.9	19.0	1.1E-8	P	83,200

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

•GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

CHECKED BY: HEM

SHEET NO. 32 OF _____

1265

000569

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 I CONSTRUCTION — DATE: 02 day OCT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-298	—	16.5 / 16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-299	97J56	— / —	74.0	✓	28.0	40	19	21	—	Sandy (CL) w/TR of GVL	—	—	110.0	18.0	109.6	19.1	9.6 E-9	P	84,700
LP-300	97J57	— / —	69.9	✓	22.8	32	17	15	—	Sandy (CL) w/TR of GVL	—	—	114.9	15.8	114.5	17.2	2.6 E-8	P	86,200
LP-301	—	18.1 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-302	—	17.3 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-303	—	18.0 / —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-304	—	17.5 / 18.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-305	—	18.5 / 18.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-306	—	19.0 / 19.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-307	97J95	— / —	66.3	✓	20.2	29	18	11	—	Sandy (CL) w/TR of GVL	—	—	114.5	15.5	111.2	18.4	2.1 E-8	P	87,700

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

CHECKED BY: [illegible] SHEET NO. 33 OF _____

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 I CONSTRUCTION — DATE: 08 day Oct month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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)
LP-308	—	16.1 / 16.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-309	—	19.8 / 19.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-310	—	18.1 / 18.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-311	—	17.4 / 17.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-312	—	19.3 / 19.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-313	—	19.0 / 19.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-314	—	24.7 / 24.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-315	—	— / —	—	—	—	—	—	—	—	—	—	—	*101.2	*13.0	—	—	—	—	—
LP-316	—	19.8 / 20.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-317	—	18.3 / 19.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

COMMENTS: *CK.PT. COMPARES W/ LP-269 (107.0pcf@19.2%)

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF N/A.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF 5psi.

•GEO SYNTEC CONSULTANTS FILE NO. 2-22-LTS

CHECKED BY: HSM

SHEET NO. 34 OF _____

1265

000571

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 I CONSTRUCTION — DATE: 09 day OCT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: NM

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. % <.002 mm	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)
LP-318	—	20.0 / 20.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-319	—	17.1 / 17.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-320	—	19.8 / 19.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-321	97J121	— / —	75.2	✓	20.8	39	17	22	—	SANDY (CL) W/TR GVL	—	—	108.2	19.0	108.4	19.5	6.6 E-9	P	89,200
LP-322	—	17.0 / 17.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-323	—	18.9 / 19.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-324	—	20.2 / 20.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LP-325	97J175	— / —	70.3	✓	22.0	32	17	15	—	Sandy (CL) w/some GVL.	—	—	114.0	16.1	112.9	17.6	1.8 E-8	P	90,700
LP-326	97J176	— / —	70.4	✓	23.6	35	17	18	—	Sandy (CL) w/TR GVL.	—	—	110.0	17.5	108.7	19.6	2.9 E-8	P	92,200
LP-327	—	— / —	—	—	—	—	—	—	—	—	—	—	* 102.9	* 14.1	—	—	—	—	—

COMMENTS: *CK.PT. COMPARES W/LP-269 (107.0 pcf @ 19.2%)

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 31 day OCT month 1997 year

MATERIAL TYPE: CLAY LINER — QA ID: JM

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)
LP-328	97J257	—	69.3	✓	21.8	37	19	18	—	Sandy (CL) w/Tr. GVL	—	—	108.2	17.5	112.4	17.7	4.2E-9		93,700
LP-329	—	18.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: ____ day ____ month 1997 year

MATERIAL TYPE: CLAY LINER QA ID: _____

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			ATTERBERG LIMITS ASTM D 4318			SP. GR. ASTM D 854	SOIL CLASS. ASTM D 2487	LOI	CARBO CONT.	COMPACTION ASTM D 698 (or) ASTM D 1557		PERMEABILITY ASTM D 2434(1) (or) ASTM D 5084(2)			PASS/ FAIL	ACUMUL. QUANT. PLACED (APPROX)
			PASSING NO. 200 SIEVE ASTM D 1140 (%)	ASTM D 422 SIEVE	ASTM D 422 HYDR.	LL (%)	PL (%)	PI			ASTM C311 (%)	ASTM D3042 (%)	MAX. DRY UNIT WT. (pcf)	OPT. MOIST. CONT. (%)	DRY UNIT WT. (pcf)	MOIST. CONT. ASTM D 2216 (%)	HYDRAULIC COND'VITY (cm/sec)		(yd^3)

COMMENTS: _____

NOTES: (1) HYDRAULIC CONDUCTIVITY DETERMINED AT A HYDRAULIC GRADIENT OF ____.

(2) HYDRAULIC CONDUCTIVITY DETERMINED AT AN EFFECTIVE CONFINING STRESS OF ____.

- Laboratory Testing

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 11 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-01

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. 3	3				
A	WT. OF TARE	7.6				
B	WT. OF WET SOIL & TARE	191.7				
C	WT. OF DRY SOIL & TARE	168.9				
D	WT. OF WATER = B-C	22.8				
E	WT. OF DRY SOIL = C-A	161.3				
F	MOISTURE CONTENT = (D/E) X 100	14.1				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	312.0				
C	WT. OF DRY SOIL & TARE	288.7				
D	WT. OF WATER = B-C	23.3				
E	WT. OF DRY SOIL = C-A	156.7				
F	MOISTURE CONTENT = (D/E) X 100	14.9				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 11 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-01

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 27,712.6 gms
>#4 SAMPLE WT = 2583.2 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		3	3
WT. OF DRY SAMPLE PLUS TARE	(grams)	168.9	56.5
WT. OF TARE	(grams)	7.6	7.6
WT. OF DRY SAMPLE	(grams)	161.3 ✓	48.9 ✓

SIEVE ANALYSIS QA ID: PKD

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	100		100 ~~24/15~~ 8/20/97
1½"	37.5	62.2	0.2	99.8		
1"	25.0	586.1	2.1	97.9		
¾"	19.0	871.0	3.1	96.9		90-100
½"	12.5	1407.5	5.1	94.9		
⅜"	9.5	1726.5	6.2	93.8		
4	4.75	2480.8	9.0	91.0		
10	2.00	13.8	8.6	91.4	83.2	
20	0.850	20.5	12.7	87.3	79.4	
40	0.425	27.2	16.9	83.1	75.6	
60	0.250	32.7	20.3	79.7	72.5	
150	0.150	39.8	24.7	75.3	68.5	
200	0.075	48.5 ✓	30.1	69.9	63.6	50-100
0.002mm						15% min.

%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)

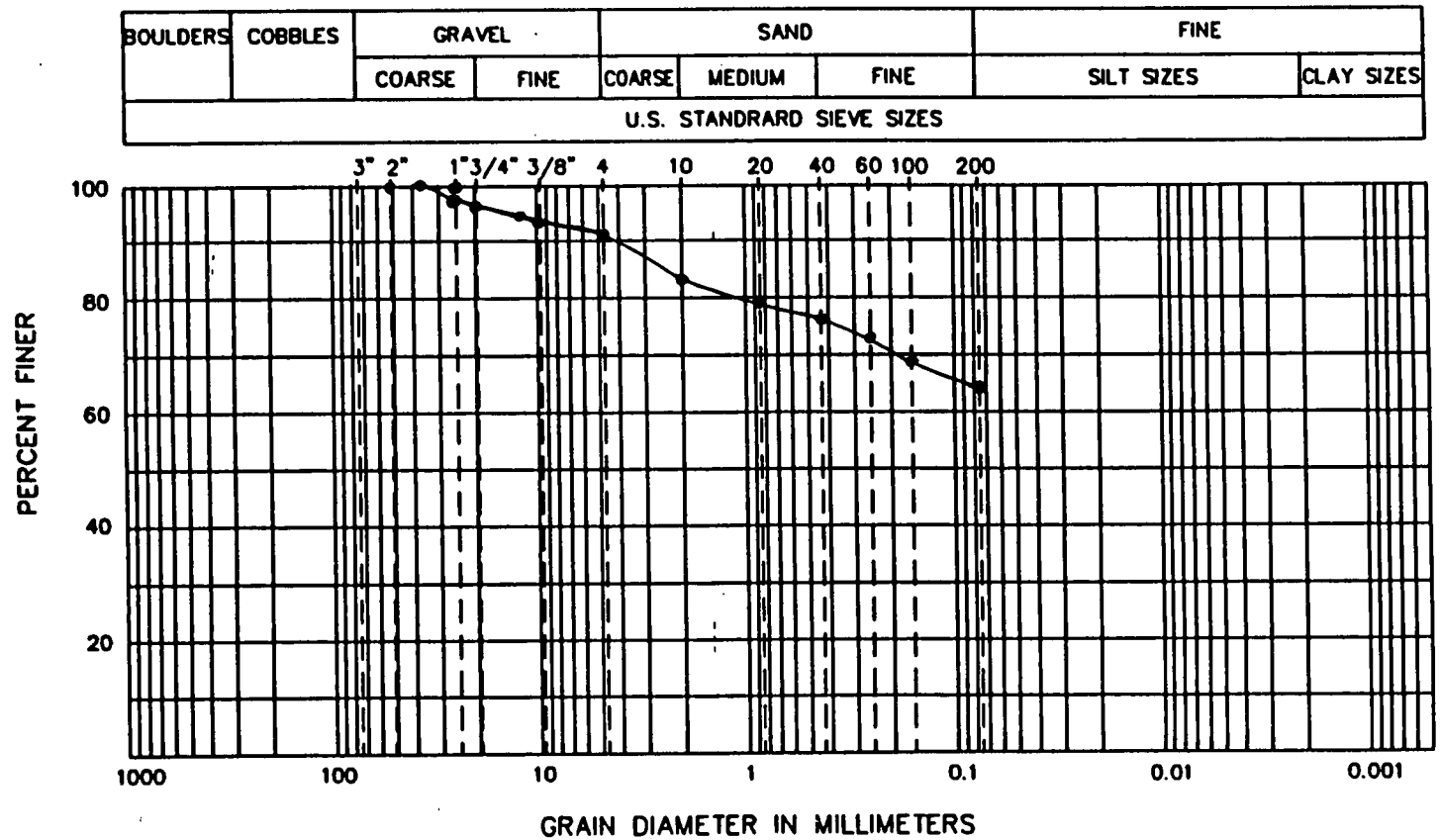
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 13 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER — SAMPLE NO.: LP-01 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 34

(PL) 18

(PI) 16

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	99.8
1-in.	97.9
3/4-in.	96.9
1/2-in.	94.9
3/8-in.	93.9
NO. 4	91.0
NO. 10	83.2
NO. 20	79.4
NO. 40	75.6
NO. 60	72.5
NO. 100	68.5
NO. 200	63.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~
10/3/97	10/3/97

SOIL CLASSIFICATION (ASTM D 2487): BROWN - SANDY LEAN CLAY (CL) W/ SOME GRAVEL

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SHEET NO. 2 OF 2

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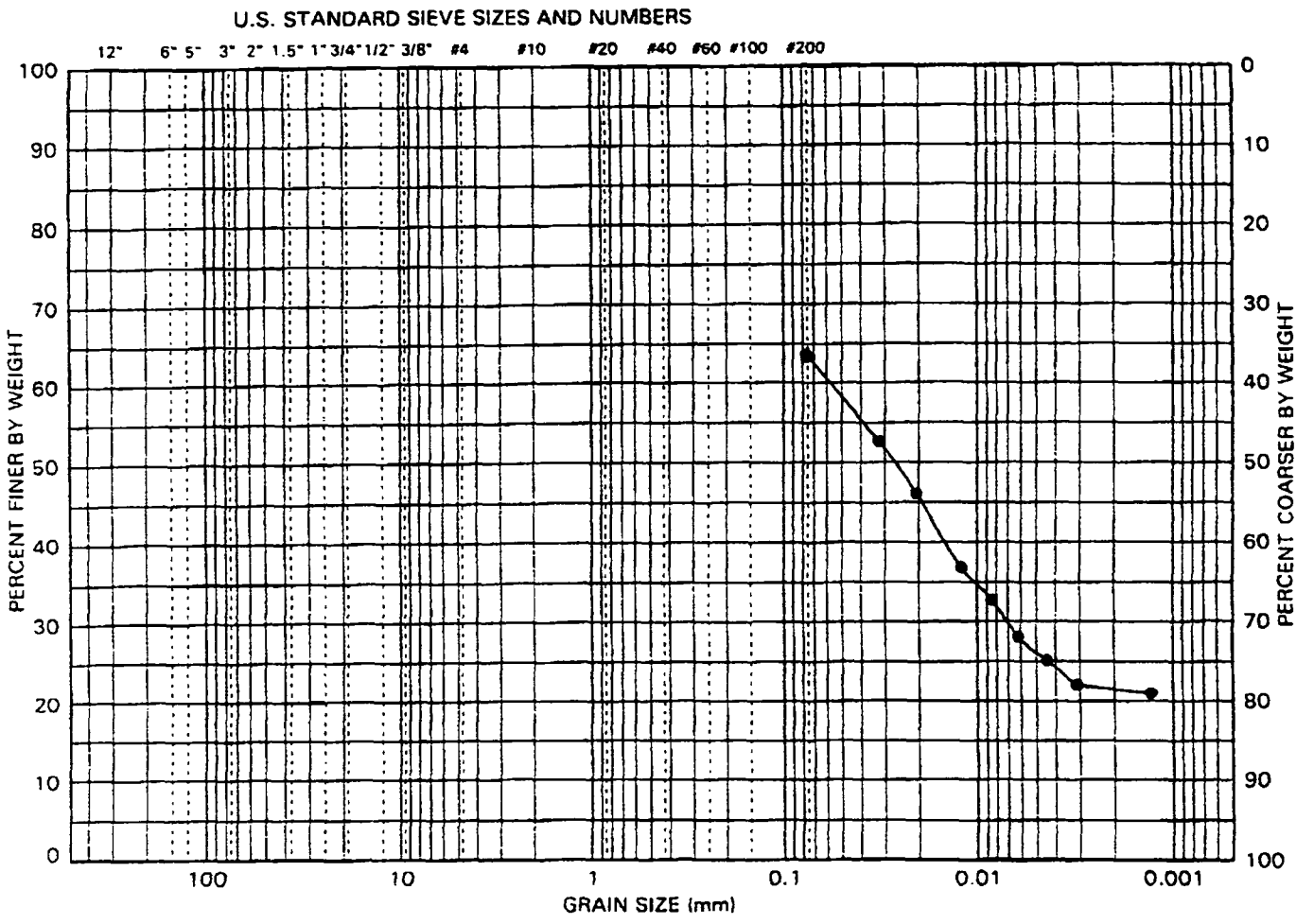
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/26/97

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



SITE SAMPLE ID	LP-01	LIQUID LIMIT (%)	SOIL FRACTIONS: GRAVEL (%)
LAB. SAMPLE NO.	97G61	PLASTIC LIMIT (%)	SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX	FINES (%)
SOIL CLASSIFICATION:			SILT (%)
			CLAY(%) 21.5
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

RECEIVED JUL 28 1997

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
															46	26	21	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE 1 CONSTRUCTION DATE: 13 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-01

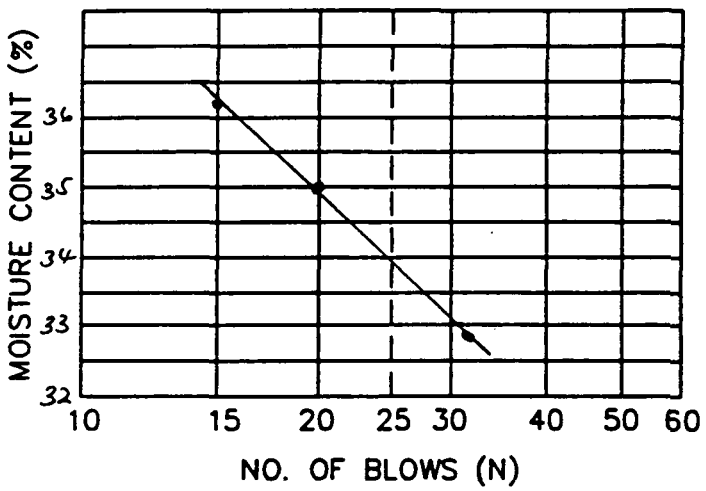
LIQUID LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·1	1·2	1·3	
A	WT. OF TARE	(grams)	28·76	28·50	28·64	
B	WT. OF WET SOIL & TARE	(grams)	42·65	42·15	45·30	
C	WT. OF DRY SOIL & TARE	(grams)	39·22	38·61	40·87	
D	WT. OF WATER = B-C	(grams)	3·43	3·54	4·43	
E	WT. OF DRY SOIL = C-A	(grams)	10·46	10·11	12·23	
F	MOISTURE CONTENT = (D/E)X100	(%)	32·8	35·0	36·2	
N	NUMBER OF BLOWS		31	20	15	

DRYING TARE NO.

C



CURING TARE NO.

1-B

CL

PLASTIC LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1·4	1·5		
A	WT. OF TARE	(grams)	28·52	28·61		
B	WT. OF WET SOIL & TARE	(grams)	39·50	42·40		
C	WT. OF DRY SOIL & TARE	(grams)	37·85	40·31		
D	WT. OF WATER = B-C	(grams)	1·65	2·09		
E	WT. OF DRY SOIL = C-A	(grams)	9·33	11·70		
F	MOISTURE CONTENT = (D/E)X100	(%)	17·7	17·9		

LIQUID LIMIT (LL) = 34 PLASTIC LIMIT (PL) = 18 PLASTICITY INDEX (PI) = 16

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FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION

DATE: 12 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER

SAMPLE NO.: LP-01

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: PKO

	WATER ADDED	(ml)	150	200	250	100	
A	WT. OF SOIL & MOLD	(grams)	4002.6	4037.0	4011.9	3879.9	
B	WT. OF MOLD	(grams)	2047.3	2047.3	2047.3	2047.3	
C	WT. OF SOIL = A - B	(grams)	1955.3	1989.7	1964.6	1832.6	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	129.1	131.3	129.7	121.0	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	113.8 ✓	113.5 ✓	108.8 ✓	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: PKO

	TARE NO.		1	4	2	10	
F	WT. OF TARE	(grams)	7.3	7.5	7.6	7.2	
G	WT. OF WET SOIL & TARE	(grams)	170.3	181.3	195.2	190.8	
H	WT. OF DRY SOIL & TARE	(grams)	151.0	157.7	165.0	170.2	
I	WT. OF WATER = G - H	(grams)	19.3	23.6	30.2	20.6	
J	WT. DRY SOIL = H - F	(grams)	143.7	150.2	157.4	163.0	
K	MOISTURE CONTENT = (I/J) X 100	(%)	13.4 ✓	15.7 ✓	19.2 ✓	12.6 ✓	

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SHEET NO. 1 OF 2

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FLUOR DANIEL FERNALD

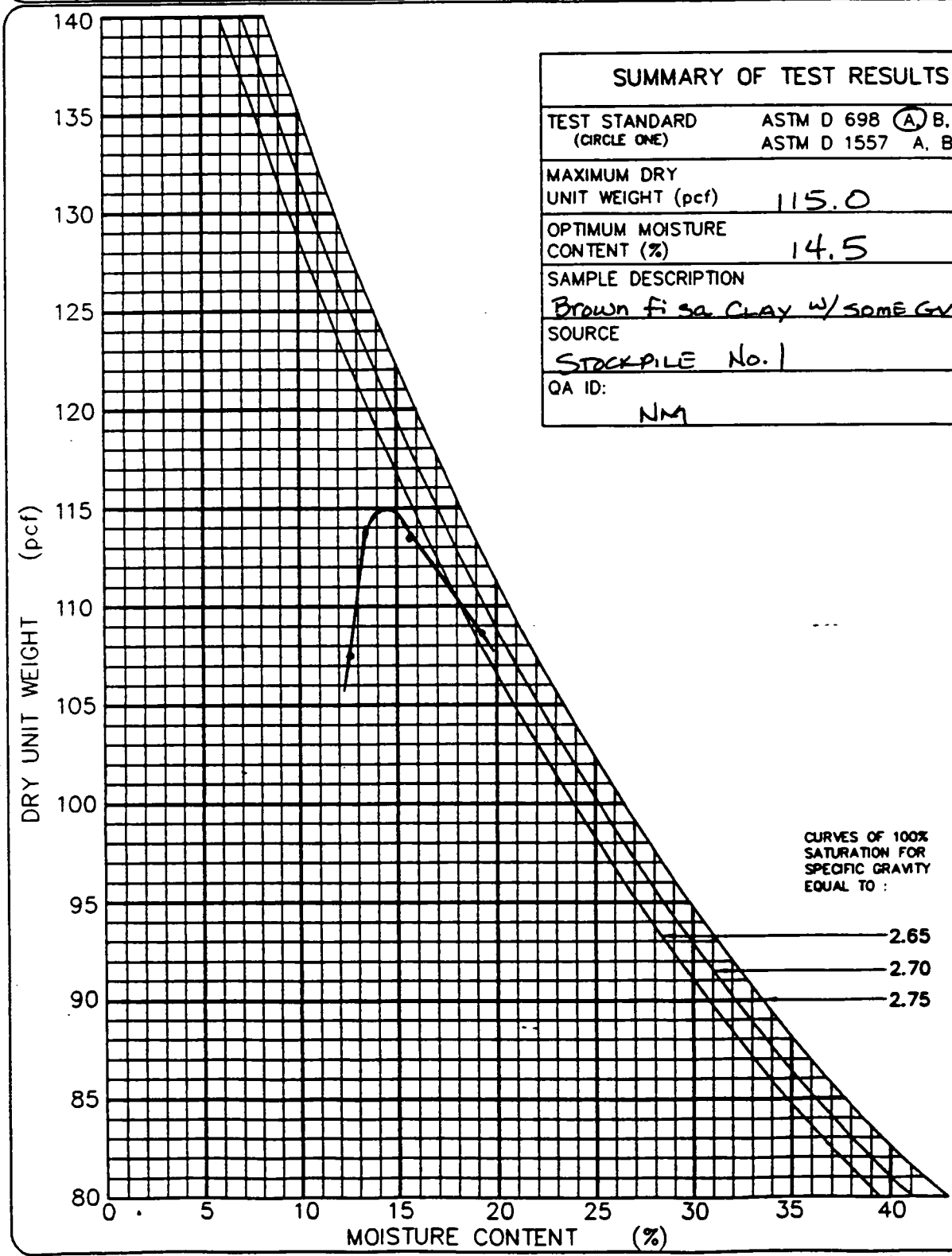
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 13 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-01



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)	115.0
OPTIMUM MOISTURE CONTENT (%)	14.5
SAMPLE DESCRIPTION	Brown fi sa CLAY w/ SOME GVL
SOURCE	STOCKPILE No. 1
QA ID:	NM

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LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 11 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-02

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: PKO

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. _____	5				
A	WT. OF TARE	7.5				
B	WT. OF WET SOIL & TARE	194.9				
C	WT. OF DRY SOIL & TARE	174.5				
D	WT. OF WATER = B-C	20.4				
E	WT. OF DRY SOIL = C-A	167.0				
F	MOISTURE CONTENT = (D/E) X 100	12.2 ✓				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	303.0				
C	WT. OF DRY SOIL & TARE	283.1				
D	WT. OF WATER = B-C	19.9				
E	WT. OF DRY SOIL = C-A	151.1				
F	MOISTURE CONTENT = (D/E) X 100	13.2 ✓				

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 11 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-02

SOIL SAMPLE SIZE > TOTAL SAMPLE WT = 26,513.2 gms
#4 SAMPLE WT = 1610.6 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		5	5
WT. OF DRY SAMPLE PLUS TARE	(grams)	174.5	62.0
WT. OF TARE	(grams)	7.5	7.5
WT. OF DRY SAMPLE	(grams)	167.0 ✓	54.5 ✓

SIEVE ANALYSIS QA ID: RL/PKO/KM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	100		100 ~~11/15~~ KW
1½"	37.5	111.3	0.4	99.6		
1"	25.0	605.8	2.3	97.7		
¾"	19.0	727.0	2.7	97.3		90-100
½"	12.5	1042.4	3.9	96.1		
3/8"	9.5	1190.8	4.5	95.5		
4	4.75	1540.4	5.8	94.2		
10	2.00	16.2	9.7	90.3	85.1	
20	0.850	23.6	14.1	85.9	80.9	
40	0.425	31.0	18.6	81.4	76.7 KW 9/24/97	
60	0.250	37.1	22.2	77.8	~~72.3~~	73.3
100	0.150	44.9	26.9	73.1	68.9	
200	0.075	54.3 ✓	32.5	67.5	63.6 ✓	50-100

%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.: GQ0166 TASK NO.: 04.1

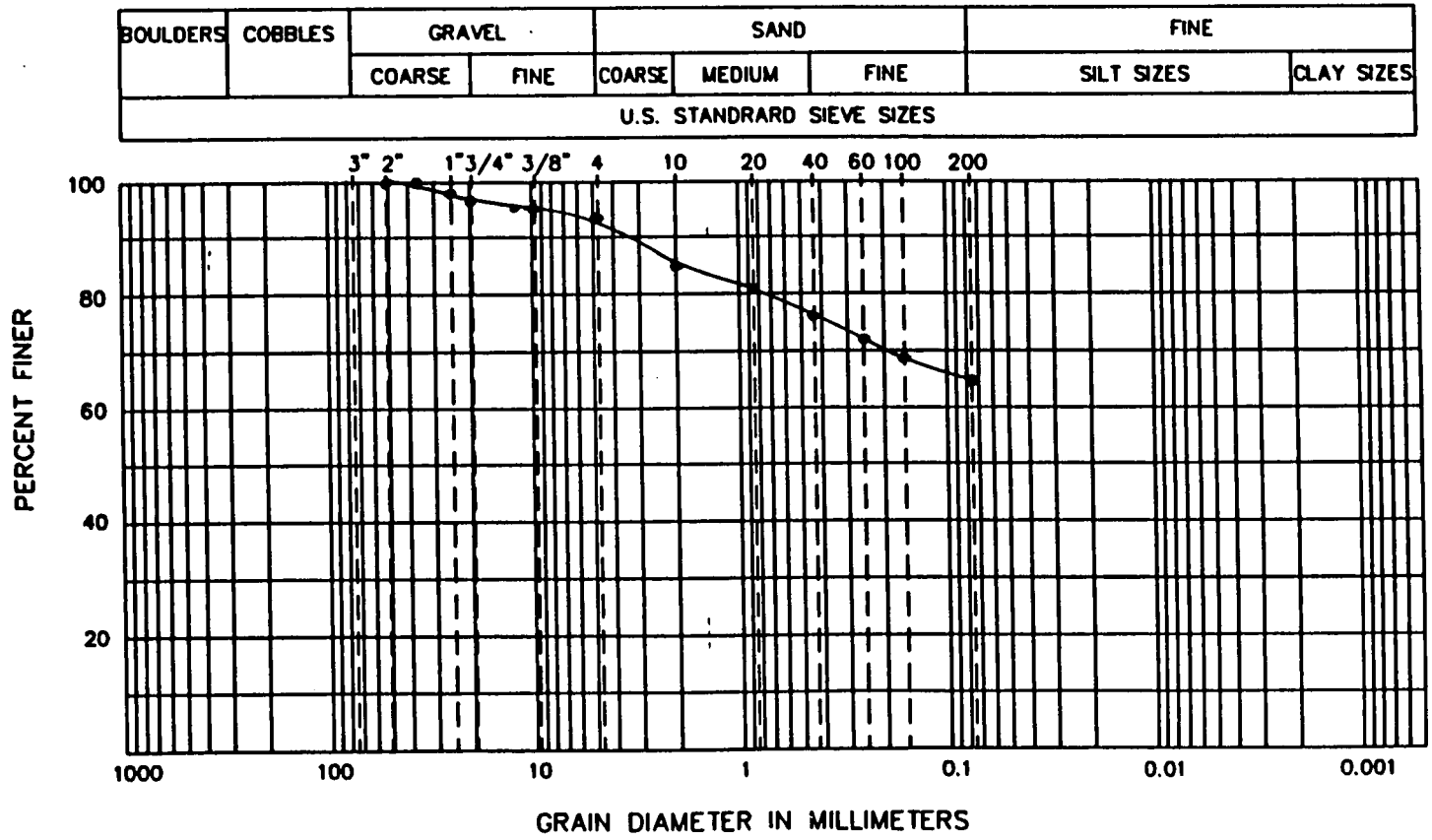
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 14 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER

SAMPLE NO.: LP-02 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 29

(PL) 17

(PI) 12

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	99.6
1-in.	97.7
3/4-in.	97.3
1/2-in.	96.1
3/8-in.	95.5
NO. 4	94.2
NO. 10	85.1
NO. 20	80.9
NO. 40	76.7
NO. 60	~~72.3~~ 73.3
NO. 100	68.9
NO. 200	63.6

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~
10/30/97	10/30/97

SOIL CLASSIFICATION (ASTM D 2487): BROWN Sandy LEAN CLAY (CL) w/ SOME GRAVEL

GEOSYNTEC CONSULTANTS FILE NO. 2-16-PSD

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SHEET NO. 2 OF 2

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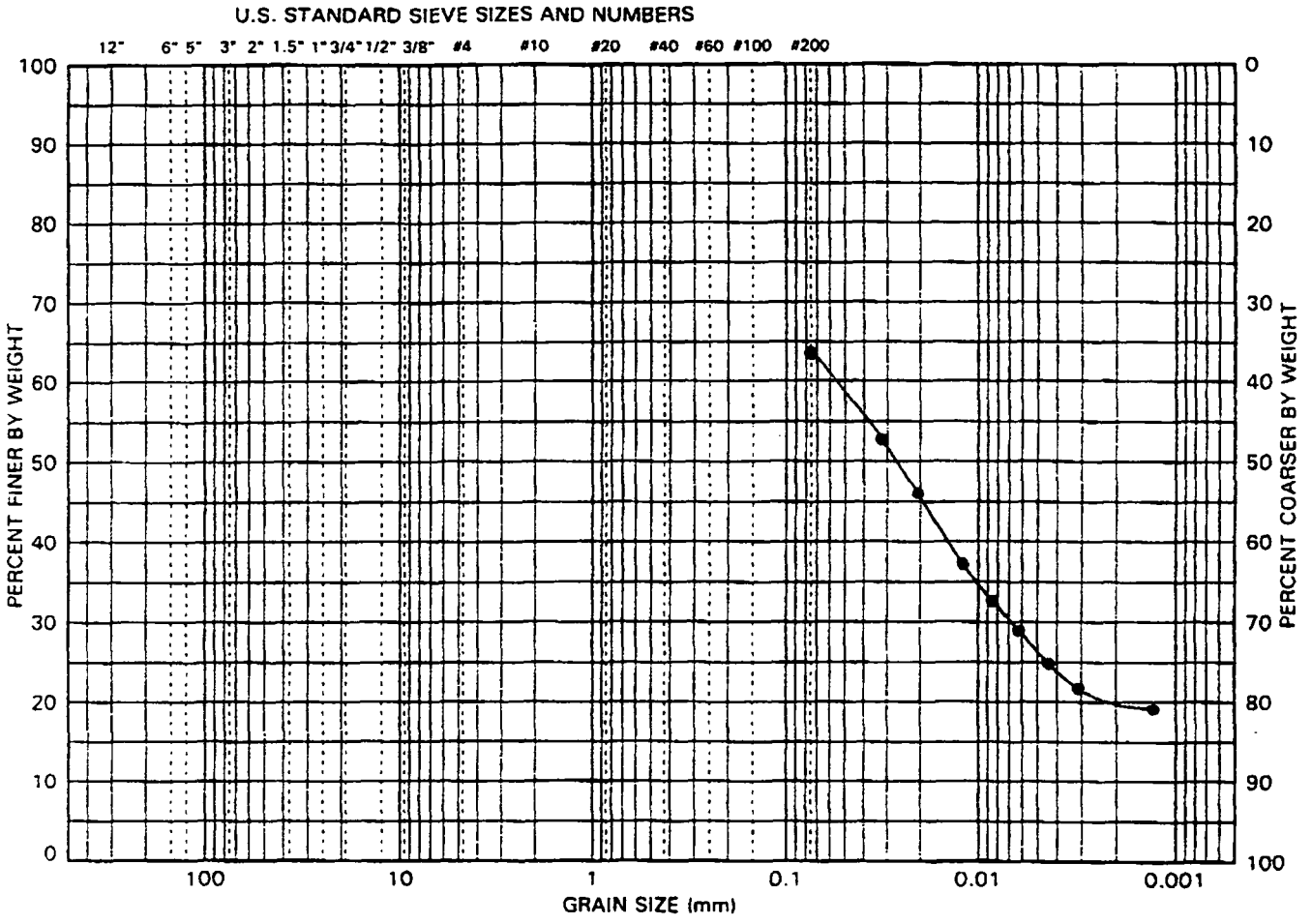
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/26/97

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-02	LIQUID LIMIT (%)	
LAB. SAMPLE NO.	97G62	PLASTIC LIMIT (%)	
SAMPLE DEPTH (ft)		PLASTICITY INDEX	
SOIL CLASSIFICATION:			

SOIL FRACTIONS

GRAVEL (%)	
SAND (%)	
FINES (%)	
SILT (%)	
CLAY(%)	20.4
COEFF. UNIFORMITY (Cu)	
COEFF. CURVATURE (Cc)	

RECEIVED JUL 28 1997

PERCENT PASSING U.S. STANDARD SIEVE SIZES AND NUMBERS

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

PERCENT FINER THAN HYDROMETER PARTICLE DIAMETER (mm)

0.050	0.020	0.005	0.002	0.001
	45	26	20	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE 1 CONSTRUCTION DATE: 13 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-02

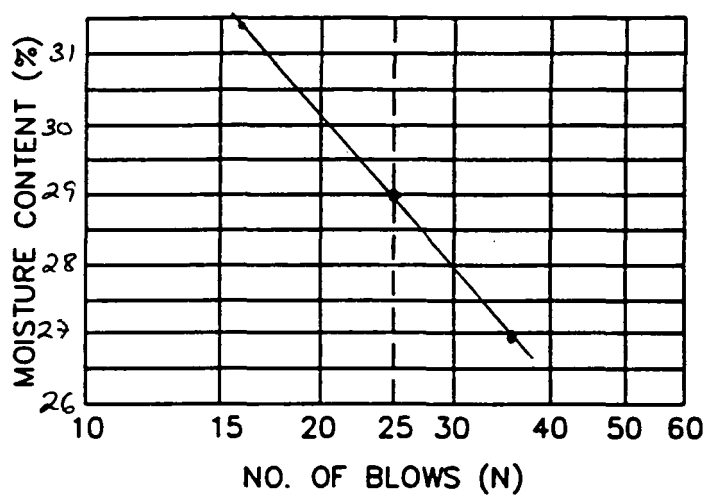
LIQUID LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1.6	1.7	1.8	
A	WT. OF TARE	(grams)	28.87	28.49	28.81	
B	WT. OF WET SOIL & TARE	(grams)	43.29	43.25	42.40	
C	WT. OF DRY SOIL & TARE	(grams)	40.23	39.93	39.15	
D	WT. OF WATER = B-C	(grams)	3.06	3.32	3.25	
E	WT. OF DRY SOIL = C-A	(grams)	11.36	11.44	10.34	
F	MOISTURE CONTENT = (D/E)X100	(%)	26.9 ✓	29.0 ✓	31.4 ✓	
N	NUMBER OF BLOWS		36	25	16	

DRYING TARE NO.

D



CURING TARE NO.

2-B

GL

PLASTIC LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1.9	2.1		
A	WT. OF TARE	(grams)	28.56	28.24		
B	WT. OF WET SOIL & TARE	(grams)	42.20	41.20		
C	WT. OF DRY SOIL & TARE	(grams)	40.28	39.35		
D	WT. OF WATER = B-C	(grams)	1.92	1.85		
E	WT. OF DRY SOIL = C-A	(grams)	11.72	~~11.11~~ KEM ~~KS~~ 7/14/97		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.4 ✓	16.6 ✓		

LIQUID LIMIT (LL) = 29 PLASTIC LIMIT (PL) = 17 PLASTICITY INDEX (PI) = 12

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION

DATE: 12 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER

SAMPLE NO.: LP-02

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: PKO

	WATER ADDED	(ml)	150	200	250	100	
A	WT. OF SOIL & MOLD	(grams)	4059.7	4091.5	4041.6	3987.6	
B	WT. OF MOLD	(grams)	2047.3	2047.3	2047.3	2047.3	
C	WT. OF SOIL = A - B	(grams)	2012.4	2044.2	1994.3	1940.3	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	132.8	134.9	131.6	128.1	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	118.7 ✓	117.8 ✓	112.6 ✓	115.4 ✓	

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: PKO

	TARE NO.		9	12	11	7	
F	WT. OF TARE	(grams)	7.2	7.2	7.4	7.2	
G	WT. OF WET SOIL & TARE	(grams)	351.1	339.0	347.7	243.0	
H	WT. OF DRY SOIL & TARE	(grams)	314.6	297.1	298.6	219.7	
I	WT. OF WATER = G - H	(grams)	36.5	41.9	49.1	23.3	
J	WT. DRY SOIL = H - F	(grams)	307.4	289.9	291.2	212.5	
K	MOISTURE CONTENT = (I/J) X 100	(%)	11.9 ✓	14.5 ✓	16.9 ✓	11.0 ✓	

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GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC

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SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

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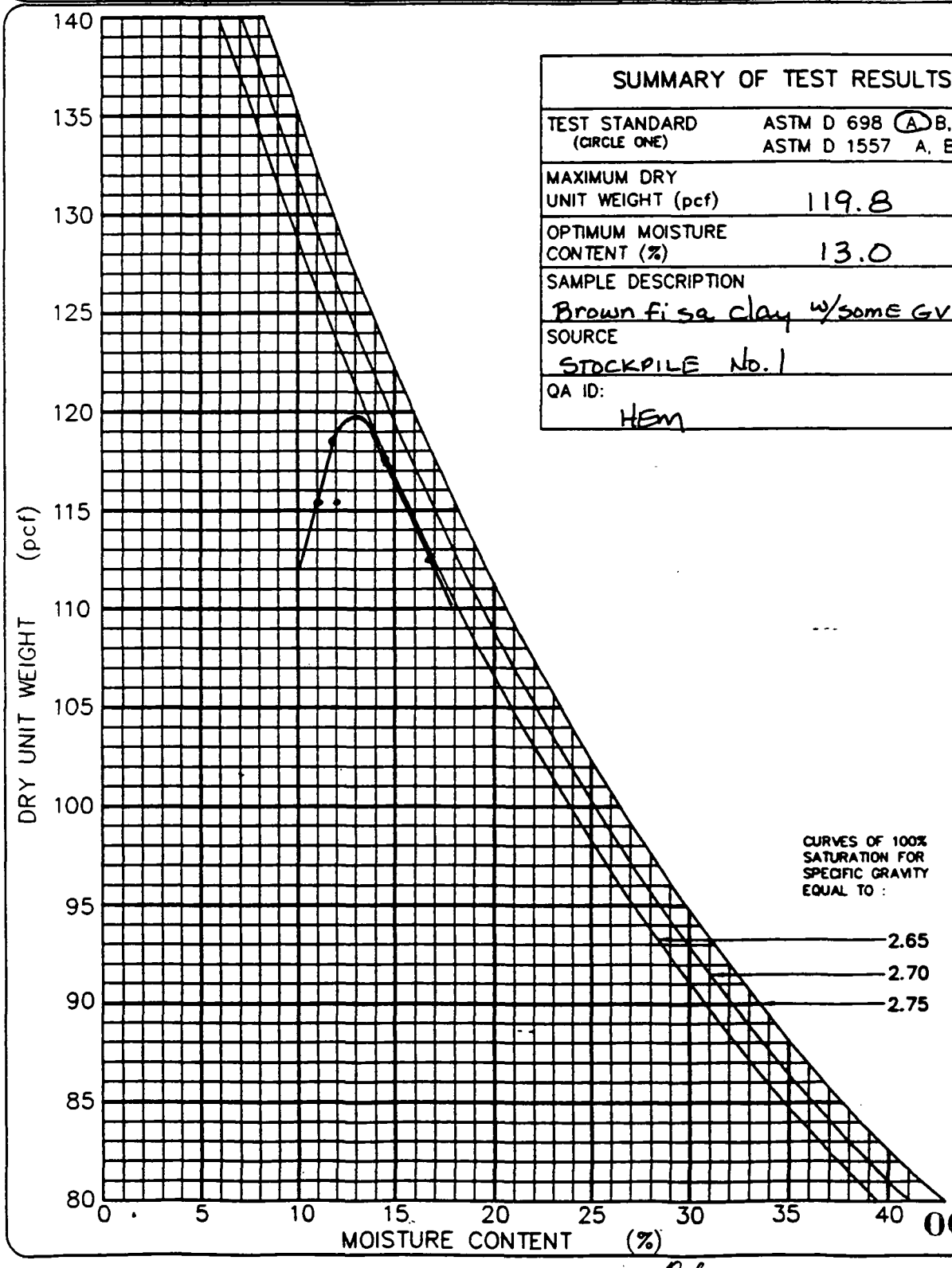
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 13 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-02



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)	119.8
OPTIMUM MOISTURE CONTENT (%)	13.0
SAMPLE DESCRIPTION	Brown fi sa clay w/some GVL
SOURCE	STOCKPILE No. 1
QA ID:	HEM

000589

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 11 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-03

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	15				
A	WT. OF TARE	7.6				
B	WT. OF WET SOIL & TARE	198.7				
C	WT. OF DRY SOIL & TARE	177.7				
D	WT. OF WATER = B-C	21.0				
E	WT. OF DRY SOIL = C-A	170.1				
F	MOISTURE CONTENT = (D/E) X 100	12.4				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	341.5				
C	WT. OF DRY SOIL & TARE	317.7				
D	WT. OF WATER = B-C	23.8				
E	WT. OF DRY SOIL = C-A	185.7				
F	MOISTURE CONTENT = (D/E) X 100	12.8				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I Construction DATE: 12 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-03

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 21,141.5 > #4 SAMPLE WT = 3369.0

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		15	15
WT. OF DRY SAMPLE PLUS TARE	(grams)	177.7	71.0
WT. OF TARE	(grams)	7.6	7.6
WT. OF DRY SAMPLE	(grams)	170.1 ✓	63.4 ✓

SIEVE ANALYSIS QA ID: PLD/NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	100		100 ~~N/A~~ Ken
1½"	37.5	155.5	0.7	99.3		
1"	25.0	739.2	3.5	96.5		
¾"	19.0	1030.2	4.9	95.1		90-100
½"	12.5	1480.1	7.0	93.0		
3/8"	9.5	1826.0	8.6	91.4		
4	4.75	3198.6	15.1	84.9		
10	2.00	20.7	12.2	87.8	74.5	
20	0.850	29.3	17.2	82.8	70.3	
40	0.425	37.1	21.8	78.2	66.4	
60	0.250	44.0	25.9	74.1	62.9	
100	0.150	52.5	30.9	69.1	58.7	
200	0.075	62.5 ✓	36.7	63.3	53.7 ✓	59-100

%FINER = 100 − Σ% RETAINED

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PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

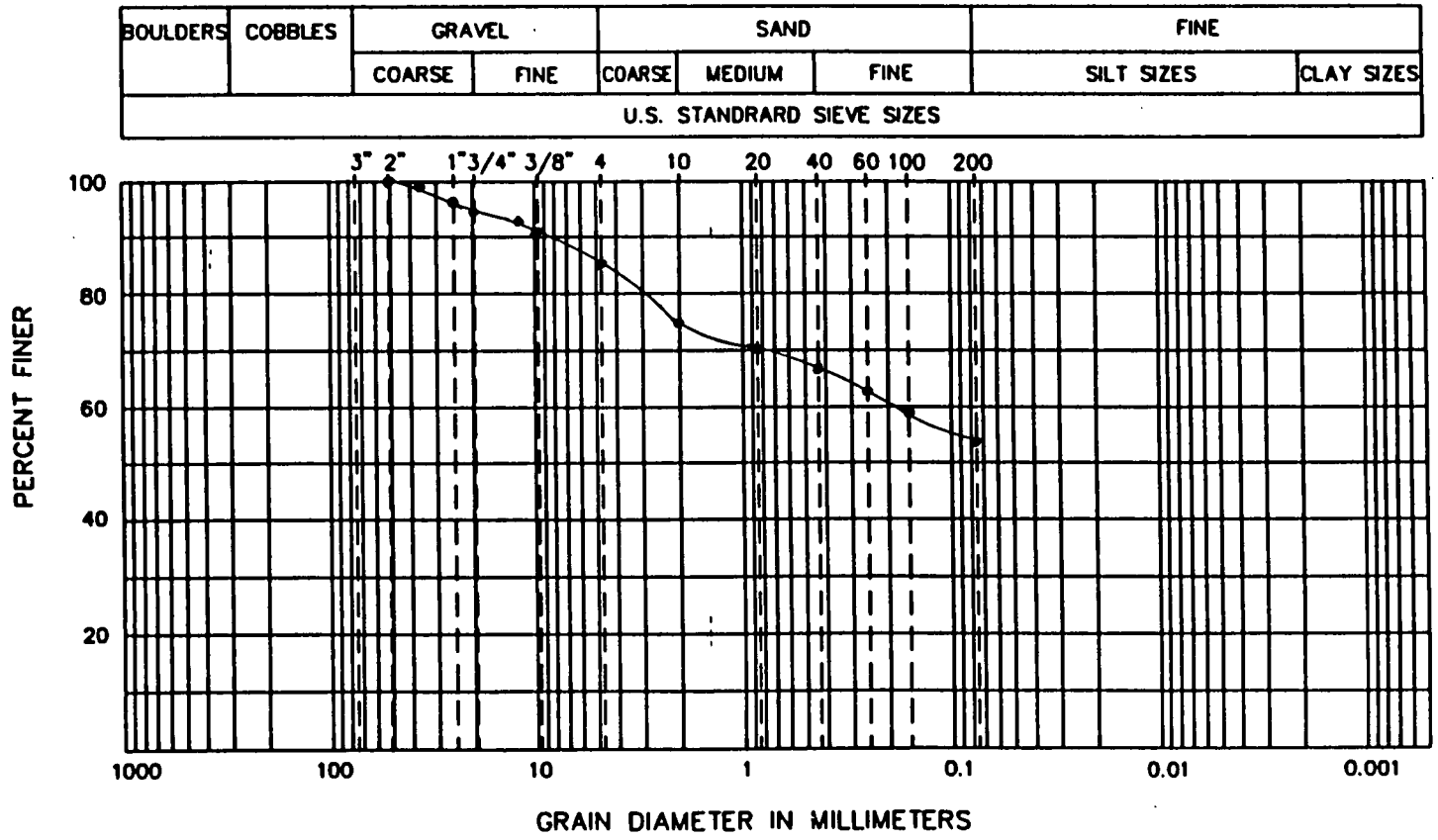
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 14 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER — SAMPLE NO.: LP-03 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 28

(PL) 15

(PI) 13

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	99.3
1-in.	96.5
3/4-in.	95.1
1/2-in.	93.0
3/8-in.	91.4
NO. 4	84.9
NO. 10	74.5
NO. 20	70.3
NO. 40	66.4
NO. 60	62.9
NO. 100	58.7
NO. 200	53.7

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~ 1/23/97	~~N/A~~ 1/23/97

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GRAVEL

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Atlanta, Georgia

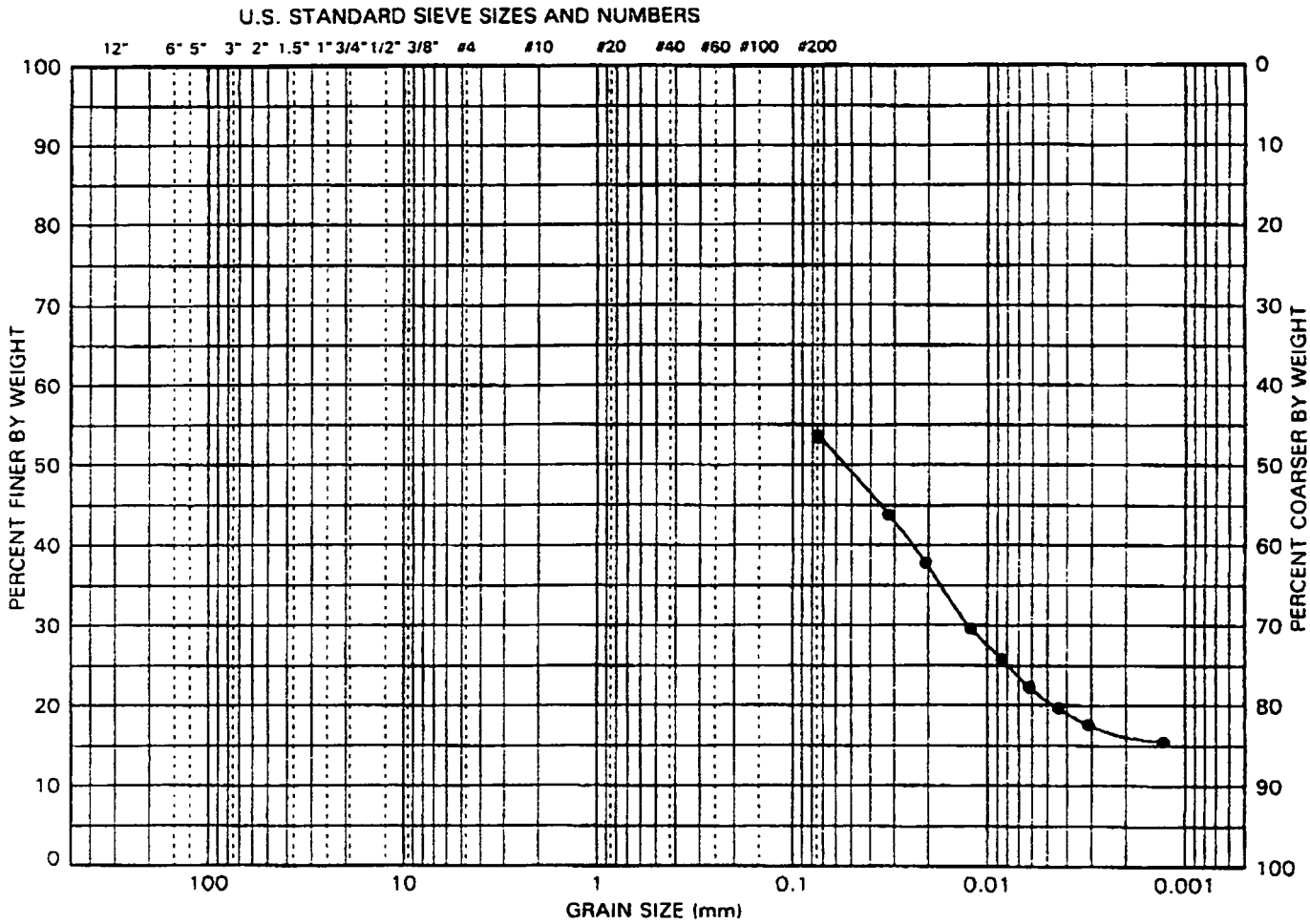
FIGURE

PROJECT: FDF-OSDF-
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/26/97

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-03	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G66	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				CLAY(%) 16.5
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

RECEIVED JUL 28 1997

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
															37	21	17	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE 1 CONSTRUCTION DATE: 13 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-03

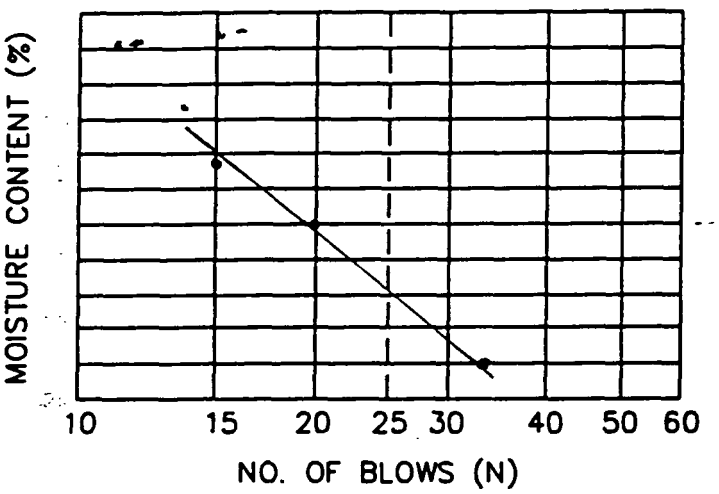
LIQUID LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		2.2	2.3	2.4	
A	WT. OF TARE	(grams)	27.63	31.20	27.39	
B	WT. OF WET SOIL & TARE	(grams)	42.29	48.01	41.77	
C	WT. OF DRY SOIL & TARE	(grams)	39.22	44.28	38.50	
D	WT. OF WATER = B-C	(grams)	3.07	3.73	3.27	
E	WT. OF DRY SOIL = C-A	(grams)	11.59	13.08	11.11	
F	MOISTURE CONTENT = (D/E)X100	(%)	26.5	28.5	29.4	
N	NUMBER OF BLOWS		33	20	15	

DRYING TARE NO.

A



CURING TARE NO.

1-C

CL

PLASTIC LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		2.5	2.6		
A	WT. OF TARE	(grams)	28.42	28.55		
B	WT. OF WET SOIL & TARE	(grams)	39.86	40.42		
C	WT. OF DRY SOIL & TARE	(grams)	38.39	38.88		
D	WT. OF WATER = B-C	(grams)	1.47	1.54		
E	WT. OF DRY SOIL = C-A	(grams)	9.97	10.33		
F	MOISTURE CONTENT = (D/E)X100	(%)	14.7	14.9		

LIQUID LIMIT (LL) = 28 PLASTIC LIMIT (PL) = 15 PLASTICITY INDEX (PI) = 13

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 13 day 7 month 97 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-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: SQ.

	WATER ADDED	(ml)	150	200	100	50	
A	WT. OF SOIL & MOLD	(grams)	4132.3	4091.5	4123.2	4009.6	
B	WT. OF MOLD	(grams)	2047.3	2047.3	2047.3	2047.3	
C	WT. OF SOIL = A - B	(grams)	2085.0	2044.2	2075.9	1962.3	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	137.6	134.9	137.0	129.5	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	121.6	117.6	123.7	119.5	

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: S.Q.

	TARE NO.		3	6	2	13	
F	WT. OF TARE	(grams)	7.6	7.6	7.6	7.6	
G	WT. OF WET SOIL & TARE	(grams)	226.0	211.9	214.2	243.5	
H	WT. OF DRY SOIL & TARE	(grams)	200.6	185.7	194.1	225.3	
I	WT. OF WATER = G - H	(grams)	25.4	26.2	20.1	18.2	
J	WT. DRY SOIL = H - F	(grams)	193.0	178.1	186.5	217.7	
K	MOISTURE CONTENT = (I/J) X 100	(%)	13.2 ✓	14.7 ✓	10.8 ✓	8.4 ✓	

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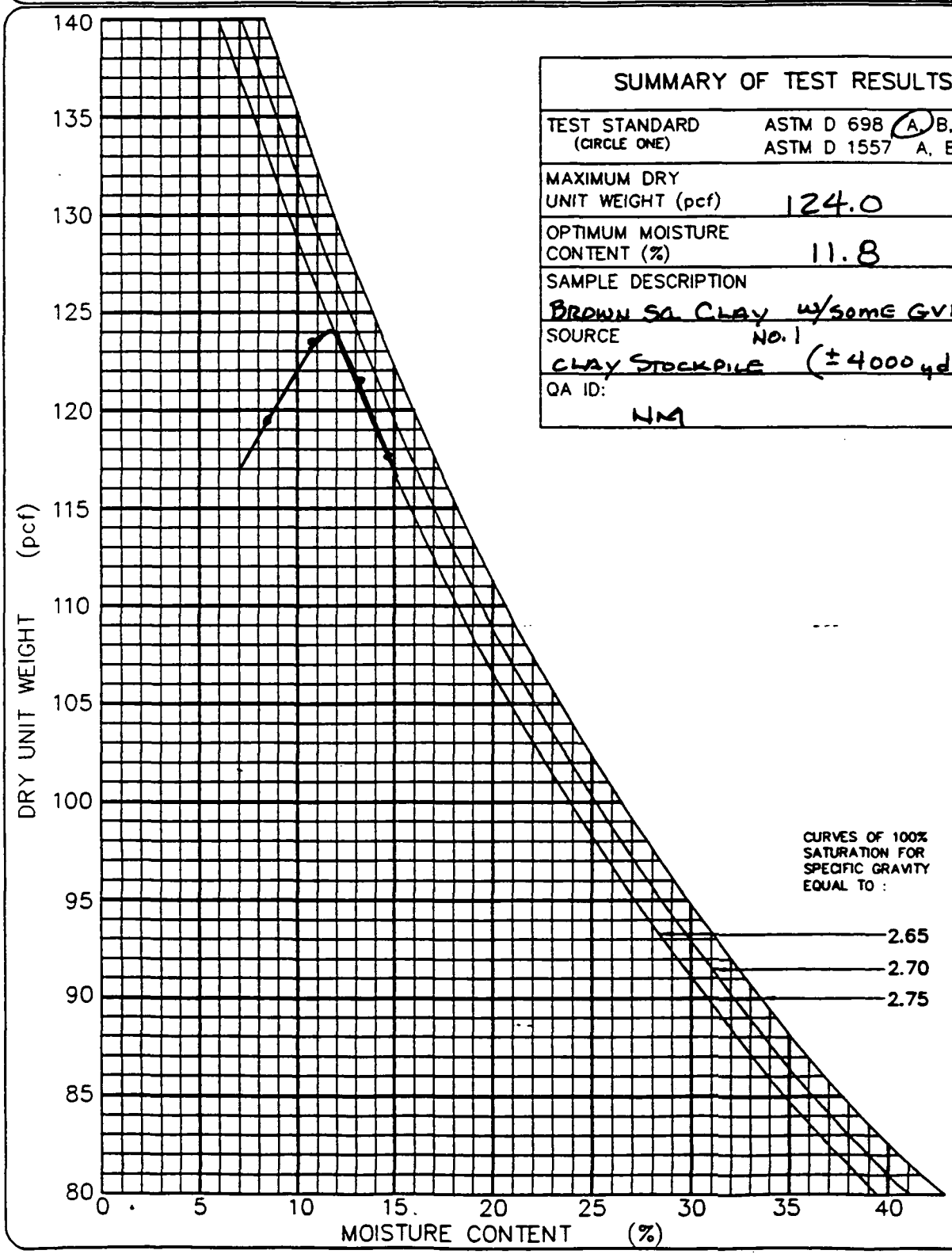
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 14 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-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)	124.0
OPTIMUM MOISTURE CONTENT (%)	11.8
SAMPLE DESCRIPTION	BROWN SA CLAY W/SOME GVL
SOURCE	NO. 1 CLAY STOCKPILE (±4000 yd³)
QA ID:	NM

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE I Construction DATE: 12 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-04

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	24				
A	WT. OF TARE	8.3				
B	WT. OF WET SOIL & TARE	199.6				
C	WT. OF DRY SOIL & TARE	177.43				
D	WT. OF WATER = B-C	22.2				
E	WT. OF DRY SOIL = C-A	169.1				
F	MOISTURE CONTENT = (D/E) X 100	13.1				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	321.6				
C	WT. OF DRY SOIL & TARE	299.4				
D	WT. OF WATER = B-C	22.2				
E	WT. OF DRY SOIL = C-A	167.4				
F	MOISTURE CONTENT = (D/E) X 100	13.3				

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04

DESCRIPTION: PHASE I Construction DATE: 14 day JULY month 1997 year

MATERIAL TYPE: Low Perm Clay liner SAMPLE NO.: LP-04

SOIL SAMPLE SIZE TOTAL Samp. wt. 24,096.2 gms
>#4 Samp wt. 1,115.9 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		24	24
WT. OF DRY SAMPLE PLUS TARE	(grams)	177.43	66.5
WT. OF TARE	(grams)	8.3	8.3
WT. OF DRY SAMPLE	(grams)	169.1 ✓	58.2 ✓

SIEVE ANALYSIS QA ID: PLO/NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	0	100.0		100
1½"	37.5	52.7	0.2	99.8		
1"	25.0	236.2	1.0	99.0		
¾"	19.0	461.2	1.9	98.1		90-100
½"	12.5	682.5	2.8	97.2		
3/8"	9.5	810.4	3.4	96.6		
#4	4.75	1077.8	4.5	95.5		
10	2.00	18.9	11.2	88.8	84.8	
20	0.850	26.5	@ 8/20/97 ~~15.6~~ 15.7	84.3 ~~84.4~~	@ 8/20/97 ~~80.6~~	80.5
40	0.425	34.0	20.1	79.9	76.3	
60	0.250	40.4	23.9	76.1	72.7	
100	0.150	48.4	28.6	71.4	68.2	
200	0.075	57.7 ✓	34.1	65.9	62.9 ✓	50-100

%FINER = 100 − Σ% RETAINED

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PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

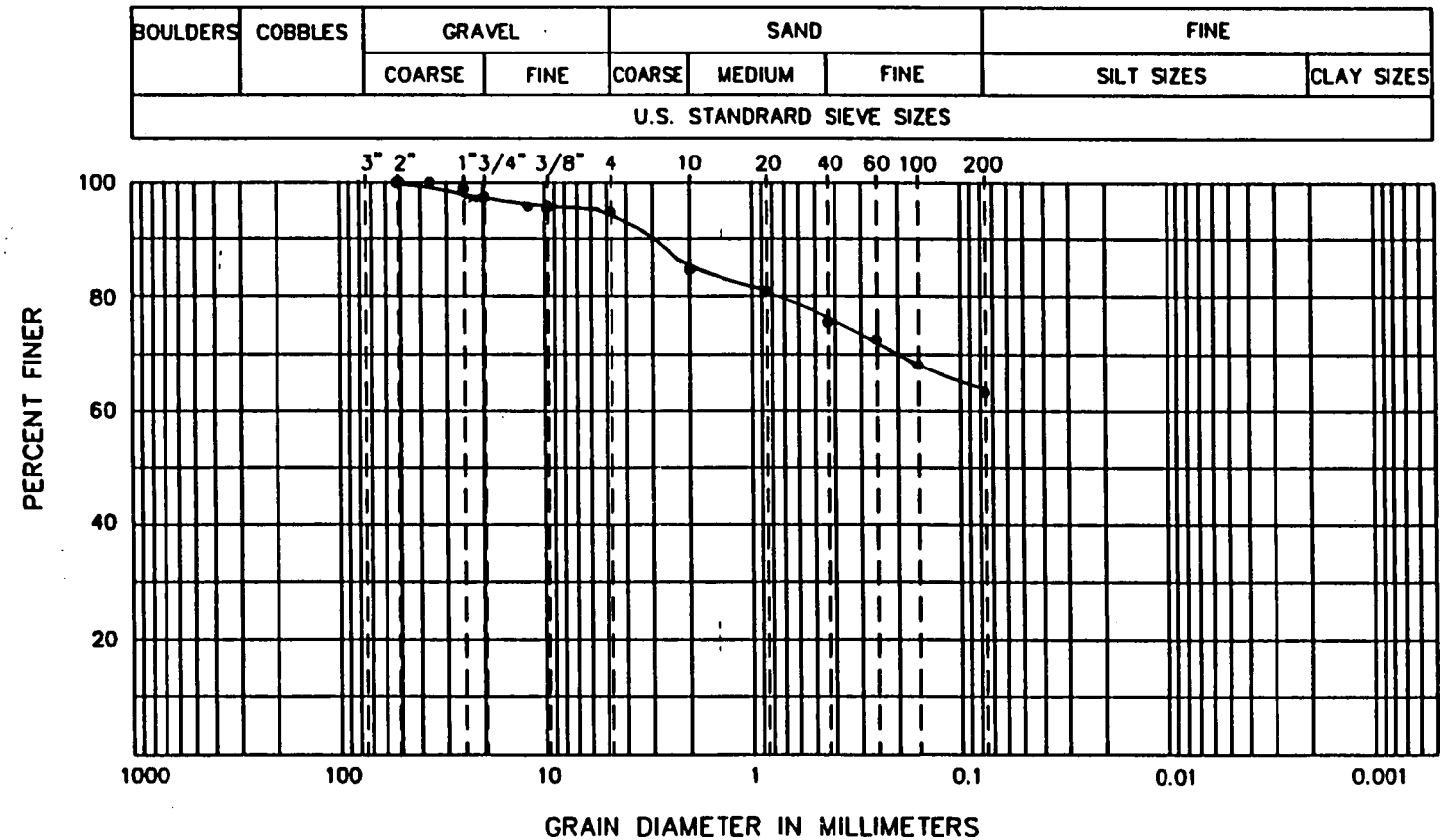
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 17 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-04 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 25

(PL) 15

(PI) 10

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	99.8
1-in.	99.0
3/4-in.	98.1
1/2-in.	97.2
3/8-in.	96.6
NO. 4	95.5
NO. 10	84.8
NO. 20	80.6
NO. 40	76.3
NO. 60	72.7
NO. 100	68.2
NO. 200	62.9

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/SOME GRAVEL

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SHEET NO. 2 OF 2

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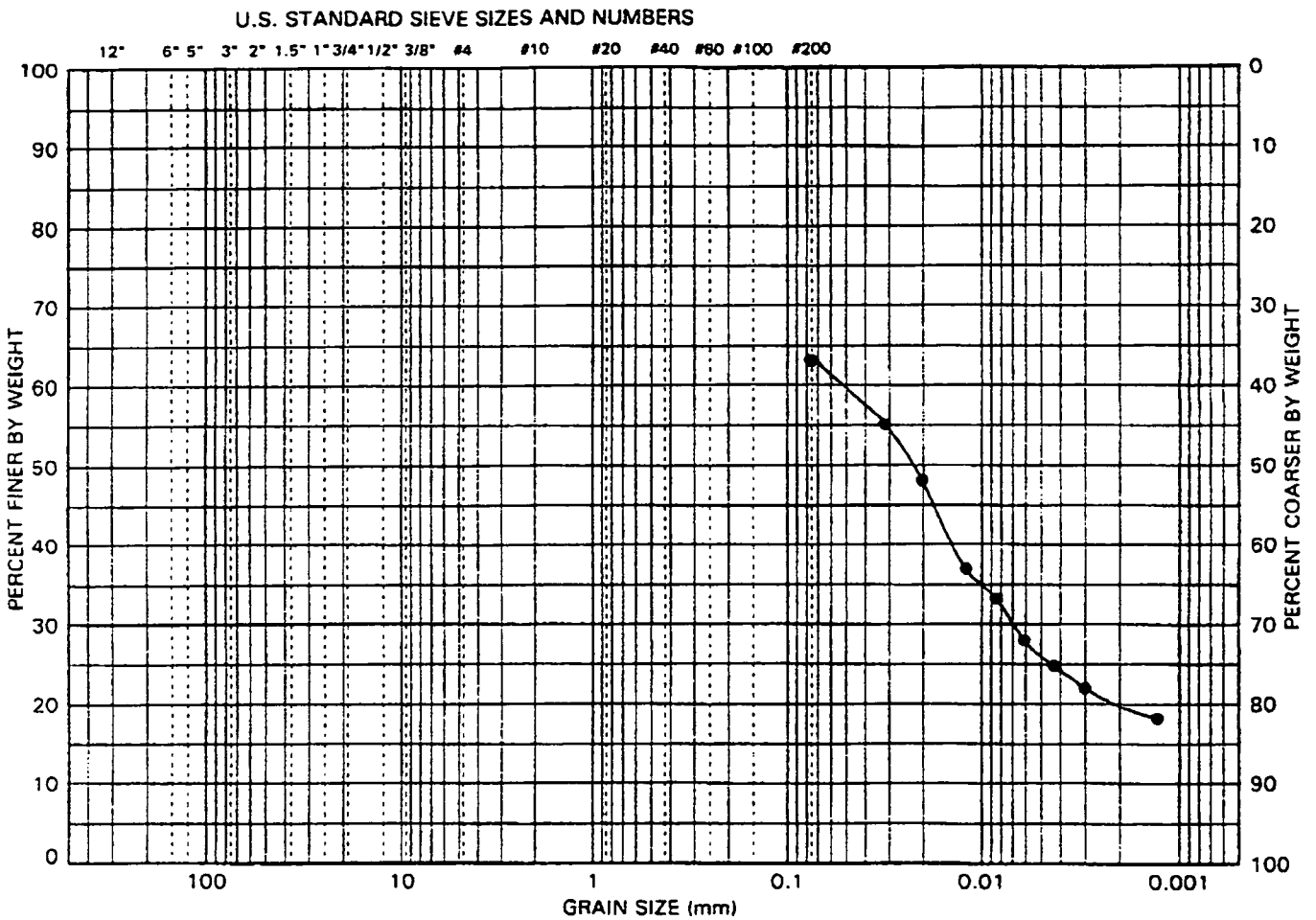
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/26/97

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-04	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G67	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				CLAY(%) 20.2
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

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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
															48	26	20	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 15 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-04

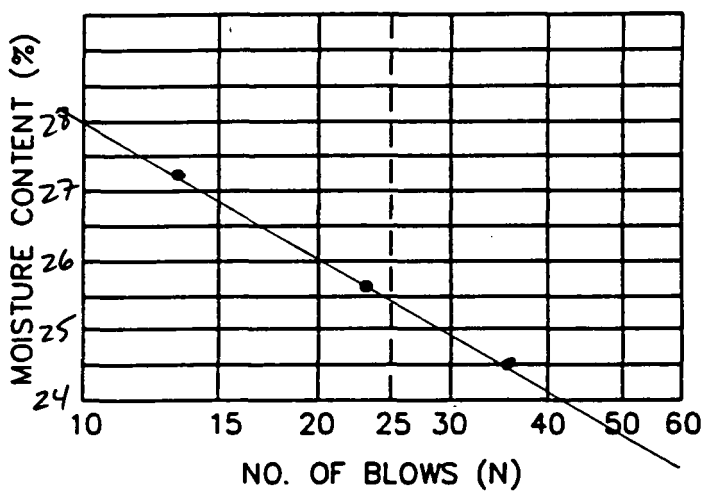
7/16/97

LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.6	1.7	1.8	
A	WT. OF TARE	(grams)	28.87	28.49	28.81	
B	WT. OF WET SOIL & TARE	(grams)	40.34	38.69	41.36	
C	WT. OF DRY SOIL & TARE	(grams)	38.08	36.61	38.68	
D	WT. OF WATER = B-C	(grams)	2.26	2.08	2.68	
E	WT. OF DRY SOIL = C-A	(grams)	9.21	8.12	9.87	
F	MOISTURE CONTENT = (D/E)X100	(%)	24.5 ✓	25.6 ✓	27.2 ✓	
N	NUMBER OF BLOWS		36	23	13	

DRYING TARE NO.



CURING TARE NO.

1-C

CL

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.4	1.9		
A	WT. OF TARE	(grams)	27.39	28.56		
B	WT. OF WET SOIL & TARE	(grams)	39.84	43.75		
C	WT. OF DRY SOIL & TARE	(grams)	38.19	41.79		
D	WT. OF WATER = B-C	(grams)	1.65	1.96		
E	WT. OF DRY SOIL = C-A	(grams)	10.80	13.23		
F	MOISTURE CONTENT = (D/E)X100	(%)	15.3 ✓	14.8 ✓		

LIQUID LIMIT (LL) = 25 PLASTIC LIMIT (PL) = 15 PLASTICITY INDEX (PI) = 10

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FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 13 day July month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER — SAMPLE NO.: LP-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: NM

	WATER ADDED	(ml)	150	200mL	250	300	
A	WT. OF SOIL & MOLD	(grams)	3923.6	4073.3	4109.6	4073.3	
B	WT. OF MOLD	(grams)	2047.3	2047.3	2047.3	2047.3	
C	WT. OF SOIL = A - B	(grams)	1876.3	2026.0	2062.3	2026.0	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	123.8	133.7	136.1	133.7	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	112.4 ✓	119.5 ✓	119.5 ✓	115.7 ✓	

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: NM

	TARE NO.		34	31	32	33	
F	WT. OF TARE	(grams)	8.3	8.3	8.3	8.3	
G	WT. OF WET SOIL & TARE	(grams)	250.6	226.8	213.7	220.4	
H	WT. OF DRY SOIL & TARE	(grams)	228.3	203.6	188.2	191.8	
I	WT. OF WATER = G - H	(grams)	22.3	23.2	25.0	28.6	
J	WT. DRY SOIL = H - F	(grams)	220.0	195.3	180.4	183.5	
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.1 ✓	11.9 ✓	13.9 ✓	15.6 ✓	

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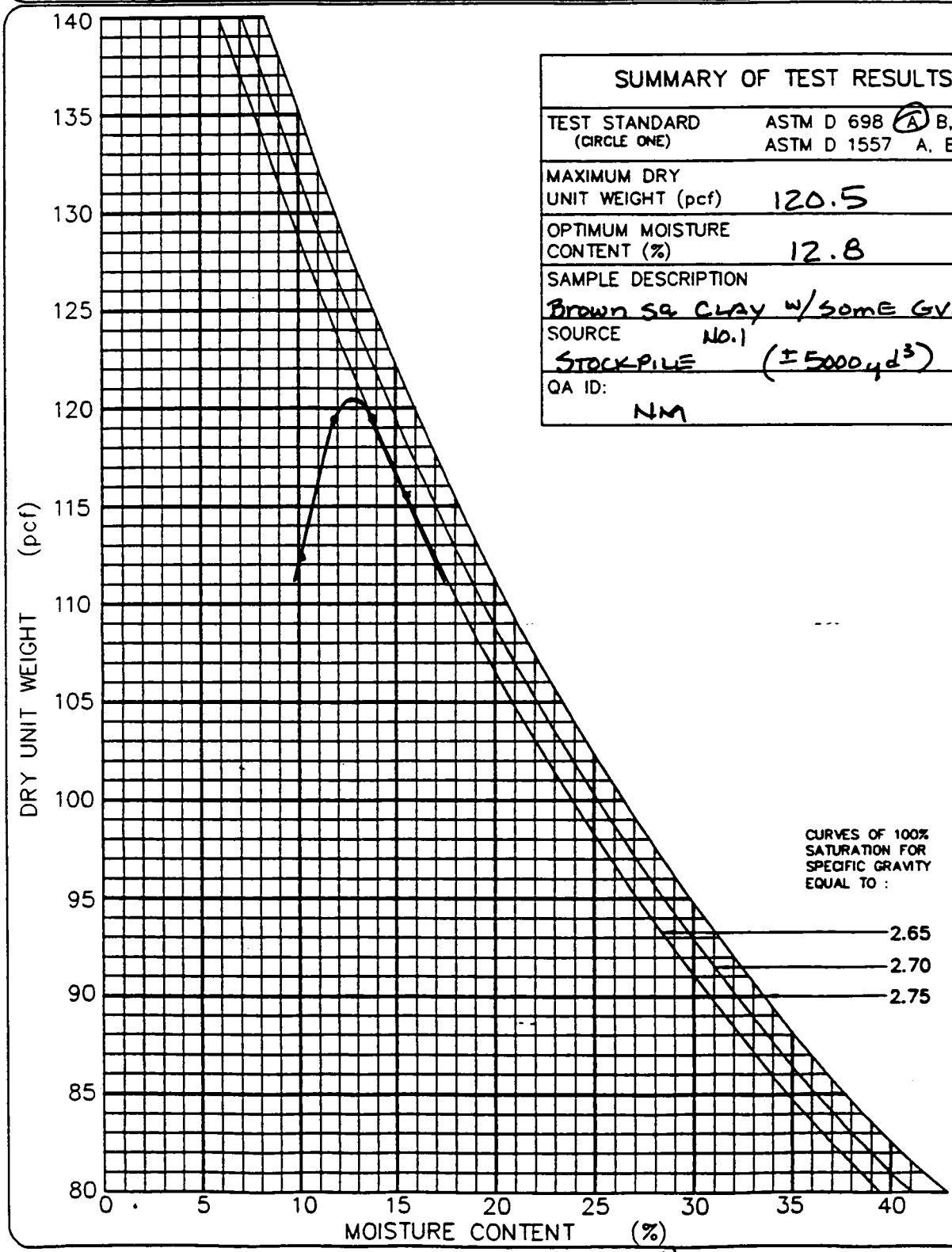
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 14 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-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)	120.5
OPTIMUM MOISTURE CONTENT (%)	12.8
SAMPLE DESCRIPTION	Brown SA CLAY w/SOME GVL.
SOURCE	NO.1 STOCKPILE (±5000 yd³)
QA ID:	NM

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LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 12 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-05

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	29				
A	WT. OF TARE	8.21				
B	WT. OF WET SOIL & TARE	190.7				
C	WT. OF DRY SOIL & TARE	169.8				
D	WT. OF WATER = B-C	20.9				
E	WT. OF DRY SOIL = C-A	161.6				
F	MOISTURE CONTENT = (D/E) X 100	12.9				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	303.5				
C	WT. OF DRY SOIL & TARE	283.5				
D	WT. OF WATER = B-C	20.0				
E	WT. OF DRY SOIL = C-A	151.5				
F	MOISTURE CONTENT = (D/E) X 100	13.2				

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 13 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-05

SOIL SAMPLE SIZE 21,591.4 gms - TOTAL SAMP >#4 SAMP WT. 3583.4

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		29	29
WT. OF DRY SAMPLE PLUS TARE	(grams)	169.8	63.3
WT. OF TARE	(grams)	8.2	8.2
WT. OF DRY SAMPLE	(grams)	161.6 ✓	55.1 ✓

SIEVE ANALYSIS QA ID: NM/DKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
3"	75.0	0	0	100.0		100
2"	50.0	680.4	3.2	96.5		
1½"	37.5	1043.3	4.8	95.2		
1"	25.0	1406.2	6.5	93.5		
¾"	19.0	1633.0	7.6	92.4		90-100
½"	12.5	1950.5	9.0	91.0		
⅜"	9.5	2268.0	10.5	89.5		
4	4.75	3583.4	16.6	83.4		
10	2.00	19.5	12.1	87.9	73.3	
20	0.850	26.3	16.3	83.7	69.8	
40	0.425	32.7	20.2	79.8	66.6	
60	0.250	38.4	23.8	76.2	63.6	
100	0.150	45.4	28.1	71.9	60.0	
200	0.075	54.2 ✓	33.5	66.5	55.5	50-100

%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.: GQ0166 TASK NO.: 04.1

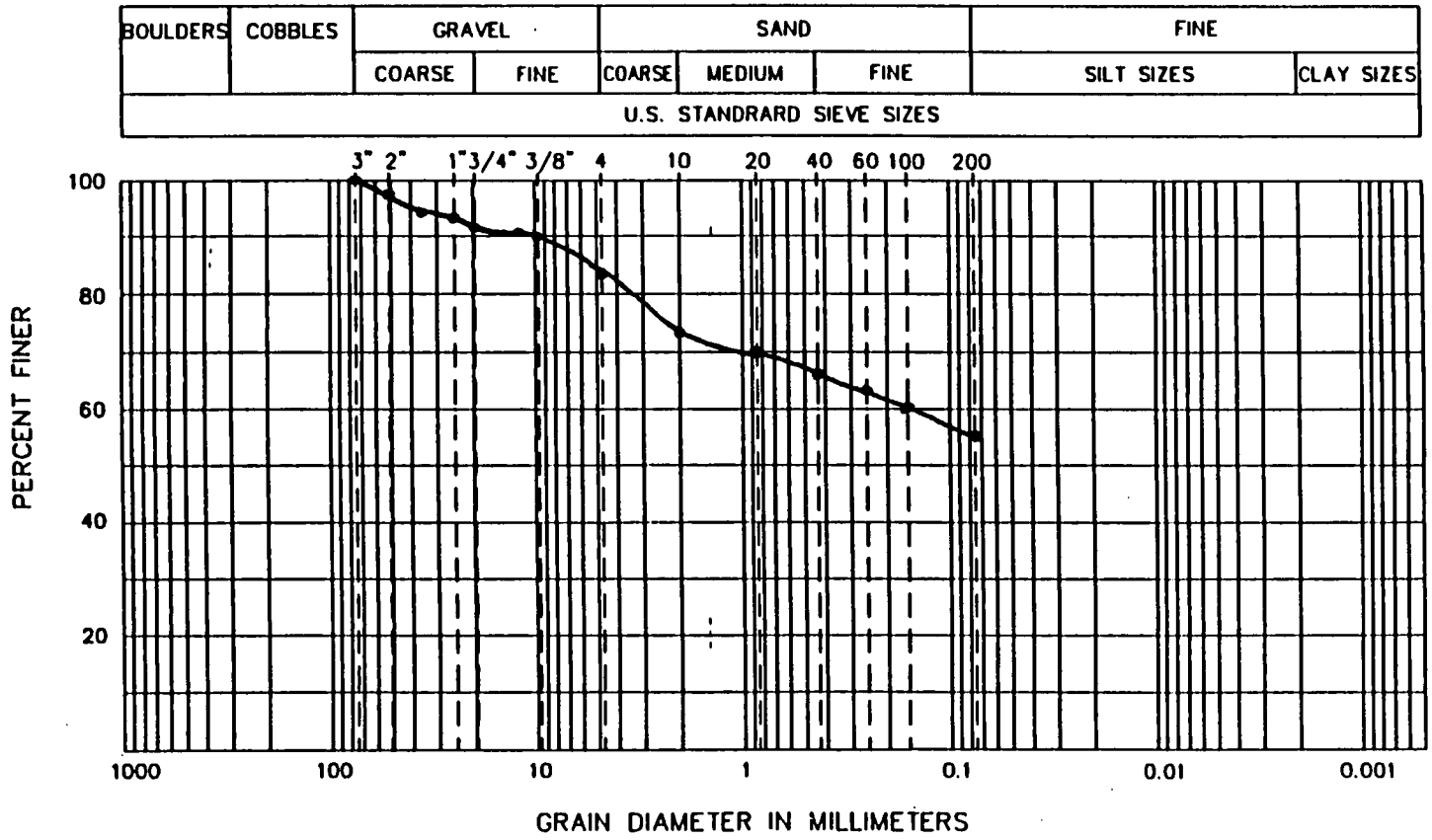
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 17 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-05 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 27

(PL) 17

(PI) 10

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	96.8
1 1/2-in.	95.2
1-in.	93.5
3/4-in.	92.4
1/2-in.	91.0
3/8-in.	89.5
NO. 4	83.4
NO. 10	73.3
NO. 20	69.8
NO. 40	66.6
NO. 60	63.6
NO. 100	60.0
NO. 200	55.5

HYDROMETER RESULTS

PARTICLE DIA.	% FINER

SOIL CLASSIFICATION (ASTM D 2487): BROWN Sandy LEAN CLAY (CL) w/SOME GVL

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SHEET NO. 2 OF 2

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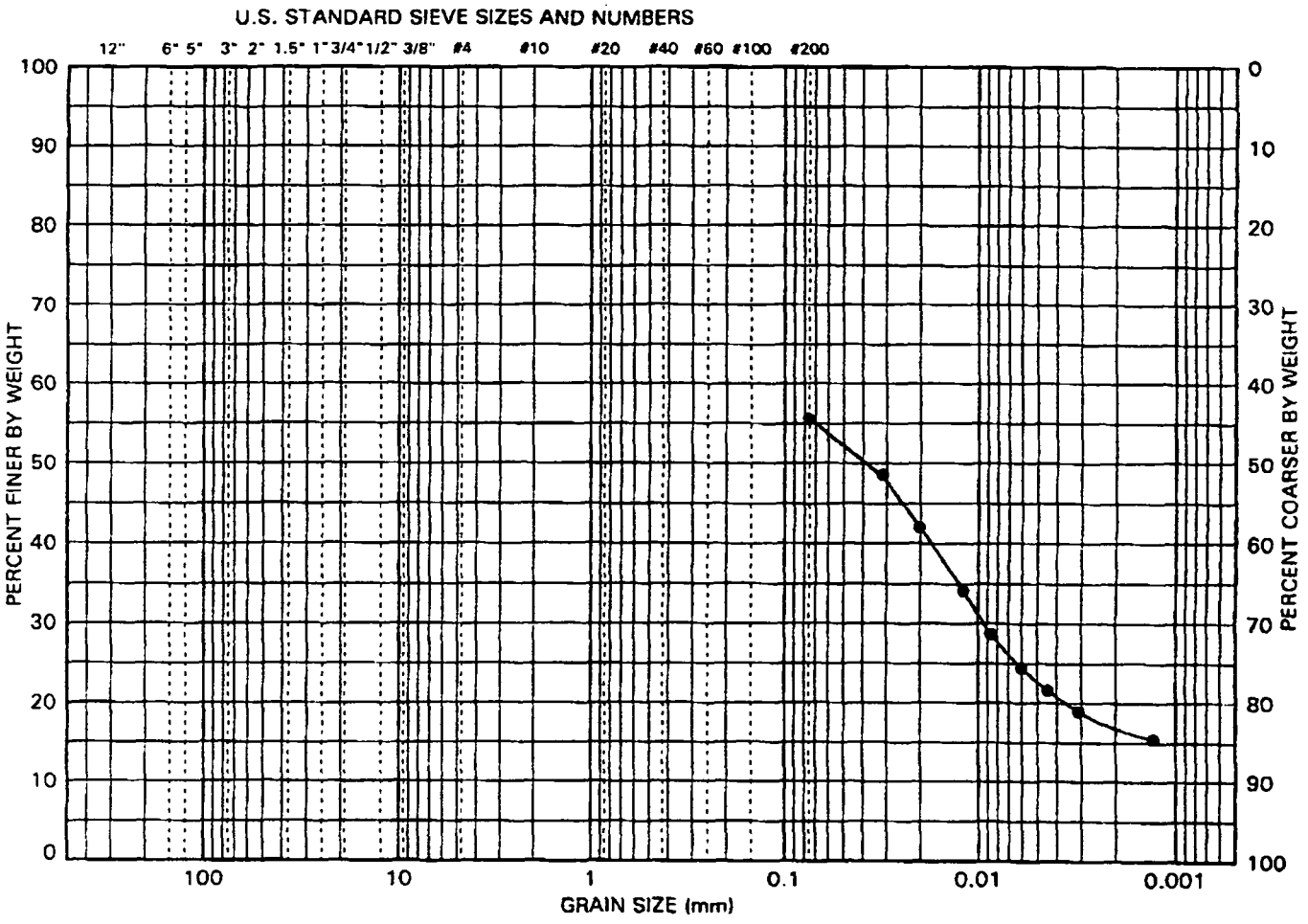
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/25/97

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



SITE SAMPLE ID	LP-05	LIQUID LIMIT (%)	
LAB. SAMPLE NO.	97G81	PLASTIC LIMIT (%)	
SAMPLE DEPTH (ft)		PLASTICITY INDEX	
SOIL CLASSIFICATION:			

RECEIVED JUL 28 1997

SOIL FRACTIONS	
GRAVEL (%)	
SAND (%)	
FINES (%)	
SILT (%)	
CLAY(%)	17.2
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
															42	23	17	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 15 day July month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-05

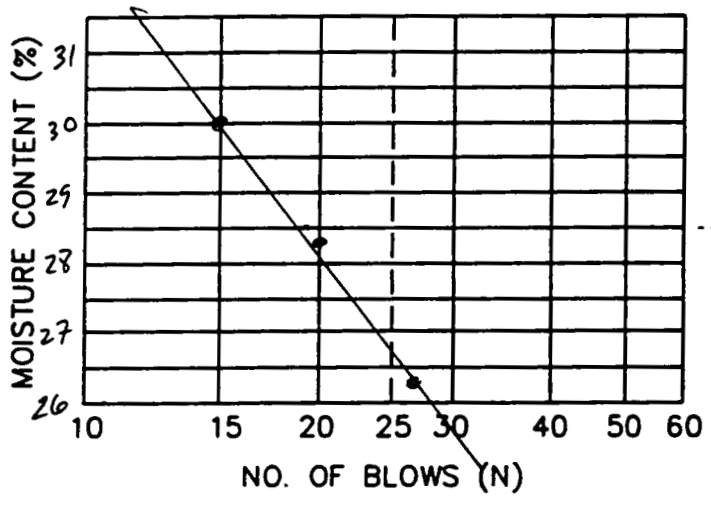
LIQUID LIMIT DETERMINATION

QA ID: NM

	TARE NO.		1.1	1.2	1.3	
A	WT. OF TARE	(grams)	28.76	28.50	28.64	
B	WT. OF WET SOIL & TARE	(grams)	53.41	57.54	53.78	
C	WT. OF DRY SOIL & TARE	(grams)	48.28	51.14	47.98	
D	WT. OF WATER = B-C	(grams)	5.13	6.40	5.80	
E	WT. OF DRY SOIL = C-A	(grams)	19.52	22.64	19.34	
F	MOISTURE CONTENT = (D/E)X100	(%)	26.3 ✓	28.3 ✓	30.0 ✓	
N	NUMBER OF BLOWS		27	20	15	

DRYING TARE NO.

A



CURING TARE NO.

1-B

CL

PLASTIC LIMIT DETERMINATION

QA ID: NM

	TARE NO.		1.4	1.5		
A	WT. OF TARE	(grams)	28.52	28.61		
B	WT. OF WET SOIL & TARE	(grams)	43.09	39.13		
C	WT. OF DRY SOIL & TARE	(grams)	41.00	37.62		
D	WT. OF WATER = B-C	(grams)	2.09	1.51		
E	WT. OF DRY SOIL = C-A	(grams)	12.48	9.01		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.7 ✓	16.8 ✓		

LIQUID LIMIT (LL) = 27 PLASTIC LIMIT (PL) = 17 PLASTICITY INDEX (PI) = 10

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE 1 CONSTRUCTION — DATE: 14 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER — SAMPLE NO.: LP-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.

QA ID: PKO/NM

COMPACTION OF SOIL

	WATER ADDED	(ml)	150	200	250	100	
A	WT. OF SOIL & MOLD	(grams)	4114.2	4073.3	4000.3	4037.0	
B	WT. OF MOLD	(grams)	2047.3	2047.3	2047.3	2047.3	
C	WT. OF SOIL = A - B	(grams)	2066.9	2026.0	1953.0	1989.7	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	136.4	133.7	128.9	131.3	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	119.2 119.3 ✓	115.3 115.3 ✓	108.7 108.9 ✓	116.9 117.5 ✓	

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.

QA ID: PKO/NM

MOISTURE CONTENT - ASTM D 2216

	TARE NO.		6	1	3	31	
F	WT. OF TARE	(grams)	7.6	7.2	7.6	8.3	
G	WT. OF WET SOIL & TARE	(grams)	207.1	222.3	226.1	233.3	
H	WT. OF DRY SOIL & TARE	(grams)	182.2	192.6	192.1	209.8	
I	WT. OF WATER = G - H	(grams)	24.9	29.7	34.0	23.5	
J	WT. DRY SOIL = H - F	(grams)	174.6	185.4	181.5	201.5	
K	MOISTURE CONTENT = (I/J) X 100	(%)	14.4 14.3 ✓	16.0 16.0 ✓	18.5 18.4 ✓	12.3 11.7 ✓	

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*GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC

CHECKED BY: [illegible]

SHEET NO. 1 OF 2

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

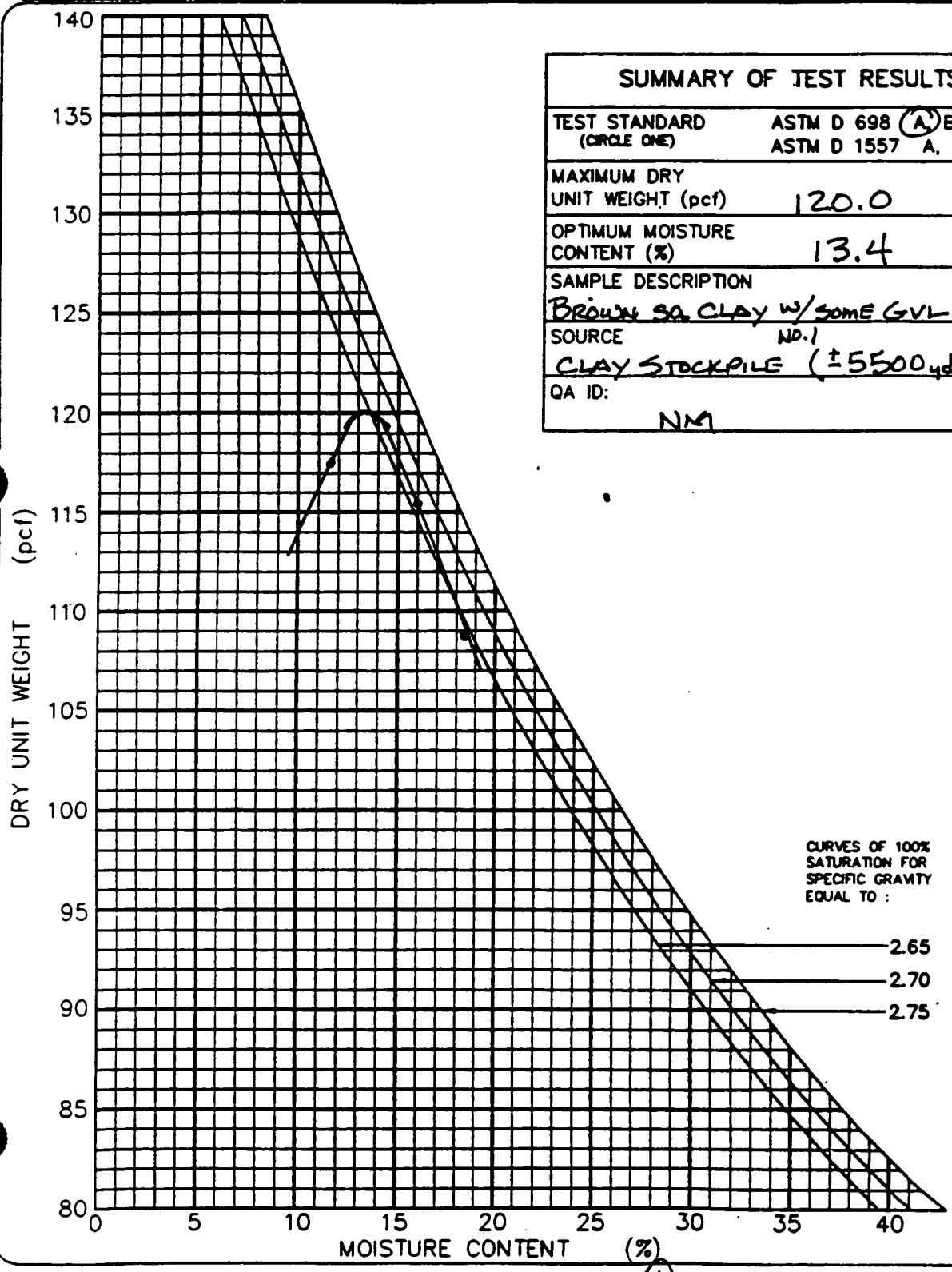
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 15 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-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)	120.0
OPTIMUM MOISTURE CONTENT (%)	13.4
SAMPLE DESCRIPTION	BROWN SA CLAY W/SOME GVL
SOURCE	CLAY STOCKPILE NO.1 (±5500 yd³)
QA ID:	NM

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04·1

DESCRIPTION: PHASE 1 CONSTRUCTION DATE: 14 day JULY month 1997 year

MATERIAL TYPE: LOW PERM CLAY LINER SAMPLE NO.: LP-06

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	23				
A	WT. OF TARE	8.5				
B	WT. OF WET SOIL & TARE	195.9				
C	WT. OF DRY SOIL & TARE	172.7				
D	WT. OF WATER = B-C	23.2				
E	WT. OF DRY SOIL = C-A	164.2				
F	MOISTURE CONTENT = (D/E) X 100	14.1 ✓				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	284.1				
C	WT. OF DRY SOIL & TARE	266.3				
D	WT. OF WATER = B-C	17.8				
E	WT. OF DRY SOIL = C-A	134.3				
F	MOISTURE CONTENT = (D/E) X 100	13.3 ✓				

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 16 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-06

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 25,265.5 gms
> #4 SAMPLE WT = 25 75.3 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		23	23
WT. OF DRY SAMPLE PLUS TARE	(grams)	172.7	73.8
WT. OF TARE	(grams)	8.5	8.5
WT. OF DRY SAMPLE	(grams)	164.2 ✓	65.3 ✓

SIEVE ANALYSIS QA ID: PILO/KM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
[illegible]	50.0	[illegible]	1.2	98.8		100
[illegible]	37.5	[illegible]	1.2	98.8		
1	25.0	634.0	2.5	97.5		
[illegible]	19.0	[illegible]	3.5	96.5		90-100
[illegible]	12.5	1266.5	5.0	95.0		
3/8	9.5	1545.3	6.1	93.9		
[illegible]	[illegible]	[illegible]	9.8	90.2		
10	[illegible]	91.4	13.0	87.0	78.5	
20	0.850	30.8	18.8	81.2	73.2	
40	0.425	40.2	24.5	75.5	68.1	
[illegible]	0.250	48.1	29.3	70.7	63.8	
100	0.150	56.1	34.2	65.8	59.4	
200	0.075	65.3 ✓	39.8	60.2	54.3 ✓	50-100

%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.: GQ0166 TASK NO.: 04.1

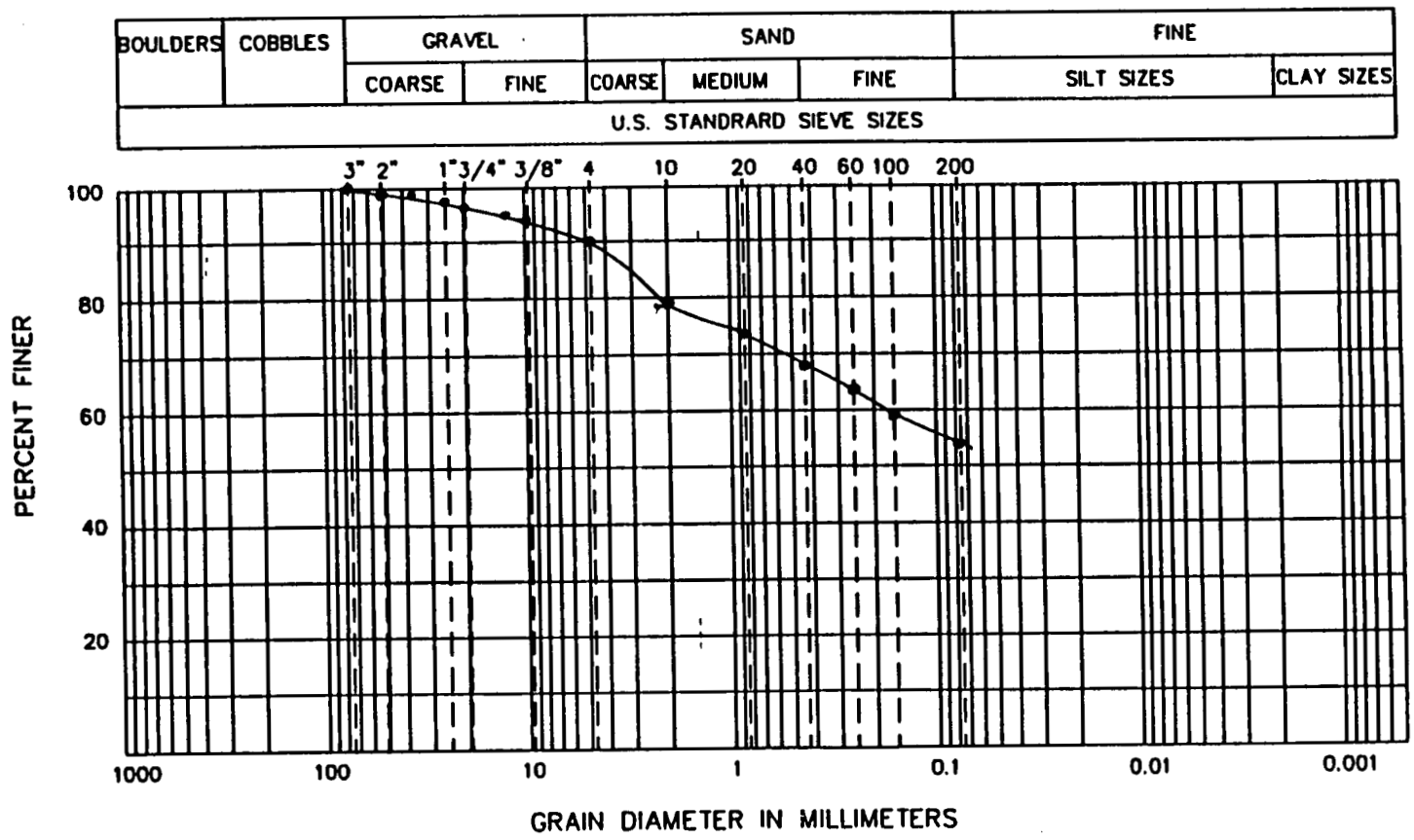
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 17 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-06 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 28

(PL) 15

(PI) 13

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	98.8
1 1/2-in.	98.8
1-in.	97.5
3/4-in.	96.5
1/2-in.	95.0
3/8-in.	93.9
NO. 4	90.2
NO. 10	78.5
NO. 20	73.2
NO. 40	68.1
NO. 60	63.8
NO. 100	59.4
NO. 200	54.3

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GVL

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SHEET NO. 2 OF 2

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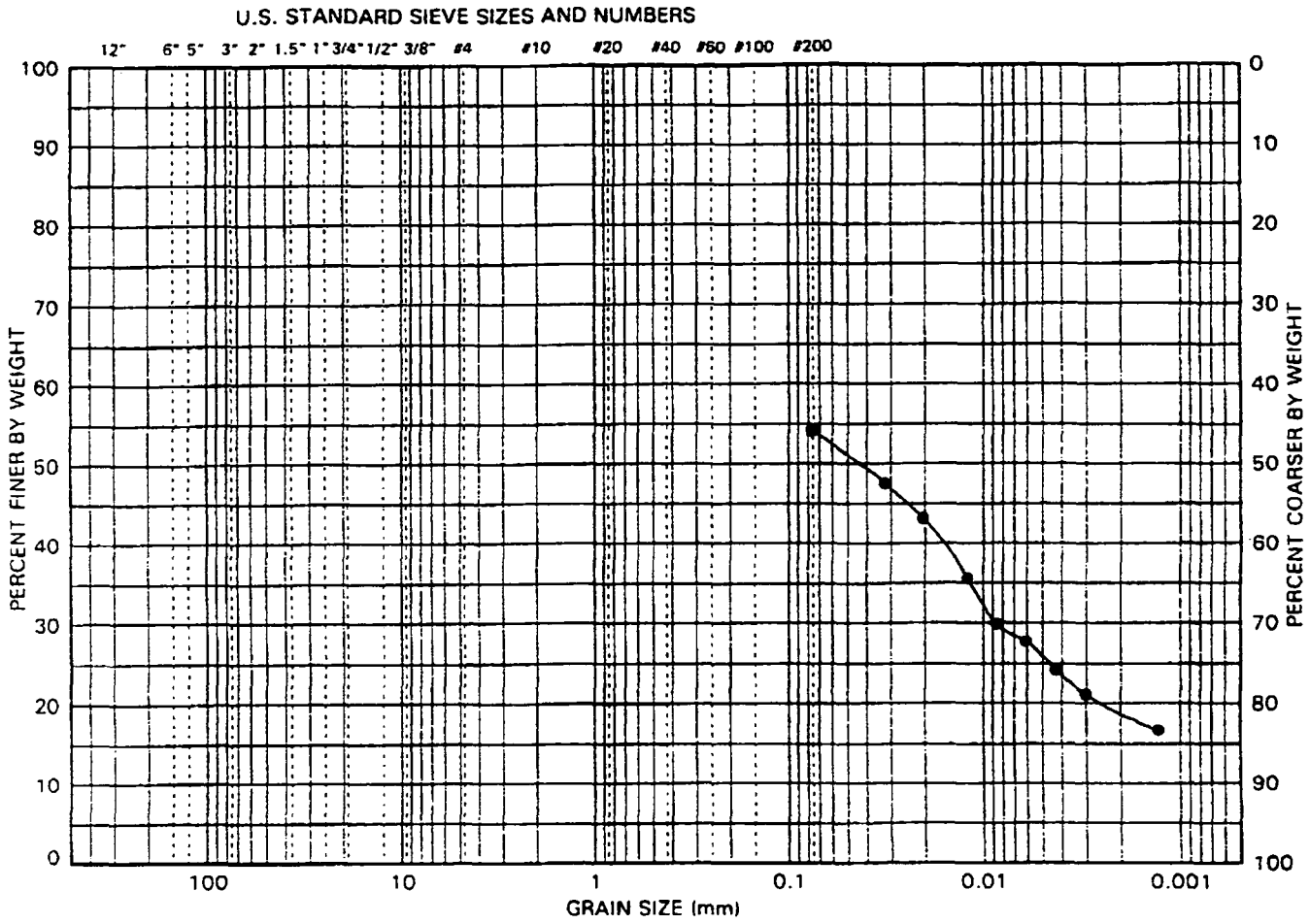
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/28/97

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



	COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
		GRAVEL		SAND			FINES	

SITE SAMPLE ID LP-06	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO. 97G107	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:			SILT (%)
			CLAY(%) 19.0
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

RECEIVED JUL 28 1997

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
															43	26	19	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 17 day 7 month 97 year

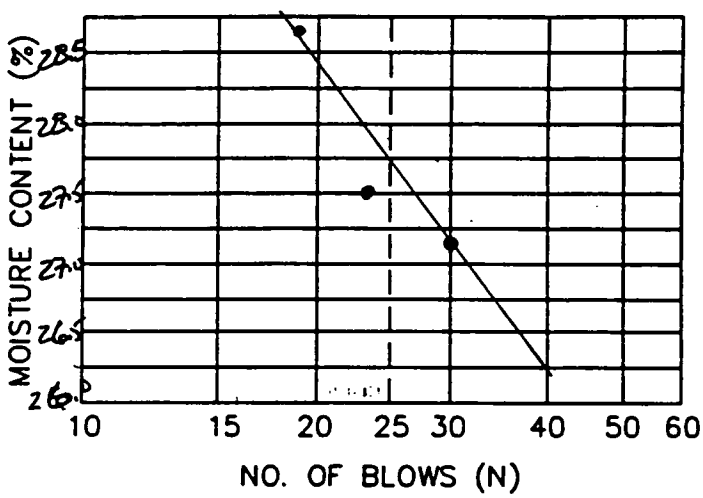
MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-06

LIQUID LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1.5	1.2	2.4	
A	WT. OF TARE	(grams)	28.61	28.50	27.39	
B	WT. OF WET SOIL & TARE	(grams)	36.61	37.12	38.53	
C	WT. OF DRY SOIL & TARE	(grams)	34.90	35.20	36.13	
D	WT. OF WATER = B-C	(grams)	1.71	1.92	2.4	
E	WT. OF DRY SOIL = C-A	(grams)	6.29	6.70	8.74	
F	MOISTURE CONTENT = (D/E)X100	(%)	27.2	28.7	27.5	
N	NUMBER OF BLOWS		30	19	23	

DRYING TARE NO.: E



CURING TARE NO.: 2-B

PLASTIC LIMIT DETERMINATION

QA ID: PKO

	TARE NO.		1.3	1.8		
A	WT. OF TARE	(grams)	28.64	28.81		
B	WT. OF WET SOIL & TARE	(grams)	29.71	40.96		
C	WT. OF DRY SOIL & TARE	(grams)	29.20	39.34		
D	WT. OF WATER = B-C	(grams)		1.62		
E	WT. OF DRY SOIL = C-A	(grams)		10.53		
F	MOISTURE CONTENT = (D/E)X100	(%)		15.4		

Void 10/30/97

LIQUID LIMIT (LL) = 28 PLASTIC LIMIT (PL) = 15 PLASTICITY INDEX (PI) = 13

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 16 day 7 month 97 year

MATERIAL TYPE: LOW PERM CLAY LINER — SAMPLE NO.: LP-06

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: JW

			8.2	9.8	11.7	12.8	16.3
	WATER ADDED	(ml)	50	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)	5996.6	6060.1	6146.3	6223.4	6205.2
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1787.2	1850.7	~~1~~ 1936.9	2014.0	1995.8
D	WET UNIT WT.(1) = C X 0.066	(pcf)	117.9	122.1	127.8	132.9	131.7
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	109.0	HEM 3/17/97 ~~111.2~~ 110.7	114.5	117.8	~~113~~ 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: JW

	TARE NO.		11	28	9	21	25
F	WT. OF TARE	(grams)	7.3	8.2	7.18	8.40	8.20
G	WT. OF WET SOIL & TARE	(grams)	227.0	199.3	264.91	198.32	202.46
H	WT. OF DRY SOIL & TARE	(grams)	210.15	181.49	238.08	176.83	175.50
I	WT. OF WATER = G - H	(grams)	16.85	17.81	26.83	21.49	26.96
J	WT. DRY SOIL = H - F	(grams)	202.85	173.29	230.9	168.43	167.3
K	MOISTURE CONTENT = (I/J) X 100	(%)	8.3	10.3	11.6	12.8	16.1

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

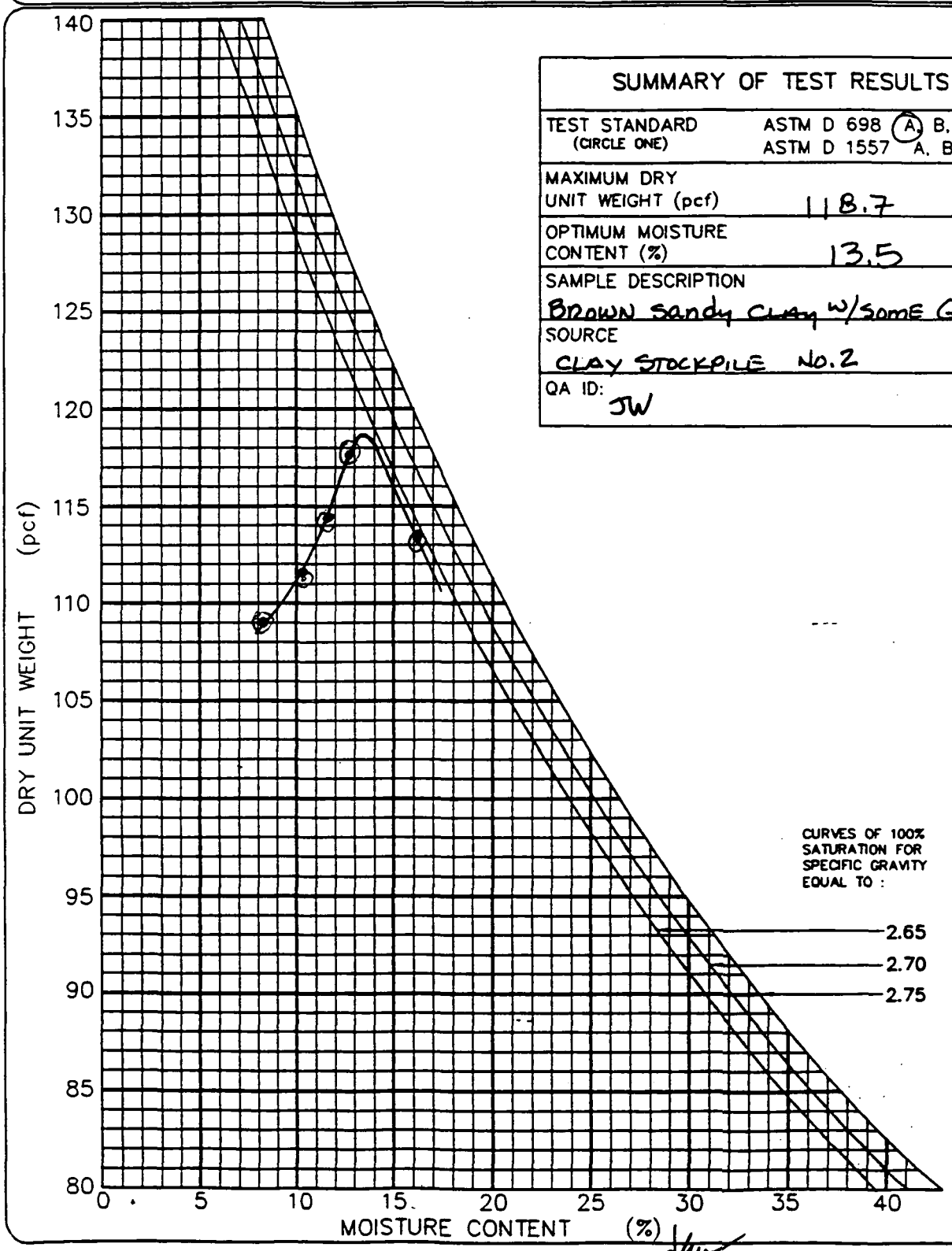
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 16 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP - 06



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)	118.7
OPTIMUM MOISTURE CONTENT (%)	13.5
SAMPLE DESCRIPTION	BROWN sandy CLAY w/SOME GVL
SOURCE	CLAY STOCKPILE NO.2
QA ID:	JW

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 15 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-07

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: JW

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.	31				
A	WT. OF TARE	8.3				
B	WT. OF WET SOIL & TARE	213.7				
C	WT. OF DRY SOIL & TARE	189.6				
D	WT. OF WATER = B-C	24.1				
E	WT. OF DRY SOIL = C-A	181.3				
F	MOISTURE CONTENT = (D/E) X 100	13.3 ✓				

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%

	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					

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 17 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-07

SOIL SAMPLE SIZE TOTAL [illegible] >= 4 [illegible]

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		31	31
WT. OF DRY SAMPLE PLUS TARE	(grams)	7/15/97 ~~213.7~~ 189.6	112.4
WT. OF TARE	(grams)	8.3	8.3
WT. OF DRY SAMPLE	(grams)	181.3 /	104.1 /

SIEVE ANALYSIS QA ID: [illegible]

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
[illegible]	75.0	Ø	Ø	100		
[illegible]	50.0	239.9	0.9	99.1		100
1½"	37.5	596.9	[illegible]	[illegible]		
[illegible]	[illegible]	1135.6	[illegible]	[illegible]		
3/4"	19.0	1577.2	[illegible]	[illegible]		90-100
1/2"	12.5	2256.7	[illegible]	[illegible]		
3/8"	[illegible]	2790.9	[illegible]	[illegible]		
4	[illegible]	4356.9	[illegible]	[illegible]		
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
20	[illegible]	62.6	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	76.3	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	37.0	
[illegible]	[illegible]	103.9 /	[illegible]	[illegible]	35.5**	50-100

** PASSING NO 200 < 50%
DOES NOT COMPLY WITH SPECIFICATION
SECTION 02225 PART 2.01.C.3.C

%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)

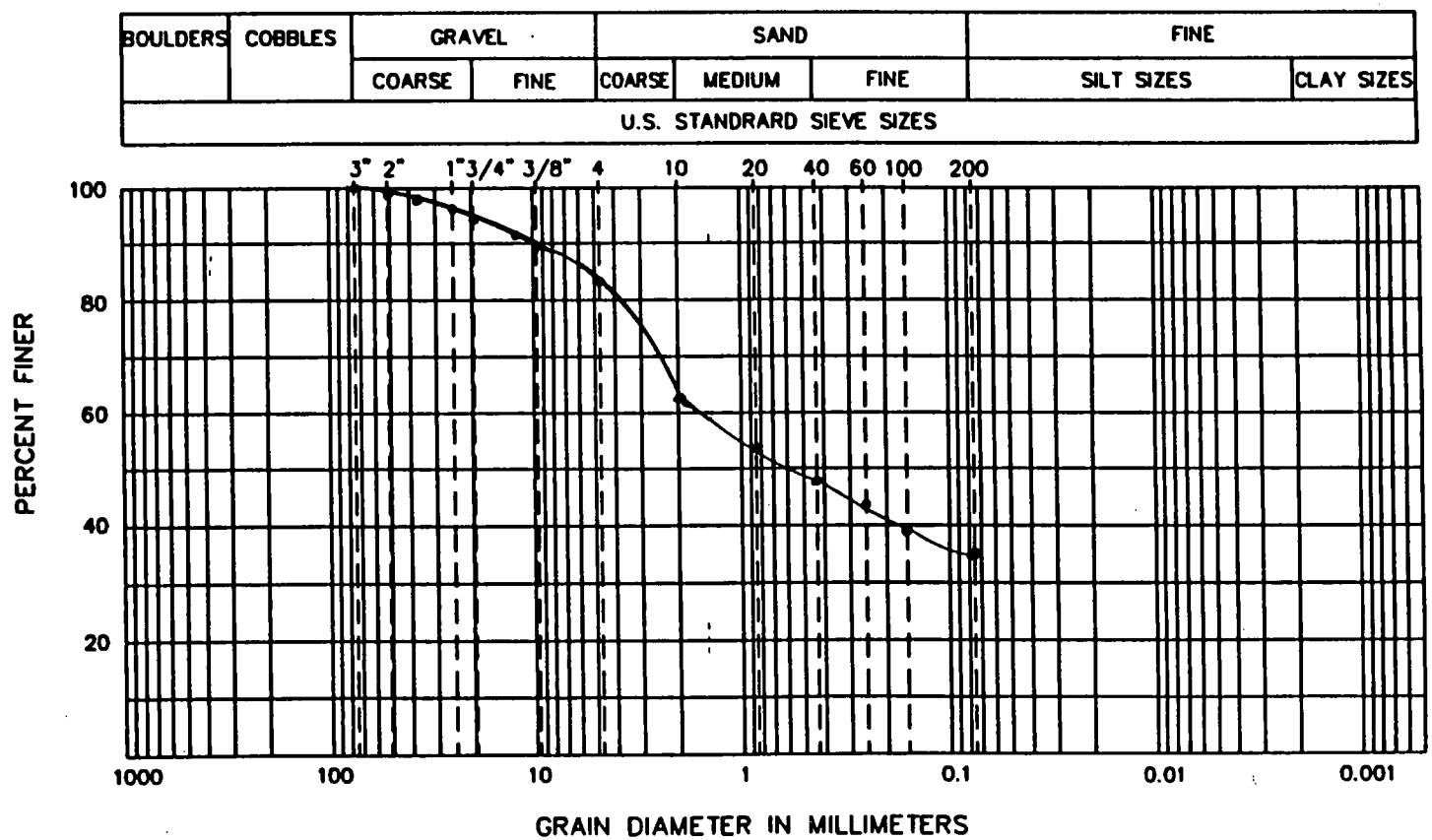
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 18 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-07 QA ID: PKO

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) ~~HEM 28~~ 29

(PL) 7/18/97 ~~HEM~~ 15

(PI) 14

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100
2-in.	99.1
1 1/2-in.	97.7
1-in.	95.6
3/4-in.	93.9
1/2-in.	91.3
3/8-in.	87.2
NO. 4	83.1
NO. 10	67.9
NO. 20	60.0
NO. 40	48.1
NO. 60	40.5
NO. 100	37.0
NO. 200	35.5

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~ ~~HEM 14/15~~ 14/30/97	

SOIL CLASSIFICATION (ASTM D 2487): BROWN CLAYEY SAND (SC) W/SOME GRAVEL ~~BROWN SANDY CLAY W/ GVL (CL)~~ HEM 7/18/97

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SHEET NO. 2 OF 2

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Geomechanics and Environmental Laboratory
Atlanta, Georgia

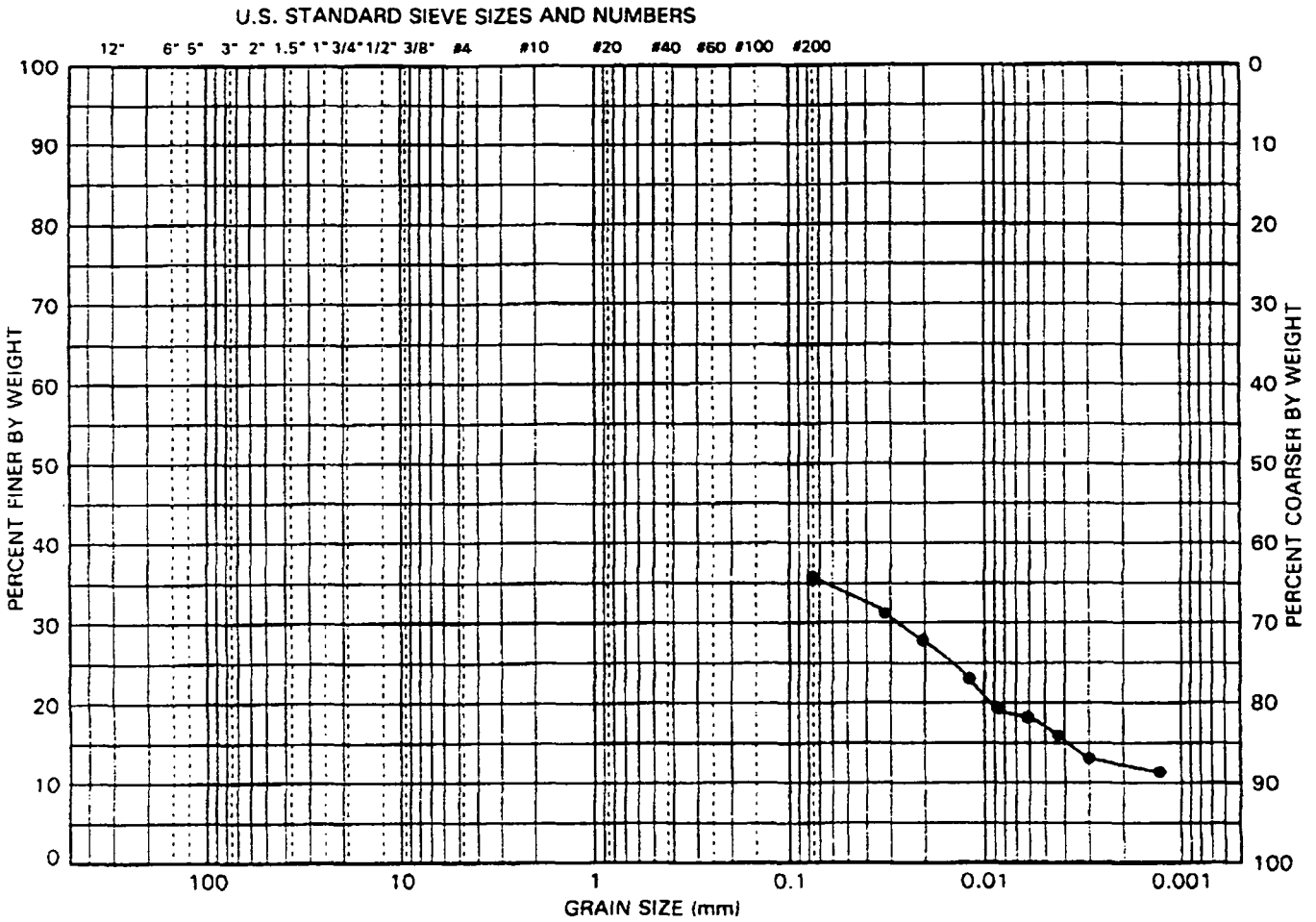
FIGURE

PROJECT: FDF-OSDF-
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/28/97

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



SITE SAMPLE ID LP-07	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO. 97G128	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:			SILT (%)
			CLAY(%) 12.3
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

RECEIVED JUL 28 1997

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
															28	17	12	

NOTES:

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 17 day 7 month 97 year

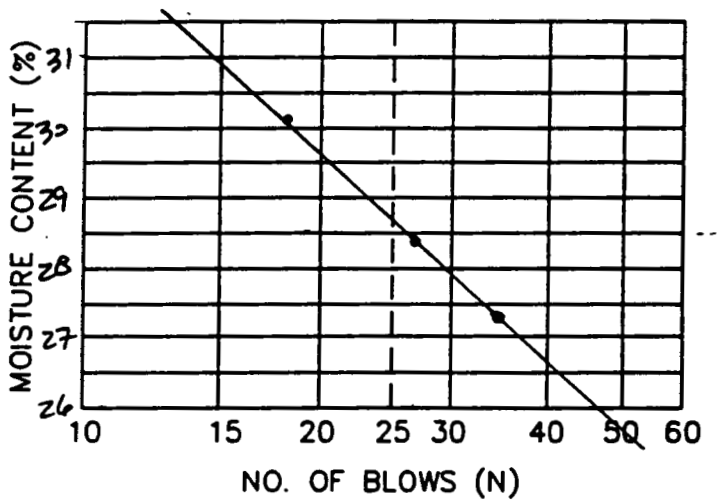
MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-07

LIQUID LIMIT DETERMINATION

QA ID: PKD

	TARE NO.		1.1	1.9	1.7	
A	WT. OF TARE	(grams)	28.76	28.56	28.49	
B	WT. OF WET SOIL & TARE	(grams)	41.12	36.66	38.57	
C	WT. OF DRY SOIL & TARE	(grams)	38.47	34.87	36.24	
D	WT. OF WATER = B-C	(grams)	2.65	1.79	2.33	
E	WT. OF DRY SOIL = C-A	(grams)	9.71	6.31	7.75	
F	MOISTURE CONTENT = (D/E)X100	(%)	27.3	28.4	30.1	
N	NUMBER OF BLOWS		35	27	18	

DRYING TARE NO.: A



CURING TARE NO.: 1-D

PLASTIC LIMIT DETERMINATION

QA ID: PKD

	TARE NO.		1.6	1.4		
A	WT. OF TARE	(grams)	28.87	28.52		
B	WT. OF WET SOIL & TARE	(grams)	36.01	40.98		
C	WT. OF DRY SOIL & TARE	(grams)	35.13	39.34		
D	WT. OF WATER = B-C	(grams)	0.88	1.64		
E	WT. OF DRY SOIL = C-A	(grams)	6.26	~~10.82~~		
F	MOISTURE CONTENT = (D/E)X100	(%)	14.1	~~15.1~~ HEM 7/18/97		

LIQUID LIMIT (LL) = 29 PLASTIC LIMIT (PL) = 15 PLASTICITY INDEX (PI) = 14

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 16 day July month '97 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-07

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: JW

	WATER ADDED	(ml)	100	150	200	250	300
A	WT. OF SOIL & MOLD	(grams)	6078.2	@ 7/21/97 ~~6139~~ 6155.4	6223.4	6246.1	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	1868.8	1946	2014	2036.7	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	123.3	128.4	132.9	134.4	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	@ 7/21/97 ~~113.2~~ 112.6	@ 7/21/97 ~~114.5~~ 116.6	@ 7/21/97 ~~118.0~~ 118.8	@ 7/21/97 ~~115.7~~ 116.1	

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: JW

	TARE NO.		10	7	4	20	
F	WT. OF TARE	(grams)	7.20	7.22	7.50	8.34	
G	WT. OF WET SOIL & TARE	(grams)	240.33	192.72	173.42	220.94	
H	WT. OF DRY SOIL & TARE	(grams)	220.19	175.64	155.72	191.95	
I	WT. OF WATER = G - H	(grams)	20.14	17.08	17.7	28.99	
J	WT. DRY SOIL = H - F	(grams)	212.99	168.42	148.22	183.61	
K	MOISTURE CONTENT = (I/J) X 100	(%)	9.5 ✓	10.1 ✓	11.9 ✓	15.8 ✓	

GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC CHECKED BY: [illegible] SHEET NO. 1 OF 2

1265

000623

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

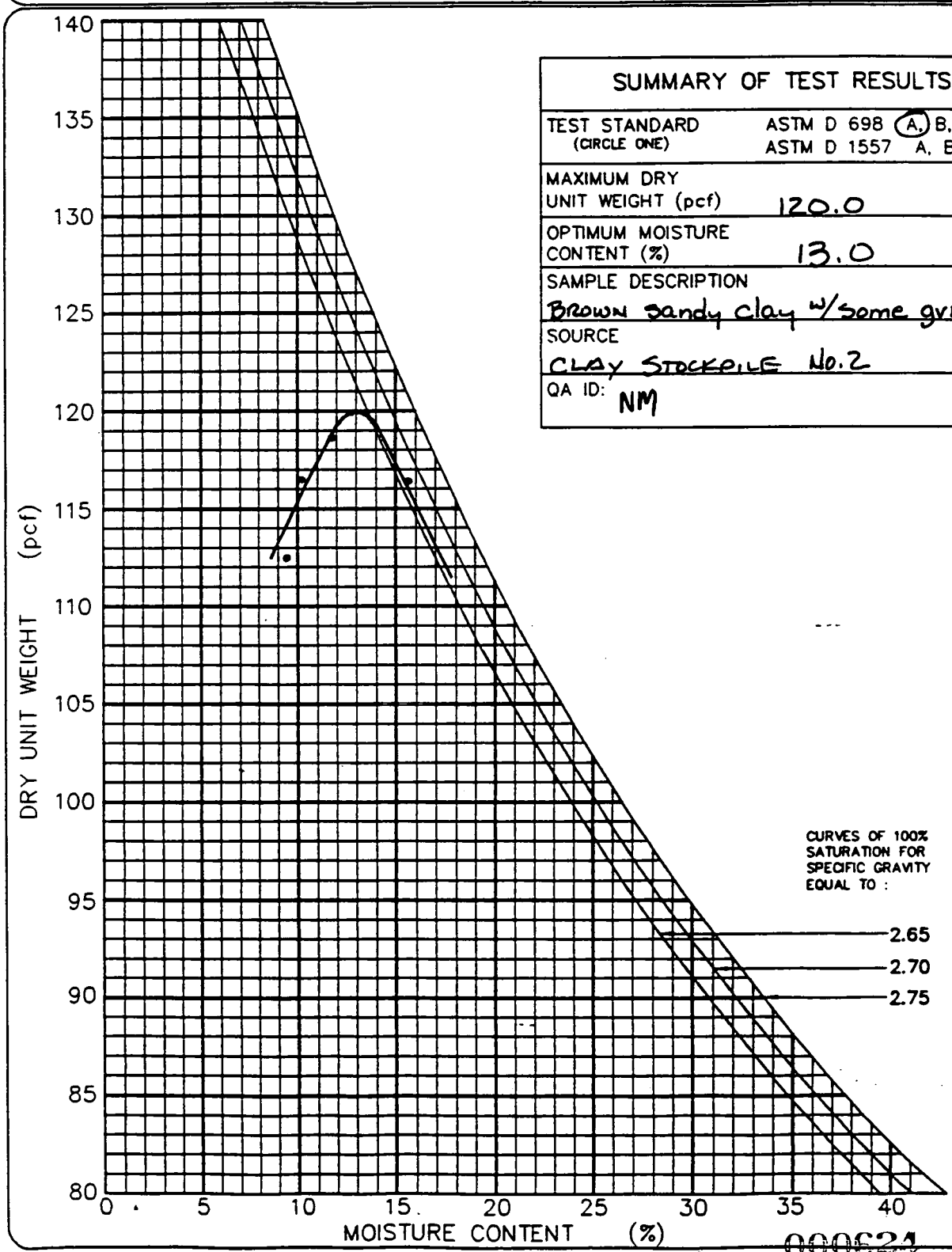
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 16 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-07



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)	120.0
OPTIMUM MOISTURE CONTENT (%)	13.0
SAMPLE DESCRIPTION	Brown sandy clay w/some gvl.
SOURCE	CLAY STOCKPILE No.2
QA ID:	NM

000624

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION ~~BH SILTY CLAY~~ @ 8/20/97 DATE: 16 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-08

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: JW

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.	1				
A	WT. OF TARE	7.26				
B	WT. OF WET SOIL & TARE	234.25				
C	WT. OF DRY SOIL & TARE	209.8				
D	WT. OF WATER = B-C	26.5				
E	WT. OF DRY SOIL = C-A	202.5				
F	MOISTURE CONTENT = (D/E) X 100	13.1 ✓				

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%

	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					

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: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 16 day JULY month 1992 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-08

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 2434.7 gms
> #4 SAMPLE WT = 1272.2 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.	1	1	1
WT. OF DRY SAMPLE PLUS TARE	(grams)	236.25	237.53
WT. OF TARE	(grams)	7.26	7.26
WT. OF DRY SAMPLE	(grams)	~~229.0~~ 229.0 @ 8/20/97	@ 8/20/97 ~~30.2~~ 30.3

SIEVE ANALYSIS QA ID: RKD/NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	0	100		100
	37.5	Ø	0	100		
	25.0	112.8	0.5	99.5		
3/4"	19.0	200.1	0.8	99.2		90-100
1/2"	12.5	475.1	2.0	98.0		
3/8"	9.5	632.6	2.6	97.4		
4	4.75	1252.7	5.1	94.9		
10	2.00	5.2	2.3	97.7	92.7	
20	0.850	10.2	4.5	95.5	90.6	
40	0.425	15.1	6.6	93.4	88.6	
60	0.250	19.3	8.4	91.6	86.9	
100	0.150	24.3	10.6	89.4	84.8	
200	0.075	30.2	13.2	86.8	82.4	50-100

%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)

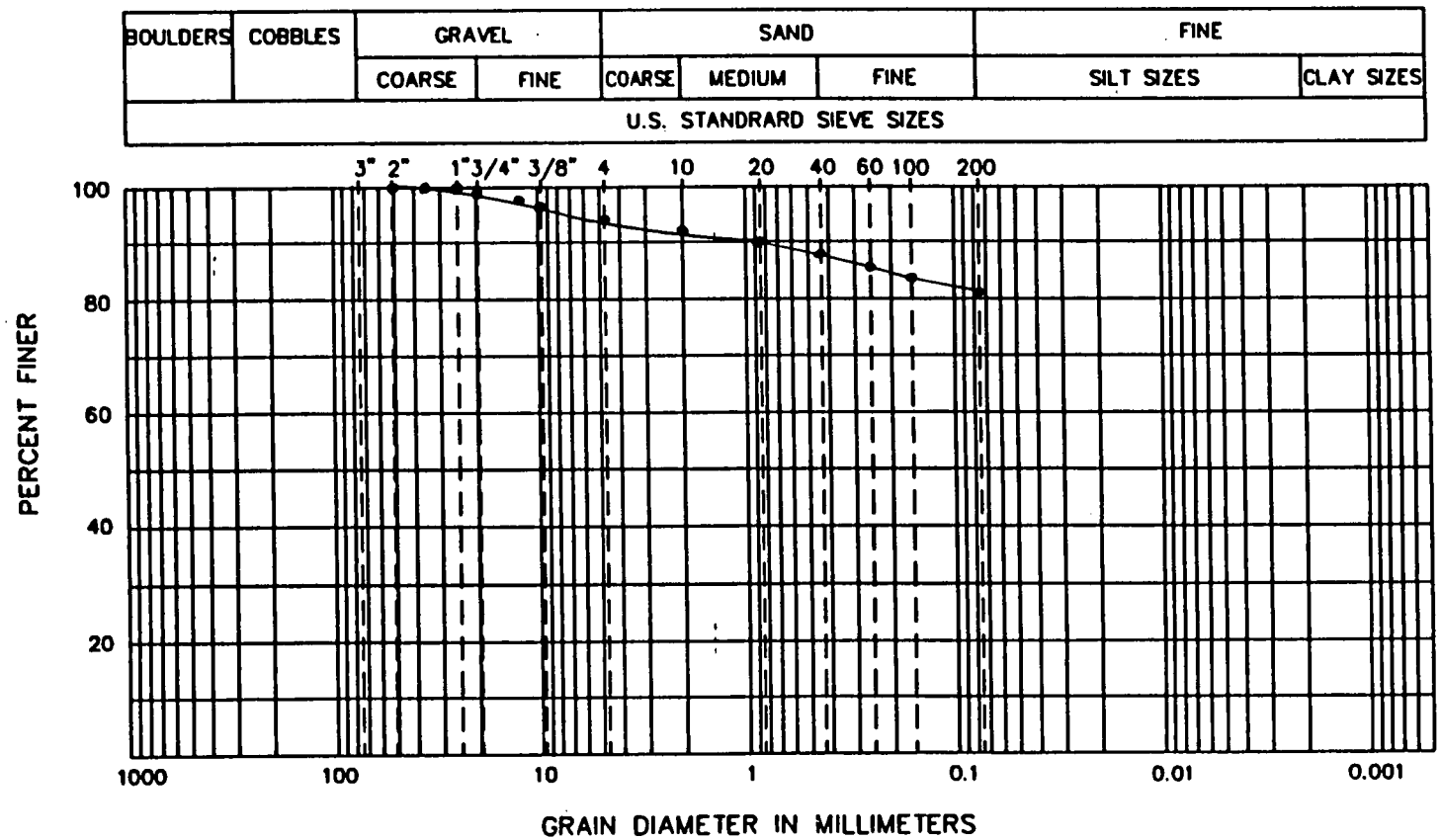
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: BN ~~SILT~~ CLAY PHASE I CONSTRUCTION — DATE: 8/20/97 ~~16~~ day 7 month 97 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-08 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 36

(PL) 18

(PI) 18

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	100.0
1-in.	99.5
3/4-in.	99.2
1/2-in.	98.0
3/8-in.	97.4
NO. 4	~~94.8~~ 94.9
NO. 10	~~92.4~~ 92.7
NO. 20	~~90.2~~ 90.6
NO. 40	~~88.0~~ 89.6
NO. 60	~~86.1~~ 88.4
NO. 100	~~83.8~~ 84.8
NO. 200	~~81.1~~ 82.4

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~10/13~~ 10/30/97	~~N/A~~

SOIL CLASSIFICATION (ASTM D 2487): BROWN LEAN CLAY (CL) W/ SOME SAND & GRAVEL

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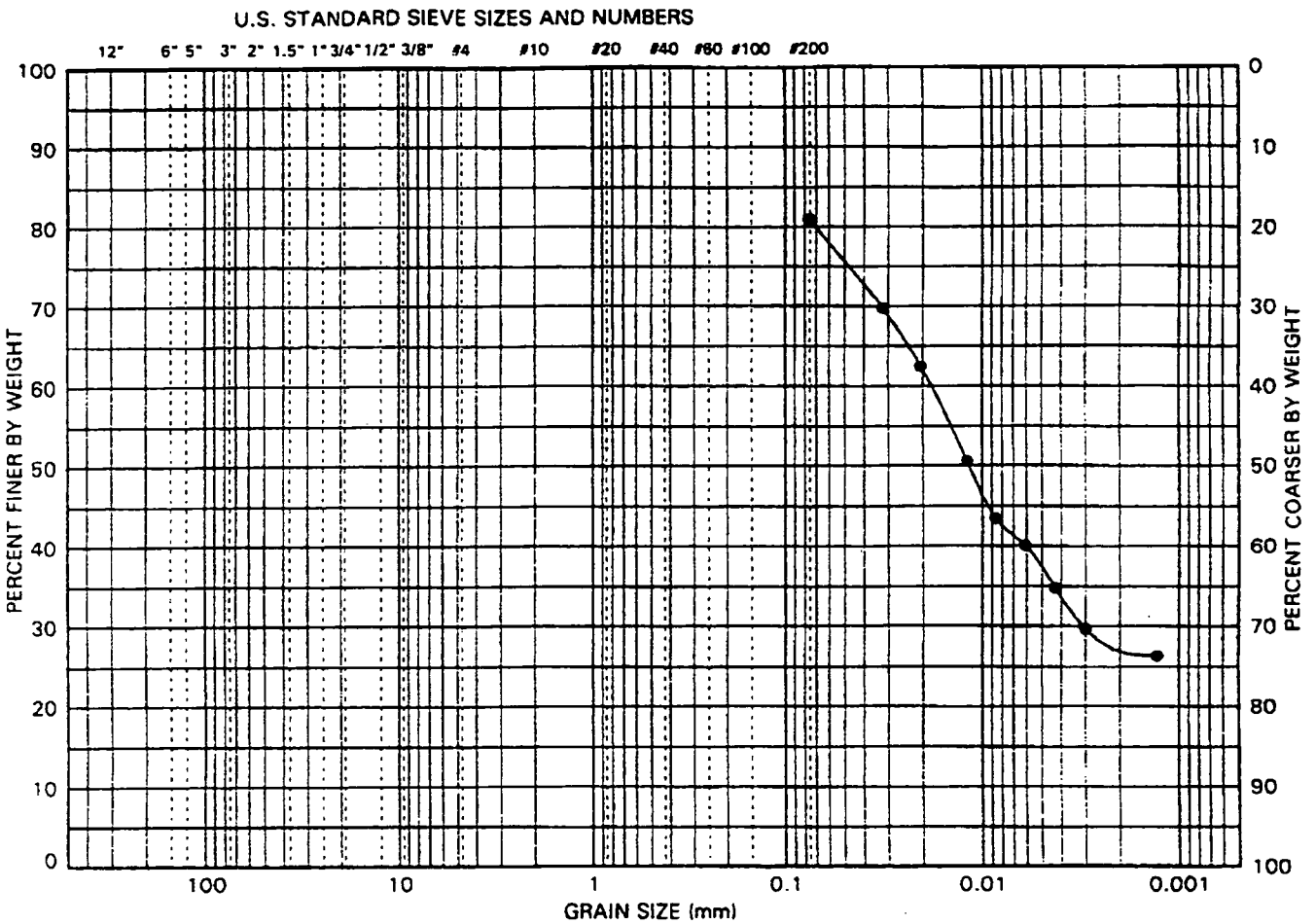
GEO SYNTEC CONSULTANTS
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/28/97

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



SITE SAMPLE ID LP-08	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO. 97G129	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:			SILT (%)
			CLAY(%) 28.0
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

RECEIVED JUL 28 1997

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
															62	37	28	

NOTES:

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO

PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION ~~BOT SHEET CLAY~~

DATE: 18 day 7 month 97 year

MATERIAL TYPE: CLAY LINER

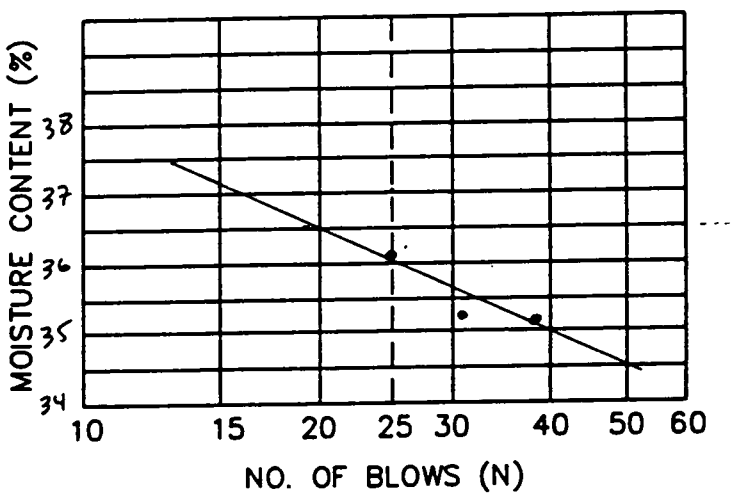
SAMPLE NO.: LP08

LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.3	1.8	2.1	
A	WT. OF TARE	(grams)	28.64	28.71	28.24	
B	WT. OF WET SOIL & TARE	(grams)	38.83	36.81	38.73	
C	WT. OF DRY SOIL & TARE	(grams)	36.18	34.69	33.78	
D	WT. OF WATER = B-C	(grams)	2.65	2.12	4.95	
E	WT. OF DRY SOIL = C-A	(grams)	7.54	5.88	5.54	
F	MOISTURE CONTENT = (D/E)X100	(%)	35.1 ✓	36.1 ✓	35.2	
N	NUMBER OF BLOWS		39	25	31	

DRYING TARE NO.: 6



CURING TARE NO.: 1-F

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.6	1.5		
A	WT. OF TARE	(grams)	28.87	28.61		
B	WT. OF WET SOIL & TARE	(grams)	39.93	35.70		
C	WT. OF DRY SOIL & TARE	(grams)	38.27	34.62		
D	WT. OF WATER = B-C	(grams)	1.66	1.08		
E	WT. OF DRY SOIL = C-A	(grams)	9.40	6.01		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.7 ✓	18.0 ✓		

LIQUID LIMIT (LL) = 36 PLASTIC LIMIT (PL) = 18 PLASTICITY INDEX (PI) = 18

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~BW SILTY CLAY~~ @ 8/20/97 PHASE I CONSTRUCTION — DATE: 17 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-08

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.

23.5

COMPACTION OF SOIL — QA ID: JW

	WATER ADDED	(ml)	0	50	100	150	200
A	WT. OF SOIL & MOLD	(grams)		6023.8	6101.0	6128.1	6100.9
B	WT. OF MOLD	(grams)		4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)		1814.4	1891.6	1918.7	1891.5
D	WET UNIT WT.(1) = C X 0.066	(pcf)		119.7 ✓	124.8 ✓	126.6 ✓	124.8 ✓
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)		104.9 ✓	105.4	106.8	104.6 ✓

19.0 22.4

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: JW

	TARE NO.			11	21	10	28
F	WT. OF TARE	(grams)		7.42	8.33	7.26	8.23
G	WT. OF WET SOIL & TARE	(grams)		166.41	188.31	116.07	150.07
H	WT. OF DRY SOIL & TARE	(grams)		146.74	160.37	99.11	133.61
I	WT. OF WATER = G - H	(grams)		19.67	27.94	16.96	[illegible]
J	WT. DRY SOIL = H - F	(grams)		139.32	152.04	91.85	115.38
K	MOISTURE CONTENT = (I/J) X 100	(%)		14.1 ✓	18.4 ✓	18.5 ✓	22.8 ✓

GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC — CHECKED BY: [illegible] — SHEET NO. 1 OF 2

000630

1265

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE-DENSITY RELATIONSHIP

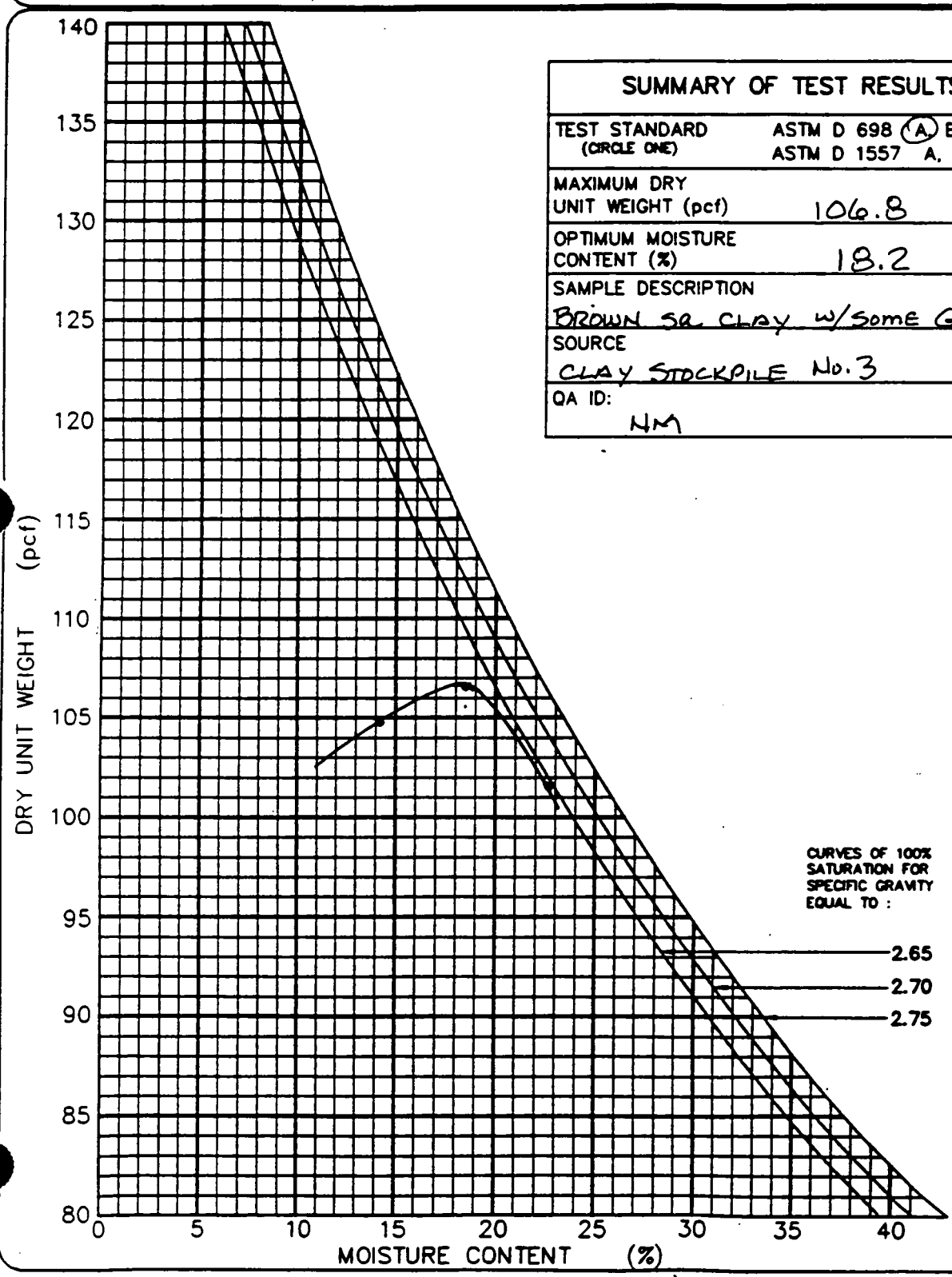
1265

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 17 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-08



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)	106.8
OPTIMUM MOISTURE CONTENT (%)	18.2
SAMPLE DESCRIPTION	BROWN SA CLAY W/SOME GVL
SOURCE	CLAY STOCKPILE No. 3
QA ID:	NM

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1265

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~Bin Sump~~ PHASE I CONSTRUCTION DATE: 16 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-09

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: JW

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. _____	34				
A	WT. OF TARE	8.38				
B	WT. OF WET SOIL & TARE	275.51				
C	WT. OF DRY SOIL & TARE	253.3				
D	WT. OF WATER = B-C	22.2				
E	WT. OF DRY SOIL = C-A	244.9				
F	MOISTURE CONTENT = (D/E) X 100	9.1 ✓				

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%

	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					

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: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~BW~~ ~~SIEVE~~ ~~FORM~~ PHASE I CONSTRUCTION DATE: 14 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-09

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 26,451.1 gms
> #4 SAMPLE WT = 4288.2 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.	34	34	34
WT. OF DRY SAMPLE PLUS TARE	(grams)	275.51	83.66
WT. OF TARE	(grams)	8.38	8.38
WT. OF DRY SAMPLE	(grams)	8/20/97 ~~→~~ 267.1	75.3 ✓

SIEVE ANALYSIS QA ID: NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
4"	100	0	0	100.0		
3"	75	720.4	2.9	97.1		
2"	50	1367.6	5.2	94.8		100
1½"	37.5	1424.7	5.4	94.6		
1"	25.0	1787.8	6.8	93.2		
¾"	19.0	2212.1	8.4	91.6		90-100
½"	12.5	2741.2	10.4	89.6		
⅜"	9.5	3122.0	11.8	88.2		
4	4.75	4228.7	16.0	84.0		
10	2.00	19.2	7.2	92.8	78.0	
20	0.850	31.5	11.8	88.2	74.1	
40	0.425	43.7	16.4	83.6	70.2	
60	0.250	52.9	19.8	80.2	67.4	
100	0.150	63.4	23.7	76.3	64.1	
200	0.075	75.1	28.1	71.9	60.4 ✓	50-100

%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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~BN~~ ~~SILTY~~ CLAY PHASE I CONSTRUCTION

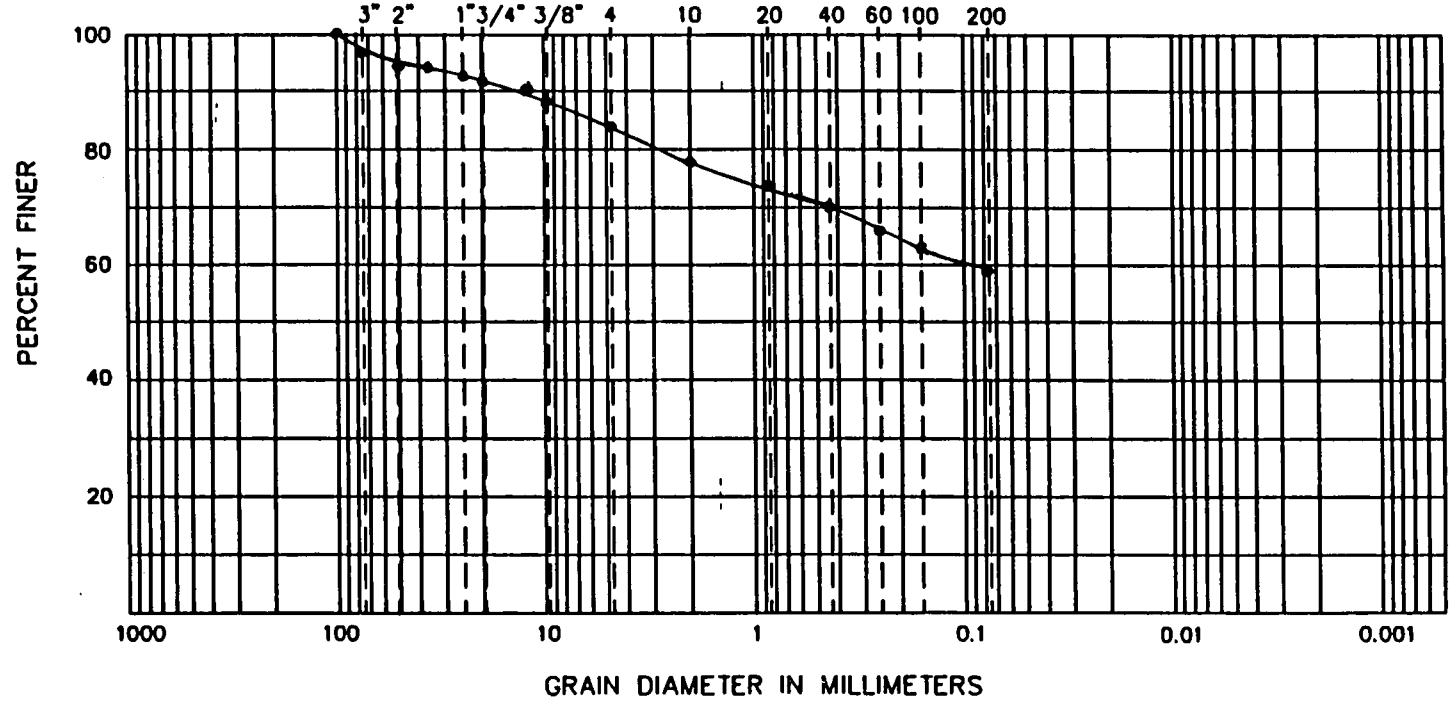
DATE: 19 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-09 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A

BOULDERS	COBBLES	GRAVEL		SAND			FINE	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES
U.S. STANDRARD SIEVE SIZES								



ATTERBERG LIMITS

(LL) 31

(PL) 16

(PI) 15

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	97.1
2-in.	94.8
1 1/2-in.	94.6
1-in.	93.2
3/4-in.	91.6
1/2-in.	89.6
3/8-in.	88.2
NO. 4	84.0
NO. 10	77.6
NO. 20	73.6
NO. 40	69.5
NO. 60	66.4
NO. 100	63.0
NO. 200	59.1

78.0
74.1
70.2
67.2
64.1
60.9

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~

10/30/97

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GRAVEL

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SHEET NO. 2 OF 2

000634

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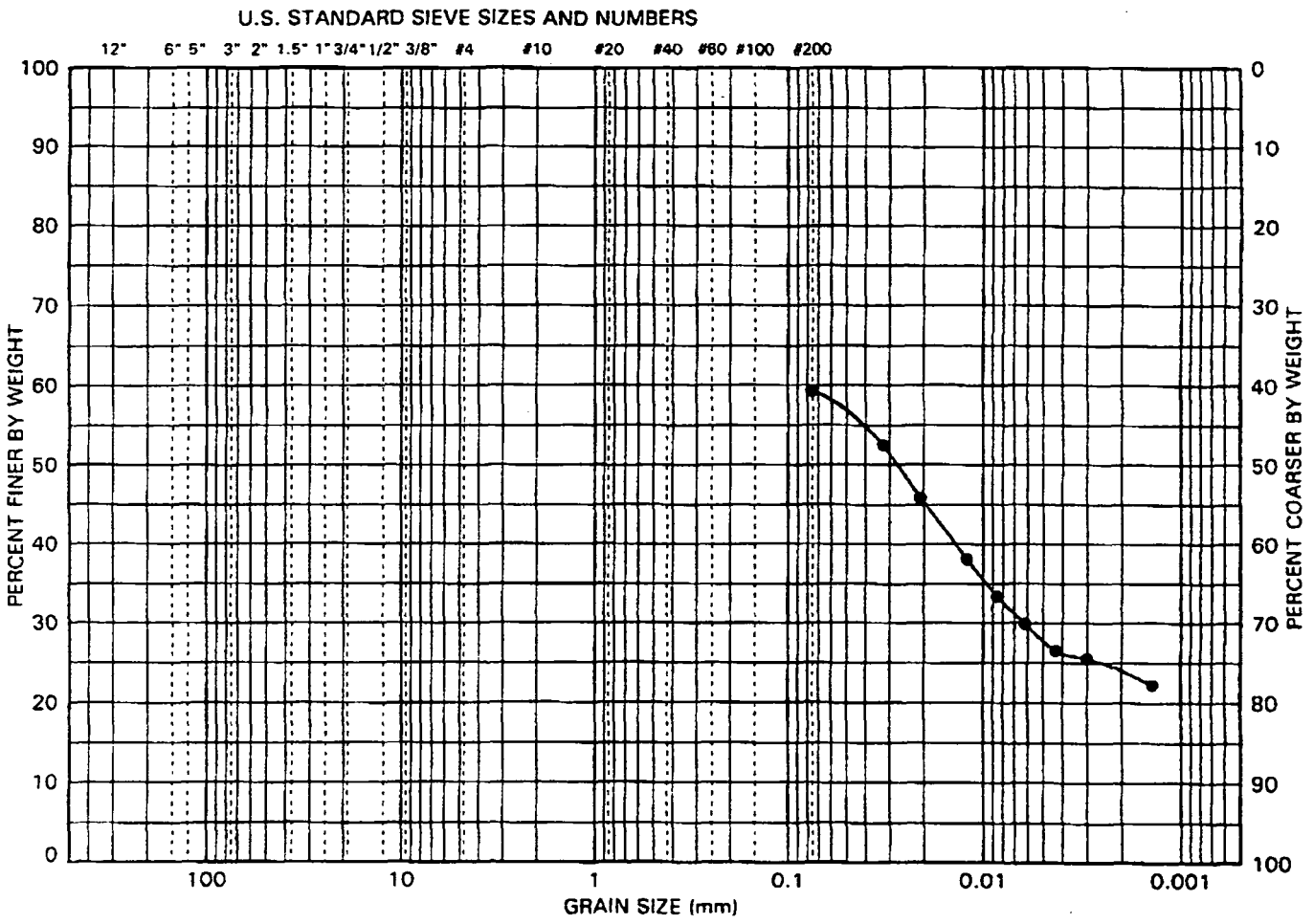
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/30/97

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



SITE SAMPLE ID LP-09	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO. 97G130	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:			SILT (%)
			CLAY(%) 23.7
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

RECEIVED JUL 31 1997

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
															45	28	24	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 day 7 month 92 year

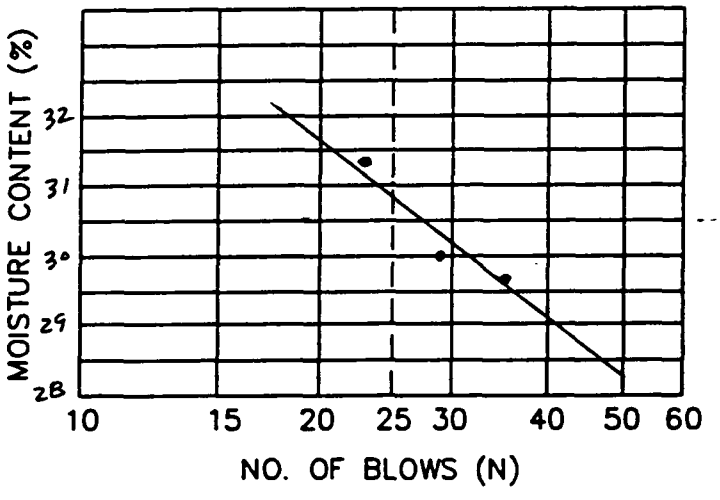
MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-09

LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		3.2	2.7	3.1	
A	WT. OF TARE	(grams)	27.82	28.67	28.38	
B	WT. OF WET SOIL & TARE	(grams)	39.14	39.14	37.12	
C	WT. OF DRY SOIL & TARE	(grams)	36.53	36.74	35.03	
D	WT. OF WATER = B-C	(grams)	2.61	2.40	2.09	
E	WT. OF DRY SOIL = C-A	(grams)	8.71	8.07	6.65	
F	MOISTURE CONTENT = (D/E)X100	(%)	30.0 ✓	29.7 ✓	31.4 ✓	
N	NUMBER OF BLOWS		29	36	23	

DRYING TARE NO.: 15



CURING TARE NO.: 1-H

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.5	2.2		
A	WT. OF TARE	(grams)	28.42	27.63		
B	WT. OF WET SOIL & TARE	(grams)	34.39	32.20		
C	WT. OF DRY SOIL & TARE	(grams)	33.54	31.56		
D	WT. OF WATER = B-C	(grams)	0.85	0.64		
E	WT. OF DRY SOIL = C-A	(grams)	5.12	3.93		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.6 ✓	16.3 ✓		

LIQUID LIMIT (LL) = 31 PLASTIC LIMIT (PL) = 16 PLASTICITY INDEX (PI) = 15

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FIELD LABORATORY COMPACTION TEST (ASTM D 698 METHOD A)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: ~~BD 3167H CLAY~~ PHASE I CONSTRUCTION DATE: 17 day July month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-09

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: JW

			10.5	12.4	15.8	16.6	19.7
	WATER ADDED	(ml)	50	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)	6019.3	6100.9	6173.5	6196.2	6123.6
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1809.9	1891.5	1964.1	1986.8	1914.2
D	WET UNIT WT.(1) = C X 0.066	(pcf)	119.5	124.8	129.6	131.1	126.3
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	~~108.8~~ 108.6	~~114.1~~ 112.0	112.4	112.8	106.0

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: JW

	TARE NO.		27	24	22	3	30
F	WT. OF TARE	(grams)	8.17	8.39	8.41	7.61	8.30
G	WT. OF WET SOIL & TARE	(grams)	147.78	159.48	152.37	157.58	143.54
H	WT. OF DRY SOIL & TARE	(grams)	135.13	143.95	133.22	136.68	121.79
I	WT. OF WATER = G - H	(grams)	12.65	15.53	19.15	20.9	21.75
J	WT. DRY SOIL = H - F	(grams)	126.96	135.56	124.81	129.07	113.49
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.0	11.5	15.3	16.2	19.2

GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC CHECKED BY: SHEET NO. 1 OF 2

000637

1265

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1265

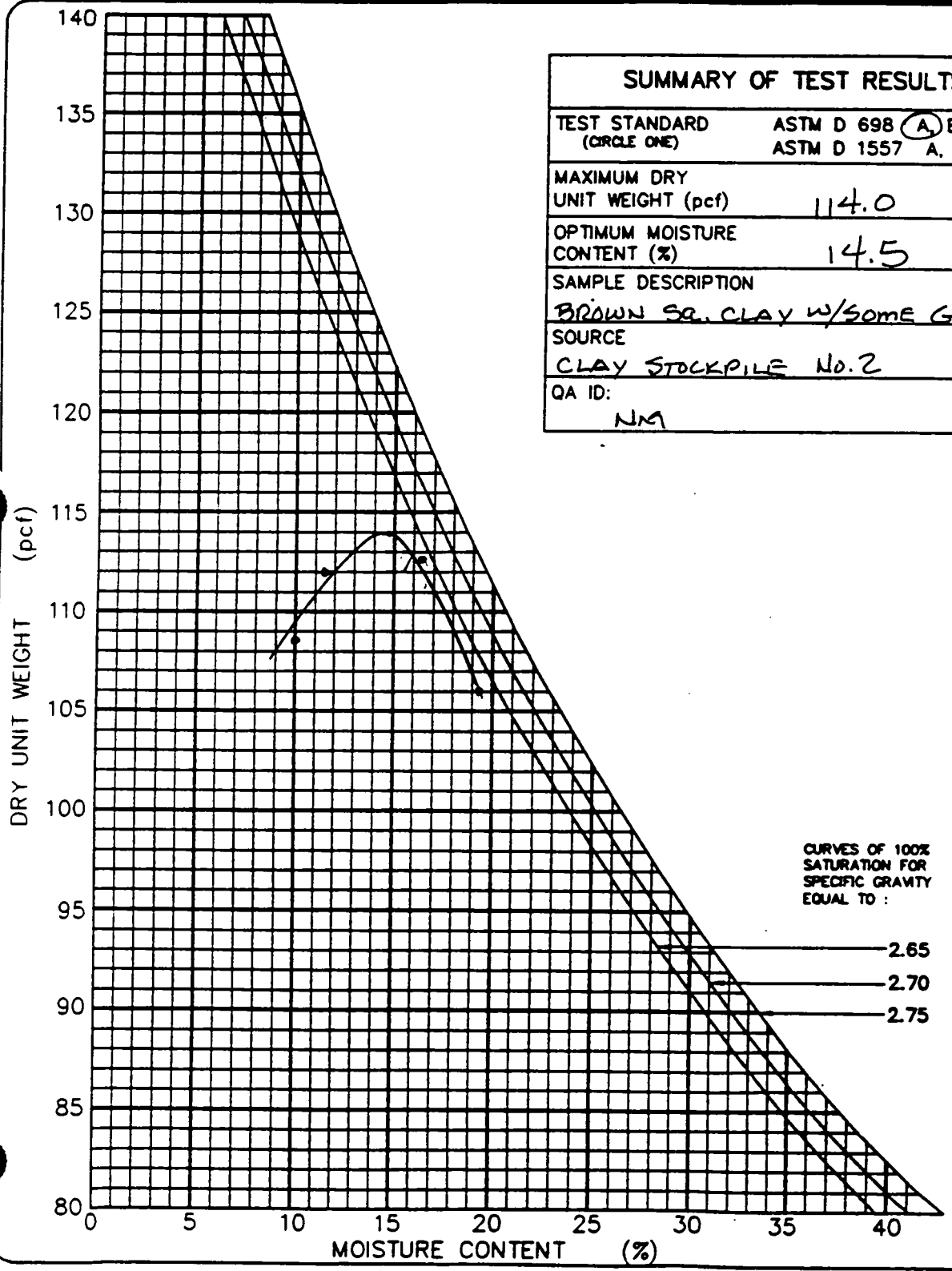
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-09



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)	114.0
OPTIMUM MOISTURE CONTENT (%)	14.5
SAMPLE DESCRIPTION	BROWN SA. CLAY W/SOME GVL
SOURCE	CLAY STOCKPILE NO. 2
QA ID:	NM

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000638

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LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 16 day July month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-10

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: JW

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. _____	12				
A	WT. OF TARE	7.23				
B	WT. OF WET SOIL & TARE	296.55				
C	WT. OF DRY SOIL & TARE	266.0				
D	WT. OF WATER = B-C	30.6				
E	WT. OF DRY SOIL = C-A	258.8				
F	MOISTURE CONTENT = (D/E) X 100	11.8				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: JW

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	282.6 ~~132.0~~				
C	WT. OF DRY SOIL & TARE	265.8				
D	WT. OF WATER = B-C	16.8				
E	WT. OF DRY SOIL = C-A	133.8				
F	MOISTURE CONTENT = (D/E) X 100	12.6				

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-10

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 23,781.0 grams
> #4 SAMPLE WT = 2330.9 grams

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.	12	12	12
WT. OF DRY SAMPLE PLUS TARE	(grams)	266.0	131.47
WT. OF TARE	(grams)	7.2	7.2
WT. OF DRY SAMPLE	(grams)	258.8 ✓	124.3 ✓

SIEVE ANALYSIS QA ID: PKO/WM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø				100
1½"	37.5	Ø	0	100		
1"	25.0	135.5	0.6	99.4		
3/4"	19.0	353.1	1.5	98.5		90-100
½"	12.5	868.2	3.7	96.3		
3/8"	9.5	1211.2	5.1	94.9		
4	4.75	2266.1	9.5	90.5		
10	2.00	65.3	25.2	74.8	67.7	
20	0.850	77.1	29.8	70.2	63.5	
40	0.425	88.1	34.0	66.0	59.7	
60	0.250	97.6	37.7	62.3	56.4	
100	0.150	109.7	42.4	57.6	52.1	
200	0.075	123.8 ✓	47.8	52.2	47.2* ✓	50-100

* DOES NOT COMPLY WITH SPECIFICATION SECTION 02225 PART 2.01.C.3.c

%FINER = 100 − Σ% RETAINED

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CHECKED BY: KW 000640 SHEET NO. 1 OF 2

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PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS

(ASTM C 136/D 422) (ASTM D 2487)

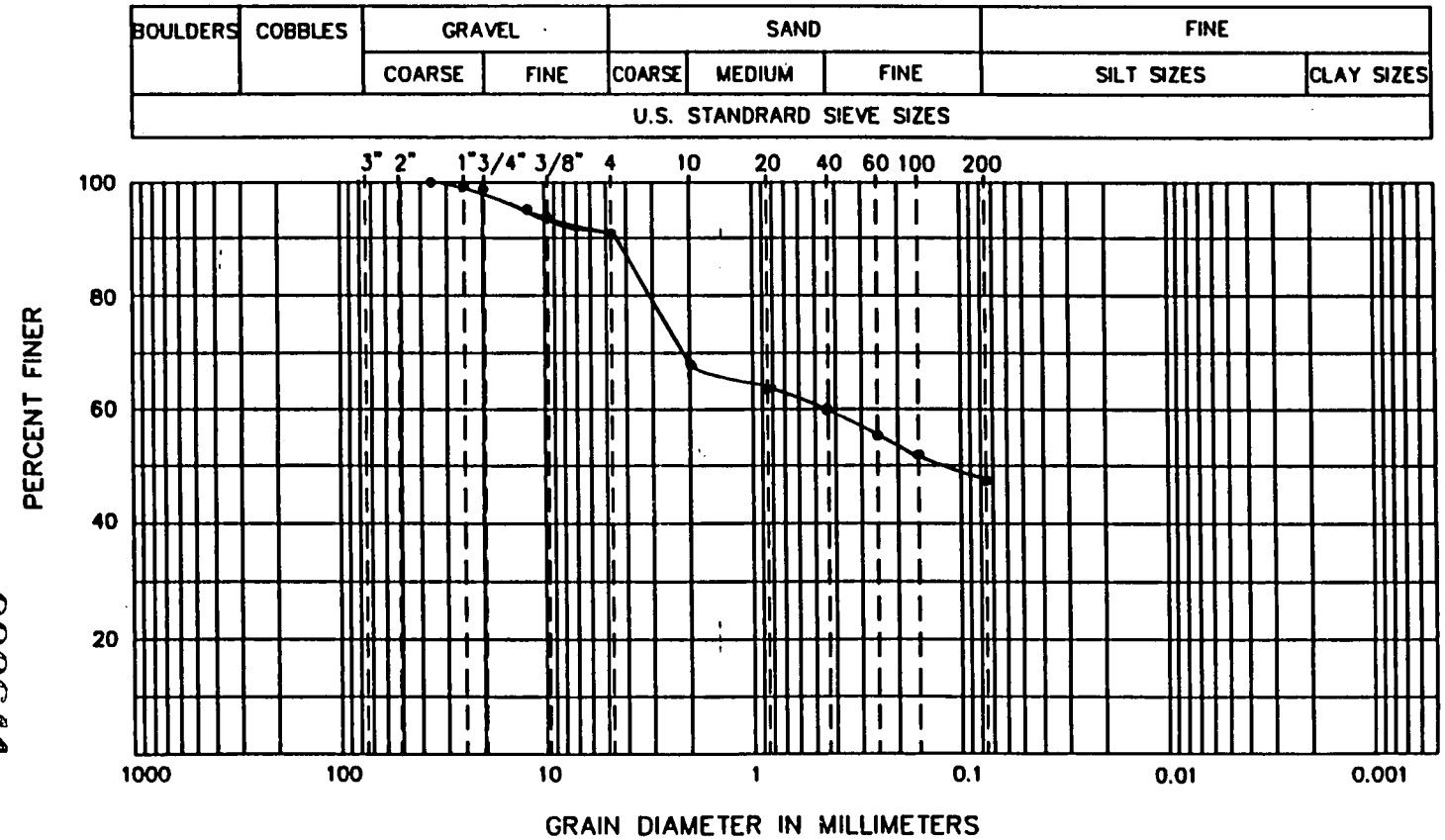
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 19 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-10 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 26

(PL) 15

(PI) 11

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	
1 1/2-in.	100.0
1-in.	99.4
3/4-in.	98.5
1/2-in.	96.3
3/8-in.	94.9
NO. 4	90.5
NO. 10	67.7
NO. 20	63.5
NO. 40	59.7
NO. 60	56.4
NO. 100	52.1
NO. 200	47.2

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~
	1997/98

SOIL CLASSIFICATION (ASTM D 2487): BROWN/GRAY CLAYEY SAND (SC) W/ SOME GRAVEL

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000641

1265

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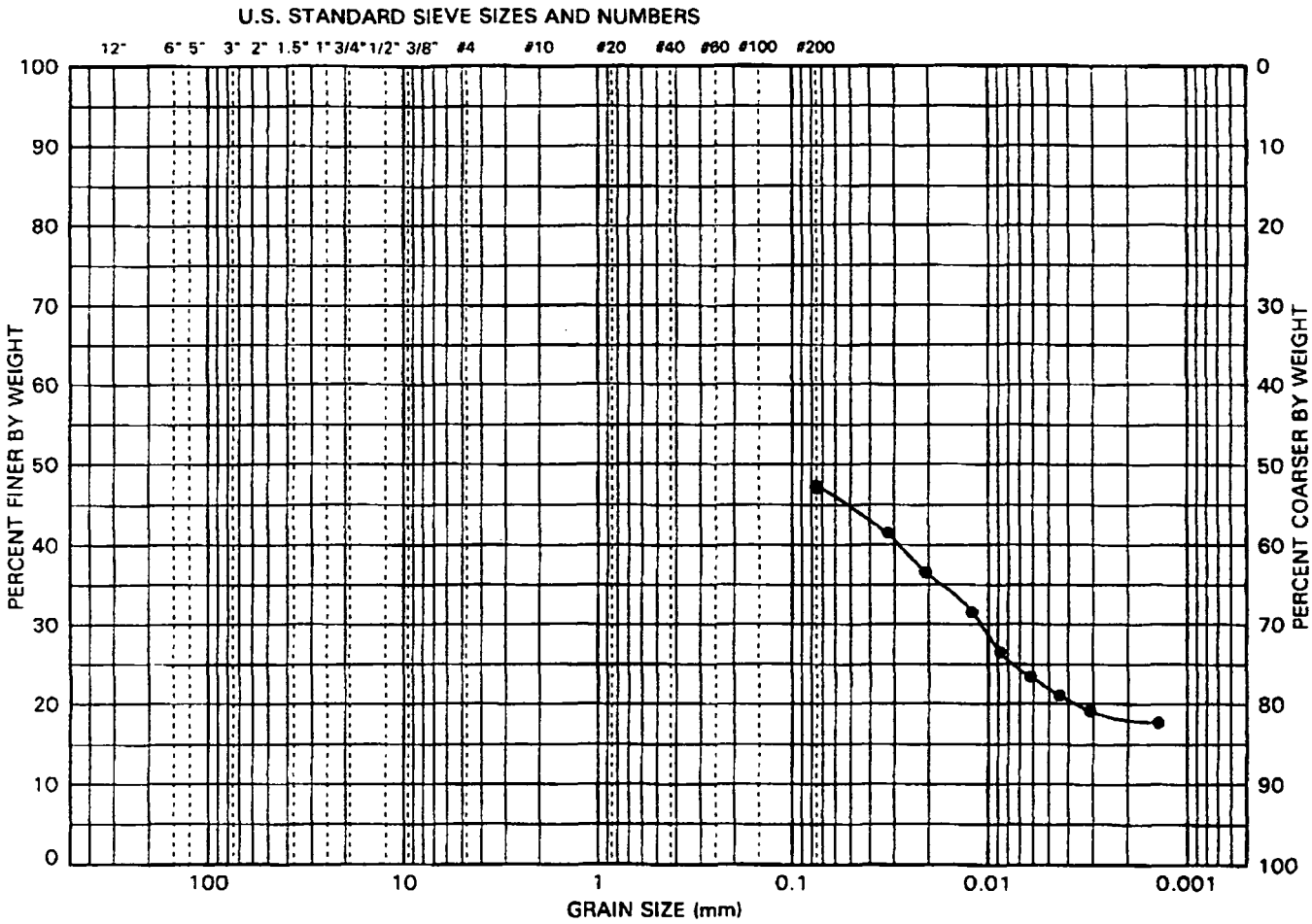
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/30/97

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-10	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO. 97G146	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:			SILT (%)
			CLAY(%) 18.4
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

RECEIVED JUL 31 1997

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
															36	22	18	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 day 7 month 92 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-10

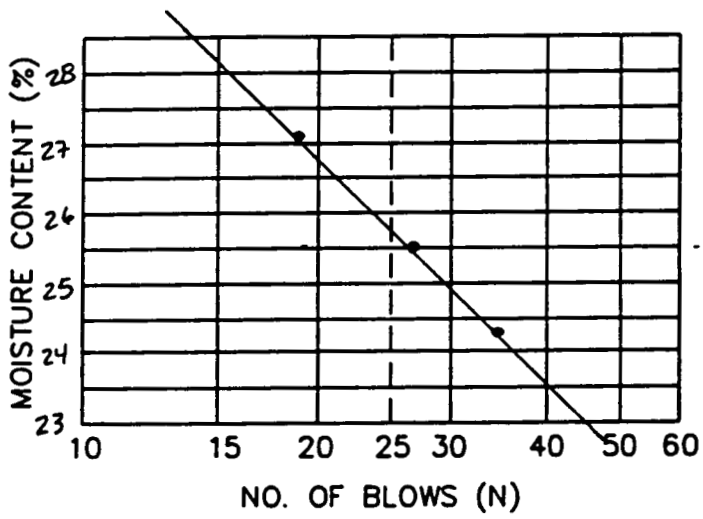
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		3.3	3.4	3.5	
A	WT. OF TARE	(grams)	21.44	21.40	21.20	
B	WT. OF WET SOIL & TARE	(grams)	31.52	31.53	29.41	
C	WT. OF DRY SOIL & TARE	(grams)	29.47	29.55	27.66	
D	WT. OF WATER = B-C	(grams)	2.05	1.98	1.75	
E	WT. OF DRY SOIL = C-A	(grams)	8.03	8.15	6.46	
F	MOISTURE CONTENT = (D/E)X100	(%)	25.5 ✓	24.3 ✓	27.1 ✓	
N	NUMBER OF BLOWS		27	35	19	

DRYING TARE NO.

13



CURING TARE NO.

1-E

CL

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		3.6	3.7		
A	WT. OF TARE	(grams)	21.44	21.29		
B	WT. OF WET SOIL & TARE	(grams)	30.93	29.60		
C	WT. OF DRY SOIL & TARE	(grams)	29.71	28.56		
D	WT. OF WATER = B-C	(grams)	1.22	1.04		
E	WT. OF DRY SOIL = C-A	(grams)	8.27	7.27		
F	MOISTURE CONTENT = (D/E)X100	(%)	14.8 ✓	14.3 ✓		

LIQUID LIMIT (LL) = 26 PLASTIC LIMIT (PL) = 15 PLASTICITY INDEX (PI) = 11

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 18 day July month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-10

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: NM

			11.1%	13.5%	14.9%	8.8%	
	WATER ADDED	(ml)	200	250 *	300 **	150	
A	WT. OF SOIL & MOLD	(grams)	6259.7	6305.0	5933.0	6169.0	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	2050.3	2095.6	1723.7	1959.6	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	135.3	138.3	113.8	129.3	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	121.8 122.1 ✓	121.7 122.3 ✓	99.0 99.4 ✓	118.8 118.8 ✓	

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: NM

	TARE NO.		CT 20	9	8	23	
F	WT. OF TARE	(grams)	8.3	7.2	7.3	8.4	
G	WT. OF WET SOIL & TARE	(grams)	265.8	206.4	198.7	276.2	
H	WT. OF DRY SOIL & TARE	(grams)	240.6	183.3	174.5	254.6	
I	WT. OF WATER = G - H	(grams)	25.2	23.1	24.2	21.6	
J	WT. DRY SOIL = H - F	(grams)	232.3	176.1	167.2	246.2	
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.8 ✓	13.1 ✓	14.5 ✓	8.8 ✓	

*GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC * Pump slightly in mold ** Pump badly in mold CHECKED BY: [illegible] SHEET NO. 1 OF 2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

1265

MOISTURE-DENSITY RELATIONSHIP

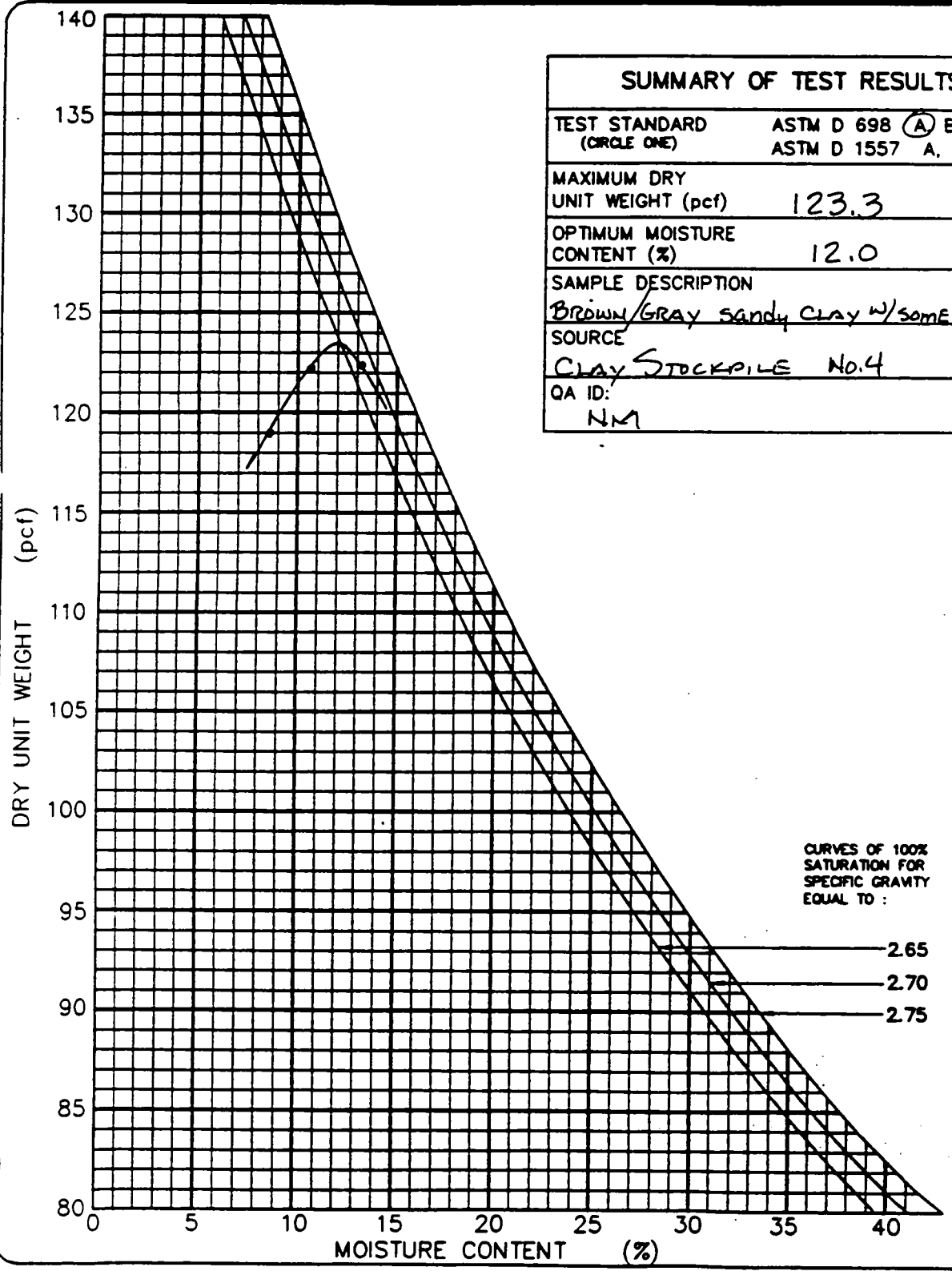
1265

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-10



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)	123.3
OPTIMUM MOISTURE CONTENT (%)	12.0
SAMPLE DESCRIPTION	BROWN/GRAY sandy CLAY W/SOME GVL
SOURCE	CLAY STOCKPILE No.4
QA ID:	NM

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 16 day JULY month '97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-11

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	29				
A	WT. OF TARE	8.2				
B	WT. OF WET SOIL & TARE	198.2				
C	WT. OF DRY SOIL & TARE	176.1				
D	WT. OF WATER = B-C	22.1				
E	WT. OF DRY SOIL = C-A	167.9				
F	MOISTURE CONTENT = (D/E) X 100	13.2				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	307.3				
C	WT. OF DRY SOIL & TARE	285.1				
D	WT. OF WATER = B-C	22.2				
E	WT. OF DRY SOIL = C-A	153.1				
F	MOISTURE CONTENT = (D/E) X 100	14.5				

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day July month '97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-11

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 25,258.6 gms
>#4 SAMPLE WT = 3118.4 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		29	29.0
WT. OF DRY SAMPLE PLUS TARE	(grams)	167.9	67.93
WT. OF TARE	(grams)	8.2	8.2
WT. OF DRY SAMPLE	(grams)	159.7 ✓	59.6 ✓

SIEVE ANALYSIS QA ID: DKO/NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	0	100		100
1½"	37.5	933.0	3.7	96.3		
1"	25.0	1392.0	5.5	94.5		
¾"	19.0	1575.2	6.2	93.8		90-100
½"	12.5	2048.0	8.1	91.9		
⅜"	9.5	2248.6	8.9	91.1		
4	4.75	2992.7	11.8	88.2		
10	2.00	26.1	16.3	83.7	73.8	
20	0.850	31.9	20.0	80.0	70.6	
40	0.425	37.8	23.7	76.3	67.3	
60	0.250	43.6	27.3	72.7	64.1	
100	0.150	51.1	32.0	68.0	60.0	
200	0.075	59.3 ✓	37.1	62.9	55.5 ✓	50-100

%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.: GQ0166 TASK NO.: 04.1

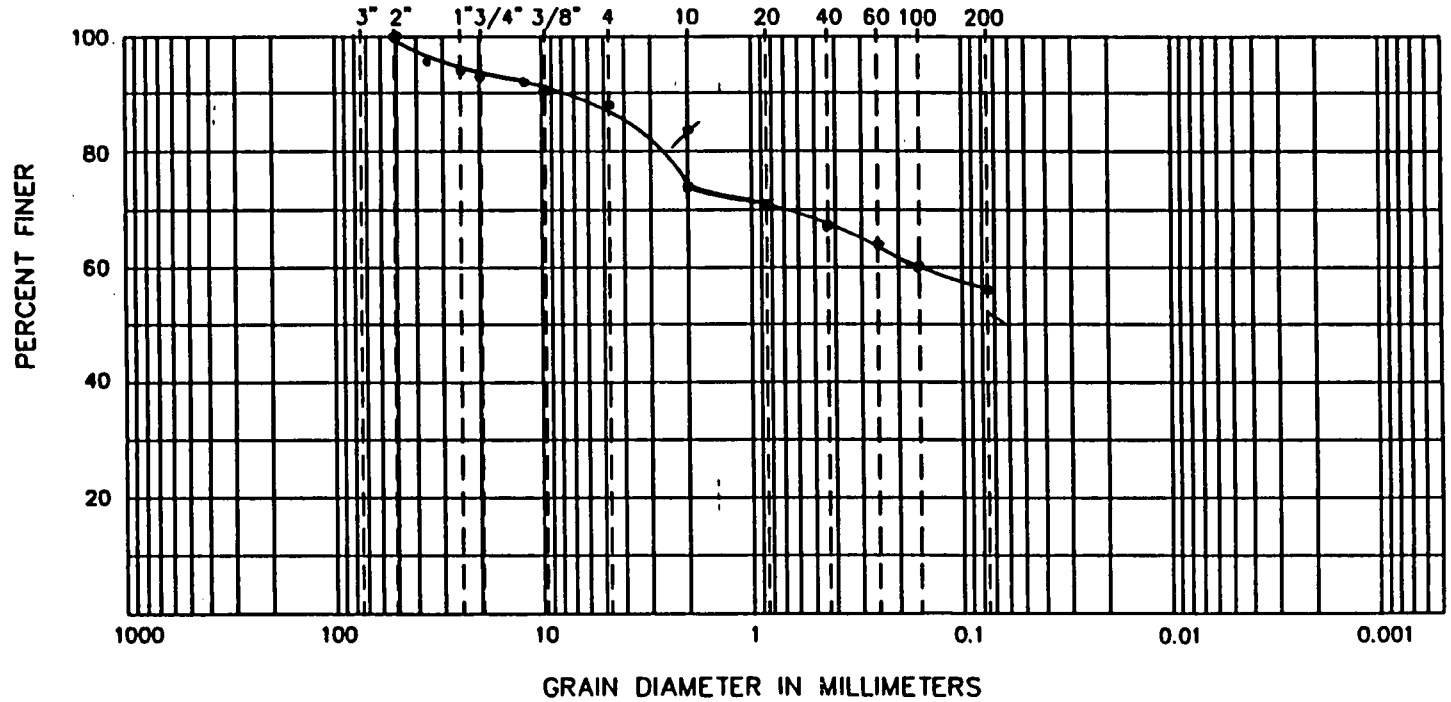
DESCRIPTION: PHASE I CONSTRUCTION — DATE: 19 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-11 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/a (C_c) N/a

BOULDERS	COBBLES	GRAVEL		SAND			FINE	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

U.S. STANDRARD SIEVE SIZES



ATTERBERG LIMITS

(LL) 34

(PL) 18

(PI) 16

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	96.3
1-in.	94.5
3/4-in.	93.8
1/2-in.	91.9
3/8-in.	91.1
NO. 4	88.2
NO. 10	78.8
NO. 20	70.6
NO. 40	67.3
NO. 60	64.1
NO. 100	60.0
NO. 200	55.5

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/a~~	~~N/a~~

SOIL CLASSIFICATION (ASTM D 2487): BROWN sandy LEAN CLAY (CL) w/ some GRAVEL

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1265

1265

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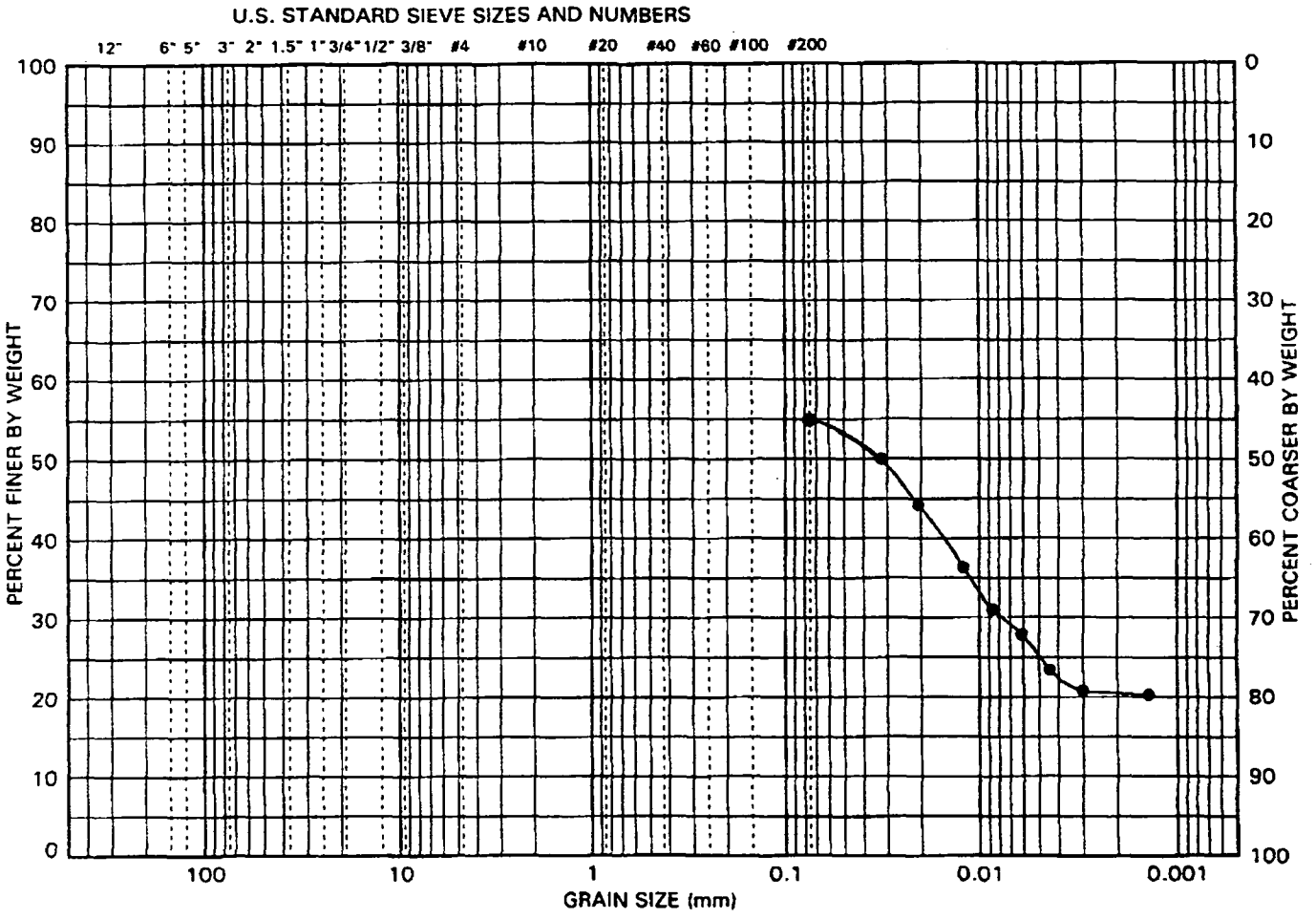
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: G00166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/30/97

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



SITE SAMPLE ID LP-11	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO. 97G147	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:			SILT (%)
			CLAY(%) 20.5
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

RECEIVED JUL 31 1997

PERCENT PASSING U.S. ~~STANDARD SIEVE SIZ~~ES 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
															44	25	21	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 23 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-11

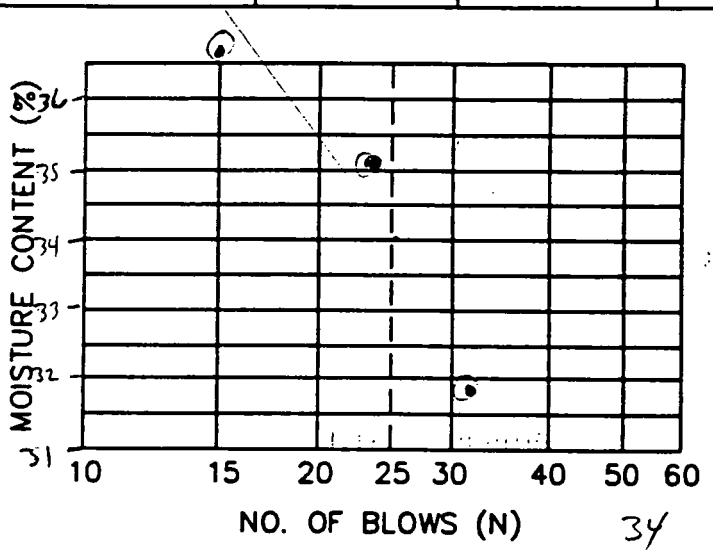
LIQUID LIMIT DETERMINATION

QA ID: Po

	TARE NO.		1.1	1.2	1.3	
A	WT. OF TARE	(grams)	29.76	28.50	28.64	
B	WT. OF WET SOIL & TARE	(grams)	44.11	43.82	41.78	
C	WT. OF DRY SOIL & TARE	(grams)	40.41	39.84	38.26	
D	WT. OF WATER = B-C	(grams)	3.7	3.98	3.52	
E	WT. OF DRY SOIL = C-A	(grams)	11.65	11.34	9.62	
F	MOISTURE CONTENT = (D/E)X100	(%)	31.8	35.1	36.6	
N	NUMBER OF BLOWS		32	24	15	

DRYING TARE NO.

E



CURING TARE NO.

1-D

PLASTIC LIMIT DETERMINATION

QA ID: Po

	TARE NO.		1.4	1.5		
A	WT. OF TARE	(grams)	28.52	28.61		
B	WT. OF WET SOIL & TARE	(grams)	40.98	39.82		
C	WT. OF DRY SOIL & TARE	(grams)	39.11	38.16		
D	WT. OF WATER = B-C	(grams)	1.87	1.66		
E	WT. OF DRY SOIL = C-A	(grams)	10.59	9.55		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.7	17.4		

LIQUID LIMIT (LL) = 34 PLASTIC LIMIT (PL) = 18 PLASTICITY INDEX (PI) = 16

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 18 day July month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-11

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: NM

			16.6%	18.2%	13.5%	11.5%	
	WATER ADDED	(ml)	150	200	100	50	
A	WT. OF SOIL & MOLD	(grams)	6169.0	6169.0	6123.6	5987.5	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	1959.6	1959.6	1914.2	1778.1	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	129.3	129.3	126.3	117.4	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	110.9 111.7 ✓	109.4 110.1 ✓	111.3 111.5 ✓	105.3 106.0 ✓	

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: NM

	TARE NO.		30	3	15	11	
F	WT. OF TARE	(grams)	8.3	7.6	7.7	7.3	
G	WT. OF WET SOIL & TARE	(grams)	230.0	213.2	204.8	256.9	
H	WT. OF DRY SOIL & TARE	(grams)	199.8	182.7	181.7	232.5	
I	WT. OF WATER = G - H	(grams)	30.2	30.5	23.1	24.4	
J	WT. DRY SOIL = H - F	(grams)	191.5	175.1	174.0	225.2	
K	MOISTURE CONTENT = (I/J) X 100	(%)	15.8 ✓	17.4 ✓	13.3	10.8 ✓	

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1265

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

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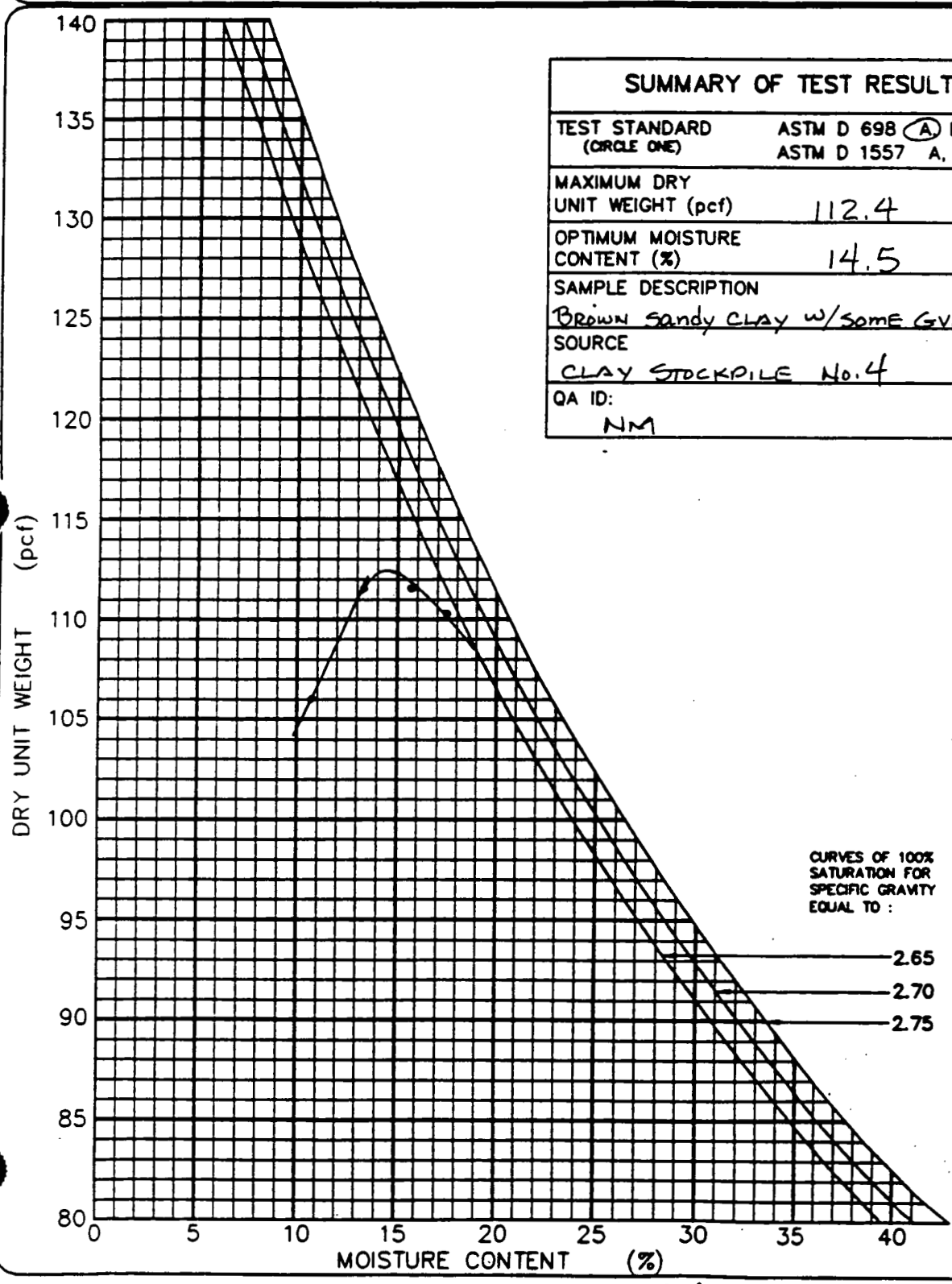
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-11



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)	112.4
OPTIMUM MOISTURE CONTENT (%)	14.5
SAMPLE DESCRIPTION	BROWN sandy CLAY w/SOME GVL.
SOURCE	CLAY STOCKPILE No. 4
QA ID:	NM

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FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 17 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-12

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	14				
A	WT. OF TARE	7.6				
B	WT. OF WET SOIL & TARE	193.0				
C	WT. OF DRY SOIL & TARE	171.3				
D	WT. OF WATER = B-C	21.7				
E	WT. OF DRY SOIL = C-A	163.7				
F	MOISTURE CONTENT = (D/E) X 100	13.3				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	290.8				
C	WT. OF DRY SOIL & TARE	271.9				
D	WT. OF WATER = B-C	18.9				
E	WT. OF DRY SOIL = C-A	139.9				
F	MOISTURE CONTENT = (D/E) X 100	13.5				

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day July month '97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-12

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 25,832.5 gm
> #4 SAMPLE WT = 4123.2 gm

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		14	14
WT. OF DRY SAMPLE PLUS TARE	(grams)	171.3	62.4
WT. OF TARE	(grams)	7.6	7.6
WT. OF DRY SAMPLE	(grams)	163.7 ✓	54.8 ✓

SIEVE ANALYSIS QA ID: JM/PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
3"	75.0	1022.2	4.0	96.0		
2"	50.0	1022.2	4.0	96.0		100
1½"	37.5	1311.7	5.1	94.9		
	25.0	1533.0	5.9	94.1		
3/4"	19.0	1973.7	7.6	92.4		90-100
1/2"	12.5	2476.8	9.6	90.4		
3/8"	9.5	2776.6	10.7	89.3		
4	4.75	3879.9	15.0	85.0		
10	2.00	18.8	11.5	88.5	75.2	
20	0.850	25.8	15.8	84.2	71.6	
40	0.425	32.5	19.9	80.1	68.1	
60	0.250	38.3	23.4	76.6	65.1	
100	0.150	45.5	27.8	72.2	61.4	
200	0.075	54.3 ✓	33.2	66.8	56.8 ✓	50-100

%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.: GQ0166 TASK NO.: 04.1

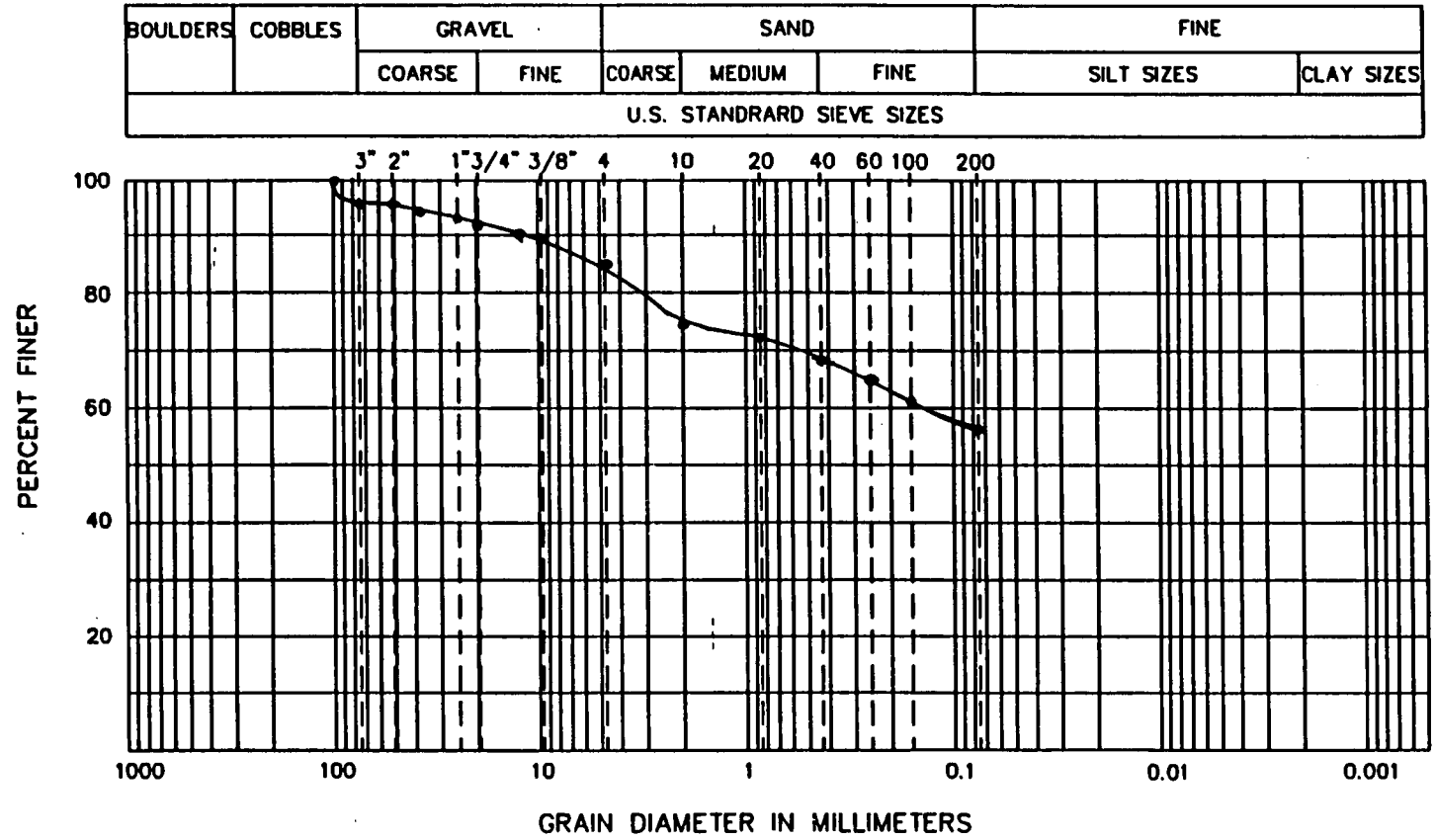
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-12 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 30

(PL) 16

(PI) 14

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	96.0
2-in.	96.0
1 1/2-in.	94.9
1-in.	94.1
3/4-in.	92.4
1/2-in.	90.4
3/8-in.	89.3
NO. 4	85.0
NO. 10	75.2
NO. 20	71.6
NO. 40	68.1
NO. 60	65.1
NO. 100	61.4
NO. 200	56.8

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~NA~~	~~NA~~

SOIL CLASSIFICATION (ASTM D 2487): BROWN sandy LEAN CLAY (CL) w/some GRAVEL

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SHEET NO. 2 OF 2

1265

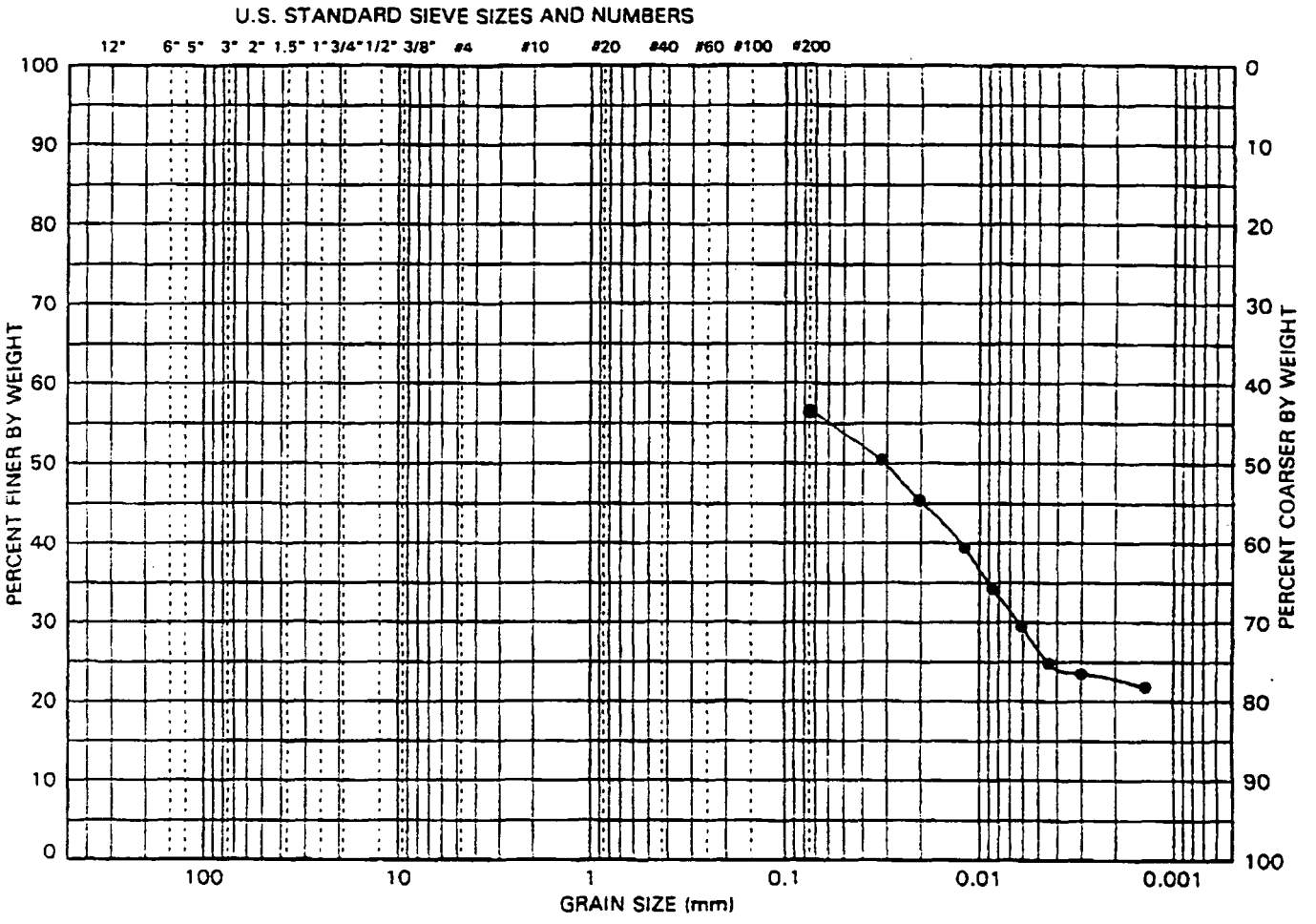
GEO SYNTEC CONSULTANTS
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/31/97

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-12	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G164	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				CLAY(%) 22.6
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

RECEIVED AUG 01 1997

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
															45	27	23	

NOTES:

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 23 day 7 month 97 year

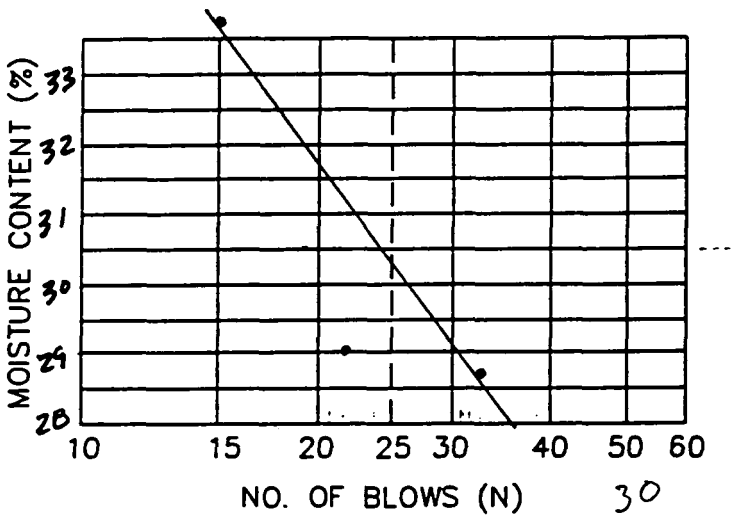
MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-12

LIQUID LIMIT DETERMINATION

QA ID: 00

	TARE NO.		1.6	1.7	1.8	
A	WT. OF TARE	(grams)	28.87	28.49	28.81	
B	WT. OF WET SOIL & TARE	(grams)	45.93	42.58	43.68	
C	WT. OF DRY SOIL & TARE	(grams)	42.13	38.41	39.93	
D	WT. OF WATER = B-C	(grams)	3.8	3.17	3.75	
E	WT. OF DRY SOIL = C-A	(grams)	13.26	10.92	11.12	
F	MOISTURE CONTENT = (D/E)X100	(%)	28.7	29.0	33.7	
N	NUMBER OF BLOWS		33	22	15	

DRYING TARE NO.: A



CURING TARE NO.: 1-H

PLASTIC LIMIT DETERMINATION

QA ID: P6

	TARE NO.		1.9	2.1		
A	WT. OF TARE	(grams)	28.56	28.24		
B	WT. OF WET SOIL & TARE	(grams)	43.72	39.26		
C	WT. OF DRY SOIL & TARE	(grams)	41.70	37.77		
D	WT. OF WATER = B-C	(grams)	2.02	1.49		
E	WT. OF DRY SOIL = C-A	(grams)	13.14	9.53		
F	MOISTURE CONTENT = (D/E)X100	(%)	15.4	15.6		

LIQUID LIMIT (LL) = 30 PLASTIC LIMIT (PL) = 16 PLASTICITY INDEX (PI) = 14

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 17 day JULY month '97 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-12

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: JW

				10.7	13.3	15.3	8.5
	WATER ADDED	(ml)	50	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)		5996.6	6155.4	6246.1	6200.7
B	WT. OF MOLD	(grams)		4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)		1787.2	1946.0	2036.7	1991.3
D	WET UNIT WT.(1) = C X 0.066	(pcf)		118.0 /	128.4 /	134.4 /	131.4 /
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)		10.6 107.4 /	11.33 113.4 /	11.6 116.3 /	11.4 112.0 /

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: JW

	TARE NO.			8	23	15	11
F	WT. OF TARE	(grams)		7.30	8.44	7.68	7.36
G	WT. OF WET SOIL & TARE	(grams)		166.79	162.14	191.08	161.75
H	WT. OF DRY SOIL & TARE	(grams)		152.49	144.24	166.33	138.99
I	WT. OF WATER = G - H	(grams)		14.35	17.9	24.75	22.76
J	WT. DRY SOIL = H - F	(grams)		145.19	135.8	158.65	131.63
K	MOISTURE CONTENT = (I/J) X 100	(%)		9.9 /	13.2 /	15.6 /	17.3 /

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1265

000658

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

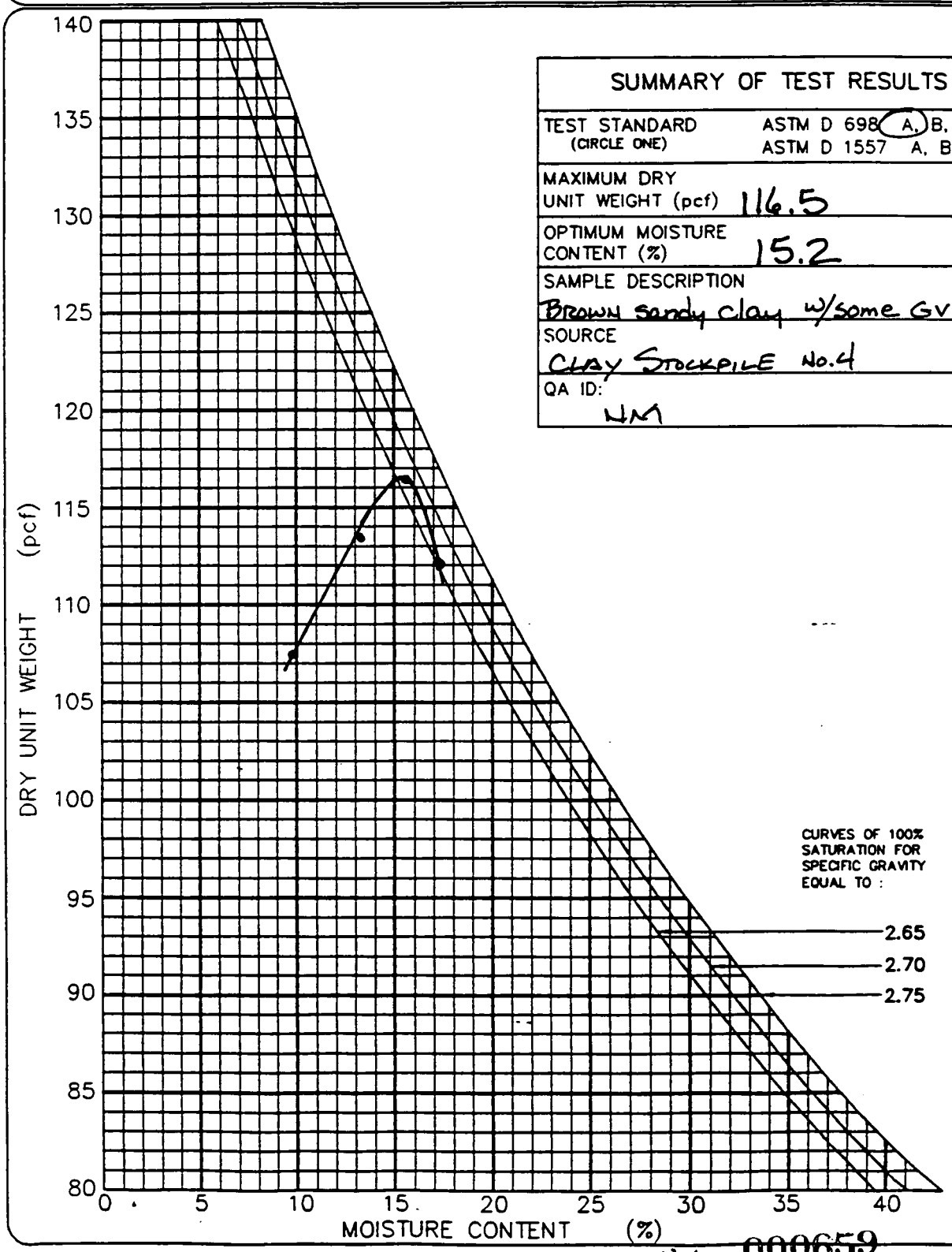
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-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)	116.5
OPTIMUM MOISTURE CONTENT (%)	15.2
SAMPLE DESCRIPTION	Brown sandy clay w/some GVL
SOURCE	CLAY STOCKPILE No.4
QA ID:	NM

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 17 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-13

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: PKO

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. _____	33				
A	WT. OF TARE	8.2				
B	WT. OF WET SOIL & TARE	199.6				
C	WT. OF DRY SOIL & TARE	176.9				
D	WT. OF WATER = B-C	22.7				
E	WT. OF DRY SOIL = C-A	168.7				
F	MOISTURE CONTENT = (D/E) X 100	13.5				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: PKO

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.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	292.1				
C	WT. OF DRY SOIL & TARE	270.4				
D	WT. OF WATER = B-C	21.7				
E	WT. OF DRY SOIL = C-A	138.4				
F	MOISTURE CONTENT = (D/E) X 100	15.7				

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: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-13

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 26,591.3 gms
> # 4 SAMPLE WT = 2795.4 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		33	33
WT. OF DRY SAMPLE PLUS TARE	(grams)	168.7	69.2
WT. OF TARE	(grams)	8.2	8.2
WT. OF DRY SAMPLE	(grams)	160.5 ✓	61.0 ✓

SIEVE ANALYSIS QA ID: PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
3"	75.0	Ø				
2"	50.0	Ø	0	100.0		100
1½"	37.5	150.1	0.6	99.4		
1"	25.0	556.1	2.1	97.9		
¾"	19.0	729.4	2.7	97.3		90-100
½"	12.5	1142.6	4.3	95.7		
⅜"	9.5	1441.2	5.4	94.6		
4	4.75	2621.2	9.9	90.1		
10	2.00	20.7	12.9	87.1	78.5	
20	0.850	28.8	17.9	82.1	74.0	
40	0.425	36.6	22.8	77.2	69.6	
60	0.250	43.3	27.0	73.0	65.8	
100	0.150	51.4	32.0	68.0	61.3	
200	0.075	60.4 ✓	37.6	62.4	56.2 ✓	50-100

%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.: GQ0166 TASK NO.: 04.1

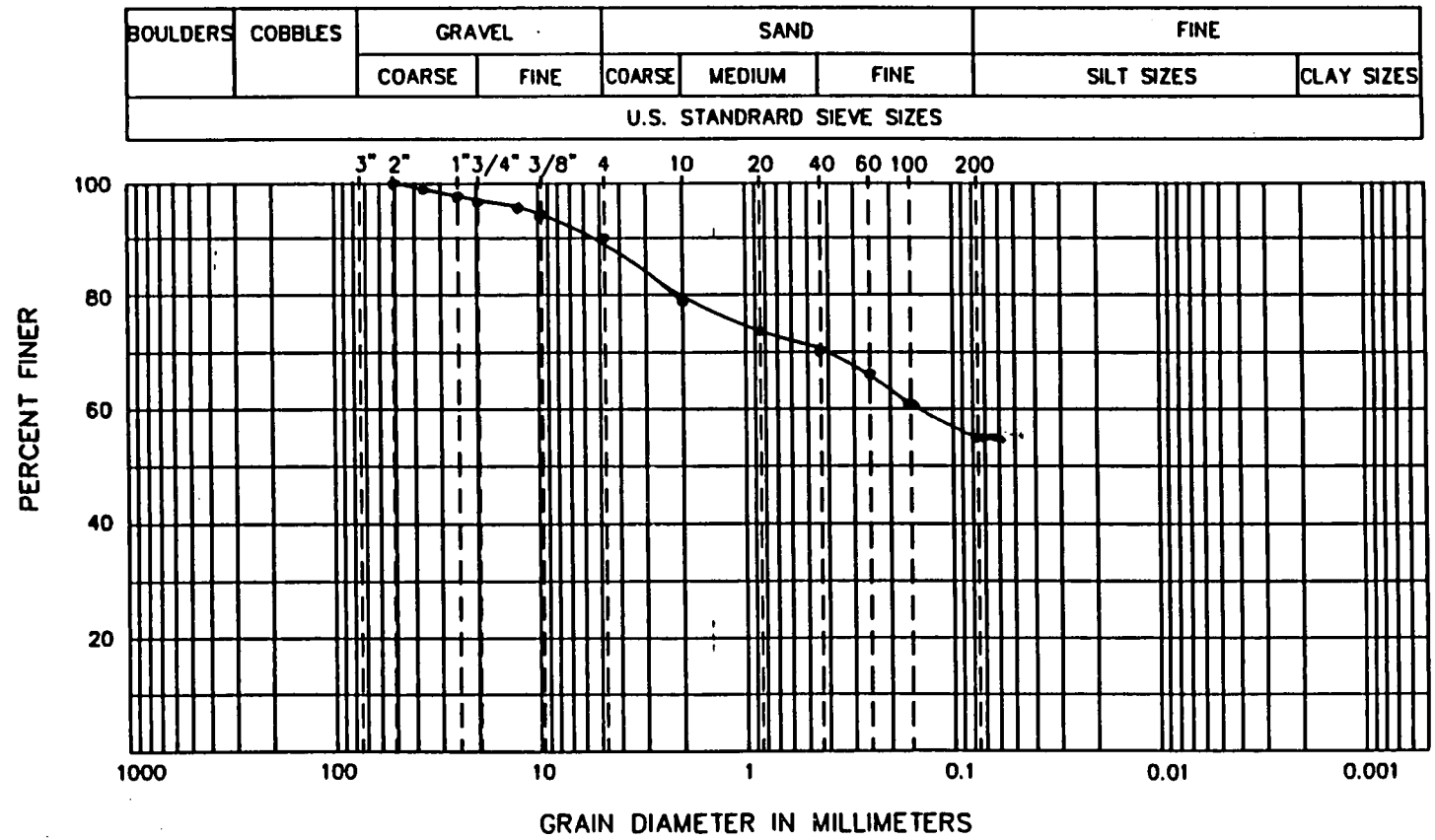
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-13 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 28

(PL) 16

(PI) 12

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	99.4
1-in.	97.9
3/4-in.	97.3
1/2-in.	95.7
3/8-in.	94.6
NO. 4	90.1
NO. 10	78.5
NO. 20	74.0
NO. 40	69.6
NO. 60	65.8
NO. 100	61.3
NO. 200	56.2

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A

SOIL CLASSIFICATION (ASTM D 2487): BROWN Sandy lean CLAY (CL) w/ SOME GVL.

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CHECKED BY: KW

SHEET NO. 2 OF 2

265

000662

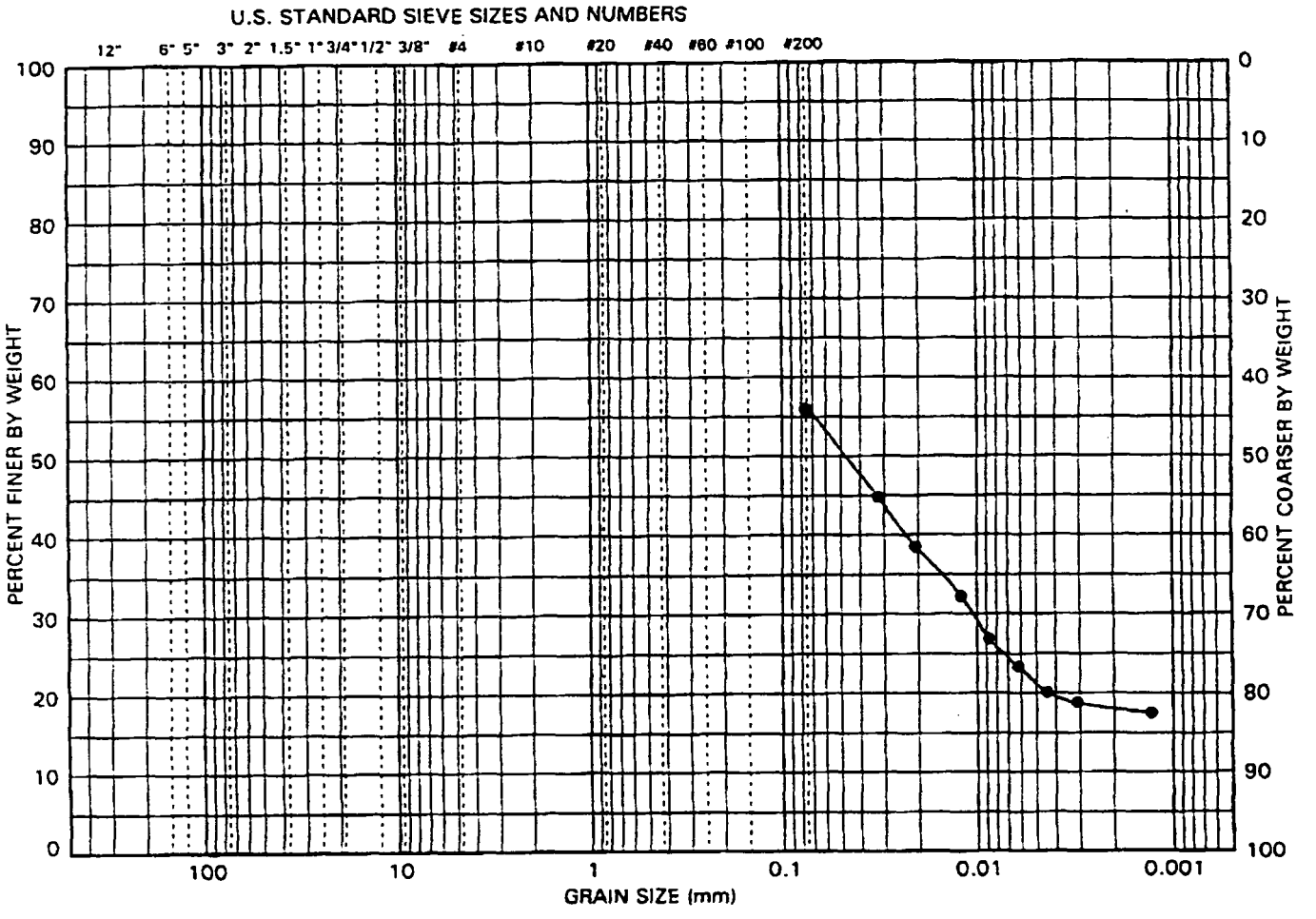
GEO SYNTEC CONSULTANTS
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 08/05/97

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-13	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G165	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				CLAY(%) 18.1
				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
															38	21	18	

NOTES:

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-13

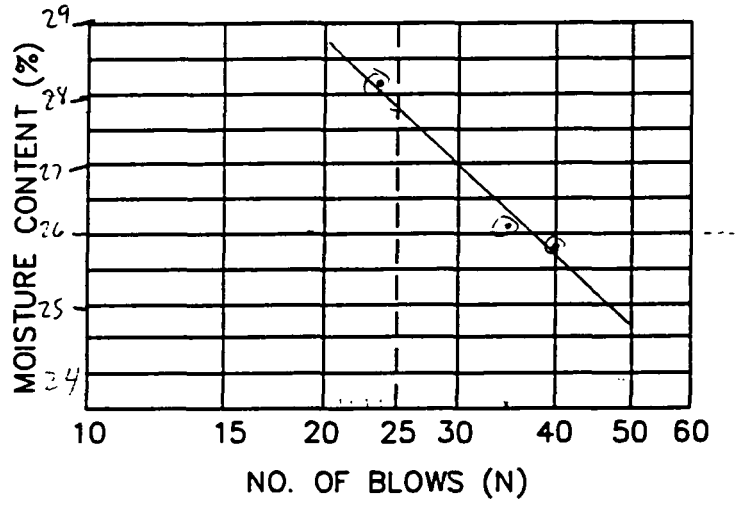
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.9	1.1	1.9	
A	WT. OF TARE	(grams)	31.46	28.76	28.56	
B	WT. OF WET SOIL & TARE	(grams)	43.65	39.88	39.02	
C	WT. OF DRY SOIL & TARE	(grams)	41.15	37.58	36.72	
D	WT. OF WATER = B-C	(grams)	2.5	2.30	2.30	
E	WT. OF DRY SOIL = C-A	(grams)	9.69	8.82	8.16	
F	MOISTURE CONTENT = (D/E)X100	(%)	25.8 ✓	26.1 ✓	28.2 ✓	
N	NUMBER OF BLOWS		40	35	24	

DRYING TARE NO.

B



CURING TARE NO.

1-B

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.6	2.3		
A	WT. OF TARE	(grams)	28.56	31.20		
B	WT. OF WET SOIL & TARE	(grams)	39.60	43.27		
C	WT. OF DRY SOIL & TARE	(grams)	38.08	41.60		
D	WT. OF WATER = B-C	(grams)	1.52	1.67		
E	WT. OF DRY SOIL = C-A	(grams)	9.52	10.40		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.0 ✓	16.0 ✓		

LIQUID LIMIT (LL) = 29 PLASTIC LIMIT (PL) = 16 PLASTICITY INDEX (PI) = 12

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 19 day July month 97 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-13

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: JW

				9.8%	12.4%	[illegible]	16.1%
	WATER ADDED	(ml)	50	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)		6010.2	6100.9	6223.4	6209.8
B	WT. OF MOLD	(grams)		4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)		1800.8	1891.5	2014.0	2000.4
D	WET UNIT WT.(1) = C X 0.066	(pcf)		118.9	124.8	132.9	132.0
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)		108.3 108.8	111.1 111.9	116.4 116.6	113.6 113.7

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: JW

	TARE NO.			3	9	30	20
F	WT. OF TARE	(grams)		7.57	7.24	8.30	8.33
G	WT. OF WET SOIL & TARE	(grams)		123.64	155.66	219.09	195.71
H	WT. OF DRY SOIL & TARE	(grams)		113.78	140.35	193.22	169.74
I	WT. OF WATER = G - H	(grams)		9.86	15.31	25.87	25.97
J	WT. DRY SOIL = H - F	(grams)		106.21	133.11	184.92	161.41
K	MOISTURE CONTENT = (I/J) X 100	(%)		9.3	11.5	14.0	16.1

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FLUOR DANIEL FERNALD

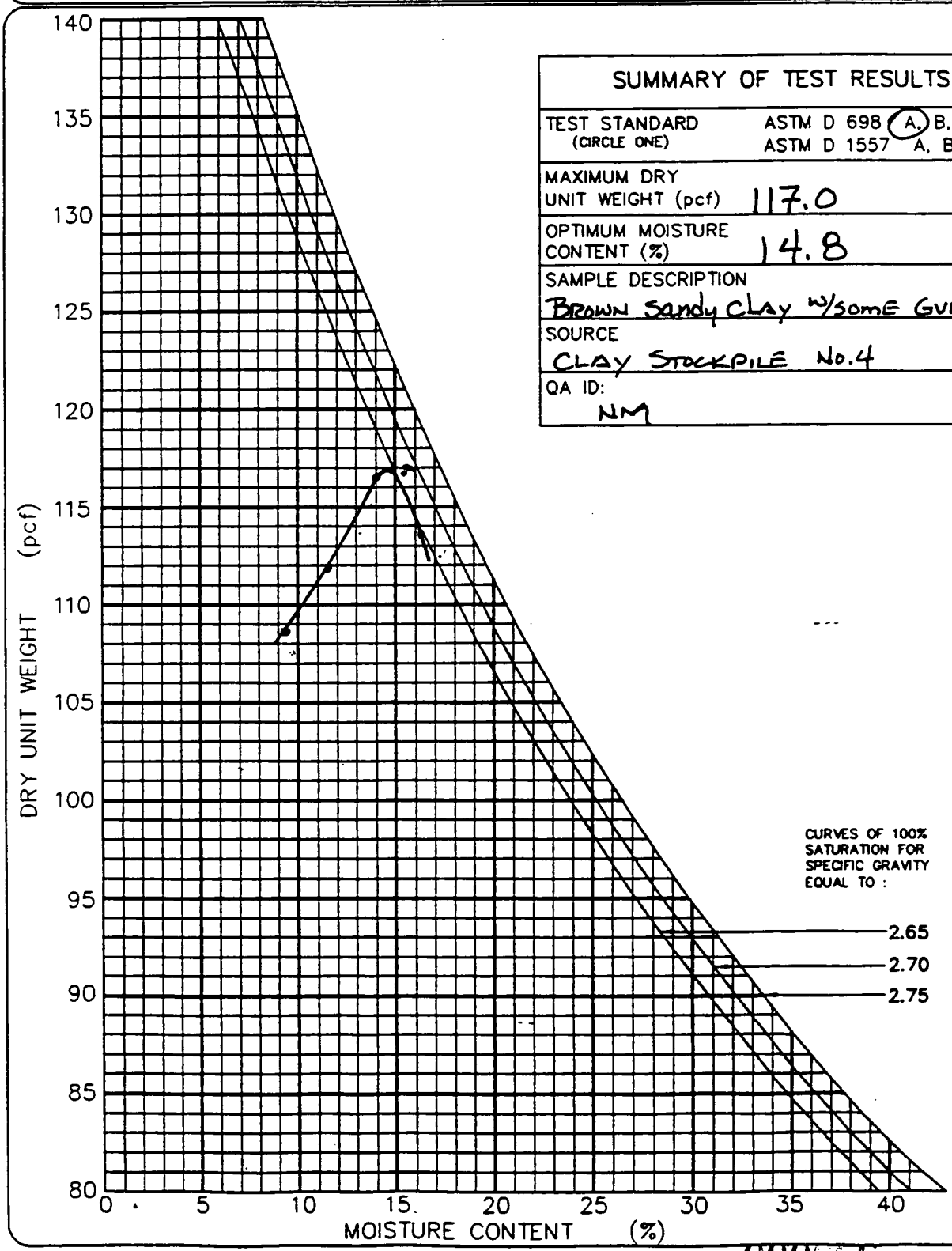
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-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)	117.0
OPTIMUM MOISTURE CONTENT (%)	14.8
SAMPLE DESCRIPTION	BROWN Sandy CLAY w/SOME GVL.
SOURCE	CLAY STOCKPILE No.4
QA ID:	NM

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 17 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-14

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID:

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. _____	26				
A	WT. OF TARE	8.3				
B	WT. OF WET SOIL & TARE	198.8				
C	WT. OF DRY SOIL & TARE	176.6				
D	WT. OF WATER = B-C	22.2				
E	WT. OF DRY SOIL = C-A	168.3				
F	MOISTURE CONTENT = (D/E) X 100	13.2				

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%

	TARE NO.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	285.2				
C	WT. OF DRY SOIL & TARE	265.8				
D	WT. OF WATER = B-C	19.4				
E	WT. OF DRY SOIL = C-A	133.8				
F	MOISTURE CONTENT = (D/E) X 100	14.5				

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: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day July month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LB-14

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 25,365.3 grms
> #4 SAMPLE WT = 3982.6 grms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	BEFORE WASH	AFTER WASH
TARE NO.	26	26
WT. OF DRY SAMPLE PLUS TARE (grams)	[illegible]	73.2
WT. OF TARE (grams)	8.3	8.3
WT. OF DRY SAMPLE (grams)	160.0 ✓	64.9 ✓

SIEVE ANALYSIS QA ID: NM/PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	358.5	1.4	98.6		100
1½"	37.5	743.6	2.9	97.1		
1"	25.0	1271.5	5.0	95.0		
¾"	19.0	1477.2	5.8	94.2		90-100
½"	12.5	1910.2	7.5	92.5		
⅜"	9.5	2344.8	9.2	90.8		
4	4.75	3619.9	14.3	85.7		
10	2.00	26.3	16.4	83.6	71.6	
20	0.850	34.5	21.6	78.4	67.2	
40	0.425	42.1	26.3	73.7	63.2	
60	0.250	48.5	30.3	69.7	59.7	
100	0.150	56.1	35.1	64.9	55.6	
200	0.075	64.6 ✓	40.4	59.6	51.1 ✓	50-100

%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.: GQ0166 TASK NO.: 04.1

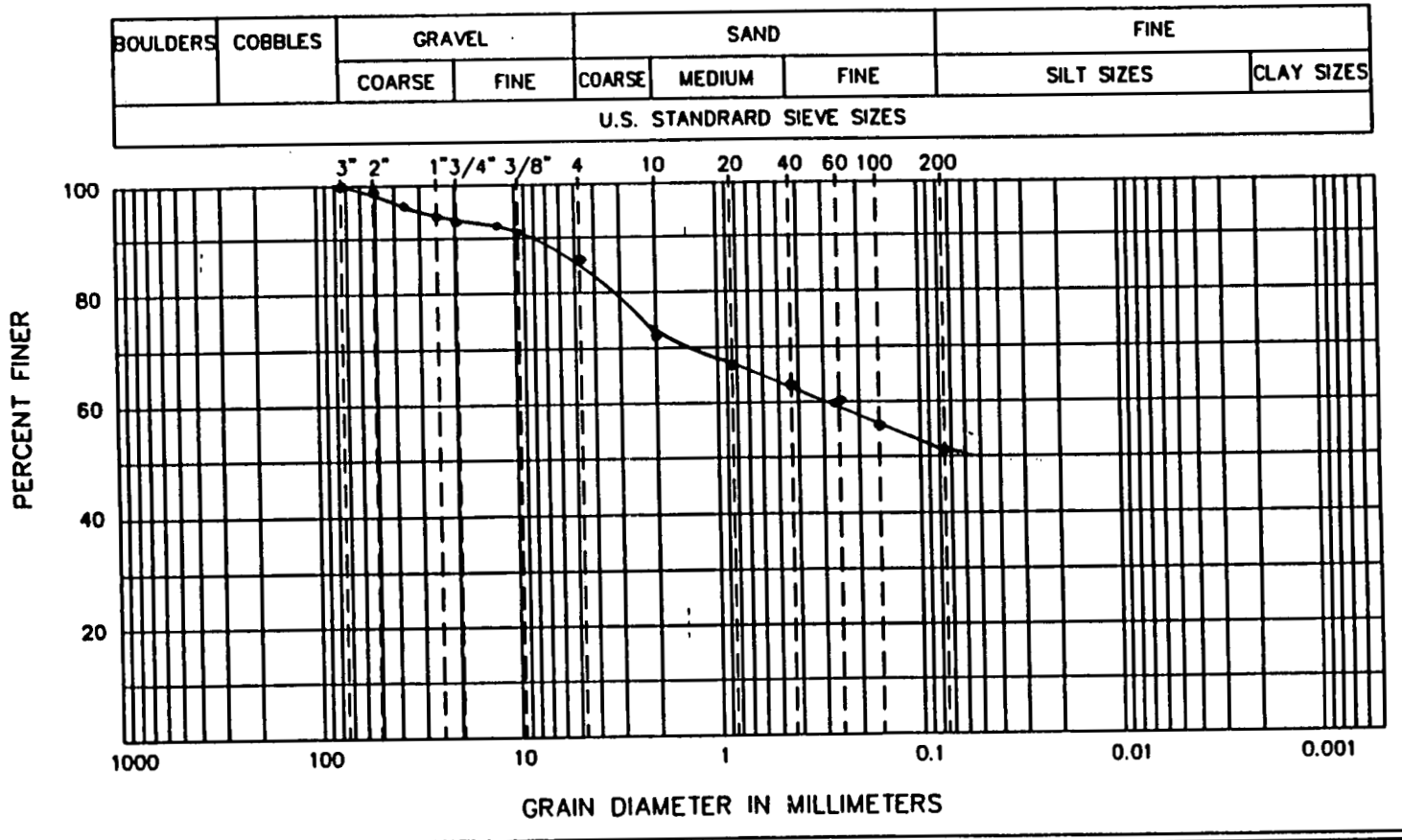
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-14 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 30

(PL) 15

(PI) 15

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	98.6
1 1/2-in.	97.1
1-in.	95.0
3/4-in.	94.2
1/2-in.	92.5
3/8-in.	90.8
NO. 4	85.7
NO. 10	71.6
NO. 20	67.2
NO. 40	63.2
NO. 60	59.7
NO. 100	55.6
NO. 200	51.1

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GVL.

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CHECKED BY: KW

SHEET NO. 2 OF 2

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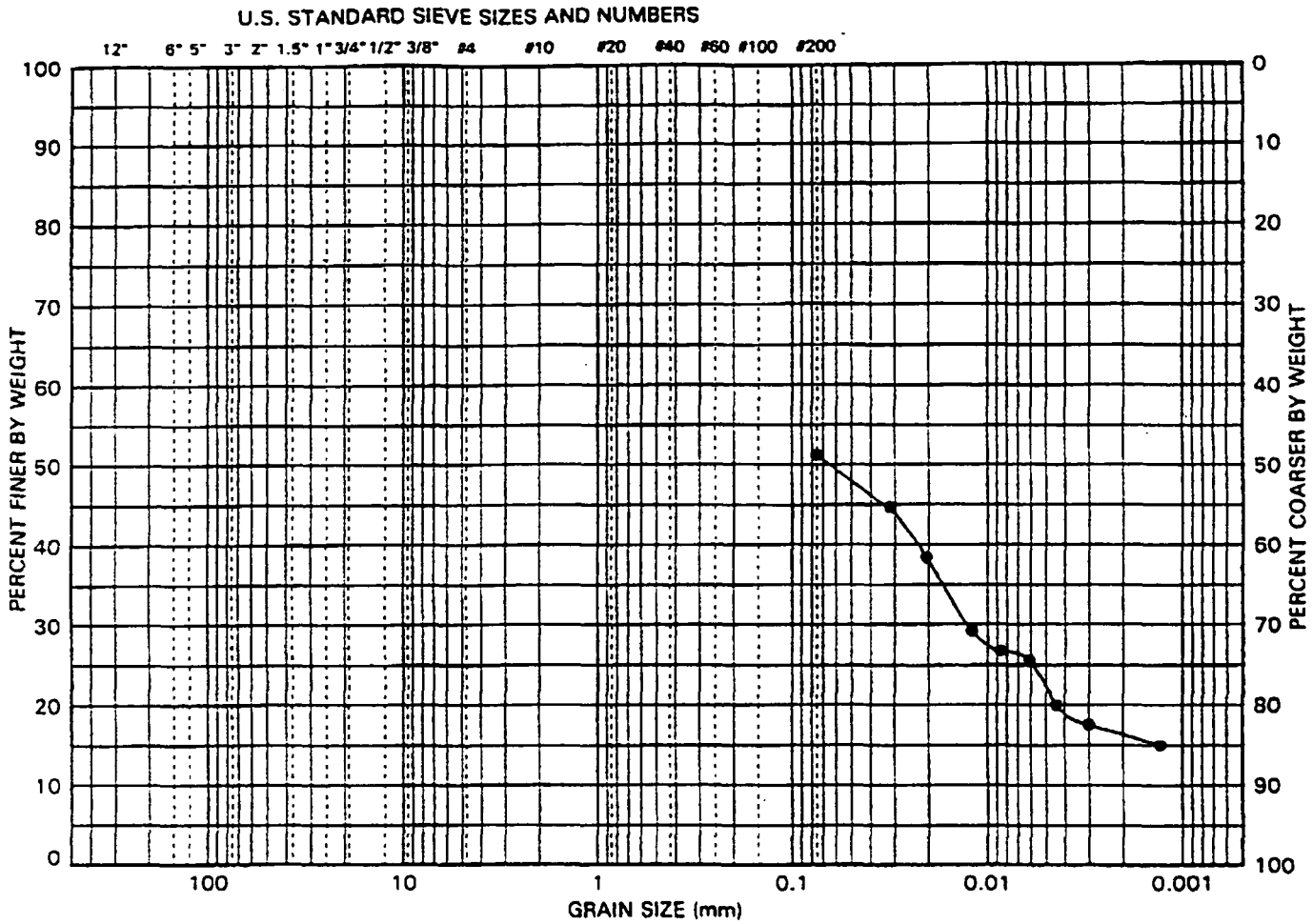
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 08/01/97

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 138, 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-14	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G166	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				CLAY(%) 16.3
				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
															38	22	16	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 26 day 7 month 89 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-14

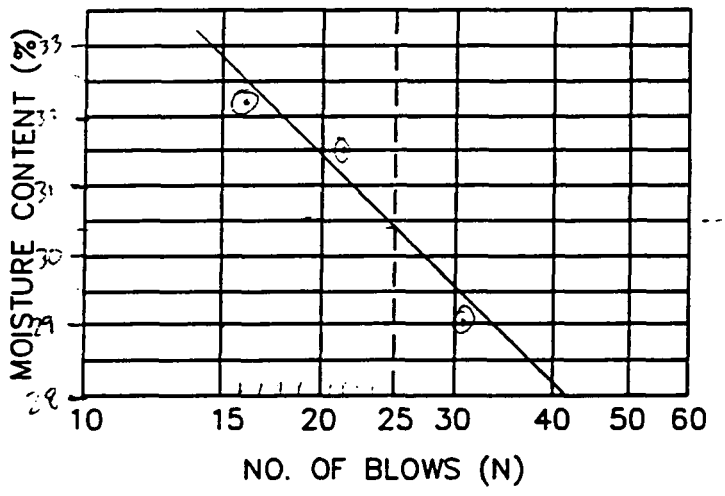
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.1	1.2	1.1	
A	WT. OF TARE	(grams)	28.24	28.50	28.76	
B	WT. OF WET SOIL & TARE	(grams)	38.86	40.62	40.70	
C	WT. OF DRY SOIL & TARE	(grams)	36.47	37.72	37.79	
D	WT. OF WATER = B-C	(grams)	2.39	2.9	2.91	
E	WT. OF DRY SOIL = C-A	(grams)	8.23	9.22	9.03	
F	MOISTURE CONTENT = (D/E)X100	(%)	29.0 ✓	31.5 ✓	32.2 ✓	
N	NUMBER OF BLOWS		31	22	16	

DRYING TARE NO.

D



CURING TARE NO.

1-G

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.6	2.3		
A	WT. OF TARE	(grams)	28.87	31.20		
B	WT. OF WET SOIL & TARE	(grams)	37.49	39.00		
C	WT. OF DRY SOIL & TARE	(grams)	36.36	37.95		
D	WT. OF WATER = B-C	(grams)	1.13	1.05		
E	WT. OF DRY SOIL = C-A	(grams)	7.49	6.75		
F	MOISTURE CONTENT = (D/E)X100	(%)	15.1 ✓	15.6 ✓		

LIQUID LIMIT (LL) = 30 PLASTIC LIMIT (PL) = 15 PLASTICITY INDEX (PI) = 15

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day June month '97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-14

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: JW

				9.3%	11.8%	14.0%	15.7%
	WATER ADDED	(ml)	50	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)		6055.6	6132.7	6227.9	6232.5
B	WT. OF MOLD	(grams)		4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)		1846.2	1923.3	2018.5	2023.1
D	WET UNIT WT.(1) = C X 0.066	(pcf)		121.8 ✓	126.9 ✓	133.2 ✓	133.5 ✓
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)		111.4 111.3 ✓	113.5 114.3 ✓	116.3 117.7 ✓	115.4 116.0 ✓

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: JW

	TARE NO.			22	31	32	25
F	WT. OF TARE	(grams)		8.35	8.28	8.32	8.2
G	WT. OF WET SOIL & TARE	(grams)		219.03	260.79	217.97	230.25
H	WT. OF DRY SOIL & TARE	(grams)		200.89	235.63	193.58	201.04
I	WT. OF WATER = G - H	(grams)		18.14	25.16	24.39	29.21
J	WT. DRY SOIL = H - F	(grams)		192.54	227.35	185.26	192.84
K	MOISTURE CONTENT = (I/J) X 100	(%)		9.4 ✓	11.1 ✓	13.2 ✓	15.1 ✓

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FLUOR DANIEL FERNALD

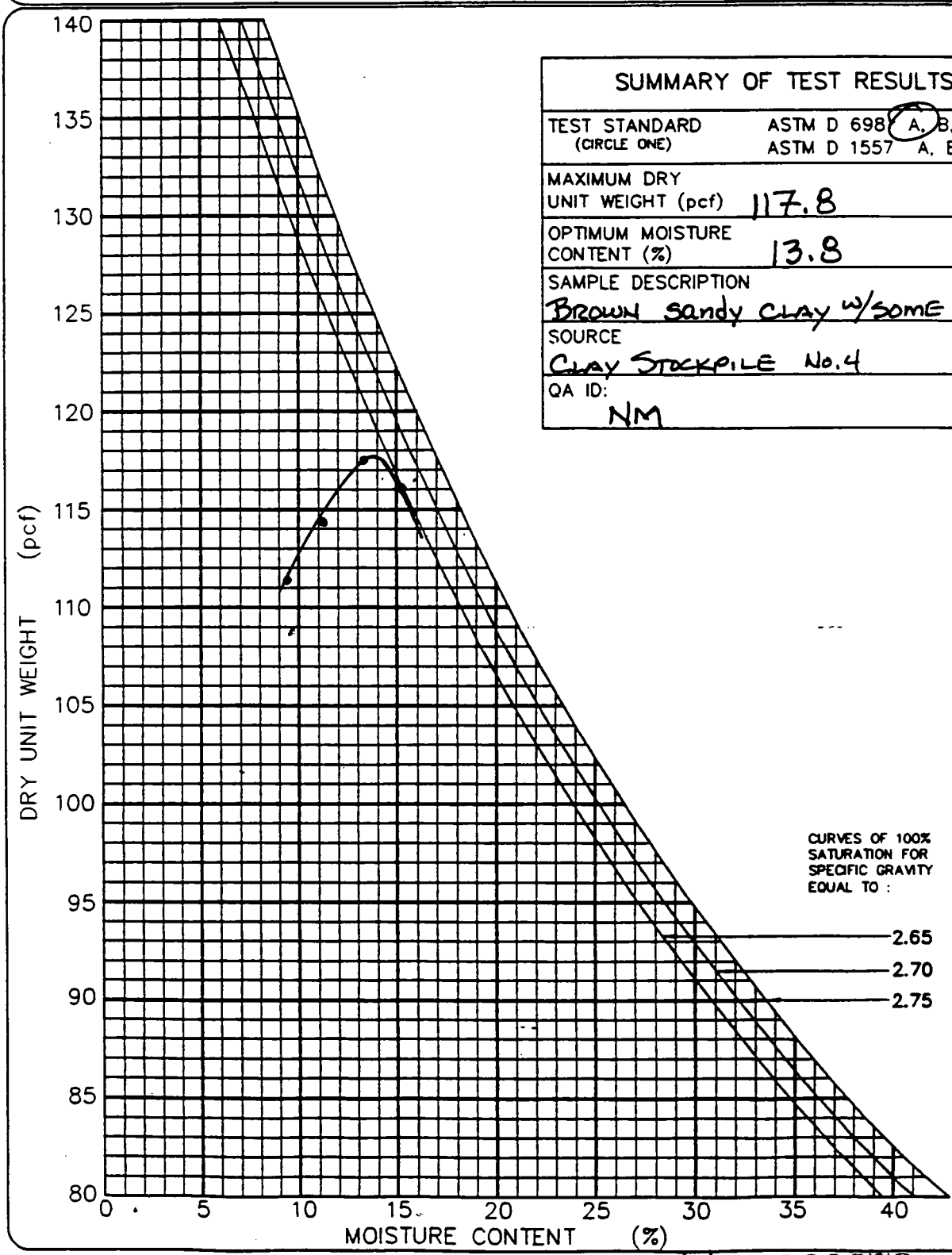
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-14



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)	117.8
OPTIMUM MOISTURE CONTENT (%)	13.8
SAMPLE DESCRIPTION	BROWN sandy CLAY w/SOME GVL
SOURCE	CLAY STOCKPILE No.4
QA ID:	NM

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LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04-1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-15

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	7				
A	WT. OF TARE	7.2				
B	WT. OF WET SOIL & TARE	199.9				
C	WT. OF DRY SOIL & TARE	175.9				
D	WT. OF WATER = B-C	24.0				
E	WT. OF DRY SOIL = C-A	168.7				
F	MOISTURE CONTENT = (D/E) X 100	14.2 ✓				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	IV				
A	WT. OF TARE	132.3				
B	WT. OF WET SOIL & TARE	300.2				
C	WT. OF DRY SOIL & TARE	278.9				
D	WT. OF WATER = B-C	21.3				
E	WT. OF DRY SOIL = C-A	146.6				
F	MOISTURE CONTENT = (D/E) X 100	14.5 ✓				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day Jun month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-15

SOIL SAMPLE SIZE TOTAL SAMPLE WT. = 29,824.2
>#4 WT. = 6581.7

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		7	7
WT. OF DRY SAMPLE PLUS TARE	(grams)	175.9	58.7
WT. OF TARE	(grams)	7.2	7.2
WT. OF DRY SAMPLE	(grams)	168.7	51.7

SIEVE ANALYSIS QA ID: NM/PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	417.3	1.4	98.6		100
1½"	37.50	1052.3	3.5	96.5		
1"	25.0	1312.4	4.4	95.6		
¾"	19.0	1566.1	5.3	94.7		90-100
½"	12.5	1970.0	6.6	93.4		
⅜"	9.5	2256.4	7.6	92.4		
4	4.75	3462.2	11.6	88.4		
10	2.00	11.5	6.8	93.2	82.4	
20	0.850	19.1	11.3	88.7	78.4	
40	0.425	26.6	15.8	84.2	74.4	
60	0.250	33.1	19.6	80.4	71.1	
100	0.150	41.2	24.4	75.6	66.8	
200	0.075	50.6	30.0	70.0	61.9	50-100

%FINER = 100 − Σ% RETAINED

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FLUOR DANIEL FERNALD

PARTICLE SIZE DISTRIBUTION AND SOIL CLASSIFICATION TEST RESULTS (ASTM D 422 & ASTM D 2487)

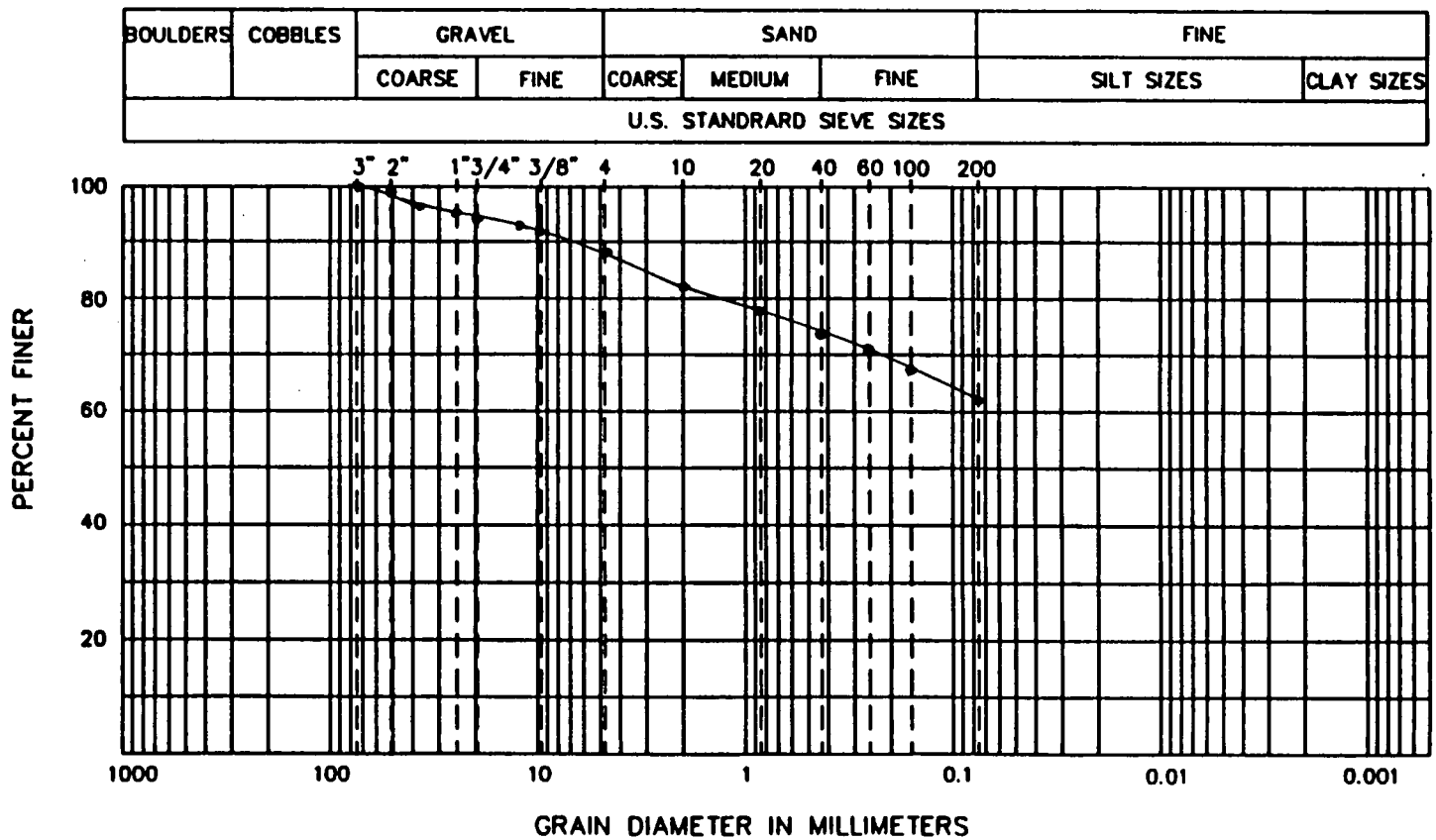
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-15 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 30

(PL) 16

(PI) 14

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	98.6
1 1/2-in.	96.5
1-in.	95.6
3/4-in.	94.7
1/2-in.	93.4
3/8-in.	92.4
NO. 4	88.4
NO. 10	82.4
NO. 20	78.4
NO. 40	74.4
NO. 60	71.1
NO. 100	66.8
NO. 200	61.9

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~
10/30/97	

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GVL.

GEOSYNTEC CONSULTANTS FILE NO. 2-16-PSD CHECKED BY: KW

SHEET NO. 2 OF 2

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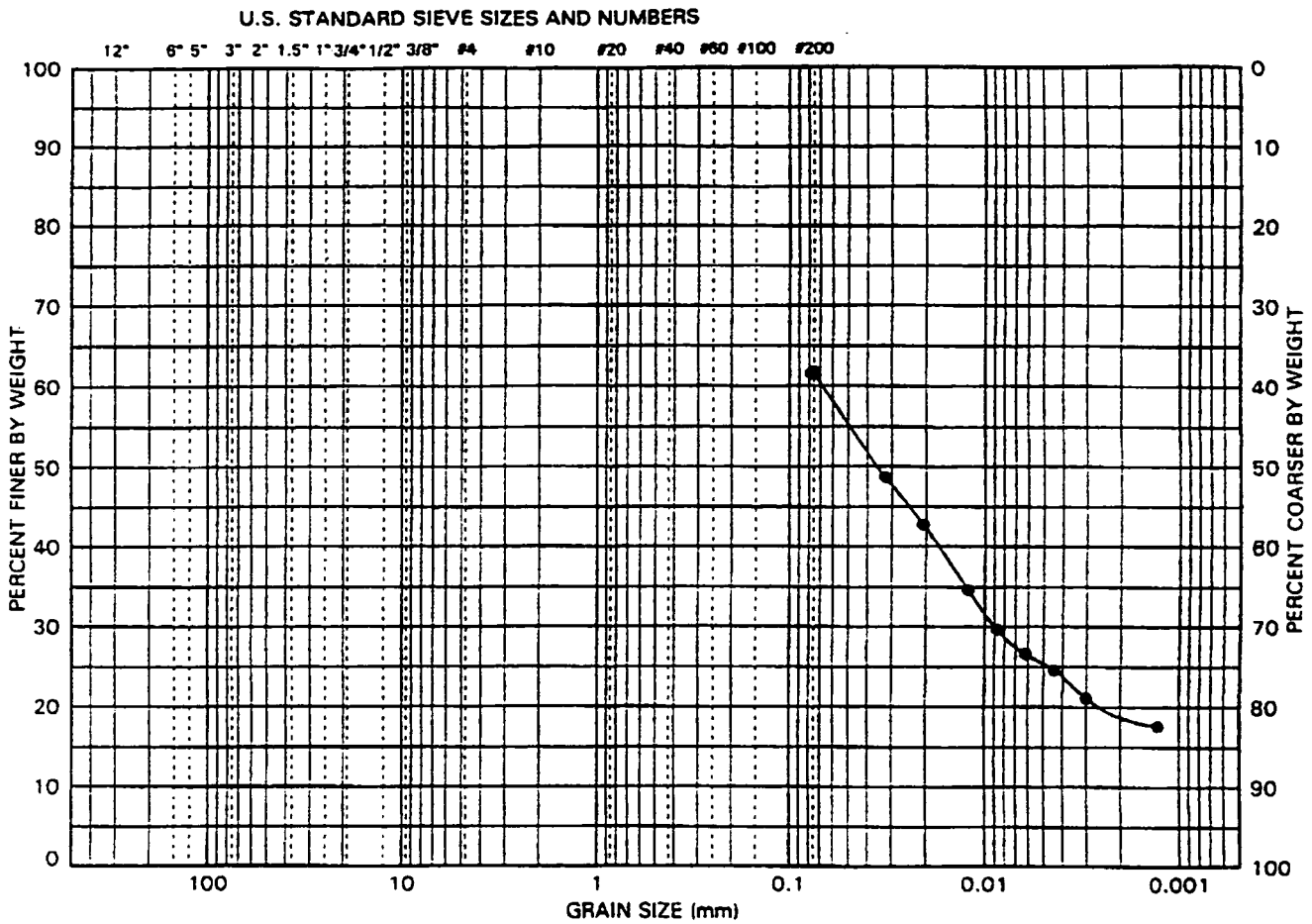
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 08/01/97

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-15	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G167	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				CLAY(%) 19.4
				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
															42	25	19	

NOTES:

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04·1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 26 day 7 month 97 year

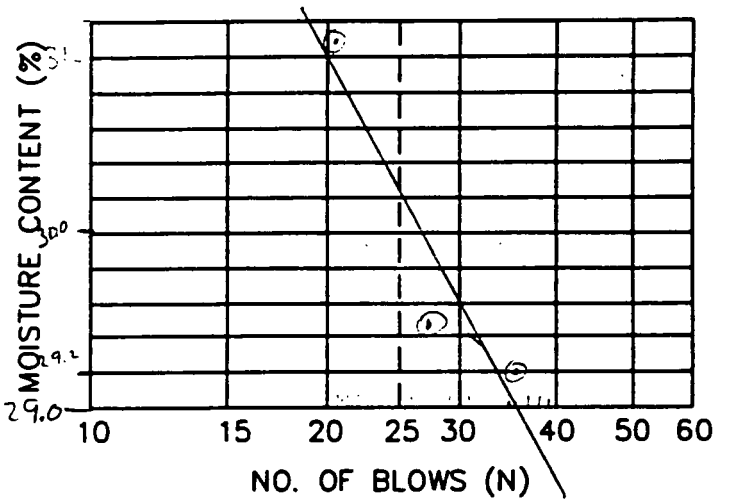
MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-15

LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.7	2.4	2.8	
A	WT. OF TARE	(grams)	29.49	27.39	28.45	
B	WT. OF WET SOIL & TARE	(grams)	40.79	39.14	40.56	
C	WT. OF DRY SOIL & TARE	(grams)	38.01	36.46	37.69	
D	WT. OF WATER = B−C	(grams)	2.78	2.68	2.87	
E	WT. OF DRY SOIL = C−A	(grams)	9.52	9.07	9.24	
F	MOISTURE CONTENT = (D/E)X100	(%)	29.2 ✓	29.5 ✓	31.1 ✓	
N	NUMBER OF BLOWS		36	27	21	

DRYING TARE NO.: C



CURING TARE NO.: 1-C

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.5	3.1		
A	WT. OF TARE	(grams)	28.42	28.38		
B	WT. OF WET SOIL & TARE	(grams)	37.63	35.66		
C	WT. OF DRY SOIL & TARE	(grams)	36.33	34.67		
D	WT. OF WATER = B−C	(grams)	1.3	1.0		
E	WT. OF DRY SOIL = C−A	(grams)	7.91	6.29		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.4 ✓	15.9 ✓		

LIQUID LIMIT (LL) = 30 PLASTIC LIMIT (PL) = 16.0 PLASTICITY INDEX (PI) = 14

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 21 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-15

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. DISCARD @ 0%

COMPACTION OF SOIL — QA ID: JW

			17.9	10.0	12.5	13.0	15.0
	WATER ADDED	(ml)	300 ~~50~~	100	150	[illegible]	250
A	WT. OF SOIL & MOLD	(grams)	6164.4	5996.6	6096.4	6105.5	6209.8
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1955.0	1787.2	1887.0	1896.1	2000.4
D	WET UNIT WT.(1) = C X 0.066	(pcf)	129.0	118.0	124.5	125.1	132.0
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	109.8	107.6	111.6	111.1	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: JW

	TARE NO.		26	27	5	12	30
F	WT. OF TARE	(grams)	8.34	8.17	7.56	7.28	8.33
G	WT. OF WET SOIL & TARE	(grams)	161.68	215.95	161.73	171.03	182.32
H	WT. OF DRY SOIL & TARE	(grams)	138.84	197.53	145.76	170.42	158.44
I	WT. OF WATER = G - H	(grams)	22.84	19.42	15.97	29.61	23.88
J	WT. DRY SOIL = H - F	(grams)	130.5	189.36	138.2	163.14	150.11
K	MOISTURE CONTENT = (I/J) X 100	(%)	17.5	9.7	11.6	18.6	15.9

GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC — CHECKED BY: [illegible] — SHEET NO. 1 OF 3

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 21 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-15

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: JW

	WATER ADDED	(ml)	DRY				
A	WT. OF SOIL & MOLD	(grams)	5879.1				
B	WT. OF MOLD	(grams)	4209.4				
C	WT. OF SOIL = A - B	(grams)	1669.7				
D	WET UNIT WT.(1) = C X 0.066	(pcf)	110.2 ✓				
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	105.2 ✓				

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: JW

	TARE NO.		20				
F	WT. OF TARE	(grams)	8.34				
G	WT. OF WET SOIL & TARE	(grams)	207.80				
H	WT. OF DRY SOIL & TARE	(grams)	198.58				
I	WT. OF WATER = G - H	(grams)	9.22				
J	WT. DRY SOIL = H - F	(grams)	190.24				
K	MOISTURE CONTENT = (I/J) X 100	(%)	4.8 ✓				

000680

GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC — CHECKED BY: [illegible] — SHEET NO. 2 OF 3

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

MOISTURE-DENSITY RELATIONSHIP

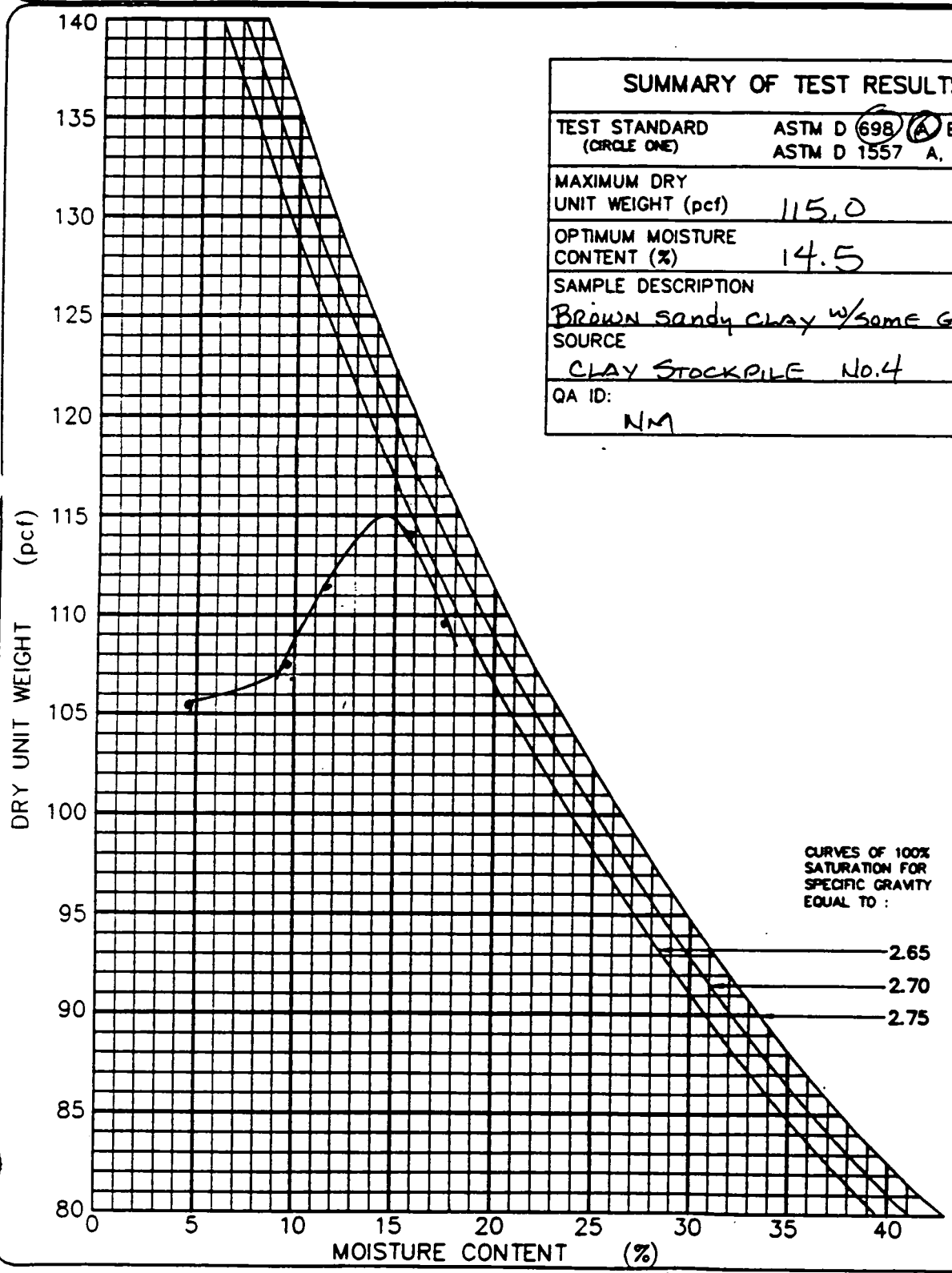
1265

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04

DESCRIPTION: PHASE I CONSTRUCTION DATE: 21 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-15



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)	115.0
OPTIMUM MOISTURE CONTENT (%)	14.5
SAMPLE DESCRIPTION	BROWN sandy CLAY w/some GVL.
SOURCE	CLAY STOCKPILE No.4
QA ID:	NM

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 day JUL month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-16

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: RP

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. 21	21				
A	WT. OF TARE	8.34				
B	WT. OF WET SOIL & TARE	184.64				
C	WT. OF DRY SOIL & TARE	160.1				
D	WT. OF WATER = B-C	24.5				
E	WT. OF DRY SOIL = C-A	151.8				
F	MOISTURE CONTENT = (D/E) X 100	16.1				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: RP

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.	IV				
A	WT. OF TARE	132.8				
B	WT. OF WET SOIL & TARE	280.5				
C	WT. OF DRY SOIL & TARE	258.8				
D	WT. OF WATER = B-C	21.7				
E	WT. OF DRY SOIL = C-A	126.5				
F	MOISTURE CONTENT = (D/E) X 100	17.2				

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 19 day JULY month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-16

SOIL SAMPLE SIZE TOTAL SAMP WT = 28,304.6
>#4 WT = 1927.8

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	BEFORE WASH	AFTER WASH
TARE NO.	21	21
WT. OF DRY SAMPLE PLUS TARE (grams)	160.1	47.3
WT. OF TARE (grams)	8.3	8.3
WT. OF DRY SAMPLE (grams)	151.8 ✓	39.0 ✓

SIEVE ANALYSIS QA ID: NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	429.3	1.5	98.5		100
1½"	37.5	429.3	1.5	98.5		
1"	25.0	617.1	2.2	97.8		
¾"	19.0	711.9	2.5	97.5		90-100
½"	12.5	853.8	3.0	97.0		
⅜"	9.5	977.9	3.5	96.5		
4	4.75	1697.2	6.0	94.0		
10	2.00	9.8	6.5	93.5	87.9	
20	0.850	14.3	9.4	90.6	85.2	
40	0.425	19.0	12.5	87.5	82.3	
60	0.250	23.4	15.4	84.6	79.5	
100	0.150	29.6	19.5	80.5	75.7	
200	0.075	38.4 ✓	25.3	74.7	70.2 ✓	50-100

%FINER = 100 − Σ% RETAINED

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CHECKED BY: KW 000683 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.: GQ0166 TASK NO.: 04.1

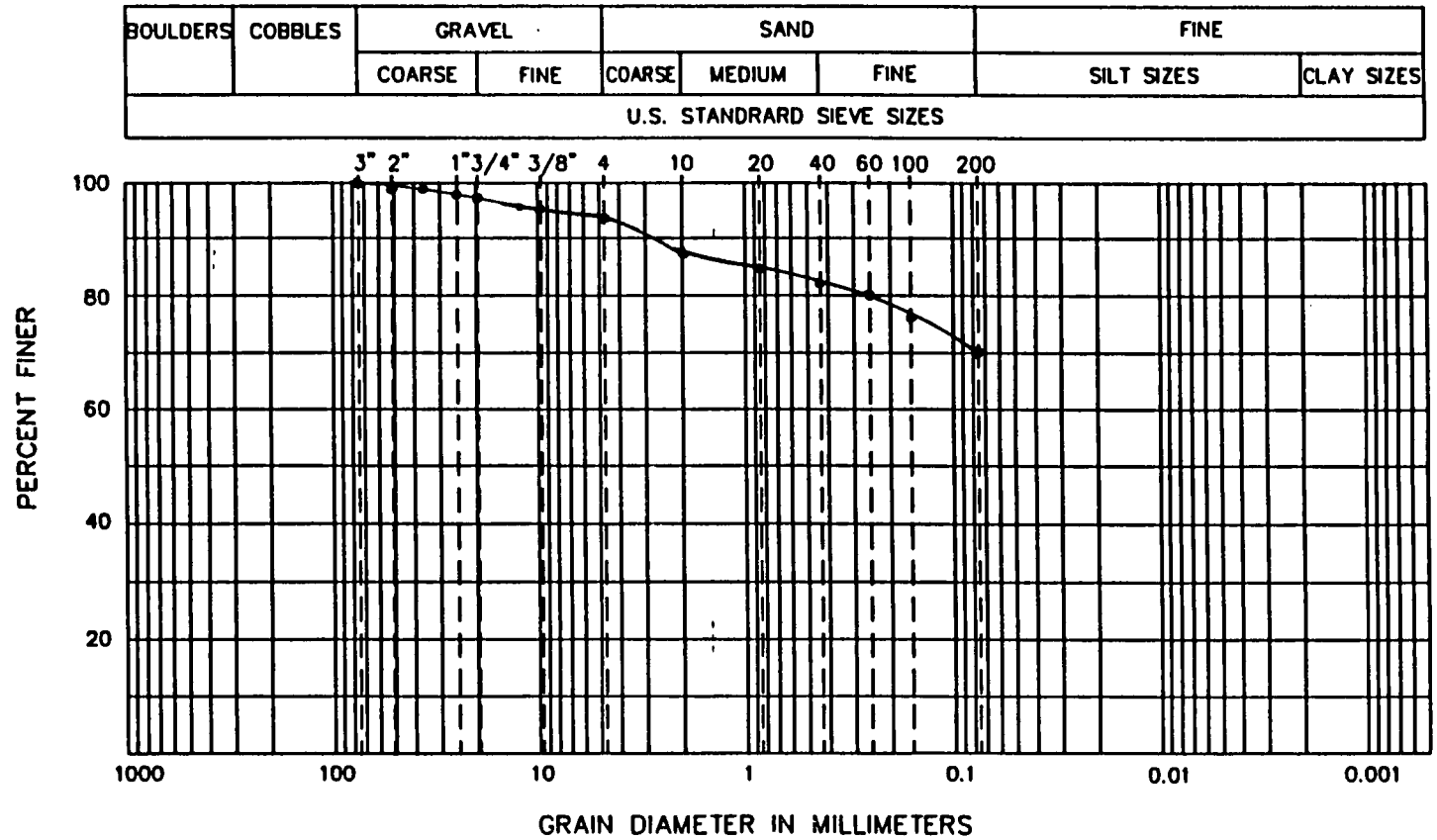
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-16 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 30

(PL) 16

(PI) 14

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	98.5
1 1/2-in.	98.5
1-in.	97.8
3/4-in.	97.5
1/2-in.	97.0
3/8-in.	96.5
NO. 4	94.0
NO. 10	87.9
NO. 20	85.2
NO. 40	82.3
NO. 60	79.5
NO. 100	75.7
NO. 200	70.2

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
N/A	N/A
	1990/53

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GRAVEL

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SHEET NO. 2 OF 2

000684

1265

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Geomechanics and Environmental Laboratory
Atlanta, Georgia

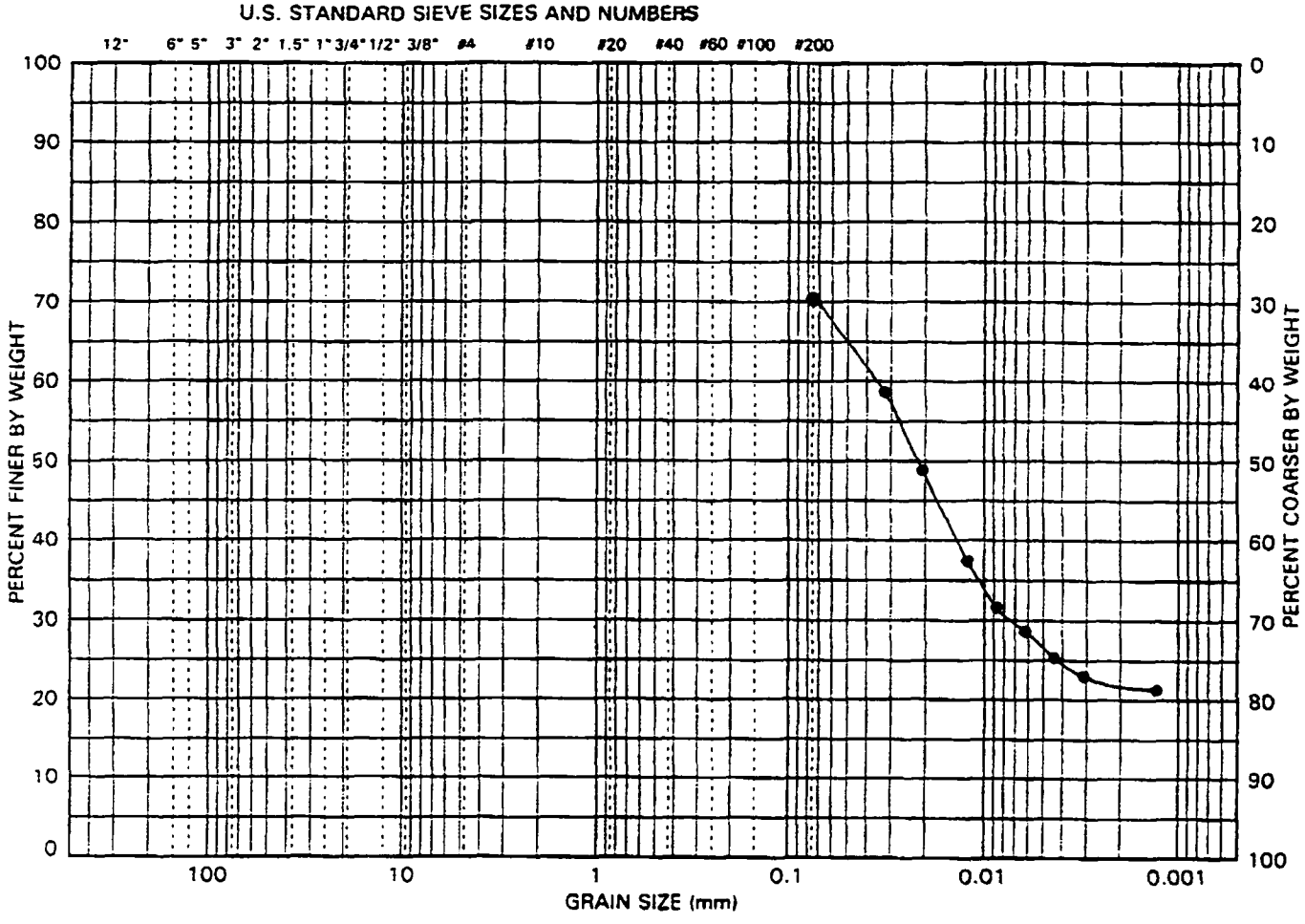
FIGURE

PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/31/97

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-16	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G168	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				CLAY(%) 22.1
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

RECEIVED AUG 01 1997

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
															48	27	22	

NOTES:

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ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 26 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-16

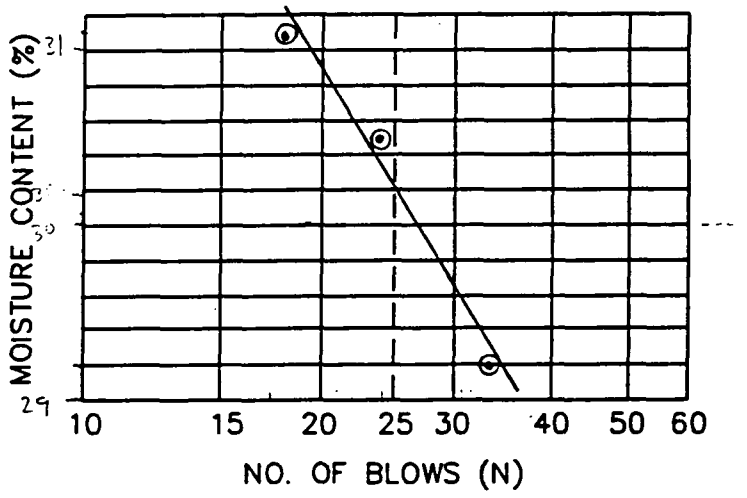
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.8	1.3	1.4	
A	WT. OF TARE	(grams)	28.81	29.64	29.52	
B	WT. OF WET SOIL & TARE	(grams)	40.10	40.72	43.[illegible]	
C	WT. OF DRY SOIL & TARE	(grams)	37.55	37.90	39.74	
D	WT. OF WATER = B-C	(grams)	2.55	2.82	3.49	
E	WT. OF DRY SOIL = C-A	(grams)	8.74	9.26	11.22	
F	MOISTURE CONTENT = (D/E)X100	(%)	29.2 ✓	30.5 ✓	31.1 ✓	
N	NUMBER OF BLOWS		36	24	19	

DRYING TARE NO.

A



CURING TARE NO.

2-B

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.5	1.9		
A	WT. OF TARE	(grams)	29.61	29.56		
B	WT. OF WET SOIL & TARE	(grams)	38.62	34.10		
C	WT. OF DRY SOIL & TARE	(grams)	37.21	33.36		
D	WT. OF WATER = B-C	(grams)	1.41	0.74		
E	WT. OF DRY SOIL = C-A	(grams)	8.6	4.8		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.4 ✓	15.4 ✓		

LIQUID LIMIT (LL) = 30 PLASTIC LIMIT (PL) = 16.0 PLASTICITY INDEX (PI) = 14

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 21 day 7 month 97 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-16

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.

@ 8/26/97 DISCARD

18.3

COMPACTION OF SOIL — QA ID: JW

			20.8	11.7	13.5	14.4	
	WATER ADDED	(ml)	300	100	[illegible]	[illegible]	[illegible]
A	WT. OF SOIL & MOLD	(grams)	6110.0	5996.6	6051.0	6069.2	6164.4
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1900.6	1787.2	1841.6	1859.8	1955.00
D	WET UNIT WT.(1) = C X 0.066	(pcf)	125.4 ✓	118.0 ✓	121.5 ✓	122.7 ✓	129.0 ✓
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	104.1 ✓	105.0 ✓	106.2 ✓	107.3 ✓	109.4 ✓

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: JW

	TARE NO.		101	29	34	2	1
F	WT. OF TARE	(grams)	8.24	8.24	8.30	7.63	7.26
G	WT. OF WET SOIL & TARE	(grams)	155.00	148.60	162.14	116.45	172.84
H	WT. OF DRY SOIL & TARE	(grams)	130.05	150.41	142.79	102.81	147.69
I	WT. OF WATER = G - H	(grams)	24.95	17.59	19.35	13.64	25.15
J	WT. DRY SOIL = H - F	(grams)	121.81	142.17	134.49	95.18	140.43
K	MOISTURE CONTENT = (I/J) X 100	(%)	20.5 ✓	12.4 ✓	14.4 ✓	14.3 ✓	17.9 ✓

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FLUOR DANIEL FERNALD

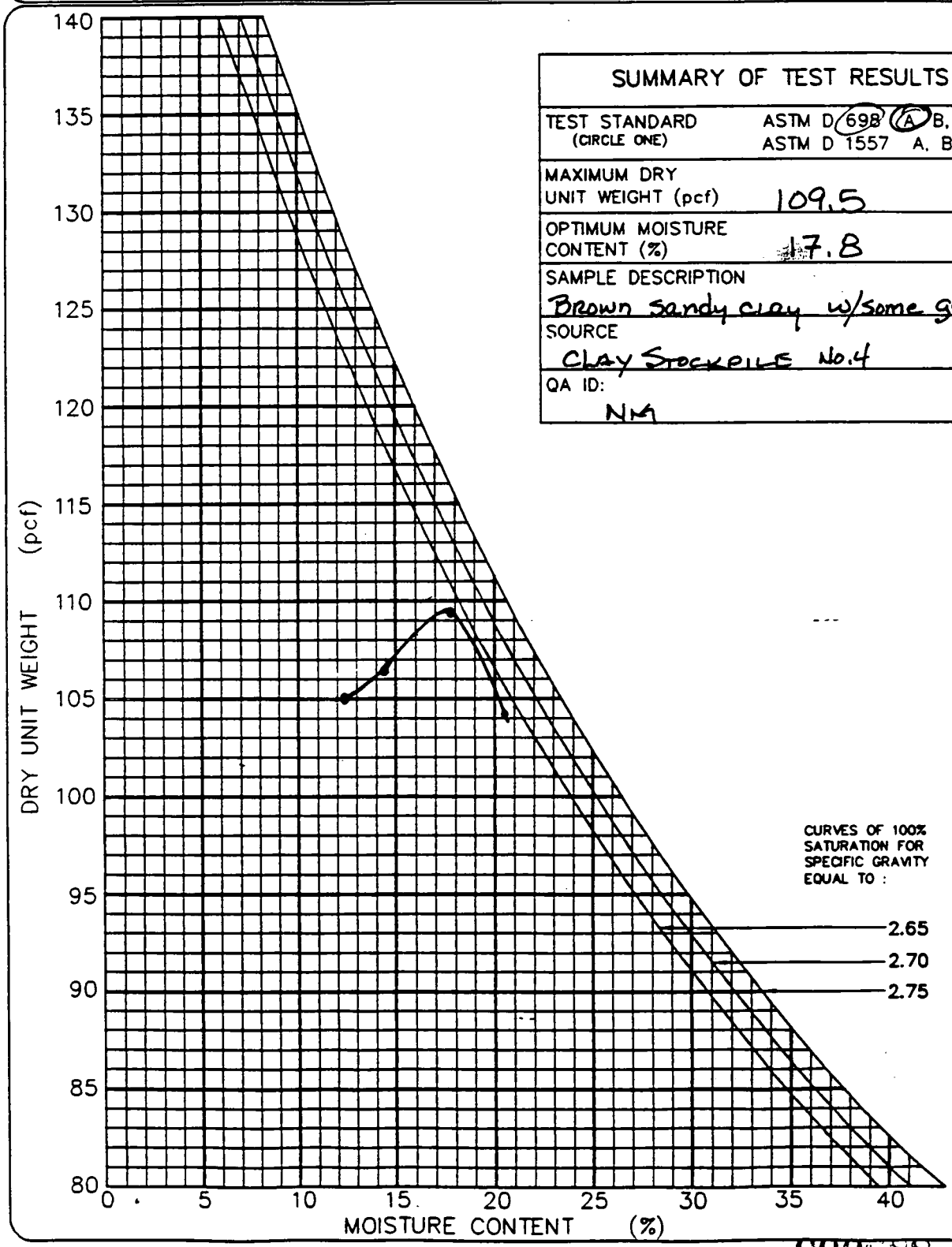
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 21 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-16



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)	109.5
OPTIMUM MOISTURE CONTENT (%)	17.8
SAMPLE DESCRIPTION	Brown sandy clay w/some gvl.
SOURCE	CLAY STOCKPILE No.4
QA ID:	NM

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LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 day JUL month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-17

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: RP

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. 10	10				
A	WT. OF TARE	7.18				
B	WT. OF WET SOIL & TARE	191.83				
C	WT. OF DRY SOIL & TARE	170.1				
D	WT. OF WATER = B-C	21.7				
E	WT. OF DRY SOIL = C-A	162.9				
F	MOISTURE CONTENT = (D/E) X 100	13.3 ✓				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: RP

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.	III				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	305.99				
C	WT. OF DRY SOIL & TARE	283.7				
D	WT. OF WATER = B-C	22.3				
E	WT. OF DRY SOIL = C-A	151.7				
F	MOISTURE CONTENT = (D/E) X 100	14.7 ✓				

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PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-17

SOIL SAMPLE SIZE TOTAL SAMPLE WT = 30,663.4 gms
>#4 SAMPLE WT = 5,728.9 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		10	10
WT. OF DRY SAMPLE PLUS TARE	(grams)	170.1	85.2
WT. OF TARE	(grams)	7.2	7.2
WT. OF DRY SAMPLE	(grams)	162.9	78.0

SIEVE ANALYSIS QA ID: PKO/KM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	63.5	0.9	99.1		100
1½"	37.5	1190.4	3.9	96.1		
1"	25.0	1643.0	5.4	94.6		
¾"	19.0	1873.6	6.1	93.9		90-100
½"	12.5	2767.7	9.0	91.0		
⅜"	9.5	3512.7	11.5	88.5		
4	4.75	4797.0	15.6	84.4		
10	2.00	32.9	20.2	79.8	67.4	
20	0.850	43.5	26.7	73.3	61.9	
40	0.425	54.5	33.5	66.5	56.1	
60	0.250	63.1	38.7	61.3	51.7	
100	0.150	70.7	43.4	56.6	47.8	
200	0.075	77.3	47.5	52.5	44.3*	50-100

* DOES NOT COMPLY WITH SPECIFICATION SECTION 02225 PART 2.01.C.3.c

%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.: GQ0166 TASK NO.: 04.1

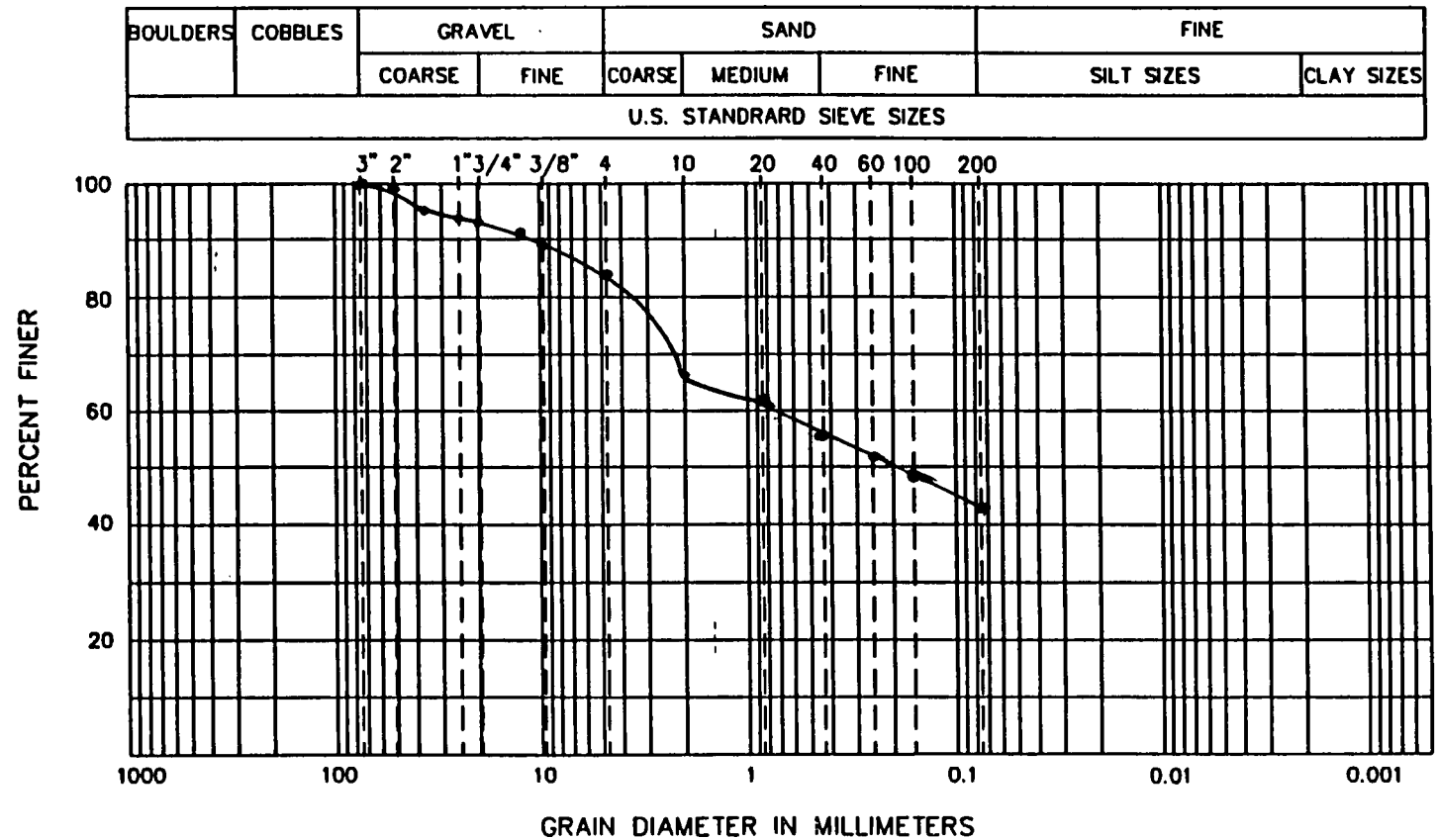
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-17 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 26

(PL) 15

(PI) 11

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	99.1
1 1/2-in.	96.1
1-in.	94.6
3/4-in.	93.9
1/2-in.	91.0
3/8-in.	88.5
NO. 4	84.4
NO. 10	67.4
NO. 20	61.9
NO. 40	56.1
NO. 60	51.7
NO. 100	47.8
NO. 200	44.3

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~
10/28/97	

SOIL CLASSIFICATION (ASTM D 2487): BROWN/GRAY CLAYEY SAND (SC) W/ SOME GVL.

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SHEET NO. 2 OF 2

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1265

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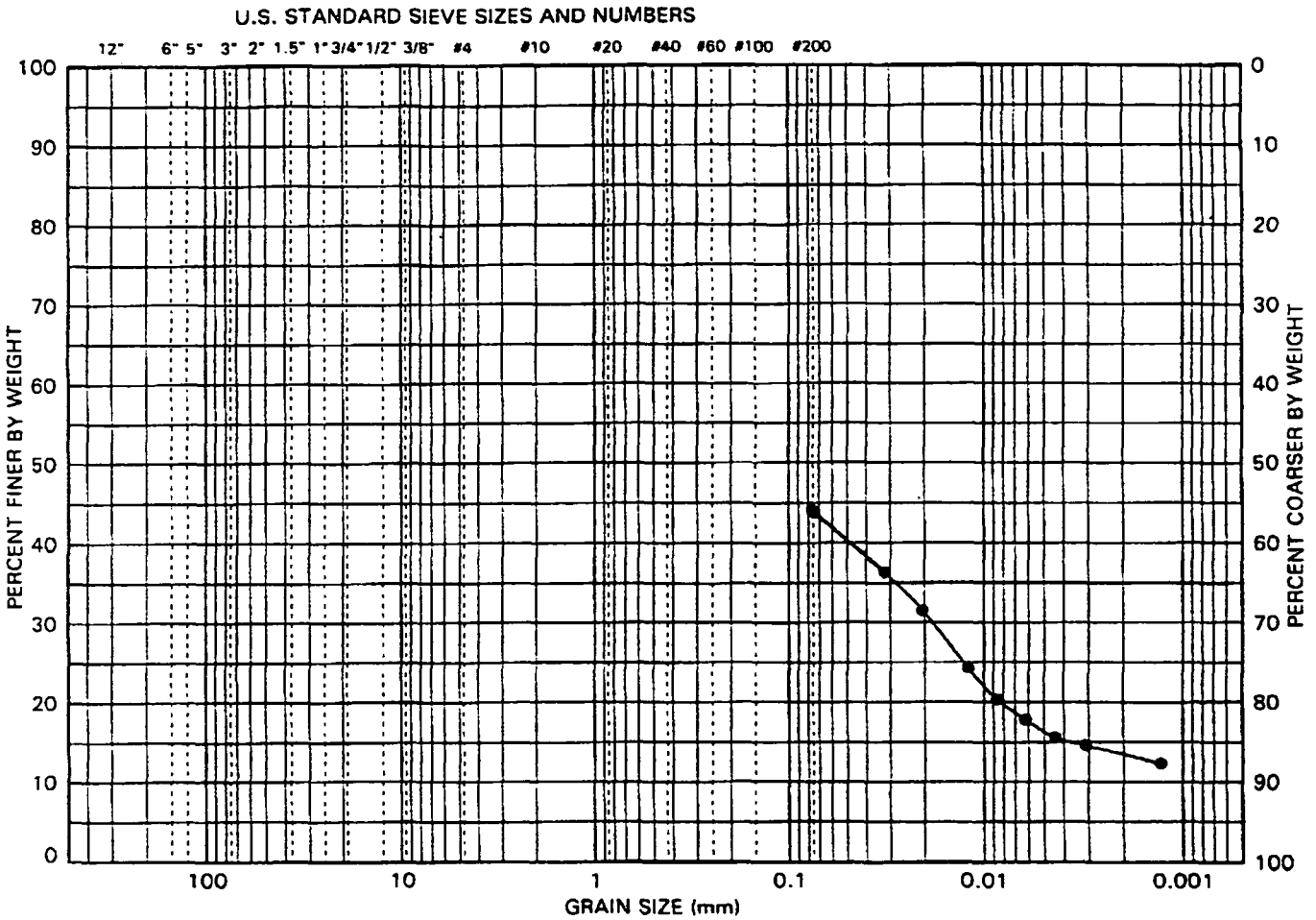
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 08/05/97

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-17	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G187	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				CLAY(%) 13.4
				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
															31	16	13	

NOTES:

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 26 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-17

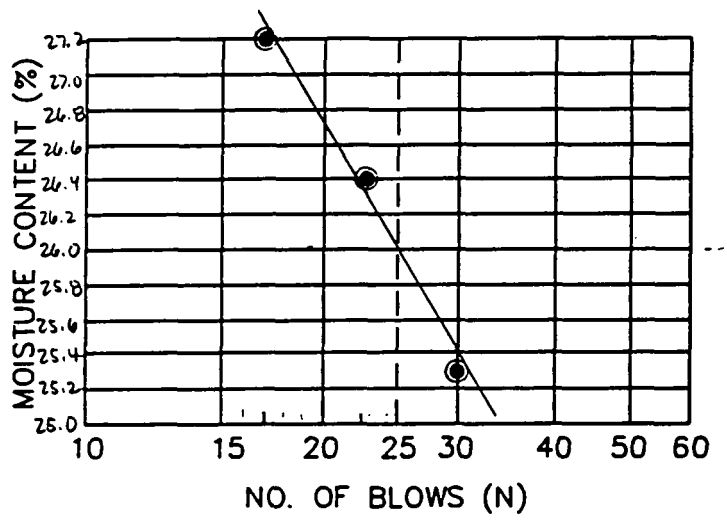
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		3.2	2.2	2.9	
A	WT. OF TARE	(grams)	27.82	27.63	31.46	
B	WT. OF WET SOIL & TARE	(grams)	40.64	40.76	43.26	
C	WT. OF DRY SOIL & TARE	(grams)	38.05	38.02	40.74	
D	WT. OF WATER = B-C	(grams)	2.59	2.74	2.52	
E	WT. OF DRY SOIL = C-A	(grams)	10.23	10.39	9.28	
F	MOISTURE CONTENT = (D/E)X100	(%)	25.3 ✓	26.4 ✓	27.2 ✓	
N	NUMBER OF BLOWS		30 ✓	23	17	

DRYING TARE NO.

E



CURING TARE NO.

1-E

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		4.1	3.5		
A	WT. OF TARE	(grams)	21.07	21.20		
B	WT. OF WET SOIL & TARE	(grams)	34.42	32.10		
C	WT. OF DRY SOIL & TARE	(grams)	32.68	30.67		
D	WT. OF WATER = B-C	(grams)	1.74	1.43		
E	WT. OF DRY SOIL = C-A	(grams)	11.61	9.47		
F	MOISTURE CONTENT = (D/E)X100	(%)	15.0 ✓	15.1 ✓		

LIQUID LIMIT (LL) = 26 PLASTIC LIMIT (PL) = 15.0 PLASTICITY INDEX (PI) = 11

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 22 day 7 month 97 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-17

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: JW

			6.5 DISCARD	7.7	12.9	13.1	15.6
	WATER ADDED	(ml)	50	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)	6010.2	6,032.9	6187.1	6237.0	6237.0
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1800.8	1823.5	1977.7	2027.6	2027.6
D	WET UNIT WT.(1) = C X 0.066	(pcf)	118.9	120.4	130.5	133.8	133.8
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	111.6	110.2	116.4	119.1	116.1

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: JW

	TARE NO.		12	103	22	32	26
F	WT. OF TARE	(grams)	7.26	8.33	8.32	8.39	8.25
G	WT. OF WET SOIL & TARE	(grams)	180.28	227.51	166.86	198.52	142.26
H	WT. OF DRY SOIL & TARE	(grams)	169.79	209.05	149.78	177.75	124.56
I	WT. OF WATER = G - H	(grams)	10.49	18.46	17.08	20.77	17.7
J	WT. DRY SOIL = H - F	(grams)	162.53	200.72	141.46	169.36	116.31
K	MOISTURE CONTENT = (I/J) X 100	(%)	6.5	9.2	12.1	12.3	15.2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

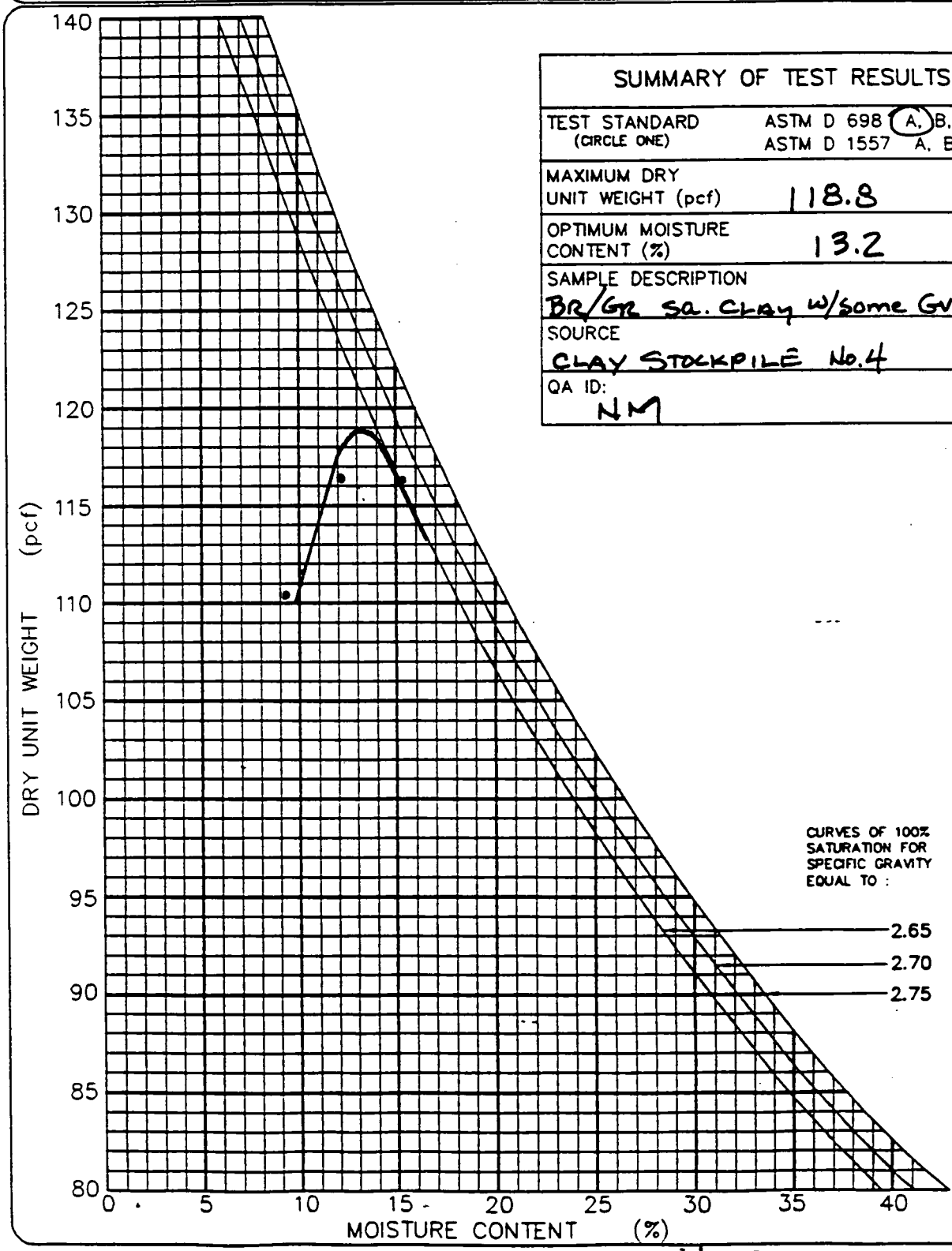
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-17



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)	118.8
OPTIMUM MOISTURE CONTENT (%)	13.2
SAMPLE DESCRIPTION	BR/GR SA. CLAY W/SOME GVL.
SOURCE	CLAY STOCKPILE No.4
QA ID:	NM

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 18 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-1B

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight

QA ID: RP

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. 13	13				
A	WT. OF TARE	7.59				
B	WT. OF WET SOIL & TARE	190.08				
C	WT. OF DRY SOIL & TARE	166.9				
D	WT. OF WATER = B-C	23.2				
E	WT. OF DRY SOIL = C-A	159.3				
F	MOISTURE CONTENT = (D/E) X 100	14.6				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight

QA ID: RP

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.	IV				
A	WT. OF TARE	132.3				
B	WT. OF WET SOIL & TARE	291.8				
C	WT. OF DRY SOIL & TARE	271.1				
D	WT. OF WATER = B-C	20.7				
E	WT. OF DRY SOIL = C-A	138.8				
F	MOISTURE CONTENT = (D/E) X 100	14.9				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-1B

SOIL SAMPLE SIZE TOTAL SAMPLE = 32,144.6 gr
>NO.4 SAMPLE = 2,490.4 gr

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		31	31
WT. OF DRY SAMPLE PLUS TARE	(grams)	192.8	66.5
WT. OF TARE	(grams)	8.6	8.6
WT. OF DRY SAMPLE	(grams)	184.2	57.9

SIEVE ANALYSIS QA ID: NM

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	Ø	Ø	100.0		100
1½"	37.5	417.9	1.3	98.7		
1"	25.0	803.6	2.5	97.5		
¾"	19.0	1092.9	3.4	96.6		90-100
½"	12.5	1446.5	4.5	95.5		
⅜"	9.5	1703.7	5.3	94.7		
4	4.75	2475.1	7.7	92.3		
10	2.00	19.5	10.6	89.4	82.6	
20	0.850	25.4	13.8	86.2	79.6	
40	0.425	32.4	17.6	82.4	76.1	
60	0.250	38.7	21.0	79.0	72.9	
100	0.150	47.0	25.5	74.5	68.8	
200	0.075	57.5	31.2	68.8	63.5	50-100

%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)

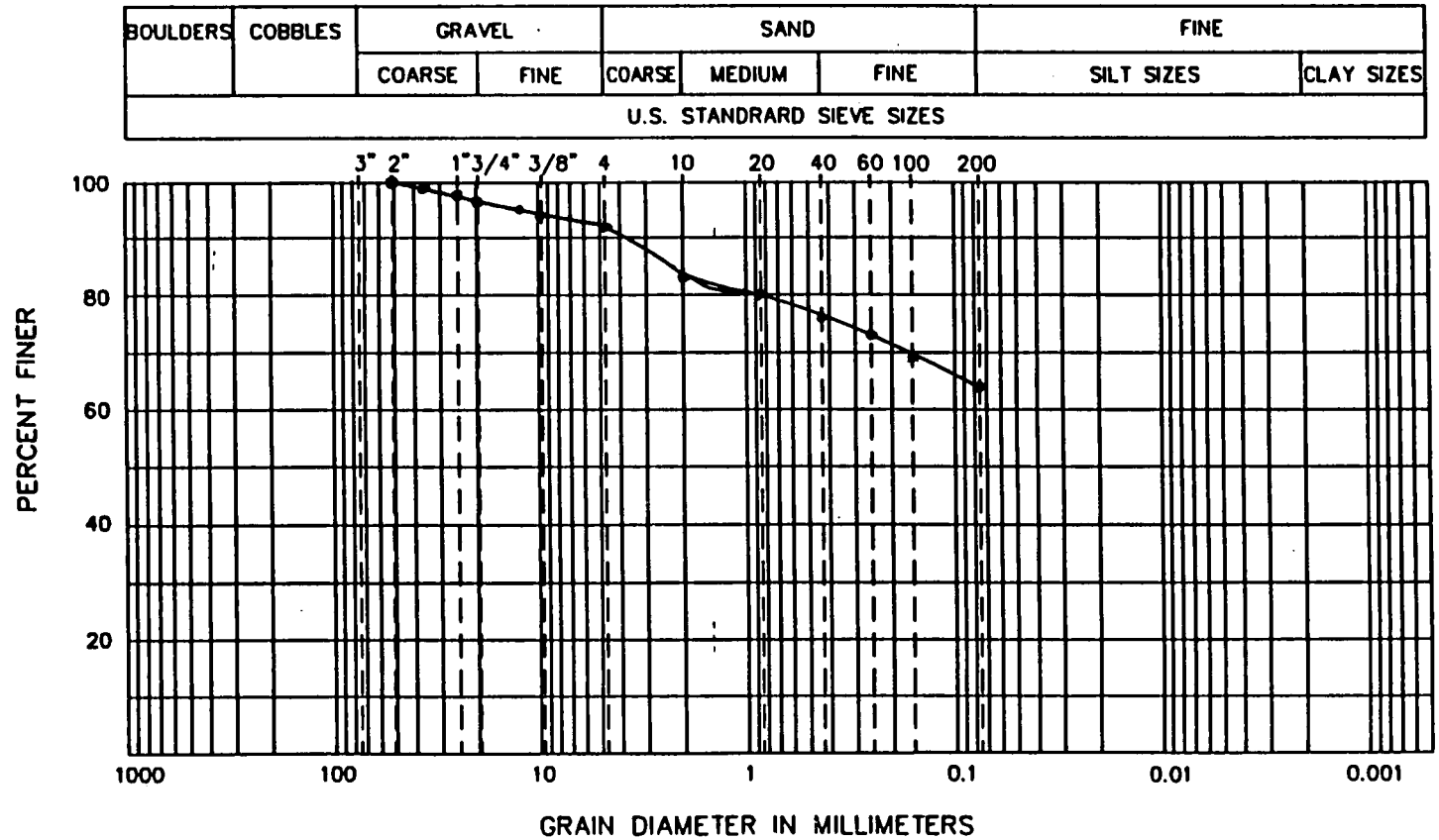
PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO — PROJECT NO.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 22 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-18 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 33

(PL) 16

(PI) 17

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	
2-in.	100.0
1 1/2-in.	98.7
1-in.	97.5
3/4-in.	96.6
1/2-in.	95.5
3/8-in.	94.7
NO. 4	92.3
NO. 10	82.6
NO. 20	79.6
NO. 40	76.1
NO. 60	72.9
NO. 100	68.8
NO. 200	63.5

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~ ~~N/A~~
	10/30/97

SOIL CLASSIFICATION (ASTM D 2487): BROWN sandy Lean CLAY (CL) w/ some GVL

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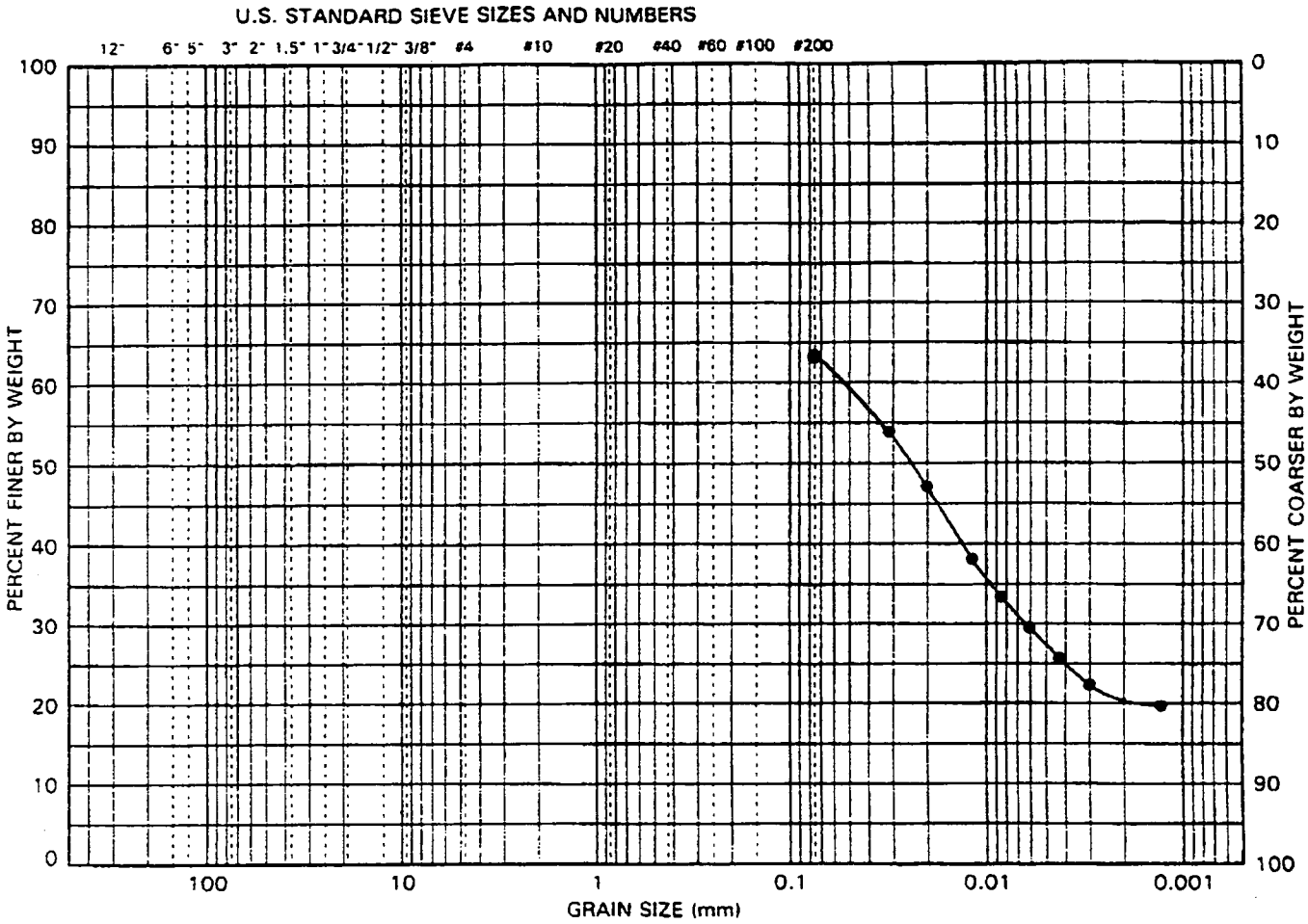
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/29/97

PARTICLE SIZE DISTRIBUTION AND PHYSICAL PROPERTIES

ASTM C 136, D 422, D 2487 D 3042 AND D 4318



SITE SAMPLE ID LP-18	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO. 97G188	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)	PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:			SILT (%)
			CLAY(%) 21.0
			COEFF. UNIFORMITY (Cu)
			COEFF. CURVATURE (Cc)

RECEIVED JUL 30 1997

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
															47	27	21	

NOTES:

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-18

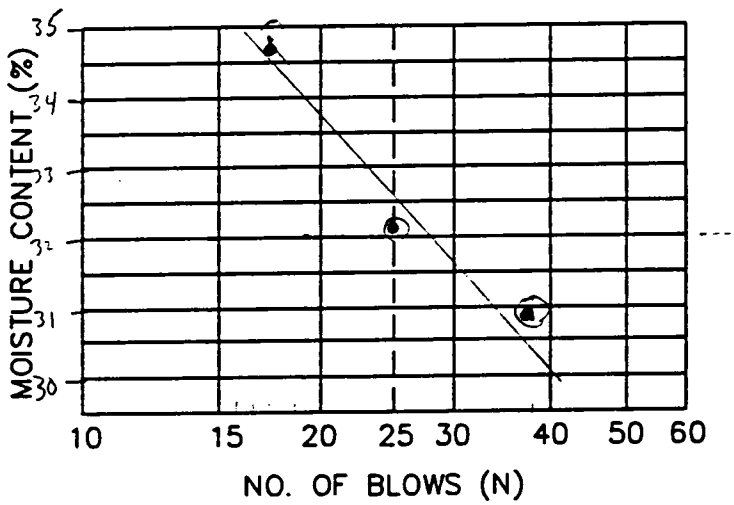
LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		21	1.2	1.8	
A	WT. OF TARE	(grams)	28.24	28.50	28.81	
B	WT. OF WET SOIL & TARE	(grams)	38.02	39.29	44.19	
C	WT. OF DRY SOIL & TARE	(grams)	35.71	36.67	40.23	
D	WT. OF WATER = B-C	(grams)	2.31	2.62	3.96	
E	WT. OF DRY SOIL = C-A	(grams)	7.47	8.17	11.42	
F	MOISTURE CONTENT = (D/E)X100	(%)	30.9 ✓	32.1 ✓	34.7 ✓	
N	NUMBER OF BLOWS		38	25	18	

DRYING TARE NO.

B



CURING TARE NO.

1 - A

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.7	1.4		
A	WT. OF TARE	(grams)	28.49	28.52		
B	WT. OF WET SOIL & TARE	(grams)	39.83	35.67		
C	WT. OF DRY SOIL & TARE	(grams)	39.24	34.71		
D	WT. OF WATER = B-C	(grams)	1.59	0.96		
E	WT. OF DRY SOIL = C-A	(grams)	9.75	6.19		
F	MOISTURE CONTENT = (D/E)X100	(%)	16.3 ✓	15.5 ✓		

LIQUID LIMIT (LL) = 33 PLASTIC LIMIT (PL) = 16 PLASTICITY INDEX (PI) = 17

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 22 day 7 month 97 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-18

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: 198 JW

			9.2	11.4	14.5	1.1.9	
	WATER ADDED	(ml)	100	150	200	250	300
A	WT. OF SOIL & MOLD	(grams)	5955.7	6082.8	6164.4	6187.1	6146.3
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)	1746.3	1873.4	1955.0	1977.7	1936.9
D	WET UNIT WT.(1) = C X 0.066	(pcf)	115.3	123.6	129.0	130.5	127.8
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	104.5	110.3	113.0	112.9	107.7

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: JW

	TARE NO.		21	7	101	13	29
F	WT. OF TARE	(grams)	8.47	7.24	8.19	7.63	8.36
G	WT. OF WET SOIL & TARE	(grams)	217.43	198.47	168.20	214.30	176.16
H	WT. OF DRY SOIL & TARE	(grams)	197.95	177.79	148.25	186.36	149.75
I	WT. OF WATER = G - H	(grams)	19.48	20.68	19.95	27.94	26.41
J	WT. DRY SOIL = H - F	(grams)	189.48	170.55	140.06	178.73	141.39
K	MOISTURE CONTENT = (I/J) X 100	(%)	10.3	12.1	14.2	15.6	18.7

GEOSYNTEC CONSULTANTS FILE NO. 2-04-FLC — CHECKED BY: JW — SHEET NO. 1 OF 2

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GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

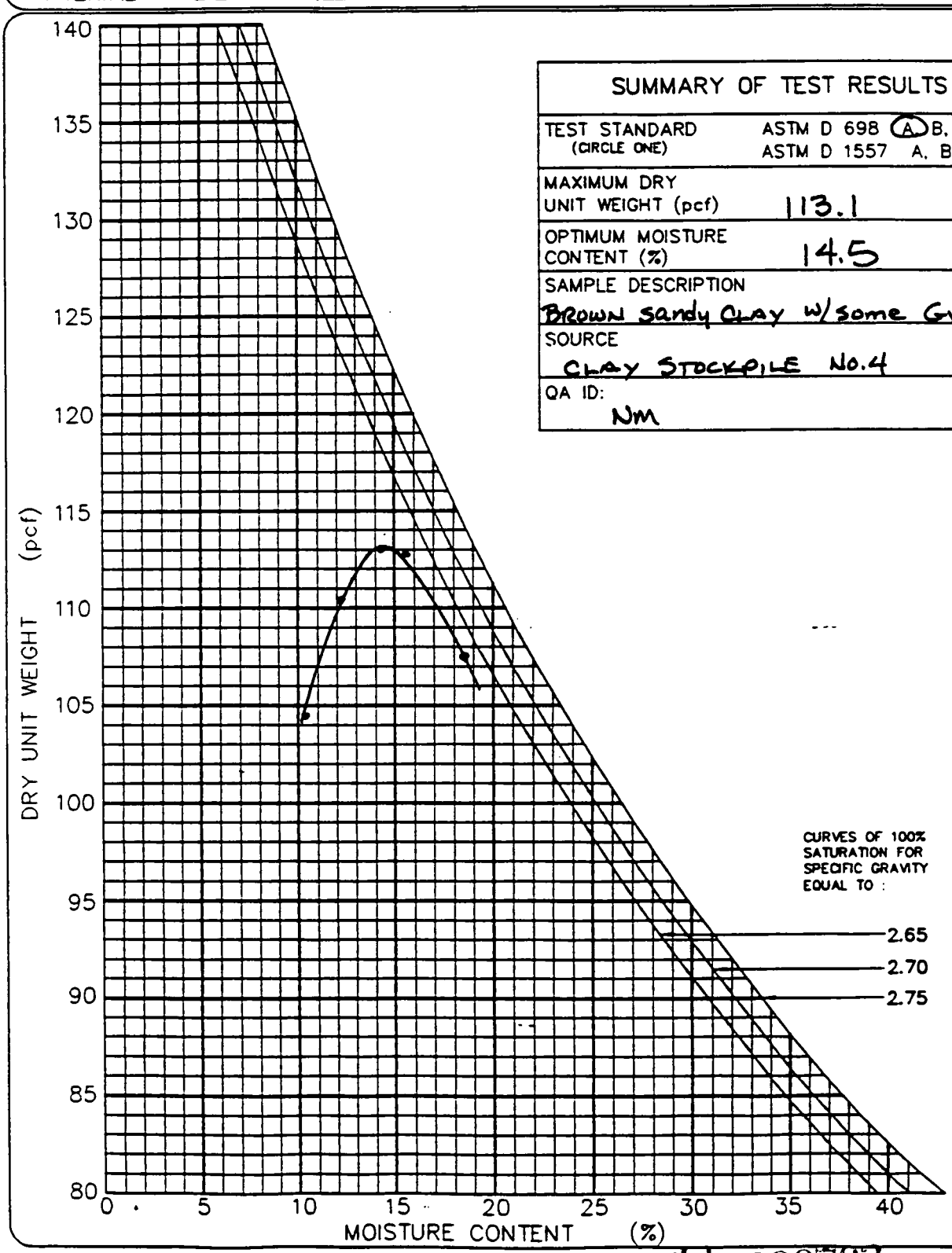
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 23 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-1B



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)	113.1
OPTIMUM MOISTURE CONTENT (%)	14.5
SAMPLE DESCRIPTION	BROWN sandy CLAY w/some GVL.
SOURCE	CLAY STOCKPILE NO.4
QA ID:	NM

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 21 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-19

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. ------	105				
A	WT. OF TARE	8.2				
B	WT. OF WET SOIL & TARE	195.0				
C	WT. OF DRY SOIL & TARE	172.3				
D	WT. OF WATER = B-C	22.7				
E	WT. OF DRY SOIL = C-A	164.1				
F	MOISTURE CONTENT = (D/E) X 100	13.8				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	IV				
A	WT. OF TARE	132.3				
B	WT. OF WET SOIL & TARE	253.7				
C	WT. OF DRY SOIL & TARE	238.1				
D	WT. OF WATER = B-C	15.6				
E	WT. OF DRY SOIL = C-A	105.8				
F	MOISTURE CONTENT = (D/E) X 100	14.7				

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: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 24 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-19

SOIL SAMPLE SIZE TOTAL SAMP. WT = 33,380.4 gms
>#4 SAMP. WT = 6853.9 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

	BEFORE WASH	AFTER WASH
TARE NO.	105	105
WT. OF DRY SAMPLE PLUS TARE (grams)	172.3	84.6
WT. OF TARE (grams)	8.2	8.2
WT. OF DRY SAMPLE (grams)	164.1 ✓	76.4 ✓

SIEVE ANALYSIS QA ID: PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	286.3	0.9	99.1		100
1½"	37.5	405.5	1.2	98.8		
1"	25.0	1474.6	4.4	95.6		
¾"	19.0	2047.0	6.1	93.9		90-100
½"	12.5	3050.1	9.1	90.9		
⅜"	9.5	3926.3	11.8	85.2		
4	4.75	6330.6	19.0	81.0		
10	2.00	31.2	19.0	81.0	65.6	
20	0.850	40.6	24.7	75.3	61.0	
40	0.425	49.5	30.2	69.8	56.5	
60	0.250	57.0	34.7	65.3	52.9	
100	0.150	66.1	40.3	57.7	48.4	
200	0.075	76.01	46.3	53.7	43.5*	50-100

* DOES NOT COMPLY WITH SPECIFICATION SECTION 02225 PART 2.01.C.3.C

%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.: GQ0166 TASK NO.: 04.1

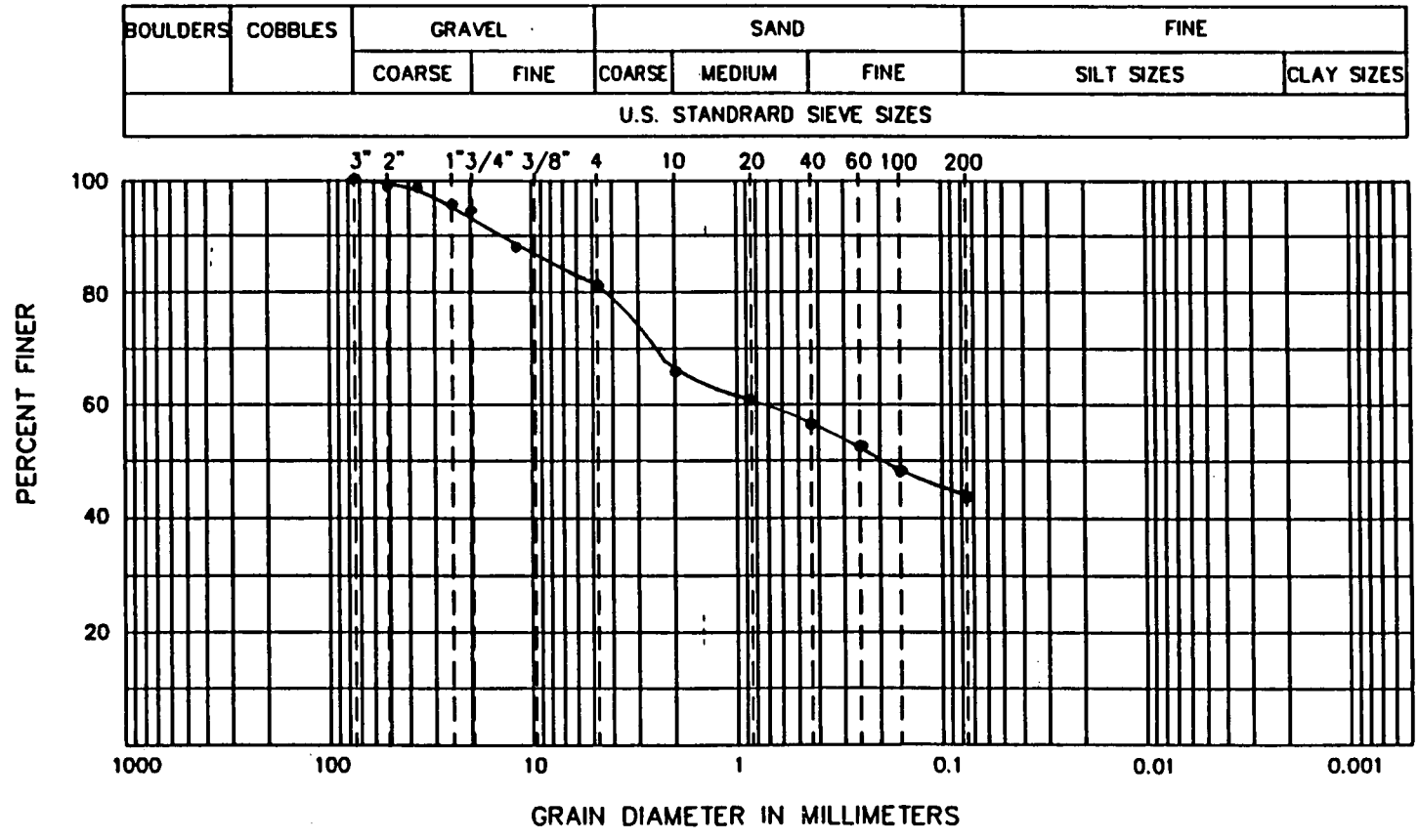
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 24 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-19 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 26

(PL) 15

(PI) 11

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	99.1
1 1/2-in.	98.8
1-in.	95.6
3/4-in.	93.9
1/2-in.	90.9
3/8-in.	88.2
NO. 4	81.0
NO. 10	65.6
NO. 20	61.0
NO. 40	56.5
NO. 60	52.9
NO. 100	48.4
NO. 200	43.5

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~
	10/30/97

SOIL CLASSIFICATION (ASTM D 2487): BROWN CLAYEY SAND (SC) W/ SOME GVL

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CHECKED BY: KW

SHEET NO. 2 OF 2

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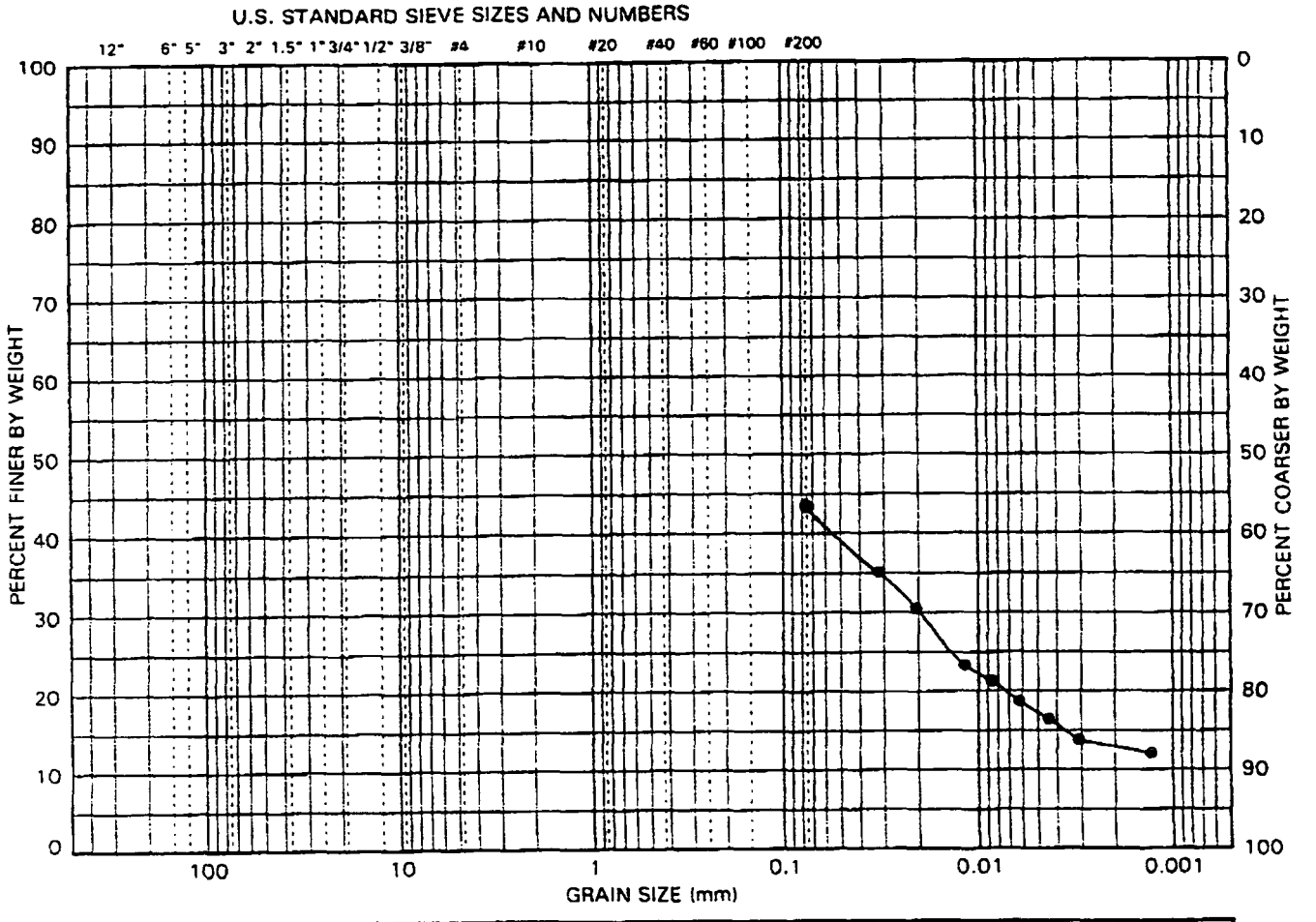
Geomechanics and Environmental Laboratory
Atlanta, Georgia

FIGURE
PROJECT: FDF-OSDF-
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 07/29/97

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-19	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G189	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				CLAY(%) 12.9
				COEFF. UNIFORMITY (Cu)
				COEFF. CURVATURE (Cc)

RECEIVED JUL 30 1997

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
															30	17	13	

NOTES:

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 28 day 7 month 97 year

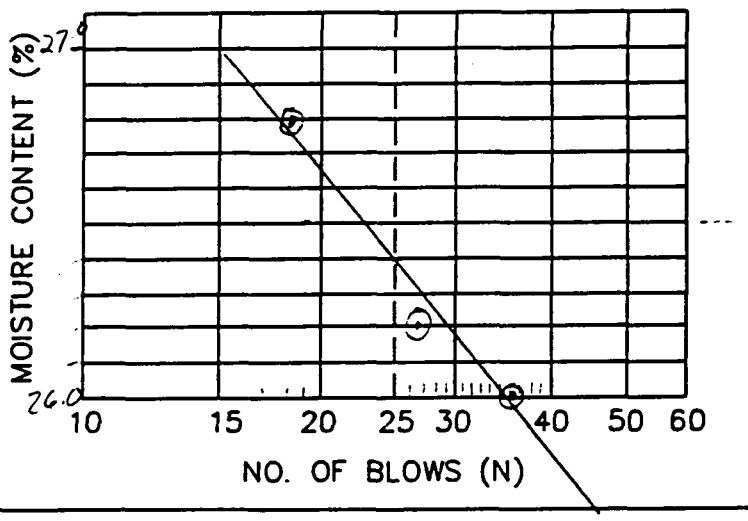
MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-19

LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.6	2.5	2.7	
A	WT. OF TARE	(grams)	28.56	28.42	28.67	
B	WT. OF WET SOIL & TARE	(grams)	38.91	40.53	42.20	
C	WT. OF DRY SOIL & TARE	(grams)	36.78	37.97	39.39	
D	WT. OF WATER = B-C	(grams)	2.13	2.56	2.81	
E	WT. OF DRY SOIL = C-A	(grams)	8.22	9.55	10.72	
F	MOISTURE CONTENT = (D/E)X100	(%)	25.9 ✓	26.8 ✓	26.2 ✓	
N	NUMBER OF BLOWS		36	19	27	

DRYING TARE NO.: G



CURING TARE NO.: 1-D

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		2.2	1.8		
A	WT. OF TARE	(grams)	27.63	28.81		
B	WT. OF WET SOIL & TARE	(grams)	35.74	37.84		
C	WT. OF DRY SOIL & TARE	(grams)	34.74	36.65		
D	WT. OF WATER = B-C	(grams)	1.00	1.19		
E	WT. OF DRY SOIL = C-A	(grams)	7.11	7.84		
F	MOISTURE CONTENT = (D/E)X100	(%)	14.1 ✓	15.2 ✓		

LIQUID LIMIT (LL) = 26 PLASTIC LIMIT (PL) = 15 PLASTICITY INDEX (PI) = 11

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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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 22 day 7 month 97 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-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: JW

	WATER ADDED	(ml)	9.1	13.1	14.9	16.6	[illegible]
A	WT. OF SOIL & MOLD	(grams)	6200.9	6209.8	6213.3	6223.4	
B	WT. OF MOLD	(grams)	4209.4	4209.4	4209.4	4209.4	
C	WT. OF SOIL = A - B	(grams)	1891.5	2000.4	2063.9	2014.0	
D	WET UNIT WT.(1) = C X 0.066	(pcf)	124.8	132.0	136.2	132.9	
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)	114.4	117.6	119.3	114.3	

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: JW

	TARE NO.		28	6	31	24	
F	WT. OF TARE	(grams)	8.41	7.58	8.33	8.43	
G	WT. OF WET SOIL & TARE	(grams)	185.76	222.96	154.69	214.85	
H	WT. OF DRY SOIL & TARE	(grams)	170.76	199.40	136.53	185.98	
I	WT. OF WATER = G - H	(grams)	15.00	23.56	18.16	28.87	
J	WT. DRY SOIL = H - F	(grams)	162.35	191.82	128.20	177.55	
K	MOISTURE CONTENT = (I/J) X 100	(%)	9.2	12.3	14.2	16.3	

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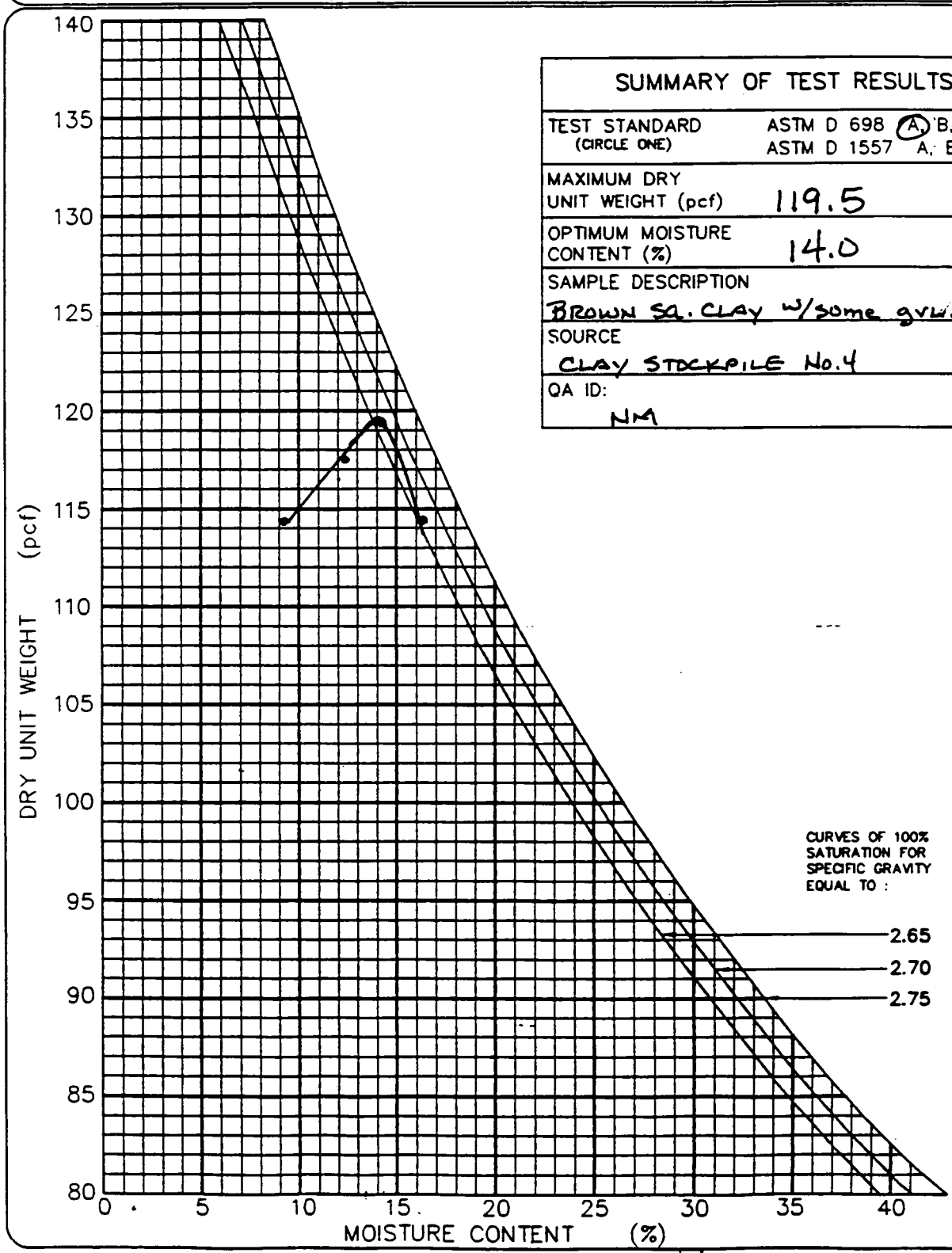
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 22 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-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)	119.5
OPTIMUM MOISTURE CONTENT (%)	14.0
SAMPLE DESCRIPTION	BROWN SA. CLAY w/some gvl
SOURCE	CLAY STOCKPILE No.4
QA ID:	NM

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LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 21 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-20

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	33				
A	WT. OF TARE	8.3				
B	WT. OF WET SOIL & TARE	199.3				
C	WT. OF DRY SOIL & TARE	172.6				
D	WT. OF WATER = B-C	26.7				
E	WT. OF DRY SOIL = C-A	164.3				
F	MOISTURE CONTENT = (D/E) X 100	16.3 ✓				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	313.7				
C	WT. OF DRY SOIL & TARE	290.3				
D	WT. OF WATER = B-C	23.4				
E	WT. OF DRY SOIL = C-A	158.3				
F	MOISTURE CONTENT = (D/E) X 100	14.8 ✓				

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FLUOR DANIEL FERNALD

PARTICLE SIZE ANALYSIS MECHANICAL SIEVE METHOD (ASTM D 422)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: G00166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 24 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-20

SOIL SAMPLE SIZE TOTAL SAMP. WT. = 30,994.5 gms
>#4 SAMP. WT. = 4436.2 gms

APPROXIMATE MINIMUM WT. OF SAMPLE (PASSING NO. 10 SIEVE) (grams)	SAND	FINE GRAIN
	115	65

		BEFORE WASH	AFTER WASH
TARE NO.		33	33
WT. OF DRY SAMPLE PLUS TARE	(grams)	172.6	[illegible]
WT. OF TARE	(grams)	8.3	8.3
WT. OF DRY SAMPLE	(grams)	164.3	[illegible]

SIEVE ANALYSIS QA ID: PKO

SIEVE NO.	DIAMETER (mm)	WT. RETAINED (grams)	% RETAINED	% FINER		PROJECT SPECIFICATIONS
2"	50.0	284.8	[illegible]	99.1		100
1½"	37.5	705.4	[illegible]	92.7		
1"	25.0	1229.4	4.0	96.0		
¾"	19.0	1569.1	5.1	94.9		90-100
½"	12.5	2123.4	6.9	93.1		
⅜"	9.5	2545.1	8.2	91.8		
4	4.75	3882.7	12.5	87.5		
10	2.00	12.2	7.7	92.3	80.8	
20	0.850	18.5	11.3	88.7	77.6	
40	0.425	24.6	14.9	85.1	74.5	
60	0.250	29.2	17.8	82.2	71.9	
100	0.150	34.9	21.2	78.8	69.0	
200	0.075	[illegible]	25.6	74.4	65.1	50-100

%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.: GQ0166 TASK NO.: 04.1

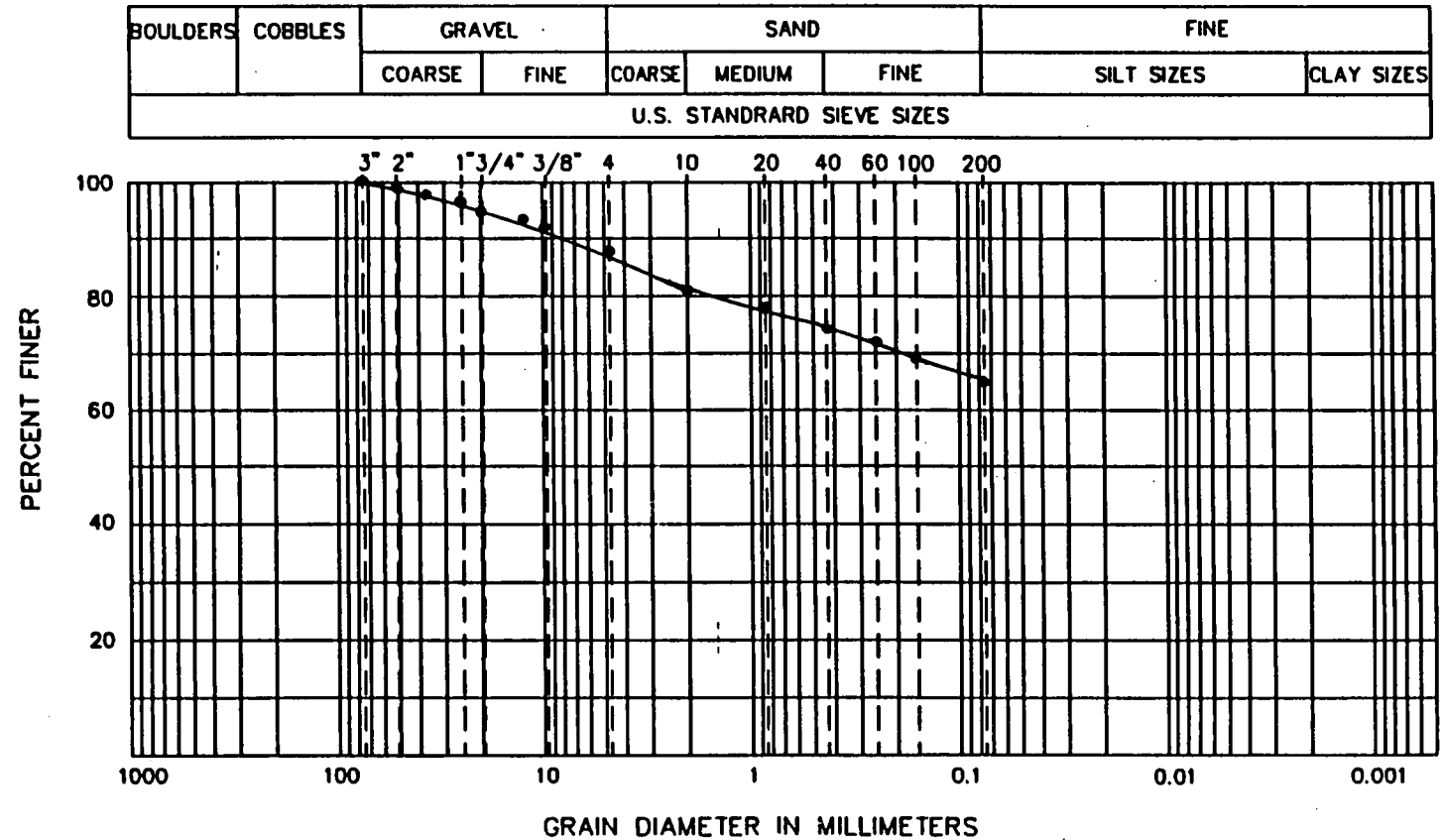
DESCRIPTION: PHASE I CONSTRUCTION

DATE: 24 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER

SAMPLE NO.: LP-20 QA ID: NM

CURVE COEFFICIENTS: (C_u) N/A (C_c) N/A



ATTERBERG LIMITS

(LL) 27

(PL) 17

(PI) 10

SIEVE RESULTS

SIEVE SIZE	% FINER
3-in.	100.0
2-in.	99.1
1 1/2-in.	97.7
1-in.	96.0
3/4-in.	94.9
1/2-in.	93.1
3/8-in.	91.8
NO. 4	87.5
NO. 10	80.8
NO. 20	77.6
NO. 40	74.5
NO. 60	71.9
NO. 100	69.0
NO. 200	65.1

HYDROMETER RESULTS

PARTICLE DIA.	% FINER
~~N/A~~	~~N/A~~
10/30/97	

SOIL CLASSIFICATION (ASTM D 2487): BROWN SANDY LEAN CLAY (CL) W/ SOME GRAVEL

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SHEET NO. 2 OF 2

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Atlanta, Georgia

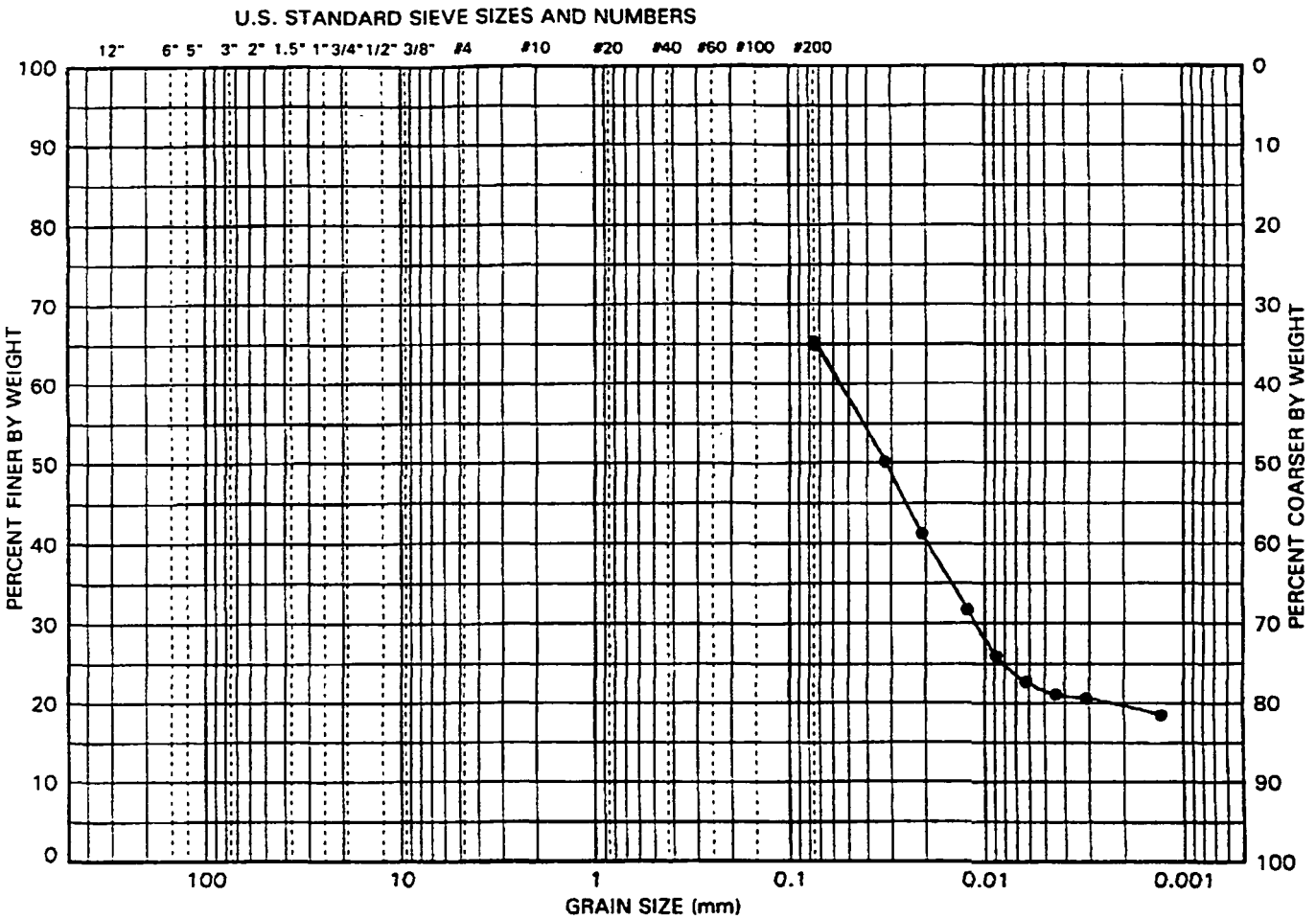
FIGURE

PROJECT: FDF-OSDF-PHASE I CONSTRUCTION
PROJECT NO.: GQ0166
DOCUMENT NO.: F974G006

GS FORM: 4PS2 08/05/97

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-20	LIQUID LIMIT (%)	SOIL FRACTIONS	GRAVEL (%)
LAB. SAMPLE NO.	97G220	PLASTIC LIMIT (%)		SAND (%)
SAMPLE DEPTH (ft)		PLASTICITY INDEX		FINES (%)
SOIL CLASSIFICATION:				SILT (%)
				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
															40	22	20	

NOTES:

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FLUOR DANIEL FERNALD

ATTERBERG LIMITS TEST (ASTM D 4318)

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 28 day 7 month 97 year

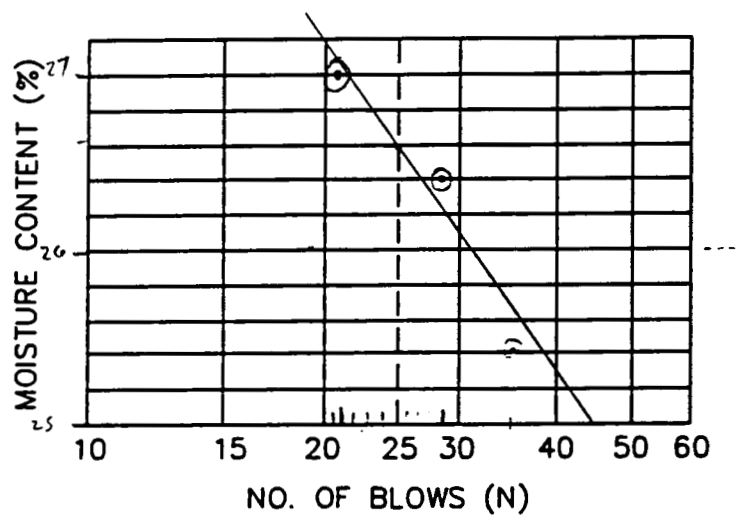
MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-20

LIQUID LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.4	3.8	3.7	
A	WT. OF TARE	(grams)	28.52	21.08	21.29	
B	WT. OF WET SOIL & TARE	(grams)	42.94	34.67	33.53	
C	WT. OF DRY SOIL & TARE	(grams)	39.87	31.83	31.05	
D	WT. OF WATER = B-C	(grams)	3.07	2.84	2.48	
E	WT. OF DRY SOIL = C-A	(grams)	11.35	10.75	9.76	
F	MOISTURE CONTENT = (D/E)X100	(%)	27.0 ✓	26.4 ✓	25.4 ✓	
N	NUMBER OF BLOWS		21	29	35	

DRYING TARE NO.: F



CURING TARE NO.: 1-H

PLASTIC LIMIT DETERMINATION

QA ID: JW

	TARE NO.		1.1	1.3		
A	WT. OF TARE	(grams)	28.76	28.64		
B	WT. OF WET SOIL & TARE	(grams)	39.21	39.65		
C	WT. OF DRY SOIL & TARE	(grams)	37.69	38.04		
D	WT. OF WATER = B-C	(grams)	1.52	1.61		
E	WT. OF DRY SOIL = C-A	(grams)	8.93	9.4		
F	MOISTURE CONTENT = (D/E)X100	(%)	17.0 ✓	17.1 ✓		

LIQUID LIMIT (LL) = 27 PLASTIC LIMIT (PL) = 17 PLASTICITY INDEX (PI) = 10

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.: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION — DATE: 23 day 7 month 97 year

MATERIAL TYPE: CLAY LINER — SAMPLE NO.: LP-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.

17.4

COMPACTION OF SOIL

QA ID: JW

				11.4	13.1	15.7	
	WATER ADDED	(ml)	50	100	150	200	250
A	WT. OF SOIL & MOLD	(grams)		6055.6	6114.5	6227.9	6200.7
B	WT. OF MOLD	(grams)		4209.4	4209.4	4209.4	4209.4
C	WT. OF SOIL = A - B	(grams)		1846.2	1905.1	2018.5	1991.3
D	WET UNIT WT.(1) = C X 0.066	(pcf)		121.8	125.7	133.2	131.4
E	DRY UNIT WT. = D / [1 + (K/100)]	(pcf)		109.4	111.6	115.8	112.3

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: JW

	TARE NO.			102	22	32	101
F	WT. OF TARE	(grams)		8.19	8.37	8.30	8.23
G	WT. OF WET SOIL & TARE	(grams)		165.30	194.17	165.56	212.72
H	WT. OF DRY SOIL & TARE	(grams)		149.39	173.20	144.84	177.97
I	WT. OF WATER = G - H	(grams)		15.91	20.97	20.72	29.75
J	WT. DRY SOIL = H - F	(grams)		141.2	164.83	136.54	174.74
K	MOISTURE CONTENT = (I/J) X 100	(%)		11.3	12.7	15.2	17.0

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FLUOR DANIEL FERNALD

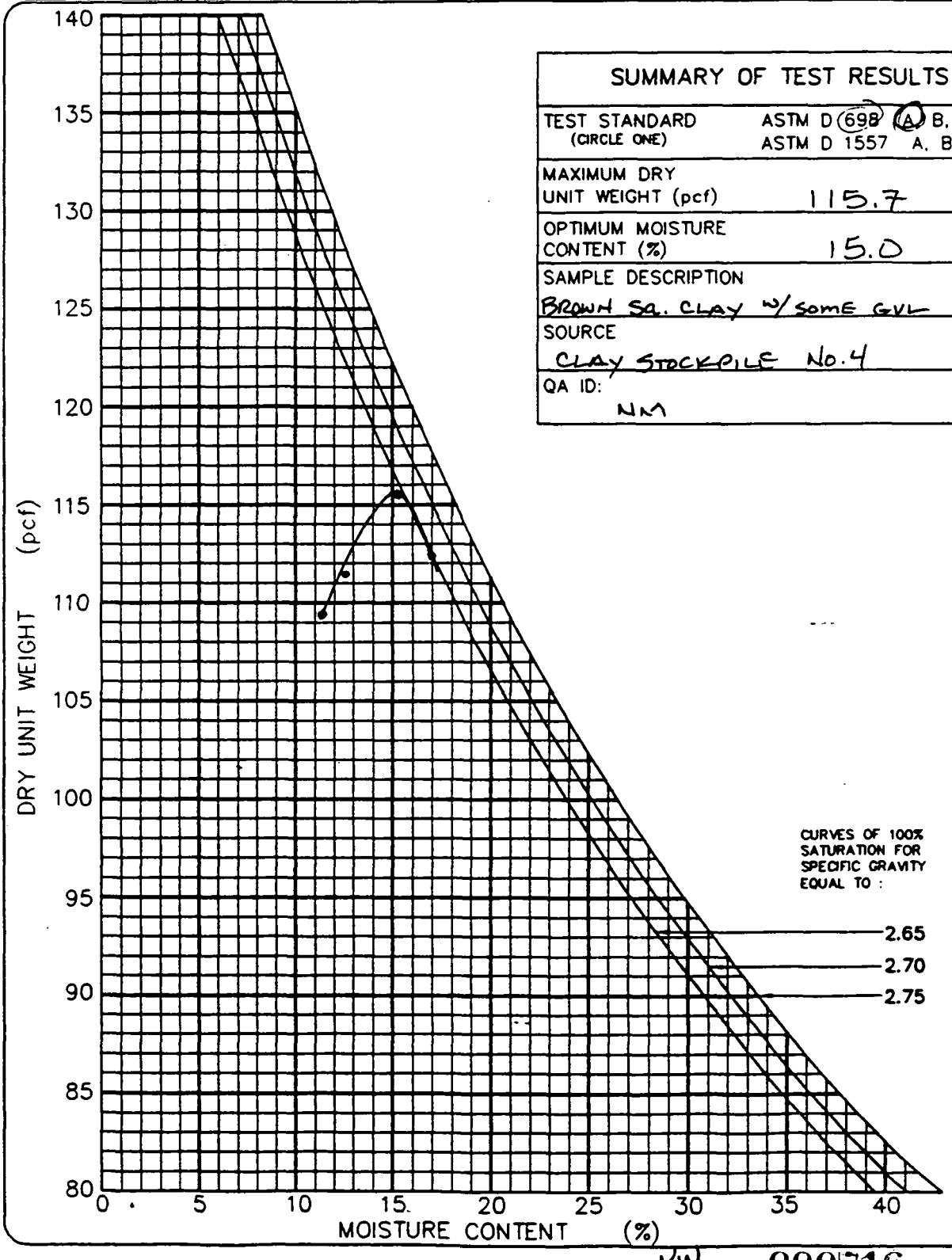
MOISTURE-DENSITY RELATIONSHIP

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 23 day 7 month 97 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-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)	115.7
OPTIMUM MOISTURE CONTENT (%)	15.0
SAMPLE DESCRIPTION	BROWN SA. CLAY W/ SOME GVL
SOURCE	CLAY STOCKPILE No. 4
QA ID:	NM

GEOSYNTEC CONSULTANTS

FLUOR DANIEL FERNALD

LABORATORY DETERMINATION OF MOISTURE CONTENT OF SOIL

PROJECT: ON-SITE DISPOSAL FACILITY (OSDF)

LOCATION: FERNALD, OHIO PROJECT NO: GQ0166 TASK NO.: 04.1

DESCRIPTION: PHASE I CONSTRUCTION DATE: 21 day JULY month 1997 year

MATERIAL TYPE: CLAY LINER SAMPLE NO.: LP-21

OVEN METHOD (ASTM D 2216): Recommended Mass Of Moist Sample Weight QA ID: PKO

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. _____	25				
A	WT. OF TARE	8.2				
B	WT. OF WET SOIL & TARE	197.3				
C	WT. OF DRY SOIL & TARE	170.3				
D	WT. OF WATER = B-C	27.0				
E	WT. OF DRY SOIL = C-A	162.1				
F	MOISTURE CONTENT = (D/E) X 100	16.7				

MICROWAVE METHOD (ASTM D 4643): Recommended Mass Of Moist Sample Weight QA ID: PKO

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.	II				
A	WT. OF TARE	132.0				
B	WT. OF WET SOIL & TARE	344.3				
C	WT. OF DRY SOIL & TARE	312.1				
D	WT. OF WATER = B-C	32.2				
E	WT. OF DRY SOIL = C-A	180.1				
F	MOISTURE CONTENT = (D/E) X 100	17.9				