FINAL CLOSURE REPORT
FOR THE MAIN BASE LANDFILL

Prepared for:

49 CES/CEV
Holloman Air Force Base
and
HQ ACC CES/ESV
Langley Air Force Base, Virginia

Prepared by:

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Under Contract No. DACW45-94-D-0003

Delivery Order 17, Work Authorization Directive 1

U.S. Army Corps of Engineers
Omaha District
Omaha, Nebraska

September 1999

Project Number: KWRD970015A

CERTIFICATION AND MANAGEMENT APPROVAL

The following certification by a Professional Engineer and approval from management conforms to the requirements of Title 40 of the Code of Federal Regulations Part 122.

Professional Engineer Certification

This Closure Report was prepared by or under the direct supervision of the undersigned, a registered Professional Engineer in the State of New Mexico. The report contains information generated by the undersigned, as well as information from other sources that the undersigned believes to be true and accurate.

DEREK W. JOHNSON NEW MEXICO 13069 9-24-99 REGISTERED PROFESSIONAL ENGINEER

Derek W. Johnson, P.E. Date
License Number: New Mexico P.E. No. 13069

Management Approval Statement

This Closure Report, which contains information regarding Closure of the Main Base Landfill at Holloman AFB, is fully supported by the Holloman Air Force Command.

18 OCT 1999

Howard Moffitt Date
Civ 49 CES/CD
Holloman Air Force Base

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ACRONYMS

AFB	Air Force Base
ASTM	American Society for Testing and Materials
cm/sec	centimeters per second
CQCP	Contractor Quality Control Plan
cy	cubic yards
DQCR	Daily Quality Control Report
FCR	Field Change Request
Foster Wheeler	Foster Wheeler Environmental Corporation
IRP	Installation Restoration Program
MBL	Main Base Landfill
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
RCP	Regulatory Compliance Plan
RCRA	Resource Conservation and Recovery Act
TERC	Total Environmental Restoration Contract
USACE	United States Army Corps of Engineers

1.0 INTRODUCTION

This Closure Report documents the completion of the construction activities for final closure of the Main Base Landfill (MBL) at Holloman Air Force Base (AFB), New Mexico. Foster Wheeler Environmental Corporation (Foster Wheeler) conducted all activities for the United States Army Corps of Engineers (USACE), Omaha District, under the Total Environmental Restoration Contract (TERC) No. DACW45-94-0003, Delivery Order 17, Work Authorization Directive 1. All applicable federal and state laws and closure requirements were met as reported herein.

Foster Wheeler prepared a Construction Work Plan (Foster Wheeler, 1998) in advance of construction activities. The Work Plan met all the requirements stipulated by the TERC No. DACW45-94-0003, Delivery Order 17 and the MBL Closure Project Closure Plan (Closure Plan) (Radian, 1997), which was developed in accordance with Title 20 of the New Mexico Administrative Code (NMAC), Chapter 9, Part 1 (Solid Waste Management). Construction services included site preparation, concrete/asphalt crushing and processing at the Base Reuse Area, earthwork, installation of stormwater management controls, and revegetation. Field activities were performed in accordance with USACE requirements and the plans presented in the Construction Work Plan (Foster Wheeler, 1998). These include the Site Safety and Health Plan (Appendix D), the Regulatory Compliance Plan (RCP) (Section 5), and the Contractor Quality Control Plan (CQCP) (Section 6).

Construction activities associated with the landfill closure began in March 1998 when Foster Wheeler was retained to implement the strategy to obtain final closure of the MBL. Closure construction activities were conducted at seven disposal areas within the MBL, and were based on the Closure Plan, which was approved by the New Mexico Environment Department (NMED) on January 5, 1998. All construction activities were performed from March 1998 through July 1999.

This Construction Closure Report includes a brief site description and history, the landfill closure requirements, an overview of the construction project, and a summary of field activities performed. The Record Drawings are presented in Appendix A, completion inspection reports are contained in Appendix B, and Field Change Requests (FCRs) are contained in Appendix C.

Appendix D includes manufacturers' certificates and Appendix E presents the geotechnical, concrete, and liner test results. The summary of the daily quantities of placed and imported soil is included in Appendix F. Appendix G contains the site inspections and quality control reporting. Appendix H contains the Materials Handling Plan and Appendix I contains the Nonconformance Reports for the landfill cover system.

2.0 SITE DESCRIPTION AND HISTORY

The site description and history were reported in the Closure Plan (Radian, 1997) and are summarized here.

The MBL is located in the southeast portion of Holloman AFB south-southeast of the ammunition storage area off Sabre Road. Specifically, the MBL is located within Sections 1 and 12, T17S, R8E of the United States Geological Survey 7.5-minute map of the Holloman Quadrangle. The total landfill area encompasses approximately 228 acres.

Holloman AFB opened the MBL in 1958 as an active municipal waste landfill. As of July 1994, the MBL no longer accepted municipal waste. However, construction and demolition debris continued to be accepted through April 1996. Disposal of asbestos-containing material in the asbestos portion of the landfill ceased in October 1996.

The landfill includes municipal waste disposal areas (approximately 100 acres), construction debris disposal areas (16 acres), and asbestos disposal areas (9 acres). Approximately 103 acres within the MBL boundary have not been used as a disposal area, including portions of an arroyo bed (40 acres) and about 60 acres of upland space (approximately 45 acres in the southwest portion, 12 acres surrounding disposal areas M2 and C3, and 6 acres north of Area M1).

Closure of the MBL included closure of seven disposal areas that were delineated based on the types of waste contained in each area. These areas are shown in Figure 2-1 and are described below:

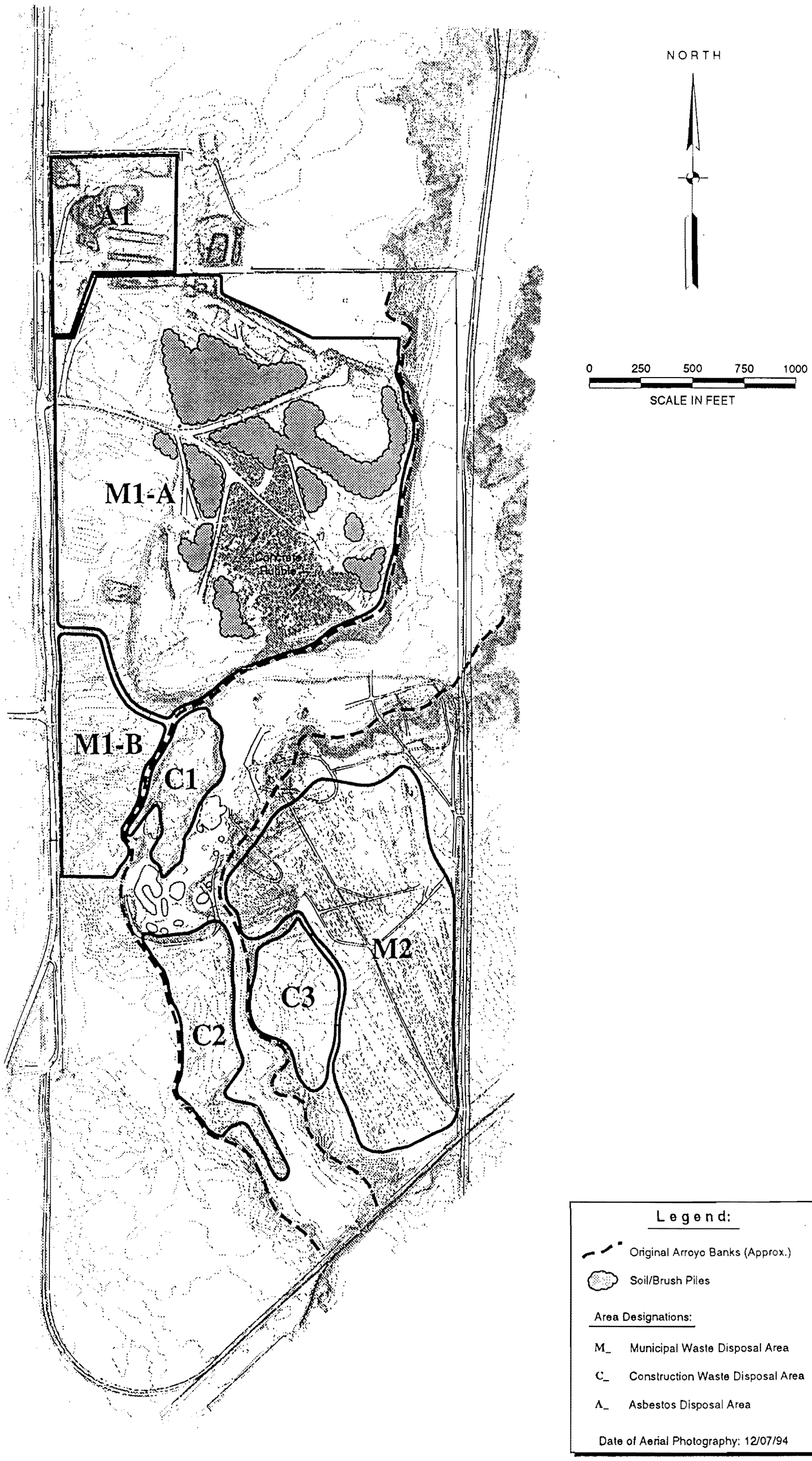


Figure 2-1 Main Base Landfill Disposal Areas

- Area A1 (9 acres)—asbestos-containing material disposal area
- Areas M1-A (63 acres), M1-B (9 acres), and M2 (28 acres)—municipal waste disposal areas
- Areas C1 (4 acres), C2 (7 acres), and C3 (5 acres)—construction debris disposal areas

Access to the MBL will be restricted following closure. Currently, Holloman AFB does not have a planned future use for the site.

3.0 CLOSURE REQUIREMENTS AND TECHNICAL APPROACH

The closure requirements and technical approach to the closure of each of the seven landfill areas were detailed in both the Closure Plan (Radian, 1997) and the Construction Work Plan (Foster Wheeler, 1998). The regulatory framework and technical approach to the closure have been summarized below.

3.1 REGULATORY FRAMEWORK

Holloman AFB is actively conducting a continuing environmental restoration program, and all remedial activities are subject to several environmental regulatory program requirements. Initially, the program was managed under the Air Force's Installation Restoration Program (IRP), but was later integrated with the United States Environmental Protection Agency Resource Conservation and Recovery Act (RCRA) corrective action program. The MBL is a designated IRP site (LF-10), and was closed in accordance with Title 20 of the NMAC, Chapter 9, Part 1 (20 NMAC 9.1—Solid Waste Management) and under the NMED-approved Closure Plan (Radian, 1997), which also meets RCRA requirements.

Final system performance standards with regard to landfill cover material requirements are provided in 20 NMAC 9.1, Subpart V, Section 502.A.1. These standards require a total of 6 inches topsoil plus 18 inches low-permeability soil for municipal disposal areas (M1 and M2); 30 inches compacted soil (no permeability requirements) for construction debris (C1, C2, and C3); and 36 inches compacted soil for asbestos areas (A1). The low-permeability material must have a permeability equal to or less than the permeability of the natural subsoils or $1x10^{-5}$ centimeters/ second (cm/sec), whichever is less. The regulations allow for an alternative cover system to be proposed (Section 502.A.2). The final design used for the MBL closure was an alternative cover

design that was approved by the NMED. The design approach and modeling are included in the Closure Plan (Radian, 1997).

3.2 SITE EVALUATIONS

Surface conditions were evaluated based on an April 1996 sampling program of 125 shallow (no deeper than 9 feet) borings. Geotechnical results showed that the existing soil has an average permeability of 3.7×10^{-4} cm/sec. Depth-to-waste measurements indicated that most of the disposal areas had adequate cover material for closure by NMED regulations. A long-term groundwater monitoring program is in place, with four wells in the MBL vicinity sampled biennially for volatile organic compounds, organochlorine pesticides, RCRA metals, iron, manganese, and water quality parameters. No impact to groundwater quality has been attributed to the MBL.

3.3 CLOSURE

Based on the results of Phase I and Phase II Remedial Investigations, conducted as part of the IRP, a recommendation of 'No Further Action' was approved by the NMED. The basis for this decision was that for all constituents (volatile and semivolatile organic compounds, organochlorine pesticides/polychlorinated biphenyls, total recoverable petroleum hydrocarbons, and metals) concentrations were detected below levels that would pose an unacceptable risk to human health or the environment (Walk, Haydel, and Associates, 1989).

The final grading plan called for addition of at least 24 inches of new soil over the entire A1 area to ensure that the minimum 36-inch depth requirement was met. An alternate cover system was proposed for the municipal waste in area M1-A, thus superceding the NMED Solid Waste Regulations. The design consisted of 27 inches (minimum) of native material, compacted to a permeability equal to or less than the existing cover (3.7×10^{-4} cm/sec). A performance demonstration for this alternative design is presented in Appendix D of the Closure Plan (Radian, 1997). This demonstration used the Hydrologic Evaluation of Landfill Performance model, which found that the proposed alternate cover system provided an equivalent reduction in infiltration provided by the NMED required cover system. The final soil cover system was graded to meet the NMED-recommended range of cover slope between 2 percent and 5 percent.

The 20 NMAC 9.1, Subpart V, Section 502.A.5 requires that the landfill closure be completed within 180 days following the start of closure activities. Due to federal funding constraints, this requirement was not met. All construction activities were performed from March 1998 through July 1999.

4.0 PROJECT DESCRIPTION

4.1 GENERAL

Closure of the MBL was performed in accordance with the NMED-approved Closure Plan (Radian, 1997), the Construction Work Plan (Foster Wheeler, 1998), technical specifications, and construction drawings (April 30, 1998). A soil cover was installed over the asbestos disposal area, A1 (see Figure 2-1), and municipal disposal area, M1-A. Older sections of the MBL had acquired a cover of native vegetation; therefore, disturbance to these areas was minimized. In municipal disposal areas M1-B and M2, trenches that had subsided more than 1 foot were spot filled to match existing grade, and trenches with insufficient cover thickness received additional cover. Spot filling was also done as needed in construction disposal areas, C1, C2, and C3.

Overall, approximately one-third of the 125 acres (total of the seven disposal areas that were delineated based on the types of waste contained in each area) was spot filled/treated as needed to meet the grade and slope requirements of the Work Plan (Foster Wheeler, 1998). Therefore, the total area that received the approved final cover was approximately 86 acres.

The cover over the A1 and M1-A areas was constructed with a minimum 2 percent slope, and includes five small peaks, or ridges, separated by drainage channels that flow through a stormwater network and empty into the adjacent arroyo. This design minimized the amount of fill required, while meeting the slope and soil depth requirements. The cover system utilizes existing cover material where possible, supplemented by compacted native material. Fill material was obtained from existing soil stockpiles and from the concrete crushing and asphalt rubble operation conducted at the Base Reuse Area. An FCR (# 12) for the use of the crushed concrete and asphalt rubble is presented in Appendix C. Two borrow sources for fill and cover material were developed, one on Base and one off Base.

4.2 CONSTRUCTION ACTIVITIES

Mobilization for the final closure construction project began in March 1998 with the establishment of staging, equipment, and material stockpiling areas. Site preparation activities included installing power and water, as well as preparing a haul road. A copy of the Materials Handling Plan is presented in Appendix H. Construction activities are described below and were performed in accordance with the RCP, CQCP, and technical specifications, as presented in Section 5.6 and Appendix B of the Construction Work Plan (Foster Wheeler, 1998).

1. Sections of existing fencing were removed to allow site access. The majority of the barbed-wire fencing was unsalvageable, and was recycled at the Base recycling center as scrap metal. The chain-link fencing was reinstalled at the northwest corner of the old asbestos area. Most of the barbed wire that was taken down on the west side was replaced with new materials. The gate was saved and reinstalled.

2. The interior boundary of the cover area was cleared and grubbed to remove debris and vegetation.

3. On-site materials (concrete and asphalt) were crushed at the Base Reuse Area and stockpiled for use as fill during construction activities. Wood debris, logs, and brush were ground up with the Base tubgrinder and stockpiled for composting.

4. Borrow areas for soil were identified, based on geotechnical testing and proximity to the site. Two areas were determined to be acceptable—one on Base, and one off Base, located outside the La Luz gate. A water sprinkler system was used for moisture conditioning of the soil at the borrow areas. Water was applied to the soil for 1 week prior to the excavation and placement of the borrow material for the landfill cover. All acceptable soil was removed from the Base borrow pit prior to using soil from the off-Base borrow pit.

5. Processed fill materials (crushed concrete and asphalt) were placed in areas A1 and M1-A, as a subbase for the cover.

6. Clean, low-permeability soil was placed and compacted on top of processed materials to create the final soil cover. In-place permeablity and compaction testing of soil in each lift was performed directly after each lift was placed. Another lift was not placed on the

preceeding lift until the previous lift had acceptable test results. The procedure used for the placement of the soil lifts and subsequent in-place testing did not adversely effect the efficiency of the cover construction. The in-place permeability testing of the cover soil ceased after the last lift was placed on September 25, 1998. A detailed description of the borrow pit excavation, transportation, placement, in-place testing, and nonconformance cover replacement is described in Section 4.3. The cover system construction was performed in strict accordance wit the Materials Handling Plan for the project, which has been included in Appendix H. A minimum of 27 inches of approved soil cover material was placed over areas A1 and M1-A. The original plan called for 100,000 cubic yards (cy) of fill and 280,000 cy of soil. The actual amounts used were approximately 43,000 cy of soil fill; an undetermined amount of crushed material; and 386,000 cy of cover soil.

7. Sideslopes were filled with stockpiled and borrow material, and a 6-inch layer of base coarse and a 6-inch layer of riprap were placed on the slopes for erosion control. An additional 1,084 tons of Type A riprap were placed on all slopes (see FCR #12, Appendix C) to reduce erosion while awaiting revegetation.

8. Stormwater channels and concrete stormwater chutes with energy dissipator blocks were constructed to drain runoff from the soil cover into the adjacent arroyo without causing erosion of the soil cover or the existing arroyo bed. A 40-mil, high-density polyethylene liner was used in the channels, overlaid by geotextile filter fabric and riprap (thickness and type varied). Details are shown in the construction drawings (April 30, 1998) contained in Appendix C of the Construction Work Plan (Foster Wheeler, 1998)

9. The remaining areas of the landfill were backfilled as needed to fill in soil voids or trench subsidence. Backfill was obtained from soil that was excavated in order to establish the required subgrade for the soil cover. The trenches and voids were raised to the existing grade.

10. Debris, such as steel beams and tires, was removed from the site and taken to the Base recycling center. Construction debris from installing the cover was also removed and the site cleaned up. The fence was repaired. All equipment and temporary facilities were removed from the site. Demobilization was completed in March 1999.

11. Revegetation was undertaken from July 5 to July 26, 1999, (following demobilization). The cover and all other areas that had been disturbed during closure received compost and wood chips disked approximately 2 inches into the soil. The areas were reseeded with the NMED-approved seed mix, as described in the Construction Work Plan, Appendix B, Section 02936 (Foster Wheeler, 1998).

12. The landfill access road was repaired using recycled asphalt tailings (see FCR #16, Appendix C). This task was completed on July 16, 1999.

13. Composting and mulching operations have been conducted at the landfill facility since November 1998 (see FCRs #11, #14, and #15 Appendix C). The purpose of this operation is to both effectively and efficiently utilize Base recycled materials and enhance the vegetation of the landfill cover. This composting operation will be continued at the landfill until December 31,1999 (see FCR #17, Appendix C).

4.3 QA/QC SUMMARY

All work was performed in accordance with the Materials Handling Plan (Appendix H) and the technical specifications. Additional measures for the proper moisture conditioning of the soil were used and are described herein. Prior to excavation, transport, and placement of the clean, low-permeability borrow soil for the final cover, a sprinkler system was employed at the borrow area for a 1 week period to moisture condition the soil. The borrow soil for the cover was placed in lifts of not more than 8-inch compacted thickness. At least three passes of a Caterpillar 815 sheep's foot compactor were made to compact a lift to 90 percent of dry density as determined by American Society for Testing and Materials (ASTM) D698. This test was performed at a frequency of one sample for every 2 acres per lift. In addition, tests of in-place density by nuclear methods were performed at a frequency of four for every acre per lift, and in-place permeability testing was performed at a frequency of one for every 2 acres per lift. The geotechnical test results are presented in Appendix E.

The in-place testing of each lift was performed directly after the lift was placed. Another lift was not placed on the original lift until the previous lift had acceptable test results. Two samples failed the in-place permeability testing (L078 and L108). The two associated lifts were removed

from the fill and replaced with lifts that passed the appropriate tests. Nonconformance reports, as shown in Appendix I, record the failed tests and the corrective measures that were performed.

5.0 CONSTRUCTION DOCUMENTATION

Daily Quality Control Reports (DQCRs) were prepared to document construction activities at this site. These reports were previously submitted to the USACE project engineer and are therefore not included with this report. The DQCRs documented site activities; resources used (including labor, material and equipment); inspection and testing performed; problems encountered; and actions taken. Vendor submittals and construction activities were documented according to the procedures outlined in the Construction Work Plan (Foster Wheeler, 1998).

The specific submittals and construction activities are described in the following sections. Together, this information forms the complete construction documentation record for the closure of the MBL. The Base's Environmental Flight (49 CES/CEV) will be the custodian of the complete construction documentation record. All work was completed in conformance with applicable state and federal requirements and in accordance with the NMED-approved Closure Plan (Radian, 1997).

5.1 RECORD DRAWINGS

A New Mexico registered land surveyor (Walter C. Black, RPS#8081, Southwest Engineering, Inc.) performed a land survey of project features at the end of the construction phase; the survey plat is provided in Appendix A. This plat fulfills the closure certification requirements as specified in Section 6 of the Closure Plan (Radian, 1997), except for the notification that future use of the landfill area is restricted. In order to fulfill this requirement, Holloman AFB will submit a separate deed notification summary document indicating that future use of the landfill area is restricted. It is anticipated that this document shall be submitted to the NMED in the near future.

5.2 COMPLETION INSPECTION REPORTS

A completion inspection report was performed on each definable section of work (final grading, slopes, drainage channels and structures, fencing, access road, and demobilization) upon completion and acceptance. These reports are provided in Appendix B.

5.3 FIELD CHANGE REQUESTS

FCR forms were used to document approved changes to the Construction Work Plan. Completed FCRs are provided in Appendix C. All of the FCRs for this project proposed minor changes, the most significant relating to adjustments to the grading plan to accommodate existing site contours.

5.4 MANUFACTURERS' CERTIFICATES

Concrete, geotextile membrane, geotextile fabric, and vegetation certificates are included in Appendix D.

5.5 GEOTECHNICAL, LINER, AND CONCRETE TEST RESULTS

Liner and concrete test results, and a summary of geotechnical test results, are included in Appendix E. The geotechnical data sheets can be provided by Holloman AFB upon request.

5.6 DAILY QUANTITY OF PLACED AND IMPORTED SOIL SUMMARY

Material delivery tickets for the daily quantity of imported and on-site soil placed have been retained, and are summarized in Appendix F. The tickets can be provided by Holloman AFB upon request.

5.7 SITE INSPECTIONS AND QUALITY CONTROL REPORTING

Preparatory, initial, and final inspection reports, as well as soil erosion, sediment, and pollution control site inspection checklists are provided in Appendix G.

5.8 MATERIALS HANDLING PLAN

The Materials Handling Plan for the project that details the equipment used for construction, soil layer placement technique and sequence, compaction, soil testing requirements, etc. has been provided in Appendix H.

5.9 NONCONFORMANCE REPOTS

The nonconformance reports for the two sections (samples L078 and L108 of Appendix E) of the landfill cover that did not pass the in-place permeability tests have been provided in Appendix I.

These sections were excavated, backfilled, compacted, and tested and passed the subsequent in-place soil testing as described in the nonconformance reports.

6.0 OPERATION AND MAINTENANCE

Now that closure construction is completed, the MBL will enter a postclosure care period of 30 years. Holloman AFB personnel will be responsible for postclosure care activities, including environmental monitoring, inspection, and maintenance. A summary of the postclosure care activities is described below.

6.1 POSTCLOSURE MONITORING

No postclosure groundwater monitoring is proposed for the MBL. A Groundwater Monitoring Suspension Request was submitted June 1996. In addition, a long-term groundwater monitoring program is in place to monitor groundwater quality upgradient and downgradient of the landfill. Results of the monitoring program are submitted to the NMED Groundwater Bureau; no impact to groundwater quality has been attributed to the landfill to date.

Based on sampling at the MBL in 1996, in which no methane was detected, Holloman AFB will request that methane monitoring frequency be reduced to annually. This request will be prepared and submitted by Holloman AFB to the NMED in the fall of 1999.

Surface water sampling activities will follow protocols outlined in the National Pollutant Discharge Elimination System Stormwater Multi-Sector Permit for Industrial Activities (29 September 1995 *Federal Register*, pp. 50804-51319).

6.2 INSPECTION AND MAINTENANCE

Holloman AFB personnel will perform site inspections at least twice each year (before and after the summer wet season), and after each rainfall event producing more than 1 inch of precipitation. The cover and sideslope material placed in areas A1 and M1-A will be visually inspected for excessive erosion, cracking, or slope failure. Any damage to cover material or sideslopes will be noted and repaired. During the postclosure period, covered areas experiencing subsidence will be regraded with additional soil to maintain drainage. The drainage system within the covered areas will be inspected for ponding, erosion, obstruction, excessive sedimentation, or failure. Drainage areas will be kept clear, and erosion damage repaired. The

vegetative cover will be inspected to identify areas of stressed vegetation or growth deficiency. Affected areas will be reseeded to establish plant growth.

Postclosure reports will present results of the inspections and a summary of maintenance performed. The Post Closure Reports will be prepared by the Holloman AFB personnel shortly after the biannual site inspections or each significant rainfall event (more than 1 inch of precipitation). These reports will be provided by Holloman AFB to the NMED's Solid Waste Bureau upon request.

7.0 REFERENCES

Radian (Radian International)
1997 Closure Plan Main Base Landfill Closure Project, Holloman Air Force Base, New Mexico.

Foster Wheeler (Foster Wheeler Environmental Corporation)
1998 Construction Work Plan for Main Base Landfill Closure Project, Holloman Air Force Base, New Mexico.

USGS (U.S. Geological Survey)
United States Geological Survey, 7.5-minute map of the Holloman Quadrangle.

Walk, Haydel, and Associates
1989 Baseline Risk Assessment Report, Holloman Air Force Base, New Mexico. U.S. Army Corps of Engineers, Omaha District, Omaha, Nebraska

APPENDIX A

RECORD DRAWINGS

image
too large
to
scan

APPENDIX B

COMPLETION INSPECTION REPORTS

FOSTER WHEELER ENVIRONMENTAL
LANDFILL CLOSURE PROJECT
TERC Contract No. DACW45-94-D0003
HOLLOMAN AFB, NEW MEXICO

COMPLETION INSPECTION

PERSONNEL PRESENT:

NAME	REPRESENTING	TITLE	DATE
James McFarlane	FWEC	Site Mgr	
George Fish	USACE	Engineer	7/16/99

SPECIFICATIONS:

02055 Fence 02223 Soil Cover 02241 Base Course 02245 Rip Rap
02271 Geomembrane 02272 Geotextile 03300 Concrete

INSPECTION ITEMS:

Final Grading, Slopes, Drainage, Demobilization, Fencing, Access Road

OBSERVATIONS/DISCREPANCIES:

COMPLETENESS/QUALITY OF WORK:

No comments - OK

COMMENTS:

7/16/99
DATE

QUALITY CONTROL MANAGER

FOSTER WHEELER ENVIRONMENTAL
Main Base Landfill Closure
TERC Contract No. DACW45-94-D0003
HOLLOMAN AFB, NEW MEXICO

FOLLOW UP INSPECTION-RE Veg

PERSONNEL PRESENT:

NAME	REPRESENTING	TITLE	DATE
James Morning	FWENC	Site Mgr/QC	7/14/99, 7/16/99
George Fish	USACE	Resident Eng.	7/16/98
Jose Gallegos	USAF	Chief IRP	7/16/99
Court Fesmire	USAF	IRP Supervisor	7/16/99

SPECIFICATIONS:

02120, section 02936 seeding part 3 - 3.2

INSPECTION ITEMS:

Check depth of scarifying and disking- OK-7/16
Inspected Heavy Equipment-OK 7/14
Checked Incoming hay/mulch delivery-OK 7/14 (ongoing)

OBSERVATIONS/DISCREPANCIES:

All equipment in good shape
Crews observing safety rules

COMPLETENESS/QUALITY OF WORK:

All Compost was spread and disked properly

COMMENTS:

Gave tour of site to clients, no problems noted.

7-16-99
DATE

QUALITY CONTROL MANAGER

APPENDIX C

FIELD CHANGE REQUESTS

FIELD CHANGE REQUEST (FCR) REGISTER
MAIN BASE LANDFILL CLOSURE PROJECT
HOLLOMAN AFB, NEW MEXICO

FCR NO.	DATE	COST	SCHEDULE	REMARKS
01	4/13/98	$481,000.00	20 DAYS	
02	4/7/98	NA	NA	Final specifications not complete
03	4/21/98			Construction Photograph changes
05	4/22/98	N/A	N/A	Name changes to project Team
06	6/1/98	N/A	1 Day	Asbestos area elevation changes
07	8/13/98	N/A	1 Day	Raising of wall at asbestos area
08	8/13/98	N/A	N/A	Contour line changes
09	9/29/98		N/A	use of Rance area gravel for use as base course for landfill cap [illegible]
10	10/8/98	N/A	N/A	moving Location of Concrete chutes to match Slope
11	11/9/98	$ value 10,000	NA	CONTINUE TUBGrinder / Compost operations for Reveg ACTIVITY
12	1/12/99	$ value 24,000	5 day	PLACE Rip Rap on Additional Sloped Areas
13	1/12/99	NA	NA	EXPAND TURN AROUND Point ON Access Rd
14	2/2/99	$55K	NA	Continue Compost op's for Reveg.
15	5/12/99	$55K	NA	Continue compost operations for reveg.
16	2/2/99	$35K	2 weeks	Repair haul road.
17	8/10/99	$38K	Through 12/31/99	Continue compost operations for reveg.

FOSTER WHEELER ENVIRONMENTAL CORPORATION
ENGINEERING PROCEDURES
DEVELOPING AND ISSUING ENGINEERING DOCUMENTS

FIELD CHANGE REQUEST

Project: MAIN BASE LANDFILL | Proj. No. 5155 0017 0001 H0200 | Field Change No. 01

TO GEORGE FISH DEPT USACE LOCATION HOLLOMAN DATE 4/13/98

RE: Drawing No. _____ Title _____
Spec No. 01010 Title SUMMARY OF WORK
Other 1.4-1 GOVERNMENT FURNISHED PRODUCTS

1. Description (Items involved, submit sketch if applicable)

Per the Project Specification, the "Property for borrow source for backfill and soil cover material is on AFB property"

Soil from the Base borrow area did not meet the requirements of the Project specifications for cover material.

2. Reasons for Change (If from disposition of nonconformance report, list report number)

Only the soil from existing grade to 4.0 ft bg met landfill cover requirements.

3. Recommended Disposition Minor Change (Major Change)

Locate and haul from an off-site borrow source

Soil from the Holloman Borrow Source is $1.25/ton delivered.
Soil from the off-site Borrow Source is $3.10/ton delivered.

The estimated cost for this change is $481,000.00

4. Project Engineer (Signature) PWENC | Date 4/13/98 | Project Supt. Concurrence (Signature) | Date

5. Disposition

NOT APPROVED (Give Reason)

CONSIDERED MINOR CHANGE - Approved per Recommended Disposition-Design documents will not be normally revised; field to maintain as-built records

CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

Lead Discipline Engineer or Designee (Signature) | Date | Project Engineer or Designee USACE | Date 4/14/98

Project Engineer signs and returns to LDE for transmittal to Project Engineer with copies to:

Others as Required _____

Project Files _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION
ENGINEERING PROCEDURES
DEVELOPING AND ISSUING ENGINEERING DOCUMENTS

FIELD CHANGE REQUEST

Project	Proj. No.	Field Change No.
MAIN BASE LANDFILL	5155 0017 0001 H0200	02

TO GEORGE FISH DEPT USACE LOCATION HOLLOMAN DATE 4/7/98

RE: Drawing No. _____ Title _____
Spec No. _____ Title _____
Other MAIN BASE LANDFILL SPECIFICATION CHANGES

1. Description (Items involved, submit sketch if applicable)
Radian has not completed the Project Specification. Until the specification has been completed, we will work per the original specification and the recommended changes to the specification (see attached)

2. Reasons for Change (If from disposition of nonconformance report, list report number) _____
To avoid construction delays

3. Recommended Disposition (Minor Change) Major Change

Project Engineer (Signature) FWENC	Date	Project Supt. Concurrence (Signature)	Date

5. Disposition
NOT APPROVED (Give Reason)

CONSIDERED MINOR CHANGE - Approved per Recommended Disposition-Design documents will not be normally revised; field to maintain as-built records

CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

Lead Discipline Engineer or Designee (Signature)	Date	Project Engineer or Designee USACE	Date
			4/14/98

Project Engineer signs and returns to LDE for transmittal to Project Engineer with copies to:

Others as Required _____

Project Files _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION
P.O. Box 540
Holloman AFB, New Mexico 88330

February 9, 1998

Mr. Warren Neff/Mr. Fred Fisher
49 CES/CEVR
Holloman AFB, NM 88330

RE: **Southwest TERC, Recommended Changes to Construction Specifications, Main Base Landfill Closure Project, Holloman Air Force Base, New Mexico, Radian 1997**

Gentlemen:

Summarized below are recommended changes to the referenced construction specification:

- Portions of fencing will be removed as required. Removed fence will not be salvaged. Replacement fence will match existing.
- Delete Portland-Stabilized Channel Course section and replace with a geotextile section.
- Riprap will be obtained from an off-site source, not from processed concrete and asphalt at the reuse/balloon pad or the landfill.
- No material from the reuse or balloon pad will be used for the landfill project.
- Normally, Portland Cement: ASTM C 150, Type 5, is what Base requires.
- Joints are required in concrete chute, show in detail section.
- Lump sum contract requirements can be eliminated.
- There are two different specifications for 6-inch riprap. The one that can be obtained locally is:

Size	% Passing
6-inch	100
3-inch	35-65
1-inch	10-35

- Compact soil cover to 90-percent, as determined by ASTM D698.
- Recommended soil testing methods and frequency are shown on Table 1 (attached).
- Recommended soil analysis methods and frequency are shown in Table 2 (attached).
- Selective backfill will not require compaction, subgrade preparation or testing. Soil will be placed in depressions to allow for settlement.

If you have any questions, please contact me at (505) 479-2668.

Sincerely,

Daniel K. Holmquist
Site Manager
Foster Wheeler Environmental Corporation

Table 1
LANDFILL TESTING RECOMMENDATIONS

SUBGRADE

ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort	1/10 ASTM D2922
ASTM D 1556	Density and Unit Weight of Soil in Place by the Sand Cone Method	1/10 ASTM D2922
ASTM D 2922/3017	Density of Soil in Place by Nuclear Methods/Water Content by Nuclear Methods	4/Acre

BORROW

ASTM D 422	Particle Size Analysis of Soil	1/1000 CY
ASTM D 4318	Liquid Limit, Plastic Limit and Plasticity Index of Soil	!/5000 CY
ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort	!/5000 CY
ASTM D 5084	Measurement of Hydraulic Conductivity	!/5000 CY

COVER

ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort	1/10 ASTM D2922
ASTM D 2922/3017	Density of Soil in Place by Nuclear Methods/Water Content by Nuclear Methods	4/Acre
ASTM D1587	Thin Walled Tube Geotechnical Sampling of Soils	1/2 Acre
ASTM D5084	Measurement of Hydraulic Conductivity	1/2 Acre
ASTM D1556	Density and Unit Weight by the Sand Cone Method	1/10 ASTM D2922

BASE COURSE

ASTM C 117	Materials Finer Than No.200 Sieve	1/1000SY
ASTM D 422	Particle Size Analysis of Soil	1/1000SY
ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort	1/10,000SY
ASTM D 2922/3017	Density of Soil in Place by Nuclear Methods/Water Content by Nuclear Methods	1/10,000SY

Riprap

ASTM D5519	Test Method B(Size -Range Grading)	1/Type A,1/Type B

Table 2
BORROW ANALYTICAL RECOMMENDATIONS

EPA 8015m	TPH-Gas	1/50,000 CY
EPA 8015m	TPH-Diesel	1/50,000 CY
EPA 8260	Volatile Organics	1/50,000 CY
EPA 6010/2000	Metals/CCR(17) TTLC	1/50,000 CY
EPA 8080	Pesticides/PCBs	1/50,000 CY
EPA 8270	Semi Volatile Organics	1/50,000 CY

FIGURE 6-4
FIELD CHANGE REQUEST

FOSTER WHEELER ENVIRONMENTAL CORPORATION
ENGINEERING PROCEDURES
DEVELOPING AND ISSUING ENGINEERING DOCUMENTS

Project: Main Base Landfill	Proj. No. 5155 0017 0001 H0200	Field Change No. 03

TO: George Fish DEPT: USACE LOCATION: Holloman DATE: 4/21/98

RE: ? Drawing No. _____ Title _____
? Spec No. Section 01380 Title Construction Photographs
? Other _____

1. Description (Items involved, submit sketch if applicable)
A simplified, more cost effective procedure for documenting construction activities with photographs will be implemented

2. Reasons for Change (If from disposition of nonconformance report, list report number) _____
The photograph section is inefficient and unnecessary

3. Recommended Disposition ? Minor Change ? Major Change
A minimum of six pictures will be taken daily during site activities. A total of 3 copies will be made. One copy will go to USACE, one will go to Foster Wheeler & one will go to the Air Force. Photographs will be placed in plastic sheets which will be stored in three ring binders in chronological order. Photographs will be dated.

4. Project Engineer (Signature)	Date	Project Supt. Concurrence (Signature)	Date
Carlos J. Henderson FWEnvC	4/21/98		

5. Disposition
? NOT APPROVED (Give Reason)

? CONSIDERED MINOR CHANGE - Approved per Recommended Disposition-Design documents will not be normally revised: field to maintain as-built records

? CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

Lead Discipline Engineer or Designee (Signature)	Date	Project Engineer or Designee USACE	Date
		[signature] PROJ ENG	4/21/98

Project Engineer signs and returns to LDE for transmittal to Project Engineer with copies to:

Project Manager: Dan Holmquist
Project Supt.: Ruben Juarez
Project Files: Carlos Henderson, George Fish, James Morning, Drew Icasat

Others as Required _____

FIGURE 6-4
FIELD CHANGE REQUEST

FOSTER WHEELER ENVIRONMENTAL CORPORATION
ENGINEERING PROCEDURES
DEVELOPING AND ISSUING ENGINEERING DOCUMENTS

Project	Proj. No.	Field Change No.
MAIN BASE LAND FILL	5155 0017 0001 H0200	05

TO _____ DEPT _____ LOCATION _____ DATE 4/21/99

RE: ? Drawing No. _____ Title _____
? Spec No. _____ Title _____
? Other SECTION 2.1 SITE SAFETY AND HEALTH PLAN

1. Description (Items involved, submit sketch if applicable)
A. Sec 2-1 Project TEAM - PHSM + QC
B. Sec 13-2 PHSM - NAME change
C. " " Regional Compliance Mgr

2. Reasons for Change (If from disposition of nonconformance report, list report number) _____
NEW PHSM ASSIGNED - NEW Regional Compliance Mgr
NEW QC ENGINEER ASSIGNED

3. Recommended Disposition ? ~~Minor Change~~ ? Major Change
CHANGE NAME TO: ROGER Margotto C.I.H.
PHONE # 714 444-5500
Add Carlos Henderson As QC Engr PHONE # 505-430-1792
~~Ad~~ Change RCM To JANNE Fritzgerald

4. Project Engineer (Signature)	Date	Project Supt. Concurrence (Signature)	Date
[signature]	4/21/99		

5. Disposition
? NOT APPROVED (Give Reason)

? CONSIDERED MINOR CHANGE - Approved per Recommended Disposition-Design documents will not be normally revised: field to maintain as-built records

? CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

Lead Discipline Engineer or Designee (Signature)	Date	Project Engineer or Designee	Date
		[signature]	4/22/99

Project Engineer signs and returns to LDE for transmittal to Project Engineer with copies to:

Project Manager Don Holmquist
Project Supt. Ruben Juarez
Project Files Carlos Henderson
Project SHSO: [signature]

Others as Required _____

FIGURE 6-4
FIELD CHANGE REQUEST

FOSTER WHEELER ENVIRONMENTAL CORPORATION
ENGINEERING PROCEDURES
DEVELOPING AND ISSUING ENGINEERING DOCUMENTS

Project Main Base Landfill	Proj. No. 5155 00,7 0001 A0200	Field Change No. 6

TO George Fish DEPT US ACOE LOCATION Holloman AFB DATE 6/1/98

RE: ? Drawing No. B11694 04 30.98 Title Cap Installation Grading Plan
? Spec No. 02223 / 02420 Title Low Permeability Soil Cover / Grading
? Other

1. Description (Items involved, submit sketch if applicable)
At Station 313 (N680,000 ; E554900) a cut of 2.0 was staked. 2' was cut but cutting the remaining 0.0 to subgrade will reach into asbestos material causing a pollution problem. A minimum of 1.0 of cover is needed as well as 2.0 of low permeability soil cover to grade. Since 0.0 cannot be cut the final elevations of this section of the landfill need changed. This is in the Northeast corner of the Asbestos area of the landfill.

2. Reasons for Change (If from disposition of nonconformance report, list report number)
To avoid Excavating buried asbestos debris which causes a health hazard and to ensure proper ~~elevation~~ drainage.

3. Recommended Disposition ? Minor Change ? Major Change
Recommend Raising final elevation 1.0 at section running from N 680,000 ; E 554900-555,0 (state plane coordinates). Recommend raising final elevation 0.5 at N 679,900 ; E 554900 - 555,0 This will ensure that asbestos won't be excavated and proper drainage will be achieved

4. Project Engineer (Signature)	Date	Project Supt. Concurrence (Signature)	Date
Carl D. Hubbard	6/1/98		6/1/98

5. Disposition
? NOT APPROVED (Give Reason)

? CONSIDERED MINOR CHANGE - Approved per Recommended Disposition-Design documents will not be normally revised: field to maintain as-built records

? CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN

Lead Discipline Engineer or Designee (Signature)	Date	Project Engineer or Designee	Date

Project Engineer signs and returns to LDE for transmittal to Project Engineer with copies to:

Project Manager

Project Supt. Ruben Chavez

Project Files Carl Hubbard
George Fish

Others as Required

T. H. COE
6/1/98

FIGURE 6-4
FIELD CHANGE REQUEST

FOSTER WHEELER ENVIRONMENTAL CORPORATION
ENGINEERING PROCEDURES
DEVELOPING AND ISSUING ENGINEERING DOCUMENTS

Project	Proj. No.	Field Change No.
Main Base Landfill	5155 0017 0001 H0200	07

TO George Fish DEPT US ACOE LOCATION Holloman AFB, NM DATE 8/13/98

RE: ? Drawing No. B11694 04.30.98 Title Cap Installation Grading Plan
? Spec No. 02222/02200/ Title Low Permeability Soil Cover/Grading
? Other

1. Description (Items involved, submit sketch if applicable)
At the Asbestos area there is a monitoring well that needs raised to meet final grade.

2. Reasons for Change (If from disposition of nonconformance report, list report number)
To avoid loss of monitoring well, the well needs raised to meet final grade

3. Recommended Disposition: ? Minor Change ? Major Change
Recommend raising monitoring well to final grade

4. Project Engineer (Signature)	Date	Project Supt. Concurrence (Signature)	Date
FWENC	8/13/98		8/13/98

5. Disposition
? NOT APPROVED (Give Reason)

? CONSIDERED MINOR CHANGE - Approved per Recommended Disposition-Design documents will not be normally revised; field to maintain as-built records

? CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

Lead Discipline Engineer or Designee (Signature)	Date	Project Engineer or Designee	Date
			8/18/98

Project Engineer signs and returns to LDE for transmittal to Project Engineer with copies to:

Project Manager

Project Supt. Ruben Duarte

Project Files Carla Henderson
George Fish

Others as Required

FIGURE 6-4
FIELD CHANGE REQUEST

FOSTER WHEELER ENVIRONMENTAL CORPORATION
ENGINEERING PROCEDURES
DEVELOPING AND ISSUING ENGINEERING DOCUMENTS

Project	Proj. No.	Field Change No.
Main Base Landfill	5155 0017 0101 H0L00	08

TO Gregg Fish DEPT USACOE LOCATION Holloman AFB, NM DATE 8/13/98

RE: ? Drawing No. B11694 04.30.98 Title Cap Installation Grading Plan
? Spec No. 02223/02120 Title Low Permeability Soil Cover / Grading
? Other

1. Description (items involved, submit sketch if applicable)
The existing grading plan does not have sufficient grade elevation to ensure 1' deep swales at channels A, C, D, & F. Grade changes need to be implemented to ensure proper volume of channels without impacting on the minimum soil cover requirement

2. Reasons for Change (If from disposition of nonconformance report, list report number)
To avoid over flowing of channels and erosion minimization.

3. Recommended Disposition ? Minor Change ? Major Change
Recommend grade changes at channels A, C, D, & F to ensure adequate volume of channels and to maintain minimum soil cover requirement. Recommend changing contours as shown on two attached sheets.

4. Project Engineer (Signature)	Date	Project Supt. Concurrence (Signature)	Date
Carlos Henderson FWENC	8/13/98		8/13/98

5. Disposition
? NOT APPROVED (Give Reason)

? CONSIDERED MINOR CHANGE - Approved per Recommended Disposition-Design documents will not be normally revised; field to maintain as-built records

? CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

Lead Discipline Engineer or Designee (Signature)	Date	Project Engineer or Designee	Date
			8/18/98

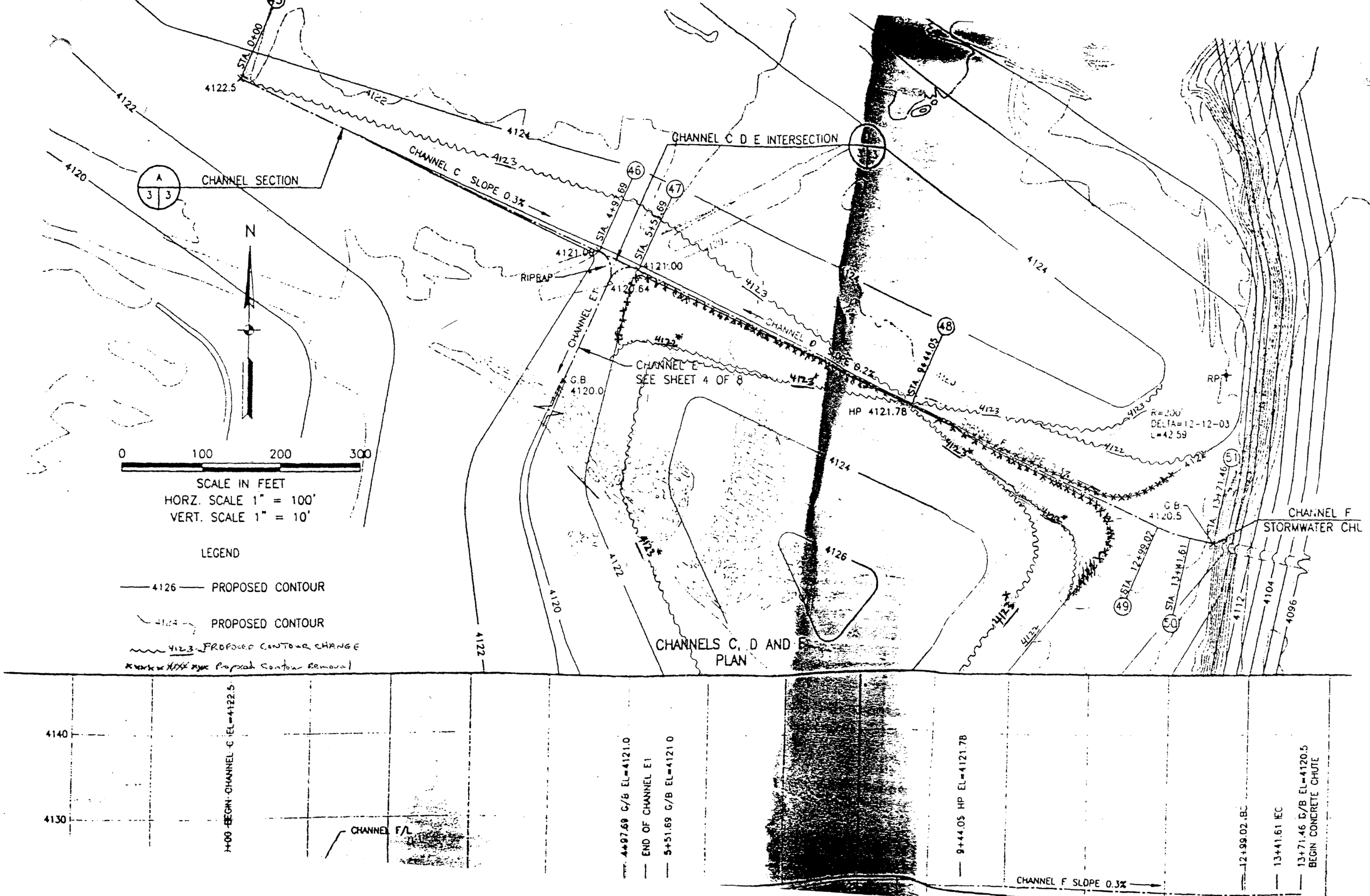
Project Engineer signs and returns to LDE for transmittal to Project Engineer with copies to:

Project Manager

Project Supt. Ruben Jacquez

Project Files Carlos Henderson
Gregg Fish

Others as Required Dan Holmquist


CHANNEL SECTION
A
3 3
CHANNEL C SLOPE 0.3%
CHANNEL C D E INTERSECTION
STA 0+00
4122.5
STA 4+97.69
STA 5+51.69
4121.00
RIPRAP
4120.64
CHANNEL E1
G.B
4120.0
CHANNEL E
SEE SHEET 4 OF 8
CHANNEL D
SLOPE 0.2%
STA 9+44.05
HP 4121.78
R=200'
DELTA=12-12-03
L=42.59
RP
CHANNEL F
STORMWATER CHL
G.B
4120.5
STA 13+71.46
STA 13+41.61
STA 12+99.02
CHANNELS C, D AND E
PLAN
N
0 100 200 300
SCALE IN FEET
HORZ. SCALE 1" = 100'
VERT. SCALE 1" = 10'
LEGEND
4126 PROPOSED CONTOUR
4124 PROPOSED CONTOUR
4123 PROPOSED CONTOUR CHANGE
Proposed Contour Removal
4140
4130
0+00 BEGIN CHANNEL C EL=4122.5
CHANNEL F/L
4+97.69 G/B EL=4121.0
END OF CHANNEL E1
5+51.69 G/B EL=4121.0
9+44.05 HP EL=4121.78
CHANNEL F SLOPE 0.3%
12+99.02 BC
13+41.61 EC
13+71.46 G/B EL=4120.5
BEGIN CONCRETE CHUTE

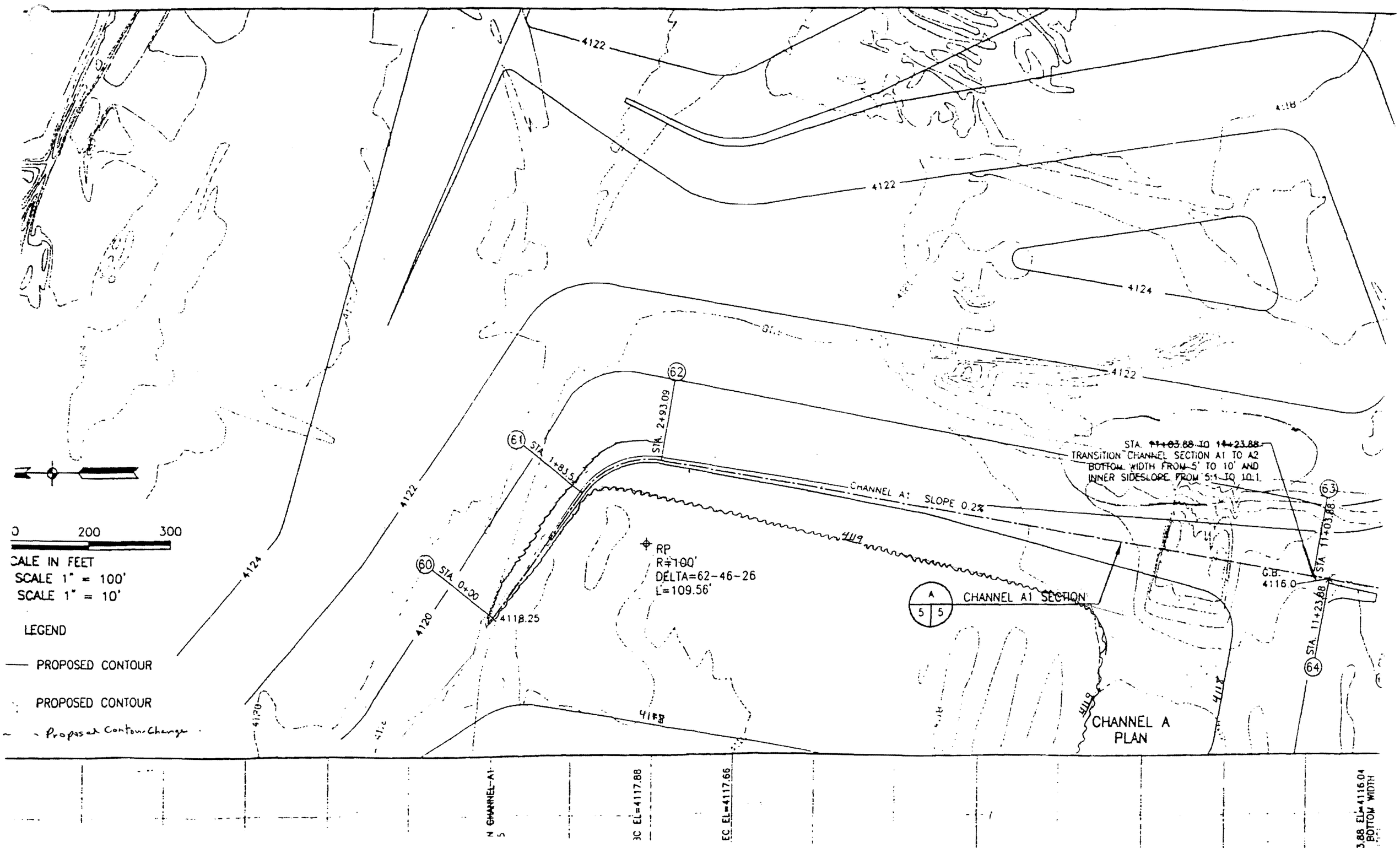

4122
4122
4124
4122
4122
4124
4120
4120
4118
4119
4118
4118
4118
4118
(62)
STA. 2+93.09
(61)
STA. 1+83.5
(60)
STA. 0+00
4118.25
RP
R=100'
DELTA=62-46-26
L=109.56'
CHANNEL A1 SLOPE 0.2%
STA. ~~11+03.88 TO 11+23.88~~
TRANSITION CHANNEL SECTION A1 TO A2
BOTTOM WIDTH FROM 5' TO 10' AND
INNER SIDESLOPE FROM 5:1 TO 10:1
(63)
STA. 11+03.88
C.B.
4116.0
STA. 11+23.88
(64)
A
5 5
CHANNEL A1 SECTION
CHANNEL A
PLAN
0 200 300
SCALE IN FEET
SCALE 1" = 100'
SCALE 1" = 10'
LEGEND
PROPOSED CONTOUR
PROPOSED CONTOUR
Proposed Contour Change
N CHANNEL A1
3C EL=4117.88
EC EL=4117.66
Q3.88 EL=4116.04
N BOTTOM WIDTH

FIGURE 6-4
FIELD CHANGE REQUEST

FOSTER WHEELER ENVIRONMENTAL CORPORATION
ENGINEERING PROCEDURES
DEVELOPING AND ISSUING ENGINEERING DOCUMENTS

Project	Proj. No.	Field Change No.
Main Base Landfill	555 0017 0001 H020	09

TO George Fish DEPT USACOE LOCATION Holloman AFB DATE 9/29/98

RE: ? Drawing No. B11694 04.30.98 Title Cap Installation Grading Plan
? Spec No. 02241 Title Crushed Aggregate Base Course
? Other

1. Description (Items involved, submit sketch if applicable)
Per the proposed specification "Crushed aggregate Base as used herein is well graded, durable crushed aggregate uniformly moistened and mechanically stabilized by compaction."
Base Course to be used for landfill cap road does not meet the same grading specification as the base course to be used on the slope

2. Reasons for Change (If from disposition of nonconformance report, list report number)
Crushed aggregate Base Course produced at the Holloman AFB Range area does not have the same gradation as Base course used for the slopes but is acceptable for use on the landfill cap for use on cap access road

3. Recommended Disposition ? Minor Change ? Major Change
Recommend using base course from Holloman AFB Range area for use on landfill cap access Road surface

4. Project Engineer (Signature)	Date	Project Supt. Concurrence (Signature)	Date
Carlos Mendez	9/29/98	[illegible]	9/29/98

5. Disposition
? NOT APPROVED (Give Reason)

? CONSIDERED MINOR CHANGE - Approved per Recommended Disposition-Design documents will not be normally revised: field to maintain as-built records

? CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

Lead Discipline Engineer or Designee (Signature)	Date	Project Engineer ~~or Designee~~	Date
		[illegible]	10/13/98

Project Engineer signs and returns to LDE for transmittal to Project Engineer with copies to:

Project Manager _____ Others as Required _____

Project Supt. _____

Project Files _____

FIGURE 6-4
FIELD CHANGE REQUEST

FOSTER WHEELER ENVIRONMENTAL CORPORATION
ENGINEERING PROCEDURES
DEVELOPING AND ISSUING ENGINEERING DOCUMENTS

Project Main Base Landfill	Proj. No. 5155 0017 0001 H0200	Field Change No. 1

TO George Fish DEPT USACOE LOCATION Holloman AFB, NM DATE 10/7/98

RE: ? Drawing No. B11694 04.30.98 Title Cap Installation Grading Plan / Stormwater Discharge Chutes
? Spec No. R14946 04.30.98 Title
? Other R14944 04.30.98 Channel Details

1. Description (Items involved, submit sketch if applicable)
The existing stormwater chute locations on the plans do not match with existing slope dimensions at the locations of channel E & F. The channels will have to be moved 10 feet (channel E) and 5 feet (channel F) to match the existing slope coordinates.

2. Reasons for Change (If from disposition of nonconformance report, list report number)
To properly match stormwater chutes with existing slope coordinates

3. Recommended Disposition ? Minor Change ? Major Change
Recommend moving chutes (channel E - 10 ft South east, channel F - 5 ft southwest) to match existing slope coordinates

4. Project Engineer (Signature)	Date	Project Supt Concurrence (Signature)	Date
Carlos J. Henderson FWEIJC	10/7/98		10/8/98

5. Disposition
? NOT APPROVED (Give Reason)

? CONSIDERED MINOR CHANGE - Approved per Recommended Disposition-Design documents will not be normally revised; field to maintain as-built records

? CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

Lead Discipline Engineer or Designee (Signature)	Date	Project Engineer or Designee	Date

Project Engineer signs and returns to LDE for transmittal to Project Engineer with copies to:

Project Manager

Project Supt. Ruben Lara

Project Files Carlos Henderson, George Fish

Others as Required Don Holmquist

10/13/98

FIELD CHANGE REQUEST

PROJECT	PROJ. NO	FIELD CHANGE NO.
5155 0017 0001 H0200		11

TO. GEORGE FISH DEPT. USACE LOCATION HOLLOMAN DATE 11/9/98

RE: ☐ DRAWING NO. _____ TITLE _____

☐ SPEC NO. _____ TITLE _____

☐ OTHER _____

1. DESCRIPTION (Items involved, submit sketch if applicable)

Build and maintain composting area and run chipper once a week through February 1999. Materials from these tasks will be used as compost and mulch for the Landfill revegetation

2. REASONS FOR CHANGE (If from disposition of nonconformance report, list report number)

Air Force request.

3. RECOMMENDED DISPOSITION ☒ MINOR CHANGE ☐ MAJOR CHANGE

The effort will involve a backhoe and 3 laborers one day a week for 16 weeks. Costs will not exceed $10,000.00.

11/9/98

RESIDENT ENGINEER (Signature)	DATE	PROJECT SUPT. CONCURRENCE (Signature)	DATE
	11/9/98		

5. DISPOSITION

☐ NOT APPROVED (Give Reason)

☐ CONSIDERED MINOR CHANGE - Approved per Recommended Disposition - Design Documents will not be normally revised; field to maintain as-built records

☐ CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

LEAD DISCIPLINE ENGINEER OR DESIGNEE (Signature)	DATE	PROJECT ENGINEER OR DESIGNEE (Signature)	DATE

Project Engineer signs and returns to LDE for transmittal to Resident Engineer with copies to:

Project Manager _____ *Others as Required* _____

Project Supt _____

Project Files _____

FIELD CHANGE REQUEST

PROJECT	PROJ. NO.	FIELD CHANGE NO.
Main Base Landfill	5155.0017.0003.H0000	MBL #12

TO Mr. George Fish DEPT. USACE LOCATION Holloman, AFB DATE 1/12/99

RE: ☐ DRAWING NO. _____ TITLE _____
☐ SPEC NO. _____ TITLE _____
☐ OTHER. _____

1. DESCRIPTION (Items involved, submit sketch if applicable) Continue the Placement of type A (6 inch) riprap on all slopes that are not in project drawings. To include old asbestos area and adjacent slopes.

2. REASONS FOR CHANGE (If from disposition of nonconformance report, list report number) To prevent erosion, prevent re work of area while awaiting re-vegetation phase , and maintain slope integrity

3. RECOMMENDED DISPOSITION ☒ MINOR CHANGE ☐ MAJOR CHANGE
placement additional riprap approx. 2000 tons. Approx. value at ($24000.00 of Materials) (5 Working/equipment days)

4. RESIDENT ENGINEER (Signature)	DATE	PROJECT SUPT. CONCURRENCE (Signature)	DATE
			1/11/99

5. DISPOSITION

☐ NOT APPROVED (Give Reason)

☐ CONSIDERED MINOR CHANGE - Approval per Recommended Disposition - Design Documents will not be normally revised; field to maintain as-built records

☐ CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

LEAD DISCIPLINE ENGINEER OR DESIGNEE (Signature)	DATE	PROJECT ENGR OR DESIGNEE (Signature)	DATE
			1/12/99

Project Engineer signs and returns to LDE for transmittal to Resident Engineer with copies to:

Project Manager _____ *Others as Required* _____

Project Supt. _____

Project Files _____

FIELD CHANGE REQUEST

PROJECT	PROJ. NO.	FIELD CHANGE NO.
Main Base Landfill	5155.0017.0003.H0000	MPL ~~#12~~ 13

TO Mr. George Fish DEPT. USACE LOCATION Holloman, AFB DATE 1/12/99

RE: ☐ DRAWING NO. _____ TITLE _____
☐ SPEC NO. _____ TITLE _____
☐ OTHER. Access road turn around

1. DESCRIPTION (Items involved, submit sketch if applicable) Expand turn around point on access road to accommodate vehicle turning radius.

2. REASONS FOR CHANGE (If from disposition of nonconformance report, list report number) existing 20 foot pad not enough for a turn around of vehicles

3. RECOMMENDED DISPOSITION ☐ MINOR CHANGE ☐ MAJOR CHANGE

placement additional basecourse approx. 50 tons.

4. RESIDENT ENGINEER (Signature)	DATE	PROJECT SUPT. CONCURRENCE (Signature)	DATE
			1/12/99

5. DISPOSITION

☐ NOT APPROVED (Give Reason)

☐ CONSIDERED MINOR CHANGE - Approval per Recommended Disposition - Design Documents will not be normally revised; field to maintain as-built records

☐ CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

LEAD DISCIPLINE ENGINEER OR DESIGNEE (Signature)	DATE	PROJECT ENGR OR DESIGNEE (Signature)	DATE
			1/12/99

Project Engineer signs and returns to LDE for transmittal to Resident Engineer with copies to:

Project Manager _____ *Others as Required* _____

Project Supt. _____

Project Files _____

FIELD CHANGE REQUEST

PROJECT	PROJ. NO.	FIELD CHANGE NO.
Main Base Landfill Project	5155.0017.0001.H0200	~~#15~~ 14

TO Mr. George Fish DEPT. USACE LOCATION Holloman, AFB DATE 2/2/99

RE: ☐ DRAWING NO. _____ TITLE _____
☐ SPEC NO. _____ TITLE _____
☐ OTHER. _____

1. DESCRIPTION (Items involved, submit sketch if applicable) Continue composting operations until June or up to re vegetation operations begin/end.

2. REASONS FOR CHANGE (If from disposition of nonconformance report, list report number) To enhance the re vegetation of the cap and utilize recycled materials to their best use.

3. RECOMMENDED DISPOSITION ☒ MINOR CHANGE ☐ MAJOR CHANGE

The major items and personnel this task will require is the daily operation of the recycle yard, composting, and collection of materials from the base stables. This will involve a full time operating engineer and a part time laborer, a Pick up truck, a backhoe,dump truck and maintaining the Tubgrinder,and transporting finished compost to the landfill area. Approx value $55000.00

4. RESIDENT ENGINEER (Signature)	DATE	PROJECT SUPT. CONCURRENCE (Signature)	DATE
[illegible]	2/9/99	[illegible]	2/2/99

5. DISPOSITION

☐ NOT APPROVED (Give Reason)

☐ CONSIDERED MINOR CHANGE - Approval per Recommended Disposition - Design Documents will not be normally revised; field to maintain as-built records

☐ CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

LEAD DISCIPLINE ENGINEER OR DESIGNEE (Signature)	DATE	PROJECT ENGR OR DESIGNEE (Signature)	DATE

Project Engineer signs and returns to LDE for transmittal to Resident Engineer with copies to:

Project Manager _____ *Others as Required* _____

Project Supt. _____

Project Files _____

FIELD CHANGE REQUEST

PROJECT	PROJ. NO.	FIELD CHANGE NO.
Main Base Landfill Project	5155.0017.0001.H0200	#15

TO Mr. George Fish DEPT. USACE LOCATION Holloman, AFB DATE 5/12/99

RE: ☐ DRAWING NO. _____ TITLE _____

X☐ SPEC NO. 02936 SECTION 3.2 TITLE SEEDING, PREPARATION OF SURFACE

x☐ OTHER. Mulching/composting

1. DESCRIPTION (Items involved, submit sketch if applicable) Continue composting operations until September 1999 or up to re vegetation operations begin/end. Spread and disk in compost/wood chips into surface approx 2 inches , to enhance soil for seeding applications.

2. REASONS FOR CHANGE (If from disposition of nonconformance report, list report number) To enhance the re vegetation of the cap and utilize recycled materials to their best use.

3. RECOMMENDED DISPOSITION ☑ MINOR CHANGE ☐ MAJOR CHANGE

The major items and personnel this task will require is the daily operation of the recycle yard, composting, and collection of materials from the base stables. This will involve a full time operating engineer and laborer, a Pick up truck, a backhoe,dump truck , (when needed)and maintaining the Tubgrinder,and transporting finished compost to the landfill area. Disking will involve a agricultural type disk pulled by a tractor. Chips and compost will be spread by a mechanical spreader or by some type of bladed heavy equipment. Duration -- 2 weeks , Disking will be done 2-3 weeks prior to seeding scheduled for July 1999-Approx value $55000.00

5-14-99

4. RESIDENT ENGINEER (Signature)	DATE	PROJECT SUPT. CONCURRENCE (Signature)	DATE
			5/14/99

5. DISPOSITION

☐ NOT APPROVED (Give Reason)

☑ CONSIDERED MINOR CHANGE - Approval per Recommended Disposition - Design Documents will not be normally revised; field to maintain as-built records

PROJ ENGR COE

☐ CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

LEAD DISCIPLINE ENGINEER OR DESIGNEE (Signature)	DATE	PROJECT ENGR OR DESIGNEE (Signature)	DATE

Project Engineer signs and returns to LDE for transmittal to Resident Engineer with copies to:

Project Manager _____

Project Supt. _____

Project Files _____

Others as Required Verbal - Jose Gallegos - OK

FIELD CHANGE REQUEST

PROJECT	PROJ. NO.	FIELD CHANGE NO.
Main Base Landfill Project	5155.0017.0001.H0200	#16

TO Mr. George Fish DEPT. USACE LOCATION Holloman, AFB DATE 2/2/99

RE: ☐ DRAWING NO. _____ TITLE _____
X☐ SPEC NO. 01500 1.3 b,2 Temporary Roads TITLE Construction Facilities and Temporary Controls
☐ OTHER. _____

1. DESCRIPTION (Items involved, submit sketch if applicable) Repair road leading to landfill utilizing recycled asphalt tailings. Road width will be 24 feet and approx. 2.5 inches thick. Road base will be graded and prepped with suitable tack oil, then place , grade and compact material and post treat surface with suitable surface treatment such as tack oil. Approx. Value and duration- $ 35000.00- 2 weeks -Will be done after re-vegetation operations, End of July 1999

2. REASONS FOR CHANGE (If from disposition of nonconformance report, list report number) To replace old road that led to Landfill that deteriorated during soil hauling operations, and to make use of available recycled product.

3. RECOMMENDED DISPOSITION ☐ MINOR CHANGE ☐ MAJOR CHANGE

The major items and personnel this task will require the use of a specialty sub contractor or local hired craft personnel. Equipment will be various types trucks, grader, compactors, survey equipment. Material is available at the Base Borrow Pit. Tack oils will be only materials to be purchased, along with operating POL.. FWENC recommends to proceed with project after reveg ops.

4. RESIDENT ENGINEER (Signature)	DATE	PROJECT SUPT. CONCURRENCE (Signature)	DATE
		FWENC	5-14-99

5. DISPOSITION

☐ NOT APPROVED (Give Reason)

☑ CONSIDERED MINOR CHANGE - Approval per Recommended Disposition - Design Documents will not be normally revised; field to maintain as-built records

PROJ ENGR COE 5/14/99

☐ CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

LEAD DISCIPLINE ENGINEER OR DESIGNEE (Signature)	DATE	PROJECT ENGR OR DESIGNEE (Signature)	DATE

Project Engineer signs and returns to LDE for transmittal to Resident Engineer with copies to:

Project Manager _____

Project Supt. _____

Project Files _____

Others as Required Verbal - Jose Gallegos - OK

FIELD CHANGE REQUEST

PROJECT	PROJ. NO.	FIELD CHANGE NO.
Main Base Landfill Project	5155.0017.0001.H0200	~~#14~~ #17

TO Mr. George Fish DEPT. USACE LOCATION Holloman, AFB DATE 8/16/99

RE: ☐ DRAWING NO. _____ TITLE _____
☐ SPEC NO. _____ TITLE _____
☐ OTHER. _____

1. DESCRIPTION (Items involved, submit sketch if applicable) Continue composting operations until Dec 31 1999 .

2. REASONS FOR CHANGE (If from disposition of nonconformance report, list report number) To enhance the re vegetation of the cap and utilize recycled materials to their best use.

3. RECOMMENDED DISPOSITION ☐ MINOR CHANGE ☐ MAJOR CHANGE

The major items and personnel this task will require is the daily operation of the recycle yard, composting, and collection of materials from the base stables. This will involve a full time operating engineer and a part time laborer, a Pick up truck, a backhoe,dump truck and maintaining the Tubgrinder,and transporting finished compost to the landfill area. Approx value $38000.00

4. RESIDENT ENGINEER (Signature)	DATE	PROJECT SUPT. CONCURRENCE (Signature)	DATE

5. DISPOSITION

☐ NOT APPROVED (Give Reason)

☐ CONSIDERED MINOR CHANGE - Approval per Recommended Disposition - Design Documents will not be normally revised; field to maintain as-built records

☐ CONSIDERED MAJOR CHANGE - Action will be taken as prescribed on DCN -

LEAD DISCIPLINE ENGINEER OR DESIGNEE (Signature)	DATE	PROJECT ENGR OR DESIGNEE (Signature)	DATE

Project Engineer signs and returns to LDE for transmittal to Resident Engineer with copies to:

Project Manager _____ *Others as Required* _____

Project Supt. _____

Project Files _____

APPENDIX D

MANUFACTURERS' CERTIFICATES

THE SNOW COMPANY, INC.

MESA VERDE/FOSTER-WHEELER PROJECT
DRAINAGE CHANNEL LINERS

SUBMITTAL COMMENTS

1. We propose to use a 40 mil Coex liner material for this project. Coex liners incorporate a Very Low Density Polyethylene (VLDPE) core with a layer of High Density Polyethylene (HDPE) on each side of the core. Coex materials are manufactured using a co-extrusion process that extrudes all three layers at the same time, resulting in an permanent bond between the three layers that is as strong as the base materials. Combining VLDPE and HDPE materials results in a product that has the best features of both materials.

2. The Coex materials will be manufactured by National Seal Company (NSC) of Galesburg, Illinois. NSC has been manufacturing liners for over (10) years, and produces over (50) million square feet of HDPE per year. The Coex materials will be furnished in rolls that are 15' wide x 1,650' long.

3. The HDPE liner will be installed by The Snow Company, Inc. of Albuquerque, New Mexico. The Snow Company, Inc. has been installing liners in excess of (15) years, and has installed more than (20) million square feet of materials during that time.

4. The primary method of field seaming the HDPE sheets together will be by the use of a wedge welder. A wedge welder uses an electrically heated wedge to heat fuse HDPE together, with a resulting seam that is stronger than the parent materials. The machine is equipped with infinitely variable speed and temperature controls. Please refer to the attached HDPE Installation procedures for details.

5. We propose to use Tensar style 1125 geotextile for this project. Tensar geotextiles consist of 100% <u>continuous</u> filament polyester fibers, as opposed to the chopped fibers used in other products. The use of continuous fibers results in higher strength and better material integrity.

6. The Tensar materials will be furnished in 15' x 950' rolls. Materials will be overlapped and sewn as required with high strength polyester thread.

<u>EXCEPTIONS TO SPECIFICATIONS</u>

1. The physical properties for Coex materials meet or exceed the specified properties with the following exceptions:

a. Thickness, minimum – 40 mils specified; 38 mils submitted. Due to the nature of manufacturing equipment, some negative thickness allowance must be made. The 5% negative allowance for the submitted product is one of the best in the industry.

b. Tear resistance – 30 PPI specified; submitted value 22 PPI. This value is not a major consideration for your project, since we are dealing with channels that are only 1' deep, and a maximum slope of 5/1. Tear resistance is important primarily in deeper ponds that experience high stresses on the slopes areas, or in uncovered ponds that are subject to wind stresses. We feel that the increased puncture, tensile, and multi-axial properties are much more important for your project.

2. Specification section 2272.3.4.C calls for sewn seams to be of the "flat" type. Due to the nature of the equipment used to sew geotextile, seams must be of the "prayer" type.

COEX SEAL® GEOMEMBRANE
SPECIFICATIONS

40 mil (1.0 mm)

National Seal Company's COEX SEAL geomembrane is manufactured by coextruding a core of very low density polyethylene (VLDPE) with outer layers of high density polyethylene (HDPE). The layers are made from first-quality, high molecular weight polyethylene resin compounded specifically for use in NSC geomembranes The COEX SEAL has been formulated to be resistant to chemicals, ultraviolet degradation, stress cracking, as well as leaching additives.

Refer to NSC's Manufacturing Quality Control Manual to determine test methods and frequencies used as a part of NSC's quality control program.

RESIN PROPERTIES	METHOD	UNITS	MINIMUM[1]	TYPICAL
Density	ASTM D 1505			
VLDPE Core[2]		g/cm^3	0.930	0.922
HDPE Skin		g/cm^3	0.940	0.948
Oxidative Induction Time	ASTM D 3895, mod. Al pan, 200°C, 1 atm O_2	minutes	75	100

SHEET PROPERTIES	METHOD	UNITS	MINIMUM[1]	TYPICAL
Thickness	ASTM D 5199			
Average		mils	40.0	41.5
Individual (30.5')		mils	38.0	40.3
Individual (23')		mils	36.0	40.0
Core Thickness, % of total		percent		65
Skin Thickness, % of total		percent		17.5
Carbon Black Content	ASTM D 4218or D 1603	percent	2.0-3.0	2.5
Carbon Black Dispersion	ASTM D 5596	rating	Category 1 or 2	Category 1
Tensile Properties	ASTM D 638			
Stress at Yield		psi	1500	1595
		ppi	60	66
Stress at Break		psi	3800	4740
		ppi	152	197
Strain at Yield	1.3" gage length (NSF)	percent	17.0	24.4
Strain at Break	2.0" gage length	percent	800	1000
	2.5" gage length (NSF)	percent	640	800
Dimensional Stability[2]	ASTM D 1204, NSF mod.	percent	3.0	0.5
Tear Resistance	ASTM D 1004	ppi	550	600
		lbs	22	25
Puncture Resistance	ASTM D 4833	ppi	1700	2217
		lbs	68	92

[1] This value represents the minimum acceptable test value for a roll as tested according to NSC's Manufacturing Quality Control Manual. Individual test specimen values are not addressed in this specification except thickness.

[2] Indicates Maximum Average Roll Value

COEX SEAL® GEOMEMBRANE
PHYSICAL PROPERTIES

40 mil (1.0 mm)

PROPERTIES	METHOD	UNITS	MINIMUM[1]	TYPICAL
Multi-Axial Tensile Elongation	ASTM D 5617	percent	25.0	30.0
Critical Cone Height	ASTM D 5514	cm	3.5	4.0
Brittleness Temp. by Impact[2]	ASTM D 746	°C	-75	<-90
Coef. of Linear Thermal Exp.[2]	ASTM E 831	$°C^{-1}$	2.5×10^{-4}	1.8×10^{-4}
ESCR, Bent Strip	ASTM D 1693	hours	1500	>10,000
Hydrostatic Resistance	ASTM D 751	psi	160	200
Modulus of Elasticity	ASTM D 638	psi	65,000	82,750
Ozone Resistance	ASTM D 1149, 168 hrs	P/F	P	P
Permeability[2]	ASTM E 96	cm/sec · Pa	2.1×10^{-13}	1.6×10^{-13}
Puncture Resistance	FTMS 101, method 2065	ppi	1500	1614
		lbs	60	67
Soil Burial Resistance[2]	ASTM D 3083, NSF mod	% change	10	0
Tensile Impact	ASTM D 1822	ft lbs/in²	1090	1260
Volatile Loss[2]	ASTM D 1203, A	percent	0.10	0.06
Water Absorption[2]	ASTM D 570, 23°C	percent	0.10	0.05
Water Vapor Transmission[2]	ASTM E 96	g/day · m²	0.220	0.174

SEAM PROPERTIES	METHOD	UNITS	MINIMUM[1]	TYPICAL
Shear Strength	ASTM D 4437, NSF mod.	psi	1350	1500
		ppi	54	62
Peel Strength (hot wedge fusion)	ASTM D 4437, NSF mod.	psi	1050	1450
		ppi	42	60
Peel Strength (fillet extrusion)	ASTM D 4437, NSF mod.	psi	900	1380
		ppi	36	57

Seam testing is the responsibility of the installer and/or CQA personnel. NSC runs these tests at 20 in./min.

STANDARD ROLL WIDTHS

23 FT. - 30.5 FT.

Information regarding the physical properties of National Seal Company products, including the information contained in this specification sheet, is, to the best of our knowledge, information and belief, representative of National Seal Company products. All information, data, suggestions, opinions and recommendations are offered without guarantee or warranty of any kind. The final determination as to the appropriateness or suitability of any National Seal Company product in any particular application rests with the user and is the user's sole responsibility.

National Seal Company reserves the right to alter, change or modify its products and its product specifications at any time without notice. Please check with your National Seal Company sales or technical representative to assure that specifications are current.

THE SNOW COMPANY, INC.

INSTALLATION PROCEDURES
HIGH/LOW DENSITY POLYETHYLENE (COEX) LINERS

I. COEX UNLOADING/STORAGE

A. COEX rolls are to be unloaded under supervision of the liner installer using straps or other devices that will prevent damage to the liner material.

B. Rolls should be stored on wooden supports that will not damage the material. Wooden pallets or crates shall not be used. Rolls are to be blocked to prevent movement.

C. If any material damage is noted during unloading, the damaged areas are to be marked with a permanent marker, and a notation made as to the roll number, location of damage, and type of damage.

II. MATERIAL DEPLOYMENT

A. Prior to placement of any liner materials, the subgrade is to be inspected and approved by the Field Installation Superintendent (FIS). Any areas found to be unacceptable are to be corrected. Documentation of this inspection is to be provided if required by the project specifications.

B. Materials will not be deployed when moisture, high winds, or other adverse weather conditions are expected. This determination will be made by the FIS.

C. COEX materials are to be deployed using methods that will not crimp, bend, or otherwise damage the material.

D. Temporary sand bags are to be used to prevent material uplift and movement from winds during liner installation. The number and location of sandbags will be determined by the FIS.

E. Excessive wrinkles are to be removed prior to seaming.

CONTINUED ON PAGE 2

P. O. BOX 90670
ALBUQUERQUE, NEW MEXICO 87199

PHONE (505)345-3225
FAX (505)345-0315

III. MATERIAL SEAMING - FUSION (WEDGE) WELDING

A. Field seams are to be made using the fusion (wedge) method whenever possible.

B. Each day prior to seaming any materials, test seams shall be made. At least three peel and shear tests are to be conducted on each test seam, using a field tensiometer furnished by the installer. Upon completion of a successful test, the FIS will record the date, time, weather conditions, seamer name, seaming machine number, machine temperature setting, machine speed setting, and test results. No seaming is to be done until a successful test seam has been completed and recorded. Seam test results are to be recorded in the project log.

C. Additional test seams are required if a substantial change in weather conditions occurs or if the seaming machine is turned off for more than ten minutes.

D. The area to be seamed is to be clean and dry. If required, a protective layer is to be placed under the seam to prevent dust or moisture from entering the seam area.

E. At the start of each seam, the machine operator is to mark the date, time, machine number, machine temperature, machine speed, and operator initials on the lining material with a permanent marker. This information is to be recorded in the project log by the FIS.

F. The machine operator is responsible for insuring that the area to be seamed is clean and dry. If any questionable seam areas are noted, the operator is to mark these areas for later inspection and testing.

G. The machine operator is to read the machine temperature at intervals of approximately 100 feet, and mark the temperature on the lining material. This procedure will insure that seams are made at the proper temperature. If a low temperature reading is noted, the operator is to stop seaming and mark the affected area for testing. The cause of the problem is to be located and corrected before seaming resumes.

CONTINUED ON PAGE 3

III. AIR PRESSURE TESTING

A. Wedge welded seams consist of a double seam with an air channel between the seams. Upon completion of a wedge seam, the open ends of the air channel are sealed off and a needle inserted into the air channel. The air channel is pressurized, allowed to stabilize, and the initial pressure reading taken.

B. The minimum starting test pressure is 30 PSIG. The maximum allowable pressure drop during the five minute test is 4 PSIG.

C. After five minutes, the final pressure reading is taken. The date, test start and ending times, and starting and ending pressures are to be written on the material with a permanent marker. This information is also to be recorded in the project log.

D. If a wedge welded seam area does not pass the air pressure test, the cause of the failure is to be located and repaired, and the seam is to be re-tested. If the cause of the failure cannot be located, the failed seam area must be sealed with an extrusion weld and vacuum tested.

IV. MATERIAL SEAMING - EXTRUSION WELDING

A. Extrusion welding is to be used for detail work, repairs, and in other areas where wedge welding cannot be used.

B. Each day, prior to seaming any materials, test seams shall be made. At least three peel tests are to be conducted on each test seam, using a field tensiometer furnished by the installer. Upon completion of a successful test, the FIS will record the date, time, weather conditions, seamer name, seaming machine number, machine temperature setting, and test results. No seaming is to be done until a successful test seam has been completed and recorded. The seam test results are to be recorded in the project log.

C. Areas to be extrusion welded are to be clean and dry. Surface oxidation is to be removed by grinding not more than one hour prior to the time the extrusion weld is made.

CONTINUED ON PAGE 4

IV. MATERIAL SEAMING - EXTRUSION WELDING (cont.)

D. Where patches are required, the patches are to be round or oval in shape, and are to overlap the damaged area by a minimum or 4" on all sides. Patches are to be heat sealed to the main liner prior to extrusion welding to prevent the edge of the patch from lifting when the extrudate is applied.

E. Extrusion welds are to be tested by use of a vacuum box. A soap solution is applied to the area to be tested, and a vacuum applied to the area. The tested area is then observed for soap bubbles. Any defective areas must be marked, repaired, and retested until passing results are achieved.

V. PROJECT DOCUMENTATION

A. The field installation superintendent (FIS) will maintain the following documentation on a daily basis:

1. Log of job activities, including number of personnel, weather conditions, amount of subgrade ready for liner, quantity of liner deployed, and seams completed.
2. Log of seaming activities, including test and field seams.
3. Listing of material placement, including sheet size and placement, and a cross reference of sheets to roll numbers.
4. Listing of pressure tests of wedge seams.
5. If sample seams have been taken for third party testing, a listing of the sample number, sample size and location, and the results of any field tests done on the samples.

B. At the completion of the project, the following documentation is to be provided to the owner or inspector:

1. Copies of Items A.1, A.2, and A.3 above.
2. If required by the project specifications, copies of material certifications from the lining manufacturer.
3. Copies of as built drawings showing sheet and seam locations.

CONTINUED ON PAGE 5

THE SNOW COMPANY, INC.

INSTALLATION PROCEDURES
HIGH/LOW DENSITY POLYETHYLENE (COEX) LINERS

VI. SEAM TESTING

The following values are considered acceptable for seam tests. All values are expressed in ponds per inch of material width. All testing is done at the speed of two (2) inches per minute.

Material: 40 mil COEX

Weld Type	Peel Strength	Shear Strength
Fusion (Wedge)	54	54
Extrusion	36	54

P. O. BOX 90670
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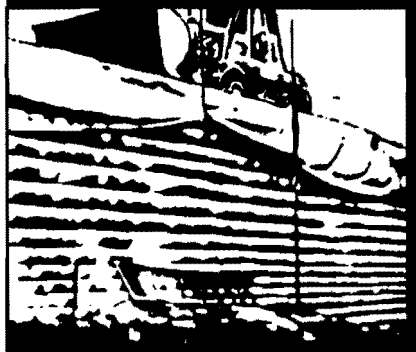

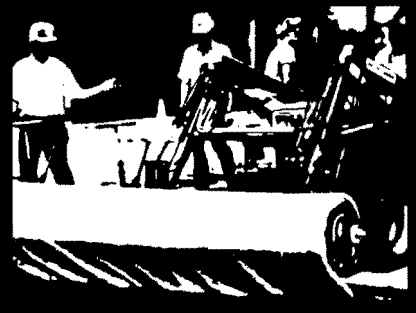

Whatever your geotextile application, you can't specify a better engineering fabric than Trevira® Spunbond.

TREVIRA®
SPUNBOND

Trevira® Spunbond nonwoven engineering products are highly needled fabrics with excellent tensile properties, high filtration potential and outstanding permeability.

Trevira® Spunbond Type 11 products are 100% continuous filament polyester nonwoven needlepunched engineering fabrics. They deliver a combination of advantages unmatched by any other spunbonded geotextiles. They're resistant to freeze-thaw, soil chemicals and ultraviolet light exposure.

Trevira® Spunbond nonwoven engineering fabrics offer excellent performance where the requirement is tensile reinforcement, planar flow, filtration, or separation. They are ideal for roadways, railbeds, drainage systems, lining systems, retaining walls. And much more.

TYPICAL PHYSICAL PROPERTIES OF TREVIRA® TYPE 11 PRODUCTS

Fabric Property	Unit	Test Method	011/120	011/140	011/200	011/250	011/280	011/350	011/420	011/450	011/550
Fabric Weight	oz/yd²	ASTM D-5261	3.5	4.2	6.0	7.5	8.5	10.5	12.4	13.5	16.5
Fabric Thickness, t	mils	ASTM D-5199	60	70	90	110	120	140	165	170	210
Grab Strength (MD/CD)[1]	lbs	ASTM D-4632	120/105	150/125	230/180	300/235	320/260	420/350	475/400	540/450	650/570
Grab Elongation (MD/CD)[1]	%	ASTM D-4632	75/85	75/85	75/85	75/80	75/80	75/80	75/80	80/80	85/85
Trapezoid Tear Strength (MD/CD)[1]	lbs	ASTM D-4533	50/40	55/50	80/75	105/95	110/100	140/125	170/145	180/165	225/200
Puncture Resistance	lbs	ASTM D-4833	55	65	95	115	125	155	170	185	225
Mullen Burst Strength	psi	ASTM D-3786	195	225	330	400	435	560	600	700	855
Water Flow Rate	gpm/ft²	ASTM D-4491	195	190	170	150	130	120	105	100	80
Permittivity, Ψ	sec⁻¹	ASTM D-4491	2.61	2.54	2.27	2.01	1.76	1.6	1.47	1.34	1.07
Permeability, k = Ψxt	cm/sec	ASTM D-4491	.40	.45	.52	.56	.53	.57	.62	.58	.57
AOS	Sieve Size mm	ASTM D-4751	70-100 .210-.149	70-100 .210-.149	70-100 .210-.149	70-100 .210-.149	70-120 .210-.125	100-120 .149-.125	100-140 .149-.106	120-140 .125-.106	140-170 .106-.088
Standard Roll Widths[2]	ft		12.5 and 15.0								
Standard Roll Lengths[2]	ft		400	400	300	300	300	300	300	300	300

[1]MD = Machine Direction, CD = Cross Machine Direction.

[2]Other width and length rolls are available upon request.

MINIMUM† PHYSICAL PROPERTIES OF TREVIRA® TYPE 11 PRODUCTS

Fabric Property	Unit	Test Method	011/120	011/140	011/200	011/250	011/280	011/350	011/420	011/450	011/550
Fabric Weight	oz/yd²	ASTM D-5261	3.3	4.0	5.7	7.1	8.0	10.0	12.0	13.0	16.0
Fabric Thickness, t	mils	ASTM D-5199	50	55	75	95	105	125	145	150	185
Grab Strength	lbs	ASTM D-4632	90	110	160	210	230	305	350	390	500
Grab Elongation	%	ASTM D-4632	60	60	60	60	60	60	60	65	70
Trapezoid Tear Strength	lbs	ASTM D-4533	30	40	60	75	80	100	120	130	150
Puncture Resistance	lbs	ASTM D-4833	45	50	80	95	100	130	150	155	195
Mullen Burst Strength	psi	ASTM D-3786	170	190	285	360	380	510	550	640	780
Water Flow Rate	gpm/ft²	ASTM D-4491	155	150	130	110	90	80	65	60	40
Permittivity, Ψ	sec⁻¹	ASTM D-4491	2.07	2.01	1.74	1.47	1.20	1.07	0.87	0.80	0.53
Permeability, k = Ψxt	cm/sec	ASTM D-4491	.26	.28	.33	.35	.32	.34	.32	.31	.25
AOS	Sieve Size mm	ASTM D-4751	50 .300	50 .300	70 .210	70 .210	70 .210	70 .210	70 .210	100 .149	100 .149

†These minimum values represent minimum test values as determined from Quality Control (Q.C.) testing.

The information contained herein is offered free of charge, and is, to our best knowledge, true and accurate; however, all recommendations or suggestions are made without guarantee, since the conditions of use are beyond our control. There is no expressed warranty and no implied warranty of merchantability or of fitness for purpose of the product or products described herein. In submitting this information, no liability is assumed or license or other rights implied given with respect to any existing or pending patent, patent applications or trademarks. The observance of all legal regulations and patents is the responsibility of the user.

6/94

TS/Technical Support

·evira® Spunbond Engineering Fabric-Sample Specifications

Contract Item: Subsurface Drainage Engineering Fabric

Description of Application—The engineering fabric shall be used in subsurface drainage applications such as lining trenches, pavement edge drains, or blanket drains. The engineering fabric shall provide a permeable layer or media, while retaining the soil matrix.

Material Requirements—The engineering fabric shall be a nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester, formed into a stable network by needle punching. The fabric shall be inert to commonly encountered chemicals, hydrocarbons, mildew and rot resistant, resistant to ultraviolet light exposure, insect and rodent resistant, and conform to the properties in the following table. The minimum value (weakest principal direction) for strength properties of any individual roll tested from the manufacturing lot or lots of a particular shipment shall be in excess of the minimum value (weakest principal direction) stipulated herein.

Packaging and Identification Requirements—The engineering fabric shall be provided in rolls wrapped with protective covering to protect the fabric from mud, dirt, dust, and debris. The fabric shall be free of defects or flaws which significantly affect its physical properties. Each roll of fabric in the shipment shall be labeled with a number or symbol to identify that production run.

Sampling and Compliance Requirements—A competent laboratory must be maintained by the producer of the fabric at the point of manufacture to insure quality control in accordance with ASTM testing procedures. That laboratory shall maintain records of its quality control results and provide, upon request of the specifying agent prior to shipment, a manufacturer's certificate. The certificate shall include the name of manufacturer, chemical composition, product description, statement of compliance to specification requirements, and signature of legally authorized official attesting to the information required.

Construction Details—The engineering fabric shall be installed in accordance with the plans. Overlaps when necessary shall be 18 inches minimum. Securing pins shall be used when necessary to insure proper anchoring of the engineering fabric.

Securing Pins—Securing pins for anchoring the fabric shall be 3/16 inch steel bars, pointed at one end and fabricated with a head to retain a steel washer having an outside diameter of not less than 1.5 inches. The pin length shall be not less than 18 inches. U-shaped pins shall be an acceptable option.

Measurement and Payment—Engineering fabric shall be measured for payment by the square yard in place. Measurement will be the nearest square yard. No allowance will be made for material in laps and seams. Payment, therefore, will be made at the contract unit price for *"Subsurface Drainage Engineering Fabric,"* which price and payment shall constitute full compensation for furnishing all labor, material, and equipment, and performing all operations in connection with placing the engineering fabric as shown on the contract plans. No measurement of, nor payment for, will be included for securing pins, and all costs incidental thereto shall be included in the contract unit price for *"Subsurface Drainage Engineering Fabric."* No measurement of, nor payment for, will be made for engineering fabric due to either contamination or damage due to either the fault or negligence of the contractor.

RFCS/NE-70-70
04/95

867

TRANSIT CERTIFICATE

ROCK County Weed Control District Phone No. 402-684-3461

Certificate is not transferable after issuance

Vehicle License No. State ( ) _____

Forage in transit has been inspected and meets the RFCS.
State approved RFCS Tags may be used in place of RFCS/NE-70.
Exception: Each transporter carrying over 12 tons of forage must carry a RFCS/NE-70.
Transporter carrying 12 ton or less of forage may carry RFCS Tag.
DOT Projects must have RFCS/NDDA-70.

7/13

Transporter: Bill Kurzenberger Ph. (402) 684-3842

End User or Consignee: _____ Ph. ( ) _____

Address: _____ Zip: _____

RFCS/NE-69 No. NE/ RC / 99 / 867 Date: 07 / 08 / 1999

Comments: Bedding Hay

Commodity: Bedding Hay Quantity: (tons or bales) 600+ Pkg. Type: Big Round Bale

Commodity is in transit to (specify): _____

Date Issued: 07 / 08 / 1999 Certificate shall terminate on: 07 / 01 / 2000

Issued by: Rod Lay Stolzpart Title: Rock Co. Weed Control Supt.

Yellow copy shall be delivered to the Consignee or End User upon completion of delivery. Photocopy of Transit Certificate will not be accepted by Law Enforcing Agencies or Port of Entry Authority. End user shall only accept the yellow copy. For additional information, call the county in your area or Nebraska Weed Control Association at (308) 385-5097, FAX (308) 385-5121.

Valid for 10 No. of Trips (not to exceed ten).

Certificate can only be validated by enforcing agency, officer, or District RFCS Representative or NE/RFCS Representative.

No. of times validated: 1 2 3 4 5 6 7 8 9 10 (circle or punch out number for each trip).

Enforcing Agency: _____ Init.: _____ Date: ___/___/___

White Copy - [illegible] Yellow Copy - Interstate Divider Pink Copy - _____

FOSTER WHEELER ENVIRONMENTAL CORP.
HOLLOMAN AFB
HAY AND STRAW MATERIAL DELIVERED TO THE PROJECT
JULY, 1999

DATE	No. of Bales	Tons Del.	Units
13-Jul	46	21.45	
13-Jul	46	23.5	
13-Jul	46	19.27	
13-Jul	46	19.93	
15-Jul	46	21.21	
18-Jul	40	28.33	
17-Jul	45	21.67	
17-Jul	40	28.48	
19-Jul	46	22.1	
20-Jul	48	21.13	
21-Jul	46	19.97	
22-Jul	48	20.17	
23-Jul	50	22.44	
	593	289.65	tons
White Sands Deduct		10.0	tons
Total Foster Wheeler Hay		279.65	tons
Grass Hay Mulch for:		111.86	acres

DATE	No. of Bales	Tons Del.	
15-Jul	36	22.92	
15-Jul	36	22.32	
17-Jul	36	22.52	
17-Jul	36	22.03	
		89.79	tons

D:\RMR Data (R)\06 Construction Projects\05 Client Records\Foster Wheeler\Holloman\[1999-Straw and Hay Delivered to the Project.xls]Sheet1

Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources
Oklahoma State University

Comanche County OSU Extension Center • 315 SW 5th Street, Room 207
Lawton, Oklahoma 73501-4332 • (405) 355-1176

1st McCracken load
7/15

JUNE 1,1998

To Whom It May Concern:

Hay that has been bailed on the Ft. Sill Military Reservation has no noxious weeds as per Limitations on Noxious Weed Seeds guidelines set by the Oklahoma Department of Agriculture.

Sincerely,

Jim Coe

Jim Coe
County Extension Ag. Agent & CED
Comanche County

07/19/99 16:03 FAX 001

RFCS/KS-01
05/97

RFCS No. KS/ 7 / 1 / 99

KANSAS CERTIFICATE OF INSPECTION
COUNTY WEED DIRECTORS ASSOCIATION OF KANSAS

№ 1351

475 S.E. POOR FARM RD.
EL DORADO, KS 67042-8658
PHONE: 316-321-5190

COMPLYING WITH REGIONAL WEED FREE FORAGE CERTIFICATION STANDARDS

Greenwood County Weed Department Phone No. 316-583-8882
Address: PO Box 411 Eureka KS 67045
Street City State Zip

Certificate is not transferable

Note: This is not a Transit Certificate

This is to certify that the field(s) of Ebenteson Brothers
Address: 1277 - 70th Road, Yates Center KS Zip: 66783
Legal description: NW ¼ 5-26-17
No. of Acres inspected: 160, Tons _____, Bales _____, Package _____
Comments: _____
Producers or Cooperator: _____ Phone (316) 625-3430
Field has been officially inspected and meets the Regional Forage Certification Standards: Yes or No
Stack yards meet the RFCS: _____ Yes or No
Field(s) shall be certified for (specific forage): _____
Forage shall be free of regional designated noxious weeds pursuant to Certification Standards. Weed species classified in any other state as undesirable, noxious, harmful, invasive, non-indigenous, exotic, injurious, or poisonous, shall be considered prohibited and will not be allowed into the state under the Certification Standards.

REQUIREMENTS

Forage: Feed, Hay, Cubes, Pellets, Straw, or Mulch

1. Forage shall be inspected in the state of origin by proper officials or authority.
2. Forage shall also be inspected in the field of origin (field shall include surrounding ditches, fence rows, roads, easement, right-of-way, or a buffer zone).
3. Field shall be inspected prior to cutting or harvesting.
4. Forage which contains any regional designated noxious weeds or weeds classified as noxious by another state may be certified if the following requirements are met.
   A. Fields upon which the forage was produced was treated to prevent seed formation or seed ripening to the degree that there is no danger of dissemination of the seed or any injurious portion thereof from such noxious weeds or undesirable plant species, or the propagating parts of the plant are not capable of producing a new plant.
   B. Noxious weeds(s) or undesirable plant species was treated no later than rosette to bud stage, or boot stage for perennial grass.
5. Certificate shall document that the above requirements have met (No. 1-4) based upon a reasonable and prudent visual inspection.

This certificate shall be in effect only for the current season specified.

This certificate shall terminate on 7 / 27 / 99.

Certified by & Signed: [signature] Title: Director Date: 7-19-99

Disclaimer: Certification may not meet the forage quality standards adopted by the Hay Marketing Task Force of the American Forage and Grassland Council.

Certificate of Inspection and/or Photocopy of Transit Certificate will not be accepted by Law Enforcing Agencies or Port of Entry Authority. Photocopy should not be accepted by the end user. Consignor, or consignee, or end user must have a Transit Certificate RFCS/KS-02 (Yellow Copy) or forage must carry a RFCS Tag.

White Copy - Producer Yellow Copy - Intrastate District Pink Copy - County

RFCS/KS-02
05/97

KANSAS TRANSIT CERTIFICATE
COUNTY WEED DIRECTORS ASSOCIATION OF KANSAS

№ 1351

476 S.E. POOR FARM RD.
EL DORADO, KS 67042-6638
PHONE: 316-321-5190

COMPLYING WITH REGIONAL WEED FREE FORAGE CERTIFICATION STANDARDS

Greenwood County Weed Department Phone No. 316-583-8182
Address: PO Box 411 Eureka KS 67045
Street City State Zip

Certificate is not transferable after issuance

Vehicle License No. State ( ) _____

TYPE OF MARKETING

Forage in transit has been inspected and meets the RFCS.
State approved RFCS Tags may be used in place of RFCS/KS-02.
Exception: Each transporter carrying over 12 ton of forage must carry a RFCS/KS-02.
Transporter carrying 12 ton or less of forage may carry RFCS Tag.
DOT Projects must have RFCS/KS.

Transporter: Ilbenson Brothers Phone (316) 625-2402 J430
Address: 1277-70 Rd Yates Center KS 66783
Street City State Zip

End User or Consignee: Rocky Mountain Reclamation Phone (307) 745-5275
Address: PO Box 1570 Laramie, WY Zip: 82073
RFCS/KS-01 No. KS/ / / Date: 7/2/99
Comments:

Tags issued From # to #
Commodity: Brome Mulch Quantity: (tons or bales) 180 Pkg. Type
Date Issued: / / Certificate shall terminate on: 7/27/99
Issued by: Dana Wyckoff Title: Director

Yellow copy shall be delivered to the Consignee or End User upon completion of delivery. Photocopy of Transit Certificate will not be accepted by Law Enforcing Agencies or Port of Entry Authority. End user shall only accept the yellow copy. For additional information, call the county in your area or County Weed Directors Association of Kansas at (316) 321-5190.

Valid for 9 No. of Trips (not to exceed ten).

Certificate can only be validated by enforcing agency, officer, or District RFCS Representative or CWDAK/RFCS Representative.

No. Of times validated: 1 2 3 4 5 6 7 8 9 10 (Circle or punch out number for each trip).

Enforcing Agency: CWDAK Init: DW Date 7/7/99

Only Original Copies Are Accepted

White Copy - Producer Yellow Copy - Interstate District Pink Copy - County

APPENDIX E

GEOTECHNICAL, LINER, AND CONCRETE TEST RESULTS

GEOTECHNICAL TEST RESULTS

(Summary)

MAIN BASE DFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
12/16/97	TP-1-4	Base Borrow Pit		95	12.1					108.1	11.9	19	5	ML	Silty Sand
12/16/97	TP-1-13	Base Borrow Pit		95	13.9					102.4	13.7	-	N/P	ML	Silty Sand
12/16/97	TP-2-3	Base Borrow Pit		95	12.5					107.3	12.7	19	3	ML	Silty Sand
12/16/97	TP-2-13	Base Borrow Pit		95	12.6					104.2	12.4	-	N/P	ML	Silty Sand
12/16/97	TP-3-5	Base Borrow Pit		95	13.2					102.4	13.7	21	5	ML	Silty Sand
12/16/97	TP-3-13	Base Borrow Pit		95	13.2					103.1	13.4	-	N/P	ML	Silty Sand
12/16/97	TP-4-5	Base Borrow Pit		95	11.8					108.8	11.5	17	4	ML	Silty Sand
12/16/97	TP-4-13	Base Borrow Pit		95	12.4					99.9	12.7	-	N/P	ML	Silty Sand
12/16/97	TP-5-4	Base Borrow Pit		95	14.6					101.2	14.5	17	4	ML	Silty Sand
12/16/97	TP-5-13	Base Borrow Pit		95	14.5					101.1	15	-	N/P	ML	Silty Sand
12/16/97	TP-6-10	Base Borrow Pit		95	13.5					104.1	13.8	16	4	ML	Silty Sand
12/16/97	TP-6-13	Base Borrow Pit		95	13.5					103.1	13.8	-	N/P	ML	Silty Sand
12/16/97	TP-COMP-1	Base Borrow Pit		95	12.1					105.7	12.4	17	4	ML	Silty Sand
12/16/97	TP-COMP-2	Base Borrow Pit		95	12.5					104.8	12.3	-	N/P	ML	Silty Sand
2/27/98	8L0090-2	Off Site Borrow Pit #2								104	22.5	33			
2/27/98	8L0090-2	Off Site Borrow Pit #2								108.5	17	29			
3/17/98	OTP-1-3	Off Site Borrow Pit #1		90	12.8					106.7	12.8	29	6	CL-ML	Sandy Silty Clay
3/17/98	OTP-1-7	Off Site Borrow Pit #1		90	13.2					102.8	13.2	28	3	SM	Silty Sand
3/17/98	OTP-1-12	Off Site Borrow Pit #1		90	15					94.8	15	24	0	SM	Silty Sand
3/17/98	OTP-2-2	Off Site Borrow Pit #1		90	13.7					102.7	13.7	36	12	SC	Silty Sand/ w Gravel
3/17/98	OTP-2-7	Off Site Borrow Pit #1		90	16.7					95.5	16.7	0	N/P	SM	Sandy Silt
3/17/98	OTP-2-13	Off Site Borrow Pit #1		90	16.3					98.5	16.3	0	N/P	ML	Silty Sand
3/17/98	OTP-3-3	Off Site Borrow Pit #1		90	12.5					106.9	12.5	30	5	CL-ML	Silty Clay/w Sand
3/17/98	OTP-3-7	Off Site Borrow Pit #1		90	12.7					109.3	12.7	31	6	CL-ML	Silty Clay/w Sand
3/17/98	OTP-3-11	Off Site Borrow Pit #1		90	15.8					96.5	15.8	0	N/P	SM	Sandy Silt
3/17/98	OTP-4-3	Off Site Borrow Pit #1		90	12.4					105.9	12.4	0	N/P	SM	Sandy Silt
3/17/98	0TP-4-7	Off Site Borrow Pit #1		90	11.8					112.1	11.8	27	4	CL-ML	Silty Clay/w Sand
3/17/98	OTP-4-11	Off Site Borrow Pit #1		90	16.7					95.8	16.7	0	N/P	ML	Sandy Silt
3/17/98	OTP-4-COMP	Off Site Borrow Pit #1		90	12.2					107.5	12.2	27	1	SM	Sandy Silt
3/17/98	OTP-5-3	Off Site Borrow Pit #2		90	14.3					100.2	14.3	0	N/P	ML	Sandy Silt
3/17/98	OTP-5-7	Off Site Borrow Pit #2		90	15.2					99.7	15.2	24	1	ML	Sandy Silt
3/17/98	OTP-5-11	Off Site Borrow Pit #2		90	14.2					109.7	14.2	28	4	CL-ML	Silty Clay/w Sand
3/17/98	OTP-6-3	Off Site Borrow Pit #2		90	16.4					96.8	16.4	29	2	ML	Sandy Silt
3/17/98	OTP-6-7	Off Site Borrow Pit #2		90	15.8					96.5	15.8	0	N/P	SM	Silty Sand
3/17/98	OTP-6-11	Off Site Borrow Pit #2		90	13.4					109.7	13.4	0	N/P	SM	Silty Sand
3/17/98	OTP-6-COMP	Off Site Borrow Pit #2		90	13.6					104.4	13.6	0	N/P	SM	Silty Sand
3/17/98	OTP-7-3	Off Site Borrow Pit #2		90	13.5					103.3	13.5	33	5	CL/ML	Sandy Silty Clay
3/17/98	OTP-7-7	Off Site Borrow Pit #2		90	15.9					99.1	15.9	0	N/P	SM	Silty Sand
3/17/98	OTP-7-11	Off Site Borrow Pit #2		90	17.5					105.7	17.5	43	24	CL	Lean Clay/ w Sand
3/17/98	OTP-8-3	Off Site Borrow Pit #2		90	11.1					108.2	11.1	27	1	SM	Silty Sand
3/17/98	OTP-8-7	Off Site Borrow Pit #2		90	13.1					112.2	13.1	36	16	CL	Lean Clay/ w Sand
3/17/98	OTP-8-11	Off Site Borrow Pit #2		90	12.4					103.7	12.4	0	NP	ML	Sandy Silt
5/4/98	TSP1-1-ON	Test Pad #1	1	90	15.4					106.4	15.4				
5/5/98	TSP2-1-OFF	Test Pad #2	1	90	21.6					96.9	21.6				
5/5/98	TSP2-1-OFF	Test Pad #2	2	90	18.6					102.9	18.6				
5/5/98	TSP2-1-OFF	Test Pad #2	4	90	14.8					109.6	14.8				
5/5/98	TSP1-1-ON	Test Pad #1	4	90	12.7					110.2	12.7				
5/11/98	L001	Off Site Borrow Pit #2		90	19.5	93.4				104	19.5	36	20	CL	Lean Clay/ w Sand

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
5/11/98	L002	Off Site Borrow Pit #2		90	16.5	90				102	16.5		NP	ML	Sandy Silt
5/11/98	L003	Off Site Borrow Pit #2		90	27.8	82				91.5	28	24	NP	ML	Sandy Silt
5/11/98	L004	Off Site Borrow Pit #2		90	18.1	92.2				100.5	18	21	1	ML	Sandy Silt
5/13/98	L005	On Site Borrow Pit N.		90	32.8	75.2				84	33.5		NP	ML	Sandy Silt
5/13/98	L006	On Site Borrow Pit S.		90	16.9	93.9				105.5	17	20	4	ML-CL	Sandy Silty Clay
5/13/98	L007	On Site Borrow Pit E.		90	32.8	77.7				86.5	33.5	24	12	CL	Lean Clay/ w Sand
5/13/98	L008	On Site Borrow Pit W.		90	15.5	99.8				110	15.5	22	7	ML-CL	Sandy Silty Clay
5/13/98	L009	On Site Borrow Pit Central		90	22.5	88.7				99.5	22.5	27	9	CL	Lean Clay/ w Sand
5/19/98	L010	On Site Borrow Pit Central		90	17.9	94.9				106.5	18	22	5	CL-ML	Sandy Silty Clay
5/19/98	L011	On Site Borrow Pit Central		90	20.6	79.8				88	20.5		NP	ML	Sandy Silt
5/19/98	L012	On Site Borrow Pit Central		90	22.6	84.8				92	23.5	24	NP	ML	Sandy Silt
5/19/98	L013	On Site Borrow Pit Central		90	21.1	80.6				88.5	20		NP	ML	Sandy Silt
5/26/98	L014	On Site Borrow Pit		90	12.9	98				109.5	12.5			CL-ML	Sandy Silty Clay
5/26/98	L015	Pt. 152, 150' S. 1st Lift	1		6.6	97.2				110	14.5			ML	Sandy Silt
5/26/98	L016	Pt. 203, 150' S. 1st Lift	1		8.2	112.3				115	12			ML	Sandy Silt
5/26/98	L017	Pt. 152, 150' S. 1st Lift	1		9.7	101.9				112	12.5			ML	Sandy Silt
5/27/98	L018	On Site Borrow Pit E.		90	12.5	92.3				103.5	12.5			SM	Silty Sand
5/27/98	L019	On Site Borrow Pit E.-W		90	10.8	99.5				109.5	11.5			ML	Sandy Silt
5/27/98	L020	Pt 153 40' N	1		7.1	108.1				101.5	22			ML	Sandy Silt
5/27/98	L021	Pt 445 200'S	1		8.4	102.4				104.5	19			ML	Sandy Silt
5/27/98	L022	Pt 408 20'N 165'E	1	107.6	7.1	109.3				101.5	22			ML	Sandy Silt
5/27/98	L023	Pt 147 30'W	1	99	17.3	100.4				101.5	21			ML	Sandy Silt
6/2/98	1	N678050; E554550	1	100	19.7	102.6				103	21.5			ML	Sandy Silt
6/2/98	2	N678050; E554650	1	98	16.9	100.8				103	21.5			ML	Sandy Silt
6/2/98	3	N678050; E554450	1	98	20.3	100.8				103	21.5			ML	Sandy Silt
6/2/98	4	N678150; E554550	1	100	17.7	102.6				103	21.5			ML	Sandy Silt
6/2/98	5	N678150; E554550	1	93	19.5	95.4				103	21.5			ML	Sandy Silt
6/2/98	6	N678150; E554650	1	93	18.2	96.2				103	21.5			ML	Sandy Silt
6/2/98	7	N678250; E554650	1	94	19	97				103	21.5			ML	Sandy Silt
6/2/98	8	N678250; E554550	1	96	19.4	98.7				103	21.5			ML	Sandy Silt
6/2/98	9	N678250; E554450	1	93	18.2	95.3				103	21.5			ML	Sandy Silt
6/2/98	10	N678350; E554550	1	99	18.4	101.9				103	21.5			ML	Sandy Silt
6/2/98	11	N678350; E554550	1	93	19.6	95.6				103	21.5			ML	Sandy Silt
6/2/98	12	N678350; E554650	1	91	18.6	93.6				103	21.5			ML	Sandy Silt
6/2/98	13	N678450; E554650	1	94	19.2	96.6				103	21.5			ML	Sandy Silt
6/2/98	14	N678450; E554550	1	93	19.5	96.2				103	21.5			ML	Sandy Silt
6/2/98	15	N678450; E554450	1	93	19.6	95.4				103	21.5			ML	Sandy Silt
6/2/98	16	N678550; E554450	1	95	19.8	97.9				103	21.5			ML	Sandy Silt
6/2/98	17	N678550; E554550	1	94	14.1	103.1				110	14.5			ML	Sandy Silt
6/2/98	18	N678550; E554650	1	94	18.2	103.7				110	14.5			ML	Sandy Silt
6/2/98	19	N678650; E554650	1	90	14.3	98.5				110	14.5			ML	Sandy Silt
6/2/98	20	N678650; E554550	1	93	15.7	101.9				110	14.5			ML	Sandy Silt
6/2/98	21	N678650; E554450	1	93	16.6	97.9				110	14.5			ML	Sandy Silt
6/2/98	22	N678750; E554450	1	94	20	96.7				110	14.5			ML	Sandy Silt
6/2/98	23	N678750; E554550	1	94	16.6	97.9				104.5	10			ML	Sandy Silt
6/2/98	24	N678750; E554650	1	94	20	96.7				103	21.5			ML	Sandy Silt
6/2/98	25	N678850; E554650	1	95	19.6	98				103	21.5			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
6/2/98	26	N678850; E554550	1	92	16	95.7				103.5	12.5			ML	Sandy Silt
6/2/98	27	N678850; E554450	1	100	15.9	103.4				103.5	12.5			ML	Sandy Silt
6/2/98	28	N678950; E554450	1	94	14.8	106.5				113	15			ML	Sandy Silt
6/2/98	29	N678450; E554550	1	96	13.9	105				109.5	11.5			ML	Sandy Silt
6/2/98	30	N678450; E554650	1	93	16.8	96.2				103.5	12.5			ML	Sandy Silt
6/2/98	31	N679050; E554650	1	93	14.9	101.5				109.5	11.5			ML	Sandy Silt
6/2/98	32	N679050; E554650	1	91	13.3	99.7				109.5	11.5			ML	Sandy Silt
6/2/98	33	N679050; E554650	1	100+	13.9	105				103	21.5			ML	Sandy Silt
6/2/98	34	N679150; E554650	1	93	16.8	96.2				103	21.5			ML	Sandy Silt
6/2/98	35	N679150; E554550	1	99	14.9	101.5				103	21.5			ML	Sandy Silt
6/2/98	36	N679150; E554450	1	96	13.3	99.7				103.5	12.5			ML	Sandy Silt
6/4/98	1	Pt 151 50'N 50'E	2	93	16	100.5				108	17.5			ML	Sandy Silt
6/4/98	2	Pt 151 50N 50'W	2	93	20	99.9				108	17.5			ML	Sandy Silt
6/4/98	3	Pt 137 50'N 50'W	2	92	19.3	99.4				108	17.5			ML	Sandy Silt
6/4/98	4	Pt 136 50'N 50'W	2	91	18.5	97.8				108	17.5			ML	Sandy Silt
6/4/98	5	Pt 136 50'N 50'E	2	94	20.8	101.2				108	17.5			ML	Sandy Silt
6/4/98	6	Pt 165 50'N 50'W	2	96	17.7	103.8				108	17.5			ML	Sandy Silt
6/4/98	7	Pt 164 50'N 50'W	2	94	14.5	101.9				108	17.5			ML	Sandy Silt
6/4/98	8	Pt 149 50'N 50'W	2	90	22.3	97.1				108	17.5			ML	Sandy Silt
6/4/98	9	Pt 135 50'N 50'W	2	97	16	105.1				108	17.5			ML	Sandy Silt
6/4/98	10	Pt 134 50'N 50'W	2	94	19.2	96.9				103	21.5			ML	Sandy Silt
6/4/98	11	Pt 148 50'N 50'W	2	93	22	95.4				103	21.5			ML	Sandy Silt
6/4/98	12	Pt 148 50'N 50'E	2	92	18.4	94.8				103	21.5			ML	Sandy Silt
6/4/98	13	Pt 162 50'N 50'W	2	94	17.8	101				108	17.5			ML	Sandy Silt
6/4/98	14	Pt 147 50'N 50'W	2	94	22.3	96.6				103	21.5			ML	Sandy Silt
6/4/98	15	Pt 133 50'N 50'W	2	93	19.9	95.9				103	21.5			ML	Sandy Silt
6/4/98	16	Pt 132 50'N 50'W	2	92	20.1	94.9				103	21.5			ML	Sandy Silt
6/4/98	17	Pt 146 50'N 50'W	2	95	18.8	97.6				103	21.5			ML	Sandy Silt
6/4/98	18	Pt 146 50'N 50'E	2	99	14.9	101.8				103	21.5			ML	Sandy Silt
6/5/98	1	Pt 246 50'N 50'W	2	90	20.7	94.8				105	21.5			ML	Sandy Silt
6/5/98	2	Pt 140 50'N 50'W	2	91	19.4	95.8				105	21.5			ML	Sandy Silt
6/5/98	3	Pt 299 50'N 50'W	2	92	14.2	96.2				105	21.5			ML	Sandy Silt
6/5/98	4	Pt 124 50'N 50'W	2	97	17.4	101.9				105	21.5			ML	Sandy Silt
6/5/98	5	Pt 141 50'N 50'W	2	91	19.2	95.4				105	21.5			ML	Sandy Silt
6/5/98	6	Pt 142 50'N 50'W	2	92	18.4	97				105	21.5			ML	Sandy Silt
6/5/98	7	Pt 126 50'N 50'W	2	94	16.5	99.2				105	21.5			ML	Sandy Silt
6/5/98	8	Pt 143 50'N 50'W	2	94	19.3	99.1	92	94.5	23.5	105	21.5			ML	Sandy Silt
6/5/98	9	Pt 127 50'N 50'W	2	92	19.3	96.2				105	21.5			ML	Sandy Silt
6/5/98	10	Pt 125 50'N 50'W	2	94	21.1	98.4				105	21.5			ML	Sandy Silt
6/8/98	5	Pt 195 50'N 50'W	1	96	19.8	97.7				101.5	23			ML	Sandy Silt
6/8/98	4	Pt 178 50'N 50'W	1	76	24.5	77.6				101.5	23			ML	Sandy Silt
6/8/98	7	Pt 179 50'N 50'W	1	89	15.2	90.8				101.5	23			ML	Sandy Silt
6/8/98	8	Pt 194 50'N 50'W	1	94	20.1	95.1				101.5	23			ML	Sandy Silt
6/8/98	9	Pt 198 50'N 50'W	1	90	23.8	91.3	90	91.3	20.6	101.5	23			ML	Sandy Silt
6/8/98	10	Pt 175 50'N 50'W	1	90	20	91.5				101.5	23			ML	Sandy Silt
6/8/98	11	Pt 174 50'N 50'W	1	96	19.8	97.7				101.5	23			ML	Sandy Silt
6/8/98	12	Pt 199 50'N 50'W	1	100+	16.1	113.1				101.5	23			ML	Sandy Silt
6/9/98	1	Pt 276 50'N 50'W	1	97	24.6	94.4				97.5	25.5			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
6/9/98	2	Pt 202 50'N 50'W	1	100	22.8	97.7				97.5	25.5			ML	Sandy Silt
6/9/98	3	Pt 203 50'N 50'W	1	100	20.7	97.3				97.5	25.5			ML	Sandy Silt
6/9/98	4	Pt 277 50'N 50'W	1	99	18.4	96.6				97.5	25.5			ML	Sandy Silt
6/9/98	5	Pt 274 50'N 50'W	1	99	15.4	96.4				97.5	25.5			ML	Sandy Silt
6/9/98	6	Pt 273 50'N 50'W	1	100+	16.1	100				97.5	25.5			ML	Sandy Silt
6/9/98	7	Pt 272 50'N 50'W	1	100	15.9	97.1				97.5	25.5			ML	Sandy Silt
6/9/98	8	Pt 271 50'N 50'W	1	100	16.9	97.1				97.5	25.5			ML	Sandy Silt
6/9/98	9	Pt 270 50'N 50'W	1	99	15.4	96.4				97.5	25.5			ML	Sandy Silt
6/9/98	10	Pt 269 50'N 50'W	1	100+	16.1	100				97.5	25.5			ML	Sandy Silt
6/9/98	11	Pt 268 50'N 50'W	1	100	15.9	97.1				97.5	25.5			ML	Sandy Silt
6/10/98	1	Pt 267 50'N 50'W	1	99	22.9	96.2				97.5	25.5			ML	Sandy Silt
6/10/98	2	Pt 289 50'N 50'W	1	98	22.4	96				97.5	25.5			ML	Sandy Silt
6/10/98	3	Pt 266 50'N 50'W	1	98	24.2	95.4				97.5	25.5			ML	Sandy Silt
6/10/98	4	Pt 290 50'N 50'W	1	100+	21.4	103.1				97.5	25.5			ML	Sandy Silt
6/10/98	5	Pt 265 50'N 50'W	1	100+	22.9	96.2				97.5	25.5			ML	Sandy Silt
6/10/98	6	Pt 291 50'N 50'W	1	100+	22.4	96				97.5	25.5			ML	Sandy Silt
6/10/98	7	Pt 292 50'N 50'W	1	100	24.2	95.4				97.5	25.5			ML	Sandy Silt
6/11/98	1	Pt 292 50'N 50'W	1	92	24.8	95				103	21.5			ML	Sandy Silt
6/11/98	2	Pt 264 50'N 50'W	1	95	22.1	98				103	21.5			ML	Sandy Silt
6/11/98	3	Pt 263 50'N 50'W	1	97	21.8	99.4				103	21.5			ML	Sandy Silt
6/11/98	4	Pt 293 50'N 50'W	1	97	20.8	99.4				103	21.5			ML	Sandy Silt
6/11/98	5	Pt 294 50'N 50'W	1	95	19	98				103	21.5			ML	Sandy Silt
6/11/98	6	Pt 295 50'N 50'W	1	92	23.5	94.9				103	21.5			ML	Sandy Silt
6/11/98	7	Pt 296 50'N 50'W	1	95	19.9	98.2				103	21.5			ML	Sandy Silt
6/11/98	8	Pt 448 50'N 50'W	1	91	19.1	94				103	21.5			ML	Sandy Silt
6/11/98	9	Pt 443 50'N 50'W	1	94	20.7	96.4				103	21.5			ML	Sandy Silt
6/11/98	10	Pt 435 50'N 50'W	1	95	22.5	97.6	93	96	25.2	103	21.5			ML	Sandy Silt
6/11/98	11	Pt 427 50'N 50'W	1	95	20.7	97.8				103	21.5			ML	Sandy Silt
6/11/98	12	Pt 418 50'N 50'W	1	95	23.4	97.5				103	21.5			ML	Sandy Silt
6/11/98	13	Pt 409 50'N 50'W	1	97	21.2	99.7				103	21.5			ML	Sandy Silt
6/11/98	14	Pt 400 50'N 50'W	1	100+	18.8	105.4				103	21.5			ML	Sandy Silt
6/11/98	15	Pt 209 50'N 50'W Toe Road	3	94	20.5	97.3				103	21.5			ML	Sandy Silt
6/11/98	16	Pt 215 50'N 50'W Toe Road	3	95	21.5	98				103	21.5			ML	Sandy Silt
6/11/98	17	Pt 485 Toe Road	3	99	18	102.4				103	21.5			ML	Sandy Silt
6/11/98	18	Pt 234 Toe Road	3	100+	19.4	104.9				103	21.5			ML	Sandy Silt
6/11/98	19	Pt 234 Toe Road	3	95	20.2	97.5				103	21.5			ML	Sandy Silt
6/11/98	20	Pt 240 Toe Road	3	96	19.9	99.3				103	21.5			ML	Sandy Silt
6/12/98	1	Pt 149 50'N 50'W	3	100+	19.7	99.7				97	25.5			ML	Sandy Silt
6/12/98	2	Pt 142 50'N 50'W	3	100+	18.1	99.2				95	25.7			ML	Sandy Silt
6/15/98	1	Pt.165 50'N 50'W	2	100+	17.6	105.1				103	21.5			ML	Sandy Silt
6/15/98	2	Pt.164 50'N 50'W	2	99	17.7	102				103	21.5			ML	Sandy Silt
6/15/98	3	Pt.163 50'N 50'N	2	97	21	100.2				103	21.5			ML	Sandy Silt
6/15/98	4	Pt.162 50'N 50'W	2	99	18.1	101.6	97	100.4	17.1	103	21.5			ML	Sandy Silt
6/15/98	5	Pt.161 50'N 50'w	2	96	16.5	98.4				103	21.5			ML	Sandy Silt
6/15/98	6	Pt 160 50'N 50'W	2	98	16.8	100.5				103	21.5			ML	Sandy Silt
6/15/98	7	Pt.159 50'N 50'W	2	95	17.1	98.2				103	21.5			ML	Sandy Silt
6/15/98	8	Pt. 158 50'N 50'W	2	100+	19.1	103.8	94	96.9	19.2	103	21.5			ML	Sandy Silt

MAIN BASE IDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
6/15/98	9	Pt. 161 50'N 50'W		94	19.5	97.2				103	21.5			ML	Sandy Silt
6/15/98	10	Pt 160 50'N 50'W		94	21.1	96.8				103	21.5			ML	Sandy Silt
6/15/98	11	Pt 208 Toe Road		93	15.9	96.1				103	21.5			ML	Sandy Silt
6/15/98	12	Pt 216 Toe Road		96	21.2	99.3				103	21.5			ML	Sandy Silt
6/15/98	13	Pt 488 Toe Road		99	17.7	101.5				103	21.5			ML	Sandy Silt
6/15/98	14	Pt 493 Toe Road		93	17.7	95.3				103	21.5			ML	Sandy Silt
6/15/98	15	Pt 118 Toe Road		99	15.1	101.5				103	21.5			ML	Sandy Silt
6/15/98	16	Pt 236 Toe Road		87	23.4	90				103	21.5			ML	Sandy Silt
6/16/98	1	Pt 164 toe Road		97	21.9	97.9				101	23.5			ML	Sandy Silt
6/17/98	1	Pt.151 50'N 50'W		98	19.7	99.2				101	23.5			ML	Sandy Silt
6/17/98	2	Pt.137 50'N 50'W		99	19.3	99.5				101	23.5			ML	Sandy Silt
6/17/98	3	Pt.136 50'N 50'W		98	19.7	99.4				101	23.5			ML	Sandy Silt
6/17/98	4	Pt.150 50'N 50'W		100+	19.1	102.2				101	23.5			ML	Sandy Silt
6/17/98	5	Pt.135 50'N 50'W		97	18.3	98.4				101	23.5			ML	Sandy Silt
6/17/98	6	Pt.149 50'N 50'w		100	17.7	101.2				101	23.5			ML	Sandy Silt
6/17/98	7	Pt.148 50'N 50'W		91	21	92.4				101	23.5			ML	Sandy Silt
6/17/98	8	Pt.147 50'N 50'W		89	23.2	89.9				101	23.5			ML	Sandy Silt
6/17/98	9	Pt 147 retest of #8		100+	19.5	104.2				101	23.5			ML	Sandy Silt
6/17/98	10	Pt 134 50'N 50'W		98	19.3	98.8				101	23.5			ML	Sandy Silt
6/17/98	11	Pt 133 50'N 50'W		96	16.4	97.2				101	23.5			ML	Sandy Silt
6/17/98	12	Pt 132 50'N 50'W		97	17.1	97.9				101	23.5			ML	Sandy Silt
6/17/98	13	Pt 146		100+	16.4	102.9				101	23.5			ML	Sandy Silt
6/18/98	1	Pt 129		97	16	98.4	93	91.1	18.6	101	23.5			ML	Sandy Silt
6/18/98	2	Pt 145		96	18.2	97.3	93	90.7	19.8	101	23.5			ML	Sandy Silt
6/18/98	3	Pt 144		97	18.2	97.7				101	23.5			ML	Sandy Silt
6/18/98	4	Pt 128		100+	17.8	103.6				101	23.5			ML	Sandy Silt
6/18/98	5	Pt 127		100+	19.3	101.9				101	23.5			ML	Sandy Silt
6/18/98	6	Pt 143		96	20.6	96.9				101	23.5			ML	Sandy Silt
6/18/98	7	Pt 142		98	21.1	99.3				101	23.5			ML	Sandy Silt
6/18/98	8	Pt 126		98	20.3	98.8				101	23.5			ML	Sandy Silt
6/18/98	9	Pt 124		100+	18	102.5				101	23.5			ML	Sandy Silt
6/18/98	10	Pt 141		99	20.2	100.2				101	23.5			ML	Sandy Silt
6/18/98	11	Pt 140		93	22.5	93.8				101	23.5			ML	Sandy Silt
6/18/98	12	Pt 125		100	17.2	101.3				101	23.5			ML	Sandy Silt
6/18/98	13	Pt 536		100	27.1	91.1				91.5	29.5			ML	Sandy Silt
6/18/98	14	Pt 157		99	18.7	97.3				98	25			ML	Sandy Silt
6/18/98	15	Pt 533		100+	14.4	100.6				98	25			ML	Sandy Silt
6/19/98	1	Pt 534		95	21.3	92.8				98	25			ML	Sandy Silt
6/19/98	2	Pt 533		100+	17.7	98.6				98	25			ML	Sandy Silt
6/19/98	3	Pt 527		100+	18.8	103.6				98	25			ML	Sandy Silt
6/19/98	4	Pt 528		100	19.1	97.8				98	25			ML	Sandy Silt
6/19/98	5	Pt 531		92	19.3	90.2				98	25			ML	Sandy Silt
6/19/98	6	Pt 541		96	17.4	93.7				98	25			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
6/19/98	7	Pt 156		98	19	96.1				98	25			ML	Sandy Silt
6/19/98	8	Pt 155		99	12.2	97.5	96	93.7	17.9	98	25			ML	Sandy Silt
6/19/98	9	Pt 257		97	18.4	95.4	99	97.4	11.1	98	25			ML	Sandy Silt
6/19/98	10	Pt 250		96	21.1	95.4				98	25			ML	Sandy Silt
6/19/98	11	Pt 249		95	17.8	93.4				98	25			ML	Sandy Silt
6/22/98	1	Pt 169 50'N - 50'E	2	100+	16.7	104.9				101.5	23.5			ML	Sandy Silt
6/22/98	2	Pt 167 50'N - 100'W	2	100	18.2	101.3				101.5	23.5			ML	Sandy Silt
6/22/98	3	Pt 166 50'N - 50'E	2	100	17.7	106				106	22			ML	Sandy Silt
6/22/98	4	Pt 165 50'N - 50'E	2	98	20.6	99.4				101.5	23.5			ML	Sandy Silt
6/22/98	5	Pt 164 50'N - 50'N	2	98	15.7	104.3				106	22			ML	Sandy Silt
6/22/98	6	Pt 163 50'N - 50'E	2	99	22.5	100.9				101.5	23.5			ML	Sandy Silt
6/22/98	7	Pt 162 50'N - 50'E	2	96	19.5	101.6				106	22			ML	Sandy Silt
6/22/98	8	Pt 161 50'N - 50'E	2	93	21.6	99				106	22			ML	Sandy Silt
6/22/98	9	Pt 181 50'N - 50'W	2	91	21.2	92.4				101.5	23.5			ML	Sandy Silt
6/22/98	10	Pt 182 50'N - 50'W	2	94	22.8	95.3				101.5	23.5			ML	Sandy Silt
6/22/98	11	Pt 158 50'N - 50'E	2	98	19.6	104				106	22			ML	Sandy Silt
6/22/98	12	Pt 203 Toe Road	2	95	20.8	96.9	89	90	23.5	101.5	23.5			ML	Sandy Silt
6/23/98	1	Pt 212 Toe Road		97	18.2	94.5				97	25.5			ML	Sandy Silt
6/23/98	2	Pt 218 Toe Road		93	19	89.9				97	25.5			ML	Sandy Silt
6/23/98	3	Pt 222 Toe Road		96	18.8	93.4				97	25.5			ML	Sandy Silt
6/23/98	4	Pt 163 50'N - 50'E	3	99	18.4	96				97	25.5			ML	Sandy Silt
6/23/98	5	Pt 168 50'N -50'E	3	100	21.2	95.1				95.5	26.5			ML	Sandy Silt
6/24/98	1	Pt 122 Toe Road		100+	21.8	99.3				97.5	26			ML	Sandy Silt
6/24/98	2	Pt 221 Toe Road		95	20.1	92.9				97.5	26			ML	Sandy Silt
6/24/98	3	Pt 495 Toe Road		100	26.4	95.6				95.5	27			ML	Sandy Silt
6/24/98	4	Pt 240 Toe Road		90	26.3	87.7				97.5	26			ML	Sandy Silt
6/24/98	5	Pt 216 Toe Road		96	22.5	101.8				106	22			ML	Sandy Silt
6/24/98	6	Pt 488 Toe Road		95	20.7	100.9				106	22			ML	Sandy Silt
6/24/98	7	Pt 495 Toe Road		93	22	98.4				106	22			ML	Sandy Silt
6/25/98	1	Pt 190 50'N - 50'W	2	100	17.7	94.1				94.5	26.5			ML	Sandy Silt
6/25/98	2	Pt 198 50'N - 50'W	2	99	20.1	94.8				94.5	26			ML	Sandy Silt
6/25/98	3	Pt 210 Toe Road		98	22.9	99.5				101.5	23.5			ML	Sandy Silt
6/25/98	4	Pt 216 Toe Road		99	25.1	100.8				101.5	23.5			ML	Sandy Silt
6/25/98	5	Pt 495 Toe Road		98	21.4	99				101.5	23.5			ML	Sandy Silt
6/25/98	6	Pt 236 Toe Road		98	22.5	99.3	91	92.8	22.7	101.5	23.5			ML	Sandy Silt
6/25/98	7	Pt 199 Toe Road	2	99	20.2	100.1				101.5	23.5			ML	Sandy Silt
6/25/98	8	Pt 198 50'N - 50'W	2	93	14.3	98.6				106	22			ML	Sandy Silt
6/25/98	9	Pt 197 50'N - 50'W	2	90	19.1	94.9				106	22			ML	Sandy Silt
6/26/98	1	Pt 540 50'N - 50'W	2	100+	20.4	97				94	27.5			ML	Sandy Silt
6/26/98	2	Pt 527 50'N - 50'W	2	100+	17.4	98.6				97	25.5			ML	Sandy Silt
6/26/98	3	Pt 534 50'N - 50'W	2	100+	20.2	98				97	25.5			ML	Sandy Silt
6/26/98	4	Pt 539 50'N -50'W	2	100+	20.2	99.3				97	25.5			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
6/26/98	5	Pt 533 50'N - 50'W	2	92	17.8	97.9				106	22			ML	Sandy Silt
6/26/98	6	Pt 528 50'N - 50'W	2	92	22.9	97.2				106	22			ML	Sandy Silt
6/26/98	7	Pt 522 50'N - 50'W	2	93	18.1	99.1				106	22			ML	Sandy Silt
6/26/98	8	Pt 521 50'N - 50'W	2	92	17.7	97.1				106	22			ML	Sandy Silt
6/26/98	9	Pt 210 Toe Road		93	15.8	98.7				106	22			ML	Sandy Silt
6/26/98	10	Pt 218 Toe Road		95	23	96.1				101.5	23.5			ML	Sandy Silt
6/26/98	11	Pt 489 Toe Road		95	22.6	96.4				101.5	23.5			ML	Sandy Silt
6/26/98	12	Pt 233 Toe Road		92	21.4	97				106	22			ML	Sandy Silt
6/26/98	13	Pt 236 Toe Road		96	20.2	93.1				97	25.5			ML	Sandy Silt
6/29/98	1	Pt 201 50'N - 50'W	3	95	19	95.6				100.5	24			ML	Sandy Silt
6/29/98	2	Pt 275 50'N - 50'W	2	100	17.8	100.4				100.5	24			ML	Sandy Silt
6/29/98	3	Pt 274 50'N - 50'W	2	100+	17.8	103.5				94.5	27			ML	Sandy Silt
6/29/98	4	Pt 200 50'N - 50'W	3	100	19.5	100.9				100.5	24			ML	Sandy Silt
6/29/98	5	Pt 199 50'N - 50'W	3	97	19	103.2				106	22			ML	Sandy Silt
6/29/98	6	Pt 273 50'N - 50'W	2	95	19.5	101.1				106	22			ML	Sandy Silt
6/29/98	7	Pt 272 50'N - 50'W	2	96	18.1	101.3				106	22			ML	Sandy Silt
6/29/98	8	Pt 198 50'N - 50'W	3	94	20.2	100				106	22			ML	Sandy Silt
6/29/98	9	Pt 271 50'N - 50'W	2	98	18.9	98.8				100.5	24			ML	Sandy Silt
6/29/98	10	Pt 197 50'N - 50'W	3	100	19.4	100.3				100.5	24			ML	Sandy Silt
6/29/98	11	Pt 270 50'N - 50'W	2	95	17.4	101.1				106	22			ML	Sandy Silt
6/29/98	12	Pt 196 50'N -50'W	3	99	22.2	99.1				100.5	24			ML	Sandy Silt
6/29/98	13	Pt 269 50'N - 50'W	2	95	18.3	95.7				100.5	24			ML	Sandy Silt
6/29/98	14	Pt 195 50'N - 50'W	3	96	17.2	101.6				106	22			ML	Sandy Silt
6/29/98	15	Pt 268 50'N - 50'W	2	95	17.3	101				106	22			ML	Sandy Silt
6/29/98	16	Pt 194 50'N - 50'W	3	99	16.5	99.9				100.5	24			ML	Sandy Silt
6/29/98	17	Pt 267 50'N - 50'W	2	97	18.9	97.2				100.5	24			ML	Sandy Silt
6/29/98	18	Pt 193 50'N - 50'W	3	98	17.8	98.7				100.5	24			ML	Sandy Silt
6/29/98	19	Pt 266 50'N - 50'W	2	100	18.5	100.7				100.5	24			ML	Sandy Silt
6/29/98	20	Pt 192 50'N - 50'W	3	99	18.3	99.3				100.5	24			ML	Sandy Silt
6/29/98	21	Pt 210 Toe Road		100	17.7	100.2				100.5	24			ML	Sandy Silt
6/29/98	22	Pt 232 Toe Road		96	17	101.5				106	22			ML	Sandy Silt
6/29/98	23	Pt 495 Toe Road		97	26.6	97.9				100.5	24			ML	Sandy Silt
6/29/98	24	Pt 235 Toe Road		95	23.5	95.7				100.5	24			ML	Sandy Silt
6/29/98	25	Pt 190 50'N - 50'W	2	98	18.9	98.9				100.5	24			ML	Sandy Silt
7/1/98	1	Pt 257 50'N - 50'W	2	100+	18.2	97.6	100+	93.4	21.6	92.5	28			ML	Sandy Silt
7/1/98	2	Pt 195 50'N - 50'W	2	100+	18.6	98.3	100+	93.1	22	92.5	28.5			ML	Sandy Silt
7/2/98	1	Pt 212 Toe Road		100	21.6	100.8				100.5	24			ML	Sandy Silt
7/2/98	2	Pt 218 Toe Road		97	23.2	97				100.5	24			ML	Sandy Silt
7/2/98	3	Pt 493 Toe Road		99	22.9	99.9				100.5	24			ML	Sandy Silt
7/2/98	4	Pt 235 Toe Road		98	25.9	98.8				100.5	24			ML	Sandy Silt
7/2/98	5	Pt 283 50'N - 50'W	2	100+	18.8	98.5				100	24.5			ML	Sandy Silt
7/6/98	1	Pt 448 50'N 50'W	1	95	15.3	104.4				109.5	17.5			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
7/6/98	2	Pt 280 50'N 50'W	2	94	20.2	102.6				109.5	17.5			ML	Sandy Silt
7/6/98	3	Pt 281 50'N 50'W	2	91	21.5	99.9				109.5	17.5			ML	Sandy Silt
7/6/98	4	Pt 443 50'N 50'W	1	93	17.2	102.2				109.5	17.5			ML	Sandy Silt
7/6/98	5	Pt 282 50'N 50'W	2	95	17.4	103.8				109.5	17.5			ML	Sandy Silt
7/6/98	6	Pt 435 50'N 50'W	1	99	14.2	99				100.5	24			ML	Sandy Silt
7/6/98	7	Pt 283 50'N - 50'W	2	99	19.1	99.8				100.5	24			ML	Sandy Silt
7/6/98	8	Pt 427 50'N 50'W	1	94	17.7	103				109.5	17.5			ML	Sandy Silt
7/6/98	9	Pt 418 50'N 50'W	1	98	15	98.5				100.5	24			ML	Sandy Silt
7/6/98	10	Pt 284 50'N 50'W	2	95	19.2	95.3				100.5	24			ML	Sandy Silt
7/6/98	11	Pt 285 50'N 50'W	2	92	16.1	101.2				109.5	17.5			ML	Sandy Silt
7/6/98	12	Pt 409 50'N 50'W	1	91	16	99.5				109.5	17.5			ML	Sandy Silt
7/6/98	13	Pt 286 50'N 50'W	2	100	18.3	100				100.5	24			ML	Sandy Silt
7/6/98	14	Pt 400 50'N 50'W	1	94	13.2	102.4				109.5	17.5			ML	Sandy Silt
7/6/98	15	Pt 391 50'N 50'W	1	99	17.4	99.7				100.5	24			ML	Sandy Silt
7/6/98	16	Pt 287 50'N 50'W	2	92	18.2	101				109.5	17.5			ML	Sandy Silt
7/6/98	17	Pt 288 50'N 50'W	2	98	19.3	98.3				100.5	24			ML	Sandy Silt
7/6/98	18	Pt 382 50'N 50'W	1	92	18.6	101.1				109.5	17.5			ML	Sandy Silt
7/6/98	19	Pt 373 50'N 50'W	1	99	19.3	99				100.5	24			ML	Sandy Silt
7/6/98	20	Pt 289 50'N 50'w	2	92	18.4	101.2				109.5	17.5			ML	Sandy Silt
7/6/98	21	Pt 290 50'N 50'W	2	100+	19.7	101.6	100	100.3	21.5	100.5	24			ML	Sandy Silt
7/6/98	22	Pt 364 50'N 50'W	1	100	16.4	100.5				100.5	24			ML	Sandy Silt
7/6/98	23	Pt 355 50'N 50'W	1	92	17.9	101.1				109.5	17.5			ML	Sandy Silt
7/6/98	24	Pt 291 50'N 50'W	2	95	16.3	103.7				109.5	17.5			ML	Sandy Silt
7/6/98	25	Pt 292 50'N 50'W	2	93	18	101.8				109.5	17.5			ML	Sandy Silt
7/6/98	26	Pt 346 50'N 50'W	1	98	20.5	98.8				100.5	24			ML	Sandy Silt
7/6/98	27	Pt 293 50'N 50'W	2	94	13.9	103.2				109.5	17.5			ML	Sandy Silt
7/6/98	28	Pt 337 50'N 50'W	1	93	17.4	102.2				109.5	17.5			ML	Sandy Silt
7/6/98	29	Pt 328 50'N 50'W	1	92	18.3	100.6				109.5	17.5			ML	Sandy Silt
7/6/98	30	Pt 294 50'N 50'W	2	93	17.5	101.9				109.5	17.5			ML	Sandy Silt
7/6/98	31	Pt 295 50'N 50'W	2	93	18.5	102.2				109.5	17.5			ML	Sandy Silt
7/6/98	32	Pt 322 50'N 50'W	1	96	13.7	96.1				100.5	24			ML	Sandy Silt
7/6/98	33	Pt 317 50'N 50'W	1	93	13.9	101.9				109.5	17.5			ML	Sandy Silt
7/6/98	34	Pt 296 50'N 50'W	2	92	17.8	100.7				109.5	17.5			ML	Sandy Silt
7/7/98	1	Pt 444 50'N 50'W	1	100+	19.2	102.1				101.5	20.5			ML	Sandy Silt
7/7/98	2	Pt 436 50'N 50'W	1	100+	19.5	103.1				101	22			ML	Sandy Silt
7/7/98	3	Pt 428 50'N 50'W	1	99	19.5	100.1				101.5	20.5			ML	Sandy Silt
7/7/98	4	Pt 419 50'N 50'W	1	97	19.6	98				101.5	20.5			ML	Sandy Silt
7/7/98	5	Pt 410 50'N 50'W	1	97	20.8	98.1				101.5	20.5			ML	Sandy Silt
7/7/98	6	Pt 401 50'N 50'W	1	99	16.4	100.9				101.6	20.5			ML	Sandy Silt
7/7/98	7	Pt 392 50'N 50'W	1	94	18.1	102.6				109.5	17.5			ML	Sandy Silt
7/7/98	8	Pt 383 50'N 50'W	1	98	19.4	99.4				101.5	20.5			ML	Sandy Silt
7/7/98	9	Pt 374 50'N 50'W	1	94	18.1	103				109.5	17.5			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
7/7/98	10	Pt 365 50'N 50'W	1	100+	19.9	102.5				101.5	20.5			ML	Sandy Silt
7/7/98	11	Pt 356 50'N 50'W	1	94	16	102.9				109.5	17.5			ML	Sandy Silt
7/7/98	12	Pt 347 50'N 50'W	1	99	17.5	100.6				101.5	20.5			ML	Sandy Silt
7/7/98	13	Pt 338 50'N 50'W	1	100	18.1	101.2				101.5	20.5			ML	Sandy Silt
7/7/98	14	Pt 329 50'N 50'W	1	97	20.9	98.3				101	22			ML	Sandy Silt
7/7/98	15	Pt 209 Toe Road		96	18.2	97.6				101.5	20.5			ML	Sandy Silt
7/7/98	16	Pt 216 Toe Road		95	20.8	103.9				109.5	17.5			ML	Sandy Silt
7/7/98	17	Pt 491 Toe Road		98	18.9	107.3				109.5	17.5			ML	Sandy Silt
7/7/98	18	Pt 235 Toe Road		95	20.2	104.3				109.5	17.5			ML	Sandy Silt
7/9/98	1	Pt 448 50'N 50'W	2	99	23	100.1				101	24			ML	Sandy Silt
7/9/98	2	Pt 443 50'N 50'W	2	100	21.5	100.8				101	24			ML	Sandy Silt
7/9/98	3	Pt 435 50'N 50'W	2	94	22.9	95.1				101	24			ML	Sandy Silt
7/9/98	4	Pt 427 50'N 50'W	2	99	19.6	99.7				101	24			ML	Sandy Silt
7/9/98	5	Pt 418 50'N 50'W	2	99	22.4	99.6				101	24			ML	Sandy Silt
7/9/98	6	Pt 409 50'N 50'W	2	100	21.1	101				101	24			ML	Sandy Silt
7/9/98	7	Pt 400 50'N 50'W	2	94	26.8	95				101	24			ML	Sandy Silt
7/9/98	8	Pt 276 50'N 50'W	3	98	21.4	98.9				101	24			ML	Sandy Silt
7/9/98	9	Pt 275 50'N 50'W	3	94	18.3	103.4				109.5	17.5			ML	Sandy Silt
7/9/98	10	Pt 274 50'N 50'W	3	99	22.4	99.4				100.5	23.5			ML	Sandy Silt
7/9/98	11	Pt 273 50'N 50'W	3	100	21	101.4	100	102	21	101	24			ML	Sandy Silt
7/9/98	12	Pt 272 50'N 50'W	3	99	19.3	100.2				101	24			ML	Sandy Silt
7/9/98	13	Pt 271 50'N 50'W	3	96	17.5	104.8				109.5	17.5			ML	Sandy Silt
7/9/98	14	Pt 270 50'N 50'W	3	94	19.8	102.6				109.5	17.5			ML	Sandy Silt
7/9/98	15	Pt 269 50'N 50'W	3	94	17.1	102.4				109.5	17.5			ML	Sandy Silt
7/9/98	16	Pt 268 50'N 50'W	3	97	17.8	97.5				101	24			ML	Sandy Silt
7/10/98	1	Pt 391 50'N 50'W	2	95	20.3	96.1				101	24			ML	Sandy Silt
7/10/98	2	Pt 382 50'N 50'W	2	97	22.6	97.7				101	24			ML	Sandy Silt
7/10/98	3	Pt 373 50'N 50'W	2	99	19.8	100.3				101	24			ML	Sandy Silt
7/10/98	4	Pt 364 50'N 50'W	2	98	22.7	98.6				101	24			ML	Sandy Silt
7/13/98	1	Pt 280 50'N 50'W	3	100+	21.6	98				94	26.5			ML	Sandy Silt
7/13/98	2	Pt 281 50'N 50'W	3	100+	20	101.2				98.5	24.5			ML	Sandy Silt
7/13/98	3	Pt 282 50'N 50'W	3	100+	22.1	100				98.5	24.5			ML	Sandy Silt
7/13/98	4	Pt 283 50'N 50'W	3	99	19.8	98				98.5	24.5			ML	Sandy Silt
7/13/98	5	Pt 284 50'N 50'W	3	100+	18.1	101.7	97	98.2	17.8	101	24			ML	Sandy Silt
7/13/98	6	Pt 285 50'N 50'W	3	99	21.2	100.1				101	24			ML	Sandy Silt
7/13/98	7	Pt 286 50'N 50'W	3	99	19.6	100				101	24			ML	Sandy Silt
7/13/98	8	Pt 287 50'N 50'W	3	100+	21.8	100.1				98.5	24.5			ML	Sandy Silt
7/13/98	9	Pt 280 200'S Toe Road	1	93	22.1	93.5				101	24			ML	Sandy Silt
7/13/98	10	Pt 438 120'S Toe Road	1	98	19.9	98.9				101	24			ML	Sandy Silt
7/13/98	11	Pt 441 20'S Toe Road	1	99	20.7	99.8				101	24			ML	Sandy Silt
7/13/98	12	Pt 408 30'E Toe Road	1	99	20	99.8				101	24			ML	Sandy Silt
7/14/98	1	Pt 288 50'N 50'W	3	96	23.2	94.8				99	23			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
7/14/98	2	Pt 289 50'N 50'W	3	99	21.5	97.6				99	23			ML	Sandy Silt
7/14/98	3	Pt 290 50'N 50'W	3	95	26.6	94				99	23			ML	Sandy Silt
7/14/98	4	Pt 291 50'N 50'W	3	96	19.6	95.5				99	23			ML	Sandy Silt
7/14/98	5	Pt 292 50'N 50'W	3	98	23.1	97.1				99	23			ML	Sandy Silt
7/14/98	6	Pt 293 50'N 50'W	3	98	23.9	96.6				99	23			ML	Sandy Silt
7/14/98	7	Pt 294 50'N 50'W	3	98	17.7	97.5				99	23			ML	Sandy Silt
7/14/98	8	Pt 295 50'N 50'W	3	99	20	100.3				101	24			ML	Sandy Silt
7/14/98	9	Pt 296 50'N 50'W	3	99	18.6	99.9	96	97.4	16.8	101	24			ML	Sandy Silt
7/14/98	10	Pt 297 50'N 50'W	3	100	19.7	100.5				101	24			ML	Sandy Silt
7/14/98	11	Pt 445 50'N 50'W	1	100+	16.9	101.6				101	24			ML	Sandy Silt
7/14/98	12	Pt 437 50'N 50'W	1	100	17.8	101.3				101	24			ML	Sandy Silt
7/14/98	13	Pt 429 50'N 50'W	1	97	17.2	106				109.5	17.5			ML	Sandy Silt
7/14/98	14	Pt 420 50'N 50'W	1	94	19.1	102.8				109.5	17.5			ML	Sandy Silt
7/14/98	15	Pt 411 50'N 50'W	1	93	17.7	101.7				109.5	17.5			ML	Sandy Silt
7/14/98	16	Pt 402 50'N 50'W	1	94	18.5	103.3				109.5	17.5			ML	Sandy Silt
7/14/98	17	Pt 393 50'N 50'W	1	95	16.9	103.8				109.5	17.5			ML	Sandy Silt
7/14/98	18	Pt 384 50'N 50'W	1	95	16.3	103.8				109.5	17.5			ML	Sandy Silt
7/14/98	19	Pt 375 50'N 50'W	1	96	17	94.2				98.5	24.5			ML	Sandy Silt
7/14/98	20	Pt 366 50'N 50'W	1	96	15.8	105.4				109.5	17.5			ML	Sandy Silt
7/15/98	1	Pt 127 50'N 50'W	3	98	22.8	99.6				101.5	24			ML	Sandy Silt
7/15/98	2	Pt 143 50'N 50'W	3	94	22.9	95.8				101.5	24			ML	Sandy Silt
7/15/98	3	Pt 142 50'N 50'W	3	93	24.1	94.7				101.5	24			ML	Sandy Silt
7/15/98	4	Pt 126 50'N 50'W	3	95	21.9	96.2				101.5	24			ML	Sandy Silt
7/15/98	5	Pt 141 50'N 50'W	3.5	96	22.8	96.6				101	24.5			ML	Sandy Silt
7/15/98	6	Pt 124 50'N 50'W	3.5	95	21	96.3				101	24.5			ML	Sandy Silt
7/15/98	7	Pt 125 50'N 50'W	3.5	98	20.5	99.3				101.5	24			ML	Sandy Silt
7/15/98	8	Pt 140 50'N 50'W	3.5	96	22.3	96.7				101	24.5			ML	Sandy Silt
7/15/98	9	Pt 246 50'N 50'W	3.5	99	19.1	99.9				101	24.5			ML	Sandy Silt
7/15/98	10	Pt 299 50'N 50'W	3.5	99	19.1	99.6				101	24.5			ML	Sandy Silt
7/15/98	11	Pt 546 50'N 50'W	3.5	99	20.3	99.9				101	24.5			ML	Sandy Silt
7/15/98	12	Pt 247 50'N 50'W	3.5	98	21.6	99.3				101	24.5			ML	Sandy Silt
7/15/98	13	Pt 529 50'N 50'W	3.5	98	18.1	99.8				101.5	24			ML	Sandy Silt
7/15/98	14	Pt 540 50'N 50'W	3.5	95	20	96.8				101.5	24			ML	Sandy Silt
7/15/98	15	Pt 534 50'N 50'W	3.5	100	18.3	101				101.5	24			ML	Sandy Silt
7/15/98	16	Pt 533 50'N 50'W	3.5	95	22.9	93				98	22			ML	Sandy Silt
7/15/98	17	Pt 528 50'N 50'W	3.5	98	19	99.7				101.5	24			ML	Sandy Silt
7/15/98	18	Pt 527 50'N 50'W	3.5	98	18.6	99.1				101.5	24			ML	Sandy Silt
7/15/98	19	Pt 248 50'N 50'W	3.5	96	20.7	97.3				101.5	24			ML	Sandy Silt
7/15/98	20	Pt 545 50'N 50'W	3.5	100	17.2	101.1				101.5	24			ML	Sandy Silt
7/17/98	1	Pt 168 50'N 50'W	3	95	20.3	96.7				101.5	24			ML	Sandy Silt
7/17/98	2	Pt 167 50'N 50'W	3	98	18.4	99.1				101.5	24			ML	Sandy Silt
7/17/98	3	Pt 166 50'N 50'W	3	94	18.5	95.7				101.5	24			ML	Sandy Silt

MAIN BASE DFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
7/17/98	4	Pt 176 50'N 50'W	3	97	17.7	98.5				101.5	24			ML	Sandy Silt
7/17/98	5	Pt 177 50'N 50'W	3	97	24	98.5				101.5	24			ML	Sandy Silt
7/17/98	6	Pt 178 50'N 50'W	3	100	16.9	101.1				101.5	24			ML	Sandy Silt
7/17/98	7	Pt 179 50'N 50'W	3	95	19.2	96.4				101.5	24			ML	Sandy Silt
7/17/98	8	Pt 180 50'N 50'W	3	98	19.6	97				99	23			ML	Sandy Silt
7/17/98	9	Pt 181 50'N 50'W	3	93	23.1	94.1				101.5	24			ML	Sandy Silt
7/17/98	10	Pt 182 50'N 50'W	3	93	22.9	94.8				101.5	24			ML	Sandy Silt
7/20/98	1	Pt 202 50'N 50'W	3.5	100	20.8	101.3				101.5	24			ML	Sandy Silt
7/20/98	2	Pt 201 50'N 50'W	3.5	98	22.8	99.2				101.5	24			ML	Sandy Silt
7/20/98	3	Pt 200 50'N 50'W	3.5	100	19.4	101.6				101.5	24			ML	Sandy Silt
7/20/98	4	Pt 199 50'N 50'W	3.5	100+	20.4	104.2				101.5	24			ML	Sandy Silt
7/20/98	5	Pt 198 50'N 50'W	3.5	98	21.6	99.2				101.5	24			ML	Sandy Silt
7/20/98	6	Pt 197 50'N 50'W	3.5	97	18.7	98.5				101.5	24			ML	Sandy Silt
7/20/98	7	Pt 196 50'N 50'W	3.5	99	19.4	100.7				101.5	24			ML	Sandy Silt
7/20/98	8	Pt 195 50'N 50'W	3.5	99	21.5	100.2				101.5	24			ML	Sandy Silt
7/20/98	9	Pt 194 50'N 50'W	3.5	97	22.7	98				101.5	24			ML	Sandy Silt
7/20/98	10	Pt 193 50'N 50'W	3.5	98	20.4	99.6				101.5	24			ML	Sandy Silt
7/20/98	11	Pt 192 50'N 50'W	3.5	98	18	99.8				101.5	24			ML	Sandy Silt
7/20/98	12	Pt 191 50'N 50'W	0	0	0	0				101.5	24			ML	Sandy Silt
7/20/98	13	Pt 253 50'N 50'W	3	96	21.7	97.5	100+	104.1	21	101.5	24			ML	Sandy Silt
7/21/98	1	Pt 191 50'N 50'W	3.5	97	17	98.8				101.5	24			ML	Sandy Silt
7/21/98	2	Pt 190 50'N 50'W	3.5	96	20.3	97.4				101.5	24			ML	Sandy Silt
7/21/98	3	Pt 189 50'N 50'W	3.5	95	24	96.7				101.5	24			ML	Sandy Silt
7/21/98	4	Pt 187 50'N 50'W	3.5	95	22.4	96.6				101.5	24			ML	Sandy Silt
7/21/98	5	Pt 257 50'N 50'W	3.5	96	22.9	97.3				101.5	24			ML	Sandy Silt
7/21/98	6	Pt 256 50'N 50'W	3.5	95	23.5	96				101.5	24			ML	Sandy Silt
7/21/98	7	Pt 255 50'N 50'W	3.5	95	23.5	96.3				101.5	24			ML	Sandy Silt
7/21/98	8	Pt 543 50'N 50'W	3.5	97	21.7	98.9	97	98.5	23.6	101.5	24			ML	Sandy Silt
7/21/98	9	Pt 537 50'N 50'W	3.5	97	19.8	98.6				101.5	24			ML	Sandy Silt
7/21/98	10	Pt 531 50'N 50'W	3.5	97	20.7	98.9				101.5	24			ML	Sandy Silt
7/21/98	11	Pt 525 50'N 50'W	3.5	94	24.1	95.8	97	98.3	23	101.5	24			ML	Sandy Silt
7/21/98	12	Pt 526 50'N 50'W	3.5	97	18.6	98.2				101.5	24			ML	Sandy Silt
7/21/98	13	Pt 532 50'N 50'W	3.5	97	16.4	98.7				101.5	24			ML	Sandy Silt
7/21/98	14	Pt 538 50'N 50'W	3.5	100	19	101.3				101.5	24			ML	Sandy Silt
7/21/98	15	Pt 544 50'N 50'W	3.5	98	21	99.4				101.5	24			ML	Sandy Silt
7/21/98	16	Pt 528 50'N 50'W	3.5	100+	21.6	102.5				101.5	24			ML	Sandy Silt
7/22/98	1	Pt 193 50'N 50'W	3.5	95	19.2	96				101.5	24			ML	Sandy Silt
7/23/98	1	Pt 522 50'N 50'W	3.5	96	17.1	97	94	95.2	21.2	101.5	24			ML	Sandy Silt
7/27/98	1	Pt 149 50'N 50'W	4	99	18.4	100.9				102.1	23.5			ML	Sandy Silt
7/27/98	2	Pt 148 50'N 50'W	4	100+	17.3	103.5				102.1	23.5			ML	Sandy Silt
7/27/98	3	Pt 147 50'N 50'W	4	97	19.3	99.3				102.1	23.5			ML	Sandy Silt
7/27/98	4	Pt 146 50'N 50'W	4	100	18	102				102.1	23.5			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
7/28/98	1	Pt 137 50'N 50'W	4	100+	19.3	105.8	100+	103.2	22	102.1	23.5			ML	Sandy Silt
7/28/98	2	Pt 150 50'N 50'W	4	100+	19.7	104.5				102.1	23.5			ML	Sandy Silt
7/29/98	1	Pt 522 50'N 50'W	4	98	17.1	99.7				102.1	23.5			ML	Sandy Silt
7/29/98	2	Pt 256 50'N 50'W	4	99	16.5	100.7				102.1	23.5			ML	Sandy Silt
7/31/98	1	Pt 151 50'N 50'W	4	100	19.4	101.9				102.1	23.5			ML	Sandy Silt
7/31/98	2	Pt 534 50'N 50'W	4	95	17.8	97				102.1	23.5			ML	Sandy Silt
8/3/98	1	Pt 247 50'N 50'W	4	100+	22.2	90.5	100+	88.3	23	86.5	33			ML	Sandy Silt
8/3/98	2	Pt 160 50'N 50'W	4	100+	18	99.3	100+	102.8	17.1	98.5	25			ML	Sandy Silt
8/3/98	3	Pt 409 50'N 50'W	4	100+	16.7	103.7	100+	100.4	19.1	98.5	25			ML	Sandy Silt
8/4/98	1	Pt 444 50'N 50'W	3	100	16.7	103.9				103.5	22.5			ML	Sandy Silt
8/4/98	2	Pt 436 50'N 50'W	3	100+	16.7	105.1				103.5	22.5			ML	Sandy Silt
8/4/98	3	Pt 428 50'N 50'W	3	100+	16.8	105.1				103.5	22.5			ML	Sandy Silt
8/4/98	4	Pt 419 50'N 50'W	3	99	17.7	102.5				103.5	22.5			ML	Sandy Silt
8/4/98	5	Pt 410 50'N 50'W	3	97	18.4	100.6				103.5	22.5			ML	Sandy Silt
8/4/98	6	Pt 401 50'N 50'W	3	98	15.9	101.4				103.5	22.5			ML	Sandy Silt
8/4/98	7	Pt 392 50'N 50'W	3	98	14.2	101.9				103.5	22.5			ML	Sandy Silt
8/4/98	8	Pt 383 50'N 50'W	3	98	15.6	101.4				103.5	22.5			ML	Sandy Silt
8/4/98	9	Pt 374 50'N 50'W	3	99	16	102.1				103.5	22.5			ML	Sandy Silt
8/4/98	10	Pt 365 50'N 50'W	3	100	16.4	103.2				103.5	22.5			ML	Sandy Silt
8/4/98	11	Pt 356 50'N 50'W	3	100+	16.3	105.9	100+	117		103.5	22.5			ML	Sandy Silt
8/4/98	12	Pt 347 50'N 50'W	3	100+	16.4	104.5				103.5	22.5			ML	Sandy Silt
8/6/98	1	Pt 348 50'N 50'W	4	90	22.1	93.5	90			103.5	22.5			ML	Sandy Silt
8/10/98	1	Pt 430 50'N 50'W	1	95	22.1	84.8				89.5	29			ML	Sandy Silt
8/10/98	2	Pt 394 50'N 50'W	1	100+	21.7	93.3				89.5	29			ML	Sandy Silt
8/11/98	1	Pt 430 50'N 50'W	1	97	21.1	87.2				89.5	29			ML	Sandy Silt
8/11/98	2	Pt 421 50'N 50'W	1	98	18.2	91.6				93	27.5			ML	Sandy Silt
8/11/98	3	Pt 412 50'N 50'W	1	96	22.8	89.3				93	27.5			ML	Sandy Silt
8/11/98	4	Pt 403 50'N 50'W	1	93	17.6	95				102.5	21.5			ML	Sandy Silt
8/11/98	5	Pt 394 50'N 50'W	1	94	19.5	96.8				102.5	21.5			ML	Sandy Silt
8/11/98	8	Pt 385 50'N 50'W	1	91	19.7	93.6				102.5	21.5			ML	Sandy Silt
8/11/98	7	Pt 376 50'N 50'W	1	98	18.9	91.5				93	27.5			ML	Sandy Silt
8/11/98	8	Pt 367 50'N 50'W	1	99	18.7	92.4				93	27.5			ML	Sandy Silt
8/11/98	9	Pt 358 50'N 50'W	1	99	17.6	98.2				99	25.5			ML	Sandy Silt
8/11/98	10	Pt 349 50'N 50'W	1	97	17.8	99.3				102.5	21.5			ML	Sandy Silt
8/11/98	11	Pt 340 50'N 50'W	1	99	17	101.1				102.5	21.5			ML	Sandy Silt
8/11/98	12	Pt 331 50'N 50'W	1	97	19.2	99.5				102.5	21.5			ML	Sandy Silt
8/11/98	13	Pt 325 50'N 50'W	1	99	20.3	97.6				99	25.5			ML	Sandy Silt
8/11/98	14	Pt 320 50'N 50'W	1	99	17.2	101.1				102.5	21.5			ML	Sandy Silt
8/11/98	15	Pt 421 50'N 50'W	3	91	18.6	90.3	89	88	22.8	99	25.5			ML	Sandy Silt
8/11/98	16	Pt 435 50'N 50'E Shelby	4	98	20.4	97.5				99	25.5			ML	Sandy Silt
8/11/98	17	Pt 382 50'N 50'E Shelby	4	96	21.3	95.1				99	25.5			ML	Sandy Silt
8/11/98	18	Pt 356 50'N 50'W	3	96	20.6	95.4	93	92.5	22.7	99	25.5			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
8/12/98	1	Pt 427 50'N 50'W Shelby	4	94	17.7	93.2				99	25.5			ML	Sandy Silt
8/12/98	2	Pt 418 50'N 50'W	4	96	18.3	95				99	25.5			ML	Sandy Silt
8/12/98	3	Pt 409 50'N 50'W	4	94	21.9	92.6				99	25.5			ML	Sandy Silt
8/12/98	4	Pt 400 50'N 50'W	4	95	18.6	94.3				99	25.5			ML	Sandy Silt
8/12/98	5	Pt 391 50'N 50'W	4	96	20.9	95				99	25.5			ML	Sandy Silt
8/12/98	6	Pt 382 50'N 50'W	1	98	19.1	97.2				99	25.5			ML	Sandy Silt
8/12/98	7	Pt 373 50'N 50'W	1	93	19.2	92.4				99	25.5			ML	Sandy Silt
8/12/98	8	Pt 364 50'N 50'W	1	99	18.7	97.9				99	25.5			ML	Sandy Silt
8/12/98	9	Pt 346 50'N 50'W	1	99	17.2	98.3				99	25.5			ML	Sandy Silt
8/12/98	10	Pt 337 50'N 50'W	1	98	18.1	97.2				99	25.5			ML	Sandy Silt
8/12/98	11	Pt 328 50'N 50'W	1	99	15.6	94				95	28			ML	Sandy Silt
8/12/98	12	Pt 322 50'N 50'W	1	97	14.8	96.3	90	85.7	22.9	99	25.5			ML	Sandy Silt
8/12/98	13	Pt 317 50'N 50'W	1	97	17.2	92.6				95	28			ML	Sandy Silt
8/12/98	14	Pt 314 50'N 50'W	1	97	17.3	95.9				99	25.5			ML	Sandy Silt
8/19/98	1	Pt 126 50'N 50'W	4	99	15.2	97.8				99	25.5			ML	Sandy Silt
8/19/98	2	Pt 124 50'N 50'W	4	100+	17.9	97.5				95.5	27			ML	Sandy Silt
8/19/98	3	Pt 125 50'N 50'W	4	99	17.8	98	100+	99.8	15.5	99	25.5			ML	Sandy Silt
8/19/98	4	Pt 299 50'N 50'W	4	99	15.4	94.8				95.5	27			ML	Sandy Silt
8/19/98	5	Pt 546 50'N 50'W	4	95	20.1	92				96.5	26.5			ML	Sandy Silt
8/19/98	6	Pt 545 50'N 50'W	4	98	18	94.1	100+	96.5	17	96.5	26.5			ML	Sandy Silt
8/19/98	7	Pt 539 50'N 50'W	4	99	20.4	95.7				96.5	26.5			ML	Sandy Silt
8/19/98	8	Pt 533 50'N 50'w	4	98	17	100.4				102.5	21.5			ML	Sandy Silt
8/19/98	9	Pt 527 50'N 50'W	4	100+	18.8	101.7				96.5	26.5			ML	Sandy Silt
8/19/98	10	Pt 521 50'N 50'W	4	99	17.9	101.3				102.5	21.5			ML	Sandy Silt
8/19/98	11	Pt 515 50'N 50'W	4	97	19.3	99.2				102.5	21.5			ML	Sandy Silt
8/19/98	12	Pt 509 50'N 50'W	4	98	20.8	100.3				102.5	21.5			ML	Sandy Silt
8/19/98	13	Pt 448 50'N 50'W	3	99	18.5	95.2				96.5	26.5			ML	Sandy Silt
8/19/98	14	Pt 443 50'N 50'W	3	100	18.6	103.1				103.5	22.5			ML	Sandy Silt
8/19/98	15	Pt 435 50'N 50'W	3	100+	19.3	104.3				103.5	22.5			ML	Sandy Silt
8/19/98	16	Pt 427 50'N 50'W	3	97	19.1	94				96.5	26.5			ML	Sandy Silt
8/19/98	17	Pt 418 50'N 50'W	3	99	19.5	94.2				95.5	27			ML	Sandy Silt
8/19/98	18	Pt 409 50'N 50'W	3	100	18.9	95.6				95.5	27			ML	Sandy Silt
8/19/98	19	Pt 400 50'N 50'W	3	100	18.7	96.6				96.5	26.5			ML	Sandy Silt
8/19/98	20	Pt 391 50'N 50'W	3	98	20.1	94.5				96.5	26.5			ML	Sandy Silt
8/19/98	21	Pt 364 50'N 50'W	3	99	17.1	95.6				96.5	26.5			ML	Sandy Silt
8/19/98	22	Pt 355 50'N 50'W	3	100+	20	97.1	100+	100.4	26.5	96.5	26.5			ML	Sandy Silt
8/21/98	1	Pt 141 50'N 50'W	4	97	18.5	99.6				103	21			ML	Sandy Silt
8/21/98	2	Pt 140 50'N 50'W	4	100+	18.4	103.9				103	21			ML	Sandy Silt
8/21/98	3	Pt 246 50'N 50'W	4	99	19	101.9				103	21			ML	Sandy Silt
8/21/98	4	Pt 247 50'N 50'W	4	95	23.2	92	100+	99	20.3	96.5	27.5			ML	Sandy Silt
8/21/98	5	Pt 248 50'N 50'W	4	97	19	96.2				99.5	22.5			ML	Sandy Silt
8/21/98	6	Pt 541 50'N 50'W	4	96	19.3	95.2				99	25			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
8/21/98	7	Pt 534 50'N 50'W	4	97	18.9	95.6				99	25			ML	Sandy Silt
8/21/98	8	Pt 528 50'N 50'W	4	97	18.3	96.2				99.5	22.5			ML	Sandy Silt
8/21/98	9	Pt 522 50'N 50'W Shelby	4	98	19.1	96.7				99	25			ML	Sandy Silt
8/21/98	10	Pt 516 50'N 50'W	4	94	19.7	92.6				99	25			ML	Sandy Silt
8/21/98	11	Pt 517 50'N 50'W	4	94	19.4	93.4				99	25			ML	Sandy Silt
8/21/98	12	Pt 523 50'N 50'W	4	96	18.7	94.7	97	96.4	17.4	99	25			ML	Sandy Silt
8/21/98	13	Pt 529 50'N 50'W	4	92	18.4	90.7				99	25			ML	Sandy Silt
8/21/98	14	Pt 535 50'N 50'W	4	95	21.1	94.4				99	25			ML	Sandy Silt
8/21/98	15	Pt 542 50'N 50'W	4	100+	16.7	104.5				103	21			ML	Sandy Silt
8/21/98	16	Pt 249 50'N 50'W	4				96	99	18.8	103	21			ML	Sandy Silt
8/24/98	1	Pt 535 50'N 50'W QA	4				94	96.6	17.4	103	21			ML	Sandy Silt
8/24/98	2	Pt 531 50'N 50'W QA	4				97	100.1	18.8	103	21			ML	Sandy Silt
8/25/98	1	Pt 138 50'N 50'W	4	93	20.1	95.6				102.5	21.5			ML	Sandy Silt
8/25/98	2	Pt 137 50'N 50'W	4	90	19.7	92.3				102.5	21.5			ML	Sandy Silt
8/25/98	3	Pt 136 50'N 50'W	4	98	16.3	100.1				102.5	21.5			ML	Sandy Silt
8/25/98	4	Pt 135 50'N 50'W	4	97	17.5	99.6				102.5	21.5			ML	Sandy Silt
8/25/98	5	Pt 134 50'N 50'W	4	100+	16.5	105.2				103	21			ML	Sandy Silt
8/25/98	6	Pt 133 50'N 50'W	4	95	14.8	96.9				102.5	21.5			ML	Sandy Silt
8/25/98	7	Pt 132 50'N 50'W	4	98	16.9	100.6				102.5	21.5			ML	Sandy Silt
8/25/98	8	Pt 129 50'N 50'W	4	100	15.5	102.6				102.5	21.5			ML	Sandy Silt
8/25/98	9	Pt 128 50'N 50'W	4	97	18.1	99.6				102.5	21.5			ML	Sandy Silt
8/25/98	10	Pt 152 50'N 50'W	4	91	19.2	93				102.5	21.5			ML	Sandy Silt
8/25/98	11	Pt 151 50'N 50'W	4	92	23.9	92				102.5	21.5			ML	Sandy Silt
8/25/98	12	Pt 150 50'N 50'W	4	100	17.6	100				103	21			ML	Sandy Silt
8/27/98	1	Pt 444 50'N 50'E	3	96	21.6	98.1				102.5	21.5			ML	Sandy Silt
8/27/98	2	Pt 436 50'N 50'E	3	94	19.1	96				102.5	21.5			ML	Sandy Silt
8/27/98	3	Pt 429 50'N 50'W	3	99	19.1	101.7				102.5	21.5			ML	Sandy Silt
8/27/98	4	Pt 444 50'N 50'W	3	100+	21.9	98				96.5	27			ML	Sandy Silt
8/27/98	5	Pt 436 50'N 50'W	3	98	20.6	98.6				100.5	23.5			ML	Sandy Silt
8/27/98	6	Pt 427 50'N 50'E	3	99	20.3	101.3				102.5	21.5			ML	Sandy Silt
8/27/98	7	Pt 418 50'N 50'E	3	100	19.6	100				100.5	23.5			ML	Sandy Silt
8/27/98	8	Pt 409 50'N 50'E	3	95	20.6	95.7				100.5	23.5			ML	Sandy Silt
8/27/98	9	Pt 400 50'N 50'E	3	93	21.2	93.6				100.5	23.5			ML	Sandy Silt
8/27/98	10	Pt 391 50'N 50'E	3	94	18	94.9				100.5	23.5			ML	Sandy Silt
8/27/98	11	Pt 382 50'N 50'E	3	96	20.9	96.7				100.5	23.5			ML	Sandy Silt
8/27/98	12	Pt 373 50'N 50'E	3	94	20.2	94.7				100.5	23.5			ML	Sandy Silt
8/27/98	13	Pt 364 50'N 50'E	3	96	20.4	95.1				99.5	23			ML	Sandy Silt
8/27/98	14	Pt 355 50'N 50'E	3	95	22	94.6				99.5	23			ML	Sandy Silt
8/27/98	15	Pt 346 50'N 50'E	3	97	19.7	96.6				99.5	23			ML	Sandy Silt
8/27/98	16	Pt 337 50'N 50'E	3	97	19.7	96.1				99.5	23			ML	Sandy Silt
8/31/98	1	Pt 439 50'N 50'W	1	100+	20.6	101.7				97	25.5			ML	Sandy Silt
8/31/98	2	Pt 431 50'N 50'W	1	100	17.8	96.8				97	25.5			ML	Sandy Silt

MAIN BASE DFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
8/31/98	3	Pt 422 50'N 50'W	1	100	18.1	100.3				100.5	24.5			ML	Sandy Silt
8/31/98	4	Pt 413 50'N 50'W	1	99	20.3	99.1				100.5	24.5			ML	Sandy Silt
8/31/98	5	Pt 404 50'N 50'W	1	99	16.3	99.8				100.5	24.5			ML	Sandy Silt
8/31/98	6	Pt 438 50'N 50'W	2	98	17.5	98.4				100.5	24.5			ML	Sandy Silt
8/31/98	7	Pt 328 50'N 50'E	3	99	19.2	101.8				102.5	21.5			ML	Sandy Silt
8/31/98	8	Pt 322 50'N 50'E	3	98	21.6	98.4				100.5	24.5			ML	Sandy Silt
8/31/98	9	Pt 317 50'N 50'E	3	99	21.2	9.3				100.5	24.5			ML	Sandy Silt
8/31/98	10	Pt 314 50'N 50'E	3	100	19.6	100				100.5	24.5			ML	Sandy Silt
9/1/98	1	Pt 153 50'N 50'E	4	95	17.9	97.8				103	23			ML	Sandy Silt
9/1/98	2	Pt 152 50'N 50'E	4	100	16.8	102.5				103	23			ML	Sandy Silt
9/1/98	3	Pt 151 50'N 50'E	4	100+	15.6	106.3				103	23			ML	Sandy Silt
9/1/98	4	Pt 150 50'N 50'E	4	100+	16.1	108				103	23			ML	Sandy Silt
9/1/98	5	Pt 164 50'N 50'W	4	92	18.6	94.6				103	23			ML	Sandy Silt
9/1/98	6	Pt 163 50'N 50'W	4	96	18	98.4				103	23			ML	Sandy Silt
9/1/98	7	Pt 162 50'N 50'W	4	99	16.8	101.5				103	23			ML	Sandy Silt
9/1/98	8	Pt 161 50'N 50'W	4	96	16.7	99.2				103	23			ML	Sandy Silt
9/1/98	9	Pt 160 50'N 50'W	4	96	17.3	99.3				103	23			ML	Sandy Silt
9/2/98	1	Pt 439 50'N 50'E	1	100+	16.9	99.8				98.5	25.5			ML	Sandy Silt
9/2/98	2	Pt 431 50'N 50'E	1	100	14.9	103				103	23			ML	Sandy Silt
9/2/98	3	Pt 423 50'N 50'W	1	93	20.9	96.1				103	23			ML	Sandy Silt
9/2/98	4	Pt 414 50'N 50'W	1	93	23.1	96.3				103	23			ML	Sandy Silt
9/2/98	5	Pt 405 50'N 50'W	1	97	20.3	99.4				103	23			ML	Sandy Silt
9/2/98	6	Pt 395 50'N 50'W	1	100	18.9	102.7				103	23			ML	Sandy Silt
9/2/98	7	Pt 387 50'N 50'W	1	92	20	94.5				103	23			ML	Sandy Silt
9/2/98	8	Pt 378 50'N 50'W	1	99	15.4	101.9				103	23			ML	Sandy Silt
9/2/98	9	Pt 369 50'N 50'W	1	96	18.2	98.6				103	23			ML	Sandy Silt
9/2/98	10	Pt 360 50'N 50'W	1	95	17.7	97.7				103	23			ML	Sandy Silt
9/2/98	11	Pt 351 50'N 50'W	1	92	19.1	94.9				103	23			ML	Sandy Silt
9/2/98	12	Pt 342 50'N 50'W	1	92	18.3	95.2				103	23			ML	Sandy Silt
9/2/98	13	Pt 333 50'N 50'W	2	96	18.7	93.9				98	24			ML	Sandy Silt
9/2/98	14	Pt 327 50'N 50'W	2	98	18	96.1				98	24			ML	Sandy Silt
9/3/98	1	Pt 440 50'N 50'W	1	100+	19.5	99.4				98	25.5			ML	Sandy Silt
9/3/98	2	Pt 432 50'N 50'W	1	93	20.7	97.3				104.5	22			ML	Sandy Silt
9/3/98	3	Pt 423 50'N 50'W	1	95	20.5	99.2				104.5	22			ML	Sandy Silt
9/3/98	4	Pt 414 50'N 50'W	1	98	18.2	102.8				104.5	22			ML	Sandy Silt
9/3/98	5	Pt 405 50'N 50'W	1	95	19.8	98.8				104.5	22			ML	Sandy Silt
9/3/98	6	Pt 396 50'N 50'W	1	93	20.7	97.3				104.5	22			ML	Sandy Silt
9/8/98	1	Pt 171 50'N 50'W	4	93	21.9	97.2				104.5	22			ML	Sandy Silt
9/8/98	2	Pt 172 50'N 50'W	4	100	17.5	104.2				104.5	22			ML	Sandy Silt
9/8/98	3	Pt 173 50'N 50'W	4	94	17.4	98.5				104.5	22			ML	Sandy Silt
9/8/98	4	Pt 175 50'N 50'W	4	93	23	97				104.5	22			ML	Sandy Silt
9/9/98	1	Pt 445 50'N 50'E	3	93	16.6	98				105	19.5			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
9/9/98	2	Pt 437 50'N 50'E	3	92	22.2	96.6				105	19.5			ML	Sandy Silt
9/9/98	3	Pt 429 50'N 50'E	3	95	16.2	100				105	19.5			ML	Sandy Silt
9/9/98	4	Pt 420 50'N 50'E	3	93	15.1	97.7				105	19.5			ML	Sandy Silt
9/9/98	5	Pt 411 50'N 50'E	3	100	17.6	99.1				99	23			ML	Sandy Silt
9/9/98	6	Pt 402 50'N 50'E	3	99	15.4	97.7				99	23			ML	Sandy Silt
9/9/98	7	Pt 393 50'N 50'E	3	99	19.1	98				99	23			ML	Sandy Silt
9/9/98	8	Pt 384 50'N 50'E	3	97	22	95.7				99	23			ML	Sandy Silt
9/9/98	9	Pt 375 50'N 50'E	3	91	18.6	92.4				101.5	21			ML	Sandy Silt
9/9/98	10	Pt 366 50'N 50'E	3	95	16.4	96.9				101.5	21			ML	Sandy Silt
9/9/98	11	Pt 357 50'N 50'E	3	99	17.9	100.6				101.5	21			ML	Sandy Silt
9/9/98	12	Pt 348 50'N 50'E	3	94	19.7	95.3				101.5	21			ML	Sandy Silt
9/10/98	1	Pt 439 50'N 50'W	2	92	19.5	89.8				98	22.5			ML	Sandy Silt
9/10/98	2	Pt 431 50'N 50'W	2	97	18.5	95				98	22.5			ML	Sandy Silt
9/10/98	3	Pt 422 50'N 50'W	2	98	16.3	96.3				98	22.5			ML	Sandy Silt
9/10/98	4	Pt 413 50'N 50'W	2	97	16.6	98.2				101.5	22			ML	Sandy Silt
9/10/98	5	Pt 404 50'N 50'W	2	98	18.1	96.8				99	23			ML	Sandy Silt
9/10/98	6	Pt 395 50'N 50'W	2	98	19.9	97.2				99	23			ML	Sandy Silt
9/10/98	7	Pt 386 50'N 50'W	2	98	16	103.4				105	19.5			ML	Sandy Silt
9/10/98	8	Pt 377 50'N 50'W	2	97	15.9	102.3				105	19.5			ML	Sandy Silt
9/10/98	9	Pt 368 50'N 50'W	2	95	19.9	96				101.5	21			ML	Sandy Silt
9/10/98	10	Pt 359 50'N 50'W	2	100	13.9	101.3				101.5	21			ML	Sandy Silt
9/10/98	11	Pt 350 50'N 50'W	2	94	15.1	95.8				101.5	21			ML	Sandy Silt
9/10/98	12	Pt 341 50'N 50'W	2	90	16.3	91.2				101.5	21			ML	Sandy Silt
9/11/98	1	Pt 441 50'N 50'W	1	99	15	100.2				101.5	22			ML	Sandy Silt
9/11/98	2	Pt 433 50'N 50'W	1	95	17.9	96.2				101.5	22			ML	Sandy Silt
9/11/98	3	Pt 424 50'N 50'W	1	96	17.9	97.1				101.5	22			ML	Sandy Silt
9/11/98	4	Pt 415 50'N 50'W	1	94	13.5	95.8	88	89.3	12.4	101.5	22			ML	Sandy Silt
9/11/98	5	Pt 406 50'N 50'W	1	96	20.6	97.4				101.5	22			ML	Sandy Silt
9/11/98	6	Pt 396 50'N 50'E	1	98	17.4	99.5				101.5	22			ML	Sandy Silt
9/11/98	7	Pt 387 50'N 50'E	1	98	19.6	99.1	100+	102.6	15.6	101.5	22			ML	Sandy Silt
9/11/98	8	Pt 378 50'N 50'E	1	97	18	98.7				101.5	22			ML	Sandy Silt
9/11/98	9	Pt 369 50'N 50'E	1	99	18.5	100				101.5	22			ML	Sandy Silt
9/11/98	10	Pt 360 50'N 50'E	1	98	18.5	99.1				101.5	22			ML	Sandy Silt
9/11/98	11	Pt 351 50'N 50'E	1	94	22.2	95.7				101.5	22			ML	Sandy Silt
9/11/98	12	Pt 342 50'N 50'E	1	95	25.9	96.4				101.5	22			ML	Sandy Silt
9/11/98	13	Pt 333 50'N 50'E	1	96	26.2	97				101.5	22			ML	Sandy Silt
9/14/98	1	Pt 424 50'N 50'E	1	97	19.9	101.2				104.5	16			ML	Sandy Silt
9/14/98	2	Pt 415 50'N 50'E	1	91	22.2	95.1				104.5	16			ML	Sandy Silt
9/14/98	3	Pt 406 50'N 50'E	1	99	21	103.8				104.5	16			ML	Sandy Silt
9/14/98	4	Pt 398 50'N 50'W	1	100+	18.6	106.2	98	102	15.1	104.5	16			ML	Sandy Silt
9/14/98	5	Pt 388 50'N 50'E	1	96	17.7	100.4				104.5	16			ML	Sandy Silt
9/14/98	6	Pt 379 50'N 50'E	1	97	18.1	101				104.5	16			ML	Sandy Silt

MAIN BASE DFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
9/14/98	7	Pt 370 50'N 50'E	1	95	18.7	99.1				104.5	16			ML	Sandy Silt
9/14/98	8	Pt 361 50'N 50'E	1	93	17.8	97.5				104.5	16			ML	Sandy Silt
9/14/98	9	Pt 353 50'N 50'W	1	93	17.8	97.5	94	97.8	16.8	104.5	16			ML	Sandy Silt
9/14/98	10	Pt 344 50'N 50'W	1	90	20.3	94.4				104.5	16			ML	Sandy Silt
9/15/98	1	Pt 425 50'N 50'W	1	99	18.7	103				104	21			ML	Sandy Silt
9/15/98	2	Pt 399 50'N 50'W	1	99	19.9	101.2				102.5	21.5			ML	Sandy Silt
9/15/98	3	Pt 353 50'N 50'W	1	99	17.9	103.9				104.5	16			ML	Sandy Silt
9/16/98	1	Pt 280 50'N 50'W	4	95	22	99.2	98	102.8	17.6	104.5	16			ML	Sandy Silt
9/16/98	2	Pt 281 50'N 50'W	4	99	15.8	103.4	98	102.4	18.3	104.5	16			ML	Sandy Silt
9/16/98	3	Pt 282 50'N 50'W	4	92	16.2	95.9	96	100.2	15.5	104.5	16			ML	Sandy Silt
9/16/98	4	Pt 283 50'N 50'W	4	96	13.1	100.3				104.5	16			ML	Sandy Silt
9/16/98	5	Pt 284 50'N 50'W	4	93	17.1	95				102	22.5			ML	Sandy Silt
9/16/98	6	Pt 285 50'N 50'W	4	93	19.3	95.1				102	22.5			ML	Sandy Silt
9/16/98	7	Pt 286 50'N 50'W	4	91	17.6	93.3				102	22.5			ML	Sandy Silt
9/16/98	8	Pt 287 50'N 50'W	4	95	17	97				102	22.5			ML	Sandy Silt
9/16/98	9	Pt 288 50'N 50'W	4	92	16.8	93.6				102	22.5			ML	Sandy Silt
9/16/98	10	Pt 289 50'N 50'W	4	96	18.1	100.3				104.5	16			ML	Sandy Silt
9/16/98	11	Pt 290 50'N 50'W	4	97	17.7	99				102	22.5			ML	Sandy Silt
9/16/98	12	Pt 291 50'N 50'W	4	100	16.3	104.3				104.5	16			ML	Sandy Silt
9/16/98	13	Pt 292 50'N 50'W	4	99	15.1	103.8				104.5	16			ML	Sandy Silt
9/16/98	14	Pt 293 50'N 50'W	4	100	15.8	105				104.5	16			ML	Sandy Silt
9/16/98	15	Pt 294 50'N 50'W	4	95	20	96.5				102	22.5			ML	Sandy Silt
9/17/98	1	Pt 277 50'N 50'W	4	100+	16.4	105.1	100+	110.2	11.4	104.5	16			ML	Sandy Silt
9/17/98	2	Pt 276 50'N 50'W	4	97	17.5	101.1	99	103.3	14.8	104.5	16			ML	Sandy Silt
9/17/98	3	Pt 275 50'N 50'W	4	95	15.2	99	89	92.6	15	104.5	16			ML	Sandy Silt
9/17/98	4	Pt 274 50'N 50'W	4	94	18.4	98.3				104.5	16			ML	Sandy Silt
9/17/98	5	Pt 273 50'N 50'W	4	94	18.8	98				104.5	16			ML	Sandy Silt
9/17/98	6	Pt 272 50'N 50'W	4	97	15.7	101.5				104.5	16			ML	Sandy Silt
9/17/98	7	Pt 271 50'N 50'W	4	97	16.7	101.1				104.5	16			ML	Sandy Silt
9/17/98	8	Pt 270 50'N 50'W	4	97	18.1	101.2				104.5	16			ML	Sandy Silt
9/17/98	9	Pt 269 50'N 50'W	4	93	18.3	96.9				104.5	16			ML	Sandy Silt
9/21/98	1	Pt 434 50'N 50'E	2	99	16	100.3				100.5	22			ML	Sandy Silt
9/21/98	2	Pt 425 50'N 50'E	2	98	15.2	98.1	90	90	18.1	100.5	22			ML	Sandy Silt
9/21/98	3	Pt 416 50'N 50'E	2	97	16.2	97.6	93	92.5	17.6	100.5	22			ML	Sandy Silt
9/21/98	4	Pt 407 50'N 50'E	2	96	14.4	96.4				100.5	22			ML	Sandy Silt
9/21/98	5	Pt 398 50'N 50'E	2	96	14.4	95.9				100.5	22			ML	Sandy Silt
9/21/98	6	Pt 389 50'N 50'E	2	93	15.9	93.9				100.5	22			ML	Sandy Silt
9/21/98	7	Pt 380 50'N 50'E	2	98	17.3	98.7				100.5	22			ML	Sandy Silt
9/21/98	8	Pt 371 50'N 50'E	2	96	18.1	96.1				100.5	22			ML	Sandy Silt
9/21/98	9	Pt 362 50'W 50'E	2	98	16.5	98.3				100.5	22			ML	Sandy Silt
9/21/98	10	Pt 353 50'N 50'E	2	100	15	100				100.5	22			ML	Sandy Silt
9/22/98	1	Pt 440	3	99	16.9	99.1				100.5	22			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
9/22/98	2	Pt 432 50'N 50'W	3	95	19.4	95.5				100.5	22			ML	Sandy Silt
9/22/98	3	Pt 423 50'N 50'W	3	99	15	99.3				100.5	22			ML	Sandy Silt
9/22/98	4	Pt 414 50'N 50'W	3	97	16	97.3	97	96.9	16.7	100.5	22			ML	Sandy Silt
9/22/98	5	Pt 405 50'N 50'W	3	98	15.9	98.8	98	98	16.3	100.5	22			ML	Sandy Silt
9/22/98	6	Pt 396 50'N 50'W	3	94	16	94.2				100.5	22			ML	Sandy Silt
9/22/98	7	Pt 385 50'N 50'W	3	94	17.8	94.4				100.5	22			ML	Sandy Silt
9/22/98	8	Pt 378	3	96	15.5	96.6				100.5	22			ML	Sandy Silt
9/22/98	9	Pt 369 50'N 50'W	3	94	14.1	94.5				100.5	22			ML	Sandy Silt
9/22/98	10	Pt 433 50'N 50'W	3	96	20	96.5				100.5	22			ML	Sandy Silt
9/22/98	11	Pt 424 50'N 50'W	3	99	17	99.5				100.5	22			ML	Sandy Silt
9/22/98	12	Pt 415 50'N 50'W	3	96	16.2	96.9				100.5	22			ML	Sandy Silt
9/22/98	13	Pt 406 50'N 50'W	3	96	18.5	96.3				100.5	22			ML	Sandy Silt
9/24/98	1	Pt 434 50'N 50'W	3	94	20	97.2	99	101.7	18.9	103	20.5			ML	Sandy Silt
9/24/98	2	Pt 424 50'N 50'E	3	95	18.8	97.7	91	94	19.8	103	20.5			ML	Sandy Silt
9/24/98	3	Pt 416 50'N 50'W	3	93	20.1	95.7				103	20.5			ML	Sandy Silt
9/24/98	4	Pt 407 50'W 50'W	3	97	14.7	100.4				103	20.5			ML	Sandy Silt
9/24/98	5	Pt 398 50'N 50'W	3	94	18.3	96.7	92	95.2	19.9	103	20.5			ML	Sandy Silt
9/24/98	6	Pt 388 50'N 50'E	3	95	18.8	97.5				103	20.5			ML	Sandy Silt
9/24/98	7	Pt 540 70'S	3	94	15.4	96.7	94	96.9	19.6	103	20.5			ML	Sandy Silt
9/24/98	8	Pt 540	3	94	16.8	97.2				103	20.5			ML	Sandy Silt
9/25/98	1	Pt 144 100'N 40'E swaleA1	4	90	16.9	93.2	89	92	16	103	22				
9/25/98	2	Pt 144 50'N 40'E swaleA1	4	98	19.9	101.3	97	99.8	19.8	103	22				
9/25/98	3	Pt 161 100'E swale A1	4	92	17	95.2				103	22				
9/25/98	4	Pt 161 100'S swale A1	4	88	21.9	91.1				103	22				
9/25/98	5	Pt 175 100'W swale A1	4	92	19.7	94.9	93	95.7	19.8	103	22				
9/25/98	6	Pt 172 120'W swale A1	4	91	16.4	94.2				103	22				
9/25/98	7	Pt 354 50'N 50'E	3	97	16.5	100.4	94	96.5	19.3	103	22				
9/25/98	8	Pt 363 50'N 50'E	3	93	20.1	96.1				103	22				
9/25/98	9	Pt 372 50'N 50'E	3	96	17.4	99				103	22				
9/25/98	10	Pt 365 50'N 50'W	4	98	20.6	100.6	98	100.6	19	103	22				
9/25/98	11	Pt 374 50'N 50'W	4	99	16.2	102.1	91	94	18.3	103	22				
9/25/98	12	Pt 383 50'N 50'W	4	99	17.5	101.7				103	22				
9/28/98	1	Pt 176 NW	4	93	20.5	97.7		***114***	16.5	105	19.5			ML	Sandy Silt
9/28/98	2	Pt 177 NW	4	95	20.7	99.4		***124.3***	16.8	105	19.5			ML	Sandy Silt
9/28/98	3	Pt 178 NW	4	95	21.4	100				105	19.5			ML	Sandy Silt
9/28/98	4	Pt 179 NW	4	98	19.3	102.5				105	19.5			ML	Sandy Silt
9/28/98	5	Pt 180 NW	4	96	19.4	101				105	19.5			ML	Sandy Silt
9/28/98	6	Pt 181 NW	4	95	21.5	99.9				105	19.5			ML	Sandy Silt
9/28/98	7	Pt 182 NW	4	94	21.3	98.5				105	19.5			ML	Sandy Silt
9/28/98	8	Pt 183 NW	4	98	18.3	102.4		***120.4***	12.8	105	19.5			ML	Sandy Silt
9/28/98	9	Pt 184 NW	4	94	16.7	98.7				105	19.5			ML	Sandy Silt
9/28/98	10	Pt 185 NW	4	94	18.9	99.1				105	19.5			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
9/28/98	11	Pt 186 NW	4	94	20.7	98.8				105	19.5			ML	Sandy Silt
9/28/98	12	Pt 252 NW	4	94	21.4	98.2				105	19.5			ML	Sandy Silt
9/28/98	13	Pt 253 NW	4	95	18.3	100.2				105	19.5			ML	Sandy Silt
9/28/98	14	Pt 254 NW	4	94	17.3	98.2		***115***	13.4	105	19.5			ML	Sandy Silt
9/28/98	15	Pt 543 NW	4	96	18.5	100.8				105	19.5			ML	Sandy Silt
9/28/98	16	Pt 536 NW	4	94	17.8	98.9		***114.8***	15.6	105	19.5			ML	Sandy Silt
9/28/98	17	Pt 530 NW	4	95	18.3	100.2		***116.8***	15.4	105	19.5			ML	Sandy Silt
9/29/98	1	Pt 203	4	100+	14.7	108.7	100+	105.1	14.6	105	19.5			ML	Sandy Silt
9/29/98	2	Pt 201	4	100	16	105.6				105	19.5			ML	Sandy Silt
9/29/98	3	Pt 200 NW	4	97	19.6	101.5				105	19.5			ML	Sandy Silt
9/29/98	4	Pt 199	4	91	18.8	95.8	94	90.3	16.1	105	19.5			ML	Sandy Silt
9/29/98	5	Pt 198 NW	4	96	13.6	100.4	**89**	93.5	14.4	105	19.5			ML	Sandy Silt
9/29/98	6	Pt 197 NW	4	100	13.1	105.9	97.3	102.2	13.1	105	19.5			ML	Sandy Silt
9/29/98	7	Pt 196 NW	4	97	16	102.2				105	19.5			ML	Sandy Silt
9/29/98	8	Pt 195 NW	4	98	16.7	102.4				105	19.5			ML	Sandy Silt
9/29/98	9	Pt 194 NW	4	95	18.7	99.9	98	102.6	17.3	105	19.5			ML	Sandy Silt
9/29/98	10	Pt 193 NW	4	101	15.3	106.9	100+	108.2	14.7	105	19.5			ML	Sandy Silt
9/29/98	11	Pt 192 NW	4	95	17.6	100				105	19.5			ML	Sandy Silt
9/29/98	12	Pt 191 NW	4	96	18.7	101.3				105	19.5			ML	Sandy Silt
9/29/98	13	Pt 190 NW	4	96	18.4	101.3				105	19.5			ML	Sandy Silt
9/29/98	14	Pt 189 NW	4	98	17.5	103.3				105	19.5			ML	Sandy Silt
9/29/98	15	Pt 188 NW	4	93	20.3	97.7				105	19.5			ML	Sandy Silt
9/29/98	16	Pt 187 NW	4	99	16.2	103.7				105	19.5			ML	Sandy Silt
9/29/98	17	Pt 530 NW	4	91	17.6	95.2				105	19.5			ML	Sandy Silt
9/30/98	1	Pt 444 NW	4	94	16.1	98.4	91	96	13.6	105	19.5			ML	Sandy Silt
9/30/98	2	Pt 436 NW	4	98	15.1	102.4	95	99.5	15.1	105	19.5			ML	Sandy Silt
9/30/98	3	Pt 428 NW	4	95	18.4	99.3	98	102.8	16.2	105	19.5			ML	Sandy Silt
9/30/98	4	Pt 419 NW	4	92	17.9	96.8	97	101.4	14.9	105	19.5			ML	Sandy Silt
9/30/98	5	Pt 410 NW	4	95	18.7	99.8				105	19.5			ML	Sandy Silt
9/30/98	6	Pt 401 NW	4	96	19.2	100.3				105	19.5			ML	Sandy Silt
9/30/98	7	Pt 392 NW	4	97	19.5	101.5				105	19.5			ML	Sandy Silt
9/30/98	8	Pt 383 NW	4	95	18.3	99.3				105	19.5			ML	Sandy Silt
9/30/98	9	Pt 375 NW	4	94	19.8	98.9				105	19.5			ML	Sandy Silt
9/30/98	10	Pt 365 NW	4	93	20.6	97.5				105	19.5			ML	Sandy Silt
9/30/98	11	Pt 356 NW	4	96	17.7	101.3				105	19.5			ML	Sandy Silt
9/30/98	12	Pt 347 NW	4	96	17.2	101				105	19.5			ML	Sandy Silt
9/30/98	13	Pt 338 NW	4	95	17.3	100.1				105	19.5			ML	Sandy Silt
9/30/98	14	Pt 329 NW	4	94	18.4	98.7				105	19.5			ML	Sandy Silt
9/30/98	15	Pt 323 NW	4	94	19.3	99.2				105	19.5			ML	Sandy Silt
9/30/98	16	Pt 318 NW	4	95	18.3	99.8				105	19.5			ML	Sandy Silt
10/1/98	1	Pt 446 NW	4	97	17.5	96.8				100	22			ML	Sandy Silt
10/1/98	2	Pt 438 NW	4	96	20.5	96				100	22			ML	Sandy Silt

MAIN BASE LANDFILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
10/1/98	3	Pt 430 NW	4	94	19.2	94.5				100	22			ML	Sandy Silt
10/1/98	4	Pt 421 NW	4	95	16.9	94.8				100	22			ML	Sandy Silt
10/1/98	5	Pt 412 NW	4	92	20.3	92.1				100	22			ML	Sandy Silt
10/1/98	6	Pt 403 NW	4	93	21.3	92.9				100	22			ML	Sandy Silt
10/1/98	7	Pt 394 NW	4	91	20.4	90.7				100	22			ML	Sandy Silt
10/1/98	8	Pt 385 NW	4	91	20.8	91.5				100	22			ML	Sandy Silt
10/1/98	9	Pt 376 NW	4	93	19.5	92.6	92	91.7	21.8	100	22			ML	Sandy Silt
10/1/98	10	Pt 367 NW	4	94	21.8	93.9	93	93.3	22.9	100	22			ML	Sandy Silt
10/1/98	11	Pt 358 NW	4	96	20.1	96.4				100	22			ML	Sandy Silt
10/1/98	12	Pt 349 NW	4	95	19.4	95.2	94	94.1	20.9	100	22			ML	Sandy Silt
10/1/98	13	Pt 340 NW	4	98	20	98				100	22			ML	Sandy Silt
10/1/98	14	Pt 331	4	99	16.4	98.8	100+	104	19.6	100	22			ML	Sandy Silt
10/1/98	15	Pt 325	4	97	18.7	97.2				100	22			ML	Sandy Silt
10/1/98	16	Pt 320	4	94	17.8	94.2				100	22			ML	Sandy Silt
10/6/98	1	Pt 447 NW	4	92	19.2	96.4				105	19.5			ML	Sandy Silt
10/6/98	2	Pt 439 NW	4	93	18.7	97.3				105	19.5			ML	Sandy Silt
10/6/98	3	Pt 431 NW	4	94	20.2	99.2				105	19.5			ML	Sandy Silt
10/6/98	4	Pt 422 NW	4	93	14	98	93	97.7	16.5	105	19.5			ML	Sandy Silt
10/6/98	5	Pt 413 NW	4	94	19.2	98.3				105	19.5			ML	Sandy Silt
10/6/98	6	Pt 404 NW	4	93	13.9	97.2	90	94	15.3	105	19.5			ML	Sandy Silt
10/7/98	1	Pt 395 NW	4	89	19	92.9	90	94.5	21.1	105	19.5			ML	Sandy Silt
10/7/98	2	Pt 386 NW	4	90	18.8	94.6				105	19.5			ML	Sandy Silt
10/7/98	3	Pt 377 NW	4	91	15.7	95.6	91	95.7	19.5	105	19.5			ML	Sandy Silt
10/7/98	4	Pt 368	4	92	19.1	96.1				105	19.5			ML	Sandy Silt
10/7/98	5	Pt 359 NW	4	92	18.7	96.4				105	19.5			ML	Sandy Silt
10/7/98	6	Pt 350 NW	4	94	17.3	98.6				105	19.5			ML	Sandy Silt
10/7/98	7	Pt 341 NW	4	92	17	96.5	89	93.6	18	105	19.5			ML	Sandy Silt
10/7/98	8	Pt 332 NW	4	93	18.3	97.4	94	98.7	15.8	105	19.5			ML	Sandy Silt
10/8/98	1	Pt 430 S. of slope Pt	1	96	3.9	139.6				145.1	4.4			II B	Base Course
10/8/98	2	Pt 431 S. of slope Pt	1	90	3.4	130.9				145.1	4.4			II B	Base Course
10/8/98	3	Pt 432 S. of slope Pt	1	90	3.4	131.1				145.1	4.4			II B	Base Course
10/8/98	4	Pt 433 S. of slope Pt	1	91	4.3	132.3				145.1	4.4			II B	Base Course
10/8/98	5	Pt 434 S. of slope Pt	1	93	3.8	134.7				145.1	4.4			II B	Base Course
10/8/98	6	Pt 435 S. of slope Pt	1	93	4.3	134.3				145.1	4.4			II B	Base Course
10/8/98	7	Pt 425 S. of slope Pt	1	96	4.2	138.6				145.1	4.4			II B	Base Course
10/8/98	8	Pt 416 E. of slope Pt	1	96	3.6	138.7				145.1	4.4			II B	Base Course
10/8/98	9	Pt 399 E. of slope Pt	1	94	3.8	136.8				145.1	4.4			II B	Base Course
10/8/98	10	Pt 390 E of slope pt	1	95	4	137.6				145.1	4.4			II B	Base Course
10/8/98	11	Pt 381 E of slope Pt	1	96	3.4	139.5				145.1	4.4			II B	Base Course
10/8/98	12	Pt 372 E of slope Pt	1	95	3.7	137.5				145.1	4.4			II B	Base Course
10/8/98	13	Pt 397 NW	4	99	18	102.9	97	99.9	18.4	103	20.5			ML	Sandy Silt
10/8/98	14	Pt 388 NW	4	99	20.4	102.3	96	99.4	19.1	103	20.5			ML	Sandy Silt

MAIN BASE)FILL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
LOG OF GEOTECHNICAL SAMPLES, TESTS, AND RESULTS

Date Sampled	Sample ID	Type Area	Lift Number	Compaction (%)	Moisture Content (%)	Dry Density (lb/ft^3)	Compaction % Sand Cone	Dry Density, PC Sand Cone	Moisture, % Sand Cone	Proctor Maximum Dry Density (lb/ft^3)	Proctor Optimal Moisture Content (%)	Liquid limit	Plasticity Index	Soil Class.	Comments
10/8/98	15	Pt 379 NW	4	95	18.4	98.4	94	97.3	17.5	103	20.5			ML	Sandy Silt
10/8/98	16	Pt 370 NW	4	98	17.8	100.5	95	98.3	18.3	103	20.5			ML	Sandy Silt
10/8/98	17	Pt 280 S. on slope Midway	1	92	3.2	133				145.1	4.4			Base Cou	Base Course
10/8/98	18	Pt 443 S on slope Midway	1	91	3.6	132.5				145.1	4.4			Base Cou	Base Course
10/8/98	19	Pt 444 S on slope Midway	1	97	4.3	140.9				145.1	4.4			Base Cou	Base Course
10/8/98	20	Pt 446 S on slope Midway	1	96	4.1	139.6				145.1	4.4			Base Cou	Base Course

FOSTER WHEELER ENVIRONMENTAL
HOLLOMAN AIR FORCE BASE, NEW MEXICO
MAIN BASE LANDFILL
LOG OF GEOTECHNICAL SAMPLES, TESTS AND RESULTS

Date Sampled	Sample ID	Location	Depth of Sample	Lift No:	Sieve	Max. Dry Density	% Optimum Moisture	Liquid Limit	Plasticity Index	Soil Class	Permeability	% Moisture in Sample
12/16/97	TP-1-4	Base Borrow Pit	4 FT		1":	108.1	11.9	19	5	ML	9.17 X 10-5 cm/s	12.1
					#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 77							
12/16/97	TP-1-13	Base Borrow Pit	13 FT		1":	102.4	13.7	None	non plastic	ML	5.12 X 10-2 cm/s	13.9
					#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 70							
12/16/97	TP-2-3	Base Borrow Pit	3 FT		1":	107.3	12.7	19	3	ML	5.93 X 10-5 cm/s	12.5
					#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 73							
12/16/97	TP-2-13	Base Borrow Pit	13 FT		1":	104.2	12.4	None	nonplastic	ML	2.69 X 10-3 cm/s	12.6
					#4:							
					#10: 100							
					#40: 92							
					#80:							
					#200: 55							
12/16/97	TP-3-5	Base Borrow Pit	5 FT		1":	102.4	13.7	21	5	ML	9.86 X 10-5 cm/s	13.2
					#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 79							
12/16/97	TP-3-13	Base Borrow Pit	13 FT		1":	103.1	13.4	None	nonplastic	ML	1.21 X 10-3 cm/s	13.2
					3/4":							
					1/2":							
					3/8":							
					#4: 100							
					#10:							
					#40: 98							
					#80:							
					#200: 68							
12/16/97	TP-4-5	Base Borrow Pit	5 FT		1":	108.8	11.5	17	4	ML	6.18 X 10-5 cm/s	11.8
					#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 77							
12/16/97	TP-4-13	Base Borrow Pit	13 FT		1":	99.9	12.7	None	nonplastic	ML	9.23 X 10-3 cm/s	12.4
					#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 79							
12/16/97	TP-5-4	Base Borrow Pit	4 FT		1":	101.2	14.5	17	4	ML	1.76 X 10-4 cm/s	14.6
					#4:							
					#10: 100							
					#40: 96							
					#80:							
					#200: 83							
12/16/97	TP-5-13	Base Borrow Pit	13 FT		1":	101.1	15	None	nonplastic	ML	6.83 x 10-3 cm/s	14.5
					#4:							
					#10: 100							
					#40: 98							
					#80:							

FOSTER WHEELER ENVIRONMENTAL
HOLLOMAN AIR FORCE BASE, NEW MEXICO
MAIN BASE LANDFILL
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Date Sampled	Sample ID	Location	Depth of Sample	Lift No:	Sieve	Max. Dry Density	% Optimum Moisture	Liquid Limit	Plasticity Index	Soil Class	Permeability	% Moisture in Sample
					#200: 64							
12/16/97	TP-6-10	Base Borrow Pit	10 FT		1":	104.1	13.8	16	4	ML	6.93 X 10-5 cm/s	13.5
					#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 77							
12/16/97	TP-6-13	Base Borrow Pit	13 FT		1":	103.1	13.8	None	nonplastic	ML	2.81 X 10-3 cm/s	13.5
					#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 84							
12/16/97	TP-COMP-1	TP 1-6	0-13		1":	105.7	12.4	17	4	ML	7.2 x 10-5 cm/s	12.1
					#4: 100							
					#10: 99							
					#40: 96							
					#80:							
					#200: 74							
12/16/97	TP-COMP-2	TP 1-6	0-13 FT		1":	104.8	12.3	None	nonplastic	ML	1.08 X 10-4 cm/s	12.5
					#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 78							
2/27/98	8L0090-2	OFF SITE PIT #2	0-10 FT		1": 100	104	22.5	33	28		9.9 x 10-6 cm/s	
					3/4" 97							
					1/2": 96							
					3/8": 95							
					#4: 93							
					#10: 89							
					#40: 83							
					#80:							
					#200:							
2/27/98	8L0090-3	OFF SITE PIT #2	0-10 FT		1": 100	108.5	17	29	23		9.1 X 10-6 cm/s	
					3/4" 91							
					1/2": 86							
					3/8": 83							
					#4: 74							
					#10: 66							
					#40: 55							
					#80:							
					#200: 41							
3/17/98	OTP-1-3	OFF SITE PIT #1	3 FT		1":	106.7	12.8	29	6	CL-ML	8.96x10-5 cm/s	12.8
					#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 65							
3/17/98	OTP-1-7	OFF SITE PIT #1	7 FT		1":	102.8	13.2	28	3	SM	2.08x10-4 cm/s	13.2
					#4:							
					#10: 98							
					#40: 93							
					#80:							
					#200: 43							
3/17/98	0TP-1-12	OFF SITE PIT #1	12 FT		1":	94.8	15	24	0	SM	3.25x10-4 cm/s	15
					#4:							
					#10: 99							
					#40: 96							
					#80:							
					#200: 49							
3/17/98	OTP-2-2	OFF SITE PIT #1	2 FT			102.7	13.7	36	12	SC	6.64x10-4 cm/s	13.7

FOSTER WHEELER ENVIRONMENTAL
HOLLOMAN AIR FORCE BASE, NEW MEXICO
MAIN BASE LANDFILL
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Date Sampled	Sample ID	Location	Depth of Sample	Lift No:	Sieve	Max. Dry Density	% Optimum Moisture	Liquid Limit	Plasticity Index	Soil Class	Permeability	% Moisture in Sample
					1":							
					3/4"							
					1/2":							
					3/8":							
					#4:							
					#10: 60							
					#40: 50							
					#80:							
					#200: 36							
3/17/98	OTP-2-7	OFF SITE PIT #1	7 FT		1":	95.5	16.7	0	N/P	SM	2.83x10-4 cm/s	16.7
					#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 42							
3/17/98	OTP-2-13	OFF SITE PIT #1	13 FT		1":	98.5	16.3	0	N/P	ML	2.05x10-4 cm/s	16.3
					#4:							
					#10: 97							
					#40: 93							
					#80:							
					#200: 56							
3/17/98	OTP-3-3	OFF SITE PIT #1	3 FT		1":	106.9	12.5	30	5	CL-ML	1.39x10-6 cm/s	12.5
					#4:							
					#10: 97							
					#40: 92							
					#80:							
					#200: 61							
17-Mar	OTP-3-7	OFF SITE PIT #1	7 FT		1":	109.3	12.7	31	6	CL-ML	3.74x10-5 cm/s	12.7
					#4:							
					#10: 92							
					#40: 77							
					#80:							
					#200: 59							
3/17/98	OTP-3-11	OFF SITE PIT #1	11 FT		1":	96.5	15.8	0	N/P	SM	2.85x10-4 cm/s	15.8
					#4:							
					#10: 99							
					#40: 94							
					#80:							
					#200: 41							
3/17/98	OTP-4-3	OFF SITE PIT #1	3 FT		1":	105.9	12.4	0	N/P	SM	7.72x10-5 cm/s	12.4
					#4:							
					#10: 96							
					#40: 85							
					#80:							
					#200: 38							
3/17/98	OTP-4-7	OFF SITE PIT #1	7 FT		1":	112.1	11.8	27	4	CL-ML	7.81x10-5 cm/s	11.8
					#4:							
					#10: 89							
					#40: 82							
					#80:							
					#200: 65							
3/17/98	OTP-4-11	OFF SITE PIT #11	11 FT		1":	95.8	16.7	0	N/P	ML	1.53x10-4 cm/s	16.7
					#4:							
					#10: 90							
					#40: 85							
					#80:							
					#200: 66							
3/17/98	OTP-4-COMP	OFF SITE PIT #1	0-15FT		1":	107.5	12.2	27	1	SM	1.54x10-4 cm/s	12.2
					#4:							
					#10: 96							
					#40: 89							
					#80:							

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					#200: 43							
3/17/98	OTP-5-3	OFF SITE PIT #2	3 FT		1":	100.2	14.3	27	1	ML	4.02x10-5 cm/s	14.3
					#4:							
					#10: 95							
					#40: 87							
					#80:							
					#200: 70							
3/17/98	OTP-5-7	OFF SITE PIT #2	7 FT		1":	99.7	15.2	0	N/P	ML	1.04x10-4 cm/s	15.2
					#4:							
					#10: 91							
					#40: 81							
					#80:							
					#200: 50							
3/17/98	OTP-5-11	OFF SITE PIT #2	11 FT		1":	109.7	14.2	28	4	CL-ML	7.53x10-5 cm/s	14.2
					#4:							
					#10: 98							
					#40: 91							
					#80:							
					#200: 78							
3/17/98	OTP-6-3	OFF SITE PIT #2	3 FT		1":	96.8	16.4	29	2	ML	1.85x10-5 cm/s	16.4
					#4:							
					#10: 93							
					#40: 84							
					#80:							
					#200: 70							
3/17/98	OTP-6-7	OFF SITE PIT #2	7 FT		1":	96.5	15.8	0	N/P	SM	3.35x10-4 cm/s	15.8
					#4:							
					#10: 98							
					#40: 93							
					#80:							
					#200: 35							
3/17/98	OTP-6-11	OFF SITE PIT #2	11 FT		1":	109.7	14.2	28	4	SM	1.95x10-4 cm/s	14.2
					#4:							
					#10: 92							
					#40: 90							
					#80:							
					#200: 31							
3/17/98	OTP-6-COMP	OFF SITE PIT #2	0-15 FT		1":	104.4	13.6	0	N/P	SM	1.78x10-4 cm/s	13.6
					#4:							
					#10: 97							
					#40: 91							
					#80:							
					#200: 34							
3/17/98	OTP-7-3	OFF SITE PIT #2	3 FT		1":	103.3	13.5	33	5	CL-ML	4.14x10-5 cm/s	13.5
					#4:							
					#10: 98							
					#40: 90							
					#80:							
					#200: 56							
3/17/98	OTP-7-7	OFF SITE PIT #2	7 FT		1":	99.1	15.9	0	N/P	SM	1.85x10-4 cm/s	15.9
					#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 42							
3/17/98	OTP-7-11	OFF SITE PIT #2	11 FT		1":	105.7	17.5	43	24	CL	2.14x10-5 cm/s	17.5
					#4:							
					#10: 96							
					#40: 93							
					#80:							
					#200: 84							

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3/17/98	OTP-8-3	OFF SITE PIT #2	3 FT		1":	108.2	11.1	27	1	SM	1.86x10-4 cm/s	11.1
					#4:							
					#10: 99							
					#40: 96							
					#80:							
					#200: 40							
3/17/98	OTP-8-7	OFF SITE PIT #2	7 FT		1":	112.2	13.1	36	16	CL	3.88x10-5 cm/s	13.1
					#4:							
					#10: 97							
					#40: 87							
					#80:							
					#200: 76							
3/17/98	OTP-8-11	OFF SITE PIT #2	11 FT		1":	103.7	12.4	0	N/P	ML	8.13x10-5 cm/s	12.4
					#4:							
					#10: 99							
					#40: 97							
					#80:							
					#200: 58							
5/4/98	TSP1-1-ON	East Portion of LF	6"	1	1":	106.4	15.4				1.4 x 10-5 cm/s	15.4
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/5/98	TSP2-1-OFF	East Portion of LF	6"	1	1":	96.9	21.6				4.6 x 10-6 cm/s	21.6
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/5/98	TSP2-2-OFF	East Portion of LF	12"	2	1":	102.9	18.6				1.2 x 10-6 cm/s	18.6
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/5/98	TSP2-4-OFF	East Portion of LF	24"	4	1":	109.6	14.8				4.4 x 10-6 cm/s	14.8
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/5/98	TSP1-4-ON	East Portion of LF	24"	4	1":	110.2	12.7					
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/11/98	L001	Off site Borrow Pit2	14 ft		1":	104	19.5	36	20	CL	5.6 x10-5 cm/s	
					#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 90.5							
5/11/98	L002	Off Site Borrow Pit2	9 ft		1":	102	16.5		NP	ML	5.5 x 10-4 cm/s	
					#4: 100							
					#10: 99							
					#40: 97							
					#80:							
					#200: 67.9							
5/11/98	L003	Off Site Borrow Pit2	5 ft		1":	91.5	28	24	NP	ML	2.0 x 10-4 cm/s	
					#4: 100							

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					#10: 99							
					#40: 95							
					#80:							
					#200: 65							
5/11/98	L004	Off Site Borrow #2	Comp.		1": 100	100.5	18	21	1	ML	5.2x10-4 cm/s	
					#4: 99							
					#10: 98							
					#40: 94							
					#80:							
					#200: 75.9							
5/13/98	L005	On Site Borrow E.	2 ft		1":	84	33.5		NP	ML	5.5 x 10-6 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/13/98	L006	On Site Borrow S.	4 ft		1":	105.5	17	20	4	ML-CL	5.9 x 10-5 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/13/98	L007	On Site Borrow E.	2 ft		1":	86.5	33.5	24	12	CL	1.6 x 10-5 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/13/98	L008	On Site Borrow W.	3 ft		1":	110	15.5	22	7	ML-CL	2.9 x 10-5 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/13/98	L009	On Site Borrow Cntr	3 ft		1":	99.5	22.5	27	9	CL	7.7 x 10-5 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/19/98	L010	On Site Borrow Cntr	3 ft		1":	106.5	18	22	5	CL-ML	6.9 x 10-5 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/19/98	L011	On Site Borrow Cntr	2 ft		1":	88	20.5		NP	ML	4.8 x 10-5 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/19/98	L012	On Site Borrow Cntr	2ft		1":	92	23.5	24	NP	ML	4.1 x 10-5 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/19/98	L013	On Site Borrow Cntr	2ft		1":	80.6	21.1		NP	ML	6.5 x 10-5 cm/s	
					#4:							
					#10:							
					#40:							

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					#80:							
					#200:							
5/26/98	L014	On Site Borrow E.	4 ft		1":	12.5	109.5			CL-ML	1.61x10-4 cm/s	12.9
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/26/98	L015	Pt. 152, 150' South	8in	1	1":	110	14.5			ML	1.2 x 10-4 cm/s	6.6
		N677,750 E554,000			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/26/98	L016	Pt 203, 150' South	8in	1	1":	115	12			ML	5.5 x 10-5 cm/s	8.2
		N677,350 E554,900			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/26/98	L017	Pt. 277 150" South	8in	1	1":	112	12.5			ML	1.3 x 10-4 cm/s	9.7
		N677,350 E555,000			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/27/98	L018	On Site Borrow E.	Comp		1":	103.5	12.5			SM	**2.12 x 10-3 cm/s**	12.5
					3/8": 100							
					#4: 99.8							
					#10: 99							
					#40: 95							
					#80:							
					#200: 31.9							
5/27/98	L019	On Site Borrow E	Comp.		1":	109.5	11.5			SM	1.58 x 10-4 cm/s	10.8
		West side cut area			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/27/98	L020	Pt 153 40' N.	8 in	1	1":	101.5	22			ML	7.7 x 10-5 cm/s	7.1
		N677,840 E554,600			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/27/98	L021	Pt 445 200' S.	8 in	1	1":	104.5	19			ML	2.29 x 10-5 cm/s	8.4
		N677,500 E555,400			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/27/98	L022	Pt 408 20' N 165'E	8 in	1	1":	101.5	22			ML	8.3 x 10-6 cm/s	7.1
		N678,220 E556,165			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/27/98	L023	Pt 147 30'W	8 in	1	1":	101.5	21			ML	9.9 x 10-6 cm/s	17.3
		N 676,400 E 554,570			#4:							
					#10:							
					#40:							
					#80:							

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					#200:							
28-May	L024	Pt 149 50' W	8 in	1	1":	97.5	24			SM	7.91 x 10-5 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
5/28/98	L025	On Site Borrow	Comp		1":	91.5	28	31	2	ML	1.79 x 10-5 cm/s	
			(1-6ft)		#4: 100							
					#10: 98.8							
					#40: 89.4							
					#80:							
					#200: 57.2							
5/29/98	L026	On Site Borrow	Comp		1":	97	24		NP	ML	**1.23 x 10-3 cm/s**	
			(1-6ft)		#4: 98.4							
					#10: 95.9							
					#40: 91.4							
					#80:							
					#200: 51.5							
5/29/98	L027	On Site Borrow	Comp		1":	113	15.5	26	9	CL	1.27 x 10-4 cm/s	
			(1-6ft)		#4: 99.5							
					#10: 98.8							
					#40: 95.8							
					#80:							
					#200: 80.5							
5/29/98	L028	Pt 147, 30' S	8 in	1	1":	96	24			ML	7.37 x 10-6 cm/s	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/1/98	L029	On Site Borrow pit	Comp		1":	91	23	26	1	ML	1.96 x 10-4 cm/s	19.8
			(1-6 ft)		#4: 100							
					#10: 99.6							
					#40: 97.4							
					#80:							
					#200: 61.4							
6/1/98	L030	N678,730; E554,63	8 in		1":	99	24.5			ML	1.32 x 10-4 cm/s	19.4
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/1/98	L031	N678,950; E554,55	8 in		1":	103	21.5			ML	9.21 x 10-5 cm/s	20.1
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/2/98	L032	On Site Borrow Pit	Comp	2	1":	108	17.5	34	17	CL	7.02 x 10-6 cm/s	16.1
			(1-6 ft)		#4: 100							
					#10: 100							
					#40: 98.1							
					#80:							
					#200: 68.2							
6/3/98	L033	N678,050; E554,45	8 in	2	1":	95	26.5			ML	7.75 x 10-6 cm/s	24.4
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/2/98	L034	N678,450; E554450	8 in	2	1":	91	31			ML	1.69 x 10-4 cm/s	23.3

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					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/3/98	L035	On Site Borrow Pit	Comp	2	1":	88	31	42	2	ML	6.19 x 10-5 cm/s	28.9
			(1-6 ft)		#4: 100							
					#10: 99.8							
					#40: 97.1							
					#80:							
					#200: 83.6							
6/4/98	L036	N677,950; E554,65	8 in	2	1":	105	21.5			ML	1.77 x 10-6 cm/s	19.5
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/4/98	L037	N678,350; E554650	8 in	2	1":	96.5	25.5			ML	3.27 x 10-5 cm/s	21.8
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/4/98	L038	On Site Borrow Pit	Comp		1":	102	21.5			ML	7.23 x 10-5 cm/s	22.1
			(1-6 ft)		#4: 100							
					#10: 99.9							
					#40: 97.3							
					#80:							
					#200: 69							
6/5/98	L039	N679,150; E554,45	8 in	1	1":	110.5	18			ML	8.12 x 10-7 cm/s	19.9
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/5/98	L040	N678,850; E554,45	8 in	1	1":	101.5	23			ML	9.68 x 10-5 cm/s	21.6
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/5/98	L041	On Site Borrow Pit	Comp		1":	82.5	38	47	1	ML	7.13 x 10-5 cm/s	36.2
			(1-6 ft)		#4: 100							
					#10: 100							
					#40: 97							
					#80:							
					#200: 89.3							
6/8/98	L042	N678,350; E554,85	7	1	1":	96	26			ML	2.13 x 10-5 cm/s	20.7
		Pt 195 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/8/98	L043	N677,950; E554,85	7	1	1":	98.5	25			ML	1.68 x 10-5 cm/s	21.9
		Pt 199 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/9/98	L044	N678,350; E554,95	7	1	1":	95.5	26.5			ML	5.21 x 10-5 cm/s	20.3
		Pt 289 50'N 50'W			#4:							
					#10:							

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					#40:							
					#80:							
					#200:							
6/9/98	L045	N677,550; E555,05	7	1	1":	97.5	25.5			ML	4.88 x 10-6 cm/s	24.6
		Pt 277 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/9/98	L046	On Site Borrow	Comp		1":	93	27.5	34	2	ML	1.1 x 10-4 cm/s	27.8
			(1-6ft)		#4: 100							
					#10: 99.8							
					#40: 96.3							
					#80:							
					#200: 67.6							
6/10/98	L047	N678,550; E554,95	7	1	1":	95.5	27			ML	3.24 x 10-5 cm/s	23.3
		Pt 287 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/10/98	L048	N678,850; E555,05	7	1	1":	93.5	28.5			ML	6.85 x 10-6 cm/s	27.8
		Pt 292 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/11/98	L049	On Site Borrow	Comp		1":	103	21.5	26		ML	**4.51 x 10-4 cm/s**	24.6
			(1-6ft)		#4: 100							
					#10: 99.3							
					#40: 95.8							
					#80:							
					#200: 59.5							
6/12/98	L050	N678,250; E554,55	7	3	1":	97	25.5			ML	1.84 x 10-5 cm/s	20.3
		Pt 149 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/12/98	L051	N 678,950; E55455	7	3	1":	95	27.5			ML	2.51 x 10-4 cm/s	21.9
		Pt 142 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/12/98	L052	On Site Borrow	Comp		1":	89	27			ML	2.05 x 10-4 cm/s	20.7
			(1-6ft)		#4: 100							
					#10: 99.9							
					#40: 97							
					#80:							
					#200: 63.9							
6/12/98	L053	On Site Borrow	Comp		1":	85.5	34.5	41	3	ML	9.37x10-5 cm/s	33.9
			(1-6ft)		#4: 100							
					#10: 99.8							
					#40: 97.3							
					#80:							
					#200: 83.7							
6/16/98	L054	N678,250; E554,65	7 in	2	1":	101	23.5			CL-ML	1.22x10-6 cm/s	15.4
		Pt 164 50'N50'W			#4:							
					#10:							
					#40:							
					#80:							

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Date Sampled	Sample ID	Location	Depth of Sample	Lift No:	Sieve	Max. Dry Density	% Optimum Moisture	Liquid Limit	Plasticity Index	Soil Class	Permeability	% Moisture in Sample
					#200:							
6/16/98	L055	On Site Borow	Comp		1":	94.5	26.5	34	1	ML	**5.18 x 10-4 cm/s**	
			(1-5 ft)		#4: 100							
					#10: 99.8							
					#40: 97							
					#80:							
					#200: 63							
6/17/98	L056	On Site Borrow	Comp		1":	101	24	31	3	ML	1.61 x 10-4 cm/s	24
			(1-5 ft)		#4: 100							
					#10: 99.9							
					#40: 95.5							
					#80:							
					#200: 68.8							
6/18/98	L057	N678,950; E554,65	7 in	2	1":	98	25			ML	1.27 x 10-4 cm/s	20.7
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/18/98	L058	N679,650; E554750	7 in	1	1":	91.5	29.5			ML	1.3 x 10-5 cm/s	27.7
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/22/98	L059	On Site Borrow	Comp		1":	94	27.5		NP	ML	**8.77 x 10-4cm/s**	21.1
			(1-8ft)		#4: 100							
					#10: 99.9							
					#40: 96.4							
					#80:							
					#200: 64.1							
6/22/98	L060	N677,450 E554,750	8 in	2	1":	101.5	23.5			CL-ML	4.52 x 10-6 cm/s	19.3
		Pt 189 50'N 50E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/22/98	L061	N678,450 E554,750	8 in	2	1":	106	22			CL-ML	5.17 x 10-6 cm/s	21.8
		Pt 162 50'N 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/23/98	L062	On Site Borrow Pit	Comp		1":	112	16.5	29	9	CL	1.29 x 10-5 cm/s	14.2
			(1-8ft)		#4: 100							
					#10: 100							
					#40: 97.9							
					#80:							
					#200: 64.8							
6/23/98	L063	N678,350 E554,750	8 in	3	1":	97	25.5			ML	3.39 x 10-4 cm/s	20
		Pt 163 50'N 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/23/98	L064	N677,850 E554,750	8 in	3	1":	95.5	26.5			ML	1.26 x 10-5 cm/s	23.2
		Pt 168 50'N 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/24/98	L065	On Site Borrow	Comp		1":	97.5	26	35	3	ML	8.12 x 10-5 cm/s	25

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		Mound, Center, 7'	(1-8 ft)		#4: 95.6							
					#10: 93							
					#40: 89.9							
					#80:							
					#200: 73.2							
6/24/98	L066	On Site Borrow	Comp		1":	92	30	36	1	ML	5.77 x 10-5 cm/s	28.3
			(1-8 ft)		#4: 100							
					#10: 100							
					#40: 95.6							
					#80:							
					#200: 73.5							
6/24/98	L067	On Site Borrow	Comp		1":	95.5	27	35	1	ML	1.32 x 10-5 cm/s	25.7
		Mound, center, 7'	(1-8 ft)		#4: 99							
					#10: 98.1							
					#40: 95.5							
					#80:							
					#200: 77.3							
6/25/98	L068	N678,750 E554,850	8 in	2	1":	94.5	26.5			ML	7.34 x 10-5 cm/s	21.9
		Pt 190 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/25/98	L069	N678,050 E554,050	8 in	2	1":	95.5	26			ML	7.51 x 10-5 cm/s	23
		Pt 198 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/26/98	L070	On Site Borrow	Comp		1":	89	28.5		NP	ML	**1.75 x 10-3 cm/s**	29.6
			(1-8 ft)		#4: 100							
					#10: 99.2							
					#40: 89.7							
					#80:							
					#200: 61.2							
6/26/98	L071	N679,750 E554,450	8 in	2	1":	97	25.5			ML	6.72 x 10-5 cm/s	22.5
		Pt 527 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/26/98	L072	N679,550 E554,550	8 in	2	1":	94	27.5			ML	7.33 x 10-5 cm/s	22.9
		Pt 540 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/29/98	L073	N678,550 E554,850	8 in	3	1":	94.5	27			ML	1.69 x 10-4 cm/s	22.4
		Pt 274 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/29/98	L074	N677,850 E554,950	8	3	1":	100.5	24			ML	9.75 x 10-6 cm/s	13
		Pt 193 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
6/29/98	L075	On Site Borrow	Comp		1":	89.5	29.5		NP	ML	**6.32 x 10-4 cm/s**	29.7
			(1-8 ft)		#4: 100							
					#10: 100							

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					#40: 93							
					#80:							
					#200: 64							
6/30/98	L076	On Site Borrow	Comp		1":	91.5	30	33	1	ML	2.35 x 10-4 cm/s	29.1
			(1-8 ft)		#4: 100							
					#10: 100							
					#40: 97							
					#80:							
					#200: 75.3							
7/1/98	L077	N678,350 E554,850	8 in	3	1":	92.5	28.5			ML	1.06 x 10-4 cm/s	20.2
		Pt 195 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/1/98	L078	N679,250 E554,850	8 in	3	1":	92.5	28			ML	**4.62 x 10-4 cm/s**	22.7
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/1/98	L079	On Site Borrow	Comp		1":	91	29.5	28	1	ML	2.08 x 10-4 cm/s	29.4
			(1-8 ft)		#4: 100							
					#10: 100							
					#40: 97							
					#80:							
					#200: 74.8							
7/2/98	L080	On Site Borrow	Comp		1":	91	30	35	2	ML	2.56 x 10-4 cm/s	29.2
			(1-8 ft)		#4: 100							
					#10: 100							
					#40: 94							
					#80:							
					#200: 67.4							
7/2/98	L081	On Site Borrow	Comp		1":	95.5	26	32	2	ML	2.67 x 10-4 cm/s	25.4
			(1-8 ft)		#4: 100							
					#10: 99							
					#40: 95							
					#80:							
					#200: 68.4							
7/2/98	L082	N677,950 E555,050	8 in	2	1":	98	24.5			ML	3.46 x 10-5 cm/s	21.5
		Pt 283 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/6/98	L083	N678,650 E555,050	8 in	2	1":	100.5	24			ML	3.27 x 10-6 cm/s	19.8
		Pt 290 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/6/98	L084	On Site Borrow	Comp		1":	96	24.5		NP	SM	**1.68 x 10-3 cm/s**	23.8
			(1-8ft)		#4: 99.7							
					#10: 98.3							
					#40: 92.6							
					#80:							
					#200: 41							
7/6/98	L085	On Site Borrow	Comp		1":	109.5	17.5	26	5	SC-SM	3.67 x 10-4 cm/s	17.6
			(1-8 ft)		#4: 99.9							
					#10: 99.8							
					#40: 94.7							
					#80:							

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					#200: 45.4							
7/7/98	L086	On Site Borrow	Comp		1":	98.5	24.5	28	NP	ML	**4.47 x 10-4 cm/s**	24.1
			(1-8 ft)		#4: 98.6							
					#10: 97.3							
					#40: 91							
					#80:							
					#200: 50.4							
7/8/98	L087	N678,650 E555,250	8 in	1	1":	101.5	20.5			ML	5.49 x 10-6 cm/s	20.8
		Pt 365 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/8/98	L088	N677,850 E555,250	8 in	1	1":	101	22			ML	3.01 x 10-6 cm/s	18.2
		Pt 436 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/8/98	L089	On Site Borrow	Comp		1":	95	26.5		NP	ML	3.43 x 10-4 cm/s	25.3
			(1-8 ft)		#4: 98.6							
					#10: 97.2							
					#40: 89.9							
					#80:							
					#200: 59.6							
7/9/98	L090	On Site Borrow	Comp		1":	100	25	34	3	ML	8.45 x 10-5 cm/s	24.5
			(1-8 ft)		#4: 96.8							
					#10: 95.4							
					#40: 88.6							
					#80:							
					#200: 55.7							
7/10/98	L091	N677,650 E555,150	8 in	2	1":	101	24			ML	6.41 x 10-6 cm/s	22.9
		Pt 448 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/10/98	L092	N677,850 E554,950	8 in	3	1":	100.5	23.5			ML	8.68 x 10-6 cm/s	23.3
		Pt 274 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/10/98	L093	On Site Borrow	Comp		1":	94	25		NP	SM	**8.24 x 10-4 cm/s**	25.1
			(1-8 ft)		#4: 100							
					#10: 99.8							
					#40: 89.2							
					#80:							
					#200: 47							
7/13/98	L094	On Site Borrow	Comp		1":	98	22	29	3	ML	1.32 x 10-4 cm/s	21.6
			(1-8 ft)		#4:							
					#10: 100							
					#40: 96							
					#80:							
					#200: 67.2							
7/13/98	L095	On Site Borrow Pit	Comp		1":	99	23		NP	ML	**5.56 x 10-4 cm/s**	24
			(1-8 ft)		#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 65.4							
7/14/98	L096	N677,550; E555,05	8 in	3	1":	94	26.5			ML	6.28 x 10-5 cm/s	19.7

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		Pt 280 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/14/98	L097	N678,350; E555,05	8 in	3	1":	98.5	24.5			ML	1.7 x 10-5 cm/s	21.3
		Pt 287 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/14/98	L098	On Site Borrow	Comp		1":	92.5	28.5	16	NP	ML	**7.49 x 10-4 cm/s**	28.9
			(1-8 ft)		#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 74.8							
7/15/98	L099	On Site Borrow	Comp		1":	92.5	28		NP	ML	**7.74 x 10-4 cm/s**	27.3
			(1-8 ft)		#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 70.1							
7/15/98	L100	N679,250; E554,45	8 in	3.5	1":	101	24.5			ML	7.09 x 10-5 cm/s	22.2
		Pt 299 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/15/98	L101	N679,550; E554,45	8 in	3.5	1":	101.5	24			ML	3.42 x 10-4 cm/s	18.4
		Pt 540 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/16/98	L102	On Site Borrow Pit	Comp		1":	92.5	28.5			ML	1.23 x 10-4 cm/s	28.4
			(1-8ft)		#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 72.2							
7/17/98	L103	On Site Borrow	Comp		1":	92.5	28.5		NP	ML	**7.66 x 10-4 cm/s**	28.5
			(1-8ft)		#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 76.8							
7/20/98	L104	On Site Borrow	Comp		1":	97.5	24		NP	ML	**7.29x10-4 cm/s**	24.5
			(1-8ft)		#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 68.6							
7/21/98	L105	On Site Borrow	Comp		1":	92.5	28.5		NP	ML	**8.48x10-4 cm/s**	28.5
			(1-8ft)		#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 77.4							
7/21/98	L106	Pt 451 20'S - Slope			1":						**Disturbed**	
					#4:							
					#10:							

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					#40:							
					#80:							
					#200:							
7/21/98	L107	Pt 565 20'E - Slope			1":						**Disturbed**	
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/22/98	L108	N679,350;E554,850	8 in		1":	97	25			ML	**4.08x10-4 cm/s**	21.9
		Pt 256 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/22/98	L109	N678,550 E554,850	8 in		1":	97.5	26.5			ML	3.67x10-6 cm/s	9.3
		Pt 193 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/22/98	L110	On Site Borrow	Comp		1":	95.5	26.5	32	4	ML	**4.75x10-4 cm/s**	25.9
			(1-8ft)		#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 70.9							
7/23/98	L111	On Site Borrow	Comp		1":	87.5	31	43	4	ML	2.76x10-5 cm/s	23.4
			(1-8ft)		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 84.1							
7/27/98	L112	Off Site Borrow #1	Comp		1":	91	28.5		NP	ML	1.23 x 10-4 cm/s	25.1
			(1-6ft)		#4: 100							
					#10: 99							
					#40: 97							
					#80:							
					#200: 76.2							
7/28/98	L113	Off Site Borrow #1	Comp		1":	98	24.5	31	3	ML	8.56 x 10-5 cm/s	24.5
			(1-6ft)		#4:							
					#10: 100							
					#40: 97							
					#80:							
					#200: 81.6							
7/28/98	L114	Off Site Borrow #1	Comp		1":	102.5	23.5	34	9	ML	2.31 x 10-5 cm/s	23.4
			(1-6ft)		#4:							
					#10: 100							
					#40: 96							
					#80:							
					#200: 85.6							
7/28/98	L115	N678,050; E554,45	8 in	4	1":	98.5	26.5			ML	1.47 x 10-6 cm/s	23.6
		Pt 137 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/29/98	L116	Off Site Borrow # 1	Comp		1":	89.5	30.5	40	2	ML	6.7 x 10-5 cm/s	29.8
			(1-6ft)		#4:							
					#10: 100							
					#40: 98							
					#80:							

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					#200: 85.9							
7/29/98	L117	N679,850 E554,550	8 in	4	1":	93	28.5			ML	7.9 x 10-5 cm/s	25.3
		Pt 522 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/29/98	L118	N679,350 E554,850	8 in	4	1":	97	25.5			ML	2.4 x 10-6 cm/s	22.4
		Pt 256 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/30/98	L119	Off Site Borrow # 1	Comp		1":	94	29	38	3	ML	5.61 x 10-5 cm/s	26.8
			(1-6ft)		#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 85.2							
7/30/98	L120	Off Site Borrow #1	Comp		1":	92.5	29	39	1	ML	**5.16 x 10-4 cm/s**	28.2
			(1-6ft)		#4:							
					#10: 100							
					#40: 98							
					#80:							
					#200: 81.5							
7/31/98	L121	N678,050 E554,550	8 in		1":	98.5	25			ML	1.38 x 10-5 cm/s	24.1
		Pt 151 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
7/31/98	L122	N679,650 E554,550	8 in		1":	93	28.5				1.87 x 10-5 cm/s	25.1
		Pt 534 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/3/98	L123	Off Site Borrow #1	Comp		1":	91.5	29.5	38	2	ML	1.47 x 10-4 cm/s	29.6
			(1-8ft)		#4:							
					#10: 100							
					#40: 96							
					#80:							
					#200: 81.9							
8/4/98	L124	N679,350 E554,550	8 in	4	1":	86.5	33			ML	1.19 x 10-5 cm/s	27
		Pt 247 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/4/98	L125	N677,950 E555,050	8 in	3	1":	96.5	27			ML	1.16 x 10-4 cm/s	21.5
		Pt 273 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/4/98	L126	Off Site Borrow #1	Comp		1":	91.5	30.5	40	2	ML	3.16 x 10-4 cm/s	30.7
			(1-8 ft)		#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/6/98	L127	N678,050 E555,250	8 in	2	1":	101.5	23			ML	4.43 x 10-6cm/s	22.6

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					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/6/98	L128	N678,550 E555,250	8 in	2	1":	102.5	22			ML	1.39 x 10-5 cm/s	17.3
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/6/98	L129	Off Site Borrow #1	Comp		1":	93	27.5	36	3	ML	5.10 x 10-5 cm/s	28.9
			(1-8ft)		#4:							
					#10: 100							
					#40: 96							
					#80:							
					#200: 80.4							
8/7/98	L130	N677,850 E555350	8 in	1	1":	103.5	22.5			ML	4.29 x 10-5 cm/s	23
		Pt 437 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/7/98	L131	N 678,650 E555,35	8 in	1	1":	102.5	21.5			ML	2.13 x 10-5 cm/s	20
		Pt 366 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/7/98	L132	Off Site Borrow #1	Comp		1":	89.5	31	38	2	ML	**5.35 x 10-4 cm/s**	29.3
			(1-8ft)		#4:							
					#10: 100							
					#40: 96							
					#80:							
					#200: 81							
8/10/98	L133	N678,350 E555,450	8 in	1	1":	89.5	29			ML	2.96 x 10-5 cm/s	23
		Pt 394 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/10/98	L134	N677,950 E555,450	8in	1	1":					ML		
		Pt 430 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/10/98	L135	Crusher: Base			1":	130	7		NP	GM		
		Course: Belt Feeder			#4: 51							
		Reuse Area			#10: 39							
					#40: 26							
					#80:							
					#200: 13.7							
8/10/98	L136	Crusher: Base			1":	130	7		NP	GM		
		Course: West end			#4: 58							
		of Pile : Reuse Area			#10: 48							
					#40: 36							
					#80:							
					#200: 20.4							
8/10/98	L137	Crusher: Base			1":				NP	GM		
		Course: East end			#4: 53							
		of Pile : Reuse Area			#10: 40							

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					#40: 28							
					#80:							
					#200: 16.3							
8/10/98	L138	Crusher: Base			1":				NP	GM		
		Course: NW end of			#4: 50							
		Pile : Reuse Area			#10: 34							
					#40: 20							
					#80:							
					#200: 10.8							
8/10/98	L139	Crusher: Base			1":				NP	GM		
		Course: NE end of			#4: 55							
		Pile : Reuse Area			#10: 41							
					#40: 28							
					#80:							
					#200: 14.5							
8/12/98	L140	N677,950 E555,250		4	1":	99	25.5			ML	1.9 x 10-5 cm/s	26.5
		Pt 435 50'N 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/12/98	L141	N678,450 E555,250		4	1":	91.5	30			ML	1.44 x 10-4 cm/s	26.5
		Pt 382 50'N 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/12/98	L142	Off Site Borrow #1	Comp		1":	91.5	30	37	1	ML	**3.83 x 10-4 cm/s**	23.9
			(1-10ft)		#4:							
					#10: 100							
					#40: 95							
					#80:							
					#200: 70.4							
8/13/98	L143	Off Site Borrow #1	Comp		1":	91.5	29.5	34	3	ML	3.14 x 10-4 cm/s	27.5
			(1-10ft)		#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/14/98	L144	N677,650 E555,050	8 in	4	1":	95	28			ML	3.49 x 10-5 cm/s	24.1
		Pt 280 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/14/98	L145	N678,350 E555,050	8 in	4	1":	94.5	28			ML	2.52 x 10-5 cm/s	26.3
		Pt 287 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/17/98	L146	Off Site Borrow	Comp		1":	93.5	27		NP	ML	3.47 x 10-4 cm/s	25
		Pit #1	(1-8ft)		#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 65.3							
8/18/98	L147	Off Site Borrow	Comp		1":	93	28.5	29	NP	ML	**6.2 x 10-4 cm/s**	26.4
		Pit #1	(1-8ft)		#4:							
					#10: 100							
					#40: 99							
					#80:							

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					#200: 74.9							
8/18/98	L148	N 679,750 E554,45	8 in	4	1":	96.5	26.5			ML	2.22 x 10-5 cm/s	26.7
		Pt 527 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/18/98	L149	N 679,050 E554,45	8 in	4	1":	95.5	27			ML	4.18 x 10-5 cm/s	21
		Pt 124 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/19/98	L150	Off Site Borrow	Comp		1":	95.5	26.5	29	NP	ML	2.63 x 10-4 cm/s	25.3
		Pit #1	(1-8ft)		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 85.5							
8/20/98	L151	Off Site Borrow	Comp		1":	93	27	28	NP	ML	**4.94 x 10-4 cm/s**	27.1
		Pit #1	(1-8ft)		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 80.3							
8/20/98	L152	N677,850 E555,150	8 in	3	1":	101	23			ML	1.73 x 10-5 cm/s	21.1
		Pt 435 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/20/98	L153	N678,650 E555,150	8 in	3	1":	96.5	27.5			ML	1.18 x 10-5 cm/s	23.3
		Pt 364 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/20/98	L154	N679,050 E555,250	8 in	3	1":	99.5	22.5			ML	2.5 x 10-5 cm/s	20.8
		Pt 329 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/21/98	L155	N677,850 E555,250	8 in	3	1":	103	21			ML	4.52 x 10-6 cm/s	22.1
		Pt 436 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/21/98	L156	N679,550 E554,450	8 in	3	1":	99	25			ML		
		Pt 540 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/21/98	L157	N679,850 E554,550	8 in	3	1":	95.5	26			ML	1.85 x 10-5 cm/s	17.8
		Pt 554 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/24/98	L158	N679,650 E554,650	8 in	4	1":					ML	2.82 x 10-5 cm/s	17.3

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		Pt 535 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/24/98	L159	N679,750 E554,850	8 in	4	1":					ML	3.26 x 10-5 cm/s	
		Pt 531 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/26/98	L160	Off Site Borrow	Comp		1":	98.5	22	28	1	ML	9.03 x 10-5 cm/s	24
		Pit # 1	(1-8ft)		3/4"							
					1/2":							
					3/8":							
					#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 89							
8/27/98	L161	N678,150 E554,450	8 in	4	1":	102.5	21.5			ML	4.41 x 10-5 cm/s	21.2
		Pt 136 50'N 50'W			3/4"							
					1/2":							
					3/8":							
					#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/27/98	L162	N678,550 E554,450	8 in	4	1":	102.5	21.5			ML	1.41 x 10-5 cm/s	18.6
		Pt 132 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/28/98	L163	Off Site Borrow	Comp		1":	100.5	23.5	27	3	ML	1.27 x 10-4 cm/s	24.1
		Pit #1	(1-8 ft)		#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 79.2							
8/28/98	L164	N678,750 E555,250	8 in	4	1":	99.5	23			ML	2.73 x 10-5 cm/s	20.6
		Pt 358 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/28/98	L165	N677,750 E555,250	8 in	4	1":	96.5	27			ML	4.23 x 10-5 cm/s	21.9
		Pt 444 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/31/98	L166	N677,850 E555,550	8 in	1	1":	97	25.5			ML	1.51 x 10-6 cm/s	22.2
		Pt 439 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
8/31/98	L167	N678,250 E555,550	8 in	1	1":	100.5	24.5			ML	4.31 x 10-5 cm/s	17.7
		Pt 404 50'N 50'W			#4:							
					#10:							

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					#40:							
					#80:							
					#200:							
9/1/98	L168	N678,050 E554,550	8 in	4	1":	103	23			ML	5.15 x 10-6 cm/s	15.7
		Pt 151 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/1/98	L169	N677,850 E555,450	8 in	2	1":	98.5	25.5			ML	4.6 x 10-5 cm/s	20.7
		Pt 438 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/2/98	L170	Off Site Borrow	Comp		1":	98	24		NP	ML	2.85 x 10-4 cm/s	23.3
		Pit #1	(1-8 ft)		#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 86.3							
9/3/98	L171	N678,450 E555,650	8 in	1	1":	101	23.5			ML	1.41 x 10-5 cm/s	20
		Pt 387 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/3/98	L172	N677,850 E555,650	8 in	1	1":	98	25.5			ML	1.07 x 10-5 cm/s	19.2
		Pt 440 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/3/98	L173	Borrow	Comp		1":	104.5	22	30	4	ML	4.72 x 10-5 cm/s	22.7
			(1-8 ft)		#4: 89							
					#10: 88							
					#40: 86							
					#80:							
					#200: 65.1							
9/4/98	L174	N679,050 E555,550	8 in	2	1":	100	24			ML	7.5 x 10-5 cm/s	15
		Pt 322 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/8/98	L175	Off Site Borrow Pit	Comp		1":	94	27.5		NP	ML	9.95 x 10-5 cm/s	26.5
		#1	(1-8ft)		#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 83.8							
9/8/98	L176	N677,650 E554,850	8 in	4	1":	97	26			ML	1.6 x 10-4 cm/s	16.4
		Pt 151 50'N 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/8/98	L177	N678,050 E554,850	8 in	4	1":	105	19.5			ML	4.5 x 10-5 cm/s	16.[illegible]
		Pt 175 50'N 50'E			#4:							
					#10:							
					#40:							
					#80:							

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					#200:							
9/10/98	L178	N678,250 E555,450	8 in	3	1":	99	23			ML	7.93 x 10-6 cm/s	18.5
		Pt 403 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/10/98	L179	N678,750 E555,450	8 in	3	1":	101.5	21			ML	3.96 x 10-5 cm/s	16.5
		Pt 358 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/10/98	L180	N678,050 E555,550	8 in	2	1":	98	22.5			ML	2.2 x 10-5 cm/s	17.1
		Pt 422 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/10/98	L181	Off Site Borrow Pit	Comp		1":	101.5	22	29	5	ML	4.44 x 10-5 cm/s	22.1
		#1	(1-8ft)		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 89.6							
9/11/98	L182	Off Site Borrow Pit	Comp		1":	96	25	31	4	ML	8.66 x 10-5 cm/s	24.9
		#1	(1-8ft)		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 92.1							
9/15/98	L183	N678,000 E555,850	8 in	1	1":	104	21			ML	1.61 x 10-6 cm/s	17.7
		Pt 425 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/15/98	L184	N678,300 E556,050	8 in	1	1":	102.5	21.5			ML	1.13 x 10-4 cm/s	19
		Pt 399 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/15/98	L185	N 678,825 E555,87	8 in	1	1":	104.5	16			ML	1.68 x 10-5 cm/s	17.8
		Pt 353 25'N 25'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/15/98	L186	Off Site Borrow	8 ft		1":	95.5	24		NP	ML	**4.51 x 10-4 cm/s**	24.2
		Pit #1	(Comp)		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 84.6							
9/15/98	L187	N678,050 E555,850	8 in	1	1":	102	22.5			ML	2.79 x 10-6 cm/s	19.5
		Pt 425 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/15/98	L188	N678,450 E555,850	8 in	1	1":	98.5	25			ML	3.01 x 10-5 cm/s	15.7

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		Pt 389 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/15/98	L189	Off Site Borrow	8 ft		1":	97	21.5	33	3	ML	6.98 x 10-5 cm/s	21.3
		Pit #1	Comp		#4:							
					#10: 100							
					#40: 99							
					#80:							
					#200: 82.6							
9/18/98	L190	Off Site Borrow	8 ft		1":	97.5	25	31	5	ML	1.17 x 10-4 cm/s	22.6
		Pit #1	Comp		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 90.1							
9/21/98	L191	N678,450 E555,950	8 in	2	1":	95.5	26			ML	9.89 x 10-6 cm/s	16.1
		Pt 390 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/21/98	L192	N678,050 E 555,95	8 in	2	1":	100.5	22			ML	1.72 x 10-4 cm/s	15.4
		Pt 426 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/21/98	L193	Off Site Borrow	Comp		1":	94.5	24.5	35	3	ML	3.69 x 10-5	24.3
		Pit #1	(1-8ft)		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 83.6							
9/22/98	L194	Off Site Borrow	Comp		1":	100	22	30	3	ML	1.06 x 10-4 cm/s	22.6
		Pit #1	(1-8ft)		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 88.3							
9/23/98	L195	N678,150 E555,750	8 in	4	1":	98	25			ML	5.52 x 10-5 cm/s	15.1
		Pt 415 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/23/98	L196	N 678,250 E555,75	8 in	4	1":	101	21.5			ML	6.91 x 10-5 cm/s	16.8
		Pt 406 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/23/98	L197	N677,900 E555,850	8 in	4	1":	97	25.5			ML	1.69 x 10-5 cm/s	16.9
		Pt 433 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/23/98	L198	N678,550 E555,875	8 in	4	1":	103	22			ML	7.27 x 10-5 cm/s	15.4
		Pt 379 50'N 75'E			#4:							
					#10:							

FOSTER WHEELER ENVIRONMENTAL
HOLLOMAN AIR FORCE BASE, NEW MEXICO
MAIN BASE LANDFILL
LOG OF GEOTECHNICAL SAMPLES, TESTS AND RESULTS

Date Sampled	Sample ID	Location	Depth of Sample	Lift No:	Sieve	Max. Dry Density	% Optimum Moisture	Liquid Limit	Plasticity Index	Soil Class	Permeability	% Moisture in Sample
					#40:							
					#80:							
					#200:							
9/24/98	L199	Off Site Borrow	Comp		1":	99.5	22.5			ML	7.53 x 10-5 cm/s	21.9
		Pit #1	(1-8ft)		#4:							
					#10:							
					#40: 100							
					#80:							
					#200: 90.6							
9/25/98	L200	N678,750 E555,650	8 in	4	1":	101	22.5			ML	3.43 x 10-5 cm/s	17.5
		Pt 359 50'N 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/25/98	L201	N679,000 E555,650	8 in	4	1":	101.5	22.5			ML	9.9 x 10-5 cm/s	18.7
		Pt 327 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/25/98	L202	N678,850 E555,850	8 in	4	1":	100.5	21.5			ML	4.45 x 10-5 cm/s	17.6
		Pt 353 50'N 50'W			#4:							
					#10:							
					#40:							
					#80:							
					#200:							
9/25/98	L203	N678,200 E556,050	8 in	4	1":	103	20.5			ML	2.7 x 10-5 cm/s	16.8
		Pt 408 50'E			#4:							
					#10:							
					#40:							
					#80:							
					#200:							

GEOTEXTILE TEST RESULTS

THE SNOW COMPANY, INC.
P. O. BOX 90670
ALBUQUERQUE, NEW MEXICO 87199

Phone (505)345-3225
Fax (505)345-0315

9/24/98

PANEL PLACEMENT FORM

PROJECT NAME Holloman AFB

MATERIAL 40 Ga Ex PROJECT NO.

DATE	TIME	PANEL NUMBER	ROLL NUMBER	PANEL WIDTH	PANEL LENGTH	COMMENTS
		P1	5L0700012	15	260	
		P-2 *		5	225	*Panels 2-4-5 & 6
		P-3		15	873	cut from Same
		P-4 *		5	120	15' Piece
		P-5 *		5	375	Channel A
		P-6 *		5	375	
		P7		15	135	
		P8	5L0600132		134	
		P9			44.	x
		P10			189	
		P11			74	
		P12			74	
		P13			110	
		P14			36	x
		P15			195	
		P16			69	
		P17			69	
		P18			108	

07/31/95

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Fax (505)345-0315

PANEL PLACEMENT FORM

PROJECT NAME Holloman AFB

MATERIAL Geotextile PROJECT NO. _____

DATE	TIME	PANEL NUMBER	ROLL NUMBER	PANEL WIDTH	PANEL LENGTH	COMMENTS
		P1	246102281	15	260	Channel A
		P2		5	225	
		P3		5	150	
		P4		5	375	
		P5		5	375	
		P6		15	315	
		P7	231169973	15	585	
		P8			200	
		P9			165	
		P10	241210517		150	
		P11			150	
		P12			150	
		P13			150	
		P14			150	
		P15			200	
		P16	231171232		750	

07/31/95

P. O. BOX
ALBUQUER , NEW MEXICO 87199
Fax (505)345-03

WEDGE WELDING RECORD

PROJECT NAME Holloman AFB PROJECT NUMBER _____ MATERIAL _____

DATE	TIME	SEAM NUMBER	SEAM LENGTH	SEAMER INITIALS	MACHINE NUMBER	TEMP SETTING	SPEED SETTING	AMBIENT TEMP	WINDS	COMMENTS
	8:30	1-1A		MM	3	725	17			
	8:40	1-2								
	8:50	3-4/5/6								
	9:30	1/2-3/4								
	9:00	4-5								
	9:15	5-6								
	1:10	7-8								
	1:08	5/6-7-8								
	1:15	8-9								
	1:20	9-10								
	1:35	10-11								
	2:00	11-12								
	2:15	12-13								
	1:40	14-15								
	2:05	15-16								
	2:30	16-17								
	2:40	17-18								
	1:33	9-14								
	2:10	10-15								
	2:20	11-16								
	2:50	12-17								
	3:00	13-18								

07/31/95

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ALBUQUERQUE, NEW MEXICO 87199

Phone (505)345-3225
Fax (505)345-0315

AIR TESTING LOG

PROJECT NAME Holloman AFB PROJECT NO. _____

MATERIAL 40 Corex

MINIMUM STARTING PRESSURE 30 TEST TIME (MINUTES) DeCarlo 5

MAXIMUM PRESSURE DROP 4 PROJECT SUPV. DeCarlo

SEAM NUMBER	DATE	STARTING TIME	STARTING PRESSURE	ENDING TIME	ENDING PRESSURE	PASS/ FAIL	TESTER
1-1A		9:20	32	9:25	30		
1-2		9:20	34	9:25	33		
3-4		9:30	31	9:35	31		
3-5		9:35	34	9:40	32		
3-6		9:36	33	9:41	32		
1/2-3/4		9:50	30	9:55	30		
4-5		9:30	30	9:35	30		
5-6		9:40	31	9:45	31		
7-8		1:21	40	1:26	39		
5/6-7/8		1:35	35	1:40	34		
8-9		1:40	33	1:45	33		
9-10		1:49	30	1:54	30		
10-11		2:00	31	2:05	30		
11-12		2:24	34	2:29	33		
12-13		2:25	36	2:30	36		
14-15		2:03	35	2:08	35		
15-16		2:35	32	2:40	32		
16-17		2:49	30	2:54	29		
17-18		3:01	30	3:06	30		
9-14		2:30	30	2:35	30		
10-15		2:33	30	2:38	30		
11-16		3:00	33	3:05	32		
12-17		3:20	30	3:25	29		
13-18		3:30	32	3:35	32		

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ALBUQUERQUE, NEW MEXICO 87199

Phone (505)345-3225
Fax (505)345-0315

~~9/29/98~~
9/30/98
&
10/1/98

PANEL PLACEMENT FORM

PROJECT NAME Holloman AFB

MATERIAL 40 Coex PROJECT NO.

DATE	TIME	PANEL NUMBER	ROLL NUMBER	PANEL WIDTH	PANEL LENGTH	COMMENTS
		P1	5L0600132	15	253	
		P2			20	Channel E
		P3			20	
		P4			20	
		P5			20	
		P6			210	
		P7	5L0600122		654	
		P8	5L0700012	5	20	
		P9	5L0600122	5	365	
		P10		5	365	
		P11		5	365	
		P1	5L0600122		495	Channel C, D & F
		P2	5L0600022		38	
		P3	5L0600022		900	
		P1	5L0600122	15	138	Channel B
		P2	?		166	L.O.R. from villanueva
		P3	5L0600022		301	

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ALBUQUERQUE, NEW MEXICO 87199

Phone (505)345-3225
Fax (505)345-0315

PANEL PLACEMENT FORM

PROJECT NAME _____

MATERIAL Geotextile PROJECT NO. _____

DATE	TIME	PANEL NUMBER	ROLL NUMBER	PANEL WIDTH	PANEL LENGTH	COMMENTS
		P1	23117194	15	300	Channel E
		P2	24610279	15	350	
		P3	"		275	
		P4	"		275	
		P5	23117194		350	
		P1	23117232	15	200	Channel CD&F
		P2	23117194	15	300	
		P3	23117038 2		450	*
		P4	23211177		450	
		P1	24610279		100	Channel B
		P2	23117038 2		500	

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Phone (505)345-3225
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PANEL PLACEMENT FORM

PROJECT NAME _____

MATERIAL Geotextile PROJECT NO. _____

DATE	TIME	PANEL NUMBER	ROLL NUMBER	PANEL WIDTH	PANEL LENGTH	COMMENTS
		P1	23117194	15	300	Channel E
		P2	24610279	15	350	
		P3	"		275	
		P4	"		275	
		P5	23117194		350	
		P1	23117232	15	200	Channel CD&F
		P2	23117194	15	300	
		P3	23117038 2		450	*
		P4	23121117 7		450	
		P1	24610279		100	Channel B
		P2	23117038 2		500	

07/31/95

. O. BOX S.
ALBUQUEI -, NEW MEXICO 87199
Fax (505)345-03

WEDGE WELDING RECORD

PROJECT NAME Holloman AFB PROJECT NUMBER _____ MATERIAL _____

Seams ~~DATE~~	TIME	SEAM NUMBER	SEAM LENGTH	SEAMER INITIALS	MACHINE NUMBER	TEMP SETTING	SPEED SETTING	AMBIENT TEMP	WINDS	COMMENTS
1-8	9:30	←		MM	#3	725	22			
1/8-2	10:15			↓	↓	↓	↓			
2-3	9:01									
3-4	9:03									
4-5	9:08									
5-6/8	10:20									
6-9	11:53									
7-9/10/11	10:30									
9-10	11:30									
10-11	11:40			↓	↓	↓	↓			
	3:30	1-2		↓	↓	↓	↓			
	3:40	2-3		↓	↓	↓	↓			
8:05		1-2		↓	↓	↓	↓	↓		
8:15		2-3								
8:25		3-E1		↓	↓	↓	↓	↓		

07/31/95

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Phone (505)345-3225
Fax (505)345-0315

AIR TESTING LOG

PROJECT NAME Holloman PROJECT NO. _____

MATERIAL 40 Cex

MINIMUM STARTING PRESSURE 30 TEST TIME (MINUTES) 5

MAXIMUM PRESSURE DROP 4 PROJECT SUPV. DeCilo

SEAM NUMBER 8	DATE	STARTING TIME	STARTING PRESSURE	ENDING TIME	ENDING PRESSURE	PASS/ FAIL	TESTER
P1-~~8~~		9:00	30	9:05	29	P	DC
1/~~8~~-2		9:02	33	9:07	33		
2-3		9:05	35	9:10	35		
3-4		9:10	35	9:15	35		
4-5		9:17	35	9:22	35		
5-6/9		10:35	33	10:40	32		
6-9		10:44	32	10:49	30		
7-9/10/11		11:02	32	11:07	30		
9-10		11:15	30	11:20	30		
10-11		11:16	35	11:21	35		
1-2		4:00	30	4:05	30		
2-3		4:05	31	4:10	30		
1-2		9:00	33	9:05	32		
2-3		9:01	30	9:06	30		
3-E1		9:06	35	9:11	35		

HE SNC OMPANY, INC.
O. BOX 90670
LBUQUERQUE, NEW MEXICO 87199

Phone (5-3225
Fax (505)345-0315

WELDING TEST RECORD

ROJECT NAME Holloman AFB PROJECT NUMBER _____ MATERIAL _____

DATE	TIME	Q.C. INITIALS	WELDER INITIALS	MACHINE NUMBER	WEDGE WELDS TEMP SETTING	WEDGE WELDS SPEED SETTING	EXTRUSION WELDS BARREL TEMP	EXTRUSION WELDS PRE-HEAT TEMP	AMBIENT TEMP	WINDS	TEST TYPE (P/S)	TEST #1	TEST #2	TEST #3	TEST #4	TEST #5	TR
												67/64	65/60	63/64			1
	7:30		MM	#3	725°	18'						66	69	65			0
				HAND							P	62	61	64			1
	8:00		DW	#2	~~450~~		450	~~200~~			S	65	63	61			0
												63/60	69/64	61/67			1
	12:30		MM	#3	725°	20'						68	67	69			0
											P	63	62	64			1
	1:00		DW	2			450	Ø			S	66	64	63			0
												50/49	60/58	57/63			1
	7:40		MM	#3	725°	18'						69	65	62			0
				H hand							P	66	69	64			1
1-30	7:59		MP	2			450°				S	76	76	84			0
												59/58	58/56	60/57			1
	12:40		MM	#3	725°	22'						69	63	68			0
												60/58	59/56	61/59			1
11-01	7:30		DC	#3	725°	18'						70	68	68			0
																	1
																	0
																	1
																	0
																	1
																	0
																	1
																	0

CONCRETE TEST RESULTS

QCE
Quality Control Engineering, Inc
1136 W. Hobbs, Roswell, NM 88201
505-625-0005 FAX: 625-0555

CONCRETE MIX DESIGN

Client Mesa Verde Enterprises **JOB #** 97-216-4 **DATE** 7/15/97 MVCD#13

Concrete Supplier Mesa VerdeConcrete Division **MIX DESIGN #** 97216-4000AA
NMSHTD Class AA

DESIGN:
Mix Class AA Min. Compressive Strength 4000 psi Min. cement/cu yd 7 sacks % FA 34-42%
Max. w/c ratio .42 Slump (max) 4 in. at site Air Content 4 1/2-7 1/2% Max. Flyash 20-30%

MATERIALS (Supplied by client)
Rio Grande Cement, Type I-II L.A., Samalayuca Plant
Panhandlo Fly Ash, F/C, Panhandle Flyash Co., Escalante & Tolk Plants (Albuquerque Terminal)
1" Coarse Aggregate, Mesa Verde Pit, 52 Sagebrush, La Luz, NM
Fine Aggregate, Danley Sand & Gravel, 140 Alamo St., La Luz, NM
Water, Plant Water

ADMIXTURES
Air Entrainment- DARAVAIR (W. R. Grace) (3/4-3 oz per 100 # cement)
Water Reducer- WRDA-64 (W.R. Grace) (3 to 6 oz/100# cement)

*F.A. ABSORP	1.38%	*F.A. S.G.	2.65
*C.A. ABSORP	0.89%	*C.A. S.G.	2.67
FLYASH S.G.	2.35	CEMENT S.G.	3.15

*Aggregate Correction Factor 0.2%

MATERIALS		DESIGN WT LBS	DESIGN VOL CU FT
AIR	5.5%		1.49
CEMENT		525	2.67
FLYASH		133	0.91
WATER	33.1	276	4.42
1" C.A.**		1700	10.20
F.A.**		1209	7.31
AEA-DARAVAIR		5-20 oz (5 oz)	
WRDA-64		20-40oz (36oz)	
	TOTAL	3843	27.00

DESIGN UNIT WT (pcf)- 142.3
W/C RATIO= 0.42
% FA= 42% %Fly ash (by vol) 25.3%

Cylinder Set#6 (1 178)
*Values obtained from QCE tests run 3/97
**All aggregates saturated surface dry conditions.
Actual batch weights should be adjusted according to stockpile moisture content.

K Byrd-Humphreys, PE

QCE

Quality Control Engineering, Inc.
1136 W. Hobbs, Roswell, NM 88201
505-625-005 Fax: 505-625-0555

REPORT OF CONCRETE CYLINDERS

Project Design Mix **Pour Date** 7/15/97 **Job #** 97-216

Client Mesa Verde Enterprises **Concrete Supplier** Mesa Verde Concrete Division

Mix Design 97216-4000AA NMSHTD **Cyl. Set #** 97-05 **Lab#** C178
MVCD#

FIELD DATA

Air Temp	Slump	Concrete Temp	Air Content	Unit Weight	w/c Ratio
87 F	4 3/4"	85 F	8.3%	139.4	0.42

LAB DATA

LAB NO	CYLINDER SET	AGE	DATE DAYS	TOTAL LOAD LBS	COMPRESSIVE STRENGTH, PSI	FAILURE TYPE	TESTED BY
178	C006	3	7/18	120000	4240	C	JBT
		7	7/22	126000	4480	*	JS
		7	7/22	120750	4270	*	JS
		14	7/29	>141500	>5000	NF	JBT
		14	7/29	138000	4880	C	JBT
		28	8/12				
		28	8/12				

Remarks: No fracture type noticeable.

K. Byrd-Humphreys, PE

Western Technologies Inc.
The Quality People
Since 1955

8305 Washington Place, N.E.
Albuquerque, New Mexico 87113
(505) 823-4488 • fax 821-2963

January 27, 1998

Mesa Verde Enterprises, Inc.
Post Office Box 515
Alamogordo, New Mexico 88311

Attn: Mr. Jeff Rabon

Re: Concrete Mix Design Study - Air Entrained
General Project Submittal - 1998

Ref. No: 32471286

As you requested, presented herein are the results of our mix design study for the above referenced project. The submitted mix designs were prepared and reported in general accordance with American Concrete Institute (ACI), 301-96 *Standard Specifications for Structural Concrete..*

The mixes were designed in general accordance with ACI 211.1-91, Chapter 6 - Procedure. Proportioning of the recommended mixtures is based on the enclosed data from trial mix testing performed by Western Technologies Inc. personnel. This report contains our recommendations for cubic yard proportions based on average twenty-eight day compressive strength results plotted graphically to show the relationship of water/cement ratio vs. compressive strength.

The trial mixes were conducted under the supervision of a registered professional engineer licensed in the State of New Mexico. The personnel testing the trial batches are certified ACI Concrete Field Testing Technicians - Grade 1. The testing equipment used in the design development is calibrated annually with calibration standards traceable to the National Institute of Standards and Technology. Certificates of calibration are maintained at our laboratory facilities. Copies of the equipment certifications will be submitted for review to the City of Albuquerque Engineer if requested.

Respectfully submitted,
WESTERN TECHNOLOGIES INC.
Materials Engineering Services

Andrew L. Cuaderes
Managing Director
Mesa9Unonair

Eric C. Pond, Ph.D., P.E.
Director of Engineering

ERIC C. POND
STATE OF
13887
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER

INTRODUCTION

On December 20, 1997, Western Technologies Inc. (WT) performed testing on three trial batches for development of a water/cement ratio vs. compressive strength curve. Proportioning was in accordance with the absolute volume method of ACI 211.1-91, *Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.*

The trial batches were performed at the WT laboratory using approximately 2-cubic foot batches. The batches were tested for slump, air, plastic unit weight, and temperature. Six standard test specimens were molded for each trial batch for compressive strength testing to be performed at 7 and 28 days age.

MATERIALS

Aggregates

The conventional aggregates used in the mix design study were identified as washed #56 coarse aggregate and washed fine aggregate both, from the Mesa Verde Pit located in La Luz, N.M., and a blend sand from the Jobe El Paso Pit. Both blended fine and coarse aggregates meet the quality requirements of ASTM C-33, *Standard Specifications for Concrete Aggregates.* The physical properties of the aggregates are contained in the body of this report. The two sands were blended in a 2:1 ratio (washed fines:natural fines) prior to developing the trial batches.

Cement

The cement used in the mix design study was identified as Rio Grande Portland Type V (Tijeras Plant).

Water

The water used in the mix design study was Albuquerque tap.

Admixtures

The water reducer and air-entrainment admixtures used in the mix design study was identified as W.R. Grace, WRDA 64 and Daravair, respectively.

DISCUSSION

Water was adjusted to provide a slump between 3-3/4 and 4-1/2 inches. Proportioning between coarse and fine aggregates was made in consideration of the overall effect on grading known to produce optimum workability. With any specific water content, the slump of a mixture will decrease 1/2 to 3/4 inch with each increase in mixture temperature of 10 degrees fahrenheit. Proportions may also require adjustments based on test results of specimens made at the jobsite, variations in aggregate gradation, and specific gravity.

RECOMMENDED CUBIC YARD BATCH WEIGHTS

PER ACI 301-96
DESIGN MIX SPECIFICATIONS
PORTLAND CEMENT CONCRETE

ACI 301-96 SPECIFICATION CONRETE
PORTLAND CEMENT CONCRETE MIX DESIGN
AIR ENTRAINED

RECOMMENDED BATCH PROPORTIONS

Mix Code: Mesa Verde - 3000 psi with Air

Material	Cubic Yard Weights (SSD)	Specific Gravity	Volume
Cement (Rio Grande Portland)	410 lbs.	3.15	2.09 c.f.
Mixing Water	258 lbs. (31.0 gallons)	1.00	4.13 c.f.
Coarse Aggregate (#56) Mesa Verde Pit	1800 lbs. Absorption, %	2.679 0.7	10.77 c.f.
Fine Aggregate, washed Mesa Verde Pit	970 lbs. Absorption, %	2.641 1.4	5.87 c.f.
Fine Aggregate, natural Jobe El Paso Pit	470 lbs. Absorption, %	2.581 1.0	2.93 c.f.
Air Entrainment, Daravair	3.3 ozs. *		1.21 c.f.
Water Reducer, WRDA-64	16.4 ozs. *		-
	Total Weight 3908 lbs.		Total Volume 27.00 c.f.

ANTICIPATED PROPERTIES

	MIX DESIGN	GENERAL REQUIREMENTS
Slump	4"	Maximum 4"
Air Content	4.5%	4.5 +\-1%
Plastic Unit Weight	144.7 lbs./c.f.	
Cement Content	410 pounds/yard	
Water/Cement Ratio	0.63	0.63 Maximum
Percent Fine Aggregate	44.4%	-

Average Compressive Strength
(from trial mix data:w/c strength curve)

@ 7 days	3150 psi	
@ 28 days	4200 psi	4200 psi

*Adjustments may be required due to variations in temperature and slump.

1998 Concrete Mix Design Study
Mesa Verde Enterprises, Inc.

January 27, 1998
Air-Entrained

ACI 301-96 SPECIFICATION CONRETE
PORTLAND CEMENT CONCRETE MIX DESIGN
NON-AIR ENTRAINED

RECOMMENDED BATCH PROPORTIONS

Mix Code: Mesa Verde - 3500 psi with air

Material	Cubic Yard Weights (SSD)	Specific Gravity	Volume
Cement (Rio Grande Portland)	490 lbs.	3.15	2.49 c.f.
Mixing Water	263 lbs. (31.5 gallons)	1.00	4.21 c.f.
Coarse Aggregate (#56) Mesa Verde Pit	1800 lbs. Absorption, %	2.679 0.7	10.77 c.f.
Fine Aggregate, washed Mesa Verde Pit	915 lbs. Absorption, %	2.641 1.4	5.55 c.f.
Fine Aggregate, natural Jobe El Paso Pit	445 lbs. Absorption, %	2.581 1.0	2.77 c.f.
Air Entrainment, Daravair	4.4 ozs. *		1.21 c.f.
Water Reducer, WRDA-64	20.0 ozs. *		-
	Total Weight 3913 lbs.		Total Volume 27.00 c.f.

ANTICIPATED PROPERTIES

	MIX DESIGN	GENERAL REQUIREMENTS
Slump	4"	Maximum 4"
Air Content	4.5%	4.5 +\-1%
Plastic Unit Weight	144.9 lbs./c.f.	
Cement Content	490 pounds/yard	490 pounds/yard
Water/Cement Ratio	0.54	0.54 Maximum
Percent Fine Aggregate	43.0%	-

Average Compressive Strength
(from trial mix data:w/c strength curve)

@ 7 days	3600 psi	
@ 28 days	4700 psi	4700 psi

*Adjustments may be required due to variations in temperature and slump.

ACI 301-96 SPECIFICATION CONRETE
PORTLAND CEMENT CONCRETE MIX DESIGN
NON-AIR ENTRAINED

RECOMMENDED BATCH PROPORTIONS

Mix Code: Mesa Verde - 4000 psi with air

Material	Cubic Yard Weights (SSD)	Specific Gravity	Volume
Cement (Rio Grande Portland)	620 lbs.	3.15	3.16 c.f.
Mixing Water	267 lbs. (32.0 gallons)	1.00	4.27 c.f.
Coarse Aggregate (#56) Mesa Verde Pit	1800 lbs. Absorption, %	2.679 0.7	10.77 c.f.
Fine Aggregate, washed Mesa Verde Pit	835 lbs. Absorption, %	2.641 1.4	5.06 c.f.
Fine Aggregate, natural Jobe El Paso Pit	405 lbs. Absorption, %	2.581 1.0	2.53 c.f.
Air Entrainment, Daravair	5.6 ozs. *		1.21 c.f.
Water Reducer, WRDA-64	25.0 ozs. *		-
	Total Weight 3927 lbs.		Total Volume 27.00 c.f.

ANTICIPATED PROPERTIES

	MIX DESIGN	GENERAL REQUIREMENTS
Slump	4"	Maximum 5"
Air Content	4.5%	4.5 +\-14
Plastic Unit Weight	145.4 lbs./c.f.	
Cement Content	620 pounds/yard	620 pounds/yard.
Water/Cement Ratio	0.43	0.43 Maximum
Percent Fine Aggregate	40.8%	-

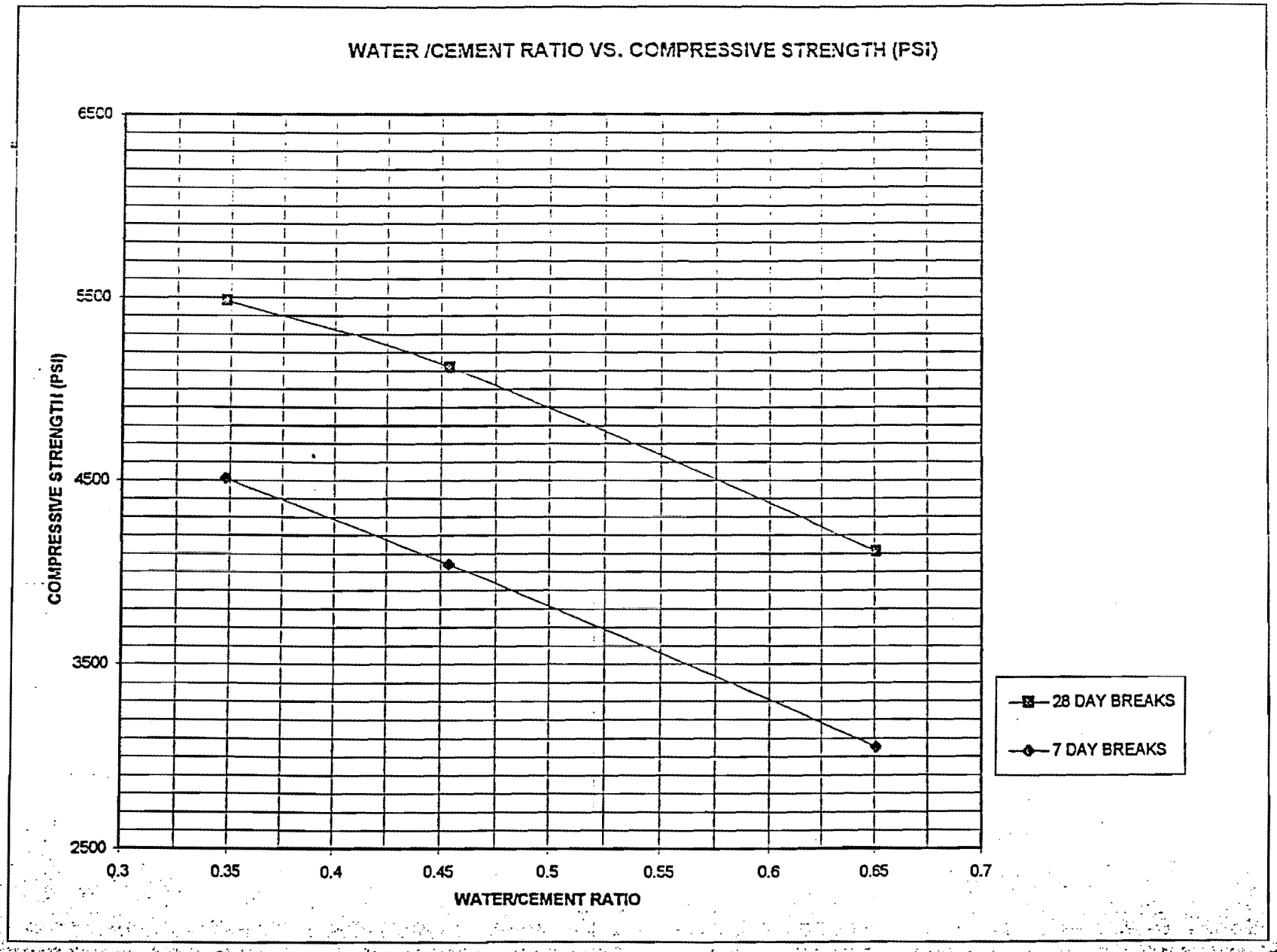
Average Compressive Strength
(from trial mix data:w/c strength curve)

@ 7 days	4100 psi	
@ 28 days	5200 psi	5200 psi

*Adjustments may be required due to variations in temperature and slump.

TRIAL BATCH DATA

PER ACI 211
PORTLAND CEMENT CONCRETE


WATER /CEMENT RATIO VS. COMPRESSIVE STRENGTH (PSI)
6500
5500
4500
3500
2500
COMPRESSIVE STRENGTH (PSI)
0.3
0.35
0.4
0.45
0.5
0.55
0.6
0.65
0.7
WATER/CEMENT RATIO
28 DAY BREAKS
7 DAY BREAKS

TRIAL BATCH DATA
CONVERTED TO CUBIC YARD WEIGHTS @SSD

MATERIALS	Trial 1 Weight	Trial 1 Volume	Trial 2 Weights	Trial 2 Volume
Cement, Rio Grande (Tijeras)	574 lbs.	2.92 c.f.	397 lbs.	2.02 c.f.
Coarse Aggregate - #56	1835lbs.	10.98c.f.	1833lbs.	10.97c.f.
Fine Aggregate (washed)	867lbs.	5.26 c.f.	964lbs.	5.85 c.f.
Fine Aggregate (natural)	424lbs.	2.63 c.f.	474lbs.	2.94 c.f.
Water - Potable	261lbs.	4.18 c.f.	258 lbs.	4.13c.f.
Air-Entrainment, Daravair	4.6 ozs.	1.03 c.f.	2.8 ozs.	1.09 c.f.
Water Reducer, WRDA-64	23.0 ozs.	-	15.6 ozs.	-

MEASURED PLASTIC PROPERTIES

Slump	3-3/4"	4-1/2"
Measured Air Content	4.2%	4.6%
Unit Weight	146.1 lbs/cf	144.6 lbs/cf
Concrete Temperatur, F.	71 degrees	71 degrees

Air Correction value = 0.3% per ASTM C-235

MEASURED HARDENED PROPERTIES

7 Day Strength, average of 3 cylinders	4040 psi	3050 psi
28 Day Strength,average of 3 cylinders	5120 psi	4110 psi

1998 Concrete Mix Design Study
Mesa Verde Enterprises, Inc.

January 27, 1998
Air-Entrained

TRIAL BATCH DATA
CONVERTED TO CUBIC YARD WEIGHTS @SSD

MATERIALS	Trial 3 Weight	Trial 3 Volume		
Cement, Rio Grande (Tijeras)	743 lbs.	3.54 c.f.		
Coarse Aggregate - #56	1842lbs.	10.88c.f.		
Fine Aggregate (washed)	786lbs.	5.19 c.f.		
Fine Aggregate (natural)	380lbs.	2.61 c.f.		
Water - Potable	259 lbs.	4.79 c.f.		
Air-Entrainment, Daravair	5.5 ozs.	4.79 c.f.		
Water Reducer, WRDA-64	29.5 ozs.	-		

MEASURED PLASTIC PROPERTIES

Slump	3-3/4"	
Measured Air Content, corrected	4.6%	
Unit Weight	144.6 lbs/cf	
Concrete Temperature, F.	72 degrees	

Air Correction value = 0.3% per ASTM C-235

MEASURED HARDENED PROPERTIES

7 Day Strength, average of 3 cylinders	4510 psi	
28 Day Strength,average of 3 cylinders	5480 psi	

AGGREGATE DATA

AGGREGATE GRADATION BLEND

MIX CODE:Mesa Verde Mix Design Study - 1998
ASTM C-33 Specifications

Material:	Mesa	Jobe	Composite	Target Tolerance Range	
Used:	67%	33.3%	100%	Lower	Upper
Sieve	GRADATION (% Passing)			Bound %	Bound %
3/8"	100	100	100	100	100
No. 4	100	97	99	95	100
No. 8	83	88	85	80	100
No. 10	74	86	78		
No. 16	51	77	60	50	85
No. 30	31	56	39	25	60
No. 40	25	41	30		
No. 50	18	21	19	10	30
No. 80	15	10	13		
No. 100	9	4	7	2	10
No. 200	3.4	1.7	2.8	0.0	3.0

Western Technologies Inc.
The Quality People
Since 1955

8305 Washington Place, N.E.
Albuquerque, New Mexico 87113
(505) 823-4488 • fax 821-2963

PHYSICAL PROPERTIES OF CONCRETE AGGREGATES

Date of Report 01/27/98
Job No. 3247JA000
Event / Invoice No. 32471286 Lab No. 7L715-1
Authorized By RABON Date 12/02/97
Sampled By RABON Date 12/04/97
Submitted By T.MARTINEZ Date 12/04/97

Client MESA VERDE ENTERPRISES, INC.
ATTN: JEFF RABON
POST OFFICE BOX 515
ALAMOGORDO, NM 88311

Project 1998 MIX DESIGN STUDIES
Contractor CLIENT
Type / Use of Aggregate COARSE CONCRETE AGGREGATE
Sample Source / Location LA LUZ/STOCKPILE
Reference: ASTM C-33 SIZE #56
Special Instructions:

Location ALBUQUERQUE LABORATORY
Arch. / Engr. COA
Supplier / Source MESA VERDE PIT/LA LUZ
Source / Location Desig. By RABON Date 12/04/97

TEST RESULTS

SIEVE ANALYSIS [X] ASTM C136 [ ] AASHTO T27

SIEVE SIZE	ACCUMULATIVE % PASSING	SPECIFICATION
6 IN.		
4		
3		
1 1/2		100
1 1/8		
1	100	90-100
3/4	75	40-85
1/2	34	10-40
3/8	13	0-15
1/4		
NO. 4	1	0-5
8		
10		
16		
30		
40		
50		
100		
FINER THAN NO. 200 [X] ASTM C117 [ ] AASHTO T11	0.4	

FINENESS MODULUS → [ ] ASTM C125 [ ]

PHYSICAL PROPERTIES			TEST RESULTS	SPECIFICATION
UNIT WEIGHT & VOIDS [X] ASTM C29 [ ] AASHTO T19 [X] RODDING [ ] JIGGING [ ] LOOSE	FINE AGGREGATE	UNIT WEIGHT, PCF →		
		VOIDS, % →		
	COARSE AGGREGATE	UNIT WEIGHT, PCF →	101.4	
		VOIDS, % →		
SPECIFIC GRAVITY & ABSORPTION	FINE AGGREGATE [ ] ASTM C128 [ ] AASHTO T84 AGGREGATE DRIED [ ] YES [ ] NO	BULK SPECIFIC GRAVITY →		
		BULK SPECIFIC GRAVITY (SSD) →		
		APPARENT SPECIFIC GRAVITY →		
		ABSORPTION, % →		
	COARSE AGGREGATE [X] ASTM C127 [ ] AASHTO T85 AGGREGATE DRIED [X] YES [ ] NO	BULK SPECIFIC GRAVITY →	2.660	
		BULK SPECIFIC GRAVITY (SSD) →	2.679	
		APPARENT SPECIFIC GRAVITY →	2.712	
		ABSORPTION, % →	0.7	
SAND EQUIVALENT VALUE [ ] ASTM D2419 [ ] AASHTO T176		% →		
RESISTANCE TO DEGRADATION BY L.A. MACHINE	SMALL COARSE AGGREGATE [X] ASTM C131 [ ] AASHTO T96 GRADING B	100 REV., % LOSS →		
		500 REV., % LOSS →	17.0	50 MAX
	LARGE COARSE AGGREGATE [ ] ASTM C535 GRADING	200 REV., % LOSS →		
		1000 REV., % LOSS →		
CLEANNESS VALUE [ ] CA 227		→		
ORGANIC IMPURITIES [X] ASTM C40 [ ] AASHTO T21		ORGANIC PLATE NO. →	1	3 MAX
LIGHT WEIGHT PIECES [X] ASTM C123 [ ] AASHTO T113		FINE AGGREGATE, % →		
		COARSE AGGREGATE, % →	0.1	3.0 MAX
CLAY LUMPS & FRIABLE PARTICLES [X] ASTM C142 [ ] AASHTO T112		FINE AGGREGATE, % →		
		COARSE AGGREGATE, % →	0.4	2.0 MAX

Comments: SOUNDNESS LOSS, (ASTM C-88, MAGNESIUM) 2.9 15 MAX

Copies To:
CLIENT (3)

LABORATORY TEST RESULTS REPORTED HEREIN APPLY ONLY TO THE SPECIFIC SAMPLE ON WHICH THE TEST WAS RUN. THE ABOVE SERVICE AND REPORT WERE PERFORMED PURSUANT TO THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRANTS THAT THIS WAS PERFORMED UNDER THE STANDARD OF REASONABLE CARE APPLICABLE TO TESTING FACILITIES. NO OTHER WARRANTY, GUARANTY, OR REPRESENTATION, EXPRESSED OR IMPLIED, IS INCLUDED OR INTENDED.

REVIEWED BY _____

426095.VTI
062796

Western Technologies Inc.
The Quality People
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8305 Washington Place, N.E.
Albuquerque, New Mexico 87113
(505) 823-4488 • fax 821-2963

PHYSICAL PROPERTIES OF CONCRETE AGGREGATES

Date of Report 01/27/98
Job No. 3247JA000
Event / Invoice No. 32471286 Lab No. 7L715-
Authorized By RABON Date 12/02/9
Sampled By RABON Date 12/04/9
Submitted By T.MARTINEZ Date 12/04/9

Client MESA VERDE ENTERPRISES, INC.
ATTN: SHARON MIDDLETON
100 IRON SE
ALBUQUERQUE, NM 87102

Project 1998 MIX DESIGN STUDIES
Contractor CLIENT
Type / Use of Aggregate FINE CONCRETE AGGREGATE
Sample Source / Location 2:1 BLEND MESA/JOBE
Reference: ASTM C-33
Special Instructions:

Location ALBUQUERQUE LABORATORY
Arch. / Engr. COA
Supplier / Source MESA/JOBE EL PASO PIT
Source / Location Desig. By RABON Date 12/02/9

TEST RESULTS

SIEVE ANALYSIS [X] ASTM C136 [ ] AASHTO T27

SIEVE SIZE	ACCUMULATIVE % PASSING	SPECIFICATION
6 IN.		
4		
3		
1 1/2		
1 1/8		
1		
3/4		
1/2		
3/8	100	100
1/4		
NO. 4	99	95-100
8	85	80-100
10	78	
16	60	50-85
30	39	25-60
40	30	
50	19	10-30
100	7	2-10
FINER THAN NO. 200 [X] ASTM C117 [ ] AASHTO T11	2.8	0-3

FINENESS MODULUS → [ ] ASTM C125 [ ]

PHYSICAL PROPERTIES			TEST RESULTS	SPECIFICATION
UNIT WEIGHT & VOIDS [ ] ASTM C29 [ ] AASHTO T19 [ ] RODDING [ ] JIGGING [ ] LOOSE	FINE AGGREGATE	UNIT WEIGHT, PCF →		
		VOIDS, % →		
	COARSE AGGREGATE	UNIT WEIGHT, PCF →		
		VOIDS, % →		
SPECIFIC GRAVITY & ABSORPTION	FINE AGGREGATE [X] ASTM C128 [ ] AASHTO T84 AGGREGATE DRIED [X] YES [ ] NO	BULK SPECIFIC GRAVITY →	2.588	
		BULK SPECIFIC GRAVITY (SSD) →	2.621	
		APPARENT SPECIFIC GRAVITY →	2.677	
		ABSORPTION, % →	1.3	
	COARSE AGGREGATE [ ] ASTM C127 [ ] AASHTO T85 AGGREGATE DRIED [ ] YES [ ] NO	BULK SPECIFIC GRAVITY →		
		BULK SPECIFIC GRAVITY (SSD) →		
		APPARENT SPECIFIC GRAVITY →		
		ABSORPTION, % →		
SAND EQUIVALENT VALUE [X] ASTM D2419 [ ] AASHTO T176		% →	92	80 MIN
RESISTANCE TO DEGRADATION BY L.A. MACHINE	SMALL COARSE AGGREGATE [ ] ASTM C131 [ ] AASHTO T96 GRADING	100 REV., % LOSS →		
		500 REV., % LOSS →		
	LARGE COARSE AGGREGATE [ ] ASTM C535 GRADING	200 REV., % LOSS →		
		1000 REV., % LOSS →		
CLEANNESS VALUE [ ] CA 227		→		
ORGANIC IMPURITIES [X] ASTM C40 [ ] AASHTO T21		ORGANIC PLATE NO. →	1	3 MAX
LIGHT WEIGHT PIECES [X] ASTM C123 [ ] AASHTO T113		FINE AGGREGATE, % →	0.1	1.0 MAX
		COARSE AGGREGATE, % →		
CLAY LUMPS & FRIABLE PARTICLES [X] ASTM C142 [ ] AASHTO T112		FINE AGGREGATE, % →	0.4	2.0 MAX
		COARSE AGGREGATE, % →		

Comments: SOUNDNESS LOSS, (ASTM C-88, MAGNESIUM) 9.6 12 MAX

Copies To:
CLIENT (3)

425095WT1
062796

LABORATORY TEST RESULTS REPORTED HEREIN APPLY ONL SPECIFIC SAMPLE ON WHICH THE TEST WAS RUN. THE ABOVE AND REPORT WERE PERFORMED PURSUANT TO THE TERMS A CONDITIONS OF THE CONTRACT BETWEEN WT AND CLIENT. WT WARRA THAT THIS WAS PERFORMED UNDER THE STANDARD OF REASONABLE CA APPLICABLE TO TESTING FACILITIES. NO OTHER WARRANTY, GUARANTY, REPRESENTATION, EXPRESSED OR IMPLIED, IS INCLUDED OR INTEND

REVIEWED BY _____

FOUNDATION STEEL & WIRE MFG., INC.
P.O. BOX 7848
HOUSTON,TEXAS 77270
(713) 861-4204 (800) 456-6374
(713) 861-4608 FAX

Rebar

MILL CERTIFICATION REPORT

Date: 9-11-98

Date of Shipment:

Company: MESILLA PARK FAB.

Address: P.O. BOX 951 MESILLA PARK, NM.

	TYPE MESH	ROLLS	SHEETS
1.	6 X 6 8/8	XXX	XXX
2.			
3.			
4.			

Job Ref:

Attention: DANNY

We are furnishing this letter to certify that the reinforcing wire mesh bought from Foundation Steel & Wire Mfg., Inc. was manufactured in Houston, Texas, U.S.A. in compliance with ASTM A185-94 specifications for welded wire fabric fo use in concrete reinforcement.

If we can be of further assistance, please call.

Sincerely,

Lloyd T. Hallum

ASTM and CSA Minimum Properties of Steel Wires in Welded Wire Fabric

TYPE OF FABRIC	TENSILE STRENGTH PSI	YIELD STRENGTH PSI	WELD SHEAR STRENGTH
WELDED SMOOTH WIRE FABRIC	75,000	65,000	35,000
WELDED DEFORMED WIRE FABRIC	80,000	70,000	20,000

* Yield strength is measured at 0.005 inch per inch extension of gauge length

NORTH STAR STEEL ARIZONA
3000 Highway 66 South
Kingman, Arizona 86413
Sales # 1-800-843-7304

CERTIFIED MILL TEST REPORT

CERTIFICATE #: 8026	SALES ORDER: Z020967	PURCHASE ORDER: 5222
HEAT #: 5232	PRODUCT: REBAR	SIZE: 13 MM (#4)
GRADE: 420-A615 (60)		DATE ROLLED:

CHEMICAL ANALYSIS (WT%)

C	Mn	P	S	Si	Sn	Cu	Ni	Cr	Mo	V	Cb	
0.4030	0.9920	0.0080	0.0390	0.2290	0.0210	0.3070	0.1180	0.1610	0.0220	0.0160	0.0040	

"All Manufacturing Processes For This Steel, Including Melting From Scrap And Hot Rolling, Have Been Performed In The U.S.A. At North Star Steel Arizona, 3000 Highway 66 South, Kingman, Arizona, USA." All Products Produced From Strand Cast Billets. No Weld Repairment Performed. Steel Not Exposed To Mercury Or Any Liquid Alloy Which Is Liquid At Ambient Temperature During Processing Or While In North Star Steel Arizona Possession.

MECHANICAL TEST REPORT (METRIC)

Yield MPa	Tensile MPa	% Elongation in 203.2 mm.	Bend Test	% Reduction in Area	Specification
463.70	698.44	13.03	PASS	0.00	ASTM A615/A615M-96a

MECHANICAL TEST REPORT (IMPERIAL)

Yield KSI	Tensile KSI	% Elongation in 8 in.	Bend Test	% Reduction in Area	Specification
67.25	101.30	13.03	PASS	0.00	ASTM A615/A615M-96a

This Material Has Been Produced And Tested In Accordance With The Requirement Of Applicable Specifications Unless Otherwise Listed Below. This Report Certifies That The Above Test Results Are Representative Of Those Contained In The Record Of The Company. Any Modification To This Certification As Provided By North Star Steel Arizona Negates The Validity Of This Test Report. North Star Steel Arizona Is Not Responsible For The Inability Of This Material To Meet Specific Applications.

SIGNED_____ Date Issued: 8/10/98

This Certificate Is Notarized Only When Requested

Rev. v1.0.7.3

APPENDIX F

DAILY QUANTITY OF PLACED AND IMPORTED SOIL SUMMARY

MAIN BASE LANDFILL FINAL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
TALLY OF MESA VERDE SOIL HAULING WEIGHT TICKETS AND ON-SITE FILL

Haul Date	Daily Tons Hauled	Daily Number of Truck Trips	Cumulative Tons Hauled	Cumulative # of Truck Trips	Est. Daily BCY Excavated,Hauled and Placed	Est. cumulative BCY Excavated Hauled & Placed	Estimated CY On-site Soil Cut	Estimated CY On-site Soil Fill	Borrow Soil Proctor Date	Western Tech Lab No:
3/98 - 6/98							82,699	42,872		
5/4/1998 - MON	560	21			347	347			11-May-98	
26MAY98 - TUES	3,478	121	3,478	121	2,104	2,450			20-May-98	L014
27MAY98 - WED	5,664	193	9,142	314	3,525	5,975			27-May-98	L018
28MAY98 - THU	5,195	177	14,337	491	3,233	9,208			27-May-98	L018
29MAY98 - FRI	2,754	89	17,091	580	1,829	11,037			29-May-98	L026
01JUN98 - MON	5,868.000	202	22,959	782	3,897	14,934			29-May-98	L026
02JUN98 - TUES	7,111.140	246	30,070	1,028	4,447	19,381			2-Jun-98	L031
03JUN98 - WES	5,673.900	173	35,744	1,201	3,548	22,929			2-Jun-98	L031
04JUN98 - THU	6,918.575	212	42,663	1,413	4,244	27,173			4-Jun-98	L036
05JUN98 - FRI	6,301.920	192	48,965	1,605	3,866	31,039			4-Jun-98	L036
08JUN98 - MON	7,032.180	211	55,997	1,816	4,314	35,353			4-Jun-98	L036
09JUN98 - TUES	7,542.280	229	63,539	2,045	4,627	39,980			4-Jun-98	L036
10JUN98 - WES	3,087.030	102	66,626	2,147	2,076	42,055			9-Jun-98	L044
11JUN98 - THU	6,636.770	218	73,263	2,365	4,462	46,518			9-Jun-98	L044
12JUN98 - FRI	7,500.000	247	80,763	2,612	5,085	51,603			12-Jun-98	L051
15JUN98 - MON	9,338.220	310	90,101	2,922	6,332	57,934			12-Jun-98	L051
16JUN98 - TUES	9,697.040	305	99,798	3,227	7,305	65,240			15-Jun-98	L053
17JUN98 - WES	10,280.500	339	110,079	3,566	7,745	72,985			15-Jun-98	L053
18JUN98 - THU	10,578.310	343	120,657	3,909	6,746	79,731			17-Jun-98	L056
19JUN98 - FRI	8,910.240	301	129,567	4,210	5,682	85,413			17-Jun-98	L056
22JUN98 - MON	9,273.000	316	138,840	4,526	5,914	91,327			17-Jun-98	L056
23JUN98 - TUE	10,269.570	337	149,110	4,863	6,549	97,877			17-Jun-98	L056
24JUN98 - WED	10,745.800	340	159,855	5,203	7,063	104,939			19-Jun-98	L057
25JUN98 - THU	10,507.480	338	170,363	5,541	6,906	111,846			19-Jun-98	L057
26JUN98 - FRI	8,906.750	284	179,270	5,825	5,914	117,760			26-Jun-98	L071
29JUN98 - MON	9,059.460	277	188,329	6,102	6,016	123,776			26-Jun-98	L071
30JUN98 - TUE	9,646.580	285	197,976	6,387	6,406	130,182			26-Jun-98	L071
1JUL98 - WED	8,248.120	233	206,224	6,620	5,477	135,659			26-Jun-98	L071
2JUL98 - THU	5,224.050	152	211,448	6,772	3,469	139,128			26-Jun-98	L071
6JUL98 -MON	8,841.630	276	220,290	7,048	5,667	144,795			29-Jun-98	L074
7JUL98 - TUE	9,893.570	298	230,183	7,346	6,341	151,136			29-Jun-98	L074
8JUL98 - WED	9,502.180	285	239,685	7,631	6,617	157,752			1-Jul-98	L078
9JUL98 - THU	11,061.330	336	250,747	7,967	7,703	165,455			1-Jul-98	L078
10JUL98 - FRI	8,794.000	274	259,541	8,241	6,124	171,579			1-Jul-98	L078
13JUL98 - MON	8,971.840	271	268,512	8,512	5,750	177,329			10-Jul-98	L092
14JUL - TUE	10,789.950	311	279,302	8,823	6,915	184,244			10-Jul-98	L092
15JUL - WED	11,139.880	320	290,442	9,143	7,140	191,384			10-Jul-98	L092
16JUL - THU	9,156.930	274	299,599	9,417	5,869	197,253			10-Jul-98	L092
17JUL - FRI	7,165.190	225	306,764	9,642	4,592	201,845			10-Jul-98	L092
20JUL - MON	8,682.470	269	315,447	9,911	5,565	207,410			10-Jul-98	L092
21JUL - TUE	8,928.290	263	324,375	10,174	5,838	213,249			14-Jul-98	L097
22JUL - WED	3,394.580	101	327,770	10,275	2,220	215,468			14-Jul-98	L097
27JUL - MON	5,284.160	189	333,054	10,464	3,491	218,959			20-Jul-98	L104
28JUL - TUE	4,977.840	189	338,032	10,653	3,289	222,248			20-Jul-98	L104
29JUL - WED	5,609.020	204	343,641	10,857	3,706	225,953			20-Jul-98	L104
30JUL - THU	6,287.940	221	349,929	11,078	4,154	230,107			20-Jul-98	L104
31JUL - FRI	3,674.730	124	353,603	11,202	2,518	232,625			30-Jul-98	L119
3AUG - MON	5,625.670	202	359,229	11,404	3,855	236,480			30-Jul-98	L119
4AUG - TUE	5,868.610	215	365,098	11,619	4,021	240,502			30-Jul-98	L119
5AUG - WED	-	0	365,098	11,619	-	240,502			30-Jul-98	L119
6AUG - THU	6,510.420	225	371,608	11,844	4,461	244,963			30-Jul-98	L119
7AUG - FRI	5,771.320	196	377,379	12,040	3,955	248,918			30-Jul-98	L119
10 AUG - MON	7,741.360	270	385,121	12,310	4,865	253,782			7-Aug-98	L131
11AUG - TUE	5,899.370	212	391,020	12,522	3,707	257,490			7-Aug-98	L131
12AUG - WED	6,106.830	212	397,127	12,734	3,838	261,327			7-Aug-98	L131
13AUG - THU	5,599.640	198	402,727	12,932	3,942	265,269			12-Aug-98	L142
14AUG - FRI	5,834.400	210	408,561	13,142	4,107	269,376			12-Aug-98	L142
17AUG - MON	5,722.000	205	414,283	13,347	4,028	273,404			12-Aug-98	L142
18AUG - TUE	6,069.530	213	420,353	13,560	4,273	277,677			12-Aug-98	L142
19AUG - WED	5,154.780	180	425,507	13,740	3,514	281,191			14-Aug-98	L145
20AUG - THU	5,811.500	211	431,319	13,951	3,961	285,152			14-Aug-98	L145
21AUG - FRI	6,084.390	206	437,403	14,157	4,147	289,299			14-Aug-98	L145
24AUG - MON	5,998.770	195	443,402	14,352	4,089	293,388			14-Aug-98	L145
25AUG - TUE	6,055.950	192	449,458	14,544	4,085	297,472			21-Aug-98	L157
26AUG - WED	6,526.050	207	455,984	14,751	4,448	301,921			21-Aug-98	L157

MAIN BASE LANDFILL FINAL CLOSURE
HOLLOMAN AIR FORCE BASE, NEW MEXICO
TALLY OF MESA VERDE SOIL HAULING WEIGHT TICKETS AND ON-SITE FILL

Haul Date	Daily Tons Hauled	Daily Number of Truck Trips	Cumulative Tons Hauled	Cumulative # of Truck Trips	Est. Daily BCY Excavated,Hauled and Placed	Est. cumulative BCY Excavated Hauled & Placed	Estimated CY On-site Soil Cut	Estimated CY On-site Soil Fill	Borrow Soil Proctor Date	Western Tech Lab No:
27AUG - THU	6,188.260	197	462,172	14,948	4,218	306,139			21-Aug-98	L157
28AUG - FRI	5,239.510	169	467,412	15,117	3,571	309,710			21-Aug-98	L157
31AUG - MON	6,014.720	184	473,427	15,301	4,100	313,810			21-Aug-98	L157
1SEP - TUE	6,667.770	210	480,094	15,511	4,545	318,354			21-Aug-98	L157
2SEP - WED	6,365.010	204	486,459	15,715	4,249	322,603			28-Aug-98	L165
3SEP -THU	5,447.760	172	491,907	15,887	3,636	326,239			28-Aug-98	L165
4SEP - FRI	6,815.490	220	498,723	16,107	4,549	330,789			28-Aug-98	L165
8SEP - TUE	6,661.250	211	505,384	16,318	4,291	335,079			4-Sep-98	L174
9SEP - WED	6,170.540	196	511,554	16,514	3,975	339,054			4-Sep-98	L174
10SEP - THU	6,832.120	217	518,386	16,731	4,401	343,455			4-Sep-98	L174
11SEP - FRI	6,260.150	203	524,647	16,934	4,032	347,487			4-Sep-98	L174
14SEP - MON	6,348.870	202	530,995	17,136	4,089	351,576			4-Sep-98	L174
15SEP - TUE	6,869.806	231	537,865	17,367	4,360	355,936			10-Sep-98	L181
16SEP - WED	7,426.180	243	545,291	17,610	4,713	360,649			10-Sep-98	L181
17SEP - THU	6,915.050	227	552,207	17,837	4,388	365,037			10-Sep-98	L181
18SEP - FRI	6,952.580	228	559,159	18,065	4,412	369,449			10-Sep-98	L181
21SEP - MON	6,859.590	219	566,019	18,284	4,353	373,802			10-Sep-98	L181
22SEP - TUE	5,558.940	177	571,578	18,461	3,672	377,475			18-Sep-98	L190
23SEP - WED	6,388.370	206	577,966	18,667	4,220	381,695			18-Sep-98	L190
24SEP - THU	6,250.535	203	584,217	18,870	4,129	385,824			18-Sep-98	L190
*= Total to-date (info taken from past DQCR's)										
/A = Tons * (2000 lb/ton) / (27 ft^3/CY) / (Most recent Proctor lb/ft^3) / (1.15 shrinkage factor)										

APPENDIX G

SITE INSPECTIONS AND QUALITY CONTROL REPORTING

SITE INSPECTION REPORTS

FIGURE 6-1

INSPECTION CHECKLIST

Page 1 of 2

ITEM: Main Base Landfill Final Closure				DATE: 4/03/98
Contract Specifications:				
MATERIAL	QTY	CONDITION	TESTING	COMMENTS
Offsite Borrow Material	260,000 cy		Proctor	
			Moisture	
			Gradation	
			Permeability	

STORAGE CONDITIONS:

N/A

SUBMITTALS:

- equipment list and grade control plan submitted
- Record Drawings, O&M manual & closure Report to be submitted at completion of Project
- Construction schedule

FIGURE 6-1 (Continued)
INSPECTION CHECKLIST
Page 2 of 2

MATERIAL/EQUIPMENT CERTIFICATIONS:

N/A

PREPARATORY SITE CONDITIONS:

- Rubble needs crushed & cleared
- Subgrade needs grading & compaction

CONTRACT VARIANCE:

COMMENTS:

Project is proceeding per schedule

ATTENDEES:	
Carlos Henderson	
James Manning	QC REPRESENTATIVE DATE Carlos 4/03/98
	QCSM DATE

4/21/98

FIGURE 6-1

INSPECTION CHECKLIST

Page 1 of 2

ITEM: Main Base Landfill				DATE: 4/21/98
Contract Specifications:				
MATERIAL	QTY	CONDITION	TESTING	COMMENTS
N/A				

STORAGE CONDITIONS:

- Borrow area soil ready for clearing & grubbing - OK
- POL & fuel containers at containment area - OK
- 8000 gallon Klein tank ready for water distribution for site OK

SUBMITTALS:

- work plan
- materials handling plan
- grade control plan
- Borrow pit assessment
- laboratory HASP
- laboratory QA Plan
- listed subcontractors
- list of products
- Pre construction contour MAP

FIGURE 6-1 (Continued)
INSPECTION CHECKLIST
Page 2 of 2

MATERIAL/EQUIPMENT CERTIFICATIONS:

N/A

PREPARATORY SITE CONDITIONS:

- 2' Drainage Berm built for storm water runoff. weekly inspections conducted
- containment area ready for fueling vehicles
- Side slopes need filled to subgrade
- Rubble (concrete & asphalt clearing)

CONTRACT VARIANCE:

FCR-01 ⇐ off site borrow source approval
FCR-02 ⇐ specifications not complete ⇐ suggested specifications
FCR-03 ⇐ Photograph simplification
FCR-04 ⇐ Testing Lab certification Redundancy
FCR-05 ⇐ Project personnel name changes

COMMENTS:

ATTENDEES:

Don Holmquist - FWENC
Carlos Henderson - FWENC
George Fish - USACE

QC REPRESENTATIVE FWENC — DATE 4/2/1998

QCSM — DATE

T. M. Cox 4/2/98

EROSION, SEDIMENT, AND POLLUTION CONTROL INSPECTION CHECKLISTS

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 4/3/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricants
- ☐ Bioxide
- ☐ Other Contaminated Area

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other 2' Berm at toe slope area

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other 2' Berm at toe slope area

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	N/A
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No apparent erosion problems

Changes required to the SWPPP N/A

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 4/9/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other Non

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other 2' Berm and trapslope Dike

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed. The following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin N/A
×	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No apparent erosion problems

Changes required to the SWPPP _____

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 4/17/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other None

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other 2' Berm at Slope Area

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage/acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No erosion problems to note to date

Changes required to the SWPPP N/A

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 4/23/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other None

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other 2' Berm at Slope area

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

N/A

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed. the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage/acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No erosion problems to note to date

Changes required to the SWPPP N/A

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 5/1/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other None

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other 2' Berm at sideslope area

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin N/A
x	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions There are no notable erosion or sediment problems to date

Changes required to the SWPPP NONE

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 5/8/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other None

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other 2' Berm at side slope area

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed. the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage/acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions There are no notable erosion or sediment problems to date

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Hardesn Date 5/18/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☐ Diesel Fuel
- ☐ Lubricants
- ☐ Bioxide
- ☐ Other None

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other 2' Berm at side slope area

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include: N/A

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

N/A

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

N/A

Observed Conditions There are no notable erosion or sediment problem to date

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 5/28/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☐ Diesel Fuel
- ☐ Lubricants
- ☐ Bioxide
- ☐ Other None

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other 2' Berm at toe of slope area

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include: N/A

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	N/A
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions There are no notable erosion or sediment problems to date

Changes required to the SWPPP None

Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector James Morrow Date 5-29-98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

N/A

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☑ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

N/A

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

N/A

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____ Acres area draining to the sediment basin

X

3.60 Cubic feet of storage/acre

=

_____ Cubic feet of storage required for the basin

N/A

Observed Conditions OK

Changes required to the SWPPP NA

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 6/5/98

Area Inspected Holloman AFB Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

N/A

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

N/A

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage/acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions N/A

Changes required to the SWPPP N/A

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 6/12/98

Area Inspected Holloman AFB Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

N/A

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following

N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x	
3.60	Cubic feet of storage/acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions None

Changes required to the SWPPP None

Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 6/18/98

Area Inspected Holloman AFB Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

N/A

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

- ☐ Sediment controls are needed and will include the following:
  - ☐ Sediment Basin
  - ☐ Hay Bales in anticipated drainage paths
  - ☐ Silt fence along all sideslope and downslope boundaries

N/A

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

- ☐ A sediment basin will be installed
- ☐ A sediment basin cannot be constructed, the following sediment controls will be installed:
  - ☐ Hay Bales in anticipated drainage paths
  - ☐ Silt fence along all sideslope and downslope boundaries

N/A

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____ Acres area draining to the sediment basin

X

3.60 Cubic feet of storage/acre

=

_____ Cubic feet of storage required for the basin

N/A

Observed Conditions None

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 1/22/98

Area Inspected Holloman AFB Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales - Area M/C
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed. the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No observed erosion

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 7/2/98

Area Inspected Holloman AFB Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales – Area M1 B1 B
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No observed erosion

Changes required to the SWPPP None Needed

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Anderson Date 7/9/98

Area Inspected Holloman AFB Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales at Subsidence area MLB
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed. N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions Minor Erosion on slope due to heavy rain from previous day

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 7/17/98

Area Inspected HAFB Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths N/A
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____ Acres area draining to the sediment basin

* 3.60 N/A Cubic feet of storage acre

\= _____ Cubic feet of storage required for the basin

Observed Conditions No observed erosion problems

Changes required to the SWPPP _____

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 7/23/98

Area Inspected Main Base Landfill Approx. Area 125 acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☐ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin N/A
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x	
3.60	Cubic feet of storage/acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No significant erosion problems

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 7/31/98

Area Inspected Main Base Landfill Approx. Area 12.5 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following. N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin N/A
×	
3.60	Cubic feet of storage acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions Erosion Control Measures and erosion control Berm holding up well after heavy rain from last night.

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 8/7/98

Area Inspected Holloman AFB Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☒ Other Protective Berm around slope area temporary swale on slope

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

N/A

☐ A sediment basin will be installed

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin N/A
×	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions Erosion repairs conducted on slope

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 8/14/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following

- ☐ Sediment Basin
- ☒ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed.

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x	
3.60	Cubic feet of storage acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No new erosion observed

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 8/21/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other Temporary Drainage Swale - hay Bale

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☒ Drainage Swale - Temporary
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following

- ☐ Sediment Basin
- ☒ Hay Bales in anticipated drainage paths - Temporary
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

☐ A sediment basin cannot be constructed. The following sediment controls will be installed: N/A

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin N/A
x	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No basin observed

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos T. Henderson Date 8/31/98

Area Inspected HAFB Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other temporary swale

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin
- Check ☒ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed ~~[illegible]~~ CTB

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☒ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage/acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No observed erosion

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 8/4/98

Area Inspected HAFB Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☒ Other temporary drainage swales slope

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following: N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin N/A
×	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No erosion observed

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 9/11/98

Area Inspected Main Base Landfill Approx. Area 125 ACRES

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other temporary drainage swale

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x	
3.60	Cubic feet of storage/acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No apparent erosion

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlo Henderson Date 9/18/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☒ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include

- ☒ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other Temporary drainage swale

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin N/A
x	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No observed issues

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 9/28/98

Area Inspected Main Base Landfill Approx. Area 1.5 Acre

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☒ Silt Fencing
- ☒ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Geotextiles
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include

- ☒ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

N/A

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

☐ A sediment basin cannot be constructed, the following sediment controls will be installed: N/A

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

N/A

Observed Conditions No erosion observed

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 10/1/98

Area Inspected MAIN Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☒ Geotextiles - used in swales
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☒ Drainage Swales - lined with Geotextile + HDPE liner
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

N/A

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

N/A

Observed Conditions NO OBSERVED Erosion

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector Carlos Henderson Date 10/8/98

Area Inspected Main Base Landfill Approx. Area 125 Acres

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☒ Diesel Fuel
- ☒ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☒ Geotextiles – Drainage swales
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☒ Earth Dike
- ☒ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other Storm water Berm

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following N/A

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed N/A

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x	
3.60	Cubic feet of storage/acre N/A
=	
_____	Cubic feet of storage required for the basin

Observed Conditions No observed Erosion or S.R

Changes required to the SWPPP None

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector JAMES MURING Date 10/15/98

Area Inspected MAIN BASE LANDFILL Approx. Area 125

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☑ ~~Geotextiles~~ Swales
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☐ Earth Dike
- ☐ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

NA

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

NA

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
×	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

NA

Observed Conditions NO OBSERVED EROSION ON SITE

Changes required to the SWPPP NONE

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector James Moranno Date 10/22/98
Area Inspected MAIN BASE LANDFILL Approx. Area 125

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☑ Geotextiles Swells
- ☐ Other _____

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☑ Earth Dike
- ☑ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other Stormwater Basin

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

NA

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

NA

☐ A sediment basin cannot be constructed. the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin NA
x	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

Observed Conditions NO observed Erosion on site

Changes required to the SWPPP NONE

Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector JAMES MORNING Date 10/28/98

Area Inspected MAIN BASE LANDFILL Approx. Area 125

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- [x] Diesel Fuel
- [x] Lubricants
- [ ] Bioxide
- [ ] Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- [ ] Silt Fencing
- [x] Hay Bales
- [ ] Temporary Seeding
- [ ] Permanent Seeding
- [ ] Mulching
- [x] Geotextiles
- [x] Other Stockpile Berms

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- [x] Earth Dike
- [x] Drainage Swale
- [ ] Interceptor Dike and Swale
- [ ] Pipe Slope Drain
- [ ] Other Temp Berms

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

- [ ] Sediment controls are needed and will include the following:
  - [ ] Sediment Basin
  - [ ] Hay Bales in anticipated drainage paths
  - [ ] Silt fence along all sideslope and downslope boundaries

NA

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

- [ ] A sediment basin will be installed
- [ ] A sediment basin cannot be constructed, the following sediment controls will be installed:
  - [ ] Hay Bales in anticipated drainage paths
  - [ ] Silt fence along all sideslope and downslope boundaries

NA

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____ Acres area draining to the sediment basin

X

3.60 Cubic feet of storage/acre

=

_____ Cubic feet of storage required for the basin

NA

Observed Conditions Checked NO - OK

Changes required to the SWPPP NA

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector JAMES MORNING Date 11/2/98

Area Inspected MAIN BASE Landfill Approx. Area 125

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☑ Geotextiles
- ☑ Other BERMS, Ditches

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☑ Earth Dike
- ☑ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☑ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following:

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

NA

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

NA

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

NA

Observed Conditions Checked AO - OK - Made Repairs as needed

Changes required to the SWPPP NA

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector VAMES MORRINC Date W/12/98
Area Inspected MAIN BASE LANDFILL Approx. Area 125

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricants
- ☐ Bioxide
- ☐ Other _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☑ Geotextiles
- ☑ Other BERMS

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☑ Earth Dike
- ☑ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following.

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

NA

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

☐ A sediment basin cannot be constructed. the following sediment controls will be installed: NA

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x	
3.60	Cubic feet of storage/acre
=	
_____	Cubic feet of storage required for the basin

NA

Observed Conditions OK

Changes required to the SWPPP NA

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector JAMES MOENING Date 11/19/98

Area Inspected MBL Approx. Area .125

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricant
- ☐ Blacktop
- ☐ Other: _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☐ Sandbags
- ☑ Other BERMS

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☑ Earth Dike
- ☑ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following.

- ☐ Sediment Basin
- ☐ Hay Bales at anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

NA

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales at anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

NA

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x 3,600 =	Cubic feet of storage area
_____	Cubic feet of storage required for the basin

NA

Observed Conditions OK

Changes required to the SWPPP NA

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector JAMES MORNHC Date 11/23/98
Area Inspected MBL Approx. Area 125

CONTAINED MATERIAL STATUS

Check that all material containers are intact and are not leaking, and all containment elements are in place and in good condition.

- ☑ Diesel Fuel
- ☑ Lubricants
- ☐ Biocide
- ☐ Other: _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

- ☐ Silt Fencing
- ☐ Hay Bales
- ☐ Temporary Seeding
- ☐ Permanent Seeding
- ☐ Mulching
- ☑ ~~Stabilization~~
- ☑ ~~Other~~ BERMS

STRUCTURAL PRACTICES

Flows from upstream areas will be diverted from exposed soils. Measures to be used include:

- ☑ Earth Dike
- ☑ Drainage Swale
- ☐ Interceptor Dike and Swale
- ☐ Pipe Slope Drain
- ☐ Other _____

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following.

- ☐ Sediment Basin
- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

NA

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

- ☐ Hay Bales in anticipated drainage paths
- ☐ Silt fence along all sideslope and downslope boundaries

NA

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____	Acres area draining to the sediment basin
x	
3.60	Cubic feet of storage area
=	
_____	Cubic feet of storage required for the basin

NA

Observed Conditions _____

Changes required to the SWPPP _____ OK

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector: James McNew Date: 12-2-98

Area Inspected: MSC Approx. Area: 1.25

CONTAINED MATERIAL STATUS

☐ Condition of needed structures are intact and are not leaking, and all maintenance chemicals are in place and in good condition.

☒ Diesel Fuel ☐ Hydraulic

☒ Lubricant ☐ Other: _____

BARRIER PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

☐ Site Watering ☐ Mulching

☐ Hay Bales ☒ Silt Fence ☒ Berms

☐ Temporary Seeding

☐ Permanent Seeding

STRUCTURAL PRACTICES

Flow from upstream areas will be diverted from exposed soils. Measures to be used include:

☒ Earth Dike ☐ Pipe Slope Drain

☒ Drainage Swale ☐ Other: _____

☐ Interceptor Dike and Swale

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following.

☐ Sediment Basin

☐ Hay Bales or equipped drainage pipe

☐ Silt fence along all sideslope and down slope boundaries

NA

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed.

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

☐ Hay Bales or equipped drainage pipe

☐ Silt fence along all sideslope and down slope boundaries

NA

SEDIMENT BASIN FLOW STORAGE CALCULATION

_____ Acres area draining to the sediment basin

1.66 Cubic feet of storage per acre

_____ Cubic feet of storage required for the basin

NA

Observed Conditions _____

Changes required to the SWPP _____ OK

Figure 3-1. Erosion, Sediment, and Pollution Control Inspection Checklist

Inspector: James Morrell Date: 12/9/98

Area Inspected: MAC Approx. Area: 125

CONTAINED MATERIAL STATUS

Check that all material stockpiles are intact and are not leaking, and all containment structures are in place and in good condition.

☒ Diesel Fuel ☐ Metals

☒ Lubricants ☐ Other: _____

STABILIZATION PRACTICES

Stabilization practices will be initiated on all disturbed areas where construction activity will not occur for a period of more than 21 calendar days by the 14 day after construction activity has permanently or temporarily ceased. Stabilization measures to be used include:

☐ Silt Fencing ☐ Mulching

☐ Hay Bales ☒ Gabions

☐ Temporary Seeding ☒ Other: BERMS

☐ Permanent Seeding

STRUCTURAL PRACTICES

Flow ; flow upstream areas will be diverted from exposed soils. Measures to be used include:

☒ Earth Dike ☐ Pipe Slope Drain

☒ Diversion Swale ☐ Other _____

☐ Interceptor Dike and Swale

DRAINAGE LOCATIONS SERVING LESS THAN 10 DISTURBED ACRES

☐ Sediment controls are needed and will include the following.

☐ Sediment Basin

☐ Hay Bales at anticipated drainage points

☐ Silt fence along all sideslope and downslope boundaries

NA

DRAINAGE LOCATIONS SERVING 10 OR MORE DISTURBED ACRES

☐ A sediment basin will be installed

☐ A sediment basin cannot be constructed, the following sediment controls will be installed:

☐ Hay Bales at anticipated drainage points

☐ Silt fence along all sideslope and downslope boundaries

NA

SEDIMENT BASIN RUNOFF STORAGE CALCULATION

_____ Acres area draining to the sediment basin

3.60 Cubic feet of storage/acre

_____ Cubic feet of storage required for the basin

NA

Observed Conditions: _____

Changes required to the SWPPP: _____

Drainage Systems complete

APPENDIX H

MATERIALS HANDLING PLAN

MATERIALS HANDLING PLAN
MAIN BASE LANDFILL CLOSURE PROJECT, HOLLOMAN AFB
APRIL 8, 1998

According to the Contract Documents, prepared by Radian, approximately 400,000 cubic yards of soil will be required to cover the Holloman Main Base Landfill to the satisfaction of the New Mexico Environmental Department. This soil will come from two borrow sources. One borrow area is on the Base and one is outside the Bases north gate.

For this Project, a truck scale will be set up on the west side of the Landfill and just south of the main Landfill gate. Prior to use, the scale will be calibrated. All loaded trucks will be weighed. Weight tickets will be submitted to the Foster Wheeler Quality Control (QC) Engineer at the end of each day. At the end of each day, weight tickets will be tallied and converted to bank cubic yards for testing frequency purposes.

The first phase of this Project will involve the separation, off-site removal, processing and placement as fill of all rubble located within the Main Base Landfill. Concurrently, grade stakes will be set on a 100-foot grid in Areas A-1 and M1-A. These areas will be graded to within plus or minus three inches of the design subgrade elevations. Fill areas below subgrade elevations will be backfilled in loose, eight-inch lifts. This soil will be within two percent of its optimum moisture content when being compacted. During subgrade activities, a Caterpillar 815 sheep's foot will be utilized to achieve the necessary compaction. When the Contractor determines the subgrade is complete per the Project Specifications, the United States Army Corps of Engineers (USACE), Albuquerque, will inspect the work. Any and all issues related to subgrade preparation will be resolved prior to USACE acceptance.

During the week of May 4, 1998, test pads will be constructed at the Landfill. Soil for the test pads will be from the top five feet of the Base Borrow Area and from the upper four feet of the off-site borrow area outside the Base's north gate. The test pads will be constructed as low permeability soil cover as indicated in the Project Specifications.

Full scale soil hauling is scheduled to begin on May 18, 1998. Soil from the Base Borrow Area will be excavated to five feet below grade, from a 20-acre area. A

round trip between the Landfill and the Borrow Area requires approximately ten minutes. The soil will be transported in bottom dump trucks. The trucks will enter the Landfill from the south. Upon entering the Landfill, ground personnel will direct the drivers where to dump. Once empty, the trucks will exit to the north. The cover will be placed in soil lifts not to exceed eight inches compacted thickness. Cover soil will be compacted to 90 percent dry density as determined by ASTM D698.

The Project will be in operation five days per week and ten hours per day. Soil from the Base Borrow area will be transported and placed at a rate of 6,000 cubic yards per day. It is estimated that 200,000 cubic yards (260,000 tons) of soil from the Base Borrow Area will be suitable for the Landfill Project.

When all acceptable soil (within the 20-acre area) at the Base Borrow Area has been removed, excavation and hauling activities will begin at the Borrow Area outside the Base's north gate. Soil from this site will be excavated to four feet below grade, within a 30-acre area. The soil will be transported in bottom dump trucks. The trucks will enter the Landfill from the south. Upon entering the Landfill, ground personnel will direct the drivers where to dump. Once empty, the trucks will exit to the north.

This Borrow Area is about seven miles from the Landfill. Approximately 35 minutes is required to drive from the Landfill to the Borrow Area and then back to the Landfill. Soil from this area will be transported and placed at a rate of 4,000 cubic yards per day. This borrow source contains enough acceptable cover material to complete the Landfill Project.

Western Technologies, the soil testing laboratory for this Project, will deliver a site laboratory to the Landfill Project during the week of April 13, 1998. Soil from the borrow sources will be tested every 5,000 cubic yards. The borrow testing requirements for this Project are identified on attached Table 1. A technician from Western Technologies will be collecting the soil samples. Foster Wheeler QC personnel will oversee all sampling efforts to ensure that all necessary procedures are followed.

Soil testing requirements for the soil cover are also identified on attached Table 1. A Western Technologies technician will be conducting the tests and collecting samples. Foster Wheeler QC personnel will provide oversight. Permeability samples from the cover will be collected with Shelby Tubes. These will be pushed into the cover with heavy equipment that is on-site.

All potential borrow sources have been sampled per the attached EPA analytical methods (Table 2). Test results indicate that the borrow source material is uncontaminated.

Landfill Area A-1 will require 24 inches of low permeability soil cover, and Landfill Area M1-A will require 27 inches of low permeability soil cover. The cover will be placed in eight-inch lifts and compacted to 90 percent maximum dry density per ASTM (D698).

Table 1
LANDFILL TESTING RECOMMENDATIONS

SUBGRADE

ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort	1/10 ASTM D2922
ASTM D 1556	Density and Unit Weight of Soil in Place by the Sand Cone Method	1/10 ASTM D2922
ASTM D 2922/3017	Density of Soil in Place by Nuclear Methods/Water Content by Nuclear Methods	4/Acre

BORROW

ASTM D 422	Particle Size Analysis of Soil	1/1000 CY
ASTM D 4318	Liquid Limit, Plastic Limit and Plasticity Index of Soil	!/5000 CY
ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort	!/5000 CY
ASTM D 5084	Measurement of Hydraulic Conductivity	!/5000 CY

COVER

ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort	1/10 ASTM D2922
ASTM D 2922/3017	Density of Soil in Place by Nuclear Methods/Water Content by Nuclear Methods	4/Acre
ASTM D1587	Thin Walled Tube Geotechnical Sampling of Soils	1/2 Acre
ASTM D5084	Measurement of Hydraulic Conductivity	1/2 Acre
ASTM D1556	Density and Unit Weight by the Sand Cone Method	1/10 ASTM D2922

BASE COURSE

ASTM C 117	Materials Finer Than No.200 Sieve	1/1000SY
ASTM D 422	Particle Size Analysis of Soil	1/1000SY
ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort	1/10,000SY
ASTM D 2922/3017	Density of Soil in Place by Nuclear Methods/Water Content by Nuclear Methods	1/10,000SY

Riprap

ASTM D5519	Test Method B(Size -Range Grading)	1/Type A,1/Type B

Table 2
BORROW ANALYTICAL RECOMMENDATIONS

EPA 8015m	TPH-Gas	1/50,000 CY
EPA 8015m	TPH-Diesel	1/50,000 CY
EPA 8260	Volatile Organics	1/50,000 CY
EPA 6010/2000	Metals/CCR(17) TTLC	1/50,000 CY
EPA 8080	Pesticides/PCBs	1/50,000 CY
EPA 8270	Semi Volatile Organics	1/50,000 CY

APPENDIX I

NONCONFORMANCE REPORTS

Figure 6-3
NONCONFORMANCE REPORT

FOSTER WHEELER ENVIRONMENTAL CORPORATION
QUALITY ASSURANCE

REPORT NO (1) 01

NONCONFORMANCE REPORT

CLIENT OR PROJECT (2) USACE - MAIN BASE LANDFILL - HAFB, NM		DRAWING NO/SPEC NO (3)
SUBCONTRACTOR, CONSTRUCTION QC OR CONTRACTOR (4) Foster Wheeler ENV.	P. O. NO (5)	
DESCRIPTION OF COMPONENT, PART OR SYSTEM (6) Soil Cover		02223

I. DESCRIPTION OF NONCONFORMANCE (7) (Items Involved, Specifications, Code or Standard in Which Item Do Not Comply. Submit Sketch (If Applicable)

Failed Permeability	TEST - L078	7-1-98	

NAME AND SIGNATURE OF PERSON REPORTING NONCONFORMANCE (8) For Carlos Hoskins by		TITLE/COMPANY QC/FWENC	DATE (9) 7-6-98

II. RECOMMENDED DISPOSITION (10) (Submit Sketch If Applicable)

Excavate + Replace Failed Area

NAME AND SIGNATURE OF PERSON RECOMMENDING DISPOSITION (11) For Carlos Hoskins by		TITLE/COMPANY QC/FWENC	DATE (12)

III. EVALUATION OF DISPOSITION BY FOSTER WHEELER ENVIRONMENTAL REASON OF DISPOSITION (13)

IV. CORRECTIVE ACTION (14) ☑ Required ☐ Not Required

Excavated Soil
Replaced Soil

V	ENGINEERING	QUALITY ASSURANCE	CONSTRUCTION	OTHER
NAME (SIGNATURE)		NAME (SIGNATURE) For Carlos Hoskins	NAME (SIGNATURE)	NAME (SIGNATURE) Verbal OK
DATE 7-6-98		DATE 7-6-98	DATE	DATE 7-6-98
☑ ACCEPTED		☑ ACCEPTED	☑ ACCEPTED	☑ ACCEPTED
☐ REJECTED		☐ REJECTED	☐ REJECTED	☐ REJECTED
☐ ACCEPTED WITH		☐ ACCEPTED WITH	☐ ACCEPTED WITH	☐ ACCEPTED WITH
COMMENTS		COMMENTS	COMMENTS	COMMENTS

VI. VERIFICATION OF DISPOSITION ☐ REQUIRED ☐ NOT REQUIRED (16)

(17) BY [signature] SIGNATURE [signature] TITLE Site Mgr DATE 7-6-98

PHYSICAL PROPERTIES

Material Source	Lift	Date	Lab No.	Soil Class.	Particle Size Distribution, % Passing by Weight				Atterberg Limits		Moisture-Density Relationship		Hydraulic Conductivity			Remarks
					#4	#10	#40	#200	LL	PI	Dry Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Moisture (%)	k (cm/sec)	
N 678,550 E 554,850 : Pt. 274 50'N 50'W	3	6-29	L073	ML							94.5	27.0	89.5	22.4	1.69E-04	1,4,9
N 677,850 E 554,950 : Pt. 193 50'N 50'W	3	6-29	L074	ML							100.5	24.0	104.3	13.0	9.75E-06	1,4,9
On-Site Borrow		6-29	L075	ML	100	100	93	64.0		NP	89.5	29.5	80.5	29.7	6.32E-04 *	2,4,8
On-Site Borrow		6-30	L076	ML	100	100	97	75.3	33	1	91.5	30.0	84.2	29.1	2.35E-04	2,4,8
N 678,350 E 554,850 : Pt. 195 50'N 50'W	3	7-1	L077	ML							92.5	28.5	90.9	20.2	1.06E-04	1,4,9
* N 679,250 E 554,850 : Pt. 257 50'N 50'W	3	7-1	L078	ML							92.5	28.0	85.5	22.7	4.62E-04 *	1,4,9
On-Site Borrow		7-1	L079	ML	100	100	97	74.8	28	1	91.0	29.5	80.6	29.4	2.08E-04	2,4,8
On-Site Borrow		7-2	L080	ML	100	100	94	67.4	35	2	91.0	30.0	82.3	29.2	2.56E-04	2,4,8
On-Site Borrow		7-2	L081	ML	100	99	95	68.4	32	2	95.5	26.0	87.5	25.4	2.67E-04	2,4,8
N 677,950 E 555,050 : Pt 283 50'N 50'W	2	7-2	L082	ML							98.0	24.5	95.4	21.5	3.46E-05	1,4,9

REMARKS

Classification/Partical Size
1. Visual
2. Laboratory Tested
3. Minus #200 Only

Moisture-Density Relationship
4. Tested ASTM D689/AASHTO T99
5. Tested ASTM D1557/AASHTO T180

Specific Gravity
6. Minus #4
7. Plus #4

Permeability
8. Remolded
9. In-Situ

Note: NP = nonplastic

* Non conformance

* A 2 acre portion around this point will be removed.

MAIN BASE LANDFILL CLOSURE PROJECT

Weekly Summary

WESTERN TECHNOLOGIES INC.

Job No: 3228JA091 | Week Of: 6-29-98

Figure 6-3
NONCONFORMANCE REPORT

FOSTER WHEELER ENVIRONMENTAL CORPORATION
QUALITY ASSURANCE

NONCONFORMANCE REPORT

REPORT NO(1) 02

CLIENT OR PROJECT (2) VRACE - MAIN BASE LANDFILL - HAFB N.M.		DRAWING NO/SPEC NO (3)
SUPPLIER, CONSTRUCTION OR CONTRACTOR (4) FWENC	P.O. NO. (5)	
DESCRIPTION OF COMPONENT, PART OR SYSTEM (6) Soil Cover		02223

I. DESCRIPTION OF NONCONFORMANCE (7) (Items Involved, Specifications, Code or Standard in Which Items Do Not Comply, Submit Sketch (If Applicable))

Fail Permeability Test	6 1/2	7-22-98

NAME AND SIGNATURE OF PERSON REPORTING NONCONFORMANCE (8)	TITLE/COMPANY FWENC	DATE (9) 7-26-98

II. RECOMMENDED DISPOSITION (10) (Submit Sketch (If Applicable))

Excavate & Replace Soils
MOVE Borrow Pit off BASE to Source.

NAME AND SIGNATURE OF PERSON RECOMMENDING DISPOSITION (11)	TITLE/COMPANY FWENC	DATE (12) 7-26-98

III. EVALUATION OF DISPOSITION BY FOSTER WHEELER ENVIRONMENTAL REASON OF DISPOSITION (13)

off BASE SOURCE TESTED - OK

IV. CORRECTIVE ACTION (14) ☐ Required ☐ Not Required

Excavated & Replaced Soils in Fail Test Area

V	ENGINEERING	QUALITY ASSURANCE	CONSTRUCTION	OTHER
NAME (SIGNATURE)		NAME (SIGNATURE)	NAME (SIGNATURE)	NAME (SIGNATURE) Verbal OK
DATE 7-26-98		DATE 7-26-98	DATE	DATE 7-26-98
☐ ACCEPTED		☐ ACCEPTED	☐ ACCEPTED	☐ ACCEPTED
☐ REJECTED		☐ REJECTED	☐ REJECTED	☐ REJECTED
☐ ACCEPTED WITH COMMENTS		☐ ACCEPTED WITH COMMENTS	☐ ACCEPTED WITH COMMENTS	☐ ACCEPTED WITH COMMENTS

VI. VERIFICATION OF DISPOSITION ☐ REQUIRED ☐ NOT REQUIRED (15)
(17) BY [illegible] SIGNATURE [illegible] TITLE Site Mgr DATE 7-28-98

PHYSICAL PROPERTIES

Material Source	Lift	Date	Lab No.	Soil Class.	Particle Size Distribution, % Passing by Weight				Atterberg Limits		Moisture-Density Relationship		Hydraulic Conductivity			Remarks
					#4	#10	#40	#200	LL	PI	Dry Density (pcf)	Optimum Moisture (%)	Dry Density (pcf)	Moisture (%)	k (cm/sec)	
On-Site Borrow		7-20	L104	ML		100	99	68.6		NP	97.5	24.0	87.1	24.5	7.29E-4*	2,4,8
On-Site Borrow		7-21	L105	ML		100	99	77.4		NP	92.5	28.5	83.2	28.5	8.48E-4*	2,4,8
Pt 451 20'S - Slope		7-21	L106	ML												10
Pt 565 20'E - Slope		7-21	L107	ML												10
N 679,350 E 554,850 : Pt 256 50'N 50'W	3	7-22	L108	ML							97.0	25.0	84.4	21.9	4.08E-4*	1,4,9
N 678,550 E 554,850 : Pt 193 50'N 60'W	3	7-22	L109	ML							97.5	26.5	102.3	9.3	3.67E-6	1,4,9
On-Site Borrow		7-22	L110	ML		100	98	70.9	32	4	95.5	26.5	87.8	25.9	4.75E-4*	2,4,8
Off-Site Borrow #1		7-23	L111	ML			100	84.1	43	4	87.5	31.0	79.2	23.4	2.76E-5	2,4,8

REMARKS

Classification/Partical Size
1. Visual
2. Laboratory Tested
3. Minus #200 Only

Moisture-Density Relationship
4. Tested ASTM D689/AASHTO T99
5. Tested ASTM D1557/AASHTO T180

Specific Gravity
6. Minus #4
7. Plus #4

Permeability
8. Remolded
9. In-Situ
10. Disturbed, No Test

Note: NP = nonplastic

*Non conforming
Area A and L108
Removed & Reworked

MAIN BASE LANDFILL CLOSURE PROJECT

Weekly Summary

WESTERN TECHNOLOGIES INC.

Job No: 3228JA091 | Week Of: 7-20-98